

Toshiba Global Commerce Solutions
4690 OS



Planning, Installation, and Configuration Guide

Version 6 Release 4

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Note

Before using this information and the product it supports, be sure to read Safety Information- Read This First, Warranty Information, Uninterruptible Power Supply Information and the information under Appendix M, "Notices," on page 739.

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This edition applies to Version 6 Release 4 of the licensed program 4690 OS (program number 5639-P70) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Safety

Before installing this product, read Safety Information- Read This First.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安裝本產品之前，請仔細閱讀 **Safety Information**
(安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się
z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

About this guide

This guide describes concepts about planning and a method for implementing those concepts as you plan for installing 4690 OS Version 6 Release 4 (hereafter referred to as the operating system). It provides an overview of the concepts and activities needed to install and configure the operating system.

Planning for the system is defined as:

- Identifying what tasks must be done
- Developing a plan to do the tasks
- Identifying who is to do which task and by what date
- Defining checkpoints to monitor the tasks' completion

Throughout this guide, any reference to Toshiba products is also referring to those products matching the Toshiba product description, that were formally labeled as IBM products. Therefore references to Toshiba cash drawers includes older cash drawers that were previously labeled as IBM cash drawers. IBM devices are **not** considered non-Toshiba devices.

Who should use this guide

This guide is designed to assist the person responsible for directing and tracking the installation of the operating system. It provides a comprehensive list of activities, so you can use it as a focal point for developing your detailed installation plan.

This guide is organized to provide you with some concepts about planning and a method for implementing those concepts as you plan for installing your operating system. To use the guide, begin by reading Chapter 2, "Planning overview," on page 3 through Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167 to familiarize yourself with the tasks required for system design and configuration.

These chapters direct you to fill out various configuration worksheets, which are in the appendixes of this guide. The worksheets provide you with a means for recording parameter values for configuration keywords that you use to define your system. As you fill in values on the worksheets, you are referred to a dictionary section for further information on each keyword, such as its use and valid parameter values.

After you complete the configuration worksheets, you are ready to use the configuration panels of the operating system at the store controller.

Do not attempt to complete the worksheets without first reading the chapters of this guide or to use the configuration panels without completing the worksheets.

Terminal models

- | The 4693-xx1/4694 Series, SurePOS™ 700 Series, SurePOS™ 300 Series Model 350 and TCxWave 6140 Series terminals are called *Mod1* terminals. Although all are called *Mod1* terminals, each terminal model supports some features that other models do not support. Additionally, the SurePOS 300/700 Series and TCxWave 6140 Series terminals provide USB capabilities.

The 4693-xx2 terminals are called *Mod2* terminals. These terminals attach to a *Mod1* terminal and depend upon that *Mod1* terminal for control and communication with the store controller.

Note: 4683 terminals are not supported on 4690 OS V6R4. References to 4693 terminals only apply to previous versions of the OS.

The controller/terminal combines the function of the store controller and point-of-sale terminal in a single product. The terminal portion of a controller/terminal is considered to be a *Mod1* terminal.

Note: SurePOS 700 Series systems (except models Cxx) are valid as controller/terminals.

4690 V6R3 introduced support for the SurePOS 300 Series Model 350 terminal (4810-350). The 4810-350 has the following characteristics:

- It can only be used as a terminal in Enhanced Mode
- It cannot be used as a store controller
- The RS232 SurePort card is not supported by 4690 OS
- Aside from a single port for the cash drawer, there are no RS485 ports available

4690 V6R4 introduced support for the TCxWave Series terminal (6140-100). The 6140-100 is a *Mod1* terminal with the following characteristics:

- It can only be used as a terminal in Enhanced Mode
- It cannot be used as a store controller
- No RS485 ports available, including no cash drawer port
- Cash drawer support is offered through USB-attached cash drawers
- RS232 support is provided through RS232-to-Serial dongles
- The Power Button functions as the only available Dump Button
- Secondary video support is provided through a video dongle

Note: As of 4690 OS V6R3, the SurePOS 4800-721 is not supported in Enhanced mode.

Where to find more information

Current versions of Toshiba publications are available on the Toshiba support site.

1. On the right side of the web page under popular links, select **Publications**.
2. Click on the publication related to your product.

4690 V6 Library

4690 OS Version 6: Planning, Installation, and Configuration Guide, G362-0541

4690 OS Version 6: User's Guide, G362-0542

4690 OS Version 6: Messages Guide, G362-0543

4690 OS Version 6: Communications Programming Reference, G362-0544

4690 OS Version 6: Programming Guide, G362-0545

4690 OS Version 6: Master Index, G362-0546

4680 BASIC: Language Reference, SC30-3356

Notice statements

Notices in this guide are defined as follows:

Notes	These notices provide important tips, guidance, or advice.
Important	These notices provide information or advice that might help you avoid inconvenient or problem situations.
Attention	These notices indicate potential damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.
CAUTION	These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.
DANGER	These statements indicate situations that can be potentially lethal or extremely hazardous to you. A danger statement is placed just before the description of a potentially lethal or extremely hazardous procedure step or situation.

Chapter 1. Using the 4690 OS library

The 4690 OS library is a task-oriented set of guides designed so that you can install the operating system by planning for and performing a series of tasks. The key tasks are:

- **Planning** for all activities that are associated with the 4690 Store System (including all of the additional key tasks)
- **Installing** the operating system hardware and software components
- **Programming** the operating system to meet your unique set of operating requirements
- **Operating** the operating system after it has been successfully installed
- **Maintaining** the operating system to ensure that it continues to perform the functions for which it was designed

The information in the 4690 OS library is designed to assist you with one or more of these key tasks. For example, to plan for the activities that are associated with this product, you must understand the information in the *4690 OS: Planning, Installation, and Configuration Guide*.

Chapter 2. Planning overview

This chapter provides help in planning and managing the installation of the operating system. This information assumes that you are using the operating system and a 4680 or 4690 application program. Use the list of activities provided in this chapter as a guide for developing your detailed installation plan.

Review the planning activities and modify them as needed. This chapter refers to supporting material in other 4680 and 4690 guides, and to other chapters within this guide. These activities are included in your planning task:

- Making the necessary decisions to accomplish the planning activities
- Scheduling and tracking the activities
- Assigning personnel with the appropriate skills to each activity

Appendix A, “Implementation plan checklist,” on page 217 is an aid to help you schedule and track the completion of these activities.

Operating modes

4690 OS V6 introduces a new infrastructure laying the way for the future while continuing to provide the expected benefits of the OS. As a result, 4690 OS V6 provides two operating modes, Classic and Enhanced.

Classic Mode

Classic Mode continues to use the OS infrastructure on which previous releases were based. This mode is intended to allow 4690 OS V6 to support the functions and much of the same hardware that have been supported in previous 4690 versions. Some new hardware and new functions available in 4690 OS V6 are not supported in Classic Mode. Other functions, such as the new RMA software distribution support, is available in both modes.

Some 4690 OS V6 functions are available only in Classic Mode. These include, but are not limited to:

- Tape backup devices
- Optical drives (O:)
- Display/Alter - physical mode
- Disable Write Verify function

Note: Store Loop is no longer supported as of 4690 OS V6R3. References to Store Loop in 4690 publications are only applicable to prior releases. Beginning with 4690 OS Version 6 Release 4 Token Ring communications is no longer supported.

Enhanced Mode

Enhanced Mode introduces a new hardware interface layer below Classic 4690 OS. The current 4690 OS user interfaces and programming APIs continue to be available allowing current applications to run in Enhanced Mode. This mode supports some additional IBM System x servers not supported by Classic Mode, including selected IBM blade server models. Enhanced Mode is also required in order to exploit other new functions such as USB flash memory drives.

Systems running supported versions of 4690 OS that meet the minimum resource requirements of 4690 OS V6 may be migrated to 4690 OS V6 and continue to run in Classic Mode. The 4690 OS V6 installation CD is only available as an Enhanced Mode installation. 4690 OS V6 provides support for some System x servers only in Enhanced Mode. See Appendix L, “Classic to Enhanced Conversion Utilities,” on page 735 for information on converting controllers from Classic Mode to Enhanced Mode.

Some new functions in 4690 OS V6 are available only in Enhanced Mode. These include, but are not limited to:

- Booting Supplemental system from hard disk
- USB memory key support
- Creating Supplementals on CD or USB memory key
- Java 1.6 support
- F: drive for Java 1.6
- RMA Master Agent on 4690 OS controller
- Enhanced Options Menu

Enhanced Mode Terminals

4690 OS V6R2 extended the Enhanced Mode support to recent models of SurePOS terminals. Some of the functions that are only available to Enhanced Mode terminals include:

- Unique screen resolution and color format settings for a secondary display (Graphics)
- Power management Deep Sleep mode (for capable hardware)
- Wake On LAN
- Java 1.6

Activity 1. Review current operations

This activity allows you to review the relationship of your operations, and how to best use the capabilities of the operating system in your organization. The results from your initial investigation can be an excellent source of information for this review.

Review the following operations:

- Input and output forms, including samples
- Files
- Application programs
- Controls
- Transactions
- Policies, practices, and limitations
- Current work flows
- Time
- Volumes, frequencies, and other performance data

Activity 2. Modify installation plan

The plan proposed in this guide divides the installation into tasks and sub-tasks. Appendix A, “Implementation plan checklist,” on page 217 contains a list of the tasks. Some of the tasks that are listed might not be appropriate for the needs of your organization. Available resources and scheduling requirements can determine which of these tasks you consider.

To begin planning your store system, read the descriptions of all the installation tasks in this chapter. Based on your organization’s needs, eliminate the following:

- Tasks or sub-tasks that refer to non-required functions
- Tasks that you might want to install later

Place an “X” in the first column of the checklist in Appendix A, “Implementation plan checklist,” on page 217 for any task or sub-task that you plan to perform at this time.

For each task that you marked with an X on the Appendix A, “Implementation plan checklist,” on page 217 checklist, write the following:

- The name of the assigned person in the third column
- The completion due date of the task in the fourth column

After assigning responsibilities, use the checklist to log task completion and to track the progress of the installation.

Activity 3. Review Point-of-Sale requirements

Installing the operating system provides you with an opportunity to change how your organization operates. You can use the operating system's wide range of data-processing capabilities to redesign and enhance your operations.

Before you order any operating system hardware, you should evaluate and document your store's requirements. Documenting these requirements provides a means for defining user needs, resolving policy issues, and identifying problems. The user groups affected by your organization's operating system project should thoroughly review and approve any documents that are produced during evaluation.

Requirements documentation should include this information:

- Organizational impact of using 4690 OS V6
- Benefits derived from system installation and use, and the tool for measuring these benefits
- Descriptions of all significant functions performed by the operating system
- Support for electronic funds transfer (EFT) by using the 4680 or 4680-4690 General Sales Application or the 4680 or 4680-4690 Supermarket Application
- SurePOS Application Client/Server Environment - 4690 OS
- Online check/credit verification
- Other major application program requirements (that is, requirements other than those of the operating system)
- The number of store controllers and point-of-sale terminals that are needed for each store
- The number of store controllers and point-of-sale terminals that are needed at the central or host processor location for creating a test or development system
- The types of system reports needed at store and at central or host processor locations
- In-Store Processing (ISP)
- The types of input data-including transaction sequences, for the point-of-sale terminals
- Changes in established store procedures from installation and use of the operating system
- Policy change requirements
- Estimated sales volumes and projected organizational growth
- System and data security considerations

Activity 4. Select hardware and software components

Your representative can recommend components to meet your requirements. See the Toshiba support site for a list of currently supported systems.

Some SurePOS systems can be used as combination controller/terminals. When configured as combination controller/terminals, these systems must have a USB or internal CD-ROM or DVD drive. Also, they must have sufficient memory installed. Refer to the 4690 announcement letters for detailed memory requirements.

Activity 4a. Define store controller hardware configuration

See your 4680 or 4690 application program's planning and installation guide for information on your store controller's hardware configuration requirements. If you are planning an MCF network speak with your Ethernet installation expert.

Activity 4b. Define terminal hardware configuration

Terminal configuration consists of:

- Hardware configuration
- Software configuration

Hardware configuration determines the way in which components are attached to the terminal. A terminal must have at least these components:

- Base unit
- Keyboard
- Display (can be any supported display; a shopper display cannot be the only display attached)

You can also attach these Toshiba or IBM devices to 4683, 4693, and 4694 systems:

- Cash drawer
- 4686 Retail Point-of-Sale Scanner Model 001 - Vertical
- 4686 Retail Point-of-Sale Scanner Model 002 - Horizontal
- 4686 Retail Point-of-Sale Scanner Model 003 - Vertical
- 4686 Retail Point-of-Sale Scanner Model 004 - Horizontal
- 4687 Point-of-Sale Scanner Models 001 and 002
- 4696 Point-of-Sale Scanner Scale Model 001
- 4697 Point-of-Sale Scanner Model 001
- 4698 Point-of-Sale Scanner Model 001 and 002
- 1520 Hand-Held Scanner Model A01 (1520-A01)
- 1520 Hand-Held Scanner Model A02 (1520-A02)
- 4685 Hand-Held Bar Code Reader Models 001 and 002
- Single-track Magnetic Stripe Reader (MSR)
- Dual-track MSR
- Three-track MSR
- JUCS MSR
- Hand-Held Bar Code Reader
- Printer Model 1 (4683 only)
- Printer Model 2
- Printer Model 3
- Printer Model 4
- 4610 Printer
- 4689 Printer
- Serial Proprinter
- Magnetic Wand (4683 only)
- 50 key modifiable keyboard
- Alphanumeric keyboard (4683 only)
- Matrix keyboard (4683 only)
- Alphanumeric point-of-sale (ANPOS) keyboard
- Keyboard-V POS with JUCS MSR
- Keyboard-VI POS with JCC MSR
- 50-Key POS Keyboard with JUCS MSR
- PLU POS Keyboard
- 4693 point-of-sale keyboard with or without a display and a three-track card reader (469x only)
- 4693 point-of-sale alphanumeric keyboard with a three-track card reader (469x only)
- 4693 modifiable layout keyboard with a three-track card reader (469x only)
- Modular 67 key keyboard
- Modular ANPOS keyboard
- 40-character alphanumeric display
- 9-, 12-, or 14-in. monochrome or color video
- 40-character liquid crystal display (LCD)
- 40-character vacuum fluorescent display II (VFD II)
- Multiple displays

- Operator display
- Shopper display
- SurePoint™ Solution (LCD/Video) with or without a three-track magnetic stripe reader, keypad, or pointing device.
- APA display

You also can attach non-Toshiba devices that conform to a specified interface. The operating system supports non-Toshiba devices that are designed to and conform to Toshiba's USB point-of-sale device interface specifications.

The SurePOS 700 Series (Models 72x, 74x and 78x) family converges the 4694 family (RS-485) and the SurePOS family (USB) of protocols to coexist within one box as a single point-of-sale (POS) architecture. These models support the same peripheral devices as the 4694 family and SurePOS 730 and 750 models excluding the exceptions below. Model 72x, 74x and 78x units are PC-type products with additional features. The SurePOS 700 Series (Models 72x, 74x and 78x) system supports a wide range of displays, keyboards, printers, cash drawers, and scanners. See the Toshiba support site for a list of currently supported devices.

4690 OS does not support the following items on the SurePOS 700 Series Models 72x, 74x, 77x, and 78x:

- Alarm or contact closure function on the second cash drawer
- ISA or full-length PCI cards
- 4683 RS-485 I/O devices

Some SurePOS 700 Series Models (for example, Model 775) support only USB protocols.

The SurePOS 700 Series (Models 72x, 74x, 77x and 78x) system autosenses between 24 V and 38 V for the Toshiba cash drawers. This autosensing circuitry does not function with cash drawers from other manufacturers. If a customer has two connected cash drawers, the voltage must be the same. For non-Toshiba cash drawers, you must configure the cash drawer voltage (24 V or 38 V) by using the configuration options on the POS configuration setup program or with the jumper override.

USB VeriFone® Mx800 series PIN pads can be attached to SurePOS 700 Series (Models 72x, 74x, 77x and 78x) system. You must use the Serial Devices configuration to add the USB PIN pad.

The SurePOS 700 Series (Models 72x, 74x, 77x, and 78x) system supports the following non-POS I/O devices:

- Many, but not all, USB mass-storage devices such as diskette drives and CD-ROM. Lack of standardization precludes a list of the devices that are not supported. Boot mode is supported for most devices that support USB boot.
- Toshiba VGA monitors (CRT and LCD)
- Industry-standard PC keyboards, mice and printers
- Standard USB and RS-232 devices with appropriate drivers and software

The devices that you can attach to each SurePOS 700 Series (Models 73x and 75x) terminal can be one of the following:

- Three USB displays
- One flatbed scanner or both scanner and scale
- One hand-held scanner
- One USB POS keyboard
- One 4610 printer
- One magnetic stripe reader (MSR)

The devices that you can attach to each SurePOS 700 Series (Models 73x and 75x) terminal can be one of the following:

- Cash drawer

- 4696 Point-of-Sale Scanner Scale Model 001 and 002
- 4697 Point-of-Sale Scanner Model 001
- 4698 Point-of-Sale Scanner Model 001 and 002
- 4685 Hand-Held Bar Code Reader Model 002
- Three-track MSR
- 1520-Emulation Hand-Held Scanner
- USB 4610 Printer
- Serial Proprietary
- USB 50-key keyboard with or without MSR or MSR and LCD display
- Modular 67 key keyboard
- Modular 67 key LCD keyboard
- Modular ANPOS keyboard
- USB ANPOS keyboard with MSR
- USB 133-key keyboard with MSR
- USB 9- or 10-in. monochrome or color video display
- USB 40-character liquid crystal display (LCD)
- USB 40-character one-sided vacuum fluorescent display (VFD)
- USB 40-character two-sided vacuum fluorescent display (VFD)
- SurePoint Solution (LCD/Video) with or without a three-track MSR, keypad, or pointing device
- USB APA display

The 4690 V6R3 release introduced support for the SurePOS 300 Series Model 350 terminal. For information on devices you can attach to each SurePOS 350, see the latest SurePOS 300 documentation on the Toshiba support site .

- | The 4690 V6R4 release introduced support for the TCxWave 6140 Series terminal. For information on devices you can attach to each TCxWave 6140 Series terminal, see the latest documentation on the Toshiba support site

You also can attach non-Toshiba devices that conform to a specified interface. The operating system supports non-Toshiba devices that are designed to and conform to Toshiba's USB point-of-sale device interface specifications.

- | In 4690 OS V6R2 and later versions, 4683 POS I/O devices are not supported on SurePOS 700, SurePOS 350 and TCxWave 6140 Series terminals (Classic and Enhanced Modes). Non-Toshiba POS I/O devices adhering to the 4683 device protocols are also not supported. There are further POS I/O device restrictions for terminals running Enhanced Mode. The list of supported POS I/O devices is available on the Toshiba support site (use the **Knowledgebase** search field).

You can attach an uninterruptible power supply (UPS) to one of the terminal's serial ports by running the operating system. You must use the serial cable that is supplied by the UPS manufacturer to connect the UPS to the terminal's serial port. Terminals which support UPS signalling are 4693 (except Model 2x2), 4694, and SurePOS 700 Series terminals. For controller/terminals, configure the UPS as a terminal device, not as a controller device. Toshiba has validated selected UPS devices manufactured by American Power Conversion Corporation or Best Power Corporation. Tested models include APC Back-up UPS, APC Smart-UPS, and Best Patriot models. Compatible models should also work with the operating system.

External UPS devices are not allowed on SurePOS 700 Series terminals with the Battery Backup feature installed. The Battery Backup must be removed before an external UPS will work on a SurePOS 700 Series system. Only the following UPS models have been validated with 4690 OS on SurePOS 700 Series systems:

- Back-up UPS Model 400
- Back-up UPS Model Pro420
- Smart-UPS Model 450
- Best Patriot Model 420

Notes:

1. You can configure only one keyboard for each point-of-sale terminal. For controller/terminals, you can configure one keyboard for the controller and one keyboard for the terminal. An **exception** to this rule is for any terminal that supports Java (for example, a SurePOS 700 Series terminal). You can configure a second keyboard for the PS/2 port for Java application input.
2. To allow Java applications to access normal keyboard functions, you can attach a PS/2 keyboard or an ANPOS keyboard to the PS/2 keyboard port. You must configure a PS/2 keyboard when a JavaPOS or non-Java application requires one. You can configure an ANPOS keyboard such that both PS/2 keyboard functions and POS functions exist.
3. The Java I/O Processor (JIOP) supports alphanumeric data entry using an ANPOS keyboard.
4. On SurePOS 300/700 Series systems, the system uses the ANPOS keyboard as a shared keyboard when a USB keyboard is not found and an ANPOS keyboard is attached to the PS/2 port. The system uses any located USB keyboard as the point-of-sale keyboard. The controller or Java application uses the ANPOS keyboard attached to the PS/2 port.
5. To access BIOS setup on SurePOS 300/700 Series systems either use a PS/2 keyboard, an ANPOS keyboard connected to the PS/2 port, or a USB ANPOS keyboard connected to a standard 5-V USB port. Because the USB ANPOS keyboard ships with a standard 12-V USB connector, you need to order the cable that Toshiba offers to connect the USB ANPOS keyboard to a standard 5-V USB port.
6. A USB mouse is supported. However, some systems have a single PS/2 port such that if you attach a mouse to the PS/2 port, you cannot attach a PS/2 keyboard.
7. In 4690 OS V3R3 and later versions, configuring both an APA display and an alphanumeric display (ANDISPLAY) results in a conflict. Also, a conflict occurs when two displays of the same type are configured into ports 9a and 9b at the same time.

In addition, you can also define terminal RAM disks that the system uses as virtual disks.

You can physically group the devices (*integrated*) or physically separate the devices from the base unit (*distributed*). The design of the terminal and its devices allows for a variety of arrangements. Consult with the individuals who are designing the sales counters for your organization to determine the best arrangement for the terminals.

Activity 4c. Define software configuration

You need to consider your software requirements while planning what hardware to order. Software planning involves individuals in your organization who are familiar with the following:

- Your store operations
- Data-processing requirements
- Functions provided by the 4680 or 4690 application programs
- Programs and files you want to use

This activity develops a set of software requirements matched with your hardware requirements. It includes the application program needs for your organization and the storage needs for the store controller.

Activity 5. Prepare terminal device group definitions

While you are selecting components for legacy systems, you need to define your terminal device groups. A *terminal device group* is a group of common devices that attach to your terminals. In addition to device selection and configuration options, Java application options are stored in the device group record.

- | SurePOS 700 Series systems, SurePOS 300 Series Model 350, TCxWave 6140 Series and some 4694
- | terminals use *terminal device characteristics* to group common devices that attach to your terminals.
- | Terminal device characteristics are defined using Generic Terminal Configuration. The operating system
- | supplies a default terminal device characteristics grouping. You can use the default grouping at system
- | setup to get the terminal operating quickly, or you can create your own terminal device characteristics
- | configuration options.

The worksheets in this guide let you define your terminal device groups. You should complete Appendix D, "Terminal configuration data - Worksheets D," on page 243 by the time you place your order. Completing this appendix ensures that the information needed for terminal installation and configuration is recorded.

Activity 6. Develop a telecommunication plan (optional)

This task requires project management skills and an understanding of system requirements with the ability to evaluate the advantages and disadvantages of telecommunication functions. The operating system supports a variety of telecommunication options. You can make this task easier by creating a plan for the installation of the telecommunication functions your system requires. Keep in mind that you typically install the telecommunication functions while you are performing the other store system installation activities.

Activity 6a. Determine system requirements

This task requires system analysis skills to evaluate the changes that are involved when you install the operating system software.

Define how you plan to have the operating system software interface with the existing application software. List the existing application software. This software might include such programs as:

- Sales audit
- Sales analysis
- Merchandise and inventory control
- Credit
- Batch communication
- Online communication
- Host maintenance

Determine the implications of the operating system on each of the application programs, and define the interface requirements. Define new software or modifications that are required for the interfaces, with the estimates for resources and time for development. Determine the availability of qualified resources for development. If the resources are not available, determine and select an alternate approach.

Review the existing system capabilities and determine any additional needs at the central site host processor. Define the network approach¹ and any required communication adapters. See your Toshiba representative for further information on these adapters and their uses.

In your review, include:

- Communication controller specifications for proper features and storage
- Data set requirements
- Non-switched versus switched and line backup considerations

Activity 6b. Evaluate Toshiba support software programs

Review the Toshiba licensed programs and program offerings and compare them with the system requirements. The review should include:

- Analysis of each package's functions
- Comparison of the functions with the requirements
- Ease of the modifications to meet unique requirements
- Assessment of the differences between using licensed programs and custom development

Activity 6c. Design additional application programs

This task requires application design, programming, and data processing skills.

1. For example, Synchronous Data Link Control/Systems Network Architecture (SDLC/SNA)

Prepare your system design plan, which should include:

- Data flow between the store system and application programs
- Definitions of major data elements
- Definitions of major inputs and outputs
- Definitions of interface requirements

Decide what kind of communications you plan to use between the host and the store and between the in-store processor and the store controller. Determine the operating system security approach, which includes the functions that will have restricted access and the types of imposed restrictions. Document the system security approaches. Consider security codes common to all stores so that service personnel and the central site support group can have easy access to all files.

The *4690 OS: Programming Guide* and the 4680 or 4690 application programming guides contain information about the types of data files supported. These publications also provide the specific contents of the data files that are used by the application. See these guides for details about the data required for your application programs. For application programs that you intend to use the Common Programming Interface for Communications (CPI Communications), see the *4690 OS: Communications Programming Reference* for more information.

Activity 6d. Prepare user data

This task requires application design and data processing skills.

The 4680 or 4690 application programs provide a variety of functions that require unique, user-supplied data. For example, the price lookup function requires an item record file with item descriptions and prices. You must supply this data if you use this function.

Based on the system requirements, you must identify what data to create and how to prepare it for use in the store. The 4680 or 4690 application programming guides contain detailed formats of the data files and their record contents. See these guides for details when defining the application that creates the data. Examine your existing systems to determine how much of this data exists and if you can reformat it into the required store file format.

See the *IBM Advanced Data Communications for Stores Program Reference* for the data formats required as input for transmission.

IBM Distributed Systems Executive Preparing and Tracking Transmission Plans If you are using DSX or NetView DM as your telecommunication facility, see the for input data formats.

Activity 6e. Define telecommunication network

Communication planning and definition require knowledge of telecommunication concepts and terms. Before starting this activity, this material assumes that you have this knowledge or have access to individuals who do.

Appendix F, "Communication Data (Optional) - Worksheets F" contains detailed instructions for defining the telecommunication network.

Activity 7. Develop education plan

An *education plan*:

- Identifies the required and available courses
- Schedules the appropriate people for the appropriate courses

Toshiba offers many courses that help the company in the planning and installation process. Contact your Toshiba representative for a list of the courses available, or view the Retail Store Solutions Internet site, selecting **Products** and **Education**. Review the course descriptions and identify who should attend which course.

Obtaining education early in the planning and installation process enables you to achieve maximum benefit. The key project members, particularly the project manager, should attend the operating system overview and installation planning courses as early as possible. Project team members whose responsibilities occur later in the process should attend courses closer to the time of their involvement and concentrate on the courses covering system details.

Activity 8. Review application program requirements

These steps guide you through the application program requirements, including preparing the personalization worksheets.

Activity 8a. Review 4680 or 4690 application programs

Review the 4680 or 4690 application program planning and installation guides with your Toshiba representative to determine how the licensed program meets the needs of your organization.

Activity 8b. Develop customization requirements (optional)

This task requires system analysis skills to determine if the customized program meets the requirements, and system design skills to define the customizing specifications. *Customizing* is writing user exit routines to be compiled and linked with the application to provide unique functions. *User exits* are written and combined with the licensed program code to change the 4680 or 4690 application program to better fit your needs.

By reviewing your point-of-sale requirements and your operating system's Toshiba licensed programs, you can determine whether you need to customize. The licensed programs provide many options that enable the application to function in any one of several defined ways. Selecting these options does not require programming, but is accomplished through a process called *personalization*. The options enable a great deal of flexibility in the way the application functions without any additional programming.

Develop specifications for all the programming changes, including the interfaces. Identify all additions and changes to data and operator interfaces. Document the programming standards and conventions. Conduct a structured review of the specifications to ensure that all requirements have been satisfied in the best possible way.

The 4680 or 4690 application program planning and installation guides provide a description of functions and personalization selections. The 4680 or 4690 application programming guides provide further assistance in developing your customization requirements.

Activity 8c. Prepare personalization worksheets (optional)

Personalization is a way of modifying the 4680 or 4690 application programs by selecting the options they offer. Examine these options thoroughly.

Before you install the application, you need to plan the level of personalization you want to do. Complete the personalization worksheets found in the 4680 or 4690 application program planning and installation guides to record your choices of options and to gather data.

Activity 8d. Develop store procedures

This task requires documentation skills to be used in writing usable and easy-to-understand store procedures.

Installing a new point-of-sale store system can cause changes in the responsibilities and operations of various store employees. You should document these changes in job descriptions and operational procedures.

After you select your system options and develop customization and maintenance plans, prepare procedures for all store personnel who will use the store system. These personnel include salespersons, terminal operators, store managers, and other administrative personnel. Some important procedures to describe are:

- Sales functions
- Non-sales functions
- Accounting and store closing functions
- Data maintenance functions
- Delayed data maintenance functions
- Backup and recovery functions
- Problem reporting and resolution functions

These procedures are part of your training material. To help you develop your store procedures, review the following Toshiba information:

- *SurePOS 700 Series Point-of-Sale: Installation and Operation Guide*
- *SurePOS 700 Series Point-of-Sale: System Reference*
- *SurePOS 700 Series Point-of-Sale: Hardware Service Guide*
- *4690 OS: Messages Guide*
- *4690 OS: User's Guide*

Use the operating system planning and operating information as sources. However, this information is not customized for your unique store system or store operation. It is important to keep the store procedure documentation simple, straightforward, and easy to use. Store operations and training personnel are candidates for writing this information. Training materials can often be a by-product of the procedures.

Review the completed procedures with personnel and include representatives from:

- Store operations personnel
- Store management personnel
- Store sales personnel
- Other administrative personnel

In addition to developing store procedures, create your own forms and documents, such as layaway forms and balance sheets, for employees to insert in the point-of-sale terminal for printing. Appendix G, "Printer forms and documents" contains information on creating your own forms and documents.

Activity 8e. Develop training program

In this activity, you perform the following tasks:

- Evaluate the training needs of your organization
- Identify the user groups that need training, including:
 - Central site users (if your store is connected with a host processor at a central headquarters)
 - Data processing personnel
 - Sales clerks or checkout clerks
 - Store controller operators
 - Store managers
 - Supervisors
- Determine your training approach
- Develop your training materials
- Develop training schedules

Develop training schedules with enough time allotted for producing your training materials.

Activity 9. Place the order

Contact your Toshiba marketing representative for help in placing your order.

Activity 10. Implement telecommunication plan (optional)

If you developed a telecommunication plan in Activity 6, start implementing each part of that plan.

Activity 11. Prepare your site

Preparing your site includes planning for:

- Physical store layout
- Sales counter or checkstand design
- Electrical wiring
- Signal wiring

In this activity, you perform the following tasks:

- Review your current facilities (store layouts and wiring layouts)
- Identify additional requirements
- Develop electrical wiring guidelines and schematics
- Develop signal wiring guidelines and schematics
- Decide who will perform the construction, electrical, and signal wiring installations

Activity 12. Prepare configuration worksheets

The worksheets located in the appendixes help you plan and document your configuration before you enter the values and data using the configuration process.

Configuration instructions are in the appendixes of this guide.

Activity 13. Install test system

See Chapter 3, “Installing a test system,” on page 19 for information on installing a test system.

Activity 14. Develop test and maintenance plans

System testing enables you to simulate the types of problems that can occur during normal daily operation and to develop store recovery procedures to handle each problem. To fully test these conditions, include activities in your plan that use the system's error detection and recovery capabilities. In addition to planned transactional errors, the system test should also simulate interruptions, such as hardware and software failures.

System testing anticipates and solves operational problems and ensures system recovery if failures occur.

A comprehensive system test should include testing of:

- All programs
- Training materials
- Procedures and controls
- Power interruptions
- Error detection
- Failure recovery
- System backup

Your system maintenance plan should include information on supply replenishment, required software and hardware changes, and enhancements. In addition to keeping a supply of forms and printer ribbons in each store, you should also have the following information available for quick reference:

- An up-to-date wiring schematic diagram of the store
- Lists of terminal numbers and locations
- Lists of cable lengths and part numbers that are used in the system
- Any hardware diagnostic diskettes or CD-ROMs that were shipped with the system components

This information assists store and service personnel in diagnosing problems and maintaining equipment.

You should carefully plan and test enhancements. Carefully document all requests for enhancements, and then analyze the requests to determine the appropriate action to take. Plan, schedule, perform, and test any system changes. Modify affected training and operating materials, and then notify all personnel.

Activity 15. Develop a replication plan

To develop a replication plan, review the methods of reproducing the system software configuration data and user data, and distribute this data to your store controllers.

Several options are available to accomplish this activity. Review Chapter 6, “Software replication planning” and select the replication method that meets the needs of your environment.

Activity 16. Load user data in test system or transmit user data (optional)

This task requires data processing skills.

After preparing the data for use in the store, the next step is loading the data in the test system. If you plan to use telecommunications, you can decide to load user data by transmitting it to your test system.

The IBM licensed programs ADCS, DSX, and NetView DM are available to perform this step. They provide flexible, data-driven operation and automatic procedures.

Activity 17. Train store personnel

Begin the training program that you developed in “Activity 8e. Develop training program” on page 13 by using the materials you developed in “Activity 8d. Develop store procedures” on page 12.

Activity 18. Install first store

The preliminary installation plan should include the activities and the sequence involved in installing the first store. These activities should include:

- Store management training
- Wiring and fixtures for checkstand or sales counter
- Ordering supplies
- Communication equipment installation
- Configuration and personalization planning
- System installation-including transmission of user data

Activity 19. Implement test and maintenance plans

Implement the test and maintenance plans that you developed in “Activity 14. Develop test and maintenance plans” on page 14.

Activity 20. Test the store system

This task requires organizational skills to coordinate the test, and to track and resolve problems.

This test is an integrated test of the first store system. The objective of this test is to ensure that the entire system (communications, store controllers, and terminals) is operating correctly before the store opens. This test is probably the first opportunity to examine the entire store system, including all the terminals, in a simulated day-in-the-store environment. For example, salespeople enter typical transactions while store support and background application programs are active.

Your test should represent normal daily operation, closing the accounting period, and telecommunication functions. You can test the following procedures in this environment:

- Sales functions
- Non-sales functions
- Accounting functions
- Store opening and closing functions
- File maintenance functions
- Data retrieval and processing functions
- Backup procedures
- System start-up procedures and close-down procedures
- User-written applications functions
- Problem reporting and resolution functions
- Report functions

During this test, you should validate all store data files. To validate the item record file data (price, description, taxes), scan or type in one of each item that should be on the file. Correct data in error and add any missing data before you open the store.

Activity 21. Monitor store system

This task requires system-programming analytical skills.

The operating system provides several tools to assist you in collecting system data that can help you analyze the performance of your system. See the *4690 OS: Programming Guide* for a discussion on performance and review the tools available to monitor the performance of your system. Generally, the tools are:

- Device channel performance report and trace
- Disk performance report and trace
- Communication line (SDLC, and X.25) trace
- Messages in the system message log
- Store controller processor performance report

See the *4690 OS: Messages Guide* for procedures for starting and stopping the performance monitoring tools.

Activity 22. Adjust installation and replication plans as needed

Based on the results of installing the first store system, review the installation and replication plans to assess both their advantages and shortcomings. Adjust your plans to eliminate problem areas.

Conduct the review after your personnel become more experienced with the operating system and its uses. The objective of this review is to assess the installation plan, the replication plan, and the results that are produced by the store system. The store system project staff and representatives from user areas (such as operations, training, store management, and central site) should participate in the review. Areas to review include:

- Installation approach and schedules
- Facilities
- Training materials
- Procedure guides
- Communications

- Central site operations
- Operational schedules

As a result of the review, define an action plan to refine the operation of the store system. Modify the store system installation and replication plans to reflect the recommended changes.

Activity 23. Replicate store system

The decision to install multiple stores is based upon the geographic location or a “largest store first” approach. Installing by geographic location minimizes the operational problems in the early phases of installation by localizing the training requirements and store installation logistics.

In companies with widely dispersed stores, an approach proceeding from the largest to the smallest store within a region or area generally works best. This “largest store first” method produces the most significant results because it creates a working prototype on which to base later additions to the system.

Use the replication plan you developed in “Activity 15. Develop a replication plan” on page 15.

Chapter 3. Installing a test system

This chapter provides an overview of a suggested test system at a central site.² Tasks described in this chapter are part of “Activity 13. Install test system” on page 14. For details on software installation, see Chapter 7, “Installing your system software and migrating your 4690 system software.”

In this activity, you will set up a suggested test system. A test system enables you to install the system hardware and software for your 4690 Store System and verify that you have an operational system. You can also debug store application programs, and apply and check software maintenance before sending them to the stores.

A test system can be either:

- A store controller, a Mod1 terminal with an attached partner terminal (if Mod2 terminals are used), and a Terminal-Controller Communications (TCC) network.
- A controller/terminal using the operating system and a Mod2 terminal attached to the controller/terminal.

It can be at the host processor-central site or in a special area at a store location. You can install the following software packages on your test system:

- The operating system
- One of the following optional Toshiba application programs:
 - 4680 Chain Drug Sales Application
 - 4680-4690 Supermarket Application
 - 4680-4690 General Sales Application
 - SurePOS ACE Application

The following features are available:

- Multiple Controller Feature
- NetBIOS Feature
- Terminal Feature

You can configure multiple store controllers to perform data backup operations. Perform this operation by attaching the store controllers to the Ethernet Network and enabling the 4690 Multiple Controller Feature. For details on using multiple store controllers, see the *4690 OS: User's Guide*.

- | On the test system, include your user-exit routine programs and application programs that execute in the operating system environment on the store controller. Also, include on the test system programs that execute on 4693 Mod1, 4683 Mod1, 4694, SurePOS 700 Series, SurePOS 300 Series Model 350 or TCxWave 6140 Series terminals.

You can expand the test system to include a multiple controller system to test optional LAN support, store controller backup, and the data distribution system.

The following sections describe the activities involved in installing a test system. Figure 1 on page 20 gives the sequence of the activities. The numbers on each activity correspond to the appropriate block in the figure. A dotted line indicates optional activities.

2. The location of your host processor or the location that is selected to be fully installed.

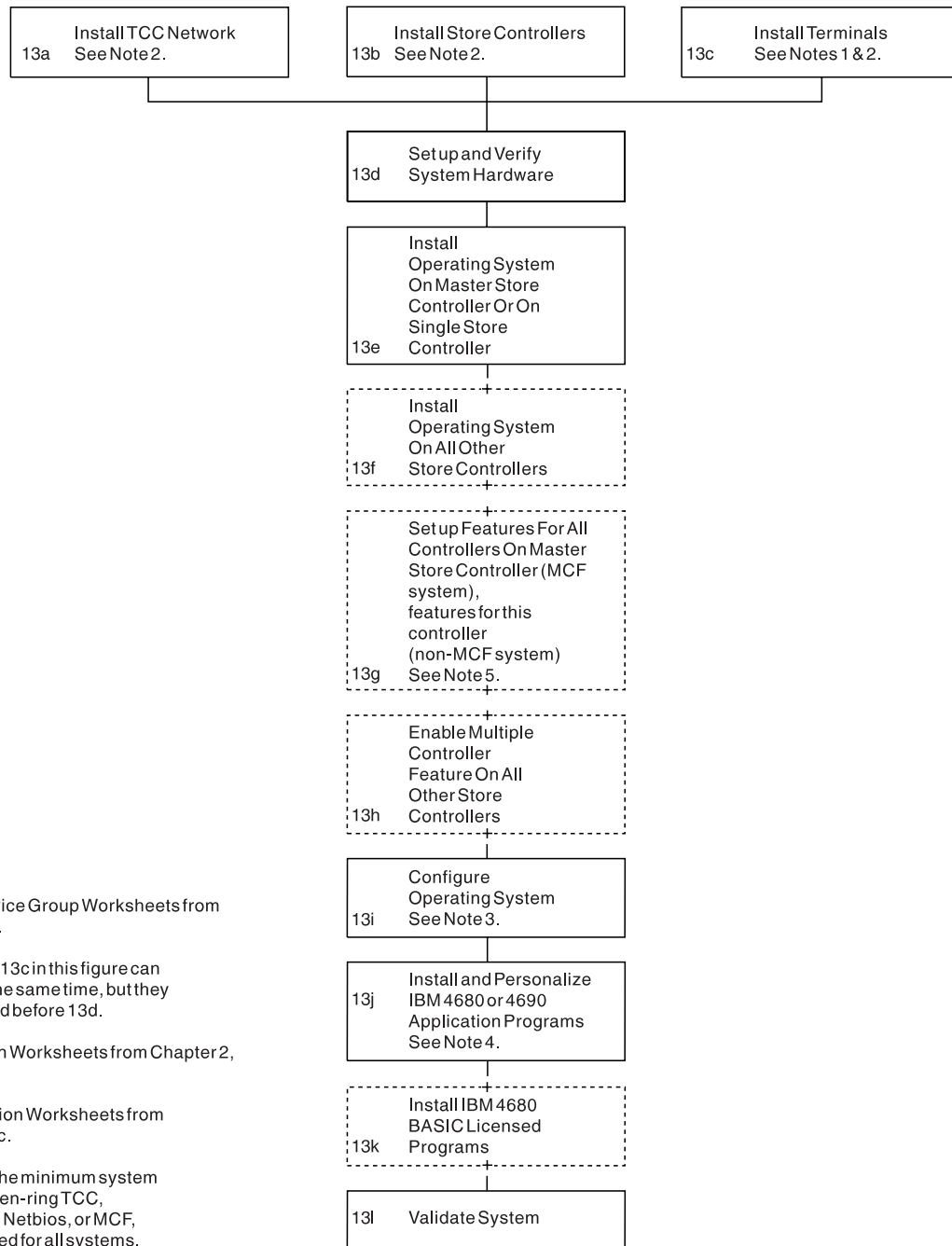


Figure 1. Installing a Test System

Activity 13a. Install Terminal-Controller Communication (TCC) Network

The operating system supports communications between controllers and terminals in two TCC network environments:

- Ethernet

Notes:

1. Controllers running in Enhanced Mode can only use Ethernet for TCC.

The operating system enables your store controller to support the following configurations:

- Ethernet attached terminals

Store controller backup occurs when you use any Ethernet to ensure uninterrupted operation if the primary store controller becomes disabled. For details on using the store controller backup, see the *4690 OS: User's Guide*.

You will probably have your LAN TCC network wiring installed and tested by an electrical contractor. Install and check the wiring before your terminals arrive to ensure minimal delays.

Activity 13b. Install store controllers

Your store controller can be a selected model of the personal computer, 4694, SurePOS 700 Series, or a SurePOS 700 Series (except Models Cxx) controller/terminal. Unpack, set up, and test your store controller using the supplied documentation.

The operating system enables you to connect your store controller to another store controller through a LAN (MCF Network) and use an Ethernet connection. This flexibility allows store controllers to communicate with each other during activities such as store controller backup and file reconciliation. If you want to use the 4690 Multiple Controller Feature in your store system, you must install a network adapter in each store controller in your LAN.

Note: Store controllers running in Enhanced Mode must use an ethernet connection to communicate with each other.

Activity 13c. Install terminals

Use the publications that are supplied with the point-of-sale terminals to install the terminals and any attached devices.

Activity 13d. Set up and verify system hardware

At this point in the installation process, you should have components of the terminals and the store controller installed. In this step you connect the store controller and the terminals to the Ethernet, and ensure the hardware is set up and working properly. See Chapter 4, "Terminal installation planning," on page 25 for instructions on setting up the hardware.

Activity 13e. Install the Operating System on the master store controller or on a single store controller

Toshiba distributes the operating system on CD-ROM. If you are using the 4690 Multiple Controller Feature or a single store controller, see Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167 for installation instructions.

Refer to the *4690 OS: User's Guide* for further information on configuring other store controllers on the MCF Network.

Activity 13f. Install the Operating System on all other store controllers (optional)

Toshiba distributes the operating system on CD-ROM.

Activity 13g. Enable 4690 features on the Master Store Controller (optional)

The operating system gives you the option of purchasing features of the operating system separately. The base operating system is the only required purchase. The following features are optionally available:

Controller Features

- Multiple Controller Feature
- NetBIOS Feature

Terminal Features

- 4690 OS V6 Terminal Licenses

Check the current Features option on the CD-ROM for additional features that are available.

To enable the features you have purchased, use the Features option on the CD-ROM to fill in the information about these features.

Note: Although the Communications Feature and LAN TCC Feature are now included in the base product and do not need to be purchased separately, you must still enable those you want to use.

You should run the features program after you install the base operating system and the system has completed its initial program load (IPL). You can run the features program at any later point in time to add or remove features from your system. Before you set up your system as a Multiple Controller System using the Multiple Controller Feature, decide how to configure the controllers on your system. After you configure the controllers, then run the Features Installation program. You must run the features program before you configure your system for these features.

Activity 13h. Enable 4690 Multiple Controller Feature on all other store controllers (optional)

If you choose to use the Multiple Controller Feature, you must set up the features at the master store controller. However, you must run the features program on all non-master store controllers to prepare each non-master store controller to become part of a multiple-controller system.

See “Initial setup of features” on page 173 for information on enabling the Multiple Controller Feature on other store controllers.

Activity 13i. Configure the Operating System

If you use the 4690 Multiple Controller Feature, you must configure the operating system at the master store controller. When you activate the configuration on the master store controller, the system automatically distributes it to the other store controllers on the MCF Network.

The worksheets in the appendixes of this manual help you plan your configuration. After completing the worksheets, type in the values and data on the configuration screens.

Activity 13j. Install and personalize the 4680-4690 Application program

Toshiba distributes 4680-4690 application programs on diskettes or CD-ROMs. The 4680-4690 application program planning and installation guides provide you with the functions and capabilities of the product. These guides also tell you how to install these application programs on the master store controller.

Before you install the application, plan what level of personalization you want to do. First, review the appropriate 4680-4690 application program planning and installation guide. These guides have

descriptions of the available personalization options. Choose your options and complete the personalization worksheets that are found in the guides. The worksheets enable you to personalize your system on paper. After completing the worksheets, type in the values and data on the personalization screens.

Activity 13k. Install the 4680 BASIC Licensed Program for customization (optional)

In preparing to use the 4680-4690 application program, you might need to modify the application by writing user-exit routines. *Customizing* the application is when you modify the Toshiba application with user exits.

4680 BASIC enables you to develop user-written applications, or link and compile user-exit routines with the 4680-4690 application programs.

Activity 13l. Validate the store system

After performing system configuration, application personalization, and customization, you must run a test to verify that the store system is operating as required. This test includes all store and central site operations. Some major operations to validate include:

- Sales functions
- Non-sales functions
- Accounting functions
- Functions of store opening and closing
- File maintenance functions
- Data retrieval and processing functions
- Report functions
- Problem reporting and resolution functions
- User-written application functions
- Backup procedures
- Functions of system start-up and of close-down

See “Activity 14. Develop test and maintenance plans” on page 14 for suggestions for plans for this test. Validation allows you to correct any operational problems before installing the system in your pilot store.

Chapter 4. Terminal installation planning

This chapter helps you plan your terminal installation procedures. The worksheets in Appendix B, “Terminal installation worksheets,” on page 221 provide an orderly method to transfer this information to the individuals who install your terminals. Your plan to train installation personnel should include:

- Training a team to perform the installation tasks.
- Setting aside adequate space for installation and storage until you are ready to install the system.
- Verifying the arrival date of the terminals.
- Providing information about the plan to the installers. This information should include:
 - A diagram of terminal layout with attached devices and their position at each checkstand or sales counter
 - A completed copy of Worksheet B for each terminal
 - A completed copy of Worksheet C

Note: Worksheets B and C contain information that is required for successful installation of your terminals.

Receiving the terminals

Toshiba designed the point-of-sale terminals so that they can be installed by the customer. A single, large container packages each terminal and its devices. Inside the container, separate smaller boxes package the components, and devices.

Opening the outer shipping box

Pay particular attention when opening the large box housing each terminal. Have your installation supervisor save the packing list for each shipping container. Next, ensure that you open first the box labeled *OPEN FIRST*. It contains a copy of the installation guide for the terminal (if the guide was ordered with the machine.)

Completing terminal configuration and installation worksheets

The installation instructions contain a series of questions on installing the terminals. As the planner, you must provide the answers to both your installation personnel and to the system programmer who creates the terminal configuration data.

Worksheets located in Appendix B, “Terminal installation worksheets,” on page 221, Appendix C, “Lock code numbers record,” on page 241, and Appendix D, “Terminal configuration data - Worksheets D,” on page 243 of this manual help you with terminal installation. Use the worksheet in Appendix B to show your installation personnel where to attach input/output devices to the point-of-sale terminals. Use the worksheet in Appendix C to record the lock code numbers for each terminal in your store system. Use the worksheets in Appendix D to record terminal configuration information. Make as many copies of these worksheets as required to meet your needs. Have the worksheets ready before your terminals arrive.

The remainder of this chapter helps you complete Worksheets B and C.

Completing Worksheet B

Each terminal can have combinations of attached devices. As a planner, you must decide where to attach these devices (for example, cash drawer, base unit, security base, or cabinet). Then, inform the installation personnel of the devices' location.

The point-of-sale terminal can be used in either an *integrated* or a *distributed* configuration. Figure 2 and Figure 3 on page 27 show these configurations. If you do not instruct installation personnel on the location of the devices for a distributed configuration, Toshiba recommends the integrated configuration as shown in Figure 2.

Note: The point-of-sale terminal shown in Figure 4-2 does not ship with the wrap stand furniture.

See “Worksheet B—Terminal installation - 4693” on page 236 to answer the questions and record your answers on the worksheet. Fill out a Worksheet B for each point-of-sale terminal in your store system.

Assign numbers to your terminals from 1 to 999.

Copy the six-character order, terminal, and model numbers onto Worksheet B. The Toshiba Advance Administrative System assigns the six-character order number on your order confirmation sheet. These numbers enable personnel who set up the terminals to compare installed devices with the shipping list. This comparison also assists the personnel to install terminals at the proper locations, with appropriate configurations for the terminal addresses.

Note: Give one completed set of Worksheet B for each terminal in your system to your installation personnel. Use the original forms or another set of Worksheet B copies to complete Worksheets D1 to D13.

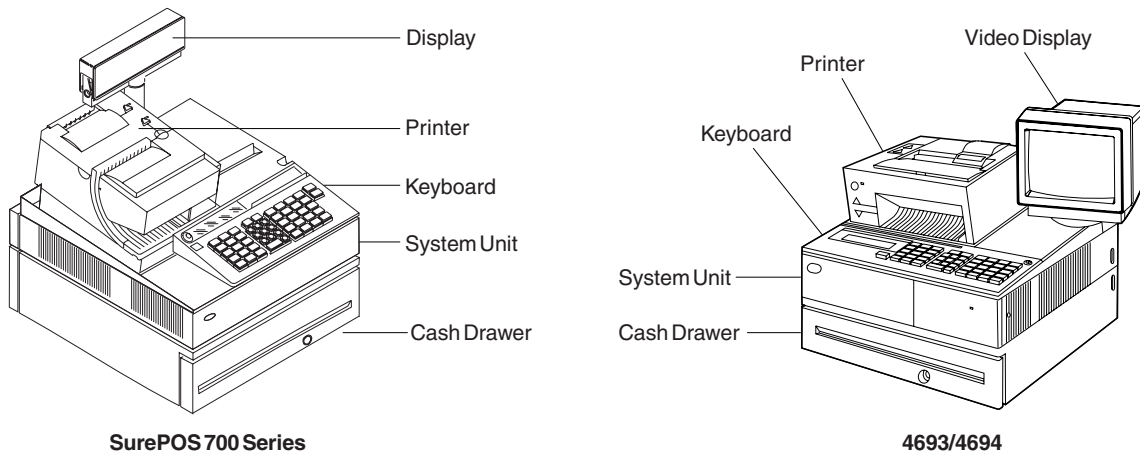


Figure 2. Point-of-Sale terminal integrated configuration

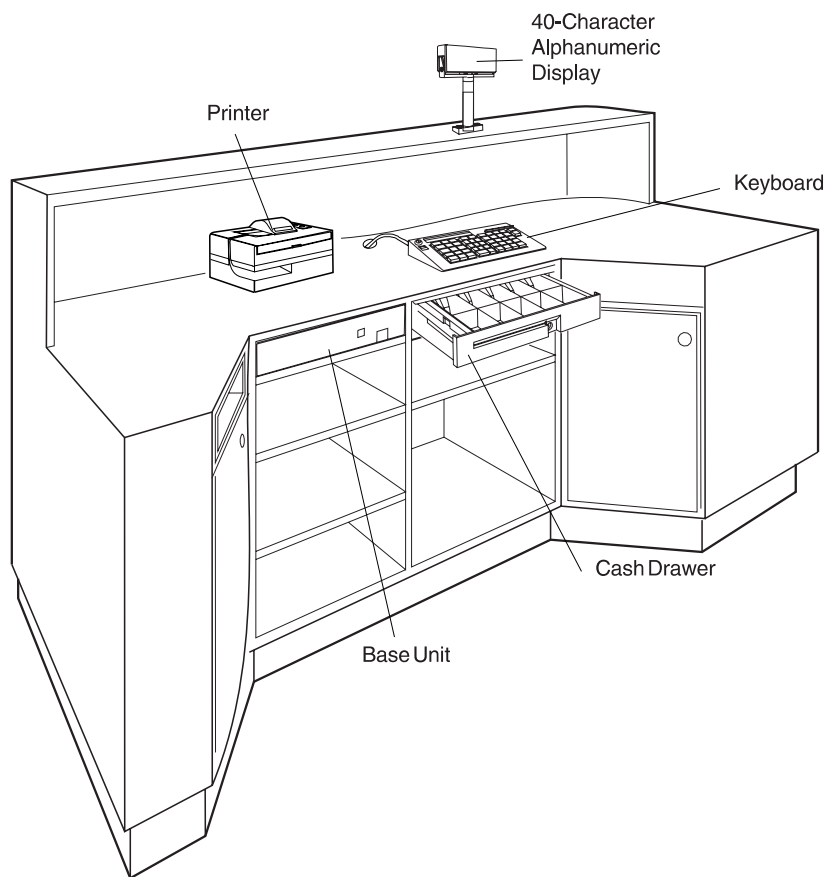


Figure 3. Point-of-Sale terminal distributed configuration

You should also indicate to personnel if they are to install the keybuttons and keybutton labels at this time. Coordinate the keybutton labels with your sales operations, application programming, and installation personnel.

See your terminal's operation guide for instructions on changing keybuttons. See your application program's planning and installation guide for information on key functions.

Completing Worksheet C

When you receive the system hardware, immediately record the lock code numbers for each point-of-sale terminal in your store system. Use copies of the worksheet in Appendix C, "Lock code numbers record," on page 241 to record these lock code numbers. (Both the key and the lock use the same number.)

To connect a Mod2 terminal to a Mod1 terminal or controller/terminal, record the Mod2 numbers on the line that is immediately following the lock code numbers for its partner terminal.

You can also use this worksheet to record terminal numbers that you will use later in defining terminal load definitions.

After recording all the lock code numbers, collect the keys, label them by terminal number, and then store them in a safe place. Ensure that the personnel install all locks where you indicated on the terminals. Save all copies of the worksheets for your records.

Chapter 5. Configuration planning

This chapter assists in planning for configuration. The configuration process defines information about the terminals and devices to the operating system.

In the configuration planning activity you perform the following activities:

- Collect the required information
- Choose from the optional information and collect it for tailoring for your operating environment
- Decide if you want to accept or change any of the defaults that are supplied

Defaults are values and selections that the system supplies and uses unless something else is specified. You determine the system defaults by analysis of the selections made by most point-of-sale (POS) users and those that apply to most user environments. It is your choice to accept or change a default. The worksheets indicate the default selections. ***The data input field of the configuration panels also shows the default.*** Many of the worksheets contain one or more blank spaces next to the configuration keyword. Use this blank space to record the value (default or other value of your choice) that you enter later, at configuration time.

"4690 Load definition manager" on page 98 explains how to use the 4690 Load Definition Manager for converting "legacy" 4694 terminal load definitions to "generic" load definitions.

Figure 4 on page 30 summarizes the information that is associated with configuration. ***Items in the figure correspond to subtitles that are found in this chapter.*** Additionally, if you plan to transmit data to and retrieve data from your stores, you must define communications in your configuration.

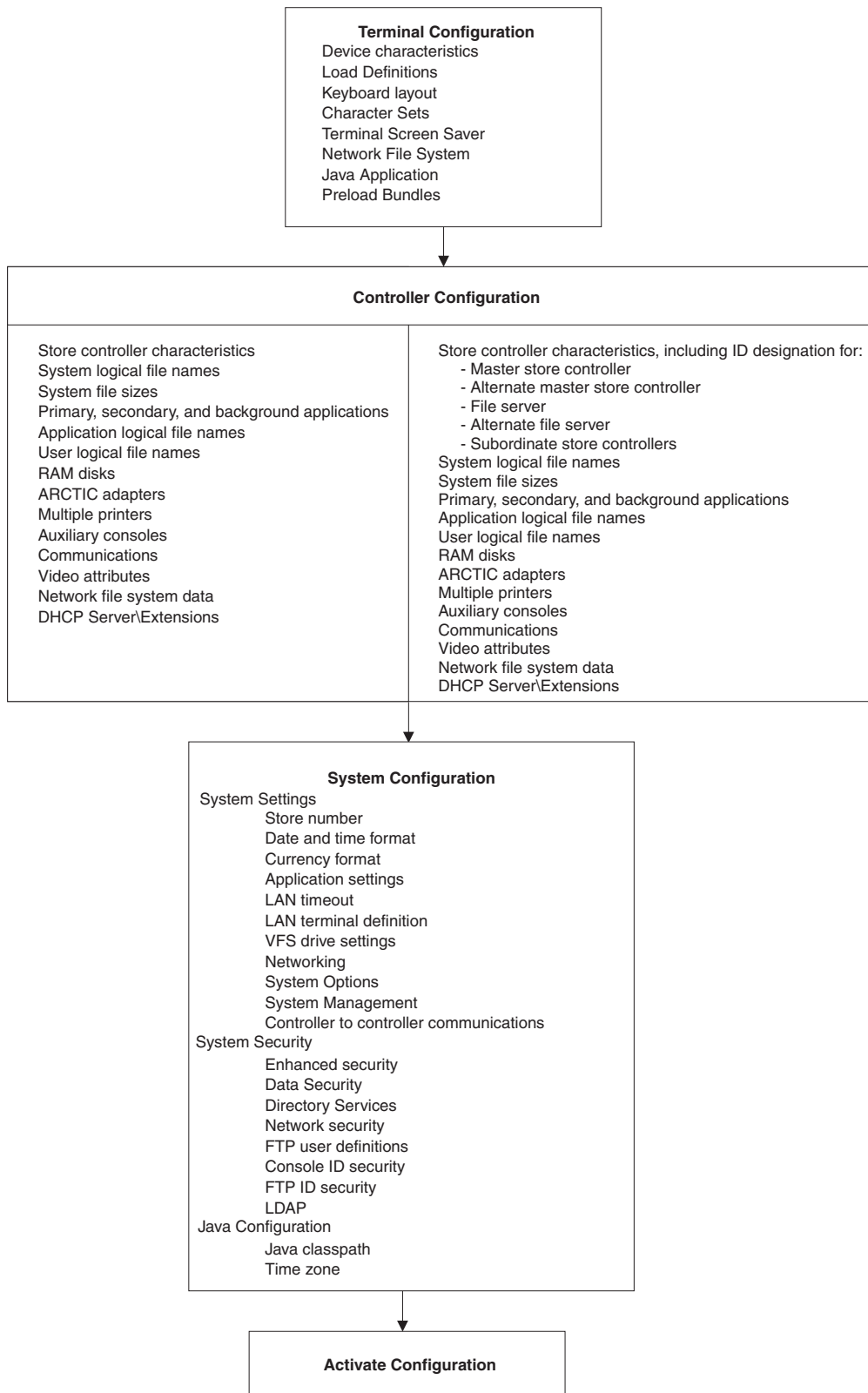


Figure 4. Configuration planning tasks

Methods for terminal configuration

These three methods for configuring terminals are available:

- Original or "legacy" terminal configuration method, which can be used for 4694 or earlier terminals (see "Legacy terminal configuration method" for additional information).
- "Generic" terminal configuration method, that can be used for 4694, the SurePOS 300 Series Model 350, SurePOS 700 and TCxWave 6140 Series terminals (see "Generic terminal configuration method" for additional information).
- Configuration Utility method, that can be used for 4694, SurePOS 300 Series Model 350, SurePOS 700 Series and TCxWave 6140 Series terminals (see Appendix K, "Using the Configuration Utility," on page 605 for additional information).

Attention: Because of memory requirements and file-usage conflicts, do not run any other applications (such as changing, activating, printing, displaying or reporting configuration data) at the same time that you are performing a configuration function.

Legacy terminal configuration method

The original or *legacy* terminal configuration method, which can continue to be used for 4694 and must be used for 4683 and 4693 terminals, requires explicit configuration of all devices that are attached to a terminal. This configuration information is stored in two separate files; one file containing the Device Group information and the other file containing the Load Definition information.

The Device Group file specifies the devices that 4690 OS can expect to be on a particular terminal. Devices not configured in the Device Group file are ignored by the terminal software, even when those devices are connected to the terminal. Likewise, the terminal software tries to communicate to devices that are configured in the Device Group file but are not connected to the terminal.

The Load Definition file specifies the software to be loaded on the terminal and it specifies the Device Group file to be used for each terminal. The Device Group file and Load Definition file are for a specific type of terminal. An error occurs if the Device Group file for one type of terminal is associated with the Load Definition file for a different type of terminal.

To use the configuration information defined in the Device Group file and Load Definition file, Set Terminal Characteristics (STC) must be run in the terminal. STC allows you to enter a terminal number using the keyboard and it then gets the configuration information for that terminal number from the server. If the specified terminal number is not found, an error is displayed. An error is also displayed and the configuration is not loaded if the specified terminal number and configuration is found, but the terminal type in the Load Definition file does not match the type of terminal into which it is being loaded. To fix these two types of errors, the configuration information and STC have to be changed for 4690 OS to recognize the new terminal type.

All of the terminals (either for your single store controller or for each store controller in the LAN) must be defined to the operating system. Through the configuration process, information is provided to the operating system about the functions and terminal devices.

To configure terminals, devices and their options using the legacy terminal configuration method, select option 1 **Legacy Terminal Configuration** from the Change Configuration menu.

Skip to "Terminal configuration worksheets for legacy terminal configuration method" on page 33 for additional information for configuration using the "legacy" method.

Generic terminal configuration method

The generic terminal configuration method, that can be used for 4694 terminals and must be used for SurePOS 300, SurePOS 700 and TCxWave 6140 Series terminals, involves selecting **options** for devices instead of defining the devices themselves. This configuration information is stored in an object called the

| *Device Characteristics Record.* The generic terminal configuration method allows new devices to be
| altered or added without requiring a configuration change.

| **Note:** The generic terminal configuration method is very similar, in concept, to how the SurePOS 700
| Series terminals were configured previously. 4690 OS detects and recognizes when a new device
| has been attached to the system and automatically configures it. The look-and-feel of the panels is
| somewhat different, but the concept is built around specifying only the **options** for all devices. It is
| no longer necessary to configure the devices themselves.

The Device Characteristics Record is a superset of all possible devices and options. It can contain devices that apply only to specific types of terminals, but this is not an issue because the device and the options for that device are used only when the device is detected. If a particular device cannot be attached to a terminal, the options pertaining to that device are ignored. But when a device is detected as being attached to a terminal, 4690 OS automatically configures the device by using the options that have been defined in the Device Characteristics Record.

The **store default configuration** is designed for environments where the terminals run the same software, devices, and options. When a store default configuration is defined, terminals that conform to it are automatically configured and added to the system, thereby, alleviating the need for configuration changes.

After a terminal or device is configured, the terminal must be re-IPLed for the 4690 OS to recognize the newly configured terminal or device. Self-powered devices, such as scanners, do not require re-IPLing of the terminal to be recognized by the 4690 OS.

Attention: When configuring terminals using the generic terminal configuration method in 4690 OS V3R3 and later versions, sockets 9A/9B/9C/9E cannot be used concurrently with the same POS display type. Otherwise, unpredictable terminal results might occur, and no error message or warning is shown for this condition. To use two similar POS displays, use socket 4 and one of the 9A/9B/9C/9E sockets.

Operations and restriction considerations in the controller/terminal environment

The terminal portion of a controller/terminal communicates directly with its own controller portion. It does not appear as another terminal on the local area network (LAN), and a different store controller cannot control or back it up.

Note: Controller/Terminal environment is not supported in 4690 OS V6R1 Enhanced Mode, but is added in 4690 OS V6R2 Enhanced Mode.

Because this terminal runs in the same physical machine as the controller, certain other terminal capabilities are not provided. For example, you cannot load or dump this terminal from the Terminal Functions panel. Included in any dump request is the terminal portion of a controller/terminal.

On a controller/terminal, any TCP/IP information defined on the terminal is ignored. The operating system uses the controller TCP/IP data.

Power options, such as programmable power and storage retention, do not apply to this type of terminal. See the *4690 OS: Programming Guide* for more information on programmable power.

You can configure a controller/terminal and enable the controller side and the terminal side to use the following sharing combinations:

- Share a keyboard and video display
- Share a video display only
- Not to share a keyboard and video display

When the controller/terminal is sharing a keyboard, the system directs all key entries or mouse entries to the current operational environment. With an MSR attached to a shared keyboard, the system directs data from the reader to the terminal side. This occurs even if the controller is the current operational environment.

When the controller/terminal is sharing the video display, the system accepts all display output from controller or terminal applications regardless of the current operational environment. The system displays the last display output when a particular side becomes the current operational environment.

Terminal and controller applications continue to run regardless of the current operational environment.

Setting Terminal Logical Names

Logical names in the terminal can be set via the ADXTRMUF.DAT file. The file must be placed in the ADX_IDT1 directory and have a LAN distribution type of 5 (Compound, Distribute on Close).

Note: This file is not shipped with the operating system.

The file must be created to set user logical names for the terminals. Logical names in the ADXTRMUF.DAT file apply to all terminals.

In order for the terminal to load these user logical names, the terminal load shrink must be rebuilt whenever this file is updated. This is done by executing the ADXRTCCL command on the controller command line. After the terminal load shrink utility completes, the terminals must be reloaded to activate the logical names.

The format of the ADXTRMUF.DAT file is a set of logical names and values. Each user logical name should be on a separate line in the following format: *logical name=definition of the logical name*

Logical name definitions must not contain any blanks, and each line (including the last line) must end with a carriage return and line feed.

Terminal configuration worksheets for legacy terminal configuration method

The D1 to D29 Worksheets assist you in recording terminal configuration definitions when configuring using the "legacy terminal configuration" method. In *terminal configuration*, you define:

- Terminal device groups (for 4683 and 4693 terminals and can be used for 4694 terminals)
- Terminal device characteristics (for SurePOS 300/700 Series and TCxWave 6140 Series systems, and can be used for 4694 terminals)
- Keyboard layouts (the position of keys on the keyboard)
- Terminal load definitions (programs loaded in each terminal at initial program load (IPL), the name of the terminal device group, the name of the keyboard layout, and the command tail for each application)
- Additional or changed alphanumeric characters that are displayed
- Additional or changed characters that print
- Terminal screen-saver data
- Network File System (NFS) data
- Font/Logo Utility

Attention: Before performing any Java-based configuration utilities (such as NFS configuration), you must enable Java graphics in controller configuration. To enable Java graphics, select **Controller Configuration, Video Attributes**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

If you have Java graphics enabled, you have access to a Java console by using the terminal video. You can switch between the terminal console and the Java console by using the Alt+SysRq key sequence. To display the Java console, press **Alt+Sysrq J**. To display the terminal console, press **Alt+Sysrq T**. If you have MBrowser enabled, press **Alt+Sysrq X**.

Configuration screens that use Java graphics are available also in a text version. The text version is used when Java graphics are not available. To force the use of text mode, add a logical name, ADXUIMD, and set the value to TEXT. The logical name can be set to GUI, also. You cannot force graphics mode if Java graphics are not supported in your environment.

Some environments where Java graphics are not supported are:

- If the controller is not configured for Java graphics
- In remote operation sessions

Note: In order for the 4690 Remote Operator to work properly with Java-based configuration screens, you must do one of the following to force the text version of the configuration screens:

- The remote operator must start the configuration to force the text version of the configuration screens. If the remote operator is just monitoring the screen while the store operator runs the Java-based configuration, the remote operator will be unable to view the graphic configuration screens.
- Use the ADXUIMD logical name to force the text versions of the Java-based configuration screens.

- In Telnet sessions

Worksheet D15. Terminal device characteristics

Defining terminal device characteristics identifies the devices attached to SurePOS 300/700 Series systems, TCxWave 6140 Series terminals and 4694 terminals. The operating system supplies a default terminal device characteristics grouping that can be used at system setup to get the terminal operating quickly. You can choose to use this default or create your own terminal device characteristics configuration options for the SurePOS 300/700 Series terminals.

Worksheet D15 helps you to identify which devices might be attached at some time at the rear of the SurePOS 700 Series terminal. This worksheet also helps you identify some options that are associated with the devices.

Worksheets D16 to D20. Feature expansions

The feature expansions worksheets identify which features you want attached to 4683 terminals. These worksheets help you identify where the devices are attached at the rear of the terminals and some that are associated with the devices.

Device sockets: You can install Feature Expansion A, B, C, D, or E in Positions 2A or 2B at the rear of the 4683 base unit. Each feature expansion has several numbered sockets where specific terminal devices can be attached. If you did not install a feature expansion, a filler plate covers the area.

There are also numbered sockets in the lower portion of the back panel. Other terminal devices attach to these sockets.

Note: You cannot install these Feature Expansions on a 4693 or 4694 terminal.

Worksheet D21. Keyboard layouts

The Point-of-Sale Terminal uses any one of several keyboards. Worksheet D21 shows the following keyboard layouts:

- 50 key
- Combined keyboard/display ³
- Alphanumeric (4683 only)
- Matrix (4683 only)
- ANPOS (Alphanumeric Point-of-Sale)
- 4693 POS (4693 and 4694 only)/USB 50-key (SurePOS 300/700 Series only)

3. Use the 50 key modifiable keyboard worksheet for the combined keyboard/display. The combined keyboard/display is sometimes called the 50 key modifiable keyboard/operator display.

- 4693 ANPOS (4693 and 4694 only)/USB ANPOS (SurePOS 300/700 Series, TCxWave 6140 Series only)
- 4693 Modifiable Layout (4693 and 4694 only)/USB 133 key (SurePOS 300/700 Series only)
- 4693 Modifiable Layout (4693 and 4694 only)/USB 67 key (SurePOS 300/700 Series, TCxWave 6140 Series only)
- SurePoint™ Solution (LCD/Video) keypad (4694 and SurePOS 300/700 Series only)
- Keyboard-V POS with JUCC MSR
- Keyboard VI POS with JUCC MSR
- 50 key POS keyboard with JUCC MSR
- PLU POS keyboard
- Modular 67 key keyboard (SurePOS 300/700 Series, TCxWave 6140 Series only)
- Modular 67 key LCD keyboard (SurePOS 700/300 Series, TCxWave 6140 Series only, not supported on SurePOS 7x1.)
- Modular ANPOS keyboard (SurePOS 700/300 Series, TCxWave 6140 Series only)

Select the version of Worksheet D21 that matches the keyboard used on your Point-of-Sale Terminal.

If Java is enabled, you can use a PS/2® keyboard, or ANPOS keyboard attached to the PS/2 keyboard port of the terminal. This allows you to access normal keyboard functions from Java applications. Define the keyboard configuration during terminal device group configuration.

Access to a PS/2 keyboard at the terminal is limited to a Java application. When a PS/2 keyboard is configured, you must also configure a POS keyboard. You can configure an ANPOS keyboard so that it shares both PS/2 keyboard functions and POS functions.

Without a USB keyboard, the system shares the ANPOS keyboard when attached to the PS/2 port with the terminal video configured. The system uses a USB keyboard as the point-of-sale keyboard; the controller or Java application uses the ANPOS attached to the PS/2 port.

If no PS/2 keyboard is attached to the PS/2 port on the SurePOS 300/700 series, the operating system uses the first USB ANPOS keyboard found as the system keyboard. If no other POS keyboard is found, the USB ANPOS keyboard is used as a shared keyboard.

A Modular ANPOS keyboard attached to a PS/2 keyboard port will emulate a 4693 ANPOS keyboard. It will use the 4693 ANPOS keyboard layout, not the Modular ANPOS layout.

Worksheet D21. Keyboard layout for 50-key keyboard

Note: Use this worksheet also if you are configuring the keyboard for the Combined Keyboard/Display.

The number shown in each key position represents the function code that is sent to an application when you press the key. Shipped with the terminal hardware are sheets of keyboard labels identifying these functions.

Except for the numeric keypad and the system function keys, you can move all key positions on the keyboard to any other key position. For the numeric keypad, you can specify it in the adding-machine or data-entry arrangement. Worksheet D21 shows the default function code for each key position on the Point-of-Sale Terminal keyboards.

The operating system supplies several default keyboard layout definitions that contain default codes for the 4680 or 4690 application programs. Your application program can use these default code definitions “as is,” or you can change them to meet unique application program requirements.

For example, VOID is the default name for logical key value 61 (key position top-left corner) for the 4680 General Sales Application. The Toshiba application translates function code 61 as VOID. On Worksheet D21, to use another key position as the VOID key, cross out the current VOID position and write 61 in its place.

The 4680 or 4690 application program's planning and installation guide provides the default function codes and the key label for each key position.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mandatory keys: The numeric keypad, and the Clear, Enter, and system function keys are mandatory. Of these keys, the numeric keypad and system function locations are fixed. You can, however, assign the location of the Clear and Enter keys.

Double keys: These keys take two vertically adjacent positions on the keyboard. You define both key positions with the same function code.

For example, see the default function codes for the 4680 General Sales Application. Assume that you want the Enter key (function 95) to be a double key. You would first redefine key function 91 as 95. Then, place the double-key button over both positions that are defined for function 95.

Double-zero (00) and triple-zero (000) keys: Defining double-zero and triple-zero keys reduces the number of key strokes when keying numbers containing these zeros. To define a key position as 00 or 000, replace the default function code with 00 for the double-zero key and 000 for the triple-zero key.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Department and tender keys: Department key numbers are associated with specific departments and their descriptors. You assign function codes for department and tender keys by using Worksheet D21. You assign function code descriptors by using the 4680 or 4690 application programs. See your 4680 or 4690 application program's planning and installation guide for details.

Worksheet D21. Keyboard layout for alphanumeric keyboard

Note: This worksheet is valid for 4683 terminals only.

The number shown in each key position represents the function code that is sent to an application when you press the key. Shipped with the terminal hardware are sheets of keyboard labels identifying these functions.

Except for the numeric keypad and the system function keys, you can move all key positions on the keyboard to any other key position. For the numeric keypad, you can specify it in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the Point-of-Sale Terminal keyboards.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition "as is," or you can change it to meet unique application program requirements.

For example, VOID is the default name for logical key value 61 (key position top-left corner) for the 4680 General Sales Application. The Toshiba application translates function code 61 as VOID. On Worksheet D21, if you want to use another key position as the VOID key, mark through that key number and write 61 in its position.

The 4680 or 4690 application program planning and installation guides provide the default function codes and the key label for each key position.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mode: You can assign four different function codes to many keys. To use different modes you can use the key by itself or in conjunction with the Shift, Alt, or Ctrl key. As you enter the function code, key F8 allows you to select the mode of use of the keyboard; as an example, No Shift or Alt.

Mandatory keys: The numeric keypad, and the Clear, Enter, and system function keys are mandatory. Of these keys, the numeric keypad and system function locations are fixed. You can, however, assign the location of the Clear and Enter keys.

Double-zero (00) and triple-zero (000) keys: Defining double-zero and triple-zero keys reduces the number of key strokes when keying these numbers. To define a key position as 00 or 000, replace the default function code with 00 for the double-zero key and 000 for the triple-zero key.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Department and tender keys: Department key numbers are associated with specific departments and their descriptors. Using Worksheet D21, you assign function codes for department and tender keys. You assign function code descriptors by using the 4680 or 4690 application programs. See your 4680 or 4690 application program's planning and installation guide for details.

Num Lock key: The Num Lock key can be defined only on the alphanumeric keyboard and is used to switch the default keypad function between Cursor and Numeric modes. To define the Num Lock key, replace the current function code with 999.

Worksheet D21. Keyboard layout for matrix keyboard

Note: This worksheet is valid for 4683 terminals only.

The number shown in each key position represents the function code that is sent to an application when you press the key. Shipped with the terminal hardware are sheets of keyboard labels identifying these functions.

Except for the numeric keypad and the system function keys, you can move all key positions on the keyboard to any other key position. For the numeric keypad, you can specify it in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the Point-of-Sale Terminal keyboards.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition "as is," or you can change it to meet unique application program requirements.

For example, VOID is the default name for logical key value 61 (key position top-left corner) for the 4680 General Sales Application. The Toshiba application translates function code 61 as VOID. On Worksheet D21, if you want to use another key position as the VOID key, mark through that key and write 61 in its position .

See the 4680 or 4690 application program's planning and installation guide for the default function codes and the key label for each key position.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mandatory keys: The numeric keypad, and the Clear, Enter, and system function keys are mandatory. Of these keys, the numeric keypad and system function locations are fixed. You can, however, assign the location of the Clear and Enter keys.

Double-zero (00) and triple-zero (000) keys: Defining double-zero and triple-zero keys reduces the number of key strokes when keying numbers with these zeros. To define a key position as 00 or 000, replace the default function code with 00 for the double-zero key and 000 for the triple-zero key.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Department and tender keys: Department key numbers are associated with specific departments and their descriptors. You assign function codes for department and tender keys using Worksheet D21. You assign function code descriptors by using the 4680 or 4690 application programs. See your 4680 or 4690 application program's planning and installation guide for details.

Worksheet D21. Keyboard layout for ANPOS keyboard

The number shown in each key position represents the function code that is sent to an application when you press the key. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

You can specify that the numeric keypad be in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the keyboard.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition "as is," or you can change it to meet unique application program requirements.

See the 4680 or 4690 application program's planning and installation guide for the default function codes and the key label for each key position.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mode: You can assign four different function codes to many keys. To use different modes, you can use the key by itself or in conjunction with the Shift, Alt, or Ctrl key. As you enter the function code, the F8 key enables you to select the keyboard's mode of use; for example, No Shift or Alt.

Mandatory keys: The numeric keypad, and the Clear, Enter, and system function keys are mandatory. Of these keys, the numeric keypad and system function locations are fixed. You can, however, assign the location of the Clear and Enter keys.

Double keys: These keys take two adjacent positions on the keyboard. In Ctrl mode, the key positions assigned to system functions S1 and S2 cannot be assigned to a double key.

Both positions of a double key must have the same function code value in all four modes (Ctrl, Alt, Shift, and No Shift).

Numeric keypad: The twelve keys in the bottom four rows of the numeric keypad can be defined for two modes. In Numeric Pad Base mode, the keys can be defined as function codes or left blank. One horizontal double key (bottom row, left two positions) can be defined.

In Numeric Pad Numeric Mode, the numeric pad can be swapped between data entry format and adding machine format by pressing the F9 key. You can define the bottom row left position as a 0 (making it a double key), 00, 000, or a function code. You can define the bottom-row right position as 00, 000, or a function code.

In No Shift mode, the NUM (Num Lock) key and SCR (Scroll Lock) key above the keypad are assigned and cannot be changed. The keypad is in Numeric Pad Numeric Mode when the terminal is IPLed.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for 4693 POS or USB 50-key keyboard or 50-key keyboard with JUCC MSR

The number shown in each key position represents the function code sent to an application when you press the key. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

You can specify that the numeric keypad be in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the keyboard.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition “as is,” or you can change it to meet unique application program requirements.

See your 4680 or 4690 application program’s planning and installation guide for the default function codes and the key label for each key position used.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mandatory keys: The numeric keypad, and the Ctrl and system function keys are mandatory. Of these keys, the numeric keypad, and the Ctrl and system function locations are fixed.

Double keys: These keys take two adjacent positions on the keyboard. Double keys can only be defined vertically. The key positions assigned to system functions S1 and S2 cannot be assigned to a double key.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for 4693 ANPOS or USB ANPOS keyboard

The number shown in each key position represents the function code sent to an application when you press the key. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

You can specify that the numeric keypad be in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the keyboard.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition “as is,” or you can change it to meet unique application program requirements.

See the 4680 or 4690 application program's planning and installation guide for the default function codes and the key label for each key position.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mode: Many keys are assigned four different function codes. To use different modes, you can use the key by itself or in conjunction the Shift, Alt, or Ctrl key. As you enter the function code, the F8 key enables you to select the mode of use of the keyboard; for example, No Shift or Alt.

Mandatory keys: The numeric keypad, and the Clear, Enter, and system function keys are mandatory. Of these keys, the numeric keypad and system function locations are fixed. You can, however, assign the location of the Clear and Enter keys.

Double keys: These keys take two adjacent positions on the keyboard. Double keys can be horizontal or vertical. In Ctrl mode, the key positions assigned to system functions S1 and S2 cannot be assigned to a double key.

Both positions of a double key must have the same function code value in all four modes.

Numeric keypad: The twelve keys in the bottom four rows of the numeric keypad can be defined for two modes. In Numeric Pad Base mode, the keys can be defined as function codes or left blank. One horizontal double key (bottom row, left two positions) can be defined.

In Numeric Pad Numeric mode, the numeric can be swapped between data entry format and adding machine format by pressing the F9 key. The bottom row left position can be defined as a 0 (making it a double key with the bottom row, center position), 00, 000, or a function code. The bottom row, right position can be defined as 00, 000, or a function code.

In No Shift mode, the NUM (Num Lock) key and SCR (Scroll Lock) key above the keypad are assigned and cannot be changed. The keypad is in Numeric Pad Numeric Mode when the terminal is IPLed.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for 4693 modifiable layout or USB 133-key keyboard

The number shown in each key position represents the function code sent to an application when you press the key. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

You can specify that the numeric keypad be in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the keyboard.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition "as is," or you can change it to meet unique application program requirements.

See the 4680 or 4690 application program's planning and installation guide for the default function codes and the key label for each key position used.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mandatory keys: The numeric keypad and system function keys are mandatory. These key locations are fixed.

Double keys: These keys take two positions on the keyboard. They can be defined for keys that are immediately adjacent and not separated by a gap on the keyboard. Double keys can be horizontal or vertical. The key positions assigned to system functions S1 and S2 cannot be assigned to a double key.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for the SurePoint Solution (LCD/video) keypad

The number shown in each key position represents the function code sent to an application when you press the key. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

You can specify that the numeric keypad be in adding machine or data entry arrangement. Worksheet D21 shows the default function code for each key position on the keyboard.

The operating system supplies a default keyboard layout definition that contains default codes for the 4680 or 4690 application programs. Your application program can use this default code definition “as is,” or you can change it to meet unique application program requirements.

See the 4680 or 4690 application program’s planning and installation guide for the default function codes and the key label for each key position.

Give each keyboard layout a name to distinguish it from other keyboard layouts. For example, if you define a keyboard layout for all your terminals whose primary activity is processing sales transactions, you might name the keyboard layout SALES or CHECKOUT. Likewise, if you have a sales office terminal, you might name the keyboard layout OFFICE.

Mandatory keys: The numeric keypad, and the Ctrl and system function keys are mandatory. Of these keys, the numeric keypad, and the Ctrl and system function locations are fixed.

Double keys: These keys take two adjacent positions on the keyboard. Double keys can only be defined vertically. The key positions assigned to system functions S1 and S2 cannot be assigned to a double key.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for the Keyboard-V POS with JUCC MSR

The number shown in each key position represents the function code sent to an application when the key is pressed. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

The numeric keypad cannot be rearranged.

Keys shown with codes S1 and S2 are system function keys. They function only when the keylock position is system. These two keys can be redefined to use in a normal situation.

Mandatory keys: The numeric keypad, and the Ctrl and system function keys are mandatory. Of these keys, the numeric keypad, and the Ctrl and system function locations are fixed.

Double keys: Double keys are keys that take two vertically adjacent positions on the keyboard. Original double keys on the Keyboard-V POS with JUCC MSR cannot be redefined.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for the Keyboard-VI POS with JUCC MSR

The number shown in each key position represents the current function code sent to an application when the key is pressed. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

The numeric keypad cannot be rearranged.

Keys shown with codes S1 and S2 are system function keys. They function only when the keylock position is system. These two keys can be redefined to use in a normal situation.

Mandatory keys: The numeric keypad, and the Ctrl and system function keys are mandatory. Of these keys, the numeric keypad, and the Ctrl and system function locations are fixed.

Double keys: Double keys are keys that take two vertically adjacent positions on the keyboard. Original double keys on the Keyboard-VI POS with JUCC MSR cannot be redefined.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheet D21. Keyboard layout for the PLU POS keyboard

The number shown in each key position represents the current function code sent to an application when the key is pressed. If your application knows function code 61 as the tax key, write 61 on the worksheet where you want to define your tax key.

The numeric keypad cannot be rearranged.

Keys shown with codes S1 and S2 are system function keys. They function only when the keylock position is system. These two keys can be redefined to use in a normal situation.

Mandatory keys: The numeric keypad, and the Ctrl and system function keys are mandatory. Of these keys, the numeric keypad, and the Ctrl and system function locations are fixed.

Double keys: Double keys are keys that take two vertically adjacent positions on the keyboard. Original double keys on the PLU POS Keyboard cannot be redefined.

Disabling keys: If you want to disable a key, go to the configuration panel and enter spaces to remove the default value from the key position.

Worksheets D22 and D23. Terminal load definition

As each *Mod1* terminal on the Ethernet is powered on for the first time, the store controller sends it an IPL. When you enter the terminal number using the Set Terminal Characteristics (STC) program, the terminal load definition, terminal device characteristics, and device group definition are loaded into the terminal. The terminal load definition contains the names of the device group or device characteristics entry, keyboard layout, command tail, and application program to be loaded into the terminal.

The operating system supplies a default system load for SurePOS 300/700 Series and TCxWave 6140 Series systems. You can choose to use this default or you can create your own terminal load definition. You can also create a default store load by defining terminal 0. If a terminal does not have a specific load definition, the operating system looks first for the default store load. If the default store load is not defined, the system uses the default system load.

Notes:

1. The terminal load definition for SurePOS 300/700 Series and TCxWave 6140 Series terminals is defined through terminal configuration.
2. Because the STC program is not available on a controller/terminal, the terminal number is entered as part of the controller characteristics configuration.

IPLs can also occur as a result of power interruptions, such as when:

- The power is lost at the terminal and battery power fails or is depleted
- The dump switch is pressed on the terminal
- The STC program is run

Under normal operation, the terminal remains connected to power and immediately returns to the state it was in prior to the power disturbance.

Toshiba provides the following default terminal load definitions with the operating system:

- 1001 — 4683-Mod1 terminal
- 1002 — 4683-Mod2 terminal
- 1003 — 4683-xx1
- 1004 — 4683-xx2
- 1005 — 4693-5x1 terminal or 4693-7x1
- 1006 — 4693-4x1 terminal
- 1007 — 4693-2x2 satellite
- 1008 — 4693-3x1 terminal
- 1009 — 4683-4x1 terminal upgrade
- 1010 — 4693-5x1 or 4693-7x1 controller/terminal
- 1011 — 4693-3W1
- 1012 — 4694-0x4 and 1x4 terminals
- 1013 — 4694-0x4 and 1xx controller/terminals
- 1014 — 4694-2x4 and 245 terminals
- 1015 — 4694-2x4 and 245 controller/terminals
- 1016 — 4694-205 terminal
- 1017 — 4694-246 or 4694-347 terminals
- 1018 — 4694-246 or 4694-347 controller/terminals
- 1019 — 4694-206 or 4694-307 terminals
- 1020 — 4694-206 or 4694-307 controller/terminals
- 1021 — 4694-207 terminals
- 1022 — 4694-207 controller/terminals
- 1023 — 4694-247 terminals
- 1024 — 4694-247 controller/terminals

You can use the definitions as a base for developing your own terminal load definitions. These terminal load definitions are in a separate model file and cannot be changed.

You assign terminal loads to individual terminal numbers or to ranges of terminal numbers. Use the terminal numbers you assigned to your terminals on Worksheet C.

You can also assign terminal loads to Mod2 terminals by specifying individual terminal numbers or ranges of terminal numbers using the partner terminal parameter.

Use Worksheet D22 as follows:

- Record the names of the device group, keyboard layout, initial application program for the terminal load numbers. The application program loads and runs at power on.
- Enable TCP/IP and Java Feature Support.

When you configure terminal load definitions for TCP/IP, enter IP addresses and other information individually by a single terminal or by using an IP address generator (if you are defining a range of terminals.) If you are defining a range of terminals, the first terminal in the range must have the starting IP address defined. Verification is then performed to ensure that there are sufficient sequential valid IP addresses available. The system displays an error message when there are insufficient addresses. You must either provide a different starting IP address or change the range of terminals being defined.

Note: In terminal configuration, all IP addresses are read as decimal.

In addition to the main IP address, the *Hostname* field is defined by the address generator by using the terminal numbers in the defined range. You cannot change the field while defining the range. However, you can make individual terminal changes after the system saves the range load definitions. All other TCP/IP information is optional and, if defined, is identical for all terminals within the range. The only fields that have distinct information generated for each terminal are the main IP address and the hostname.

There are several restrictions to using Java on the terminal side of a controller/terminal. These restrictions are:

- The resolution and color format settings for the Primary display come from the controller's Video Attributes configuration (Resolution and Palette); you can specify different resolution and color settings for an Enhanced Mode terminal's Secondary display in **Terminal Configuration > Device Characteristics**.
- The controller classpath is used.
- There is no unique TCP/IP address for the terminal.
- Shared video is required if a terminal Java console is to be used. In this case, the controller keyboard is used by that console. Press **Alt+SysRq J** to switch to a Java console.

Worksheet D24. Alphanumeric display character set

The operating system supplies a default alphanumeric display character set.

Note: This function is available only for the alphanumeric display. The other 40-character displays supported by the operating system have fixed character sets that cannot be changed during configuration. See the *4680 BASIC: Language Reference* for the character sets for these displays.

During configuration, you can redefine the characters that appear on the 40-character alphanumeric display. The character set applies to all displays defined in the configuration for the system. A character is made using a dot-matrix 5 dots wide by 12 dots high.

You can accept the default display character set, modify the default character set, or define an entirely new character set. If you use the default character set, you need not fill out Worksheet D24 or define the alphanumeric display character set at configuration time. If you choose to modify or define a new character set, you must fill out Worksheet D24 and define your new characters at configuration. The following information gives you guidelines for defining new characters.

Each default character is assigned a decimal character code value. The values are 20, 21, and 32 to 255. Decimal values 0 through 31 (except for 20 and 21) are reserved. See Figure 138 on page 310 for the default character set and character code values.

Use Worksheet D24 to define any new characters. You can define several characters per page. Assign a character code value to each new character ranging from 123 to 255. You can change the default characters by redefining character codes ranging from 32 to 122.

Figure 5 on page 45 shows you how to define a character on the worksheet by placing an X over a dot in the matrix to create a character.

Note: Do not use more than 36-dot matrix positions to define any one character.

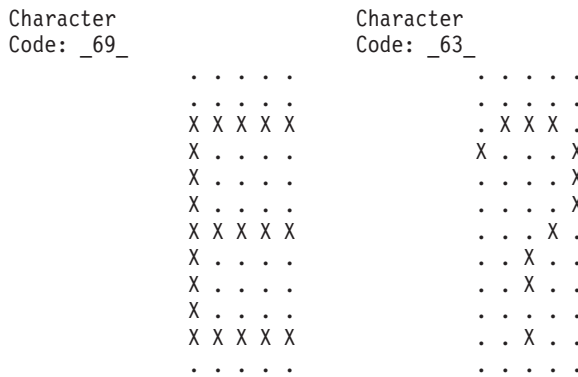


Figure 5. Defining an Alphanumeric Display Character

Worksheet D25. Printer character set for Models 1 and 2

The operating system supplies a default printer character set. During configuration, you can redefine the characters that print on the customer receipt, document station, and transaction journal. The character set applies to all Models 1 and 2 Point-of-Sale Terminal printers in the system. Each character is created using a dot-matrix 7 dots wide by 8 dots high.

You can accept the default printer character set, modify the default character set, or define an entirely new character set. If you use the default character set, you need not fill out Worksheet D25 or define the printer character set at configuration time. If you choose to modify or define a new character set, you must fill out Worksheet D25 and define your new characters at configuration. The following information gives you guidelines for defining new characters.

Each default character is assigned a decimal character code value. The values are 20, 21, and 32 to 255. Decimal values 0 through 19 and 22 through 31 are reserved; a dot is printed for these character codes. See Figure 191 on page 365 for the default character set and character code values.

Note: The character codes for lowercase characters have been converted to the equivalent uppercase character codes.

Use Worksheet D25 to define any new characters. You can define several characters per page. You can change the default characters by redefining character codes 20, 21, and character codes ranging from 32 to 255.

Figure 6 shows you how to define a character on the worksheet by placing an X over a dot in the matrix to create a character.

Note: *Do not define two dots that are next to each other horizontally.*

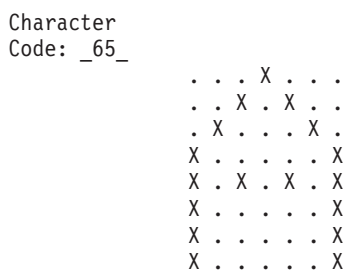


Figure 6. Defining a printer character

Worksheet D26. Printer character set for Models 3 and 4

The operating system supplies a default printer character set. During configuration, you can redefine the characters that print on the customer receipt, document station, and transaction journal. The character set applies to all Model 3 or 4 Point-of-Sale Terminal printers in the system. Each character is created using a dot-matrix 10 dots wide by 9 dots high.

You can accept the default character set, modify the default character set, or define an entirely new character set. If you use the default character set, you need not fill out Worksheet D26 or define the printer character set at configuration time. If you choose to modify or define a new character set, you must fill out Worksheet D26 and define your new characters at configuration. The following information gives you guidelines for defining new characters.

Each default character is assigned a decimal character code value. The values range from 1 to 26 and 28 to 253. Decimal values 27, 254, and 255 are reserved. See Figure 192 on page 367 for the Model 3 printer default character set and character code values. Defaults depend on the language that is selected.

Use Worksheet D26 to define any new characters. You can define several characters per page. You can change the default characters by redefining character codes ranging from 1 to 26 and from 28 to 253.

Figure 7 shows you how to define a character on the worksheet by placing an X over a dot in the matrix to create a character.

Note: *Do not define two dots that are next to each other horizontally.*

```
Character
Code: _65_
      . . . X . . . . .
      . . X . X . . . .
      . X . . . X . . .
      X . . . . X . . .
      X . X . X . X . .
      X . . . . X . . .
      X . . . . X . . .
      X . . . . X . . .
      . . . . . . . . .
```

Figure 7. Defining a printer character

Worksheet D27. Terminal screen-saver data

The operating system supplies default terminal screen-saver data. This data applies to all VGA-attached video displays defined in the configuration for your system.

During configuration, you can redefine the terminal screen-saver data using worksheet D27.

Notes:

1. This function is provided for VGA-attached video displays. It is not provided for 4683-421 terminals. The terminal screen saver is ineffective when used with any application that constantly updates the screen. For example, the Supermarket Application Full Screen is an application that constantly updates the status portion of the screen with the time and date.
2. The terminal screen-saver pertains only to the legacy side of the video, not to the Java side. If the video will be used only for Java and not for the primary application, then the terminal screen saver should be disabled.

Worksheet D28. Network file system data

The operating system allows the configuration of NFS mount groups and mount point data for all terminals in your system. During configuration, you can define the mount group, assign a terminal or a range of terminals to the mount group, and define all mount point data for that mount group.

Use Worksheet D28 to define mount point data for the terminals in your system.

Attention: Before performing any Java-based configuration utilities (such as NFS configuration), you must enable Java graphics in controller configuration. To enable Java graphics, select **Controller Configuration**, **Video Attributes**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

Worksheet D29. Font/logo utility

The operating system provides a font/logo utility for creating a printer logo from a bitmap file and to download the logo or font file to a specified double-byte character set (DBCS)-enabled I/O device. During configuration, you can specify the bitmap file to be converted and also select the font or logo file to be downloaded.

Printer character set for 4610 printer

The 4610 printers have a resident character set that supports the following code pages:

- 467
- 850
- 865
- 860
- 863

These code pages are defined by using the Set Code Page control character set on a WRITE statement in your application.

The printer also has four user-defined character sets for thermal printing and two character sets for impact printing. You can define a matrix pattern for the user-definable code pages and download these code pages to the printer. Once these characters are downloaded to the printer, they remain valid until you redefine them.

Note: You cannot redefine a single character on a code page. You must redefine the entire code page.

See the *4690 OS Application Interface Specification for 4610 Printers* for details on defining character sets for the 4610 printer.

How to use generic terminal configuration

To configure terminals, devices, and their options using the generic terminal configuration method, from the System Main Menu, select option **4 (Installation and Update Aids)**, then select option **1 (Change Configuration Data)**. You are now on the Main Configuration Menu. Select option **5 (Generic Terminal Configuration)**. The following list of options for terminal configuration is displayed.

Device Characteristics (use this option to define the behavior of the devices that are attached to a terminal; see “Device characteristics” on page 48 for additional details)

Load Definitions (use this option to define the applications and other data that is loaded into a terminal; see “Load definitions” on page 70 for additional details)

Keyboard Layouts (use this option to define how keys should be configured on the various terminal keyboards; see “Keyboard layouts” on page 81 for additional details)

Character Sets (use this option to customize the appearance of characters on displays and printers; see “Character sets” on page 86 for additional details)

Terminal Screen Saver (use this option to define the behavior of the terminal screen saver option; see “Terminal screen saver” on page 87 for additional details)

Network File System (use this option to define the network drives that are used by the terminals; see “Network File System” on page 88 for additional details)

Java Applications (use this option to define the Java applications; see “Network File System” on page 88 for additional details)

Preload Bundles (use this option to define the contents of preload bundles; see “Network File System” on page 88 for additional details)

Device characteristics

From the Device Characteristics panel (see Figure 8), you can do any of the following:

- Select **New** to create a new Device Characteristics Record. When creating a new Device Characteristics Record, you need to assign it a name, a description, and select either the SYSTEM default entry or an existing Device Characteristics Record as a model. Then select **Submit** to proceed or the **Cancel** button to cancel.
- Select **Edit** to modify an existing Device Characteristics Record.
- Select **Delete** to delete an existing Device Characteristics Record. A confirmation panel appears, where you select **Yes** or **No** to confirm deletion.
- Select **Rename** to change the name of an existing Device Characteristics Record name or description or both.

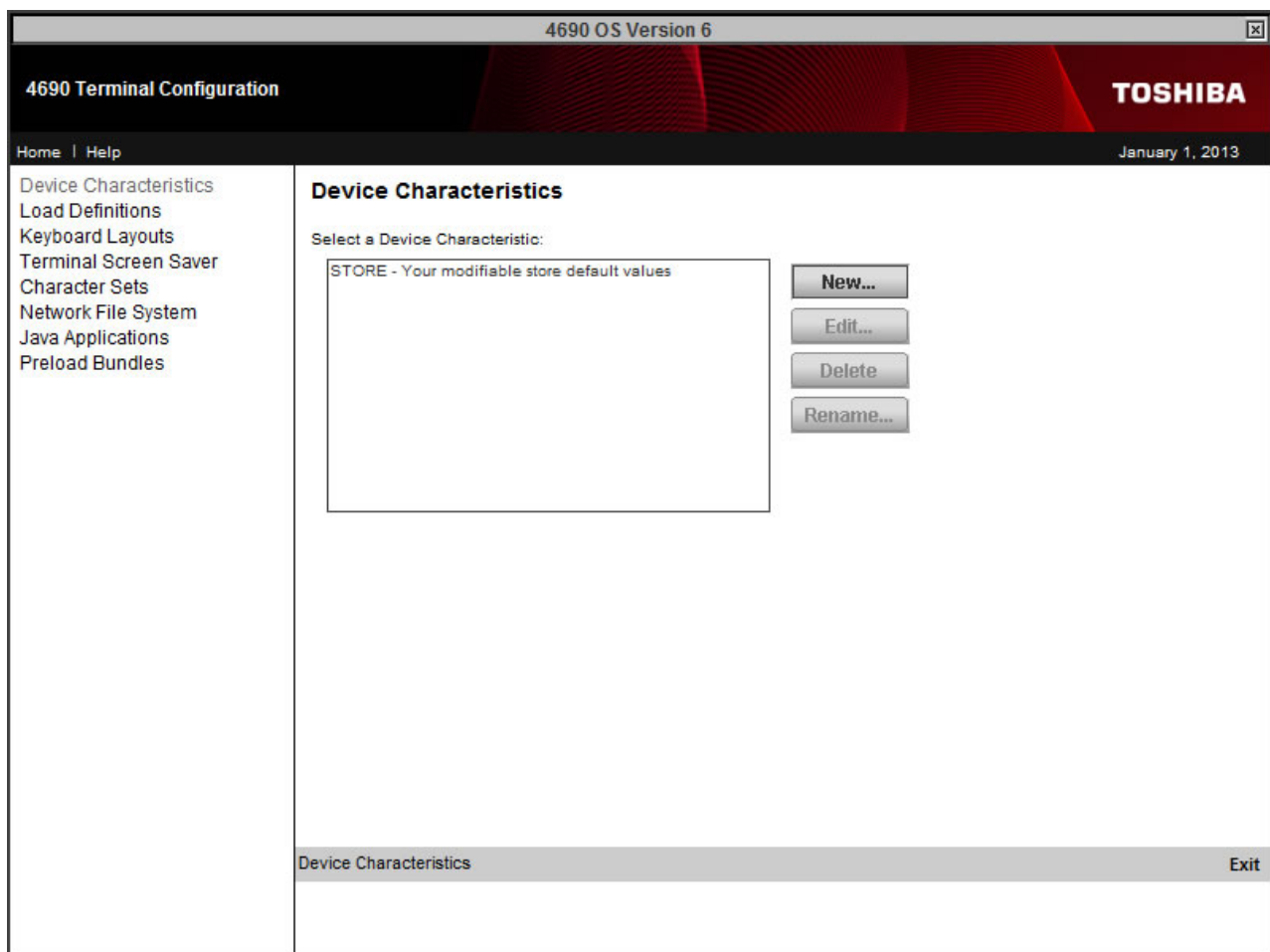


Figure 8. Device characteristics

The Cash Drawers panel is automatically displayed. You can work with that panel or select any option from the left side of the panel. These are the options:

- Cash Drawers (see “Cash Drawers” on page 49)
- Flatbed Scanner (see “Flatbed Scanner” on page 50)
 - Bar Code Expansion (see “Bar code expansion” on page 51)
 - Beeps (see “Beeps” on page 52)

- Advanced (see “Advanced” on page 53)
- Hand-held Devices (see “Hand-held devices” on page 54)
- Java Redirection (see “Java redirection” on page 55)
 - Advanced (see “Advanced” on page 56)
- Keyboards (see “Keyboards” on page 58)
- MSR Tracks (see “MSR tracks” on page 59)
- Non-Toshiba Devices (see “Non-Toshiba devices” on page 60)
- POS Displays (see “POS displays” on page 61)
- Printers (see “Printers” on page 62)
- RAM Disks (see “RAM disks” on page 63)
- Scales (see “Scales” on page 64)
- Serial Devices (see “**Serial devices**” on page 65)
- SurePoint (see “SurePoint” on page 66)
- UPS (see “UPS” on page 67)
- Video Displays (see “Video displays” on page 68)
 - Graphics (see “Graphics” on page 69)

Cash Drawers

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4690 Terminal Configuration **TOSHIBA**

Home | Terminal Configuration | Help January 1, 2013

Cash Drawers

Select the type of cash drawers connected:

☒ IBM/Toshiba Cash Drawer

☐ OEM Cash Drawer

Pulse Duration (1-1048)

☐ An alarm is connected.

Editing Device Characteristics STORE. Save | Exit

Figure 9. Cash Drawers

| **Note:** Cash drawers previously labeled as IBM are considered Toshiba cash drawers.

- Select the type of cash drawers connected:
 - | – IBM/Toshiba Cash Drawer
 - | – OEM Cash Drawer (Non-Toshiba Cash Drawer)
- Specify the pulse duration (1 – 1048)
- Check if an alarm is connected

You can select one or two cash drawers to be attached to the terminal. When two cash drawers are attached, they must be the same type of cash drawers. If non-Toshiba cash drawers are selected, a pulse duration from 1 to 1048 (milliseconds) must be specified. See the documentation that shipped with your cash drawer for the proper pulse-duration value. Toshiba cash drawers default to 80 milliseconds.

| An alarm can be attached to port 3B. If using an alarm, select the alarm check box.

| **Notes:**

- | 1. TCxWave 6140 Series terminals do not support an alarm
- | 2. TCxWave 6140 Series terminals do support the use of a USB Cash Drawer.

Flatbed Scanner

The screenshot shows the '4690 Terminal Configuration' window. The title bar indicates '4690 OS Version 6'. The interface has a dark header with '4690 Terminal Configuration' on the left and 'TOSHIBA' on the right. Below the header is a navigation bar with 'Home | Terminal Configuration | Help' and the date 'January 1, 2013'. A left sidebar lists various configuration categories: Cash Drawers, Flatbed Scanner (selected), Bar Code Expansion, Beeps, Advanced, Hand-held Devices, Java Redirection, Advanced, Keyboards, MSR Tracks, OEM Devices, POS Displays, Printers, RAM Disks, Scales, Serial Devices, SurePoint, UPS, Video Displays, and Graphics. The main area is titled 'Flatbed Scanner' and contains the following options: 'Select the labels supported by your scanner:' followed by checkboxes for Codabar, UPC-D (all 5 types), Code 93, P2 Supplementals, Code 128, P5 Supplementals, Code 39, Code 128 Supplementals, UCC/EAN 128, and ITF (Interleave 2 of 5). Below these are two spinners for 'First ITF label length' (set to 10) and 'Second ITF label length' (set to 0). A blue information icon is followed by the text 'UPC/EAN labels are always supported'. At the bottom of the main area, it says 'Editing Device Characteristics STORE.' and 'Save | Exit'.

Figure 10. Flatbed Scanner

Select the type of labels that are supported and that are to be read by your scanners. If ITF labels are selected, the ITF label lengths need to be specified.

Note: UPC/EAN labels are always supported.

Bar code expansion:

The screenshot shows the '4690 OS Version 6' window with the '4690 Terminal Configuration' title bar. The 'TOSHIBA' logo is in the top right. The left sidebar lists configuration categories: Cash Drawers, Flatbed Scanner, Bar Code Expansion, Beeps, Advanced, Hand-held Devices, Java Redirection, Advanced, Keyboards, MSR Tracks, OEM Devices, POS Displays, Printers, RAM Disks, Scales, Serial Devices, SurePoint, UPS, Video Displays, and Graphics. The main panel is titled 'Flatbed - Bar Code Expansion'. It contains the following options:

- Select Bar Code expansion options:
- UPC-E Expansion: Do not expand (dropdown)
- UPC-A: Do not expand (dropdown)
- ☐ Enable EAN/JAN two-label decoding
- Price check verification option: Do not verify (dropdown)
- ⚠ Check digit configuration is only used by USB attached scanners.
- ☐ Enable Code 39 check digit
- ☐ Enable ITF check digit
- ⓘ UPC-E and UPC-A check digits are always enabled.

At the bottom, it says 'Editing Device Characteristics STORE.' with 'Save' and 'Exit' buttons.

Figure 11. Flatbed scanner – bar code expansion

Use this panel if you need to expand the bar codes into other label codes. These are the bar codes than can be expanded:

- UPC-E bar code labels can be expanded into either EAN-13 or UPC-A labels on the IBM 4696, IBM 4697 and IBM 4698 scanners
- UPC-A bar code labels can be expanded into EAN-13 labels on the 4696, 4697 and 4698 scanners

Select the **Enable EAN/JAN two-label decoding** check box if you need the label decoding.

If prices need to be verified, select the number of digits in the price to verify (either 4 or 5 digits). This option is supported on the 4696, 4697 and 4698 scanners. Otherwise, leave this option set to the default value of "Do not verify."

Beeps:

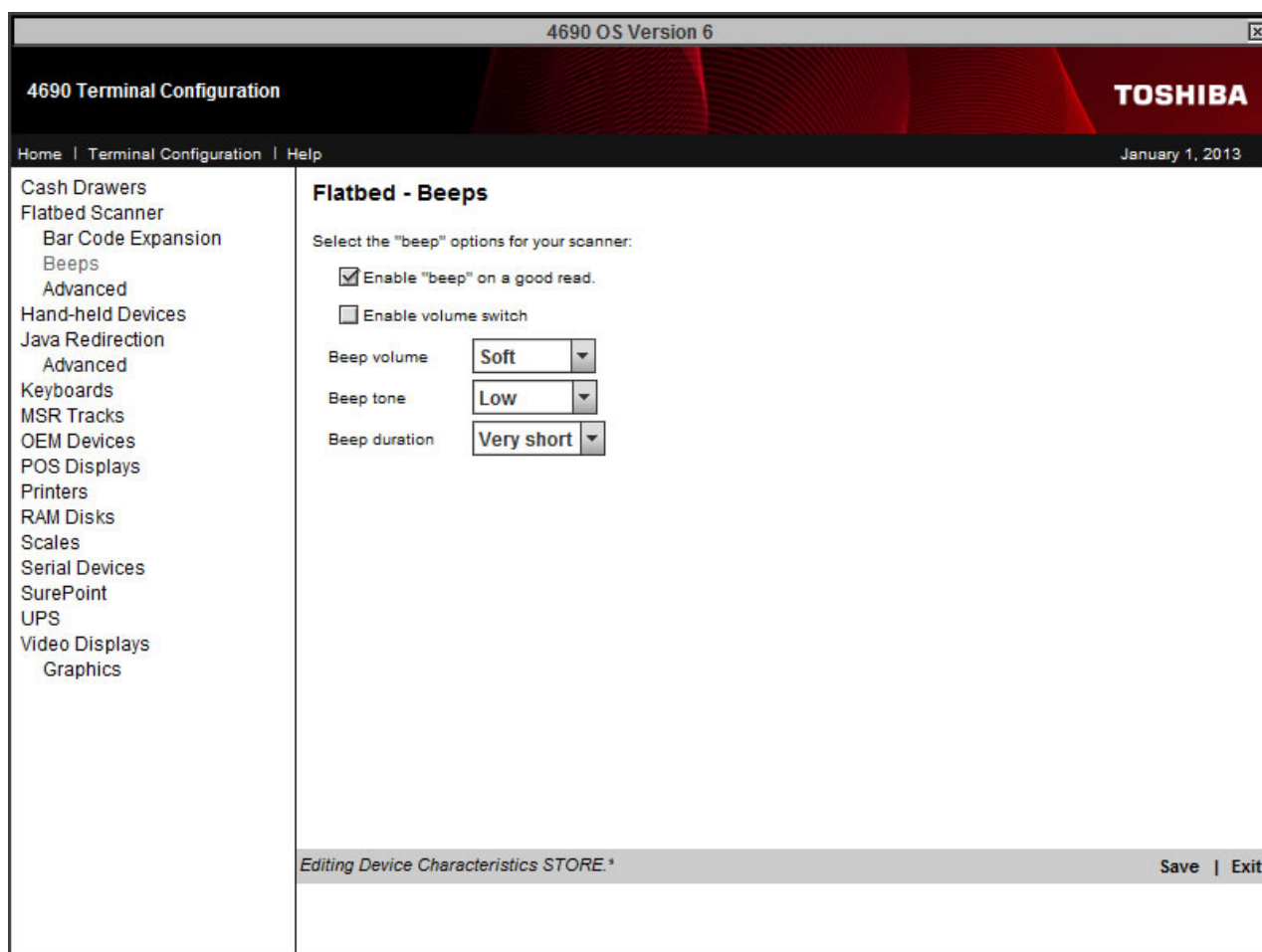


Figure 12. Flatbed scanner – beeps

Use this panel to turn on or off the beeps, and to alter how the flatbed scanner beeps when a bar code label is scanned.

If you want the scanner to beep, select the **Enable beep on a good read** option. If you do not want your scanner to beep, deselect this option.

Note: Some scanners will continue to beep, regardless of this setting, due to their own unique hardware design.

If your scanner has a volume switch, you can use the switch to adjust the beep volume. Select the **Enable volume switch** option.

If beep volume, tone and duration are supported on your scanner without a volume switch, they can be adjusted by selecting these options:

- Beep volume – controls the beep softness or loudness
- Beep tone – controls the pitch or frequency
- Beep duration – controls the length or duration of the beep

Advanced:

4690 OS Version 6

4690 Terminal Configuration TOSHIBA

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Cash Drawers
Flatbed Scanner
Bar Code Expansion
Beeps
Advanced
Hand-held Devices
Java Redirection
Advanced
Keyboards
MSR Tracks
OEM Devices
POS Displays
Printers
RAM Disks
Scales
Serial Devices
SurePoint
UPS
Video Displays
Graphics

Flatbed - Advanced

Select the advanced scanner options:

Motor Timeout 15 Minutes ▼

Laser Timeout 15 Minutes ▼

Double Read Timeout Short ▼

LED Blink Rate Short ▼

Security/Integrity Level Very Low ▼

☐ Enable Laser Switch

☐ Enable programming via bar codes

⚠ Some RS485-attached scanners will not respond to autodetection.

Select a scanner type to override autodetection (RS-485 connected devices only):

Autodetect ▼

Editing Device Characteristics STORE.* Save | Exit

Figure 13. Flatbed scanner – advanced

The advanced settings for the flatbed scanner are applicable if your scanner supports them; otherwise, they are ignored. These are the advanced options:

- **Motor Timeout** – This option is the period of time that the scanner has been inactive before the motor, which spins the rotating mirrors, turns off. This option can be set to intervals of 5, 10, 15, 30 and 60 minutes.

Some scanners support only one timeout value (either motor or laser). For those scanners, the motor timeout also acts as the laser timeout.

- **Laser Timeout** – This option is the period of inactivity before the laser is turned off. This option is adjustable in increments of 5, 10 and 15 minutes.
- **Double-Read Timeout** – This option is the period of time after a label is read and before the same label is allowed to be read again. This timeout period prevents the scanner from inadvertently doubly reading the same label. The timeout choices are short, medium, and long.
- **LED Blink Rate** – This option sets the blink rate of the scanner's LED. The LED blink rate choices are very short, short, long, and very long.
- **Security/Integrity Level** – This option sets the number of scans per read for in-store labels. This value specifies how many good reads of a specific label are required before the scanner accepts it as a valid label. The choices are very low, low, high and very high.

- Enable Laser Switch – For scanners that support this option, it is used to enable or disable the switch that turns on and turns off the laser. Select the check box to enable the laser switch. If the check box is selected, click the check box to disable the laser switch.
- Enable programming via bar codes – This option enables or disables the ability to program or configure usage of special programming bar codes by the scanner. Select the check box to enable programming via bar codes. If the check box is selected, click the check box to disable programming via bar codes.

Hand-held devices

The screenshot shows the '4690 Terminal Configuration' window. The title bar indicates '4690 OS Version 6'. The window has a dark header with '4690 Terminal Configuration' on the left and 'TOSHIBA' on the right. Below the header is a navigation bar with 'Home | Terminal Configuration | Help' and the date 'January 1, 2013'. A left sidebar lists various configuration categories: Cash Drawers, Flatbed Scanner, Bar Code Expansion, Beeps, Advanced, Hand-held Devices (selected), Java Redirection, Advanced, Keyboards, MSR Tracks, OEM Devices, POS Displays, Printers, RAM Disks, Scales, Serial Devices, SurePoint, UPS, Video Displays, and Graphics. The main content area is titled 'Hand-held Scanning Devices'. It contains the following options:

- Select the labels supported by your scanner:
 - ☐ Codabar
 - ☐ Code 39
 - ☐ Code 93
 - ☐ UPC-D
 - ☐ Code 128
 - ☐ 2 and 5 Digit Periodical
 - ☐ ITF (Interleave 2 of 5)
- Minimum label length: (dropdown arrow)
- ☒ Enable "beep" on a good read.
- UPC/EAN labels are always supported (indicated by a blue plus icon).
- Some RS485-attached scanners will not respond to autodetection. (indicated by a yellow warning icon).
- Select a scanner type to override autodetection (RS-485 connected devices only):
 - Autodetect (dropdown menu)

At the bottom of the window, there is a status bar that reads 'Editing Device Characteristics STORE.*' and buttons for 'Save' and 'Exit'.

Figure 14. Hand-held devices

This option is used to configure the hand-held scanner to read the selected label types. If ITF labels are enabled, the ITF label lengths need to be specified.

Note: Hand-held devices that are attached to a USB port are configured as if they were flatbed scanners. Hand-held scanner configuration is for RS-485-attached devices only.

These are the label types that can be supported by the hand-held scanner (UPC/EAN labels are always supported):

- Codabar
- Code 39
- Code 93
- UPC Version D
- Code 128
- 2 and 5 Digit Periodical

- ITF (Interleave 2 of 5)

These are the label types that are supported by the barcode reader:

- Codabar
- Code 39
- Code 93 (Model 2 only)
- UPC/EAN
- UPC Version D (Model 2 only)
- Code 128 (Model 2 only)
- 2 and 5 Digit Periodical (Model 2 only)
- Interleaved Two-of-Five (Model 2 only)

Java redirection

The 4690 OS provides support for enabling redirection of an existing legacy application's I/O to a Java application.

Figure 15 and Figure 16 on page 56 show the two configuration pages with devices that can be redirected. Select the check boxes of the devices that need to be redirected.

If you select the Java Redirection – Advanced page and Java redirection is not enabled, the page shown in Figure 17 on page 57 is displayed.

The screenshot shows the '4690 OS Version 6' window with the '4690 Terminal Configuration' page. The left sidebar lists various device categories, with 'Java Redirection' selected. The main area is titled 'Java Redirection' and contains the following elements:

- A checkbox labeled 'Enable Advanced Java Redirection' which is currently unchecked.
- A heading: 'Select which devices in your primary application you want to redirect to Java:'
- A list of devices with checkboxes:
 - ☐ ANDISPLAY
 - ☐ ANDISPLAY2
 - ☐ ANDISPLAY3
 - ☐ I/O Processor
 - ☐ Printer Monitor
 - ☐ Magnetic Stripe Reader
- A blue information icon followed by the text: 'Enablement of Advanced Java Redirection is only for redirection of devices for the Store Integration Framework (SIF) and Application Extension Framework (AEF).'.
- A footer bar with the text 'Editing Device Characteristics STORE.' on the left and 'Save | Exit' on the right.

Figure 15. Java redirection

Advanced:

4690 OS Version 6

4690 Terminal Configuration

TOSHIBA

[Home](#) | [Terminal Configuration](#) | [Help](#)

January 1, 2013

Cash Drawers

Flatbed Scanner

Bar Code Expansion

Beeps

Advanced

Hand-held Devices

Java Redirection

Advanced

Keyboards

MSR Tracks

OEM Devices

POS Displays

Printers

RAM Disks

Scales

Serial Devices

SurePoint

UPS

Video Displays

Graphics

Java Redirection

☒ Use default Advanced Java Redirection settings (Recommended)

Select which devices in your primary application you want to redirect to Java:

☐ ANDISPLAY

☐ Serial Port 1

☐ ANDISPLAY2

☐ Serial Port 2

☐ ANDISPLAY3

☐ Serial Port 3

☐ I/O Processor and Tone

☐ Serial Port 4

☐ Printer Handler

☐ Cash Drawers

☐ Magnetic Stripe Reader

☐ Scales

☐ Video

☐ NVRAM

Editing Device Characteristics STORE.*

Save | Exit

Figure 16. Java redirection advanced

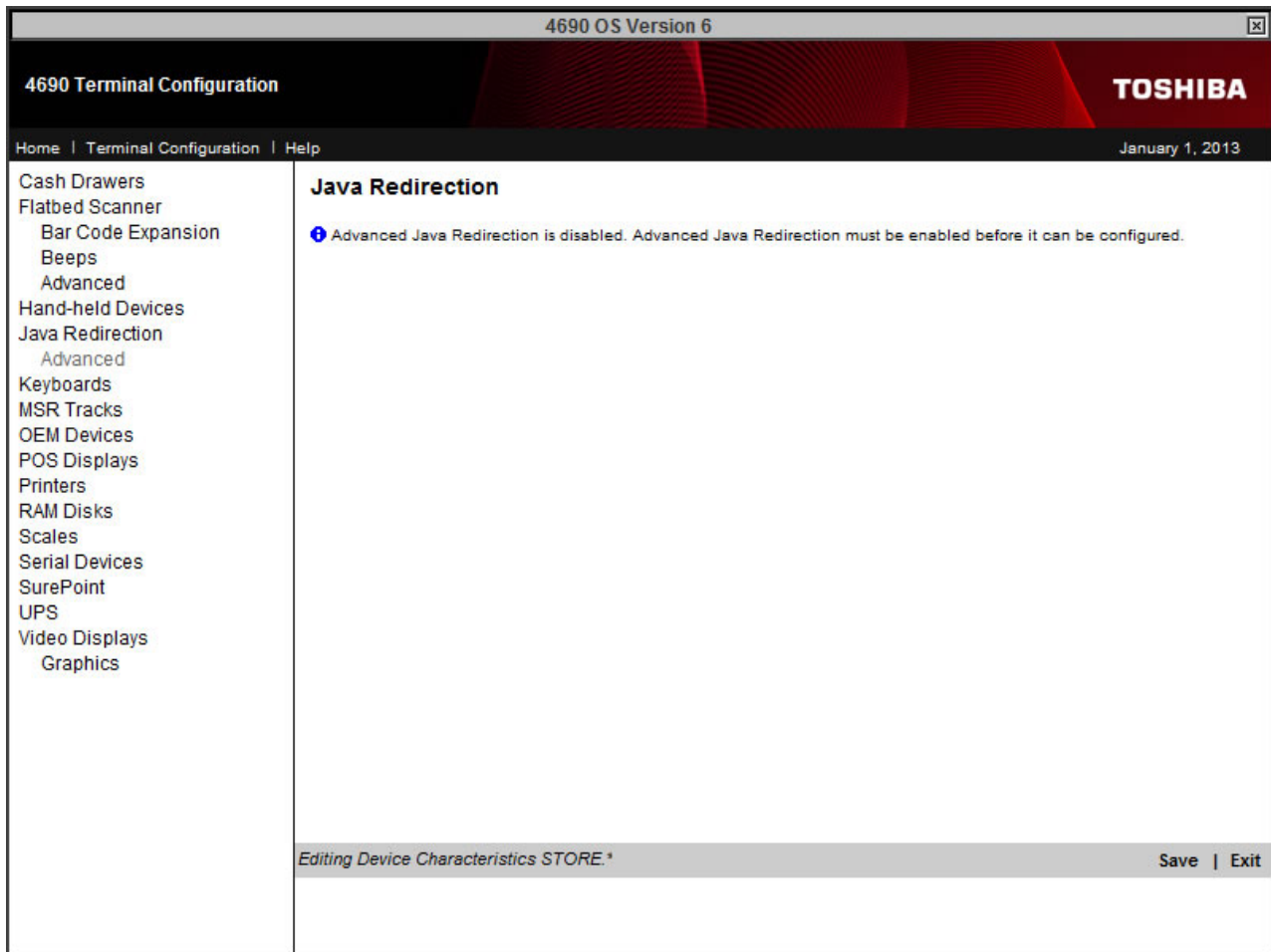


Figure 17. Java redirection advanced if java redirection not enabled

Keyboards

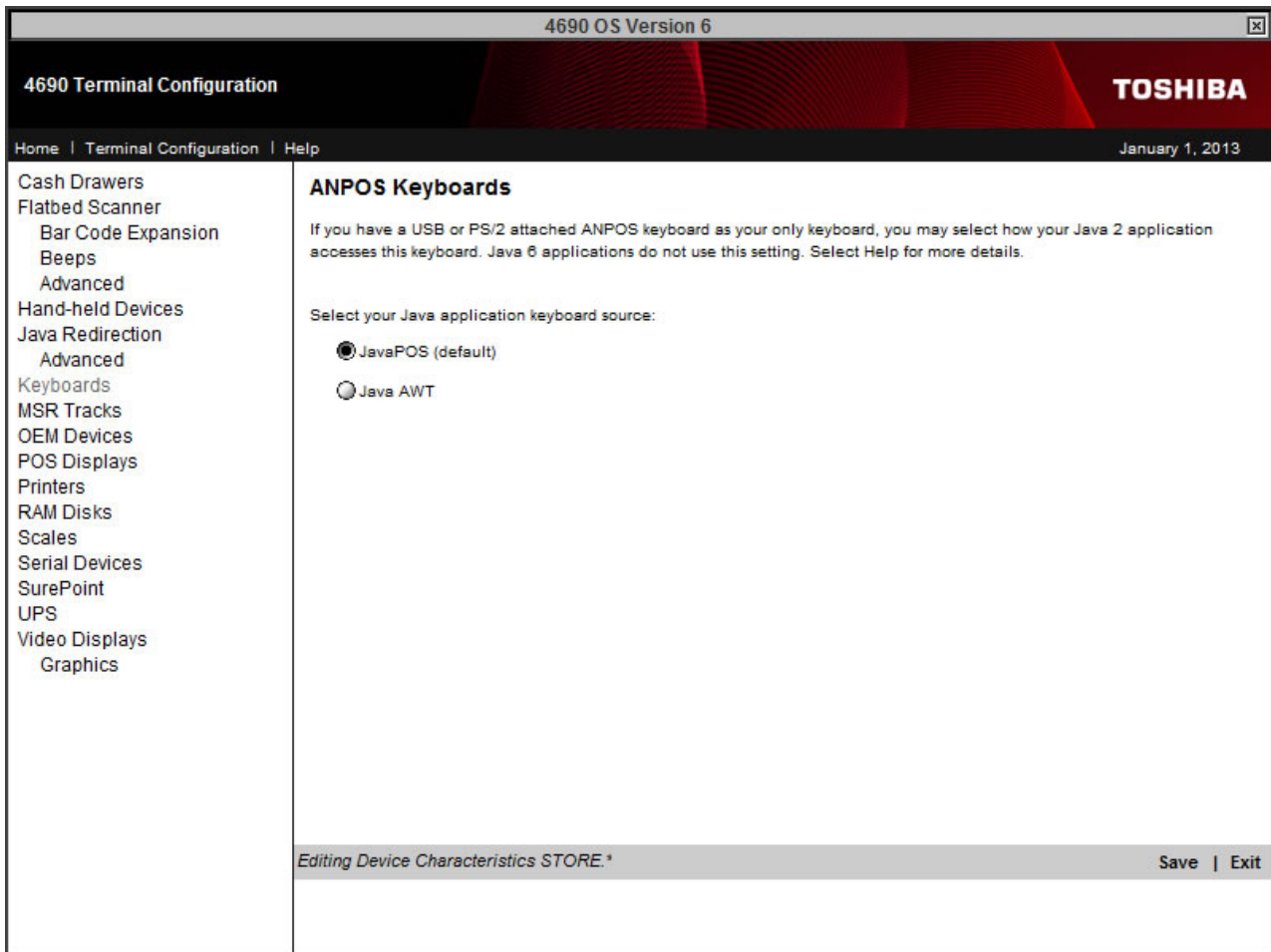


Figure 18. Keyboards

When a USB-attached or PS/2 ANPOS keyboard is the only attached keyboard, you can select how your Java application accesses this keyboard. Select the check box for either JavaPOS, which is the default, or Java AWT.

If Java AWT is selected, then System Functions (S1, key code, S2) are not available from the terminal Java application screen.

MSR tracks

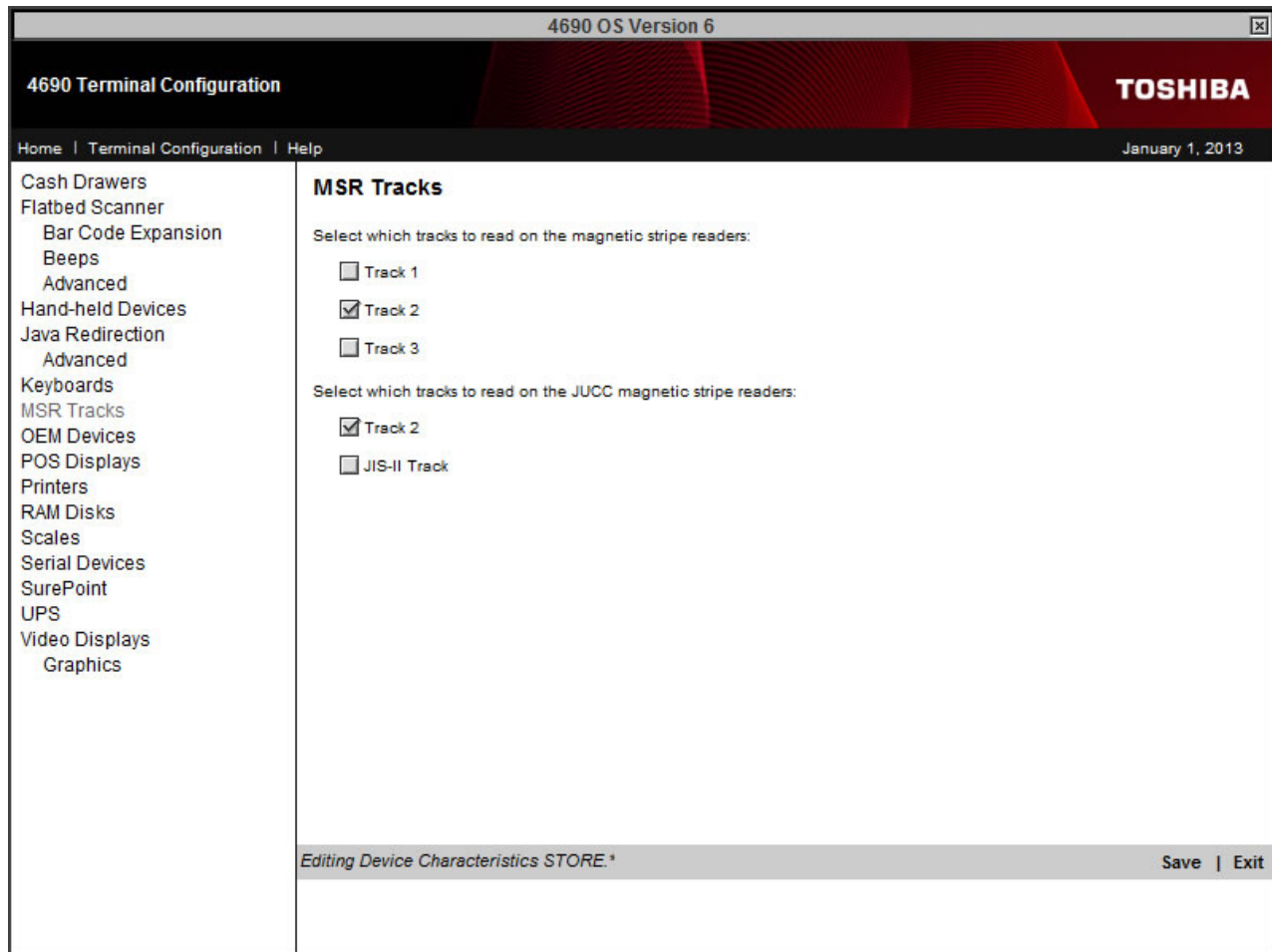


Figure 19. MSR tracks

Select the tracks that will be read by either an attached MSR or JUCC MSR. For an attached MSR, select Track 1, Track 2, or Track 3, or as many as are needed. For an attached JUCC MSR, select Track 2 or JIS-II Track, or both.

Note: If an MSR is not capable of reading the number of tracks configured, unpredictable results occur.

Non-Toshiba devices

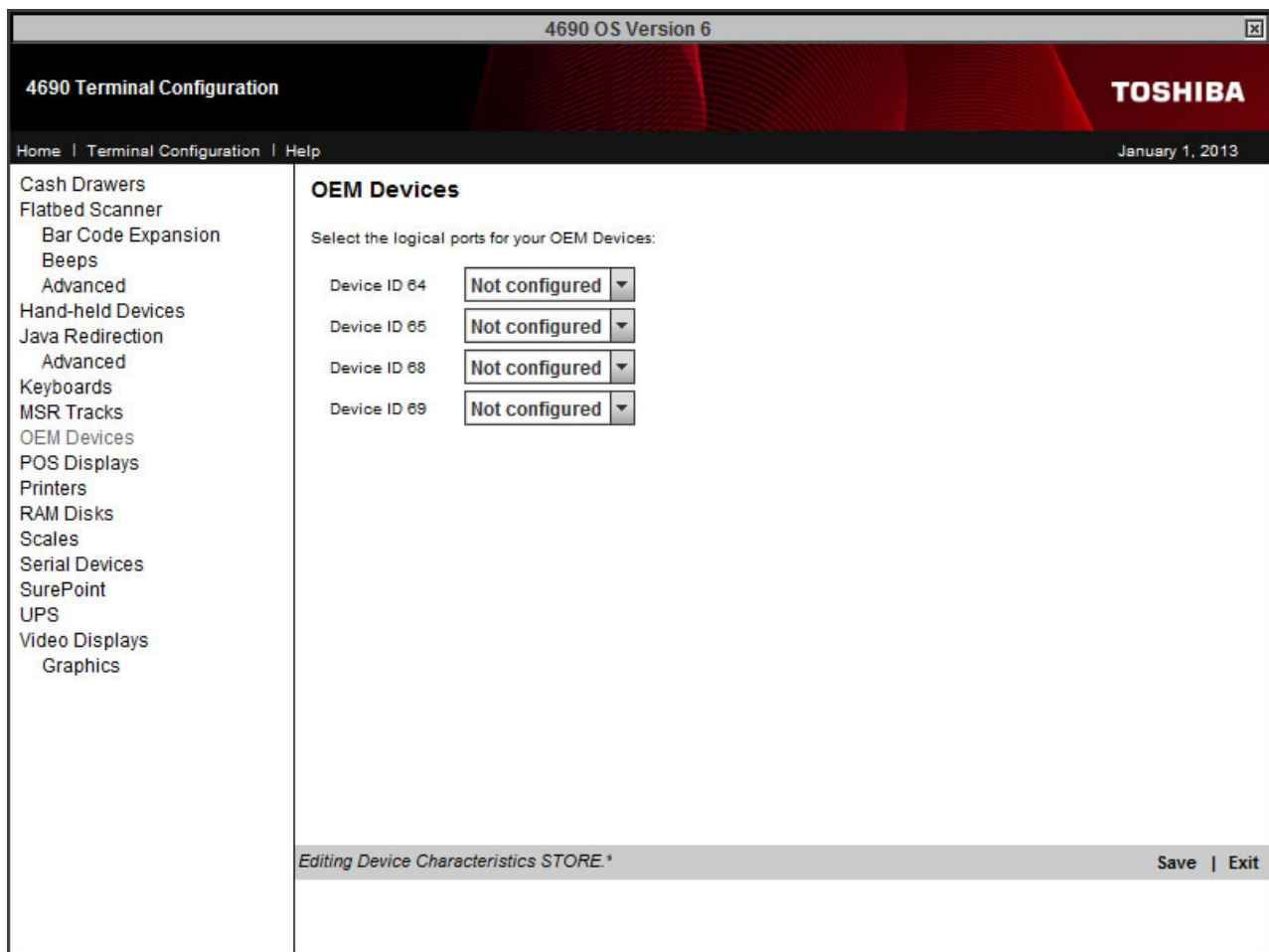


Figure 20. Non-Toshiba devices

Non-Toshiba devices are devices that emulate a 4683 RS-232 feature card. These devices use ID numbers 64, 65, 68, and 69. To configure a non-Toshiba device, assign a logical port number, from 1 to 4, to the device's ID number.

POS displays

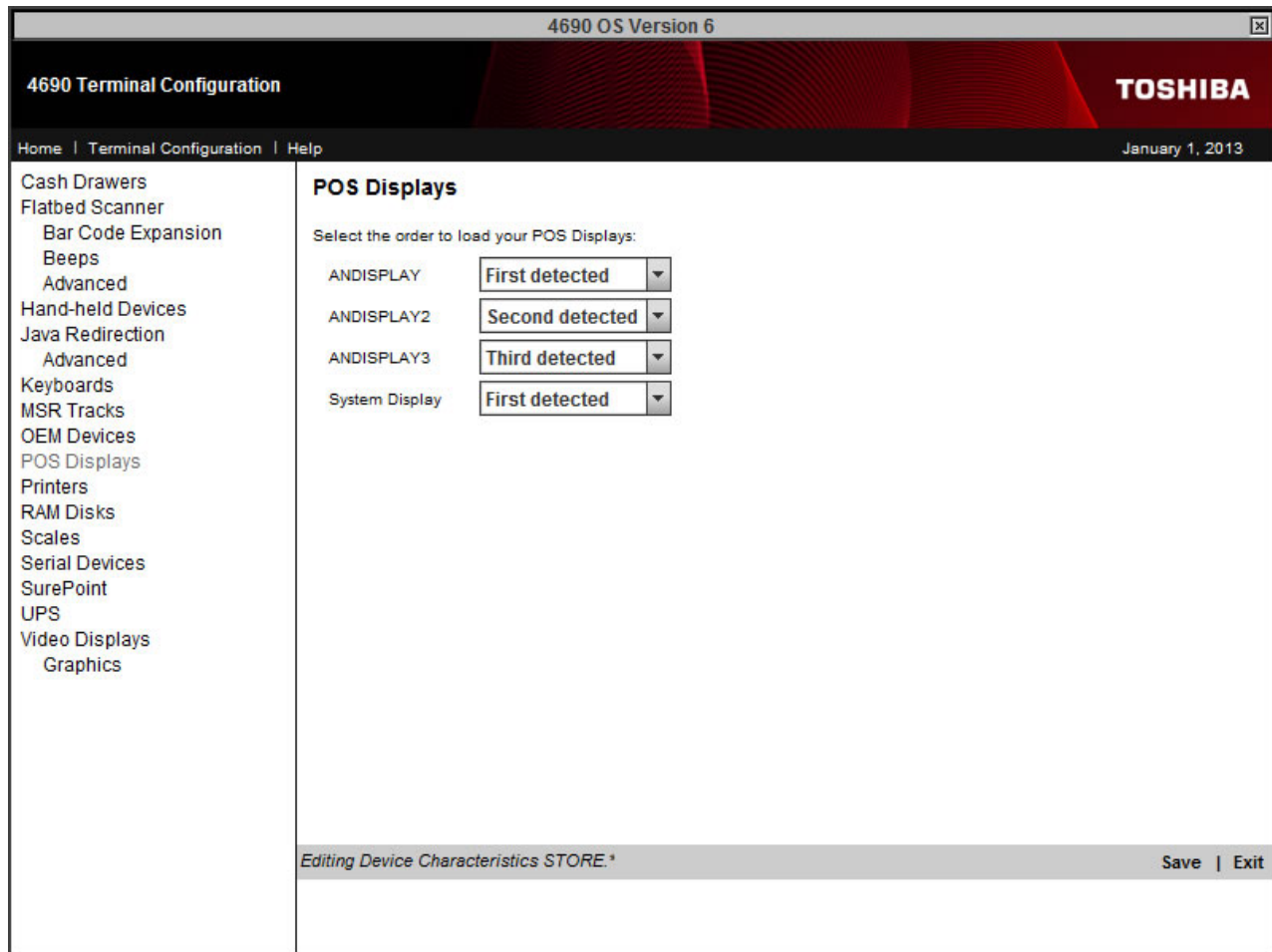


Figure 21. POS displays

By default, the ANDISPLAY is assigned as the first detected display, ANDISPLAY2 as the second, and ANDISPLAY3 as the third. The System Display is defined as the first detected display. The POS Display option permits this default order to be changed.

Note: If the System Display is to be assigned as a video display, it must be changed from the default of **First Detected** to **Other**.

USB-attached POS displays are detected in alphabetical order within a horizontal row.

For additional information regarding display detection order, see the *4690 OS: User's Guide*.

Printers

4690 OS Version 6

4690 Terminal Configuration TOSHIBA

Home | Terminal Configuration | Help January 1, 2013

Cash Drawers
Flatbed Scanner
Bar Code Expansion
Beeps
Advanced
Hand-held Devices
Java Redirection
Advanced
Keyboards
MSR Tracks
OEM Devices
POS Displays
Printers
RAM Disks
Scales
Serial Devices
SurePoint
UPS
Video Displays
Graphics

Printers

For Model 3 or Model 4 printers, enter the maximum number of lines that can be buffered on the journal station when a document is in the document station:

Maximum lines (0 - 250):

Editing Device Characteristics STORE.* Save | Exit

Figure 22. Printers

The Model 3 and Model 4 printers buffer data is sent to the journal station whenever a document is in the document station. Indicate the maximum number of print lines, from 0 to 250, that are to be buffered.

Free terminal memory is allocated for storing the journal data. To minimize the memory required, specify a number that is as small as possible but large enough to account for the maximum number of print lines that will ever need to be buffered.

RAM disks

The screenshot shows the '4690 OS Version 6' terminal configuration interface. The title bar includes '4690 OS Version 6' and a close button. The main header features '4690 Terminal Configuration' on the left and the 'TOSHIBA' logo on the right. Below the header is a navigation bar with 'Home | Terminal Configuration | Help' and the date 'January 1, 2013'. A left-hand menu lists various configuration categories: Cash Drawers, Flatbed Scanner, Bar Code Expansion, Beeps, Advanced, Hand-held Devices, Java Redirection, Advanced, Keyboards, MSR Tracks, OEM Devices, POS Displays, Printers, RAM Disks (highlighted), Scales, Serial Devices, SurePoint, UPS, Video Displays, and Graphics. The main content area is titled 'RAM Disks' and contains the instruction: 'Select which ram disks you would like to create and enter the information for each disk.' There are three sections for configuration: 1. 'Create RAM Disk X' with an unchecked checkbox, 'Disk size in 32K blocks (1-1960):' set to 1, and 'Number of directory entries (1-64):' set to 1. 2. 'Create RAM Disk Y' with an unchecked checkbox, 'Disk size in 32K blocks (1-1960):' set to 1, and 'Number of directory entries (1-64):' set to 1. 3. 'Create enhanced RAM Disk Q' with a checked checkbox, 'Disk size in megabytes (5-400):' set to 50. At the bottom of the main area is the text 'Editing Device Characteristics STORE.*'. The footer bar contains 'Save | Exit'.

Figure 23. RAM disks

The 4690 OS allows for creation of virtual disk drives in memory. These drives are referred to as random access memory (RAM) disks. On this panel, select whether the RAM disks (X, Y, or both) and the enhanced RAM disk (Q) are to be created. The actual amount of available memory depends on the amount of installed memory in the terminal and the size of the application.

For RAM disks X and Y, enter the disk size of the RAM virtual file in 32-KB increments from 1 to 1960 blocks. For each disk, the Number of directory entries option is the number of sectors available for directory entries on this RAM disk. Specify a value from 1 to 64. The maximum number of 64 holds up to 1024 files.

For the enhanced RAM disk, the Disk size in megabytes option specifies the number of megabytes that is assigned to the RAM disk. Specify a value of 5 to 400.

Scales

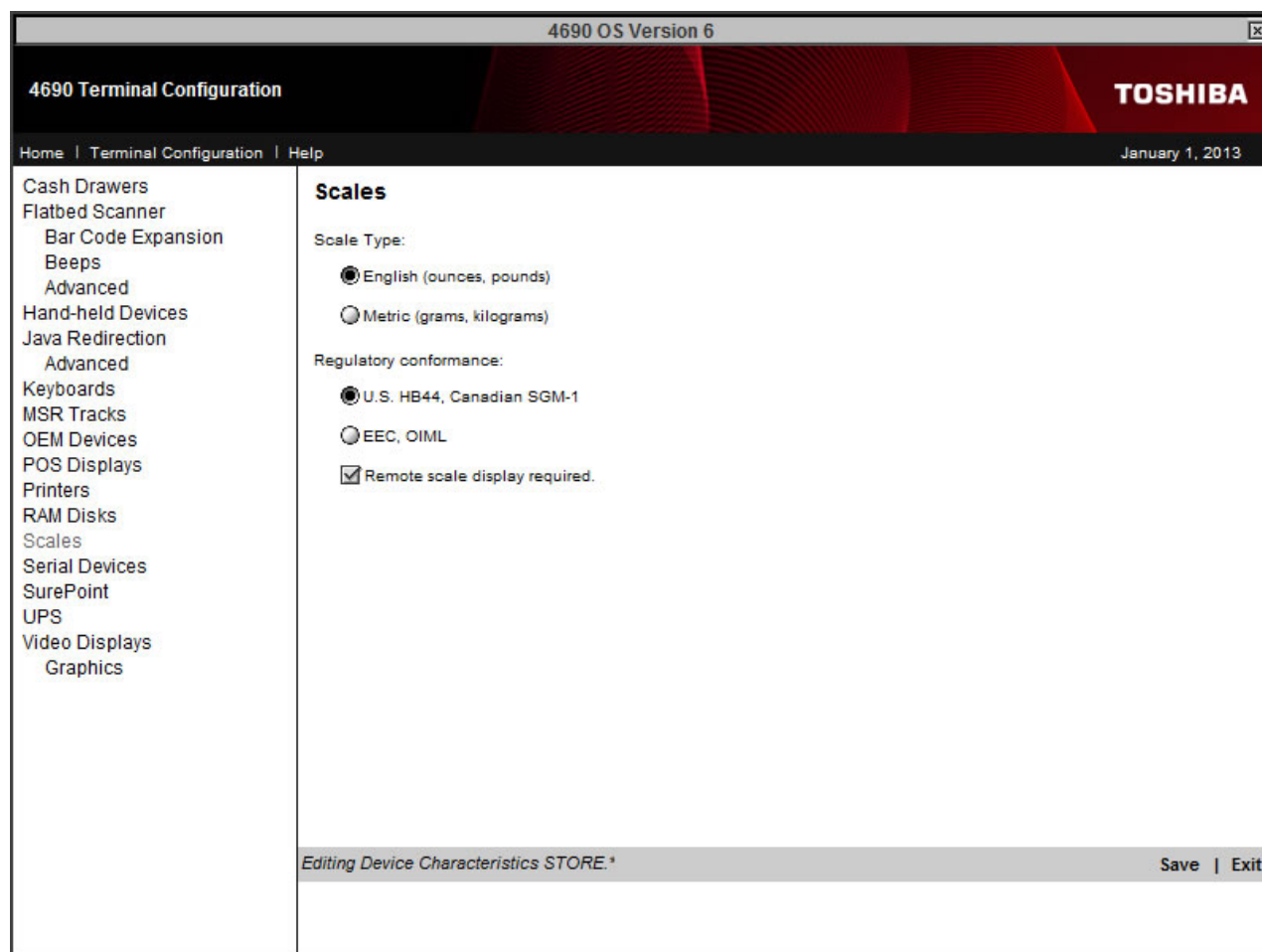


Figure 24. Scales

To configure scales, select the scale type of either English or Metric weight measurement. Select the scale's regulatory conformance option of either U.S. HB44 / Canadian SGM-1 or EEC / OIML.

The Remote scale display required option allows the weight to be displayed on a remote display. Selecting this option results in the application writing weight information to a display. Do not select this option if the scale has no display or if it does not display the weight.

Serial devices

4690 OS Version 6

4690 Terminal Configuration

Home | Terminal Configuration | Help

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Cash Drawers
Flatbed Scanner
Bar Code Expansion
Beeps
Advanced
Hand-held Devices
Java Redirection
Advanced
Keyboards
MSR Tracks
OEM Devices
POS Displays
Printers
RAM Disks
Scales
Serial Devices
SurePoint
UPS
Video Displays
Graphics

Serial Devices

Assign a logical port number for the serial ports that may be used by a terminal application:

Port A	Logical port 1	<input checked="" type="checkbox"/>	This device is USB attached
Port B	Not configured	<input type="checkbox"/>	This device is USB attached
Additional Port 1	Not configured	<input type="checkbox"/>	This device is USB attached
Additional Port 2	Not configured	<input type="checkbox"/>	This device is USB attached
Additional Port 3	Not configured		
Additional Port 4	Not configured		

Editing Device Characteristics STORE.*

Save | Exit

Figure 25. Serial devices

For 4690 OS V6R3, a check box has been added to the first four ports shown in “**Serial devices**.” To attach a USB device, configure a serial port and then set its **USB-attached** check box. Only one USB device is allowed to be configured. The physical serial port configured will not be available for any other use. If a machine has less than four serial ports, this property can be configured for a port that does not physically exist on the box.

The POS terminal supports the use of serial I/O devices. Most POS terminals have serial ports A and B on the motherboard. On 4693 and 4694 terminals, the number of available serial ports can be increased by installing from one to four dual asynchronous cards depending on the terminal type.

To configure a serial port, assign it a logical port number from 1 to 4.

- | On TCxWave 6140 Series terminals, RS232 devices are supported through USB-RS232 dongle and only rear standard USB ports are supported for the dongle. To configure serial ports, the lowest numbered USB port should be assigned the lowest numbered serial port, and the number of serial ports configured should match the number of dongles attached to the 6140 terminal.

SurePoint

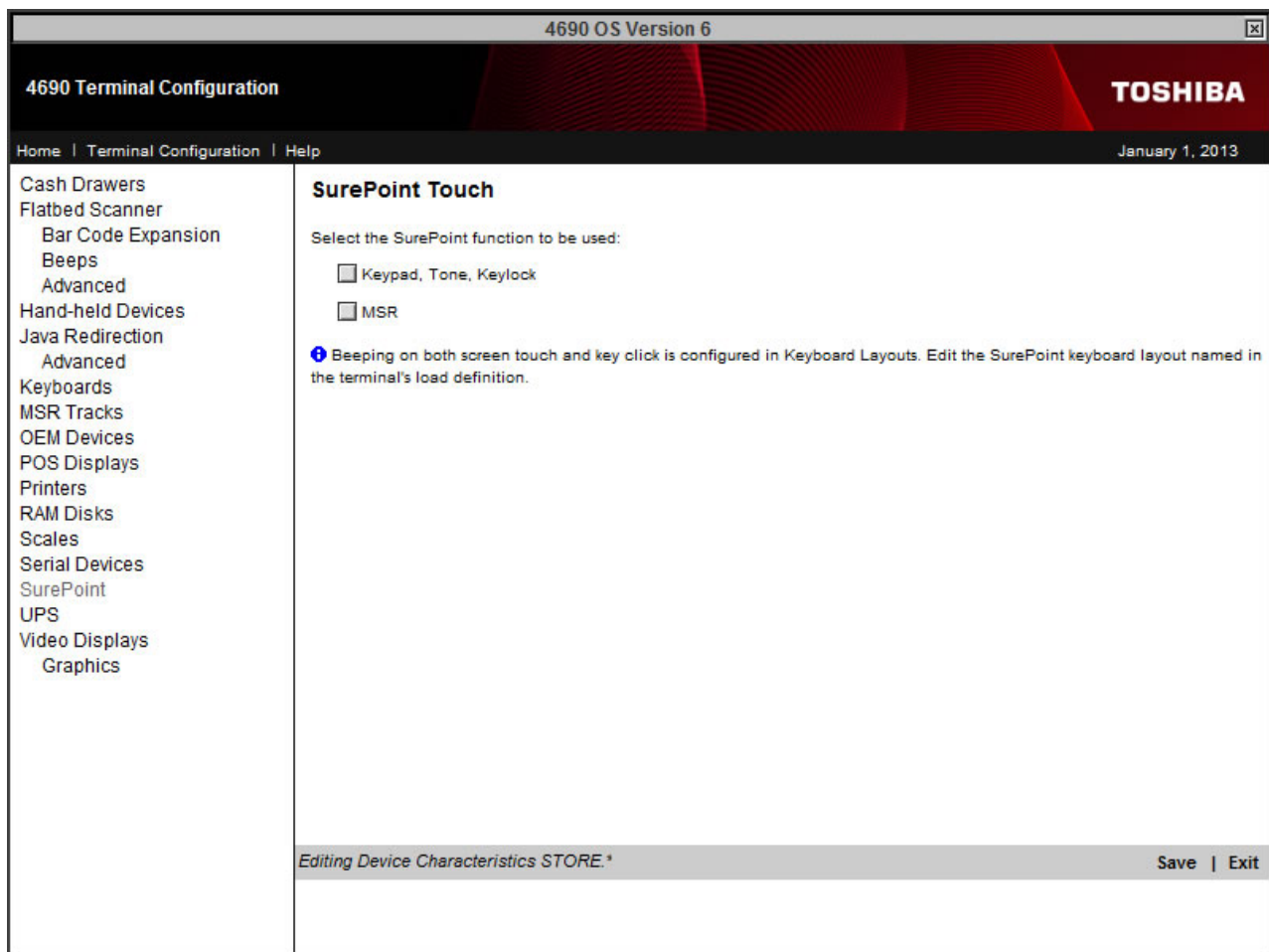


Figure 26. SurePoint

The SurePoint keypad device, which includes the tone and keylock, and the SurePoint MSR are detected after all other attached keyboards and MSRs are detected. Select one or both of the SurePoint devices, if they are to be used instead of other attached devices of similar types.

UPS

4690 OS Version 6

4690 Terminal Configuration TOSHIBA

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Cash Drawers
Flatbed Scanner
Bar Code Expansion
Beeps
Advanced
Hand-held Devices
Java Redirection
Advanced
Keyboards
MSR Tracks
OEM Devices
POS Displays
Printers
RAM Disks
Scales
Serial Devices
SurePoint
UPS
Video Displays
Graphics

UPS

⚠ In order for a UPS device to function properly, a Logical Port must be configured.

Select the UPS Manufacturer:

American Power Conversion

Enter the number of minutes after a power failure that the 4690 OS should turn off the UPS device.

Minutes (0-15) 0

Enter the number of seconds separating warning messages.

Seconds (5-90) 5

Editing Device Characteristics STORE. Save | Exit

Figure 27. UPS

Notes:

1. A serial device defined with a logical port must be configured for a UPS device to function properly. The UPS device is configured to that logical port.
2. If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Select a UPS manufacturer. If your UPS manufacturer is not in this list, it might emulate one that is on the list.

Indicate the number of minutes, from 0 to 15, after a power failure for the UPS to operate before it turns off the 4690 OS. If the 4690 OS is **not** to be turned off by the UPS device, specify 0. Also, you can specify the number of seconds, from 5 to 90, between warning messages during a power failure.

Video displays

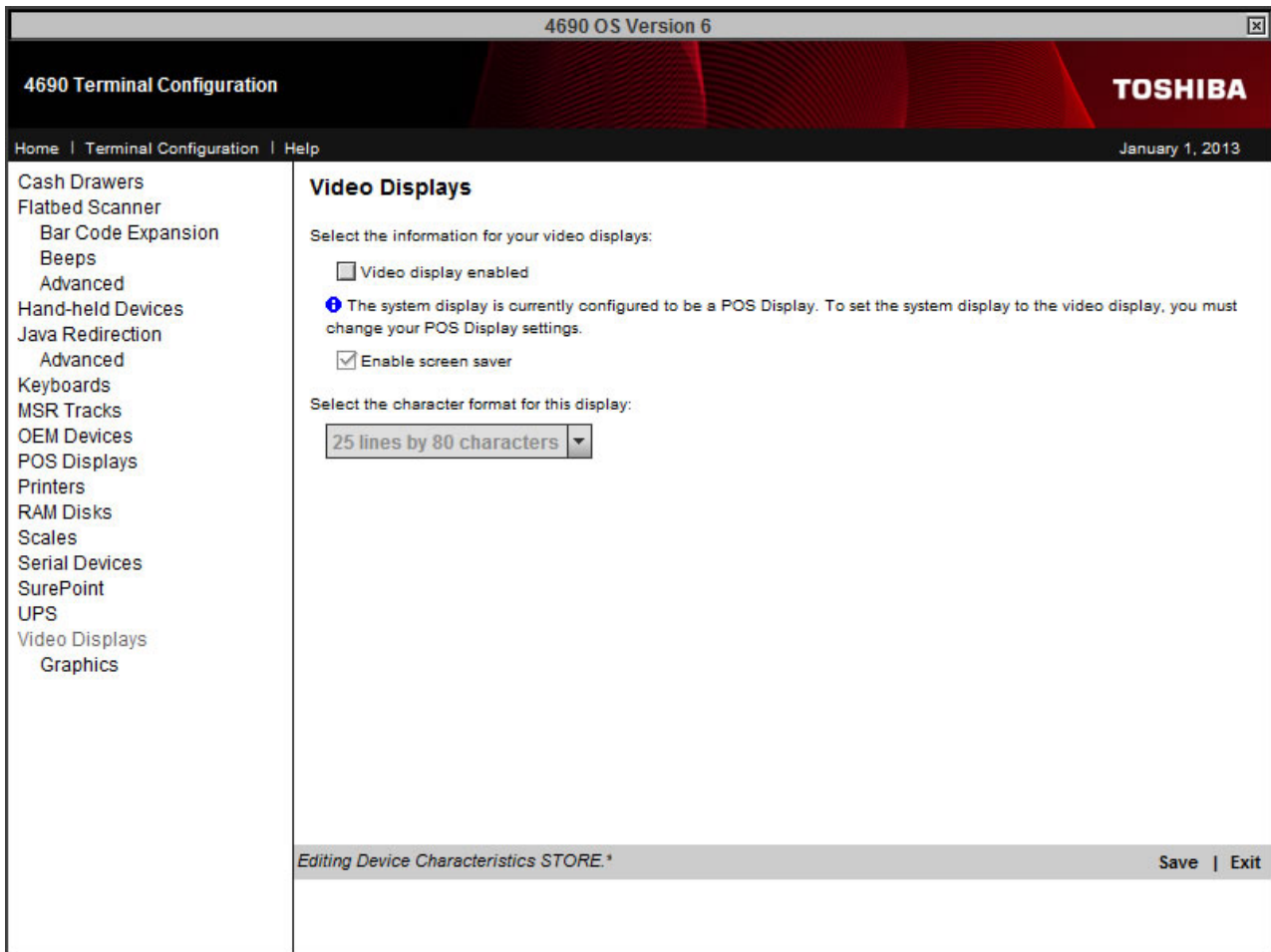


Figure 28. Video displays

Select the screen resolution for the video display. The video display format determines the number and size of the characters that can be displayed on the video. The 16x60 video display format indicates a 16-row x 60-column character window that is centered on a 16-row x 80-column character screen. Character positions 1 - 10 and 61 - 80 are blank and are not accessible to the terminal application. Accessing character location (1,1) is actually character position (11,1). VGA displays support only 40 or 80 columns when running in character mode.

Note: In Enhanced Mode, 25x80 is the only video display format that is supported for 4690 OS. 16x60 and 12x40 are not supported.

The terminal is unable to easily detect the presence of a video display; therefore, a video display must be indicated, if applicable. Indicate whether the video display is to be used as the system display and if the screen saver is to be enabled.

Graphics:

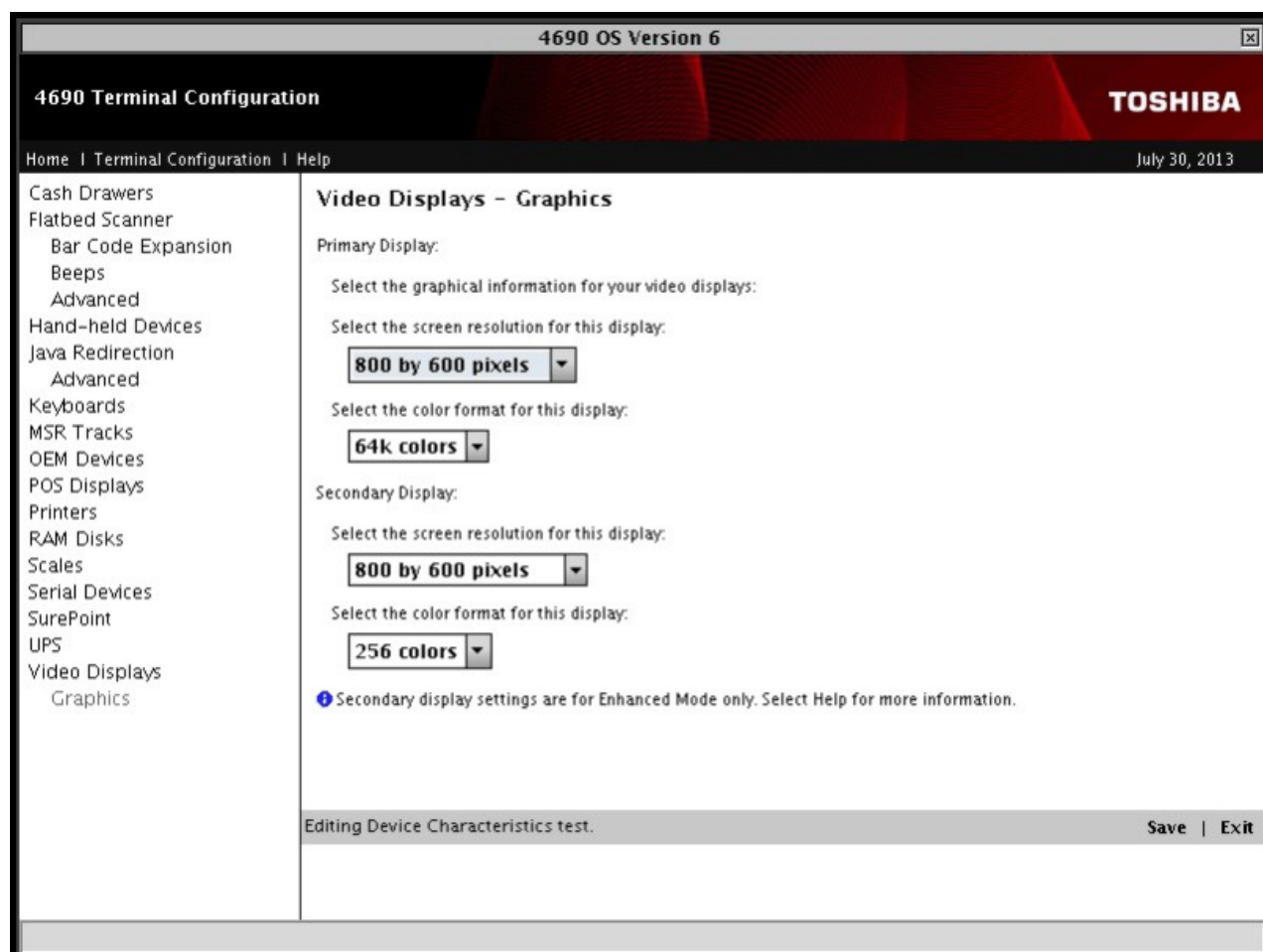


Figure 29. Graphics

For the Primary Display, select **No Graphics** or select the screen resolution and the color format that you want to use. When running on a Controller/Terminal, the Primary Display's video graphics settings will come from the controller's video configuration.

You can configure an optional Secondary Display. Note that the Secondary Display configuration is only used in Enhanced Mode, and the second video is only accessible by Java applications. In Classic Mode, Secondary Displays always use the settings of the Primary Display; otherwise, the Secondary Display can be given its own screen resolution and color format or it can be configured to use the same settings as the Primary Display.

- | On a TCxWave 6140 Series system, the Primary Display will always use 1366x768 resolution; the 4690 console (including Java2 graphics) is limited to 1024x768 resolution and will be limited to only a portion of the screen. The Secondary Display will use the Secondary Display settings specified in Generic Terminal Configuration.

Notes:

1. When two displays are attached to a POS terminal, all mouse and PS/2 or ANPOS keyboard input is directed to Java windows appearing on the primary display. The only user input received by Java windows running on the secondary display is touch device input from that display.
2. The 16M color setting is only used in Java 6 applications and other enhanced mode graphical applications such as the MBrowser. As of V6R4 this setting is ignored at runtime and enhanced mode

applications use a fixed color depth. Most hardware uses 16M colors (24-bit color depth), however in some cases older hardware will continue to use 16-bit depth. In particular, a 4800-723 will use 16-bit color depth in dual display mode.

Attention: To prevent any damage to your video display, ensure that it can support the selected graphics capabilities.

Load definitions

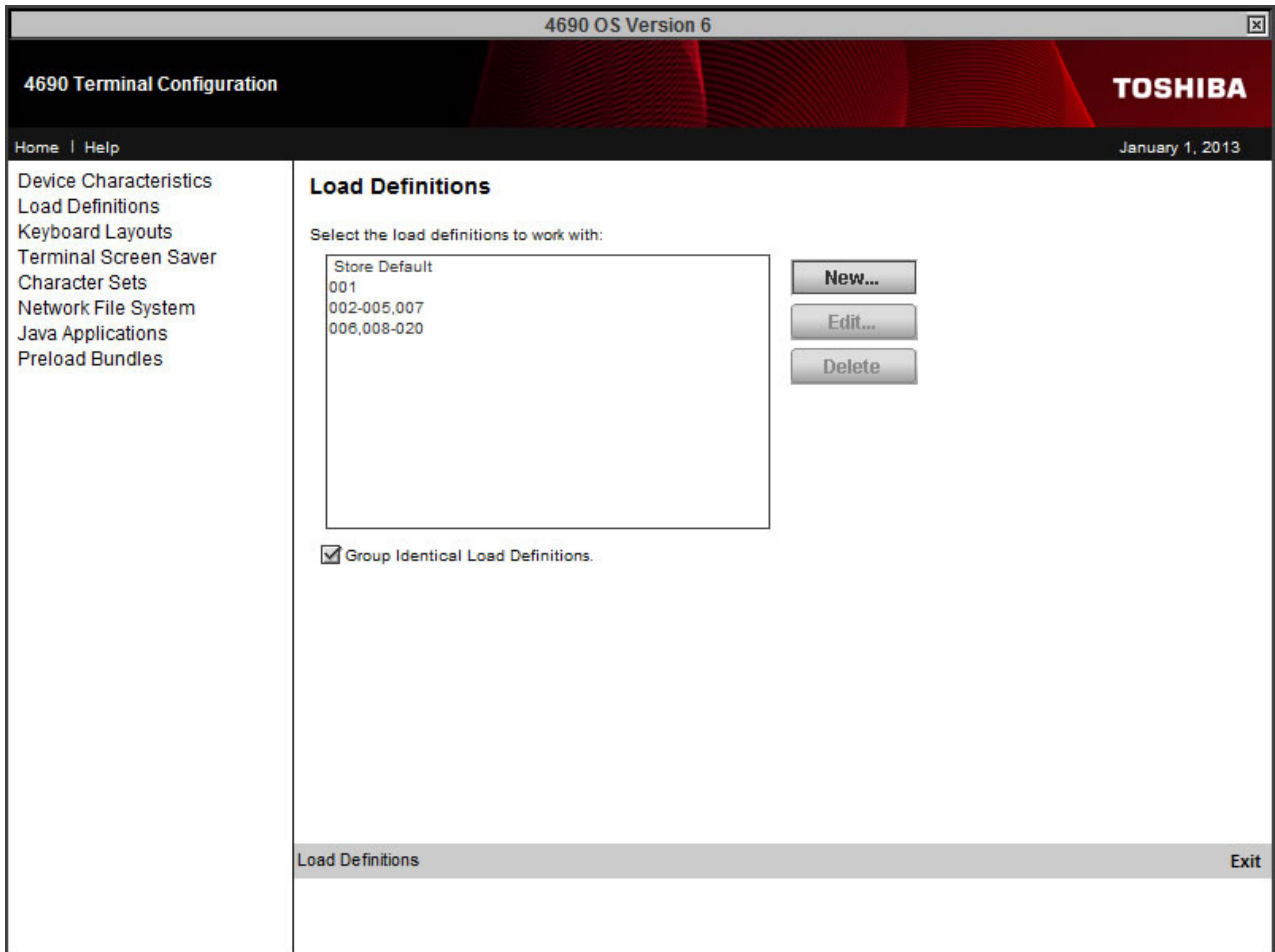


Figure 30. Load definitions

From this panel you can enter a New terminal load definition, or you can Edit or Delete an existing terminal load definition. You can use the Store Default or you can select from the terminals in the list.

If you select the checkbox, identical load definitions will be displayed together, instead of on separate lines.

General settings

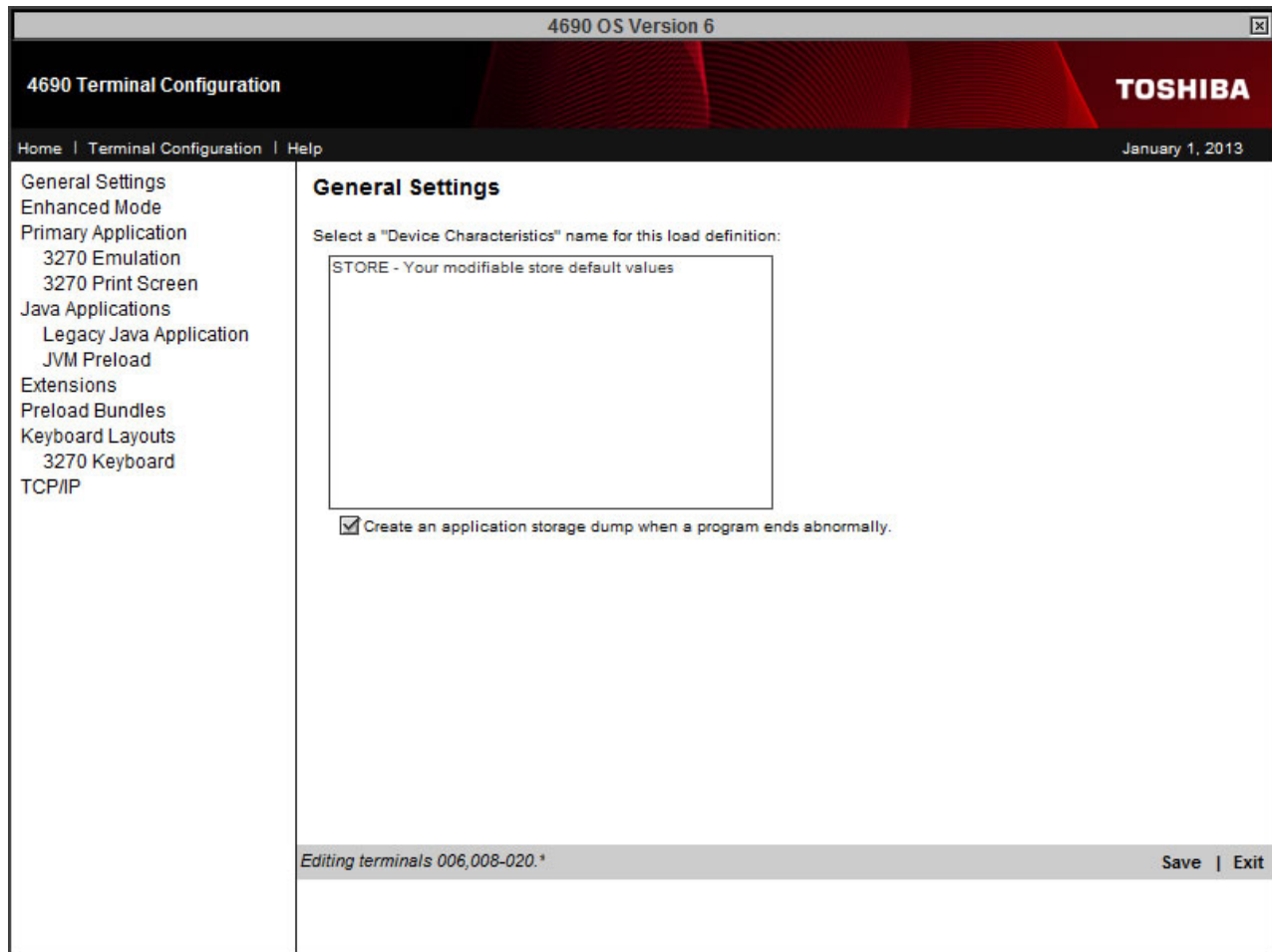


Figure 31. General settings

The Device Characteristics name is the name of the terminal device characteristics configuration to be used by the terminal that is being configured. Terminals that use the same device characteristics are not required to have the same set of attached I/O devices. However, when the I/O devices are attached, they will have the same behavior on every terminal.

Select the check box for Create an application storage dump when a program ends abnormally, if an application dump is to be written automatically whenever an application program ends abnormally.

Enhanced Mode

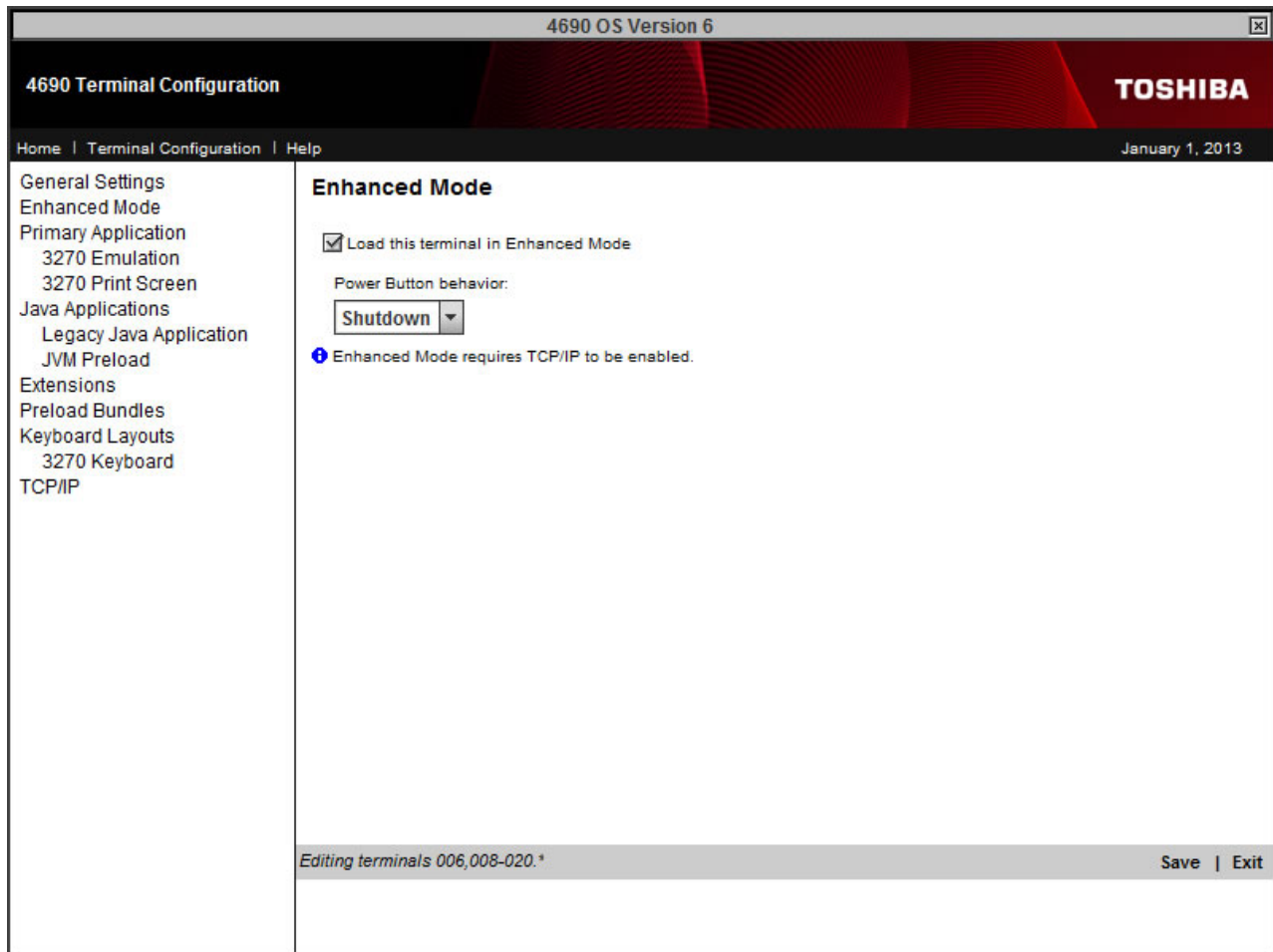


Figure 32. Enhanced Mode

You can choose to load a terminal with the enhanced version of 4690 OS. Some terminals support loading only Classic or only Enhanced Mode. A configuration mismatch will prevent the terminal from loading normally if the terminal number is configured for a mode that it does not support.

You can select the behavior of the power button: Shutdown, Suspend, or Dump. Selecting Shutdown causes the terminal to perform an orderly shutdown of the operating system before powering off. Selecting Suspend causes the terminal to go to a low power state. Selecting Dump causes the power button to behave like the dump button, which causes the terminal to dump. In all cases, pushing and holding the power button for longer than eight seconds causes the terminal to perform a hardware power off. A hardware power off will not accept a WOL or return-on-timer command.

SurePOS 7x2 and 7x1 (4800-782/742/722/781/741) terminals ignore the Suspend setting when they are loaded in Enhanced Mode. SurePOS 721 is not supported in Enhanced Mode.

- | TCxWave 6140 Series terminals will ignore the setting for the Power Button. The TCxWave 6140 Series
- | terminals always treat the Power Button as a Dump Button. This is the only Dump Button present on the
- | TCxWave 6140 Series terminal. Pressing the Power Button once will dump the terminal. Pressing and
- | holding the Power Button for 5 seconds will still execute a hardware power off on the TCxWave 6140
- | Series terminal.

If you enable Enhanced Mode and TCP/IP is not enabled, then TCP/IP will be enabled with a default configuration. Additional TCP/IP configuration may be required for your environment.

If you disable Enhanced Mode, any settings requiring Enhanced Mode will be modified. Java 6 applications will switch to Java 2. Java applications preloaded to F: will switch to Q:. Preload Bundles configured for F: will be switched to Q:.

Primary application

The screenshot displays the '4690 Terminal Configuration' window for '4690 OS Version 6'. The interface includes a sidebar with navigation links: General Settings, Enhanced Mode, Primary Application (selected), 3270 Emulation, 3270 Print Screen, Java Applications, Legacy Java Application, JVM Preload, Extensions, Preload Bundles, Keyboard Layouts, 3270 Keyboard, and TCP/IP. The main content area is titled 'Primary Application' and contains the following elements:

- A question: 'Do you want to start a primary application at terminal start-up?' with a checked checkbox labeled 'Start a primary application.'
- An 'Application name' field containing the text 'R::ADX_IPGM:EAMTS10L.286'.
- A 'Parameters' field, which is currently empty.
- A warning icon and text: 'Do not use this page to configure Java applications'.

At the bottom of the window, a status bar indicates 'Editing terminals 006,008-020.*' and provides 'Save' and 'Exit' buttons.

Figure 33. Primary application

If you want to start a primary application at terminal startup, select the Start a primary application check box. After the check box is selected, the Application name and Parameters options become available for you to enter data.

The primary application is the name of the program to be loaded and processed when the POS terminal is initially powered on. Specify the device, path, and application file name. The initial application name uses the following format: Node::Physical Drive:/Subdirectory/Filename.Extension. If the program is in ADX_IPGM, specifying the physical drive or subdirectory names is not required. The length of the Application Name field is limited to 24 characters.

In the Parameters field, indicate any parameters that are to be passed to the application that is being loaded.

Note: Do not use this panel to configure Java applications.

3270 emulation:

The screenshot shows the '4690 Terminal Configuration' window for '4690 OS Version 6'. The window has a dark header with the Toshiba logo and a date of 'January 1, 2013'. A left sidebar lists various configuration categories: General Settings, Enhanced Mode, Primary Application (selected), 3270 Emulation, 3270 Print Screen, Java Applications, Legacy Java Application, JVM Preload, Extensions, Preload Bundles, Keyboard Layouts, 3270 Keyboard, and TCP/IP. The main content area is titled '3270 Emulation' and contains the question 'Do you want to start a 3270 session at terminal start-up?'. Below this is a checkbox labeled 'Start a 3270 session.' which is currently unchecked. Underneath the checkbox is a 'Parameters' label followed by an empty text input field. At the bottom of the window, a status bar indicates 'Editing terminals 006,008-020.*' and includes 'Save' and 'Exit' buttons.

Figure 34. Primary application – 3270 emulation

If you want to start a 3270 session at terminal startup, select the Start a 3270 session check box. After the check box is selected, the Parameters option becomes available for you to enter data.

The command tail parameter field is a string of up to 14 bytes for 3270 emulation. It is formatted according to these guidelines:

tppnn,linkname where:

- t represents the 3270 emulation type of A for API only and C for console
- pp represents the printer ID of C1 - C8 for controller and T1 - T4 for terminal
- nn represents the gateway controller (specify the xx from the controller emulator, ADXLXxxN)
- linkname represents the same linkname used for the controller

3270 print screen:

The screenshot shows a web browser window titled "4690 OS Version 6". The page is titled "4690 Terminal Configuration" and features the Toshiba logo in the top right corner. A navigation bar includes links for "Home", "Terminal Configuration", and "Help", along with the date "January 1, 2013". On the left side, there is a sidebar menu with the following items: "General Settings", "Enhanced Mode", "Primary Application" (which is expanded to show "3270 Emulation" and "3270 Print Screen"), "Java Applications" (expanded to "Legacy Java Application" and "JVM Preload"), "Extensions", "Preload Bundles", "Keyboard Layouts" (expanded to "3270 Keyboard"), and "TCP/IP". The main content area is titled "3270 Print Screen" and contains the question "Do you want to start a 3270 print session at terminal start-up?". Below this is a checkbox labeled "Start a 3270 print session." which is currently unchecked. Underneath the checkbox is a text input field labeled "Parameters". At the bottom of the main content area, there is a status bar that reads "Editing terminals 006,008-020.*" and buttons for "Save" and "Exit".

Figure 35. Primary application – 3270 print screen

If you want to start a 3270 print session at terminal startup, select the Start a 3270 print session check box. After the check box is selected, the Parameters option becomes available for you to enter data.

The command tail parameter field is a string of up to 14 bytes for 3270 emulation. It is formatted according to these guidelines:

ppnn,linkname where:

- pp represents the printer ID of T1 - T4 for terminal
- nn represents the gateway controller (specify the xx from the controller emulator, ADXLXxxN)
- linkname represents the same linkname used for the controller

Java applications

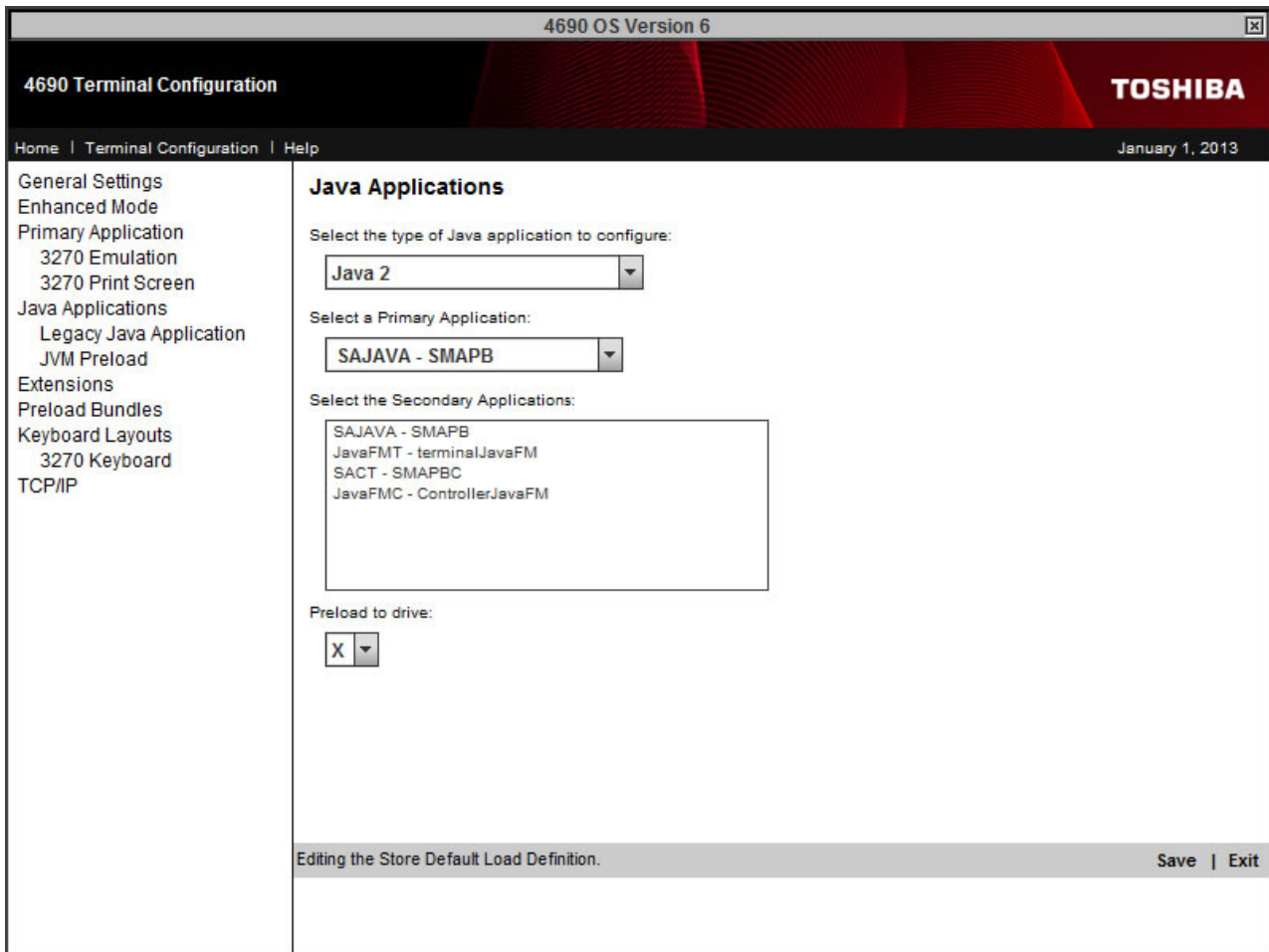


Figure 36. Java applications

This panel is used to indicate if a Java application is to be started when the terminal is powered on. Either a Java application or a Primary application must be enabled.

There are four options for the Java application type:

- None
- Java 1.1.8 Legacy - As announced on Jan. 11, 2005, 4690 OS support of Java 1 (1.1.8 JVM) ended on Aug. 31, 2006. Beginning with V6 of 4690, the 1.1.8 JVM is no longer included with the OS. Java 1 applications should be compiled with a currently supported version of the compiler for use with 4690 OS V6.
- Java 2 Legacy - This selection lets you use the old Java configuration screen to specify a single Java class name and a parameter list.
- Java 2 - This selection lets you choose a Primary application to run from the list of Java Applications you have created and configured. You can also select multiple secondary applications, and choose a drive to preload the application files onto.
- Java 6 - You can use Java 6 if you are running your terminal in Enhanced Mode. Java 6 does not support secondary applications.

Here are some other things to consider when configuring Java applications:

- Video graphics must be enabled in the terminal's device characteristics to run Java applications.

- If you do not have a primary application configured, you must configure a Java application, and the None choice will not be available.
- You cannot configure the same application for both the primary and secondary.
- You cannot configure more than four applications (including both primary and secondary) that have Launch on Startup specified. 4690 OS allows a maximum of four Java applications to be launched at one time.
- The drive you select for preloading the application must be available on the terminal or it will not load. Selecting a RAM disk drive (Q, X, Y) versus the C or F drive will provide faster access and loading of Java applications when JavaTOF is used, at the expense of increased RAM usage.

Note: The F: drive is only available in Enhanced Mode.

- When selecting an application to use with Java 6, the application cannot use JavaTOF and the maximum number of instances must be set to one.

The C:, M:, and F: drives are not supported as preload target drives on controller/terminals. This is to prevent files on a controller from being overwritten. You may select the C: drive as the location to preload application files, and you may select the M: drive as the location to preload the Java 2 JVM on a controller/terminal. (In this case, the files are actually already present and nothing needs to be done).

Legacy Java application:

The screenshot shows the '4690 Terminal Configuration' window for '4690 OS Version 6'. The window has a dark header with the Toshiba logo and a date of 'January 1, 2013'. A sidebar on the left contains a tree view of configuration options: General Settings, Enhanced Mode, Primary Application (with sub-items 3270 Emulation and 3270 Print Screen), Java Applications (with sub-items Legacy Java Application and JVM Preload), Extensions, Preload Bundles, Keyboard Layouts (with sub-item 3270 Keyboard), and TCP/IP. The main content area is titled 'Legacy Java Application' and contains the instruction 'Enter your Java application information below.' followed by two input fields: 'Java Class name' (containing 'IBMDDefault') and 'Parameters' (empty). At the bottom of the main area, there is a status bar that reads 'Editing the Store Default Load Definition.*' and buttons for 'Save' and 'Exit'.

Figure 37. Java applications – legacy Java application

In the Java Class name field, specify the Java class containing the `main()` method to start.

In the Parameters field, specify any parameters expected by the Java class that is starting.

JVM preload:

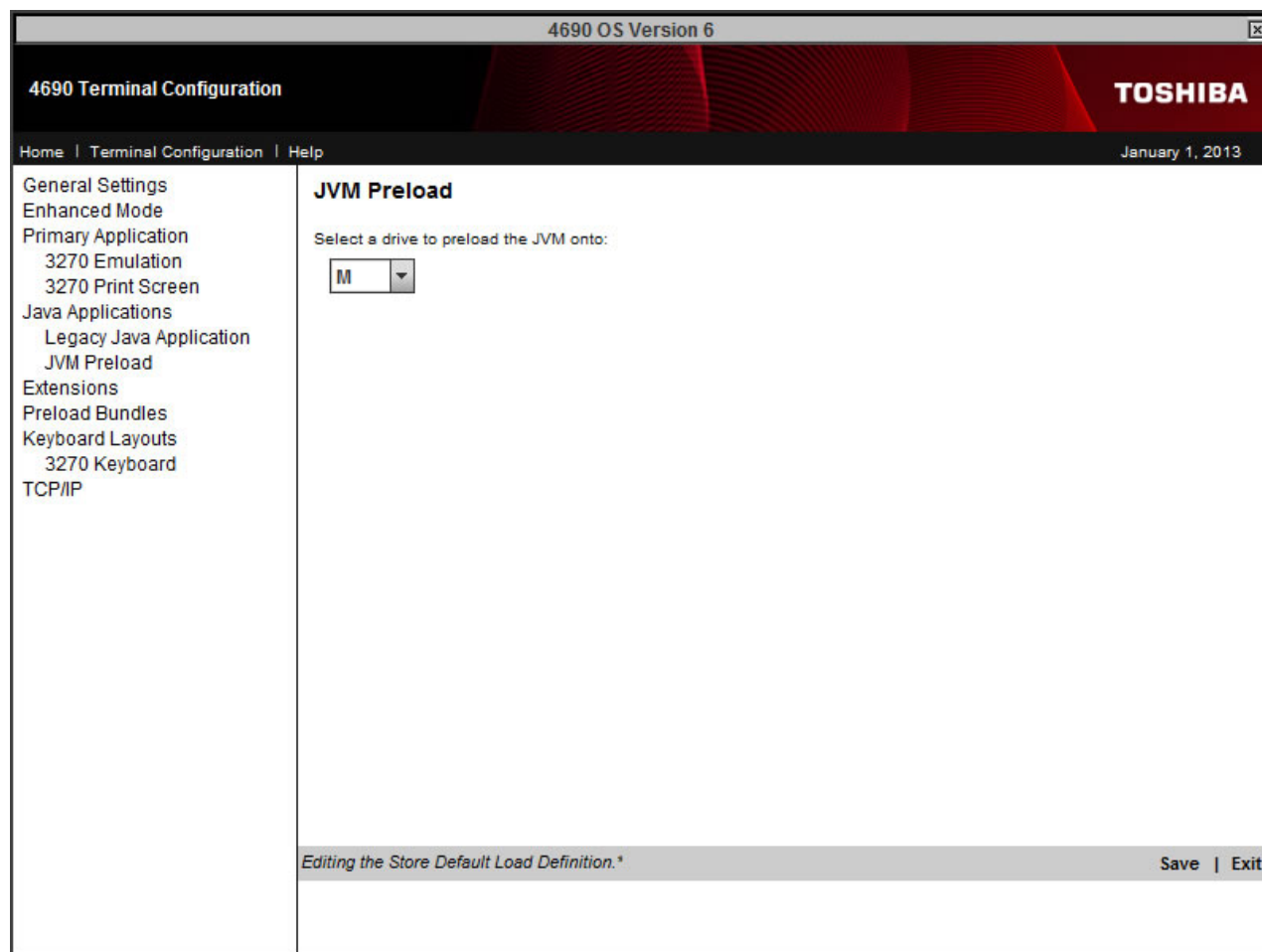


Figure 38. Java applications – JVM preload

Use this option to specify the drive onto which the JVM will be preloaded. This option is only available when configuring a non-legacy Java 2 application.

Extensions

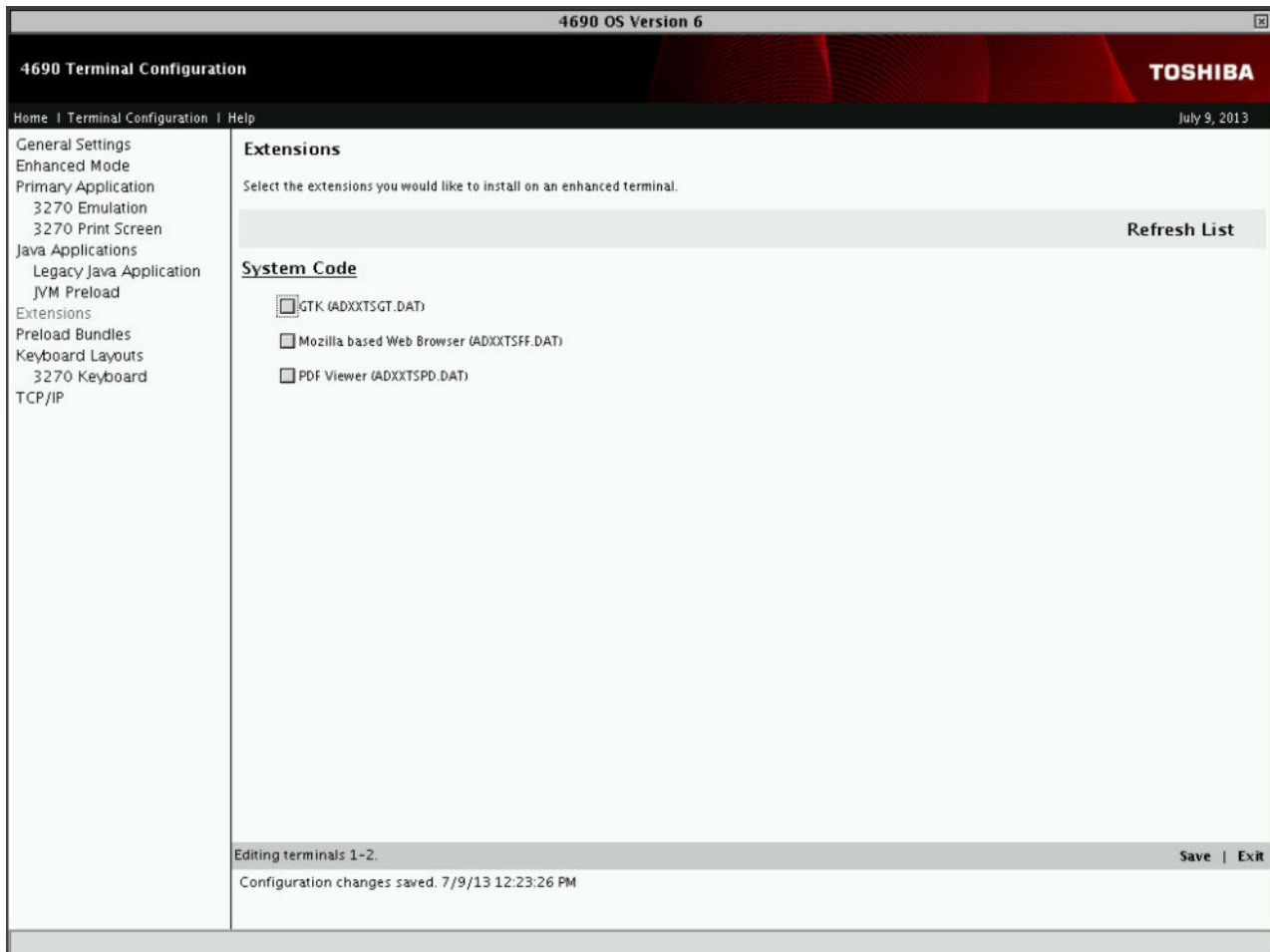


Figure 39. Extensions

Extensions are software packages that add additional function to a terminal. Extensions are usually supplied through a services contract. They can be configured and installed on terminals running in Enhanced Mode.

All available extensions are displayed under their assigned category on the Extensions panel. Install an extension by selecting the check-box next to it. If the extension contains errors, the extension cannot be installed.

Extensions might depend on other extensions. Extensions cannot be installed if they depend on other extensions that do not exist. If an extension is selected and a dependent extension is not, Configuration cannot save until all of the dependencies are resolved. To help with this issue, a **Resolve** button appears, allowing you to automatically resolve all dependencies and resulting in the selection of each required extension.

If a selected extension is deleted from the file system, Configuration activation will fail until the deleted extension is disabled using Configuration. All missing extensions are listed in a Missing category. Selecting **Save** on the Extensions panel will remove the missing extensions.

Preload bundles

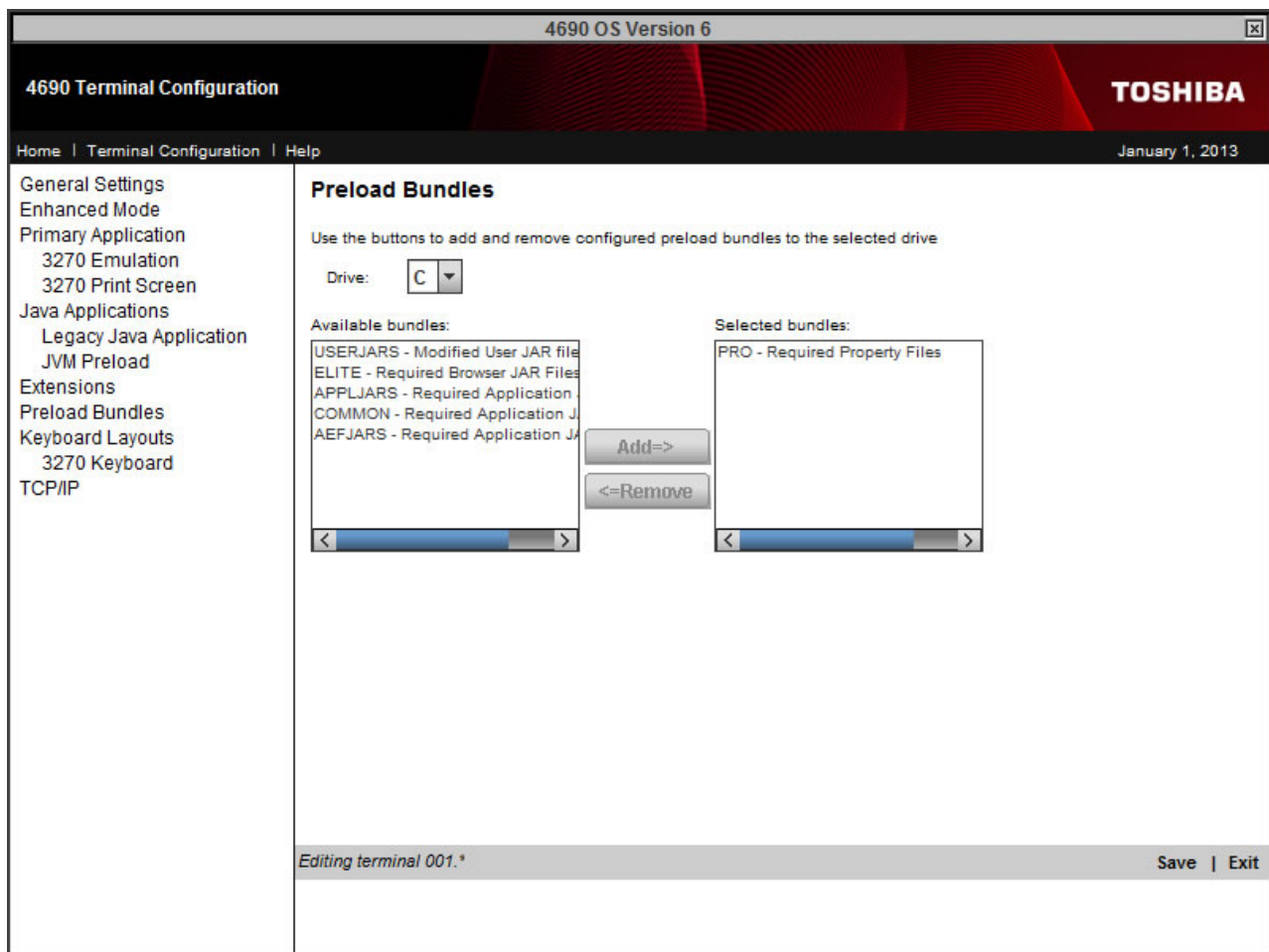


Figure 40. Preload bundles

These options specify the preload bundles for the RAM disks and for the drive specified in JVM Preload.

Keyboard layouts

4690 OS Version 6

4690 Terminal Configuration

TOSHIBA

Home | Terminal Configuration | Help

January 1, 2013

General Settings
Enhanced Mode
Primary Application
3270 Emulation
3270 Print Screen
Java Applications
Legacy Java Application
JVM Preload
Extensions
Preload Bundles
Keyboard Layouts
3270 Keyboard
TCP/IP

Keyboard Layouts

Enter the keyboard layout names to be used by the primary and Java applications.

4693 50-Key	4694KBD	Keyboard-V	ADXRBV01
4693 133-Key	ADXRSH01	Keyboard-VI	ADXRBI01
4693 ANPOS	ADXRSG01	PLU Keyboard	ADXRBP01
SurePoint	ADXRBC01	4683 ANPOS	ADXRBE01
4683 50-Key	ADXRBD01	Modular ANPOS	ADXRBL01
Modular 67-Key	ADXRBS01	Modular 67-Key LCD	ADXRBT01

Editing terminal 001.*

Save | Exit

Figure 41. Keyboard layout screen

The POS terminals support a wide variety of keyboards. Each keyboard has special POS keys that can be configured. POS keys are configured by assigning them a function code. The Keyboard Layouts option is used to create layouts for specific keyboards and to assign the terminal's required function codes.

The terminal's required function codes depend on the application that is running. See that application's planning and installation guide for information about the function codes used by it. Default keyboard layouts are provided for every keyboard type.

On this panel, enter the keyboard layout names to be used by the primary and the Java applications. You can use an existing keyboard layout definition or one of the Toshiba-supplied layouts as a model for the keyboard that is being defined. The keyboard layout names can be from 1 to 8 alphanumeric characters.

A Modular ANPOS keyboard attached to a PS/2 keyboard port will emulate a 4693 ANPOS keyboard. It will use the 4693 ANPOS keyboard layout, not the Modular ANPOS layout.

The 4690 OS supplies default model keyboard layout definitions that can be used to define your own keyboards. Enter one of the following names to use a default keyboard layout definition:

ADXRBC01 4694 LCD/Video keypad

ADXRBD01 50-key keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 General Sales Application or the 4680 Chain Drug applications.)

ADXKBD02	50-key keyboard (This keyboard layout has defaults for the 4680 and 4680-4690 Supermarket and SurePOS ACE applications.)
ADXKBE01	ANPOS keyboard (This keyboard layout has defaults for 3270 Emulation.)
ADXKBE02	ANPOS keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 General Sales applications.)
ADXKBE03	ANPOS keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 Supermarket and SurePOS ACE applications.)
ADXKBF01	4693 Point-of-Sale or USB 50-key keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 General Sales applications.)
ADXKBF02	4693 Point-of-Sale keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 Supermarket or SurePOS ACE applications.)
ADXKBG01	4693 Alphanumeric Point-of-Sale or USB ANPOS keyboard (This keyboard layout has defaults for 3270 Emulation.)
ADXKBG02	4693 Alphanumeric Point-of-Sale keyboard (This keyboard layout has defaults for 4680 or 4680-4690 General Sales applications.)
ADXKBG03	4693 Alphanumeric Point-of-Sale keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 Supermarket or SurePOS Ace Application.)
ADXKBH01	4693 Modifiable layout or USB 133-key keyboard
ADXKBI01	Keyboard-VI POS keyboard with JUCC MSR
ADXKBL01	Modular ANPOS Keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 General Sales Application.)
ADXKBL02	Modular ANPOS Keyboard (This keyboard layout has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application.)
ADXKBP01	PLU POS Keyboard
ADXKBS01	Modular 67-Key Keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 General Sales Application.)
ADXKBS02	Modular 67-Key Keyboard (This keyboard layout has defaults for the 4680 and 4680-4690 Supermarket or SUREPOS ACE Application.)
ADXKBT01	Modular 67-Key LCD Keyboard (This keyboard layout has defaults for the 4680 or 4680-4690 General Sales Application.)
ADXKBT02	Modular 67-Key LCD Keyboard (This keyboard layout has defaults for the 4680 and 4680-4690 Supermarket or SUREPOS ACE Application.)
ADXKBV01	Keyboard-V POS keyboard with JUCC MSR
ADXKBV02	50-key POS keyboard with JUCC MSR
ADXKBV03	Keyboard-V POS keyboard

3270 keyboards:

The screenshot shows a web-based configuration interface for the 4690 OS. The title bar at the top reads "4690 OS Version 6". The main header area has "4690 Terminal Configuration" on the left and the "TOSHIBA" logo on the right. Below the header is a navigation bar with "Home | Terminal Configuration | Help" and the date "January 1, 2013".

The left sidebar contains a list of configuration categories: General Settings, Enhanced Mode, Primary Application (with sub-items 3270 Emulation and 3270 Print Screen), Java Applications (with sub-items Legacy Java Application and JVM Preload), Extensions, Preload Bundles, Keyboard Layouts (with sub-item 3270 Keyboard), and TCP/IP.

The main content area is titled "3270 Keyboard Layout". It contains the instruction: "Enter the keyboard layout name to be used by the 3270 applications." Below this, there is a label "4693 ANPOS" followed by a text input field containing the value "ADXKKBG01".

At the bottom of the main content area, there is a status bar that says "Editing terminal 001.*" on the left and "Save | Exit" on the right.

Figure 42. 3270 Keyboard layouts

3270 Emulation requires an ANPOS keyboard for the console session. If using the 3270 console session, the name of the keyboard layout must be specified on this panel.

Restrictions exist regarding the use of the ANPOS keyboard and certain languages. For more information, see the section on "Keyboard and Language Communications" in the *4690 OS: Communications Programming Reference*. For additional information on the ANPOS keyboard codes, see the help panel on 3270 Keyboards.

TCP/IP

The screenshot shows the '4690 Terminal Configuration' window. The title bar indicates '4690 OS Version 6'. The window has a dark header with 'TOSHIBA' on the right. Below the header is a navigation bar with 'Home | Terminal Configuration | Help' and the date 'January 1, 2013'. On the left is a sidebar menu with the following items: General Settings, Enhanced Mode, Primary Application (3270 Emulation, 3270 Print Screen), Java Applications (Legacy Java Application, JVM Preload), Extensions, Preload Bundles, Keyboard Layouts (3270 Keyboard), and TCP/IP (which is highlighted). The main content area is titled 'TCP/IP' and contains the following text: 'TCP/IP is enabled, and cannot be disabled while Enhanced Mode is enabled.' Below this are two radio buttons: 'Obtain an IP address from a DHCP server.' (selected) and 'Specify an IP address.' (unselected). Under 'Specify an IP address.', there are input fields for IP Address (1.0.0.1), Subnet Mask (255.0.0.0), Default Router IP Address (0.0.0.0), and Nameserver IP Address (0.0.0.0). There are also text boxes for Host Name and Domain Name. At the bottom of the main area is a checkbox for 'Implement TCC over Internet Protocol (IP)'. At the very bottom of the window is a status bar that says 'Editing terminal 001.*' on the left and 'Save | Exit' on the right.

Figure 43. TCP/IP

On this panel, indicate if the terminal supports TCP/IP. If the terminal supports TCP/IP, TCP/IP can be configured in two ways: automatically, if there is a Dynamic Host Configuration Protocol (DHCP) server on the network, or manually by entering a specific IP address. If the terminal is configured to run in Enhanced Mode, TCP/IP support is automatically enabled and cannot be disabled.

Note: TCP/IP is required for all terminals running Java2. For terminals using enhanced terminal preloading, it is used to transfer the required files. For terminals that do not preload the JVM to the Q or M drives on the terminal, TCP/IP is also required in order for the JVM to access its files using NFS.

To manually enter a specific IP address, use these fields associated with the Specify an IP address option:

- IP Address – This address represents the dotted decimal format of the IP address for the TCP/IP. This address is required. The valid ranges are 1-126, 128-223.0-254.0-254.1-254
- Subnet Mask – This option is the mask applied to the IP address. The valid ranges are 255.0-255.0-255.0-255
- Default Router IP Address – This address is the default IP address for the router. This address is optional. The valid ranges are 0-223.0-254.0-254.0-254
- Nameserver IP Address – This address is the IP address of the nameserver. This address is optional. The valid ranges are 0-223.0-254.0-254.0-254

If a range of terminals is being defined, verification is performed against the starting IP address for the first terminal in the range to ensure there are valid sequential IP addresses to cover the range. If out of range error is indicated, enter either a different starting IP address or a smaller range of terminals.

If the terminal is configured for TCP/IP and you select the Implement TCC over Internet Protocol check box, then Terminal Controller Communications (TCC) is implemented using the Internet Protocol (IP). Otherwise, TCC is implemented by the system setting of the Ethernet.

TCP/IP is required for all terminals using Java 2 for NFS access to the controller's JVM2 or in order to preload (which uses TFTP).

Keyboard layouts

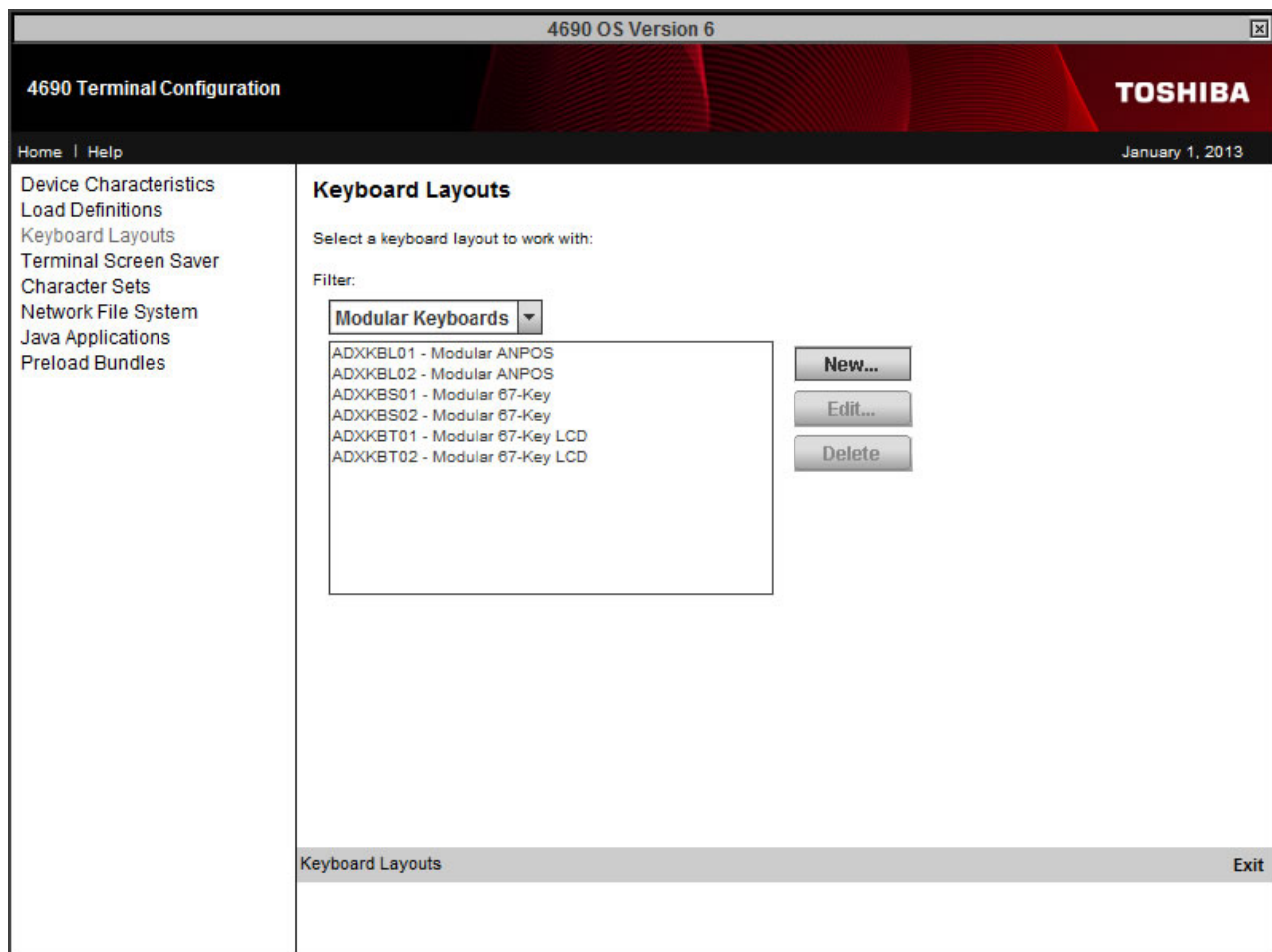


Figure 44. Keyboard layouts

Select a keyboard layout to edit or delete, or select **New** to start defining a new keyboard layout.

Figure 45. Adding a keyboard layout

Character sets

The Character Sets panel is used to configure character sets for your 2x20 Alphanumeric Displays and POS printer (Models 1, 2, 3 or 4). After making any changes, the terminal configuration must be activated and the terminals reloaded for these changes to become active.

Alphanumeric display character

Characters shown on the point-of-sale terminal's 40-character Alphanumeric Display can be defined as part of terminal configuration. The display character set applies to all Alphanumeric Displays in the terminal configuration.

The 4690 OS provides a default display character set. The contents of this default character set depends on the country selected during installation.

Specify a value of 20, 21 and 32 to 255, then use the displayed 5-by-12 dot-matrix pattern to create the new character. Define the character by clicking over the dots in the matrix. Do not use more than 36 of the dot-matrix positions to define any one character. For example, character codes 63 and 69 can be used to display characters ? and E.

Print character sets that are printed at the POS terminal's customer receipt, document, and transaction journal print stations can be defined as part of terminal configuration. The operating system supplies a default printer character set. The default character set can be accepted, modified, or an entirely new

character set can be defined. If the default character set is accepted, it is not required to define a character set at configuration. If the character set is modified or entirely redefined, the new characters must be defined on this panel.

The default character codes for values 20, 21 and 32 through 255 can be changed.

Select an ASCII code, then use the displayed 7-by-8 dot-matrix pattern to create the new character. Define the character by clicking over the dots in the matrix. Do not use more than 36 of the dot matrix positions to define any one character. For example, character codes 63 and 69 can be used to display characters ? and E

Terminal screen saver

Terminal screen savers prevent damage to the video display that can occur when an image or pattern remains on the screen for a very long time. Terminal Screen saver applies to both screens if you are using dual video.

4690 OS Version 6

4690 Terminal Configuration TOSHIBA

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Terminal Screen Saver

Terminal Screen Saver

Enter the number of elapsed minutes before the screen saver will engage:

(1-60) 15

Enter the message that will display once the screen saver engages:

TOSHIBA

Select the foreground color for the screen saver text:

White

Select the background color for the screen saver text:

Blue

☒ Enable background intensity

Terminal Screen Saver* Save | Exit

Figure 46. Terminal screen saver

Define these characteristics of the screen saver:

- The number of elapsed minutes before the screen saver engages
- The message displayed by the screen saver
- The foreground and background colors for the message text

Network File System

There are eight Network File System (NFS) mount groups available. The definition of each mount group includes the drive letter, the IP address of the NFS server, and the name of the remote resource.

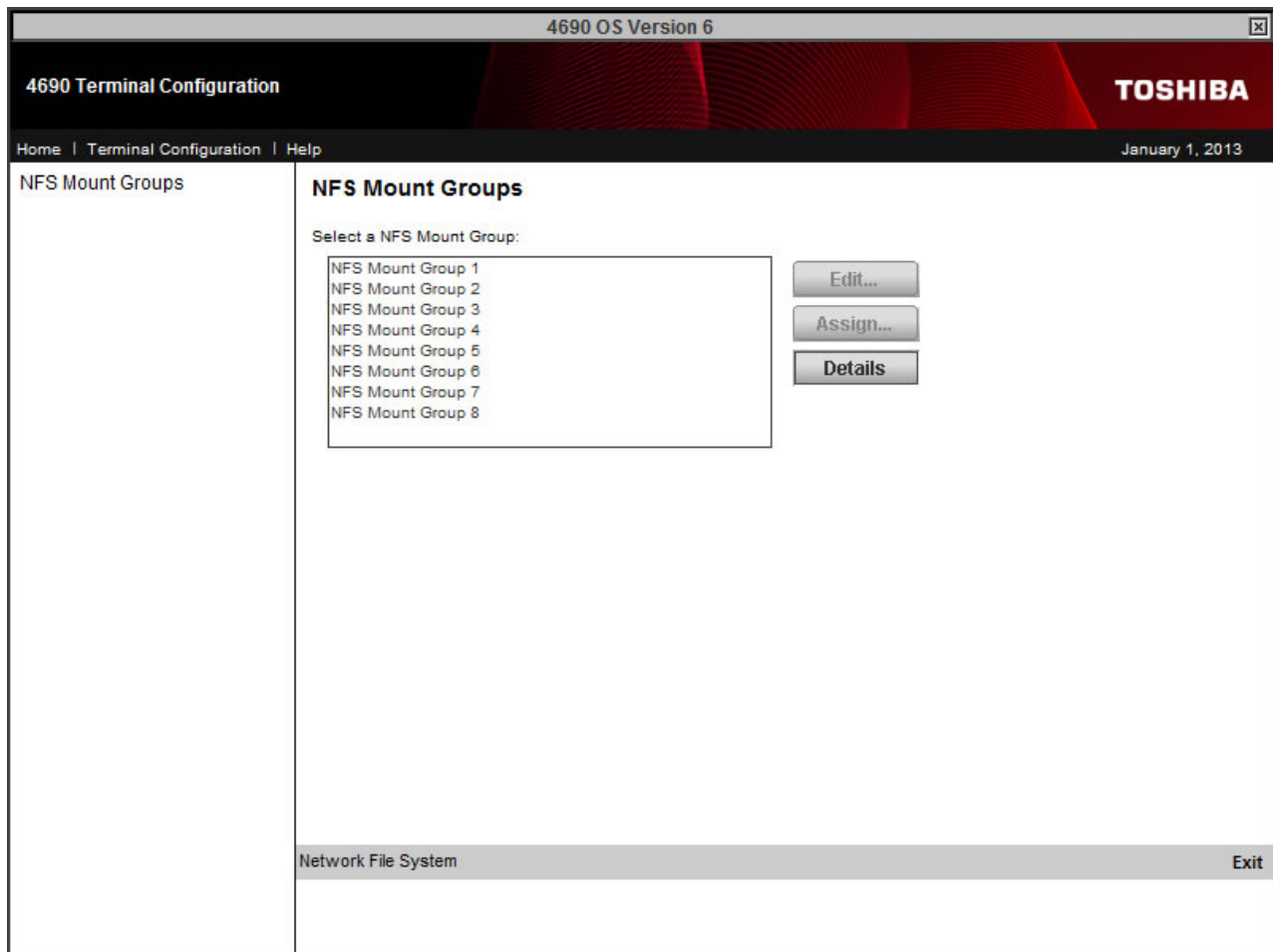


Figure 47. NFS mount groups

The screenshot displays the '4690 OS Version 6' terminal configuration window. The title bar includes the version and a close button. The header features the '4690 Terminal Configuration' title and the 'TOSHIBA' logo. A navigation bar contains links for 'Home', 'Terminal Configuration', and 'Help', along with the date 'January 1, 2013'. The main content area is titled 'NFS Mount Groups' and contains a form for configuring an 'NFS Mount Group'. The form includes the following fields: 'Description' (containing 'NFS Mount Group 1'), 'Select a drive to configure:' (a dropdown menu showing 'Drive G:'), 'Enter the IP address of the NFS server:' (four input boxes, each containing '0'), 'Enter the mount point user id:' (an input box containing '0'), 'Enter the mount point group id:' (an input box containing '0'), and 'Enter the remote resource name:' (an empty input box). At the bottom of the form, there is a 'Network File System' label and 'Save | Exit' buttons.

Figure 48. NFS mount groups

To configure a mount group, select it from the list and click **Edit**.

To assign terminals to a particular mount group, select the mount group from the list and click **Assign**. You can add single terminals or ranges of terminals to the mount group.

To examine all NFS mount group assignments, click **Details**. The list of terminals for each mount group is displayed.

Java applications

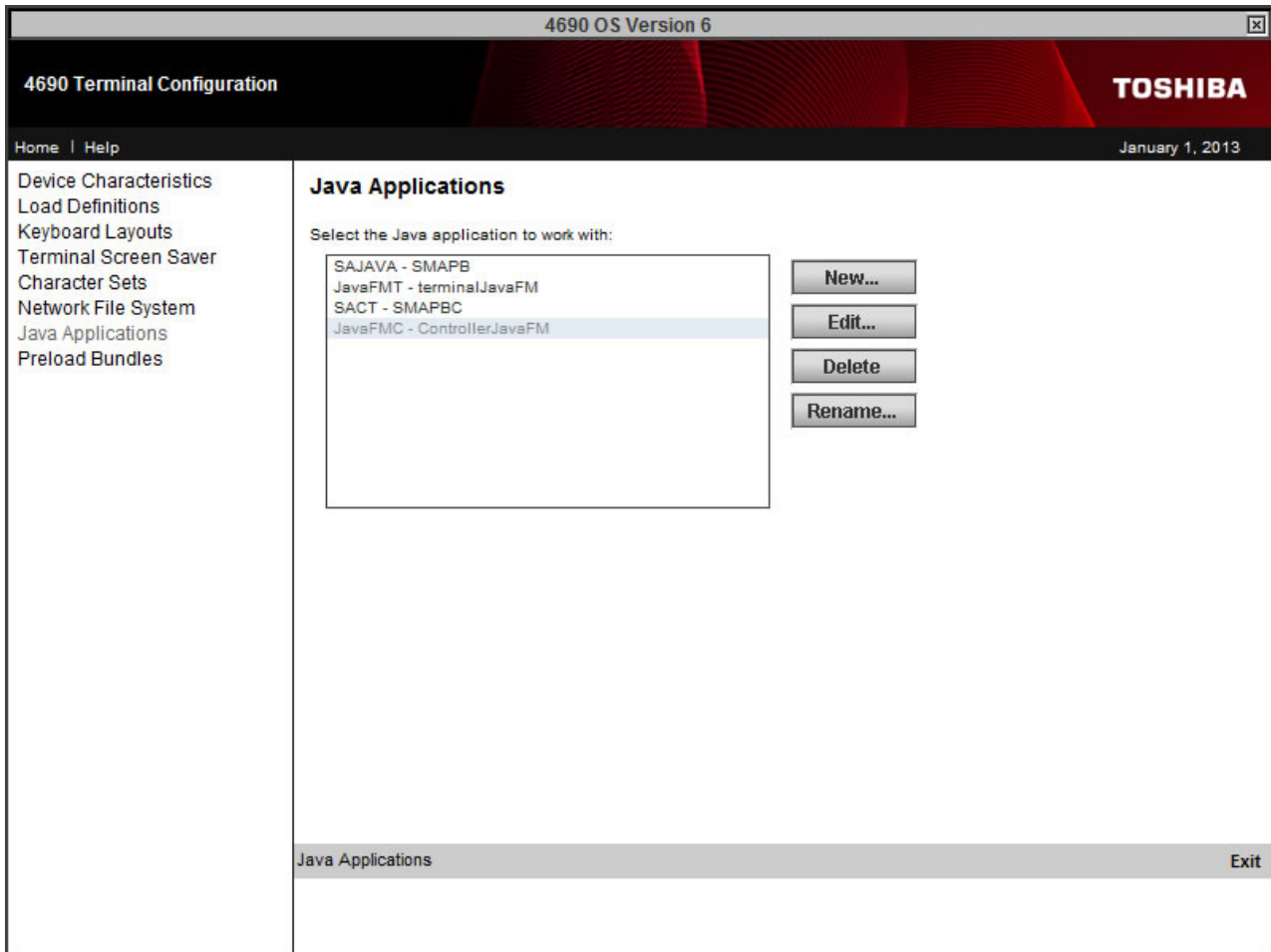


Figure 49. Java applications

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4690 Terminal Configuration

TOSHIBA

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Application

Advanced

TOF Resource Creation

TOF Dependency Checking

Include List

Exclude List

JAR List

Application

Enter the Java application information.

Classpath:

r::javaliib:OS4690.zip;r::c:/java/jpos4690.zip;r

Other JVM options:

Classname:

IBMDefault

Application arguments:

Editing the Java application SAJAVA.

Save | Exit

Figure 50. Java applications

Note that data entry for dual video is only allowed on the primary display from the standard keyboard (not the POSkeyboard). If in the Dual Video environment one Video has IO and the other does not; the one without will enumerate first regardless of plug-in location.

4690 OS Version 6

4690 Terminal Configuration

TOSHIBA

Home | Terminal Configuration | Help

January 1, 2013

Application

Advanced

TOF Resource Creation

TOF Dependency Checking

Include List

Exclude List

JAR List

Application - Advanced

Enter the advanced settings for this application.

☐ Use JavaTOF

☐ GUI Startable

☐ GUI Stoppable

☒ Launch on Startup

☐ Run on a secondary display, when available

Maximum number of instances: 1

JVM ID: None

Redirect the applications normal output to a file:

./c:/silogs/stdout.txt

Redirect the applications error information to a file:

./c:/silogs/stderr.txt

Editing the Java application SAJAVA.

Save | Exit

Figure 51. Java applications — advanced

If you are planning to run the application using Java 6, do not select **Use JavaTOF** and set the maximum number of instances to one.

TOF resources

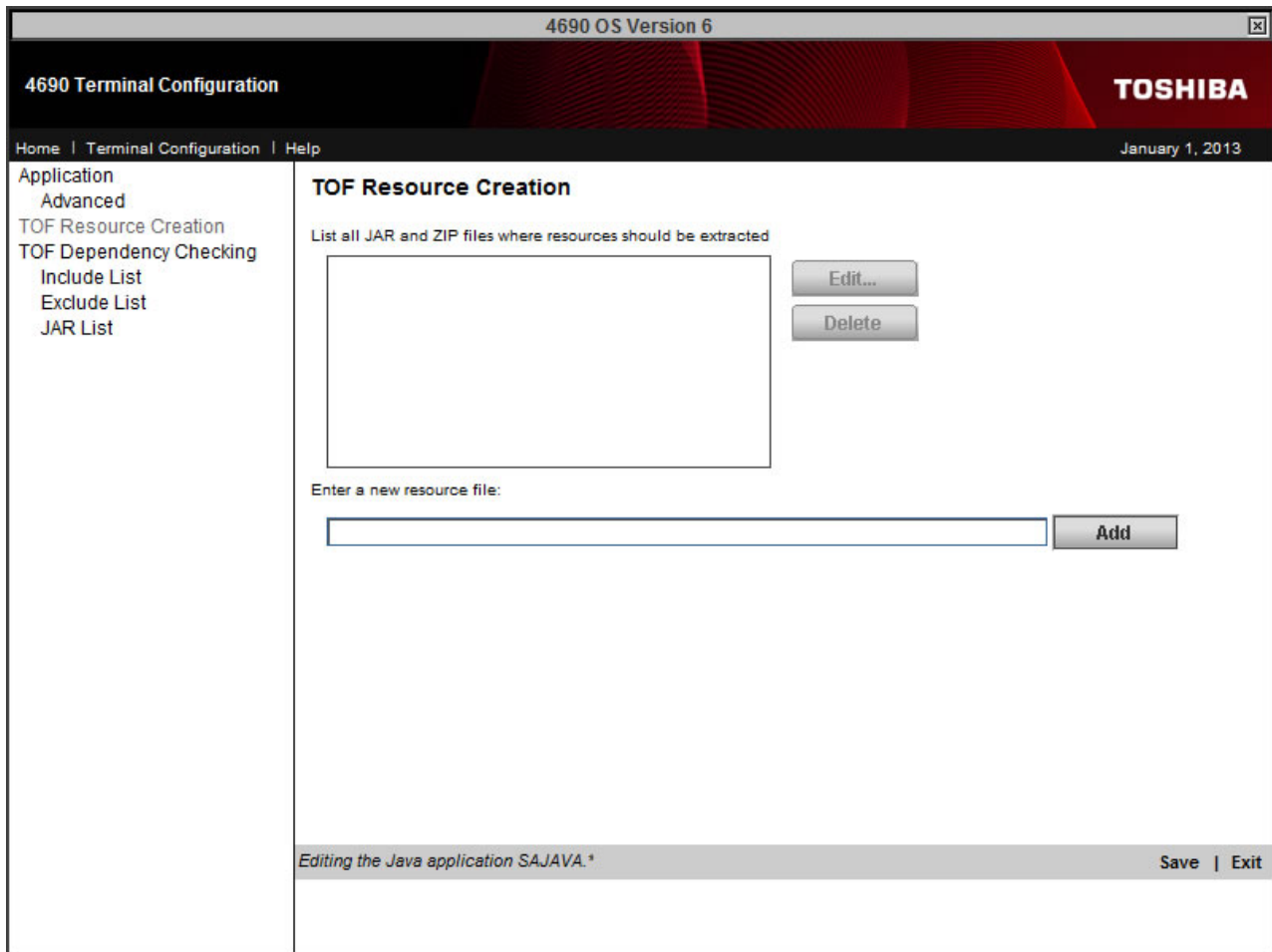


Figure 52. TOF resource creation

TOF dependency checking

Dependency Checking determines the Java classes that are used by a given application. The classes are included in a ZIP file, which is placed on a terminal drive and thus is accessible even during offline situations.

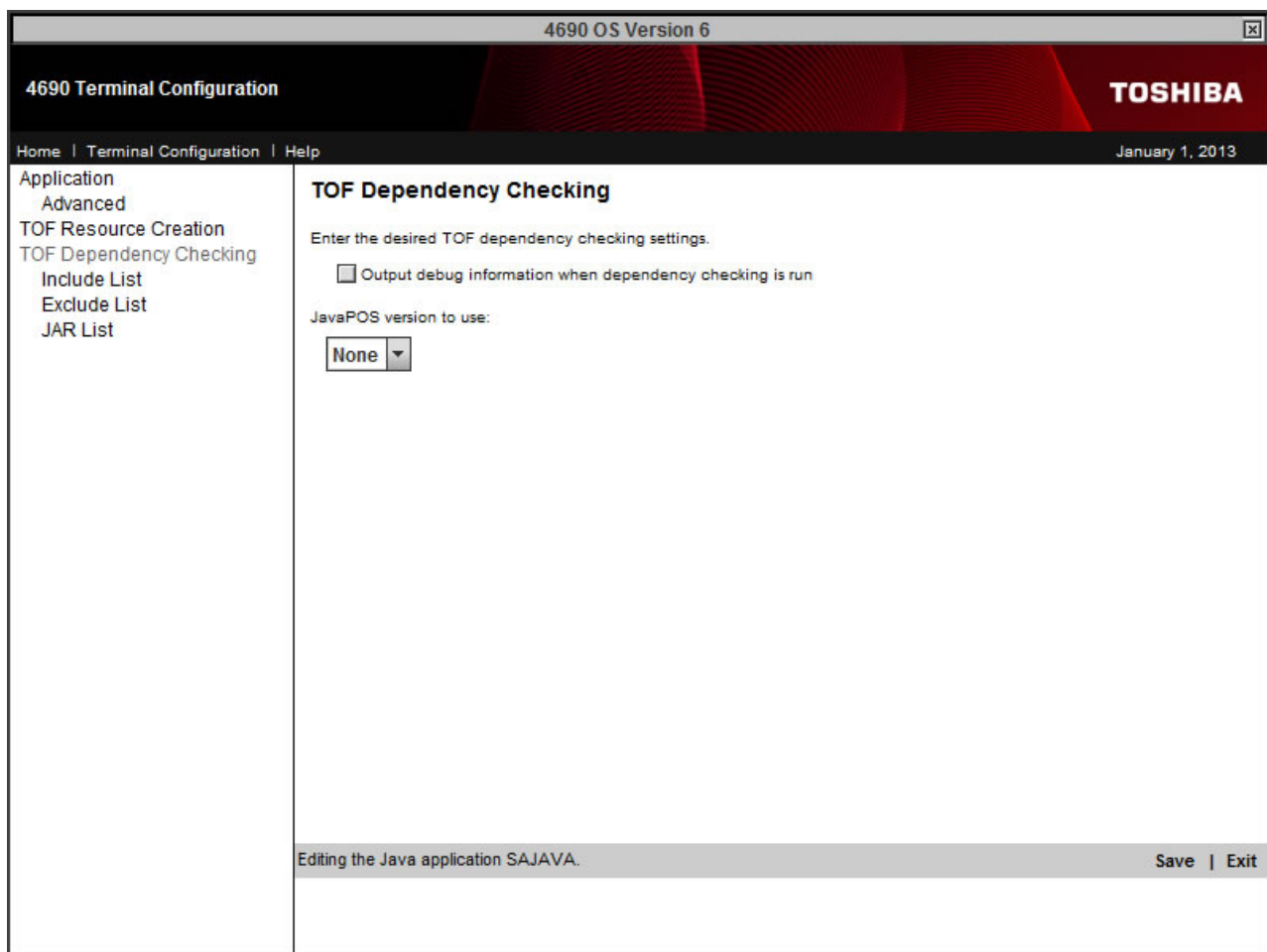


Figure 53. TOF dependency checking

If you select the option to output debug information, then detailed dependency and other debug information is written to the ADX_STLD:INACTIVE/xxxx.TLG file (xxxx is the name assigned to the Java application, not the class name).

If you select a JavaPOS version to use, all JavaPOS classes are included in the dependency checking.

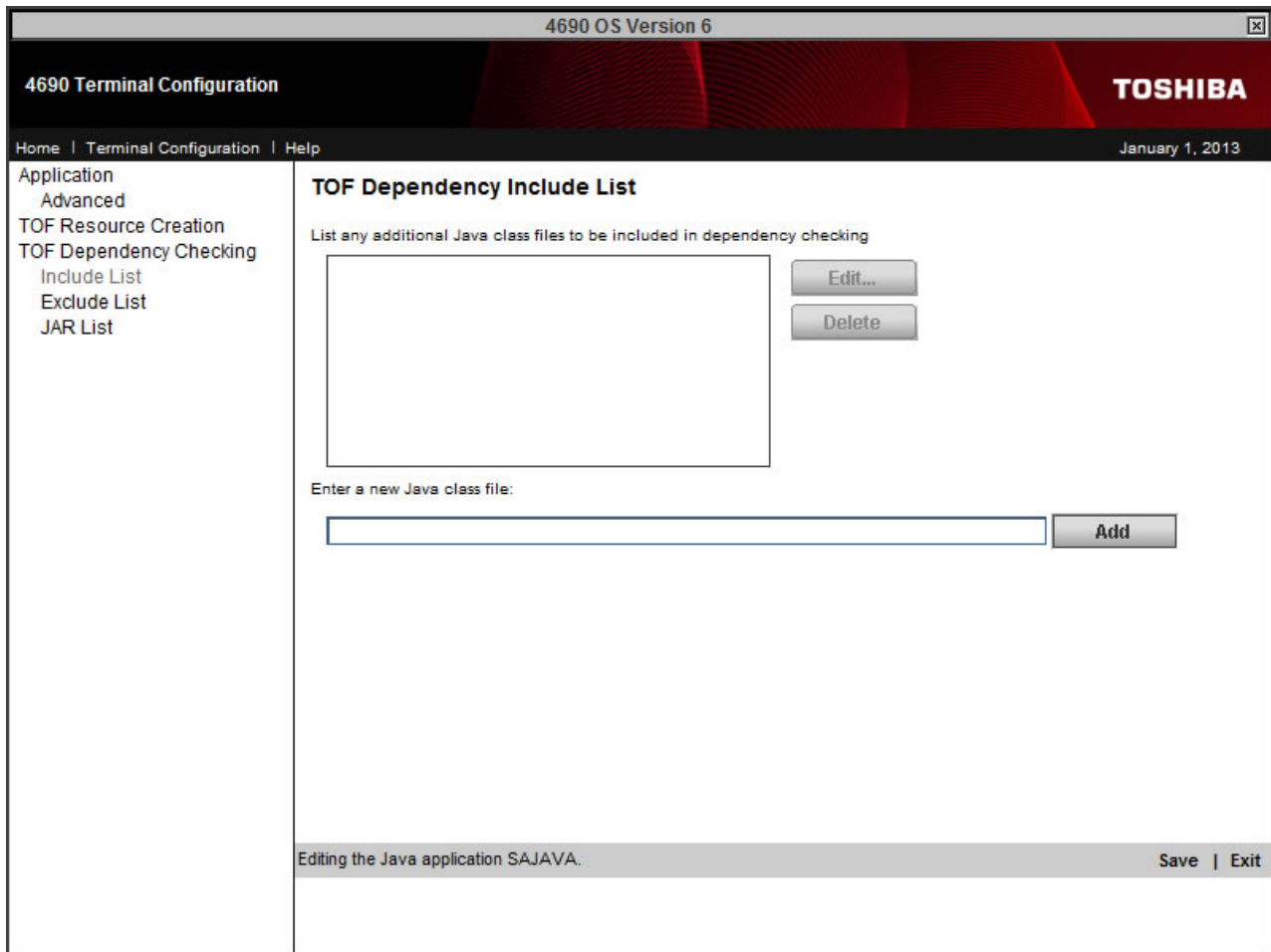


Figure 54. TOF include list

Use the TOF Include List to add classes to dependency checking.

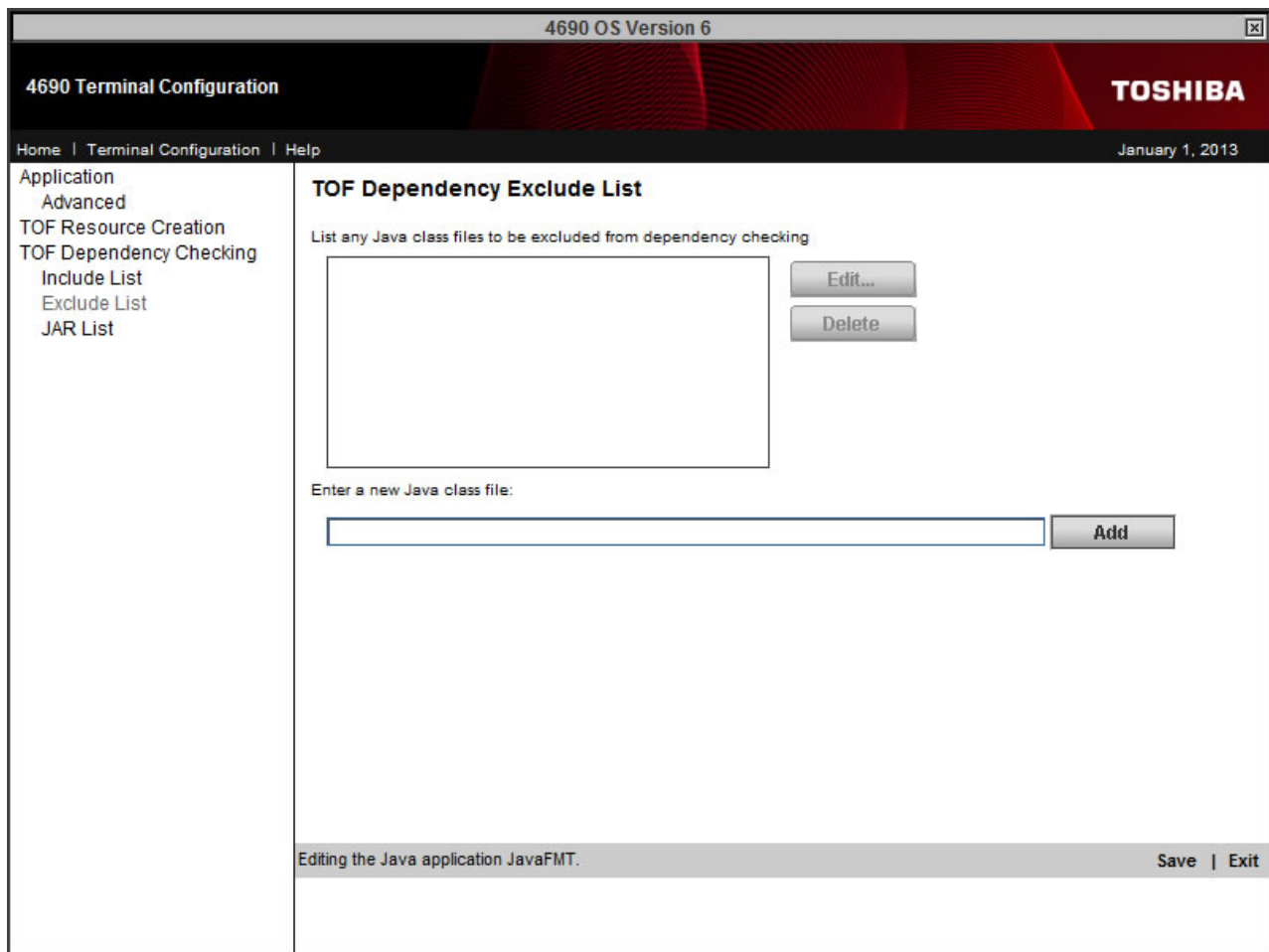


Figure 55. TOF exclude list

Use the TOF Exclude List to exclude unneeded classes that dependency checking has identified. Excluding unneeded classes improves application startup time and RAM disk efficiency.

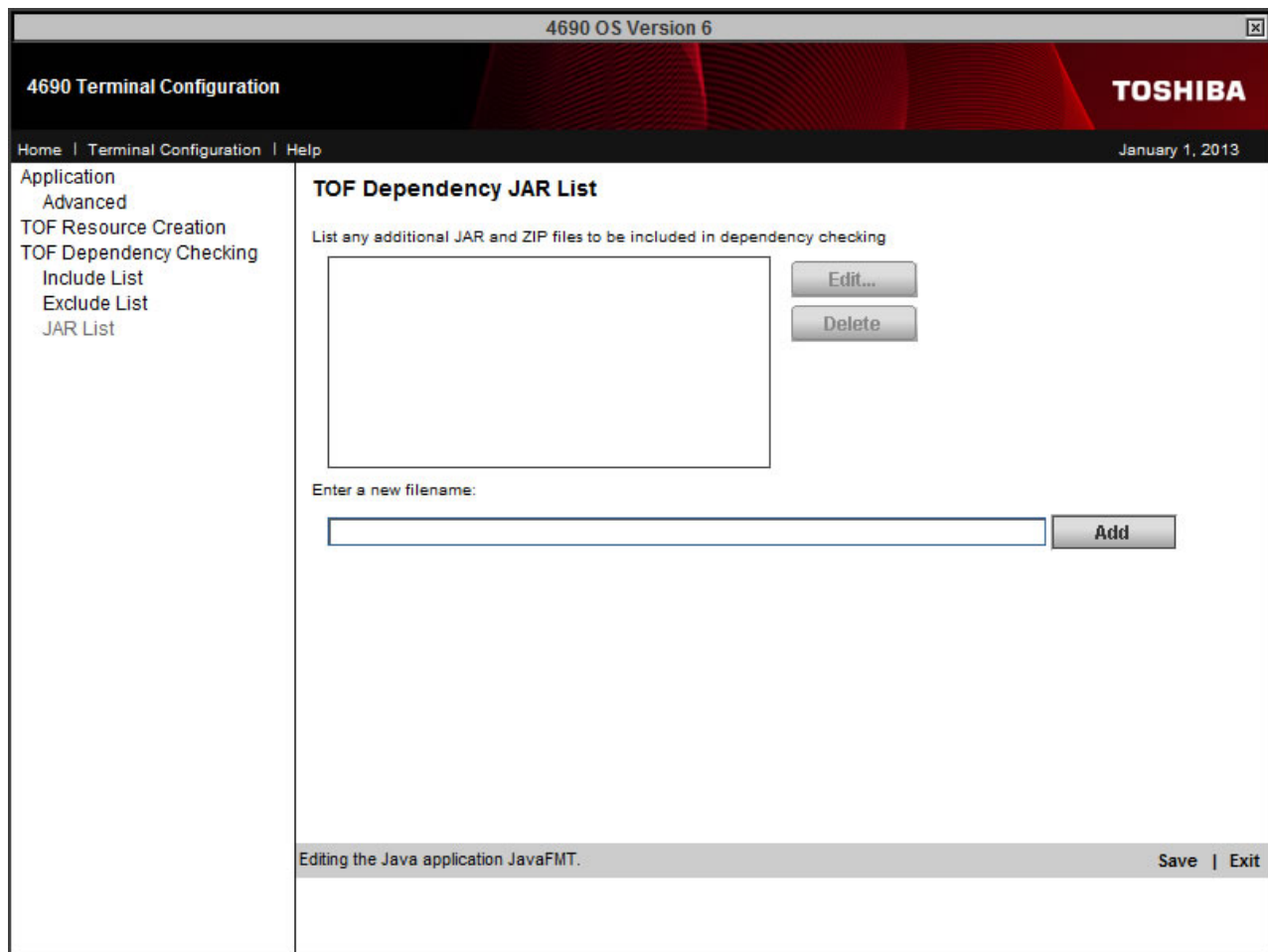


Figure 56. TOF dependency JAR list

Use the JAR list to add JAR and ZIP files to dependency checking. Dependency checking is performed on every class in the files that you add.

Preload bundles

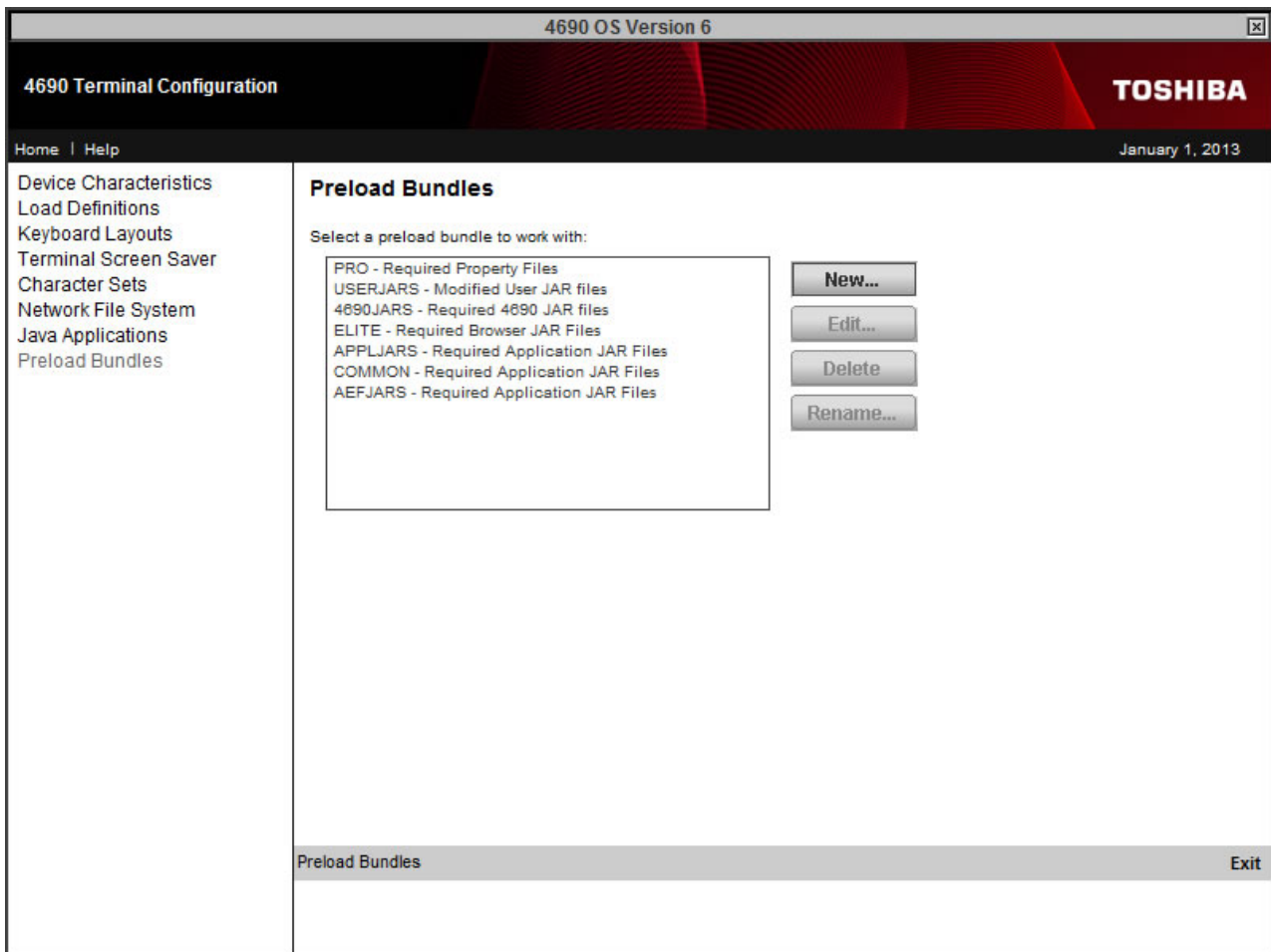


Figure 57. Preload bundles

Select **New** to specify the name, description, and default values for a new preload bundle.

After you have defined one or more preload bundles, you can select a preload bundle and edit, delete, or rename it.

Editing a preload bundle allows you to add bundle entries, one at a time. For each entry, you specify the file name and attributes of the entry. You can optionally select check boxes that specify that the file is optional, the file will be searched for recursively, and the entry will be placed in the root directory of the target drive.

4690 Load definition manager

Legacy load definition is the traditional or "legacy" method used to define the 4683, 4693 and 4694 terminals. The legacy load definition method **must** be used for defining the 4683 and 4693 terminals. The 4694 terminals can be defined using either the legacy- or the generic-load definition method.

The 4690 Load Definition Manager is used to perform the activities shown in Figure 58 on page 99.

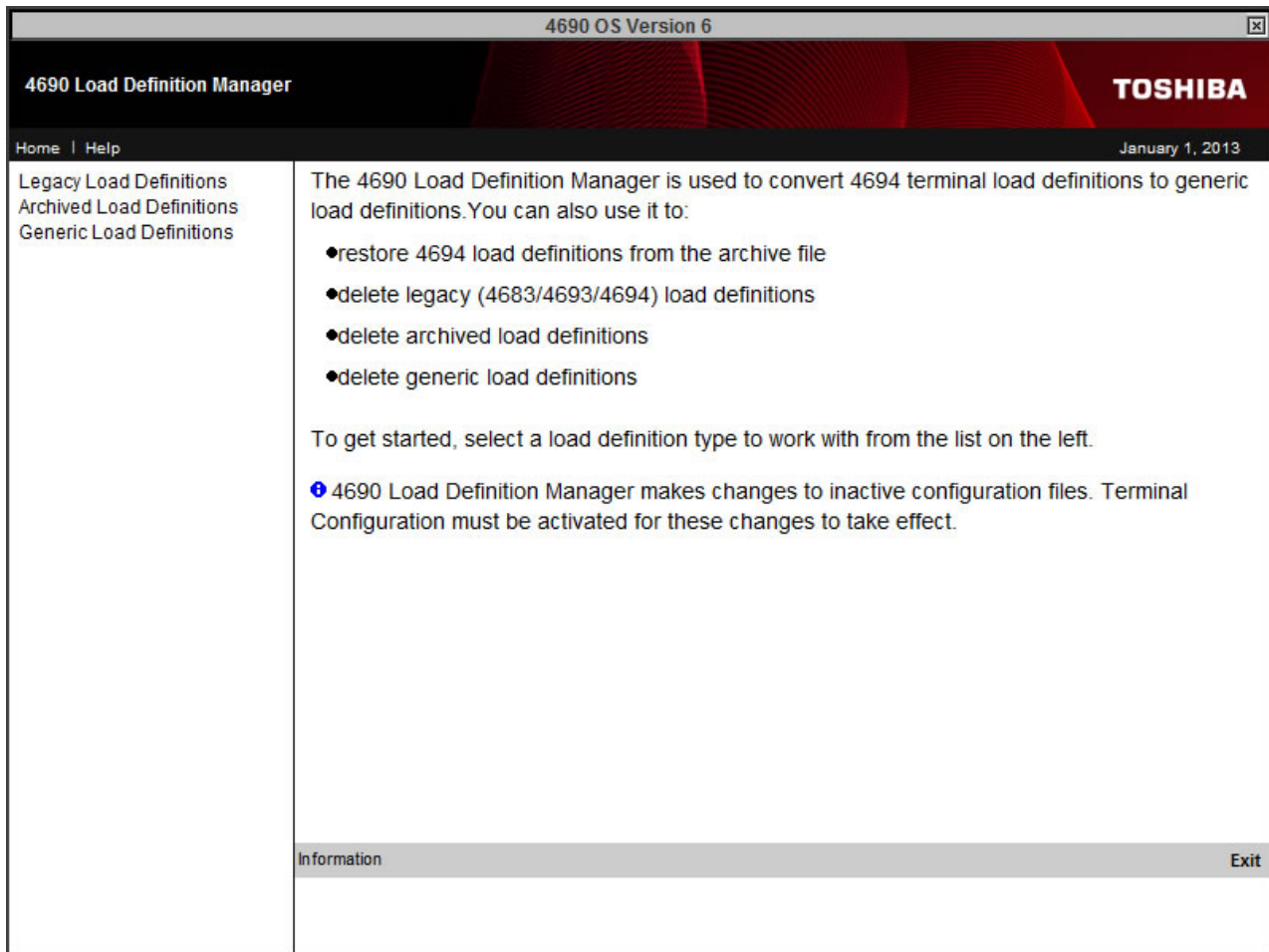


Figure 58. 4690 load definition manager

These are the types of load definitions:

- Legacy – The original load definitions used for 4683, 4693, and 4694 terminals
- Archived – 4694 load definitions that were saved for backup purposes when the legacy load definitions were converted to generic load definitions
- Generic – The newer load definition format for SurePOS, TCxWave 6140 Series and 4694 terminals

Converting legacy 4694 terminal load definitions to generic terminal load definitions

To convert 4694 legacy terminal load definitions, select **Legacy Load Definitions** in the 4690 Load Definition Manager function. Select the legacy load definitions to be converted (press **Ctrl** to make multiple selections), then click **Convert**.

Legacy load definitions are removed from the inactive legacy files (ADXCSCUF.DAT, ADXJAVHF.DAT, and ADXJAVFF.DAT) and are added to the legacy archive file (ADXJAVOF.DAT). New generic-load definition records are created based on the settings in the legacy records. New records are added to the inactive generic-load definition file (ADXJAVJF.DAT).

Device group records used by legacy load definitions are converted as needed. If a converted generic device-characteristics record by the same name already exists, the existing record is used. Otherwise, a new record is created and added to the inactive device characteristics file (ADXJAVLF.DAT). Old device group records are not deleted.

Activate the terminal configuration to enable these changes.

Restoring 4694 legacy load definitions

To restore load definitions, select **Archived Load Definitions** in the 4690 Load Definition Manager function. Select the archived load definitions to be restored (press **Ctrl** to make multiple selections), then click **Restore**.

The selected load definitions are erased from the archive file (ADXJAVOF.DAT), and added to the legacy inactive load definition file (ADXJAVHF.DAT). The inactive TCP/IP file (ADXJAVFF.DAT) might also be updated.

Terminals restored to the legacy load definition file are erased from the generic load definition file.

Activate terminal configuration to enable these changes.

Deleting load definitions

To delete load definitions, select the type of load definitions (legacy, archived, or generic), and then select the load definitions to be deleted. (Press **Ctrl** to make multiple load definition selections). Then, click **Delete**.

You are asked to confirm your action. Select **Yes** to continue or **No** to cancel.

How to launch the 4690 load definition manager

The 4690 Load Definition Manager is available from Generic Terminal Configuration. The TLDMAN command, which previously started the 4690 Load Definition Manager if typed in a 4690 command window, now performs no function.

Warning: On multiple controller systems, the 4690 Load Definition Manager *must* be run on the acting master controller. Otherwise, your configuration files could be corrupted if the 4690 Load Definition Manager is run on a non-master controller.

View the help panels for additional information about the 4690 Load Definition Manager.

Store Controller configuration support

Use the worksheets in Appendix E, “Store Controller Configuration Data - Worksheets E,” on page 425 to define each store controller’s configuration. When you define single store controller configuration data, omit the Store Controller ID field and the worksheets labeled for Multiple Store Controller Configuration only.

If your operating system has multiple store controllers and uses an MCF Network, use the worksheets to define each store controller’s configuration. These worksheets let you define configuration information for the master store controller, alternate master store controller, file server, alternate file server, and subordinate store controllers on your system.

Attention: Before performing any Java-based configuration utilities (such as NFS configuration), you must enable Java graphics in controller configuration. To enable Java graphics, select **Controller Configuration, Video Attributes**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

Configuration screens that use Java graphics are available also in a text version. The text version is used when Java graphics are not available. To force the use of text mode, add a logical name, ADXUIMD, and

set the value to TEXT. The logical name can be set to GUI also. You cannot force graphics mode if Java graphics are not supported in your environment. Some environments where Java graphics are not supported are:

- If the controller is not configured for Java graphics
- In remote operation sessions

Note: In order for the 4690 Remote Operator to work properly with Java-based configuration screens, you must do one of the following to force the text version of the configuration screens:

- The remote operator must start the configuration to force the text version of the configuration screens. If the remote operator is just monitoring the screen while the store operator runs the Java-based configuration, the remote operator will be unable to view the graphic configuration screens.
 - Use the ADXUIMD logical name to force the text versions of the Java-based configuration screens.
- In Telnet sessions

Multiple Controller Feature support

The 4690 Multiple Controller Feature provides your system with a means of automatically synchronizing and updating data files among multiple store controllers. The redundancy that occurs in this type of system can also improve performance through increased data availability. The 4690 Multiple Controller Feature also increases:

- The storage capacity of the operating system, through the use of multiple store controller hard disk drives
- System control by enabling you to manage several store controllers from a single point of control, such as the master store controller

The file type names assist you when you use the 4690 Multiple Controller Feature. These file types are:

Local files

Files that reside on a single store controller and are not distributed by the network.

Mirrored files

Files that reside on two store controllers (as a prime version and as an image version). Both system and application files can be mirrored.

Compound files

Files that are distributed to all network store controllers.

See the MCF Network section in the *4690 OS: User's Guide* for detailed information on file types that are used by the MCF Network.

Each store controller can be assigned one or more MCF roles. These MCF roles and their primary functions are:

Master store controller

Store controller that maintains the prime versions of all compound and system-mirrored files. The master store controller must be used for all MCF system configuration tasks.

Alternate master store controller

Store controller that is designated to assume control as the master store controller, if the configured master store controller becomes disabled. The alternate master store controller maintains image versions of all compound files and system-mirrored files.

File server

Store controller that updates the prime version of all application-mirrored files.

Alternate file server

Store controller that maintains the image versions of all application-mirrored files.

Subordinate store controllers

Any store controller that has not been assigned the role of master store controller or alternate master store controller.

Toshiba recommends that the roles of master store controller and file server be assigned to the same store controller. The roles of the alternate master store controller and alternate file server should also be assigned to the same store controller.

Table 1 shows the relationship between MCF file types and the store controller roles that use them. For further information on these relationships and how they affect your system design and its performance, see the MCF Network section in the *4690 OS: User's Guide*.

Table 1. MCF network file types and store controller roles

File type ...	Is located on the ...
Local (not distributed) files	Master store controller Alternate master store controller File server store controller Alternate file server store controller Subordinate store controllers
System-mirrored files	Master store controller (prime version of files only) Alternate master store controller (image version of files only)
Application-mirrored files	File server (prime version of files only) Alternate file server (image version of files only)
Compound files	Master store controller (prime version of files only) Alternate master store controller (image version of files only) File server (image version of files only) Alternate file server (image version of files only) Subordinate store controllers (image version of files only)

Some of the store controller roles can be combined by assigning them to the same store controller. However, only certain roles can be combined. For example, the master store controller and the alternate master store controller roles cannot be assigned to the same store controller. Also, a file server cannot be its own alternate file server.

Table 2 shows the relationship of combined store controller roles and the MCF Network file types that they use. For further information on these relationships and how they affect your system design and its performance, see the MCF Network section in the *4690 OS: User's Guide*.

Table 2. Combined store controller roles and MCF network file types

Store controller role ...	Uses file types ...
Master store controller and file server combined	Local (not distributed) files Prime version of system-mirrored files Prime version of compound files Prime version of application-mirrored files
Alternate master store controller and alternate file server combined	Local (not distributed) files Image version of system-mirrored files Image version of compound files Image version of application-mirrored files

Table 2. Combined store controller roles and MCF network file types (continued)

Store controller role ...	Uses file types ...
Master store controller and alternate file server combined	Local (not distributed) files Prime version of system-mirrored files Prime version of compound files Image version of application-mirrored files Image version of compound files
Alternate master store controller and file server combined	Local (not distributed) files Image version of system-mirrored files Prime version of application-mirrored files Image version of compound files

3270 emulation support

To use the 3270 emulation support provided with the operating system, you must modify the configurations of your store controller and your terminal. This should be done only if you plan to use 3270 emulation at the terminal. Much of the configuration for the store controller and the terminal is similar; however, anything specific for terminal configuration is covered under “Terminal configuration for 3270 emulation” on page 107. This section describes the general information you need to modify your store controller or terminal configuration, and it explains how to make those changes.

Gathering the data

It is helpful to collect the data you need ahead of time to change your configuration. The data you need to collect includes:

Session Address

Specifies the address of the logical unit session in the terminal or store controller. The value can range from 1 to 98. However, session 1 is reserved for HACP00 sessions (ADCS interface), and session 2 is the default for RCMS00 (DSX interface) sessions if they are used. The maximum number of 3270 sessions per controller is 47.

Session Type

Identifies the type of emulation session associated with this session address. It must be one of these types: 3270PRTR (printer session), 3270SCRN (console session, unique Logical Unit (LU)), or 3270GRLU (console session, group LU). See “Configuring a session group for 3270 emulation” on page 105 for more information.

Controller Node Identifier

Identifies the store controller on which the logical printer or console resides if you are defining a 3270 emulation session on an MCF Network system. Specified as ADXLXnnN, where nn is the store controller node ID that the session runs on. Do not specify this ID if you are defining a session type of 3270PRTR or 3270SCRN on a non-MCF system. Do not specify this ID if you are defining a session type of 3270GRLU on either system.

Screen Type

Specifies the color for color display, or Mono for monochrome display if you are defining a 3270GRLU session.

Host Application Name

Specifies the name of the host application program making the request. This data is optional.

Logical Printer Name

Specifies the identifier of the logical printer assigned to the session if you are defining a 3270PRTR session. Specified as PRNx, where x is a value of 1 to 8. To use the system printer, it is not necessary to specify a name. By default, the emulator uses PRN0.

Logical Console Name

Specifies the identifier of the logical console assigned to the session if you are defining a

3270SCRN session. Specified as CONx, where x is a value of 0 to 8. (CON0 is the system console.) Do not specify this identifier if you are defining a 3270GRLU session.

Terminal Number

Specifies the terminal identifier assigned to the 3270 emulation session, if you are defining a 3270PRTR or 3270SCRN session that runs on a terminal. Specified as Tnnn, where nnn is a value of 001 to 999. Do not specify this identifier if you are defining a 3270GRLU session.

Logical file name definitions

If you plan to use either store controller or terminal 3270 emulation, you must define:

- The logical file name SDX2NODE as ADXLXnnN, where nn is the store controller node ID to which the communication link is attached. This node is the gateway controller.
- The logical file name SDX2LINK as the name given to the SDLC link.

PRS pipe considerations for 3270 terminal emulation

3270 Emulation requires two resident modules that use pipe routing services pipes to communicate to each other and to the terminal applications.

- ADXHSK0L.286 is the resource manager and requires pipe ADX0xxZP (where xx is the controller ID).
- ADXHST0L.286 is the Terminal Interface Program (TIP) and requires pipe routing services pipes starting with ADX0xxYP, and moving backwards through the alphabet for each new TIP required (for example, Y, X, W). The default number of terminals per TIP is 20. Therefore, on the twenty-first terminal pipe X is required and on the forty-first terminal pipe W is required.

Because the system limit is 100 sessions, the maximum number of pipes required for the default number of terminals per TIP is 5 (Y,X,W,V,U). This can increase if you reduce the number of terminals per TIP.

ARTIC adapter asynchronous considerations

ARTIC line speeds should not be configured arbitrarily high. This applies particularly with ports that are used infrequently and when I/O is a small percentage of application task time. When line speeds are configured too high, it unnecessarily increases ARTIC load. For example, a printer can usually be handled effectively using 1200 bps line speed.

Critical asynchronous communication should use the lowest port numbers to prevent data loss. Conversely, configure low priority jobs on the highest port numbers. Printer or auxiliary console output functions do not lose data if the received characters are not serviced in 10 or 20 milliseconds. However, ports that receive asynchronous data from an I/O device, such as a scale, return overrun errors to your application. This occurs due to lost data, even if the ARTIC adapter is overloaded for periods as short as 10 milliseconds.

Note: ARTIC is not supported in Enhanced Mode.

SNA considerations for 3270 emulation

Before using 3270 emulation, you must configure a link and a session group both with specific choices for 3270 emulation. Use the worksheets in Appendix F, "Communication Data (Optional) - Worksheets F," on page 463 to record this information before you begin the configuration process.

Configuring a link for 3270 emulation

Use the following information when you configure the link:

- The link must be a subarea partner node type (for example, XID must be 0 or 3).
- The exchange ID must match that expected at the host (for example, 01700001).
- The SSCP ID must start with 05 (the default) to indicate a PU type 5 host.
- Select **YES** for 3270 emulation support.
- You must name a session group and define it.
- You must name a line to be configured.

- Supply all the other pertinent information for link characteristics.

Configuring a session group for 3270 emulation

The session group consists of a list of numbered logical units (LUs), the first of which (HACP00) is reserved for the host. You can configure various other LU types. For 3270 emulation, the LU types are:

3270PRTR

Defines a fixed LU for a host printer emulation. For a terminal, specify the controller ID (the node controlling the required LAN TCC Network) and the terminal number. For a store controller, specify the controller ID (the node where the printer is attached) and the printer number.

3270SCRN

Defines a console emulation that links a physical console to a specific LU. For a terminal, specify the LAN TCC Network controller node (where the terminal is attached) and the terminal number. For a store controller, specify the controller ID (where the console is attached) and the logical console ID.

3270GRLU

Defines an LU as part of a group that is available for 3270 emulation from any screen of the same type. For a terminal or store controller, specify the screen type (mono or color). Note that color screens can use a mono LU.

LAN TCC network controller configuration for 3270 emulation

You must configure your LAN TCC Network controller to include terminal 3270 emulation. For the terminal emulation application to work, the application ADXHSK0L.286 must be running on the LAN TCC Network controller.

Background application

You should configure the ADXHSK0L.286 application on each gateway store controller to run in the background, starting automatically.

You need the following information to configure this application:

- Application name of ADX_SPGM:ADXHSK0L.286
- Message text, for example:
3270 EMULATION: 4683 TERMINAL MANAGER
- Parameter list

-bnn where *nn* is in the range 1 to 47 (default = 20)

This parameter specifies the number of RAM disk buffers to be used by ADXHSK0L for communication with the 3270 emulators, which are running in the 4683 terminals. Ideally, you can allocate one buffer for each terminal session. However, because the buffers are shared, a maximum of twenty is recommended.

The program attempts to start the application ADXHST0L.286. This application needs to be referenced by the logical file name ADXHST0L.

LAN TCC network controller RAM disk

The terminal 3270 emulation uses the RAM disk on the gateway store controller; therefore, the store controller must be configured with a RAM disk T:. Only the RAM disk T: is accessible (can be both written to and read from) by terminal applications.

Depending on the RAM disk use by the primary sales application, you determine the required size of the RAM disk by the number of buffers allocated to ADXHSK0L.286.

Each buffer requires 2300 bytes. The minimum RAM disk size is 64 KB. The minimum RAM disk increment is 32 KB. If you use the RAM disk only for terminal session buffers, a minimum of 32 KB for 1

to 8 sessions is required. For more than 8 sessions, 64 KB is required. The default number of allocated buffers is 20. This allocation requires a 64-KB RAM disk.

Note: Configuration for RAM disks is done in 32 KB increments, however, the size of the RAM disk created will be rounded to the nearest 64K boundary.

If ADXHSK0L.286 runs out of buffers at any time, it logs an error and attempts to acquire a new buffer. The new buffer space depends upon the available RAM disk space. If this error message (W847) is logged frequently, you should reconfigure the background application to start with more buffers. To aid in this process, the program maintains the file ADXHKSFS.DAT. ADXHKSFS.DAT contains statistics that can be used to decide on the best value for the number of buffers to configure for ADXHSK0L.286. As the system runs, these statistics are updated, and after a few days (or weeks) they provide a summary of the system usage.

ADXHKSFS.DAT contains five 4-byte numbers, written as ASCII text, in hexadecimal. Printing the file produces a list of five numbers as follows:

- Total number of requests to use buffers
- Total number of failed requests to use buffers
- Total number of requests to release buffers
- Maximum number of buffers in use
- Maximum number of terminal emulations observed to be active on this store controller at one time

To start collecting new data, delete ADXHKSFS.DAT. When restarted, ADXHSKOL creates a new ADXHKSFS.DAT file with new statistics. ADXHSKOL must be stopped to delete this file.

Host printing at the store controller for 3270 emulation

Using 3270 emulation for host printing at the store controller requires that an emulation session be running in the background. You configure this background application just as you would configure any other background application. Use the logical file name ADXHS30L. The command line parameters to pass to the application when it is started are:

node name

The name of the gateway controller.

link name

The name configured for the physical link.

printer name

Valid values are PRN1: through PRN8:

API ID or printer disp

Optional. For API ID only, set to a single uppercase letter for a console session if it is accessed through the API. The letter should be the same as the session identifier in the CONNECT verb issued by the API program. Set to **1** if the printer application ends when the link is terminated. Set to **2** if transparent control strings are sent untranslated to the printer. Set to **3** to select both options 1 and 2.

Normal pitch

Optional. Set to **N** to select normal pitch (uppercase N only).

Laser printer

Optional. Set to **L** to select laser printer support.

ff passthrough

Optional. Set to **F** if the printer application sends form feeds to the printer unchanged.

For example:

```
adx1xddn,3270link,prn1:1,N,L,F
```

If you omit the command line parameters, the store controller uses the defaults for console emulations. The store controller also uses the system default printer (PRN0:) as the physical print device.

Keyboard and language combinations for 3270 emulation

When using 3270 emulation, restrictions exist regarding the use of the ANPOS keyboard and certain languages. You must be aware of these when configuring your keyboard layout. For more information about the restrictions, see the section on Keyboard and Language Combinations in the *4690 OS: Communications Programming Reference*.

Terminal configuration for 3270 emulation

Before you begin this task, you must know which terminals in the store use 3270 emulation. If you are using 3270 emulation at the terminal, the system display must be a video display.

To configure the operating system for terminal emulation, you must complete the following steps:

- Include the emulation in the terminal load definition
- Define the gateway store controller configuration to have:
 - SDX2NODE and SDX2LINK defined logical file names
 - ADXHSK0L.286 as a background application
 - A store controller RAM disk (T:) installed
- Define the SNA communications configuration on the gateway node store controller

Note: In the SurePOS 300/700 Series and TCxWave 6140 Series terminals, 3270 emulation is defined under the Change Load Definition panel during the terminal configuration process.

A terminal can be configured with three applications. (A terminal can be configured with four applications if Java is enabled.) The first application is termed the *primary* application. If the terminal is to run the sales application, the primary application must be terminal sales.

The *secondary* and *tertiary* applications are reserved for 3270 emulation. If you configure two 3270 emulation sessions, one must be a printer session and the other must be a console or API-only session. For each emulation session configured, specify the name of the link to use and the gateway node name of the store controller for that configured link.

For printer emulations, output is sent to one of the terminal's serially attached printers. Up to four printers can be attached, and you must specify which printer is being used for printer emulation. The General Sales Application (GSA) and Supermarket Application (SA) automatically assume control of serial port 1 for use with Electronic Funds Transfer. If you are using 3270 emulation with GSA or SA, be sure to perform host printing on the serial printer. Configure the 3270 to use a serial port other than port 1. SA automatically assumes control of port 1 for EFT and port 3 for a serial printer. If you are using SA with 3270 emulation and want to perform host printing, you must configure the 3270 printer to use a port other than 1 or 3.

For additional information on screen or API console emulations, see the *4690 OS: Programming Guide*.

Terminal load definition

You must specify the following terminal load definition information for 3270 emulation at the terminal:

- The number of terminal applications to be supported by this terminal load definition.
- If you choose more than one application, the application name, *R::ADX_SPGM:ADXZE30L.286*, automatically appears and cannot be altered for the second or third applications.
- The command tail parameter, which is a string of up to 16 bytes (14 bytes for 3270 emulation) formatted according to the guidelines in the following table:

Byte	Value	Explanation
0	C	Console (foreground) emulation
	P	Printer emulation - condensed pitch (for example, 17 characters per inch)
	N	Printer emulation - normal pitch (for example, 10 characters per inch)
	A	API-only emulation

Byte	Value	Explanation
1-2	<i>Cn</i>	If byte 0 = C or A, use store controller printer <i>n</i> for local copy print from a console. <i>n</i> can be 1 - 8.
	<i>Tn</i>	If byte 0 = C or A, use terminal printer <i>n</i> for local copy printing from a console. If byte 0 = P, use terminal printer <i>n</i> for host printing. <i>n</i> can be 1 - 4.
3-4	<i>xx</i>	Where <i>xx</i> is the node where the link is installed
5	,	Comma
6-13		Link name (for example, 3270LINK)

The following examples show command tail parameters with explanations of the values:

Console Session:

CC1CC,LEASLINK

Printer Session:

PT1DD,S3270LNK

API-only Session:

AT2CC,S3270LNK

The terminals have to be loaded with this terminal load when configuration is complete. See “Methods for terminal configuration” on page 31 for more details on configuring terminals.

ANPOS keyboard codes

Table 3 lists the ANPOS keyboard codes for 3270 emulation on the 4683 and 4693.

Table 3. ANPOS keyboard codes

Action	Key	Key code (decimal)	Key code (hex)
Cursor Movement	Up	24	18
	Down	25	19
	Right	26	1A
	Left	27	1B
	Home	238	EE
	New Line	239	EF
	Tab	16	10
	Back Tab	17	11

Table 3. ANPOS keyboard codes (continued)

Action	Key	Key code (decimal)	Key code (hex)
Program Attention Keys	Clear	15	0F
	Enter	159	9F
	PA1	219	DB
	PA2	244	F4
	PA3	245	F5
	PF1	169	A9
	PF2	176	B0
	PF3	177	B1
	PF4	178	B2
	PF5	179	B3
	PF6	180	B4
	PF7	184	B8
	PF8	185	B9
	PF9	186	BA
	PF10	187	BB
	PF11	188	BC
	PF12	190	BE
	PF13	191	BF
	PF14	192	C0
	PF15	193	C1
	PF16	194	C2
	PF17	195	C3
	PF18	196	C4
	PF19	197	C5
	PF20	200	C8
	PF21	201	C9
	PF22	202	CA
	PF23	203	CB
	PF24	204	CC
	Attention	205	CD
Delete Keys	Delete	18	12
	Erase EOF	206	CE
	Erase Input	208	D0
Print Control Keys	Print	209	D1
	Identify	213	D5
	Device Cancel	217	D9

Table 3. ANPOS keyboard codes (continued)

Action	Key	Key code (decimal)	Key code (hex)
Miscellaneous Keys	Insert Mode	29	1D
	System Request	218	DA
	Reset	220	DC
	Duplicate	223	DF
	Field Mark	255	FF
Emulation-Specific Keys	Exit	231	E7
	Numeric Override	232	E8
	Color Mode	240	F0
	Online	242	F2
	Temporary Exit	246	F6
	Refresh	251	FB
	Offline	254	FE

Store controller configuration

Use the worksheets in Appendix E, “Store Controller Configuration Data - Worksheets E,” on page 425 to record multiple store controller, single store controller, or LAN configuration data.

DHCP server or extensions

DHCP Server and Controller Extensions can be configured using the graphical user interface (GUI) for controller configuration. To configure either, select DHCP Server/Extensions from the CONTROLLER CONFIGURATION menu.

DHCP server configuration

Use the list of selections to configure Global Options, PXE Client Options, and Subnets. The DHCP server GUI saves changes to an inactive file. These changes only become active after activating the controller configuration. Help information is provided for each option when using the GUI.

The DHCP server can also be configured by changing the active file, ADXIPxxD.DAT, where xx is the controller node ID. If you edit this file, the changes are effective immediately upon restarting the DHCP server. See the *4690 OS: Communications Programming Reference* for additional information on how to use this configuration method.

Note: Because the DHCP server configuration GUI has error detection capability, any errors made when manually editing the DHCP server active configuration file (ADX_SDT1/ADXIPxxD.DAT, where xx is the controller node ID) could prevent the DHCP server configuration GUI from starting. If this occurs, delete the inactive configuration file (ADX_SDT1/ADXIPxxI.DAT, where xx is the controller node ID) and manually correct the error in the active configuration file.

Extensions

Extensions are software packages that add additional function to a terminal. Extensions are usually supplied through a services contract. They can be configured and installed on controllers running in Enhanced Mode.

All available extensions are displayed under their assigned category on the Extensions panel. Install an extension by selecting the check-box next to it. If the extension contains errors, the extension cannot be installed.

Extensions might depend on other extensions. Extensions cannot be installed if they depend on other extensions that do not exist. If an extension is selected and a dependent extension is not, Configuration cannot save until all of the dependencies are resolved. To help with this issue, a Resolve button appears, allowing you to automatically resolve all dependencies and resulting in the selection of each required extension.

If a selected extension is deleted from the file system, Configuration activation will fail until the deleted extension is disabled using Configuration. All missing extensions are listed in a Missing category. Selecting Save on the Extensions panel will remove the missing extensions.

Worksheet E1. Store controller configuration

This worksheet is for Multiple Store Controller Configurations only.

The 4690 Multiple Controller Feature requires that you specify identifiers (IDs) for the types of store controllers that are used to manage files for the MCF Network.

Use Worksheet E1 to assign a 2-character alphabetic ID to each store controller. Each character of the ID must be between C and Z.

Worksheet E2. Store controller characteristics

Use Worksheet E2 to define store controller characteristics. If you are defining store controller characteristics for a single store controller, use all the fields on Worksheet E2 except the Store Controller ID field. If you are using the 4690 Multiple Controller Feature, fill out a separate Worksheet E2 for each controller.

Worksheet E3. System logical file names

Use Worksheet E3 as a record of each store controller's system logical file information.

Worksheet E3 lists the names for the operating system files. These names are shipped with or created by the operating system and have already been assigned the expanded and logical file names, as well as the definitions, that are used by the operating system. All of these files are assigned to the store controller's drive C.

At configuration, you can change the drive on which these files are located. Mark the drive for each system file on Worksheet E3. Retain Worksheet E3 as a record of system file locations.

Worksheet E4. System file sizes

Use Worksheet E4 as a record of each store controller's system file size information.

You are not required to change the size of any system files at configuration time. File sizes are acceptable for most systems. Once your system is installed and operating, observe its performance. You might want to increase or reduce the size of some operating system files. Depending on the size of your system, you might want to change the size of system files to manage storage.

See the *4690 OS: Programming Guide* for a description of system files. Some file sizes are fixed and cannot be changed; the sizes of others can be changed. Minimum and maximum system file sizes are given in sectors on Worksheet E4. Choose a file size between the minimum and maximum range that meets your needs.

Worksheet E5. Primary application definition

Use Worksheet E5 to define the primary application program for each store controller. A *primary application* is the main application program that sets up and controls the normal operating environment of your store.

When the store controller is powered on, the SYSTEM MAIN MENU appears. Option 1 on the SYSTEM MAIN MENU lets you start the primary application. You can define the text to appear for option 1 on the SYSTEM MAIN MENU. That is, instead of character blanks to the right of option 1, you can specify the name of your primary application.

Use Worksheet E5 to assign the text or application name you want to appear for option 1 on the SYSTEM MAIN MENU.

Worksheet E6. Secondary application definition

Use Worksheet E6 to define up to 14 secondary application programs and their corresponding selection text for each store controller. *Secondary applications* are programs that require operator intervention (for example, time and attendance).

When the store controller is powered on, the SYSTEM MAIN MENU appears. Option 2 on the SYSTEM MAIN MENU lets you list secondary application programs. You can define the text to appear for option 2 on the SYSTEM MAIN MENU. That is, instead of character blanks to the right of option 2, you can specify the title of your secondary application panel.

Worksheet E7, E8, or E9. Background application definition

You can specify the names of background applications to appear on the background application panel. *Background applications* are non-interactive programs that can be selected from the background application panel or can start automatically when the system is initially loaded (at IPL). Use the IPL Start keyword to designate that background applications be started automatically when the operating system is powered on.

Use Worksheets E7, E8, or E9 to assign the text and application file names you want to display as follows:

Worksheet E7

Use Worksheet E7 to define background application programs for a single store controller.

Worksheet E8

Use Worksheet E8 to define background application programs for a master store controller or an alternate master store controller.

Worksheet E9

Use Worksheet E9 to define background application programs for store controllers other than the master store controller or the alternate master store controller.

You can define up to six background applications per background screen for each store controller. The default number of background screens is six. You can use the ADXBGSCR logical name to configure up to ten screens (a total of sixty background applications). The default number of background screens is used under these conditions:

- The logical name ADXBGSCR is not defined.
- The logical name is defined and set to a value that is not between 6 and 10, inclusive.

At configuration, you can specify the background applications that start automatically at IPL. For the master store controller and the alternate master store controller, you can also specify the condition of that application if the master store controller is deactivated and the alternate master store controller is activated. You can start any background application at any time from the background application panel.

If you are using a 4680 or 4690 application program, see its planning and installation guide for the name of the background application.

Worksheet E10. Application logical file names

Use Worksheet E10 to assign locations (disk drives) for the 4680 or 4690 application program files. If your operating system has multiple store controllers, but you are using application programs other than Toshiba program products, you should use “Worksheet E11—User Logical File Names” on page 437.

Application logical names are used to access files on the storage devices in the store controller. Their logical names are listed in your 4680 or 4690 application program’s planning and installation guide. Defining the application logical names, allows you to specify the store controller’s C: drive as the location of the files.

Use Worksheet E10 to record the 8-character logical file name for each application file that you want to place on a different disk drive. Retain the sheet as a record of the application file locations.

If you have personalized your 4680 or 4690 application program by creating programs that access distributed files, use “Worksheet E11—User Logical File Names” on page 437 to define logical file names for each user-created file.

Worksheet E11. User logical file names

Use Worksheet E11 to assign logical and expanded file names for application files other than those of the 4680 or 4690 application programs. If your operating system has multiple store controllers and you are using a 4680 or 4690 application program, you should use Worksheet E10 (Application Logical File Names).

The operating system requires that every distributed user file must have a logical file name defined, regardless of whether you use that name. See the *4690 OS: Programming Guide* for guidelines for naming files and for creating logical file names.

Worksheet E12. Random Access Memory disk usage (RAM disk)

The operating system lets you create virtual disk drives in memory (in addition to the physical drives and the hard disk drives). These drives are referred to as *random access memory (RAM) disks*.

Use Worksheet E12 to define additional RAM disks for your store controller.

Worksheet E13. IBM realtime interface co-processor multiport adapters and IBM X.25 interface co-processor/2 adapters

You can use IBM Realtime Interface Co-Processor Multiport adapters and IBM X.25 Interface Co-Processor adapters to add multiple printers, auxiliary consoles, and communications to your 4690 Store Controller. See the *Proprinter Serial Interface Card Setup Instructions* for details on setting up additional printers. See “Worksheet E14—Multiple Printers on a Store Controller” on page 440 for details on defining multiple printers for your store controller. See “Worksheet E15—Auxiliary Consoles for the Store Controller” on page 441 for adding auxiliary consoles to your store controller.

Note: These adapters are not supported in Enhanced Mode.

Installing an ARTIC adapter in a store controller

In planning for the installation of the Realtime Interface Co-Processor Multiport/2 (ARTIC) adapter or the X.25. Interface Co-Processor/2 adapter ⁴ in your 4690 Store Controller, you should be aware of the following points:

4. You can install the X.25 Interface Co-Processor/2 adapter **only** in a PS/2 store controller.

- You can install up to two ARTIC adapters in a 4690 Store Controller. You can configure a maximum of eight auxiliary consoles. See “Installing the IBM realtime interface co-processor multiport adapter.”
- You can install up to two X.25 Interface Co-Processor/2 adapters in a store controller. See “Installing the IBM X.25 interface co-processor/2” on page 115.
- Each ARTIC adapter provides eight ports for the attachment of RS-232 devices, RS-422 devices, or both. All eight ports accept asynchronous devices, whereas SDLC devices can be connected only to ports 0 and 1. SDLC is supported only as an RS-232 device.
- Each X.25 Interface Co-Processor/2 adapter provides one X.21 bis/V.24 port for attachment to an X.25 network.

Installing the IBM realtime interface co-processor multiport adapter: You must perform the following steps before you can use the ARTIC adapter on an operating system Controller:

1. Copy the ICAAIM.COM file from the media that was provided with your Realtime Interface Co-Processor adapter into the ADX_SPGM subdirectory located on the C: drive of your system.
2. If you plan to use SDLC communications, copy the file RICCSSZ.EXE on the ADX_SPGM directory that is located on the C: drive. Locate this file on the media provided with the *Realtime Interface Co-Processor Extended Services Enhanced S16F-1961*, (version 1.02 or higher).

See the *Guide to Operations Realtime Interface Co-Processor Multiport/2* manual provided with the ARTIC adapter, when you perform the following steps:

3. If ordered, install any feature cards on your ARTIC adapter.
4. Install the ARTIC adapter in a two-edge slot in your store controller.
5. Add the configuration files from the options diskette that is supplied with your ARTIC adapter to your personal computer Reference Diskette.
6. IPL the store controller using the reference diskette and select the CHANGE CONFIGURATION option.
7. Manually configure the ARTIC adapter you are installing using the following information:

Physical Card Number

- | | |
|----------|----------------------|
| 0 | ARTIC adapter |
| 1 | Second ARTIC adapter |

Shared Storage Window Location and Size

- | | |
|-----------------------|----------------------------|
| First Adapter | C0000H C1FFFFH (8K Window) |
| Second Adapter | C2000H C3FFFFH (8K Window) |

Interrupt Level

- | | |
|-----------|-------------------|
| 12 | For both adapters |
|-----------|-------------------|

For The Port Being Configured**Transmit Clock Source**

DCE Sourced Clock

Receive Clock Source

DCE Sourced Remote Clocking

Note: If auto-configure is run for any reason, you must run the reference diskette again and repeat the validation of the configuration for your multiport adapter.

8. Save the configuration and re-IPL the store controller.
9. Attach the 10-ft external cable (FC #6246) to the external connector on the rear of the ARTIC adapter.
10. Attach the I/O device cables (that are built or are acquired) to the 25-pin connectors on FC #6246 (attached devices must match your configuration plan).
11. Run the Realtime Interface Co-Processor Multiport diagnostics to verify your setup and to print, for the record, the options configuration.
12. Activate the new controller configuration and test the attached devices that are using the ARTIC adapters.

Installing the IBM X.25 interface co-processor/2: You must perform the following steps before you can use the X.25 Interface Co-Processor/2 on a store controller:

1. Copy the ICAAIM.COM file from the media that was provided with your X.25 Interface Co-Processor/2 adapter into the ADX_SPGM subdirectory located in the C: drive of your system.
2. Copy the file RICCSSZ.EXE to the ADX_SPGM directory that is located on the C: drive. Locate file on the media provided with the *Realtime Interface Co-Processor Extended Services Enhanced*, (Version 1.02 or higher).

See the *Guide to Operations X.25 Interface Co-Processor/2* provided with the X.25 Interface Co-Processor/2 adapter, when you perform the following steps:

3. Install the X.25 Interface Co-Processor/2 adapter in a two-edge slot in your controller.
4. Add the configuration files from the options media (supplied with your X.25 Interface Co-Processor/2 adapter) to your personal computer Reference Diskette.
5. IPL the store controller using the Reference Diskette and select the CHANGE CONFIGURATION option.
6. Manually configure the X/25 Interface Co-Processor/2 adapter you are installing using the following information:

Physical Card Number

- | | |
|----------|--|
| 2 | First X.25 Interface Co-Processor/2 adapter |
| 3 | Second X.25 Interface Co-Processor/2 adapter |

Shared Storage Window Location and Size**First Adapter**

C4000H C5FFFFH

Second Adapter

C6000H C7FFFFH

Interrupt Level 12 For both adapters
--

For Port 0 Transmit Clock Source DCE Sourced Clock Receive Clock Source DCE Sourced Remote Clocking
--

Note: If auto-configure is run for any reason, you must run the reference diskette again and repeat the validation of the configuration for your X.25 adapter.

7. Save the configuration and re-IPL the store controller.
8. Attach the I/O device cable to the 25-pin connector on the adapter (the attached device must match your configuration plan).
9. Run the X.25 Interface Co-Processor/2 diagnostics to verify your setup and to print, for the record, the options configuration.
10. Activate the new controller configuration and test the attached devices that are using the X.25 Interface Co-Processor/2 adapters.

Worksheet E14. Multiple printers on a store controller

After setting up the serial interface cards, use Worksheet E14 to define the multiple printers for your store controller.

Worksheet E15. Auxiliary consoles for the store controller

Note: Before attaching auxiliary consoles to the store controller, see the *4693 Point-of-Sale Terminals: Introduction and Planning Guide* for cabling requirements.

Auxiliary console replacing main system console

A controller/terminal can be configured to use an auxiliary console as the main console instead of using a PS/2-style keyboard and VGA display. (A PS/2-style keyboard includes Alphanumeric Point-of-Sale (ANPOS) and Retail Alphanumeric Point-of-Sale (4693 ANPOS) keyboards as well as actual PS/2 keyboards.) All of the functions that can be performed on the main console can be performed on any auxiliary console.

Note: If you need to run the Supplemental Diskettes or the Supplemental Option using the CD-ROM on this controller for any reason, you need to re-attach a PS/2-style keyboard and VGA display.

Certain considerations must be kept if planning an auxiliary console replacement of the main system console before installation of the operating system is completed. A PS/2-style keyboard and VGA display must be attached in order to install the 4690 operating system. The PS/2-style keyboard must be attached to the keyboard port, not to the 5A or 5B socket ports, nor to socket port 5 on the 4694. If you choose to configure the terminal side of your controller/terminal during installation, do NOT select the shared video and keyboard option. Remember that auto configuration requires that all POS devices be attached to your controller/terminal for it to complete successfully. For further information on installing the 4690 operating system, see Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.

The following procedure enables you to remove the PS/2-style keyboard and VGA display from the controller/terminal. It also ensures that your system remains compatible with any future changes to the auxiliary console as Main System Console support.

1. Log on to the system
2. Select Option 4 (Configuration and Update Aids)
3. Select Option 1 (Change Configuration Data)
4. Select Option 2 (Controller Configuration)

Note: Depending on the features you selected during installation you might be asked other questions before you get to the following step. See “Worksheet E1. Store controller configuration” on page 111 for help with these questions.

5. On the Controller Configuration panel (CSCCS003), type **X** next to the “Auxiliary Consoles” entry and press **Enter**. The Console Definition panel (CSCCS050) should be displayed.
6. Type **1** for Add Console Definition and type **1** to indicate that you want to configure Console 1. To define the console as being direct-attached, type **2** and press **Enter**. Panel CSCCS052 is displayed.
7. Type **1** next to the “Port” label to indicate that the console is to be attached to the first serial port. Select “Associated Printer” if a local printer is to be used; if no selection is made, the configuration defaults to the system or to a designated printer.
Type **1** to indicate that the console is used as the main system console. Press **PgDn** and panel CSCCS053 is displayed. Enter the value representing the “Line Rate” you plan to use. When finished, press **Enter** to save your configuration.
8. The Console Definition panel (CSCCS050) should now be displayed. Press **F3** (Quit) to return to the Controller Configuration panel. Continue to press **F3** until you return to the Configuration panel (CSCMS001). Select Option 4 to begin configuration activation.
9. On panel CSCMS002, type **2** to select Controller Configuration and press **Enter**. When the message “Controller configuration has been successfully activated” appears, press **F3** until you have exited from Configuration. If activation fails, messages that indicate the cause of the failure are displayed. Make the needed revisions and perform activation again.
10. Make sure the auxiliary console you plan to use as Main is attached to the first serial port on your controller/terminal.

Note: This is PORT A on a 4693 or a 4694.

Run the SETUP function on your auxiliary console as described in the sections that follow this procedure.

11. IPL the system and verify that the auxiliary console works. If not, review the configuration definitions and the auxiliary console SETUP; verify they are correct and in agreement with one another. Also, check that you are using the correct cable (one that includes a modem eliminator) to attach your auxiliary console.

Note: At this point, the PS/2-style keyboard and VGA display are still the main console.

12. If you selected a terminal number for this controller/terminal during installation, proceed to the next step. If not, using either the auxiliary or main console, log on to enter the configuration for the terminal side of this controller/terminal. Controller configuration needs to be updated with the terminal number of the terminal side as well. When selecting devices to use on the terminal side, you must not request shared video and keyboard. After you have completed the updates to configuration, you need to activate both Controller and Terminal configurations.
13. Power off the controller/terminal and unplug the PS/2-style keyboard and VGA display. Verify that you have at least one POS display and a POS keyboard attached.

Note: The POS keyboard must be connected in socket port 5A or 5B or socket port 5 for the 4694, not in the PS/2 keyboard port.

14. Power on the controller/terminal.

The auxiliary console is now your main console.

IBM 3151 auxiliary console

You can use the 3151 ASCII display station as an auxiliary console (or workstation) for your store controller. See the *3151 ASCII Display Station Guide to Operations* for details on how to set up the 3151 auxiliary console.

When you set up the 3151 display stations, you are directed to select values from a SETUP MENU. Press **Setup** on the 3151 keyboard to access the SETUP MENU. The following information defines the appropriate values for your 3151 auxiliary console.

Note: You can select values on the SETUP MENU for the main port. The type of display station is indicated by the Machine Mode keyword on the SETUP MENU. For 3151 auxiliary console models 510/610 or 310/410/350/450 with a cartridge, you must use Machine Mode default values. For these consoles, the KEYBOARD/PRINTER MENU has a Generated Code Set Values option. You must use the default value for the generated code set.

Select GENERAL menu options:

- Machine Mode = IBM 3151
- Screen = NORMAL
- Row and column = 25 by 80
- Scroll = JUMP
- Auto LF = OFF CRT
- Saver = ON or OFF (your choice)
- Line Wrap = OFF
- Forcing Insert = OFF
- Tab = COLUMN

Select COMMUNICATION menu options:

- Operating Mode = ECHO
- Line Speed (bps) = The line speed that matches the line speed you define for configuring your auxiliary consoles.
- Word Length (bits) = 8
- Parity = NO
- Stop Bit = 1
- Turnaround Character = CR
- Line Control = PRTS
- Break Signal (ms) = 500
- Send Null Suppress = ON

Select KEYBOARD/PRINTER menu options:

- Enter = RETURN
- Return = NEW LINE
- New Line = CR
- Send = LINE
- Insert Character = MODE

Note: When you complete the setup-value definitions, select the FUNCTION menu to save those values. Select the Save field and then press the space bar. Completed appears (blinking) when the save operation successfully completes.

After setting up the 3151 display stations, complete Worksheet E16 for configuration of your auxiliary consoles.

3153 auxiliary console

You can use the IBM InfoWindow II 3153 ASCII Display as an auxiliary console (or workstation) for your 4690 store controller. See the *InfoWindow II 3153 ASCII Display User's Guide* for details on how to set up the 3153.

When you set up the 3153 display, you need to select values from a SETUP MENU. To access the SETUP MENU, press **Ctrl+Scroll Lock** simultaneously. The following information defines the appropriate values to set for your 3153 auxiliary console; if a particular parameter is not listed, it is either forced by the setting of another value or can be set to your choice of values.

Quick	
Emulation	IBM 3151
Enhanced	On
Comm Mode	Full Duplex
Host/Printer	Set the Host Value to EIA (the connection with your main console must be through the SES1-EIA port, or Port 1, on the 3153).
EIA Baud Rate	The line speed that matches the line speed you define for configuring your auxiliary consoles.
Aux Baud Rate	The line speed that matches the line speed you define for configuring your auxiliary consoles.
Language	Select the language that matches the language selected for your main console.
EIA Data Format	8/1/N
Aux Data Format	8/1/N
Sessions	One
General	
Emulation	IBM 3151
Curs Dir	Left to Right (except Hebrew)
Enhanced	On
Auto Scroll	On
Auto Wrap	Off
Monitor Mode	Off
Sessions	One
Display	
Display Cursor	On
Pages	1
Columns	80
Page Length	25
Scroll	Jump
Viewports	1
Screen Video	Normal
Keyboard	
Language	Select the language which matches the language selected for your main console.
Key Mode	Scan Code
Code Page	The default code page is based on the language selected.

Keys

New Line	<CR>
Desk Acc	Ctrl >--
UDKs	Emulator Dependent

Ports

EIA Baud Rate	The line speed that matches the line speed you define for configuring your auxiliary consoles.
Aux Baud Rate	The line speed that matches the line speed you define for configuring your auxiliary consoles.
EIA Xmt	Xon-Xoff
Aux Xmt	Xon-Xoff
EIA Data Format	8/1/N
Aux Data Format	8/1/N
EIA Recv	Xon-Xoff(XPC)
Aux Recv	Xon-Xoff(XPC)
EIA Parity Check	Off
Aux Parity Check	Off
EIA Xmt Pace	Baud
Aux Xmt Pace	Baud

Host

Comm Mode	Full Duplex
Break	500 ms
Receive <CR>	<CR>
Alt Input Data	On
Local	Off
Line Control	PRTS
Turnaround Char	<CR>
Null Suppress	Off
Send ACK	On
Send Null Suppress	On

3161 and 3164 auxiliary consoles

You can use IBM 3161 ASCII display stations and IBM 3164 ASCII color display stations as auxiliary consoles (or workstations) for your store controller. See the *3161/3163 ASCII Display Station Description* or the *3164 ASCII Color Display Station Description* for details on how to set up these display stations.

When you set up the 3161 or 3164 display stations, you are directed to select values on a SETUP MENU that is shipped with the ASCII terminal hardware. Press **Ctrl-Select** on the 3161 or 3164 keyboard to access the SETUP MENU, then see the following table to define appropriate values for your auxiliary console. (You can change the value for a keyword on the panel by moving the cursor to the value's field and pressing the space bar.)

Note: Values in this table are applicable for the 3161 and 3164 ASCII display stations, and can be selected on the SETUP MENU for the main port or the auxiliary port. The type of display station is

indicated by the Machine Mode keyword on the SETUP MENU. For further information on the use of these values, see the *3161/3163 ASCII Display Station Description* or the *3164 ASCII Color Display Station Description*.

Type of port to be defined	Use the following SETUP MENU keyword values:
RS-232C	Machine Mode = IBM 3161 or IBM 3164 Operating Mode = ECHO Interface = RS-232C Line Control = PRTS Line Speed (bps) = Select the line speed that matches the line speed you define to support your auxiliary consoles. Parity = NO Turnaround Character = CR Stop Bit = 1 Word Length (bits) = 8 Response Delay (ms) = 100 Break Signal (ms) = 500
RS-422A	Machine Mode = IBM 3161 or IBM 3164 Operating Mode = ECHO Interface = RS-422A Line Control = PRTS Line Speed (bps) = Select the line speed that matches the line speed you define to support your auxiliary consoles. Parity = NO Turnaround Character = CR Stop Bit = 1 Word Length (bits) = 8 Response Delay (ms) = 100 Break Signal (ms) = 500

In addition to selecting these setup values, you must define some of the other operating conditions (options) by using the 3161 and 3164 display station's SELECT menus. Press the **Select** key on the 3161 or 3164 keyboard to access the SELECT menus, and then see the following list to define appropriate options for your auxiliary console. (You can change the value for an option on the panel by moving the cursor to the option's field and pressing the space bar.)

Note: Values in this list are applicable for the 3161 and 3164 ASCII display stations, and for both RS-232C and RS-422A ports. For further information on the use of these values, see the *3161/3163 ASCII Display Station Description* or the *3164 ASCII Color Display Station Description*.

SELECT Menu 1 options:

ENTER = RETURN
RETURN = NEW LINE
NEW LINE = CR
TAB = COLUMN
LINE WRAP = OFF

SELECT Menu 2 options:

AUTO LF = OFF
SEND = LINE
SEND NULL = ON
INSERT = MODE
TRACE = ALL
CRT SAVER = NO, 5, 10, or 12

SELECT Menu 3 options:

SCROLL = JUMP (for a 3164)
SCROLL = ON (for a 3161)
PRINT = VIEWPORT
PRINT NULL = ON
PRINT EOL = ON
LINE END = CR-LF

Worksheet E17. Video attributes

Use worksheet E17 to define the video attributes for your controller. You can specify either monochrome support or Java graphics support. For Java graphics, you must also select the screen resolution and the color palette option to define the characteristics of the video display mode.

Worksheet E18. Network File System data

Use worksheet E18 to define the Network File System (NFS) mount group for the controller you are configuring. Controller NFS configuration allows you to define the TCP/IP address of the remote resource, mount point user and group IDs, and the remote resource name.

Attention: Before performing any Java-based configuration utilities (such as NFS configuration), you must enable Java graphics in controller configuration. To enable Java graphics, select **Controller Configuration, Video Attributes**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

Communications worksheets

Use the worksheets in Appendix F, “Communication Data (Optional) - Worksheets F,” on page 463 to record optional communications data. Communications data defines links and lines that are required for communication between the operating system store controller and any other store controller, in-store processor, or centrally located host processor.

After setting up the 3161 or 3164 display stations, use Worksheet E15 to define the auxiliary consoles for your store controller.

Worksheets F. Communications

To define communications, you must have either a working knowledge of communications or access to individuals who do. This topic and its worksheets are designed for use by individuals with knowledge or experience in telecommunications. For additional information, see the section on the operating system environment in the *4690 OS: Programming Guide* and the *4690 OS: Communications Programming Reference*.

See the list of worksheets at the beginning of Appendix F, “Communication Data (Optional) - Worksheets F,” on page 463 and select the worksheet that corresponds to your type of communication line. Complete that worksheet. Once you have completed the worksheet, you are ready to use the appropriate panels that are provided by the operating system to configure communication.

Store controller to host processor

Communication between your store controller and a central-site is optional. To communicate in this manner:

1. Install one of the following adapters in your store controller:
 - Multiprotocol Communication adapter
 - Realtime Interface Co-Processor Multiport adapter
 - X.25 Interface Co-Processor/2 adapter
 - Other compatible adapters
2. Define the store controller to the network and the host processor.

3. Do one of the following according to your store's needs:
 - Install Advanced Data Communications for Stores (ADCS).
 - Install NetView Distribution Manager (NDM).
 - Install Distributed Systems Executive (DSX) Version 3 or later.
 - Write a similar program to communicate with the Host Command Processor (HCP) or Remote Change Management Server (RCMS).
 - Develop a host application and a 4690 store controller application that communicates with each other.
4. Configure the operating system for communication.

Store controller to in-store processor

Communication between your store controller and an in-store processor is optional. To communicate in this manner,

1. Write one or more transaction programs to communicate with a transaction program in the in-store processor.
2. Configure the operating system for communication with the in-store processor.

Protocols

To determine what is required to configure communication, you must first know your type of communication line. Seven types of communication protocols are supported. The following four communication protocols are SNA-based:

- Synchronous data link control (SDLC/SNA)
- LAN TCC
 - Ethernet
- Local (SDLC)
- X.25

The following three protocols are non-SNA-based:

- Asynchronous communication (ASYNC)
- X.25 (native)
- TCP/IP

For SDLC communication with SNA support, define the SNA link first and then define the line configuration. ASYNC configurations do not require link definitions.

Starting a SNA communication link

You can start a SNA communication link in the following ways:

- Define a permanent background application that is named ADXHSNLL during store controller configuration.
- Use the COMMUNICATIONS CONTROL FUNCTIONS panel under Store Control Functions.
- In your LU 6.2 transaction programs, issue a function call to enable a link. See the *4690 OS: Communications Programming Reference* for more information.

The 4690 store controller can attach to an SNA network as a node type 2.0, thereby functioning as a secondary SNA node to a host computer. Figure 59 on page 124 illustrates 4690 store controller connectivity.

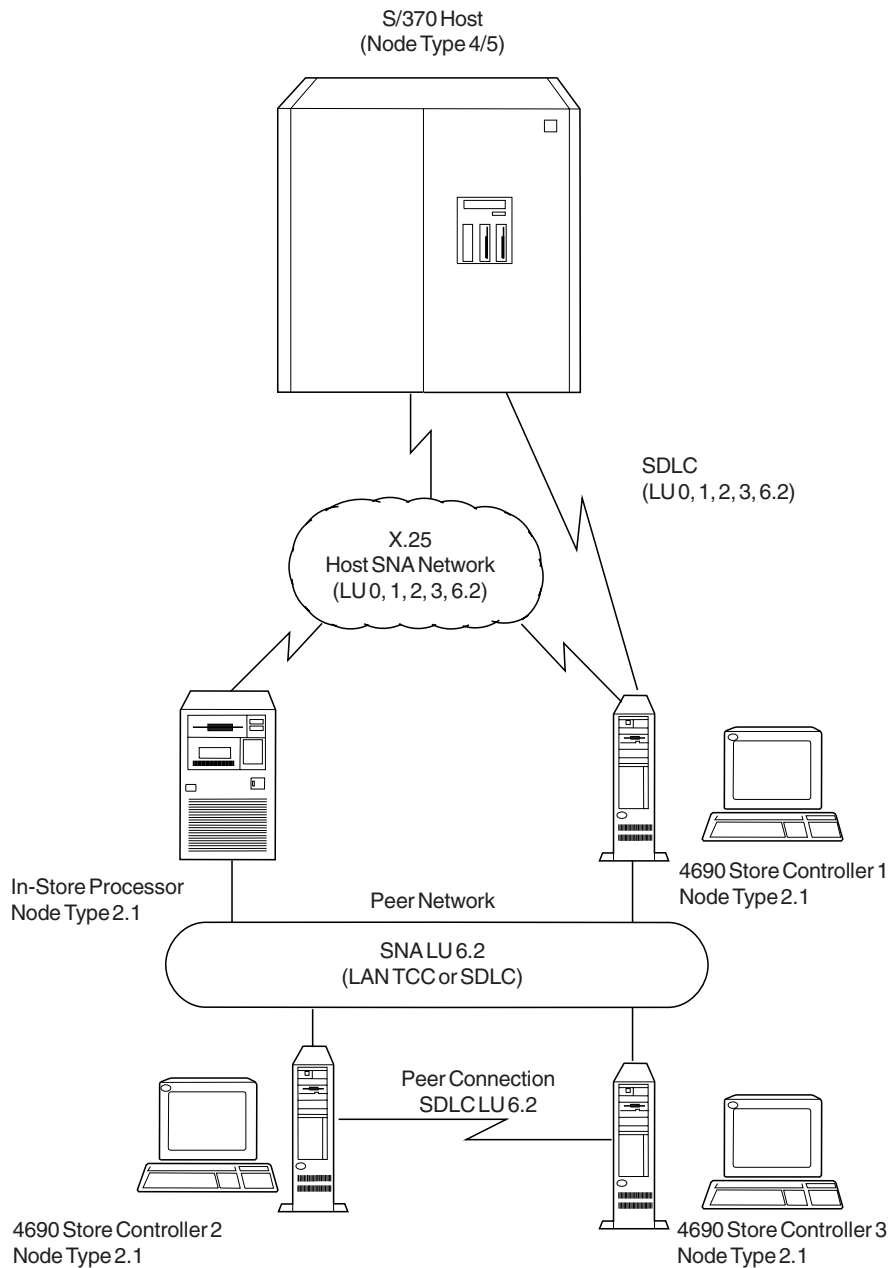


Figure 59. Store Controller Connectivity

Communications to the host network can be SDLC or X.25. Peer connectivity to other type 2.1 nodes is also possible across data links supporting SDLC protocols.

LU record definitions for local links

For all links other than local, you must configure a local and partner LU on each node in the network for a session. However, a local link represents both halves of a session; therefore, the local and partner LUs for both nodes are configured on the same store controller. This arrangement means that you must define two partner LUs and two local LUs on the same 4690 Store Controller.

Defining the LU record is actually a four-step process:

1. Define the local LU record.
2. Define the partner LU record that is associated with the local LU defined in Step 1.
3. Define a second local LU record using the partner LU record name as defined in Step 2.

4. Define a second partner LU record using the local LU record name as defined in Step 1.

Figure 60 shows how the four steps are related:

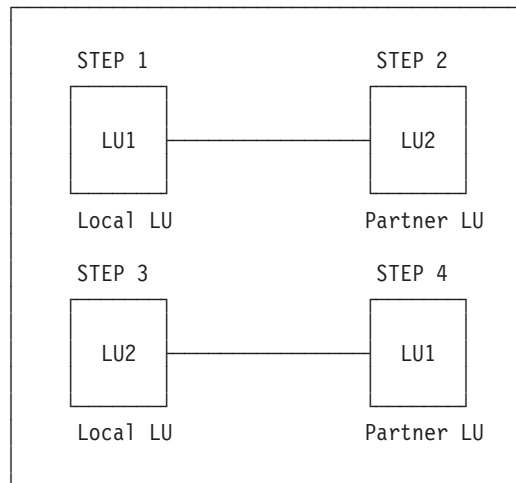


Figure 60. LU record definitions for local links

Adapter speed ranges

Communication adapters are capable of multiple speeds. The modem you are using determines the actual speed at which data is transmitted. For ASYNC protocol, you must specify the line rate for your adapter when you are configuring the operating system for host communications. You do not have to specify the line rate for SDLC.

The maximum speed supported, by protocol, is:

Protocol	Maximum speed (baud)
ASYNC	2 400 (with Multiprotocol Communication Adapter)
	9 600 (with ARTIC adapter)
SDLC	9 600 (with Direct Memory Access (DMA))
	4 800 (without DMA)
	19 200 (with the ARTIC adapter)
	19 200 (with the X.25 Interface Co-Processor/2 adapter)

The SDLC adapter and the first Multiprotocol Communication Adapter use the DMA facility. The second Multiprotocol Communication Adapter uses only interrupt-driven I/O when configured for SDLC communications. The Multiprotocol Adapter/A on an IBM PS/2 system always uses the DMA facility.

Note: It is recommended that the character mode communications adapter for ASYNC does not exceed an aggregate data rate of 19 200 baud.

Dynamic switch function

The dynamic switch function switches communication modes between SDLC and ASYNC on a single V.32 Internal Modem/Adapter during normal operations. The switching function does not use the reference diskette to reset the communication adapter configuration, and the controller does not need to be re-IPLed. The switching function is automatic based upon configuration options that redefine the link and line for the dual modes that are supported per the V.32 adapter. Dynamic switching is only available for store controllers that have the V.32 Internal Modem/Adapter installed.

Link level command support enables users of the V.32 Internal Modem/Adapter to control the modem by issuing reads and writes to the link.

Planning: Have a copy of the reference diskette configuration so that changes can be made as necessary.

The switch function places an ASYNC port on the 4690 channel that was not there previously. Therefore, the ASYNC ports allocated in the reference diskette configuration are not eligible to be configured as companion adapters.

The ports that are not allocated will be eligible subject to the restrictions that are given in "Restrictions." If a conflict exists in the reference diskette configuration and application requirements, make the necessary modifications before proceeding.

Restrictions: The V.32 Internal Modem/Adapter must be configured for SDLC via the reference diskette. Failure to follow this restriction results in an adapter-not-found error when an attempt is made to start SDLC communications.

The following restrictions also apply:

- Set arbitration levels for SDLC operation to 1 for SDLC1 and to 7 for SDLC2 for operation on the operating system.
- Ensure that there are no conflicting address assignments for the ASYNC port.
- Users of a PS/2 Model 57 store controller must not use SERIAL1 as a companion adapter as this port cannot be reconfigured.
- Users of the PS/2 Model 95 (or any other controller that allows up to 8 addresses for the serial port on the planar board) can only use port 2 as a companion adapter. This can occur only if the serial port on the planar board has been set for SERIAL1 or has been disabled.

Configuration: Configuration options are available for the SNA link to receive read/write commands directly from a user application in order to control the modem.

The first question asks whether or not the adapter is configurable. The following are the available options and their descriptions:

Not configurable

Indicates that the driver loaded for the adapter has a dedicated adapter. This is the default configuration. This option is available for both SDLC and ASYNC.

Configurable

Indicates that the adapter can be reconfigured to accommodate the ASYNC/SDLC driver being loaded if the adapter is not currently in use by a SDLC/ASYNC driver. This option is available for both SDLC and ASYNC.

Configurable and preemptive

Indicates that the loaded ASYNC driver can cause an active SDLC driver to be suspended if the SDLC link is not active, yet the driver was configured using the second option. This option is available only for ASYNC.

Note: If an adapter is chosen to be configurable, the user supplies the companion adapter type. The companion adapter can neither be of the same type nor have the same address as the adapter being configured. The user ensures that adapter combinations are not redundant.

Driver toggle function: The drive-toggle function maintains both the SDLC and ASYNC drivers as *resident simultaneously*. This function switches between the two drivers based on OPENS and CLOSSES that are one in the ASYNC application. The user ensures that both drivers are configured to be resident and that the SNA driver is loaded first to avoid adapter conflict. The SDLC adapter must be set as configurable and the ASYNC adapter must be set as configurable and preemptive.

The ADAPTER switches to ASYNC mode when the OPEN is issued for the ASYNC line if the SDLC adapter is idle. It automatically reverts to SDLC mode when the CLOSE is issued for the ASYNC line. For C users, the switch to ASYNC occurs when the SPECIAL is issued to Host Common to create the ASYNC driver.

SDLC considerations: The ADXHSNLL application that starts SNA link communications reflects additional status **only if the link is configured for link level command support**.

If link-level command support is not configured, ADXHSNLL reflects status based upon the SNA driver alone. The message display on the background panel does not accurately reflect link status for a shared adapter. It reflects SNA status accurately only while communication is active. If the SDLC function is preempted, the only method of obtaining reliable status is to issue reads and writes at the link level.

Users must develop an application for starting the link and writing control commands to the modem to issue modem commands at the link level. (This applies for users requiring to read status from the line driver, also.) The control commands must be complete and in the form that the modem can handle.

The user must interpret modem responses and take the appropriate course of action. The messages returned by the modem provide another form of link status information provided by the communications drivers.

User commands are written directly to the modem. There is no validation that is made on the content of the data passed. Modem responses are read and buffered for the user to read. Only the data is returned in modem responses. The transmission header containing the modem address and command is not returned.

Seven modem responses are buffered. If more than seven modem responses are received without any being read, the excess messages are discarded. Responses are only returned from the buffer.

If a read is issued and no data is in the response buffer, the read completes with a zero return code. The user should check the SNA driver link status through GETLONG requests. This check determines if the host has sent an ACTPU indicating communications is established and a session can be opened. The link level command option is required only if the user wants to control the modem directly.

Note: It is strongly recommended that fasttrain not be used on the V.32 Internal Modem/Adapter or on the modem with which it communicates. Internal tests have shown that connect time is up to 50% longer when connecting over external lines. Configure delay times so that modem delays for connection do not cause a timeout to occur and the adapter to reset.

ASYNC considerations: Set up the modems to operate at the same baud rates. Identical baud rates are required because the V.32 Internal Modem/Adapter has a default ASYNC speed of 9 600 bps. The maximum speed configurable on the operating system is 2 400 bps.

It is necessary to write a command to the modem at initialization time in order to reset the speed of the V.32 Internal Modem/Adapter. It is not necessary to send a full command. An attention sequence is sufficient to alter the modem speed. A sample attention sequence is AT(CR) or, in hex, X'41540D'.

Note: Do not write a sequence that explicitly sets the line speed. Doing this for some lower baud rates prevents the modem from switching to SDLC mode.

ASYNC users wanting to operate at speeds of 1 200 bps or less must write a command to the modem to change the communications standards from CCITT to BELL. The command to be included is 'ATB1'.

Users writing commands to the modem must remember that the ASYNC write is complete when the data is moved from the user buffer to the ASYNC output buffer. Sufficient time must be allocated for the data to be written to the device to ensure expected results.

System configuration

The system configuration worksheets define a series of options that apply to the entire operating system. These options include the date, time, and currency formats.

Generic system configuration

From the System Configuration panel, the following options are available:

- System Settings
 - Store Number
 - Date/Time Format
 - Currency Format
 - Application Settings
 - LAN Timeout
 - LAN Terminal Definition
 - VFS Drive Settings
 - Networking
 - System Options
 - System Management
 - Controller to Controller Communications
- System Security
 - Enhanced Security
 - Data Security
 - Directory Services
 - Network Security
 - FTP User Definitions
 - Console ID Security
 - FTP ID Security
 - LDAP
- Java Configuration
 - Java Classpath
 - Time Zone

System settings

Store number:

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4690 System Configuration

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System Settings
Store Number
Date/Time Format
Currency Format
Application Settings
LAN Timeout
LAN Terminal Definition
VFS Drive Settings
Networking
System Options
System Management
Controller to Controller
Communications

System Security
Enhanced Security
Data Security
Directory Services
Network Security
FTP User Definitions
Console ID Security
FTP ID Security
LDAP

Java Configuration
Java Classpath
Time Zone

Store Number

The number of this store as seen on store reports (1-9999):

3636

☒ Report store number in ALERT message

System Configuration

Save | Exit

Figure 61. Store number

Specify a unique number for your store, between 1 and 9999. This number prints on all store reports and it is used to identify this store from other stores in your company or enterprise.

If the 'Report store number in ALERT message' is checked, it enables the format of the Resource Field displayed on the NETVIEW ALERT panel.

Date/time format:

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Application Settings
LAN Timeout
LAN Terminal Definition
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Networking
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System Management
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System Security
Enhanced Security
Data Security
Directory Services
Network Security
FTP User Definitions
Console ID Security
FTP ID Security
LDAP

Java Configuration
Java Classpath
Time Zone

Date/Time Format

The date should be printed as:
05/16/13

Display time as:
17.17

System Configuration Save | Exit

Figure 62. Date/time format

Select the format for the date to be used on the store reports. The format defines whether a virgule (/) or a period (.) is used as the delimiting character. The format, also, defines whether the day precedes or follows the month.

Select whether a period (.) or a colon (:) is to be used when formatting the time.

Currency format:

The screenshot shows the '4690 OS Version 6' window with a 'TOSHIBA' logo. The title bar reads '4690 System Configuration'. Below the title bar is a navigation bar with 'Home | Help' on the left and 'TGCS | January 1, 2014' on the right. A left sidebar contains a tree view of system settings: 'System Settings' (with sub-items: Store Number, Date/Time Format, Currency Format, Application Settings, LAN Timeout, LAN Terminal Definition, VFS Drive Settings, Networking, System Options, System Management, Controller to Controller Communications), 'System Security' (with sub-items: Enhanced Security, Data Security, Directory Services, Network Security, FTP User Definitions, Console ID Security, FTP ID Security, LDAP), and 'Java Configuration' (with sub-items: Java Classpath, Time Zone). The 'Currency Format' item is selected. The main content area is titled 'Currency Format' and contains the text 'Display One million, nine hundred seventy dollars and six cents as:'. Below this is a text box containing '1,000,970.06' and a dropdown arrow. Further down is the text 'Select the number of digits to display after the decimal character:' followed by a text box containing '2' and a dropdown arrow. At the bottom of the window is a status bar with 'System Configuration' on the left and 'Save | Exit' on the right.

Figure 63. Currency format

Specify the format for all printed currency amounts by selecting whether a period (.) or a comma (,) is to be used as the delimiting character. Also, select the number of digits (0 or 2) to be displayed after the decimal character.

Application settings:

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FTP ID Security
LDAP

Java Configuration
Java Classpath
Time Zone

Application Settings

Enter the first three characters of the application name:

☐ Enable the application file timeout function.

The wait time in seconds for the first application timeout (32-5400):

The wait time in seconds for the subsequent application timeouts (7-first timeout value):

The interval between multiple timeout events which will cause the controller to re-ipl (20-542):

System Configuration* Save | Exit

Figure 64. Application settings

The Application Settings option is used to specify a three-character Application Prefix for host transmission. This option also allows enabling and configuring Application File Timeouts.

For Application Prefix, specify the first three characters of the prefix for the application logical name. These characters define the first three characters of all application file names that are used by the 4690 OS. The system uses this prefix to access files from the host processor through the Host Command Processor (HCP). Because there is a six-character limit on the size of file names, the application prefix is added to the HCP name to create the application file name. These are some common prefixes:

- EAL - For the General Sales Application product
- EAM - For the Supermarket Application product
- ACE - For the Point of Sale Application Client/Server Environment
- EGH - For the 4680 Chain Drug Sales Application product

The Application Timeout allows the terminal application file and the pipe timeout to be enabled. The terminal application timeout allows for choosing a timeout value that determines how long the terminal operating system waits for the controller to complete the file or pipe requests. Click on the Help option for additional information about this option.

LAN timeout:

The screenshot shows the '4690 System Configuration' window for '4690 OS Version 6'. The window has a dark header with the Toshiba logo and a navigation bar with 'Home' and 'Help' links. A left sidebar lists various configuration categories: System Settings, Application Settings, LAN Timeout (selected), LAN Terminal Definition, VFS Drive Settings, Networking, System Options, System Management, Controller to Controller Communications, System Security, Java Configuration, and Time Zone. The main content area is titled 'LAN Timeout' and contains three settings: 1. 'Enable the LAN timeout function' with an unchecked checkbox. 2. 'The wait time in seconds for the LAN timeout (10-180):' with a text input field containing '30'. 3. 'The wait time in seconds for issuing a message or dumping the controller (120-1280):' with a text input field containing '180'. Below these is a label 'Set the action to take when the LAN action interval is reached:' followed by a dropdown menu currently showing 'Log a message'. At the bottom right of the configuration area are 'Save' and 'Exit' buttons.

Figure 65. LAN timeout

This option is used to enable and configure the system's LAN timeout function.

In the first option, the wait time for the LAN timeout to occur is set in seconds from 10 to 180.

In the second option, the wait time for issuing a message or for dumping the controller is set in seconds from 120 to 1200. This is a time limit for contiguous LAN timeouts before an action is taken.

In the third option, select the action to be taken if the second wait time is exceeded. The choices are to either dump the controller or log a message.

LAN terminal definition:

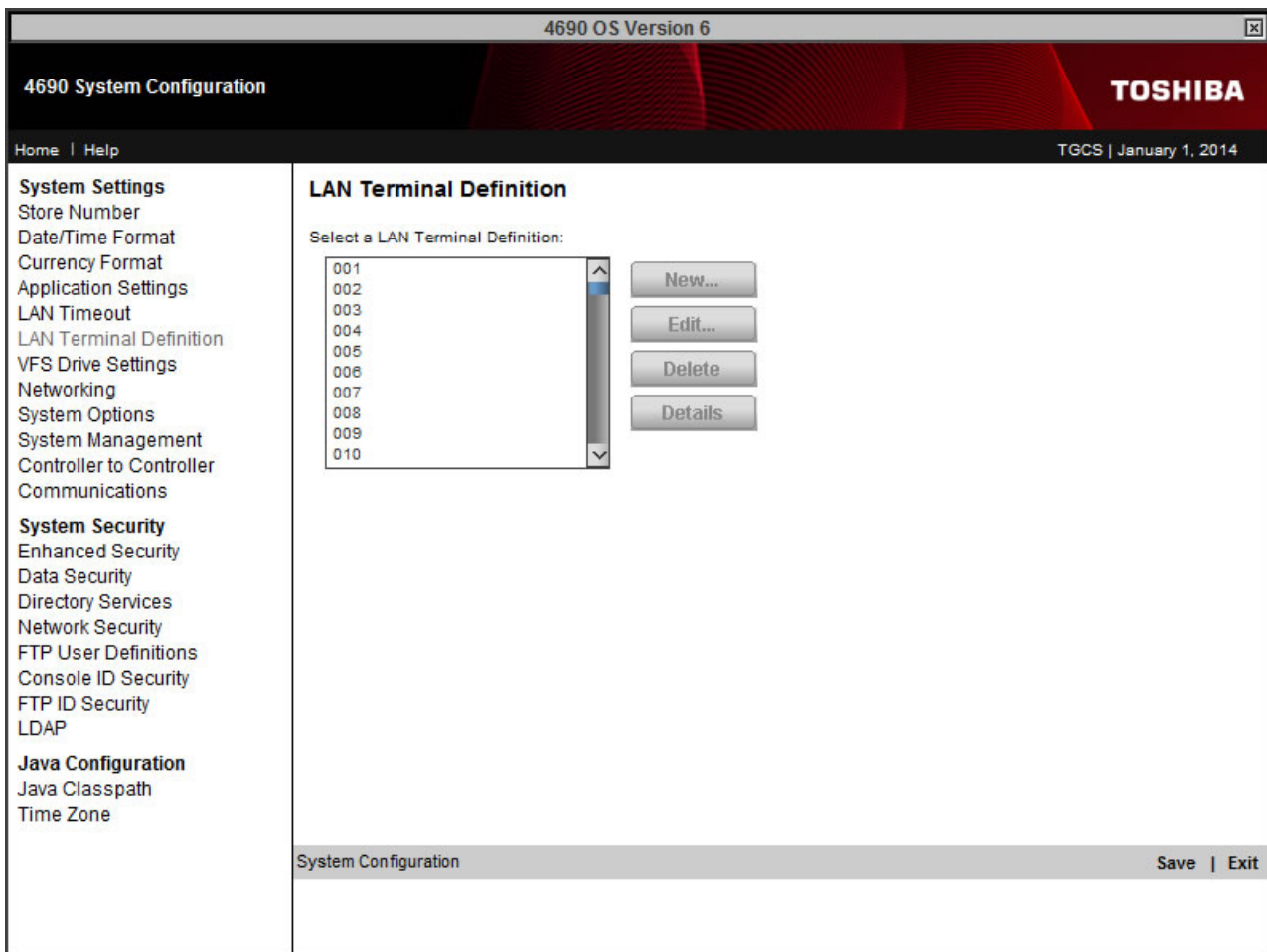


Figure 66. LAN terminal definitions

Every terminal that communicates with its controller over a LAN must have a LAN terminal definition. This definition specifies the primary controller's ID, along with the ID of the backup controller.

Press **New** to create new LAN terminal definitions. Enter the terminal number or range of terminal numbers to be defined. A single terminal can be defined by specifying that terminal number in the From: field. If you are defining a range of terminals, no terminals in that range should be currently defined. After specifying the terminals, enter the primary and backup controller IDs. The same controller ID can be specified as both the primary and backup controller. Press **Submit** to enter your data, or press **Cancel** to return to the LAN terminal definition screen without saving the data.

Press **Edit** to modify an existing LAN terminal definition. Multiple definitions can be edited at one time by selecting multiple terminals from the list.

To delete LAN terminal definitions, select one or more terminals from the list, then press **Delete**.

To view the current settings, select one or more terminals from the list, then press **Details**.

VFS drive settings:

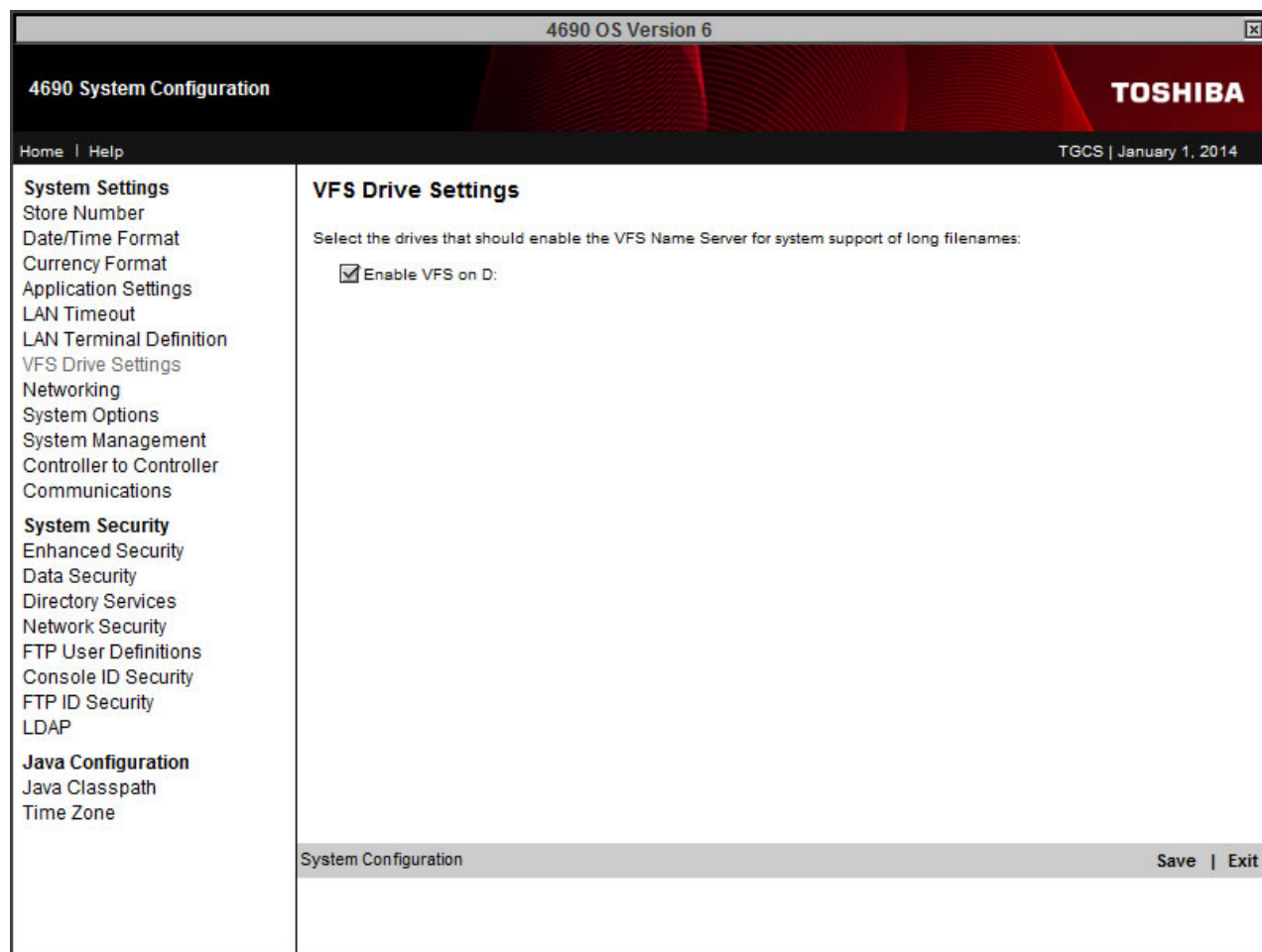


Figure 67. VFS drive settings

On this panel, the VFS name server for system support of long file names can be enabled on the D: drive. The VFS name server is always enabled on the C: drive.

Networking:

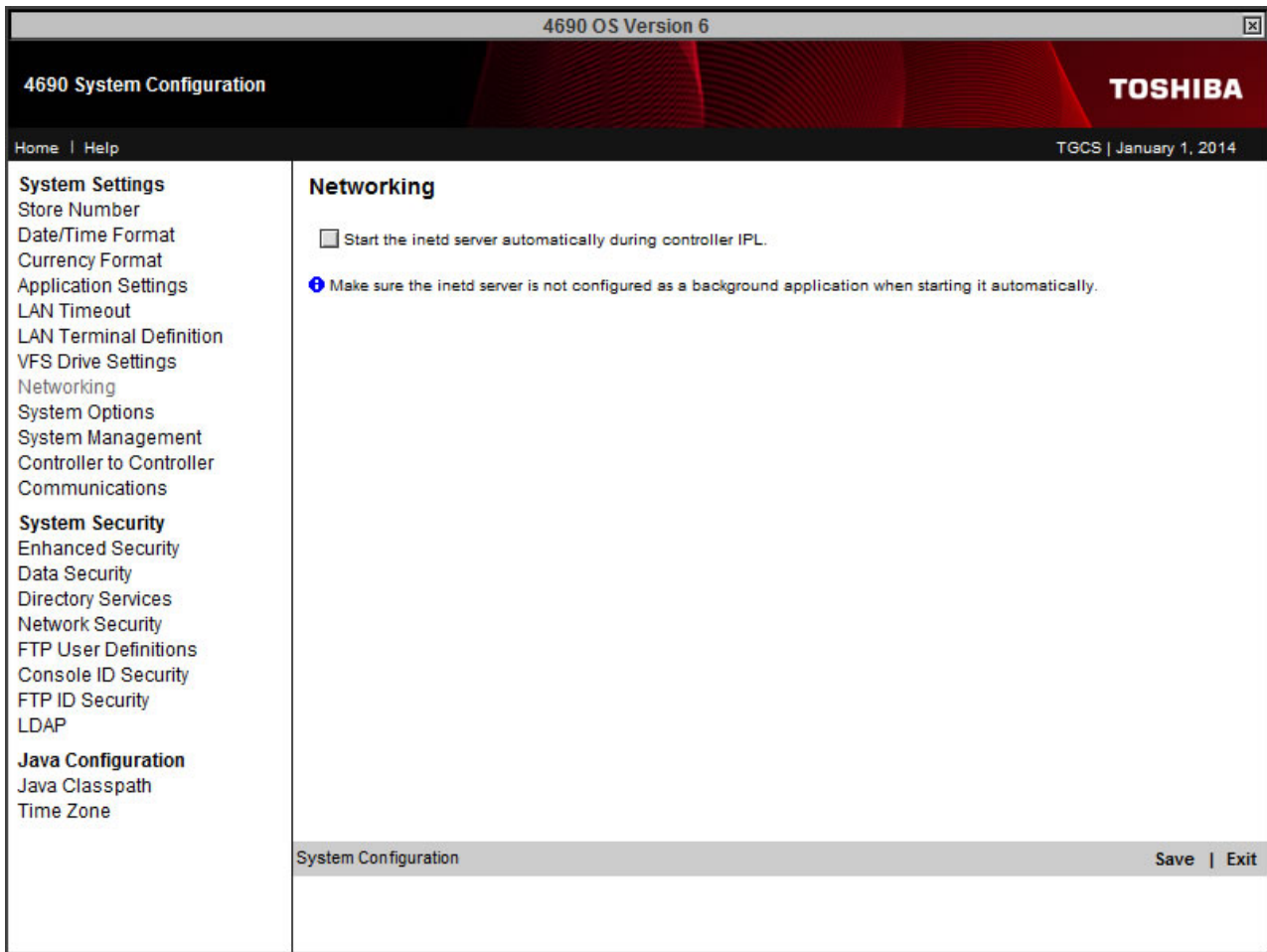


Figure 68. Networking

If you configure the INETD server to automatically start during controller IPL and you have a multi-controller configuration, the INETD server will be started on all controllers.

If the INETD server is configured as a background application and you select the auto-start option, you should remove the INETD server from the list of background applications.

System options:

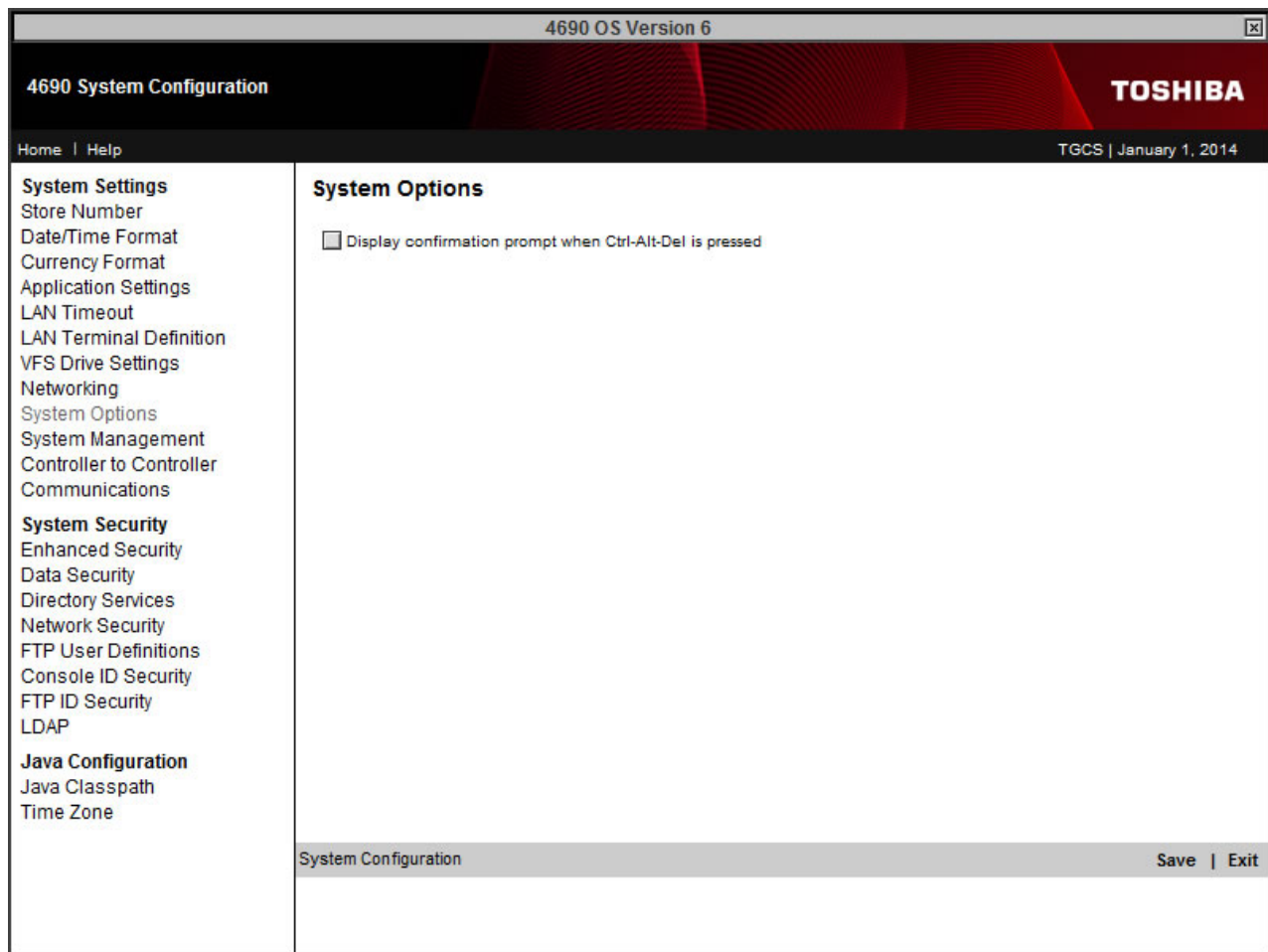


Figure 69. Display confirmation for Ctrl+Alt+Del

If you click to select the check box, then a confirmation prompt will display when you press Ctrl+Alt+Del.

If you do not select the check box, then a confirmation prompt will not display when you press Ctrl+Alt+Del.

System Management:

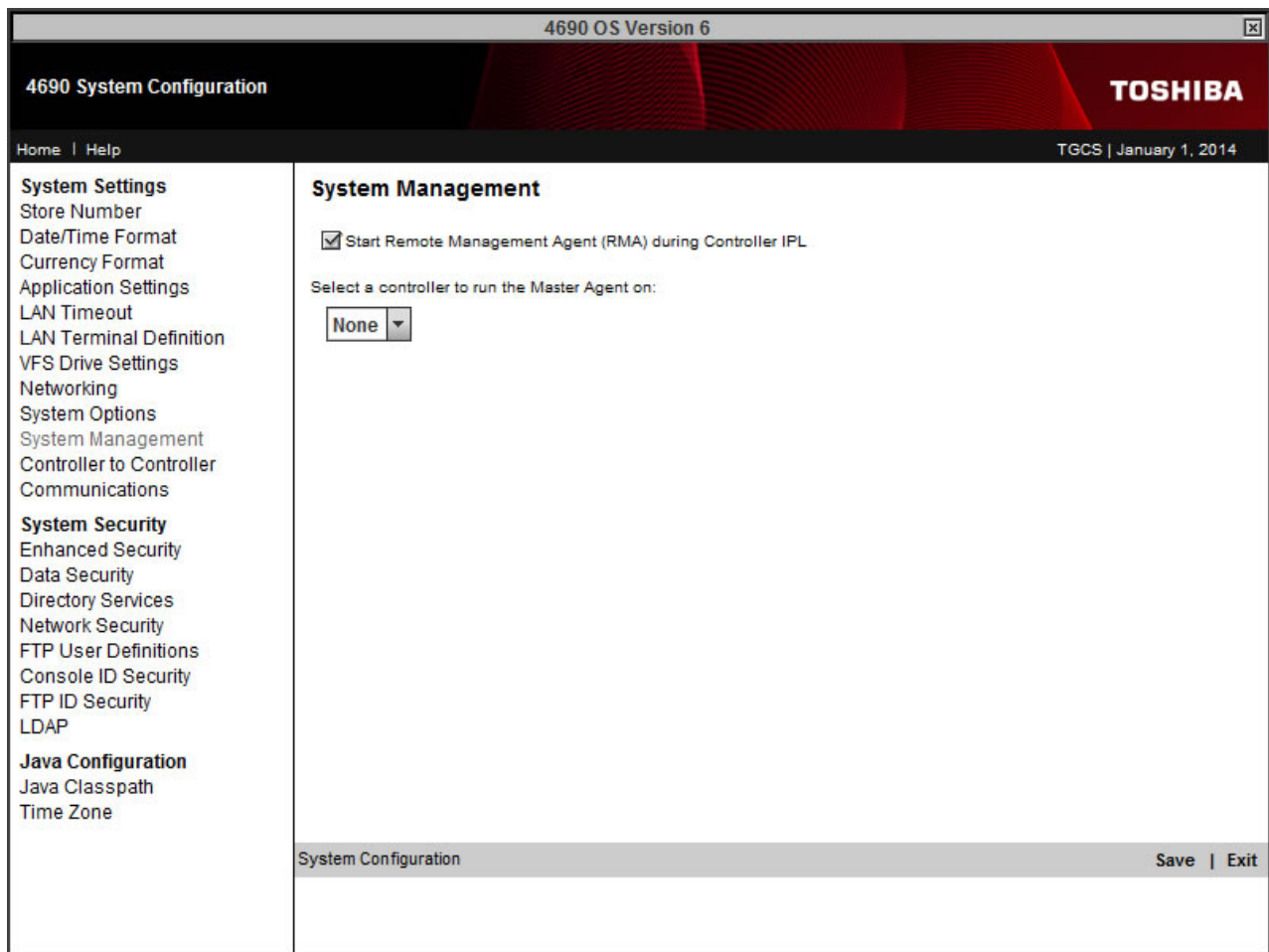


Figure 70. System Management

If you configure the Remote Management Agent (RMA) to automatically start during controller IPL and you have a multi-controller configuration, the RMA will be started on all controllers. Refer to *Remote Management Agent User's Guide* for information about the Remote Management Agent.

If RMA is configured to start during IPL, you may also select a 4690 controller on which to run the Master Agent. If you do not wish to run the Master Agent on a 4690 controller, select **None**. The Master Agent only runs on Enhanced Mode controllers. If you select a Classic Mode controller, the Master Agent will not run. It is not recommended (but not prevented) to run the Master Agent on the 4690 Master Controller due to the workload already being performed by the Master Controller.

To configure RMA on all controllers in a system :

1. For each controller, define the user logical name HOSTNAME and set it to the controller's ID.
2. In the system HOSTS file (adx_sdt1:adxhsi hf.dat) define *localhost* and set it to the address 127.0.0.1. For example:
127.0.0.1 localhost
3. In the system HOSTS file (adx_sdt1:adxhsi hf.dat), define the controller entries (i.e. CC, DD, etc) for each controller in the system, along with their respective IP addresses. For example:
10.1.1.1 CC
10.1.1.2 DD
etc.

4. Specify a local loopback address for each controller in the respective controller's TCP/IP BAT file (adx_sdt1:adxipccz.bat) where in this case *cc* is the controller ID. For example:

```
ifconfig lo0 127.0.0.1
```
5. For each Enhanced Mode controller, add an 'elooaddr' statement to the respective Enhanced Mode controller's TCP/IP BAT file (adx_sdt1:adxipccz.bat) where in this case *cc* is the controller ID. Use either a discrete address or the value 'last' (last address in the subnet). For example:

```
ifconfig lan0 10.1.1.1 netmask 255.255.255.0 eloopaddr 10.1.1.222
```


or

```
ifconfig lan0 10.1.1.1 netmask 255.255.255.0 eloopaddr last
```

For terminals that you wish to be instrumented by RMA, ensure that the terminal's Load Definition has TCP/IP selected. The terminal may use either a DHCP-assigned address or a discrete static IP address. Either legacy TCC or TCC/IP may be selected.

For controller-to-controller communication, either legacy (NetBIOS) or CCC-IP (TCP/IP) may be selected.

When running RMA on a controller/terminal, RMA is not started until the terminal function has successfully initialized. Therefore, the controller/terminal must be properly configured with all required POS devices to ensure a successful IPL.

Controller to controller communications:

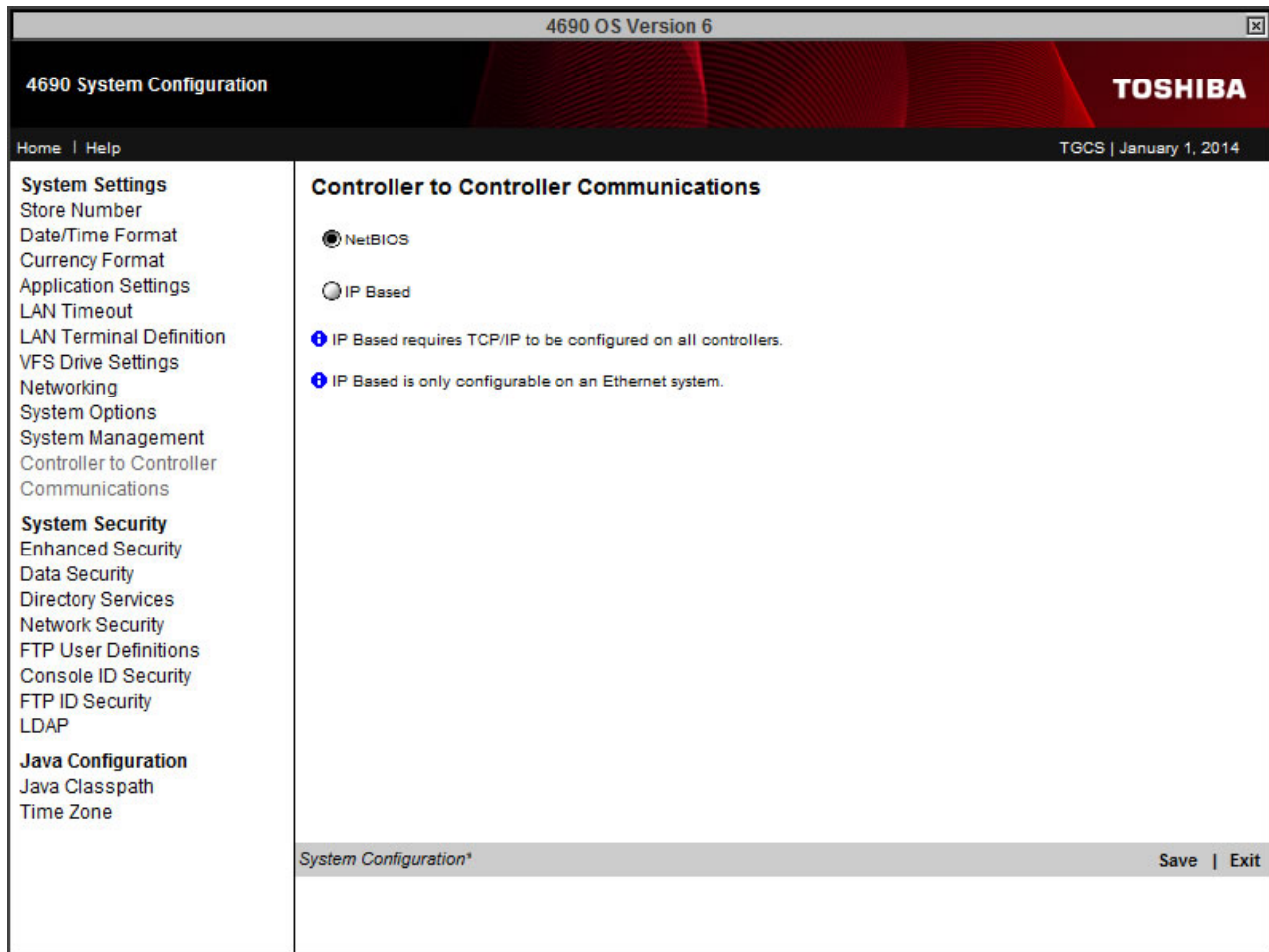


Figure 71. Controller to controller communications

You can select either NetBIOS or IP Based. Refer to Chapter 9, “Understanding and configuring Controller-to-Controller Communications over Internet Protocol,” on page 215 for an explanation of controller-to-controller communication.

System security

Enhanced security:

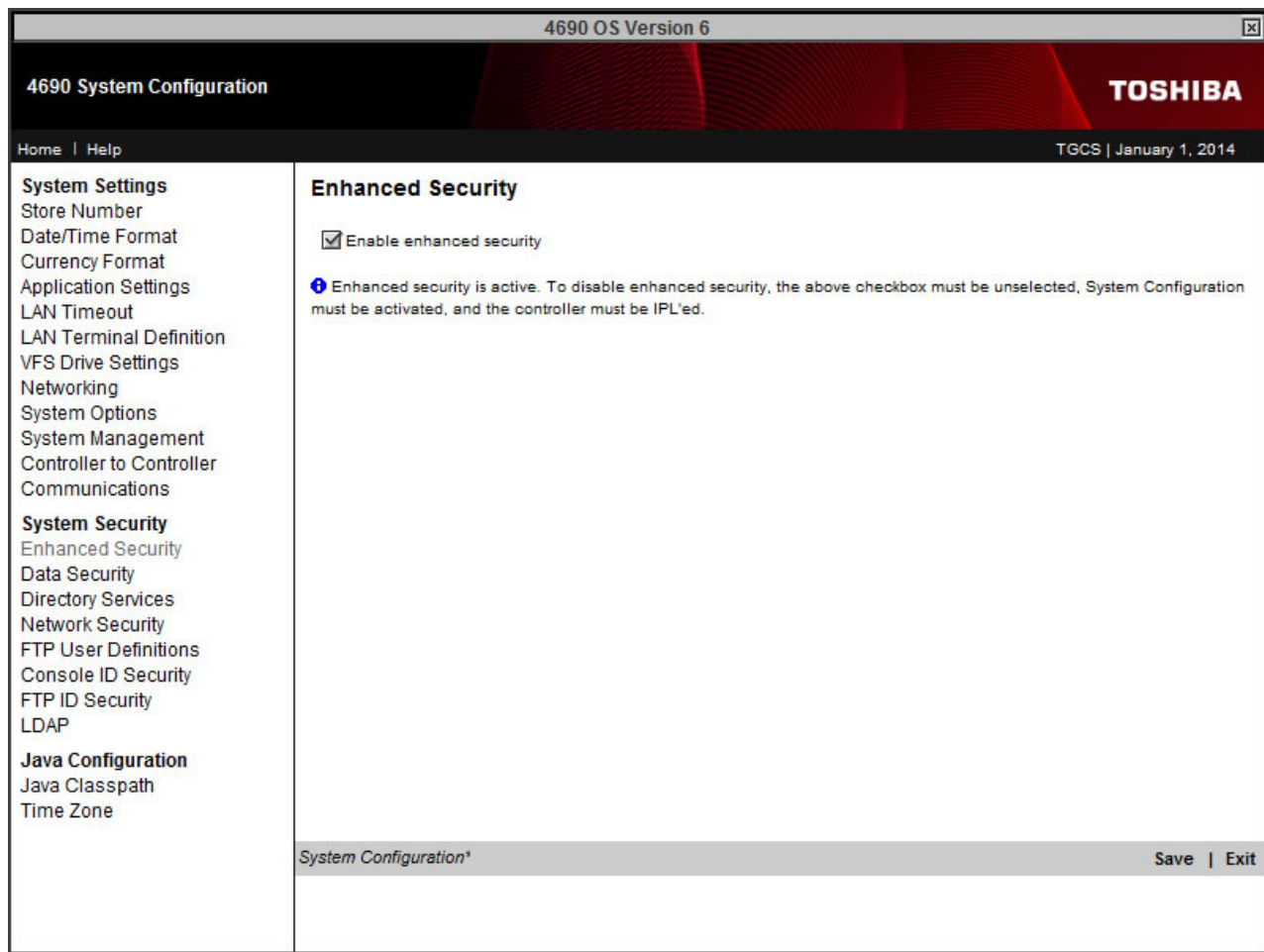


Figure 72. Enhanced security

Enhanced Security is an optional function that gives the 4690 operating system a higher level of security. Enhanced Security uses a new authorization file that holds a maximum of 2,048 operator IDs and models.

Notes:

1. The options included in this product can help your company address the PCI DSS requirements.
2. The customer is responsible for evaluation, selection and implementation of security features, administrative procedures and appropriate controls.
3. PCI DSS is Payment Card Industries Data Security Standards.

If you enable Enhanced Security, you are required to enter a master ID and password. This information is used to create an initial operator record in the Enhanced Security operator authorization file. This master ID has all authorization flags enabled, allowing it to perform any task on the 4690 operating system.

The Master ID is a character string 1-9 characters in length. It can use the characters A-Z, 0-9, #, (,), {, and }. The password is a 2-8 character string. Passwords can use the characters a-z, A-Z, 0-9, #, (,), {, and }.

For information about configuration of password settings, operator authorizations, and authorization models if Enhanced Security is enabled, refer to the *4690 OS: User's Guide*.

If you enable Enhanced Security, you have the option to migrate operator ID's from the existing authorization file. To do this, select the **Convert legacy authorization file** checkbox. The passwords for all migrated IDs are set as expired. If an existing operator ID is the same as the master ID, it is ignored during migration.

If system configuration is activated and you return to this screen without IPLing the system, Enhanced Security will not be active. You can modify the startup data or deselect the Enable Enhanced Security checkbox. If you have IPLed the system, the only control displayed on the Enhanced Security page is the Enable Enhanced Security checkbox. You can deselect the checkbox to disable Enhanced Security, but you must also activate System Configuration and IPL for Enhanced Security to be disabled.

Important: If Enhanced Security is disabled after it has been enabled, the enhanced operator ID file is no longer available. The 4690 OS reverts to its original operation file, ADXC SouF.DAT. Do not erase ADXC SouF.DAT and then disable Enhanced Security. You will not be able to sign on to your system.

Important: Be sure to write down and save the password that you enter on this panel. The passwords are case-sensitive.

Note: LDAP support and Enhanced Security are mutually exclusive. If LDAP support is enabled, you cannot enable Enhanced Security.

Data security:

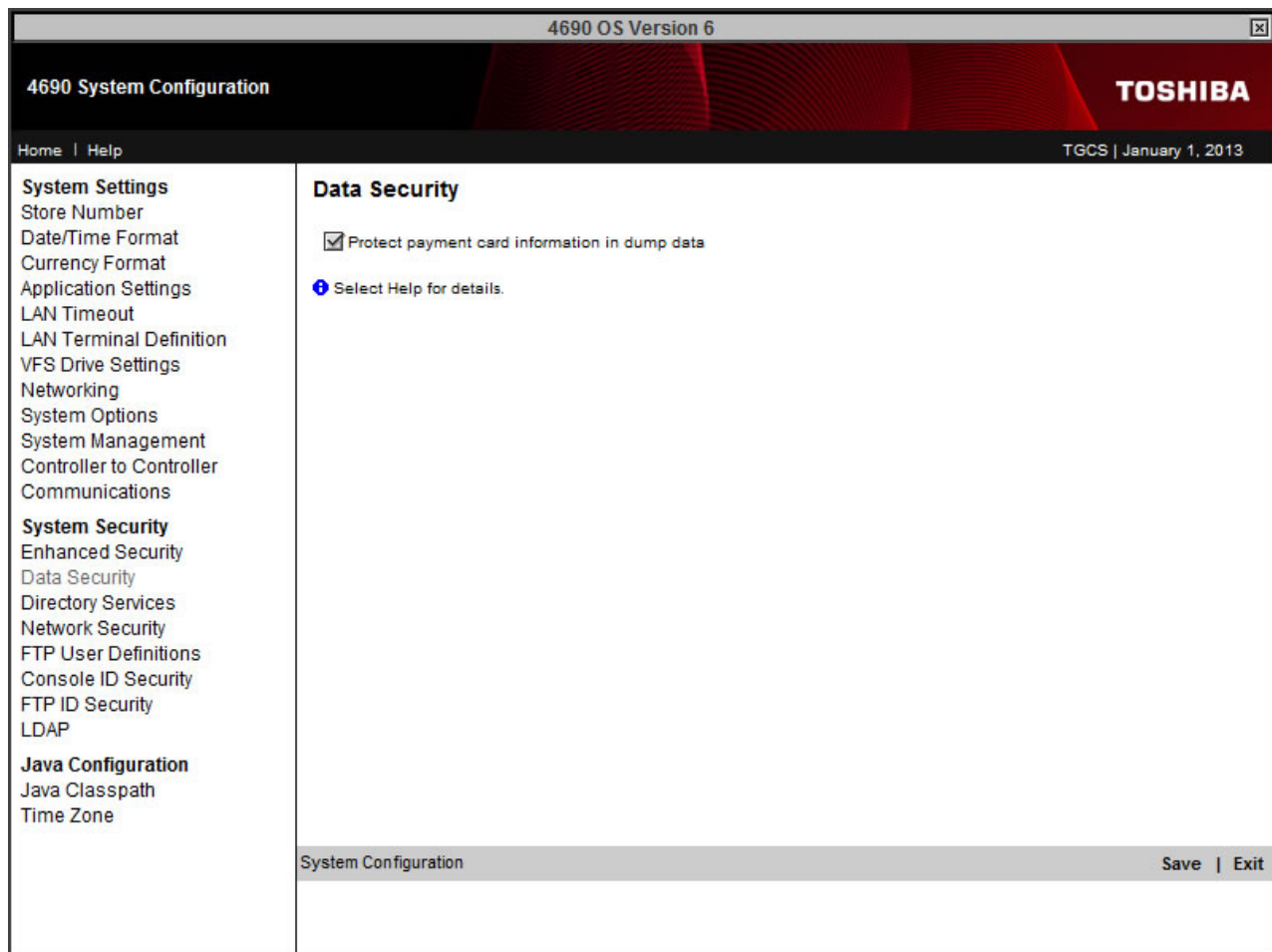


Figure 73. Data Security

- | Enabling **Protect payment card information in dump data** secures any potential payment card number contained in controller and terminal memory dumps and Linux process core files. Any string of bytes that potentially could be a valid payment card number from the most common issuers (based on the IIN -Issuer Identification Number- and length) is obscured. Dump data will still be useful for Toshiba Support personnel. Payment card protection is supported for the following dumps:
- | • Enhanced controller or controller/terminal dumps
- | • Enhanced terminal dumps
- | • Enhanced core dumps
- | • Classic terminal dumps

Directory services:



Figure 74. Directory services

This panel allows you to enable or disable Directory Services. Enabling Directory Services is the first of two steps necessary to get Directory Services running on 4690 OS. You must also provide an initial setup in the file ADX_IDT1:ADXLDIFF.DAT.

ADXLDIFF.DAT contains information used to configure OpenLDAP. It also contains records used to populate the initial LDAP directory. A sample ADXLDIFF.DAT file, ADXLDIFF.SMP, is provided in ADX_IDT1. It includes documentation on how to modify the file to meet your requirements.

For more information, refer to chapter 13 of the *4690 OS: User's Guide*.

Network security:

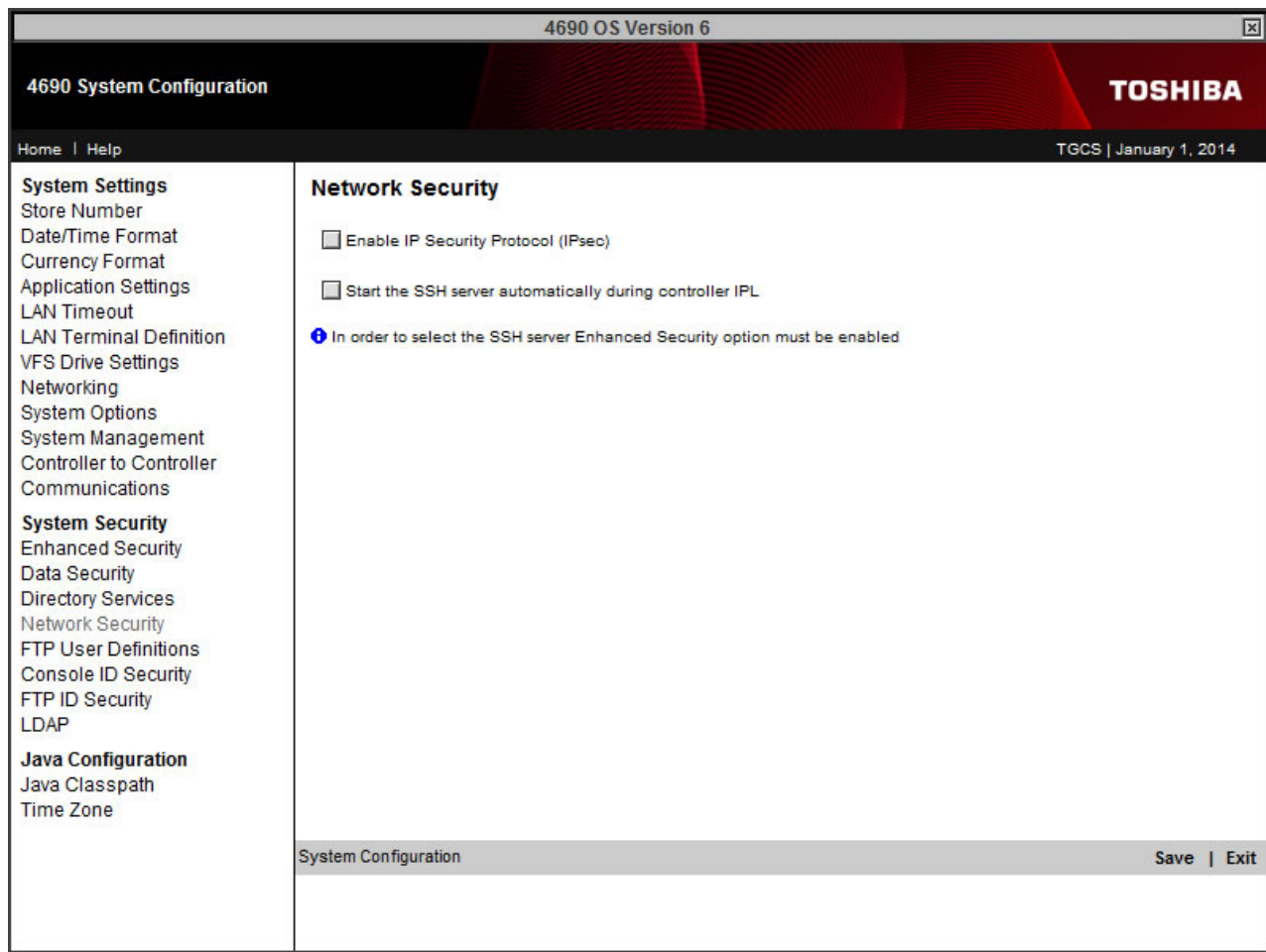


Figure 75. Network security

Enabling IPsec allows use of IPsec services on the 4690 operating system. IPsec is a framework of standards for providing secure communications over IP networks using cryptography-based data protection. In addition, the 4690 IPsec implementation provides a filtering capability for both secure and non-secure IP traffic to provide another level of protection. Refer to the *4690 OS: Communications Programming Reference* for more information about IPsec.

Start the Secure Shell (SSH) server to service secure (encrypted) Telnet and FTP sessions on the 4690 operating system. If you configure the Secure Shell (SSH) server to automatically start during controller IPL and you have a multi-controller configuration, the SSH server will be started on all controllers. Refer to the *4690 OS: Communications Programming Reference* for more information about SSH.

Note: Enhanced Security must be enabled before you can select **Start the SSH server automatically during controller IPL**.

FTP user definitions: The first time that you access FTP User Definitions a panel is displayed with a query about whether you want to convert your FTP ID file to be protected by a password. If you choose to convert the file, the rest of the FTP User Definitions panels described in this section are displayed. If you do not convert the file, the file access is read from the c:\adx_sdt1\adxhsiuf.dat file and only the first panel appears each time you access FTP User Definitions until such time as you decide to convert the file.

After you choose to convert the ID file to use password protection with the FTP user information, the panel shown in Figure 76 is displayed.

Note: With Enhanced Security enabled, the Set Password screen will not be displayed. Enhanced Security manages access to File Transfer Protocol (FTP) User Definitions as well as other options. Refer to the *4690 OS: User's Guide* for more information about Enhanced Security.

Important: Be sure to write down and save the password that you enter on this panel. The panel is displayed only once. Subsequent access to the user information requires the password. The passwords are case-sensitive.

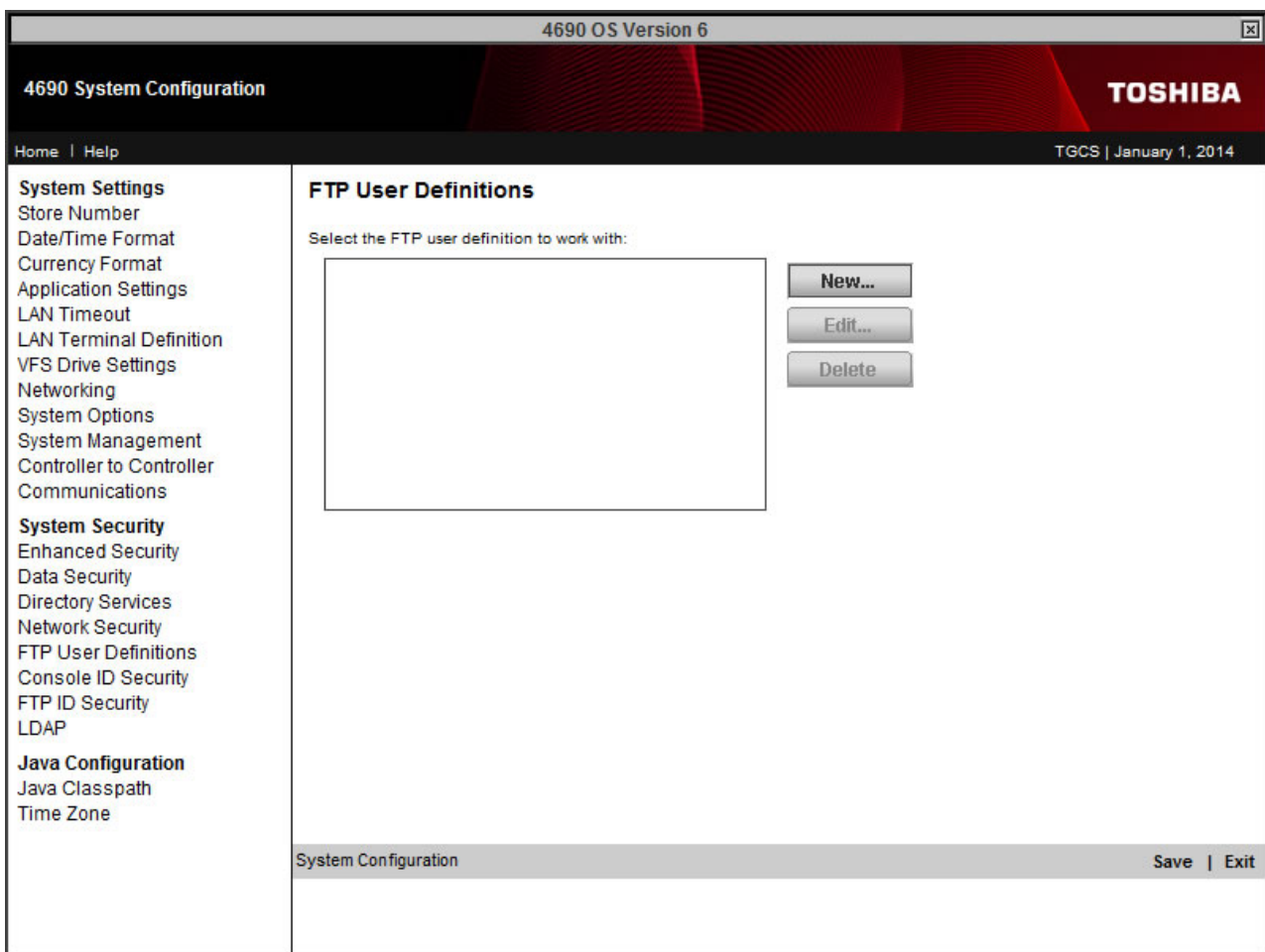


Figure 76. FTP user definitions – first use

For each FTP user definition, enter the user ID and password for the user. You must also enter at least one of the following: the read access list, the write access list, or that the user has execute privileges.

Console ID security:

The screenshot shows the '4690 OS Version 6' System Configuration window. The title bar includes '4690 OS Version 6' and a close button. The main header has '4690 System Configuration' on the left and the 'TOSHIBA' logo on the right. Below the header is a navigation bar with 'Home | Help' on the left and 'TGCS | January 1, 2014' on the right. A left sidebar contains a tree view of configuration categories: 'System Settings' (with sub-items: Store Number, Date/Time Format, Currency Format, Application Settings, LAN Timeout, LAN Terminal Definition, VFS Drive Settings, Networking, System Options, System Management, Controller to Controller Communications), 'System Security' (with sub-items: Enhanced Security, Data Security, Directory Services, Network Security, FTP User Definitions, Console ID Security, FTP ID Security, LDAP), and 'Java Configuration' (with sub-items: Java Classpath, Time Zone). The 'Console ID Security' item is selected. The main content area is titled 'Console ID Security' and contains: an unchecked checkbox for 'Enable Console ID Lockout'; a label 'Number of invalid attempts allowed:' followed by a spinner box set to '3'; and a label 'Lockout duration (minutes):' followed by a spinner box set to '5'. At the bottom of the main area is a grey bar with 'System Configuration' on the left and 'Save | Exit' on the right.

Figure 77. Console ID security

You can specify two parameters after you enable Console ID lockout:

- Number of invalid attempts allowed – Select a number in the range of 3 to 10. After the selected number of invalid login attempts have occurred, the user is locked out.
- Lockout duration – Select whether the lockout will last a specified number of minutes or until midnight of the day that the lockout begins.

Note: These options are only relevant between IPLs of the controller. When a controller IPL occurs, all IDs are reset to active.

FTP ID security:

The screenshot shows the '4690 OS Version 6' System Configuration window. The title bar includes '4690 OS Version 6' and a close button. The window has a dark header with '4690 System Configuration' on the left and the 'TOSHIBA' logo on the right. Below the header is a navigation bar with 'Home | Help' on the left and 'TGCS | January 1, 2014' on the right. The main content area is divided into two panes. The left pane contains a tree view of system settings categories: 'System Settings' (with sub-items: Store Number, Date/Time Format, Currency Format, Application Settings, LAN Timeout, LAN Terminal Definition, VFS Drive Settings, Networking, System Options, System Management, Controller to Controller Communications), 'System Security' (with sub-items: Enhanced Security, Data Security, Directory Services, Network Security, FTP User Definitions, Console ID Security, FTP ID Security, LDAP), and 'Java Configuration' (with sub-items: Java Classpath, Time Zone). The right pane is titled 'FTP ID Security' and contains the following settings: an unchecked checkbox for 'Enable FTP ID Lockout', a label 'Number of invalid attempts allowed:' followed by a spinner box set to '3', and a label 'Lockout duration (minutes):' followed by a spinner box set to '5'. At the bottom of the window is a grey bar with 'System Configuration' on the left and 'Save | Exit' on the right.

System Settings	FTP ID Security
Store Number	<input type="checkbox"/> Enable FTP ID Lockout
Date/Time Format	Number of invalid attempts allowed: 3
Currency Format	Lockout duration (minutes): 5
Application Settings	
LAN Timeout	
LAN Terminal Definition	
VFS Drive Settings	
Networking	
System Options	
System Management	
Controller to Controller Communications	
System Security	
Enhanced Security	
Data Security	
Directory Services	
Network Security	
FTP User Definitions	
Console ID Security	
FTP ID Security	
LDAP	
Java Configuration	
Java Classpath	
Time Zone	

Figure 78. FTP ID security

You can specify two parameters after you enable FTP ID Lockout:

- Number of invalid attempts allowed – Select a number in the range of 3 to 10. After the selected number of invalid login attempts have occurred, the FTP ID is locked out.
- Lockout duration – Select whether the lockout will last a specified number of minutes or until midnight of the day that the lockout begins.

LDAP:

4690 OS Version 6

4690 System Configuration

Home | Help

TGCS | January 1, 2014

System Settings
Store Number
Date/Time Format
Currency Format
Application Settings
LAN Timeout
LAN Terminal Definition
VFS Drive Settings
Networking
System Options
System Management
Controller to Controller
Communications

System Security
Enhanced Security
Data Security
Directory Services
Network Security
FTP User Definitions
Console ID Security
FTP ID Security
LDAP

Java Configuration
Java Classpath
Time Zone

LDAP

☐ Enable LDAP Support

Server Name:

SSL port number:

Distinguished name of the search base:

System Configuration* Save | Exit

Figure 79. LDAP

Note: LDAP support and Enhanced Security are mutually exclusive. If LDAP support is enabled, you cannot enable Enhanced Security.

You can specify these parameters after you select the option to enable Lightweight Directory Access Protocol (LDAP) support:

- Server name – The URL of the LDAP server. The user must configure ADXHSIH.F.DAT, the 4690 host file, with the dotted decimal IP address for the URL of the LDAP server.
- SSL port number – The LDAP port number of the server. The default port number is 636.
- Distinguished name of the search base – The Distinguished Name of a node within the Directory Information Tree (DIT) of the LDAP server. The search for the 4690 user information starts with the specified node.

For example, an LDAP search domain of "ou=stores,o=sales,dc=myorg,dc=com" would begin searching all branches of the DIT below the stores entry. With this configuration, several stores could access the same LDAP server for the user's information. An LDAP search domain of "ou=1001,ou=stores,o=sales,dc=myorg,dc=com" would restrict the search to only those users listed in the branches under 1001.

The user is responsible for deciding on both the structure of the DIT and from where to initiate the search.

Note: After LDAP is enabled and Java2 is configured, the user can use the Java utility, keytool, to create the keystore M:\LDAP\LdapKeyStore on the 4690 controller and import either the keys or the certificates or both for server authentication. The user is responsible for deciding whether certificates are self-signed or signed by a Certificate Authority (CA).

Java configuration

Java classpath:

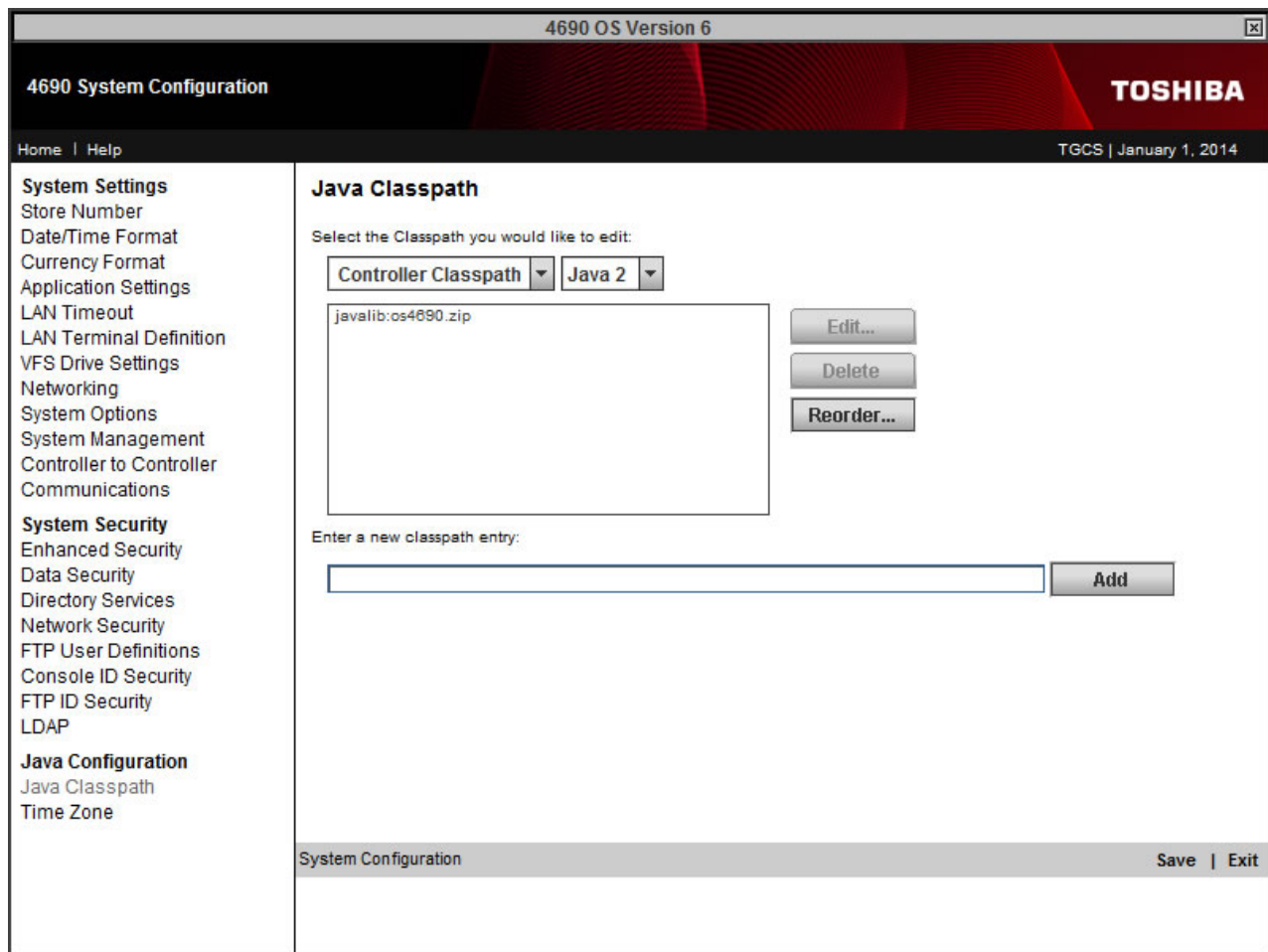


Figure 80. Java classpath

Java configuration defines the controller and terminal classpath, if Java applications are used. Java must be enabled on your system. The entries in the classpath are directories or .zip or .jar files that contain classes.

This panel is used to work with four separate classpaths. Choose either the Controller Classpath or the Terminal Classpath. Then, choose the version of Java, either Java 2 or Java 6.

Notes:

1. Java 2 and Java 6 use different classpaths.
2. Java 1 is no longer supported.

After you select the type of classpath, you can perform these actions on the classpath:

- To add a classpath entry, enter the directory or .zip or .jar file, then press **Add**.
- To modify an existing classpath entry, select the entry from the list and press **Edit**. Then type in the changes and press **Change** or press **Cancel** to return to the list.
- To change the order of the entries in the classpath, select the entry from the list and press **Reorder**.

Time zone:

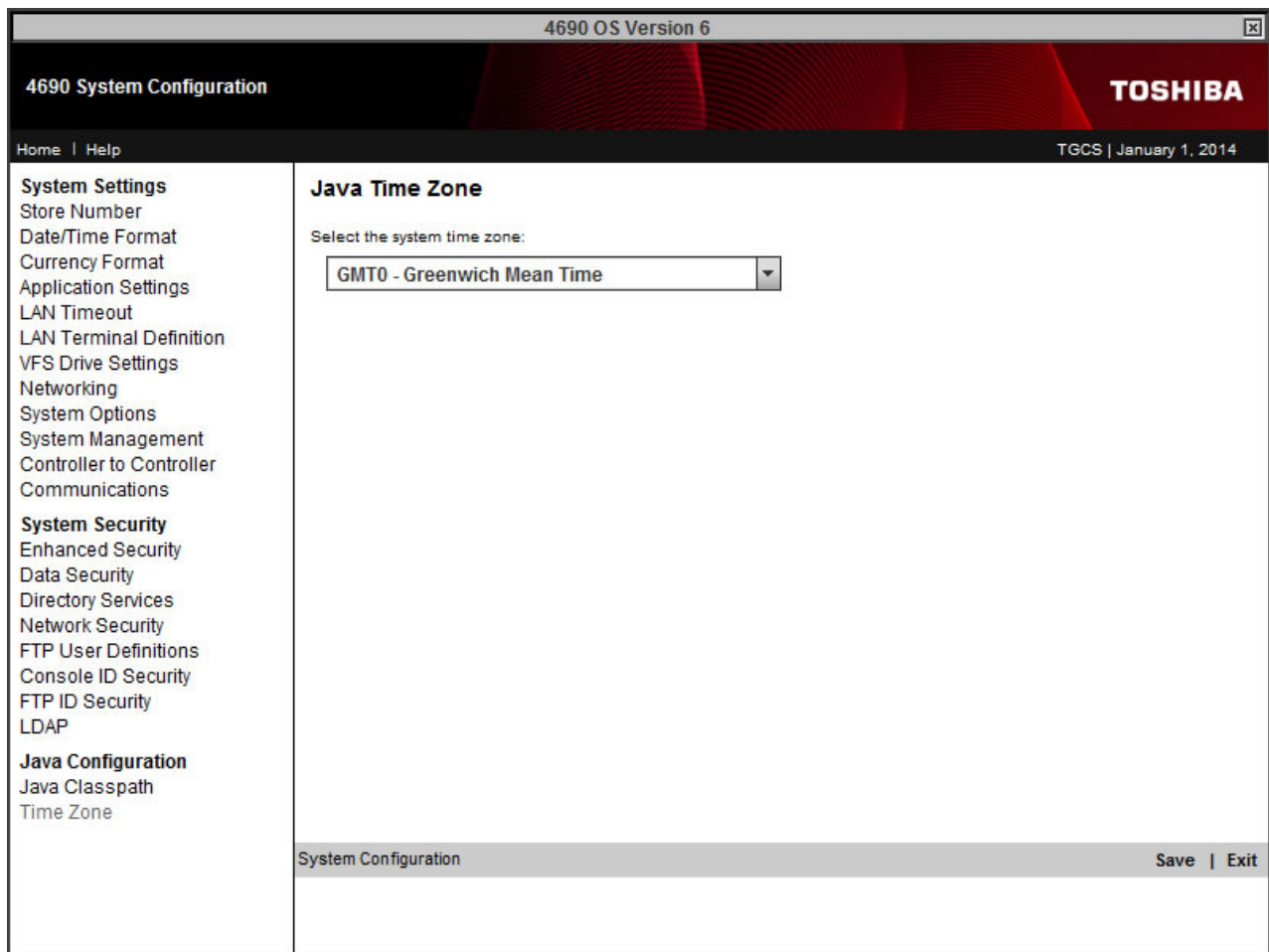


Figure 81. Time zone

On this panel, specify the Java time zone information. The first part of the time zone identifier represents the configured time zone name (for example, EST for Eastern Standard Time). The second part represents the difference, in hours, between the configured time zone and the Coordinated Mean Time, which is Greenwich mean time. This difference can range from -12 to 11. The last part represents whether the configured time zone uses daylight savings time.

The system assigns the Java system property `user.timezone` the value of the first three characters. Java must be enabled on the systems for the time zone option to take effect.

Activating configurations

After you have completed entering all terminal, store controller, communications, and system configuration data at the store controller, you must activate each of the configuration options to begin using the operating system.

To begin activating the configuration, at the CONFIGURATION panel, select option **4** to Activate Configuration. The next panel that appears lists all three configuration options.

Select the first of these options and wait for its configuration data to complete processing. A message appears on the store controller panel to indicate when processing has completed.

Follow the same procedure to activate the second and third configuration options. After each configuration option is selected, you must wait for the processing completion message before you activate the next option.

After all of the configuration options have been activated, you have finished installing your operating system. You must re-IPL all of your store controllers before you can begin using the operating system for further testing or for day-to-day store operations.

If any terminal configuration data was added or changed in the device group or terminal load definition, you must run the Set Terminal Characteristics (STC) program (option 2, 2, 2, 2) at each of the affected terminals. For additional information on changing terminal configurations or entering terminal numbers, see the *4690 OS: User's Guide*.

Note: Instead of running the STC program at each terminal, you can run the Load Terminal Configuration option from the controller. To run Load Terminal Configuration, press **Alt+SysRq, c, 1, and 9**. However, before using the Load Terminal Configuration option, the terminal's hard disk drive must have been formatted at least once.

Chapter 6. Software replication planning

This chapter describes several methods for replicating your 4690 Store System. *Replicating* is the activity by which you back up software from a test system, and then distribute it to your other stores.

Before you begin using any of the replication methods, it is assumed that:

- You have first installed a test system (see Chapter 3, “Installing a test system,” on page 19) at a central or host processor location prior to system installation at the store locations. (An alternative method is to use the first installed store system as your test system.)
- You intend to install your test system in multiple store locations.
- All of your test system software and user data has been prepared for transmission or recorded on diskettes.

To replicate your 4690 Store System, you need several system software components, which are stored on the store controller hard disk of your test system. These software components are:

- The operating system that includes:
 - Operating system code
 - Operating system feature files
 - Operating system configuration data
 - Other operating system files, such as the system dump files and configuration screen files
- A 4680 or 4690 application program that includes:
 - Application program code
 - Application personalization data
 - User-exit routines (optional)
 - User application data, such as program logical units (PLUs)
 - Other application files, such as the application screen files
- Any other user application programs, including programs with user application data and application files

This chapter describes the following methods of replication:

- “Method 1. Transmit system software from a host processor”
- “Method 2. Transmit partial system software from a host processor” on page 158
- “Method 3. Copy system files and data files to diskettes” on page 160
- “Method 4. Back up system software to diskettes, optical disks, or streaming tape device and restore to hard disk” on page 162
- “Method 5. Load hard disk at central site and ship store controller to stores” on page 164

To begin replicating your test system, review the five methods suggested in this chapter. Select the method that most closely approximates your own system requirements, and then develop a plan for each of your stores.

Note: When you are choosing a method to replicate test system software, you should also consider using the same method for applying software maintenance to your stores. *Applying software maintenance* is the periodic adding, deleting, or replacing portions of your system program, without changing data.

Method 1. Transmit system software from a host processor

Method 1 lets you install store systems by transmitting system software from a host processor. However, before you can transmit the system software you must have a basic system installed on the store controller. Once you install the basic system, install the software on a test system and then transmit the test system from a host processor to other store controllers. You can complete most configuration work at the host processor location.

Note: For multiple store controller systems, we assume that the host link is to be attached to the master store controller.

If you plan to use a host processor for transmitting the test system, configure host processor communications in the store controller at each location. This connection enables the store controller to receive transmission of test system software.

The following table defines steps to install and replicate the 4690 Store System by using Method 1. If your store system uses multiple store controllers, perform Steps 1 through 11 at each master store controller and Steps 1 through 6 at each subordinate store controller. If your store system does not use multiple store controllers, omit Step 4.

Table 4. Method 1. Steps to install and replicate the operating system

Step	Description	Where to perform the step	Where to find instructions and information
1.	Prepare your store site.	Store location	Store System guides. See "Where to find more information" on page xxxii.
2.	Install the store controllers.	Store location	Store System guides. See "Where to find more information" on page xxxii. The appropriate personal computer Quick Reference and Reference Diskette.
3.	Install the Point-of-Sale Terminals.	Store location	Store System guides. See "Where to find more information" on page xxxii.
4.	(Optional if using TCC network) Attach the store controllers to the LAN (MCF Network).	Store location	See Planning and Installation Guides for Ethernet LANs.
5.	Install the operating system and (optional) any user-supplied applications and their data files from diskettes to each store controller.	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
6.	Set up features for all controllers on the master store controller. If this is a single-controller system, set up features for this controller. If this is an MCF system, also run the Features Diskette or the Features option on the CD-ROM on all other controllers to enable the MCF.	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
7.	Configure the Operating System (communications only).	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.

Table 4. Method 1. Steps to install and replicate the operating system (continued)

Step	Description	Where to perform the step	Where to find instructions and information
8.	Retrieve the following data from the test system and use it for subsequent transmissions to the store controller: <ul style="list-style-type: none"> • Application program code • Operating system configuration data • Application personalization data • Any other user application programs 	Host processor location	4690 OS: Programming Guide and the application program's programming guide.
9.	Transmit the application program code, the operating system configuration data, the application personalization data, and any other user application programs to the store controller. Apply software maintenance.	Host processor and store location	4690 OS: Programming Guide.
10.	Test store system using your test plan.	Store location	Task "Activity 14. Develop test and maintenance plans" on page 14.
11.	(Optional) Copy fixed disk system on diskettes for backup.	Store location	4690 OS: User's Guide

Method 2. Transmit partial system software from a host processor

Similar to Method 1, Method 2 allows you to create software on a test system and then transmit the test system from a host processor to other store controllers. The difference between the two methods is the amount of data that you transmit.

Note: For multiple store controller systems, we assume that the host link is to be attached to the master store controller.

If you plan to use a host processor for transmitting the test system, configure host processor communications in the store controller at each store location. This connection enables the store controller to receive transmission of test system software.

To save transmission time, Method 2 lets you transmit the operating system configuration data, the application personalization data, and any other user application programs to the other store controllers. (Load the operating system and a 4680 or 4690 application program at the store location.)

The following table defines steps to install and replicate the 4690 Store System. If your store system uses multiple store controllers, perform Steps 1 through 13 at each master store controller and Steps 1 through 6 at each subordinate store controller. If your store system does not use multiple store controllers, omit Step 4.

Table 5. Method 2. Steps to install and replicate the operating system

Step	Description	Where to perform the step	Where to find instructions and information
1.	Prepare your store site.	Store location	Store System guides. See "Where to find more information" on page xxxii.
2.	Install the store controllers.	Store location	Store System guides. See "Where to find more information" on page xxxii. The appropriate personal computer Quick Reference and Reference Diskette.
3.	Install the Point-of-Sale Terminals.	Store location	Store System guides. See "Where to find more information" on page xxxii.
4.	(Optional if using the TCC network) Attach the store controllers to the LAN (MCF Network).	Store location	See Planning and installation guides for Ethernet LANs.
5.	Install the operating system and (optional) any user-supplied applications and their data files from diskettes to each store controller.	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
6.	Set up features for all controllers on the master store controller. If this is a single-controller system, set up features for this controller. If this is an MCF system, also run the Features Diskette or the Features option on the CD-ROM on all other controllers to enable the MCF.	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.

Table 5. Method 2. Steps to install and replicate the operating system (continued)

Step	Description	Where to perform the step	Where to find instructions and information
7.	Configure the operating system (communications only).	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
8.	Install the 4680 or 4690 application program.	Store location	4680 or 4690 application program's planning and installation guide.
9.	Retrieve the following data from the test system and use it for subsequent transmissions to the store controller: <ul style="list-style-type: none"> • Operating system configuration data • Application personalization data • Any other user application programs 	Host processor location	<i>4690 OS: Programming Guide</i> and the application program's programming guide.
10.	Transmit the operating system configuration data, the application personalization data, and any other user application programs to the store controller.	Host processor and store location	<i>Advanced Data Communications for Stores: Program Reference and Operations Guide</i> or <i>Distributed Systems Executive: Operation</i> .
11.	Apply software maintenance.	Host processor location	<i>4690 OS: User's Guide</i> .
12.	Test store system using your test plan.	Store location	Task "Activity 14. Develop test and maintenance plans" on page 14.
13.	(Optional) Copy fixed disk system on diskettes for backup.	Store location	<i>4690 OS: User's Guide</i> .

Method 3. Copy system files and data files to diskettes

This method lets you install store systems by first installing software on a test system. Then you copy the operating system configuration data, the application personalization data, user-exit routines, and any other user application programs to diskettes. Be sure to copy to the type of diskette compatible with the store controller that is installed at the store location. Then, ship the diskettes to each of the store locations.

The following table defines steps to install and replicate the 4690 Store System. If your store system uses multiple store controllers, perform Steps 1 through 10 at each master store controller and Steps 1 through 7 at each subordinate store controller. If your store system does not use multiple store controllers, omit Step 4.

Table 6. Method 3. Steps to install and replicate the operating system

Step	Description	Where to perform the step	Where to find instructions and information
1.	Prepare your store site.	Store location	Store System guides. See "Where to find more information" on page xxxii.
2.	Install the store controllers.	Store location	Store System guides. See "Where to find more information" on page xxxii. The appropriate personal computer Quick Reference and Reference Diskette.
3.	Install the Point-of-Sale Terminals.	Store location	Store System guides. See "Where to find more information" on page xxxii.
4.	(Optional if using the TCC network) Attach the store controllers to the LAN (MCF Network).	Store location	Planning and Installation Guides for Ethernet LANs.
5.	Copy the system configuration and 4680 or 4690 application program personalization data sets to diskettes.	Central site location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
6.	Install the operating system and transfer system configuration data from diskettes to each store controller.	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
7.	Set up features for all controllers on the master store controller. If this is a single-controller system, set up features for this controller. If this is an MCF system, also run the Features Diskette or the Features option on the CD-ROM on all other controllers to enable the MCF.	Store location	Chapter 7, "Installing your system software and migrating your 4690 system software," on page 167.
8.	Install the 4680 application program and transfer the 4680 or 4690 application program personalization data sets from diskettes to each store controller.	Store location	4680 or 4690 application program's planning and installation guide and <i>4690 OS: User's Guide</i> .

Table 6. Method 3. Steps to install and replicate the operating system (continued)

Step	Description	Where to perform the step	Where to find instructions and information
9.	Test store system using your test plan.	Store location	Task “Activity 14. Develop test and maintenance plans” on page 14.
10.	(Optional) Copy fixed disk system on diskettes for backup.	Store location	4690 OS: User's Guide.

Method 4. Back up system software to diskettes, optical disks, or streaming tape device and restore to hard disk

This method lets you install store systems by first installing software on a test system. Then, you copy the test system to diskettes or a streaming tape device for backup. Send the diskettes or tapes to each store location so that they can be restored on the hard disk of each store controller.

The following table defines steps to install and replicate the 4690 Store System. If your store system does not use multiple store controllers, omit Steps 4, 6, and 8.

Table 7. Method 4. Steps to install and replicate the operating system

Step	Description	Where to perform the step	Where to find instructions and information
1.	Prepare your store site.	Store location	Store System guides. See "Where to find more information" on page xxxii.
2.	Install the store controllers.	Store location	Store System guides. See "Where to find more information" on page xxxii. See the appropriate personal computer Quick Reference and Reference Diskette.
3.	Install the Point-of-Sale Terminals.	Store location	Store System guides. See "Where to find more information" on page xxxii.
4.	(Optional if using the TCC network) Attach the store controllers to the LAN (MCF Network).	Store location	Planning and Installation Guides for Ethernet LANs
5.	Back up system software from fixed disk to multiple diskettes, a streaming tape device, or optical disks for distribution to each store location.	Central site location	<i>4690 OS: User's Guide.</i>
6.	(Optional) If your store system uses multiple store controllers, you need to back up each unique store controller type. These types are: <ul style="list-style-type: none">• Master store controller/alternate master store controller• File server/alternate file server• Subordinate store controllers	Central site location	<i>4690 OS: User's Guide.</i>
7.	Perform CPREP to prepare the C: disk for RESTORE (or DPREP to prepare the D: disk). CPREP and DPREP are located on the Supplemental Diskettes or from the Supplemental Option using the CD-ROM.	Store location	<i>4690 OS: User's Guide.</i>

Table 7. Method 4. Steps to install and replicate the operating system (continued)

Step	Description	Where to perform the step	Where to find instructions and information
8.	Restore system software from diskettes, streaming tape device, or optical disks to each store controller fixed disk at each store location. Retain the system diskettes or tape for backup.	Store location	4690 OS: User's Guide.
9.	(Optional) If your store system uses multiple store controllers, you need to restore each unique store controller type.	Store location	4690 OS: User's Guide.
10.	Test store system using your test plan.	Store location	Task "Activity 14. Develop test and maintenance plans" on page 14.

Method 5. Load hard disk at central site and ship store controller to stores

This method lets you install store systems by first installing software on a test system, and then copying the test system on diskettes for backup. You can use the diskettes to restore the test system on the hard disk of any store controller. Deliver each store controller to the store location as you ready its system for installation. The backup and restore processes are performed by using the operating system Supplemental Diskettes or the Supplemental Option using the CD-ROM.

The following table defines steps to install and replicate the 4690 Store System. If your store system does not use multiple store controllers, omit Steps 5 and 8.

Table 8. Method 5. Steps to install and replicate the 4680 store system

Step	Description	Where to perform the step	Where to find instructions and information
1.	Prepare your store site.	Store location	Store System guides. See "Where to find more information" on page xxxii.
2.	Install the store controllers to be sent to the store location.	Central site location	Store System guides. See "Where to find more information" on page xxxii. See the appropriate personal computer Quick Reference and Reference Diskette.
3.	Back up fixed disk system on diskettes.	Central site location	<i>4690 OS: User's Guide</i>
4.	Restore the operating system, the 4680 or 4690 application program, and any other user application programs to the store controller from backup.	Central site location	<i>4690 OS: User's Guide</i>
5.	(Optional) If your store system uses multiple store controllers, you need to restore each unique store controller type. These types are: <ul style="list-style-type: none">• Master store controller/alternate master store controller• File server/alternate file server• Subordinate store controllers	Central site location	<i>4690 OS: User's Guide</i>
6.	Install the store controllers.	Store location	Store System guides. See "Where to find more information" on page xxxii. See the appropriate personal computer Quick Reference and Reference Diskette.
7.	Install the Point-of-Sale Terminals.	Store location	<i>4683 Point-of-Sale Terminal: Installation Guide</i> or <i>4693 Point-of-Sale Terminals: Configuration and Operation Guide</i>
8.	(Optional) Attach the store controllers to the LAN (MCF Network).	Store location	Planning and installation guides for Ethernet LANs.
9.	Test store system using your test plan.	Store location	Task "Activity 14. Develop test and maintenance plans" on page 14.

Table 8. Method 5. Steps to install and replicate the 4680 store system (continued)

Step	Description	Where to perform the step	Where to find instructions and information
10.	(Optional) Copy fixed disk system on diskettes for backup.	Store location	<i>4690 OS: User's Guide</i>

Chapter 7. Installing your system software and migrating your 4690 system software

This chapter contains step-by-step procedures for installing the software components that make up your software system and for migrating to the latest level of the system software.

Note: For step-by-step procedures of installing the software using the diskette method, see the prior versions (4690 OS V3R3 or earlier) of this publication, which are available on the web at www.toshibagcs.com/support.

Use these procedures for the following tasks:

- Initially installing the 4690 operating system, features, and optional programs
- Repeating your installation procedures in more than one store (this process is referred to as *replication*)
- Migrating your system software to the latest level of the 4690 system software

This chapter helps you identify your installation media and start your system from a bootable CD-ROM. It also helps you install and replicate your software. This chapter tells you when to configure your system.

The 4690 Version 6 Release 2 Installation and Migration packages are available as a set of two CD-ROMs per supported language. The Installation CD is available on a bootable CD-ROM. The Migration CD is on a non-bootable CD-ROM.

The CD-ROM is bootable for use with Install or to run Supplementals.

Checking media labels

The first CD of the 4690 OS Version 6 Release 3 package is used for base installations. The machine readable CD volume label is V6R3xxxxBAS where xxxx is the CD level field as reported in Report Module level and BAS indicate BASE install. Externally the CD is labeled:

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The second CD of the 4690 OS Version 6 Release 3 package is used for migrations. The machine readable CD volume label is V6R3xxxxMIG where xxxx is the CD level field as reported in Report Module level and MIG indicate MIGRATE package. Externally the CD is labeled:

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Additionally, 4690 OS maintenance packages for the Apply Software Maintenance (ASM) utility will have machine readable CD volume labels similar in format to the installation and migration packages, V6R3xxxxASM, where xxxx is the CD level field as reported in Report Module level and ASM indicates an Apply Software Maintenance package.

CD-ROM requirements

Only one CD-ROM drive is supported. Any CD-ROM drive that is fully compliant with the IDE specification is supported.

System requirements

4690 V6 controllers and controller/terminals will only support IBM xSeries x205 and newer hardware with 512 MB of RAM or POS hardware that is SurePOS 700 series Models 72x,74x,77x,78x or newer.

Notes:

1. Controller support of Java 2 is restricted to the supported SurePOS 700 and 4694 models, and to servers with a P300 processor or faster.
2. DBCS requires an additional 4 MB of RAM for a minimum of 20 MB of RAM.

Installation steps

The steps in this section guide you through the initial installation of the operating system. Follow these steps whether you have a multiple controller or single controller system. You must perform the installation steps at each controller.

If you already have an 4690 Operating System and are migrating to 4690 OS V6, through corrective media, see “Migrating to the latest level of the 4690 store system software” on page 192.

Step 1. Installing the 4690 OS V6 package

This section explains how to start your system by using the bootable CD-ROM method, prepare and format your hard disk drive, and transfer the operating system files from the media to the hard disk drive.

Notes:

1. All installations are Enhanced Options menu only.
2. During the installation procedure, you must use the numeric keypad on your keyboard to enter your responses.
3. Press **Enter** when you want to continue a procedure and **Esc** when you want to exit a procedure.

Step 1A. Starting the system

Before proceeding with the Installation procedure, read or print the README.DOC file described in “Step 1B. Installing the operating system.” This README.DOC file contains important information about your system. To begin the procedure:

1. Power off the store controller.
2. Insert CD-ROM 01 of 02 into the CD-ROM drive.
3. Power on the store controller devices (for example, the printer or display).
4. Power on the store controller. The in-use light on the CD-ROM drive comes on.

Note: At this point and others during the installation process, your screen might display non-error messages that are not documented here. The messages require no action from you and will be cleared from the screen for the next step of installation. During normal operation, you are prompted when a user response is required. For information on error messages that require action, see the *4690 OS: Messages Guide*. The 4690 version appears on your screen.

5. When the following information is displayed on the store controller, type **2** and press **ENTER**:

Select boot option by typing the number using the keypad
and pressing the ENTER key:
1 - 4690 Supplemental OS
2 - Install 4690 V6

6. Proceed to “Step 1B. Installing the operating system.”

Step 1B. Installing the operating system

This section shows you how to set up your hard disk drive and transfer the operating system to it. You choose the procedures by selecting options from the INSTALLATION OPTIONS menu. See the following chart for quick reference.

Table 9. Reference Chart of Installation Options

Option	Process
0	README.DOC information file. (Go to “Option 0 - README.DOC file” on page 169 for more information.)

Table 9. Reference Chart of Installation Options (continued)

Option	Process
1	Initially install new store. (Go to "Option 1 - Initially installing the operating system" for more information.)
2	Replicate configuration files on subsequent store systems. (Go to "Option 2 - Installing user-supplied configuration files" on page 171 for more information.)
9	Clean up and exit installation process. (Go to "Option 9 - Exiting the installation process" on page 172 for more information.)

Option 0 - README.DOC file: The README.DOC file contains important information about your system that you might not find in any other source. To access the README.DOC file, type **0**, and press **Enter**.

The system displays a menu from which you can choose to print or display the README.DOC file. Toshiba recommends that you print the README.DOC.

After accessing the README.DOC file, the system returns to the INSTALLATION OPTIONS menu so you can select another option.

Option 1 - Initially installing the operating system: Before you install software, you must prepare your disk to accept data. To do this, you must partition and format your hard disk drive. The partition is the area on your disk for your operating system, application files, and data files.

This procedure lets you create the partition, format it, and transfer system files from media to the partition on your hard disk drive.

1. To select Option 1, type **1** from the numeric keypad and press **Enter**.

First, a panel appears describing license acceptance information. You may press **ESC** to quit or **ENTER** to continue. The license is available in hard copy format or in the \license and \nonibmli directories on the CD-ROM.

A panel appears that explains that partitioning and formatting will occur. This panel is a protective step in the formatting process because you are asked to press **Enter** again to indicate that you want to continue with the formatting. The system asks you to make the formatting choice twice to protect you from formatting and partitioning your disk accidentally.

If you do not want to continue, press **Esc**. After you press **Esc**, a message appears indicating that you must format your hard disk drive to install the operating system. Press **Enter** to return to the INSTALLATION OPTIONS menu.

Attention: Make sure that the disk you want formatted does not contain data you want to keep. Formatting destroys any data on the disk. If there is data you want to keep, you must copy or back it up to a diskette.

2. If you want to continue, type **1** and press **Enter**. The following message is displayed:

Setting up a single fixed disk active partition on C: ...

The length of time that this procedure takes depends on the size of the disk.

3. When this process finishes, you are prompted to specify the national language used on any system keyboard-attached keyboards on your terminal, or your controller. Your screen displays a list of numbers and national languages. Type the number from the numeric keypad and press **Enter**.

Notes:

- a. Make sure you enter the number representing the correct language. If you enter an incorrect number and need to change it, you must either restart the installation process or use the Supplemental Option using the CD-ROM to correct the error. If you choose to use the Supplemental Option using the CD-ROM to make the change, you should continue installing your operating system before trying to make the change. See the *4690 OS: User's Guide* for information on using the Supplemental Option using the CD-ROM.

- b. This step also selects the text mode character set for any video displays attached to your controller and for the controller side of a video display attached to your controller. To select the text mode character set for any video displays attached to your terminal or the terminal side of a video display attached to your controller, you must specify the national language used by any point-of-sale attached keyboard, as described in Step 4.
- c. This step also selects the Java graphical character set for any video displays attached to your controller. To select the Java graphical character set for any video displays attached to your terminal, you must specify the national language used by any point-of-sale attached keyboard, as described in Step 4.

After you specify the language for your keyboard, file transfer begins. A status bar indicates the progress of your 4690 installation.

After the following message appears, go to Step 4:

Copying system files from volume 01 ...

- 4. You are prompted to specify the national language used by any point-of-sale attached keyboard that might be on your terminal. Your screen displays a list of numbers and national languages. Type the number from the numeric keypad and press **Enter**.

Notes:

- a. Make sure you enter the number representing the correct language number for the keyboards you will be using. If you enter an incorrect number and need to change it, you must either restart the installation process or use the Supplemental Option using the CD-ROM to correct the error. If you choose to use the Supplemental Option using the CD-ROM to make the change, you should continue installing your operating system before trying to make the change. See *4690 OS: User's Guide* for information on using the Supplemental Diskettes or the Supplemental Option using the CD-ROM.
- b. This step also selects the text mode character set for any video displays attached to your terminal and for your controller. To select the text mode character set for any video displays that are attached to your controller, you must specify the national language used on any PS/2-attached keyboards, as described in Step 3.
- c. This step also selects the Java graphical character set for any video displays attached to your terminal. To select the Java graphical character set for any video displays that are attached to your controller or controller/terminal, you must specify the national language used on any PS/2-attached keyboards, as described in Step 3.
- 5. You are prompted to specify the host translation table used at the host system. Your screen displays a list of numbers and national languages. Type the number from the numeric keypad and press **Enter**.

The translation table you select must be compatible with the translation table used at the host (partner) site. You will be prompted as to whether you want to use the country-specific or international table for the country you have selected. Contact your host site to determine which translation table to select.

Note: Make sure you enter the number representing the correct translation table number. If you enter an incorrect number and need to change it, you must either restart the installation process or use the Supplemental Option using the CD-ROM to correct the error. If you choose to use the Supplemental Option using the CD-ROM to make the change, you should continue installing your operating system before trying to make the change. See the *4690 OS: User's Guide* for information on using the Supplemental Diskettes or the Supplemental Option using the CD-ROM.

- 6. Type your selection and press **Enter**. The following message appears:

The store system requires a unique node name
for each store controller. The node name consists of
two alphabetic characters ranging from CC to ZZ

Type the 2-character node name for this controller

and press ENTER

- or -

Just press ENTER to use the default or existing node name.

7. The default value for a new store controller is CC. If you will be setting up a multiple controller system, you must assign a unique ID to each store controller. Type in the ID for the store controller. Press **Enter**.
8. If you do not have a second hard disk drive, the system shows a panel that states that you have completed transferring the operating system to the hard disk drive. Press any key to return to the INSTALLATION OPTIONS menu.

If you have a second hard disk drive, a message states:

You have a fixed disk on the 'D' drive.

If you want to partition and format the fixed disk on the
'D' drive at this time, press the ENTER key.

- or -

Press the key labeled 'ESC' if you DO NOT want to partition
or format the fixed disk on the 'D' drive.

- If you **do not** want to format the second hard disk drive at this time, press **Esc**. The system shows a panel that states that you have completed transferring the operating system to the hard disk drive

Note: If you decide to prepare the second hard disk later, you can do so by using the Supplemental Option using the CD-ROM. See the *4690 OS: User's Guide* for information on using the Supplemental CD-ROM.

- If you **do** want to format the second hard disk drive, press **Enter**. The partitioning and formatting procedure for the second hard disk drive is similar to the procedure for the first one.
9. The system displays a panel that states that you have completed the 4690 installation. Remove the CD-ROM and the boot diskette, if applicable, and store them in a safe place.
 10. Press any key to return to the INSTALLATION OPTIONS menu. If you will be replicating the configuration files on additional store systems, proceed to "Option 2 - Installing user-supplied configuration files."

Note: Not all configuration files are saved.

If you are finished with the installation process, proceed to "Option 9 - Exiting the installation process" on page 172.

Option 2 - Installing user-supplied configuration files: You can do this procedure whether you have a multiple controller or single controller system. If you have a multiple controller system using the Data Distribution Application, you have to perform this procedure only at the master store controller. See "Step 7C. Copying configuration data for other stores" on page 191 for information on replicating configuration data for other stores. This option must be used only to replicate configuration files across several stores at the same level of the operating system. Do not restore 4680 configuration files on a 4690 system.

The diskette you use for this procedure should contain configuration files that have been replicated for several stores.

Using this procedure, you will install these configuration files on your new operating system. This procedure transfers files from the diskette to the hard disk drive.

1. Select Option 2 from the INSTALLATION OPTIONS menu. To select this option, type **2** and press **Enter**.
2. Insert the diskette as requested and a message states:
Copying inactive configuration data files to the fixed disk
When all the files are copied to disk, this message appears:
Copying of inactive configuration data files is complete

3. Press any key to return to the INSTALLATION OPTIONS menu.
4. Type **9** to exit from the installation process.
5. Remove the diskette from drive A.
6. To activate the user-supplied configuration changes, reboot the controller by pressing **Ctrl+Alt+Del**.
7. Sign on to the controller. At the main menu, select **4** (INSTALLATION AND UPDATE AIDS).
8. Select **1** (CHANGE CONFIGURATION DATA).
9. Select **4** (ACTIVATE CONFIGURATION).
10. Then select:
 - **TERMINAL CONFIGURATION** and activate
 - **CONTROLLER CONFIGURATION** and activate
 - **SYSTEM CONFIGURATION** and activate
11. Re-IPL the controller by pressing **Ctrl+Alt+Del** to make all changes active.

Option 9 - Exiting the installation process: When you finish installing your operating system, choose Option 9 to exit installation. To select this option, type **9** from the numeric keypad and press **Enter**.

The system displays a panel that provides access to the installation messages file. This file contains a record of your installation transactions and is for your reference. The text on the panel tells you how to print or display this file.

Note: You should review this file for any error messages. If errors are found, you must re-IPL your system from the bootable CD-ROM. This process is explained in “Option 1 - Initially installing the operating system” on page 169.

Step 1C. Enabling the operating system features

The Feature Installation program is on the CD-ROM that is provided with the purchase of any operating system features. To run the Feature Installation program, IPL the controller and sign on.

Signing on: To sign on:

1. Type in your operator identification (ID). If you are using the default ID supplied with your system, type:
99999999
2. Press **Enter**.
3. You are prompted to enter your password:
Type your Password____
When complete, press ENTER.
4. Type your password. If you are using the default password supplied with your system, type:
99999999
5. Press **Enter**.

If you enter an incorrect password, the signon panel appears again, and you are prompted to re-enter your operator ID and password.

After you enter your operator ID and password, the SYSTEM MAIN MENU appears:

```

                SYSTEM MAIN MENU
Select one of the following:

1
2
3  File Utilities
4  Installation and Update Aids
5  Problem Analysis Data Collection
6  Problem Analysis Reports
7  Command Mode

Type your selection number, then press ENTER _

F1HELP  F2    F3    F4    F5    F6  F7  F8    F9SIGNOFF
```

After you have signed on at the store controller where the features are to be installed, perform the following steps:

1. From the SYSTEM MAIN MENU, type **7** (COMMAND MODE) and press **Enter**.
2. Using the CD-ROM, when the prompt appears, insert the CD-ROM into the CD-ROM drive. Type **P:4690feat/install** and press **Enter**.

Initial setup of features

The first time you run the Feature Installation program, the following panel appears, prompting you to choose a selection that describes the store controller on which you are currently running this program.

SETUP MULTIPLE CONTROLLER FEATURE
CONTROLLER CC

Select the number that describes this controller.

1. Multiple Controller Feature has NOT been purchased for this controller.
2. Multiple Controller Feature has been purchased for this controller and this controller IS the master.
3. Multiple Controller Feature has been purchased for this controller and this controller is NOT the master.

Type your selection number.

When complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

Option 1 - Single controller system: If you have not purchased the Multiple Controller Feature, or you do not want to set up your system as a Multiple Controller System:

1. Type **1** and press **Enter** to set up features for your single controller system. The following panel appears, prompting you to select the features you want to enable. If additional features are available for selection, the PgDn prompt is displayed.

CSZFE003

FEATURES PURCHASED

CONTROLLER

Multiple Controller Feature (includes NetBIOS)

NETBIOS Feature

Communications Feature

Store Loop TCC Feature

LAN TCC Feature

Controller Virtualization Feature

Place an X by each feature you have purchased for each listed controller.
When you have completed setup of features for all controllers, press ENTER
to install these features. To start over, press the ESC key.

F1HELP F2

F3QUIT

F4

F5

F6

F7

F8

F9

F10

Note: The Store Loop TCC Feature is not supported in 4690 OS V6R3 and beyond.

2. Type an **X** next to each feature you have purchased for your controller and press **Enter** when finished. The following panel appears, prompting you to select the terminal features you want to enable. If additional features are available for selection, a PgDn prompt is displayed.

TERMINAL FEATURES PURCHASED

Each feature listed below requires the purchase of a license for each terminal using that feature. Enter the number of licenses purchased for the features that will be used.

4690 Operating System Terminal Licenses

When you have completed setup of features for all terminals, press ENTER to install these features. To start over, press the ESC key.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

3. Type the number of licenses purchased next to each terminal feature you want enabled for your system and press **Enter**. If additional features are available for selection, a PgDn prompt is displayed.
4. Type **Exit** at the command line.

Option 2 - Multiple controller system - master store controller: This option enables you to set up features for all of the controllers on your multiple store controller system.

If you want to set up your system as a multiple controller system and the store controller on which you are currently running this program is the master:

1. Type **2** and press **Enter**.
2. The following panel appears, prompting you to enter a list of the store controllers that will be a part of your multiple controller system.

CHOOSE CONTROLLERS

Enter a list of all the Controller IDs on your system:

When complete, press ENTER to setup features for the controllers in this list.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

The store controller on which you are running the features program will be listed first because it will be the master store controller.

3. Enter the IDs of all of the other store controllers on your system and press **Enter**. The following panel appears, prompting you to select the features you want to enable. If additional features are available for selection, a PgDn prompt is displayed.

CSZFE003

FEATURES PURCHASED

CONTROLLER

Multiple Controller Feature (includes NetBIOS)

NETBIOS Feature

Communications Feature

Store Loop TCC Feature

LAN TCC Feature

Controller Virtualization Feature

Place an X by each feature you have purchased for each listed controller.
When you have completed setup of features for all controllers, press ENTER
to install these features. To start over, press the ESC key.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

Note: The Store Loop TCC Feature is not supported in 4690 OS V6R3 and beyond.

4. Type an **X** next to each feature you have purchased for your controller and press **Enter** when finished. The following panel appears, prompting you to select the terminal features you want to enable. If additional features are available for selection, a PgDn prompt is displayed.

TERMINAL FEATURES PURCHASED

Each feature listed below requires the purchase of a license for each terminal using that feature. Enter the number of licenses purchased for the features that will be used.

4690 Operating System Terminal Licenses

When you have completed setup of features for all terminals, press ENTER to install these features. To start over, press the ESC key.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

5. Type the number of licenses purchased next to each terminal feature you want enabled for your system and press **Enter**. If additional features are available for selection, a PgDn prompt is displayed.
6. Type **Exit** at the command line.

Note: Because there can be only one master controller, option 2 should be selected only for the one store controller that will become the master store controller. On multiple controller systems, features for all controllers are always set up at the master. However, you must run the features program on all non-master store controllers initially to prepare each non-master controller to become a part of a multiple store controller system.

Option 3 - Multiple controller system - non-master store controller: If you want to set up your system as a multiple controller system and the store controller on which you are currently running is a non-master:

1. Type **3** and press **Enter**. The following panel is displayed:

CSZFE005

LAN CONFIGURATION

Select the LAN media type:

1 = Token-Ring

2 = Ethernet

When complete, press ENTER.

F1

F2

F3QUIT

F4

F5

F6

F7

F8

F9

F10

2. Type 2 for Ethernet as Token-Ring is no longer supported then press **Enter**.

You are now finished with all of the feature setup you need to do on this store controller. When this store controller is IPLed, it is ready to become a non-master store controller on a multiple controller system. See “Step 4. Installing the 4690 Optional Programs” on page 189 to continue the installation process.

Selecting features

The first of the last two panels of the Feature Installation program lists all of the store controllers on your system (or only the store controller on which you are currently running the features program if your system is going to be a single controller system). The panel also lists all of the features that you have the option of selecting. Follow the instructions on the screen to set up the features for all of the listed controllers.

Note: If you are setting up features for multiple store controllers, you cannot de-select the Multiple Controller Feature for any listed store controller. Also, because NetBIOS is included as a part of the Multiple Controller Feature, you cannot select the NetBIOS Feature. Likewise, if you are setting up features for a single controller system, you cannot select the Multiple Controller Feature.

The last panel lists all of the terminal features you can enable. Follow the screen prompts to finish setting up your features.

When you finish setting up the features, type **Exit** at the command line and you are ready to configure your system.

Adding or removing features

If you made a mistake in setting up the features, or you want to add or remove features for a store controller, you can run the Feature Installation program again. The program will preserve all of your previous selections.

You can perform the following options when setting up, adding, or removing features using the Feature Installation program:

- Run the Feature Installation program on the master store controller of a multiple controller system or on the store controller of a single controller system.
- Run the Feature Installation program on a potential non-master store controller that has not yet become a part of an active multiple controller system.
- Add new store controllers to the list of store controllers on an MCF system.
- Add and remove features for all listed store controllers.
- Run the Feature Installation program on a non-master store controller of an active MCF system.
- Disable the Multiple Controller Feature for any active store controller on an active MCF system.
- Remove active store controllers from the list of store controllers on an active MCF system. (This must be done during configuration.)

Step 2. Configuration for Data Distribution Application (MCF) or LU 6.2 for ethernet

Continue with “Step 2A. Configuration for DDA (MCF)” if you will be using the MCF to provide communications with other store controllers.

Continue with “Step 2B. Configuration for LU 6.2 for ethernet” on page 184 if you will be using LU 6.2 peer-to-peer communications over an Ethernet network.

Step 2A. Configuration for DDA (MCF)

After performing these steps, communications will be available provided a LAN TCC has been installed.

Before performing the following steps, repeat the Multiple Controller Feature selection on other store controllers that are part of your MCF system.

Note: If this is not the first time you have selected the Multiple Controller Feature on the operating system, begin with Step 5 on page 183. If you are adding a new store controller to an existing store system using DDA, go to “Step 3. Adding a new store controller to an existing store system (optional)” on page 186.

1. IPL the master store controller.

Go to the master store controller in your system and start it from the hard disk drive. To do this, press **Ctrl+Alt+Del**. The store controller runs its IPL sequence and a signon panel appears.

2. Sign on at the master store controller.

This step is explained in “Signing on” on page 172. When you have signed on successfully and you have the SYSTEM MAIN MENU displayed at your store controller, proceed to the next step.

3. Configure your MCF functions at the master store controller.

In this step you specify the 2-character ID for each store controller in your store and define your communications, if you choose to use them. Perform these steps:

- a. From the SYSTEM MAIN MENU, select INSTALLATION AND UPDATE AIDS by typing **4** and pressing **Enter**.
- b. From the INSTALLATION AND UPDATE AIDS menu, select CHANGE CONFIGURATION DATA by typing **1** and pressing **Enter**.
- c. From the CONFIGURATION menu, select CONTROLLER CONFIGURATION by typing **2** and pressing **Enter**.
- d. When you select CONTROLLER CONFIGURATION, the following question might appear:

Are you configuring a Store System that
uses the Toshiba Multiple Controller
Feature (LAN) to support the Data
Distribution Application? (Y=Yes, N=No)

Answer Yes to this question by typing **Y** and pressing **Enter**.

- e. After answering Yes to the first question, the following question might appear:

You do not have the Toshiba Multiple Controller Feature defined as supporting the Data Distribution Application in your active system configuration. You are now adding this support.

Is this correct? _____ (Y=Yes, N=No)

Answer Yes to this question by typing **Y** and pressing **Enter**.

- f. The following panel is displayed:

CSCMS004

SELECT LAN CONFIGURATION

This system does not have a LAN defined.
Indicate the type of LAN to be used:

1 = Token-Ring
2 = Ethernet

Indicate the type of Terminal-Controller
Communications LAN media type to be used:

1 = Token-Ring
2 = Ethernet

When complete, press ENTER.

F1

F2

F3QUIT

F4

F5

F6

F7

F8

F9

F10

Type 2 for Ethernet as Token-Ring is no longer supported then press **Enter**.

g. A CONTROLLER CONFIGURATION panel appears.

CONTROLLER CONFIGURATION

Enter Store Controller IDs:

CONTROLLER TYPE

MASTER

ALTERNATE MASTER

FILE SERVER

ALTERNATE FILE SERVER

ID

--

CC

When complete, press ENTER.

F1HELP

F2

F3QUIT

F4

F5

F6

F7

F8

F9

F10

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Type a 2-character ID for each type of store controller listed on the screen, and then press **Enter**.

- h. After you press **Enter**, the system displays a second configuration menu. This menu asks you to identify each subordinate store controller in your system. Type the ID for each subordinate store controller that you want to add to your LAN (MCF Network) system. Use the **Tab** key to position the cursor. Note that store controller type “subordinate” appears after each ID that you add.

When you have finished adding subordinate controllers, position the cursor to the controller you want to configure and press **Enter**. See the section on Configuring Your Store System in the *4690 OS: User's Guide* for information on configuring specific items. If you choose to use your LAN (MCF Network) system communications capability, select **Communications** from the menu listing the configuration items.

Attention: Before performing any Java-based configuration utilities, you must enable Java graphics in the controller configuration. To enable Java graphics, select **CONTROLLER CONFIGURATION, VIDEO ATTRIBUTES**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

Repeat the configuration for all controllers. When you have finished configuring the controllers, press **F3** until you return to the CONFIGURATION menu.

4. Activate the configuration at the master store controller.

To activate the configuration, type **4**, and press **Enter**. The ACTIVATE CONFIGURATION menu appears. Type **2** and press **Enter** to select CONTROLLER CONFIGURATION. Messages appear stating that configuration verification is in progress, that configuration is being made active, and that configuration is complete.

5. IPL all store controllers.

Go to each store controller and start it from the hard disk drive. To do this, press **Ctrl+Alt+Del**. The master store controller displays the following message:

W901 No Acting Master Found

- a. Press **F1**.

The master store controller continues processing and then displays the following message:

W902 No Acting File Server Found

- b. Press **F2**.

The master store controller continues its IPL process and then displays the signon panel.

The other store controllers might display W901 No Acting Master Found but they will eventually recover, reload, and accept the configuration changes after the master controller has been activated.

6. Activate the master store controller.

Sign on at the signon panel. This process is explained in “Signing on” on page 172. Then, press the **Sysreq** (System Request) key (this might require a combination of keystrokes on some keyboards).

The system displays a panel containing information about your system keys.

- a. Type **C**, on the SYSTEM KEYS panel. The system displays the STORE CONTROL FUNCTIONS panel.
- b. Type **4**, and press **Enter** on the STORE CONTROL FUNCTIONS panel.
- c. Type **1**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel. A warning message appears indicating that selected applications will be ended.
- d. Type **Y** for Yes to continue the activation. Type **N** for No to not activate the master store controller.

7. Activate the file server store controller.

- If the master store controller is also the file server store controller.

Note: If you have previously installed the Multiple Controller Feature on your operating system and the No Acting File Server Found message does not appear on the master, do not perform this step.

If the master store controller is also the file server store controller:

- a. Type **2**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel. A warning message appears indicating that selected applications will be ended.
- b. Type **Y** for Yes to continue the activation. Type **N** for No to not activate the master store controller.
- If the master store controller is not the file server store controller.

Note: If you have previously installed the Multiple Controller Feature on your operating system and the “No Acting File Server Found” message does not appear on the file server, do not perform this step.

If you did not activate a file server store controller, then all of the store controllers will display “No Acting File Server Found.”

- a. Press **F2** at the file server store controller.
The store controller then displays a message indicating that it is reloading to get the configuration changes.
- b. When “No Acting File Server Found” displays again, press **F2** at the file server store controller.
- c. Sign on at the signon panel. This process is explained in “Signing on” on page 172.
- d. Press the **Sysreq** (System Request) key (this might require a combination of keystrokes on some keyboards).
- e. Type **C**, on the SYSTEM KEYS panel.
- f. Type **4**, and press **Enter** on the STORE CONTROL FUNCTIONS panel.
- g. Type **2**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel. A warning message appears indicating that selected applications will be ended.
- h. Type **Y** for Yes to continue the activation. Type **N** for No to not activate the master store controller.

Note: Non-master store controller and non-file server store controllers will complete their configuration for the DDA after the file server store controller has been activated.

The remaining store controllers will complete their IPL sequences. You can now sign on to your remaining store controllers.

Step 2B. Configuration for LU 6.2 for ethernet

The following steps describe how to configure the store controllers to be used for LU 6.2 peer-to-peer communications over an Ethernet network. This configuration does not support the Data Distribution Application (DDA).

Before performing these steps, make sure that the Multiple Controller Feature is selected on your other store controllers that will perform LU 6.2 communications.

1. IPL each store controller.
Go to each store controller meant for LU 6.2 peer-to-peer communications and start it from the hard disk drive. To do this, press **Ctrl+Alt+Del**. The store controller runs the IPL sequence and a signon panel appears.
2. Sign on at each store controller.
When your system is powered on, the signon panel appears:
Enter your operator ID and password. The SYSTEM MAIN MENU appears:


```

                SYSTEM MAIN MENU
      Select one of the following:

      1
      2
      3  File Utilities
      4  Installation and Update Aids
      5  Problem Analysis Data Collection
      6  Problem Analysis Reports
      7  Command Mode

      Type your selection number, then press ENTER _

F1HELP  F2    F3    F4    F5    F6  F7  F8    F9SIGNOFF

```

The message line displays any messages that appear while the system is processing. The status line displays the time, window information, and system message available information.

3. Configure SNA communications at each store controller.

After you have signed on at each store controller meant for LU 6.2 peer-to-peer communications, follow these steps to configure each store controller.

- a. From the SYSTEM MAIN MENU, select INSTALLATION AND UPDATE AIDS by typing **4** and pressing **Enter**.
- b. From the INSTALLATION AND UPDATE AIDS menu, select CHANGE CONFIGURATION DATA by typing **1** and pressing **Enter**.
- c. From the CONFIGURATION menu, select CONTROLLER CONFIGURATION by typing **2** and pressing **Enter**.
- d. When you select CONTROLLER CONFIGURATION, the following question might appear:

Are you configuring a Store System that
uses the Toshiba 4690 Multiple Controller
Feature (LAN) to support the Data
Distribution Application? (Y=Yes, N=No)

Answer No to this question by typing **N** and pressing **Enter**.
- e. The following question appears:

Are you configuring a Store System that uses SNA
communication on a Local Area Network? (Y=Yes, N=No)

Answer Yes to this question by typing **Y** and pressing **Enter**.
- f. The following LAN CONFIGURATION panel appears.

LAN CONFIGURATION

This LAN media type is set. The current LAN media type is shown. To change, enter the new value:

1 1 = Token-Ring
 2 = Ethernet

This TCC media type is set. The current TCC media type is shown. To change, enter the new value:

2 1 = Token-Ring
 2 = Ethernet

When complete, press ENTER.

F1
F2
F3QUIT
F4
F5
F6
F7
F8
F9
F10

- g. After setting this panel for Ethernet, a menu listing configuration items appears. See the *4690 OS: User's Guide* for a description of the configuration items.
4. Activate the Configuration at each store controller.
To activate the configuration from the CHANGE CONFIGURATION DATA panel, type **4** and press **Enter**. The ACTIVATE CONFIGURATION menu appears. Type **2** and press **Enter** to select CONTROLLER CONFIGURATION. Messages appear stating that the configuration verification is in progress, that configuration is being made active, and that configuration is complete.
5. IPL each store controller.
Go to each store controller meant for SNA LU 6.2 peer-to-peer communications in your system and start it from the hard disk drive. To do this, press **Ctrl+Alt+Del**. The store controllers run the IPL sequence and a signon panel appears.

Step 3. Adding a new store controller to an existing store system (optional)

These steps guide you through adding a new store controller to a store system that uses the DDA.

1. IPL the new store controller by pressing **Ctrl+Alt+Del**.
Sign on at the signon panel. This process is explained in "Signing on" on page 172.
2. Add the new store controller.
If necessary, migrate the new store controller to the same release level as all of the other installed features on the store system. See "Migrating to the latest level of the 4690 store system software" on page 192 for a description of how to migrate your new store controller.
3. IPL the master store controller.
Go to the master store controller in your system and start it from hard disk drive. To do this, press **Ctrl+Alt+Del**. The store controller runs its IPL sequence and a sign-on panel appears.
4. Add the new controller ID to the list of controller IDs and select the features purchased by using the CD-ROM on the master store controller.
5. Run the Features Program on the new store controller and select option 3.
6. Configure your LAN functions at the master store controller.
In this step you specify the 2-character ID for each new store controller in your store and define your communications, if you choose to use them. Sign on to the master store controller and perform these steps:
 - a. From the SYSTEM MAIN MENU, select INSTALLATION AND UPDATE AIDS by typing **4** and pressing **Enter**.
 - b. From the INSTALLATION AND UPDATE AIDS menu, select CHANGE CONFIGURATION DATA by typing **1** and pressing **Enter**.

c. From the CONFIGURATION menu, select CONTROLLER CONFIGURATION by typing **2** and pressing **Enter**.

d. When you select CONTROLLER CONFIGURATION, the following question appears:

Are you configuring a Store System that
uses the Toshiba Multiple Controller
Feature (LAN) to support the Data
Distribution Application? ☐ (Y=Yes, N=No)

Answer Yes to this question by typing **Y** and pressing **Enter**.

e. The following question might appear:

You do not have the Toshiba Multiple Controller
Feature defined as supporting the Data Distribution
Application in your active system configuration.
You are now adding this support.

Is this correct? ☐ (Y=Yes, N=No)

Answer Yes to this question by typing **Y** and pressing **Enter**.

f. The following panel is displayed:

CSCMS005

LAN CONFIGURATION

This LAN media type is set. The current LAN media type is shown. To change, enter the new value:

1

1 = Token-Ring
2 = Ethernet

This TCC media type is set. The current TCC media type is shown. To change, enter the new value:

2

1 = Token-Ring
2 = Ethernet

When complete, press ENTER.

F1

F2

F3QUIT

F4

F5

F6

F7

F8

F9

F10

Note: Only Ethernet is supported in Enhanced Mode.

If you are changing the LAN media type, type the corresponding number and press **Enter**. The following panel is displayed to confirm the change:

CSCMS006

LAN CONFIRMATION

You have indicated a different LAN or TCC type.
Do you want to change the LAN or TCC type now?

1 = Change
2 = Do not change

When complete, press ENTER.

F1

F2

F3QUIT

F4

F5

F6

F7

F8

F9

F10

To change the LAN media type, type **1** and press **Enter**. If you do not want to change the LAN type, type **2** and press **Enter**. The previous panel will be displayed.

- g. The CONTROLLER CONFIGURATION panel appears. (See page 182 for the CONTROLLER CONFIGURATION panel.)

Type a 2-character ID for each type of store controller listed on the panel, and then press **Enter**.

- h. After you press **Enter**, the system displays a second configuration menu. This menu asks you to identify each subordinate store controller in your system. Type the ID for each subordinate store controller that you want to add to your LAN (MCF Network) system. Use the **Tab** key to position the cursor. Note that store controller type “subordinate” appears after each ID that you add.

When you have finished adding subordinate controllers, position the cursor to the controller you want to configure and press **Enter**. See the section on Configuring Your Store System in the *4690 OS: User's Guide* for information on configuring specific items. Repeat the configuration for all store controllers. When you have finished configuring the controllers, press **F3** until you return to the CONFIGURATION menu.

Attention: Before performing any Java-based configuration utilities, you must enable Java graphics in the controller configuration. To enable Java graphics, select **CONTROLLER CONFIGURATION, VIDEO ATTRIBUTES**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

If you choose to use your LAN system communications capability, select **COMMUNICATIONS** from the menu listing configuration items. See the section on configuring your store system in the *4690 OS: User's Guide* for information on configuring specific items.

7. Activate the configuration at the master store controller.

To activate the configuration, type **4**, and press **Enter**. The ACTIVATE CONFIGURATION menu appears. Type **2** and press **Enter** to select CONTROLLER CONFIGURATION. Messages appear stating that configuration verification is in progress, that configuration is being made active, and that configuration is complete.

8. IPL all store controllers.

- Go to each store controller and start it from the hard disk drive. To do this, press **Ctrl+Alt+Del**.
9. From the master store controller, deactivate, then activate the master store controller.
Sign on at the signon panel. This process is explained in “Signing on” on page 172. Then press the **Sysreq** (System Request) key (this might require a combination of keystrokes on some keyboards). The system displays a panel containing information about your system keys.
 - a. Type **C** on the SYSTEM KEYS panel. The system displays the STORE CONTROL FUNCTIONS panel.
 - b. Type **4**, and press **Enter** on the STORE CONTROL FUNCTIONS panel.
 - c. Type **3**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel to deactivate the active store controller as the acting master store controller.

Note: You will receive a message that continuing this procedure will stop certain applications.
 - d. Type **Y** to continue. The system displays a message stating that the command has been accepted.
 - e. Type **1**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel to activate the store controller as the acting master store controller.

Note: You will receive a message that continuing this procedure will stop certain applications.
 - f. Type **Y** to continue. The system displays a message stating that the command has been accepted.
 10. From the file server store controller, deactivate, then activate the file server store controller.
Sign on at the signon panel. This process is explained in “Signing on” on page 172. Then press the **Sysreq** (System Request) key (this might require a combination of keystrokes on some keyboards). The system displays a panel containing information about your system keys.
 - a. Type **C** on the SYSTEM KEYS panel. The system displays the STORE CONTROL FUNCTIONS panel.
 - b. Type **4**, and press **Enter** on the STORE CONTROL FUNCTIONS panel.
 - c. Type **4**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel to deactivate the active store controller as the acting file server store controller.

Note: You will receive a message that continuing this procedure will stop certain applications.
 - d. Type **Y** to continue. The system displays a message stating that the command has been accepted.
 - e. Type **2**, and press **Enter** on the MULTIPLE CONTROLLER FUNCTIONS panel to activate the store controller as the acting file server store controller.

Note: You will receive a message that continuing this procedure will stop certain applications.
 - f. Type **Y** to continue. The system displays a message stating that the command has been accepted.
 11. Re-IPL the new store controller.
Go to the new store controller and start it from hard disk drive. To do this, press **Ctrl+Alt+Del**.
Sign on to the new store controller at the signon panel. This process is explained in “Signing on” on page 172.

Step 4. Installing the 4690 Optional Programs

The operating system must be installed prior to installing the 4690 Optional Programs.

The 4690 Optional Programs should be installed on a 4690 store controller that is used for developing 4680 or 4690 applications. The 4690 Optional Programs are only relevant to the store controller on which they are installed.

The 4690 Optional Programs should be installed in a subdirectory containing your development code. This subdirectory must have a logical file name defined. See the *4690 OS: Programming Guide* for a discussion of user logical file names. You can use subdirectory ADX_UPGM, which is already defined.

Note: 4690 Optional Programs should be placed in only one subdirectory.

To begin the procedure:

1. Using the CD-ROM method, insert CD-ROM 01 of 02 into the CD-ROM drive.
2. From the SYSTEM MAIN MENU, select Command Mode.

Using the CD-ROM, enter the following command:

```
P:4690OPT/START ADX_?PGM:
```

This command accesses your CD-ROM drive and begins the installation procedure. The ? character represents the letter of the subdirectory into which you want to install the optional programs.

3. When you have finished, the C prompt appears. Type **Exit** and press **Enter** to return to the SYSTEM MAIN MENU.
4. From the SYSTEM MAIN MENU, select INSTALLATION AND UPDATE AIDS by typing **4** and pressing **Enter**.
5. From the INSTALLATION AND UPDATE AIDS panel, select APPLY SOFTWARE MAINTENANCE by typing **5** and pressing **Enter**.
6. From the APPLY SOFTWARE MAINTENANCE panel, select TRANSFER MAINTENANCE FILES by typing **1** and pressing **Enter**.
Enter an **X** beside the 4690 Optional Programs selection. The maintenance will be transferred from CD-ROM and after the process is complete, IN MAINTENANCE appears next to the 4690 Optional Programs selection. You are prompted when the process is complete.
7. From the APPLY SOFTWARE MAINTENANCE panel, select ACTIVATE MAINTENANCE by typing **2** and pressing **Enter**.

Decide if you want to test, cancel, or accept the optional program upgrades, and enter the number of the option you choose beside the 4690 Optional Programs selection.

Step 5. Installing your sales application

You can install your sales application now. If you are installing a sales application, see its documentation for instructions on installing the application.

When you complete installing your sales application, return to this chapter and begin with “Step 6. Starting your system from hard disk drive.”

Step 6. Starting your system from hard disk drive

At this point, you can re-IPL your system from hard disk drive. To re-IPL the system from hard disk drive:

1. Make sure there is no media in the CD-ROM, floppy diskette drives, or USB drives.
2. Press **Ctrl+Alt+Del**. Your screen will be empty. When the system starts up again, the sign-on panel appears. For information about signing on to the system, see “Signing on” on page 172.

Note: This procedure lets you re-IPL your system from disk when your store controller is already powered on. To start your system from disk when the store controller is powered off, make sure there is no media in the CD-ROM, floppy diskette drives, or USB ports, and then power on the store controller.

You can now proceed with configuration.

Step 7. Configuring your system

When your system transferred files from the CD-ROM to the hard disk drive, it transferred active default configuration files, making it possible for you to begin your store operations using them. You can use those files just as they are, or you can change the files to suit your store needs.

If you copied your own configuration files, you can go to “Step 7D. Activating your own configuration files.”

Attention: Before performing any Graphical User Interface(GUI) Java-based configuration utilities, you must enable Java graphics in the controller configuration. To enable Java graphics, select **CONTROLLER CONFIGURATION, VIDEO ATTRIBUTES**, and then **Yes** when asked if Java graphics will be used by the controller. You must activate the change and IPL your system before Java graphics are enabled.

Step 7A. Using the default configuration

A default configuration is provided on the CD-ROM and installed when you initially install your operating system.

If the default configuration is satisfactory for your needs or you do not want to change the configuration at this time, you can skip this procedure and go on to “Step 8. Making backup copies” on page 192. If you decide later to change the configuration, return to Step 7B. Changing the default configuration or Step 7C. Copying configuration data for other stores of this procedure.

Step 7B. Changing the default configuration

If you want to make changes or activate changes made to the default configuration, see the section on Configuring Your Store System in the *4690 OS: User's Guide* for step-by-step procedures.

Step 7C. Copying configuration data for other stores

If you have several stores using the same configuration data, copy the configuration files from the hard disk drive onto a diskette for replication.

Note: Not all configuration files are saved.

This procedure requires a blank, formatted diskette. For information on how to format a diskette, see the *4690 OS: User's Guide*

1. When you finish configuring the first system, return to the SYSTEM MAIN MENU.
2. From the SYSTEM MAIN MENU, select COMMAND MODE by typing **7** and pressing **Enter**.
3. Your screen will go blank for a moment, and then the system prompt appears.
4. When the prompt appears, enter the command that begins the copying process. Remember to specify the drive containing the diskette.

If the diskette is in drive A, enter this command:

ADXNSSRZ A:

5. After you enter the command, a message appears. This message explains the replication procedure. Follow the instructions given on your screen.
6. When your configuration data is copied, type **Exit** and press **Enter**. The system returns to the SYSTEM MAIN MENU.

If this is the first time the operating system is being installed at your store, return to this chapter when you complete configuration.

Step 7D. Activating your own configuration files

The files you copied are not effective until you activate them. Activate the files as follows:

1. Re-IPL your system from the hard disk drive by pressing **Ctrl+Alt+Del**.

2. When the sign-on panel appears, proceed with activating your new configuration. For information on activating the configuration, see the section on Configuring Your Store System in the *4690 OS: User's Guide* for information on configuring specific items.
3. See the "Configuring 4690 TCP/IP" section in the *4690 OS: Communications Programming Reference*. The TCP/IP configuration files that you copied are in ADX_SDT1: as ADXIP??Z.BAK. Copy them to ADXIP??Z.BAT.

Step 8. Making backup copies

Make copies of the software you have installed on the hard disk drive. For information on how to use the BACKUP command, see the *4690 OS: User's Guide*.

Step 9. Specifying the keyboard national language

You have already specified the keyboard national language for your operating system. You should now do the same for the Supplemental Option using the CD-ROM. To do this, see the *4690 OS: User's Guide*.

Migrating to the latest level of the 4690 store system software

This section provides you with step-by-step procedures for local migration of the operating system, and remote migration of your operating system at the master store controller.

Migrating your operating system

Migration is the process of upgrading an existing store system to the latest version or release level. It can be performed locally in your stores or remotely from a host site. For instructions on performing Remote Migration, see "Remote migration steps" on page 200.

You should plan to migrate at a time when your store is not active, because the migration procedure will require a re-IPL of the controller and terminals. It is recommended that no other windows are open because that might create a file conflict.

Note: If you have an operational multiple controller system using the Data Distribution Application (DDA), perform the migration steps only at the master store controller. If you do not have a multiple controller system using the DDA, perform the migration steps at each store controller.

Local migration steps

The migration package for your operating system is contained on the second CD-ROM of the package (CD-ROM 02 of 02). The following steps guide you through using Apply Software Maintenance (ASM) to migrate your operating system using the CD-ROM method.

Step 1. Accessing the Migration README.DOC file on the CD-ROM

Before proceeding with the Migration procedure, read the README.DOC file, which is located on the CD-ROM. This README.DOC file contains important information about your system.

Follow these steps to access the README.DOC file:

1. Sign on to your system. See "Signing on" on page 172 for instructions on signing on to your system.
2. Check the label on the CD-ROM. Continue to "Step 2. Assuring your operating system is not in ASM test mode" on page 193
3. Insert the Migration CD-ROM (Vol 02 of 02) into the CD-ROM drive. (The CD-ROM drive is referred to in 4690 OS as the P: drive.)
4. From the SYSTEM MAIN MENU, select COMMAND MODE by typing **7** and pressing **Enter**.
5. Your screen will go blank for a moment, and then the system prompt appears.

6. When using 4690 OS V3R1 or later, after the prompt appears, type **P:\4690MIGR\README.BAT** and press **Enter**. Follow the instructions on your screen for accessing the README.DOC files.
7. When you are finished with the README.DOC files, the C prompt appears. To return to the SYSTEM MAIN MENU, type **Exit** and press **Enter**.
Remove the CD-ROM from the CD-ROM drive.
8. Continue to “Step 2. Assuring your operating system is not in ASM test mode.”

Step 2. Assuring your operating system is not in ASM test mode

The ASM procedure is equipped with a test mode that saves a copy of your current system without any migration changes. A system in test mode can be accepted at the current level, or cancelled, thus restoring the system to its original state.

The existing operating system cannot be in test mode when migrating to a new operating system. The operating system must not be in backup; other applications such as the General Sales Application might be in backup. To determine if you are in test mode, perform these steps:

1. From the SYSTEM MAIN MENU, select INSTALLATION AND UPDATE AIDS by typing **4** and pressing **Enter**.
2. From the INSTALLATION AND UPDATE AIDS panel, select APPLY SOFTWARE MAINTENANCE by typing **5** and pressing **Enter**.
3. From the APPLY SOFTWARE MAINTENANCE panel, select ACTIVATE MAINTENANCE by typing **2** and pressing **Enter**.

If your operating system is not in backup, press **F3** three times to return to the SYSTEM MAIN MENU. You can now go directly to “Step 3. Migrating your operating system.” If your operating system is in backup, you must decide to cancel or accept the previous maintenance.

If you are migrating from a previous version of the operating system (for example, the 4680 Operating System), select the 4680 Operating System option. If you were also running multiple store controllers, you must select the option that shows 4680 Operating System is not in backup or maintenance. If you are migrating from a previous level of the operating system, the only item you will be able to select is the operating system option.

If you want to accept the current level for any item listed, type **3** beside the selection and press **Enter**. If you want to cancel, type **2** beside the selection and press **Enter**. If you choose to cancel, the system will re-IPL and you must sign on to the system (see “Signing on” on page 172).

You **must** accept or cancel the current operating system. You can **not** migrate to a new system release with a system in backup.

Step 3. Migrating your operating system

Using the Migration CD-ROM while running the 4690 Operating System

1. Insert the CD-ROM into the CD-ROM drive on the store controller (Vol 02 of 02).
2. From the SYSTEM MAIN MENU, type **7** (Command Mode), and press **Enter**.
3. When the C:> prompt appears, type **p:\4690migr\start** and press **Enter**.
4. First, a panel appears describing license acceptance information. You may press **ESC** to quit or **ENTER** to continue. The license is available in hard copy format or in the \license and \nontosli directories on the CD-ROM.
5. Continue with “Step 4. Transfer Maintenance (ASM) from CD-ROM,” and **continue at Step 1**.

Step 4. Transfer Maintenance (ASM) from CD-ROM

1. The system displays the level to which you are applying the system upgrade, and prompts you for the following information:
 - whether this is a local or remote migration

- what type of keyboard you will be attaching to any point-of-sale terminal
- which terminal keyboard language and host translation table you will be using

Enter the appropriate responses to each prompt, using the numeric keypad.

2. You are prompted to enter the store controller IDs for which you will set up the Features.

CHOOSE CONTROLLERS

Enter a list of all the Controller IDs on your system:

When complete, press ENTER to setup features for the controllers in this list.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

3. Enter the IDs for the store controllers to set up the features. A panel then appears prompting you to choose the features you have purchased. If additional features are available for selection, a PgDn prompt is displayed.

Note: A maximum of eight different store controller IDs can be entered. These store controller IDs can see controllers in different stores.

CSZFE003 FEATURES PURCHASED

CONTROLLER

Multiple Controller Feature (includes NetBIOS)

NETBIOS Feature

Communications Feature

Store Loop TCC Feature

LAN TCC Feature

Controller Virtualization Feature

Place an X by each feature you have purchased for each listed controller.
When you have completed setup of features for all controllers, press ENTER
to install these features. To start over, press the ESC key.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

4. Type an **X** next to each feature you have purchased for your controller and press **Enter** when finished.

Notes:

- a. You cannot choose both the Multiple Controller Feature and NetBIOS on a single store controller. However, you can select NetBIOS on some store controllers and the Multiple Controller Feature on others.
 - b. The Store Loop TCC Feature is not supported in 4690 OS V6R3 and beyond.
5. The following panel prompts you to enter the licenses you have purchased for each terminal feature. If additional features are available for selection, a PgDn prompt is displayed. Enter the number of licenses for each feature purchased for the system and press **Enter**.

TERMINAL FEATURES PURCHASED

Each feature listed below requires the purchase of a license for each terminal using that feature. Enter the number of licenses purchased for the features that will be used.

_____ 4690 Operating System Terminal Licenses

When you have completed setup of features for all terminals, press ENTER to install these features. To start over, press the ESC key.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

A progress indicator appears showing that files are being copied. After completing the copy, the system prompts you to press any key to display the APPLY SOFTWARE MAINTENANCE panel.

6. From the APPLY SOFTWARE MAINTENANCE panel, select TRANSFER MAINTENANCE FILES by typing **1** and pressing **Enter**. Type an **X** beside the operating system selection and press **Enter**.

Note: When migrating from a version of 4690 OS (such as V1R1) that does not have Java subdirectories to a version of 4690 OS (such as V2R4 or later) that does have Java subdirectories, a W663 - FILE DISTRIBUTION UTILITY ERROR occurs before maintenance is activated. The following list of subdirectories is not all inclusive. This list shows an example of subdirectories that might have an exception error code of 80204010:

- JAVA/JPOS.PRP
- JAVA/LIB/AWT.PRO
- JAVA/LIB/CONTENT-.PRO
- JAVA/LIB/SERIALVE.PRO
- JAVA/LIB/TOOLKIT.PRO
- JAVA/LIB/JAVA.SEC

This error occurs because there is no JAVA subdirectory created for that controller until the maintenance is put into test mode or accept. No action is necessary for this error message. Continue with the migration.

As the upgrade is being transferred and after the process is complete, **in maintenance** appears next to the operating system selections. The system prompts you when the process is complete.

When complete the following message is displayed:

```
-----
Local Startup step for migration of
Toshiba 4690 OS Version 6
is now complete

If a diskette or CD is in the drive, remove it. Retain the
set of Operating System Migration media in a safe place.

The next step is to exit Command Mode and activate the maintenance
using Apply Software Maintenance.
-----

ADX_SPGM:>
```

You should activate the maintenance next, as maintenance requires all controllers and terminals to reload. The maintenance activation should be scheduled at a time when the impact on the store is minimal.

7. Type **exit** and press **Enter** to return to the SYSTEM MAIN MENU panel.
8. When you decide to activate the maintenance, type **4** and press **Enter** to select INSTALLATION AND UPDATE AIDS.
9. Type **5** and press **Enter** to select APPLY SOFTWARE MAINTENANCE.
10. From the APPLY SOFTWARE MAINTENANCE panel, type **2** and press **Enter** to select ACTIVATE MAINTENANCE.

You can either test, cancel, or accept the maintenance. If you put the maintenance into test mode and later cancel it, you must restart the migration over again.

Note: If you put the maintenance in Test or accept the maintenance, a panel appears cautioning you that the changes are to be applied and the controller should be IPLed. Press **Enter** to continue. The system IPLs all store controllers.

Canceling the migration: It is possible to cancel the maintenance applied during system migration and restore your system to its previous level. However, any changes made to the system since you began the migration might be lost. You should only cancel the migration as an emergency recovery procedure because this only recovers your system to the point where you can load terminals and trade. To fully restore your system, you must perform a recovery from backup media or migrate the system again. Continue with “Accessing controller configuration after migration” on page 198.

Note: If a migration on a controller has been cancelled, any subsequent testing on that controller is invalid. Therefore, it is recommended to avoid canceling a system migration, particularly when in test mode.

If you are migrating from token ring to Ethernet, proceed to “Migrating from a token-ring system to an ethernet system” on page 199.

After canceling the migration and allowing the transfer of files during the first IPL when W636 is displayed, insert the supplemental media to boot to supplementals and perform the following:

- Erase all the files in c:\adx_smnt.
- Copy c:\adx_spgm\adxcstsd.v5m to c:\adx_spgm\adxcstsd.dat.
- Copy c:\adx_spgm\adxjavif.v5m to c:\adx_spgm\adxjavif.dat.
- Copy c:\adx_spgm\adxjavkf.v5m to c:\adx_spgm\adxjavkf.dat.
- Copy c:\adx_spgm\adxcbtdd.v5m to c:\adx_spgm\adxcbtdd.dat.
- Copy c:\adx_spgm\adxcbtdd.v5m to c:\adx_spgm\adxcbtdd.dat.
- Copy c:\adx_spgm\adxcbtdd.v5m to c:\adx_spgm\adxcbtdd.dat.
- Copy c:\adx_spgm\adxcbtdd.v5m to c:\adx_spgm\adxcbtdd.dat.

- Copy c:\adx_spgm\adxjavcf.v5m to c:\adx_spgm\adxjavcf.dat.
- Copy c:\adx_spgm\adxcsc7f.v6m copy to c:\adx_spgm\adxcsc7f.dat .
- Copy the following files if they exist:
 - Copy c:\adx_spgm\adxjavbf.v5m to c:\adx_spgm\adxjavbf.dat.
 - Copy c:\adx_spgm\adxjavdf.v5m to c:\adx_spgm\adxjavdf.dat.
- On an MCF system, distribute the copied DAT files.
- Delete c:\adx_stld\adxldex*.dat
- Run ADXPLDRB.386
- For migrations from V5R2 or earlier:
 - Erase c:\adx_spgm\adxcsc7f.dat if it exists.
 - Erase c:\adx_spgm\adxcsc6f.dat if it exists.

Note: You can also do the above under normal 4690 operation. However, you must do it after canceling the migration, to prevent the files from being overlaid.

The following must be done on each controller in an MCF environment:

- For migrations from V5R1 or earlier, do a Supplemental IPL and perform the following, which will cause the loss of any Exception Log entries:
 - Erase c:\adx_sdt1\adxIndmf.dat.
 - Erase c:\adx_sdt1\adxIndmf.ckr.
 - Erase c:\adx_sdt1\adxIndsf.dat.
 - Erase c:\adx_sdt1\adxIndsf.ckr.
- For migrations from V5R2 or earlier, do a Supplemental IPL and perform the following, which will restore the previous VFS structure:
 - Copy all files from c:\VFS\~~MG to c:\VFS\~~MP.
 - If VFS is enabled for the D drive, copy all files from d:\VFS\~~MG to D:\VFS\~~MP.

Note: You can do the above instructions that require a Supplemental IPL in a single IPL/session.

Then IPL all controllers, execute adxrtcc1 and reload all terminals. On multiple controller systems, these files must be distributed to them also. Following these steps ensures that all terminals are reloaded.

Accessing controller configuration after migration

Although your system might already be successfully operating with a LAN, the first time you access CONTROLLER CONFIGURATION after you have migrated your system **you might need to specify the LAN type of your system.**

The following panel will appear after you access CONTROLLER CONFIGURATION for any reason:

CSCMS004

SELECT LAN CONFIGURATION

This system does not have a Local Area Network defined.
Indicate the type of LAN to be used:

- 1 = Token-Ring
- 2 = Ethernet

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

Specify your LAN type and press **Enter**. You can now proceed with CONTROLLER CONFIGURATION.

Note: Once specified, you will not need to change this LAN type setting again unless you intend to physically replace your system's LAN media.

Migrating from a token-ring system to an ethernet system

After you have migrated your operating system, perform the following steps to migrate your system from token ring to Ethernet:

1. Sign on to the controller (see "Signing on" on page 172).
2. Type **4** for INSTALLATION AND UPDATE AIDS and press **Enter**.
3. Type **1** for CHANGE CONFIGURATION DATA and press **Enter**.
4. Type **2** for CONTROLLER CONFIGURATION and press **Enter**. The following question appears:

Are you configuring a Store System that
uses the Toshiba 4690 Multiple Controller
Feature (LAN) to support the Data
Distribution Application? (Y=Yes, N=No)

5. Answer Yes to this question by typing **Y** and pressing **Enter**. The following panel appears:

CSCMS004

SELECT LAN CONFIGURATION

This system does not have a Local Area Network defined.
Indicate the type of LAN to be used:

1 = Token-Ring

2 = Ethernet

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

6. Type **2** for Ethernet and press **Enter**. The CONTROLLER CONFIGURATION panel appears.
7. Press **Esc**. The Configuration menu appears.
8. Type **4** and press **Enter** to activate the configuration. When complete, the following message appears: Controller Configuration has been successfully activated.
9. Press **F3** until the System Main Menu appears.
10. Turn off the power to the controller(s).
11. Remove the token-ring adapter and insert the Ethernet adapter card into each controller you are configuring for Ethernet.
12. Turn on the power to the controller(s) and run setup on each controller you are configuring for Ethernet.

The Ethernet configuration is now active.

Note: If, after migration, you change your system LAN type from token ring to Ethernet and then cancel maintenance, you will be unable to retain the token-ring LAN type setting when migrating a second time because it had been previously changed to Ethernet.

This scenario can be avoided by first changing your LAN type back to token ring before cancelling the maintenance.

Remote migration steps

The following steps guide you through remote migration of the operating system.

Attention: The store controllers to which the remote migration is transmitted must be at the same 4690 operating system level as the controllers at your host site, where the remote migration will be started.

Step 1. Migrating your operating system at the master store controller

At the master store controller at your host site, perform Steps 1 through 4 under “Local migration steps” on page 192.

Note: The local upgrades are not activated until the last step. Remember to specify that this is a remote migration.

Step 2. Remote migration

You must first transfer the Operating System upgrades to your host processor, then transfer the upgrades to your remote stores. Remote Command Processor (RCP) activates the upgrades on your remote store controllers. Finally, remember to complete the migration of the master store controller at your host site. See “Step 2E. Activating the upgrades on your master store controller” on page 202.

Step 2A. Transferring the upgrades to your host processor

Transfer the following files from the master store controller at your host site to your host processor:

- ADXCSHCF.DAT from the ADX_IDT1 subdirectory
- xxxRCP1F.DAT (the RCP command file) from the ADX_IDT1 subdirectory (where xxx is the application prefix defined for the system in the system configuration)
- ADXHJ??F.DAT from the ADX_SMNT subdirectory
- ADXHJLCL.286 from the ADX_SMNT subdirectory
- ADXNSXZL.286 from the ADX_SMNT subdirectory

Note: The ? in ADXHJ??F.DAT is a wildcard.

The xxxRCP1F.DAT file is the command file that should contain the commands:

```
ADX_SMNT:ADXHJLCL ADXHJLCL.LOG
ADXNSS6L APPLY
ADXCST0L N 3S
```

The first command decompresses the files in the ADX_SMNT subdirectory using log file ADXHJLCL.LOG. The second command upgrades configuration files. If you want to apply the operating system upgrade in the ADX_SMNT subdirectory in test mode, change the third command to:

```
ADXCST0L N 1S
```

The third command executes the ASM program. You can start the ASM program with a separate ASM command by deleting the third command in the xxxRCP1F.DAT file and building a separate RCP command file. See the *4690 OS: Communications Programming Reference* for additional information about using RCP.

Step 2B. Transferring the upgrades to your remote store controllers

Transfer the following files from the host processor to your remote store controllers:

- ADXCSHCF.DAT to the ADX_IDT1 subdirectory
- xxxRCP1F.DAT (the RCP command file) to the ADX_IDT1 subdirectory (where xxx is the application prefix defined for the system in the system configuration)
- ADXHJ??F.DAT to the ADX_SMNT subdirectory
- ADXHJLCL.286 to the ADX_SMNT subdirectory
- ADXNSXZL.286 to the ADX_SMNT subdirectory.

Note: The ? in ADXHJ??F.DAT is a wildcard.

Step 2C. Stopping the background processes

After you have signed on to your master host-site controller, you must stop all store applications that are running, including any active background applications and any open windows.

To stop any open window, perform the following steps:

1. Press **Alt+SysRq**.
2. Type **W**.
3. Use the **Tab** key to select the window number you want to stop.
4. Press **F8** to stop the window.
5. Choose **Y** and press **Enter**.

Repeat steps 3 through 5 for each open window.

To stop background applications, perform the following steps:

1. Press **Alt+SysRq**.
2. Type **B**.
3. Use the **Tab** key to select the background application you want to stop.
4. Press **F8** to stop the background application.
5. Choose **Y** and press **Enter**.

Repeat steps 3 through 5 for each active background application.

If you have more than one page of background applications configured, press the **PageDown** key to view the other screens and continue repeating steps 3 through 5 until all active background applications are canceled.

After you have stopped all background applications and windows, press **F3** to return to the SYSTEM MAIN MENU.

Step 2D. Starting the RCP

Start the RCP on your host processor. The RCP decompresses the files in the ADX_SMNT subdirectory, then activates the operating system upgrade simultaneously on your remote store controllers.

You should plan to migrate at a time when your store is not active, because the migration procedure will require a re-IPL of the controller and terminals. It is recommended that no other windows are open because that might create a file conflict.

RCP runs as a background process and then other background processes are started. Ensure at least four background slots are available before starting RCP.

Attention: Your remote store controllers will re-IPL.

See the *4690 OS: Communications Programming Reference* for information on running the RCP.

After the upgrades have been activated, retrieve the ADX_SDT1:ADXCSHSF.DAT file from the remote store controllers to determine if any error messages associated with the RCP were logged.

Step 2E. Activating the upgrades on your master store controller

Perform the following steps at the master store controller at your host site to complete its migration:

1. From the SYSTEM MAIN MENU, select COMMAND MODE by typing **7** and pressing **Enter**.
Your screen will go blank for a moment, and then the system prompt appears.

2. When the prompt appears, enter:

```
ADX_SPGM:ADXCSH0L BACKGRND NNNN
```

Note: This step activates the same operating system upgrade that was applied to your remote store controllers. The activation of your operating system upgrade causes a re-IPL of the master store controller at your host site; if the store system at your host site is on a multiple controller system using the DDA, the subordinate store controllers at your host site will re-IPL as well. No activity will be displayed on the screen to indicate the progress of the operating system upgrade activation. If the user wants to verify the status of ADXCSH0L, they can access the Background Application Control panel from the System Keys menu.

For additional information concerning remote migration, see the README.DOC contained on the system upgrade diskettes.

Converting to larger partition support - Classic 4690 Only

A store controller that is currently using legacy 4GB partition support can continue to do so indefinitely. Alternatively, you can use one of these conversion methods to change to larger partition support. Larger partitions are only supported on 4690 OS Version 4 or later.

Note: Methods 1 and 2 require a hard-drive capacity of 10GB or larger. The legacy 4GB partition remains on the drive and the space cannot be reclaimed. Methods 3 and 4 completely remove the legacy 4GB partition.

Method 1: Supplemental CD media

1. Boot the Classic supplemental CD media.
2. From command mode, run command ADXFSM3Z. See the *4690 OS: User's Guide* for information about the command.

Method 2: IPL Command Processor

1. Create the IPL Command Processor file to run command ADXFSM3Z. Refer to the *4690 OS: User's Guide* for information about the command.
2. Use the RCP command ADXCS20L or a similar method to reboot the controller remotely. Refer to the *4690 OS: Communications Programming Reference* for information about the RCP Commands.

Method 3: LAN Disk Rebuild (Multiple Controller Only)

1. Boot Classic supplemental CD media.
2. Run CPREP (or DPREP) from command mode.
3. Run ADXNSL0L (LAN Disk Rebuild) to copy the data from another store controller.

Method 4: Backup and Restore

1. Boot Classic supplemental CD media.
2. Use the Streaming Tape Utilities or Optical Drive Utilities to save the data on your drive.
3. Run CPREP (or DPREP) from command mode.
4. Use the Streaming Tape Utilities or Optical Drive Utilities to restore the data to your drive.

Configuring a LAN-attached network printer

See the printer user's guide for information concerning installing the necessary Ethernet hardware in the printer. When hardware has been set up, follow these steps:

1. Power on the printer.
2. After the printer has completed warming up, press the **ONLINE** button to take the printer offline.
3. Press the **MENU** button until the words ETHERNET MENU (or TOKEN-RING MENU for Classic 4690) appear in the LCD display.
4. Press the **ITEM** key twice.
IP ADDRESS should display in the window.
5. Press **CONTINUE/ENTER**.
6. IP ADDRESS and 0<.0.0.0 display on the LCD.
7. Use the VALUE+ button and SHIFT-VALUE+ (value-) to increment or decrement the first byte of the IP address you intend to assign to this printer.
8. When the first byte is correct for your installation, press **CONTINUE/ENTER** to move through the next bytes.
9. When you press ENTER/CONTINUE after the last byte, your selected IP address is displayed with an asterisk. Example: 10.1.1.17 *

10. Press the **ITEM** key and repeat this procedure with SUBNET MASK and GATEWAY ADDRESS.

Most installations will want to accept the default (burned in) MAC address of the Ethernet card installed in the printer. If you want to turn on options such as duplex printing or set the paper size at the printer, you can continue to do so at this time. See the printer's user's guide for more information.

To set up the controller for a LAN attach, 4690 TCP/IP should already be installed (4690 Version 1) and configured. Add the printer's name and address to the 4690 TCP/IP hosts file, ADX_SDT1:ADXHSIHF.DAT, unless a name server is available in your environment. See the *4690 OS: Communications Programming Reference* for details on the format of this file.

In controller configuration, under multiple printers, add a network-attached printer. In controller configuration, under user logical file names, add a logical name LPRPARMx (where x indicates the network printer number 1 - 7) and set the name to "-PPASS -SXXXXX" (where XXXXX indicates the name you gave the printer in the 4690 hosts file).

Note: If you do not intend to use PCL formatting commands in your output, you can use "-PTEXT -SXXXXX", which indicates to the printer that a plain text file is being received.

Activate the controller configuration, and re-IPL. The printer is now available for use.

Configuring a parallel-attached network printer

To set up a parallel-attached printer:

1. Turn the printer on and wait for the warm up to complete and the printer display to go to OFFLINE.
2. Press the **MENU** key repeatedly until PARALLEL MENU displays.
3. Press the **ITEM** key once. BI-DI = ON or = OFF should be displayed. If BI-DI=ON, press the **VALUE+** key and then **CONTINUE/ENTER**.
4. Press the **MENU** key until OFFLINE again displays.
5. Connect your printer to the controller.

In controller configuration, under multiple printers add or change an existing printer definition to be attached via the first parallel port. Activate the controller configuration and re-IPL the controller. The printer is now available for use (you might have to press **ONLINE** on the printer).

Configuring a serial-attached network printer

To set up a serial-attached printer:

1. Attach the correct RS-232 or RS-422 cable as appropriate.
2. Turn the printer on and wait for warm up to complete and the printer display to go to READY or OFFLINE.
3. Press the **MENU** key repeatedly until SERIAL MENU comes up.
4. Use the **ITEM** button to scroll through the options and set each to your preference, using the **VALUE+/-** key and pressing **CONTINUE/ENTER** to save your edited value.
5. When complete, power the printer off and back on.

In controller configuration, under multiple printers add or change an existing printer definition to be attached via serial port. Ensure that the serial line characteristics match those you specified to the printer. Activate the controller configuration and re-IPL the controller. The printer is now available for use (you might have to press **ONLINE** on the printer).

Note: A serial attach option is not available for the 4317 or 4320 printer. LAN attachment is recommended.

Creating a 4690 Enhanced Mode system

Utilities have been provided to ease the Classic Mode to Enhanced Mode conversion process. See Appendix L, “Classic to Enhanced Conversion Utilities,” on page 735 for more information.

To create a 4690 Enhanced Mode system manually, perform the following steps:

1. Ensure that the source system is currently running the 4690 version (Classic or Enhanced) that you wish to create.
2. Ensure the source system has the MCF feature installed, configured and is acting master. Please see “Step 1C. Enabling the operating system features” on page 172 for how to install and configure the 4690 V6 Multiple Controller Feature.
3. Ensure both the source and target systems are on the same Ethernet LAN.
4. Boot the target system to 4690 V6 Enhanced Supplementals.
5. Perform a CPREP
 - At this time your system has been formatted to run in Enhanced Mode.
6. Utilize the Disk Rebuild utility in the target system to copy the data from the source system.

Follow the instructions in the 4690 User’s Guide, Chapter 17. Using the Disk Rebuild Utility.

Notes:

1. You must CPREP and DPREP with the Enhanced version of the Supplementals that match the current level of your Master controller, to convert to Enhanced Mode.
2. There are now two versions of the Supplementals: Classic and Enhanced. Use the Enhanced supplementals only with Enhanced Mode systems, and use the Classic Supplementals only with Classic Mode systems.

Installing and Enabling Enhanced Mode 4690 OS on a VMware Virtual Machine

With the introduction of the new 4690 OS Virtual Controller Feature, 4690 OS V6R3 level 0CD0 and later can be used on select versions of VMware ESX or ESXi.

VMware configuration selections for 4690 OS as a guest OS

To create a new virtual machine for 4690 OS perform the following steps:

1. For Configuration select **Custom**
2. Select a name and location for your VM.
3. For Virtual Machine Version select **7**
4. For Guest Operating System select **Other** (you may put 4690 OS as the name) with Version being **Other (32-bit)**
5. For Number of virtual processors select **2**
6. For Memory configuration select a value between **1** and **4 GB**, 2 is recommended.
7. For Network select **1 NIC**, and for NIC 1 select **VM Network** as the Network. Select **Flexible** as Adapter and check **Connect at Power On**.
8. For SCSI controller select **LSI Logic Parallel**.
9. Create a virtual C: drive with default options of at least 12 GB.
10. Optionally, create a virtual D: drive of 2 to 20 GB as needed.

Installing 4690 OS

You may install 4690 OS by using the client CD/DVD device with the physical 0CD0 installation CD, or by mounting an ISO image of the 0CD0 CD. Boot to the appropriate 4690 CD/ISO and install 4690 OS as normal.

When using MCF, you may optionally mount the 0CD0 ASM CD/ISO in one of these same methods and boot to the 4690 OS Supplemental OS and run LAN Disk Rebuild from another system already running the 0CD0 code level.

Enabling the Virtual Controller Feature in 4690 OS

Program Temporary Fix (PTF) 0CD0 includes an updated 4690 Feature Installation program on each CD which must be ran to enable the Virtual Controller Feature.

See "Step 1C. Enabling the operating system features" on page 172 for details on running the Feature Installation program. The "Features Purchased" menu will now include an entry for the new feature on the menu, Controller Virtualization, as shown below. Select the new feature and complete the normal steps for the program. The example below shows both a DD and CC controller.

Controller	DD	CC
Multiple Controller Feature (includes NetBIOS)	X	X
NetBIOS Feature		
Communications Feature	X	X
Store Loop ICC Feature	X	X
LAN ICC Feature	X	X
Controller Virtualization Feature		

Place an X by each feature you have purchased for each listed controller. When you have completed setup of features for all controllers, press ENTER to install these features. To start over, press the ESC key.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10

Figure 82. Controller Virtualization Feature

Important Information from the Toshiba 4690 OS V6.3 Virtual Controller Feature announcement letter

Limitations

- Some functions will be impacted in a virtual controller environment:
- NVRAM will be virtualized with the potential to impact reliability. Data loss could occur in a power outage. Your physical server should be protected by a UPS.

- | • Memory data dump capability could be lost with the potential to impact serviceability. Keystrokes will be required to initiate a memory dump. No physical dump button is present.
- | • No serial devices will be supported in a virtual controller environment
- | • No parallel printer is supported in a virtual controller environment. Any attempt to print to a parallel printer will cause the print job to be lost.
- | • No floppy drive support in a virtual controller environment
- | • No Memory Key support in a virtual controller environment
- | • CD/DVD is read only
- | • CD/DVD support is limited to mounting a virtual CD/DVD device or ISO image to the client. Mounting to the host machine is not supported.
- | • Shared resources may impact performance and availability (memory, processor, disk, for example)
- | • Physical servers must have enabled Intel(R) processors with Intel (R) Virtualization Technology (VT) and Virtualization Technology needs to be enabled in BIOS.
- | • Processors with at least Intel(R) VT-x, which includes Extended Page Table support, improve the performance of Store Integrator (SI) Client Session Server (CSS) performance in the virtual controller environment. Performance of CSS sessions in the virtual controller environment can be impacted if the physical server's processors do not support Extended Page Table.

| **Hardware Requirements**

- | • Controller hardware must support VMware ESX or ESXi Environment
- | • Running multiple virtual instances (4690 OS or otherwise) will impact performance and resource requirements (memory, processor, CSS sessions, etc.). To ensure desired performance for the workload, a server consolidation study must be done for your environment.

| **Software Requirements**

- | • 4690 V6.3 (or later) Enhanced environment with Program Temporary Fix (PTF) 0CD0
- | • The base/migrate distribution will be updated to 0CD0 on January 25, 2013. Prior to that date, the Virtual Controller Feature is available only by 0CD0 Program Temporary Fix (PTF) (ASM) download.
- | • When there is a 4690 OS controller in a store that is consolidated on a controller that hosts multiple virtual servers, then the Virtual Controller Feature is needed for each instance of a 4690 OS Virtual Controller.
- | • This feature requires the store to have a server running VMware ESX or ESXi to host the virtual controller or controllers.
- | • 4690 OS V6.3 Program Temporary Fix 0CD0 Enhanced will be supported as a guest OS in the following versions of VMware ESX or ESXi:
 - | – ESX or /ESXi 4.1 U3 or any other subsequent version made generally available by VMware.
 - | – ESXi 5.0 U1 (vSphere 2011) or any other subsequent version made generally available by VMware.
 - | – ESXi 5.1 (vSphere 2012), or any other subsequent version made generally available by VMware.
- | • Refer to the Toshiba support site for technical support for the 4690 OS PTF download. (Under Point of Sale Software, select **Technical Software Support**).
- | • When the Multi Controller Feature (MCF) is ordered with Virtual Controller Feature (VCF), the Toshiba 4690 OS V6.3 Enhanced environment is enabled for multiple controllers, where one controller is designated as the master controller (CC) and another as the alternate or backup controller (DD). When the master controller fails in the store, this feature allows an alternate or backup controller to take over the operation of the store, and transfer control back to the master controller when it is able to resume control of the store. For proper redundancy when using MCF and VCF, the master and alternate should be on different physical servers.

Chapter 8. Understanding and configuring the LAN TCC Network

This chapter explains how to configure the LAN TCC Network.

NVRAM

- | The operating system requires store controller, non-volatile, random access memory (NVRAM) for the file system during a power-line disturbance (PLD). A 4693-xx1 or 4694 system board, a store loop card, or a POS Expansion Adapter supplies NVRAM for the system. The SurePOS 700 Series Model 750 must have either an NVRAM card or a loop card to be a controller. On the SurePOS 700 Series Models 72x, 74x, 77x and 78x, NVRAM is memory mapped and available through PCI. On the TCxWave 6140 Series terminal, NVRAM is provided through an internal MicroSD card.

For instructions on how to clear NVRAM, see “Clearing NVRAM” on page 212.

Terminal capacities

The maximum number of Mod1 and Mod2 terminals that are supported is 256, regardless of the type of terminal used. The terminals can be Mod1s or a distribution of Mod1s and Mod2s. In a controller/terminal environment, the maximum number of terminals is two (the controller/terminal and a Mod2).

Terminal load

Store domain, store ID, and terminal number

Each controller TCC driver checks for duplicate terminal addresses on the medium it controls and notifies you of an error if a duplicate address is detected.

The store ID and terminal numbers are a logical way to bind the store network of terminals, and associate logical loops of terminals with controllers.

A TCC network is bounded by the store domain, which is identified by the associated store ID. The store ID and terminal-controller relationships (based on terminal numbers) are configured at the controller. The associated terminals pick up these numbers during the STC (Set Terminal Characteristics) process. Terminals with no store ID or terminal number in their NVRAM (hard totals) area use predefined default addresses. For most load and terminal control processes, a controller responds only to a configured terminal in the store domain or to a default terminal.

Ethernet

This section describes the requirements for an Ethernet network.

Ethernet adapter

The IBM LAN Adapter/A and the IBM LAN Adapter/A for Ethernet, feature code 7171 for 4693, are supported in the store controller. Feature code 7171 for 4693 must be installed if the store controller is a 4693-541. Feature code 7171 for 4693 is the only Ethernet adapter that is supported in any 4693 terminal.

- | The SurePOS 300/700 Series and TCxWave 6140 Series systems have an integrated Ethernet adapter.

Terminals

- | The terminals supported on the Ethernet TCC Network are 4693-xx1, 4694, SurePOS 300 Series model
- | 350, SurePOS 700 Series, TCxWave 6140 Series or 4683-421 terminals with an Ethernet adapter and
- | RPL function on the adapter. See “Ethernet adapter” on page 209 for a discussion of supported Ethernet
- | adapters.

Terminal capacities

The maximum number of terminals that are supported on a single Ethernet adapter is 256 (128 Mod1 terminals, each with a Mod2 terminal attached).

The maximum number of Mod1 and Mod2 terminals that are supported, regardless of the type used, is 256. The terminals can be Mod1s or a distribution of Mod1s and Mod2s. In a controller/terminal environment, the maximum number of terminals is two (the controller/terminal and a Mod2).

Terminal load

Store domain, store ID, and terminal number

An Ethernet network can be opened that spans the LANs. The TCC function requires a logical way to bind the store network of terminals, and associate logical loops of terminals with controllers. This function is done using the store ID and terminal numbers.

A TCC network is bounded by the store domain, that is identified by the associated store ID. The store ID and terminal-controller relationships (based on terminal numbers) are configured at the controller and are picked up by associated terminals during the STC (Set Terminal Characteristics) process. A terminal that has completed STC is configured; a terminal that has no store ID or terminal number in its NVRAM (hard totals) area is a default terminal and uses predefined default addresses. For most load and terminal control processes, a controller responds only to a configured terminal in the store domain or to a default terminal.

Traffic from a default terminal is not bridged across LAN segments. This traffic is limited to the local Ethernet only, which ensures that the controllers from the local store are used to configure terminals.

Load process

The Ethernet TCC terminal load process consists of a three-stage load:

Stage	Description
One	The first stage is the bootstrap load, and is initiated by the RPL chip on the Ethernet adapter. The RPL chip uses a generic load request to which any RPL Server can respond (see “Coexistence with other systems and RPL threshold” on page 213). The RPL chip produces all output from this stage. Because the generic stage one load request does not carry a store ID or terminal number, any available 4690 store controller with Ethernet TCC active can respond with the common bootstrap.
Two	The bootstrap determines the stage two load. The normal stage two load is the operating system base load, but the reference diskette or CD-ROM can be loaded instead at this time if you request it, or if it is requested through a hardware error. The base operating system load is characterized by the progress message U005 xxxxxxxx, where xxxxxxxx is the load block count. The reference diskette or CD-ROM load is characterized by a U1xx message until the reference diskette or CD-ROM assumes control of the output.
Three	When the display is updated with U006, stage three of the load has begun. This stage consists of the driver and application load. At this point, the terminal must establish connection with its associated controller, defined by the store ID and the terminal number.

Connection requirements

| **Stage one:** A 4693-xx1, 4694, SurePOS 300/700 or TCxWave 6140 Series system always loads stage one as long as a server is available. The terminal requests a load from a local controller first, and then tries bridging its requests.

| **Stage two:** The RPL Server responds only to stage two requests from terminals in the same store domain (that is, those with matching store IDs), or default terminals. Default terminal requests are not bridged.

| The reference diskette or CD-ROM load requires a matching store ID and terminal number. One default terminal at a time can load the reference diskette or CD-ROM on the non-bridged local Ethernet. If the terminal number is not defined in the Ethernet Terminal Definition (see “Configuring the ethernet TCC Network on the operating system” on page 212), the terminal stalls at message U005 or message U100. To change the terminal number on a 4683, 4693, SurePOS 300/700 Series or TCxWave 6140 Series terminal, either push the system reset button at message U005, which zeroes out the terminal number and forces STC (Set Terminal Characteristics), or update the terminal configuration to include the terminal number.

| **Stage three:** The stage three load also requires a matching store ID and terminal number in order to go online with the terminal’s associated controller. The terminal attempts to go online at message U006 for a normal operating system load, or when a terminal number is entered using STC. A hang at this point, or at messages U005, U006, or U100 for a configured terminal, indicates that a terminal’s store ID and a terminal number do not match what is defined in the controller. The system is repeating the Request-On-Line (ROL) process.

To get the store controller to respond, configure the terminal in system configuration on the store controller. Reconfiguring both the store controller and terminal might be required in order for the terminal to load correctly.

Configuring the ethernet TCC Network on the operating system

This section describes the Ethernet TCC Network configuration for the store controller and terminal.

Controller

Define the store domain as a unique store ID during system configuration.

Define terminal and controller relationships during system configuration. Each terminal must have one primary controller; a backup controller is optional. The backup function for one store controller's terminals can be divided among several backup store controllers. A Mod1 and its associated Mod2 terminal must have the same primary and the same backup controllers.

Notes:

1. Enable the Ethernet TCC feature before performing these activities.
2. If an Ethernet-attached terminal is unable to communicate with its primary controller after initial configuration and terminal setup, check that the Ethernet Control Mode in the Store Controller Characteristics Configuration is set to Automatic Resume.

Terminal

STC configures the terminal's number and store ID and stores this information in NVRAM (hard totals). Enter the terminal number. The store ID, set during system configuration, is received from the loading store controller.

- | STC can be forced to load on a 4683, 4693, SurePOS 300/700 Series, or TCxWave 6140 Series terminal
- | by pushing the system reset button when the terminal is loading with message U005 displayed. This action
- | resets the terminal number and store ID, and allows a default load to occur. This action, in turn, loads STC
- | and allows the terminal to be configured again.

Note: When you do this process, the terminal will load Classic Mode until a terminal number is assigned.

Clearing NVRAM

The following instructions are for clearing both parts of NVRAM:

- **Hardware part of NVRAM (4693 only)** - The reference diskette or CD-ROM configuration information is contained here.

Push the system reset button when the cursor moves to the right during the power-on self test (POST). This clears the hardware configuration and forces a reference diskette or CD-ROM load, but leaves the operating system area and hard totals intact. This area contains Ethernet information for shared RAM settings.

- **Operating System part of NVRAM** - The terminal number, store ID, and hard totals are contained here.

Push the system reset button during the stage two load (when message U005 first appears on the display). This action clears the store ID and terminal number, forcing subsequent loads to use default addresses.

Ethernet errors and avoiding common problems

RPL errors are common on an Ethernet TCC network. If a terminal stalls during the stage one RPL load, the RPL chip has experienced some problem and should have displayed error information. Because the RPL chip on the Ethernet card was designed for video output, this error information is not visible on a 2x20 POS display. To retrieve this error information, use the manager's key and the S2 key to scroll around the video screen. See the *4693, 4694, and 4695 Point-of-Sale Terminals: Hardware Service Manual* for more information.

Ensure that the following conditions exist when running STC in unconfigured terminals:

- That only one store is on the Ethernet

- That a controller is present on the Ethernet, and is configured with the intended store ID and terminal-controller relationship

Sometimes an Ethernet-attached terminal is unable to communicate with its primary controller after initial configuration and terminal setup. Check that the Ethernet Control Mode in the Store Controller Characteristics Configuration is set to Automatic Resume.

Coexistence with other systems and RPL threshold

The operating system RPL Server responds to generic RPL (Remote Program Load) requests from the Ethernet adapter in any 469x terminal. Other servers might also respond to these requests.

Other RPL Servers usually provide a direct configuration mechanism whereby the physical adapter address of the requesters machine is configured at the server. The server then only responds to pre-configured requesters.

It is unrealistic to configure the specific adapter address of hundreds of terminals in a store. Therefore, the 4690 RPL Server loads any 469x terminal that requests a terminal load. Because it is feasible to have a co-existent server that is intended to load a 469x requester, you can configure the RPL Threshold (in "Controller Configuration" on the store controller). This action delays the 4690 server's initial response to load requests by a set number of requests and enables another server a chance to load its requester first.

Also, the RPL Threshold can be used to send most of the RPL work to certain controllers in the store, thereby balancing the load in the system. Set the loading controller's threshold to 0, or at least a value less than that of the other controllers. The controller with the smallest RPL threshold is the first controller to respond to any terminal's load request.

If the RPL Threshold is not used to send the RPL work to certain controllers (for example, when all controllers have the same RPL Threshold), any controller can respond to the RPL request. For a default load, the terminals are loaded from the first controller to respond to the load request.

Preboot Execution Environment (PXE)

The Preboot Execution Environment (PXE) is a process used for loading terminals. PXE can be used instead of using the Remote Program Load (RPL) protocol for loading terminals that support PXE booting. Terminals configured for loading with PXE and RPL can be intermixed on the same LAN.

Enhanced Mode terminals must be loaded using the PXE boot process.

PXE boot process

The primary function of the PXE boot process is to download the 4690 OS image from the 4690 controller to the terminal. The download is accomplished using Dynamic Host Configuration Protocol (DHCP) and Trivial File Transfer Protocol (TFTP), which are industry-standard TCP/IP protocols. Configuration is required on the controller for setting up PXE to use these TCP/IP protocols. See the *4690 OS: Communications Programming Reference* for details on the terminal types that are supported, the PXE terminal load process, and PXE configuration.

For additional details about the PXE terminal load for Classic and Enhanced Mode terminals, refer to the "U005" message description in the 4690 OS: Messages Guide.

PXE terminal dump process

A PXE-based dump process allows you to dump terminal storage to a file on the controller. The terminal dump is transferred to the controller using TFTP. As is done for RPL-loaded terminals, a U008 is displayed while the terminal is transferring the dump to the controller. A block count is displayed and decremented as each block is sent to the controller. The terminal is automatically reloaded when the dump process is

completed. The dump is transferred in a compressed format from the terminal to a temporary file on the controller named ADX_SDT1:ADXDM???.DAT, where ??? is the terminal number. On the controller, the dump is automatically uncompressed by a process called the PXE Dump Decompressor, ADXPXEDL.286. The dump is uncompressed to a file named ADX_SDT1:ADXCSLTF.DAT, which can then be used for problem analysis. ADX_SDT1:ADXCSLTF.DAT is the same file that has been used for terminal dumps prior to 4690 OS V3R1.

Chapter 9. Understanding and configuring Controller-to-Controller Communications over Internet Protocol

This section describes Controller-to-Controller Communications over Internet Protocol (IP).

Controller to Controller Communications

Controller to Controller Communications (CCC) is the term created to indicate the collection of services that make it possible for a process on one controller to access resources, such as files, pipes, and printers, on another controller as if they were local resources. CCC also encompasses the functions of several processes, such as OCF and Data Distribution Application (DDA), that use these services to provide a seamless, system-wide view of the 4690 store system as a single entity, regardless of the number of store controllers actually present. The foundation for these services has traditionally been NetBIOS session services.

The NetBIOS network protocol was created to serve as a simple, vendor-independent mechanism for programs running on one computer to locate and use services provided by another computer. NetBIOS views the network as a collection of peers, all of which can be addressed independently or as a group, at any time. The NetBIOS protocol was developed at a time when networks were primarily local. It requires no administration. Requests to locate a node are done by broadcasting a request to all stations on the local network and waiting for a reply. Because NetBIOS is dependent upon broadcast functionality, it is not routable and, therefore, 4690 store controllers had to be located on the same segment of the network.

Controller to Controller Communications over Internet Protocol (CCC/IP) provides a set of services that behaves like NetBIOS session services and allows all of the 4690 native functions to continue to work as usual — with the advantage of using the TCP/IP protocol instead of the NetBIOS protocol. This allows for more complex network topologies, including the possibility of separating store controllers onto different networks

4690 store controllers configured to use CCC/IP will normally attempt to locate each other by broadcasting a request for the desired target node and waiting for a response, similar to the way the NetBIOS interface would behave. Like NetBIOS, operation in this mode requires no user administration because nodes will “discover” the existence of each other through this broadcast-and-reply mechanism. Also, like NetBIOS, operation in this mode requires controllers to be on the same IP subnet because broadcast traffic is not routable. For network configurations that require controllers to be on different subnets, each controller must be identified in the LMHOSTS file (ADXIPLMF.DAT in the ADX_SDT1 subdirectory) as described in the following sections.

Configuring 4690 CCC/IP

Note: Make sure that IP is configured. Refer to the *4690 OS: Communications Programming Reference* for details.

To configure CCC/IP:

1. Verify the connectivity of all the controllers. Use Store Control Functions/Controller Functions (Alt/SysRq, c) to ensure that all controllers are active.
2. From the System Configuration graphical user interface, select **Controller to Controller Communications**, then select **IP Based**, save, exit, and activate System Configuration.
3. CCC/IP requires the use of additional sockets. It is recommended that you increase the maximum number of sockets by 24 on each controller configured for CCC/IP. This can be done in the

ADXIP??Z.BAT file for each controller, where ?? is the two-character node ID for the controller. Refer to the *4690 OS: Communications Programming Reference* for details about increasing the maximum number of allowed sockets.

4. Before you IPL all controllers, verify IP connectivity by using “ping” to each controller.

Note: If any controller is powered off during this configuration change, it will come up with NetBIOS and will be unable to communicate with the other controllers. To recover, you will need to either FTP the configuration file (ADX_SDT1:ADXCCCIF.DAT) to the controller or boot the controller with DOS or the Supplemental Diskettes and copy the file.

5. IPL all the controllers.

Note: The 4690 CCC/IP services are loaded during the IPL, if specified in system configuration. This creates a configuration file (ADX_SDT1:ADXCCCIF.DAT) on each store controller. However, if this configuration file is not found, the IPL path loads the NetBIOS driver. Therefore, a migration does not affect a working store system.

6. Verify the connectivity of all controllers. Use Store Control Functions/Controller Functions (Alt/SysRq, c) to ensure that all controllers are active. Confirm that IP-based controller-to-controller communications is in use by checking CCC status within Controller Status.

Using CCC/IP over multiple subnets

If you are changing any store controller to be on another subnet:

1. A routable mode of operation is enabled by creating a LMHOSTS file. This is a text configuration file containing a list of IP addresses correlated to MCF node names. A sample file, ADXIPLMF.SMP, is copied into the ADX_SDT1 directory of the store controller during installation or migration. On the master controller, copy this sample file to ADXIPLMF.DAT in the ADX_SDT1 directory. Add a line in ADXIPLMF.DAT for each store controller, starting with its IP address separated by a space and then the MCF node name. The MCF node name is of the form: ADXLX??N, where ?? is replaced by the two-character node ID.

For example, if you have two controllers, “CC” and “DD”, with IP addresses “192.168.0.1/24” and “192.168.17.2/24”, then your file ADXIPLMF.DAT should contain two lines like this:

```
192.168.0.1 ADXLXCCN
192.168.17.2 ADXLXDDN
```

2. Change the IP configuration (ADXIPxxXBAT) for the controller (that is, the router IP address, new controller IP address, etc.) to operate in the other subnet.
3. The controller is now ready to be connected to the new subnet.

When an MCF node name is identified in the ADXIPLMF.DAT file, no attempt is made to locate the controller by broadcasting a request for that name. Instead, all activity directed at that node name will be sent directly to the IP address provided. Using this method allows store controllers to be separated onto different networks, but also requires administration to ensure the IP addresses remain valid for the store controllers they represent.

Important: Use extra care when combining CCC/IP with 4690 IP Security Protocol (IPsec). Before implementing IPsec between store controllers or making configuration changes involving IPsec, first test your procedures in a lab environment to ensure the sequence of operations does not result in a situation where store controllers are unable to communicate with each other. When an alternate or subordinate store controller is unable to contact the master store controller, the IPL sequence stops and error message W901 is displayed until the master controller can be found or until a user intervenes by pressing **F1** to complete the IPL. Improper configuration of IPsec between store controllers can cause this condition and might require in-store personnel to correct the problem. When using CCC/IP, the master controller should be able to “ping” the IP addresses of an alternate or subordinate store controller successfully, even when the other store controller has a W901 error. If the “ping” test is not successful, then there is a problem with IPsec configuration, IP Address configuration, or the network.

Appendix A. Implementation plan checklist

This appendix provides a checklist of planning activities for installing and configuring the operating system. First, use an **X** to indicate all required activities. Next, use an **O** to indicate any optional activities you want to include. Assign personnel responsible for each activity and due dates for their completion. With the completed checklist and assignments, you have a plan that has been modified to meet the needs of your organization.

Write an X or O	Planning activity	Person responsible	Date due	Date completed
	"Activity 1. Review current operations" on page 4			
	"Activity 2. Modify installation plan" on page 4			
	"Activity 3. Review Point-of-Sale requirements" on page 5			
	"Activity 4. Select hardware and software components" on page 5			
	"Activity 4a. Define store controller hardware configuration" on page 5			
	"Activity 4b. Define terminal hardware configuration" on page 6			
	"Activity 4c. Define software configuration" on page 9			
	"Activity 5. Prepare terminal device group definitions" on page 9			
	"Activity 6. Develop a telecommunication plan (optional)" on page 10			
	"Activity 6a. Determine system requirements" on page 10			
	"Activity 6b. Evaluate Toshiba support software programs" on page 10			
	"Activity 6c. Design additional application programs" on page 10			
	"Activity 6d. Prepare user data" on page 11			
	"Activity 6e. Define telecommunication network" on page 11			
	"Activity 7. Develop education plan" on page 11			
	"Activity 8. Review application program requirements" on page 12			
	"Activity 8a. Review 4680 or 4690 application programs" on page 12			
	"Activity 8b. Develop customization requirements (optional)" on page 12			
	"Activity 8c. Prepare personalization worksheets (optional)" on page 12			

Worksheet A

Write an X or O	Planning activity	Person responsible	Date due	Date completed
	"Activity 8d. Develop store procedures" on page 12			
	"Activity 8e. Develop training program" on page 13			
	"Activity 9. Place the order" on page 14			
	"Activity 10. Implement telecommunication plan (optional)" on page 14			
	"Activity 11. Prepare your site" on page 14			
	"Activity 12. Prepare configuration worksheets" on page 14			
	"Activity 13. Install test system" on page 14			
	"Activity 13a. Install Terminal-Controller Communication (TCC) Network" on page 20			
	"Activity 13c. Install terminals" on page 21			
	"Activity 13b. Install store controllers" on page 21			
	"Activity 13e. Install the Operating System on the master store controller or on a single store controller" on page 21			
	"Activity 13d. Set up and verify system hardware" on page 21			
	"Activity 13f. Install the Operating System on all other store controllers (optional)" on page 21			
	"Activity 13g. Enable 4690 features on the Master Store Controller (optional)" on page 22			
	"Activity 13h. Enable 4690 Multiple Controller Feature on all other store controllers (optional)" on page 22			
	"Activity 13i. Configure the Operating System" on page 22			
	"Activity 13j. Install and personalize the 4680-4690 Application program" on page 22			
	"Activity 13k. Install the 4680 BASIC Licensed Program for customization (optional)" on page 23			
	"Activity 13l. Validate the store system" on page 23			
	"Activity 14. Develop test and maintenance plans" on page 14			
	"Activity 15. Develop a replication plan" on page 15			

Write an X or O	Planning activity	Person responsible	Date due	Date completed
	"Activity 16. Load user data in test system or transmit user data (optional)" on page 15			
	"Activity 17. Train store personnel" on page 15			
	"Activity 18. Install first store" on page 15			
	"Activity 19. Implement test and maintenance plans" on page 15			
	"Activity 20. Test the store system" on page 15			
	"Activity 21. Monitor store system" on page 16			
	"Activity 22. Adjust installation and replication plans as needed" on page 16			
	"Activity 23. Replicate store system" on page 17			

Worksheet A

Appendix B. Terminal installation worksheets

Use the worksheets in this appendix to show your installation personnel where to attach input/output devices to the point-of-sale terminals.

1. Make a copy of the blank Worksheet B for each terminal you have.
2. Use Worksheet B to indicate:
 - The Feature Expansion cards to be installed in the two feature expansion positions on the rear of the 4683 point-of-sale terminals.
 - The sockets into which the input/output devices are to be plugged.
3. Use the completed installation worksheets for each terminal; store a set of the completed worksheets in a safe place as a record of installation data.
4. Give the completed worksheets to your installation personnel (one set of worksheets for each point-of-sale terminal to be installed).

Worksheet B—Terminal installation - SurePOS 730

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Note: If you plan to plug more than one USB 40-character display into the system unit, the display plug farthest to the left of the tailgate will be designated as the primary display. For example, if you plug a USB 40-character VFD in port C and a USB 40-character LCD in port E, the USB 40-character VFD is considered the primary display and the USB 40-character LCD is considered the secondary display.

Device	Port
<input type="checkbox"/> USB 9-in. Monochrome Video Display	<input type="checkbox"/> DVI-I
<input type="checkbox"/> USB 10-in. Color Video Display	<input type="checkbox"/> DVI-I
<input type="checkbox"/> USB SurePoint Solution	<input type="checkbox"/> DVI-I <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB 40-Character Liquid Crystal Display (LCD)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB 40-Character One-Sided Vacuum Fluorescent Display (VFD)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB 40-Character Two-Sided Vacuum Fluorescent Display (VFD)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB APA Display	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> Standard PC CRT	<input type="checkbox"/> DVI-I
<input type="checkbox"/> Standard PC Full-Screen LCD	<input type="checkbox"/> DVI-I
<input type="checkbox"/> Ethernet	<input type="checkbox"/> 10/100 BASE-T Port
<input type="checkbox"/> Cash Drawer 1	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	<input type="checkbox"/> 3B
<input type="checkbox"/> USB 50-Key Keyboard with or without a three-track MSR or three-track MSR and display	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB ANPOS Keyboard with a three-track MSR	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> PS/2 Keyboard	<input type="checkbox"/> PS/2 Keyboard
<input type="checkbox"/> USB 133-Key Keyboard with a three-track MSR	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB Printer Model 4610	<input type="checkbox"/> F
<input type="checkbox"/> USB/SIO Converter (to attach the scanner)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> USB Mouse	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> PS/2 Mouse	<input type="checkbox"/> PS/2 Port

Devices that attach to the 12-V (green), powered USB ports use the 12-V cables with green connectors.

Devices that attach to the 24-V (red), powered USB port use the 24-V cable with red connectors.

Note: You can attach the USB 4610 printer to any USB port if the printer is also connected to an external power brick.

Worksheet B—Terminal installation - SurePOS 750

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Note: If you plan to plug more than one USB 40-character display into the system unit, the display plug farthest to the left of the tailgate will be designated as the primary display. For example, if you plug a USB 40-character VFD in port C and a USB 40-character LCD in port E, the USB 40-character VFD is considered the primary display and the USB 40-character LCD is considered the secondary display.

Device	Port
<input type="checkbox"/> USB 9-in. Monochrome Video Display	<input type="checkbox"/> DVI-I
<input type="checkbox"/> USB 10-in. Color Video Display	<input type="checkbox"/> DVI-I
<input type="checkbox"/> SurePoint Solution	<input type="checkbox"/> DVI-I <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB 40-Character Liquid Crystal Display (LCD)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB 40-Character One-Sided Vacuum Fluorescent Display (VFD)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB 40-Character Two-Sided Vacuum Fluorescent Display (VFD)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB APA Display	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> Standard PC CRT	<input type="checkbox"/> DVI-I <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> Standard PC Full-Screen LCD	<input type="checkbox"/> DVI-I <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> Ethernet	<input type="checkbox"/> 10/100BASE-T Port
<input type="checkbox"/> Cash Drawer 1	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	<input type="checkbox"/> 3B
<input type="checkbox"/> USB 50-Key Keyboard with or without a three-track MSR or three-track MSR and display	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB ANPOS Keyboard with a three-track MSR	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> PS/2 Keyboard	<input type="checkbox"/> PS/2 Keyboard
<input type="checkbox"/> USB 133-Key Keyboard with a three-track MSR	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB Printer Model 4610	<input type="checkbox"/> H
<input type="checkbox"/> USB/SIO Converter (to attach the scanner)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G
<input type="checkbox"/> USB Mouse	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
<input type="checkbox"/> PS/2 Mouse	<input type="checkbox"/> PS/2 Port

Devices that attach to the 12-V (green,) powered USB ports use the 12-V cables with green connectors.

Devices that attach to the 24-V (red), powered USB port use the 24-V cables with red connectors.

Note: You can attach the USB 4610 printer to any USB port if the printer is also connected to an external power brick.

Worksheet B—Terminal installation - 4694-0x4/1x4

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Alphanumeric (A/N) Display 2	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Operator Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
		Mount the display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
		Mount the display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> LCD/Video (SurePoint Solution)	None	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Two-sided VFD II	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Ethernet	Cable might not be labeled.	<input type="checkbox"/> 10BASE-T Port
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5.
<input type="checkbox"/> POS Keyboard with or without a three-track MSR and display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard with a three-track MSR	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Modifiable Layout Keyboard with a three-track MSR	5	<input type="checkbox"/> 5
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)

Device	Cable number	Plug into socket number
_ Combined Keyboard/Display	5	_ 5
_ Keyboard-V POS with JUCC MSR	5	_ 5
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printers Model 2, 3, 4, 4A, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9/E
_ 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9/E
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9/E

Worksheet B—Terminal installation - 4694-2x4/4694-245

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Alphanumeric (A/N) Display 2	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Operator Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount the display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount the display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> LCD/Video (SurePoint Solution)	None	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Two-sided VFD II	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Ethernet	Cable might not be labeled.	<input type="checkbox"/> 10BASE-T Port
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5.
<input type="checkbox"/> POS Keyboard with or without a three-track MSR and display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard with a three-track MSR	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Modifiable Layout Keyboard with a three-track MSR	5	<input type="checkbox"/> 5
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Combined Keyboard/Display	5	<input type="checkbox"/> 5

Device	Cable number	Plug into socket number
_ Keyboard-V POS with JUCC MSR	5	_ 5
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printer Model 2, 3, 4, 4A, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ IBM 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9A _ 9B _ 9C/E
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E

Worksheet B—Terminal installation - 4694-2x6

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Alphanumeric (A/N) Display 2	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Operator Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> LCD/Video (SurePoint Solution)	None	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E <input type="checkbox"/> USB port
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Two-sided VFD II	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Ethernet	Cable might not be labeled.	<input type="checkbox"/> 10BASE-T Port
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5.
<input type="checkbox"/> POS Keyboard with or without a three-track MSR and display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard with a three-track MSR	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Modifiable Layout Keyboard with a three-track MSR	5	<input type="checkbox"/> 5
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Combined Keyboard/Display	5	<input type="checkbox"/> 5

Device	Cable number	Plug into socket number
_ Keyboard-V POS with JUCC MSR	5	_ 5
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printer Model 2, 3, 4, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9A _ 9B _ 9C/E
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E

Worksheet B—Terminal installation - 4694-2x7

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Alphanumeric (A/N) Display 2	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Operator Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount the display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount the display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Two-sided VFD II	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Ethernet	Cable might not be labeled.	<input type="checkbox"/> 10BASE-T Port
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5.
<input type="checkbox"/> POS Keyboard with or without a three-track MSR and display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard with a three-track MSR	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Modifiable Layout Keyboard with a three-track MSR	5	<input type="checkbox"/> 5
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Combined Keyboard/Display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Keyboard-V POS with JUCC MSR	5	<input type="checkbox"/> 5

Device	Cable number	Plug into socket number
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printer Model 2, 3, 4, 4A, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ IBM 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9A _ 9B _ 9C/E
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E

Worksheet B—Terminal installation - 4694-3x7

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Alphanumeric (A/N) Display 2	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Operator Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
		Mount display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> LCD/Video (SurePoint Solution)	None	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E <input type="checkbox"/> USB port
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Two-sided VFD II	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C/E
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Ethernet	Cable might not be labeled.	<input type="checkbox"/> 10BASE-T Port
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5.
<input type="checkbox"/> POS Keyboard with or without a three-track MSR and display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard with a three-track MSR	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Modifiable Layout Keyboard with a three-track MSR	5	<input type="checkbox"/> 5
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Combined Keyboard/Display	5	<input type="checkbox"/> 5

Device	Cable number	Plug into socket number
_ Keyboard-V POS with JUCC MSR	5	_ 5
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printer Model 2, 3, 4, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9A _ 9B _ 9C/E
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C/E

Worksheet B—Terminal installation - 4694-205

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Alphanumeric (A/N) Display 2	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Operator Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
		Mount display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
		Mount display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> LCD/Video (SurePoint Solution)	None	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Two-sided VFD II	9/E or 4	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Ethernet	Cable might not be labeled.	<input type="checkbox"/> 10BASE-T Port
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5.
<input type="checkbox"/> POS Keyboard with or without a three-track MSR and display	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard with a three-track MSR	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Modifiable Layout Keyboard with a three-track MSR	5	<input type="checkbox"/> 5
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	<input type="checkbox"/> 5 <input type="checkbox"/> PC (port on controller/terminal, if shared)
<input type="checkbox"/> Combined Keyboard/Display	5	<input type="checkbox"/> 5

Device	Cable number	Plug into socket number
_ Keyboard-V POS with JUCC MSR	5	_ 5
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printer Model 2, 3, 4, 4A, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9/E
_ 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9/E
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9/E
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9/E

Worksheet B—Terminal installation - 4693

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Notes:

1. On partner terminals, you cannot have an Alphanumeric Point-of-Sale (ANPOS) keyboard on one terminal and an alphanumeric keyboard on the partner.
2. On partner terminals, you must have the same type of MSR on both terminals.
3. On 4693 terminals, if one terminal has one of the 4693 POS family of keyboards, its partner must also have one of the 4693 keyboards.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> Alphanumeric (A/N) Display 2	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> Operator Display	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
		Mount display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Operator Display	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
		Mount display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
		Mount display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> APA Display	9/E or 4	<input type="checkbox"/> 4 on PLU Extension Box
<input type="checkbox"/> LCD/Video (SurePoint Solution)	None	<input type="checkbox"/> 4 <input type="checkbox"/> 9/E
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> 40-Character Liquid Crystal Display (LCD)	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> 40-Character Vacuum Fluorescent Display II (VFD II)	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> Two-sided VFD II	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Loop Cable	1	<input type="checkbox"/> 1
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5A or 5B.

Device	Cable number	Plug into socket number
_ Dual-Track Magnetic Stripe Reader (MSR)	5	_ 5B
_ 4693 POS Keyboard with or without a three-track MSR and display	5	_ 5A _ 5B
_ 4693 Alphanumeric Point-of-Sale Keyboard (4693 ANPOS) with a three-track MSR	5	_ 5A _ 5B _ keyboard port (on controller/terminal, if shared)
_ 4693 Modifiable Layout Keyboard with a three-track MSR	5	_ 5A _ 5B
_ 50-Key Keyboard	5	_ 5A _ 5B
_ Alphanumeric Keyboard	5	_ 5A _ 5B
_ Alphanumeric Point-of-Sale Keyboard (ANPOS)	5	_ 5A _ 5B _ keyboard port (on controller/terminal, if shared)
_ Combined Keyboard/Display	5	_ 5A _ 5B
_ Keyboard-V POS with JUCC MSR	5	_ 5
_ Keyboard-VI POS with JUCC MSR	5	_ 5
_ 50-Key POS Keyboard with JUCC MSR	5	_ 5
_ PLU POS Keyboard	5	_ 4 on PLU Extension Box
_ Printer Model 2, 3, 4, 4610, or 4689	7	_ 7
_ Point-of-Sale Scanners	Cable might not be labeled.	_ 9A
_ 4685 Hand-Held Bar Code Reader Models 001 and 002	9	_ 9B
_ 1520 Hand-Held Scanner Model A02 (1520-A02)	5	_ 5B
_ Non-IBM Hand-Held Scanner	Cable might not be labeled.	_ 9B
_ Non-Toshiba Device Using Identification Number 64 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C
_ Non-Toshiba Device Using Identification Number 65 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C
_ Non-Toshiba Device Using Identification Number 68 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C
_ Non-Toshiba Device Using Identification Number 69 (Hexadecimal)	Cable might not be labeled.	_ 9A _ 9B _ 9C

Worksheet B—Terminal installation - 4683

Terminal No. _____ **Location** _____

Planner: Enter the terminal number and location.

Mark the appropriate blanks for the devices and sockets to indicate how the installer should connect the devices.

Installer: Connect the devices as the planner has indicated.

Notes:

1. On partner terminals, you cannot have an Alphanumeric Point-of-Sale (ANPOS) keyboard on one terminal and an alphanumeric keyboard on the partner.
2. On partner terminals, you cannot have a single MSR on one terminal and a dual MSR on the partner.

Device	Cable number	Plug into socket number
<input type="checkbox"/> Security Base	Not applicable	Not applicable
<input type="checkbox"/> Alphanumeric (A/N) Display 1	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B
<input type="checkbox"/> Alphanumeric (A/N) Display 2	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B
<input type="checkbox"/> Operator Display	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B
		Mount display on: <input type="checkbox"/> Tray <input type="checkbox"/> Keyboard
<input type="checkbox"/> Shopper Display	4	<input type="checkbox"/> 4A <input type="checkbox"/> 4B
		Mount display on: <input type="checkbox"/> Post <input type="checkbox"/> Arm
<input type="checkbox"/> Video		<input type="checkbox"/> Video Port
<input type="checkbox"/> Loop Cable	1	<input type="checkbox"/> 1
<input type="checkbox"/> Cash Drawer 1	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Cash Drawer 2	3	<input type="checkbox"/> 3A <input type="checkbox"/> 3B
<input type="checkbox"/> Alarm	Cable might not be labeled.	<input type="checkbox"/> 3B
<input type="checkbox"/> Single-Track Magnetic Stripe Reader (MSR)	None	The cable plugs into socket 6 on the keyboard. Keyboard cable 5 connects to base-unit socket 5A or 5B.
<input type="checkbox"/> Dual-Track Magnetic Stripe Reader (MSR)	5	<input type="checkbox"/> 5B
<input type="checkbox"/> 50-Key Keyboard	5	<input type="checkbox"/> 5A <input type="checkbox"/> 5B
<input type="checkbox"/> Alphanumeric Keyboard	5	<input type="checkbox"/> 5A <input type="checkbox"/> 5B
<input type="checkbox"/> Alphanumeric Point-of-Sale Keyboard (AN/POS) with or without a dual-track MSR	5	<input type="checkbox"/> 5A <input type="checkbox"/> 5B
<input type="checkbox"/> Matrix Keyboard	5	<input type="checkbox"/> 5A <input type="checkbox"/> 5B
<input type="checkbox"/> Combined Keyboard/Display	5	<input type="checkbox"/> 5A <input type="checkbox"/> 5B
<input type="checkbox"/> Printer Model 2, 3, 4, or 4610	7	<input type="checkbox"/> 7
<input type="checkbox"/> 4685 Hand-Held Bar Code Reader Models 001 and 002	9	<input type="checkbox"/> 9B
<input type="checkbox"/> 1520 Hand-Held Scanner Model A02 (1520-A02)	5	<input type="checkbox"/> 5B
<input type="checkbox"/> Non-IBM Hand-Held Scanner	Cable might not be labeled.	<input type="checkbox"/> 9B
<input type="checkbox"/> Point-of-Sale Scanners	Cable might not be labeled.	<input type="checkbox"/> 17

Feature expansion cards in the terminal: (4683 only)	Plug into:
<ul style="list-style-type: none"> One Feature Expansion A card 9-Inch Monochrome Display Integrated on Security Base Distributed IBM 8503 12-Inch Monochrome Display (Distributed only) IBM 8513 12-Inch Color Display (Distributed only) 	<ul style="list-style-type: none"> 2A 2B Socket 81 using adapter cable
<ul style="list-style-type: none"> Second Feature Expansion A card 9-Inch Monochrome Display Integrated on Security Base Distributed IBM 8503 12-Inch Monochrome Display (Distributed only) IBM 8513 12-Inch Color Display (Distributed only) 	<ul style="list-style-type: none"> 2A 2B Socket 81 using adapter cable
<ul style="list-style-type: none"> One Feature Expansion B card Non-IBM Hand-Held Optical Character Reader Non-IBM Scale 1520 Hand-Held Scanner Model A01 (1520-A01) Non-IBM Coin Dispenser 	<ul style="list-style-type: none"> 2A 2B Socket 21 Socket 21 Socket 21 Socket 29
<ul style="list-style-type: none"> Second Feature Expansion B card Non-IBM Hand-Held Optical Character Reader Non-IBM Scale 1520 Hand-Held Scanner Model A01 (1520-A01) Non-IBM Coin Dispenser 	<ul style="list-style-type: none"> 2A 2B Socket 21 Socket 21 Socket 21 Socket 29
<ul style="list-style-type: none"> One Feature Expansion C card Non-IBM Scale or Hand-Held Optical Character Reader 1520 Hand-Held Scanner Model A01 (1520-A01) RS-232C Device RS-232C or Current Loop Device Non-IBM Coin Dispenser 	<ul style="list-style-type: none"> 2A 2B Socket 21 Socket 21 Socket 23 Socket 25 Socket 29
<ul style="list-style-type: none"> Second Feature Expansion C card Non-IBM Scale or Hand-Held Optical Character Reader 1520 Hand-Held Scanner Model A01 (1520-A01) RS-232C Device RS-232C or Current Loop Device Non-IBM Coin Dispenser 	<ul style="list-style-type: none"> 2A 2B Socket 21 Socket 21 Socket 23 Socket 25 Socket 29
<ul style="list-style-type: none"> One Feature Expansion D card Non-IBM Hand-Held Optical Character Reader RS-232C Device RS-232C or Current Loop Device Non-IBM Magnetic Wand Non-IBM Coin Dispenser 	<ul style="list-style-type: none"> 2A 2B Socket 21 Socket 23 Socket 25 Socket 26 Socket 29
<ul style="list-style-type: none"> Second Feature Expansion D card Non-IBM Hand-Held Optical Character Reader RS-232C Device RS-232C or Current Loop Device Non-IBM Magnetic Wand Non-IBM Coin Dispenser 	<ul style="list-style-type: none"> 2A 2B Socket 21 Socket 23 Socket 25 Socket 26 Socket 29

WORKSHEET B

Feature expansion cards in the terminal: (4683 only)	Plug into:
_ One Feature Expansion E card _ RS-232C Device _ RS-232C or Current Loop Device	_ 2A _ 2B Socket 23 Socket 25
_ Second Feature Expansion E card _ RS-232C Device _ RS-232C or Current Loop Device	_ 2A _ 2B Socket 23 Socket 25
_ Dual Async Card in Card Slot 1	Not applicable on 4683
_ Dual Async Card in Card Slot 2	Not applicable on 4683

The code numbers for the locks on this terminal are:
_ Cash Drawer 1 _____ (The top one, if you have two) _ Cash Drawer 2 _____ (The bottom one, if you have two) _ Keyboard _____ _ Printer _____

Appendix C. Lock code numbers record

Use the worksheet in this appendix to record the lock code numbers for each point-of-sale terminal in your store system. Record each Mod2 terminal's data on the lines immediately following those of its partner terminal.

Retain this worksheet as part of your system hardware records.

[illegible]

Appendix D. Terminal configuration data - Worksheets D

This appendix contains worksheets for recording terminal configuration information. You must define all of the terminals (for a single store controller or for each store controller in the multiple store controller (LAN) system) to the operating system. The process is called *terminal configuration*. This process informs the operating system about the functions and terminal devices you want supported in the terminal.

Terminal configuration data defines the following:

- | • Terminal device characteristics (for SurePOS 300/700 Series and TCxWave 6140 Series systems)
- | • Terminal device groups
- | • Keyboard layouts are the positions of keys on the keyboard.
- | • Terminal loads are programs that are loaded in each terminal at IPL. Included in each load are the following:
 - The name of the terminal device group for the terminal
 - The name of the keyboard layout that is used by the terminal
- | • Additional or changed alphanumeric characters that are displayed at the terminal
- | • Additional or changed characters that are printed at the customer receipt or transaction journal print stations
- | • Network File System (NFS) data to support file names longer than eight characters
- | • Font/Logo Utility to convert and download fonts and files to DBCS-enable devices.

You can define 4683, 4693, and 4694 terminals with the same I/O devices and the same RAM disk as members of a *terminal device group*. A terminal device group describes the unique point-of-sale devices attached to a terminal. The 4683 Mod1 and Mod2 terminals can use the same terminal device group. Other terminal types must have a unique terminal device group for each terminal type. Use the worksheets in this appendix for each terminal device group in the system.

- | For SurePOS 300/700 Series and TCxWave 6140 Series systems, you can define *terminal device characteristics*, which describe the unique characteristics of POS devices attached to a terminal. Use the
- | worksheets in this appendix for each terminal device characteristics entry in the system.
- | When the worksheets are complete, they can be used for data entry when defining the terminal
- | configuration to the operating system. To define terminal configuration data, select option **1** (Terminal
- | Configuration) from the CONFIGURATION panel. Select whether the terminal you are configuring is a
- | SurePOS 300/700 Series or TCxWave 6140 Series terminal, then see “Terminal configuration keywords”
- | on page 359 for further information on each terminal configuration keyword. The terminal configuration
- | keywords appear in alphabetical order. Each description includes restrictions, parameters, and the default
- | values. See these descriptions when you are unsure what kind of information is needed for a particular
- | field.

Worksheet D1—4693-5x1 and 7x1 terminal configuration (terminal device group)

Use this information to define or change your terminal device group configuration for a 4693-5x1 or 4693-7x1 terminal only. Fill out a copy of this worksheet for each unique 4693-5x1 or 4693-7x1 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4693" on page 236) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP04) as a model for the group you are currently defining. Write the model's name on a copy of this worksheet.

Configuration keyword shown on display and parameter to be used

Name of terminal device group: _ _ _ _ _

Terminal type: _

Name of existing terminal device group to be used as model: _ _ _ _ _

Default value

None

1

ADXGRP04

Note: The default terminal type value is 1, which will also select the correct default model device type for the 4693-5x1 or 4693-7x1 terminal. The models for the other terminal types will appear when a different terminal type is selected. To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an **X** on Figure 83 in each card slot that has a Dual Asynchronous Adapter installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use.

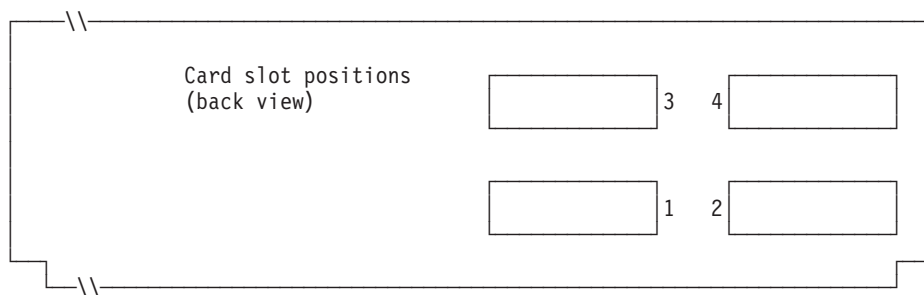


Figure 83. Rear of 4693-5x1 or 4693-7x1 Point-of-Sale terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration keyword shown on display and parameter to be used

Number of terminal RAM disks supported for this device group: _

Default value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration keyword shown on display and parameter to be used

Disk ID: _ _

Size: _ _

Files: _

Default value

None

0

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration keyword shown on display and parameter to be used	Default value
Disk ID: __	None
Size: __	0
Files: __	0

6. If an asynchronous port is used by terminal applications, write the port number on Figure 84. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

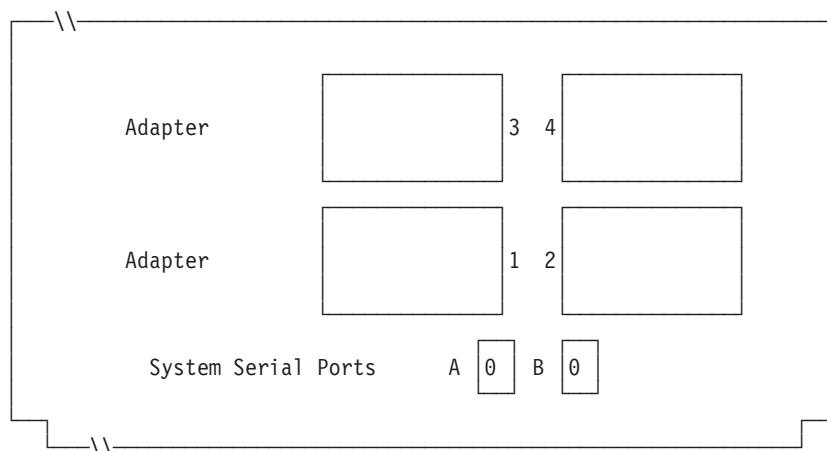


Figure 84. Right side of rear of 4693-5x1 or 4693-7x1 Point-of-Sale terminal

Complete the following information if one of the asynchronous ports has a connected UPS that is to be monitored and controlled by the operating system:

Configuration keyword shown on display and parameter to be used	Default value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the uninterruptible power supply (UPS): __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration keyword shown on display and parameter to be used	Default value
Will this terminal use a video display? __	2 (No)

Note: If the terminal uses a video display, you must define whether to enable the terminal screen saver. You must also define the video display format and the device name for the system display.

7. Mark an X on Figure 85 on page 246 to indicate the sockets in which POS devices are connected.

Worksheet D1

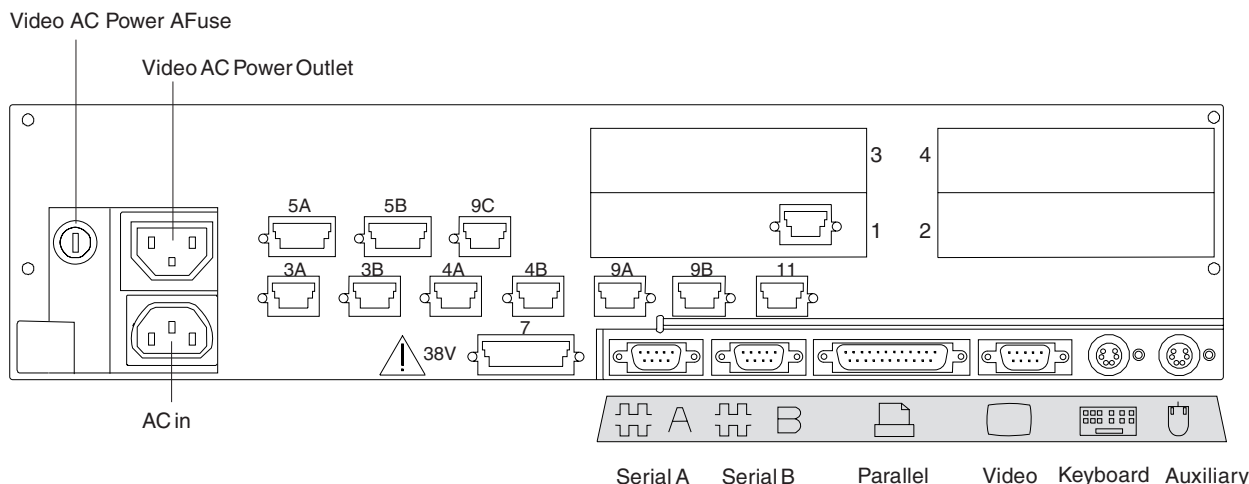


Figure 85. Rear of 4693-5x1 or 4693-7x1 Point-of-Sale terminal

8. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are used on the 4693-5x1 or 4693-7x1 terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket used	Configuration keyword and parameter to be used	Default value
Socket 3A	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: _	1
Socket 4A	Device Name: _	1
Socket 4A	System Display: _	1 (Yes)
Socket 4B	Device Type: _	1
Socket 4B	Device Name: _	2
Socket 4B	System Display: _	2 (No)
Socket 5A	Keyboard Type: _	1
Socket 5A	Number of Tracks to Read: _	1
Socket 5A	Identify Tracks to Read: _	1
	Note: The MSR track information questions vary depending on the type of keyboard you select.	
Socket 5B	Device Type: _	1
	Note: If the Device Type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 5B	Enable Tone: _	2 (No)
Socket 5B	Label Types Supported : _	UPC/EAN
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1

Socket used	Configuration keyword and parameter to be used	Default value
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9C	Device Type: _	1
Socket 9C	Display Type: _	3

Worksheet D2—4693-5x1 or 4693-7x1 controller/terminal configuration (terminal device group)

Use this information to define or change your terminal device group configuration for a 4693-5x1 or 4693-7x1 controller/terminal only. Fill out a copy of this worksheet for each unique 4693-5x1 and 4693-7x1 controller/terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4693" on page 236) for the terminals in your store system.
2. Group together those worksheets for terminals with identical devices and RAM disks. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP09) as a model for the group you are currently defining. Write the model's name on a copy of this worksheet.

Configuration keyword shown on display and parameter to be used

Name of terminal device group: _ _ _ _ _

Terminal type: _

Default value

None

1

Note: You must change the terminal type to configure a 4693-5x1 or 4693-7x1 controller/terminal. The 4693-5x1 or 4693-7x1 model ADXGRP09 will be filled in as the model name when the terminal type for a 4693-5x1 or 4693-7x1 controller/terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP09

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 86 in each card slot that has a Dual Asynchronous Adapter installed **for use by terminal applications**. Do not mark an X if applications other than terminal applications use the card.

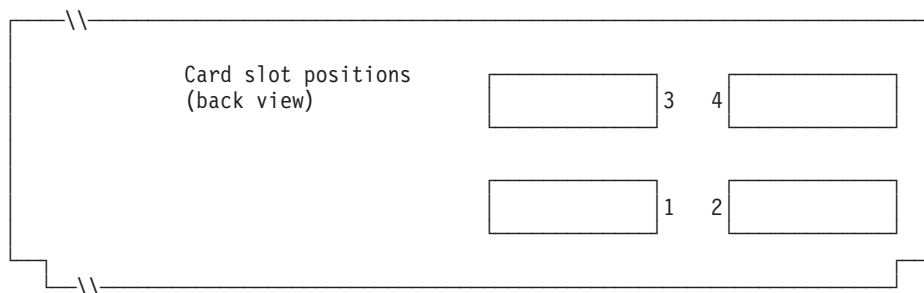


Figure 86. Rear of 4693-5x1 or 4693-7x1 controller/terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration keyword shown on display and parameter to be used

Number of terminal RAM disks supported for this device group: _

Default value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration keyword shown on display and parameter to be used

Disk ID: _ _

Size: _ _

Files: _

Default value

None

0

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration keyword shown on display and parameter to be used

Disk ID: __

Size: __

Files: _

Default value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on Figure 87. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

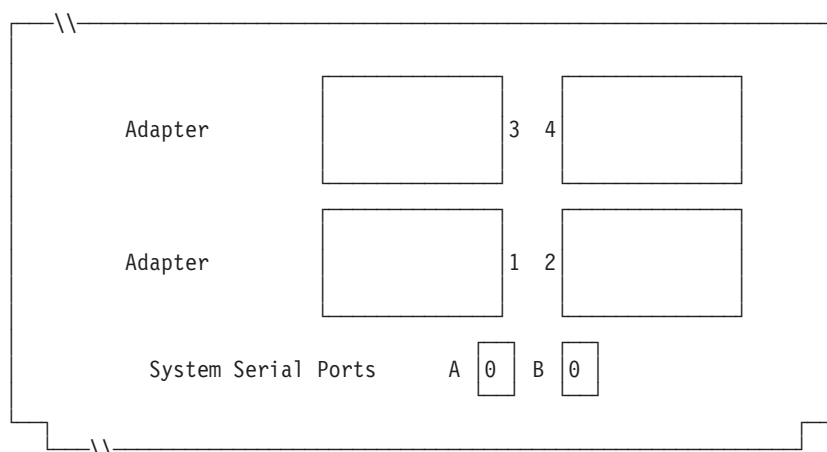


Figure 87. Right side of rear of 4693-5x1 or 4693-7x1 controller/terminal

If one of the asynchronous ports has an UPS connected that the operating system will monitor and control, complete the following information:

Configuration keyword shown on display and parameter to be used

UPS Port Number: _

UPS Device Manufacturer: _

Number of minutes from power failure until the 4690 system should turn off the UPS: _

Number of seconds between warning messages during a power failure: _

Default value

None

None

None

None

Configuration keyword shown on display and parameter to be used

Will this controller/terminal share its video and keyboard? _

Number of Tracks to Read: _

Identify Tracks to Read: _

Default value

2 (No)

1

2

Note: If the controller/terminal shares a keyboard, you must define the type of shared keyboard. If the controller/terminal shares its video display, you must define whether to enable terminal screen saver. Then, you must define the video display format, the device name and the system display option.

7. Mark an X on Figure 88 on page 250 to indicate the sockets in which POS devices are connected.

Worksheet D2

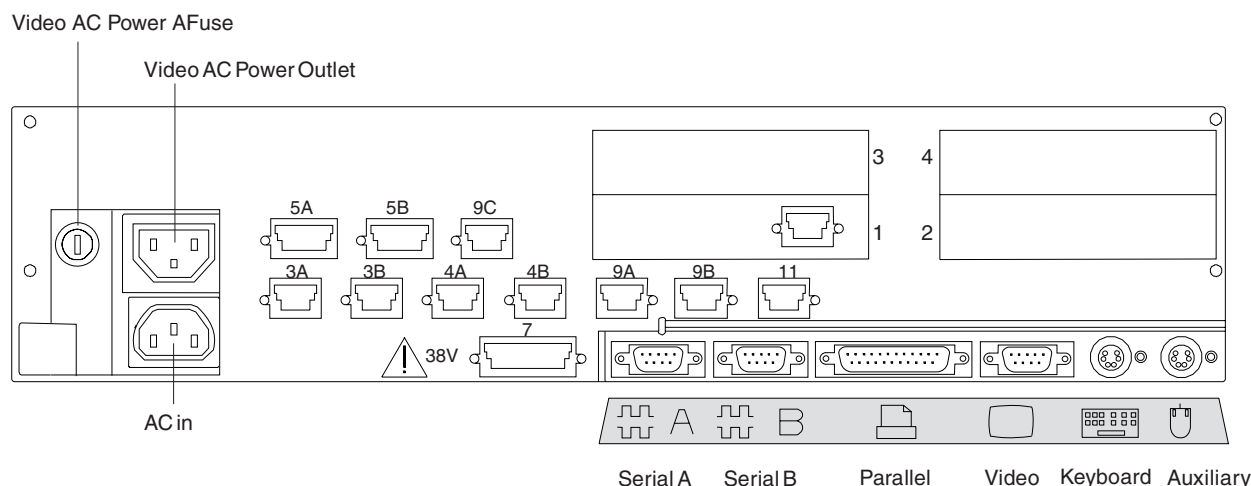


Figure 88. Rear of 4693-5x1 or 4693-7x1 controller/terminal

8. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4693-5x1 or 4693-7x1 controller/terminal. All of the following keywords will not automatically appear for the 4693-5x1 or 4693-7x1 controller/terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket used	Configuration keyword and parameter to be used	Default value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: _	1
Socket 4A	Device Name: _	1
Socket 4A	System Display: _	1 (Yes) 2 (No) (if video and keyboard are shared)
Socket 4B	Device Type: _	1
Socket 4B	Device Name: _	2
Socket 4B	System Display: _	2 (No)
Socket 5A	Keyboard Type: _	1
Socket 5A	Number of Tracks to Read: _	1
Socket 5A	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 5B	Device Type: _ Note: If the Device Type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 5B	Enable Tone: _	2 (No)
Socket 5B	Label Types Supported: _	UPC/EAN
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1

Socket used	Configuration keyword and parameter to be used	Default value
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9C	Device Type: _	1
Socket 9C	Display Type: _	3

Worksheet D3—4693-4x1 terminal configuration (terminal device group)

Use this information to define or change your terminal device group configuration for a 4693-4x1 terminal only. Fill out a copy of this worksheet for each unique 4693-4x1 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4693" on page 236) for the terminals in your store system.
2. Group together the worksheets with identical devices and RAM disks. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to eight alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP05) as a model for the group you are currently defining. Write the model's name on a copy of this worksheet.

Configuration keyword shown on display and parameter to be used

Name of terminal device group: _ _ _ _ _

Default value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4693-4x1 terminal. The 4693-4x1 model ADXGRP05 will be filled in as the model name when the terminal type for a 4693-4x1 terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP05

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 89 in each card slot that has a Dual Asynchronous Adapter installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

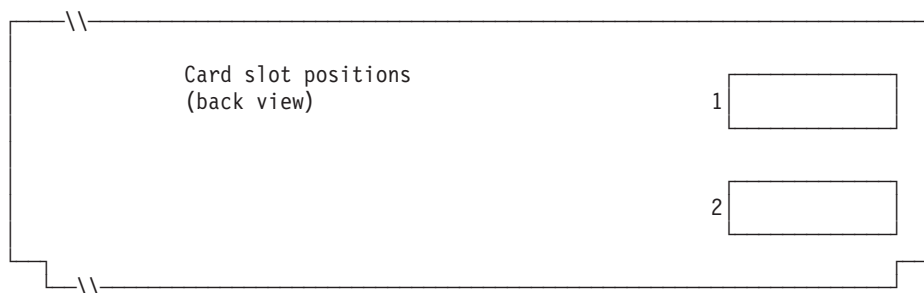


Figure 89. Rear of 4693-4x1 Point-of-Sale terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration keyword shown on display and parameter to be used

Number of terminal RAM disks supported for this device group: _

Default value

0

Define the following information for the terminal device group's *first* RAM disk (**RAM disk X**):

Configuration keyword shown on display and parameter to be used

Disk ID: _ _

Default value

None

Size: _ _

0

Files: _

0

Define the following information for the terminal device group's *second* RAM disk (**RAM disk Y**):

Configuration keyword shown on display and parameter to be used

Disk ID: __

Size: __

Files: _

Default value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on Figure 90. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

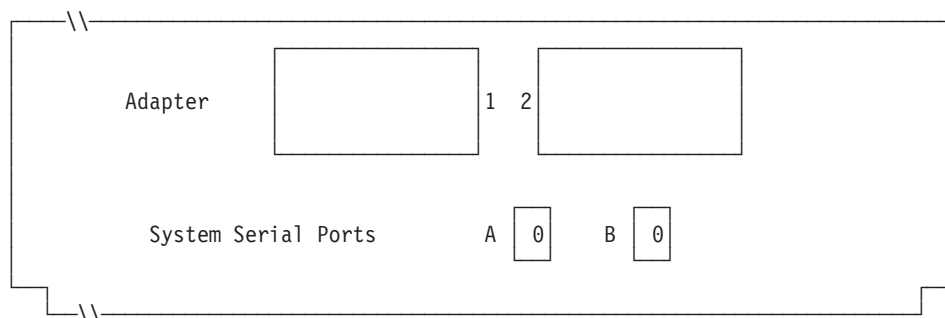


Figure 90. Right Side of Rear of 4693-4x1 Point-of-Sale Terminal

Complete the following information if one of the asynchronous ports has a connected Uninterruptable Power Supply (UPS) that will be monitored and controlled:

Configuration keyword shown on display and parameter to be used

UPS Port Number: _

UPS Device Manufacturer: _

Number of minutes from power failure until the 4690 system should turn off the UPS: _

—

Number of seconds between warning messages during a power failure: _

Default value

None

None

None

None

Configuration keyword shown on display and parameter to be used

Will this controller/terminal share a video display? _

Default value

2 (No)

Note: If the controller/terminal shares a video display, you must select the shared keyboard, and define the display to enable terminal screen saver. Then, you must define the video display format, the device name, and whether the video is the system display.

7. Mark an X on Figure 91 on page 254 to indicate the sockets in which POS devices are connected:

Worksheet D3

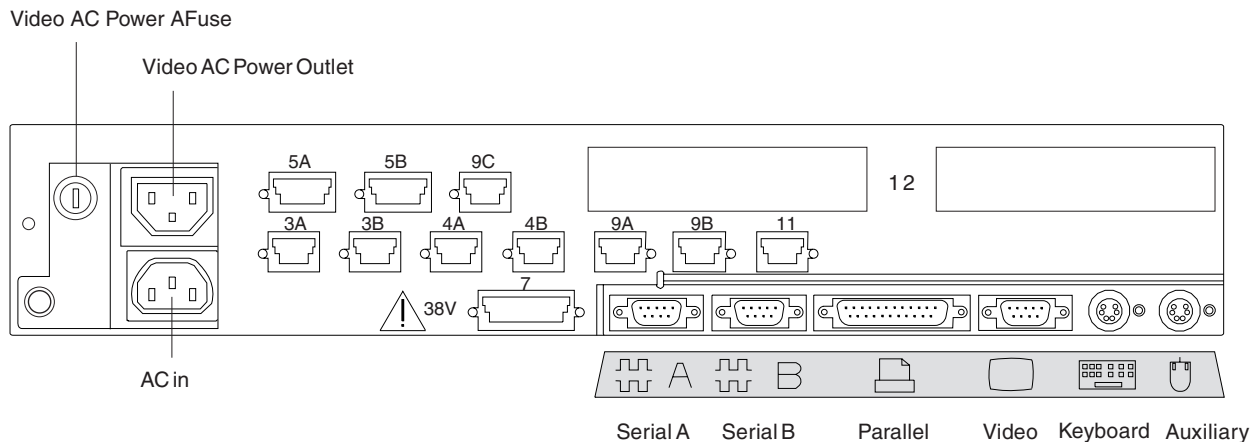


Figure 91. Rear of 4693-4x1 Point-of-Sale Terminal

8. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are used on the 4693-4x1 terminal. All of the following keywords will not automatically appear for the 4693-4x1 terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket used	Configuration keyword and parameter to be used	Default value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: _	1
Socket 4A	Device Name: _	1
Socket 4A	System Display: _	1 (Yes)
Socket 4B	Device Type: _	1
Socket 4B	Device Name: _	2
Socket 4B	System Display: _	2 (No)
Socket 5A	Keyboard Type: _	1
Socket 5A	Number of Tracks to Read: _	1
Socket 5A	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 5B	Device Type: _ Note: If the Device Type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 5B	Enable Tone: _	2 (No)
Socket 5B	Label Types Supported: _	UPC/EAN
Socket 5B	Minimum ITF Label Length: _	10
Socket 5B	Identify Tracks to Read: _	1
Socket 5B	Number of Tracks to Read: _	1
Socket 5B	Keyboard Type: _	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1

Socket used	Configuration keyword and parameter to be used	Default value
Socket 9A	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9C	Device Type: _	1
Socket 9C	Display Type: _	3

Worksheet D4—4693-3x1 terminal configuration (terminal device group)

Use this information to define or change your terminal device group configuration for a 4693-3x1 terminal. Fill out a copy of this worksheet for each unique 4693-3x1 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4693" on page 236) for the terminals in your store system.
2. Group together the worksheets with identical devices and RAM disks. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to eight alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP07) as a model for the group you are currently defining. Write the model's name on a copy of this worksheet.

Configuration keyword shown on display and parameter to be used

Name of terminal device group: _ _ _ _ _

Default value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4693-3x1. The 4693-3x1 model ADXGRP07 will be filled in as the model name when the terminal type for a 4693-3x1 is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP07

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 92 in each card slot that has a Dual Asynchronous Adapter installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

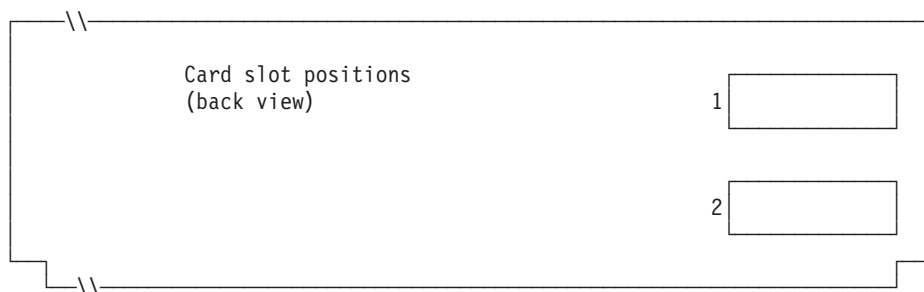


Figure 92. Rear of 4693-3x1 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration keyword shown on display and parameter to be used

Number of terminal RAM disks supported for this device group: _

Default value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration keyword shown on display and parameter to be used

Disk ID: _ _

Default value

None

Size: _ _

0

Files: _

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration keyword shown on display and parameter to be used

Disk ID: __

Size: __

Files: _

Default value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on Figure 93. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

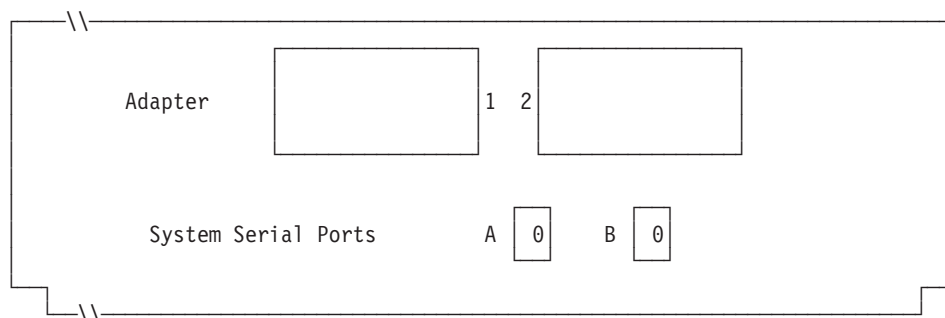


Figure 93. Right Side of Rear of 4693-3x1 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration keyword shown on display and parameter to be used

UPS Port Number: _

UPS Device Manufacturer: _

Number of minutes from power failure until the 4690 system should turn off the UPS: _

Number of seconds between warning messages during a power failure: _

Default value

None

None

None

None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration keyword shown on display and parameter to be used

Will this terminal use a video display?: _

Default value

2 (No)

Note: If the terminal uses a video display, you must define whether the display to enable terminal screen saver. Then, you must define the video display format, the device name, and whether the video is the system display.

7. Mark an X on Figure 94 on page 258 to indicate the sockets in which POS devices are connected:

Worksheet D4

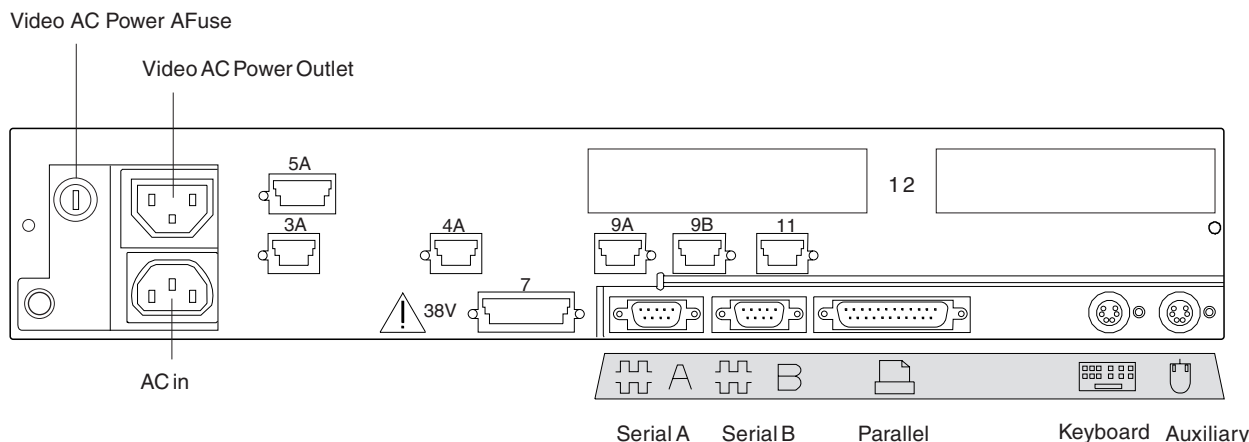


Figure 94. Rear of 4693-3x1 Point-of-Sale Terminal

8. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are used on the 4693 terminal. All of the following keywords will not automatically appear for the 4693-3x1 terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket used	Configuration keyword and parameter to be used	Default value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: _	1
Socket 4A	Device Name: _	1
Socket 4A	System Display: _	1 (Yes)
Socket 5A	Keyboard Type: _	1
Socket 5A	Tracks: _	1
Socket 5A	Model: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1

Worksheet D5—4693-2x2 terminal configuration (terminal device group)

Use this information to define or change your terminal device group configuration for a 4693-2x2 terminal only. Fill out a copy of this worksheet for each unique 4693-2x2 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4693" on page 236) for the terminals in your store system.
2. Group together the worksheets for terminals with identical devices and RAM disks. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP06) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration keyword shown on display and parameter to be used

Default value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4693-2x2. The 4693-2x2 model ADXGRP06 will be filled in as the model name when the terminal type for a 4693-2x2 is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP06

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. If terminal applications use the asynchronous port, write the port number on Figure 95. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

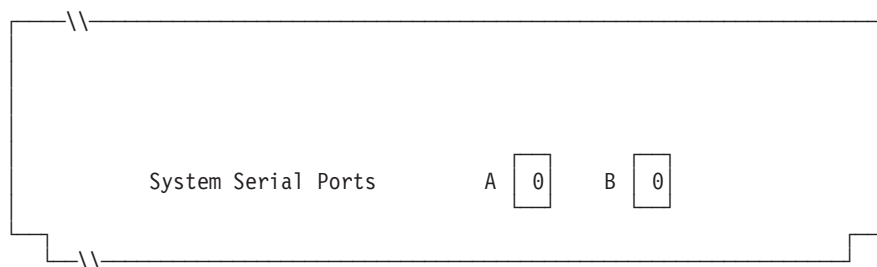


Figure 95. Right Side of Rear of 4693-2x2 Point-of-Sale Terminal

5. Mark an X on Figure 96 on page 260 to indicate the sockets in which POS devices are connected.

Worksheet D5

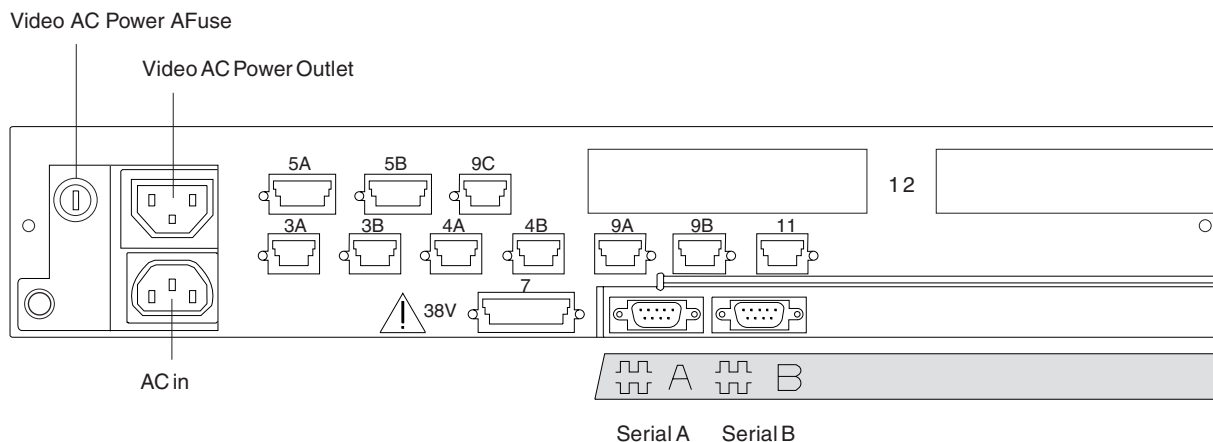


Figure 96. Rear of 4693-2x2 Point-of-Sale Terminal

6. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are used on the 4693-2x2 terminal. All of the following keywords will not automatically appear for the 4693-2x2 terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket used	Configuration keyword and parameter to be used	Default value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: _	1
Socket 4A	Device Name: _	1
Socket 4A	System Display: _	1 (Yes)
Socket 4B	Device Type: _	1
Socket 4B	Device Name: _	2
Socket 4B	System Display: _	2 (No)
Socket 5A	Keyboard Type: _	1
Socket 5A	Number of Tracks to Read: _	1
Socket 5A	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 5B	Device Type: _ Note: If the parameter used for the Device Type keyword is 1 or 4 (for the hand-held scanner), also define the Enable Tone, Minimum ITF Label Length, and Type of Label keywords. If the parameter used for the Device Type keyword is 2, define the Keyboard Type keyword. If the parameter used for the Device Type keyword is 3 or 4 (for the MSR), define the Model and Tracks keywords.	1
Socket 5B	Enable Tone: _	2 (No)
Socket 5B	Label Types Supported: _	UPC/EAN
Socket 5B	Minimum ITF Label Length: _ _	10
Socket 5B	Number of Tracks to Read: _	1
Socket 5B	Identify Tracks to Read: _	1
Socket 5B	Keyboard Type: _	1

Socket used	Configuration keyword and parameter to be used	Default value
	Note: Depending on the keyboard you select, you must define other keywords for an MSR or display.	
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9C	Device Type: _	1
Socket 9C	Display Type: _	3

Worksheet D6—4694-0x4/1xx Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694 terminal only. Fill out a copy of this worksheet for each unique 4694-0x4/1xx terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-0x4/1x4" on page 224) for the terminals in your store system.
2. Group together the worksheets for terminals with identical devices and RAM disks. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP11) as a model for the group you are currently defining. Write the model's name on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-0x4/1xx terminal. The 4694-0x4/1xx model ADXGRP11 will be filled in as the model name when the terminal type for a 4694-0x4/1xx terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP11

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 97 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

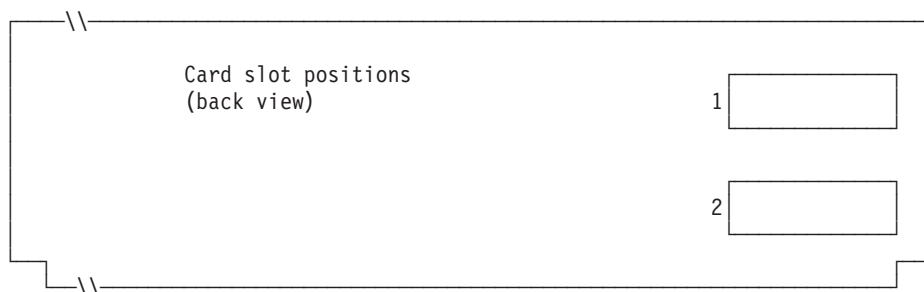


Figure 97. Rear of 4694-0x4/1x4 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Number of terminal RAM disks supported for this device group: _

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Disk ID: _ _

None

Size: _ _

0

Files: _

0

You can reroute the terminal RAM disk to the terminal hard disk drive by redefining the disk from X: to C:. You can redefine your disks by creating a file that is called ADXTSAWF.DAT in the ADX_SDT1

directory. Using a text editor, type "DEFINE C:" (including quotes) in the file and save the file. Run Set Terminal Characteristics (STC) option 2, 2, 2, 2 at the terminal. If the hard disk has not been formatted, you should choose to format the disk.

An alternative to running STC is to use the Load Terminal Configuration option from the controller. To run Load Terminal Configuration, press **Alt+SysRq, C, 1, 9**. However, before you can use this option, the terminal's hard disk must have been formatted at least once.

Upon terminal IPL, the RAM disk X: routes to hard disk drive C:. If you configure only disk Y: and redefine disk X:, disk Y: works as RAM, and a DIR command on disk X: gives a directory of disk C:. Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: _ _	None
Size: _ _	0
Files: _	0

6. If terminal applications use an asynchronous port, write the port number on Figure 98. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

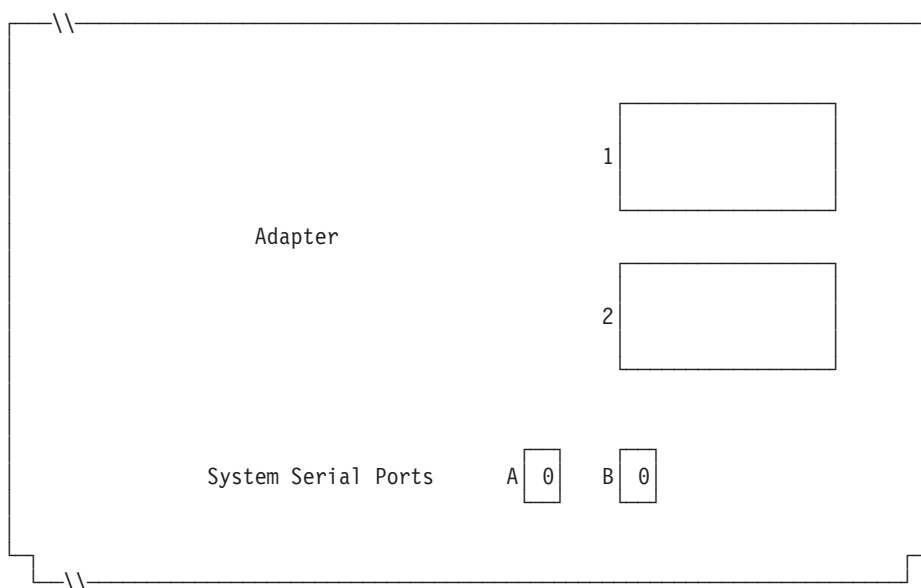


Figure 98. Right Side of Rear of 4694-0x4/1x4 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: _	None
UPS Device Manufacturer: _	None
Number of minutes from power failure until the 4690 system should turn off the UPS: _	None
Number of seconds between warning messages during a power failure: _	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Worksheet D6

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will this terminal use a video display? _

2 (No)

Note: If the terminal uses a video display, you must define whether the display is a touch screen and whether to enable the terminal screen saver. Then, you must define the video display format, the device name, whether the video is the system display, and monochrome support. If a touch display is defined, you must define whether an integrated keypad and an MSR is present.

7. Specify whether terminals will use Java graphics by loading the device group.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will Java graphics be used by terminals loading this device group? _

2 (No)

Note: If the device group is used for any terminal load definitions that have Java graphics, you must define the resolution and the color palette (number of colors your monitor supports) for color mode support.

8. Specify whether a Java application that runs on the terminal and uses this device group will need redirected I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices? _

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

9. Specify whether a keyboard is attached to the PS/2 port for Java application input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Type the information below to define any keyboard attached to the PS/2 port _

0 (none)

Note: If an attached ANPOS keyboard will function as a POS and Java input device, you must indicate which model of ANPOS will be attached.

10. Mark an X on Figure 99 to indicate the sockets in which POS devices are connected.

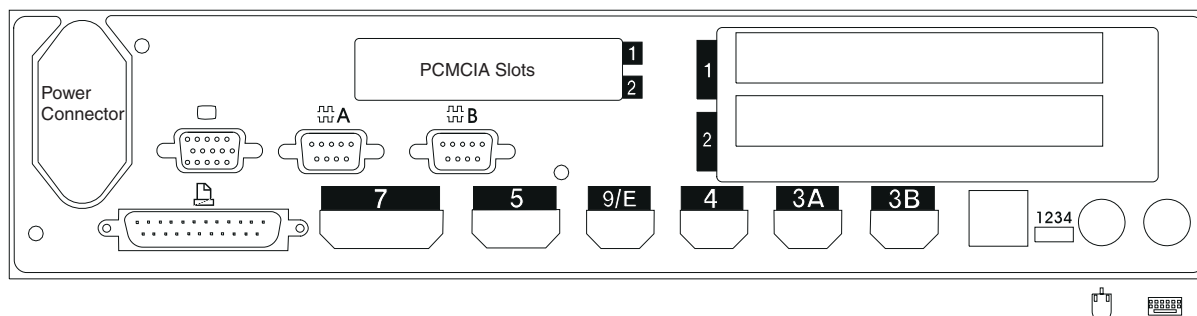


Figure 99. Rear of 4694-0x4/1x4 Point-of-Sale Terminal

11. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694-0x4/1xx terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used

Configuration Keyword and Parameter to be Used

Default Value

Socket 3A

Device Type: _

1

Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes)
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9/E	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 9/E	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9/E	Enable Tone: _	2 (No)

Worksheet D7—4694-1xx/205 Controller/Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-1xx/205 controller/terminal only. Fill out a copy of this worksheet for each unique 4694-1xx/205 controller/terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-0x4/1x4" on page 224) for the terminals in your store system.
2. Group together the worksheets for terminals with identical devices and RAM disks. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP12) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Default Value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-1xx/205 controller/terminal. The 4694-1xx/205 model ADXGRP12 will be filled in as the model name when the terminal type for a 4694-1xx/205 controller/terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP12

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 100 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications.

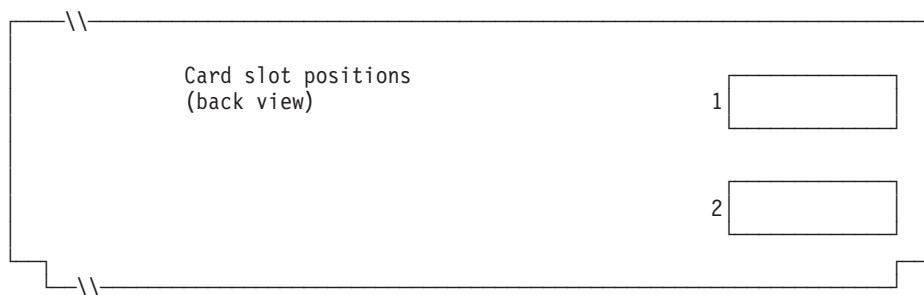


Figure 100. Rear of 4694-1x4/205 Controller/Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default Value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: _ _

Default Value

None

Size: _ _

0

Files: _

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: __	None
Size: __	0
Files: __	0

6. If the asynchronous port is used by terminal applications, write the port number on Figure 101. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

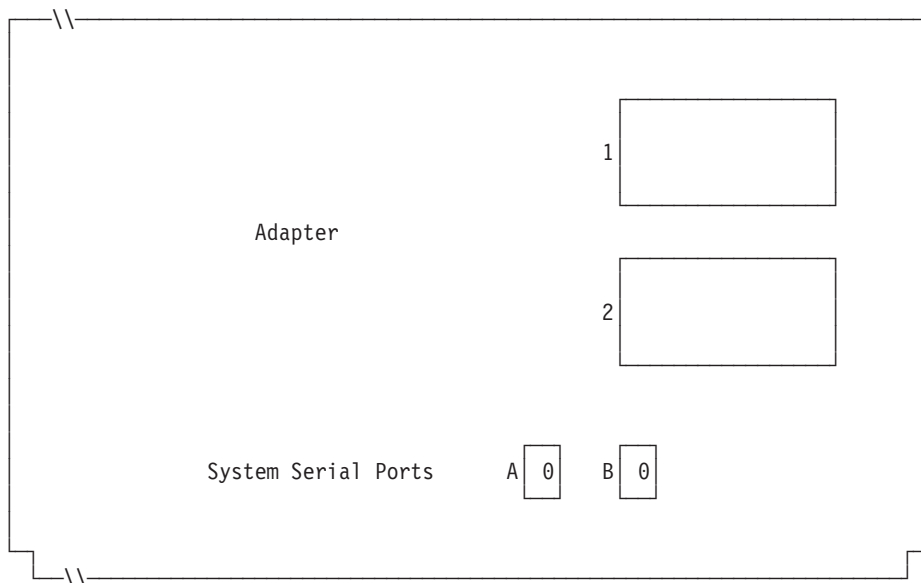


Figure 101. Right Side of Rear of 4694-1x4/205 Controller/Terminal

If one of the asynchronous ports has a connected UPS that will be monitored and controlled by the operating system, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the UPS: __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Will this controller/terminal share its video and keyboard? __	2 (No)
Note: If the controller/terminal shares a keyboard, you must define the type of shared keyboard. If the controller/terminal shares its video, you must define whether the display is a touch screen and whether to enable terminal screen saver. Then you must define whether the video display format, the device name and whether the video display is the system display. If a touch display is defined, you must define if an integrated keypad and an MSR is present.	
Number of Tracks to Read: __	1
Identify Tracks to Read: __	2

Worksheet D7

7. Specify whether a Java application running on the terminal and using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices?_ 2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

8. Mark an X on Figure 102 to indicate the sockets in which POS devices are connected.

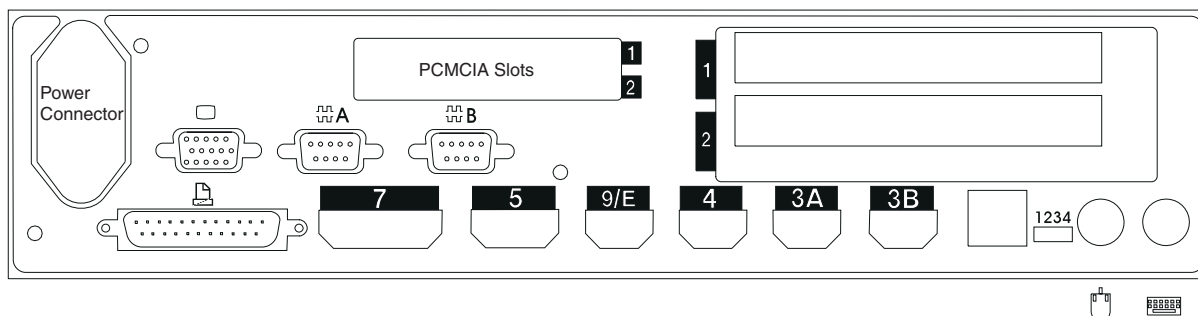


Figure 102. Rear of 4694-1x4/205 Controller/Terminal

9. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694-1xx/205 controller/terminal. All of the following keywords will not automatically appear for the 4694-1xx/205 controller/terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes) 2 (No) (if video and keyboard are shared)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9/E	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 9/E	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9/E	Enable Tone: _	2 (No)

Worksheet D8—4694-2x4 or 4694-245 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-2x4 or 4694-245 terminal only. Fill out a copy of this worksheet for each unique 4694-2x4 or 4694-245 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets for the terminals in your store system.
2. Group together the worksheets with identical devices and RAM disks. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP13) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-2x4 or 4694-245 terminal. The 4694-2x4 or 4694-245 model ADXGRP13 will be filled in as the model name when the terminal type for a 4694-2x4 or 4694-245 terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP13

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 103 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

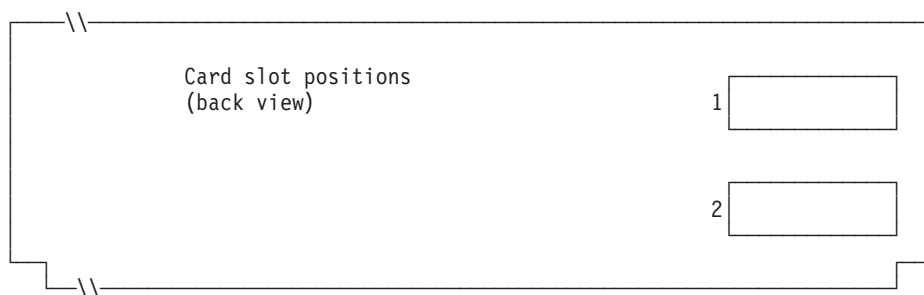


Figure 103. Rear of 4694-2x4 or 4694-245 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Number of terminal RAM disks supported for this device group: _

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Disk ID: _ _

None

Size: _ _

0

Files: _

0

You can reroute the terminal RAM disk to the terminal hard disk drive by redefining the disk from X: to C:. You can redefine your disks by creating a file that is called ADXTSAWF.DAT in the ADX_SDT1 directory. Using a text editor, type "DEFINE C:" (including quotes) in the file and save the file. Run Set Terminal Characteristics (STC) option 2, 2, 2, 2 at the terminal. If the hard disk has not been formatted, you should choose to format the disk.

An alternative to running STC is to use the Load Terminal Configuration option from the controller. To run Load Terminal Configuration, press **Alt+SysRq, C, 1, 9**. However, before you can use this option, the terminal's hard disk must have been formatted at least once.

Upon terminal IPL, the RAM disk X: routes to hard disk drive C:. If you configure only disk Y: and redefine disk X:, disk Y: works as RAM, and a DIR command on disk X: gives a directory of disk C:. Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: __	None
Size: __	0
Files: __	0

6. If an asynchronous port is used by terminal applications, write the port number on Figure 104. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

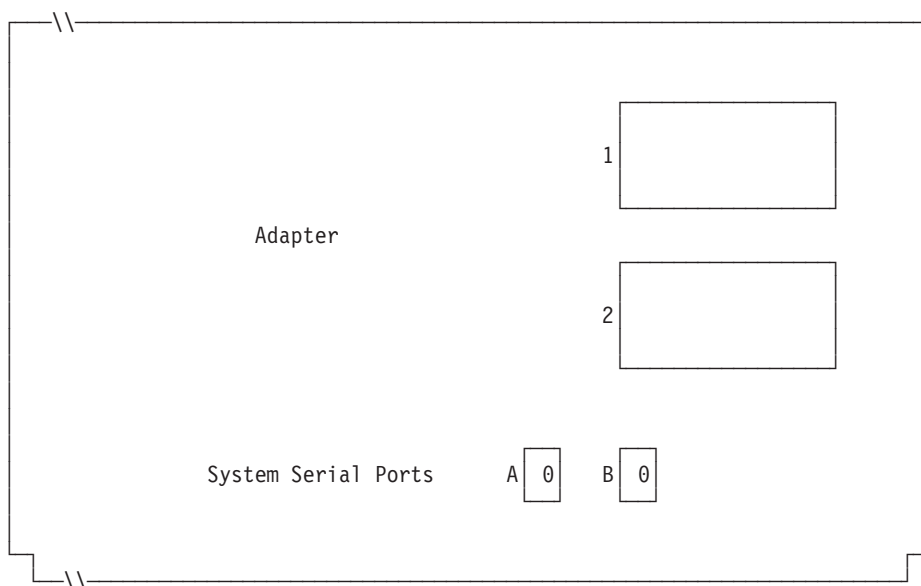


Figure 104. Right Side of Rear of 4694-2x4 or 4694-245 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that will be monitored and controlled by the operating system, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the UPS: __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Worksheet D8

Configuration Keyword Shown on Display and Parameter to be Used

Will this terminal use a video display?

Default Value

2 (No)

Note: If the terminal uses a video display, you must define whether the display is a touch screen and whether to enable the terminal screen saver. Then, you must define the video display format, the device name, whether the video is the system display, and monochrome support. If a touch display is defined, you must also define an integrated keypad and/or MSR if one is present.

7. Specify whether Java graphics will be used by terminals loading the device group.

Configuration Keyword Shown on Display and Parameter to be Used

Will Java graphics be used by terminals loading this device group?_

Default Value

2 (No)

Note: If the device group is used for any terminal load definitions that have Java graphics, you must define the color palette (number of colors your monitor supports) for color mode support.

8. Specify whether a Java application running on the terminal and using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices?_ 2 (No)

Default Value

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

9. Specify whether a keyboard will be attached to the PS/2 port for Java application input.

Configuration Keyword Shown on Display and Parameter to be Used

Type the information below to define any keyboard attached to the PS/2 port.

Default Value

0 (none)

Note: If an attached ANPOS keyboard will function as a POS and Java input device, you must indicate which model of ANPOS will be attached.

10. Mark an X on Figure 105 to indicate the sockets in which POS devices are connected.

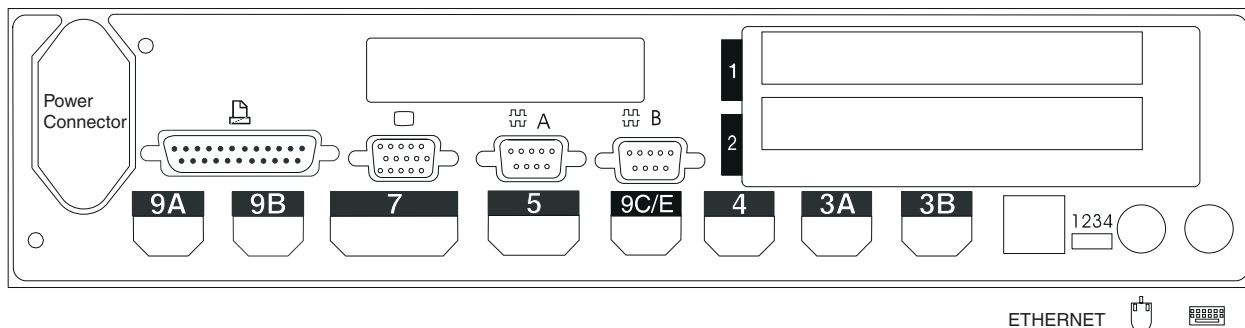


Figure 105. Rear of 4694-2x4 or 4694-2x5 Point-of-Sale Terminal

11. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: __ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _	1
	Note: The MSR track information questions vary depending on the type of keyboard you select.	
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9/C	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	

Worksheet D9—4694-2x4 or 4694-245 Controller/Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-2x4 or 4694-245 controller/terminal only. Fill out a copy of this worksheet for each unique 4694-2x4 or 4694-245 controller/terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP14) as a model for the group you are currently defining. Write the name of the terminal device group to be used as a model on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Default Value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-2x4 or 4694-2x5 controller/terminal. The 4694-2x4 or 4694-245 model ADXGRP14 will be filled in as the model name when the terminal type for a 4694-2x4 or 4694-245 controller/terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP14

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 106 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

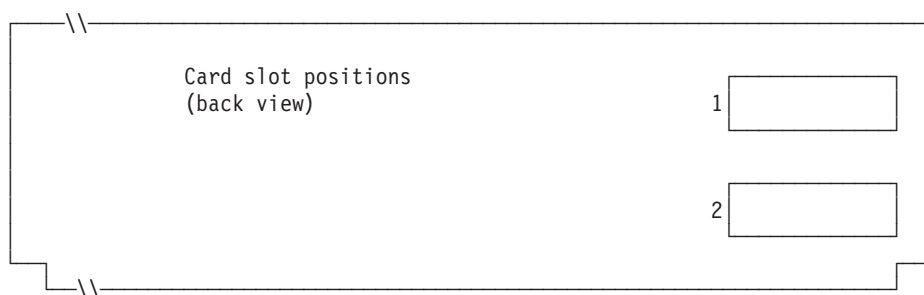


Figure 106. Rear of 4694-2x4 or 4694-245 Controller/Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default Value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: _ _

Default Value

None

Size: _ _

0

Files: _

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: __	None
Size: __	0
Files: __	0

6. If terminal applications use the asynchronous port, write the port number on Figure 107. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

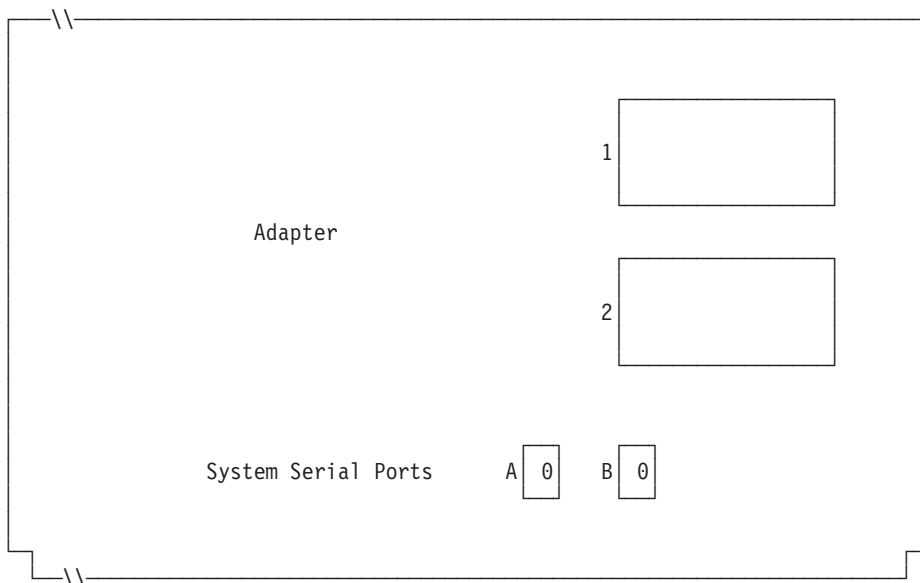


Figure 107. Right Side of Rear of 4694-2x4 or 4694-245 Controller/Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the UPS: __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Will this controller/terminal share its video and keyboard? __	2 (No)
Note: If the controller/terminal shares a keyboard, you must define the type of shared keyboard. If the controller/terminal shares its video you must define whether the display is a touch screen, and whether you want the terminal screen saver enabled or disabled. Then you must define the video display format, the device name, and whether the video is the system display. If a touch display is defined, you must define an integrated keypad and/or MSR if present.	
Number of Tracks to Read: __	1
Identify Tracks to Read: __	2

Worksheet D9

7. Specify whether a Java application running on the terminal using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices?_ 2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

8. Mark an X on Figure 108 to indicate the sockets in which POS devices are connected.

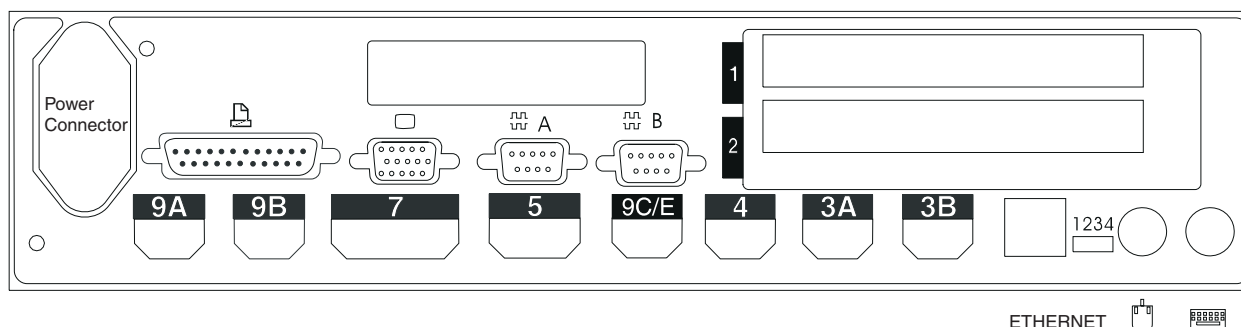


Figure 108. Rear of 4694-2x4 or 4694-245 Controller/Terminal

9. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 controller/terminal. All of the following keywords will not automatically appear for the 4694 controller/terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes) 2 (No) (if video and keyboard are shared)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	1
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9/E	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	

Worksheet D10—4694-2x6 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-2x6 terminal only. Fill out a copy of this worksheet for each unique 4694-2x6 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Group together the worksheets with identical devices and RAM disks. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP18 for 206 or ADXGRP16 for 246) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Terminal type: _

Note: You must change the terminal type to configure a 4694-2x6 terminal. The 4694-206 model ADXGRP18 will be filled in as the model name when the terminal type for a 4694-206 terminal is entered. The 4694-246 model ADXGRP16 will be filled in as the model name when the terminal type for a 4694-246 terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

Default Value

None

1

ADXGRP16 or
ADXGRP18

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 109 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

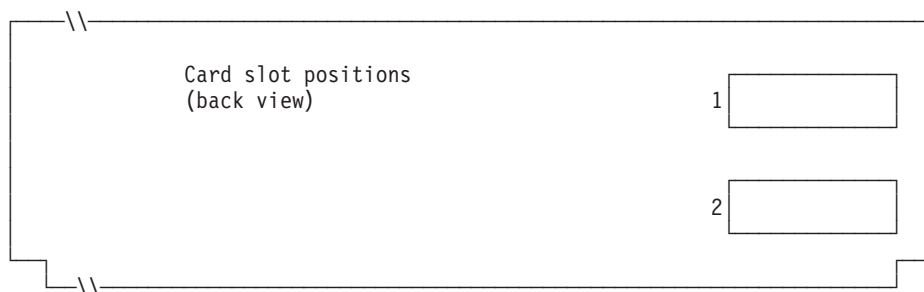


Figure 109. Rear of 4694-2x6 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default Value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: _ _

Size: _ _

Files: _

Default Value

None

0

0

You can reroute the terminal RAM disk to the terminal hard disk drive by redefining the disk from X: to C:. You can redefine your disks by creating a file that is called ADXTSAWF.DAT in the ADX_SDT1 directory. Using a text editor, type "DEFINE C:" (including quotes) in the file and save the file. Run Set Terminal Characteristics (STC) option 2, 2, 2, 2 at the terminal. If the hard disk has not been formatted, you should choose to format the disk.

An alternative to running STC is to use the Load Terminal Configuration option from the controller. To run Load Terminal Configuration, press **Alt+SysRq, C, 1, 9**. However, before you can use this option, the terminal's hard disk must have been formatted at least once.

Upon terminal IPL, the RAM disk X: routes to hard disk drive C:. If you configure only disk Y: and redefine disk X:, disk Y: works as RAM, and a DIR command on disk X: gives a directory of disk C:. Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: __	None
Size: __	0
Files: __	0

6. If an asynchronous port is used by terminal applications, write the port number on Figure 110. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

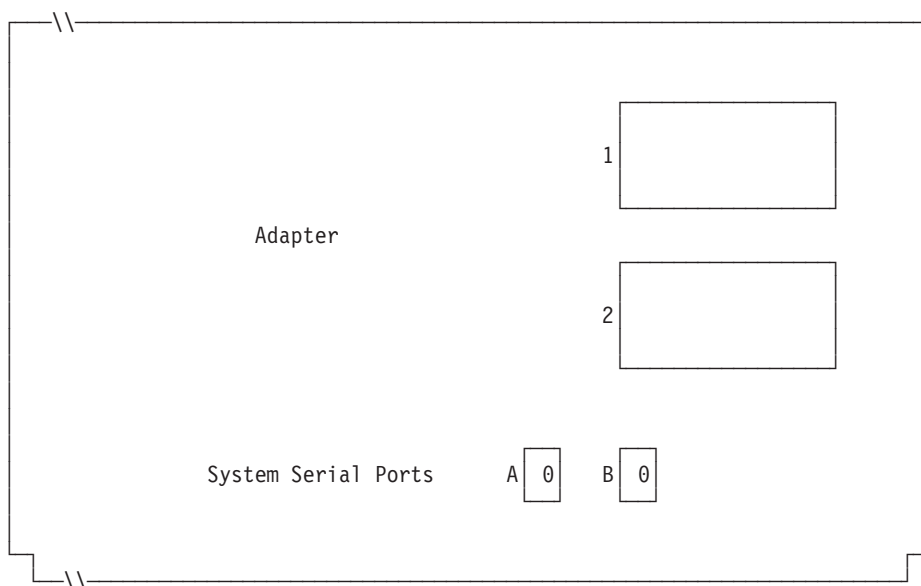


Figure 110. Right Side of Rear of 4694-2x6 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that will be monitored and controlled by the operating system, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the UPS: __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will this terminal use a video display? _

2 (No)

Note: If the terminal uses a video display, you must define whether the display is a touch screen and whether to enable the terminal screen saver. Then, you must define the video display format, the device name, whether the video is the system display, and monochrome support. If a touch display is defined, you must also define an integrated keypad and/or MSR if one is present.

- Specify whether Java graphics will be used by terminals loading the device group.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will Java graphics be used by terminals loading this device group? _

2 (No)

Note: If the device group is used for any terminal load definitions that have Java graphics, you must define the color palette (number of colors your monitor supports) for color mode support.

- Specify whether a Java application running on the terminal and using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices? _

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

- Specify whether a keyboard will be attached to the PS/2 port for Java application input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Type the information below to define any keyboard attached to the PS/2 port _

0 (none)

Note: If an attached ANPOS keyboard will function as a POS and Java input device, you must indicate which model of ANPOS will be attached.

- Mark an X on Figure 111 and Figure 112 on page 281 to indicate the sockets in which POS devices are connected.

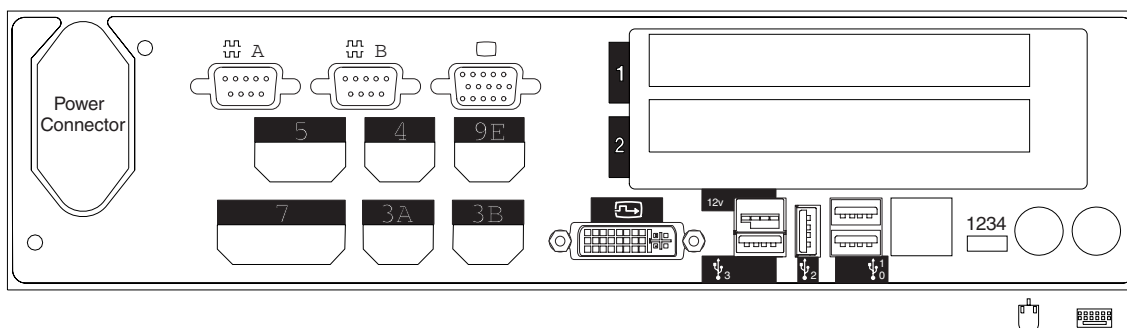


Figure 111. Rear of 4694-206 Point-of-Sale Terminal

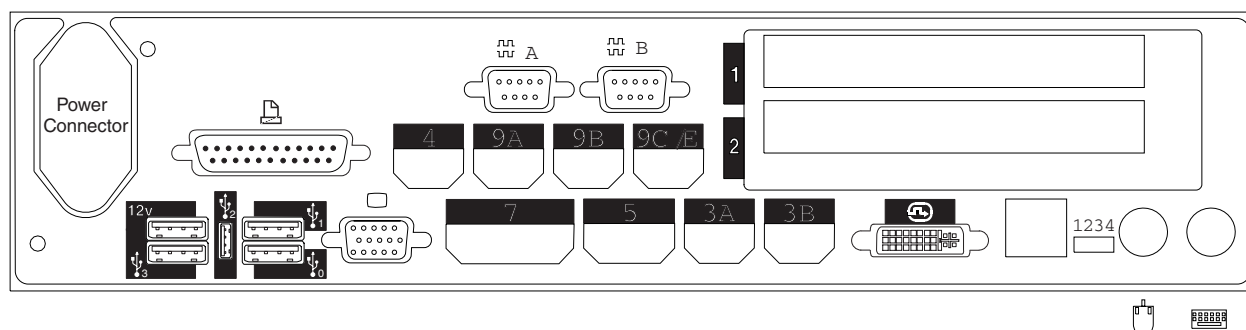


Figure 112. Rear of 4694-246 Point-of-Sale Terminal

11. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9E	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1

Worksheet D11—4694-2x6 Controller/Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-2x6 controller/terminal only. Fill out a copy of this worksheet for each unique 4694-2x6 controller/terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP17 for 4694-246 or ADXGRP19 for 4694-206) as a model for the group you are currently defining. Write the name of the terminal device group to be used as a model on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Default Value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-2x6 controller/terminal. The 4694-206 model ADXGRP19 will be filled in as the model name when the terminal type for a 4694-206 controller/terminal is entered. The 4694-246 model ADXGRP17 will be filled in as the model name when the terminal type for a 4694-246 controller/terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP17 or
ADXGRP19

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 113 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

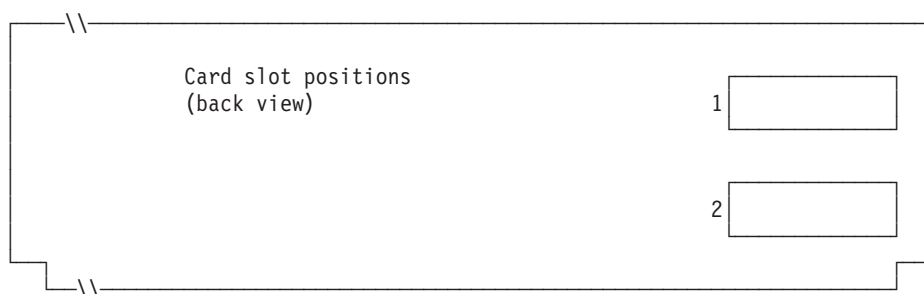


Figure 113. Rear of 4694-2x6 Controller/Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default Value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: _

Default Value

None

0

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: _

Default Value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on Figure 114. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

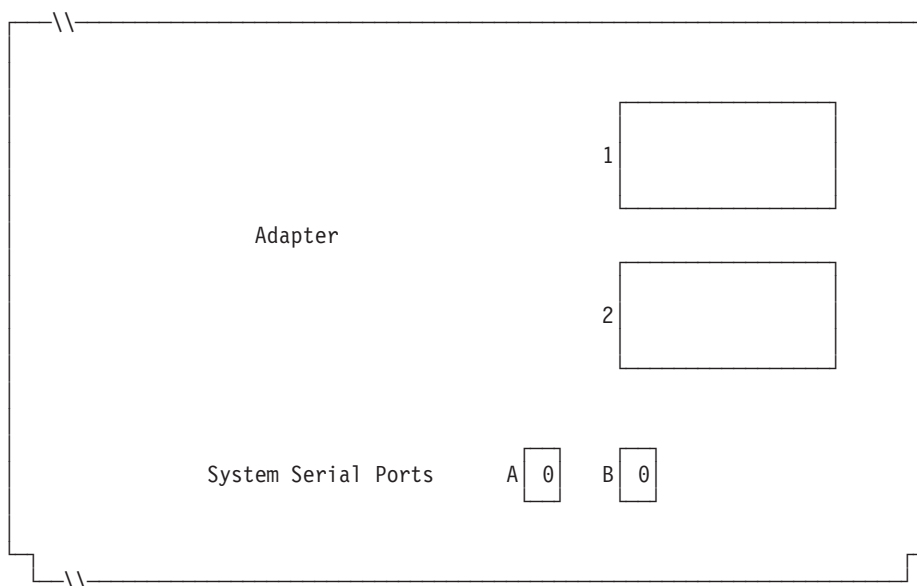


Figure 114. Right Side of Rear of 4694-2x6 Controller/Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used

UPS Port Number: _

UPS Device Manufacturer: _

Number of minutes from power failure until the 4690 system should turn off the UPS: _

Number of seconds between warning messages during a power failure: _

Default Value

None

None

None

None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used

Will this controller/terminal share its video and keyboard? _

Default Value

2 (No)

Worksheet D11

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Note: If the controller/terminal shares a keyboard, you must define the type of shared keyboard. If the controller/terminal shares its video you must define whether the display is a touch screen, and whether you want the terminal screen saver enabled or disabled. Then you must define the video display format, the device name, and whether the video is the system display. If a touch display is defined, you must define an integrated keypad and/or MSR if present.

Number of Tracks to Read: _

1

Identify Tracks to Read: _

2

7. Specify whether a Java application running on the terminal using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirected input from I/O devices?_

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

8. Mark an X on Figure 115 to indicate the sockets in which POS devices are connected.

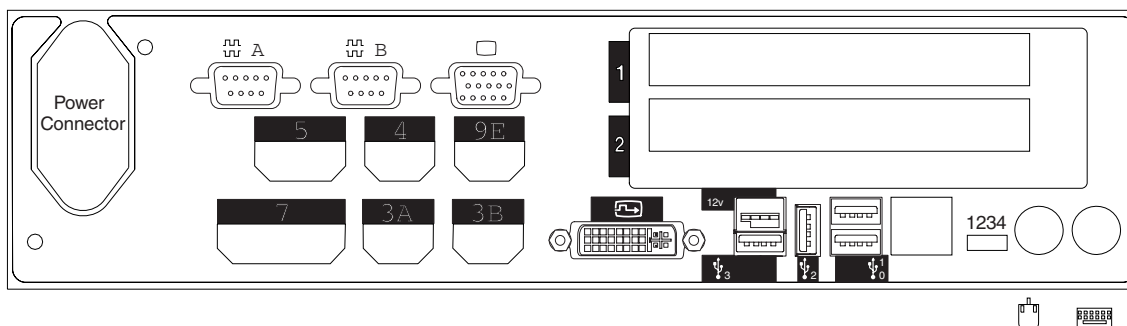


Figure 115. Rear of 4694-206 Controller/Terminal

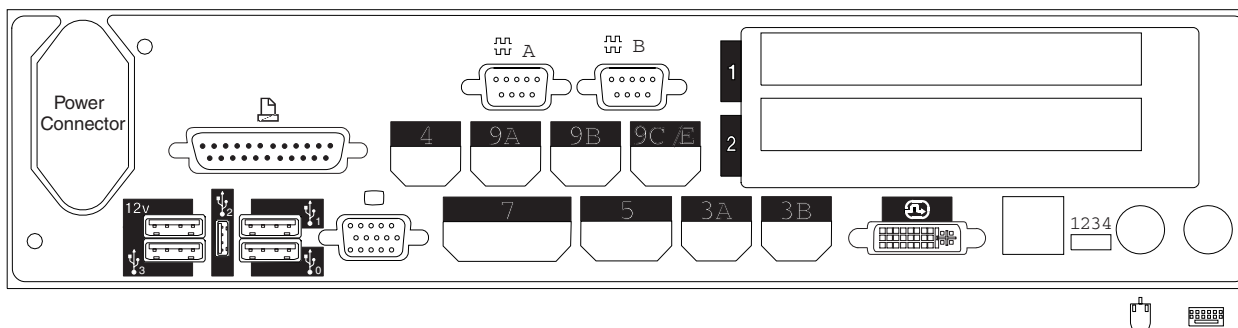


Figure 116. Rear of 4694-246 Controller/Terminal

9. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 controller/terminal. All of the following keywords will not automatically appear for the 4694 controller/terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: _	1

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes) 2 (No) (if video and keyboard are shared)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _	1
	Note: The MSR track information questions vary depending on the type of keyboard you select.	
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	1
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9/E	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	

Worksheet D110—4694-2x7 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-2x7 terminal only. Fill out a copy of this worksheet for each unique 4694-2x7 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Group together the worksheets with identical devices and RAM disks. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP20 for 207 or ADXGRP22 for 247) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-2x7 terminal. The 4694-207 model ADXGRP20 will be filled in as the model name when the terminal type for a 4694-207 terminal is entered. The 4694-247 model ADXGRP22 will be filled in as the model name when the terminal type for a 4694-247 terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP20 or
ADXGRP22

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 117 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

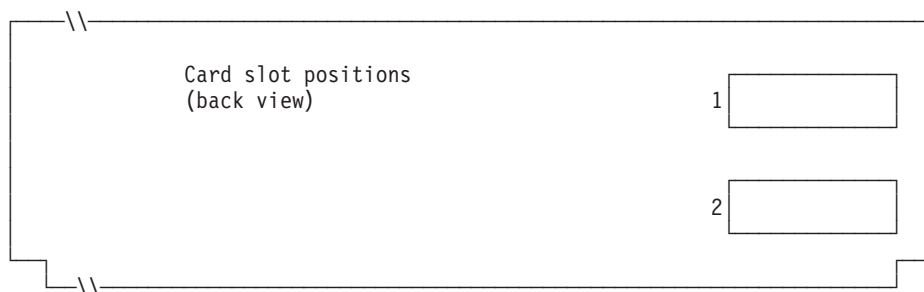


Figure 117. Rear of 4694-2x7 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Number of terminal RAM disks supported for this device group: _

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Disk ID: _ _

None

Size: _ _

0

Files: _

0

You can reroute the terminal RAM disk to the terminal hard disk drive by redefining the disk from X: to C:. You can redefine your disks by creating a file that is called ADXTSAWF.DAT in the ADX_SDT1 directory. Using a text editor, type "DEFINE C:" (including quotes) in the file and save the file. Run Set Terminal Characteristics (STC) option 2, 2, 2, 2 at the terminal. If the hard disk has not been formatted, you should choose to format the disk.

An alternative to running STC is to use the Load Terminal Configuration option from the controller. To run Load Terminal Configuration, press **Alt+SysRq, C, 1, 9**. However, before you can use this option, the terminal's hard disk must have been formatted at least once.

Upon terminal IPL, the RAM disk X: routes to hard disk drive C:. If you configure only disk Y: and redefine disk X:, disk Y: works as RAM, and a DIR command on disk X: gives a directory of disk C:. Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: __	None
Size: __	0
Files: __	0

6. If an asynchronous port is used by terminal applications, write the port number on Figure 118. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

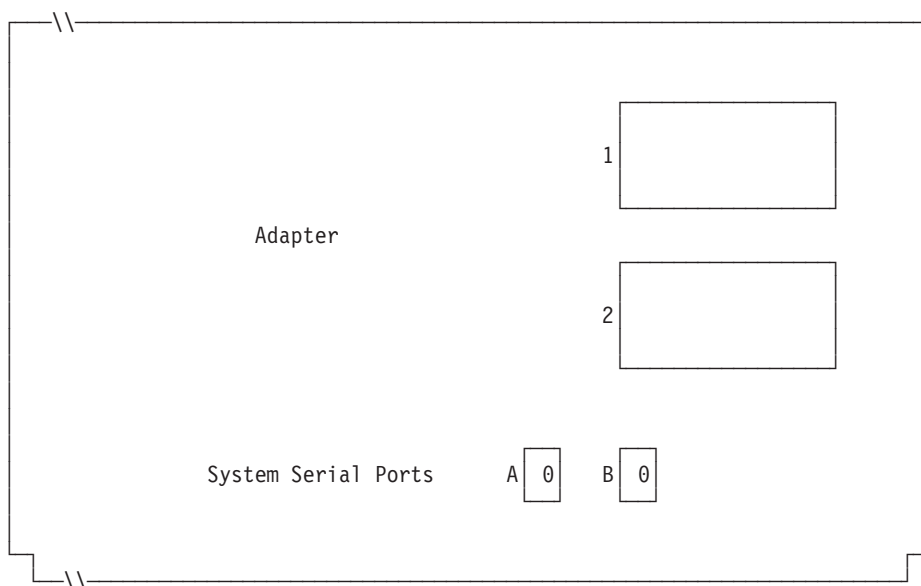


Figure 118. Right Side of Rear of 4694-2x7 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that will be monitored and controlled by the operating system, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the UPS: __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Will this terminal use a video display? _

2 (No)

Note: If the terminal uses a video display, you must define whether the display is a touch screen and whether to enable the terminal screen saver. Then, you must define the video display format, the device name, whether the video is the system display, and monochrome support. If a touch display is defined, you must also define an integrated keypad and/or MSR if one is present.

7. Specify whether Java graphics will be used by terminals loading the device group.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Will Java graphics be used by terminals loading this device group? _

2 (No)

Note: If the device group is used for any terminal load definitions that have Java graphics, you must define the color palette (number of colors your monitor supports) for color mode support.

8. Specify whether a Java application running on the terminal and using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices? _

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

9. Specify whether a keyboard will be attached to the PS/2 port for Java application input.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Type the information below to define any keyboard attached to the PS/2 port _

0 (none)

Note: If an attached ANPOS keyboard will function as a POS and Java input device, you must indicate which model of ANPOS will be attached.

10. Mark an X on Figure 119 and Figure 120 on page 289 to indicate the sockets in which POS devices are connected.

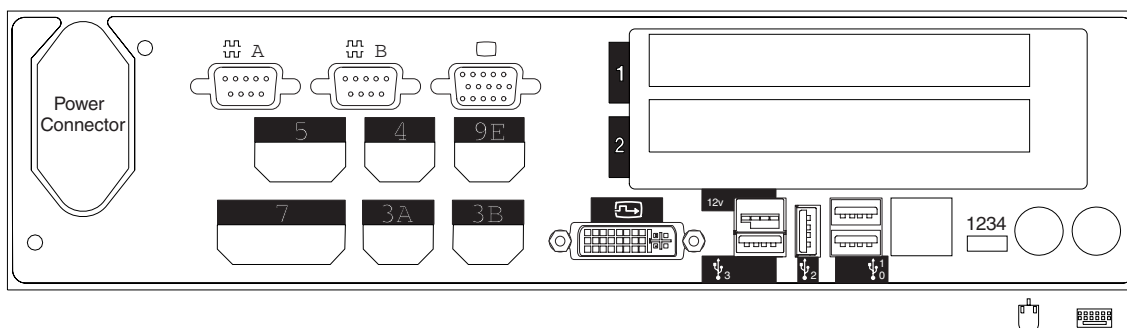


Figure 119. Rear of 4694-207 Point-of-Sale Terminal

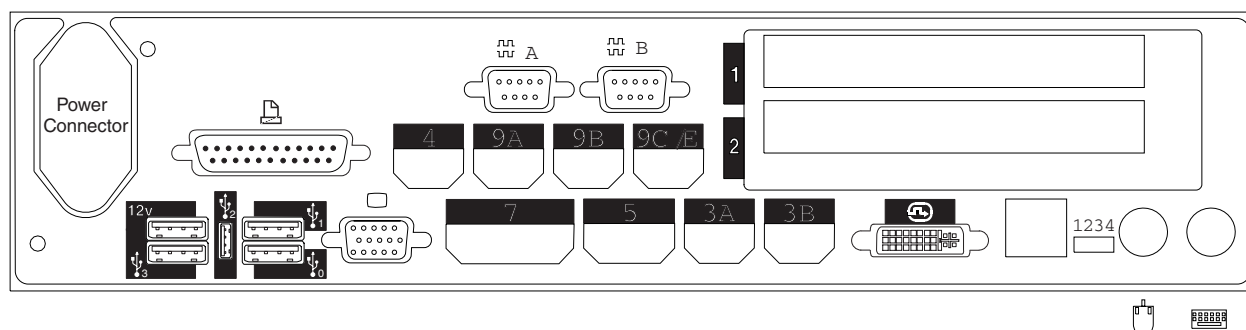


Figure 120. Rear of 4694-247 Point-of-Sale Terminal

11. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9E	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1

Worksheet D111—4694-2x7 Controller/Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-2x7 controller/terminal only. Fill out a copy of this worksheet for each unique 4694-2x7 controller/terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP21 for 4694-207 or ADXGRP23 for 4694-247) as a model for the group you are currently defining. Write the name of the terminal device group to be used as a model on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Default Value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-2x7 controller/terminal. The 4694-207 model ADXGRP21 will be filled in as the model name when the terminal type for a 4694-207 controller/terminal is entered. The 4694-247 model ADXGRP23 will be filled in as the model name when the terminal type for a 4694-247 controller/terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP21 or
ADXGRP23

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 121 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

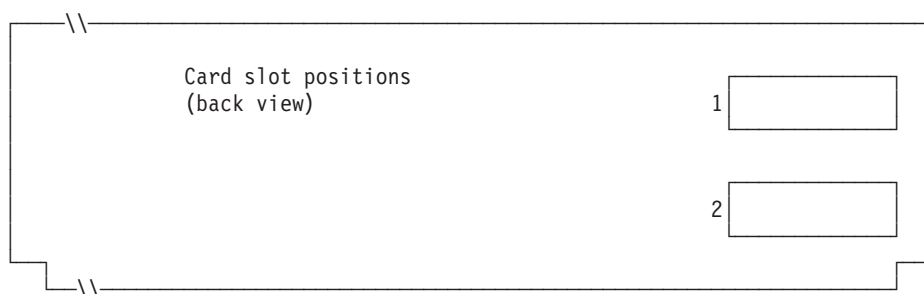


Figure 121. Rear of 4694-2x7 Controller/Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default Value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: _

Default Value

None

0

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: _

Default Value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on Figure 122. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

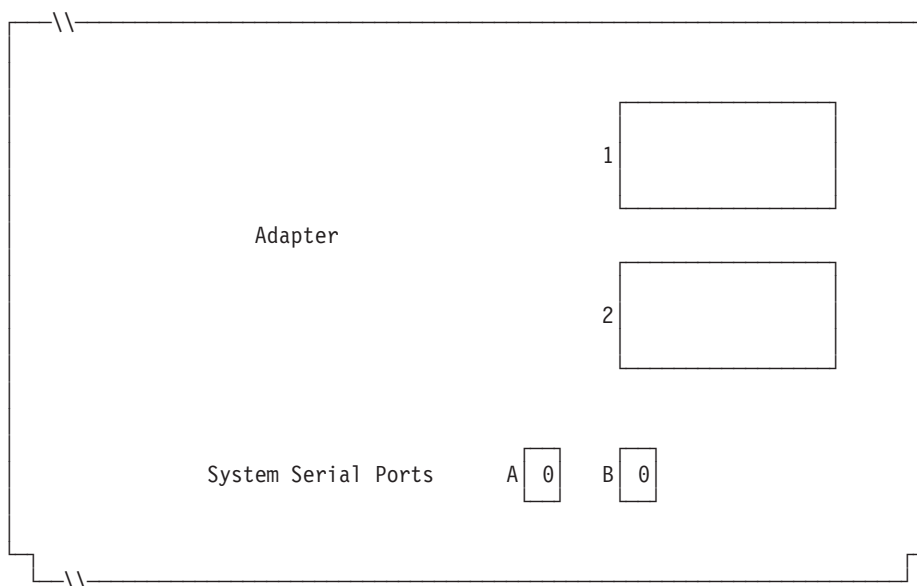


Figure 122. Right Side of Rear of 4694-2x7 Controller/Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used

UPS Port Number: _

UPS Device Manufacturer: _

Number of minutes from power failure until the 4690 system should turn off the UPS: _

Number of seconds between warning messages during a power failure: _

Default Value

None

None

None

None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used

Will this controller/terminal share its video and keyboard? _

Default Value

2 (No)

Worksheet D111

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Note: If the controller/terminal shares a keyboard, you must define the type of shared keyboard. If the controller/terminal shares its video you must define whether the display is a touch screen, and whether you want the terminal screen saver enabled or disabled. Then you must define the video display format, the device name, and whether the video is the system display. If a touch display is defined, you must define an integrated keypad and/or MSR if present.

Number of Tracks to Read: _

1

Identify Tracks to Read: _

2

7. Specify whether a Java application running on the terminal using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirected input from I/O devices?_

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

8. Mark an X on Figure 123 to indicate the sockets in which POS devices are connected.

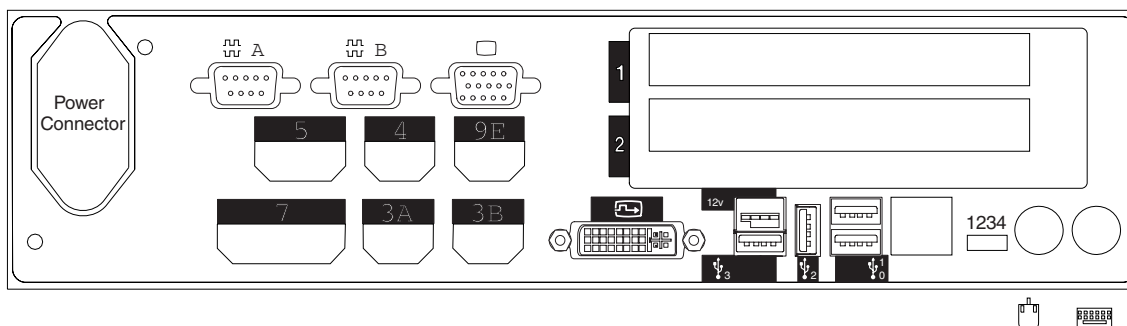


Figure 123. Rear of 4694-207 Controller/Terminal

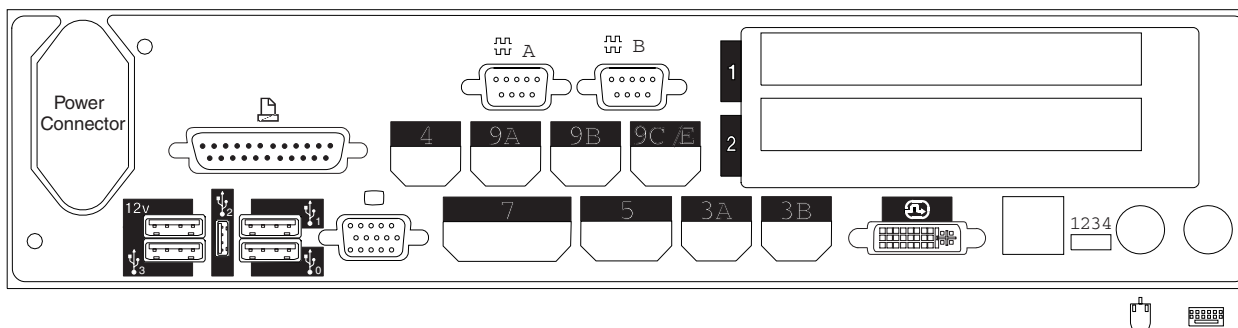


Figure 124. Rear of 4694-247 Controller/Terminal

9. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 controller/terminal. All of the following keywords will not automatically appear for the 4694 controller/terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used

Configuration Keyword and Parameter to be Used

Default Value

Socket 3A

Device Type: _

1

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes) 2 (No) (if video and keyboard are shared)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _	1
	Note: The MSR track information questions vary depending on the type of keyboard you select.	
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	1
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9/E	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	

Worksheet D12—4694-205 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694 terminal only. Fill out a copy of this worksheet for each unique 4694-205 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-0x4/1x4" on page 224) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP15) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Default Value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-205 terminal. The 4694-205 model ADXGRP15 will be filled in as the model name when the terminal type for a 4694-205 terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP15

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 125 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

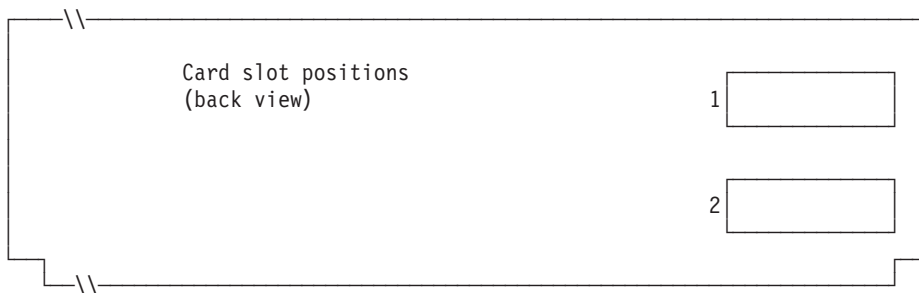


Figure 125. Rear of 4694-205 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default Value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: _ _

Default Value

None

Size: _ _

0

Files: _

0

You can reroute the terminal RAM disk to the terminal hard disk drive by redefining the disk from X: to C:. You can redefine your disks by creating a file that is called ADXTSAWF.DAT in the ADX_SDT1 directory. Type "DEFINE C:" and run STC at the terminal. Upon terminal IPL, the RAM disk X: is routed to hard disk C:. The RAM disk must be configured before the redefine will work. If only disk Y: is configured and disk X: is redefined, disk Y: works as RAM, and a DIR command on disk X: gives a directory of disk C:.

Note: Disk X must be configured before it can be redirected. You can only redefine the X: disk.

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: _ _	None
Size: _ _	0
Files: _	0

6. If terminal applications use an asynchronous port, write the port number on Figure 126. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

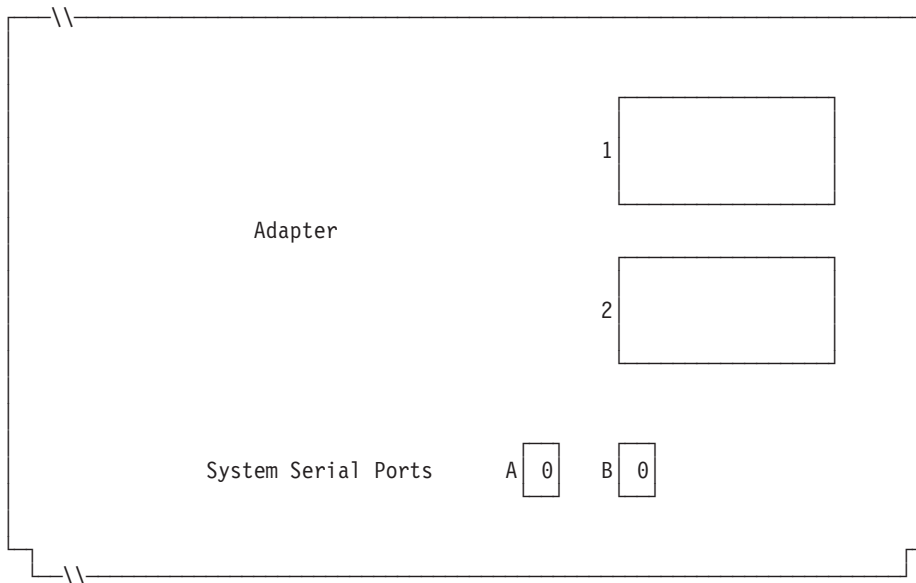


Figure 126. Right Side of Rear of 4694-205 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: _	None
UPS Device Manufacturer: _	None
Number of minutes from power failure until the 4690 system should turn off the UPS: _	None
Number of seconds between warning messages during a power failure: _	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Worksheet D12

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will this terminal use a video display? _

2 (No)

Note: If the terminal uses a video display, you must define whether the display is a touch screen and whether to enable the terminal screen saver. Then, you must define the video display format, the device name, whether the video is the system display, and monochrome support. If a touch display is defined, you must define whether an integrated keypad and/or an MSR is present.

7. Specify whether Java graphics will be used by terminals that load the device group.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will Java graphics be used by terminals loading this device group? _

2 (No)

Note: If the device group is used for any terminal load definitions that have Java graphics, you must define the resolution and the color palette (number of colors your monitor supports) for color mode support.

8. Specify whether a Java application running on the terminal using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices? _

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

9. Specify whether a keyboard will be attached to the PS/2 port for Java application input.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Type the information below to define any keyboard attached to the PS/2 port _

0 (none)

Note: If an attached ANPOS keyboard will function as a POS and Java input device, you must indicate which model of ANPOS will be attached.

10. Mark an X on the following figure to indicate the sockets in which POS devices are connected.

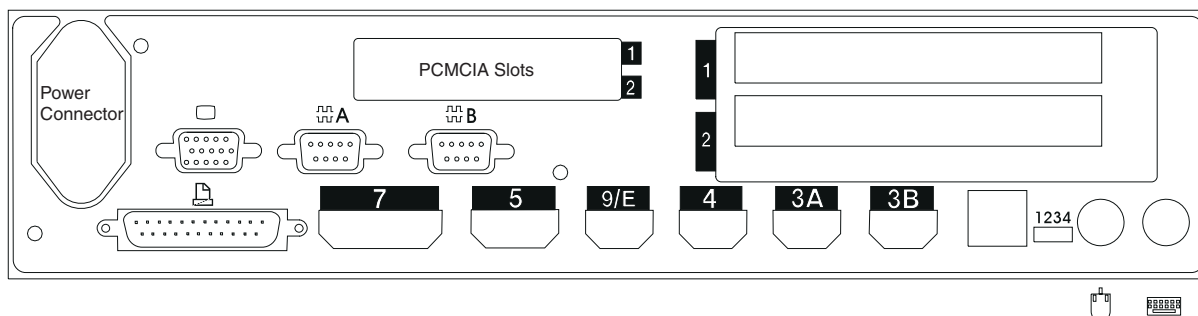


Figure 127. Rear of 4694-205 Point-of-Sale Terminal

11. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694-204 terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used

Configuration Keyword and Parameter to be Used

Default Value

Socket 3A

Device Type: _

1

Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes)
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _	1
	Note: The MSR track information questions vary depending on the type of keyboard you select.	
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9/E	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9/E	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9/E	Enable Tone: _	2 (No)

Worksheet D120—4694-3x7 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-3x7 terminal only. Fill out a copy of this worksheet for each unique 4694-3x7 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Group together the worksheets with identical devices and RAM disks. These groups of worksheets are the base for creating your system's terminal device groups.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP18 for 307 or ADXGRP16 for 347) as a model for the group you are currently defining. Write the model's name of the terminal device group on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-3x7 terminal. The 4694-307 model ADXGRP18 will be filled in as the model name when the terminal type for a 4694-307 terminal is entered. The 4694-347 model ADXGRP16 will be filled in as the model name when the terminal type for a 4694-347 terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP18 or
ADXGRP16

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 128 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

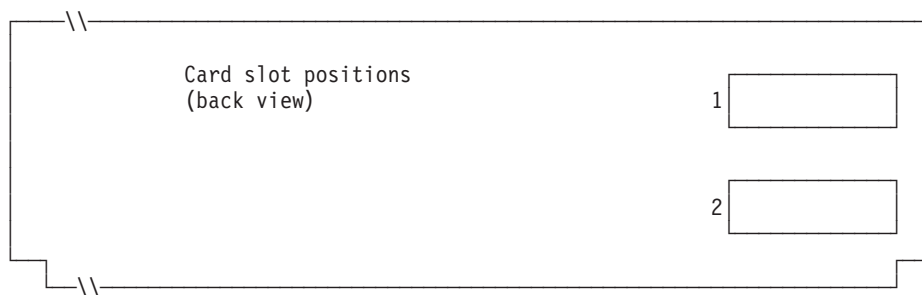


Figure 128. Rear of 4694-3x7 Point-of-Sale Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Number of terminal RAM disks supported for this device group: _

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Default Value

Disk ID: _ _

None

Size: _ _

0

Files: _

0

You can reroute the terminal RAM disk to the terminal hard disk drive by redefining the disk from X: to C:. You can redefine your disks by creating a file that is called ADXTSAWF.DAT in the ADX_SDT1 directory. Using a text editor, type "DEFINE C:" (including quotes) in the file and save the file. Run Set Terminal Characteristics (STC) option 2, 2, 2, 2 at the terminal. If the hard disk has not been formatted, you should choose to format the disk.

An alternative to running STC is to use the Load Terminal Configuration option from the controller. To run Load Terminal Configuration, press **Alt+SysRq, C, 1, 9**. However, before you can use this option, the terminal's hard disk must have been formatted at least once.

Upon terminal IPL, the RAM disk X: routes to hard disk drive C:. If you configure only disk Y: and redefine disk X:, disk Y: works as RAM, and a DIR command on disk X: gives a directory of disk C:. Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Disk ID: __	None
Size: __	0
Files: __	0

6. If an asynchronous port is used by terminal applications, write the port number on Figure 129. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

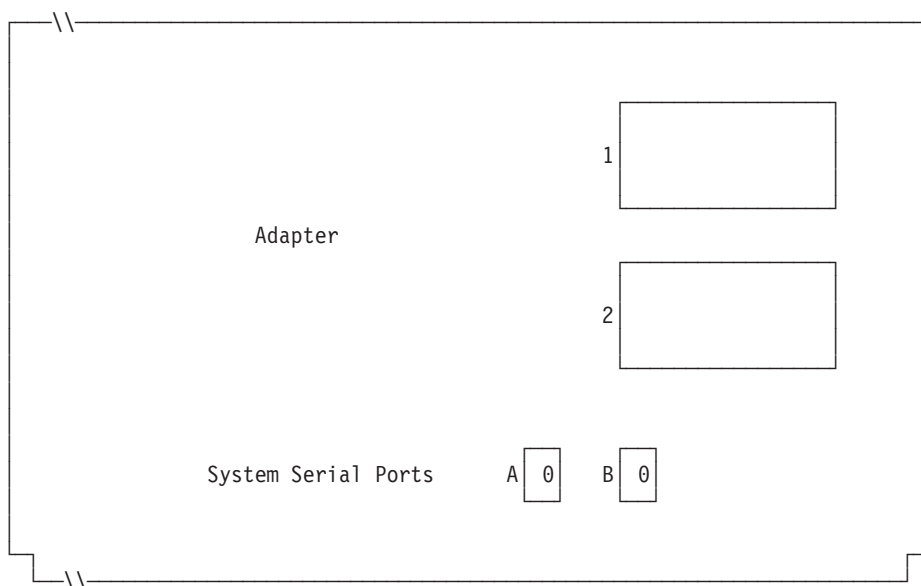


Figure 129. Right Side of Rear of 4694-3x7 Point-of-Sale Terminal

If one of the asynchronous ports has a connected UPS that will be monitored and controlled by the operating system, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
UPS Port Number: __	None
UPS Device Manufacturer: __	None
Number of minutes from power failure until the 4690 system should turn off the UPS: __	None
Number of seconds between warning messages during a power failure: __	None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Will this terminal use a video display? _

2 (No)

Note: If the terminal uses a video display, you must define whether the display is a touch screen and whether to enable the terminal screen saver. Then, you must define the video display format, the device name, whether the video is the system display, and monochrome support. If a touch display is defined, you must also define an integrated keypad and/or MSR if one is present.

7. Specify whether Java graphics will be used by terminals loading the device group.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Will Java graphics be used by terminals loading this device group? _

2 (No)

Note: If the device group is used for any terminal load definitions that have Java graphics, you must define the color palette (number of colors your monitor supports) for color mode support.

8. Specify whether a Java application running on the terminal and using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Will a terminal using this device group run a Java application and will that application need to receive redirection input from I/O devices? _

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

9. Specify whether a keyboard will be attached to the PS/2 port for Java application input.

Configuration Keyword Shown on Display and Parameter to be Used**Default Value**

Type the information below to define any keyboard attached to the PS/2 port _

0 (none)

Note: If an attached ANPOS keyboard will function as a POS and Java input device, you must indicate which model of ANPOS will be attached.

10. Mark an X on Figure 130 and Figure 131 on page 301 to indicate the sockets in which POS devices are connected.

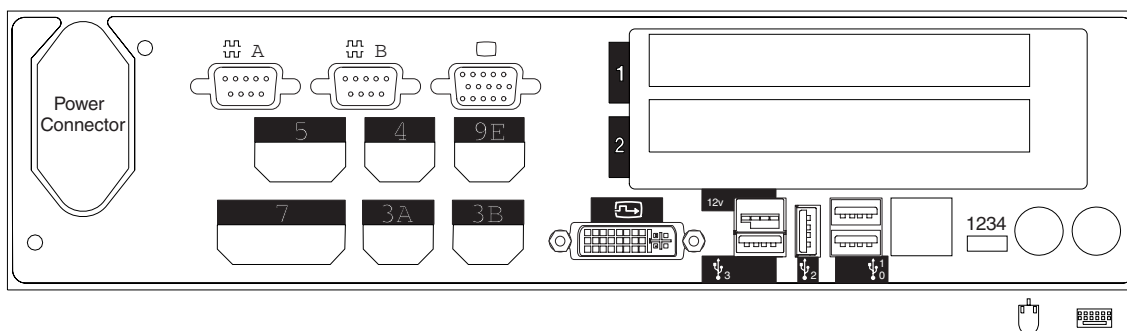


Figure 130. Rear of 4694-307 Point-of-Sale Terminal

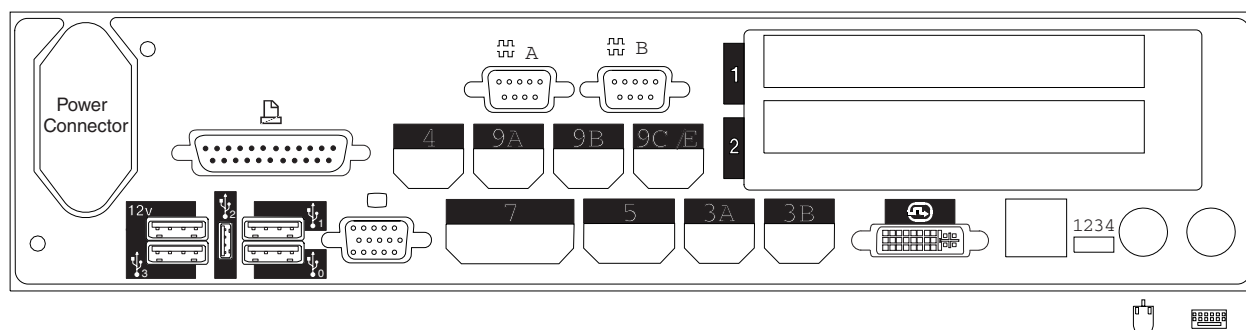


Figure 131. Rear of 4694-347 Point-of-Sale Terminal

11. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 terminal. All of the following keywords do not automatically appear for the terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default Value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _ Note: The MSR track information questions vary depending on the type of keyboard you select.	1
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 9A	Enable Tone: _	2 (No)
Socket 9B	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9E	Device Type: _ Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1

Worksheet D121—4694-3x7 Controller/Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4694-3x7 controller/terminal only. Fill out a copy of this worksheet for each unique 4694-3x7 controller/terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets ("Worksheet B—Terminal installation - 4694-2x4/4694-245" on page 226) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system's **terminal device groups**.
3. Assign each terminal device group a name of up to 8 alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied device group (ADXGRP17 for 4694-347 or ADXGRP19 for 4694-307) as a model for the group you are currently defining. Write the name of the terminal device group to be used as a model on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal device group: _ _ _ _ _

Default value

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4694-3x7 controller/terminal. The 4694-307 model ADXGRP19 will be filled in as the model name when the terminal type for a 4694-307 controller/terminal is entered. The 4694-347 model ADXGRP17 will be filled in as the model name when the terminal type for a 4694-347 controller/terminal is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP19 or
ADXGRP17

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Mark an X on Figure 132 in each card slot that has a Dual Asynchronous Adapter card installed **for use by terminal applications**. Do not mark an X if the card is to be used by applications other than terminal applications use .

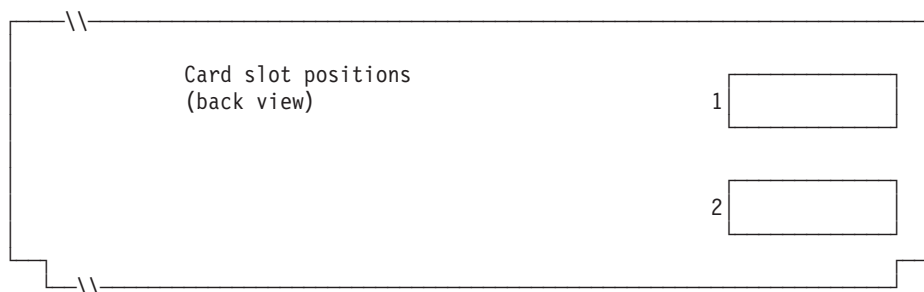


Figure 132. Rear of 4694-3x7 Controller/Terminal

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Number of terminal RAM disks supported for this device group: _

Default value

0

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: _

Default value

None

0

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: _

Default value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on Figure 133. Use a 0 if the terminal does not use a port. Valid port numbers are 1, 2, 3, 4.

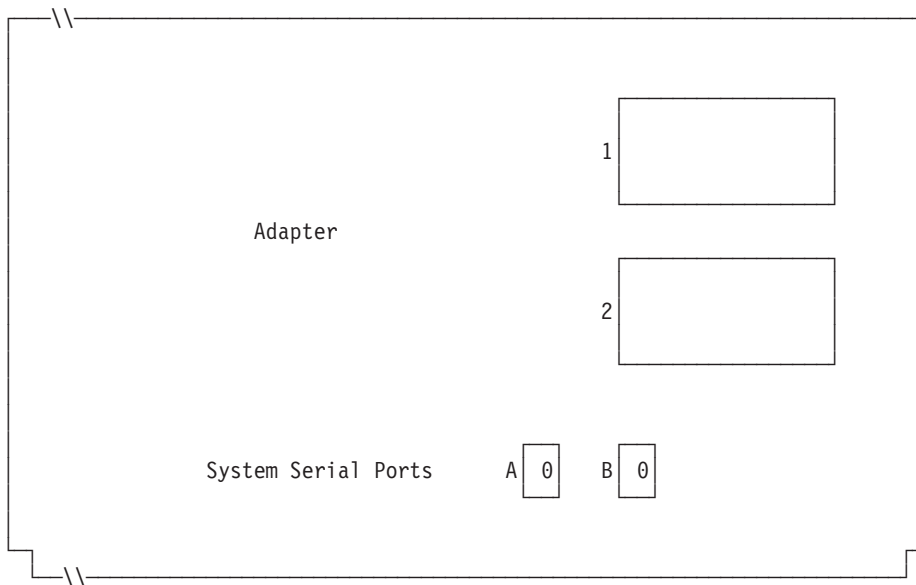


Figure 133. Right Side of Rear of 4694-3x7 Controller/Terminal

If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used

UPS Port Number: _

UPS Device Manufacturer: _

Number of minutes from power failure until the 4690 system should turn off the UPS: _

Number of seconds between warning messages during a power failure: _

Default value

None

None

None

None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used

Will this controller/terminal share its video and keyboard? _

Default value

2 (No)

Worksheet D121

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Note: If the controller/terminal shares a keyboard, you must define the type of shared keyboard. If the controller/terminal shares its video you must define whether the display is a touch screen, and whether you want the terminal screen saver enabled or disabled. Then you must define the video display format, the device name, and whether the video is the system display. If a touch display is defined, you must define an integrated keypad and/or MSR if present.

Number of Tracks to Read: _

1

Identify Tracks to Read: _

2

7. Specify whether a Java application running on the terminal using this device group will need redirection I/O device input.

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Will a terminal using this device group run a Java application and will that application need to receive redirected input from I/O devices?_

2 (No)

Note: If the device group is used for any terminal load definitions that will run Java applications that need redirected input, you must indicate which devices apply.

8. Mark an X on Figure 134 to indicate the sockets in which POS devices are connected.

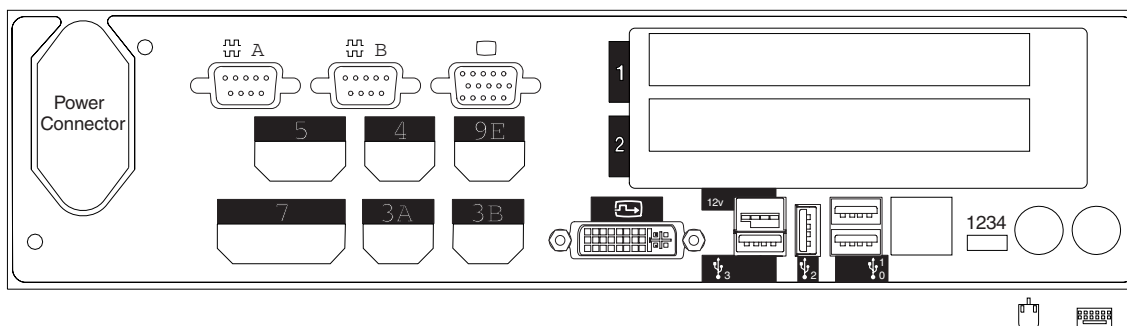


Figure 134. Rear of 4694-307 Controller/Terminal

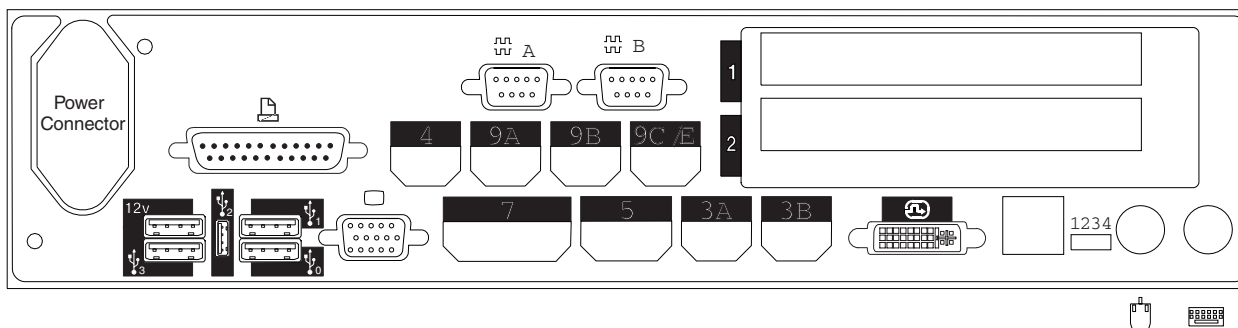


Figure 135. Rear of 4694-347 Controller/Terminal

9. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4694 controller/terminal. All of the following keywords will not automatically appear for the 4694 controller/terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used

Configuration Keyword and Parameter to be Used

Default value

Socket 3A

Device Type: _

1

Socket Used	Configuration Keyword and Parameter to be Used	Default value
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: _	1
	Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4	Device Type: _	1
Socket 4	Device Name: _	1
Socket 4	System Display: _	1 (Yes) 2 (No) (if video and keyboard are shared)
Socket 5	Device Type: _	1
Socket 5	Keyboard Type: _	1
Socket 5	Number of Tracks to Read: _	1
Socket 5	Identify Tracks to Read: _	1
	Note: The MSR track information questions vary depending on the type of keyboard you select.	
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: ____	0
Socket 9A	Device Type: _	1
Socket 9A	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 9A	Enable Tone: _	1
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 9/E	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	

Worksheet D13—4683-4x1 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration for a 4683-4x1 terminal only. Fill out a copy of this worksheet for each unique 4683-4x1 terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets (“Worksheet B—Terminal installation - 4683” on page 238) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system’s **terminal device groups**.
3. Assign each terminal device group a name of up to eight alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied terminal device group (ADXGRP08) as a model for the group you are currently defining. Write the name of the terminal device group to be used as a model on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to configure a 4683-4x1. The 4683-4x1 model ADXGRP08 will be filled in as the model name when the terminal type for the 4683-4x1 is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP08

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Check “Worksheet B—Terminal installation - 4683” on page 238 to identify the Feature Expansions that are used for the terminal’s two Feature Expansion positions (2A or 2B). Write the appropriate character (B, C, D, E, or 0) to indicate the type of Feature Expansion for each of the two Feature Expansion positions.

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Feature Expansion: _ (for top left position 2A)

0

Feature Expansion: _ (for top right position 2B)

0

If you are using Feature Expansion

Complete:

B “Worksheet D17—4683 Terminal Configuration (Feature Expansion B)” on page 314.

C “Worksheet D18—4683 Terminal Configuration (Feature Expansion C)” on page 315.

D “Worksheet D19—4683 Terminal Configuration (Feature Expansion D)” on page 316.

E “Worksheet D20—4683 Terminal Configuration (Feature Expansion E)” on page 317.

0 Feature Expansion 0 is a filler plate and does not require a worksheet or parameters.

Note: Feature Expansion A is not available on the 4683-4x1 terminal.

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Number of terminal RAM disks supported for this device group: _

0

Define the following information for the terminal device group’s first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: __

Default value

None

0

0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used

Disk ID: __

Size: __

Files: __

Default value

None

0

0

6. If terminal applications use the asynchronous port, write the port number on the following figure. Use a 0 if a port is not used by the terminal. Valid port numbers are 1, 2, 3, 4.

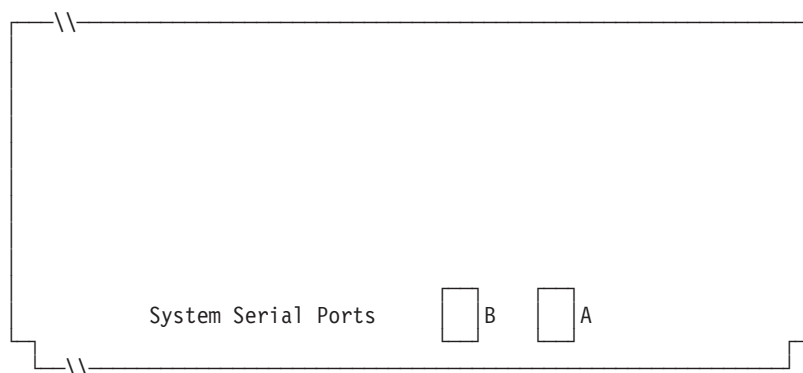


Figure 136. Right Side of Rear of 4683-4x1 Point-of-Sale Terminal

7. If one of the asynchronous ports has a connected UPS that the operating system will monitor and control, complete the following information:

Configuration Keyword Shown on Display and Parameter to be Used

UPS Port Number: __

UPS Device Manufacturer: __

Number of minutes from power failure until the 4690 system should turn off the UPS: __

Number of seconds between warning messages during a power failure: __

Default value

None

None

None

None

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Configuration Keyword Shown on Display and Parameter to be Used

Will this terminal use a video display?

Default value

2 (No)

Note: If the terminal uses a video display, you must define the video display format, the device name, and whether the video is the system display.

8. Check "Worksheet B—Terminal installation - 4683" on page 238 for each terminal in the terminal device group and mark an X on Figure 137 on page 308 to indicate the sockets in which devices are connected.

Worksheet D13

Note: Be sure to refer only to the socket numbers (not the box numbers) on the Terminal Installation Worksheet.

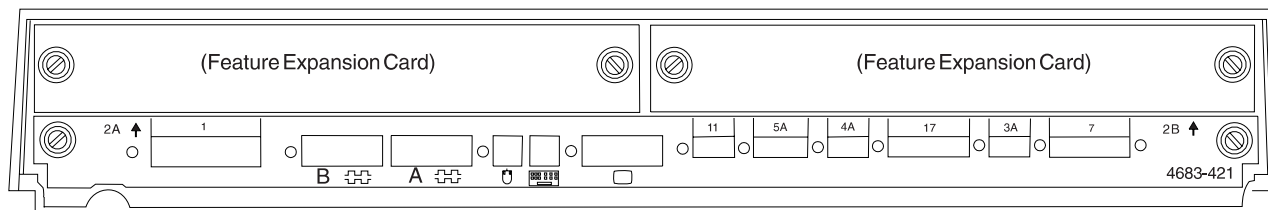


Figure 137. Rear of 4683-4x1 Point-of-Sale Terminal Base Unit

9. Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4683 terminal. All of the following keywords will not automatically appear for the 4683 terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 3A	Device Type: _ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: _	1
Socket 4A	Device Name: _	1
Socket 4A	System Display: _	1 (Yes)
Socket 5A	Keyboard Type: _	1
Socket 6 (on keyboard)	MSR: _	2 (No)
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: _	0
Socket 17	Device Type: _	1
Socket 17	Checkout Scanner Type: _ Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	1
Socket 17	Enable Tone: _	2 (No)

Worksheet D14—4683 Mod1 or Mod2 Terminal Configuration (Terminal Device Group)

Use this information to define or change your terminal device group configuration. Fill out a copy of this worksheet for each 4683 Mod1 or Mod2 (excluding the 4683-4x1) terminal device group in your store system.

1. Collect all the Terminal Installation Worksheets (“Worksheet B—Terminal installation - 4683” on page 238) for the terminals in your store system.
2. Sort the worksheets so that all worksheets for terminals with identical devices and RAM disks are grouped together. These groups of worksheets are the base for creating your system’s **terminal device groups**.
3. Assign each terminal device group a name of up to eight alphanumeric characters and write the name on a copy of this worksheet.

You may want to use an existing terminal device group or the Toshiba-supplied terminal device group (ADXGRP01) as a model for the group you are currently defining. Write the name of the terminal device group to be used as a model on a copy of this worksheet.

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Name of terminal device group: _ _ _ _ _

None

Terminal type: _

1

Note: You must change the terminal type to 8 to configure a 4683. The 4683 model ADXGRP01 will be filled in as the model name when the terminal type for a 4683 is entered.

Name of existing terminal device group to be used as model: _ _ _ _ _

ADXGRP01

Note: To enter your own terminal device group to be used as a model for the device group you are configuring, type your device group name over the Toshiba default name.

4. Check “Worksheet B—Terminal installation - 4683” on page 238 to identify the Feature Expansions that are used for the terminal’s two Feature Expansion positions (2A or 2B). Write the appropriate character (A, B, C, D, E, or 0) to indicate the type of Feature Expansion for each of the two Feature Expansion positions.

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Feature Expansion: _ (for top left position 2A)

0

Feature Expansion: _ (for top right position 2B)

0

If you are using Feature Expansion

Fill out . . .

A	“Worksheet D16—4683 Terminal Configuration (Feature Expansion A)” on page 313.
B	“Worksheet D17—4683 Terminal Configuration (Feature Expansion B)” on page 314.
C	“Worksheet D18—4683 Terminal Configuration (Feature Expansion C)” on page 315.
D	“Worksheet D19—4683 Terminal Configuration (Feature Expansion D)” on page 316.
E	“Worksheet D20—4683 Terminal Configuration (Feature Expansion E)” on page 317.
0	Feature Expansion 0 is a filler plate and does not require a worksheet or parameters.

5. Specify the number of terminal RAM disks for the terminal device group:

Configuration Keyword Shown on Display and Parameter to be Used

Default value

Number of terminal RAM disks supported for this device group: _

0

Worksheet D14

Define the following information for the terminal device group's first RAM disk (**RAM disk X**):

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Size: __	0
Files: __	0

Define the following information for the terminal device group's second RAM disk (**RAM disk Y**):

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Size: __	0
Files: __	0

- Check "Worksheet B—Terminal installation - 4683" on page 238 for each terminal in the terminal device group and mark an X on Figure 138 to indicate the sockets in which devices are connected.

Note: Be sure to refer only to the socket numbers (not the box numbers) on the Terminal Installation Worksheet.

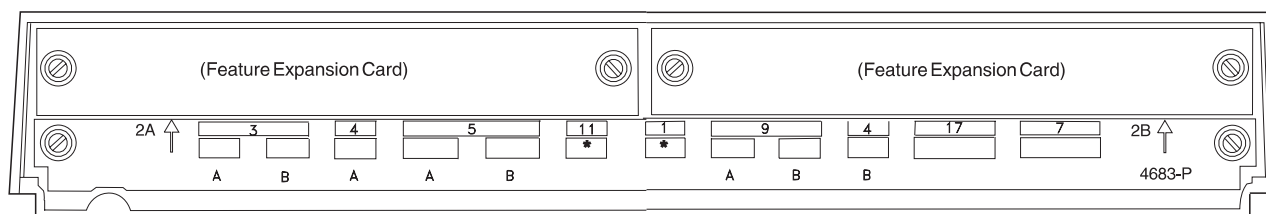


Figure 138. Rear of 4683 Point-of-Sale Terminal Base Unit

- Fill in parameters for keywords that define the sockets on the rear of the terminal.

Note: Some sockets do not require parameter definitions. Define keywords only for the sockets that are to be used on the 4683 terminal. All of the following keywords will not automatically appear for the 4683 terminal. When you choose which sockets you want to define, you also determine which keywords appear.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 3A	Device Type: __ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3A	Pulse Duration: _ _ _ _	80
Socket 3B	Device Type: __ Note: If the parameter used for the Device Type keyword is 2, also define the Pulse Duration keyword.	1
Socket 3B	Pulse Duration: _ _ _ _	80
Socket 4A	Device Type: __	1
Socket 4A	Device Name: __	1
Socket 4A	System Display: __	1 (Yes)
Socket 4B	Device Type: __	1
Socket 4B	Device Name: __	2
Socket 4B	System Display: __	2 (No)
Socket 5A	Keyboard Type: __	1
Socket 5B	Device Type: __ Note: If the Device Type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 5B	Enable Tone: __	2 (No)
Socket 5B	Label Types Supported: __	UPC/EAN
Socket 5B	Minimum ITF Label Length: _ _	10

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 5B	Model: _	1
Socket 5B	Tracks: _	1
Socket 5B	Keyboard Type: _	1
Socket 6 (on keyboard)	MSR: _	2
Socket 7	Printer Type: _	1
Socket 7	Journal Buffer Size: _	0
Socket 9B	Device Type: _	1
	Note: If the device type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 9B	BCR Model: _	1
Socket 9B	Beeper: _	2
Socket 9B	Label Types Supported: _	1
Socket 17	Checkout Scanner Type: _	1
	Note: If the Checkout Scanner Type selected is other than the default value of 1, additional scanner (and possibly scale) configuration questions will be presented.	
Socket 17	Enable Tone: _	2 (No)

| **Worksheet D15—SurePOS 300/700 Series and TCxWave 6140 Series**
| **Terminal Configuration (Terminal Device Characteristics)**

- | Generic Terminal Configuration must be used to configure SurePOS 700 Series systems, as well as the
- | SurePOS 300 Series model 350 and the TCxWave 6140 Series systems. See Chapter 5, “How to use
- | generic terminal configuration” on page 47, for more information.

Worksheet D16—4683 Terminal Configuration (Feature Expansion A)

Note: When using this worksheet, be aware that the defaults for terminal configuration change depending on (1) the combination of adapters installed, (2) the ports that you use, and (3) the devices attached to the ports.

Name of terminal device group: _ _ _ _ _ (from WORKSHEET D13 or D14)

Feature Expansion A can be installed in either of the two expansion positions (2A or 2B) on the rear of the terminal.

Use this information to define or change Feature Expansion A if:

- Feature Expansion A is installed on each of the terminals in the terminal device group.
- You marked an X on Worksheet B for a video display.

1. Mark an X on Figure 139 to indicate the socket in which the device cables are attached to Feature Expansion A:

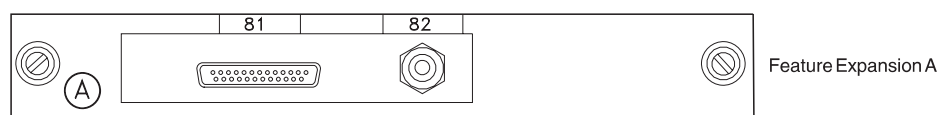


Figure 139. Feature Expansion A

2. Fill in parameters for keywords that define the sockets used on Feature Expansion A.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 81	Video Display Type: _	1
Socket 81	Device Name: _	1
Socket 81	System Display: _	2 (No)
Socket 81	Video Display Size: _	1
Socket 81	Video Display Format: _	3

3. After completing this worksheet, fill out Worksheet D16, D17, D18, D19, or D20 (if required) for the remaining Feature Expansion position. Fasten together the completed worksheets for each terminal device group and give them to the system programmers as a guide for system software configuration tasks.

Worksheet D17—4683 Terminal Configuration (Feature Expansion B)

Note: When using this worksheet, be aware that the defaults for terminal configuration change depending on (1) the combination of adapters installed, (2) the ports that you use, and (3) the devices installed on the ports.

Name of terminal device group: _ _ _ _ _ (from WORKSHEET D13 or D14)

Feature Expansion B can be installed in either of the two expansion positions (2A or 2B) on the rear of the terminal.

Use this information to define or change Feature Expansion B if:

- Feature Expansion B is installed on each of the terminals in the terminal device group.
- You marked an X on Worksheet B for an optical character recognition (OCR) handheld reader or for a non-IBM scale or coin dispenser.

1. Mark an X on Figure 140 to indicate the socket in which the device cables are attached to Feature Expansion B:



Figure 140. Feature Expansion B

2. Fill in parameters for keywords that define the sockets that are used on Feature Expansion B.

Note: Sockets 22 and 29 do not require parameter definitions.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 21	Device Type: _ Note: If the Device Type selected is other than the default value of 1, its configuration questions may differ from those listed here.	1
Socket 21	Edit Checking: _	2
Socket 21	Maximum Characters: ____	40

3. After completing this worksheet, fill out Worksheet D16, D17, D18, D19, or D20 (if required) for the remaining Feature Expansion position. Fasten together the completed worksheets for each terminal device group and give them to the system programmers as a guide for system software configuration tasks.

Worksheet D18—4683 Terminal Configuration (Feature Expansion C)

Note: When using this worksheet, be aware that the defaults for terminal configuration change depending on (1) the combination of adapters installed, (2) the ports that you use, and (3) the devices installed on the ports.

Name of terminal device group: _ _ _ _ _ (from WORKSHEET D13 or D14)

Feature Expansion C can be installed in either of the two expansion positions (2A or 2B) on the rear of the terminal.

Use this information to define or change Feature Expansion C if:

- Feature Expansion C is installed on each of the terminals in the terminal device group.
 - You marked an X on Worksheet B for an optical character recognition (OCR) hand-held reader, for a non-Toshiba scale, or for any RS-232C interface (non-Toshiba input/output) devices.
1. Mark an X on Figure 141 to indicate the socket in which the device cables are attached to Feature Expansion C:

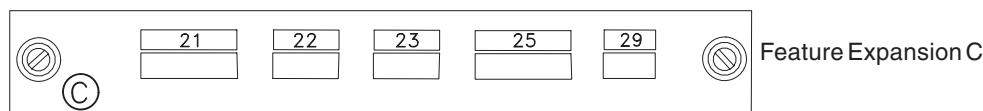


Figure 141. Feature Expansion C

2. Fill in parameters for keywords that define the sockets that are used on Feature Expansion C.

Note: Sockets 22 and 29 do not require parameter definitions.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 21	Device Type: _	1
	Note: If the Device Type selected is other than the default value of 1, its configuration questions may differ from those listed here.	
Socket 21	Edit Checking: _	2
Socket 21	Maximum Characters: ____	40
Socket 23	Port Number: _	1
Socket 25	Port Type: _	1
Socket 25	Port Number: _	2

3. After completing this worksheet, fill out Worksheet D16, D17, D18, D19, or D20 (if required) for the remaining Feature Expansion position. Fasten together the completed worksheets for each terminal device group and give them to the system programmers as a guide for system software configuration tasks.

Worksheet D19—4683 Terminal Configuration (Feature Expansion D)

Note: When using this worksheet, be aware that the defaults for terminal configuration change depending on (1) the combination of adapters installed, (2) the ports that you use, and (3) the devices installed on the ports.

Name of terminal device group: _ _ _ _ _ (from WORKSHEET D13 or D14)

Feature Expansion D can be installed in either of the two expansion positions (2A or 2B) on the rear of the terminal.

Use this information to define or change Feature Expansion D if: the following applies:

- Feature Expansion D is installed on each of the terminals in the terminal device group.
 - You marked an X on Worksheet B for an optical character recognition (OCR) hand-held reader, or for any RS-232C interface (non-Toshiba input/output) devices.
1. Mark an X on Figure 142 to indicate the socket in which the device cables are attached to Feature Expansion D:

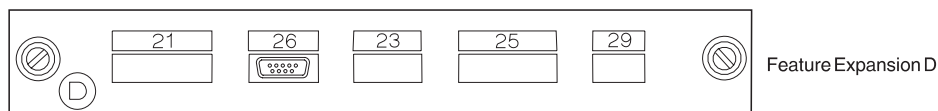


Figure 142. Feature Expansion D

2. Fill in parameters for keywords that define the sockets that are used on Feature Expansion D.

Note: Sockets 26 and 29 do not require parameter definitions.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 21	Device Type: _	1
Socket 21	Edit Checking: _	2
Socket 21	Maximum Characters: _ _ _	40
Socket 23	Port Number: _	1
Socket 25	Port Type: _	1
Socket 25	Port Number: _	2

3. After completing this worksheet, fill out Worksheet D16, D17, D18, D19, or D20 (if required) for the remaining Feature Expansion position. Fasten together the completed worksheets for each terminal device group and give them to the system programmers as a guide for system software configuration tasks.

Worksheet D20—4683 Terminal Configuration (Feature Expansion E)

Note: When using this worksheet, be aware that the defaults for terminal configuration change depending on (1) the combination of adapters installed, (2) the ports that you use, and (3) the devices installed on the ports.

Name of terminal device group: _ _ _ _ _ (from WORKSHEET D13 or D14)

Feature Expansion E can be installed in either of the two expansion positions (2A or 2B) on the rear of the terminal.

Use this information to define or change Feature Expansion E if:

- Feature Expansion E is installed on each of the terminals in the terminal device group.
 - You marked an X on Worksheet B for any RS-232C interface (non-Toshiba input/output) devices.
1. Mark an X on Figure 143 to indicate the socket in which the device cables are attached to Feature Expansion E:

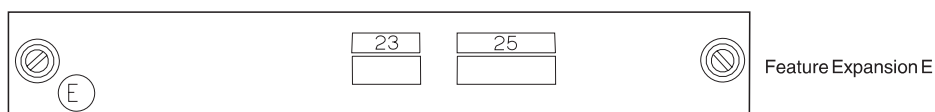


Figure 143. Feature Expansion E

2. Fill in parameters for keywords that define the sockets that are used on Feature Expansion E.

Socket Used	Configuration Keyword and Parameter to be Used	Default value
Socket 23	Port Number: _	1
Socket 25	Port Type: _	1
Socket 25	Port Number: _	2

3. After completing this worksheet, fill out Worksheet D16, D17, D18, D19, or D20 (if required) for the remaining Feature Expansion position. Fasten together the completed worksheets for each terminal device group and give them to the system programmers as a guide for system software configuration tasks.

Worksheet D21—Terminal Configuration (50-Key Keyboard Layout)

Note: Use this worksheet also if you are configuring the keyboard on the Combined Keyboard/Display.

Use this information to define or change the terminal keyboard layout.

Configuration keyword shown on display and parameter to be used

Name of terminal keyboard layout being processed: _ _ _ _ _

Name of existing keyboard layout to be used as model: _ _ _ _ _

Default value

None

Varies by terminal model number

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, and 61 to 255. The default value for each key is shown.

Define double keys by writing the same function code in two vertically adjacent positions; define blank codes for any unused key.

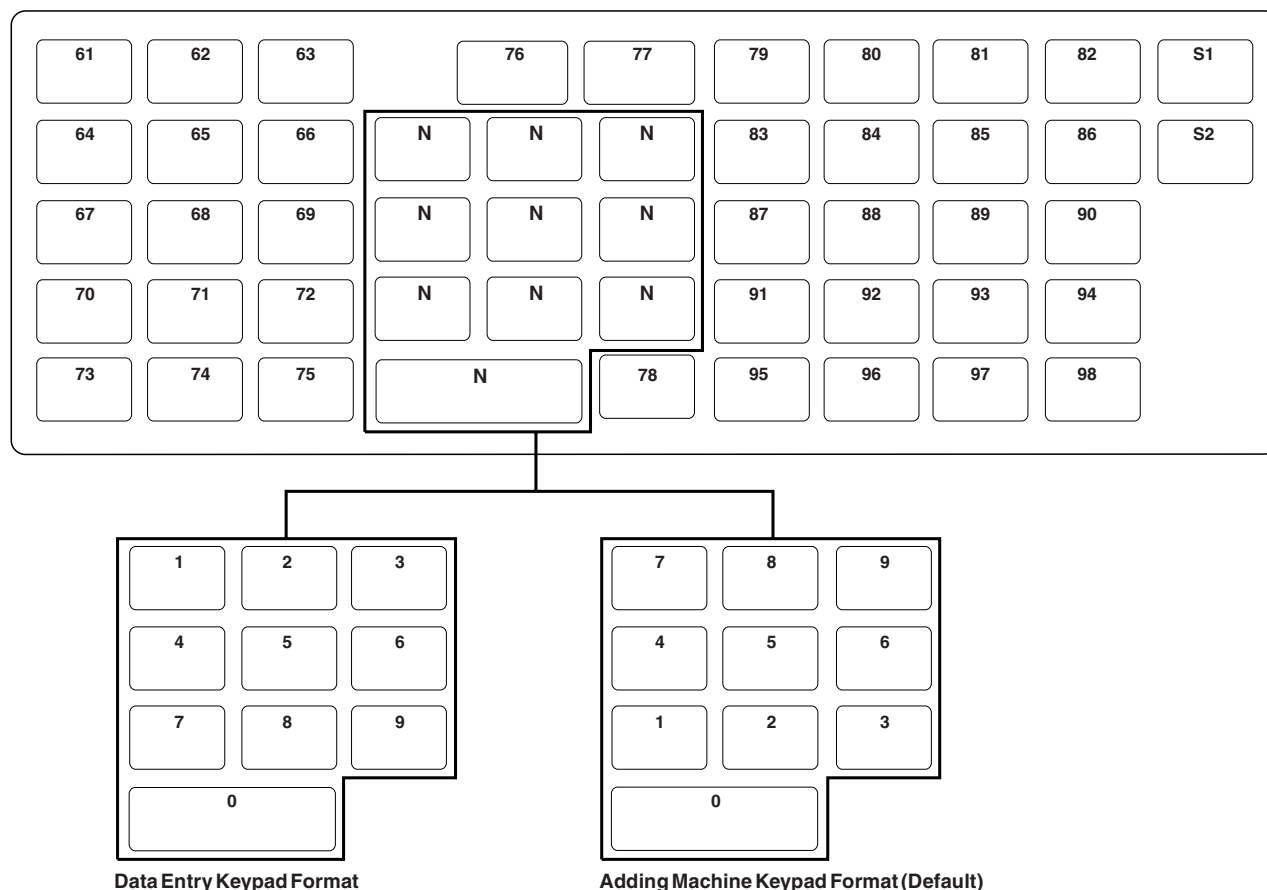


Figure 144. Defining 50-Key Keyboard Functions

Notes:

1. S1 and S2 keys cannot be changed.
2. The numeric keypad must be in data-entry keypad or adding machine format; its key positions cannot be moved.
3. Use the F9 key on the store controller to change the keypad format for the terminals.

Worksheet D21—Terminal Configuration (Alphanumeric Keyboard Layout)

Use this information to define or change the terminal keyboard layout.

Configuration keyword shown on display and parameter to be used

Name of terminal keyboard layout being processed: _ _ _ _ _

Name of existing keyboard layout to be used as model: _ _ _ _ _

Default value

None

ADXKBA01

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, 61 to 255, and 999. The default value for each key is shown.

The diagram illustrates the 'No Shift' mode for defining alphanumeric keyboard functions. It shows a keyboard layout with keys numbered 61 to 70 on the left, a central area with labels for 'No Shift', 'Shift', 'Alt', 'Ctrl', 'Cursor', and 'Numeric', and keys numbered 71 to 76 on the right. A large '95' is shown in the center-right area, indicating a function code assigned to a specific key.

Figure 145. Defining Alphanumeric Keyboard Functions (No Shift Mode)

Notes:

1. To select No Shift keyboard mode, press **PgUp** or **PgDn**.
2. Define blank codes for any unused key.
3. To clear the screen, press **F7**.

The diagram illustrates the 'Shift' mode for defining alphanumeric keyboard functions. It shows a keyboard layout with keys numbered 61 to 70 on the left, a central area with labels for 'No Shift', 'Shift', 'Alt', 'Ctrl', 'Cursor', and 'Numeric', and keys numbered 71 to 76 on the right. A large '95' is shown in the center-right area, indicating a function code assigned to a specific key.

Figure 146. Defining Alphanumeric Keyboard Functions (Shift Mode)

Worksheet D21

Notes:

1. To select Shift keyboard mode, press **PgUp** or **PgDn**.
2. Define blank codes for any unused key.
3. To clear the screen, press **F7**.

No Shift
Shift
Alt
Ctrl
Cursor
Numeric

95

95

Figure 147. Defining Alphanumeric Keyboard Functions (Alt Mode)

Notes:

1. To select Alt keyboard mode, press **PgUp** or **PgDn**.
2. Define blank codes for any unused key.
3. To clear the screen, press **F7**.

S1 S2

No Shift
Shift
Alt
Ctrl
Cursor
Numeric

95

95

Figure 148. Defining Alphanumeric Keyboard Functions (Ctrl Mode)

Notes:

1. To select Ctrl keyboard mode, press **PgUp** or **PgDn**.
2. S1 and S2 keys cannot be changed.
3. Define blank codes for any unused key.
4. To clear the screen, press **F7**.

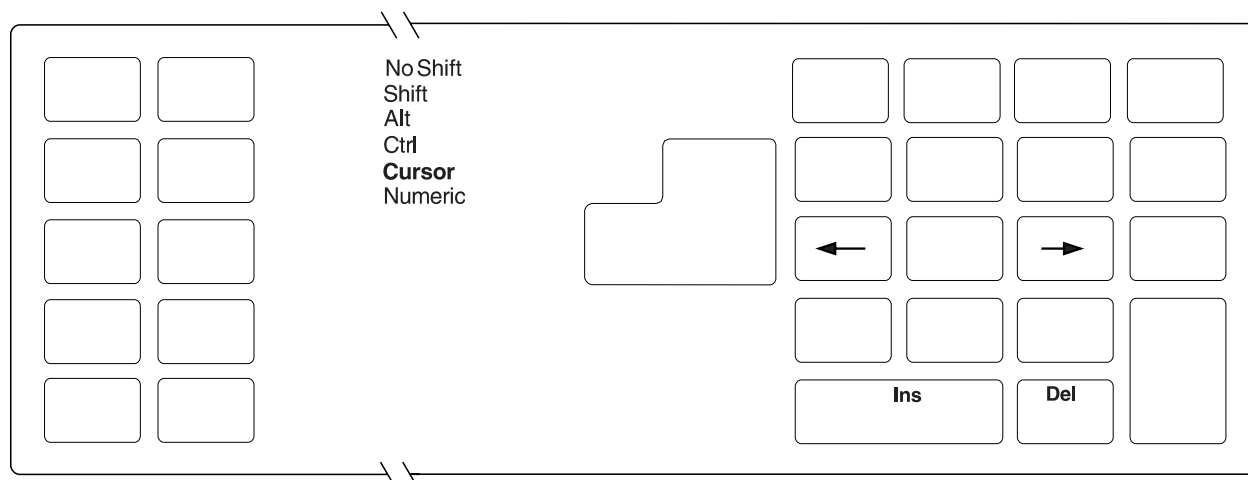


Figure 149. Defining Alphanumeric Keyboard Functions (Cursor Mode)

Notes:

1. To select Cursor keyboard mode, press **PgUp** or **PgDn**.
2. Ins, Del, move cursor right, and move cursor left keys cannot be changed.
3. Define blank codes for any unused key.
4. Select the default mode for the keypad (Cursor or Numeric) by pressing the **Tab** key, and selecting **1** for Cursor or **2** for Numeric.
5. To clear the screen, press **F7**.

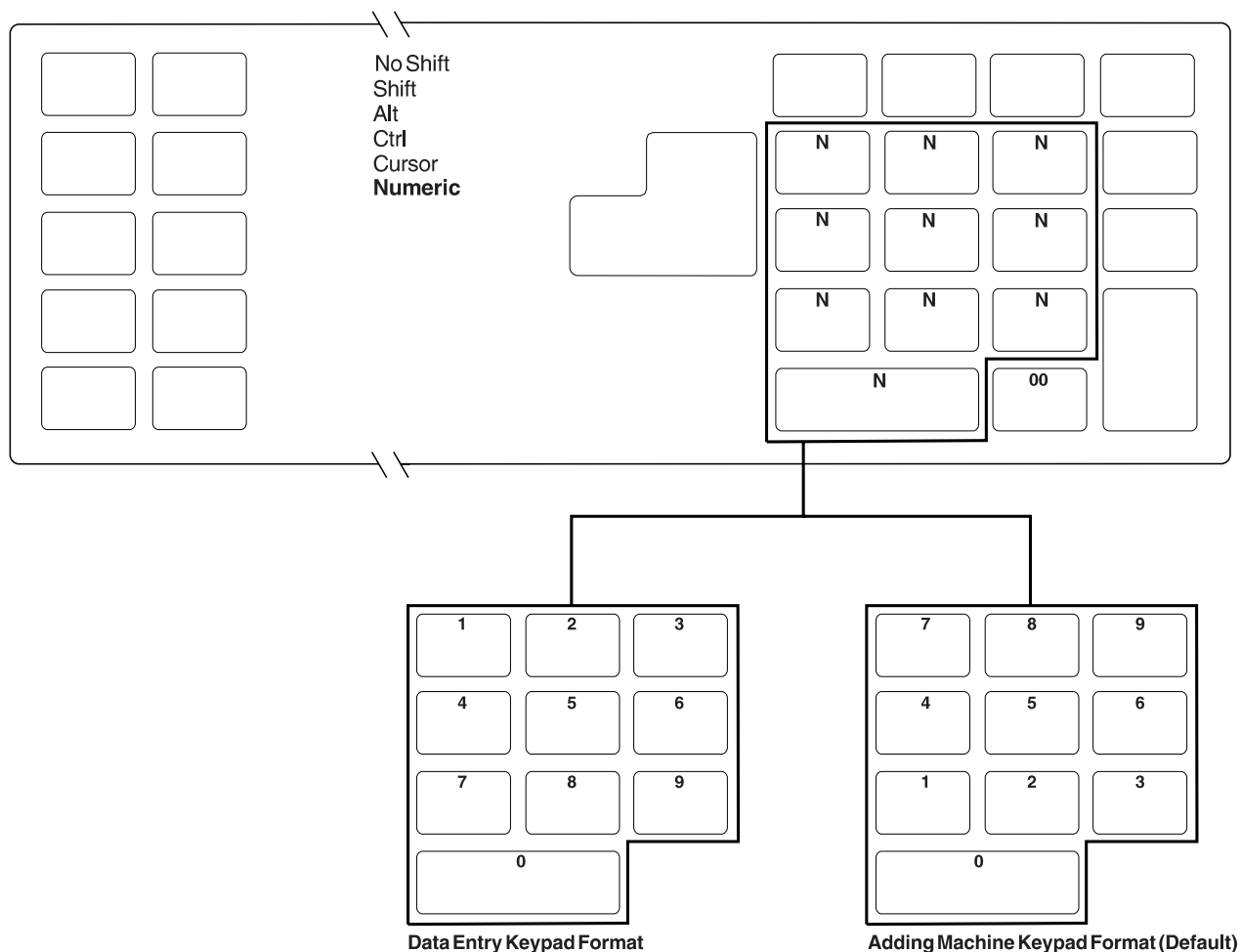


Figure 150. Defining Alphanumeric Keyboard Functions (Numeric Mode)

Notes:

1. To select the Numeric keyboard mode, press **PgUp** or **PgDn**.
2. The numeric keypad must be in data-entry keypad or adding machine format; its key positions cannot be moved.
3. Use the **F9** key on the store controller to change the keypad format for the terminals.
4. Define blank codes for any unused key.
5. Select the default mode for the keypad (Cursor or Numeric) by pressing the **Tab** key, and selecting **1** for Cursor or **2** for Numeric.

Worksheet D21—Terminal Configuration (Matrix Keyboard Layout)

Use this information to define or change the terminal keyboard layout.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal keyboard layout being processed: _____

Name of existing keyboard layout to be used as model: _____

Default value

None

ADXKBM01

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, and 61 to 255. The default value for each key is shown.

Define blank codes for any unused key.

	1	2	3	4	5	6
1	61	68	75	82	89	96
2	62	69	76	83	90	97
3	63	70	77	84	91	98
4	64	71	78	85	92	99
5	65	72	79	86	93	100
6	66	73	80	87	94	101
7	67	74	81	88	95	102

Figure 151. Defining Matrix Keyboard Functions (Left Side)

	7	8	9	10	11	12
	103	110	117	124	131	138
	104	111	118	125	132	139
	105	112	119	126	133	140
	106	113	120	127	134	141
	107	114	121	128	135	142
	108	115	122	129	136	143
	109	116	123	130	137	144

Figure 152. Defining Matrix Keyboard Functions (Middle)

	13	14	15	16	17	18
1	145	152	159	166	173	180
2	146	153	160	167	174	181
3	147	154	161	168	175	182
4	148	155	162	169	176	183
5	149	156	163	170	177	184
6	150	157	164	171	178	185
7	151	158	165	172	179	186

Figure 153. Defining Matrix Keyboard Functions (Right Side)

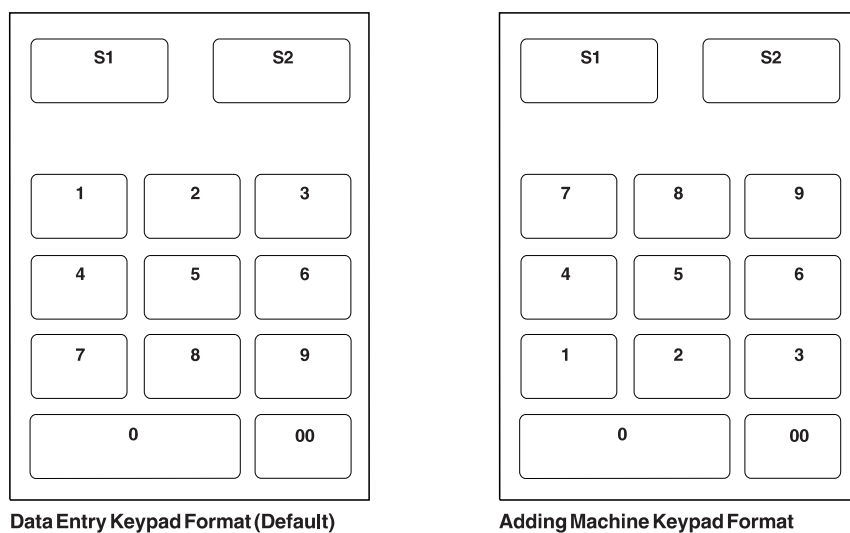


Figure 154. Defining Matrix Keyboard Functions (Keypad Format)

Notes:

1. S1 and S2 keys cannot be changed.
2. The numeric keypad must be in data-entry keypad or adding machine format; its key positions cannot be moved.
3. Use the F9 key on the store controller to change the keypad format for the terminals.
4. To clear the screen, press **F7**.

Worksheet D21—Terminal Configuration (Alphanumeric Point-of-Sale Keyboard Layout)

Use this information to define or change the terminal keyboard layout.

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Name of terminal keyboard layout being processed: _ _ _ _ _	None
Name of existing keyboard layout to be used as model: _ _ _ _ _	ADXKBE01, ADXKBE02, or ADXKBE03
Key Click: _	3
Typematic Keys: _	1
Keystroke Interval Timeout: _	1
Numeric Pad: _	1

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, 33 to 255. The default value for each key is shown.

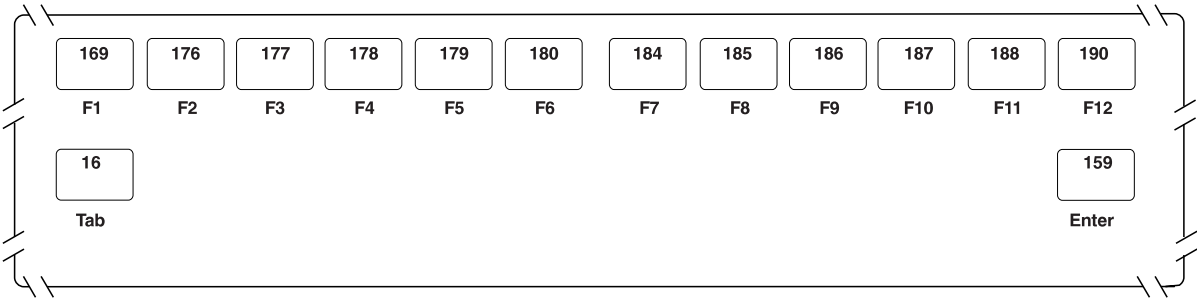


Figure 155. Defining ANPOS Keyboard Functions (No Shift Mode)

- Notes:**
1. To select keyboard mode, press **F8**.
 2. To clear the screen, press **F7**.
 3. Define blank codes for any unused key.
 4. Press **PgDn** to define the next section of the keyboard.

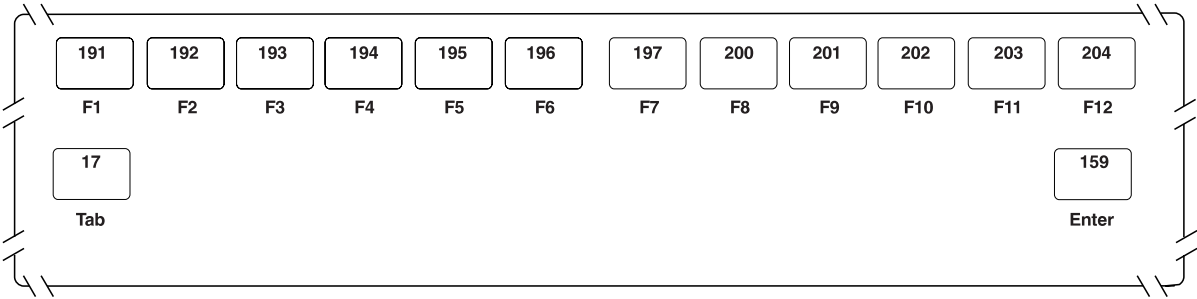


Figure 156. Defining ANPOS Keyboard Functions (Shift Mode)

- Notes:**
1. To select keyboard mode, press **F8**.
 2. To clear the screen, press **F7**.
 3. Press **PgDn** to define the next section of the keyboard.

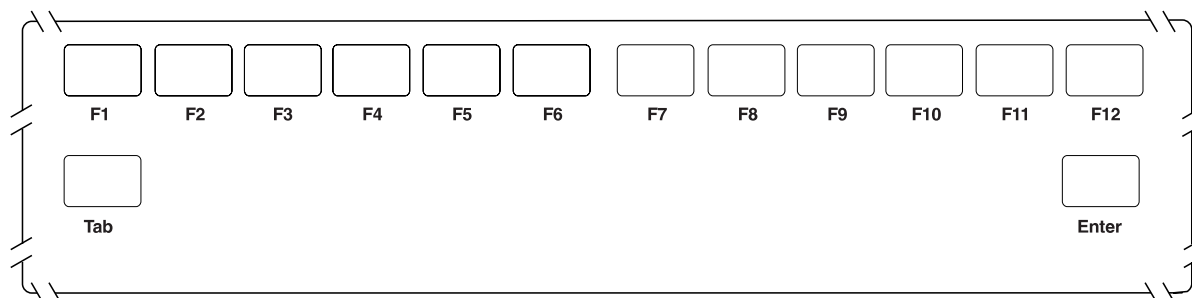


Figure 157. Defining ANPOS Keyboard Functions (Alt Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Press **PgDn** to define the next section of the keyboard.
4. Define double keys by writing the same function code in two horizontally or vertically adjacent positions.

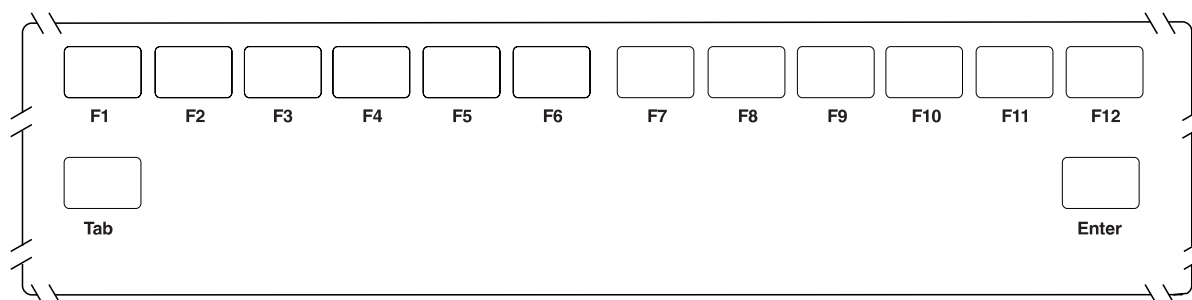


Figure 158. Defining ANPOS Keyboard Functions (Ctrl Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Press **PgDn** to define the next section of the keyboard.

Worksheet D21

29	238	
18		
219	244	245
255	24	223
27	25	26

Figure 159. Defining ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Press **PgDn** to define the next section of the keyboard.
4. In the Shift, Alt, and Ctrl modes, no keys are predefined.

	NUM	SCR
242	246	251

Figure 160. Defining ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. The five keys of the two top rows can be assigned to four different function codes using these keys either by themselves or in conjunction with the Shift, Alt, or Ctrl keys.
4. In Shift and Ctrl modes, no keys are predefined. In No Shift mode, two of these keys are assigned to the Num Lock (NUM) and Scroll Lock (SCR) functions and cannot be changed.
5. Press **PgDn** to define the next section of the keyboard.

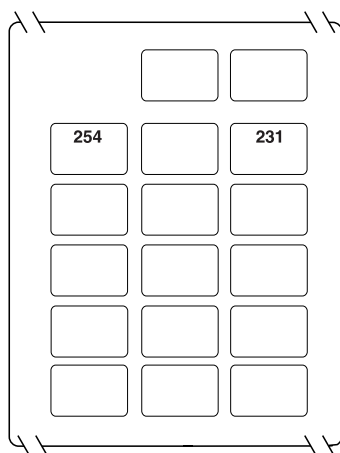


Figure 161. Defining ANPOS Keyboard Functions (Alt Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. The five keys of the two top rows can be assigned to four different function codes using these keys either by themselves or in conjunction with the Shift, Alt, or Ctrl keys.
4. In Shift and Ctrl modes, no keys are predefined. In No Shift mode, two of these keys are assigned to the Num Lock (NUM) and Scroll Lock (SCR) functions and cannot be changed.
5. Press **PgDn** to define the next section of the keyboard.

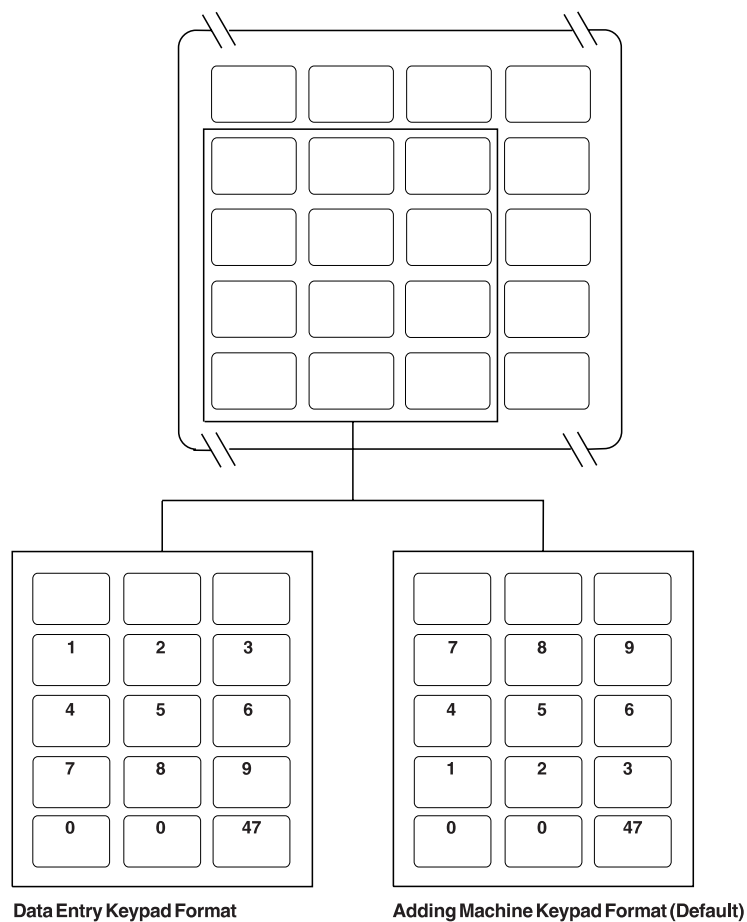


Figure 162. Defining ANPOS Keyboard Functions (Numeric Pad Base Mode and Numeric Pad Numeric Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. The twelve keys in the bottom four rows are the numeric keypad and can be defined in two modes: Numeric Pad Base Mode and Numeric Pad Numeric Mode.
4. When in Numeric Pad Base Mode, you can define the keys as function codes or leave them blank.
5. When in Numeric Pad Numeric Mode, you can swap the keys between data entry format and adding machine format. Press **F9** to swap between these two formats.
6. Press **PgDn** to define the next section of the keyboard.

209	
205	213
240	208
220	206
159	232
159	239

Figure 163. Defining ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.

Figure 164. Defining ANPOS Keyboard Functions (Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.

Worksheet D21

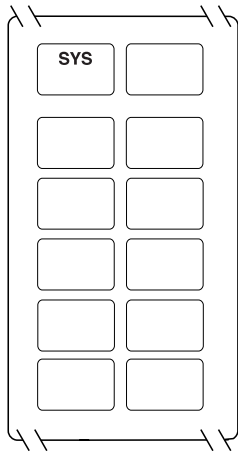


Figure 165. Defining ANPOS Keyboard Functions (Alt Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. In Alt mode, the key assigned to the System Request function (SYS) cannot be changed.

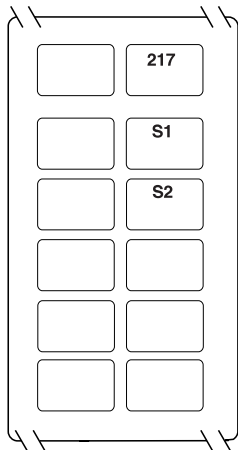


Figure 166. Defining ANPOS Keyboard Functions (Ctrl Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. In Ctrl mode, the keys assigned to system functions (S1 and S2) cannot be changed.

Worksheet D21—Terminal Configuration (4693 Point-of-Sale, or USB 50-Key Keyboard Layout, or 50-Key POS Keyboard with JUCC MSR)

Use this information to define or change the terminal keyboard layout for the 4693 Point-of-Sale (POS) Keyboard, or the USB 50-Key Keyboard with or without a three-track magnetic stripe card reader or a display, or the 50-Key POS Keyboard with JUCC MSR.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal keyboard layout being processed: _ _ _ _ _

Name of existing keyboard layout to be used as model: _ _ _ _ _

Key Click: _

Typematic Keys: _

Keystroke Interval Timeout: _

Default value

None

ADXKBF01 or ADXKBF02 or
ADXKBV02

3

4

1

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, 61 to 255. The default value for each key is shown.

Define double keys by writing the same function code on two vertically adjacent keys. Some keys have defined functions and cannot be changed. Double keys must be defined as double keys or not used (blank) in all modes.

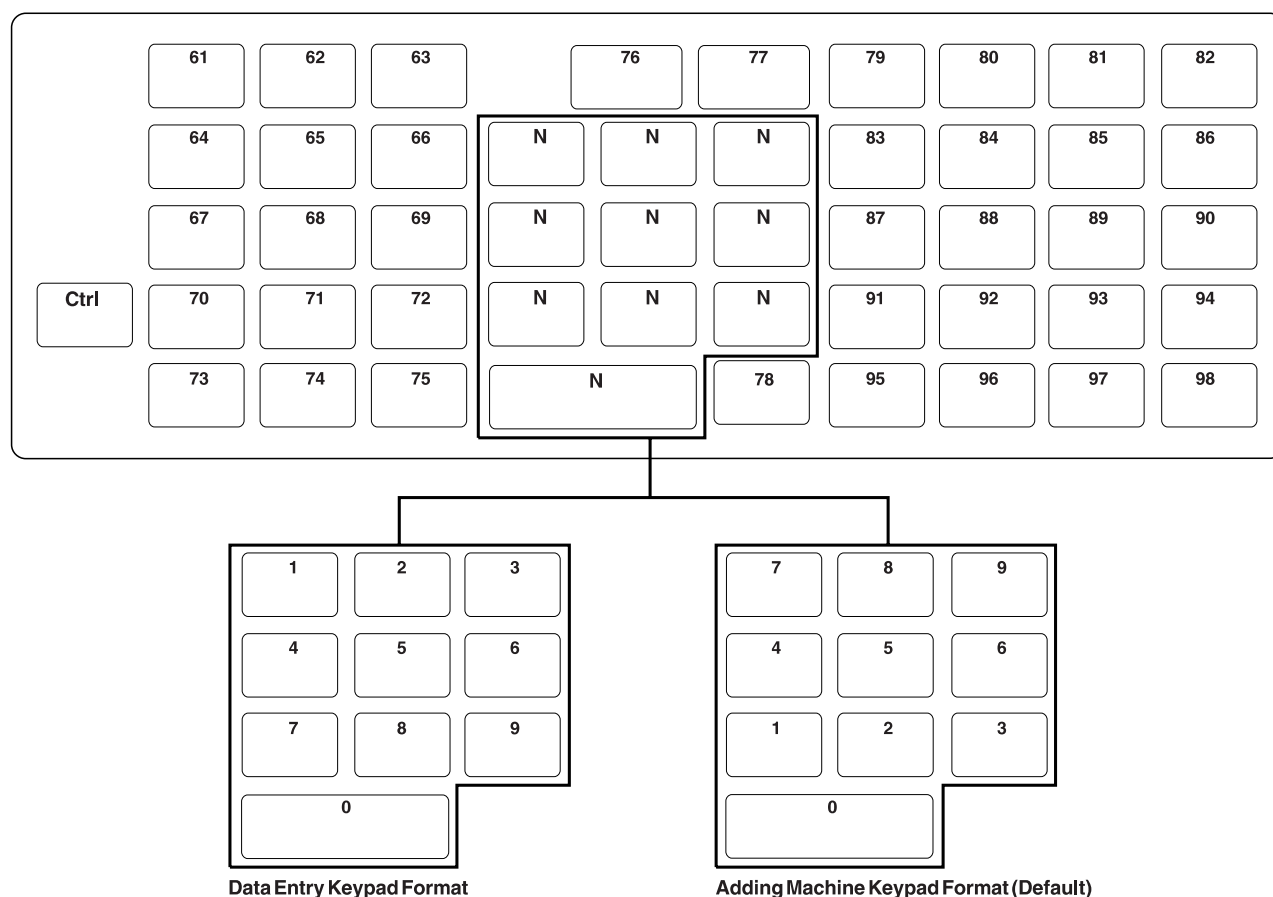


Figure 167. Defining 4693 POS, or USB 50-Key, or 50-Key POS Keyboard with JUCC MSR Keyboard Functions (Base Mode)

Worksheet D21

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two vertically adjacent positions.
5. To swap the numeric keypad between data entry and adding machine formats, press **F9**.

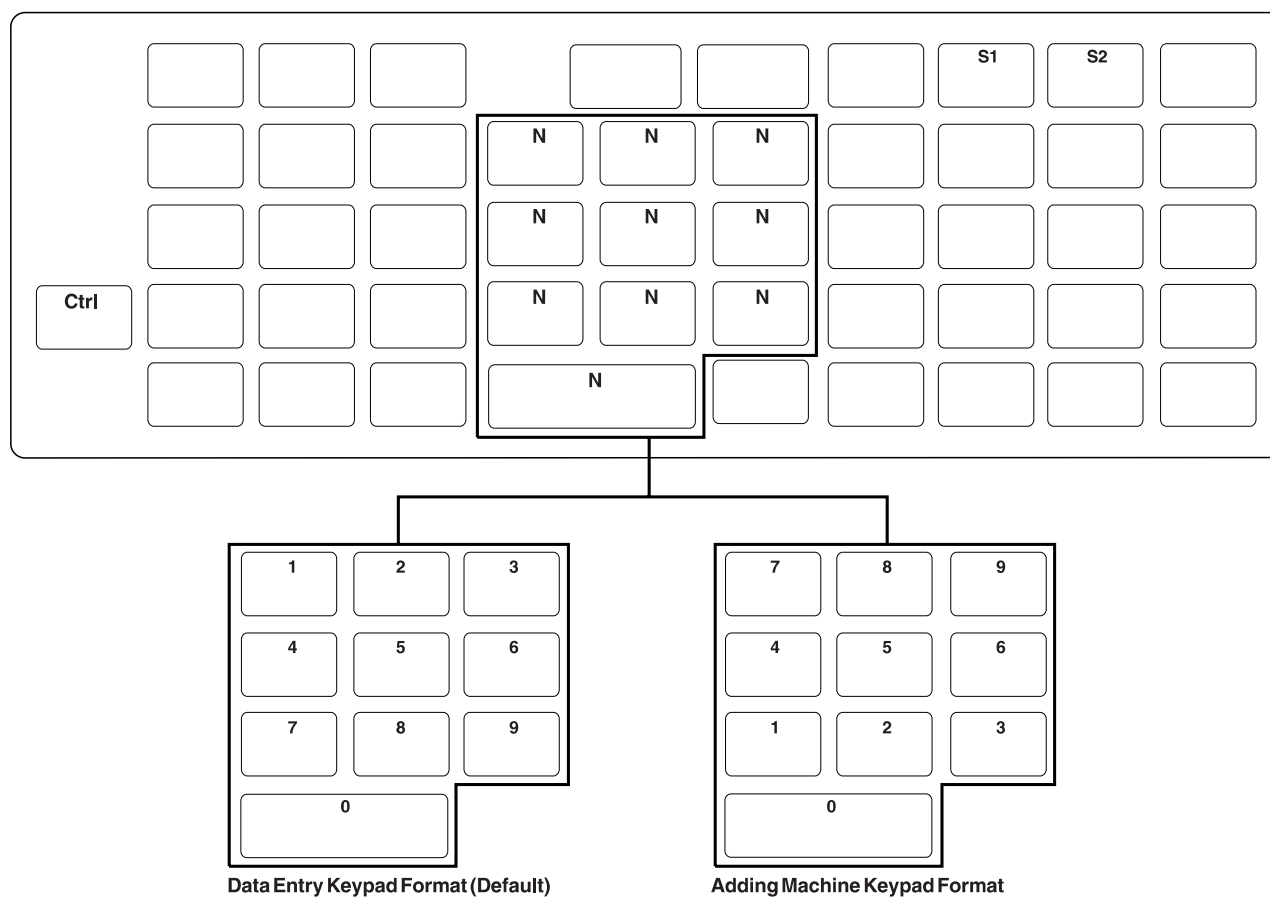


Figure 168. Defining 4693 POS, or USB 50-Key, or 50-Key POS Keyboard with JUCC MSR Keyboard Functions (Ctrl Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. Define blank codes for any unused key.
3. Define double keys by writing the same function code in two vertically adjacent positions.
4. To swap the numeric keypad between data entry and adding machine formats, press **F9**.

Worksheet D21—Terminal Configuration (4693 Alphanumeric Point-of-Sale or USB ANPOS Keyboard Layout)

Use this information to define or change the terminal keyboard layout.

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Name of terminal keyboard layout being processed: _ _ _ _ _	None
Name of existing keyboard layout to be used as model: _ _ _ _ _	ADXKBG01
Key Click: _	3
Typematic Keys: _	1
Keystroke Interval Timeout: _	1
Numeric Pad: _	1

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, 33 to 255. The default value for each key is shown.

Define double keys by writing the same function code on two physically adjacent keys. Some keys have defined functions and cannot be changed. Double keys must be defined as double keys or not used (blank) in all modes.

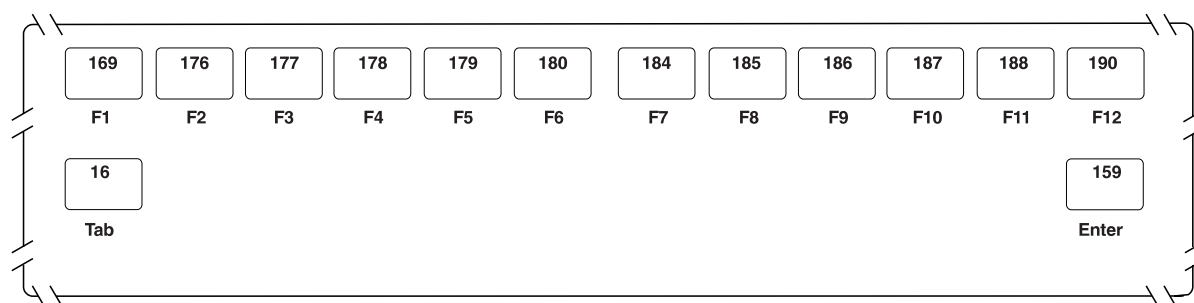


Figure 169. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two horizontally adjacent keys, except for F6 and F7, which cannot be used as double keys.
5. Press **PgDn** to define the next section of the keyboard.

Worksheet D21

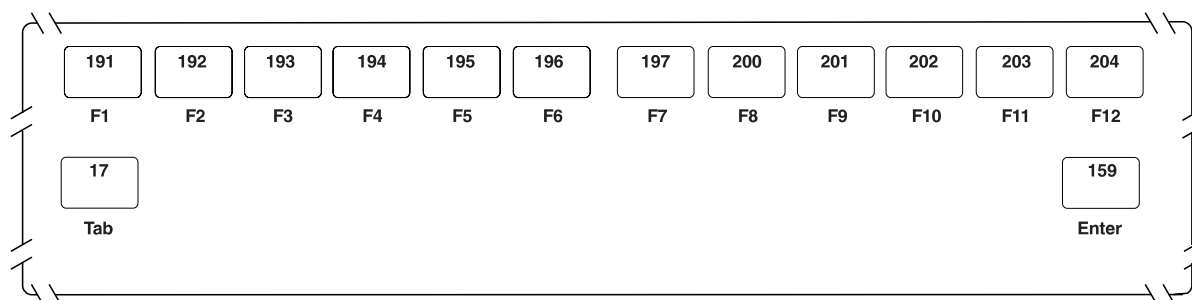


Figure 170. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two horizontally adjacent keys, except for F6 and F7, which cannot be used as double keys.
5. Press **PgDn** to define the next section of the keyboard.

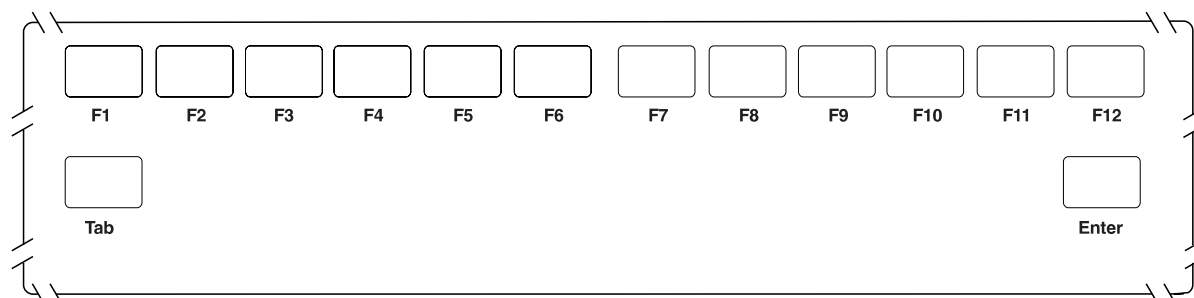


Figure 171. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Alt Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two horizontally adjacent keys, except for F6 and F7, which cannot be used as double keys.
5. Press **PgDn** to define the next section of the keyboard.

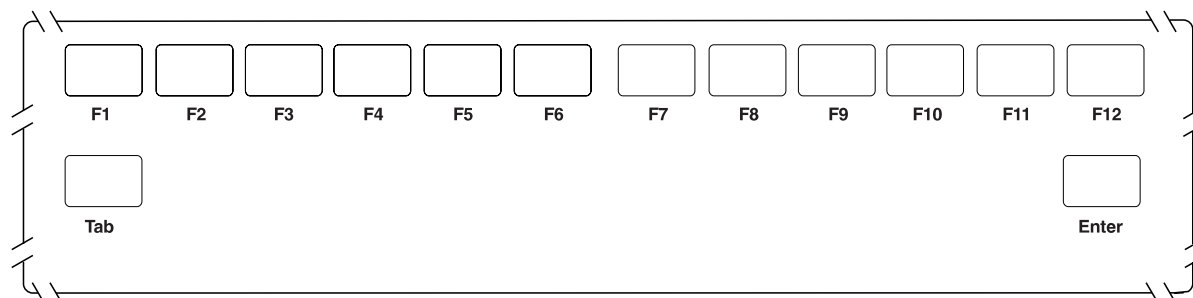


Figure 172. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Ctrl Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two horizontally adjacent keys, except for F6 and F7, which cannot be used as double keys.
5. Press **PgDn** to define the next section of the keyboard.

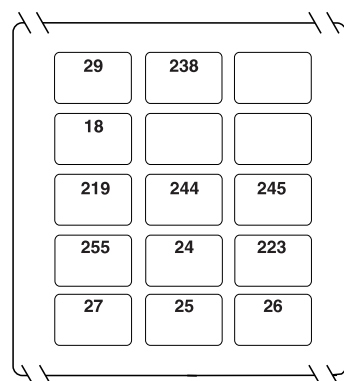


Figure 173. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two horizontally or vertically adjacent keys in all modes.
5. Press **PgDn** to define the next section of the keyboard.

In the Shift, Alt, and Ctrl modes, no keys are predefined.

Worksheet D21

242	246	251	205
			240
			220
			159
			159

Figure 174. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. The keys of the top row and the far right column can be assigned to four different function codes using these keys either by themselves or in conjunction with the Shift, Alt, or Ctrl keys.
4. In Shift and Ctrl modes, no keys are predefined.
5. Define blank codes for any unused key.
6. Define double keys by writing the same function code in two horizontally or vertically adjacent keys in all modes.
7. Press **PgDn** to define the next section of the keyboard.

254		231	

Figure 175. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Alt Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. The keys of the top row and the far right column can be assigned to four different function codes using these keys either by themselves or in conjunction with the Shift, Alt, or Ctrl keys.
4. In Shift and Ctrl modes, no keys are predefined.

5. Define blank codes for any unused key.
6. Define double keys by writing the same function code in two horizontally or vertically adjacent keys in all modes.
7. Press **PgDn** to define the next section of the keyboard.

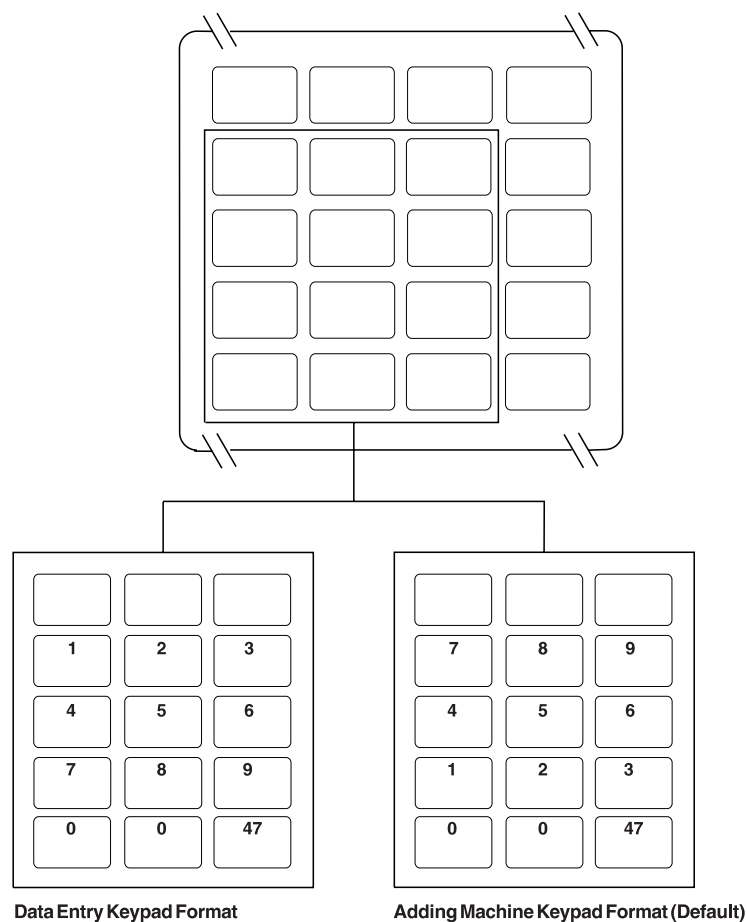


Figure 176. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Numeric Pad Base Mode and Numeric Pad Numeric Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. The twelve keys in the three left columns of the bottom four rows are the numeric keypad and can be defined in two modes: Numeric Pad Base Mode and Numeric Pad Numeric Mode.
4. When in Numeric Pad Base Mode, you can define the keys as function codes or leave them blank.
5. When in Numeric Pad Numeric Mode, you can swap the keys between data entry format and adding machine format. Press **F9** to swap between these two formats.
6. Press **PgDn** to define the next section of the keyboard.

Worksheet D21

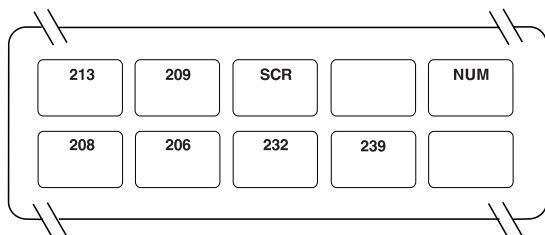


Figure 177. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (No Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. The keys on the bottom row, excluding the far left key, can be defined as horizontal double keys by writing the same function code on two adjacent keys.

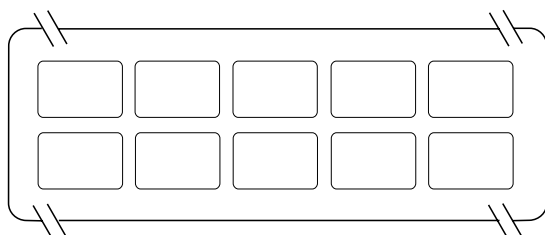


Figure 178. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Shift Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. The keys on the bottom row, excluding the far left key, can be defined as horizontal double keys by writing the same function code on two adjacent keys.

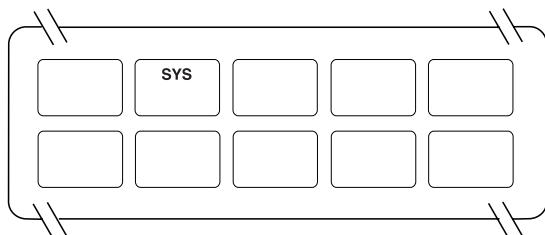


Figure 179. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Alt Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. In Alt mode, the key assigned to the System Request function (SYS) cannot be changed.
5. The keys on the bottom row, excluding the far left key, can be defined as horizontal double keys by writing the same function code on two adjacent keys.

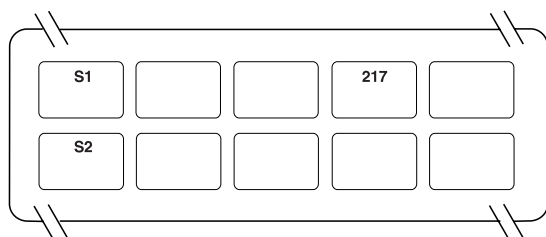


Figure 180. Defining 4693 ANPOS or USB ANPOS Keyboard Functions (Ctrl Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. In Ctrl mode, the keys assigned to system functions (S1 and S2) cannot be changed.
5. The keys on the bottom row, excluding the far left key, can be defined as horizontal double keys by writing the same function code on two adjacent keys.

Worksheet D21—Terminal Configuration (4693 Modifiable Layout or USB 133-Key Keyboard)

Use this information to define or change the terminal keyboard layout.

Configuration Keyword Shown on Display and Parameter to be Used

Name of terminal keyboard layout being processed: _ _ _ _ _

Name of existing keyboard layout to be used as model: _ _ _ _ _

Key Click: _

Typematic Keys: _

Keystroke Interval Timeout: _

Default value

None

ADXKBH01

3

4

1

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, 61 to 255. The default value for each key is shown.

Define double keys by writing the same function code on two physically adjacent keys. Some keys have defined functions and cannot be changed. Double keys must be defined as double keys or not used (blank) in all modes.

	1	2	3	4	5	6	7
1	61	66	71	76	81	86	91
2	62	67	72	77	82	87	92
3	63	68	73	78	83	88	93
4	64	69	74	79	84	89	94
5	65	70	75	80	85	90	95

Figure 181. Defining 4693 Modifiable Layout or USB 133-Key Keyboard Functions—Base Mode (left side)

	8	9	10	11	12	13	14
1	96	101	106	111	116	121	126
2	97	102	107	112	117	122	127
3	98	103	108	113	118	123	128
4	99	104	109	114	119	124	129
5	100	105	110	115	120	125	130

Figure 182. Defining 4693 Modifiable Layout or USB 133-Key Keyboard Functions—Base Mode (middle)

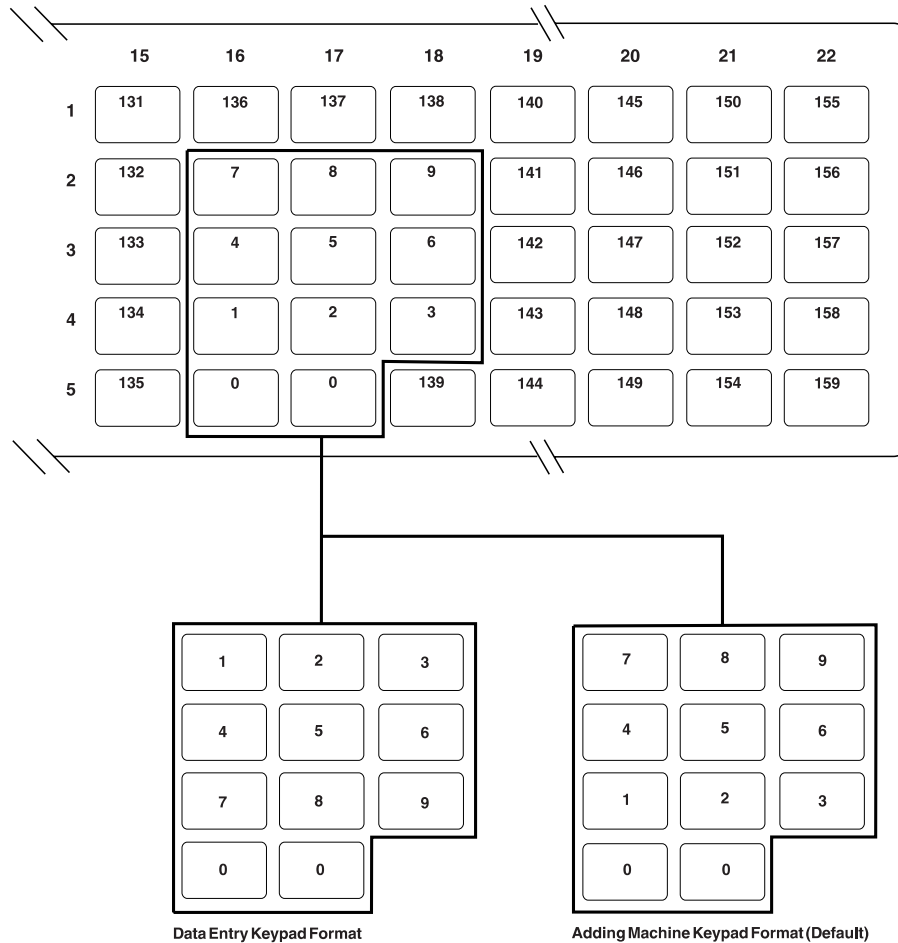


Figure 183. Defining 4693 Modifiable Layout or USB 133-Key Keyboard Functions—Base Mode (right side)

Worksheet D21

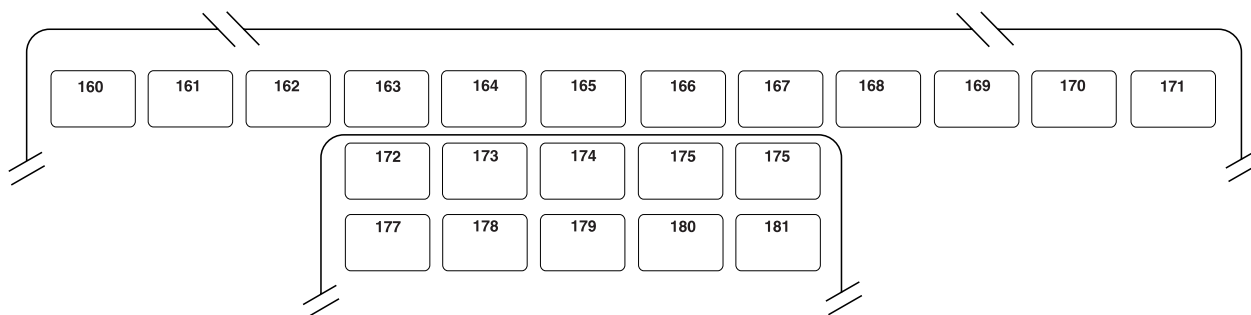


Figure 184. Defining 4693 Modifiable Layout or USB 133-Key Keyboard Functions—Base Mode (continued)

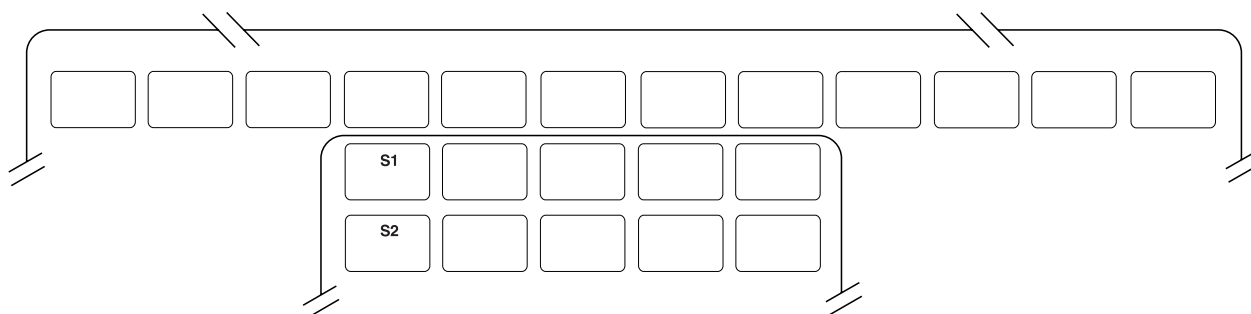


Figure 185. Defining 4693 Modifiable Layout or USB 133-Key Keyboard Functions—Control Mode (System Keys)

Notes:

1. In Control Mode the function keys are blank, except for the numeric keypad and the system keys.
2. To select keyboard mode, press **F8**.
3. To clear the screen, press **F7**.
4. Define blank codes for any unused key.
5. Define double keys by writing the same function code in two horizontally or vertically adjacent keys in all modes. The S1 and S2 keys cannot be used as part of a double key.
6. To swap the numeric keypad between data entry and adding machine formats, press **F9**.

Worksheet D21—Terminal Configuration SurePoint Solution (LCD/Video Keypad)

Use this information to define or change the integrated keypad layout with or without a three-track magnetic stripe card reader.

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Name of keypad layout being processed: _ _ _ _ _	None
Name of existing keypad layout to be used as model: _ _ _ _ _	ADXXKBC01
Key Click: _	3
Typematic Keys: _	4
Keystroke Interval Timeout: _	1

See “Keyboard layout (4683, 4693, and 4694 terminals)” on page 389 and write a function code in key positions you want to change. Valid codes are 00, 000, 61 to 255. The default value for each key is shown.

Define double keys by writing the same function code on two vertically adjacent keys. Some keys have defined functions and cannot be changed. Double keys must be defined as double keys or not used (blank) in all modes.

61	62	63	80
64	65	66	81
67	68	69	87
70	71	72	91
1	2	3	CTRL
4	5	6	88
7	8	9	92
0	0	78	96

Data Entry Keypad Format

61	62	63	80
64	65	66	81
67	68	69	87
70	71	72	91
7	8	9	CTRL
4	5	6	88
1	2	3	92
0	0	78	96

Adding Machine Keypad Format (Default)

Figure 186. Defining SurePoint Solution (LCD/Video Keypad) Functions (Base Mode)

Notes:

1. To select keypad mode, press **F8**.
2. To clear the screen, press **F7**.
3. Define blank codes for any unused key.
4. Define double keys by writing the same function code in two vertically adjacent positions.

Worksheet D21

			S1
			S2
1	2	3	CTRL
4	5	6	
7	8	9	
0	0	78	

Data Entry Keypad Format

			S1
			S2
7	8	9	CTRL
4	5	6	
1	2	3	
0	0	78	

Adding Machine Keypad Format (Default)

Figure 187. Defining SurePoint Solution (LCD/Video Keypad) Functions (Ctrl Mode)

Notes:

1. To select keyboard mode, press **F8**.
2. Define blank codes for any unused key.
3. Define double keys by writing the same function code in two vertically adjacent positions.

Worksheet D21—Terminal Configuration (Keyboard-V POS with JUC MSR)

Use this information to define or change the Keyboard-V POS with JUC magnetic stripe card reader (MSR).

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Name of keyboard layout being processed: _ _ _ _ _	None
Name of existing keyboard layout to be used as model: _ _ _ _ _	ADXKBV01
Key Click: _	3
Typematic Keys: _	4
Keystroke Interval Timeout: _	1
Numeric Pad: _	1

The number shown in each key position represents the current function code value that is sent to an application when the key is pressed. If function code 61 is known by your application program as the tax key, type 61 in the location that you want your tax key.

Double keys are keys that take two vertically adjacent positions on the keyboard. Original double keys on the Keyboard-V cannot be redefined.

The numeric keypad cannot be rearranged.

Keys shown with codes S1 and S2 are system function keys. They will function only when the keylock position is system. These 2 keys can be redefined to use in a normal situation.

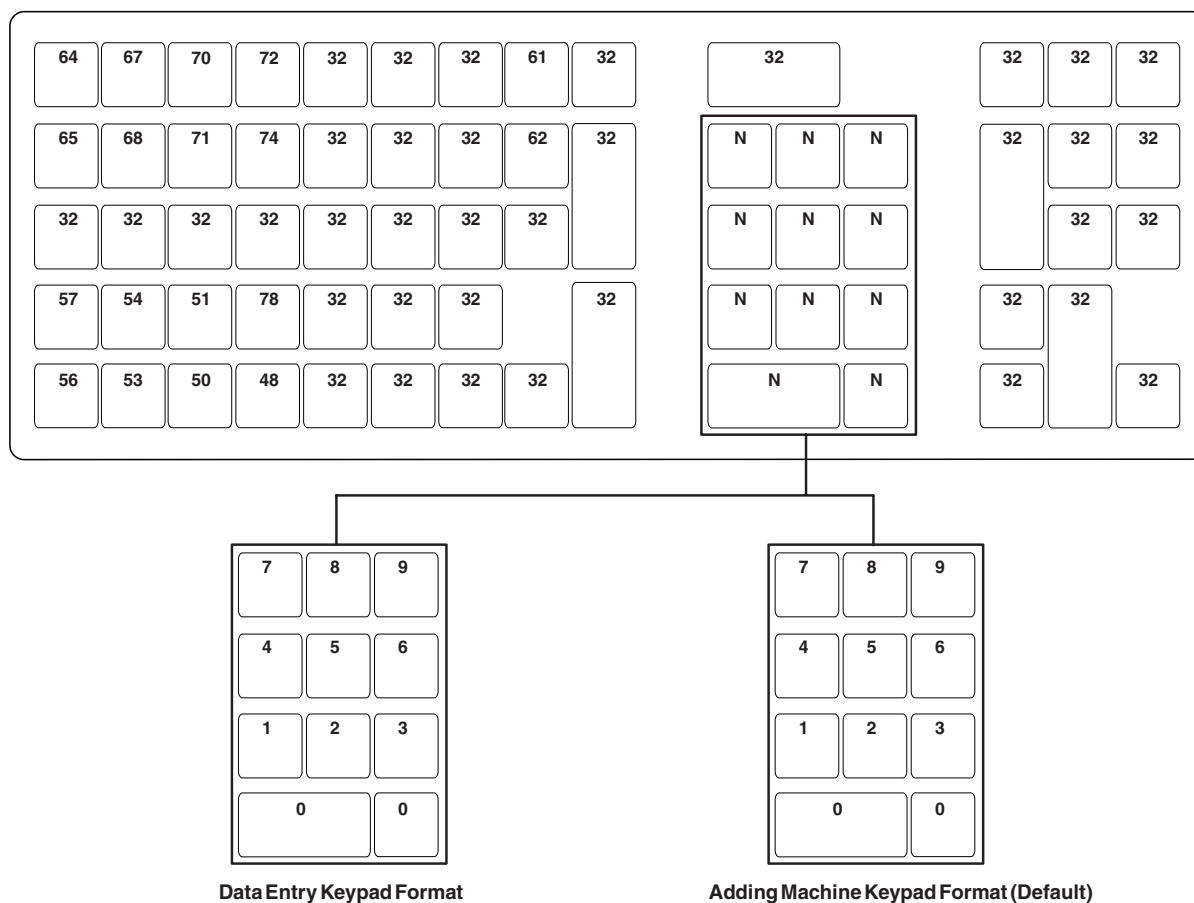


Figure 188. Defining Keyboard-V POS with JUCS MSR Keyboard Functions

Notes:

1. To clear the screen, press **F7**.
2. Define blank codes for any unused key.
3. Define double keys by writing the same function code in two vertically adjacent positions.
4. To swap the numeric keypad between data entry and adding machine formats, press **F9**.

Worksheet D21—Terminal Configuration (Keyboard-VI POS with JUCC MSR)

Use this information to define or change the Keyboard-VI POS with JIS-II magnetic stripe card reader (MSR).

Configuration Keyword Shown on Display and Parameter to be Used	Default value
Name of keyboard layout being processed: _ _ _ _ _	None
Name of existing keyboard layout to be used as model: _ _ _ _ _	ADXKBI01
Key Click: _	3
Typematic Keys: _	4
Keystroke Interval Timeout: _	1
Numeric Pad: _	1

The number shown in each key position represents the current function code value that is sent to an application when the key is pressed. If function code 61 is known by your application program as the tax key, type 61 in the location that you want your tax key.

Double keys are keys that take two vertically adjacent positions on the keyboard. Original double keys on the Keyboard-VI cannot be redefined.

The numeric keypad cannot be rearranged.

Keys shown with codes S1 and S2 are system function keys. They will function only when the keylock position is system. These 2 keys can be redefined to use in a normal situation.

64	65	66	67	68	69	70	71	72	73	74	75	76
77	78	79	80	81						82	83	84
85	86	87	88	89		90	91		92	93	(*)	
94	95	96	97	98		7	8	9		99	100	(**)
101	102	103	104			4	5	6			105	106
107	108	109	110	111		1	2	3		112	113	114
115	116	117				0	00			118		

Figure 189. Defining Keyboard-VI POS with JUCC MSR Keyboard Functions

Notes:

1. To clear the screen, press **F7**.
2. Define blank codes for any unused key.
3. Define double keys by writing the same function code in two vertically adjacent positions.
4. To swap the numeric keypad between data entry and adding machine formats, press **F9**.

Worksheet D21—Terminal Configuration (PLU POS Keyboard)

Use this information to define or change the PLU POS Keyboard.

Configuration Keyword Shown on Display and Parameter to be Used

Name of keyboard layout being processed: _ _ _ _ _

Name of existing keyboard layout to be used as model: _ _ _ _ _

Key Click: _

Typematic Keys: _

Keystroke Interval Timeout: _

Numeric Pad: _

Default value

None

ADXKBP01

3

4

1

1

The number shown in each key position represents the current function code value that is sent to an application when the key is pressed. If function code 61 is known by your application program as the tax key, type 61 in the location that you want your tax key.

Double keys are keys that take two vertically adjacent positions on the keyboard. Original double keys on the PLU POS Keyboard cannot be redefined.

The numeric keypad cannot be rearranged.

Keys shown with codes S1 and S2 are system function keys. They will function only when the keylock position is system. These 2 keys can be redefined to use in a normal situation.

58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121
122	123	124	125	126	127	128	129	130	131	7	8	9	132	133	134
135	136	137	138	139	140	141	142	143	144	4	5	6	145	146	147
148	149	150	151	152	153	154	155	156	157	1	2	3	158	159	160
161	162	163	164	165	166	167	168	169	170	0		00	171	172	173

Figure 190. Defining PLU POS Keyboard Functions

Notes:

1. To clear the screen, press **F7**.
2. Define blank codes for any unused key.
3. Define double keys by writing the same function code in two vertically adjacent positions.
4. To swap the numeric keypad between data entry and adding machine formats, press **F9**.

Worksheet D22—Terminal configuration (terminal load definition)

Use this information to define or change the terminal load definition.

Configuration keyword shown on display and parameter to be used	Default value
Terminal number or range of terminal numbers for this load definition: _ _ _ _ _	None
Terminal type: _	1 (Default for 4693-5x1 terminal)
Note: The terminal type selected determines the default for the model to be copied.	
Number of existing terminal load definition to be copied as a model: _ _ _	1005
Device group name: _ _ _ _ _	ADXGRP04
Application dump (Mod1 terminals only): _	1 (Yes)
Partner terminals (Mod2 terminals only): _ _ _ _ _	None
Terminal applications: _	1
Note: If you choose to run more than 1 terminal application with this load definition, for the secondary (and possibly tertiary) applications, the Application Name appears automatically as R::ADX_SPGM:ADXZE30L.286 and you cannot change it. Also, ensure that you specify the command tail parameter correctly by using the instructions found at "Command tail" on page 368.	
Feature Support:	2 (No)
TCP/IP	2 (No)
Java	
Note: This is not supported on 468x terminals.	
Address Method:	1 (Manual)
TCC Method:	1 (System Setting)
IP Address: _ _ _ . _ _ _ . _ _ _ . _ _ _	000.000.000.000
IP Address Subnet Mask: _ _ _ . _ _ _ . _ _ _ . _ _ _	000.000.000.000
Default Router IP Address: _ _ _ . _ _ _ . _ _ _ . _ _ _	000.000.000.000
Nameserver IP Address: _ _ _ . _ _ _ . _ _ _ . _ _ _	000.000.000.000
Domain Name: _ _ _ _ _	None
Hostname: _ _ _ _ _	None
Java Virtual Machine	JAVA.386
Java Class and Parameters: _ _ _ _ _	IBMDefault
Java Code Level: _	1
Application Name	R::ADX_SPGM:ADXTSMAL.286
Command Tail: _ _ _ _ _	None
Keyboard Record Name: _ _ _ _ _	ADXKBF01
Full Screen Video Support Required: _	2 (No)

Notes:

1. The fields you can define for the terminal load definition depend upon how many applications you have defined. For example, if you have one application and a Java application defined, you will see the Java fields; if you have two applications and Java defined, you will see both the application and Java fields.
2. The full screen video support keyword is valid only for 4683-xx1 terminal loads.
3. TCP/IP and TCC over IP is not supported on Mod2 terminals (such as 4693–202).
4. There are several restrictions to using Java on the terminal side of a controller/terminal. The restrictions are:
 - The controller classpath is used.
 - There is no unique TCP/IP address for the terminal.
 - Shared video is required if a terminal Java console is to be used. In this case, the controller keyboard will be used by that console. Press **Alt+SysRq J** to switch to a Java console.

**Worksheet D23—Terminal configuration (terminal load definition for
SurePOS 300/700 Series and TCxWave 6140 Series systems)**

- | Generic Terminal Configuration must be used to configure SurePOS 700 Series systems, as well as the
- | SurePOS 300 Series model 350 and TCxWave 6140 Series systems. See Chapter 5, “How to use generic
- | terminal configuration” on page 47, for more information.

Worksheet D24—Terminal configuration (alphanumeric display character set)

Use this information to define or change the terminal alphanumeric display character set.

Note: This function is available only for the alphanumeric display. The other 40-character displays supported by the operating system have fixed character sets that cannot be changed during configuration. See the *4680 BASIC: Language Reference* for the character sets for these displays.

Use this worksheet to assign decimal values of 20, 21, and 32 to 255 to represent each display character. Draw an X on each position of the dot matrix to design the appropriate display character. You can use a maximum of 36 Xs per character. See page 363 for further information on the use of the Character Code keyword.

[illegible]

Worksheet D25—Terminal configuration (Models 1 and 2 printer character set)

Use this information to define or change the terminal printer character set.

Use this worksheet to assign decimal values of 20, 21, and 32 to 255 to represent each printer character. Draw an X on each position of the dot matrix to design the appropriate display character. Two Xs cannot be horizontally adjacent.

See page 364 for further information on the use of the Character Code keyword.

Character
Code: _ _ _
.
.
.
.
.
.
.
.
.

Character
Code: _ _ _
.
.
.
.
.
.
.
.
.

Character
Code: _ _ _
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.
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.
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Character
Code: _ _ _
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Character
Code: _ _ _
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Character
Code: _ _ _
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Character
Code: _ _ _
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Character
Code: _ _ _
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.
.

Worksheet D26—Terminal configuration (Model 3 and 4 printer character set)

Use this worksheet to define or change the terminal printer character set. Assign decimal values of 1 to 26 and 28 to 253 to represent each printer character. Draw an X on each position of the dot matrix to design the appropriate display character. Two Xs cannot be horizontally adjacent. A maximum of 40 characters can be redefined.

See page 366 for further information on the use of the Character Code keyword.

[illegible][illegible][illegible][illegible]

Worksheet D27—Terminal screen saver

Use this information to change the terminal screen saver data.

Note: This function is provided for VGA attached video displays. It is not provided for 4683-421 terminals.

Note: The terminal screen-saver pertains only to the legacy side of the video, not to the Java side. If the video will be used only for Java and not for the primary application, then the terminal screen saver should be disabled.

Configuration keyword shown on display and parameter to be used	Default value
Length of time before terminal screen saver engages: _ _ _	15
Message to be presented to screen while screen saver active:	TOSHIBA
Video attribute for message: _ _	1F
Video attribute supports background intensify option: _	2 (No)

Worksheet D28—Network File System

Use this information to identify the configuration information for Network File System (NFS) mount point data for all terminals. You can identify a terminal or range of terminals you want to assign to an NFS mount group. You can also modify the NFS mount group information.

Configuration keyword shown on display and parameter to be used	Default value
NFS Terminal Range: _ _ _	None
NFS Mount Group: _ _ _	None
If you choose to modify an NFS mount group, also enter the following information:	
Select a drive letter to configure its properties: _	None
NFS Mount Group Description: _ _ _ _ _	None
NFS Server's IP Address: _ _ _ _ _	None
Mount Point User ID: _ _ _ _ _	None
Mount Point Group ID: _ _ _ _ _	None
Remote Resource Name: _ _ _ _ _	None

Worksheet D29—Font/logo utility

Use this information to convert a bitmap file into a logo file, to download a font file, or to download a logo file to a specific terminal POS device. The Font/Logo Utility can be used with DBCS-enabled devices only.

Configuration keyword shown on display and parameter to be used	Default value
Select action to be performed: _ _ _	1
Bitmap file name to be converted: _ _ _	None
Logo file name to convert into: _	None
If the specified logo file already exists, will you overwrite it?: _ _ _ _	1 (Yes)
Font file name to be downloaded: _ _ _ _ _	None
Terminal number or range of terminal numbers: _ _ _ _ _	None
Device Type: _ _ _ _ _	1
Logo font file name to be downloaded: _ _ _ _ _	None
Terminal number or range of terminal numbers: _ _ _ _ _	None
Printer type: _ _ _ _ _	1 (4689–3G1)

Terminal configuration keywords

This section describes the terminal configuration keywords, restrictions, parameters, and defaults.

Address method

Use this keyword in the terminal load definition to indicate the TCP/IP access method.

Keyword restrictions

You must have previously chosen to enable TCP/IP.

Parameters

4693 and 4694 terminals:

- 1 Manual
- 2 DHCP Server

SurePOS 300/700 Series terminals and TCxWave 6140 Series terminals:

- | Specify an IP address.
- | Obtain an IP address from a DHCP Server.

Note: If DHCP server is selected, additional configuration work needs to be completed to enable the DHCP server. See the 4690 OS: Communications Programming Reference for additional information.

Default value

1 - 4693 and 4694 terminals:

- | Specify an IP address- SurePOS 300/700 Series and TCxWave 6140 Series terminals

Application dump

Use this keyword in the terminal load definition to indicate if you want an application dump to be written automatically whenever an application program ends abnormally.

- | When initially designing your system, specify Application Dump = 1 (Yes, which is the default) on 4683, 4693, and 4694 terminals to automatically create an application dump that can be used in debugging your application code. For SurePOS 300/700 Series and TCxWave 6140 Series terminals, select **Create a storage dump**.

For the operating environment, it is not necessary to change the parameters to not perform an application dump. Although an application dump will slightly reduce activity on the TCC Network, your selecting not to perform an application dump will cause only a slight performance improvement.

Keyword restrictions

This keyword is valid for terminal load definitions for Mod1 terminals only.

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- 1 Allows the automatic application dump
- 2 Prevents the automatic application dump

SurePOS 300/700 Series terminals and TCxWave 6140 Series terminals:

- | Do not create a storage dump.
- | Create a storage dump.

Terminal Configuration Keywords

Default value

1 - 4683, 4693, and 4694 terminals:

Attention: An application dump at a controller/terminal affects operations at all point-of-sale terminals attached to it.

- | Create a storage dump - SurePOS 300/700 Series and TCxWave 6140 Series terminals

Application name

- | Use this keyword in the terminal load definition to indicate the name of the program to be loaded and
- | processed when the point-of-sale terminal is first powered on. In SurePOS 300/700 Series and TCxWave
- | 6140 Series terminals, this keyword is defined under the change load definition panel.

Keyword restrictions

- The Application Name field limits you to 24 characters.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify the device, path, and application file name. The initial application name uses the following format:

Node::Physical Drive:\Subdirectory\Filename.Extension

Note: If your program is in ADX_IPGM, you are not required to specify the physical drive or subdirectory names.

See your 4680 or 4690 application program planning and installation guide for the initial application name to be used.

Default value

R::ADX_SPGM:ADXTSMAL.286

Bar code expansion (IBM 4696, 4697 and 4698 scanners)

Use this keyword to indicate how to expand certain label codes into other label codes.

Keyword restrictions

None

Parameters

The parameters vary with the label types.

Default value

Do not expand (the actual value varies with the label type)

Bar code reader model (IBM Bar Code Reader)

Use this keyword to select the bar code reader model.

Keyword restrictions

None

Parameters

- 1 Model 1 bar code readers
- 2 Model 2 bar code readers

Default value

1

Beep duration (IBM 4686 or scanner attached to SurePOS 300/700 Series or TCxWave 6140 Series)

Use this keyword to select the scanner good-read beeper duration.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694

- 1** 80 milliseconds
- 2** 120 milliseconds
- 3** 160 milliseconds

SurePOS 300/700 Series and TCxWave 6140 Series terminals:

- Very Short
- Short
- Long
- Very Long

Default value

- 1 - For 4683, 4693, or 4694 terminals

Very Short - For SurePOS 300/700 Series and TCxWave 6140 Series terminals

Beeper (IBM Bar Code Reader)

Use this keyword to indicate whether the IBM Bar Code Reader beeps when a bar code label has been scanned.

Keyword restrictions

None

Parameters

- 1** To cause the Hand-Held Bar Code Reader to beep on a good read
- 2** To prevent the Hand-Held Bar Code Reader from beeping

Default value

2

Beeper frequency (IBM 4686, 4696, and 4697 scanners)

Use this keyword to select the scanner good read beeper frequency.

Keyword restrictions

None

Parameters

- 4686** Select a number from 1 to 4 (where 1 is a low frequency and 4 is a high frequency).
- 4696** Select a number from 1 to 3 (where 1 is a low frequency and 3 is a high frequency).
- 4697** Select a number from 1 to 3 (where 1 is a low frequency and 3 is a high frequency).

Default value

- 4** For the 4686 scanner
- 2** For the 4696 and 4697 scanners

Beeper volume (IBM 4686, 4696, 4697, and 4698)

Use this keyword to select the scanner good read beeper volume.

Terminal Configuration Keywords

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4686 Select a number from 1 to 4 (where 1 is a low volume and 4 is a high volume).

4696 Select a number from 1 to 3 (where 1 is a low volume and 3 is a high volume).

4697 Select a number from 1 to 3 (where 1 is a low volume and 3 is a high volume).

4698 Select a number from 1 to 3 (where 1 is a low volume and 3 is a high volume).

| **For scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

| Very Soft

| Soft

| Loud

| Very Loud

Default value

2 - For the 4696, 4697, and 4698 scanners

| Loud - For scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals

Beep tone

| Use this keyword to select the scanner tone during configuration for SurePOS 300/700 Series or TCxWave
| 6140 Series terminals.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Very Low

Low

High

Very High

Default value

High

Bit map file name to be converted

Use this keyword to enter the name of the bitmap file to be converted when using the Font/Logo Utility.

Note: The Font/Logo Utility can be used with DBCS-enabled devices only.

Keyword restrictions

You must have DBCS-enabled devices configured to use this keyword.

Parameters

User-defined file name

Default value

None

Cash drawer type

| Use this keyword to select the type of cash drawer attached to your system during configuration for
| SurePOS 300/700 Series or TCxWave 6140 Series terminals.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Note: Cash drawers previously labeled as IBM cash drawers are considered Toshiba cash drawers.

Toshiba Cash Drawer

Non-Toshiba Cash Drawer

Default value

None

Character codes (for alphanumeric display character set)

Characters that are shown at the point-of-sale terminal's 40-character alphanumeric display can be defined as part of terminal configuration. The display character set applies to all alphanumeric displays in the terminal configuration.

The operating system supplies a default display character set. The contents of this default character set depend on the country that is selected during the operating system installation. See the *4680 BASIC Language Reference* for the default alphanumeric character sets for the country you selected. You can accept the default character set, modify it, or define an entirely new character set. If you accept the default character set, you are not required to define a character set at configuration. If you choose to modify the character set or redefine it entirely, you must define your new characters at configuration.

Keyword restrictions

- Each default character is assigned a decimal character code. Decimal values 0 to 19 and 22 to 31 are reserved. (Decimal value 32 is a character space.)
- You can change the default character codes for values 20, 21, and 32 to 122 and define new character codes for values 123 to 255.
- This keyword applies only to the alphanumeric display, the other 40-character displays supported by the operating system have fixed character sets that cannot be changed during configuration. See the *4680 BASIC Language Reference* for the character sets for these displays.

Parameters

Use as many copies of "Worksheet D24—Terminal configuration (alphanumeric display character set)" on page 353 as you need to define your character set. You can define several characters per sheet.

Specify a value of 20, 21, and 32 to 255, then use the 5-by-12 dot-matrix pattern that is displayed to create the new character. Define the character by placing Xs over dots in the matrix. Do not use more than 36 dot matrix positions to define any one character. For example, character codes 63 and 69 can be used to define display characters ? and E:

Character Code: <u> 63 </u>	Character Code: <u> 69 </u>
.
.
. X X X .	X X X X X
X . . . X	X
. . . . X	X
. . . . X	X
. . . X .	X X X X X
. . X . .	X
. . X . .	X
.	X
. . X . .	X X X X X
.

Terminal Configuration Keywords

Character codes (for Models 1 and 2 printer character sets)

Characters that are printed at the point-of-sale terminal's customer receipt, document, and transaction journal print stations can be defined as part of terminal configuration. The character set applies to all Model 1 and Model 2 printers in the terminal configuration.

The operating system supplies a default printer character set. You can accept the default character set, modify it, or define an entirely new character set. If you accept the default character set, you are not required to define a character set at configuration. If you choose to modify the character set or redefine it entirely, you must define your new characters at configuration.

Keyword restrictions

- Each default character is assigned a decimal character code. Decimal values 0 to 19 and 22 to 31 are reserved. (Decimal value 32 is a character space.)
- You can change the default character codes for values 20, 21, and 32 through 255.

Parameters

Use as many copies of "Worksheet D25—Terminal configuration (Models 1 and 2 printer character set)" on page 354 as you need to define your character set. You can define several characters per sheet. 32 to 255 and then use the 7-by-8 dot-matrix pattern displayed to create the new character. Define the character by placing Xs over dots in the matrix. Do not define two dots that are horizontally adjacent. For example, character code 65 can be used to define a print character A:

Character Code: _65_

```
. . . . .  
. . . X . . .  
. . X . X . .  
. X . . . X .  
X . . . . X  
X . X . X . X  
X . . . . X  
X . . . . X
```

Note: The character codes for lowercase characters are shown as the equivalent uppercase character codes.

Default values

Hex	1st	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2nd																	
0		.		0	@	P	.	P	Ç	É	Á
Decimal	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240	
1	.	.	!	1	A	Q	A	Q	Ü	Æ	Í	.	.	.	β	.	.
	001	017	033	049	065	081	097	113	129	145	161	177	193	209	225	241	
2	.	.	"	2	B	R	B	R	É	Æ	Ó
	002	018	034	050	066	082	098	114	130	146	162	178	194	210	226	242	
3	.	.	#	3	C	S	C	S	Â	Ô	Ú
	003	019	035	051	067	083	099	115	131	147	163	179	195	211	227	243	
4	.	.	\$	4	D	T	D	T	Ä	Ö	Ñ
	004	020	036	052	068	084	100	116	132	148	164	180	196	212	228	244	
5	.	.	%	5	E	U	E	U	À	Ò	Ñ
	005	021	037	053	069	085	101	117	133	149	165	181	197	213	229	245	
6	.	.	&	6	F	V	F	V	Å	Û
	006	022	038	054	070	086	102	118	134	150	166	182	198	214	230	246	
7	.	.	'	7	G	W	G	W	Ç	Ù
	007	023	039	055	071	087	103	119	135	151	167	183	199	215	231	247	
8	.	.	(8	H	X	H	X	Ê	Ö	¿
	008	024	040	056	072	088	104	120	136	152	168	184	200	216	232	248	
9	.	.)	9	I	Y	I	Y	Ë	Ü
	009	025	041	057	073	089	105	121	137	153	169	185	201	217	233	249	
A	.	.	*	:	J	Z	J	Z	È	Ç
	010	026	042	058	074	090	106	122	138	154	170	186	202	218	234	250	
B	.	.	+	;	K	[K	{	Ï	£
	011	027	043	059	075	091	107	123	139	155	171	187	203	219	235	251	
C	.	.	,	<	L	\	L		Î
	012	028	044	060	076	092	108	124	140	156	172	188	204	220	236	252	
D	.	.	-	=	M]	M	}	Ì
	013	029	045	061	077	093	109	125	141	157	173	189	205	221	237	253	
E	.	.	.	>	N	^	N	×	Ä
	014	030	046	062	078	094	110	126	142	158	174	190	206	222	238	254	
F	.	.	/	?	O	_	O	.	Å
	015	031	047	063	079	095	111	127	143	159	175	191	207	223	239	255	

Figure 191. Models 1 and 2 printer default character set

Terminal Configuration Keywords

Character codes (for Model 3 or 4 printer character set)

Characters that are printed at the point-of-sale terminal's customer receipt, document, and transaction journal print stations can be defined as part of terminal configuration. The character set applies to all Model 3 and Model 4 printers in the terminal configuration.

The operating system supplies a default printer character set. You can accept the default character set, modify it, or define an entirely new character set. If you accept the default character set, you are not required to define a character set at configuration. If you choose to modify the character set or redefine it entirely, you must define your new characters at configuration.

Keyword restrictions

- Each default character is assigned a decimal character code. Decimal value 27 is reserved.
- A maximum of 40 characters can be redefined. To display the character positions that are already defined from panel CSCTS004, press **F7**.

Note: If all 40 character positions have been defined, you can free a position by clearing a character position that was defined earlier. To clear a character, enter the character number on panel CSCTS004 and press **F7**, followed by **Enter** on panel CSCTS032. This resets that character position to an undefined state and frees one position in the 40 special character total.

Parameters

Use as many copies of "Worksheet D26—Terminal configuration (Model 3 and 4 printer character set)" on page 355 as you need to define your character set. You can define several characters per sheet. dot-matrix pattern displayed to create the new character. Define the character by placing Xs over dots in the matrix. **Do not define two dots that are horizontally adjacent.** For example, character code 65 can be used to define a print character A:

Character Code: 65

.	.	.	X
.	.	X	.	X
.	X	.	.	.	X
X	X	.	.	.
X	.	X	.	X	.	X	.	.	.
X	X	.	.	.
X	X	.	.	.
X	X	.	.	.
.

Note: Unlike the character set for Models 1 and 2 printers, character codes for lowercase characters are **not** converted to uppercase on the Model 3 or 4 printer.

Default values

Hex	1st	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	2nd																
0		.	.		0	@	P	A	p	Ç	É	á
Decimal		000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
1		.	.	!	1	A	Q	b	q	ü	æ	í	.	.	.	β	±
		001	017	033	049	065	081	097	113	129	145	161	177	193	209	225	241
2		.	.	"	2	B	R	c	r	é	Æ	ó
		002	018	034	050	066	082	098	114	130	146	162	178	194	210	226	242
3		.	.	#	3	C	S	d	s	â	ô	ú
		003	019	035	051	067	083	099	115	131	147	163	179	195	211	227	243
4		.	.	\$	4	D	T	e	t	ä	ö	ñ
		004	020	036	052	068	084	100	116	132	148	164	180	196	212	228	244
5		.	.	%	5	E	U	f	u	à	ò	Ñ
		005	021	037	053	069	085	101	117	133	149	165	181	197	213	229	245
6		.	.	&	6	F	V	g	v	å	û	μ	÷
		006	022	038	054	070	086	102	118	134	150	166	182	198	214	230	246
7		.	.	'	7	G	W	h	w	ç	ù
		007	023	039	055	071	087	103	119	135	151	167	183	199	215	231	247
8		.	.	(8	H	X	i	x	ê	ÿ	¿	.	⌌	.	.	.
		008	024	040	056	072	088	104	120	136	152	168	184	200	216	232	248
9		.	.)	9	I	Y	j	y	ë	Ö	.	⌌	⌌	.	.	.
		009	025	041	057	073	089	105	121	137	153	169	185	201	217	233	249
A		.	.	*	:	J	Z	k	z	è	Ü	.	⌌	⌌	.	.	.
		010	026	042	058	074	090	106	122	138	154	170	186	202	218	234	250
B		.	.	+	;	K	[l	{	ï	ç	.	⌌	⌌	.	.	.
		011	027	043	059	075	091	107	123	139	155	171	187	203	219	235	251
C		.	.	,	<	L	\	m		î	£	.	⌌	⌌	.	.	.
		012	028	044	060	076	092	108	124	140	156	172	188	204	220	236	252
D		.	.	-	=	M]	n	}	ì	.	ì	.	⌌	.	.	.
		013	029	045	061	077	093	109	125	141	157	173	189	205	221	237	253
E		.	.	,	>	N		o	~	Ä	.	.	.	⌌	.	.	.
		014	030	046	062	078	094	110	126	142	158	174	190	206	222	238	254
F		.	.	/	?	O	^		.	Å
		015	031	047	063	079	095	111	127	143	159	175	191	207	223	239	255

Figure 192. Model 3 or 4 printer default character set

Checkout scanner type

Use this keyword to specify whether you have a scanner only or a scanner with an integrated scale.

Terminal Configuration Keywords

Keyword restrictions

None

Parameters

- 1 Scanner only
- 2 Scanner with integrated scale
- 3 IBM 4686 scanner
- 4 IBM 4696 scanner/scale
- 5 IBM 4697 scanner model 1
- 6 IBM 4698 scanner
- 7 IBM 4698 scanner/scale

Default value

1

Device names and configuration terms

Table 10 shows the relationship between configuration terms and the official device names.

Table 10. Configuration Terms and Device Names

Configuration term	Device name
Scanner Only	IBM 4687 Point-of-Sale Scanner Model 001
Scanner with Integrated Scale	IBM 4687 Point-of-Sale Scanner Model 002
IBM 4686 Scanner	IBM 4686 Retail Point-of-Sale Scanner Model 001 - Vertical IBM 4686 Retail Point-of-Sale Scanner Model 002 - Horizontal IBM 4686 Retail Point-of-Sale Scanner Model 003 - Vertical IBM 4686 Retail Point-of-Sale Scanner Model 004 - Horizontal
IBM 4696 Scanner/Scale	IBM 4696 Point-of-Sale Scanner Scale Model 001
IBM 4697 Scanner Model 1	IBM 4697 Point-of-Sale Scanner Model 001
IBM 4698 Scanner	IBM 4698 Point-of-Sale Scanner Model 001
IBM 4698 Scanner/Scale	IBM 4698 Point-of-Sale Scanner Model 002

Colors

- | Use this keyword to specify the number of colors for the video display during configuration on SurePOS
- | 300/700 Series and TCxWave 6140 Series terminals.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- 256 colors
- 65,000 colors

Default value

256 colors

Command tail

Use this keyword to specify the parameters, if any, to be passed to the application being loaded.

If you are configuring a terminal load definition for 3270 emulation, you must specify the command tail parameter as follows:

tppnn,linkname

Where:

t Emulation type:
A API only
C Console
P Printer
pp Printer ID:
For consoles
C1-C8 (controller) T1-T4 (terminal)
For printers
T1-T4 (terminal)
nn Gateway controller. (Specify the *xx* that you specified in the controller emulator, ADXLX*xx*N.)
linkname
Use the same linkname that you used for the controller.

Keyword restrictions

None

Parameters

Specify 1 to 16 alphanumeric characters.

Default value

None

Device characteristics name

Use this keyword in the terminal load definition to indicate the name of the terminal device characteristics configuration to be used by the terminal being processed.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

STORE

Device group name

Use this keyword in the terminal load definition to indicate the name of the terminal hardware device configuration to be used by the terminal being processed.

Keyword restrictions

- This name is the same name that is used in “Name of terminal device group” on page 401.
- The device group names vary depending on the terminal type. The default device group names are:

ADXGRP01

4683-*xx*1 terminal

ADXGRP01

4683-*xx*2 terminal

ADXGRP03

4684 controller/terminal

ADXGRP04

4693-5x1 or 7x1 terminal

ADXGRP05

4693-4x1 terminal

ADXGRP06

4693-2x2 terminal

Terminal Configuration Keywords

ADXGRP07

4693-3x1 terminal

ADXGRP08

4683-4x1 terminal upgrade

ADXGRP09

4693-5x or 7x1 controller/terminal

ADXGRP11

4694-0x4 or 1xx terminal

ADXGRP12

4694-1xx or 205 controller/terminals

ADXGRP13

4694-2x4 or 245 terminal

ADXGRP14

4694-2x4 or 245 controller/terminal

ADXGRP15

4694-205 terminal

ADXGRP16

4694-246 or 4694-347 terminal

ADXGRP17

4694-246 or 4694-347 controller/terminal

ADXGRP18

4694-206 or 4694-307 terminal

ADXGRP19

4694-206 or 4694-307 controller/terminal

ADXGRP20

4694-207 terminal

ADXGRP21

4694-207 controller/terminal

ADXGRP22

4694-247 terminal

ADXGRP23

4694-247 controller/terminal

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

Varies depending on the terminal type.

Device identification number

Use this keyword to indicate the identification number of the device that emulates the 4683 feature card RS-232 function and is attached to socket 9A, 9B, or 9C.

Keyword restrictions

None

Parameters

- 1** 64 (hexadecimal)
- 2** 65 (hexadecimal)
- 3** 68 (hexadecimal)
- 4** 69 (hexadecimal)

Default value

1

Device name (for Feature Expansion A - 4683 only)

If your point-of-sale terminal has multiple displays, use this keyword to indicate the name of the 9-in. or 12-in. video display that is attached to Feature Expansion A (socket 81). By assigning a unique device name to each display on the point-of-sale terminal, the application program can use the names to direct output to the correct display.

Keyword restrictions

Name one of your multiple displays using the VDISPLAY parameter; name the other display using the VDISPLAY2 parameter.

Parameters

- 1 VDISPLAY
- 2 VDISPLAY2

Default value

1

Device name (for 2x20 displays—terminal sockets)

Use this keyword to indicate the name of the 2x20 display that is integrated on a keyboard or attached to a terminal socket. See Appendix B, "Terminal installation worksheets," on page 221 to determine the correct socket for your terminal. The terminal application program uses this device name to direct output to the display.

Keyword restrictions

Up to three 2x20 displays can be attached to your terminal, but only up to two RS485-attached displays of the same 2x20 type can be attached at the same time. The following list shows the 2x20 display types in 3 groups:

First Group:

- Operator display
- Operator display integrated on a keyboard

Second Group:

- 40 character LCD
- 40 character VFD II
- Two-sided VFD II (configured as two displays; each one having its own device name)
- Y cable with two LCD displays (configured as two displays; each one with device name)

Third Group:

- Alphanumeric display

If two RS485-attached 2x20 displays of the same type are attached, one must be attached to socket 4A. The second display can be attached to any of the other sockets that support a 2x20 display.

Note: Exceptions exist for the integrated operator display:

If an operator display is integrated on a keyboard attached to socket 5A, a second operator display can be attached to all other allowed sockets except 4A.

If an operator display is integrated on a keyboard attached to socket 5B, a second operator display must be attached to socket 4A.

Each 2x20 display must have a unique device name

Parameters

- 1 For ANDISPLAY
- 2 For ANDISPLAY2

Terminal Configuration Keywords

3 For ANDISPLAY3

Default value

1

Device name (for the video port)

Use this keyword to indicate the name of the video display that is attached to the video port. This is the name the terminal application must use to access the video display.

Although you have two options for the Device Name, the terminal can have only one video display.

Note: If using a 4693-3x1 terminal, then your video display must plug into a video display adapter. The 4693-3x1 does not have a video port. It has two card slots, one of which can be used for a video display adapter.

Keyword restrictions

This keyword does not apply to controller/terminals because the Device Name is VDISPLAY on a controller/terminal.

Parameters

- 1 VDISPLAY
- 2 VDISPLAY2

Default value

1

Device type (for downloading font file)

Use this keyword to select the type of device receiving the downloaded font file when using the Font/Logo Utility.

Keyword restrictions

None

Parameters

- 1 Model 4A
- 2 4610-TI5
- 3 USB APA(ANDISPLAY)
- 4 USB APA(ANDISPLAY2)
- 5 USB APA(ANDISPLAY3)

Default value

1

Device type (for Feature Expansions B, C and D—4683 only)

Use this keyword to indicate the type of device that is attached to Feature Expansion B, C, or D (socket 21). The IBM 4683 terminal supports use of an optical character recognition (OCR) handheld reader or a scale on Feature Expansions B or C and an OCR handheld reader on Feature Expansion D.

Keyword restrictions

None

Parameters

- 1 An OCR handheld reader
- 2 A 1520 Hand-Held Scanner Model A01
- 3 A non-IBM scale (Feature Expansion B and C)

Default value

1

See the *4680 Store System: Selecting Hardware and Software Components* for additional information on these devices.

Device names and configuration terms

Table 11 shows the relationship between configuration terms and the official device names.

Table 11. Configuration terms and device names

Configuration term	Device name
IBM 1520 Hand-Held Scanner Model A01	IBM 1520 Hand-Held Scanner Model A01 (1520-A01)

Device type (for terminal socket 3A)

The point-of-sale terminal supports use of one or two cash drawers. Use this keyword to indicate the type of cash drawer that is attached to terminal socket 3A.

Keyword restrictions

- If you have a cash drawer attached to sockets 3A and 3B, the type of cash drawer must be identical.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters**4693, 4694, and 4683 terminals:**

- 1 A Toshiba cash drawer
- 2 A non-Toshiba cash drawer

SurePOS 300/700 Series and TCxWave 6140 Series terminals:

- None attached
- Toshiba cash drawer
- Non-Toshiba cash drawer

Default value

1 - for 4683, 4693, and 4694 terminals

None attached - For SurePOS 300/700 Series and TCxWave 6140 Series terminals

Device type (for terminal socket 3B)

Use this keyword to indicate the type of device that is attached to terminal socket 3B.

Keyword restrictions

- If you have a cash drawer attached to sockets 3A and 3B, the type of cash drawer must be identical.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters**4693, 4694, and 4683 terminals:**

- 1 A Toshiba cash drawer
- 2 A non-Toshiba cash drawer
- 3 The alarm feature

SurePOS 300/700 Series and TCxWave 6140 Series terminals:

- None attached

Terminal Configuration Keywords

- | Alarm
- | Toshiba cash drawer
- | Non-Toshiba cash drawer

Default value

1 - for 4683, 4693, and 4694 terminals

None attached - For SurePOS 300/700 Series terminals

See the *4680 Store System: Selecting Hardware and Software Components* and the *4693 Point-of-Sale Terminals: Introduction and Planning Guide* for additional information on the alarm feature.

Device type (for 4694 terminal sockets 4, 5, or 9/E)

Use this keyword to indicate the type of device that is attached to the 4694 terminal socket 4, 5 or 9/E.

Keyword restrictions

None

Parameters

- 1 I/O Device
- 2 Y-cable
- 3 W-cable (9/E only)

Default value

1

Device type (for displays, 4693 terminal sockets)

Use this keyword to indicate the type of device that is attached to the terminal socket. See Appendix B, "Terminal installation worksheets," on page 221 to determine the correct socket for your terminal.

Keyword restrictions

See restrictions listed in "Device name (for 2x20 displays–terminal sockets)" on page 371.

Parameters

- 1 An alphanumeric display
- 2 An operator display
- 3 A shopper display
- 4 A 40-character Liquid Crystal Display (LCD)
- 5 A 40-character Vacuum Fluorescent Display II (VFD II)
- 6 A two-sided VFD II
- 7 A "Y" cable with two LCD displays
- 8 APA Display

Default value

1

Device type (for displays, 4694 terminal sockets)

Use this keyword to indicate the type of device that is attached to the terminal socket. See Appendix B, "Terminal installation worksheets," on page 221 to determine the correct socket for your terminal.

Keyword restrictions

See restrictions listed in "Device name (for 2x20 displays–terminal sockets)" on page 371.

Parameters

- 1 An alphanumeric display

- 2 An operator display
- 3 A shopper display
- 4 A 40-character Liquid Crystal Display (LCD)
- 5 A 40-character Vacuum Fluorescent Display II (VFD II)
- 6 A two-sided VFD II
- 7 A “Y” cable with two LCD displays
- 8 APA Display
- 9 LCD/Video Display

Default value

1

Device type (for 4683 terminal socket 4A)

Use this keyword to indicate the type of device that is attached to the terminal socket. See Appendix B, “Terminal installation worksheets,” on page 221 to determine the correct socket for your terminal.

Keyword restrictions

See restrictions listed in “Device name (for 2x20 displays–terminal sockets)” on page 371.

Parameters

- 1 An alphanumeric display
- 2 An operator display
- 3 A shopper display
- 4 A 40-character Liquid Crystal Display (LCD)
- 5 A 40-character Vacuum Fluorescent Display II (VFD II)
- 6 A two-sided VFD II
- 7 A “Y” cable with two LCD displays

Default value

1

Device type (for terminal socket 5B)

The point-of-sale terminal supports use of a hand-held scanner, a magnetic stripe reader, or a keyboard as an input device. Use this keyword to indicate the type of device that is attached to terminal socket 5B.

Keyword restrictions

None

Parameters

- 1 A hand-held scanner
- 2 A Dual-Track Magnetic Stripe Reader (MSR)
- 3 A “Y” connector for using a hand-held scanner and a Dual-Track Magnetic Stripe Reader (MSR)
- 4 A keyboard

Default value

1

Device names and configuration terms

Table 12 shows the relationship between configuration terms and the official device names.

Table 12. Configuration terms and device names

Configuration term	Device name
Hand-Held Scanner	IBM 1520 Hand-Held Scanner Model A02 (1520-A02)

Terminal Configuration Keywords

Device type (for 4694 terminal socket 5)

The 4694 point-of-sale terminal supports the use of a hand-held scanner or a magnetic stripe reader. Use this keyword to indicate the type of device that is attached to terminal socket 5.

Keyword restrictions

None

Parameters

- 1 A hand-held scanner
- 2 Dual-track magnetic stripe reader
- 3 Y connector for hand-held scanner and dual track magnetic stripe reader

Default value

1

Device type (for terminal socket 9A)

Use this keyword to indicate the type of device attached to socket 9A on a 4693, or a 4694 terminal or controller/terminal, if available.

Keyword restrictions

None

Parameters

- 1 A scanner
- 2 A display
- 3 A non-Toshiba device
- 4 PLU Extension Box

Default value

1

Device type (for 468x terminal socket 9B)

Use this keyword to indicate the type of device attached to socket 9B for a 4683 terminal.

Keyword restrictions

None

Parameters

- 1 An IBM bar code reader
- 2 A non-IBM handheld scanner

Default value

1

Device names and configuration terms

Table 13 shows the relationship between configuration terms and the official device names.

Table 13. Configuration terms and device names

Configuration term	Device name
IBM Bar Code Reader	4685 Hand-Held Bar Code Reader Models 001 and 002

Device type (for terminal socket 9B)

Use this keyword to indicate the type of device attached to terminal socket 9B for 4693 or 4694 terminals or controller/terminals, if available.

Keyword restrictions

None

Parameters

- 1 An IBM bar code reader
- 2 A display
- 3 A non-IBM device
- 4 A non-IBM handheld scanner

Default value

1

Device type (for terminal socket 9C, 9C/E, or 9E)

Use this keyword to indicate the type of device attached to socket 9C, 9C/E, or 9E on 4694-2x6 systems.

Keyword restrictions

None

Parameters

- 1 A display
- 2 A non-IBM device

Default value

1

Device type (for terminal socket 9/E)

Use this keyword to indicate the type of device attached to terminal socket 9/E for 4694-0x4, 4694-1x4, or 4694-205 terminals.

Keyword restrictions

None

Parameters

- 1 A scanner
- 2 An IBM bar code reader
- 3 A display
- 4 A non-IBM device
- 5 A non-IBM handheld scanner

Default value

1

Disconnect (DISC)

Transmitting stations use this comment to terminate the operational mode that is previously returned. Disconnect informs the receiving station that the transmitting station is suspending operation.

Disk ID

Use this keyword to identify the virtual disk you are defining.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Enter either X or Y.

Terminal Configuration Keywords

- | For SurePOS 300/700 Series and TCxWave 6140 Series terminals, place a check in the checkbox by the disk you want to create.

Default value

None

Disk size

Use this keyword to indicate the number of 32-KB blocks in a RAM virtual file. The amount of memory actually available depends on the amount of memory that is installed in the terminal and the size of the application.

When specifying the number of blocks, you should consider all factors that affect storage space. For example, a large keyed file will require free space. For additional information on RAM disk files, see the *4690 OS: Programming Guide*.

Only the first 32-KB block is allocated at IPL. If two or more 32-KB blocks are specified, they are allocated when the file is created.

Note: The keywords Size and Disk Size are synonymous.

Keyword restrictions

- A maximum of 1,960 blocks can be assigned to RAM disk usage.
- | • A maximum of 1,960 blocks can be assigned on the SurePOS 300/700 Series or TCxWave 6140 Series terminal.
- | • You must have Java graphics enabled to configure this keyword on SurePOS 700 Series terminals.

Parameters

Specify a value from 1 to 1,960.

- | Specify a value from 1 to 1,960 for SurePOS 300/700 Series or TCxWave 6140 Series terminals.

Default value

None

Domain name

Use this keyword to define the domain name for the TCP/IP feature.

Keyword restrictions

This keyword is valid for terminal load definitions that have TCP/IP Feature Support enabled.

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Default value

None

Double read timeout (4686, 4696, 4697, and 4698 scanners)

Use this keyword to select the scanner that is double read timeout value.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- 1 Short
- 2 Medium

3 Long

| **SurePOS 300/700 Series and TCxWave 6140 Series terminals:**

- | Short
- | Medium
- | Long

Default value

1 - For scanners attached to 4683, 4693, and 4694 terminals

| Medium - For scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals

EDGE DECODE (IBM 4696, 4697, and 4698 scanners)

Use this keyword to enable the special algorithm to read torn labels. This can be used only for UPC and EAN labels.

Keyword restrictions

None

Parameters

- 1 Yes
- 2 No

Default

1

Edit checking

The operating system allows edit checking for optical character recognition (OCR) hand-held reader input data. Use this keyword to indicate whether edit checking is supported on the OCR hand-held reader attached to Feature Expansion B, C, or D (socket 21).

Keyword restrictions

None

Parameters

- 1 Edit checking is available
- 2 Edit checking is not available

Default value

2

Enable EAN/JAN two-label decoding

| Use this keyword during configuration for SurePOS 300/700 Series or TCxWave 6140 Series terminals to enable EAN/JAN two-label decoding.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Default value

None

Terminal Configuration Keywords

Enable scanner to beep on a good read

- | The operating system enables you to confirm a good scanner read with an audible beep. Use this keyword
- | during configuration for SurePOS 300/700 Series or TCxWave 6140 Series terminals to indicate if the
- | beep sounds on good reads.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

None

Default value

Enabled

Enable screen saver on video display

- | Use this keyword to enable the screen saver on the video display during configuring of SurePOS 300/700
- | Series or TCxWave 6140 Series terminals.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Check the checkbox under Video Displays to enable this feature.

Default value

Enabled

Enable tone (scanners)

The operating system enables you to confirm a good scanner read with an audible beep. Use this keyword to indicate if the beep sounds on good reads.

Keyword restrictions

None.

Parameters

- 1 The scanner beeps on a good read.
- 2 The scanner does not beep on a good read.

Default value

2

Enable volume switch (4696, 4697, and 4698 scanners)

- | Use this keyword to indicate if you want to use the volume switch to control the *beep* volume. For
- | SurePOS 300/700 Series or TCxWave 6140 Series terminals, place a check in the box to enable this
- | feature.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- 1 Yes
- 2 No

Default value

1 - For scanners attached to 4683, 4693, and 4694 terminals

I Disabled - For scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals

Feature Expansion positions (4683 only)

When you are defining a terminal configuration at the store controller, the operating system displays a panel in which you indicate the Feature Expansions and sockets being used by the terminal device group. Use this keyword to indicate the Feature Expansions that are in the two Feature Expansion positions (2A and 2B) on the rear of the 4683 Point-of-Sale Terminal.

Keyword restrictions

- Feature Expansions A, B, C, D, or E can be installed and defined for positions 2A and 2B in any combination.
- If no feature expansion is installed for position 2A or 2B. The position is covered with a filler plate.

Parameters

- 0** A filler plate is installed in this position.
- A** Feature Expansion A is installed in this position. (Not valid for a 4683-421 terminal upgrade.)
- B** Feature Expansion B is installed in this position.
- C** Feature Expansion C is installed in this position.
- D** Feature Expansion D is installed in this position.
- E** Feature Expansion E is installed in this position.

Default value

0

Feature support

Use this keyword to indicate if either the Java or TCP/IP feature is enabled.

Note: This feature support is available on 4694 terminals only. For 4694 controller/terminals, only Java feature support is available. TCP/IP support is available on the controller side.

Parameters

- 1** Yes
- 2** No

Default value

2 (No)

Files

Use this keyword to indicate the number of sectors available for directory entries on this RAM disk. Each sector holds 16 entries or files.

Keyword restrictions

None

Parameters

Specify a value from 1 to 64. The maximum of 64 holds up to 1024 files.

Default value

0

Terminal Configuration Keywords

Font file name

Use this keyword to enter the name of the font file to be downloaded when using the Font/Logo Utility. You can use a font file name from the following list or you can specify your own font file name. See the *4690 OS: Programming Guide* for more font file name information.

Note: The Font/Logo Utility can be used with DBCS-enabled devices only.

Keyword restrictions

You must have DBCS-enabled devices configured to use this keyword.

Parameters

Font file names for the Model 4A printer:

ADXF9MJF.DAT

Japanese - 9x10 (single byte), 9x16 (double byte)

ADXF9MKF.DAT

Korean - 9x10 (single byte), 9x16 (double byte)

ADXFAMPF.DAT

Simplified Chinese - 9x10 (single byte), 16x10 (double byte)

ADXFAMTF.DAT

Traditional Chinese - 9x10 (single byte), 16x10 (double byte)

Font file names for the 4610 model T15, 2CR, or 2NR printer:

ADXF4SJF.DAT

Japanese - Thermal - 24x12 (single byte)

ADXF4DJF.DAT

Japanese - Thermal - 24x24 (double byte)

ADXF6SJF.DAT

Japanese - Impact - 16x16 (single byte)

ADXF6DJF.DAT

Japanese - Impact - 16x16 (double byte)

ADXF4SKF.DAT

Korean - Thermal - 24x12 (single byte)

ADXF4DKF.DAT

Korean - Thermal - 24x24 (double byte)

ADXF6SKF.DAT

Korean - Impact - 9x8 (single byte)

ADXF6DKF.DAT

Korean - Impact - 9x16 (double byte)

ADXF4SPF.DAT

Simplified Chinese - Thermal - 24x12 (single byte)

ADXF4DPF.DAT

Simplified Chinese - Thermal - 24x24 (double byte)

ADXF6SPF.DAT

Simplified Chinese - Impact - 16x16 (single byte)

ADXF6DPF.DAT

Simplified Chinese - Impact - 16x16 (double byte)

ADXF4STF.DAT

Traditional Chinese - Thermal - 24x12 (single byte)

ADXF4DTF.DAT

Traditional Chinese - Thermal - 24x24 (double byte)

ADXF6STF.DAT

Traditional Chinese - Impact - 16x16 (single byte)

ADXF6DTF.DAT

Traditional Chinese - Impact - 16x16 (double byte)

Default value

None

Full screen video support required

Use this keyword in the 4683 and 4683-4x1 terminal load definition to indicate whether your application requires the full screen video support that is provided by the enhanced I/O Processor driver. If your application does not require this support, you can save space in your terminals by not specifying this keyword, because a smaller version of the I/O Processor driver is loaded. The enhanced I/O Processor driver is loaded if any of the following keywords are configured for a 4683 or 4683-4x1 terminal:

- ANPOS keyboard
- Full screen video support
- More than one terminal application.

Keyword restrictions

This keyword is valid only for the 4683-xx1 terminal loads. The enhanced I/O processor driver is always loaded for all other terminals.

Parameters

- | | |
|---|-----|
| 1 | Yes |
| 2 | No |

Default value

2

Graphics size

Use this keyword in the SurePOS 300/700 Series terminal configuration to indicate the graphics size for the video display.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

No Graphics
640 x 480
800 x 600
1024 x 768

Default value

No graphics

Hostname

Use this keyword to indicate the host name for the TCP/IP feature.

Keyword restrictions

This keyword is valid for terminal load definitions that have TCP/IP Feature Support enabled.

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Default values

None

Identify tracks to read

Use this keyword to identify the track number or track numbers to be read on a three-track MSR.

Terminal Configuration Keywords

Keyword restrictions

None

Parameters when reading one track

- 1 Read track 1
- 2 Read track 2
- 3 Read track 3

Parameters when reading two tracks

- 1 Read tracks 1 and 2
- 2 Read tracks 2 and 3
- 3 Read tracks 1 and 3

Default value

2

Identify tracks to read for Keyboard-V POS with JUCS MSR, Keyboard-VI POS with JUCS MSR, or 50-Key POS Keyboard with JUCS MSR

Use this keyword to identify the track number or track numbers to be read on the Keyboard-V POS with JUCS MSR, Keyboard-VI POS with JUCS MSR, or the 50-Key POS Keyboard with JUCS MSR.

Keyword restrictions

None

Parameters when reading one track

- 1 Read track 1
- 2 Read track 2

Parameters when reading two tracks

- 1 Read track 2
- 2 Reads JIS-II track

Default value

1

If the specified logo file already exists, will you overwrite it?

Use this keyword to decide if you want to overwrite an existing logo file when using the Font/Logo Utility.

Keyword restrictions

None

Parameters

- 1 Yes
- 2 No

Default value

1 (yes)

IP address

Use this series of keywords to represent the dotted decimal format of the IP address for the TCP/IP in the terminal load definition. The keywords are:

- IP Address
- IP Address Subnet Mask
- Default Router IP Address

- Nameserver IP Address

The IP Address keyword is required; the other three keywords are optional. Range checking prevents you from entering invalid values.

When configuring terminal load definitions for TCP/IP, you can enter IP addresses and other information individually by a single terminal or by using an IP address generator if you are defining a range of terminals. If you are defining a range of terminals, the first terminal in the range must have the starting IP address defined. Verification is then performed to ensure that there are sufficient sequential valid IP addresses available. If enough addresses are not available, an error message is displayed, and you must either provide a different starting IP address or change the range of terminals being defined.

Note: In terminal configuration, all IP addresses are read as decimal.

In addition to the main IP address, the Hostname field is defined by the address generator using the terminal numbers in the range that is being defined. No changes are allowed to this field while defining the range, but individual terminal changes can be made after the load definitions for the range have been saved. All other TCP/IP information is optional and, if defined, is identical for all terminals within the range. The only fields that have distinct information generated for each terminal are the main IP address and the Hostname.

Keyword restrictions

- This keyword is valid for terminal load definitions that have TCP/IP Feature Support enabled.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Default value

000.000.000.000

Integrated MSR/integrated keypad

Use this keyword to define whether the LCD/Video has either an MSR, a keypad or both devices attached. Select yes if any of the above devices is attached.

Keyword restrictions

None

Parameters

- 1 Yes
- 2 No

Default value

2

ITF label length (hand held, IBM 4686, 4697, and 4698 scanners)

The operating system enables you to use Interleaved Two-of-Five (ITF) scanning labels. Use this keyword to indicate the minimum ITF label length value.

Keyword restrictions

You should use the minimum label value to ensure optimum scanner performance.

Parameters

Specify an even value from 2 to 30 for the hand-held scanner or 4 to 32, for the 4686 scanner. The 4697 and 4698 scanners support two lengths; the first label can have an even value from 4 to 32 and the second label can have an even value from 4 to 30.

Default value

10 The hand-held scanner and first label for the 4697 and 4698

Terminal Configuration Keywords

6 The IBM 4686 scanner

Note: There is no default for the 4697 and 4698 second ITF label.

| **ITF label length (scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series)**

| The operating system enables you to use Interleaved Two-of-Five (ITF) scanning labels. Use this keyword
| to indicate the minimum ITF label length value when configuring SurePOS 300/700 Series or TCxWave
| 6140 Series terminals.

Keyword restrictions

You should use the minimum label value to ensure optimum scanner performance.

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

| The scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals support two
| lengths; the first label can have an even value from 4 to 30 and the second label can have an even value
| from 0 to 30.

Default value

10

There is no default for the second ITF label.

Java

Use this keyword in the terminal load definition to indicate that Java is enabled.

Keyword restrictions

None

Parameters

4693 and 4694 terminals:

1 Yes

2 No

| **SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

| Enable Java

Default value

2 - 4693 and 4694 terminals:

| Blank - SurePOS 300/700 Series or TCxWave 6140 Series terminals

Java application

| Use this keyword in the terminal load definition when configuring SurePOS 300/700 Series or TCxWave
| 6140 Series terminals to indicate whether to start a Java application when the terminal starts.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Do not start a Java application

Start a Java application

Default value

Do not start a Java application

Java class and parameters

Use this keyword in the terminal load definition to indicate the Java class and parameters for the Java application.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Default value

IBMDefault

Java code level

Use this keyword in the terminal load definition to indicate the Java code level you want to use for the Java application.

If you are using Java2, see the "Java2 Problem Resolution" section and the "Additional Hints and Tips" section in the *4690 OS: Programming Guide*.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- 1 Java 1 (selectable for backward compatibility but no longer supported)
- 2 Java 2
- 3 Java 6

Default value

1

Java redirection

- | Use this keyword to indicate which devices in your primary application to redirect to Java when configuring
- | the SurePOS 300/700 Series or TCxWave 6140 Series terminal.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- I/O Processor
- ANDISPLAY1
- ANDISPLAY2
- Cash Receipt Station
 - Monitor
 - Handler
- Document Insert Station
- Summary Journal Station
- Magnetic Stripe Reader

Default value

None

Terminal Configuration Keywords

Java Virtual Machine

Change the Java Virtual Machine by defining a user logical name.

This keyword indicates the name of the Java interpreter.

Default value

R::ADX_SPGM:JAVA.386

Journal buffer size

The Model 3 or 4 printer buffers data that are sent to the journal station whenever a document is in the document station. Use this keyword to indicate the maximum number of print lines that will be buffered for the journal station when a document is being printed in the document station.

Keyword restrictions

Free terminal memory is allocated for storing the journal data. To minimize the memory required, it is important that you enter a number that is as small as possible. However, it must also be large enough to account for the maximum number of print lines that will ever need to be buffered.

Parameters

Specify a value from 0 to 250.

Default value

0

Keyboards

When you are defining the device characteristics for a SurePOS 300/700 Series system, you can select where you want the shared USB ANPOS keyboard Java keystrokes to go by default. Use this keyword to make that selection.

Keyword restrictions

None

Parameters

- JavaPOS
- JAVA awt

Default value

JavaPOS

Key click

When you are defining the keyboard layout for the ANPOS keyboard or any of the 4693 family of keyboards, the operating system displays a panel on which you choose certain characteristics about the keyboard. Use this keyword to select whether a click will be heard when you press a key.

Keyword restrictions

None

Parameters

- 1 Loud click
- 2 Soft click
- 3 No click

Default value

3

Keyboard

To allow for Java support, terminals can use a keyboard attached to the PS/2 keyboard port of the terminal. This allows normal keyboard functions to be accessed from Java applications. A PS/2 keyboard or an ANPOS keyboard may be attached to the keyboard port. Access to a PS/2 type keyboard is limited to a Java application. When a PS/2 keyboard is configured, a POS keyboard must also be configured. An ANPOS keyboard will be shared so that both PS/2 keyboard functions and POS functions are provided. Use this keyword to indicate the type of keyboard that is attached to the PS/2 terminal port.

If no PS/2 keyboard is attached to the PS/2 port on the SurePOS 300/700 series, the operating system uses the first USB ANPOS keyboard found as the system keyboard. If no other POS keyboard is found, the USB ANPOS is used as a shared keyboard.

Keyword restrictions

None

Parameters

- 0** No keyboard attached
- 1** PS/2 keyboard
- 2** ANPOS keyboard (Shared)

Default value

0

Keyboard layout (4683, 4693, and 4694 terminals)

When you are defining a keyboard layout at the store controller, the operating system displays a screen in which you indicate the key positions you want to define or change. See one of the versions of Worksheet D21.

Notes:

1. See your application program's planning and installation guide before attempting to define or change any key positions.
2. Each key position has a preassigned function code. Sheets of keyboard labels are provided with the terminal hardware to identify these functions.

See the *4680 Store System: Selecting Hardware and Software Components* and the *4693 Point-of-Sale Terminals: Introduction and Planning Guide* for detailed descriptions of these labels.

Keyword restrictions

- The S1 and S2 keys cannot be defined or changed.
- The numeric keypad must be in either data entry or adding machine format; its key positions cannot be defined or moved to any other key position. Click **F9** to change the terminal keypad format.
- Double keys are keys that take two adjacent positions on the keyboard. Both key positions are defined with the same function code. Only keys that have no physical gap between them can be paired.
- The type of double keys allowed depends on the physical layout of the keyboards. Some keyboards can have only vertical double keys and some can have vertical and horizontal double keys. See the Help panels when configuring the keyboard to determine the type of double keys allowed.
- Defining double-zero (00) and triple-zero (000) keys reduces the number of keystrokes when keying numbers containing these combinations of zeros. To define a double-zero key position, replace the default function code with 00; to define a triple-zero key position, replace the default function code with 000. Some keyboards restrict the location of 00 and 000. See the Help panels when configuring a keyboard layout.
- To disable a key, enter spaces on the keyboard layout configuration panel to remove the default value from the key position.

Terminal Configuration Keywords

Parameters

See your application program's planning and installation guide for function codes that apply to your system. Specify a value for any key positions that you want to define or change. The alphanumeric keyboard also supports a value of 999 for the **Num Lock** key.

Default value

See one of the Keyboard Layout worksheets for the default function code for each key position on the point-of-sale terminal keyboard.

Note: You decide the type of keyboard to be used when defining the Terminal Keyboard Configuration at the store controller. The store system chooses the proper keyboard layout based on the type of keyboard defined in the Terminal Keyboard Configuration.

| Keyboard layout (SurePOS 300/700 Series or TCxWave 6140 Series terminals)

| Use this keyword in the terminal load definition to indicate the name of the keyboard layout to be used by
| the application being defined during configuration on the SurePOS 300/700 Series or TCxWave 6140
| Series terminals.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

ADXKBC01
ADXKBF01
ADXKBG01
ADXKBH01

Keyboard layout record name

Use this keyword in the terminal load definition to indicate the name of the keyboard layout to be used by the application being defined.

Keyword restrictions

- This name must be the same name that is used in "Name of terminal keyboard layout being processed" on page 401.
- 3270 emulation requires the ANPOS keyboard on a 4683. A 4693 terminal can use either the ANPOS or 4693 ANPOS keyboard.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

ADXKBF01

Keyboard type (for terminal socket 5, 5A, or 5B on 4693 or 4694 terminals)

Use this keyword to indicate the type of keyboard that is attached to terminal socket 5, 5A, or 5B.

Keyword restrictions

None

Parameters

- 1 4693 Point-of-Sale (POS) keyboard
- 2 4693 POS keyboard with three-track Magnetic Stripe Card Reader (MSR)
- 3 4693 POS keyboard with three-track MSR and display
- 4 4693 Alphanumeric Point-of-Sale (ANPOS) keyboard with three-track MSR
- 5 4693 Modifiable Layout keyboard with three-track MSR
- 6 50-key keyboard
- 7 Integrated keyboard/operator display
- 8 Integrated keyboard/operator display with integrated dual-track MSR
- 9 Alphanumeric keyboard with integrated dual-track MSR
- 10 ANPOS keyboard with integrated dual-track MSR
- 11 DBCS Keyboards
 - 1 Keyboard-V POS keyboard with JUCS MSR
 - 2 Keyboard-VI POS keyboard with JUCS MSR
 - 3 50-key POS keyboard with JUCS MSR
- 12 50-Key POS keyboard with JUCS MSR

Note: Table 14 shows the relationship between the keyboard configuration terms and the official 4693 keyboard names.

Table 14. Configuration terms and keyboard names

Configuration term	Keyboard name
4693 Point-of-Sale (POS) keyboard	Retail POS Keyboard
4693 POS keyboard with three-track Magnetic Stripe Card Reader (MSR)	Retail POS Keyboard with card reader
4693 POS keyboard with three track MSR and display	Retail POS Keyboard with card reader and display
4693 ANPOS keyboard with three-track MSR	Retail Alphanumeric POS Keyboard with card reader
4693 Modifiable Layout keyboard with three-track MSR	Retail Modifiable Layout keyboard with card reader

Default value

1

Keyboard type (for terminal socket 5A or 5B on 4683 terminal types)

Use this keyword to indicate the type of keyboard that is attached to terminal socket 5A or 5B.

Keyword restrictions

None

Parameters

- 1 50-key keyboard
- 2 Alphanumeric keyboard
- 3 Matrix keyboard
- 4 Integrated keyboard/operator display
- 5 Integrated keyboard/operator display with an integrated MSR
- 6 Alphanumeric Point-of-Sale Keyboard (ANPOS)
- 7 ANPOS keyboard with an integrated MSR

Terminal Configuration Keywords

Default value

1

Keystroke interval timeout

When you are defining the keyboard layout for the ANPOS keyboard or any of the 4693 family of keyboards, the operating system displays a panel on which you choose certain characteristics about the keyboard. Use this keyword to define the length of time before the system will accept another key. Use this value to reduce the possibility of an error being passed to the application if someone accidentally presses two keys at the same time.

Keyword restrictions

None

Parameters

Enter a number in the range 1 (shortest) to 4 (longest).

Default value

1

Label types supported (IBM bar code reader, hand-held, 4686, 4697, and 4698 scanners)

The devices support the label types that are listed in "Parameters."

Keyword restrictions

See the notes for each device in "Parameters."

Parameters

For the handheld scanner:

- UPC/EAN (UPC version A and E)
- UPC Version D
- Code 39
- Interleaved Two-of-Five

For the IBM Bar Code Reader Model 1:

- UPC/EAN, Codabar
- UPC/EAN, Code 39
- UPC/EAN, Interleaved Two-of-Five (ITF)

For the IBM Bar Code Reader Model 2:

- UPC/EAN, Codabar
- UPC/EAN, Code 39
- UPC/EAN, Interleaved Two-of-Five (ITF)
- UPC/EAN, UPC-D
- UPC/EAN, Code 93
- UPC/EAN, Code 128
- UPC/EAN, Codabar, 2 and 5 digit periodical
- 2 and 5 digit periodical

For the 4686:

List 1

- UPC/EAN
- UPC/EAN and UPC Version D (all five types)

List 2

- Interleaved Two-of-Five (ITF)
- Codabar
- Code 39
- Code 93
- Code 128

Notes:

1. A minimum of zero and maximum of one label type can be selected from List 1.
2. A minimum of zero and maximum of two label types can be selected from List 2.
3. A minimum of one and maximum of two label types can be selected.

For the 4696:

- UPC/EAN
- UPC/EAN and UPC Version D (all five types)

For the 4697:

List 1

- UPC/EAN
- UPC/EAN and UPC Version D (all five types)

List 2

- Interleaved Two-of-Five (ITF)
- Codabar
- Code 39
- Code 93
- Code 128

Note: Only one label type must be selected from List 1. A minimum of zero and maximum of one label types can be selected from List 2.

For the 4698:

List 1

- UPC/EAN
- UPC/EAN and UPC Version D (all five types)

List 2

- Interleaved Two-of-Five (ITF)
- Code 39
- Code 128
- P2 Supplementals
- P5 Supplementals

Note: Only one label type must be selected from List 1. A minimum of zero and maximum of all five label types can be selected from List 2.

Default value**UPC/EAN**

For the 4686 scanner

UPC/EAN

For the 4696 scanner

UPC Version D

For the 4696 scanner

Terminal Configuration Keywords

Laser switch

This keyword allows you to enable or disable the use of the switch on the scanner that turns on the scanning laser.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- Enable
- Disable

Default value

Disabled

Laser timeout

- | Use this keyword to select the scanner laser timeout during SurePOS 300/700 Series or TCxWave 6140 Series terminal configuration. Laser timeout is the period of inactivity before the laser turns off.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- 5 minutes
- 10 minutes
- 15 minutes

Default value

15 minutes

LED blink rate (4686, 4696, 4697, and 4698 scanners)

Use this keyword to select the LED blink rate.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- | | |
|----------|--------------|
| 1 | 0.5 seconds |
| 2 | 0.75 seconds |
| 3 | 1.00 seconds |

- | **SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

- | • Very Short
- | • Short
- | • Long
- | • Very Long

Default value

For scanners attached to 4683, 4693, and 4694 terminals:

- | | |
|----------|----------------------|
| 3 | For the 4686 scanner |
| 2 | For the 4696 scanner |

- | **For scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

Long

Length of time before terminal screen saver engages

Use this keyword to change the video inactivity period. If the video inactivity period elapses with no video activity the terminal screen saver saves the terminal video screen.

Keyword restrictions

None

Parameters

Enter the number of minutes from 1 to 60.

Default value

15

Logo file name

Use this keyword to enter the logo file name to be downloaded when using the Font/Logo Utility.

Note: The Font/Logo Utility can be used with DBCS-enabled devices only.

Keyword restrictions

You must have DBCS-enabled devices configured to use this keyword.

Parameters

User-defined file name

Default value

None

Logo file name to convert into

Use this keyword to enter the name of the logo file to which the bitmap file is to be converted into when using the Font/Logo Utility.

Note: The Font/Logo Utility can be used with DBCS-enabled devices only.

Keyword restrictions

You must have DBCS-enabled devices configured to use this keyword.

Parameters

User-defined file name

Default value

None

Magnetic stripe reader or magnetic stripe card reader

The point-of-sale terminal supports use of a single-track magnetic stripe reader (MSR). Use this keyword to indicate whether an MSR is attached to keyboard socket 6 on a 50-key keyboard and the alphanumeric keyboard.

Keyword restrictions

None

Parameters

- 1 An MSR is connected
- 2 No MSR is connected

Terminal Configuration Keywords

Default value

2

MSR is also used to see a dual-track MSR that can be integrated on a keyboard or attached in socket 5B, and the three-track MSR integrated on the 4693 family of keyboards.

Maximum characters

The operating system lets you specify the maximum number of characters to be read as input data for an optical character recognition (OCR) handheld reader. Use this keyword to indicate the maximum number of characters for the OCR hand-held reader that is attached to Feature Expansion B, C, or D (socket 21).

Keyword restrictions

None

Parameters

Specify a value from 1 to 240.

Default value

40

Message to be presented to screen while screen saver is active

Use this keyword to change the terminal screen saver message. You can place leading blanks in to the message. Terminal configuration will add the same amount of trailing blanks (up to the 40 character maximum).

Keyword restrictions

None

Parameters

Enter a 1- to 40-character message.

Default value

Toshiba (with one leading and one trailing blank)

Monochrome display

Use this keyword to indicate that monochrome will be used on a display instead of colors.

Keyword restrictions

None

Parameters

1 Yes

2 No

Default value

2

Model (for a dual-track MSR)

Use this keyword in the device group definition to indicate the tracks to be read by the Dual-track Magnetic Stripe Reader (MSR).

Keyword restrictions

None

Parameters

- 1 Read tracks 1 and 2
- 2 Read tracks 2 and 3

Default value

1

Motor/laser timeout (4686, 4696, 4697, and 4698 scanners)

Use this keyword to select the scanner motor/laser timeout.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- 1 5 minutes
- 2 10 minutes
- 3 15 minutes
- 4 No timeout (4686 only)

| **SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

- | • 5 minutes
- | • 10 minutes
- | • 15 minutes
- | • 30 minutes
- | • 60 minutes

Default value

3 - For scanners attached to 4683, 4693, and 4694 terminals

| 15 minutes - For scanners attached to SurePOS 300/700 Series or TCxWave 6140 Series terminals

Mount point group ID

Use this keyword to identify the mount point group ID for NFS configuration. This is the group ID automatically created on some systems when a user name is requested and created.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

Specify a positive or negative integer.

Default value

0

Mount point user ID

Use this keyword to identify the mount point user ID for NFS configuration. This is the user ID automatically created on some systems when a user name is requested and created. Access control is based on this ID.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Terminal Configuration Keywords

Parameters

Specify a positive or negative integer.

Default value

0

MSR tracks

- | Use this keyword to select which track number or numbers to be read on a three-track MSR during
- | SurePOS 300/700 Series or TCxWave 6140 Series terminal configuration.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

- Track 1
- Track 2
- Track 3

Default value

Track 2

Name of existing keyboard layout to use as a model

You can use an existing keyboard layout definition or one of the Toshiba-supplied layouts as a model for the keyboard you are currently defining. Use this keyword to indicate the name of the keyboard layout that you want to use as your model.

Keyword restrictions

None

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

The operating system supplies default model keyboard layout definitions that you can use to define your own keyboards. Specify one of the following names to use the default definition:

AD XKBA01

Alphanumeric keyboard

AD XKBC01

4694 LCD/Video keypad

AD XKBD01

50-key keyboard (has defaults for the 4680 or 4680-4690 General Sales Application or the 4680 Chain Drug Application)

AD XKBD02

50-key keyboard (has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application)

AD XKBE01

ANPOS keyboard (has defaults for 3270 Emulation)

AD XKBE02

ANPOS keyboard (has defaults for the 4680 or 4680-4690 General Sales Application)

ADXKBE03

ANPOS keyboard (has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application)

ADXKBF01

4693 Point-of-Sale or USB 50-key keyboard (has defaults for the 4680 or 4680-4690 General Sales Application)

ADXKBF02

4693 Point-of-Sale keyboard (has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application)

ADXKBG01

4693 Alphanumeric Point-of-Sale or USB ANPOS keyboard (has defaults for 3270 Emulation)

ADXKBG02

4693 Alphanumeric Point-of-Sale keyboard (has defaults for the 4680 or 4680-4690 General Sales Application)

ADXKBG03

4693 Alphanumeric Point-of-Sale keyboard (has defaults for the 4680 or 4680-4690 Supermarket or SurePOS ACE Application)

ADXKBH01

4693 Modifiable layout or USB 133-key keyboard

ADXKBI01

Keyboard-VI POS keyboard with JUCC MSR

ADXKBL01

Modular ANPOS Keyboard (has defaults for the 4680 or 4680-4690 General Sales Application)

ADXKBL02

Modular ANPOS Keyboard (has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application)

ADXKBM01

Matrix keyboard

ADXKBP01

PLU POS Keyboard

ADXKBS01

Modular 67-Key Keyboard (has defaults for the 4680 or 4680-4690 General Sales Application)

ADXKBS02

Modular 67-Key Keyboard (has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application)

ADXKBT01

Modular 67-Key LCD Keyboard (has defaults for the 4680 or 4680-4690 General Sales Application)

ADXKBT02

Modular 67-Key LCD Keyboard (has defaults for the 4680 and 4680-4690 Supermarket or SurePOS ACE Application)

ADXKBV01

Keyboard-V POS keyboard with JUCC MSR

ADXKBV02

50-key POS keyboard with JUCC MSR

ADXKBV03

Keyboard-V POS keyboard

Terminal Configuration Keywords

The default model keyboard layout definitions contain default function codes for the 4680 or 4690 application programs. The codes can be used as they are or they can be changed to meet unique application program requirements.

Name of existing terminal device group to use as a model

You can use an existing terminal device group or the Toshiba-supplied device group as a model for the group you are currently defining. Use the keyword to indicate the name of the terminal device group that you want to use as your model.

Keyword restrictions

All terminals with the same terminal device group must have the same set of attached input/output devices.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

The operating system supplies a default model terminal device group definition that you can use to define your own groups. The default group definitions are:

ADXGRP01

4683-xx1 terminal

ADXGRP01

4683-xx2 terminal

ADXGRP03

4684 controller/terminal

ADXGRP04

4693-5x1 or 7x1 terminal

ADXGRP05

4693-4x1 terminal

ADXGRP06

4693-2x2 terminal

ADXGRP07

4693-3x1 terminal

ADXGRP08

4683-4x1 terminal upgrade

ADXGRP09

4693-5x or 7x1 controller/terminal

ADXGRP10

4693-3W1 terminal

ADXGRP11

4694-0x4 or 1xx terminal

ADXGRP12

4694-1xx or 205 controller/terminals

ADXGRP13

4694-2x4 or 245 terminal

ADXGRP14

4694-2x4 or 245 controller/terminal

ADXGRP15

4694-205 terminal

ADXGRP16

4694-246 or 4694-347 terminal

ADXGRP17

4694-246 or 4694-347 controller/terminal

ADXGRP18

4694-206 or 4694-307 terminal

ADXGRP19

4694-206 or 4694-307 controller/terminal

ADXGRP20

4694-207 terminal

ADXGRP21

4694-207 controller/terminal

ADXGRP22

4694-247 terminal

ADXGRP23

4694-247 controller/terminal

Name of terminal device characteristics

Use this keyword to assign a name to your terminal device characteristics entry.

Keyword restrictions

- All terminals with the same terminal device characteristics name must have the same set of attached input/output devices. However, each terminal within the group can have its own keyboard layout and sales application program.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

STORE

Name of terminal device group

Use this keyword to assign a name to your terminal device group.

Keyword restrictions

- All terminals with the same terminal device group must have the same set of attached input/output devices. However, each terminal within the group can have its own keyboard layout and sales application program.
- This name is also used to load the terminal device group hardware configuration. See “Device group name” on page 369.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

None

Name of terminal keyboard layout being processed

Use this keyword to assign a name to the keyboard. Each point-of-sale terminal can have one of the following keyboard layouts:

- 50-key keyboard
- Alphanumeric keyboard
- Alphanumeric Point-of-Sale (ANPOS) keyboard
- 4693 Point-of-Sale (POS) keyboard
- 4693 ANPOS keyboard
- 4693 Modifiable Layout keyboard
- 4694 LCD/Video keypad (4694 terminals only)
- Matrix keyboard
- Modular 67-key keyboard

Terminal Configuration Keywords

- Modular 67-key LCD keyboard
- Modular ANPOS keyboard
- USB 50-key keyboard (SurePOS 300/700 Series only)
- USB ANPOS keyboard (SurePOS 300/700 Series or TCxWave 6140 Series only)
- USB 133-key keyboard (SurePOS 300/700 Series only)

You may want to design a keyboard layout for each of your terminal device groups. Give each keyboard layout a unique name to distinguish it from other layouts. For example, if you were to define a keyboard layout for all terminals that have been allocated for sales only, you might name the layout SALES or CHECKOUT.

Keyword restrictions

This name is also used to load the terminal device group keyboard configuration. See “Keyboard layout record name” on page 390.

Parameters

Specify 1 to 8 alphanumeric characters.

Default value

None

NFS mount group

Use this keyword to identify an NFS mount group to modify or to which you want to assign a terminal or range of terminals. By default, all terminals are initially assigned to mount group 8.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

- NFS Mount Group 1
- NFS Mount Group 2
- NFS Mount Group 3
- NFS Mount Group 4
- NFS Mount Group 5
- NFS Mount Group 6
- NFS Mount Group 7
- NFS Mount Group 8

Default value

Mount Group 8

NFS mount group description

Use this keyword to enter a description of the NFS mount group.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

Enter a description.

Default value

NFS Mount Group

NFS server's IP address

Use this keyword to identify the TCP/IP address of the NFS server you want to access.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

Specify a valid IP address.

Default value

None

NFS terminal range

Use this information to assign a terminal or range of terminals to any of the available NFS mount groups. By default, all terminals are initially assigned to mount group 8.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

Specify a terminal number or range of terminal numbers.

Default value

None

Non-Toshiba pulse duration

The point-of-sale terminal supports use of non-Toshiba cash drawers. Use this keyword to indicate the pulse duration of the cash drawer that is attached to terminal sockets 3A and 3B.

Keyword restrictions

- This keyword is valid for non-Toshiba cash drawers only.
- If two non-Toshiba cash drawers are attached to the point-of-sale terminal, both cash drawers must have the same pulse duration value specified.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify a value from 1 to 1048 milliseconds.

Default value

80

Number of directory sectors

Use this keyword to indicate the number of sectors available for directories on a RAM disk. Each sector contains 16 entries (16 files). The maximum number of sectors is 64, which will hold up to 1024 files.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify a value from 1 to 64.

Default value

None

Terminal Configuration Keywords

Number of existing terminal load definition to use as a model

As each Mod1 terminal is powered on, the store controller sends it an initial program load (IPL) and a defined *terminal load*. The terminal load definition contains the name of the device group and keyboard layout, as well as the name of the first application program to be loaded into the terminal.

Use this keyword in the terminal load definition to indicate the terminal load being used as a model.

Keyword restrictions

None

Parameters

Specify a value from 001 to 1016. The Toshiba models are 1000 to 1016.

Default value

The operating system supplies a default terminal load definition that you can use to define your own terminal loads:

1000	Reserved
1001	4683 Mod1 default definition
1002	4683 Mod2 default definition
1005	4693-5x1 or 4693-7x1 default definition (terminal only)
1006	4693-4x1 default definition
1007	4693-2x2 default definition
1008	4693-3x1 default definition
1009	4683-4x1 default definition
1010	4693-5x1 or 4693-7x1 default definition controller/terminal
1011	4693-3W1 default definition
1012	4694-0x4 or 1xx default definition terminal only
1013	4694-1xx or 205 default definition controller/terminal
1014	4694-2x4 or 245 default definition terminal only
1015	4694-2x4 or 245 default definition controller/terminal
1016	4694-205 default definition terminal only
1017	4694-246 and 4694-347 default definition terminal only
1018	4694-246 and 4694-347 default definition controller/terminal only
1019	4694-206 and 4694-307 default definition terminal only
1020	4694-206 and 4694-307 default definition controller/terminal only
1021	4694-207 default definition terminal only
1022	4694-207 default definition controller/terminal only
1023	4694-247 default definition terminal only
1024	4694-247 default definition controller/terminal only

Number of minutes from power failure to turn off UPS

Use this keyword to indicate the number of minutes from power failure that the 4690 system should turn off the UPS.

Note: External UPS devices are not supported on SurePOS 700 Series terminals with the Battery Backup feature installed. The Battery Backup must be removed before an external UPS will work on a SurePOS 700 Series system.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify a value from 0 to 15. Specify a 0 if you do not want the operating system to turn off the UPS after a specified time interval.

Default value

0

Number of seconds between warning messages

Use this keyword to indicate the number of seconds between the warning messages during a power failure.

Note: External UPS devices are not supported on SurePOS 700 Series terminals with the Battery Backup feature installed. The Battery Backup must be removed before an external UPS will work on a SurePOS 700 Series system.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify a value from 5 to 90.

Default value

0

Number of terminal ram disks supported for this device group

Use this keyword to indicate the number of RAM disks supported by the terminal device group for use as virtual files.

Keyword restrictions

None

Parameters

Specify a value of 0, 1, or 2.

Default value

0

Number of tracks to read

Use this keyword to indicate the number of tracks the three-track MSR is to read.

Keyword restrictions

None

Parameters

- 1** Read 1 track
- 2** Read 2 tracks
- 3** Read 3 tracks

Default value

1

Number of tracks to read (for Keyboard-V POS with JUCS MSR, Keyboard-VI POS with JUCS MSR, or 50-Key POS Keyboard with JUCS MSR)

Use this keyword to indicate the number of tracks the Keyboard-V POS with JUCS MSR, Keyboard-VI POS with JUCS MSR, or the 50-Key POS Keyboard with JUCS MSR is to read.

Terminal Configuration Keywords

Keyword restrictions

None

Parameters

- 1 Reads 1 track
- 2 Read 2 tracks

Default value

1

Other labels

- | Use this keyword to identify the label types that are supported by the scanner during SurePOS 300/700 Series and TCxWave 6140 Series terminal configuration.

Keyword restrictions

Java graphics must be enabled to configure this keyword on SurePOS 700 Series systems.

Note: RSS-14 and RSS Expanded Labels cannot be configured through the Terminal Configuration Utility for any scanner type. Following are the three methods to handle the configuration of the scanner device to read RSS-14 and RSS Expanded Labels. The scanner manufacturer defines which of these three methods should be used for their scanner device.

- The scanner manufacturer ships the scanner already able to read RSS-14 and RSS Expanded Labels. No additional work is required to configure these labels.
- The scanner manufacturer provides programming labels to use with the scanner device to configure the RSS-14 and RSS Expanded Labels.
- The scanner manufacturer uses the Direct I/O interface to configure the labels. For information about enabling RSS-14 and RSS Expanded Labels using this method, see the "Allowing Applications Direct Access to the Scanner" section of the *4690 OS: Programming Guide*.

Parameters

- UPC/EAN (UPC version A and E)
- Codabar
- Code 93
- Code 128
- UCC/EAN 128
- Code 39
- Code 128 Supplementals
- P2 Supplementals
- P5 Supplementals
- UPC Version D (all five types)
- Interleaved Two-of-Five

Default value

None

Palette

Use this keyword to indicate the color mode support for terminals that will use Java graphics.

Attention: This keyword indicates the number of colors that your monitor supports, not the number of colors you want.

Keyword restrictions

None

Parameters

- 1 256 colors
- 2 65,000 colors

Default value

1

Partner terminal

This keyword identifies the partner terminal that must be attached to the Mod2 terminal that is being defined. Every Mod2 terminal must be attached to its assigned partner.

Keyword restrictions

This keyword is valid for Mod2 terminals only.

Parameters

Specify an individual terminal number from 001 to 999 or a range of terminal numbers that are separated by a hyphen (-). You can further limit the range of terminal numbers by specifying odd or even after the higher range value.

- 1 Odd numbers only
- 2 Even numbers only
- 3 All numbers in the range

For example, if you have six terminals you could number the partner terminals as 1, 3, 5 and the Mod2 terminals as 2, 4, and 6.

Default value

None

Printer type

Use this keyword to select the type of DBCS printer receiving the downloaded logo file when using the Font/Logo Utility.

Keyword restrictions

None

Parameters

- 1 4689-3G1
- 2 4610 model TI5, 2CR, or 2NR

Default value

1

Port number

The point-of-sale terminal supports the use of serial input/output devices. For a 4683 terminal, use this keyword to indicate the serial input/output port number to your application program for the device that is attached to Feature Expansion C, D, or E (socket 23 or 25). On the 4693 or 4694 a port is available on the base and by installing one to four dual async cards. The number of cards available depends on the terminal type.

The SurePOS 300/700 Series terminals have two serial ports on the system board. Four serial ports are supported for controllers and terminals on SurePOS 700 Series Models 74x, 77x, 78x, and C4x.

- | The TCxWave 6140 Series terminals support up to 4 serial devices attached. No actual serial ports are on the system board; instead, the serial support is provided through RS232-to-Serial dongles.

Terminal Configuration Keywords

Note: If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- 1 Serial input/output port 1
- 2 Serial input/output port 2
- 3 Serial input/output port 3
- 4 Serial input/output port 4

Default values

For 4683:

- 1 Feature Expansion C, D, or E on left (socket 23)
- 2 Feature Expansion C, D, or E on left (socket 25)
- 3 Feature Expansion C, D, or E on right (socket 23)
- 4 Feature Expansion C, D, or E on right (socket 25)

| The 4693, 4694, and SurePOS 300/700 Series and TCxWave 6140 Series terminal types do not have
| default values.

Port type

The 4683 Point-of-Sale Terminal supports use of serial input/output and current-loop interface devices. Use this keyword to indicate the type of serial input/output or current-loop port for the device that is connected to 4683 Feature Expansion C, D, or E.

Keyword restrictions

None

Parameters

- 1 RS-232C device interface
- 2 Current loop device interface

Default value

1

Price check verification (4696, 4697, and 4698 Scanners)

Use this keyword to select the number of digits in a price to verify.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- 1 Verify 4-digit price
- 2 Verify 5-digit price
- 3 Do not verify

| **SurePOS 300/700 Series terminals and TCxWave 6140 Series terminals:**

- | • Do not verify
- | • Verify 4-digit price
- | • Verify 5-digit price

Default value

3 - For 4683, 4693, and 4694 terminals

- | Do not verify - SurePOS 300/700 Series and TCxWave 6140 Series terminals

Primary application

- | Use this keyword to specify if you have a primary application to start when the terminal starts on SurePOS
- | 300/700 Series or TCxWave 6140 Series terminals.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

- Do not start a primary application
- Start a primary application

Default value

Start a primary application.

Printer type

The printer can be fiscal or point-of-sale. Most printers are point-of-sale. However, in some countries store systems users are required to keep auditing records on their terminals and fiscal printers are used for that purpose in those countries. Fiscal printers are labeled with the printer model number, followed by an A. Point-of-sale printers are labeled with the model number only.

Keyword restrictions

None

Parameters

- 1 Point-of-sale printer
- 2 Fiscal printer

Default value

1

Programming with bar codes

- | This keyword allows you to enable or disable the option of programming or configuring your scanner using
- | special programming barcodes. This keyword is defined during SurePOS 300/700 Series or TCxWave
- | 6140 Series terminal configuration.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- Enable
- Disable

Default value

Disable

PS/2 port Java keyboard (4694 Terminals only)

Use this keyword when the terminal using this device group must provide input to a Java application that is beyond the capabilities of a terminal POS keyboard. If you use this option, you must also select the type of keyboard that will be attached to the PS/2 port.

Terminal Configuration Keywords

Keyword restrictions

If an ANPOS keyboard is configured, a keyboard cannot be defined to be attached to socket 5. You must also select the model.

If LCD/Video display with an integrated keypad is configured, the ANPOS keyboard option is not available.

Parameters

- 0 A keyboard is not attached
- 1 PS/2 keyboard
- 2 ANPOS keyboard (shared)

Default value

0

Pulse duration

The point-of-sale terminal supports use of non-Toshiba cash drawers. Use this keyword to indicate the pulse duration of the cash drawer that is attached to terminal sockets 3A and 3B.

Keyword restrictions

- This keyword is valid for non-Toshiba cash drawers only.
- If two non-Toshiba cash drawers are attached to the point-of-sale terminal, both cash drawers must have the same pulse duration value specified.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify a value from 1 to 1048 milliseconds.

Default value

80

Redirected I/O device input for Java applications

Use this keyword if the terminal using this device group is running Java applications and in order to run those applications require redirected I/O input. When you select this option you can select the following devices for redirected input

- I/O processor
- ANDISPLAY1
- ANDISPLAY2
- Cash receipt station
 - Monitor
 - Handler
- Document Insert Station
- Summary Journal Station
- Magnetic Stripe Reader

Any I/O device selected for redirection must be configured but does not have to be attached.

Keyword restrictions

At least one device must be selected. Any combination of devices is allowed.

Parameters

- 1 Yes
- 2 No

Default value

2

Regulatory conformance (4696, and 4698 scanner/scales)

Use this keyword to select the regulatory conformance options.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals:

- 1 U.S. HB44, Canadian SGM-1
- 2 EEC, OIML (for non-automatic weighing instruments)

| **SurePOS 700/300 Series and TCxWave 6140 Series terminals:**

- | • EEC, OIML
- | • U.S. HB44

Default value

- 1 - For 4683, 4693, and 4694 terminals
- | U.S. HB44 - For SurePOS 700 Series and TCxWave 6140 Series terminals

Remote resource name

Use this keyword to identify the remote resource name for an NFS mount group.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

Enter the name of the remote resource.

Default value

None

Remote scale display (4696 and 4698 scanner/scales)

- | Use this keyword if the weight recorded by the scale will be displayed by the scale on a remote display. To
- | enable this keyword for a scanner attached to a SurePOS 300/700 Series or a TCxWave 6140 Series
- | terminal, use the checkbox under the Scales option.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- 1 (Yes) Scale will display weight on its own display
- 2 (No) Scale has no display or will not display weight; the application must display the weight

Default value

- 1 - For 4683, 4693, and 4694 terminals
- | Disabled - For SurePOS 300/700 Series or TCxWave 6140 Series terminals

Resolution (4694 terminals only)

Use this keyword to specify the resolution for the video display mode of a terminal that will use Java graphics.

Terminal Configuration Keywords

Keyword restrictions

None

Parameters

- | | |
|---|------------|
| 1 | 640 x 480 |
| 2 | 800 x 600 |
| 3 | 1024 x 768 |

Default value

1

Scale type

- | Use this keyword to indicate the type of scale that is attached to Feature Expansion B or C, or the type of scale attached to the SurePOS 300/700 Series or TCxWave 6140 Series system. The Point-of-Sale
- | Terminal supports the use of two types of scales (English and metric measurement).

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, or 4694 terminals:

- | | |
|---|--|
| 1 | English measurement scale (pounds and ounces) |
| 2 | Metric measurement scale (kilograms and grams) |

- | **SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

- | • Metric
- | • English

Default value

1 - For 4683, 4693, or 4694 terminals

- | English - For SurePOS 300/700 Series or TCxWave 6140 Series terminals

Scans per read (4696, 4697, 4698 scanners)

Use this keyword to select the number that are selected.

Keyword restrictions

None

Parameters

Select the number of scans per read in the range of 1 to 4.

Default value

2

Scans per read (4696 scanner)

Use this keyword to select the number of scans per read for the various label types.

Keyword restrictions

None

Parameters

Select the number of scans per read in the range of 1 to 3.

Default value

Varies with the label type

Security/integrity level

- | Use this keyword to set the number of scans per read for in-store labels for scanners attached to
- | SurePOS 300/700 Series or TCxWave 6140 Series terminals. This specifies how many good reads of a
- | specific in-store label are required before the scanner accepts it as a good label.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Very low
Low
High
Very High

Default value

Very low

Select a drive letter

Use this keyword to identify the drive to which you want to assign an NFS mount group.

Keyword restrictions

You must have Java graphics enabled to configure this keyword.

Parameters

G:
H:
I:
J:
K:
L:

Default value

None

Select the shared keyboard (controller/terminals only)

Use this keyword to indicate which keyboard is to be shared between the controller and terminal sides of your controller/terminal.

Parameters

- 1 4693 Alphanumeric Point-Of-Sale keyboard
- 2 Alphanumeric Point-Of-Sale keyboard

Default value

1

Shared keyboard with an MSR attached for use by terminal applications (controller/terminals)

Use this keyword to indicate that the alphanumeric Point-Of-Sale keyboard shared between the controller and terminal sides of your controller/terminal has a magnetic stripe reader (MSR) attached.

Terminal Configuration Keywords

Keyword restrictions

This keyword does not apply to the 4693 Alphanumeric Point-of-Sale Keyboard because it has an integrated MSR.

Parameters

- 1 Yes
- 2 No

Default value

2

Should the terminal screen saver function be disabled?

Use this keyword to disable or enable the terminal screen saver for your terminal.

Keyword restrictions

None

Parameters

- 1 Yes (Terminal screen saver is disabled for this terminal)
- 2 No (Terminal screen saver is enabled for this terminal)

Default value

2

Size

Use this keyword to indicate the number of 32-KB blocks in a RAM virtual file. The amount of memory actually available depends on the amount of memory that is installed in the terminal and the size of the application.

When specifying the number of blocks, you should consider all factors that affect storage space. For example, a large keyed file will require free space. For additional information on RAM disk files see the *4690 OS: Programming Guide*.

Only the first 32-KB block is allocated at IPL. If two or more 32-KB blocks are specified, they are allocated when the file is created.

Note: The keywords Size and Disk Size are synonymous.

Keyword restrictions

- The minimum size is one 32-KB block.
- The maximum number of blocks is 1,960 and must not exceed the total amount of available storage in the store controller.

Parameters

Specify a value from 1 to 1,960.

Default value

None

System display (for Feature Expansion A)

Use this keyword to indicate if the display attached to Feature Expansion A (socket 81) is the system display for the 4683 Point-of-Sale Terminal.

Keyword restrictions

If you are using the Toshiba-supplied default terminal configuration, the alphanumeric display that is attached to socket 4A is the default system display. If you are using 3270 emulation at the terminal, the

system display must be a video display. To define the display that is attached to socket 81 as a system display, you must specify `SYSTEM DISPLAY=2 (No)` for displays that are attached to other sockets.

Parameters

- 1 The display attached to Feature Expansion A (socket 81) is the system display.
- 2 The display attached to Feature Expansion A (socket 81) is **not** the system display.

Default value

2

System display (terminal sockets)

Use this keyword to indicate if the display attached to the terminal socket you define is the system display for the terminal. See Appendix B, "Terminal installation worksheets" to determine which socket is available for displays on your terminals.

Note: Sockets 5, 5A, and 5B have a display integrated on the keyboard.

Keyword restrictions

- The shopper display cannot be defined as the system display.
- You can define only one display as the system display.
- If you are using the Toshiba-supplied default terminal configuration, the alphanumeric display that is attached to a socket is the default system display. If you are using 3270 emulation at the terminal, the system display must be a video display. To define the display that is attached to any other socket as a system display, you must specify `SYSTEM DISPLAY=1 (Yes)` for that socket, and you must also specify `SYSTEM DISPLAY = 2 (No)` for all other sockets with displays.

Parameters

- 1 The display attached to the terminal socket is the system display.
- 2 The display attached to the terminal socket is **not** the system display.

Default value

1 for socket 4A; 1 for socket 4 on 4694; 2 for all other sockets.

System display (for SurePOS 300/700 Series or TCxWave 6140 Series systems)

Use this keyword to indicate if the display attached to the SurePOS 300/700 Series or the integrated display of the TCxWave 6140 Series terminal will be the system display.

Keyword restrictions

This keyword does not apply to controller/terminals because if it is shared the video display on controller/terminals is the system display.

You must have Java graphics enabled to configure this keyword on the SurePOS 700 Series systems.

Parameters

Check the checkbox under Video Displays during Change Device Characteristics to set the video display as the system display.

Default value

Disabled

System display (for video port)

Use this keyword to indicate if the display attached to the video port will be the system display.

Terminal Configuration Keywords

Note: If using a 4693-3x1 terminal, then your video display must plug into a video display adapter. The 4693-3x1 does not have a video port. It has two card slots, one of which can be used for a video display adapter.

Keyword restrictions

This keyword does not apply to controller/terminals because if it is shared the video display on controller/terminals is the system display.

Parameters

- 1 Yes
- 2 No

Default value

2

TCC method

Use this keyword in the terminal load definition to indicate the TCP/IP TCC method.

Keyword restrictions

- You must have previously chosen to enable TCP/IP.
- You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.
- TCC over IP is not supported on Mod2 terminals (such as 4693–202).

Parameters

4693 and 4694 terminals:

- 1 System Settings
- 2 Internet Protocol (IP)

| **SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

| Implemented over Internet Protocol (IP)

Default value

1 - 4693 and 4694 terminals:

| Implemented over Internet Protocol (IP) - SurePOS 300/700 Series or TCxWave 6140 Series terminals

TCP/IP

Use this keyword in the terminal load definition to enable TCP/IP.

Keyword restrictions

| You must have Java graphics enabled to configure this keyword on SurePOS 300/700 Series or TCxWave
| 6140 Series systems.

Parameters

4693 and 4694 terminals:

- 1 Yes
- 2 No

| **SurePOS 300/700 Series or TCxWave 6140 Series terminals:**

| TCP/IP enabled

Default value

2 - 4693 and 4694 terminals:

| Blank - SurePOS 300/700 Series or TCxWave 6140 Series terminals

Terminal

- | Use this keyword to select a device characteristics name for a terminal load definition during configuration
- | of SurePOS 300/700 Series or TCxWave 6140 Series systems.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Select a device characteristics name from the selection box.

Default value

STORE

Terminal applications

Use this keyword to specify the number of terminal applications that will be supported by this load definition.

Keyword restrictions

None

Parameters

Specify either 1, 2, 3, or 4.

Note: The maximum of 4 terminal applications is only supported if one of the applications is a Java application. Otherwise the maximum is 3.

Default value

1

Terminal number or range of terminal numbers

Use this keyword to indicate the DBCS terminal(s) to which the specified device is attached when using the Font/Logo Utility.

Keyword restrictions

None

Parameters

User-defined file name

Default value

None

Terminal number or range of terminal numbers for this load definition

Terminal loads are assigned to individual terminals or to ranges of terminal numbers. These numbers are included in the terminal's request to load its programs.

Use this keyword in the terminal load definition to indicate the numbers of the terminals that will use the definition.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, and 4694 terminals

Terminal Configuration Keywords

Specify an individual terminal number from 001 to 999 or a range of terminal numbers that are separated by a hyphen (-). You can further define the range of terminal numbers by specifying odd or even after the higher range value.

- 1 Odd numbers only
- 2 Even numbers only
- 3 All numbers in the range

| SurePOS 300/700 Series or TCxWave 6140 Series terminals

Specify an individual terminal number from 001 to 999. Enter 0 to use the store default.

Default value

None

Terminal type

Use this keyword to indicate the type of terminal being processed for the terminal device group.

Keyword restrictions

None

Parameters

- 1 4693-5x1/7x1 terminal
- 2 4693-4x1 terminal
- 3 4693-3x1 terminal
- 4 4694-0x4/1xx terminal
- 5 4694-205 terminal
- 6 4694-2x4/245 terminal
- 7 4694-206 terminal
- 8 4694-246 terminal
- 9 4683-4x1 terminal
- 10 4683 terminal
- 11 4693-5x1/7x1 controller/terminal
- 12 4694-1xx/205 controller/terminal
- 13 4694-2x4/245 controller/terminal
- 14 4694-206 controller/terminal
- 15 4694-246 controller/terminal
- 16 Reserved
- 17 4693-2x2 terminal

Default value

1

Tracks

Use this keyword in the terminal load definition to indicate whether the Dual-Track Magnetic Stripe Reader (MSR) is to be used as a single-track MSR or the MSR is to read multiple tracks.

Keyword restrictions

None

Parameters

- 1 Use the Dual-Track MSR as a single-track MSR
- 2 Use the Dual-Track MSR to read two tracks

Default value

1

Typematic keys

When you are defining the keyboard layout for the ANPOS or any of the 4693 family of keyboards, the operating system displays a panel on which you choose certain characteristics about the keyboard. Use this keyword to select the typematic rate for the keyboard.

Keyword restrictions

None

Parameters

Enter a number in the range 1 (fastest) to 3 (slowest) or select 4 to disable the typematic function.

Default value

- 1 ANPOS and 4693 ANPOS
- 4 4693 POS and 4693 Modifiable Layout

Unit of measure (scanner with integrated scale, IBM 4696 and 4698 scanner/scales)

Use this keyword to indicate the units of measure for the scale.

Keyword restrictions

None

Parameters

- 1 Pounds
- 2 Kilograms

Default value

1

UPC check digit verification

Use this keyword to indicate which type of label your scanner should use to verify the digits scanned.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- UPC-A
- UPC-E

Default value

None

UPS device manufacturer

Use this keyword to indicate the manufacturer of the UPS.

Note: External UPS devices are not supported on SurePOS 700 Series terminals with the Battery Backup feature installed. The Battery Backup must be removed before an external UPS will work on a SurePOS 700 Series system. Only the following UPS models are supported on the SurePOS 700 Series systems.

- Back-up UPS Model 400
- Back-up UPS Model Pro420
- Smart-UPS Model 450
- Best Patriot Model 420

Terminal Configuration Keywords

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

- 1 American Power Conversion Corporation
- 2 Best Power Corporation

Default value

None

UPS port number

Use this keyword to indicate the asynchronous port to which the UPS is attached.

Notes:

- 1. External UPS devices are not supported on SurePOS 700 Series terminals with the Battery Backup feature installed. The Battery Backup must be removed before an external UPS will work on a SurePOS 700 Series system.
- 2. If you define a UPS device but do not physically attach the device to the terminal, unpredictable results may occur. For example, UPS-related messages might be issued at the warning interval that you define for the UPS.

Keyword restrictions

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

Specify the port number. Enter 0 if no UPS is attached.

Default value

None

USB attached

Use this keyword to define whether the LCD/video is USB-attached.

Keyword restrictions

None

Parameters

- 1 Yes
- 2 No

Default value

2

Video attribute for message

Use this keyword to change the attribute for the terminal screen saver message. This attribute must be specified as a VGA format attribute. See the *4680 BASIC: Language Reference* for the description of the VGA format attribute.

Note: Underlining is enabled for the terminal screen saver for monochrome displays. See the *4680 BASIC: Language Reference* for instructions on generating underlined characters.

Keyword restrictions

None

Parameters

Enter the attribute.

Default value

1F (White characters on a blue background. White letters on a grey background on monochrome video displays.)

Video attribute supports background intensify option

Use this keyword to enable intensified background colors or blinking for the terminal screen saver message attribute. See the *4680 BASIC: Language Reference* for instructions on generating blinking or intensified background color characters.

Keyword restrictions

None

Parameters

- 1 Yes (intensified background colors are enabled)
- 2 2 (blinking is enabled)

Default value

2

Video display format (for Feature Expansion A - 4683 only)

Use this keyword to indicate the default video display format for a video attached to Feature Expansion A. This format can be changed by the terminal application. See the *4690 OS: Programming Guide* for more information.

Video display format determines the number and size of the characters displayed on the video.

Keyword restrictions

None

Parameters

- 1 25 lines by 80 characters (9-in. and 12-in. displays only)
- 2 16 lines by 60 characters (9-in. and 12-in. displays only)
- 3 12 lines by 40 characters (all displays)
- 4 6 lines by 20 characters (5-in. display only—For socket 81 of Feature Expansion A only)

Default value

1

Video display format

Use this keyword to indicate the default video display format for a video attached to the video port on SurePOS 300/700 Series systems. This format can be changed by the terminal application. See the *4690 OS: Programming Guide* for more information. Video display format determines the number and size of the characters that can be displayed on the video.

Note: If using a 4693-3x1 terminal, then your video display must be plugged into a video display adapter. The 4693-3x1 does not have a video port. It has two card slots, one of which you can use for a video display adapter.

Keyword restrictions

The 16x60 video display format is a 16 row x 60 column character window centered on a 16 row x 80 column character screen. Character positions 1 - 10 and 61 - 80 are blank and are not accessible to the

Terminal Configuration Keywords

terminal application. Accessing character location (1,1) is actually character position (11,1). VGA only supports 40 or 80 columns while running in character mode.

Note: For Enhanced Mode, 25x80 is the only video display format that is supported for the 4690 OS. 16x60 and 12x40 are not supported.

You must have Java graphics enabled to configure this keyword on SurePOS 700 Series systems.

Parameters

4683, 4693, or 4694 terminals:

- 1 25 lines by 80 characters
- 2 16 lines by 60 characters
- 3 12 lines by 40 characters

SurePOS 300/700 Series terminals:

- 25 lines by 80 characters
- 16 lines by 60 characters
- 12 lines by 40 characters

Default value

1 - 4683, 4693, or 4694 terminals

25 lines by 80 characters - SurePOS 300/700 Series terminals

Video display size

The point-of-sale terminal supports the use of several video display sizes. Use this keyword to indicate the size of the video display that is attached to Feature Expansion A (socket 81).

Keyword restrictions

This keyword is valid for IBM displays attached to Feature Expansion A.

Parameters

- 1 12-in. monochrome display
- 2 12-in. color display
- 3 9-in. monochrome display
- 4 5-in. monochrome display

Default value

1

Note: For video displays attached to Feature Expansion A, Toshiba recommends that you configure the largest video display format that your terminal applications can use. This avoids system memory allocation (and the potential for an insufficient system memory error condition) when your application to a larger format changes the video display format. The order of video display formats, from largest to smallest, is 25 x 80, 16 x 60, 12 x 40 and 6 x 20.

Will java graphics be used by terminals loading this device group?

Use this keyword to define whether the terminals loading this device group will use Java graphics.

Keyword restrictions

None

Parameters

- 1 Yes
- 2 No

Default value

2

Will this controller/terminal share its video and keyboard?

Use this keyword to indicate whether you want the controller and terminal sides of the controller/terminal to share the video and a keyboard.

The controller/terminal can have only one video display. Plug the video display into the video port. A videographics adapter (VGA) video subsystem supports the video.

The video and a keyboard can be shared between the controller and terminal sides. However, only the video can be shared by the controller and terminal sides.

Share video and keyboard

You can configure the system display and device name for the video. The keyboard must be an 4693 Alphanumeric Point-of-Sale keyboard or an Alphanumeric Point-of-Sale keyboard for the 4693 or 4694 controller/terminals. Plug the keyboard into the keyboard port.

Video and keyboard not shared

Another display and keyboard must be selected for the terminal side of the controller/terminal. The terminal requires a system display and keyboard.

Share video only

The system display and device name for the video can be configured. Another keyboard must be selected for the terminal side of the controller/terminal. The terminal requires a keyboard.

Keyword restrictions

None

Parameters

- 1** Yes
- 2** No
- 3** Shares video only

Default value

2

Will this terminal use a video display (4683-4x1, 4693, and 4694 terminals?)

Use this keyword to indicate whether you want the terminal to have a video display.

The terminal can have only one video display. This video display must be plugged into the video port. The video display is supported using a video graphics adapter (VGA) video subsystem.

Note: If using a 4693-3x1 terminal, then your video display must plug into a video display adapter. The 4693-3x1 does not have a PS/2 video port. It has two card slots, one of which can be used for a video display adapter.

Keyword restrictions

This keyword does not apply to 4693 2x2 terminals because these terminals do not support a video display (no video port and no card slots).

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Parameters

- 1 Yes
- 2 No

Default value

2

Appendix E. Store Controller Configuration Data - Worksheets E

This appendix contains worksheets to record multiple store-controller, single store-controller, or LAN (MCF Network) configuration data.

Store-controller configuration data defines:

- Operating characteristics of each store controller in your 4690 Store System
- Names, disk locations, and sizes of various files that are used by the 4690 Store System

Some worksheets and some fields on worksheets are identified with ***For Multiple Store- Controller Configuration Only***. Use these worksheets or fields for that purpose only.

Note: If you are defining single store-controller configuration data, do not use worksheets or fields that are identified for multiple store-controller configuration only.

You must complete one set of store-controller configuration worksheets for each store controller. If you have a single store controller, complete one set of worksheets. If you are using the 4690 Multiple Controller Feature and a Network product, complete one set of worksheets for each store controller in the MCF Network.

The 4690 Multiple Controller Feature lets you specify five types of store controllers for managing the categories of files that are used by the MCF Network. These store controllers are the alternate file server, alternate master store controller, file server, master store controller, and the subordinate store controllers.

Note: To expedite the definition of multiple subordinate store-controller configurations, consider using data from the configuration panels.

Where the worksheets mention a CONFIGURATION panel, that is to alert you that these sheets are for use in a later data entry activity. Keywords are the data you record on the worksheets.

“Store-Controller Configuration Keywords” on page 444 describes all of the keywords on the worksheets. The keywords appear in alphabetical order. Each description includes keyword restrictions, parameters, and the default values. See these descriptions when you are unsure what kind of information you need for a particular field.

Worksheet E1—Store-Controller Configuration

Use this worksheet to assign a two-character alphabetic identifier (ID) to each store controller. Each character of the ID must be between C and Z.

Note: The ID assigned to the master store controller is the default for the ID that is assigned to the file server. The ID assigned to the alternate master store controller is the default for the ID that is assigned to the alternate file server.

Store- Controller Type	ID	Next Step
Master Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
Alternate Master Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
File Server	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427.
Alternate File Server	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427.
Subordinate Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
Subordinate Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
Subordinate Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
Subordinate Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
Subordinate Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.
Subordinate Store Controller	_ _	Complete a copy of "Worksheet E2—Store-Controller Characteristics" on page 427 for this store controller.

Worksheet E2—Store-Controller Characteristics

Store Controller ID = _ _ ⁵

Use this information to define or change the store-controller characteristics for a single store controller or any individual controller on a multiple controller system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Are you configuring a controller/terminal?: _	2
If you answer Yes	0 2 (controller)
Terminal Number for this Controller/Terminal: _ _ _	
Initial Startup Mode	
Mode of Operation: _	1
Application Dump: _	N
Printer Lines: _ _ _	66
Communications Dump: _	N
If Loop feature is enabled for this controller:	
Loop 1: _	1
Primary Store Loop Control Mode: _	1
Loop 2: _	3
Primary Store Loop Control Mode: _	1
If Ethernet Terminal-Controller Communication (TCC) feature is enabled for this controller	
Ethernet Control Mode: _	1
Remote Program Load (RPL) Response Threshold:	0
Note: The Store Loop TCC Feature is not supported in 4690 OS V6R3 and beyond._	

After you complete this worksheet, complete a copy of “Worksheet E3—System Logical File Names” on page 428 for this store controller.

5. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E3—System Logical File Names

Store Controller ID = _ _ ⁶

Use this information to define or change the system logical file drive locations. You can use information from the worksheet to move system logical files from one disk drive to another.

The following list of system logical file names ships with the operating system. The system assigns the expanded and logical file names, and the definitions that are used by the operating system. At shipment, the system assigns these files to the store controller's drive C.

If you change the drive assignment of any system file, mark the change on this list as a record. You must then use the operating system Supplemental Diskettes or the Supplemental option using the CD-ROM. See the *4690 OS: User's Guide* for further information on changing system logical file drives.

Note: The configuration panels do not show descriptions of these files.

File Name	Drive (A, B, C, D, 0) ⁷	Description
ADXCSLTF	C	Terminal system dump
ADXCSITF	C	Formatted input sequence, modulo check, and label tables
ADXCSOHF	C	System trace (raw data)
ADXCSOIF	C	Store-controller performance data (raw data)
ADXCSOJF	C	Terminal performance data (raw data)
ADXCSMTF	C	Formatted system trace report
ADXCSMWF	C	Formatted system trace report work file
ADXCSPRF	C	Performance report
ADXCSNRF	C	Formatted system log scan
ADXCSDTF	C	Formatted configuration report
ADXCSKAF	C	Keyed file utilities work file
ADXCSKBF	C	Keyed file utilities work file
ADXCSKOF	C	Keyed file utilities work file
ADXCSKPF	C	Keyed file utilities work file
ADXCSKWF	C	Keyed file utilities work file
ADXCSKCF	C	Keyed file utilities work file
ADXCSKCP	C	Keyed file utilities work file
ADXCSKCK	C	Keyed file utilities work file
ADXCSKST	C	Keyed file utilities work file
ADXCSKSS	C	Keyed file utilities work file
ADXCSSDF	C	Report Module Level (formatted report)
ADXCSSWF	C	Report module level work file
ADXCSHCF	C	RCP selection file

6. **For multiple store-controller configurations only.** Use the store-controller ID from "Worksheet E1—Store-Controller Configuration" on page 426.

7. See page 447.

File Name	Drive (A, B, C, D, 0) ⁷	Description
ADXRT1SA	C	Alternate terminal BSX file (for remote processing of a dump)
ADXHS30L	C	3270 Emulation Application in the controller
ADXHST0L	C	3270 Emulation Terminal Interface Program (TIP)
ADXHSKSF	C	3270 Emulation statistics file
ADXRFDISK	C	4693 Reference Diskette Image
ADXILI3B	C	Initialize ABIOS BSX file in SPGM subdirectory
ADXILI3M	C	Initialize ABIOS BSX file in SMNT subdirectory

After you complete this worksheet, complete a copy of “Worksheet E4—System File Sizes” on page 430 for this store controller.

8. See page 447.

Worksheet E4—System File Sizes

Store Controller ID = _ _ ⁹

Use this information to define or change the sizes of system files. You can use information from the worksheet to change the size (in sectors) of system files.

File name	Description	File Size (in Sectors) ¹⁰	Minimum Size ¹¹	Maximum Size
ADXCSLTF ¹²	Terminal system dump	2048	2048	32 768
ADXCSONF	System display queue	8	8	128
ADXCISOAF	Controller hardware log	4	4	128
ADXCISOBF	Terminal hardware log	4	4	128
ADXCISOCF	Terminal status log	8	8	128
ADXCISODF	Controller status log	8	8	128
ADXCISOEF	System events log	32	32	128
ADXCISOFF	Application events log	8	8	128
ADXCISOIF	Controller performance data	21	21	484
ADXCISOJF	Terminal performance data	2	2	2
ADXCISOHF	System trace	16	16	128

After you complete this worksheet, complete a copy of “Worksheet E5—Primary Application Definition” on page 431 for this store controller.

9. **For multiple store-controller configurations only.** Use the store-controller ID from Worksheet E1—Store-Controller Configuration.

10. See page 449 for an explanation of this field.

11. Minimum file sizes are also the default file sizes.

12. You cannot change file size. The terminal dump file expands to contain a dump for any size of terminal storage.

Worksheet E5—Primary Application Definition

Store Controller ID = _ _ ¹³

Use this information to define or change the name of the primary application or the primary application text that appears on the main selection panel.

Note: If you are using a 4680 or 4690 application program, see the application program's planning and installation guide for the name of the primary application.

Application Name	Selection Text

After you complete this worksheet, complete a copy of "Worksheet E6—Secondary Application Definition" on page 432 for this store controller.

13. **For multiple store-controller configurations only.** Use the store-controller ID from "Worksheet E1—Store-Controller Configuration" on page 426.

Worksheet E6—Secondary Application Definition

Store Controller ID = _ _ ¹⁴

Use this information to define or change the title for referring to secondary applications. The names of up to 14 secondary applications, or the secondary application texts that appear on the main selection panel.

Title

Write the name of the application and the selection text the system processes when a user selects it from the main panel.

Application Name	Selection Text

After you complete this worksheet, if this store controller is a master store controller or an alternate master store controller, complete a copy of “Worksheet E8—Master and Alternate Master Store-Controller Background Application Definition” on page 434.

If this store controller is a subordinate store controller, complete a copy of “Worksheet E9—Subordinate Store-Controller Background Application Definition” on page 435.

14. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E7—Single Store-Controller Background Application Definition

Use copies of this worksheet to define or change the names, initial messages, and characteristics of up to 36 background applications.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Initial Message: _	None
Program Name: _	None
Parameter List: _	None
Priority: _	5
IPL Start: _	N

After you complete this worksheet, if you are using 4680 or 4690 application programs, complete a copy of “Worksheet E10—Application Logical File Names” on page 436 for this store controller. If you are using applications other than these Toshiba licensed products, complete a copy of “Worksheet E11—User Logical File Names” on page 437 for this store controller.

Worksheet E8—Master and Alternate Master Store-Controller Background Application Definition

Use this worksheet *for multiple store-controller configurations only*.

Store Controller ID = _ _ ¹⁵

Use copies of this worksheet to define or change the names, initial messages, and characteristics of up to 36 background applications for a master store controller or an alternate master store controller.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Initial Message: _	None
Program Name: _	None
Parameter List: _	None
Priority: _	5
IPL Start: _	Y
Note: Use the following keywords instead of IPL Start for the master store controller and alternate master store controller only (none of these keyword values need to be specified for the background host application ADXHSNLL).	
Start When Master: _	N
Stop When Not Master: _	N
Start When Not Master: _	N
Stop When Master: _	N
Note: Use the following keywords when the master store-controller, file-server, and alternate store-controller roles are spread across two controllers.	
Start When File Server: _	N
Stop When Not File Server: _	N
Start When Not File Server: _	N
Stop When File Server: _	N

After you complete this worksheet, if you are using 4680 or 4690 application programs, complete a copy of “Worksheet E10—Application Logical File Names” on page 436 for this store controller. If you are using applications other than these Toshiba licensed products, complete a copy of “Worksheet E11—User Logical File Names” on page 437 for this store controller.

15. From Worksheet E1—Store-Controller Configuration.

Worksheet E9—Subordinate Store-Controller Background Application Definition

Use this worksheet *for multiple store-controller configurations only*.

Store Controller ID = _ _ ¹⁶

Use copies of this worksheet to define or change the names, initial messages, and characteristics of up to 36 background applications for a subordinate store controller.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Initial Message: _	None
Program Name: _	None
Parameter List: _	None
Priority: _	5
IPL Start: _	N

After you complete this worksheet, if you are using 4680 or 4690 application programs, complete a copy of "Worksheet E10—Application Logical File Names" on page 436 for this store controller. If you are using applications other than these Toshiba licensed products, complete a copy of "Worksheet E11—User Logical File Names" on page 437 for this store controller.

16. From Worksheet E1—Store-Controller Configuration.

Worksheet E10—Application Logical File Names

Store Controller ID = _ _ ¹⁷

Use copies of this worksheet to define or change the locations (disk drives) for application files if you are using 4680 or 4690 application programs.

See the 4680 or 4690 application program's planning and installation guide for these file names. You need to specify only logical file names for files that you want to move from drive C to another drive.

Note: Valid RAM disks for store-controller files are T, U, V, or W; the valid RAM disk drive for terminal files is T.

File Name ¹⁸	Drive ¹⁹	File Name ¹⁸	Drive ¹⁹

After you complete this worksheet, complete a copy of:

- "Worksheet E11—User Logical File Names" on page 437 if you are:
 - Adding your own logical file names to the Toshiba application.
 - Using applications other than the Toshiba licensed products.
- "Worksheet E12—Random Access Memory Use as Virtual Files (RAM Disk)" on page 438 to define additional RAM disks for your store controller.
- "Worksheet E13—Realtime Interface Co-Processor Multiport Adapters" on page 439 to define multiple printers or auxiliary consoles for your store controller.

17. **For multiple store-controller configurations only.** Use the store-controller ID from "Worksheet E1—Store-Controller Configuration" on page 426.

18. See page 448 for more information.

19. Use A, B, C, D, E, T, U, V, or W. See page 447 for more information.

Worksheet E11—User Logical File Names

Store Controller ID = _ _ ²⁰

Use copies of this worksheet to define or change user logical file names and expanded names.

You can also use this worksheet to define additional user logical file names and to expand names that you are including in your 4690 Store System.

Logical Name (8 characters)	Expanded Name (127 characters)

After you complete this worksheet, complete a copy of:

- “Worksheet E12—Random Access Memory Use as Virtual Files (RAM Disk)” on page 438 to define additional RAM disks for your store controller.
- “Worksheet E13—Realtime Interface Co-Processor Multiport Adapters” on page 439 to define multiple printers or auxiliary consoles for your store controller.

20. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E12—Random Access Memory Use as Virtual Files (RAM Disk)

Store Controller ID = _ _ ²¹

Use copies of this worksheet to define or change additional RAM disks for your store controller.

RAM Disk Drive Designation: _ (T, U, V, or W)

Note: Store controller can access RAM disk drives T, U, V, and W. Terminal applications can access only RAM disk drive T.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Enable RAM Disk: _	N
Number of 32K Disk Blocks: _ _ _	1
Number of Directory Sectors: _ _	1

After you complete this worksheet, complete a copy of “Worksheet E13—Realtime Interface Co-Processor Multiport Adapters” on page 439 to define the Realtime Interface Co-Processor Multiport Adapters. This allows you to add multiple printers or auxiliary consoles to your store controller.

21. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E13—Realtime Interface Co-Processor Multiport Adapters

Store Controller ID = _ _ ²²

Use copies of this worksheet to identify the number of ARTIC adapters that are installed on your store controller.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Number of ARTIC Adapters: _	0

After you complete this worksheet, complete a copy of:

- “Worksheet E14—Multiple Printers on a Store Controller” on page 440 to define multiple printers for your store controller.
- “Worksheet E15—Auxiliary Consoles for the Store Controller” on page 441 to define auxiliary consoles for your store controller.

22. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E14—Multiple Printers on a Store Controller

Store Controller ID = _ _ ²³

Use copies of this worksheet to define or change multiple printers for your store controller.

Note: Complete this worksheet only if you have a store controller that attaches more than one printer. Each store controller must have one system printer attached. If only one printer is attached, the system assumes that it is the system printer.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Printer Number Being Processed: _	None
Printer Type Being Processed: _	1
System Printer: _	N
Parallel Adapter: _	None
Serial Adapter: _	None
Port: _	None
Line Rate: _	2
Stop Bits: _ _ _	1.0
Parity: _	3
Character Size: _	8

After you complete this worksheet, complete a copy of “Worksheet E15—Auxiliary Consoles for the Store Controller” on page 441 to define auxiliary consoles for your store controller.

23. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E15—Auxiliary Consoles for the Store Controller

Store Controller ID = _ _ ²⁴

Use copies of this worksheet to define or change auxiliary consoles for your store controller.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Console Number Being Processed: _	None
Console Attachment Method	1
Serial Adapter: _	None
Port: _	None
Associated Printer: _	0
Line Rate: _	2

Note: You can define an auxiliary console to replace the main system console through a specific configuration setting. You must define Auxiliary Console 1, which must be direct-attached (not attached on an ARTIC adapter) to Serial Port 1 or network-attached. This combination allows the system to question the user about the option of replacing the main system console.

After you complete this worksheet, select option 2 (Controller Configuration) from the CONFIGURATION panel to define store-controller configuration data. Then, see the worksheets from this appendix for appropriate parameters for each store-controller configuration keyword.

24. **For multiple store-controller configurations only.** Use the store-controller ID from "Worksheet E1—Store-Controller Configuration" on page 426.

Worksheet E17—Java Video Attributes

Store Controller ID = _ _ ²²

Use copies of this worksheet to identify the Java video attributes for your store controller.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Will this controller video display use monochrome support only: _	2
Will Java graphics be used by this controller ____	2
Note: If Java graphics will be used by this controller, you must define the palette (number of colors your monitor supports) for color mode support.	

25. **For multiple store-controller configurations only.** Use the store-controller ID from “Worksheet E1—Store-Controller Configuration” on page 426.

Worksheet E18—Network File System Data

Store Controller ID = _ _ ²²

Use copies of this worksheet to identify the Network File System (NFS) data for your store controller.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Drive Letter: _	None
Controller NFS Description: _	None
NFS Server's IP Address: _	0.0.0.0
Mount Point User ID: _	0
Mount Point Group ID: _	0
Remote Resource Name: _	None

26. **For multiple store-controller configurations only.** Use the store-controller ID from "Worksheet E1—Store-Controller Configuration" on page 426.

Store-Controller Configuration Keywords

This section describes each keyword that is used on the E worksheets. Each description includes keyword restrictions, parameters, and default values.

Alternate File Server (4690 Multiple Controller Feature only)

Use this keyword to indicate the ID of the alternate file server. The alternate file server is a store controller that receives images of all application-mirrored files. *Application-mirrored files* are files that exist on both the file server and the alternate file server.

You can activate the alternate file server as the file server if the defined file server becomes disabled.

Keyword Restrictions

- The alternate file server can be the same store controller as the master store controller or the alternate master store controller, or they can be unique.
- If you do not designate the alternate file server as the master store controller (or the alternate master store controller), the system considers it a subordinate store controller.

Parameters

Specify any unique, two-character alphabetic ID. Each ID character must be between C and Z.

Default Value

The ID assigned for the alternate master store controller is the default value for the ID that is assigned to the alternate file server.

Alternate Master Store Controller (4690 Multiple Controller Feature only)

Use this keyword to indicate the ID of the alternate master store controller. The alternate master store controller manages the MCF Network if the master store controller becomes disabled.

The alternate master store controller stores images of system-mirrored files and compound files for backup. *System-mirrored files* are files that are kept on both the master store controller and the alternate master store controller. *Compound files* are files that are kept on the master store controller, and image copies are kept on the alternate master store controller and all other store controllers.

Keyword Restrictions

None

Parameters

Specify any unique, two-character alphabetic ID. Each ID character must be between C and Z.

Default Value

The ID assigned for the alternate master store controller is the default value for the ID that is assigned to the alternate file server.

Application Dump

Use this keyword if the system is to automatically perform an application dump whenever an application program ends abnormally. The operating system provides this function, but you must select to activate it at configuration time.

When you begin system operation, use the automatic application dump to debug your application code. Later, for normal daily operations, it is best to take the default unless you are diagnosing a problem. If you always specify the default value, you cannot debug problems.

Keyword Restrictions

None

Parameters

- Y** Use the automatic application dump.
N Prevent use of the automatic application dump.

Default Value

N

Application Name

Use this keyword to indicate the name of the primary and secondary applications for the store controller. The SYSTEM MAIN MENU shows the selection texts for these names after you complete the configuration.

A *primary application* is the main application program that sets up and controls the normal operating environment of your store. *Secondary applications* are programs that require operator intervention (for example, time and attendance).

See the *4690 OS: Programming Guide* for further information on primary and secondary applications.

Keyword Restrictions

- If you are using a 4680 or 4690 application program, see that product's planning and installation guide for the name of the primary application.
- You can assign up to 14 secondary application program names.
- The operating system allows you to configure a batch file as a primary or secondary application. This application allows you to run a Java application from the 4690 menu. For example, batch file ADX_UPGM:JAVAPRIM.BAT could contain the line "java SalesApplication". Configure the primary application name as ADX_UPGM:JAVAPRIM.BAT. Secondary applications can use batch files in a similar manner.

Primary Application Parameters**EALMM00L**

The 4680 or 4680-4690 General Sales Application product.

EAMMM00L

The 4680 or 4680-4690 Supermarket Application product.

EGHC000L

The 4680 Chain Drug Sales Application product.

DUNMM00I

The 4680 Store Management Application product.

xxxxxxx

An application program other than a Store System product. Specify the device, path, and application file name (by using IBM Personal Computer naming conventions [filename.ext]) up to 128 alphanumeric characters. The application name uses the following format:

Logical Name:Filename.Extension

Note: The logical name defines both the physical drive and its path.

Secondary Application Parameters

Specify the device, path, and application file name (by using IBM Personal Computer naming conventions [filename.ext]) up to 24 alphanumeric characters. The application name uses the following format:

Logical Name:Filename.Extension

Note: The logical name defines both the physical drive and its path.

Store-Controller Configuration Keywords

Default Value

None

Associated Printer

Use this keyword to indicate the printer type that is connected to the following adapters:

- Realtime Interface Co-Processor Multiport (ARTIC) adapter
- Parallel adapter
- Directly attached to a serial port that is not on the ARTIC adapter

Keyword Restrictions

None

Parameters

Specify a value from 0 to 8. 0 indicates the system or default printer; 1 to 8 indicates a local printer.

Default Value

0

Character Size

Use this keyword to indicate the number of data bits that represent a character for a serial port in the Realtime Interface Co-Processor Multiport adapter.

Keyword Restrictions

None

Parameters

Specify a value from 5 to 8.

Default Value

8

Communications Dump

Use this keyword to specify the action that you want the 4690 Store Controller to take when SNA support in the controller detects a critical error. A critical error results when a severity one error is logged in the system log by one of the SNA components (for example, SDLC or X.25).

Keyword Restrictions

None

Parameters

- Y** When a critical error occurs, there is a controller dump and the controller re-IPLs. When the dump is complete, notify the store programmer.
- N** When a critical error occurs, you can experience the following symptoms:
- Applications that are using SNA communications can stop running or abnormally terminate.
 - Applications that try to use SNA communications after the critical error occurs will not start. They receive a return code that indicates that SNA communications is not available.
 - Other functions in the controller will be operational, including asynchronous communications. These are available by using the Realtime Interface Co-Processor Multiport adapter. To recover SNA communications, you must either dump the controller or re-IPL it. See the *4680 Store System: Problem Determination Guide* for more information on dumping the controller.

Default Value

N

Console Number Being Processed

Use this keyword to indicate the number of the console definition that the store controller is processing. This console connects to a Realtime Interface Co-Processor Multiport (ARTIC) adapter. The console directly attaches to a serial port that is not on the ARTIC adapter, or the console connects to a network.)

You can define a number for each auxiliary console, or printer attached to the store controller. Toshiba recommends that the console number correspond to the printer number. Console 1 is the main system console. See the HELP panel in controller configuration for more information.

You can define an auxiliary console to replace the main system console through a specific configuration setting. Define Auxiliary Console 1 as a direct-attached console in Serial Port 1 and confirm that you want to replace the main system console. This option is not valid in conjunction with a shared video and keyboard for a controller/terminal.

Keyword Restrictions

None

Parameters

Specify a value from 1 to 8.

Default Value

None

Controller NFS Description

Use this keyword to enter a description of the NFS controller.

Keyword Restrictions

You must have Java enabled on your store controller.

Parameters

Enter a name in alphanumeric characters.

Default Value

None

Drive (A, B, C, D, or O)

Use this keyword to change the drive on which a system file is located or to assign an application file to a store-controller drive.

Keyword Restrictions

None

Parameters

Specify A, B, C, D, or O.

Note: The O drive represents an optical disk drive, if installed.

Default Value

C For the operating system logical files and 4680 application program files

Drive Letter

Use this keyword to identify the logical drive letter for the NFS mount point. You can use each logical drive letter to define separate NFS mount points.

Store-Controller Configuration Keywords

Keyword Restrictions

You must have Java enabled on your system.

Parameters

Specify G:, H:, I:, J:, K:, L:.

Default Value

None

Enable RAM Disk

Use this keyword to specify whether the RAM disk is to be enabled when the store controller is powered ON.

Keyword Restrictions

None

Parameters

Y The RAM disk is enabled when the store controller is powered ON.

N The RAM disk is not enabled when the store controller is powered ON.

Default Value

Y

Expanded Name

Use this keyword to define expanded names for user logical files.

Keyword Restrictions

None

Parameters

Specify the node, device, path, and application file name (by using IBM Personal Computer naming conventions [filename.ext]) up to 127 alphanumeric characters. The expanded name uses the following format:

Node::Logical Name:Filename.Extension

Notes:

1. Only multiple store-controller systems require a node definition.
2. The logical name defines both the physical drive and its path.

Default Value

None

File Name

Use this keyword to define names for application logical files. Application logical file names access files on the storage devices in the store controller. The 4680 or 4690 application programming guides list these names.

Keyword Restrictions

- Define logical names for additional application logical files only if you are using 4680 or 4690 application programs. You need to specify only logical file names for files that you want to move from drive C to another drive.
- For multiple store-controller systems, the operating system requires that every distributed user file must have a logical file name defined, regardless of whether you use that name. See the *4690 OS: Programming Guide* for guidelines on naming and creating logical file names.

Parameters

Specify 1 to 8 alphanumeric characters.

Default Value

None

File Server (4690 Multiple Controller Feature only)

Use this keyword to indicate the ID of the file server. The file server is a store controller that stores prime versions of any application-mirrored files. (The master store controller contains the prime versions of the operating system mirrored files.)

Keyword Restrictions

- The file server can be the same store controller as the master store controller or the alternate master store controller, or it can be unique.
- If you do not designate the file server as the master store controller or the alternate master store controller, the system considers it to be a subordinate store controller.

Parameters

Specify any unique, two-character alphabetic ID. Each ID character must be between C and Z.

Default Value

cc The ID assigned for the master store controller is the default value for the ID that is assigned to the file server.

File Size (in Sectors)

Use this keyword to indicate system file size information. “Worksheet E4—System File Sizes” on page 430 shows minimum and maximum system file sizes. See the section on Managing Files in the *4690 OS: Programming Guide* for descriptions of system files.

Other file sizes are nominal and acceptable for most systems. Observe the performance of your system after it is installed and operating. You might want to increase or reduce the size of some operating system files. Depending on the size of your system, it might be an advantage to change the size of system files to manage storage.

Keyword Restrictions

Some file sizes are fixed and cannot be changed. You do not change the size of any system files at configuration.

Parameters

Specify 1 to 4 numeric characters for file sizes that you want to change. Choose a file size between the minimum and maximum value that meets your needs.

Default Value

The default values are the minimum file sizes on “Worksheet E4—System File Sizes” on page 430.

Initial Message

Use this keyword to indicate text to appear on the background application selection panel.

Keyword Restrictions

None

Parameters

Specify 1 to 45 alphanumeric characters.

Store-Controller Configuration Keywords

Default Value

No default value is assigned.

IPL Start

Use this keyword to indicate if the system starts a background application automatically at IPL. You can also start background applications at any time from the background-application selection panel.

Keyword Restrictions

- You can define up to 36 background applications, but only eight background applications can be started from Command Mode.
- This keyword is valid only for file-server and alternate file-server store controllers.

Parameters

Y Start the background application at IPL
N Do not start the background application at IPL

Default Value

Y

Line Rate

Use this keyword to indicate the line rate in (bits per second) of a serial port on the Realtime Interface Co-Processor Multiport (ARTIC) adapter. Also, use this keyword to indicate the line rate (in bps) of a serial port on an RS-232 serial port.

Keyword Restrictions

None

Parameters

For an auxiliary console, choose one of the first six values if attached on an ARTIC adapter, or 2 to 6 if not on an ARTIC adapter. For a printer, choose a value from 2 to 8.

1	19,200 bps	4	2400 bps	7	300 bps
2	9600 bps	5	1200 bps	8	150 bps
3	4800 bps	6	600 bps		

Default Value

2

Logical Name

Use this keyword to define logical file names for additional user files. See the *4690 OS: Programming Guide* for guidelines on naming and creating logical file names.

Keyword Restrictions

None

Parameters

Specify 1 to 8 alphanumeric characters.

Default Value

None

Master Store Controller (4690 Multiple Controller Feature only)

Use this keyword to indicate the ID of the master store controller. The master store controller is the primary store controller, which stores prime versions of system-mirrored files and compound files for

backup. System-mirrored files are files that are kept on both the master store controller and the alternate master store controller. Compound files are files that are kept on the master store controller, the alternate master store controller, and all other store controllers.

Keyword Restrictions

You must assign one master store-controller ID for each MCF Network.

Parameters

Specify any unique, two-character alphabetic ID. Each ID character must be between C and Z.

Default Value

The ID assigned for the master store controller is the default value for the ID that is assigned to the file server.

Note: The default value for the master store controller and the file server is the ID of the store controller where you are configuring your system.

Mode of Operation

Use this keyword to indicate if you want the store controller to operate in single-user or multiple-user mode. *Single-user mode* allows only one operator at a time to use active windows for processing jobs. *Multiple-user mode* allows several operators to activate several windows at the same time.

See the *4690 OS: User's Guide* for further information on single-user mode, multiple-user mode, and windows.

Keyword Restrictions

None

Parameters

- 1 Single-user mode
- 2 Multiple-user mode

Default Value

1

Mount Point Group ID

Use this keyword to identify the mount point group ID. This is the group ID automatically created on some systems when a user name is requested and created.

Keyword Restrictions

You must have Java enabled on your store controller.

Parameters

Enter either a positive or negative number.

Default Value

0

Mount Point User ID

Use this keyword to identify the mount point user ID. This is the user ID automatically created on some systems when a user name is requested and created.

Keyword Restrictions

You must have Java enabled on your store controller.

Store-Controller Configuration Keywords

Parameters

Enter either a positive or negative number.

Default Value

0

Network Printer

Use this keyword when you have a printer connected to a TCP/IP server. For more information on TCP/IP, see the *4690 OS: Communications Programming Reference*.

Keyword Restrictions

You must have TCP/IP enabled on your controller.

NFS Server's IP Address

Use this keyword to define the TCP/IP address for the NFS server. Enter the TCP/IP address in a dotted decimal format.

Keyword Restrictions

You must have Java enabled on your store controller.

Parameters

Enter a valid TCP/IP address.

Default Value

0.0.0.0

Number of Directory Sectors

Use this keyword to indicate the number of files to store on a RAM disk.

Keyword Restrictions

None

Parameters

Specify a value from 1 to 32 files. (Each sector holds 16 entries or files.)

Default Value

0

Number of Multiport Serial Adapters

Use this keyword to indicate the number of IBM Realtime Interface Co-Processor Multiport adapters that are installed in the store controller.

Keyword Restrictions

None

Parameters

- 0** Number of IBM Realtime Interface Co-Processor Multiport adapters installed in the store controller.
- 1** Number of IBM Realtime Interface Co-Processor Multiport adapters installed in the store controller.
- 2** Number of IBM Realtime Interface Co-Processor Multiport adapters installed in the store controller.

Default Value

None

Number of 32-KB Disk Blocks

Use this keyword to indicate the number of 32-KB blocks in a RAM virtual file.

Keyword Restrictions

- The minimum size is one 32-KB block.
- The maximum number of blocks must not exceed the total amount of available storage in the store controller.

Parameters

Specify a value from 1 to 999.

Default Value

0

Palette

Use this keyword to indicate the color mode support for Java graphics.

Attention: This keyword indicates the number of colors that your monitor supports, not the number of colors you want.

Keyword Restrictions

None

Parameters

- | | |
|---|------------|
| 1 | 256 colors |
| 2 | 64K colors |

Default Value

1

Parallel Adapter

Use this keyword to indicate the number of parallel adapters that are installed in the store controller. This keyword is defined on Worksheet E15 or F11.

Keyword Restrictions

None.

Parameters

- | | |
|---|-----------------------------|
| 1 | One adapter is installed. |
| 2 | Two adapters are installed. |

Default Value

None

Parameter List

Use this keyword to indicate the parameters that are to be passed to a background application.

Note: Parameter list supports the use of system logical file names. However, user logical file names and application logical file names are **NOT** supported.

Keyword Restrictions

- This keyword is required if you:
 - Define a permanent background application to start an SNA communication link
 - Use the 4680 or 4680-4690 General Sales Application host credit program in “Program Name” on page 456

Store-Controller Configuration Keywords

- If you are using this parameter list to define an SNA link, the parameters must include a link name, a retry count, and a timeout value.
- If you are using the 4680 or 4680-4690 General Sales Application host credit program, the parameters must include a link name and a session name. The default link name for the host credit program is EALHCLNK.
- If you specify more than one parameter, use commas to separate them.

Parameters

Specify 1 to 45 alphanumeric characters.

Default Value

No default value is assigned unless you are using 3270 emulation, in which case the default value is -b20.

Parity

Use this keyword to indicate the type of parity checking to be used for a serial port.

Keyword Restrictions

None

Parameters

- 1 Even parity checking. An even number of bits is set in each byte.
- 2 Odd parity checking. An odd number of bits is set in each byte.
- 3 No parity checking.

Default Value

3

Port

Use this keyword to indicate the port number on the IBM Realtime Interface Co-Processor Multiport adapter to which you connected the printer or console. Use this keyword if the logical port number for a printer or console directly attached to a serial port is not on the ARTIC adapter.

Keyword Restrictions

None

Parameters

Specify a value from 1 to 8.

Default Value

None

Primary Store Loop Control Mode

Use this keyword to indicate if you want:

- The primary store controller to automatically resume control when it returns to operation
- To manually resume the primary store controller control

Keyword Restrictions

None

Parameters

- 1 Manual resume
- 2 Automatic resume

Default Value

1

Printer Lines

Use this keyword to indicate the number of lines per page the printer that is attached to your store controller, should print.

Keyword Restrictions

None

Parameters

Specify a value from 1 to 999.

Default Value

66

Printer Number Being Processed

Use this keyword to indicate the printer number that the store-controller processes. This printer is connected to one of the following:

- IBM Realtime Interface Co-Processor Multiport adapter
- Parallel adapter
- Directly attached to a serial port that is not on an ARTIC adapter

You can define a number for each printer and auxiliary console attached to the store controller. Toshiba recommends that the printer number being defined correspond to the auxiliary console's number.

Keyword Restrictions

None

Parameters

Specify a value from 1 to 8.

Default Value

None

Printer Type Being Processed

Use this keyword to indicate the type of printer definition the store controller will process. (This printer connects to an IBM Realtime Interface Co-Processor Multiport adapter or to a parallel adapter.)

For a network printer, TCP/IP must be enabled on the controller for which you are defining the printer.

Keyword Restrictions

None

Parameters

- 1** A serial printer
- 2** A parallel printer
- 3** A network printer

Default Value

1

Note: For additional information on configuring a network printer, see the *4690 OS: Communications Programming Reference*.

Store-Controller Configuration Keywords

Priority

Use this keyword to indicate the relative application priority. Use the default priority except in special cases. Background applications started from the host always use the default priority.

Parameters

Specify a number from 1 (highest priority) to 9 (lowest priority).

Default Value

5

Program Name

The operating system enables you to define applications that run as background applications in the store controller. Use this keyword to indicate a name to the operator from the BACKGROUND APPLICATION SELECTION panel specify to initiate a background application.

Background applications are store-controller applications that do not need the use of the screen or keyboard for their operation. Some background applications start or stop running when the system is IPLed or when the master store controller is changed; the operator can start some background applications.

See the *4690 OS: Programming Guide* for more information on background applications.

Keyword Restrictions

- Do not define background applications for every store controller in the system. For example, you should define EALCS00L only for the file server. See your 4680 or 4690 application program's planning and installation guide for specific names and requirements for background applications.
- You can define up to 36 background applications, but only eight background applications can be started from command mode on the store controller.
- You can display only 36 background applications on the background application control panel.
- To configure Java in the background, use JAVABIN:JAVA.386 as the program name and the class name as a parameter for Java1 or use JAVA2BIN:JAVA.386 as the program name and the class name as a parameter for Java2 . BACKGRND is not passed to Java as the first parameter. Instead, the system property BACKGRND=TRUE is set so that the Java application can determine that it is running in the background. For example,

```
String bg = System.getProperty("BACKGRND");
```

assigns the string value "TRUE" to bg if Java was started in the background.

Parameters

See your 4680 or 4690 application program's planning and installation guide for specific names and requirements for background applications.

Specify ADXHSNLL to define a permanent background application to start the SNA communication link (if your system uses optional host communication).

Note: If you specify this parameter, you must also define a name, a retry count, and a timeout value for the SNA link by using "Parameter List" on page 453.

Default Value

None

RAM Disk Drive Designation

Use this keyword to identify a RAM disk.

Keyword Restrictions

None

Parameters

Specify T, U, V, or W.

Default Value

None

Note: Store-controller applications can access RAM disk drives T, U, V, and W. Terminal applications can access only RAM disk drive T.

Remote Program Load Response Threshold

Use this keyword to control the Remote Program Load (RPL) response time. This response threshold controls the RPL server's response to a load request that may be from a requestor that require a 4690 load. The threshold is the number of request frames the RPL server must receive before responding.

Keyword Restrictions

None

Parameters**0** No delay.**1-20** Delay response until from 1 to 20 request frames are received.**Default Value**

0

Remote Resource Name

Use this keyword to identify the remote resource name to be accessed on the host.

Keyword Restrictions

You must have Java enabled on your store controller.

Parameters

Enter a resource to be accessed on the host.

Default Value

None

Resolution

Use this keyword to define the resolution for the video display mode of the controller that uses Java graphics.

Keyword Restrictions

None

Parameters**1** 640 x 480**2** 800 x 600**3** 1024 x 768**Default Value**

0

Store-Controller Configuration Keywords

Selection Text

Use this keyword to indicate the text for application program names that appears for selection 1 (primary application) on the SYSTEM MAIN MENU or for the list of secondary application program names. For example, you might want to use the names of your 4680 application programs as your selection text. The SYSTEM MAIN MENU appears when the system is powered ON and an operator signs on.

Keyword Restrictions

None

Parameters

Specify 1 to 45 alphanumeric characters.

Default Value

Character blanks are shown to the right of selection 1 on the SYSTEM MAIN MENU and on the list of secondary application programs.

Serial Adapter

Use this keyword to indicate the number of the IBM Realtime Interface Co-Processor Multiport adapter to which the printer or console is connected.

Keyword Restrictions

None

Parameters

- 1 The printer or console is connected to the first IBM Realtime Interface Co-Processor Multiport adapter.
- 2 The printer or console is connected to the second IBM Realtime Interface Co-Processor Multiport adapter.

Default Value

1

Start When File Server (4690 Multiple Controller Feature only)

Use this keyword to indicate when the file server background application is to be started.

Keyword Restrictions

This keyword is valid only for the file server and the alternate file-server store controllers in multiple store-controller systems.

Parameters

- Y** Start the background application when this store controller is the acting file server.
- N** Do not start the background application when this store controller becomes the acting file server.

Default Value

N

Start When Master (4690 Multiple Controller Feature only)

Use this keyword to indicate when the master store-controller background application is to be started.

Keyword Restrictions

This keyword is valid only for the master store controller and the alternate master store controller in multiple store-controller systems.

Parameters

- Y** Start the background application when this store controller is the acting master store controller.
- N** Do not start the background application when this store controller becomes the acting master store controller.

Default Value

N

Start When Not File Server (4690 Multiple Controller Feature only)

Use this keyword to indicate when the file server background application is to be started.

Keyword Restrictions

This keyword is valid only for the file server and the alternate file server in multiple store-controller systems.

Parameters

- Y** Start the background application when this store controller ceases to be the acting file server.
- N** Do not start the background application when this store controller ceases to be the acting file server.

Default Value

N

Start When Not Master (4690 Multiple Controller Feature only)

Use this keyword to indicate when the master store-controller background application is to be started.

Keyword Restrictions

This keyword is valid only for the master store controller and the alternate master store controller in multiple store-controller systems.

Parameters

- Y** Start the background application when this store controller is not the acting master store controller.
- N** Do not start the background application when this store controller ceases to be the acting master store controller.

Default Value

N

Stop Bits

Use this keyword to indicate the number of stop bits per character for a serial port. This keyword establishes character synchronization.

Keyword Restrictions

None

Parameters

Specify 1.0, 1.5, or 2.0.

Default Value

1.0

Stop When File Server (4690 Multiple Controller Feature only)

Use this keyword to indicate when the file server background application is to be stopped.

Store-Controller Configuration Keywords

Keyword Restrictions

This keyword is valid only for the file server and the alternate file server in multiple store-controller systems.

Parameters

- Y** Stop the background application when this store controller becomes the acting file server.
- N** Do not stop the background application when this store controller becomes the acting file server.

Default Value

N

Stop When Master (4690 Multiple Controller Feature only)

Use this keyword to indicate when to stop the master store-controller background application.

Keyword Restrictions

This keyword is valid only for the master store controller and the alternate master store controller in multiple store-controller systems.

Parameters

- Y** Stop the background application when this store controller becomes the acting master store controller.
- N** Do not stop the background application when this store controller becomes the acting master store controller.

Default Value

N

Stop When Not File Server (4690 Multiple Controller Feature only)

Use this keyword to indicate when to stop the file server background application.

Keyword Restrictions

This keyword is valid only for the file server and the alternate file server in multiple store-controller systems.

Parameters

- Y** Stop the background application when this store controller is no longer the acting file server.
- N** Do not stop the background application when this store controller is no longer the acting file server.

Default Value

N

Stop When Not Master (4690 Multiple Controller Feature only)

Use this keyword to indicate when to stop the master store-controller background application.

Keyword Restrictions

This keyword is valid only for the master store controller and the alternate master store controller in multiple store-controller systems.

Parameters

- Y** Stop the background application when this store controller is no longer the acting master store controller.
- N** Do not stop the background application when this store controller is no longer the acting master store controller.

Default Value

N

Subordinate Store Controller (4690 Multiple Controller Feature only)

Use this keyword to indicate the ID of each subordinate store controller. Subordinate store controllers receive copies of all system-compound files and application compound files. *Compound files* are backup copies of a store controller's files that are kept on the master store controller, the alternate master store controller, and all other store controllers.

Keyword Restrictions

Subordinate store controllers are any other store controllers that are not designated as either the master store controller or the alternate master store controller.

Parameters

Specify any unique, two-character alphabetic ID. Each ID character must be between C and Z.

Default Value

None

System Printer

Use this keyword to indicate if the defined printer is to be used as a system printer. (This printer connects to an IBM Realtime Interface Co-Processor Multiport adapter or to an RS-232 serial port.)

A *system printer* is the default printer for the store controller and its auxiliary consoles. When you do not specify a printer, printing occurs at the system printer.

Keyword Restrictions

None

Parameters

Y This printer is to be used as a system printer.

N This printer is not to be used as a system printer.

Default Value

N

Title

Use this keyword to indicate the title to appear for selection 2 (secondary application) on the SYSTEM MAIN MENU.

Keyword Restrictions

None

Parameters

Specify 1 to 28 alphanumeric characters.

Default Value

None

Ethernet Control Mode

Use this keyword to define the resume mechanism that is used by the primary store controller on the Ethernet LAN.

Parameters

1 Resume manually.

Store-Controller Configuration Keywords

2 Resume automatically.

Default Value

1

Will Java Graphics be Used by This Controller?

Use this keyword to indicate if this controller will use Java graphics.

Keyword Restrictions

None

Parameters

1 Yes

2 No

Default Value

2

Will This Controller Video Display Use Monochrome Support Only?

Use this keyword to indicate if the controller video display will use monochrome support only.

Keyword Restrictions

None

Parameters

1 Yes

2 No

Default Value

2

Appendix F. Communication Data (Optional) - Worksheets F

This appendix contains worksheets to record optional communication data. Communication data defines links and lines that are required for communication between the store controller and any other controller, an in-store processor, or any centrally located host processor. ***Because communication configuration is optional, you should understand communication yourself or have access to individuals with communication experience before attempting to use this appendix.***

The communication data that you define for your system depends on the type of protocol that is used by the communication lines. The supported four types of SNA-based communication protocols are:

- Synchronous Data Link Control / System Network Architecture / SDLC/SNA)
- LAN TCC
 - Ethernet
- Local
- X.25

The three supported types of non-SNA-based communication protocols are:

- Asynchronous Communication (ASYNC)
- TCP/IP
- X.25 (native)

You can start an SNA communication link in the following ways:

- Define a permanent background application that is named ADXHSNLL during store controller configuration.
- Use the COMMUNICATIONS CONTROL FUNCTIONS panel under STORE CONTROL FUNCTIONS.
- Issue a function call to enable a link in your logical unit (LU) 6.2 transaction programs. See the 4690 OS: *Communications Programming Reference* for more information.

When you are developing your telecommunication plan, remember to arrange for the type of network connection that you will need. For example, be sure to consider the following items if you plan to use 4690 X.25 communications:

- Have you subscribed to a X.25 network?
- The number and type of circuits you plan to use?
- Have you worked with a network supplier to coordinate such things as timeout values and channel numbers?

“Communication Configuration Keywords” on page 511 describes all the keywords on the worksheets. The keywords appear in alphabetical order. Each description includes keyword restrictions, parameters, and default values. See these descriptions when you need help for a particular field.

Worksheet F1—SDLC/SNA Link

Use this information to define or change the communication data for an SDLC/SNA link.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

1. Defining the SDLC/SNA Subarea Link

Notes:

1. The 4690 subarea (XID 0) link type supports format 0 only and dependent LUs of type LU 0, LU 2 (3270), and LU 6.2. The VTAM/NCP PU definition should specify XID=NO for a link that has been configured as a 4690 subarea link (XID 0).
2. The subarea (XID 3) link type supports XID format 3 and dependent LUs of type LU 0, LU 2 (3270), and LU 6.2. In addition, the link can concurrently support independent (parallel session) LU 6.2. The VTAM/NCP PU definition should specify XID=YES for a link that has been configured as a 4690 subarea link.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Link Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	ADXSLINK
Partner Node Type (1 = Subarea XID 0, 2 = Subarea XID 3, 3 = Peer XID 3): _	1
Line Name: _ _ _ _ _	None
Frame Size: _	1
Exchange ID: _ _ _ _ _	04D00001
SSCP ID : _ _ _ _ _	050000000000
Communications Drivers Resident: _	Y
C&SM: _	N
Link Level Commands Required: _	N
Session Group: _ _ _ _ _	None
Symbolic Destination Name: _ _ _ _ _	None

2. Defining the SDLC/SNA Peer Link

Note: The 4690 peer link supports XID format 3 only. The host VTAM configuration should specify XID=YES for a line that has been configured as a 4690 peer link.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Link Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	ADXSLINK
Partner Node Type (Use 3 to define a peer link): _	1
Line Name: _ _ _ _ _	None
Exchange ID: _ _ _ _ _	04D00001
Frame Size: _	1
Symbolic Destination Name: _ _ _ _ _	None

Worksheet F2—SDLC/SNA Session

Use this information to define or change the communication data for an SDLC/SNA session.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

1. Defining the Symbolic Destination Name—For LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Symbolic Destination Name: _____	None
Local LU Record Name: _____	None
Partner LU Record Name: _____	None
Mode Record Name: _____	None
Remotely Attachable Local TP Record Name (You can enter up to 5.): _____	None

Note: You **must** enter a name in either the Remotely Attachable Local TP Record Name field or the Partner TP Name field. You can enter a name for both depending on your configuration.

Partner TP Name (64 characters maximum): _____	None
---	------

2. Defining the SDLC/SNA Local LU Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Local LU Record Name: _____	None
Fully Qualified Local LU Name: _____	None
Session Limit: _____	1
LU Address: _____	1

3. Defining the SDLC/SNA Partner LU Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Partner LU Record Name: _____	None
Fully Qualified Partner LU Name: _____	None
Session Limit: _____	1

4. Defining the SDLC/SNA Mode Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Mode Record Name: _ _ _ _ _	None
Session Limit: _ _ _	1
Minimum Contention Winners: _ _ _	0
Minimum Contention Losers: _ _ _	0
Maximum Auto-activated Sessions: _ _ _	0
Minimum Incoming Request Unit Size: _ _ _ _	256
Maximum Incoming Request Unit Size: _ _ _ _	512
Minimum Outgoing Request Unit Size: _ _ _ _	256
Maximum Outgoing Request Unit Size: _ _ _ _	512
Receive Pacing Value: _ _	12
Send Pacing Value : _ _	12

5. Defining the SDLC/SNA Remotely Attachable Local TP Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Remotely Attachable Local TP Record Name: _ _ _ _ _	None
Remote Attachable Local TP Name (64 characters maximum): _ _ _ _ . . . _ _ _ _ _	None
Local TP Executable File Name (128 characters maximum): _ _ _ _ . . . _ _ _ _ _	None
Conversation Type: _	3
Sync Level: _	3

6. Defining the SDLC/SNA Local LU 0 Session Group (Including 3270 Emulation)

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
LU 0 Session Group Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	ADXSSSESS
Session Address: _ _ (1 and 2 are defaults)	None
Session Name or Session Type: _ _ _ _ _ (HACP00 and RCMS00 reserved)	None
Local Application Name (optional): _ _ _ _ _	ADXHSH0L and ADXHSR0L
Controller Node Identifier (3270 emulation only. Not required for emulation in the terminal.): _ _ _ _ _	None
Screen Type (3270 emulation only): _ _ _ _ _	None
Host Application Name (optional): _ _ _ _ _	None
Logical Printer Name (3270 emulation only): _ _ _ _ _	None
Logical Console Name (3270 emulation only): _ _ _ _ _	None
Terminal Number (3270 emulation only): _ _ _ _ _	None

Worksheet F3—SDLC/SNA Point-to-Point, Nonswitched Line

Use this information to define or change the communication data for an SDLC/SNA point-to-point, nonswitched line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2SDCPP
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
Port (This field is for multiport serial adapters only.): _	0
Station Address: _ _	C1
Connection Type: _	1
Data Rate: _	1
NRZI Mode: _	1
DSR Retry: _ _ _	7
Initial Contact Retry Limit: _ _ _	40
Inactivity Timeout: _ _ _ _	20

Worksheet F4—SDLC/SNA Multipoint, Nonswitched Line

Use this information to define or change the communication data for an SDLC/SNA multipoint, nonswitched line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2SDCMD
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
Port (This field is for multiport serial adapters only.): _	0
Station Address: _ _	C1
Connection Type: _	2
Data Rate: _	1
NRZI Mode: _	1
DSR Retry: _ _ _	7
Initial Contact Retry Limit: _ _ _	40
Inactivity Timeout: _ _ _ _	20

Worksheet F5—SDLC/SNA Auto-Answer, Switched Line

Use this information to define or change the communication data for an SDLC/SNA auto-answer, switched line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2SDCAA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
Port (This field is for multiport serial adapters only.): _	0
Station Address: _ _	C1
Connection Type: _	3
Data Rate: _	1
NRZI Mode: _	1
Answer Timeout: _ _ _ _	300
DSR Retry: _ _ _	7
Initial Contact Retry Limit: _ _ _	40
Inactivity Timeout: _ _ _	20

Worksheet F6 — Ethernet Link

Use this information to define or change the communication data for an Ethernet link.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Link Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	ADXTLINK
Partner Node Type: _	3
Line Name: _ _ _ _ _	ADXTOKEN
Remote Node Address: _ _ _ _ _	400000000001
Note: If you enter a remote node address, you must specify Ethernet partners by its canonical address. See “Remote Node Address” on page 536 for details on the remote node address.	
Auto Activate: _	N
LU 6.2 Symbolic Destination Names: _	None

Worksheet F7— or Ethernet Session

Use this information to define or change the communication data for an Ethernet session.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

1. Defining the Symbolic Destination Name—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Symbolic Destination Name: _____	None
Local LU Record Name: _____	None
Partner LU Record Name: _____	None
Mode Record Name: _____	None
Remotely Attachable Local TP Record Name (You can enter up to 5.): _____	None
Note: You must enter a name in either the Remotely Attachable Local TP Record Name field or the Partner TP Name field. You can enter a name for both depending on your configuration.	
Partner TP Name (64 characters maximum): _____	None

2. Defining the Local LU Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Local LU Record Name: _____	None
Fully Qualified Local LU Name: _____	None
Session Limit: _____	1
LU Address: ____	1

3. Defining the Partner LU Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Partner LU Record Name: _____	None
Fully Qualified Partner LU Name: _____	None
Session Limit: _____	1

4. Defining the Mode Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Mode Record Name: _____	None
Session Limit: ____	1
Minimum Contention Winners: ____	0
Minimum Contention Losers: ____	0
Maximum Auto-activated Sessions: ____	0
Minimum Incoming Request Unit Size: _____	256
Maximum Incoming Request Unit Size: _____	512
Minimum Outgoing Request Unit Size: _____	256
Maximum Outgoing Request Unit Size: _____	512
Receive Pacing Value: ____	12
Send Pacing Value : ____	12

5. Defining the Remotely Attachable Local TP Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Remotely Attachable Local TP Record Name: _____	None
Remotely Attachable Local TP Name (64 characters maximum): _____.	None
Local TP Executable File Name (128 characters maximum): _____.	None
Conversation Type: _	3
Sync Level: _	3

6. Defining the SDLC/SNA Local LU 0 Session Group (Including 3270 Emulation)

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
LU 0 Session Group Name: _____	None
Model Name: _____	ADXSSSESS
Session Address: _ _ (1 and 2 are defaults)	None
Session Name or Session Type: _ _ _ _ _ (HACP00 and RCMS00 reserved)	None
Local Application Name (optional): _____	ADXHSH0L and ADXHSR0L
Controller Node Identifier (3270 emulation only. Not required for emulation in the terminal.): _____	None
Screen Type (3270 emulation only): _____	None
Host Application Name (optional): _____	None
Logical Printer Name (3270 emulation only): _____	None
Logical Console Name (3270 emulation only): _____	None
Terminal Number (3270 emulation only): _____	None

Worksheet F8—Define Ethernet/SNA Line

Use this information to define or change the communication data for an Ethernet line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	ADXTOKEN (or ADXETHER)
Maximum number of subarea XID 0 Ethernet links supported: _ _	0
Maximum number of peer and subarea XID 3 auto-activate Ethernet links supported: _ _	4
Maximum number of peer and subarea XID 3 non-auto-activated Ethernet links supported: _ _	0
Use the default node address?: _	1 (Yes)
(If 2 (No), type the local address of the controller in the Ethernet network. The range is X'4000000000000' to X'40007FFFFFFF'.)	Hex 4000000000000
Note: If you enter a local node address, you must ensure that the address is unique for all controllers on the Ethernet. See "Local Node Address" on page 527 for details on the local node address.	

Worksheet F9—Local SNA Link Definition

Use this information to define or change the communication data for a local SNA link.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Link Name : _ _ _ _ _	ADXLOCAL (Cannot be changed.)
Symbolic Destination Name: _ _ _ _ _	None

Worksheet F10—Local SNA Session Definition

Use this information to define or change the communication data for a local SNA session.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

1. Defining the Local SNA Symbolic Destination Name

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Symbolic Destination Name: _____	None
Local LU Record Name: _____	None
Partner LU Record Name: _____	None
Mode Record Name: _____	None
Remotely Attachable Local TP Record Name (You can enter up to 5): _____	None
Note: You must enter a name in either the Remotely Attachable Local TP Record Name field or the Partner TP Name field. You can enter a name for both depending on your configuration. Partner TP Name (64 character maximum): _____	None

2. Defining the Local SNA Local LU Record

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Local LU Record Name: _____	None
Fully Qualified Local LU Name: _____	None
Session Limit: _____	1
LU Address: _____	1

3. Defining the Local SNA Partner LU Record

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Partner LU Record Name: _____	None
Fully Qualified Partner LU Name: _____	None
Session Limit: _____	1

4. Defining the Local SNA Mode Record

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Mode Record Name: _ _ _ _ _	None
Session Limit: _ _ _	1
Minimum Contention Winners: _ _ _	0
Minimum Contention Losers: _ _ _	0
Maximum Auto-activated Sessions: _ _ _	0
Minimum Incoming Request Unit Size: _ _ _ _	256
Maximum Incoming Request Unit Size: _ _ _ _	512
Minimum Outgoing Request Unit Size: _ _ _ _	256
Maximum Outgoing Request Unit Size: _ _ _ _	512
Receive Pacing Value: _ _	12
Send Pacing Value: _ _	12

5. Defining the Local SNA Remotely Attachable Local TP Record

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Remotely Attachable Local TP Record Name: _ _ _ _ _	None
Remotely Attachable Local TP Name (64 characters maximum): _ _ _ _ _ . . _ _ _ _ _	None
Local TP Executable File Name (128 characters maximum): _ _ _ _ _ . . _ _ _ _ _	None
Conversation Type: _	3
Sync Level: _	3

Worksheet F11—X.25 SNA Link

Use this information to define or change the communication data for an X.25 SNA link.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Link Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	ADXXLINK
SSCP ID: _ _ _ _ _	050000000000
Communications Drivers Resident: _	Y
C&SM: _	N
Line Name: _ _ _ _ _	None
Note: You must not configure more than four X.25 links for any line.	
Virtual Circuit Type: _	1
Note: Your choice for Virtual Circuit Type determines the fields displayed next.	
Accept the default (PVC), and the following keywords are displayed:	
Channel Number: _ _ _ _	1
Out Window Size: _	2
In Window Size: _	2
Session Group: _ _ _ _ _	None
Symbolic Destination Name: _ _ _ _ _	None
(You must specify at least one.)	
Choose Option 2 (SVCIN), and the following keywords appear:	
Called DTE Address: _ _ _ _ _	None
Exchange ID: _ _ _ _ _	04D00001
Session Group: _ _ _ _ _	None
Symbolic Destination Name: _ _ _ _ _	None
(You must specify at least one.)	
Choose Option 3 (SVCOUT), and the following keywords appear:	
Called DTE Address: _ _ _ _ _	368
Calling DTE Address: _ _ _ _ _	None
Call User Data: _ _ _ _ _	None
Exchange ID (XID): _ _ _ _ _ (8 hexadecimal bytes)	Hex 04D00001
Session Group: _ _ _ _ _	None
Symbolic Destination Name: _ _ _ _ _	None
(You must specify at least one.)	

Worksheet F12—X.25 SNA Session

Use this information to define or change the communication data for an X.25 SNA session.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Defining the Symbolic Destination Name—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Symbolic Destination Name: _____	None
Local LU Record Name: _____	None
Partner LU Record Name: _____	None
Mode Record Name: _____	None
Remotely Attachable Local TP Record Name (You can enter up to 5.): _____	None
Note: You <i>must</i> enter a name in either the Remotely Attachable Local TP Record Name field or the Partner TP Name field. You can enter a name for both depending on your configuration.	
Partner TP Name (64 characters maximum): _____	None

2. Defining the X.25 Local LU Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Local LU Record Name: _____	None
Fully Qualified Local LU Name: _____	None
Session Limit: _____	1
LU Address: _____	1

3. Defining the X.25 Partner LU Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Partner LU Record Name: _____	None
Fully Qualified Partner LU Name: _____	None
Session Limit: _____	1

4. Defining the X.25 Mode Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Mode Record Name: _ _ _ _ _	None
Session Limit: _ _ _	1
Minimum Contention Winners: _ _ _	0
Minimum Contention Losers: _ _ _	0
Maximum Auto-activated Sessions: _ _ _	0
Minimum Incoming Request Unit Size: _ _ _ _	256
Maximum Incoming Request Unit Size: _ _ _ _	512
Minimum Outgoing Request Unit Size: _ _ _ _	256
Maximum Outgoing Request Unit Size: _ _ _ _	512
Receive Pacing Value: _ _	12
Send Pacing Value : _ _	12

5. Defining the X.25 Remotely Attachable Local TP Record—LU 6.2

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Remotely Attachable Local TP Record Name: _ _ _ _ _	None
Remotely Attachable Local TP Name (64 characters maximum): _ _ _ _ _ . . . _ _ _ _ _	None
Local TP Executable File Name (128 characters maximum): _ _ _ _ _ . . . _ _ _ _ _	None
Conversation Type: _	3
Sync Level: _	3

6. Defining the X.25 SNA Local LU 0 Session Group (Including 3270 Emulation)

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
LU 0 Session Group Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	ADXXSESS
Session Address: _ _ (1 and 2 reserved)	None
Session Name or Session Type: _ _ _ _ _ (HACP00 and RCMS00 reserved)	None
Local Application Name (optional): _ _ _ _ _	ADXHSH0L and ADXHSR0L
Controller Node Identifier (3270 emulation only. Not required for emulation in the terminal.): _ _ _ _ _	None
Screen Type (3270 emulation only): _ _ _ _ _	None
Host Application Name (optional): _ _ _ _ _	None
Logical Printer Name (3270 emulation only): _ _ _ _ _	None
Logical Console Name (3270 emulation only): _ _ _ _ _	None
Terminal Number (3270 emulation only): _ _ _ _ _	None

Worksheet F13—X.25 SNA Line

Use this information to define or change the communication data for an X.25 SNA line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2X25AC
Adapter: _	1
CCITT Recommendation: _	1
If you do not choose the default for Protocol, the next two keywords are displayed:	
Level 2 Initialization Mode: _ _ _	1
Response to a Disc: _ _ _ _ _	1
N2 Value: _ _ _	10
T1 Value: _ _ _ _ _	6
K Value: _	2
Level 3 Window Size: _	2
Level 3 Restart: _	Y
Lowest PVC Channel Number: _ _ _ _	0
Highest PVC Channel Number: _ _ _ _	0
Lowest Incoming Channel Number: _ _ _ _	0
Highest Incoming Channel Number : _ _ _ _	0
Lowest Two-Way Channel Number: _ _ _ _	0
Highest Two-Way Channel Number: _ _ _ _	0
Lowest Outgoing Channel Number: _ _ _ _	0
Highest Outgoing Channel Number: _ _ _ _	0

Worksheet F14—ASYNC Manual, Direct Data (Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (nonswitched, manual, direct) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCDA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	6
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F15—ASYNC Manual, Direct Data (Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (nonswitched, manual, direct) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCDA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	6
Record I/O (Use 1 for Record I/O support): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F16—ASYNC Switched, Auto-Dial Data (Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (switched, auto-dial) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAD
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	3
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Dial Timeout: _ _ _	60
Command Sequence:	None
_ _ _ _ _	
Telephone Number: _ _ _ _ _	None

Worksheet F17—ASYNC Nonswitched, Auto-Dial Data (Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (nonswitched, auto-dial) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAD
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	3
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F18—ASYNC Switched, Auto-Dial Data (Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (switched, auto-dial) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAD
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	3
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Dial Timeout: _ _ _	60
Command Sequence:	None
_ _ _ _ _	
Telephone Number: _ _ _ _ _	None

Worksheet F19—ASYNC Nonswitched, Auto-Dial Data (Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (nonswitched, auto-dial) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAD
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	3
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F20—ASYNC Switched, Auto-Answer Data (Attention Command Set Compatible Modems with Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (switched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	4
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	975
Command Sequence:	None
_ _ _ _ _	

Worksheet F21—ASYNC Nonswitched, Auto-Answer Data (Attention Command Set Compatible Modems with Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (nonswitched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	4
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F22—ASYNC Switched, Auto-Answer Data (Attention Command Set Compatible Modems with Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (switched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	4
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	975
Command Sequence:	None

_ _ _ _ _

Worksheet F23—ASYNC Nonswitched, Auto-Answer Data (Attention Command Set Compatible Modems with Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (nonswitched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	4
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F24—ASYNC Switched, Auto-Answer Data (Other Modems with Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (switched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 8 for other modems): _	4
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	975

Worksheet F25—ASYNC Nonswitched, Auto-Answer Data (Other Modems with Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (nonswitched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	4
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F26—ASYNC Switched, Auto-Answer Data (Other Modems with Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (switched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 8 for other modems): _	4
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	975

Worksheet F27—ASYNC Nonswitched, Auto-Answer Data (Other Modems with Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (nonswitched, auto-answer) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCAA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	4
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	975

Worksheet F28—ASYNC Point-to-Point, Nonswitched with Nonrecord I/O

Use this information to define or change the communication data for an ASYNC nonrecord I/O (point-to-point, nonswitched) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCPP
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	1
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F29—ASYNC Point-to-Point, Nonswitched with Record I/O

Use this information to define or change the communication data for an ASYNC record I/O (point-to-point, nonswitched) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel. See this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCPP
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	1
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F30—ASYNC Direct-Attached, Switched with Nonrecord I/O

Use this information to define or change the communication data for an ASYNC nonrecord I/O (direct-attached, switched) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCDA (for controller)
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	6
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F31—ASYNC Direct-Attached, Nonswitched with Nonrecord I/O

Use this information to define or change the communication data for an ASYNC nonrecord I/O (direct-attached, nonswitched) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCDA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	6
Record I/O: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F32—ASync Direct-Attached, Switched with Record I/O

Use this information to define or change the communication data for an ASync record I/O (direct-attached, switched) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCDA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASync Driver Resident: _	N
Connection Type: _	6
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F33—ASYNC Direct-Attached, Nonswitched with Record I/O

Use this information to define or change the communication data for an ASYNC record I/O (direct-attached, nonswitched) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCDA
Adapter: _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	1
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	FFFF
CRC Character: _	2
Line Rate: _ _	4
Parity: _	1
Send Buffers: _	1
Receive Buffers: _	1
Character Size: _	7
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F34—ASYNC Switched, PC-to-PC Data (Attention Command Set Compatible Modems with Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (switched, PC-to-PC) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCPC
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	4
Record I/O (Use 1 for record I/O): _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	0
Command Sequence:	None
_ _ _ _ _	

Worksheet F35—ASYNC Nonswitched, PC-to-PC Data (Attention Command Set Compatible Modems with Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (nonswitched, PC-to-PC) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCPC
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	4
Record I/O: _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F36—ASYNC Switched, PC-to-PC Data (Attention Command Set Compatible Modems with Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (switched, PC-to-PC) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCPC
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	4
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	None
CRC Character: _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20
Answer Timeout: _ _ _ _ _	0
Command Sequence:	None

_ _ _ _ _

Worksheet F37—ASYNC Nonswitched, PC-to-PC Data (Attention Command Set Compatible Modems with Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (nonswitched, PC-to-PC) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCPC
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	4
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	None
CRC Character: _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	20

Worksheet F38—ASYNC Switched, Canadian Packet Switching Data (Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (switched, Canadian packet switching) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCCD
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	9
Record I/O: _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	0
Poll Address: _ _	C0

Worksheet F39—ASYNC Nonswitched, Canadian Packet Switching Data (Nonrecord I/O)

Use this information to define or change the communication data for an ASYNC nonrecord I/O (nonswitched, Canadian packet switching) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword. Check each keyword's restrictions to ensure that the keyword matches the type of communication in your system.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCCD
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	9
Record I/O (1 for supported, 2 for not supported): _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	0

Worksheet F40—ASYNC Switched, Canadian Packet Switching Data (Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (switched, Canadian packet switching) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCCD
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type: _	9
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _ _	None
CRC Character: _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	0
Poll Address: _ _	C0

Worksheet F41—ASYNC Nonswitched, Canadian Packet Switching Data (Record I/O)

Use this information to define or change the communication data for an ASYNC record I/O (nonswitched, Canadian packet switching) line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCCD
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
Dynamic Configuration Required: _	1
Companion Adapter: _	1
ASYNC Driver Resident: _	N
Connection Type (Use 1 for nonswitched): _	9
Record I/O (Use 1 for record I/O): _	2
End of Record: _ _ _	None
CRC Character: _	2
Line Rate: _ _	6
Parity: _	5
Send Buffers: _	2
Receive Buffers: _	2
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	0

Worksheet F42—ASYNC Direct-Attached TCP/IP

Use this information to define or change the communication data for an ASYNC Direct-Attached TCP/IP line.

To define communication data, select option **2** (Controller Configuration) from the CONFIGURATION panel. Type an **X** by Communications on the CONTROLLER CONFIGURATION panel, and then see this worksheet for the appropriate parameter for each communication keyword.

Configuration Keyword Shown on Display and Parameter to be Used	Default Value
Line Name: _ _ _ _ _	None
Model Name: _ _ _ _ _	AD2ASCCD
Adapter: _ _	1
IBM V.32 Adapter (This field is for MCA-type adapters only.): _	1
ASYNC Driver Resident: _	N
Connection Type : _	6
Record I/O (Use 1 for record I/O): _	2
Line Rate: _ _	10
Parity: _	5
Send Buffers: _	7
Receive Buffers: _	7
Character Size: _	8
Stop Bits: _ _ _	1.0
Flow Control: _	1
Read Timeout: _ _ _	0

Communication Configuration Keywords

This section describes all of the communication configuration keywords, which include restrictions, parameters, and default values.

Active Ethernet Links Supported

Use this keyword to indicate the maximum number of Ethernet communication links that can be active at one time. This number does not limit the total number of links you can define.

Keyword Restrictions

For Ethernet/SNA lines.

Parameters

Specify the maximum number of Ethernet links that can be active simultaneously.

Default Value

4

Adapter

Use this keyword to indicate the type of adapter used for communication. The keyword value depends on the type of store controller.

Keyword Restrictions

For SDLC/SNA, X.25 API, and ASYNC line definitions.

Keyword Value for the Personal Computer When Used as a Store Controller

SDLC/SNA Parameters:

- 1 SDLC 1
- 2 SDLC 2
- 3 First ARTIC adapter
- 4 Second ARTIC adapter

X.25 Parameters:

- 1 First X.25 adapter
- 2 Second X.25 adapter

ASYNC Parameters:

- 1 Serial 1
- 2 Serial 2
- 3 Serial 3
- 4 Serial 4
- 5 Serial 5
- 6 Serial 6
- 7 Serial 7
- 8 Serial 8
- 9 First ARTIC adapter
- 10 Second ARTIC adapter

Default Value: 2

SDLC/SNA Parameters:

- 1 First multiprotocol communication adapter
- 2 Second multiprotocol communication adapter
- 3 SDLC adapter
- 4 First ARTIC adapter

Communication Configuration Keywords

5 Second ARTIC adapter

X.25 Parameters:

- 1 First X.25 adapter
- 2 Second X.25 adapter

ASYNC Parameters:

- 1 First multiprotocol communication adapter
- 2 Second multiprotocol communication adapter
- 3 First serial/parallel adapter
- 4 Second serial/parallel adapter

Note: When the serial/parallel adapter is a 1200 internal modem or a modem that provides equalization after the answer tone is used, you must ensure the connection. Issue a 1.5 to 2-second wait after the open completes processing before attempting a write operation.

- 5 First multiport serial adapter
- 6 Second multiport serial adapter

Default Value: 1

Answer Timeout

Note: It is impossible to stop this operation, so use care when specifying the parameter value.

For SDLC: Use this keyword to indicate the time to wait for a call before reporting an outage. When the auto-answer timeout expires, an outage is reported and logged. However, this does not mean that the store controller will not auto-answer when the timeout value is reached. Even after the system reports and logs an outage, the store controller can still answer an incoming call. The outage notifies pending requests for the link that the store controller has not yet been called. Applications or processes that have pending requests for the use of a link that has not been called will not be returned control. They will be returned control when either the request has been serviced (because the store controller received a call) or the answer timeout has expired.

For ASYNC: Use this keyword to indicate the amount of wait time (in minutes) for an auto-answer line activates.

Keyword Restrictions

For the following auto-answer line definitions:

- SDLC/SNA
- ASYNC

Parameters

For SDLC: Specify a value from 10 to 3600 seconds.

For ASYNC: Specify a value from 0 to 32 767 minutes. If you accept the default value of 0, it indicates an unlimited timeout.

Default Value

SDLC 300 seconds

ASYNC
0

ASYNCR Driver Resident

Use this keyword to indicate if the ASYNCR driver is resident in the store controller or if you should load the driver from disk.

When the driver is resident, the time required for credit approval by an ASYNCR dial-up connection is reduced. If your ASYNCR application runs only infrequently, there is no need to keep the driver resident.

Keyword Restrictions

For ASYNCR link definitions.

Parameters

- Y** The ASYNCR driver is resident in the store controller.
- N** Load the ASYNCR driver from disk.

Default Value

N

Communication and System Management (for SNA Link Definition)

Use this keyword to indicate if Communication and System Management (C & SM) functions are supported.

Attention

Only one C & SM session can be active at one time. See the *IBM NetView Hardware Problem Determination Reference* for further information on C & SM.

Keyword Restrictions

For SDLC/SNA and X.25 SNA link definitions.

Parameters

- Y** C & SM supported.
- N** C & SM not supported.

Default Value

2

Call User Data (SNA)

Use this keyword to specify in hexadecimal the information for the Call Request packet. You must specify at least one byte of data.

Keyword Restrictions

For X.25 SNA link with SVCOUT.

Parameters

Specify in hexadecimal up to 32 characters for user data.

Default Value

None

Call User Data (X.25 API)

Call User Data is an optional field of up to 16 bytes, which you can extended to 128 if you chose fast select (in the facilities field.) The 128 bytes must then be provided by the application program.

Communication Configuration Keywords

Keyword Restrictions

If you configure or pass a remote application name as a parameter, the system places it in the user data field. The format of the user data field is:

Byte 0

Determined by the call_user_data configured or passed by the XOPEN verb.

Bytes 1-8

Remote application name.

Parameters

Specify up to 16 bytes, which can be extended to 128 bytes if you chose fast select.

Default Value

None

Called DTE Address

Use this keyword to indicate the address of the remote node (DTE) when you are defining an SVCOUT virtual circuit on an X.25 SNA link. Use this keyword to indicate the address of the local node (DTE, store controller) when you are defining an SVCIN virtual circuit on an X.25 SNA link.

Keyword Restrictions

For X.25 SNA link with SVCIN or SVCOUT.

Parameters

Specify up to 15 numeric characters for the address.

Note: If you are defining the address for an SVCIN, you can use an asterisk for a wildcard character. For example, 12*4 indicates that any digit (0 – 9) is valid for the third digit.

Default Value

None

Calling DTE Address

Use this keyword to indicate the address of the local node when you are defining an X.25 SNA link.

Keyword Restrictions

For X.25 SNA link with SVCOUT.

Parameters

Specify up to 15 numeric characters for the address.

Default Value

None

CCITT Recommendation

Use this keyword to indicate the CCITT recommendation date of the network to which you are attaching. The network owner can supply this date.

Keyword Restrictions

For X.25 definitions.

Parameters

- 1 1980 recommendation
- 2 1984/1988 recommendation

Default Value

1

Channel Number

Use this keyword to indicate the number of the permanent virtual circuit (PVC) channel that is used by the X.25 link.

Keyword Restrictions

For X.25 link definitions.

Parameters

Use a decimal number from 1 to 4096.

Default Value

1

Character Code

Use this keyword to indicate the type of character code sent by the communication line modem.

Keyword Restrictions

For SDLC/SNA auto-answer line definitions.

Parameters

- 1 EBCDIC code
- 2 ASCII code

Default Value

1

Character Size

Use this keyword to indicate the number of data bits that are used to represent a transmitted character.

Keyword Restrictions

None

Parameters

Specify a value from 5 to 8.

Default Value

7

Command Sequence

Use this keyword to indicate the modem command sequence that is used to initiate automatic dialing.

Keyword Restrictions

For the following line definitions: SDLC/SNA (auto-answer) and ASYNC (auto-answer and auto-dial).

Parameters

Specify a value from 0 to 16 hexadecimal characters for ASYNC auto-dial lines; specify a value from 0 to 16 hexadecimal bytes for SDLC auto-answer lines and ASYNC auto-answer lines.

Default Value

None.

Communication Configuration Keywords

Communications Drivers Resident

Use this keyword to indicate whether you want the communications drivers to remain resident or the system to load the drivers each time you start communications.

Keyword Restrictions

For SDLC/SNA and X.25/SNA link definitions.

Parameters

- Y** Keep the drivers resident.
N Load the drivers each time communications are started.

Default Value

Y

Companion Adapter

Use this keyword to specify the second state of the adapter to support dynamic configuration.

Keyword Restrictions

- For SDLC/SNA and ASYNC line definitions.
- Specify only ASYNC modes.
- The keyword is available only if you specify the required configuration (or the required configuration and driver is preemptive) for the Dynamic Configuration Required keyword.

Parameters for SDLC/SNA Line

- 1** For Serial 1
2 For Serial 2
3 For Serial 3
4 For Serial 4
5 For Serial 5
6 For Serial 6
7 For Serial 7
8 For Serial 8

Parameters for ASYNC Line

- 1** For SDLC 1
2 For SDLC 2

Default Value

1

Connection Type

Use this keyword to specify the type of connection that is associated with the communication line.

Keyword Restrictions

For SDLC/SNA and ASYNC line definitions.

SDLC/SNA Parameters

- 1** A point-to-point (nonswitched) line
2 A multipoint (nonswitched) line
3 An auto-answer manual (switched) line

ASYNC Parameters

- 1** Use of a nonswitched line (that is, for permanent connection to a host processor over nonswitched lines).
2 Use of a multipoint connection.
3 Use of a switched auto-dial line.

- 4 Use of a switched auto-answer line.
- 5 Use of a manual line (that is, for switched connection with call from/call to host processor completed independently of program control).
- 6 Use of a direct-attached line. (A modem is not used.)
- 7 Use of an application-controlled modem.
- 8 Use of a switched auto-answer line with other modems.
- 9 Use of the Canadian packet-switching protocol.

Default Value

1

Controller Node Identifier (for SNA Session Definition)

This keyword allows you to define a 3270 emulation session of type 3270PRTR or 3270SCRN on a LAN (MCF Network) system. This keyword identifies the controller on which the logical printer or console resides.

If you are defining a 3270 emulation session of type 3270PRTR or 3270SCRN on a non-LAN system, leave this field blank.

Keyword Restrictions

For SDLC/SNA and X.25 SNA 3270 emulation session definitions.

Parameters

Specify up to eight alphanumeric characters. Enter the value in the form ADXLXxxN, where xx represents the node ID of the controller on which this session will be run.

Default Value

None.

Conversation Type

Use this keyword to indicate the type of conversations that are permitted with this local transaction program.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA session definitions.

Parameters:

- 1 Basic conversations
- 2 Mapped conversations
- 3 Either type

Default Value

3

CRC Character

Use this keyword to indicate if your system supports cyclic redundancy checking (CRC) or block checking.

Keyword Restrictions

For ASYNC record I/O line definitions.

Parameters

- 1 Support of block checking.
- 2 Does not support block checking.

Default Value

2

Communication Configuration Keywords

Data Rate

Use this keyword to indicate the data rate if your modem is sensitive to the data rate-select interference signal.

Keyword Restrictions

For SDLC/SNA line definitions.

Parameters

- 1 Full speed
- 2 Half speed

Default Value

1

Dial Timeout

Use this keyword to indicate the maximum amount of time (in seconds) to wait for an answer on a dialed line.

Keyword Restrictions

For ASYNC (auto-dial) line definitions.

Parameters

Specify a value from 0 to 255 seconds. A value of zero indicates an unlimited timeout.

Default Value

60

DSR Retry

Use this keyword to indicate the number of times to retry reading from a communications line when the Data Set Ready signal has dropped.

Keyword Restrictions

For SDLC/SNA auto-answer line definitions.

Parameters

Specify a value from 0 to 255. A value of 0 indicates an unlimited number of retries. Your application might not detect a lost signal, which prevents it from being able to perform automatic error recovery.

Default Value

7

Dynamic Configuration

Use this keyword to indicate if you want the IBM V.32 adapter to automatically set and enable the ASYNC link or the SDLC link.

Note: Use of this keyword will never override the power ON settings at power ON time.

Keyword Restrictions

- For SDLC/SNA and ASYNC line definitions.
- The keyword is only available if you specify INSTALLED for the IBM V.32 adapter.

Parameters

- 1 No dynamic configuration that is required
- 2 Dynamic configuration that is required
- 3 Dynamic configuration that is required and driver are preemptive

Note: Option 3 is available for ASYNC line definitions only. This option will enable an ASYNC line to automatically terminate an active SDLC line.

Default Value

1

End of Record

Use this keyword to indicate the record-terminating sequence.

Keyword Restrictions

For ASYNC record I/O line definitions.

Parameters

Specify 1 to 2 hexadecimal bytes.

Default Value

Hex FFFF

Exchange ID (for SNA Link Definition)

Use this keyword to indicate the store controller exchange ID for SDLC/SNA and X.25 SNA links. The system does not perform checking on the host ID. This keyword is required for subarea sessions on switched lines and for peer sessions. It is optional for subarea sessions on leased lines.

Note: Enter this ID in hexadecimal character representation because the system defines the fields on half-byte boundaries.

Keyword Restrictions

For SDLC/SNA and X.25 SNA link definitions.

Parameters

Specify 8 hexadecimal characters.

Default Value

Hex 04D00001

Flow Control

Use this keyword to indicate the protocol that controls data transmission.

Keyword Restrictions

For ASYNC line definitions.

Parameters

- 1 No control.
- 2 XON/XOFF (inband) control.

Default Value

1

Frame Size

Use this keyword to set the data frame size that is supported on a link.

Keyword Restrictions

None

Communication Configuration Keywords

Parameters

- 1 256 bytes
- 2 512 bytes

Default Value

1

Fully Qualified Local LU Name

Use this keyword to indicate the name of the network and the name of the local LU as it is known in the network. This keyword has two parts separated by a period. If the local LU will never be known outside the subarea network where it resides, use only the second part (that part after the period).

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA sessions.

Parameters

Specify from 1 to 8 characters for each part of a two-part name.

Default Value

None.

Fully Qualified Partner LU Name

Use this keyword to indicate the name of the partner's network and the LU name of the partner as it is known in its network. This keyword has two parts separated by a period. If the partner is in the same subarea network as your local node, use only the second part (that part after the period).

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA sessions.

Parameters

Specify from 1 to 8 characters for each part of a two-part name.

Default Value

None

Highest Channel Number

Use this keyword to indicate the highest channel number for each of the four channel types:

- Permanent virtual circuit (PVC)
- Incoming
- Two-way
- Outgoing

The highest channel number cannot be more than 3 greater than the lowest channel number of the corresponding channel type.

Keyword Restrictions

For X.25 SNA line definitions.

Parameters

Specify up to a 4-digit number that is no more than 3 greater than the lowest channel number that is of the corresponding channel type and not exceeding 4096. Channel number ranges cannot overlap.

Default Value

- 1 PVC channel
- 10 Incoming channel
- 20 Two-way channel

30 Outgoing channel

Host Application Name (for SNA Session Definition)

Use this keyword to indicate the name of the host processor application that is making the request. The name is used when an SNA session is opened and the host processor receives an INIT SELF request to start the application program.

Keyword Restrictions

- For SDLC/SNA and X.25 SNA session definitions
- Optional keyword

Parameters

Specify a name that uses up to eight alphanumeric characters. This is the name of an application program that is defined using option 2 (Controller Configuration) from the CONFIGURATION panel. See "Application Name" on page 445 for further information on defining this application.

Default Value

None

Host Drivers Resident (for SNA Link Definition)

Use this keyword to indicate if the host drivers are resident in the store controller memory continually or if the system loads them into memory only when needed. Resident support means that the common communications code is loaded into memory when you power ON. The code remains there until you re-IPL the machine or issue a DISABLE command. Nonresident support means that the system loads the common communications code into memory as needed and then erases it from memory when finished.

Note: The 4680 or 4680-4690 General Sales Application host credit program and the Host Command Processor (HCP) can share the same SNA link. When this occurs, keep the host drivers resident to significantly reduce the system overhead for SNA leased line error recovery.

Keyword Restrictions

For SDLC/SNA link definitions.

Parameters

- Y** The host drivers are resident in the store controller.
N You must load the host drivers from the host processor.

Default Value

N

IBM V.32 Adapter

Use this keyword to indicate whether you have an IBM V.32 adapter installed.

Keyword Restrictions

This keyword is for SDLC/SNA and ASYNC line definitions.

Parameters

- 1** Adapter that is not installed
2 Adapter installed

Default Value

1

Communication Configuration Keywords

In Window Size

Use this keyword to specify the number of inbound messages that are allowed on this link before a response is required.

Keyword Restrictions

For X.25 link definitions.

Parameters

Specify a value from 1 to 7.

Default Value

2

Inactivity Retries

Use this keyword to indicate the number of times to repeat a read operation.

Keyword Restrictions

For SDLC/SNA auto-answer line definitions.

Parameters

Specify a value from 0 to 255.

Note: The Inactivity Retries value should be set at 2, 3, or 4 for switched line operation.

Default Value

20

Inactivity Timeout

Use this keyword to indicate the amount of time (in seconds) that elapses across a communication line before a disconnect occurs.

Keyword Restrictions

For SDLC/SNA point-to-point and multipoint line definitions.

Parameters

Specify a value from 0 to 32767 seconds. A value of zero indicates an unlimited timeout; inactivity is not detected and if the session fails or applications hang, manual intervention is required in order to recover.

Default Value

20

Initial Contact Retry Limit

Use this keyword to indicate the number of times the controller will attempt to retry communications after the modem has answered the telephone call. If the initial contact retry limit is reached, the system indicates a solid failure.

Keyword Restrictions

For SDLC/SNA point-to-point nonswitched, SDLC/SNA multipoint nonswitched, and SDLC/SNA auto-answer switched line definitions.

Parameters

Specify a value of 0 or 10 through 255. A value of zero indicates an unlimited number of retries; your application might not detect that communications have not started, and it can keep the line busy, preventing other incoming calls.

Default Value

40

K Value

Use this keyword to indicate the level 2 window size.

Keyword Restrictions

For X.25 line definitions.

Parameters

Specify a value from 1 to 7.

Default Value

2

Level 2 Initialization Mode

Use this keyword to describe the X.25 Level 2 Initialization Mode.

Keyword Restrictions

For X.25 line definitions with the 1984/1988 CCITT recommendation.

Parameters

This information is available from your network provider.

- 1 Send DISC
- 2 Send SABM
- 3 Wait for SABM or DISC
- 4 Send DM to prompt for SABM or DISC

Default Value

1

Level 3 Restart

Use this keyword to indicate whether the system issues a level 3 packet at link reset.

Keyword Restrictions

For X.25 line definitions.

Parameters

Specify Y(Yes) or N(No).

Default Value

Y

Level 3 Window Size

Use this keyword to indicate the level 3 window size.

Keyword Restrictions

For X.25 line definitions.

Parameters

Specify a value from 1 to 7.

Default Value

2

Communication Configuration Keywords

Line

Use this keyword to indicate whether the line is switched or nonswitched.

Keyword Restrictions

For X.25 API line definitions.

Parameters

- | | |
|---|-------------|
| 1 | Nonswitched |
| 2 | Switched |

Default Value

1

Line Name

Use this keyword to indicate the name of the line configuration.

Keyword Restrictions

- For SDLC/SNA, X.25 API, and ASYNC line definitions.
- If you define the SNA links, the line name specified within the SNA link record must have a line record defined with that same line name.
- The names you choose for each SNA link must not be identical to the name of any communications line (of any type). The names can be identical if you are using the identically named resources at different times, and you have coded each of them to be non-resident. Likewise, all communications lines you intend to use at the same time must have unique names. For example, you cannot have any combination of these resources active at the same time: An SNA link that is named HOSTLINK and an SDLC line that is named HOSTLINK.

When selecting the name of your communications line or your SNA link, you also must avoid the use of any reserved system name, such as system, application, and user logical file names. To determine which names are currently in use, go to Command Mode, type **DEFINE**, and press **Enter**.

Parameters

Specify up to eight alphanumeric characters.

Default Value

None

Note: The operating system supplies default model line definitions to define the communication line. See “Model Name (Line Name for SNA Link Definition)” on page 531 for more information.

Line Name (for SNA Link Definition)

Use this keyword to indicate the name of the line configuration.

Keyword Restrictions

- For SDLC/SNA link definitions.
- If SNA links are defined, the line name specified within the SNA link record must have a line record defined with that same line name.
- The names you choose for each SNA link must not be identical to the name of any communications line (of any type). The names can be identical if you will be using the identically named resources at different times, and you have coded each of them to be non-resident. Likewise, all communications lines you intend to use at the same time must have unique names. For example, you cannot have any combination of these three resources active at the same time: An SNA link that is named HOSTLINK and an SDLC line that is named HOSTLINK.

When selecting the name of your communications line or your SNA link, avoid the use of any reserved system name, such as system, application, and user logical file names. To determine which names are currently in use, go to Command Mode, type **DEFINE**, and press **Enter**.

Parameters

Specify up to eight alphanumeric characters.

Default Value

None.

Note: The operating system supplies default model line definitions that you can use to define the communication line. See “Model Name (Line Name for SNA Link Definition)” on page 531 for more information.

Line Rate

Use this keyword to indicate the speed in bits per second (bps) at which the line operates.

Note: This value must be defined because ASYNC configurations clock their own data.

Keyword Restrictions

For ASYNC line definitions.

Parameters

1	75 bps
2	110 bps
3	150 bps
4	300 bps
5	600 bps
6	1200 bps
7	1800 bps
8	2400 bps
9	4800 bps
10	9600 bps

Default Value

4

Link Level Commands

Use this keyword to provide support for read and write functions directly to the link.

Keyword Restrictions

For SDLC/SNA link definitions

Note: This support can be selected only for links that use the Multiport Communications Protocol-type adapters.

Parameters

Y	Yes, provide support
N	No, do not provide support

Default Value

N

Link Name (for SNA Link Definition)

Use this keyword to indicate the name of the SNA link being defined.

Communication Configuration Keywords

Keyword Restrictions

- For SDLC/SNA and X.25 SNA link definitions.
- If this link is to be shared with the 4680 or 4680-4690 General Sales Application host credit program, you must use the host credit program's default link name, EALHCLNK.
- The names you choose for each SNA link must not be identical to the name of any communications line (of any type). The names can be identical if you will be using the identically named resources at different times, and you have coded each of them to be non-resident. Likewise, all communications lines you intend to use at the same time must have unique names. For example, you cannot have any combination of these three resources active at the same time: an SNA link that is named HOSTLINK and an SDLC line that is named HOSTLINK.

When selecting the name of your communications line or your SNA link, you also must avoid the use of any reserved system name, such as system, application, and user logical file names. To determine which names are currently in use, go to Command Mode, type **DEFINE**, and press **Enter**.

Parameters

Specify up to eight alphanumeric characters.

Default Value

None

Local Application Name (for SNA Session Definition)

Use this keyword to indicate the name of the application that is started at the store controller. The local application is started when an unsolicited bind is received and the name of the program to be started is not specified in the bind command.

Keyword Restrictions

- For SDLC/SNA and X.25 SNA link definitions.
- Optional keyword.
- The local application name must **not** be the same as the LU0 Session Group Name.

Parameters

Specify up to eight alphanumeric characters. This is the name of an application program that is defined using option 2 (Controller Configuration) from the CONFIGURATION panel. See "Application Name" on page 445 for further information on defining this application.

Default Value

ADXHSH0L and ADXHSR0L

Note: Although ADXHSH0L and ADXHSR0L are both defaults, you can only change the local application name ADXHSR0L.

Local LU Record Name

Use this keyword to specify the name of the local LU record being processed.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA session definitions.

Parameters

Specify a name using up to 8 alphanumeric characters.

Default Value

None

Local Node Address

Use this keyword to specify the local node address.

Keyword Restrictions

For Ethernet line definitions.

Default Value

Hex 400000000000

Setting the Local Node Address for Ethernet Systems

LAN Media Access Control (MAC) addresses are 6-byte values that uniquely identify each adapter in a network. When frames are transmitted from one LAN adapter to another, the source and destination MAC addresses are placed at the beginning of the frame.

In Ethernet, a MAC address is said to be represented in canonical form.

Each byte of an Ethernet address is transmitted least-significant-bit (LSB) first. This is important when you need to determine a specific adapter address. For example, when you need to configure another machine to recognize frames sent from a specific adapter.

Within the operating system, the local adapter address can be user-specified which overrides the manufacturers universal administered address. This is done through Controller Communications Configuration – SNA Line Record. Within this record definition you can specify a local address by entering 12 hexadecimal digits (6 bytes). For a token-ring system, these 6 bytes represent the MAC address in non-canonical form. For Ethernet, these 6 bytes represent the MAC address in canonical form. That is, the local address that you enter in the configuration panel will be in the same format as you would see it on the network using a LAN analyzer (as the source address of all transmitted frames from the adapter).

It might be necessary to specify the address of another LAN adapter to identify another machine for example, an ISP. This is especially true when configuring SNA remote links. Within the operating system, remote links are specified in Controller Communications Configuration - SNA Link Record. Within this record definition, you specify the MAC address of the LAN adapter that is installed the machine with which you want to have this controller communicate. Ethernet remote MAC addresses are specified in non-canonical format, such that they appear different on a LAN analyzer than in the configuration record. The non-canonical representation of a canonical MAC address can be discovered by reversing the bits of each byte of the address. For example, a non-canonical address of 40:01:02:03:04:05 would convert to 02:80:40:C0:20:A0 in canonical form, the 0x40 becomes 0x20; 0x01 becomes 0x80, and so on. Therefore, to configure a remote SNA link on Ethernet, you must determine the canonical representation of the remote adapter and convert it to its non-canonical format before entering into the configuration record. This only applies to remote Ethernet SNA links.

Local TP Executable File Name

Use this keyword to enter the fully qualified and unique file name as it appears on the store controller.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA session definitions.

Parameters

Required field. Specify a name not to exceed 128 characters using the following syntax (items in parentheses are optional):

device:(/)(directory/). . .(directory/)filename.286

where:

device Drive indicator

/ Root directory

Communication Configuration Keywords

directory/

Subdirectory (up to 8 characters each)

filename

File within the directory (up to 8 characters)

Default Value

None

Logical Console Name (for SNA Session Definition)

If you are defining a 3270 emulation session of type 3270SCRN, use this keyword to identify the logical console that is assigned to this session.

If you are defining a 3270 emulation session of type 3270GRLU, leave this field blank.

Keyword Restrictions

For SDLC/SNA and X.25 SNA 3270 emulation session definitions.

Parameters

Specify a name by using up to eight alphanumeric characters. Enter this keyword value in the form CON n , where n is a number between 0 and 8. (CON0 is the system console.)

Default Value

None

Logical Printer Name (for SNA Session Definition)

If you are defining a 3270 emulation session of type 3270PRTR, use this keyword to identify the logical printer that is assigned to this session.

Keyword Restrictions

For SDLC/SNA and X.25 SNA 3270 emulation session definitions.

Parameters

Specify a name by using up to eight alphanumeric characters. Enter this keyword value in the form PRN n , where n is a number between 1 and 8.

Default Value

None

Lowest Channel Number

Use this keyword to indicate the lowest channel number for each of the four channel types:

- Permanent virtual circuit (PVC)
- Incoming
- Two-way
- Outgoing

Keyword Restrictions

For X.25 SNA line definitions.

Parameters

Specify up to a 4-digit number no more than 3 greater than the lowest channel number that is of the corresponding channel type and not exceeding 4096. Channel number ranges cannot overlap.

Default Value

- 1** PVC channel
- 10** Incoming channel

- 20 Two-way channel
 30 Outgoing channel

LU 0 Session Group Name

Use this keyword to enter the name of the LU 0 session group being processed.

Keyword Restrictions

- For SDLC/SNA and X.25 session groups.
- The LU0 session group name must not be the same as the Local Application Name.

Parameters

Specify a name by using up to eight alphanumeric characters.

Default Value

None

LU Address

Use this keyword to specify the unique address of this LU.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA local LU record definitions.

Parameters

Use 0 for a peer address, a value from 1 to 255 for a subarea address of XID format 0, or a value from 0 to 255 for a subarea address of XID format 3.

Default Value

1

Maximum Auto-activated Sessions

Use this keyword to indicate the maximum number of contention winner sessions to be auto-activated.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 0 to 508.

Default Value

0

Maximum Incoming Request Unit Size

Use this keyword to indicate the maximum size of request units that are received from a partner LU.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 256 to 4096. Use a value that is a multiple of 256.

Default Value

512

Communication Configuration Keywords

Maximum Outgoing Request Unit Size

Use this keyword to indicate the maximum size of request units that are sent to a partner LU.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 256 to 4096. Use a value that is a multiple of 256.

Default Value

512

Minimum Contention Losers

Use this keyword to indicate the minimum number of contention loser sessions for this node.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 0 to 508.

Default Value

0

Minimum Contention Winners

Use this keyword to indicate the minimum number of contention winner sessions for this node.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 0 to 508.

Default Value

0

Minimum Incoming Request Unit Size

Use this keyword to indicate the minimum size of request units that are received from a partner LU.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 256 to 4096. Use a value that is a multiple of 256.

Default Value

256

Minimum Outgoing Request Unit Size

Use this keyword to indicate the minimum size of request units that are sent to a partner LU.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a value from 256 to 4096. Use a value that is a multiple of 256.

Default Value

256

Mode Record Name

Use this keyword to specify the name of the mode record being processed.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a name by using up to eight alphanumeric characters.

Default Value

None

Model Name (Line Name for SNA Link Definition)

Use this keyword to indicate the name of the communication line to the SNA link configuration.

Keyword Restrictions

- For SDLC/SNA link definitions.
- The line names defined in both the link and line configurations must be the same name.

Parameters

Specify up to eight alphanumeric characters or one of the model definition names from the default values.

Default Values

The operating system supplies default model line definitions that you can use to define the communication line. Specify one of the following line names to use the default definition:

AD2ASCAA

ASYNCR switched auto-answer line

AD2ASCAD

ASYNCR switched auto-dial line

AD2ASCMC

ASYNCR nonswitched, manual, or direct line

AD2SDCAA

SDLC/SNA auto-answer line

AD2SDCMD

SDLC/SNA multidrop line

AD2SDCPP

SDLC/SNA point-to-point line

Model Name (Link Name for SNA Link Definition)

Use this keyword to specify the name of the SNA link to be used as a model in defining the link configuration.

Keyword Restrictions

For SDLC/SNA link definitions.

Parameters

Specify up to eight alphanumeric characters or the model definition name from the default values.

Communication Configuration Keywords

Default Value

The operating system supplies a default SNA link definition that you can use to define the communication link.

ADXSLINK

SDLC model link definition

Model Name (Link Name for Ethernet Link Definition)

Use this keyword to indicate the name of the Ethernet link to be used as a model in defining the link configuration.

Keyword Restrictions

For Ethernet link definitions.

Parameters

Specify up to eight alphanumeric characters or the model definition name from the default values.

Default Value

ADXTLINK

Model Name (Link Name for Local LU 0 Session Group Link Definition)

Use this keyword to indicate the name of the local LU 0 session group link to be used as a model in defining the link configuration.

Keyword Restrictions

For local LU 0 session group link definitions.

Parameters

Specify up to eight alphanumeric characters or the model definition name from the default values. The default values are:

ADXSESS

SNA model name

ADXXSESS

X.25 model name

Default Value

None

Model Name (Link Name for X.25 Link Definition)

Use this keyword to indicate the name of the X.25 link to be used as a model in defining the link configuration.

Keyword Restrictions

For X.25 link definitions.

Parameters

Specify up to eight alphanumeric characters or the model definition from the default values.

Default Value

ADXXLINK

N2 Value

Use this keyword to indicate that the number of frame retries for this X.25 line.

Keyword Restrictions

For X.25 line definitions.

Parameters

Specify a value from 1 to 255.

Default Value

10

NRZI Mode

Use this keyword to indicate if data transmission supports non-return-to-zero change-on-ones (NRZI) mode.

Keyword Restrictions

For SDLC/SNA line definitions.

Parameters

- 1 NRZI transmission support
- 2 Non-NRZI transmission support

Default Value

1

Out Window Size

Use this keyword to specify the number of outbound messages that are allowed on this link before a response is required.

Keyword Restrictions

For X.25 link definitions.

Parameters

Specify a value from 1 to 7.

Default Value

2

Parity

Use this keyword to indicate the type of parity checking being used.

Keyword Restrictions

For ASYNC line definitions.

Parameters

- 1 Even parity checking. An even number of bits is set in each byte.
- 2 Odd parity checking. An odd number of bits is set in each byte.
- 3 Mark parity checking. The high-order bit of each byte is set ON.
- 4 Space parity checking. The high-order bit of each byte is set OFF.
- 5 No parity checking is to be done.

Default Value

1

Partner LU Record Name

Use this keyword to indicate the name of the partner LU record being processed.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Communication Configuration Keywords

Parameters

Specify a name using up to eight alphanumeric characters.

Default Value

None

Partner Node Type

Use this keyword to indicate the node type of the partner SNA node. A subarea node is defined as an SNA type 5 node (a host processor), which controls all communications with the 4690 store controller. Subarea nodes can support either XID format 0 or XID format 3 exchanges. A peer node is defined as another SNA type 2.1 node (for example, another 4690 store controller or an AS/400).

Keyword Restrictions

For SDLC/SNA link definitions.

Parameters

- 1 Subarea (XID format 0):** Only dependent LUs can exist on the link. You can select this option if no parallel LU 6.2 sessions will be used on the link.
- 2 Subarea (XID format 3):** Both dependent and independent LUs can exist on the link concurrently. This option must be selected if the VTAM/NCP PU definition contains XID = YES.
- 3 Peer Link:** Only independent LUs type 6.2 can exist. Format 3 XID is exchanged between the peer nodes. This option should be selected for SDLC directly attached peer processors running LU 6.2 applications.

Default Value

1

Partner TP Name

Use this keyword to identify the transaction program (TP) that is being started at a remote node.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA session definitions.

Parameters

Specify a name by using up to 64 alphanumeric characters.

Default Value

None

Poll Address

For ASYNC Canadian Packet Switching: Use this keyword to indicate the hexadecimal polling address as known by the packet assembly and disassembly (PAD) for an invitation to send information.

Keyword Restrictions

For ASYNC Canadian Packet Switching line definitions.

Parameters

Specify a hexadecimal address that initiates the receive operation and is known to the host processor or PAD as an invitation to send. Bit 5 (where bits are numbered 76543210) of this address must be set OFF.

Default Value

00 ASYNC Canadian Packet Switching

Port

Use this keyword to indicate the number of ports being supported by either one or two co-processor adapters.

Keyword Restrictions

For ASYNC line definitions.

Parameters

Specify a value from 0 to 5.

Default Value

None

Read Timeout

Use this keyword to indicate the maximum amount of time (in seconds) that a read request can wait to receive a response.

Keyword Restrictions

For ASYNC line definitions.

Parameters

Specify a value from 0 to 255 seconds. 0 indicates an unlimited timeout.

Default Value

20

Receive Buffers

Use this keyword to indicate the number of allocated buffers for received data. Buffer size is normally specified on the OPEN statement.

Keyword Restrictions

For ASYNC line definitions.

Parameters

Specify a value from 1 to 7.

Default Value

1

Receive Pacing Value

Use this keyword to specify the receive pacing value that is sent out on bind requests and responses.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA session definitions.

Parameters

Specify a value from 0 to 63.

Default Value

12

Record I/O

Use this keyword to indicate if read and write operations are to be processed on a record basis. Your choice presumes specific data stream delimiters.

Communication Configuration Keywords

Keyword Restrictions

For ASYNC line definitions.

Parameters

- 1 Read and write operations are to be processed on a record basis.
- 2 Read and write operations are not to be processed on a record basis.

Default Value

None

Remote Node Address

Use this keyword to indicate the address of another station with which the controller can communicate. You must select auto activation if communication is to be started from the partner node when the token ring has been enabled for LU 6.2 communications.

Note: If you enter a remote node address, you must specify Ethernet partners by its canonical address.

Keyword Restrictions

For SNA links.

Parameters

Specify an address of 6 hexadecimal bytes in the range hex 000000000000 to hex 7FFFFFFFFFFFFF.

Default Value

Hex 400000000001

Remotely Attachable Local TP Name

Use this keyword to identify the name of the local transaction program (TP) as it is known by other nodes in the network.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a name by using up to 64 alphanumeric characters.

Default Value

None

Remotely Attachable Local TP Record Name

Use this keyword to specify the name of the remotely attachable transaction program (TP) record name being processed.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

Specify a name by using up to eight alphanumeric characters.

Default Value

None

Response to a DISC

Use this keyword to describe the action to be taken when receiving a DISC while in the Disconnect Mode (DM) state.

Keyword Restrictions

For X.25 line definitions with the 1984/1988 CCITT recommendation.

Parameters

This information is available from your network provider.

- 1** Send DM and wait for SABM.
- 2** Send DM followed by SABM.
- 3** Send UA followed by SABM.

Default Value

1

Screen Type (for SNA Session Definition)

If you are defining a 3270 emulation session of type 3270GRLU, use this keyword to specify whether you have a color or monochrome display.

Keyword Restrictions

For SDLC/SNA and X.25 SNA 3270 emulation session definitions.

Parameters**COLOR**

Color display

MONO

Monochrome display

Default Value

None

Send Buffers

Use this keyword to indicate the number of buffers to be allocated for transmitted data. Buffer size is normally specified on the OPEN statement.

Keyword Restrictions

For ASYNC line definitions.

Parameters

Specify a value from 1 to 7.

Default Value

1

Send Pacing Value

Use this keyword to specify the send pacing value sent out on bind requests.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 SNA session definitions.

Parameters

Specify a value from 0 to 63.

Default Value

12

Session Address (for SNA Session Definition)

Use this keyword to indicate the address of the unit session in the store controller.

Communication Configuration Keywords

Keyword Restrictions

- For SDLC/SNA link definitions.
- The operating system provides resources for up to 40 sessions over two host communication links.

Parameters

Specify a value from 02 to 84. Session address 01 is reserved for (HACP00) Host Command Processor sessions. (You cannot change link configuration values for this logical unit session.)

Session addresses 85 to 99 are reserved.

Default Value

01 and 02

Note: Although 01 and 02 are both defaults, you cannot change session address 01.

Session Group

Use this keyword to indicate the name of the LU 0 session group used by this link.

Keyword Restrictions

For SDLC/SNA subarea link and X.25 SNA link definitions.

Parameters

Specify a name by using up to eight alphanumeric characters.

Default Value

None

Session Limit

Use this keyword to indicate the maximum number of LU-LU sessions possible for the LU being defined.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 local LU record definitions.

Parameters

Specify a value from 1 to 32 000.

Default Value

1

Session Name (for SNA Session Definition)

Use this keyword to indicate the session name, an internal name used by the application to open a session.

Keyword Restrictions

For SDLC/SNA and X/25 SNA link definitions.

Parameters

Specify up to six alphanumeric characters. This is the name of a session that is defined using option 2 (Controller Configuration) from the CONFIGURATION panel. See “Program Name” on page 456 for further information on defining this application.

Default Value

HACP00 and RCMS00

Note: Although HACP00 and RCMS00 are both defaults, you cannot change session name HACP00.

This name should not be the same as that are used for any other Session Name or Session Type. Duplication of names might lead to unpredictable results when starting or stopping sessions.

Session Type (for SNA Session Definition)

If you are defining a 3270 emulation session, use this keyword to identify the type of emulation session that is associated with the session address.

Keyword Restrictions

For SDLC/SNA and X/25 SNA 3270 emulation link definitions.

Parameters

Specify up to six alphanumeric characters. The session type must be one of the following:

3270PRTR

Printer session

3270SCRN

Console session, unique LU

3270GRLU

Console session, LU group

Default Value

HACP00 and RCMS00

Note: Although HACP00 and RCMS00 are both defaults, you cannot change session name HACP00.

This name should not be the same as that used for any other Session Name or Session Type. Duplication of names might lead to unpredictable results when starting or stopping sessions.

SSCP ID (for SNA Link Definition)

Use this keyword to indicate the system services control point (SSCP) ID of the SSCP issuing the ACTPU command. Obtain this ID from your communication specialist.

Note: This ID is verified upon receipt of an ACTPU command from the host processor and must be entered in hexadecimal because its fields are bit-sensitive.

Keyword Restrictions

For SDLC/SNA link definitions.

Parameters

Specify a value by using the following information:

Bit	Description
-----	-------------

0 - 3	Format: 0000 (only value that is defined)
-------	---

4 - 7	PU type of the node containing the SSCP (default = 5)
-------	---

8 - 47	Implementation and installation-dependent binary identification. If bits 8 through 47 are set to zeros then verification of these bits is bypassed.
--------	---

Default Value

The default high-order byte is 05, followed by 10 hexadecimal characters of zeros.

Station Address

Use this keyword to indicate the station address of the store controller that is determined by the host processor.

Communication Configuration Keywords

Keyword Restrictions

For SDLC/SNA line definitions.

Parameters

Specify a hexadecimal value from 01 to FE.

Default Value

Hex C1

Stop Bits

Use this keyword to indicate the number of stop bits between characters. This keyword represents line idle time and establishes character synchronization.

Keyword Restrictions

For ASYNC line definitions.

Parameters

Specify 1, 1.5, or 2.

Default Value

1

Symbolic Destination Name

Use this keyword to indicate the symbolic destination name being processed.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 link and session definitions and for token-ring session definitions.

Parameters

Specify a name by using up to eight alphanumeric characters.

Default Value

None

Sync Level

Use this keyword to indicate the synchronization level for the local TP.

Keyword Restrictions

For SDLC/SNA, local SNA, and X.25 session definitions.

Parameters

- 1 None
- 2 Confirm
- 3 Either

Default Value

3

Telephone Number

Use this to indicate the complete telephone number of the host processor.

Keyword Restrictions

For ASYNC auto-dial line definitions.

Parameters

Specify a value of 7 to 11 numeric characters.

Default Value

None

Terminal Number

If you are defining a 3270 emulation session of type 3270PRTR or 3270SCRN that will run on a terminal, use this keyword to identify the terminal assigned to this session. If you are defining a session of type 3270GRLU, leave this field blank.

Keyword Restrictions

For SDLC/SNA and X.25 SNA 3270 emulation session definitions.

Parameters

Specify a value in the form *Tnnn*, where *nnn* is a value from 001 to 999.

Default Value

None

T1 Value

Use this keyword to indicate the response timeout for this line.

Keyword Restrictions

For X.25 line definitions.

Parameters

Specify the time in tenths of a second from 1 to 32 767.

Default Value

6

Unnumbered Acknowledgment Response (UA)

Use this keyword to allow transmitting stations to acknowledge receipt and to indicate acceptance of SABM and DISC commands.

Using the Default Node Address

Use this keyword to indicate the usage of the default node address of the controller.

Keyword Restrictions

For token-ring link definitions.

Parameters

Y Use the default node address
N Do not use the default node address

Default Value

Y

Virtual Circuit Type

Use this keyword to indicate the type and direction of a virtual call.

Keyword Restrictions

For X.25 SNA link definitions.

Communication Configuration Keywords

Parameters

- 1 PVC (permanent virtual circuit)
- 2 SVCIN (switched virtual circuit in)
- 3 SVCOUT (switched virtual circuit out)

Default Value

1

XON/XOFF

Use this keyword to indicate if transmission can be started or stopped by special XON/XOFF commands.

Keyword Restrictions

For ASYNC line definitions.

Parameters

- 1 Transmissions are to be stopped and started by XON/XOFF commands.
- 2 Transmissions are not to be stopped and started by XON/XOFF commands.

Default Value

2

Appendix G. Printer forms and documents

This appendix shows you how to design forms and documents on the different POS printer models

Designing forms and documents for the POS Printers

You can use the POS Printers to print on forms and documents that you design for your store's daily operations. You should design each document so that preprinted information on the form is not overlapped by data that are printed by the terminal.

Use the dimensions that are provided in Figure 193 to design blank areas for printing terminal data on your forms and documents.

Documents for Printer Model 1 or 2

To design forms and documents correctly for the Printer Model 1 or Model 2, consider the relationship of text characters to the following items:

- Document alignment edges
- The printer cover alignment notch
- Document gate

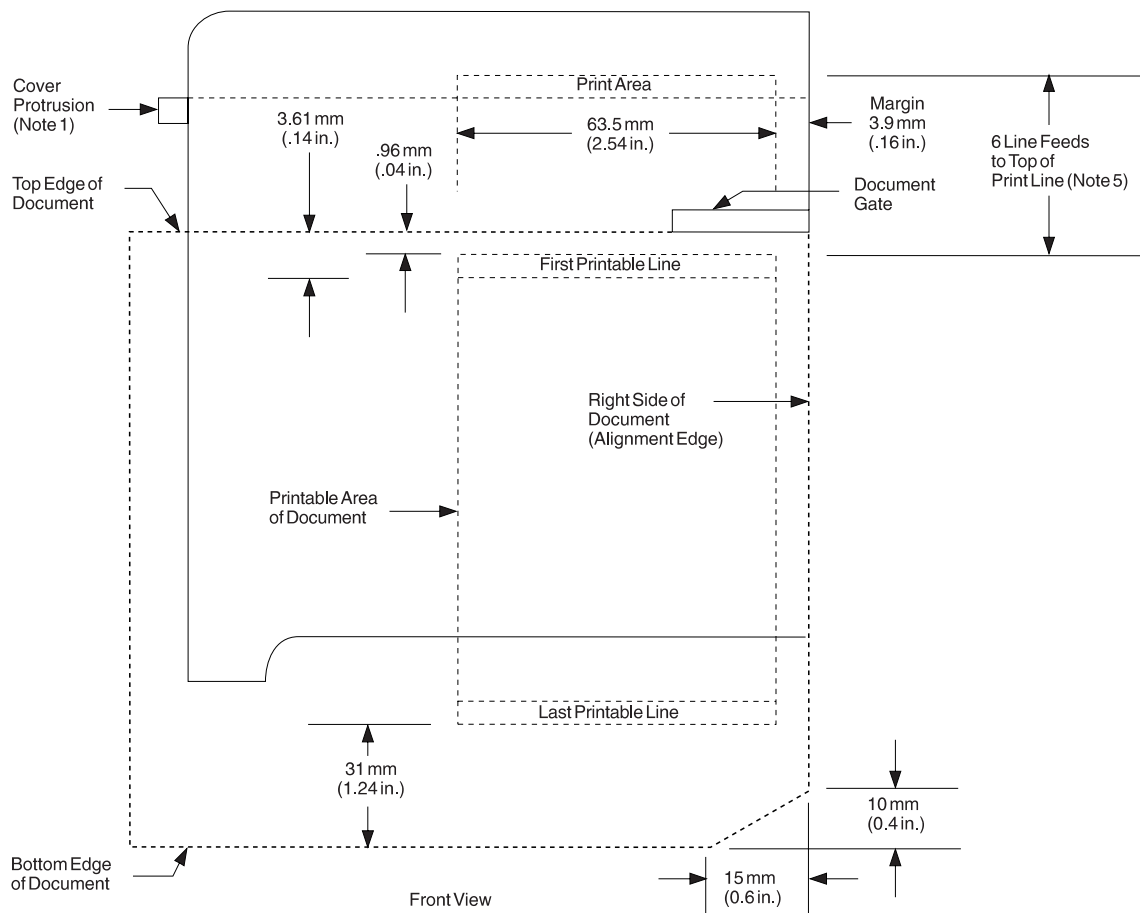


Figure 193. Alignment Dimensions for Printer Models 1 and 2

Notes:

1. The top edge of the protrusion in the top cover is even with the bottom edge of the print line.

2. A standard line feed on the document is 11 motor steps or 4.19 mm (0.165 in.). One motor step advances the document 0.381 mm (0.015 in.).
3. All print-line dimensions are in reference to the default print character height of 2.67 mm (0.105 in.).
4. All dimensions are nominal and for reference only. Design preprinted box areas as large as possible because of printer manufacturing tolerances and document variations.
5. After the document makes contact with the document gate (stop), a minimum of six line feeds (66 motor steps) is required to advance the document to the first printable line. Additional steps are required if the print line is in a location other than those locations that are shown in Figure 193 on page 543. You can calculate the number of motor steps by referring to Figure 198 on page 549 to determine the top of the print line for any other line location.
6. Test forms in the printer with appropriate code before ordering large quantities.
7. Bottom corners of printed forms may be diagonally cut as indicated to ensure that overprinting does not occur. Overprinting can occur when the terminal attempts to print below the last printable line on the form (31 mm [1.24 in.] from the bottom edge).

Documents for Printer Model 3 or 4

To design forms and documents correctly for the Printer Model 3 or Model 4, consider the relationship of the text characters to the following:

- Document alignment edges
- Document feed rolls
- Printer print line

Use the dimensions that are provided in Figure 194 on page 545 and Figure 195 on page 546 to design blank areas for printing data on your forms and documents.

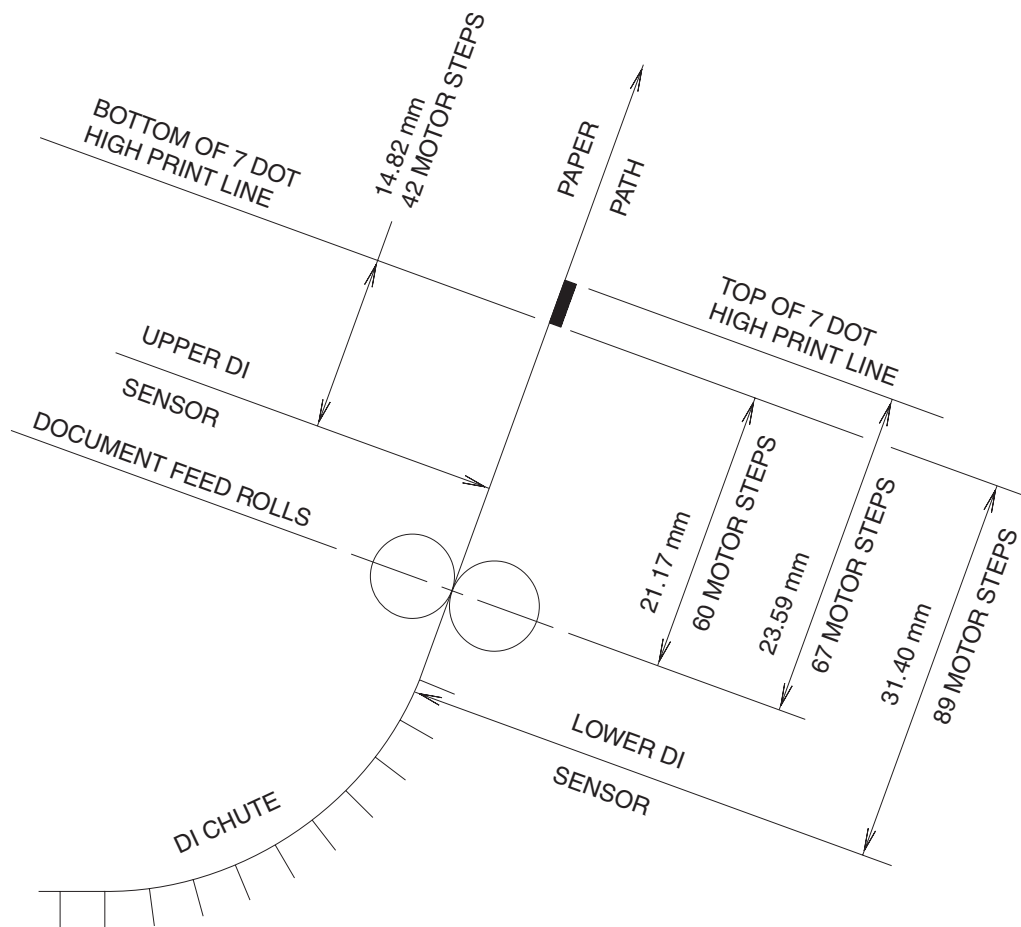


Figure 194. Station Paper Path for Printer Model 3 or 4

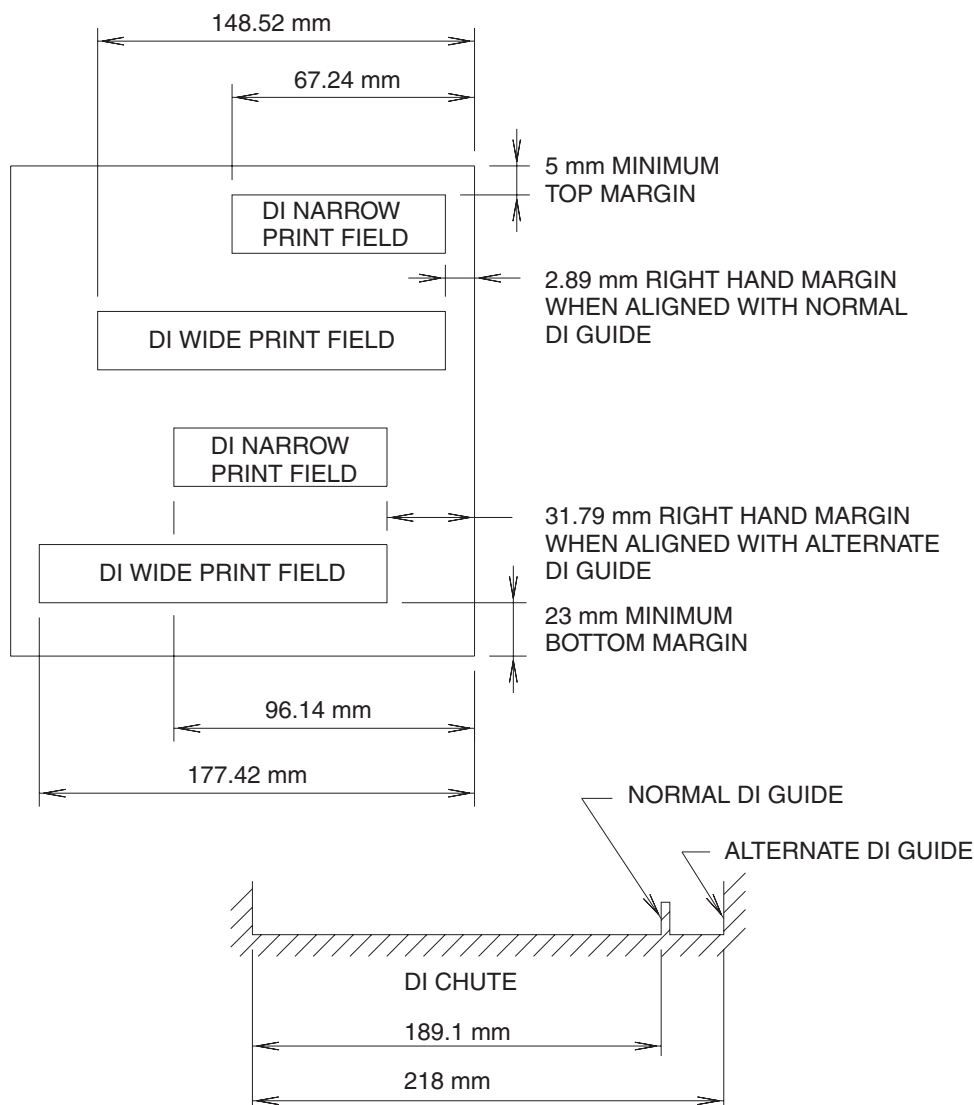


Figure 195. Print Field for Model 3 or 4 Printer

Note: The recommended maximum form width is 184 mm (7.25 in.) when aligning the form against the molded guide on the right side of the front document insert area.

The form width is 216 mm (8.5 in.) when you align the form against the right wall of the front document insert area.

Designing documents for the 4610 Printer

To design forms and documents correctly for the 4610 printer, consider the relation of the text characters and the following:

- Document alignment edges
- Document feed rolls
- Printer print line

The recommended minimum form width is 50 mm (2 in.). The form width is 102 mm (4 in.) for documents that can be flipped.

Portrait mode

In portrait mode, if you insert the document from the front of the printer, it will feed to the first print position. If you insert the document from the side, printing starts at the inserted location. Use the dimension that is provided in Figure 196 to determine printing areas when using portrait mode.

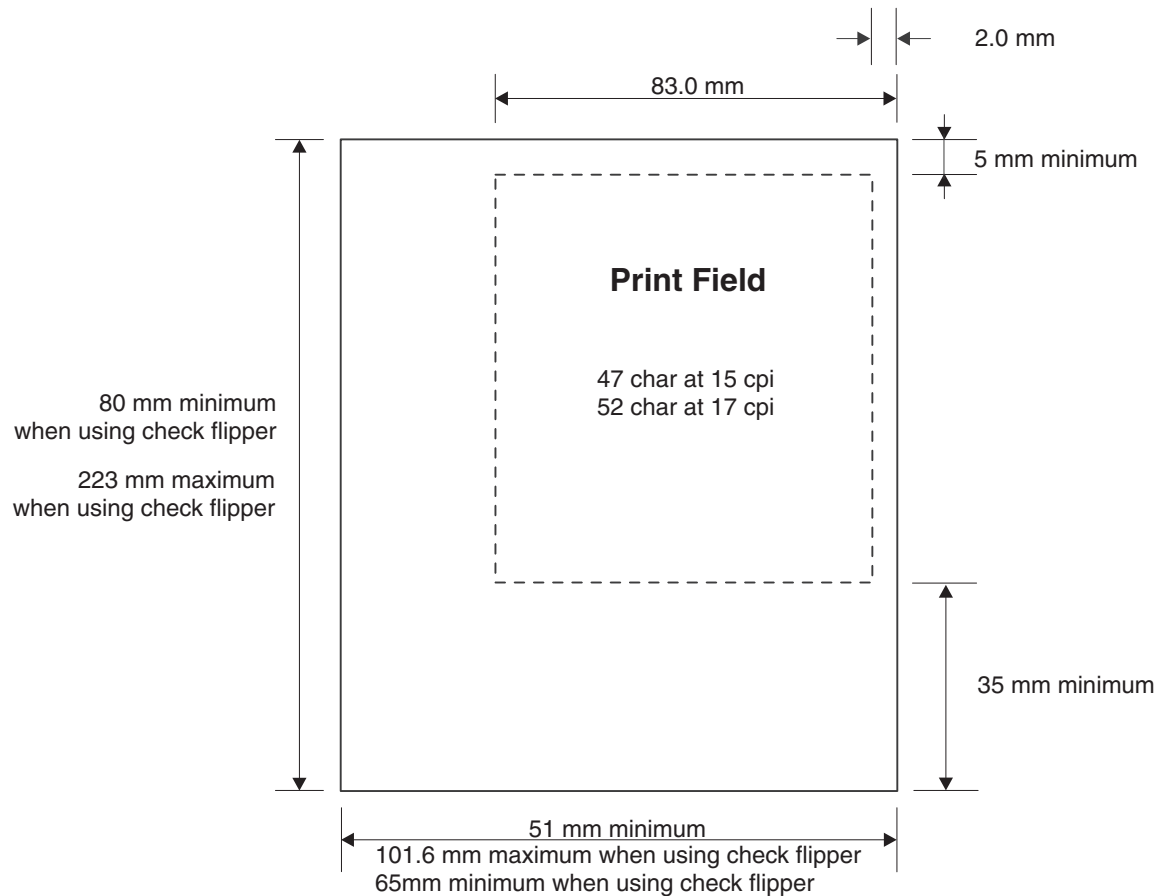


Figure 196. Printable Area of an Inserted Document (Portrait)

Landscape mode

In landscape mode, the print lines sent must be from the bottom of the form to the top of the form. Different lengths of paper allow different print lines. Therefore, your application must know the size of the print line. To position the printing in landscape mode to the correct position, the system must send line feeds to the correct position. The printer assumes that the top of the form for a document in landscape mode is the far left edge of the document.

The printer must calculate the length of the document before printing on it. To do this, it will feed the document past the bottom sensor and back to the top sensor.

Use the dimensions that are shown in Figure 197 on page 548 to determine printing areas when using landscape mode.

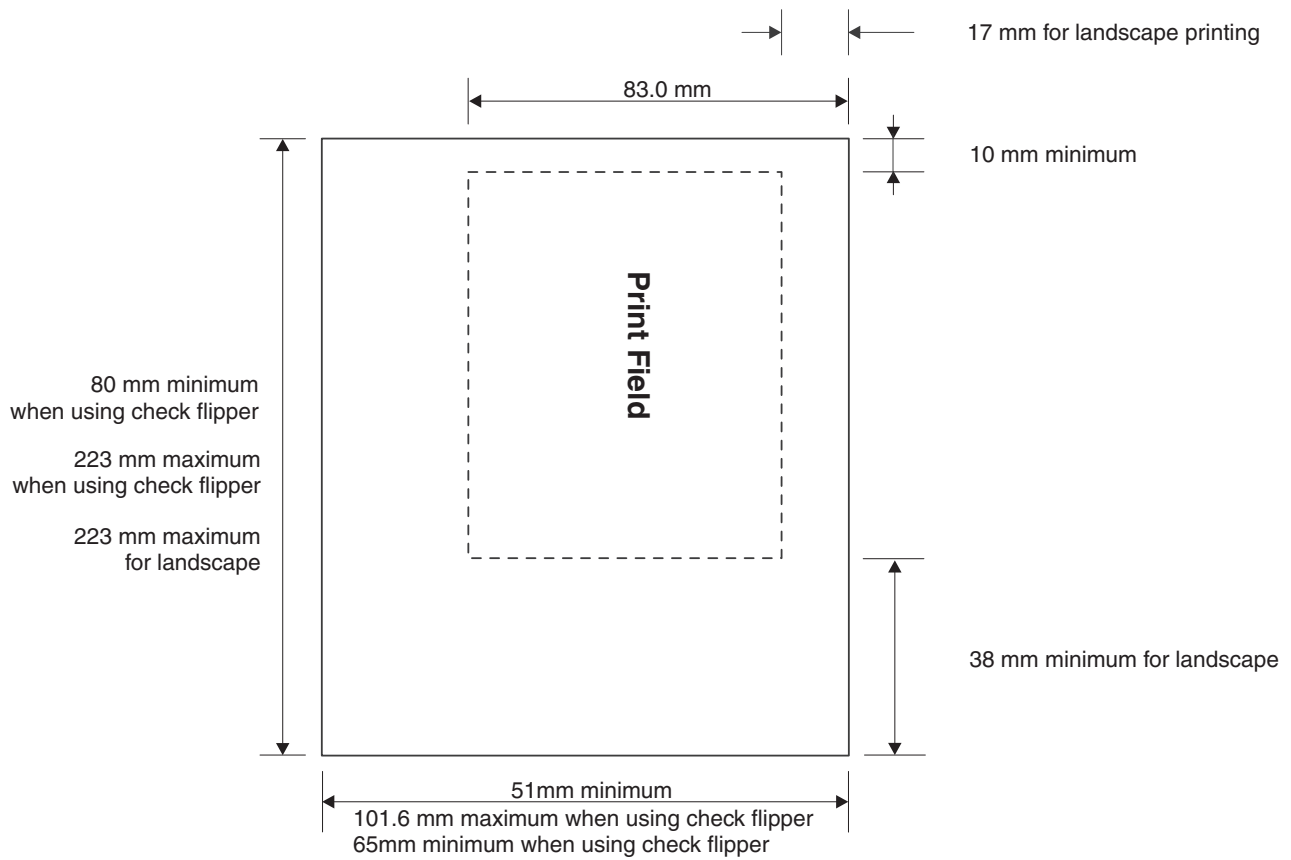


Figure 197. Printable Area of an Inserted Document (Landscape)

Determining number of motor steps required for top of print line on printer Model 1 or 2

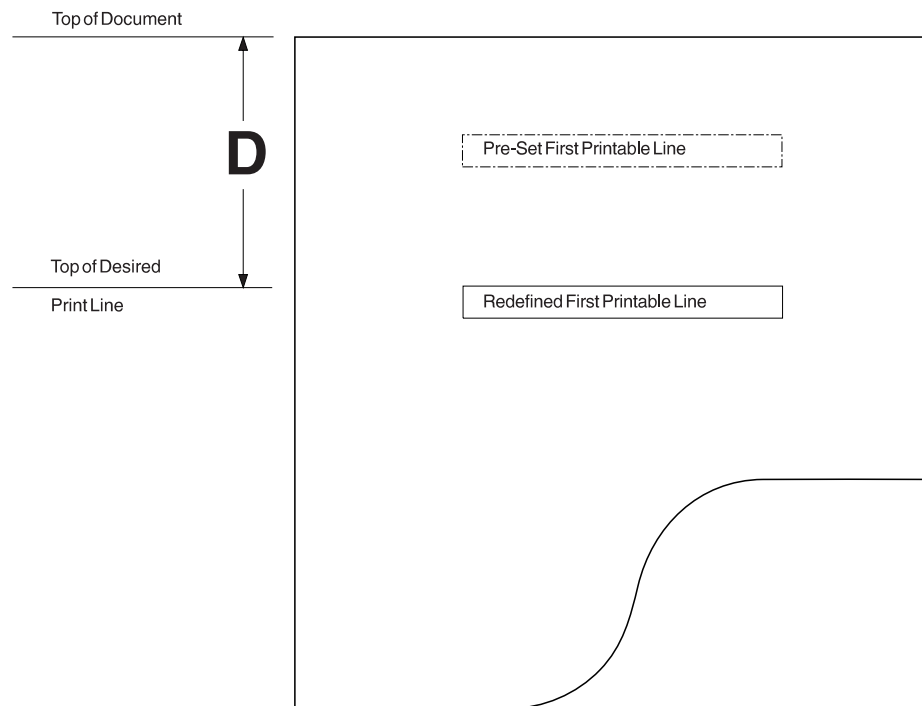


Figure 198. Calculating Distance from Top of Document to Top of Print Line for Printer Models 1 and 2

To determine the number of motor steps required, perform the following steps:

1. Measure the distance D as shown in Figure 198 from the top of the document to the top of the appropriate print line.
2. Calculate the number of required motor steps from the document gate stop position (top of document) to the top of the appropriate print line in the machine:
 - If the distance D is expressed in **millimeters**, use the following equation:
$$\text{Number of Required Motor Steps} = 2.62 (D) + 63.5$$
 - If the distance D is expressed in **inches**, use the following equation:
$$\text{Number of Required Motor Steps} = 66.67 (D) + 63.5$$
3. After calculating the number of motor steps, round off your answer to the next highest whole motor step.

Determining number of motor steps required for top of print line on printer Model 3 or 4 (bottom insert)

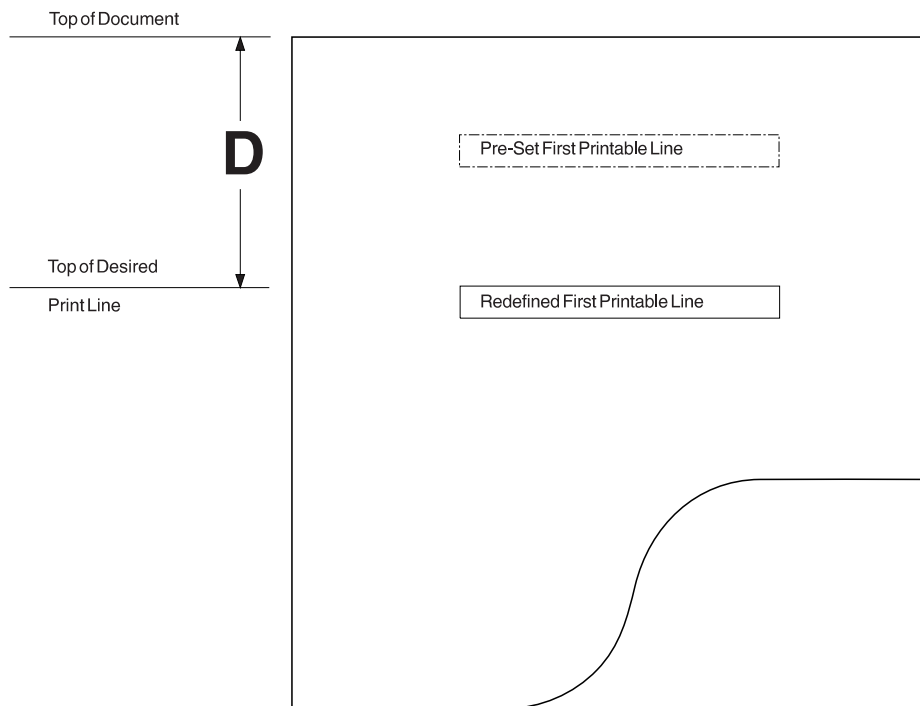


Figure 199. Calculating Distance from Top of Document to Top of Print Line on a Model 3 or 4 Printer (Bottom Insert)

Motor steps are required for the top of line print on a Printer Model 3 or 4 with bottom insert. To determine the number of steps, perform the following steps:

1. Measure the distance D as shown in Figure 199 from the top of the document to the top of the appropriate print line.
2. Calculate the number of required motor steps from the document gate stop position (top of document) to the top of the appropriate print line in the machine:
 - If the distance D is expressed in **millimeters**, use the following equation:
Number of Required Motor Steps = 2.83 (D) + 72 mm
 - If the distance D is expressed in **inches**, use the following equation:
Number of Required Motor Steps = 72 (D) + 72 inches
3. After calculating the number of motor steps, round off your answer to the next highest whole motor step.

Note: The calculations in the previous steps are for reference only and refer to nominal printer dimensions. Mechanical tolerances from printer to printer can cause the print line locations to vary by ± 3 mm (0.12 in.).

Determining number of motor steps required for top of print line on printer Model 3 or 4 (top insert)

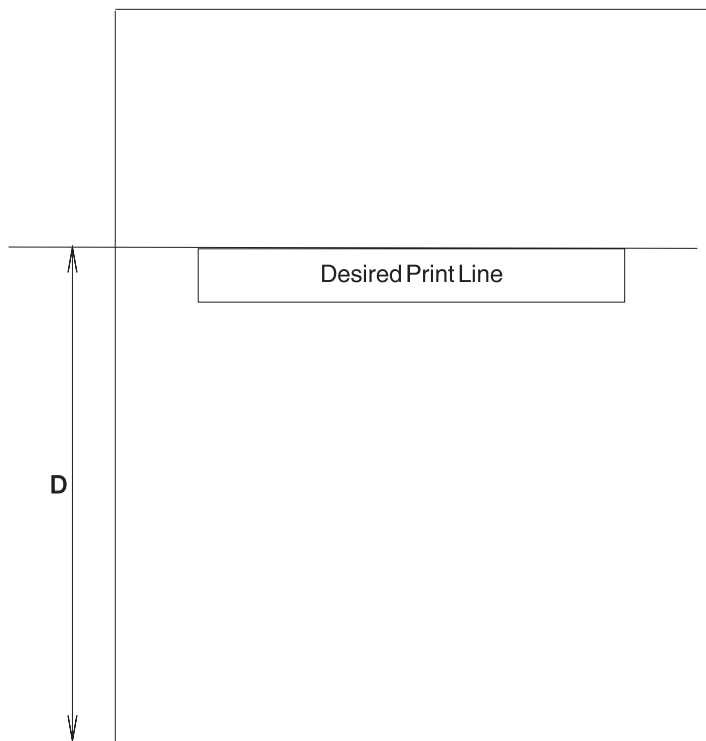


Figure 200. Calculating distance from top of document to top of print line on a printer Model 3 or 4 (top insert)

To determine the number of motor steps required to print on a Printer Model 3 or 4 with top insert:

1. Measure the distance D as shown in Figure 200 from the top of the document to the top of the appropriate print line.
2. Calculate the number of required motor steps from the document gate stop position (top of document) to the top of the appropriate print line in the machine:
 - If the distance D is expressed in **millimeters**, use the following equation:
$$\text{Number of Required Motor Steps} = 2.83 (D - 23.37) \text{ mm}$$
 - If the distance D is expressed in **inches**, use the following equation:
$$\text{Number of Required Motor Steps} = 72 (D - 0.92) \text{ inches}$$
3. After calculating the number of motor steps, round off your answer to the next highest whole motor step.

Note: The calculations in the previous steps are for reference only and refer to nominal printer dimensions. Mechanical tolerances from printer to printer can cause the print line locations to vary by ± 3 mm (0.12 in.).

Additional forms for printer Model 1 or 2

The use of printed forms at the document insert station is optional. The following specifications apply to forms that you might use at the document insert station.

Table 15. Specifications – document insert forms –printer Model 1 or 2

Paper - Size	Single-Part Form - 216 mm x 330 mm (8.5 in. x 13 in.) is the recommended maximum. 69.9 mm x 152.4 mm (2.75 x 6 in.) is the recommended minimum. 69.9 mm x 82.5 mm (2.75 in. x 3.25 in.) is the minimum single-part form that can be used but it will allow only approximately 3 lines of printing. Multiple-part Form - 216 mm x 330 mm (8.5 in. x 13 in.) is the recommended maximum. 82.5 mm x 187.3 mm (3.25 in. x 7.37 in.) is the recommended minimum.
Tab Card - Size	82.5 mm x 123.2 mm (3.25 in. x 4.85 in.)
Weight	57 to 90 grams/m ² (15 to 24 lb) Paper or Tab Card Stock
Thickness	0.0762 mm (0.003 in.) paper to 0.2 mm (0.008 in.) Ledger Card Stock Maximum (uncoated card stock only)

Multiple-part forms for printer Model 1 or 2

You can also use multiple-part forms in the document insert station. The maximum form thickness is 0.47 mm (0.0185 in.).

Top fastening is recommended on all forms regardless of size. Fastening is permitted on the left side of forms that are a minimum of 101.6 mm (4 in.) wide. Fastening on the right side is not permitted. Fastening must not extend more than 19.05 mm (.75 in.) from the top, bottom, or left edge of a form.

When you use bottom fastening, printing must start at least 63.5 mm (2.5 in.) from the fastening to help eliminate potential document feeding problems.

Note: No staples or metal inserts can be used on any area of the form that is inserted in the machine. No holes or openings are allowed on the form or its fastening. You can use forms with lines or boxes that are located in areas to be printed. However, the accuracy of printing between lines or in the boxes depends on how you position the document.

Additional forms for printer Model 3 or 4

The use of printed forms for document insertion is optional. The following specifications apply to forms that you might use for document insertion.

Table 16. Specifications – Document Insert Forms – Model 3 or 4

Paper - size	Single-part form	-	216 mm x 330 mm (8.5 in. x 13 in.) is the recommended maximum.
			82.5 mm x 69.9 mm (3.25 x 2.75 in.) is the recommended minimum.
			69.9 mm (2.75 in.) is the minimum width for check franking.
	Multiple-part Form	-	216 mm x 330 mm (8.5 in. x 13 in.) is the recommended maximum. 82.5 mm x 69.9 mm (3.25 in. x 2.75 in.) is the recommended minimum.

Multiple-part forms for printer Model 3 or 4

You can also use multiple-part forms for document insertion. The maximum form thickness is 0.47 mm (0.0185 in.) when inserted into the front of the printer and 0.25 mm (0.010 in.) when inserted into the top of the printer.

Top fastening is recommended on all forms regardless of size. Left or right fastening is permitted as long as it is outside the document insert station print field. No staples or metal inserts should be used on any area of the forms that are inserted in the machine and no holes or openings are allowed on the forms or their fastening.

The front sheet should not exceed 0.08 mm (0.003 in.) in thickness and if the multiple-part form contains card stock, the card stock must be the last copy and not exceed 0.2 mm (0.008 in.) in thickness. Also, the top and bottom sheets of a multiple-part form should be the same size, and stepped top or bottom page edges are not recommended.

Additional forms for 4610 Printer

The use of printed forms for document insertion is optional. The following specifications apply to forms that you might use for document insertion.

Table 17. Specifications – document insert forms – 4610 Printer

Paper - size	Single-part or Multiple-part Form	-	50 mm (1.9 in.) is the recommended minimum width.
	Document that can be flipped	-	102 mm x 223 mm (4 in. x 8.78 in.) is the recommended maximum 80 mm (3.14 in.) is the minimum width.

Multiple-part forms for 4610 Printer

You can also use multiple-part forms for document insertion. The maximum form thickness is 0.47 mm (0.0185 in.) when inserted into the printer.

Top fastening is recommended on all forms regardless of size. Left or right fastening is permitted as long as it is outside the document insert station print field. Do not use staples or metal inserts on any area of the forms that are inserted in the machine. No holes or openings should be within 10 mm from the right edge of the form.

The front sheet should not exceed 0.08 mm (0.003 in.) in thickness and if the multiple-part form contains card stock, the card stock must be the last copy and not exceed 0.2 mm (0.008 in.) in thickness. The top and bottom sheets of a multiple-part form should be the same size. We do not recommend stepped top or bottom page edges.

4690 System printer enhancements

The operating-system controller printing subsystem has the following enhancements:

- Specification of an end-of-job character
- PPDS to PCL Datastream conversion
- Specification of any command as a prefix to all print jobs sent to a particular printer

End-of-job character

When switching from a dot-matrix printer to a laser printer, some new printers do not print the characters in their buffer until they have a page full or an explicit page-eject command. This action can prevent the last page of a report from printing or result in the printing of two separate reports on the same page. The operating system provides the option of adding a page eject to the end of all jobs that are sent to the printer. The same function will also work on PPDS printers.

Add an end-of-job character after every job. This direction applies to printers that buffer characters until receiving a full page or an explicit command to print the output. This practice ensures that the printer prints all data in the job when received. This function also removes leading form-feed characters.

Note: If your application already initiates a page eject at the end of a job, the use of this function will eject a second, blank page. Many laser printers provide an option to suppress the printing of blank pages. Toshiba recommends that you enable this function.

This option is disabled by default. You can enable the option through the controller configuration's multiple printer definition.

Output format datastream conversion

The printer configuration panel has changed (from the V5.2 *PPDS to PCL* option) to **Output format** and you can choose either **Raw**, **PCL**, or **PS**. The configuration panel will warn that PS is only valid when the controller is running in Enhanced Mode.

The operating system supports the conversion of PPDS print commands currently embedded in their reporting applications. The operating-system support interprets most PPDS text-formatting commands into similar PCL text-formatting commands. There are significant differences between the PPDS Data Stream and PCL. Fonts available on a proprinter do not match exactly those available on a PCL compatible printer. Wherever possible, character width takes precedence over character height. The differences between PPDS and PCL fonts are more pronounced when switching to proportional fonts. Also, the set of printable characters is significantly different in regards to the US (code page 437) printable graphics characters. The operating system uses the Roman-8 character set because it is the only font available with all of the necessary characteristics to map to PPDS commands.

Datastream conversion does not handle graphics conversion, only text formatting commands. If your reports use graphical characters, do not use PPDS to PCL translation. Use the Send Job Command or the printer's operator panel to change the printer's font to PC-8. Reports containing boxes made up of graphical characters from this code page do not print correctly. PPDS graphical commands for printing pictures, logos, and so forth are not supported, and will not be converted to PCL output.

You do not have to enable PPDS to PCL to print to a PCL printer. Use PPDS to PCL when you have user-coded applications (or modified Toshiba applications) that use compressed, bold, italic and other printing commands. If you only print plain text, you should not enable PPDS to PCL translation. This function disables by default.

Enable this function on the controller configuration's multiple printer definition, on a per-printer basis.

Note: The system is limit of 16 concurrent processes that request translation on a single controller at any given point in time. Print jobs intended for another print destination that are re-routed to this printer through the job transfer command may not be translated.

Send Job Command

This enhancement allows you to prefix all jobs with a user-supplied command. This command enables a printer's duplex unit, print a logo, download and switch to an alternate font. This command forces all jobs to compress print by default. Switch to a secondary paper tray to print a separator page and then switch back to the primary paper source. See your printer's manual or for PCL to Hewlett Packard's PCL 5 Printer Language Technical Reference Manual, HP manual part number 5961-0509 for commands and their formats.

This function is not specific to PCL printers; the user command may just as easily be a PPDS job command. However, data will not be translated if PPDS to PCL support is also enabled. The only restriction is that your command must be less than 65 536 bytes. Many of the commands that are provided here can also be set through the operator control panel of the printer. Table 18 shows examples of common PCL commands.

Table 18. Examples of Common PCL Commands

Enable Duplex, Long edge binding *	{ESC}&I1S
Enable Duplex, Short edge binding *	{ESC}&I2S
Set Page Size, Legal	{ESC}&I3A
Set Page Size, A5	{ESC}&I25A
Set Page Size, A4	{ESC}&I26A
Feed paper from main source	{ESC}&I1H
Feed paper from alternate paper source	{ESC}&I4H
Select PC-8 symbol set	{ESC}{10U
Select PC-850 symbol set	{ESC}{12U

* "4690 Enhancements for Duplex Printing" on page 556

Consult your printer's manual for a more complete listing of commands available from your printer.

Some printer commands may differ on various printer models. To enable this feature, create a file, ADX_IOSS:PRNx.JCH, where x corresponds to the printer to which you want to associate this command (1 - 8) and which contains your job prefix. After the next IPL, the contents of this file will prefix all print jobs that are sent to the print queue for this printer.

Note: Jobs intended for another print destination that are re-routed to this printer via the job transfer command may not include your job commands. The maximum supported size of a user command is 65 536 bytes.

4690 Enhancements for Duplex Printing

To make duplex printing work correctly, you may need to reduce the number of printed lines per page in controller characteristics. Also, Supermarket Application customers who want to use duplex printing should turn on the End-of-Job character function. Supermarket Application reports normally print with a leading form feed character that causes the first page of any given report to print on the back side of the paper. The add End-of-Job function removes the leading form feed and adds a form feed (or PCL end Job escape sequence) at the end of the printout.

Appendix H. SNA Memory Allocation Worksheet

This worksheet helps you determine the amount of memory that is required to support your SNA communications configuration.

SNA memory is the memory that is required to store data that has yet to be processed by an application. Or, the memory that the system transmits to the partner node is defined by the number and size of data buffers available. You use SNA memory only for either the Synchronous Data Link Control (SDLC) ethernet (LU 6.2) links.

Note: The system bases the memory available for 4690 communications on the following criteria:

- The amount of memory installed on the controller
- The communication configuration option that lets you incrementally allocate memory for SNA communications up to the operating-system maximum

To use this worksheet you must know the configuration intended for 4690 SNA communications. In particular, this worksheet deals with the communications memory requirements for the following resources:

- LU 0 and 3270 sessions (SDLC links only)
- LU 6.2 sessions
- LU 6.2 MODEs for LU 6.2 sessions

The operating system uses SNA memory allocation to support the concurrent use of your communications configuration. Specifically, this number represents the amount of memory available for data buffers. Data buffers buffer outgoing and incoming data that are received by a 4690 communications application.

You can configure SNA memory allocation by selecting **Communication** on the CONTROLLER CONFIGURATION panel. The default SNA memory allocation is 128 KB. You can increase the allocation in 16-KB increments from 64 KB to 256 KB.

SNA Memory Calculation

This worksheet uses three sections of calculations to arrive at the total SNA memory that is needed for configuring the SNA memory allocation:

- Section 1 is the LU 0 and 3270 calculation.
- Section 2 is the LU 6.2 calculation.
- Section 3 is the calculation for total SNA memory.

Section 1: LU 0 and 3270 Calculation

Base your LU 0 and 3270 memory requirements on the pacing and request unit (request/response unit [RU]) values. You configure these values in the logon mode table in the host Virtual Telecommunications Access Method (VTAM). These values determine the amount of incoming or outgoing data that the 4690 buffers. Obtain the following values from the logon mode table:

- SRCVPAC (Secondary Receive Pacing)
- SSNDPAC (Secondary Send Pacing)
- RUSIZES (Request Unit Sizes)

Note: If you do not explicitly set the pacing values in the VTAM logon mode table, determine their values by using the VPACING and PACING values. The ATPPL or LU definition statements defines these values, which are specified in the A.

Enter the values you obtained from the logon mode table

SRCVPAC = _____
SSNDPAC = _____
Secondary LU RU size (decimal value) = _____
Primary LU RU size (decimal value) = _____

The amount of data memory that is required for LU 0 and 3270 is the result of the following calculation.

Perform the following calculation for each LU 0 and 3270 session:

Enter the values and select the maximum

- A. Num of Sessions \times Pri LU RU size \times ((SRCVPAC \times 2) - 1) = _____
OR
B. Num of Sessions \times Sec LU RU size \times ((SSNDPAC \times 2) - 1) = _____
C. Enter the MAXIMUM of these two values ==> _____

The section 1 memory allocation is the sum of the line C values (from the preceding calculation) for each LU 0 and 3270 session.

Enter the section 1 memory allocation

Section 2: LU 6.2 Calculations

Base the LU 6.2 calculations on the session limits for local LU and MODE as well as RU and pacing values that are configured for each MODE. RU and pacing have the most impact on memory requirements. Large RU sizes coupled with large pacing increase the amount of memory needed for sending or receiving data to or from a partner LU.

Completing this worksheet determines whether you have sufficient available memory for 4690 communications to concurrently support all configured LUs, PLUs, and MODE combinations. You should know which LUs, PLUs, and MODEs will be concurrently active.

Local LU Calculation

For this calculation, list the local LU 6.2 names and the number of sessions that can be concurrently active. The number of sessions that can be concurrently active cannot exceed the local LU session limit. The 4690 supports a maximum of 32 concurrent conversations on LU 6.2 sessions. Therefore, your total, concurrent, LU 6.2 sessions must not exceed 32. LU 6.2 sessions without an active conversation do not require data memory.

Obtain the total number of local LU 6.2 sessions

Local LU Name	Number of Local LU Sessions
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
Total Local LU Sessions	==> _____

MODE Calculation

For each LU 6.2 MODE that a local LU 6.2 (and its partner) can concurrently use, list the following information:

- MODE name.calculation
- Number of concurrent sessions
- RUP ²⁷

Note: The total MODE sessions should equal the total local LU sessions that are obtained in the previous calculation.

Obtain the RUP for each LU 6.2

Max Incoming RU size \times [(Receive Pacing \times 2) - 1] = _____

List the following MODE information

MODE Name	MODE Sessions	RUP
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____

Multiply column 2 in the preceding calculation (MODE Sessions) by column 3 (RUP). List the results in the following calculation. Then, total the numbers in column 2.

²⁷. RUP is an arbitrary name for the product of the calculation that is shown.

Obtain the total of MODE sessions × RUP

MODE Name	MODE Sessions × RUP
-----------	---------------------

- | | | |
|----|-------|-------|
| 1. | _____ | _____ |
| 2. | _____ | _____ |
| 3. | _____ | _____ |
| 4. | _____ | _____ |

Total MODE Sessions × RUP	==> _____
---------------------------	-----------

The section 2 memory allocation is the total from the preceding calculation (Total MODE Sessions × RUP).

Enter the section 2 memory allocation

Section 3: Total SNA Memory Calculation

Obtain the sum of section 1 and section 2

Section 1 total	_____
-----------------	-------

Section 2 total	_____
-----------------	-------

Total SNA Memory Allocation	==> _____
-----------------------------	-----------

Use this number to determine the value you configure for SNA memory allocation. The default value using the Communication option of 4690 Controller Configuration is 128 KB. You can increase this value in 16-KB increments from 64 KB to 256 KB. Select a value for SNA memory allocation that is greater than the sum in this calculation.

Examples of SNA Memory-Allocation Configuration

Example 1

Use the following configuration information to determine the SNA memory allocation for Example 1:

Links

Number	Link Name	Purpose
1	SDLCLINK	SDLC to host for LU 0 sessions
1	TRLINK	Token-ring or Ethernet to partner node for LU 6.2 sessions

Sessions

Number	Session Type	LU 0 Sess Group/ LU 6.2 Name	Purpose
--------	--------------	---------------------------------	---------

1	LU 0	SESSGRP1	ADCS
4	LU 6.2	XFERLU62	File transfer on token-ring or Ethernet

MODEs

Number of MODE Sessions	MODE Name	Incoming RU Size	Receive Pacing
2	SMALLFIL	256	12
2	LARGEFIL	1024	3

Host VTAM logon mode table entries

SRCVPAC = 7
 SSNDPAC = 7
 RUSIZES = X'8585'
 - Sec LU RU size = $8 \times 2^5 = 256$
 - Pri LU RU size = $8 \times 2^5 = 256$

Using this information, calculate the SNA memory allocation as follows:

Section 1: LU 0 Calculation

Enter the values you obtained from the logon mode table

SRCVPAC = 7
 SSNDPAC = 7
 Secondary LU RU size (decimal value) = 256
 Primary LU RU size (decimal value) = 256

Enter the values and select the maximum

- A. Num of Sessions \times Pri LU RU size \times ((SRCVPAC \times 2) - 1) = _____
 OR
 B. Num of Sessions \times Sec LU RU size \times ((SSNDPAC \times 2) - 1) = _____
 C. Enter the MAXIMUM of these two values ==> _____

Enter the values and select the maximum

- A. Num of Sessions \times Pri LU RU size \times ((SRCVPAC \times 2) - 1) = 3328
 OR
 B. Num of Sessions \times Sec LU RU size \times ((SSNDPAC \times 2) - 1) = 3328
 C. Enter the MAXIMUM of the above two values ==> 3328 _

Enter the section 1 memory allocation

3328

Section 2: LU 6.2 Calculation

Obtain the total number of local LU 6.2 sessions

Local LU Name	Number of Local LU Sessions
1. _XFERLU62_____	_4_____
2. _____	_____
3. _____	_____
4. _____	_____
Total Local LU Sessions	==> _4_____

Obtain the RUP for each LU 6.2

Max Incoming RU size \times [(Receive Pacing \times 2) - 1] = _____

$256 \times [(12 \times 2) - 1] =$ _5888_

$1024 \times [(3 \times 2) - 1] =$ _5120_

List the following MODE information

MODE Name	MODE Sessions	RUP
1. _SMALLFIL_____	_2_____	5888
2. _LARGEFIL_____	_2_____	5120
3. _____	_____	_____
4. _____	_____	_____

Multiply column 2 in the preceding calculation (MODE Sessions) by column 3 (RUP). List the results in the following calculation. Then, total the numbers in column 2.

Obtain the total of MODE sessions \times RUP

MODE Name	MODE Sessions \times RUP
1. _SMALLFIL_____	_11776_
2. _LARGEFIL_____	_10240_
3. _____	_____
4. _____	_____
Total MODE Sessions \times RUP	==> _22016_

Enter the section 2 memory allocation

__22016__

Section 3: Total SNA Memory Calculation

Obtain the sum of section 1 and section 2

Section 1 total __3328__

Section 2 total __22016__

Total SNA Memory Allocation ==> __25344__

In this example, the minimum SNA memory allocation of 64 KB is sufficient. Configuring more than 64 KB will not increase or decrease performance.

Example 2

Use the following configuration information to determine the SNA memory allocation for Example 2:

Links

Number	Link Name	Purpose
1	SDCLINK	SDLC to host for 3270 sessions
1	SDCLINK	SDLC to host for LU 0 sessions
1	TRLINK1	Token-Ring to partner 4680 for LU 6.2 sessions
1	TRLINK2	Token-Ring to partner AS/400 for LU 6.2 sessions

Sessions

Number	Session Type	LU 0 Sess Grp LU 6.2 Name	Purpose
2	3270	SESSGRP1	3270 Sessions
1	LU 0	SESSGRP1	NDM
2	LU 6.2	LU624680	File transfer with partner 4680
4	LU 6.2	AS400LU	File transfer with AS/400

MODEs

Number of MODE Sessions	MODE Name	Incoming RU Size	Receive Pacing
2	SMALLFIL	256	12
2	INTERACT	256	8
2	LARGEFIL	4096	8

Host VTAM logon mode table entries

For 3270:

SRCVPAC = 4

SSNDPAC = 4

RUSIZES = X'8686'

- Sec LU RU size = $8 \times 2^6 = 512$

- Pri LU RU size = $8 \times 2^6 = 512$

For LU 0:

SRCVPAC = 4

SSNDPAC = 4

RUSIZES = X'8585'

- Sec LU RU size = $8 \times 2^5 = 256$

- Pri LU RU size = $8 \times 2^5 = 256$

Using this information, calculate the SNA memory allocation as follows:

Section 1: LU 0 and 3270 Calculation

Enter the values you obtained from the logon mode table

For 3270:

SRCVPAC = 4
SSNDPAC = 4
Secondary LU RU size (decimal value) = 512
Primary LU RU size (decimal value) = 512

For LU 0:

SRCVPAC = 4
SSNDPAC = 4
Secondary LU RU size (decimal value) = 256
Primary LU RU size (decimal value) = 256

Enter the values and select the maximum

For 3270:

- A. Num of Sessions \times Pri LU RU size \times ((SRCVPAC \times 2) - 1) = 7168
OR
B. Num of Sessions \times Sec LU RU size \times ((SSNDPAC \times 2) - 1) = 7168
C. Enter the MAXIMUM of the above two values ==> 7168

For LU 0:

- A. Num of Sessions \times Pri LU RU size \times ((SRCVPAC \times 2) - 1) = 1792
OR
B. Num of Sessions \times Sec LU RU size \times ((SSNDPAC \times 2) - 1) = 1792
C. Enter the MAXIMUM of the above two values ==> 1792

Enter the section 1 memory allocation

7168 + 1792 = 8960

Section 2: LU 6.2 Calculation

Obtain the total number of local LU sessions

Local LU Name	Number of Local LU Sessions
1. _LU624680_____	_2_____
2. _AS400LU_____	_4_____
3. _____	_____
4. _____	_____
Total Local LU Sessions	==> _6_____

Obtain the RUP for each LU 6.2

Max Incoming RU size \times [(Receive Pacing \times 2) - 1] = _____

$256 \times [(12 \times 2) - 1] =$ _5888_

$256 \times [(8 \times 2) - 1] =$ _3840_

$4096 \times [(8 \times 2) - 1] =$ _61440_

List the following MODE information

MODE Name	MODE Sessions	RUP
1. _SMALLFIL_____	_2_____	5888
2. _INTERACT_____	_2_____	3840
3. _LARGEFIL_____	_2_____	61440
4. _____	_____	_____

Obtain the total of MODE sessions \times RUP

MODE Name	MODE Sessions \times RUP
1. _SMALLFIL_____	_11776_____
2. _INTERACT_____	_7680_____
3. _LARGEFIL_____	122880_____
4. _____	_____
Total MODE Sessions \times RUP	==> 142336_____

Enter the section 2 memory allocation

_142336_____

Section 3: Total SNA Memory Calculation

Obtain the sum of section 1 and section 2

Section 1 total __8960__

Section 2 total _142336_

Total SNA Memory Allocation ==> _151296_

For this example, you should configure a value for SNA memory allocation of 160 KB or greater to support concurrently the configuration shown in Example 2.

Appendix I. Communication Configuration for Sample Programs

This appendix contains the 4690 communication configuration for the following programs:

- SDLC file-requester and file-server sample programs
- Ethernet file-requester and file-server sample programs

SDLC Communication Configuration

This section shows sample panels for the file-requester and file-server sample programs.

File Requester Configuration

The following panels show the communication configuration for the 4690 File Requester sample transaction program for SDLC. This configuration uses the Multiprotocol Communication Adapter for point-to-point SDLC between two 4690 store controllers. See the *4690 OS: Communications Programming Reference* for examples of transaction programs that use this configuration.

Link Record

ADD ACTIVE SDLC/SNA LINK FILEREQ
STORE CONTROLLER CC

PARTNER
NODE TYPE

1

1 = Subarea (XID 0)
2 = Subarea (XID 3)
3 = Peer (XID 3)

To continue, press PgDn. If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINK FILEREQ
STORE CONTROLLER CC

LINE NAME	FILEREQL	Name of the line definition used by this link.
EXCHANGE ID	04D00001	XID (hexadecimal), required for subarea sessions on switched lines and for peer sessions, optional for subarea sessions on leased lines.
FRAME SIZE	1	Data frame size supported on this link. 1 = 256 bytes 2 = 512 bytes

To continue, press PgDn.
If complete with the link definition, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINK FILEREQ
STORE CONTROLLER CC

LU 6.2 SYMBOLIC DESTINATION NAMES

Select one of the following:

- 1 Add/Change/Display a Symbolic Destination Name
- 2 Erase a Symbolic Destination Name

Type your selection number.

—

Type the Symbolic Destination Name(s) associated with this link.

TPR

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Symbolic Destination Record

ADD ACTIVE SYMBOLIC DESTINATION NAME TPR
STORE CONTROLLER CC

Type the necessary information.

LOCAL LU RECORD NAME **REQLU**

PARTNER LU RECORD NAME **SVRLU**

MODE RECORD NAME **FILEXFER**

REMOTELY ATTACHABLE
LOCAL TP RECORD NAME
(optional - up to 5
may be entered)

PARTNER TP NAME (optional, 64 characters maximum)

TPS

When all information has been entered, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Local LU Record

ADD ACTIVE LOCAL LU RECORD REQLU
STORE CONTROLLER CC

Type the fully qualified Local LU name.

TRNET .REQLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE LOCAL LU RECORD REQLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of LU-LU sessions possible for this LU (range 1 - 32)
LU ADDRESS	0	Unique address of this LU (1 - 255 if subarea XID 0, 0 - 255 if subarea XID 3, 0 if peer)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Partner LU Record

ADD ACTIVE PARTNER LU RECORD SVRLU
STORE CONTROLLER CC

Type the fully qualified Partner LU name.

TRNET .SVRLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE PARTNER LU RECORD SVRLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of active sessions permitted between the Local LU and this Partner LU (range 1 - 32)
---------------	---	---

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Mode Record

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of active sessions permitted for this mode (range 1 - 32)
MINIMUM CONTENTION WINNERS	1	Minimum number of contention winner sessions for this mode (range 0 - 32)
MINIMUM CONTENTION LOSERS	1	Minimum number of contention loser sessions for this mode (range 0 - 32)
MAXIMUM AUTO-ACTIVATED SESSIONS	0	Maximum number of contention winner sessions to be auto-activated (range 0 - 32)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

MINIMUM INCOMING REQUEST UNIT SIZE	256	Minimum size of Request Units received from a Partner LU (range 256 - 4096)
MAXIMUM INCOMING REQUEST UNIT SIZE	512	Maximum size of Request Units received from a Partner LU (range minimum incoming RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

MINIMUM OUTGOING REQUEST UNIT SIZE	256	Minimum size of Request Units sent to a Partner LU (range 256 - 4096)
MAXIMUM OUTGOING REQUEST UNIT SIZE	512	Maximum size of Request Units sent to a Partner LU (range minimum outgoing RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

RECEIVE PACING VALUE	12	Receive Pacing value sent out on bind requests and responses (range 0 - 63)
SEND PACING VALUE	12	Send Pacing value sent out on bind requests (range 0 - 63)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Line Record

ADD ACTIVE SDLC/SNA LINE FILEREQL
STORE CONTROLLER CC

Type the necessary information.

ADAPTER	1	1 = First MPCA card 2 = Second MPCA card 3 = SDLC adapter 4 = First ARTIC adapter 5 = Second ARTIC adapter
---------	---	--

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINE FILEREQL
STORE CONTROLLER CC

Type the necessary information.

STATION ADDRESS **C1** Station address as known by
the partner node for invitation
to send (01-FE, hexadecimal)

CONNECTION TYPE **1** 1 = Point-to-point (nonswitched)
2 = Multipoint (nonswitched)
3 = Auto-answer (switched)

To continue, press PgDn.
If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINE FILEREQL
STORE CONTROLLER CC

Type the necessary information.

DATA RATE **1** 1 = Full speed
2 = Half speed

NRZI MODE **1** Non-Return to Zero Inverted
1 = NRZI transmission
2 = Non NRZI transmission

To continue, press PgDn.
If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINE FILEREQL
STORE CONTROLLER CC

RETRY AND TIMEOUT LIMITS

Type the necessary information.

DSR RETRY	7	Data Set Ready retry limit (0 - 255 retries)
INITIAL CONTACT RETRY LIMIT	40	Number of times initial contact should be reinitiated before it is classified as a solid failure (0 - 255 retries, 0 = unlimited)
INACTIVITY TIMEOUT	20	Elapsed time before line inactivity causes disconnect (10 - 32767 seconds, 0 = unlimited)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

File Server Configuration

The following panels show the communication configuration for the 4690 File Server sample transaction program for SDLC. This configuration uses the Multiprotocol Communication Adapter for point-to-point SDLC between two 4690 store controllers. See the *4690 OS: Communications Programming Reference* for examples of transaction programs that use this configuration.

Link Record

ADD ACTIVE SDLC/SNA LINK FILESrv
STORE CONTROLLER CC

PARTNER	3	1 = Subarea (XID 0)
NODE TYPE		2 = Subarea (XID 3)
		3 = Peer (XID 3)

To continue, press PgDn. If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINK FILESrv
STORE CONTROLLER CC

LINE NAME	FILESrvL	Name of the line definition used by this link.
EXCHANGE ID	04D00002	XID (hexadecimal), required for subarea sessions on switched lines and for peer sessions, optional for subarea sessions on leased lines.
FRAME SIZE	1	Data frame size supported on this link. 1 = 256 bytes 2 = 512 bytes

To continue, press PgDn.
If complete with the link definition, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Local LU Record

ADD ACTIVE LOCAL LU RECORD SRVLU
STORE CONTROLLER CC

Type the fully qualified Local LU name.

TRNET .SVRLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE LOCAL LU RECORD SRVLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of LU-LU sessions possible for this LU (range 1 - 32)
---------------	---	--

LU ADDRESS	0	Unique address of this LU (1 - 255 if subarea XID 0, 0 - 255 if subarea XID 3, 0 if peer)
------------	---	---

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Partner LU Record

ADD ACTIVE PARTNER LU RECORD REQLU
STORE CONTROLLER CC

Type the fully qualified Partner LU name.

TRNET .REQLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE PARTNER LU RECORD REQLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT 2 Maximum number of active sessions
permitted between the Local LU
and this Partner LU
(range 1 - 32)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Mode Record

ADD ACTIVE MODE RECORD FILEXFER STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of active sessions permitted for this mode (range 1 - 32)
MINIMUM CONTENTION WINNERS	1	Minimum number of contention winner sessions for this mode (range 0 - 32)
MINIMUM CONTENTION LOSERS	1	Minimum number of contention loser sessions for this mode (range 0 - 32)
MAXIMUM AUTO-ACTIVATED SESSIONS	0	Maximum number of contention winner sessions to be auto-activated (range 0 - 32)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER STORE CONTROLLER CC

Type the necessary information.

MINIMUM INCOMING REQUEST UNIT SIZE	256	Minimum size of Request Units received from a Partner LU (range 256 - 4096)
MAXIMUM INCOMING REQUEST UNIT SIZE	512	Maximum size of Request Units received from a Partner LU (range minimum incoming RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

MINIMUM OUTGOING REQUEST UNIT SIZE	256	Minimum size of Request Units sent to a Partner LU (range 256 - 4096)
MAXIMUM OUTGOING REQUEST UNIT SIZE	512	Maximum size of Request Units sent to a Partner LU (range minimum outgoing RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

RECEIVE PACING VALUE	12	Receive Pacing value sent out on bind requests and responses (range 0 - 63)
SEND PACING VALUE	12	Send Pacing value sent out on bind requests (range 0 - 63)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Local TP Record

ADD ACTIVE LOCAL TP RECORD TPS
STORE CONTROLLER CC

Type the Remotely Attachable Local TP name
(64 characters maximum):

TPS

Type the executable file name of the Local TP
(128 characters maximum):

ADX_UPGM:TPS.286

To continue, press PgDn. If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE LOCAL TP RECORD TPS
STORE CONTROLLER CC

CONVERSATION TYPE **2**
TYPE

Type of conversations permitted
with this Local TP
1 = basic
2 = mapped
3 = either

SYNC LEVEL **2**

Sync level for this Local TP
1 = none
2 = confirm
3 = either

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Line Record

ADD ACTIVE SDLC/SNA LINE FILESVRL
STORE CONTROLLER CC

Type the necessary information.

ADAPTER **1** 1 = First MPCA card
 2 = Second MPCA card
 3 = SDLC adapter
 4 = First ARTIC adapter
 5 = Second ARTIC adapter

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINE FILESVRL
STORE CONTROLLER CC

Type the necessary information.

STATION ADDRESS **C2** Station address as known by
 the partner node for invitation
 to send (01-FE, hexadecimal)

CONNECTION TYPE **1** 1 = Point-to-point (nonswitched)
 2 = Multipoint (nonswitched)
 3 = Auto-answer (switched)

To continue, press PgDn.
If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINE FILESVRL
STORE CONTROLLER CC

Type the necessary information.

DATA RATE	1	1 = Full speed 2 = Half speed
NRZI MODE	1	Non-Return to Zero Inverted 1 = NRZI transmission 2 = Non NRZI transmission

To continue, press PgDn.
If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE SDLC/SNA LINE FILESVRL
STORE CONTROLLER CC

RETRY AND TIMEOUT LIMITS

Type the necessary information.

DSR RETRY	7	Data Set Ready retry limit (0 - 255 retries)
INITIAL CONTACT RETRY LIMIT	40	Number of times initial contact should be reinitiated before it is classified as a solid failure (0 - 255 retries, 0 = unlimited)
INACTIVITY TIMEOUT	20	Elapsed time before line inactivity causes disconnect (10 - 32767 seconds, 0 = unlimited)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Ethernet Communication Configuration

This section shows sample configuration panels for Ethernet communication for the 4690 File Requester and 4690 File Server sample transaction programs.

File Requester Configuration

The following panels show the communication configuration for the 4690 File Requester sample transaction program for token ring or Ethernet. See *4690 OS: Communications Programming Reference* for examples of transaction programs that use this configuration.

Link Record - Ethernet

ADD ACTIVE ETHERNET/SNA LINK FILEREQ
STORE CONTROLLER CC

Type the necessary information.

LINE NAME	ADXETHER	Name of the line definition associated with this link.
REMOTE NODE ADDRESS	400000000002	Remote node address of the attached Ethernet station with which communication is desired.
AUTO ACTIVATE	Y	Activate this link automatically when the Ethernet is enabled (Y = yes, N = no).

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE TOKEN-RING/SNA LINK FILEREQ
STORE CONTROLLER CC

LU 6.2 SYMBOLIC DESTINATION NAMES

Type the Symbolic Destination Name(s) associated with this link.

TPR

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE ETHERNET/SNA LINK FILEREQ
STORE CONTROLLER CC

LU 6.2 SYMBOLIC DESTINATION NAMES

Type the Symbolic Destination Name(s) associated with this link.

TPR

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Symbolic Destination Record

ADD ACTIVE SYMBOLIC DEST. NAME TPR
STORE CONTROLLER CC

Type the necessary information.

LOCAL LU RECORD NAME **REQLU**

PARTNER LU RECORD NAME **SVRLU**

MODE RECORD NAME **FILEXFER**

REMOTELY ATTACHABLE
LOCAL TP RECORD NAME
(optional - up to 5
may be entered)

PARTNER TP NAME (optional, 64 characters maximum)

TPS

When all information has been entered, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Local LU Record

ADD ACTIVE LOCAL LU RECORD REQLU
STORE CONTROLLER CC

Type the fully qualified Local LU name.

TRNET .REQLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE LOCAL LU RECORD REQLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of LU-LU sessions possible for this LU (range 1 - 32)
LU ADDRESS	0	Unique address of this LU (1 - 255 if subarea XID 0, 0 - 255 if subarea XID 3, 0 if peer)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Partner LU Record

ADD ACTIVE PARTNER LU RECORD SVRLU
STORE CONTROLLER CC

Type the fully qualified Partner LU name.

TRNET .SVRLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE PARTNER LU RECORD SVRLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT 2 Maximum number of active sessions
permitted between the Local LU
and this Partner LU
(range 1 - 32)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Mode Record

ADD ACTIVE MODE RECORD FILEXFER STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of active sessions permitted for this mode (range 1 - 32)
MINIMUM CONTENTION WINNERS	1	Minimum number of contention winner sessions for this mode (range 0 - 32)
MINIMUM CONTENTION LOSERS	1	Minimum number of contention loser sessions for this mode (range 0 - 32)
MAXIMUM AUTO-ACTIVATED SESSIONS	0	Maximum number of contention winner sessions to be auto-activated (range 0 - 32)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER STORE CONTROLLER CC

Type the necessary information.

MINIMUM INCOMING REQUEST UNIT SIZE	256	Minimum size of Request Units received from a Partner LU (range 256 - 4096)
MAXIMUM INCOMING REQUEST UNIT SIZE	512	Maximum size of Request Units received from a Partner LU (range minimum incoming RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

MINIMUM OUTGOING REQUEST UNIT SIZE	256	Minimum size of Request Units sent to a Partner LU (range 256 - 4096)
MAXIMUM OUTGOING REQUEST UNIT SIZE	512	Maximum size of Request Units sent to a Partner LU (range minimum outgoing RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

RECEIVE PACING VALUE	12	Receive Pacing value sent out on bind requests and responses (range 0 - 63)
SEND PACING VALUE	12	Send Pacing value sent out on bind requests (range 0 - 63)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Line Record - Ethernet

ADD ACTIVE ETHERNET/SNA LINE ADXETHER
STORE CONTROLLER CC

Maximum number of active Ethernet links
supported (range 1 - 16) **1**

Do you wish to use the default node address of
this controller? (Y = yes, N = no) **N**

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

File Server Configuration

The following panels show the communication configuration for the 4690 File Server sample transaction program for Ethernet. See the *4690 OS: Communications Programming Reference* for examples of transaction programs that use this configuration.

Link Record - Ethernet

ADD ACTIVE ETHERNET/SNA LINK FILESVR
STORE CONTROLLER CC

Type the necessary information.

LINE NAME	ADXETHER	Name of the line definition associated with this link.
REMOTE NODE ADDRESS	400000000001	Remote node address of the attached Ethernet station with which communication is desired.
AUTO ACTIVATE	Y	Activate this link automatically when the Ethernet is enabled (Y = yes, N = no).

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE TOKEN-RING (or ETHERNET)/SNA LINK FILESVR
STORE CONTROLLER CC

LU 6.2 SYMBOLIC DESTINATION NAMES

Type the Symbolic Destination Name(s) associated with this link.

TPS

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Symbolic Destination Record

ADD ACTIVE SYMBOLIC DEST. NAME TPS
STORE CONTROLLER CC

Type the necessary information.

LOCAL LU RECORD NAME **SVRLU**

PARTNER LU RECORD NAME **REQLU**

MODE RECORD NAME **FILEXFER**

REMOTELY ATTACHABLE **TPS**

LOCAL TP RECORD NAME
(optional - up to 5
may be entered)

PARTNER TP NAME (optional, 64 characters maximum)

When all information has been entered, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Local LU Record

ADD ACTIVE LOCAL LU RECORD SVRLU
STORE CONTROLLER CC

Type the fully qualified Local LU name.

TRNET .SVRLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE LOCAL LU RECORD SVRLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of LU-LU sessions possible for this LU (range 1 - 32)
---------------	---	--

LU ADDRESS	0	Unique address of this LU (1 - 255 if subarea XID 0, 0 - 255 if subarea XID 3, 0 if peer)
------------	---	---

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Partner LU Record

ADD ACTIVE PARTNER LU RECORD REQLU
STORE CONTROLLER CC

Type the fully qualified Partner LU name.

TRNET .REQLU

Press PgDn to continue.
If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE PARTNER LU RECORD REQLU
STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT 2 Maximum number of active sessions
permitted between the Local LU
and this Partner LU
(range 1 - 32)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Mode Record

ADD ACTIVE MODE RECORD FILEXFER STORE CONTROLLER CC

Type the necessary information.

SESSION LIMIT	2	Maximum number of active sessions permitted for this mode (range 1 - 32)
MINIMUM CONTENTION WINNERS	1	Minimum number of contention winner sessions for this mode (range 0 - 32)
MINIMUM CONTENTION LOSERS	1	Minimum number of contention loser sessions for this mode (range 0 - 32)
MAXIMUM AUTO-ACTIVATED SESSIONS	0	Maximum number of contention winner sessions to be auto-activated (range 0 - 32)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER STORE CONTROLLER CC

Type the necessary information.

MINIMUM INCOMING REQUEST UNIT SIZE	256	Minimum size of Request Units received from a Partner LU (range 256 - 4096)
MAXIMUM INCOMING REQUEST UNIT SIZE	512	Maximum size of Request Units received from a Partner LU (range minimum incoming RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

MINIMUM OUTGOING REQUEST UNIT SIZE	256	Minimum size of Request Units sent to a Partner LU (range 256 - 4096)
MAXIMUM OUTGOING REQUEST UNIT SIZE	512	Maximum size of Request Units sent to a Partner LU (range minimum outgoing RU size - 4096)

To continue, press PgDn. If complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE MODE RECORD FILEXFER
STORE CONTROLLER CC

Type the necessary information.

RECEIVE PACING VALUE	12	Receive Pacing value sent out on bind requests and responses (range 0 - 63)
SEND PACING VALUE	12	Send Pacing value sent out on bind requests (range 0 - 63)

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Local TP Record

ADD ACTIVE LOCAL TP RECORD TPS
STORE CONTROLLER CC

Type the Remotely Attachable Local TP name
(64 characters maximum):

TPS

Type the executable file name of the Local TP
(128 characters maximum):

ADX_UPGM:TPS.286

To continue, press PgDn. If complete, press ENTER.

F1HELP F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

ADD ACTIVE LOCAL TP RECORD TPS
STORE CONTROLLER CC

CONVERSATION TYPE	2	Type of conversations permitted with this Local TP 1 = basic 2 = mapped 3 = either
SYNC LEVEL	2	Sync level for this Local TP 1 = none 2 = confirm 3 = either

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Line Record - Ethernet

ADD ACTIVE ETHERNET/SNA LINE ADXTOKEN
STORE CONTROLLER CC

Maximum number of active Ethernet links
supported (range 1 - 16) **1**

Do you wish to use the default node address of
this controller? (Y = yes, N = no) **N**

When complete, press ENTER.

F1 F2 F3QUIT F4 F5 F6 F7 F8 F9 F10
Time=12:42 Current Window=1 Number of Windows=1

Appendix J. Controller setup

This appendix provides assistance with setting up your store controller. It does not provide you with all the choices that are available when installing adapters. See the installation instructions that accompanied the adapters for details. You must have some knowledge of configuring a personal computer, and you will need additional information concerning your operation for many of the choices. Perform the following steps when installing an adapter in your store controller:

1. Start the store controller by using the reference diskette or CD-ROM that came with it.
2. Add the configuration files from the option diskette/CD-ROM that is supplied with the adapter.
3. Using Set Configuration, change the configuration to reflect the needs of your operation as follows:

BUILT-IN FEATURES

SERIAL PORT – SELECT ONE OF THE FOLLOWING:

SERIAL_1
SERIAL_2
DISABLED

PARALLEL PORT – SELECT ONE OF THE FOLLOWING:

PARALLEL_1
PARALLEL_2
PARALLEL_3
DISABLED

IBM STORE LOOP ADAPTER

CARD ADDRESS RANGE – DO NOT CHANGE.
WAIT STATES – FAST

MPCA ADAPTER

COMMUNICATIONS PORT – SELECT ONE OF THE FOLLOWING:

SDLC_1
SDLC_2
SERIAL_1
SERIAL_2
SERIAL_3
SERIAL_4
SERIAL_5
SERIAL_6
SERIAL_7
SERIAL_8

ARBITRATION LEVEL FOR SDLC

SDLC_1 – Set to 1
SDLC_2 – Set to 7

Note: If you choose SDLC_2 for the Communications Port, you ***must set*** the Arbitration Level for SDLC_2 to 7.

DUAL ASYNC ADAPTERS:

COMMUNICATIONS PORT – SELECT TWO OF THE FOLLOWING:

SERIAL_1
SERIAL_2
SERIAL_3
SERIAL_4
SERIAL_5

SERIAL_6
SERIAL_7
SERIAL_8

RIC ADAPTERS:

TOKEN-RING

Primary or Alternate Adapter – Primary

ROM Address Range – Do Not Change

RAM Address Range – Select any value that results in a size of 16K

Interrupt Level – 2

4. Save the configuration and re-IPL the store controller.
5. Activate the new store-controller configuration and test the attached devices that are using the adapter.

Appendix K. Using the Configuration Utility

The Configuration Utility provides a method of initiating changes to configuration records, which require frequent updating. It is applicable for both legacy configuration information and generic configuration information.

The Configuration Utility converts terminal configuration records into an editable XML file and avoids the menu-driven approach found in the 4690 OS configuration application.

In the XML file, each 4690 configuration file is represented by an XML element containing nested XML elements that indicate devices, settings and so on. For example, the configuration file contains nested XML elements representing devices, RAM disks, or expansion cards and contains nested XML elements indicating device name, socket and so on.

Using the documented list of tags to identify available options and potential nested XML elements, edit the XML file to set the needed configuration settings. After successful completion of both device settings and integrated validation routines, run the Configuration Utility on the edited XML file to store the changes back into the configuration file. If there are any errors in the XML file, they are reported at this time. Otherwise, the changes are saved.

The Configuration Utility can be run in two ways, by using:

- The existing configuration files to create an XML file
- An XML file to produce the appropriate configuration files

The legacy configuration files can either be keyed files that are ready to be activated or they can be direct files. Keyed files, however, can only be created if the Configuration Utility is running on the 4690 OS. Keyed files are created using the Keyed File Utilities. To obtain the information needed to create the keyed files, run Performance Statistics (option 3) on the keyed file to be replaced.

When converting an XML file into a .dat file, the XML file is always saved as an inactive .dat file. When converting a .dat file into an XML file, you can specify which file (either the active file or the inactive file) that you want to convert by using the parameters, -active and -inactive, or by specifying a file name.

- | See “Configuration Utility for legacy configuration” on page 700 for specific details on the Configuration Utility function for legacy configuration information for 4683 and 4693. See “Configuration Utility for generic” on page 609 for specific details on the Configuration Utility function for generic configuration information for 4694, SurePOS 300/700 and TCxWave 6140 Series models.

Introduction

Configuration Utility (also known as ConfigUtility) is a Java program that converts many of the binary configuration files used by 4690 OS into more readable xml documents. After making any desired changes, ConfigUtility will convert the xml documents back into binary files, preserving the changes you made.

Setup

- | Configuration Utility is included with the 4690 OS. These files must be added to the Controller classpath:
 - C:/java/cfgxml.jar
 - C:/java/duixml.jar
 - C:/java/cfg4690.zip
 - C:/java/lib/os4690.zip

Running the Configuration Utility

To run the Configuration Utility for legacy or generic, type:

```
java com.ibm.OS4690.cfg4690.util.ConfigUtility<command line parameters>
```

Notes:

1. Invocation of XML Configuration Utility via Java 6 is not supported.
2. Configuration Utility should only be run on the acting Master controller
3. Configuration Utility does not distribute inactive configuration files. Depending on your usage, you may need to distribute new inactive configuration files manually.

To specify the files and the action to be performed, use a combination of the parameters specified in Table 19 and Table 20 on page 607 to define:

- The type of input file that you are working with, using the file types shown in Table 19 (required)
- Your input files (one of the three following options is required):
 - -active – To convert active configuration DAT files to XML
 - -inactive – To convert inactive configuration DAT files to XML
 - an XML file name – To convert a configuration XML file to inactive configuration DAT files
- Whether or not you are using legacy files (optional)
- Whether to write a direct file instead of a keyed file (optional)
- Whether to update inactive data rather than replace it (optional for javaapp and preload)
- Whether converting active or inactive controller configuration files you need to specify the flag - <controller id> where <controller id> needs to be replaced by your controller id.

Table 19. File types for Configuration Utility

Parameter	File type indicated
-devchar	Terminal device characteristics (generic) or terminal device groups (legacy)
-loaddef	Load definition
-termext	Terminal load definition extensions
-sysext	System configuration extensions
-sysconfig	System configuration
-keyboard4683	4683 keyboard layouts
-keyboard4693	4693 keyboard layouts
-keyboardModular	Modular keyboard layouts
-displaychars	Alphanumeric display character set
-mod2chars	Model 1 and 2 printer character set
-mod4chars	Model 3 and 4 printer character set
-screensaver	Terminal screen saver
-termnfs	Terminal Network File System (NFS)
-javaapp	Java applications
-preload	Preload bundles
-contnfs	Controller Network File System
-applLogicalNames	Application logical names
-userLogicalNames	User logical names
-applications	Primary and secondary applications
-backgroundApplications	Background applications

Table 19. File types for Configuration Utility (continued)

Parameter	File type indicated
-contchar	Controller characteristics
-fsizes	System file sizes
-controllerExt	Controller extensions

Table 20. Command line parameters for Configuration Utility

Parameter	Function
-active	Selects active version of specified file type for conversion to XML
-inactive	Selects inactive version of specified file type for conversion to XML
-update	Used this to merge the xml data into your existing configuration, rather than replace it. If an xml element exists in both the xml file and in configuration, the potentially updated element from the xml file is used. The update option is only valid with -javaapp and -preload.
-legacy	Indicates you are working with the original or "legacy" 4683/4693/4694 file formats instead of the generic. This parameter applies only to device characteristics (device group) and load definition files, the -devchar and -loaddef file types.
-direct	To write a direct file instead of a keyed file. This parameter is used only for legacy device characteristics or load definitions files, the -devchar and -loaddef file types.
-cc	Used in controller configuration options, where 'cc' is the Controller ID

These are examples of what different combinations of the parameters do:

-devchar -inactive

Converts the inactive generic configuration device characteristics to an XML file

-loaddef -legacy -inactive

Converts the original or "legacy"-style 4683/4693/4694 inactive load definition file into an XML file

-loaddef -legacy -active

Converts the original or "legacy" style 4683/4693/4694 active load definition files into an XML file

-sysconfig mysys.xml

Converts the XML document mysys.xml into the inactive System Configuration DAT file

-sysconfig -active

Converts the active System Configuration DAT file to an XML file

-sysconfig -inactive

Converts the inactive System Configuration DAT file to an XML file

-contchar -inactive -cc

Converts the inactive Controller Characteristics data for controller cc into an XML file. Note that the controller id is required

-contchar -contchar.xml

Converts the XML document contchar.xml into the inactive Controller Characteristics file. Note that the controller id does not need to be specified.

-javaapp javaapp.xml -update

Merges the xml data with the inactive Java application configuration to create an updated inactive Java application configuration file. Elements in the xml file replace like elements in the configuration file. If no inactive file exists, the active file is used.

-controllerExt -inactive

Converts the inactive controller extensions configuration into an XML file. Note that all controller extensions are configured in a single file, so there is no need to specify a controller ID.

Note: When creating new versions of the inactive files, any prior version is saved as a *.sav file.

Table 21 shows the output files of the Configuration Utility.

Table 21. Output files of Configuration Utility

Type of file	Legacy output file for DAT to XML conversion	Generic output file for DAT to XML conversion	Legacy inactive output file for XML to DAT conversion	Generic inactive output file for XML to DAT conversion
devchar	cfgutil.xml	devchar.xml	ADXCSCF.DAT	ADXJAVLF.DAT
loaddef	cfgutil.xml	loaddef.xml	ADXCSCUF.DAT ADXJAVFF.DAT ADXJAVHF.DAT	ADXJAVJF.DAT
termext	N/A	termext.xml	N/A	ADXJAVUF.DAT
sysext	N/A	sysext.xml	N/A	ADXJAVXF.DAT
sysconfig	N/A	syscfg.xml	N/A	ADXCSCOF.DAT ADXJAVBF.DAT ADXJAVDF.DAT ADXXPTDF.DAT
keyboard4683	N/A	kbd4683.xml	N/A	ADXCSCLF.DAT
keyboard4693	N/A	kbd4693.xml	N/A	ADXCSCRF.DAT
keyboardModular	N/A	kbdmod.xml	N/A	ADXCSC6F.DAT
displaychars	N/A	displchr.xml	N/A	ADXCSCBF.DAT
mod2chars	N/A	mod2char.xml	N/A	ADXCSCQF.DAT
mod4chars	N/A	mod4char.xml	N/A	ADXCSC1F.DAT
screensaver	N/A	scrsaver.xml	N/A	ADXTSSDF.DAT
termnfs	N/A	termnfs.xml	N/A	ADXJAVNF.DAT
javaapp	N/A	javaApp.xml	N/A	ADXJAVQF.DAT
preload	N/A	preload.xml	N/A	ADXJAVSF.DAT
contnfs	N/A	contnfs.xml	N/A	ADXJWxxF.DAT
applLogicalNames	N/A	applname.xml	N/A	ADXDxxF.DAT
userLogicalNames	N/A	usrlname.xml	N/A	ADXDfxxF.DAT
applications	N/A	appnames.xml	N/A	ADXDJxxF.DAT
backgroundApplications	N/A	bcknames.xml	N/A	ADXDxxF.DAT
contchar	N/A	contchar.xml	N/A	ADXDHxxF.DAT
controllerExt	N/A	contrext.xml	N/A	ADXJAVZF.DAT
fsizes	N/A	fsizes.xml	N/A	ADXDxxF.DAT

* Where 'xx' is the controller ID.

When an XML file is converted to a data file, the XML file is checked for syntax errors. If no syntax errors are found, the output data files are created. Otherwise, the syntax errors are displayed to the screen.

Special characters and XML strings

When you create normal XML strings, do not use invalid special characters. Instead, use only valid special character strings. See Table 22.

Table 22. Valid special characters and XML strings

Invalid string	Valid string
&	&
<	<
>	>
"	"
'	'

For example, the following XML string is invalid:

```
<Organization>IBM & Microsoft</Organization>
```

Whereas, the following example is valid XML:

```
<Organization>IBM &amp; Microsoft</Organization>
```

Note: The & was replaced with &, which makes the string valid.

For additional XML information, visit the following web site: www.w3.org.

FileVersion tags

Configuration files can and do change from release to release. Most XML files you generate are only supported on that particular version of the operating system. These XML files have a file version tag that indicates the OS version that file is intended for. For example:

```
<FileVersion version="v6r1"/>
```

is for XML files that are only valid on 4690 OS v6r1. Older versions will continue to work if there were no updates made to that particular file.

Configuration Utility for generic

The Configuration Utility function for the generic configuration information contains all possible XML tags and their values. These XML tags and their values should be used when authoring or editing an XML file. You can change the 4690 OS version on which the utility is used by changing the value on the FileVersion tag.

An XML file, representing a device group, consists of a root tag (such as TerminalDeviceGroupFile) and any number of device group elements (such as DeviceGroup), which contain XML elements representing all the devices for that particular device group.

Note: Within a DeviceGroup, if an XML element is not defined to represent a particular device, it is assumed that a device of that type is not attached or configured. Unless otherwise specified, all possible nested XML elements of a particular device are required; however, their order is not significant.

The section provides all of the valid XML elements and the nested XML elements required to configure each type of device. Values in **bold** represent the default value.

Terminal device characteristics XML tags

CashDrawers

Table 23. CashDrawers XML

Attributes	Valid values
alarm	0 (disabled)
	1 (enabled)
pulseDuration	1048 milliseconds
type	0 (no cash drawer)
	1 (Toshiba cash drawer)
	2 (non-Toshiba cash drawer)

Example:

```
<CashDrawers alarm="0" pulseDuration="80" type="0"/>
```

JavaRedirection

Table 24. JavaRedirection XML

Attributes	Valid values
advanced	0 (no advanced)
	1 (advanced using default advanced Java redirection settings)
	2 (advanced configured manually)
andisplay1	0 (no redirection)
	1 (redirect)
andisplay2	0 (no redirection)
	1 (redirect)
andisplay3	0 (no redirection)
	1 (redirect)
ioProcessor	0 (no redirection)
	1 (redirect)
msr	0 (no redirection)
	1 (redirect)
cashDrawer	0 (no redirection)
	1 (redirect)
scale	0 (no redirection)
	1 (redirect)
video	0 (no redirection)
	1 (redirect)
serial1	0 (no redirection)
	1 (redirect)
serial2	0 (no redirection)
	1 (redirect)

Table 24. JavaRedirection XML (continued)

Attributes	Valid values
serial3	0 (no redirection)
	1 (redirect)
serial4	0 (no redirection)
	1 (redirect)
nvrAm	0 (no redirection)
	1 (redirect)
printerHandler	0 (no redirection)
	1 (redirect)
printerMonitor	0 (no redirection)
	1 (redirect)

Example:

```
<JavaRedirection andisplay3="1" scale="0"/>
```

Keyboards

Table 25. Keyboards XML

Attributes	Valid values
javaInput	0 (javaPos)
	1 (javaAWT)

Example:

```
<Keyboards javaInput="1"/>
```

MSR

Table 26. MSR XML

Attributes	Valid values
readTrack1	0 (do not read)
	1 (read)
readTrack2	0 (do not read)
	1 (read)
readTrack3	0 (do not read)
	1 (read)

Example:

```
<MSR readTrack1="0"/>
```

JUCCMSR

Table 27. JUCCMSR XML

Attributes	Valid values
readTrack2	0 (do not read)
	1 (read)
readTrackJISII	0 (do not read)
	1 (read)

Example:

```
<JUCCMSR readTrack2="1"/>
```

Non-OEMDevices

Table 28. Non-OEMDevices XML

Attributes	Valid values
deviceID64	0 (not configured)
	1 (Logical port 1)
	2 (Logical port 2)
	3 (Logical port 3)
	4 (Logical port 4)
deviceID65	0 (not configured)
	1 (Logical port 1)
	2 (Logical port 2)
	3 (Logical port 3)
	4 (Logical port 4)
deviceID68	0 (not configured)
	1 (Logical port 1)
	2 (Logical port 2)
	3 (Logical port 3)
	4 (Logical port 4)
deviceID69	0 (not configured)
	1 (Logical port 1)
	2 (Logical port 2)
	3 (Logical port 3)
	4 (Logical port 4)

Example:

```
<OEMDevices deviceID65="3"/>
```

POSDisplays

Table 29. POSDisplays XML

Attributes	Valid values
andisplay1	1 (first detected)
	2 (second detected)
	3 (third detected)
andisplay2	1 (first detected)
	2 (second detected)
	3 (third detected)
andisplay3	1 (first detected)
	2 (second detected)
	3 (third detected)
systemDisplay	1 (first detected)
	2 (second detected)
	3 (third detected)
	4 (other)

Example:

```
<POSDisplays andisplay1="2"/>
```

Printers

Table 30. Printers XML

Attributes	Valid values
journalBufferSize	0-250 (default is 40)

Example:

```
<Printers journalBufferSize="39"/>
```

RAMDiskX

Table 31. RAMDiskX XML

Attributes	Valid values
size	1-1960 blocks with each block consisting of 32 KB (default is 0)
files	1-64 directory sectors (default is 0)

Example:

```
<RAMDiskX size="56" files="32"/>
```

RAMDiskY

Table 32. RAMDiskY XML

Attributes	Valid values
size	1-1960 blocks with each block consisting of 32 KB (default is 0)
files	1-64 directory sectors (default is 0)

Example:

```
<RAMDiskY size="84" files="64"/>
```

Scales

Table 33. Scales XML

Attributes	Valid values
unitOfMeasure	0 (lbs)
	1 (kg)
remoteDisplay	0 (not required)
	1 (required)
regulatoryConformance	0 (US/HB44/SGM-1)
	1 (EEC/OIML)
useLEDForCenterOfZero	0 (no)
	1 (yes)
enforceZeroReturn	0 (no)
	1 (yes)
vibrationSensitivity	1 normal
	2 (low)
	3 (very low)
	4 (ultra low)
englishWeightMode	4 (4 digits)
	5 (5 digits)

Example:

```
<Scales unitOfMeasure="0"
  remoteDisplay="1"
  regulatoryConformance="0"
  useLEDForCenterOfZero="1"
  enforceZeroReturn="1"
  vibrationSensitivity="2"
  englishWeightMode="4"/>
```

FlatbedScanner

Table 34. FlatbedScanner XML

Attributes	Valid values
type	0 (autodetect)
	1 (scanner only)

Table 34. FlatbedScanner XML (continued)

Attributes	Valid values
	2 (scanner with integrated scale)
	4 (IBM 4696 Scanner/Scale)
	5 (IBM 4697 Scanner/Scale)
	6 (IBM 4698 Scanner)
	7 (IBM 4698 Scanner/Scale)
upcA	1 (label is supported)
upcD	0 (label is not supported)
	1 (label is supported)
code39	0 (label is not supported)
	1 (label is supported)
itf	0 (label is not supported)
	1 (label is supported)
codabar	0 (label is not supported)
	1 (label is supported)
code93	0 (label is not supported)
	1 (label is supported)
code128	0 (label is not supported)
	1 (label is supported)
uccEAN128	0 (label is not supported)
	1 (label is supported)
p2Supplementals	0 (label is not supported)
	1 (label is supported)
p5Supplementals	0 (label is not supported)
	1 (label is supported)
code128Supplementals	0 (label is not supported)
	1 (label is supported)
eanJANTwoLabelDecoding	0 (not supported)
	1 (supported)
upcAExpansion	0 (do not expand)
	1 (UPC-A to EAN13)
upcEExpansion	0 (do not expand)
	1 (UPC-E to EAN13)
	2 (UPC-E to UPC-A)
priceCheckVerification	0 (do not verify)
	4 (verify 4-digit price)
	5 (verify 5-digit price)
beep	0 (do not enable beep)
	1 (enable beep on good read)
beepVolume	1 (very soft)
	2 (soft)

Table 34. FlatbedScanner XML (continued)

Attributes	Valid values
	3 (loud)
	4 (very loud)
beepTone	1 (very low)
	2 (low)
	3 (high)
	4 (very high)
beepDuration	1 (very short)
	2 (short)
	3 (long)
	4 (very long)
motorTimeout	1 (5 minutes)
	2 (10 minutes)
	3 (15 minutes)
	4 (30 minutes)
	5 (60 minutes)
laserTimeout	1 (5 minutes)
	2 (10 minutes)
	3 (15 minutes)
doubleReadTimeout	1 (short)
	2 (medium)
	3 (long)
securityLevel	1 (very low)
	2 (low)
	3 (high)
	4 (very high)
itfFirstLabelLength	4 (label length in digits)
	6 (label length in digits)
	8 (label length in digits)
	10
	12 (label length in digits)
	14 (label length in digits)
	16 (label length in digits)
	18 (label length in digits)
	20 (label length in digits)
	22 (label length in digits)
	24 (label length in digits)
	26 (label length in digits)
	28 (label length in digits)
	30 (label length in digits)
itfSecondLabelLength	0 (label length in digits)

Table 34. FlatbedScanner XML (continued)

Attributes	Valid values
	4 (label length in digits)
	6 (label length in digits)
	8 (label length in digits)
	10 (label length in digits)
	12 (label length in digits)
	14 (label length in digits)
	16 (label length in digits)
	18 (label length in digits)
	20 (label length in digits)
	22 (label length in digits)
	24 (label length in digits)
	26 (label length in digits)
	28 (label length in digits)
	30 (label length in digits)
	32 (label length in digits)
ledBlinkRate	1 (very short)
	2 (short)
	3 (long)
	4 (very long)
barCodeProgramming	0 (not enabled)
	1 (enabled)
volumeSwitch	0 (not enabled)
	1 (enabled)
laserSwitch	0 (not enabled)
	1 (enabled)

Example:

```
<FlatbedScanner upca="1" upcD="0" beep="1" beepVolume="2" beepDuration="4"/>
```

HandheldScanner

Table 35. HandheldScanner XML

Attributes	Valid values
type	0 (autodetect)
type	1 (IBM bar code reader)
type	2 (IBM 520–A02 Handheld Scanner)
upcEAN	0 (label is not supported)
	1 (label is supported)
tone	0 (label is not supported)
	1 (label is supported)
upcD	0 (label is not supported)

Table 35. HandheldScanner XML (continued)

Attributes	Valid values
	1 (label is supported)
code39	0 (label is not supported)
	1 (label is supported)
itf	0 (label is not supported)
	1 (label is supported)
itfMinimumLabelLength	2 (minimum label length in digits)
	4 (minimum label length in digits)
	6 (minimum label length in digits)
	8 (minimum label length in digits)
	10 (minimum label length in digits)
	12 (minimum label length in digits)
	14 (minimum label length in digits)
	16 (minimum label length in digits)
	18 (minimum label length in digits)
	20 (minimum label length in digits)
	22 (minimum label length in digits)
	24 (minimum label length in digits)
	26 (minimum label length in digits)
	28 (minimum label length in digits)
	30 (minimum label length in digits)
codabar	0 (label is not supported)
	1 (label is supported)
code93	0 (label is not supported)
	1 (label is supported)
code128	0 (label is not supported)
	1 (label is supported)
twoAndFiveDigitPeriodical	0 (label is not supported)
	1 (label is supported)

Example:

```
<HandheldScanner upcEAN="1"
    tone="1"
    upcD="0"
    code39="1"
    itf="0"
    itfMinimumLabelLength="12"/>
```

SerialDevices

Table 36. SerialDevices XML

Attributes	Valid values
portA	0 (not configured)
	1 (logical port)

Table 36. SerialDevices XML (continued)

Attributes	Valid values
	2 (logical port)
	3 (logical port)
	4 (logical port)
portB	0 (not configured)
	1 (logical port)
	2 (logical port)
	3 (logical port)
	4 (logical port)
additionalPort1	0 (not configured)
	1 (logical port)
	2 (logical port)
	3 (logical port)
	4 (logical port)
additionalPort2	0 (not configured)
	1 (logical port)
	2 (logical port)
	3 (logical port)
	4 (logical port)
additionalPort3	0 (not configured)
	1 (logical port)
	2 (logical port)
	3 (logical port)
	4 (logical port)
additionalPort4	0 (not configured)
	1 (logical port)
	2 (logical port)
	3 (logical port)
	4 (logical port)

Note: Nested XML: The nested XML tag is USBAttached.

USBAttached

Table 37. USBAttached XML

Attributes	Valid values
portAUSB	0 (not usb attached)
	1 (usb attached)
portBUSB	0 (not usb attached)
	1 (usb attached)
additionalPort1USB	0 (not usb attached)
	1 (usb attached)

Table 37. USBAttached XML (continued)

Attributes	Valid values
additionalPort2USB	0 (not usb attached)
	1 (usb attached)

Example:

```
<SerialDevices
portA="1"
portB="0"
additionalPort1="0"
additionalPort2="0"
additionalPort3="0"
additionalPort4="0"/>
```

```
<USBAttached portAUSB="1" portBUSB="0" additionalPort1USB="0" additionalPort2USB="0"/>
</SerialDevices>
```

SurePoint1

Table 38. SurePoint1 XML

Attributes	Valid values
keypad (Note: includes tone and keylock)	0 (not enabled)
	1 (enabled)
msr	0 (not enabled)
	1 (enabled)

Example:

```
<SurePoint1 keypad="1" msr="0"/>
```

UPS

Table 39. UPS XML

Attributes	Valid values
portNumber	0
	1
	2
	3
manufacturer	1 (American Power Conversion)
	2 (Best Power Corporation)
	3 (SurePOS 72x/74x/78x UPS)
minutesUntilTurnedOff	0-15 (minutes)
secsBetweenWarnings	5 (seconds)
	10 (seconds)
	15 (seconds)
	20 (seconds)
	25 (seconds)
	30 (seconds)

Table 39. UPS XML (continued)

Attributes	Valid values
	35 (seconds)
	40 (seconds)
	45 (seconds)
	50 (seconds)
	55 (seconds)
	60 (seconds)
	65 (seconds)
	70 (seconds)
	75 (seconds)
	80 (seconds)
	85 (seconds)
	90 (seconds)
inUse	0 (not enabled)
	1 (enabled)

Example:

```
<UPS portNumber="2"
      manufacturer="1"
      minutesUntilTurnedOff="3"
      secsBetweenWarnings="10"
      inUse="0"
/>
```

PrimaryVideoDisplay

Table 40. PrimaryVideoDisplay XML

Attributes	Valid values
inUse	0 (not enabled)
	1 (enabled)
characterFormat	1 (25x80)
	2 (16x60)
	3 (12x40)
graphicsFormat	0 (none)
	1 (640 by 480 pixels)
	2 (800 by 600 pixels)
	3 (1024 by 768 pixels)
colorFormat	0 (monochrome)
	1 (256 colors)
	2 (64K colors)
	3 (16M colors)
screensaver	0 (enabled)
	1 (not enabled)
isSystemDisplay	0 (no)

Table 40. PrimaryVideoDisplay XML (continued)

Attributes	Valid values
	1 (yes)

Example:

```
<PrimaryVideoDisplay
  inUse="0"
  characterFormat="2"
  graphicsFormat="2"
  colorFormat="1"
  screensaver="0"
  isSystemDisplay="0"
/>
```

Notes:

1. For Enhanced Mode, 25x80 is the only characterFormat that is supported for the 4690 OS. 16x60 and 12x40 are not supported.
2. Only set colorFormat to "3" (16M colors) when you are using Java 6.

SecondaryVideoDisplay

Table 41. SecondaryVideoDisplay XML

Attributes	Valid values
displayResolution	0 (use primary)
	1 (640 by 480 pixels)
	2 (800 by 600 pixels)
	3 (1024 by 768 pixels)
colorDepth	1 (256 colors)
	2 (64K colors)
	3 (16M colors)

Example:

```
<SecondaryVideoDisplay colorDepth="3" displayResolution="2"/>
```

Notes:

1. For Enhanced Mode, 25x80 is the only characterFormat that is supported for the 4690 OS. 16x60 and 12x40 are not supported.
2. A colorDepth setting of "3" (16M colors) is for use with Java 6 applications only. If colorDepth is set to "3", the colorFormat attribute in PrimaryVideoDisplay must also be set to "3".

EnhancedRamDisk

Table 42. EnhancedRamDisk XML

Attributes	Valid values
inUse	0 (enabled)
	1 (disabled)
size	5 – 400

Example:

```
<EnhancedRamDisk inuse="0"
    size="10" />
```

Display Character Set XML tags

This is an XML file that represents an alphanumeric display character set. It consists of a root tag (DisplayCharacterSet) and any number of character definition elements (Character).

Display Character Set root tag

```
<DisplayCharacterSet>
```

Values: Not applicable.

FileVersion

Table 43. FileVersion XML

Attributes	Valid values
version	v5r1 (default)

Example:

```
<FileVersion version="v5r1"/>
```

Character

Table 44. Character XML

Attributes	Valid values	Required	Explanation
decimalValue	20, 21 and 32–255	Yes	decimalValue is the character code representing the alphanumeric display that is being changed.
row01		Yes	A String with the length of 5, representing row 1 of the character matrix. Type X in each position you want to choose the desired display character. The unused spaces in the matrix must be filled with periods (.).
row02		Yes	Same as row01 except this represents row 2 of the character matrix.
row03		Yes	Same as row01 except this represents row 3 of the character matrix.
row04		Yes	Same as row01 except this represents row 4 of the character matrix.
row05		Yes	Same as row01 except this represents row 5 of the character matrix.
row06		Yes	Same as row01 except this represents row 6 of the character matrix.
row07		Yes	Same as row01 except this represents row 7 of the character matrix.
row08		Yes	Same as row01 except this represents row 8 of the character matrix.
row09		Yes	Same as row01 except this represents row 9 of the character matrix.
row10		Yes	Same as row01 except this represents row 10 of the character matrix.

Table 44. Character XML (continued)

Attributes	Valid values	Required	Explanation
row11		Yes	Same as row01 except this represents row 11 of the character matrix.
row12		Yes	Same as row01 except this represents row 12 of the character matrix.

Example:

```
<Character
    decimalValue="65"
    row01="....."
    row02="....."
    row03="..X.."
    row04="..X.X."
    row05="X...X"
    row06="X...X"
    row07="X...X"
    row08="XXXXX"
    row09="X...X"
    row10="X...X"
    row11="X...X"
    row12="....."
/>
```

Note: Undefined characters are considered to be an "empty" matrix and are not printed.

Keyboard 4683 XML tags

This is an XML file representing the defined 4683 keyboard layouts. It consists of a root tag (KeyboardLayout4683File) and 0-25 keyboard layout definition elements (Keyboard50Key, AlphanumericKeyboard or MatrixKeyboard).

4683 Root tag

```
<KeyboardLayout4683File>
```

Values: Not applicable.

Keyboard50Key

Table 45. Keyboard50Key

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
key01 through key50	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.

Example:


```

<Keyboard50Key
    key01="61"
    keyboardName="ADXXBD01"
    keypadFormat="A"
/>

```

AlphanumericKeyboard

Table 46. Alphanumeric Keyboard

Attributes	Valid values	Required	Explanation
keyboardName	(variable)	Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
keypadDefault	1 2	No	1 = cursor keypad (default) 2 = numeric keypad
NoShift key01 through key15, key19, key23, key29	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.
Shift key01 through key15, key19, key23, key29	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.
Alt key01 through key15, key19, key23, key29	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.
Ctrl key01 through key15, key19, key23, key29	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.
Cursor key08 through key18, key21, key23 through key26, key29	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.
Numeric key28	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.

Example:

```

<AlphanumericKeyboard keyboardName="ADXXBA01"
    keypadFormat="A"
    keypadDefault="1"
    key01="61"
/>

```

MatrixKeyboard

Table 47. MatrixKeyboard

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A (default) D	No	A = adding machine keypad format (default) D = data entry keypad format
key001 through key127	00, 000, 61-255	No	This represents the key's function code where 00, 000 represents double and triple zeros. If the key tag is not defined, it is taken as an unused key. An empty string value represents unused keys.

Example:

```
<MatrixKeyboard keyboardName="ADXKBM01"
                keypadFormat="A"
                key01="61"
/>
```

Keyboard 4693 XML tags

This is an XML file representing defined 4693 keyboard layouts. It consists of a root tag (KeyboardLayout4693File) and 0-24 keyboard layout definition elements (ANPOSKeyboard, POSUSB50KeyKeyboard, ANPOSUSBKeyboard, USB133KeyKeyboard, LCDSurePointKeypad, KeyboardV, KeyboardVI or PLUPOSKeyboard)

Keyboard 4693 root tag

<KeyboardLayout4693File>

Values: Not applicable.

ANPOSKeyboard

Table 48. ANPOSKeyboard XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
keyClick	1 2 3	No	keyClick determines the volume of the click when a key is pressed. 1 = loud click 2 = soft click 3 = no click (default)
typematicKeys	1 2 3 4	No	1 = fast (default) 2 = medium 3 = slow 4 = disabled

Table 48. ANPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
keyStroke	1 2 3 4	No	1 = very short (default) 2= short 3 = long 4 = very long
baseNumericPad	1 2	No	1 = identical to numeric mode (default) 2 = configured separately
noShiftKey01	33-255	No	Contains the function code associated with this key. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
noShiftKey13	16 and 33-255	No	
noShiftKey15	29 and 33-255	No	
noShiftKey16	18 and 33-255	No	
noShiftKey19	27 and 33-255	No	
noShiftKey23	24 and 33-255	No	
noShiftKey24	25 and 33-255	No	
noShiftKey29	26 and 33-255	No	
numKey44	0, 00, 000 and 42	No	00, 000 represents double and triple zeroes.
numKey46	0, 00, 000, 33-47 and 49-255	No	00, 000 represents double and triple zeroes.
shiftKey13	17 and 33-255	No	.

Note: Allowed key values are 33-255 unless an exception is described above.

Example:

```
<ANPOSKeyboard keyboardName="ADXKBE01"
  keyClick="3"
  typematicKeys="1"
  keyStroke="1"
  baseNumericPad="1"
  noShiftKey06="175"
/
>
```

POSUSB50KeyKeyboard

Table 49. POSUSB50KeyKeyboard XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
keyClick	1 2 3	No	keyClick determines the volume of click when a key is pressed. 1 = loud click 2 = soft click 3 = no click (default)

Table 49. POSUSB50KeyKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
typematicKeys	1 2 3 4	No	1 = fast 2 = medium 3 = slow 4 = disabled (default)
keyStroke	1 2 3 4		1 = very short (default) 2 3 4
Key01	00, 000 and 61-255		Contains the function code associated with this key. 00, 000 represents double and triple zeros. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
Key18	0, 00, 000 and 61-255		Contains the function code associated with this key. 00, 000 represents double and triple zeros. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Note: Allowed key values are 00, 000, 61-255 unless an exception is described above.

Example:

```
<POSUSB50KeyKeyboard keyboardName="ADXKBF01"
    keypadFormat="A"
    keyClick="3"
    typematicKeys="1"
    keyStroke="1"
    ctrlKey06="61"
/ >
```

ANPOSUSBKeyboard

Table 50. ANPOSUSBKeyboard XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
keyClick	1 2 3	No	keyClick determines the volume of the click when a key is pressed. 1 = loud click 2 = soft click 3 = no click (default)
typematicKeys	1 2 3 4	No	1 = fast 2 = medium 3 = slow 4 = disabled (default)
keyStroke	1 2 3 4	No	1 = very short 2 = short 3 = long 4 = very long

Table 50. ANPOSUSBKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
baseNumericPad	1 2	No	1 = identical to numeric mode (default) 2 = configured separately
noShiftKey01	33-255	No	Contains the function code associated with this key. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
noShiftKey13	16 and 33-255	No	
noShiftKey15	29 and 33-255	No	
noShiftKey16	18 and 33-255	No	
noShiftKey19	27 and 33-255	No	
noShiftKey23	24 and 33-255	No	
noShiftKey24	25 and 33-255	No	
noShiftKey29	26 and 33-255	No	
numKey47	0, 00, 000 and 42	No	00, 000 represents double and triple zeroes.
numKey48	0, 00, 000 and 42, 33-47, 49-255	No	00, 000 represents double and triple zeroes.
shiftKey13	17 and 33-255	No	

Note: Allowed key values are 33-255 unless an exception is described above.

Example:

```
<ANPOSUSBKeyboard keyboardName="ADXKBG01"
    keypadFormat="A"
    keyClick="3"
    typematicKeys="1"
    keyStroke="1"
    baseNumericPad="1"
    ctrlKey06="61"
/>
```

USB133KeyKeyboard

Table 51. USB133KeyKeyboard XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
keyClick	1 2 3	No	keyClick determines the volume of the click when a key is pressed. 1 = loud click 2 = soft click 3 = no click (default)
typematicKeys	1 2 3 4	No	1 = fast (default) 2 = medium 3 = slow 4 = disabled

Table 51. USB133KeyKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
keyStroke	1 2 3 4	No	1 = very short (default) 2 = short 3 = long 4 = very long
key001	00, 000, 33-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeros. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key078	0, 00, 000, 33-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeros. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Note: Allowed key values are 00, 000, 61-255 unless an exception is described above.

Example:

```
<USB133KeyKeyboard keyboardName="ADXKBH01"
    keypadFormat="A"
    keyClick="3"
    typematicKeys="1"
    keyStroke="1"
    key078="61"
/>
```

LCDSurePointKeypad

Table 52. LCDSurePointKeypad XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keypadFormat	A D	No	A = adding machine keypad format (default) D = data entry keypad format
keyClick	1 2 3	No	keyClick determines the volume of the click when a key is pressed. 1 = loud click 2 = soft click 3 = no click (default)
typematicKeys	1 2 3 4	No	1 = fast 2 = medium 3 = slow 4 = disabled (default)
keyStroke	1 2 3 4	No	1 = very short (default) 2 = short 3 = long 4 = very long
key01	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 52. LCDSurePointKeypad XML (continued)

Attributes	Valid values	Required	Explanation
key02	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key03	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key04	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key05	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key06	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key07	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key08	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key09	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key10	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key11	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 52. LCDSurePointKeypad XML (continued)

Attributes	Valid values	Required	Explanation
key12	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key13	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key14	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key15	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key16	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key17	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key18	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key19	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key20	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key21	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 52. LCDSurePointKeypad XML (continued)

Attributes	Valid values	Required	Explanation
ctrlKey01	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey02	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey03	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey04	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey05	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey06	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey07	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey08	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey09	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey10	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 52. LCDSurePointKeypad XML (continued)

Attributes	Valid values	Required	Explanation
ctrlKey11	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey12	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey13	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey14	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey15	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey16	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey17	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey18	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey19	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
ctrlKey20	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 52. LCDSurePointKeypad XML (continued)

Attributes	Valid values	Required	Explanation
ctrlKey21	00, 000, 61-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Example:

```
<LCDSurePointKeypad keyboardName="ADXKBC01"
    keypadFormat="A"
    keyClick="3"
    typematicKeys="1"
    keyStroke="1"
    ctrlKey06="61"
/>
```

KeyboardV

Table 53. KeyboardV XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
key01	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key02	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key03	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key04	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key05	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key06	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 53. KeyboardV XML (continued)

Attributes	Valid values	Required	Explanation
key07	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key08	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key09	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key10	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key11	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key12	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key13	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key14	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key15	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key16	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 53. KeyboardV XML (continued)

Attributes	Valid values	Required	Explanation
key17	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key18	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key19	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key20	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key21	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key22	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key23	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key24	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key25	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key26	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 53. KeyboardV XML (continued)

Attributes	Valid values	Required	Explanation
key27	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key28	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key29	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key30	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key31	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key32	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key33	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key34	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key35	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key36	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 53. KeyboardV XML (continued)

Attributes	Valid values	Required	Explanation
key37	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key38	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key39	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key40	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key41	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key42	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key43	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key44	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key45	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key46	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 53. KeyboardV XML (continued)

Attributes	Valid values	Required	Explanation
key47	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key48	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key49	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key50	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key51	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key52	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key53	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key54	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key55	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key56	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 53. KeyboardV XML (continued)

Attributes	Valid values	Required	Explanation
key57	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key58	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key59	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key60	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key61	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key62	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Note: Allowed key values are 00, 000, 6-47 and 58-255.

Example:

```
<KeyboardV keyboardName="ADXKBV01"
    key60="61"
/>
```

KeyboardVI

Table 54. KeyboardVI XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
keyClick	1 2 3	No	keyClick determines the volume of the click when a key is pressed. 1 = loud click 2 = soft click 3 = no click (default)

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key01	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key02	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key03	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key04	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key05	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key06	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key07	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key08	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key09	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key10	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key11	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key12	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key13	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key14	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key15	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key16	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key17	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key18	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key19	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key20	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key21	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key22	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key23	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key24	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key25	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key26	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key27	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key28	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key29	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key30	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key31	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key32	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key33	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key34	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key35	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key36	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key37	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key38	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key39	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key40	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key41	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key42	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key43	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key44	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key45	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key46	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key47	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key48	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key49	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key50	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key51	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key52	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key53	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key54	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key55	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key56	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key57	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key58	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key59	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key60	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key61	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key62	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key63	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key64	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key65	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key66	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key67	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key68	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key69	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key70	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 54. KeyboardVI XML (continued)

Attributes	Valid values	Required	Explanation
key71	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Example:

```
<KeyboardVI keyboardName="ADXXBI01"
    keyClick="2"
    key67="64"
/>
```

PLUPOSKeyboard

Table 55. PLUPOSKeyboard XML

Attributes	Valid values	Required	Explanation
keyboardName		Yes	Contains the keyboard layout name, which must be less than 9 characters.
key001	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key002	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key003	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key004	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key005	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key006	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key007	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key008	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key009	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key010	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key011	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key012	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key013	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key014	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key015	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key016	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key017	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key018	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key019	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key020	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key021	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key022	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key023	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key024	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key025	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key026	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. *PLUPOSKeyboard XML (continued)*

Attributes	Valid values	Required	Explanation
key027	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key028	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key029	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key030	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key031	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key032	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key033	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key034	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key035	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key036	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key037	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key038	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key039	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key040	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key041	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key042	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key043	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key044	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key045	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key046	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key047	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key048	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key049	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key050	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key051	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key052	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key053	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key054	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key055	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key056	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key057	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key058	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key059	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key060	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key061	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key062	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key063	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key064	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key065	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key066	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key067	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key068	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key069	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key070	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key071	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key072	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key073	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key074	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key075	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key076	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. *PLUPOSKeyboard XML (continued)*

Attributes	Valid values	Required	Explanation
key077	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key078	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key079	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key080	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key081	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key082	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key083	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key084	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key085	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key086	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key087	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key088	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key089	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key090	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key091	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key092	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key093	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key094	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key095	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key096	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key097	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key098	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key099	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key100	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key101	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key102	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key103	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key104	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key105	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key106	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Table 55. PLUPOSKeyboard XML (continued)

Attributes	Valid values	Required	Explanation
key107	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key108	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key109	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key110	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key111	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key112	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key113	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key114	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key115	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.
key116	00, 000, 6-47 and 58-255	No	Contains the function code associated with this key. 00, 000 represents double and triple zeroes. If this key tag is not defined, it would be taken as an unused key. An empty string value represents unused keys.

Note: Allowed key values are 00, 000, 6-47 and 58-255.

Example:

```
<PLUPOSKeyboard keyboardName="ADXKBP01"
    key116="173"
/>
```

KeyboardModular XML Tags

This is an XML file representing defined Modular keyboard layouts. It consists of a root tag (keyboardLayouts) and 0-24 keyboard layout definition elements (keyboardLayout).

KeyboardLayouts root tag

<KeyboardLayouts>

Values: Not applicable

keyboardLayout

keyboardLayout is the root tag of a single keyboard layout definition. It contains all the information needed to define a modular keyboard layout.

Table 56. KeyboardLayout

Attributes	Valid Values	Required	Explanation
name		Yes	Contains the keyboard layout name, which must be less than 9 characters.
type	L S T	Yes	L = Modular ANPOS keyboard S = Modular 67-key keyboard T = Modular 67-key LCD keyboard

Example:

```
<keyboardLayout name="ADXKBL01" type="L">
```

Nested XML:

keyboardLayout contains the following elements:

- property
- mode

property

Property is used to define a modular keyboard property and assign that property a value. Multiple property elements can be defined in a keyboardLayout.

Table 57. Modular keyboard properties

Name Attribute	Value Attribute	Explanation
fatFingerTimeout	1 2 3 4	Very Short Short Long Very Long

Table 57. Modular keyboard properties (continued)

keyClickVolume	1	Loud
	2	Soft
	3	None
numberPadFormat	A	Adding Machine
	D	Data Entry
typematicRate	1	Fast
	2	Medium
	3	Slow
	4	Disabled
numberPadConfigurable (Modular ANPOS only)	0	numeric pad identical to numeric mode
	1	numeric pad configured separately

Example:

```
<property name="fatFingerTimeout" value="4"/>
```

```
<property name="keyClickVolume" value="3"/>
```

```
<property name="numberPadConfigurable" value="1"/>
```

```
<property name="numberPadFormat" value="D"/>
```

```
<property name="typematicRate" value="4"/>
```

mode

Mode defines a keyboard mode. Multiple mode elements can be defined in a keyboardLayout.

Table 58. mode setting for the Modular ANPOS keyboard

Attributes	Valid Values	Explanation
name	0	No Shift (Normal) mode
	1	Shift mode
	2	Ctrl mode
	3	Alt mode

Table 59. mode settings for the Modular 67-key keyboard and 67-key LCD keyboard

Attributes	Valid Values	Explanation
name	0	No Shift (Normal) mode
	1	Ctrl mode

Example:

```
<mode name="0" >
```

Nested XML:

mode contains one or more key elements.

key

The key element is used to assign a function code to a particular keyswitch. Most keyswitches can be defined once for each mode, although a few combinations are reserved for special keys. Keyswitches not specified in a particular mode are left undefined.

Table 60. key definitions - Modular 67-key keyboard and 67-key LCD keyboard

Mode	keySwitch Attributes	Valid values for functionCode Attribute
0,1	1-17	00,000,61-255
0,1	28	0,00,000,61-255
0,1	29-30	00,000,61-255
0	31	00,000,61-255
0	32	00,000,61-255
0,1	33-49	00,000,61-255
0,1	50	None (Ctrl key)
0,1	51-54	00,000,61-255
0,1	55	None (Esc key)
0,1	56-67	00,000,61-255
1	31	None (S1 key)
1	32	None (S2 key)

Table 61. key definitions - Modular ANPOS keyboard

Mode	keySwitch Attributes	Valid values for functionCode Attribute
0,1,2,3	112-123	33-255
0	75	29, 33-255
0	76	18, 33-255
0	77	27, 33-255
0	82	25, 33-255
0	84	24, 33-255
0	87	26, 33-255
1,2,3	75-77,82,84,87	33-255
0,1,2,3	78-81,83,85-86,88,89	33-255
0,1,2,3	105-109	33-255
0,1,2,3	95,100,127,129-132	33-255
0	124,126,128,133	33-255
0	90	None (NUM key)
0	125	None (SCR key)
1	90,124-126,128,133	33-255
2	124	None (SYS key)
2	90,125,126,128,133	33-255
3	133	None (S1 key)

Table 61. key definitions - Modular ANPOS keyboard (continued)

3	128	None (S2 key)
3	90,124-126	33-255
0,1,2,3	43	33-255
0	16	16, 33-255
1	16	17, 33-255
2,3	16	33-255
0	99,104	33-255
1	99	0,00,000,42
1	104	00,000,33-47,49-255
0	91-94,96-98,101-103	33-255

Example:

```

<mode name="0">
<key functionCode="61" keySwitch="105"/>
<key functionCode="62" keySwitch="106"/>
<key functionCode="63" keySwitch="107"/>
<key functionCode="64" keySwitch="108"/>
<key functionCode="65" keySwitch="109"/>
<key functionCode="66" keySwitch="84"/>
<key functionCode="67" keySwitch="87"/>
</mode>

```


55	56	57	58	59	60	61	62	63	64	65	66	67
50		1	2	3		16	17		30	31	32	33
51		4	5	6		18	19	20	34	35	36	37
52		7	8	9		21	22	23	38	39	40	41
53		10	11	12		24	25	26	42	43	44	45
54		13	14	15		27	28	29	46	47	48	49

Figure 201. Modular 67-key keyboard keyswitch values

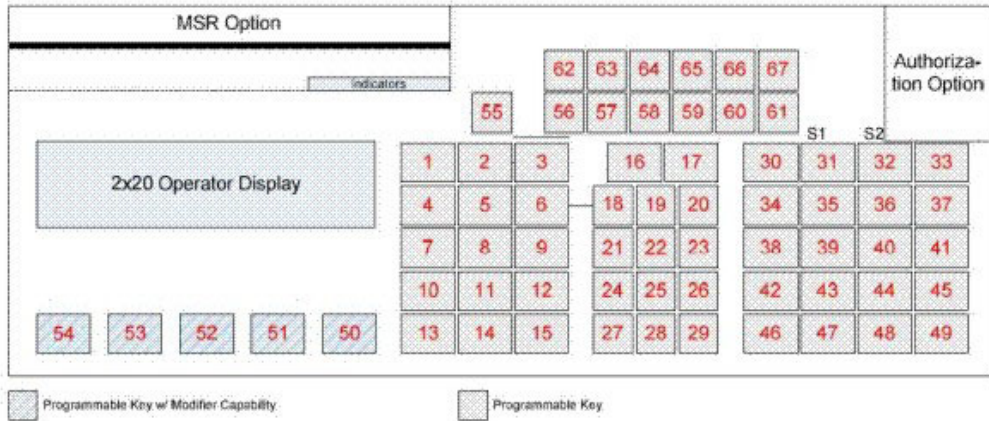


Figure 202. Modular 67-key with LCD keyboard keyswitch value

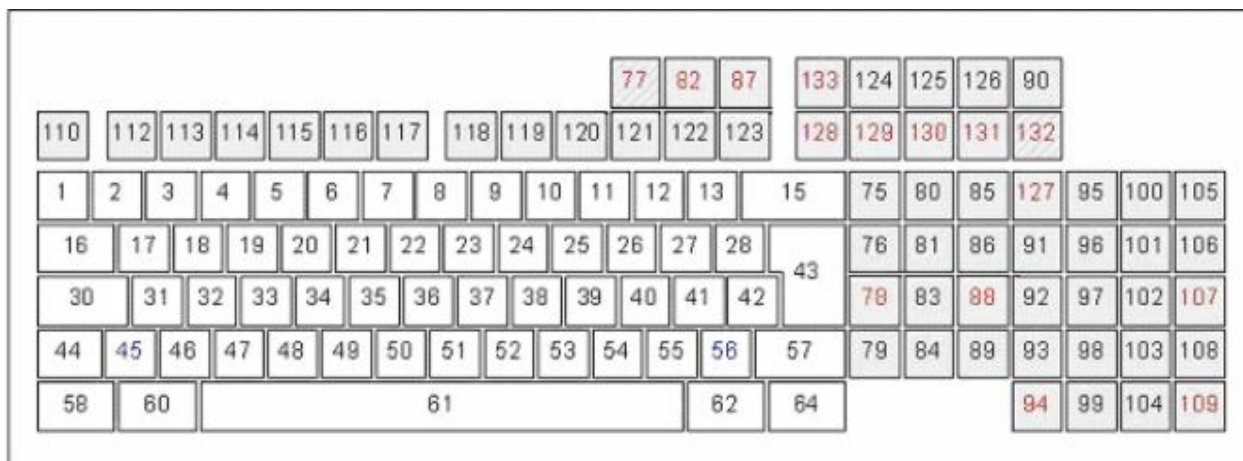


Figure 203. Modular ANPOS keyboard keyswitch values

Terminal Load Definition XML tags

The XML file represents defined terminal load definitions. It consists of a root tag (TerminalLoadDefinitionFile) containing one or more TerminalLoadDefinition elements, which contain XML elements representing general settings and applications loaded for that particular Terminal Load Definition. If an attribute is not defined, it is assumed to be not enabled. The following section provides all of the valid XML elements and the nested XML elements required to configure each Terminal Load Definition.

Terminal Load Definition root tag

<TerminalLoadDefinitionFile>

Values: Not applicable.

Nested XML: The nested XML tag is TerminalLoadDefinition

Example:

```
<TerminalLoadDefinitionFile>
  <TerminalLoadDefinition>
```

Terminal Load Definition

Table 62. Terminal Load Definition

Attributes	Valid values	Required	Explanation
terminalRange	1–999	Yes	The terminalRange attribute contains the terminal numbers or range of terminal numbers that are affected by this load definition.

Example:

```
<TerminalLoadDefinition terminalRange="1-15"/>
```

Nested XML: The TerminalLoadDefinition contains the elements shown in Table 63 on page 668.

Table 63. TerminalLoadDefinition elements

GeneralSettings	Required
PrimaryApplication	0 or 1
Emulation3270	0 or 1
PrintScreen3270	0 or 1
JavaApplication	0 or 1
KeyboardLayout	0 or 1
TCPIP	0 or 1
EnhancedMode	0 or 1

GeneralSettings

Table 64. GeneralSettings XML

Attributes	Valid values
deviceCharacteristics	(variable)
applicationDump	0 (enabled) (default) 1 (not enabled)

Example:

```
<GeneralSettings
  applicationDump="0"
  deviceCharacteristics="STORE"
/>
```

PrimaryApplication

Table 65. PrimaryApplication XML

Attributes	Valid values
applicationName	(variable)
parameters	(variable)

Example:

```
<PrimaryApplication
  applicationName="R::ADX_SPGM:ADXTSMAL.286"
/>
```

Emulation3270

Table 66. Emulation3270 XML

Attributes	Valid values
applicationName	(variable)
parameters	(variable)

Example:

```
<Emulation3270
  applicationName="R::ADX_SPGM:ADXZE30L.286"
  parameters=" "
/>
```

PrintScreen3270

Table 67. PrintScreen3270 XML

Attributes	Valid values
applicationName	(variable)
parameters	(variable)

Example:

```
<PrintScreen3270
  applicationName="R::ADX_SPGM:ADXZE30L.286"
  parameters=" "
/>
```

JavaApplication

Table 68. JavaApplication XML

Attributes	Valid values
enhancedApplication	0 – legacy Java application (default) 1 – enhanced Java application
applicationName	IBMDDefault (variable)
parameters	(variable)
javaVersion	1 – Java 1.1.8 (no longer supported) 2 – Java 2 (default) 3 – Java 6

If enhancedApplication is enabled, then javaVersion is the only other attribute allowed.

Example with enhanced applications:

```
<JavaApplication
  enhancedApplication="1"
  javaVersion="2"
/>
```

Example without enhanced applications:

```
<JavaApplication
  enhancedApplication="0"
  applicationName="IBMDDefault"
  javaVersion="2"
/>
```

KeyboardLayout

Table 69. KeyboardLayout XML

Attributes	Valid values
keyboard50Key	ADXKBF01 (variable)
keyboard133Key	ADXKBH01 (variable)
keyboardANPOS	ADXKBG01 (variable)
keyboardSurePoint	ADXKBC01 (variable)
keyboardV	ADXKBV01 (variable)
keyboardVI	ADXKBV01 (variable)
keyboardPLU	ADXKBP01 (variable)

Table 69. KeyboardLayout XML (continued)

Attributes	Valid values
keyboard4683_50Key	ADXKBD01 (variable)
keyboard4683ANPOS	ADXKBE01 (variable)
keyboardANPOS3270	ADXKBG01 (variable)
keyboardModularANPOS	ADXKBL01 (variable)
keyboardModular67Key	ADXKBS01 (variable)
keyboardModular67Key LCD	ADXKBT01 (variable)

Example:

```
<KeyboardLayout
  keyboard50Key="ADXKBF01">
  keyboard133Key="ADXKBH01"
  keyboardANPOS="ADXKBG01"
  keyboardSurePoint="ADXKBC01"
  keyboardV="ADXKBV01"
  keyboardVI="ADXXKBI01"
  keyboardPLU="ADXXKBP01"
  keyboard4683_50Key=""
  keyboard4683ANPOS=""
  keyboardANPOS3270="MY3270"
  keyboardModularANPOS="ADXXKBL01"
  keyboardModular67Key="ADXXKBS01
  keyboardModular67KeyLCD="ADXXKBT01"/
>
```

TCPIP

Table 70. TCPIP XML

Attributes	Valid values
addressMethod	0 (customer-specified IP address) (default) 1 (IP address obtained from DHCP server)
tccMethod	0 (do not enable TCC over IP) (default) 1 (enable TCC over IP)
ipAddress	(customer-supplied variable)
subnetMask	(customer-supplied variable)
router	(customer-supplied variable)
nameServer	(customer-supplied variable)
domainName	(customer-supplied variable)
hostName	(customer-supplied variable)

Example:

```
<TCPIP
  addressMethod="0"
  domainName=""
  hostName=""
  ipAddress="1.0.0.1"
  nameServer="0.0.0.0"
  router="0.0.0.0"
  subnetMask="255.0.0.0"
  tccMethod="0"
/>
```

Terminal Load Definition Extension XML Tags

The XML file represents additional load definition information for defined terminals. It consists of a root tag (LoadDefinitionExtensionFile) containing a file version, plus one or more LoadDefinitionExtension elements. If an attribute is not defined, it is assumed to be not enabled. The following section provides all of the valid XML elements and the nested XML elements required to configure each Load Definition Extension.

This is the root tag:

```
<LoadDefinitionExtensionFile>
```

Table 71. Nested XML Elements

Element Name	Required or Implied	Number of Possible Elements
FileVersion	Required	1
LoadDefinitionExtension	Implied	0 or more

Example:

```
<LoadDefinitionExtensionFile
FileVersion version="v6r1"
LoadDefinitionExtension terminalRange="5"
Load Definition Extension/>
```

Table 72. Load Definition Extension

Attributes	Valid values	Required	Explanation
terminalRange	1-999	Yes	The terminalRange attribute contains the terminal numbers or range of terminal numbers that are affected by this load definition extension.

Example:

```
<LoadDefinitionExtension terminalRange="1-15"/>
```

Nested XML: The LoadDefinitionExtension contains the elements shown in Table 73.

Table 73. LoadDefinitionExtension Elements

JavaLoadDefinition	0 or 1
Bundles	0 or 1
Extensions	0 or 1

JavaLoadDefinition

Table 74. JavaLoadDefinition XML

Attributes	Valid Values
preloadToDrive	C, Q, X, Y, F

Example:

```
<JavaLoadDefinition
    preloadToDrive="X"/>
```

JavaLoadDefinition Elements

Table 75. JavaLoadDefinition Elements

PrimaryJavaApplication	0 or 1
SecondaryJavaApplication	0 or 1
PreloadJVM	0 or 1

PrimaryJavaApplication

Table 76. PrimaryJavaApplication

Attributes	Valid Values
className	(variable)

Example:

```
<PrimaryJavaApplication
  className="DfltApp1"/>
```

SecondaryJavaApplication

Table 77. SecondaryJavaApplication Elements

ApplicationName	1 to 63
-----------------	---------

ApplicationName

Table 78. ApplicationName XML

Attributes	Valid Values
className	(variable)

Example:

```
<SecondaryJavaApplication
<ApplicationName className="SampleClass"/>
</SecondaryJavaApplication>
```

PreloadJVM

Table 79. PreloadJVM XML

Attributes	Valid Values
preloadToDrive	0, M, Q (0=none)

Example:

```
<PreloadJVM preloadToDrive="Q"/>
```

Bundles

Table 80. Bundles Elements

BundleName	1 or more
------------	-----------

BundleName

Table 81. BundleName XML

Attributes	Valid Values
------------	--------------

Table 81. BundleName XML (continued)

className	(variable)
preloadToDrive	C, M, Q, X, Y, F

Example:

```
<Bundles>
<BundleName className="BundleA" preloadToDrive="C"/>
<BundleName className="BundleB" preloadToDrive="Q"/>
</Bundles>
```

Extensions

Table 82. Extension Elements

Extension	1 or more
-----------	-----------

Extension

Table 83. Extension XML

Attributes	Valid Values
suffix	(variable)
location	(variable)

Example:

```
<Extensions>
<Extension suffix="A1.DAT" location="adx_spgm:"/>
<Extension suffix="C1.DAT" location="adx_spgm:"/>
</Extensions>
```

Mod2Character XML tags

Table 84. Mod2Character XML

Attributes	Valid values	Required	Explanation
decimalValue	20, 21 and 32-255	Yes	The decimalValue attribute is the character code that represents the printer character being changed. Valid values are 20, 21 and 32-255
row01		Yes	A string of length 7, representing the first row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row02		Yes	A string of length 7, representing the second row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row03		Yes	A string of length 7, representing the third row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.

Table 84. Mod2Character XML (continued)

Attributes	Valid values	Required	Explanation
row04		Yes	A string of length 7, representing the fourth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row05		Yes	A string of length 7, representing the fifth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row06		Yes	A string of length 7, representing the sixth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row07		Yes	A string of length 7, representing the seventh row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row08		Yes	A string of length 7, representing the eighth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.

Example:

```
<Mod2Character
  decimalValue="65"
  row01="...X..."
  row02="..X.X.."
  row03=".X...X."
  row04="X....X"
  row05="X.X.X.X"
  row06="X....X"
  row07="X....X"
  row08="....."
/>
```

Note: Undefined characters are considered as "empty" in the matrix and are not printed.

Mod4Character XML tags

Table 85. Mod4Character XML

Attributes	Valid values	Required	Explanation
decimalValue	1-26 and 28-253	Yes	The decimalValue attribute is the character code that represents the printer character being changed. Valid values are 20, 21 and 32-255
row01		Yes	A string of length 10, representing the first row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.

Table 85. Mod4Character XML (continued)

Attributes	Valid values	Required	Explanation
row02		Yes	A string of length 5, representing the second row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row03		Yes	A string of length 5, representing the third row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row04		Yes	A string of length 5, representing the fourth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row05		Yes	A string of length 5, representing the fifth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row06		Yes	A string of length 5, representing the sixth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row07		Yes	A string of length 5, representing the seventh row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row08		Yes	A string of length 5, representing the eighth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.
row09		Yes	A string of length 5, representing the eighth row of the character matrix. Type an 'X' in each position you want in order to draw the desired display character. The unused spaces in the matrix must be filled with '.'.

Note: A maximum of 40 characters can be redefined. Undefined characters are considered defined in "Model 3 and 4 Default Characters file" and are not changed.

Example:

```
<Mod4Character
  decimalValue="65"
  row01="...X....."
  row02="..X.X....."
  row03=".X...X...."
  row04="X.....X..."
  row05="X.X.X.X..."
  row06="X.....X..."
```

```

row07="X.....X..."
row08="....."
row09="....."
/>

```

Screen Saver XML tags

ScreenSaverData

Table 86. ScreenSaverData XML

Attributes	Valid values	Required
minutes	1–60 minutes (customer-supplied variable)	Yes
message	1–40 character message (customer-supplied variable)	Yes
videoAttributes	A hexadecimal number with the 0x prefix (specified as a two hexadecimal-character VGA format attribute). See the <i>4680 Basic Language Reference</i> for the description and list.	Yes
background	0 (disabled) (default) 1 (enabled)	No

Example:

```

<ScreenSaverData background="0"
    message="Be right back"
    minutes="5"
    videoAttributes="0x1f"
/>

```

NFS terminal configuration XML tags

FileVersion

Table 87. File version XML

Attributes	Valid values
version	v6 (default)

Example:

```

<FileVersion version="v6"/>

```

NFSMountGroup

Table 88. NFSMountGroup XML

Attributes	Valid values
group	1 (NFS Mount Group 1) 2 (NFS Mount Group 2) 3 (NFS Mount Group 3) 4 (NFS Mount Group 4) 5 (NFS Mount Group 5) 6 (NFS Mount Group 6) 7 (NFS Mount Group 7) 8 (NFS Mount Group 8) (default)
description	(customer-supplied data)

Example:

```
<NFSMountGroup group="1"
                description="NFS Mount Group 1"
/>
```

Drive

Table 89. Drive XML

Attributes	Valid values
id	G (Drive G:) (default) H (Drive H:) I (Drive I:) J (Drive J:) K (Drive K:) L (Drive L:)
ip	(customer-supplied data; use dotted notation)
userid	0 (customer-variable) (default)
groupid	0 (customer-variable) (default)
resourcename	(customer-supplied data)

Example:

```
<Drive groupid="0"
      id="G"
      ip="0.0.0.0"
      resourcename="xyz"
      userid="0"
/>
```

Assignment

Table 90. Assignment XML

Attributes	Valid values
group	1 2 3 4 5 6 7 8 (default)
terminals	(1, 2, 3...) or (1-25)
resourcename	

Example:

```
<Assignment group="8"
    terminals="1, 2, 3"
    resourcename=" "
/>
```

Java Application XML Tags

This is the root tag:

```
<JavaApplicationFile>
```

Table 91. Nested XML Elements

Element Name	Required or Implied	Number of Possible Elements
FileVersion	Required	1
JavaApplication	Implied	ANY

The JavaApplication element encapsulates these implied elements:

- CommandSettings
- AdvancedSettings
- ResourceCreation
- DependencyChecking
- DependencyInclude
- DependencyExclude
- DependencyJar

FileVersion

Table 92. FileVersion XML

Attributes	Valid Values
version	v5r1 (default)

Example:

```
<FileVersion version="v5r1"/>
```

JavaApplication

Table 93. JavaApplication XML

Attributes	Valid Values
name	1 to 8 characters long String
description	0 to 40 characters long String

Example:

```
<JavaApplication
name="myJavaApplication"
description="this is my java application"
/>
```

CommandSettings

Table 94. CommandSettings XML

Attributes	Valid Values
classpath	A String
jvmOptions	A String
classname	A String
applicationArguments	A String

Example:

```
<CommandSettings
applicationArguments=""
classname="IBMDefault"
jvmOptions=""
classpath="r::javali:0S4690.zip"
/>
```

AdvancedSettings

Table 95. Advanced Settings XML

Attributes	Valid Values
useJavaTOF	0 (default) 1
guiStartable	0 (default) 1
guiStoppable	0 (default) 1
launchOnStartup	0 1 (default)
useSecondaryDisplay	0 (default) 1

Table 95. Advanced Settings XML (continued)

maxInstances	1 (default) 2 3 4
jvmID	0 (default) 1 2 3 4
redirectStdOut	The name of the file that the standard output stream is redirected to
redirectStdErr	The name of the file that the standard error stream is redirected to

Example:

```
<AdvancedSettings
guiStartable="0"
guiStoppable="0"
launchOnStartup="1"
maxInstances="1"
useJavaTof="0"
useSecondaryDisplay="0"
jvmID="0"
redirectStdErr=""
redirectStdOut=""
/>
```

ResourceEntry

ResourceEntry is contained within the ResourceCreation Element

Table 96. ResourceEntry Settings XML

Attributes	Valid Values
name	Resource Entry String

Example:

```
<ResourceCreation>
<ResourceEntry name="myJar.jar"/>
<ResourceEntry name="myZip.zip"/>
</ResourceCreation>
```

DependencyChecking

Table 97. DependencyChecking XML

Attributes	Valid Values
javaPOSVersion	0 (default) = none 1 = java 1.4
debugFlag	0 (default) 1

Example:

```
<DependencyChecking
  debugFlag="0"
  javaPOSVersion="0"
/>
```

IncludeEntry

IncludeEntry is contained within the DependencyInclude Element

Table 98. IncludedEntry Settings XML

Attributes	Valid Values
name	Include Entry String

Example:

```
<DependencyInclude>
<IncludeEntry name="1.zip"/>
<IncludeEntry name="2.zip"/>
</DependencyInclude>
```

ExcludeEntry

ExcludeEntry is contained within the DependencyExclude Element

Table 99. ExcludeEntry XML

Attributes	Valid Values
name	Exclude Entry String

Example:

```
<DependencyExclude>
<ExcludeEntry name="1.zip"/>
<ExcludeEntry name="2.zip"/>
</DependencyExclude>
```

JarEntry

JarEntry is contained within the DependencyJar Element

Table 100. JarEntry Settings XML

Attributes	Valid Values
name	Jar Entry String

Example:

```
<DependencyJar>
<JarEntry name="1.jar"/>
<JarEntry name="2h.jar"/>
</DependencyJar>
```

Preload Bundles XML Tags

This is the root tag:

```
<PreloadBundleFile>
```

Table 101. Nested XML Elements

Element Name	Required or Implied	Number of possible Elements
FileVersion	Required	1
PreloadBundle	Implied	ANY

The PreloadBundle element encapsulates this implied element:

- BundleEntry
 - FileVersion**

Table 102. FileVersion XML

Attributes	Valid Values
version	v6 (default)

Example:

```
<FileVersion version="v6"/>
```

PreloadBundle

Table 103. PreloadBundle XML

Attributes	Valid Values
name	1 to 8 characters long String
description	0 to 40 characters long String

BundleEntry

Table 104. Bundle Entry

Attributes	Valid Values
entryName	The entry name
optional	0 (default) 1
recursive	0 (default) 1
inRoot	0 (default) 1

Example:

```
<PreloadBundle description="BUNDLE1" name="bundle1">
  <BundleEntry
    entryName="this is a bundle"
    inRoot="1"
```

```

optional="0"
recursive="1"
/>
</PreloadBundle>

```

System Configuration XML tags

This is the root tag: <SystemConfigurationFile>

Table 105. Nested XML elements

Element name	Required or implied	Number of possible Elements
FileVersion	Required	1
SystemSettings	Implied	0 or 1
LANTerminalDefinition	Implied	0 or 1
JavaConfiguration	Implied	0 or 1

The SystemSettings element encapsulates these implied elements:

- StoreNumber
- DateTimeFormat
- CurrencyFormat
- Application
- LANTimeout
- VFSDrive
- ConsoleLockout
- FtpLockout
- Security
- Networking
- NetworkSecurity
- SystemManagement
- SystemOptions
- DirectoryServices

FileVersion

Table 106. FileVersion XML

Attributes	Valid values
version	v5r2 (default)

Example:

```
<FileVersion version="v5r2"/>
```

StoreNumber

Table 107. StoreNumber XML

Attributes	Valid values
number	Range 1-9999
alert	0 (disabled) (default) 1 (enabled)

Example:

```
<StoreNumber number="1029" alert="1"/>
```

DateTimeFormat

Table 108. DateTimeFormat XML

Attributes	Valid values
dateFormat	1 (mm/dd/yy) (default) 2 (dd/mm/yy) 3 (mm.dd.yy) 4 (dd.mm.yy)
timeFormat	1 (xx:xx) (default) 2 (xx.xx)

Example:

```
<DateTimeFormat dateFormat="1" timeFormat="1"/>
```

CurrencyFormat

Table 109. CurrencyFormat XML

Attributes	Valid values
currency	1 (1,000,000.00) (default) 2 (1.000.000,00)
decimalDigits	0 (0 digits after decimal) 2 (2 digits after decimal) (default)

Example:

```
<CurrencyFormat currency="2" decimalDigits="2"/>
```

Application

The Application tag is the same as Application Settings in System Configuration.

Table 110. Application Settings XML

Attributes	Valid values
prefix	(first 3 characters of application name)
firstTimeout	32 (range 32-5400)
otherTimeouts	7 (7 - first timeout value) (default)
iplInterval	50 (range 20-542) (default)

Example:

```
<Application prefix="EAL"
    firstTimeout="32"
    otherTimeouts="7"
    iplInterval="50"
/>
```

LANTimeout

Table 111. LANTimeout XML

Attributes	Valid values
timeout	10 (range of 10-180 seconds) (default)
actionInterval	1200 (range of 120-1200 seconds) (default)

Table 111. LANTimeout XML (continued)

Attributes	Valid values
action	1 (dump the controller) 2 (log a message) (default)

Example:

```
<LANTimeout timeout="20"
    actionInterval="800"
    action="2"
/>
```

VFSDrive

Table 112. VFSDrive XML

Attributes	Valid values
drive	0 (C: enabled) (default) 1 (C: enabled) 2 (C: and D: enabled) 3 (C: and D: enabled)

Example:

```
<VFSDrive drive="1"/>
```

ConsoleLockout

Table 113. ConsoleLockout XML

Attributes	Valid values
enabled	0 – disabled (default) 1 – enabled
attempts	3 – 10
duration	5, 10, 15, 30, 45, 60, 12am

All but one of the valid values for the duration attribute specify the lockout duration in minutes. The value of 12am specifies that the lockout duration is until midnight.

Example:

```
<ConsoleLockout enabled="1"
    attempts="3"
    duration="10"
/>
```

FtpLockout

Table 114. FtpLockout XML

Attributes	Valid values
enabled	0 – disabled (default) 1 – enabled
attempts	3 – 10
duration	5, 10, 15, 30, 45, 60, 12am

All but one of the valid values for the duration attribute specify the lockout duration in minutes. The value of 12am specifies that the lockout duration is until midnight.

Example:

```
<FtpLockout enabled="1"
            attempts="5"
            duration="15"
/>
```

Security

Table 115. Security XML

Attributes	Valid values
ldap	0 – disabled (default) 1 – enabled

Example:

```
<Security ldap="1"/>
```

Networking

Table 116. Networking XML

Attributes	Valid values
inetd	0 – no (default) 1 – yes

Example that starts the INETD server automatically during controller IPL:

```
<Networking inetd="1"/>
```

NetworkSecurity

Table 117. NetworkSecurity XML

Attributes	Valid values
ssh	0 – no (default) 1 – yes
ipSec	0 – no (default) 1 – yes

Example:

```
<NetworkSecurity ssh="1" ipSec="0"/>
```

SystemManagement

Table 118. SystemManagement XML

Attributes	Valid values
rma	0 – no (default) 1 – yes
masterAgentCtrl	default – same as none XX - a two character controller ID

Example:

```
<SystemManagement rma="1" masterAgentCtrl="CC"/>
```

SystemOptions

Table 119. SystemOptions XML

Attributes	Valid values
cad	0 – no (default) 1 – yes

Example that displays confirmation prompt when Ctrl-Alt-Del is pressed:

```
<SystemOptions cad="1"/>
```

DirectoryServices

Table 120. DirectoryServices XML

Attributes	Valid values
enabled	0 – no (default) 1 – yes

Example

```
<DirectoryServices enabled="0"/>
```

DataSecurity

Table 121. DataSecurity XML

Attributes	Valid values
protectPCD	0 – no (default) 1 – yes

Example

```
<DataSecurity protectPCD="1"/>
```

LANTerminalDefinition

LANTerminalDefinition contains zero or more Terminal elements.

Table 122. Terminal XML

Attributes	Valid values
number	(range 1-999)
primary	RC (2-character controller ID) (default)
backup	RC (2-character controller ID) (default)

Example:

```
<Terminal number="003"  
  primary="RC"  
  backup="DR"  
>
```

JavaConfiguration

Table 123. JavaConfiguration XML

Element name	Required or implied	Number of possible elements
ControllerClasspath	Implied	0 or 1
TerminalClasspath	Implied	0 or 1
TimeZone	Implied	0 or 1

ControllerClasspath

Table 124. ControllerClasspath XML

Element name	Required or implied	Number of possible elements
Java1	Implied	0 or 1
Java2	Implied	0 or 1
JavaE	Implied	0 or 1

The Java1, Java2, and JavaE elements contain a set of Entry elements.

TerminalClasspath

Table 125. TerminalClasspath XML

Element name	Required or implied	Number of possible elements
Java1	Implied	0 or 1
Java2	Implied	0 or 1
JavaE	Implied	0 or 1

The Java1, Java2, and JavaE elements contain a set of Entry elements.

Entry

Table 126. Entry XML

Attribute name	Valid value
file	A file name. JavaE entries cannot contain a colon (:).

Timezone

Table 127. Timezone XML

Attribute name	Valid values
tz	GMT0 (Greenwich Mean Time) GMT1 (1 hour east of GMT) GMT2 (2 hours east of GMT) GMT3 (3 hours east of GMT) GMT4 (4 hours east of GMT) GMT5 (5 hours east of GMT) GMT6 (6 hours east of GMT) GMT7 (7 hours east of GMT) GMT8 (8 hours east of GMT) GMT9 (9 hours east of GMT) GMT10 (10 hours east of GMT) GMT11 (11 hours east of GMT) GMT12 (12 hours east of GMT) GMT-0 (Greenwich Mean Time) GMT-1 (1 hour west of GMT) GMT-2 (2 hours west of GMT) GMT-3 (3 hours west of GMT) GMT-4 (4 hours west of GMT) GMT-5 (5 hours west of GMT) GMT-6 (6 hours west of GMT) GMT-7 (7 hours west of GMT) GMT-8 (8 hours west of GMT) GMT-9 (9 hours west of GMT) GMT-10 (10 hours west of GMT) GMT-11 (11 hours west of GMT) GMT-12 (12 hours west of GMT) GMT-13 (13 hours west of GMT) GMT-14 (14 hours west of GMT) UTC0 (Coordinated Universal Time) ECT-1DST (European Central Time) ART-2DST ((Arabic) Egypt Standard Time) EAT-3 (Eastern African Time) NET-4 (Near East Time) PLT-5 (Pakistan Lahore Time) BST-6 (Bangladesh Standard Time) VST-7 (Vietnam Standard Time) CTT-8 (China Taiwan Time) JST-9 (Japan Standard Time) AET-10DST (Australia Eastern Time) SST-11 (Solomon Standard Time) NST-12 (New Zealand Standard Time) MIT11 (Midway Islands Time) HST10 (Hawaii Standard Time) AST9DST (Alaska Standard Time) PST8PDT (Pacific Standard Time) PNT7 (Phoenix Standard Time) MST7MDT (Mountain Standard Time) CST6CDT (Central Standard Time) MEX6DST (Mexico Standard Time) MEX7DST (Chihuahua Standard Time) MEX8DST (Tijuana Standard Time) EST5EDT (Eastern Standard Time) IET5 (Indiana Eastern Standard Time) PRT4 (Puerto Rico and US Virgin Islands Time)

Table 127. Timezone XML (continued)

Attribute name	Valid values
tz (continued)	AGT3 (Argentina Standard Time) BET3DST (Brazil Eastern Time) CAT1 (Central Africa Time) NST3NDT (Newfoundland Standard Time) AST4ADT (Atlantic Standard Time) GMT0BST (British Summer Time) AZO1DST (Azores Summer Time) EET-2DST (Eastern European Summer Time) VET4:30 (Venezuela Standard Time)

Example of JavaConfiguration:

```

<JavaConfiguration>
  <ControllerClasspath>
    <Java1>
      <Entry file="javalib:classes.zip" />
      <Entry file="c:/java/s4690.jar" />
      <Entry file="c:/java/swingall.jar" />
      <Entry file="javalib:os4690.zip" />
    </Java1>
    <Java2>
      <Entry file="javalib:os4690.zip" />
    </Java2>
  </ControllerClasspath>
  <TerminalClasspath>
    <Java1>
      <Entry file="r::javalib:classes.zip" />
      <Entry file="r::c:/java/s4690.jar" />
      <Entry file="r::c:/java/swingall.jar" />
      <Entry file="r::javalib:os4690.zip" />
      <Entry file="r::c:/java/jpos4690.zip" />
      <Entry file="r::c:/java/jpos14.jar" />
      <Entry file="r::c:/java/poss4690.zip" />
      <Entry file="r::c:/java/ibmjpos.jar" />
    </Java1>
    <Java2>
      <Entry file="r::javalib:os4690.zip" />
      <Entry file="r::c:/java/jpos4690.zip" />
      <Entry file="r::c:/java/jpos14.jar" />
      <Entry file="r::c:/java/poss4690.zip" />
      <Entry file="r::c:/java/ibmjpos.jar" />
    </Java2>
  </TerminalClasspath>
  <Timezone tz="EST5EDT" />
</JavaConfiguration>

```

System Configuration Extension XML Tags

The XML file represents additional system configuration information. It consists of a root tag (SystemConfigurationExtensionFile) and may contain the elements listed below. If an element is not defined, it is assumed to be disabled. The following section provides all of the valid XML elements and the nested XML elements required to configure the System Configuration Extension.

This is the root tag:

```
<SystemConfigurationExtensionFile>
```

Table 128. Nested XML Elements

Element Name	Required or Implied	Number of possible Elements
LDAP	Implied	0 or 1
NetbiosOverIP	Implied	0 or 1

Example:

```
<SystemConfigurationExtensionFile>
<LDAP distinguishedName="o=ibm", serverName="serverone",sslPortNumber="636"/>
<NetbiosOverIP scope="", ttl="-1" />
</SystemConfigurationExtensionFile>
```

LDAP

Table 129. LDAP XML

Attributes	Valid values
distinguishedName	(variable)
serverName	(variable)
sslPortNumber	0 - 65535

Example:

```
<LDAP distinguishedName="o=ibm", serverName="serverone",sslPortNumber="636"/>
```

NetbiosOverIP

The NetbiosOverIP tag is the same as controller-to-controller communications. If NetbiosOverIP is enabled, controller-to-controller communications is enabled in System Configuration.

Table 130. NetbiosOverIP XML

Attributes	Valid values
scope	(variable)
ttl	(variable)

Example:

```
<NetbiosOverIP scope="", ttl="-1"/>
```

Note: The NetbiosOverIP attributes are currently ignored by Configuration. The default values should not be changed. To disable this option, remove the entire line from sysext.xml.

Configuration Utility for Controller Configuration

NFS Control XML Tags

This is the root tag:

```
<NFSControllerConfiguration>
```

NFSControllerConfiguration

Table 131. NFSControllerConfiguration XML

Attributes	Valid Values	Description
id	a two characters string	The controller id

Example:

```
<NFSControllerConfiguration id="cc"/>
```

Table 132. NFSControllerConfiguration Nested XML Elements

Element Name	Required or Implied	Number of possible Elements
FileVersion	Required	1
NFSMountGroup	Implied	0 or 1

The NFSMountGroup element encapsulates this required element:

- Drive

FileVersion

Table 133. File version XML

Attributes	Valid values
version	v6 (default)

Example:

```
<FileVersion version="v6"/>
```

NFSMountGroup

Table 134. NFSMountGroup XML

Attributes	Valid values
description	Mount Group Description

Drive

Table 135. Drive XML

Attributes	Valid values
id	G (Drive G:) (default) H (Drive H:) I (Drive I:) J (Drive J:) K (Drive K:) L (Drive L:)
ip	IP Address
userid	The user ID
groupid	The group ID
resourceName	Resource name

Example:

```
<NFSMountGroup description="NFS Mount Group">
<Drive
resourceName=""
ip="0.0.0.0"
userid="0"
groupid="0"
id="G"
/>
<Drive
resourceName=""
```

```

ip="0.0.0.0"
userid="0"
groupid="0"
id="H"
/>
<Drive
resourcename=""
ip="0.0.0.0"
userid="0"
groupid="0"
id="I"
/>
<Drive
resourcename=""
ip="0.0.0.0"
userid="0"
groupid="0"
id="J"
/>
<Drive
resourcename=""
ip="0.0.0.0"
userid="0"
groupid="0"
id="K"
/>
<Drive
resourcename="re"
ip="0.0.0.0"
userid="0"
groupid="0"
id="L"
/>
</NFSMountGroup>

```

Application Logical File Names XML Tags

This is the root tag:

<ApplicationLogicalNamesFile>

Table 136. ApplicationLogicalNamesFile

Attributes	Valid values	Description
id	a two characters string	The controller id

Example:

```
<ApplicationLogicalNamesFile id="cc"/>
```

Table 137. ApplicationLogicalFileNames

Element Name	Required or Implied	Number of possible elements
FileVersion	Required	1
LogicalName	Implied	ANY

FileVersion

Table 138. FileVersion XML

Attributes	Valid values
version	v6 (default)

Example:

```
<FileVersion version="v6"/>
```

LogicalName

Table 139. Logical Name XML

Attributes	Valid Values
Name	Logical name
expandedName	Logical expanded name

Example:

```
<LogicalName  
name = "EALACCTC"  
expandedName = "ADXLXACN::C:\ADX_IDT1\EALACCTC.DAT"/>
```

User logical names file XML tags

This is the root tag:

```
<UserLogicalNamesFile >
```

Table 140. UserLogicalNamesFile

Attributes	Valid values	Description
id	a two characters string	The controller id

Example:

```
<UserLogicalNamesFile id="cc"/>
```

Table 141. User logical file names nested XML elements

Element name	Required or Implied	Number of possible elements
FileVersion	Required	1
LogicalName	Implied	ANY

FileVersion

Table 142. FileVersion XML

Attributes	Valid values
version	v6 (default)

Example:

```
<FileVersion version="v5r1"/>
```

LogicalName

Table 143. Logical Name XML

Attributes	Valid Values
Name	Logical Name
expandedName	Logical Expanded Name

Example:

```
<LogicalName  
name = "QXLCOMPR"  
expandedName = "EJ:QXLCOMPR.286"/>
```

Application Names File XML Tags

This is the root tag:

```
<ApplicationNamesFile>
```

Table 144. ApplicationNamesFile

Attributes	Valid values	Description
id	a two characters string	The controller id

Example:

```
<ApplicationNamesFile id="cc"/>
```

Table 145. Application Names Nested XML Elements

Element name	Required or implied	Number of possible elements
FileVersion	Required	1
PrimaryApplication	Required	1
SecondaryApplications	Implied	0 or 1

FileVersion

Table 146. FileVersion XML

Attributes	Valid values
version	v5r1 (default)

Example:

```
<FileVersion version="v6"/>
```

PrimaryApplication

Table 147. Primary application XML

Attributes	Valid values
name	Primary application name
description	Primary application description

Example:

```
<PrimaryApplication  
name="name"  
description="desc"/>
```

SecondaryApplications

Table 148. Secondary Application

Attributes	Valid values
title	Secondary Application Name

Application

Application Tag is included within the SecondaryApplication Tag. One or more elements must be defined in every SecondaryApplication tag.

Table 149. Application XML

Attributes	Valid values
name	Application name
description	Application description

Example :

```
<SecondaryApplications title="name">
<Application name="name" description="desc"/>
</SecondaryApplications>
```

Background applications file XML tags

This is the root tag:

<BackgroundApplicationsFile >

Table 150. BackgroundApplicationsFile

Attributes	Valid values	Description
id	A two characters string	The controller id

Example:

```
<BackgroundApplicationsFile id="cc"/>
```

Table 151. Background applications nested XML elements

Element name	Required or implied	Number of possible elements
FileVersion	Required	1
BackgroundApplication	Implied	One or more

FileVersion

Table 152. FileVersion XML

Attributes	Valid values
version	v6 (default)

Example:

```
<FileVersion version="v6"/>
```

BackgroundApplication

Table 153. Background application XML

Attributes	Valid values
name	Background application name
description	Background application description
parameters	Background application parameters
priority	Application priority

Table 153. Background application XML (continued)

iplStart	0 - Disabled 1 - Enabled
iplNotMaster	0 - Disabled 1 - Start if not Master 2 - Stop when not Master
iplNotFileServer	0 - Disabled 1 - Start if not File Server 2 - Stop when not File Server
iplMaster	0 - Disabled 1 - Start if Master 2 - Stop when Master
iplFileServer	0 - Disabled 1 - Start if File Server 2 - Stop when Filer Server

Example :

```
<BackgroundApplication
name="ealcs001"
iplStart="0"
iplNotMaster="0"
iplNotFileServer="2"
iplMaster="0"
iplFileServer="1"
description="Sales Support"
parameters=""
priority="5"
/>
```

Controller characteristics file XML tags

This is the root tag:

```
<ControllerCharacteristicsFile>
```

Table 154. ControllerCharacteristicsFile

Attributes	Valid values	Description
id	A two characters string	The controller id

Example:

```
< ControllerCharacteristicsFile id="cc"/>
```

Table 155. Controller characteristics nested XML elements

Element name	Required or implied	Number of possible elements
FileVersion	Required	1
ControllerCharacteristicsRecord	Required	1 or more

The ControllerCharacteristicsRecord element encapsulates this required element:

- VideoAttributes

FileVersion

Table 156. FileVersion XML

Attributes	Valid values
Version	v6 (default)

Example:

```
<FileVersion version="v6"/>
```

VideoAttributes

One or more VideoAttributes tags must be defined in every ControllerCharacteristicsRecord tag.

Table 157. VideoAttributes XML

Attributes	Valid values
colors	0 (disabled) 1 (enabled)
graphics	0 (disabled) 1 (enabled)
colorDepth	0 (no color) 1 (256 colors) 2 (64K colors)
resolution	0 (no resolution) 1 (640x480) 2 (800x600) 3 (1024x768)

Example :

```
<ControllerCharacteristicsRecord>  
  <VideoAttributes  
    colors="1"  
    graphics="1"  
    resolution="2"  
    colorDepth="2"  
  />  
</ControllerCharacteristicsRecord>
```

File Sizes XML Tags

This is the root tag:

```
<FileSizesConfiguration>
```

Table 158. FileSizesConfiguration

Attributes	Valid values	Description
id	A two character string	The controller id

Table 159. FileSizesConfiguration nested XML elements

Element name	Required or implied	Number of possible elements
Element Name	Required or valid values	Number of possible elements
FileVersion	Required	1

Table 159. FileSizesConfiguration nested XML elements (continued)

FileSizesRecord	Required	1
-----------------	----------	---

FileVersion

Table 160. FileVersion XML

Attributes	Valid values	Description
Version	v6r2 (default)	Version element introduced or last modified

Table 161. FileSizesRecord nested XML elements

Element name	Required or implied	Number of possible elements
Element Name	Required or valid values	Number of possible elements
FileSize	Required	1 or more

<FileSize>

Table 162. FileSize XML

Attributes	Valid values	Description
id	An 8 character file name	Name of file to size
size	An integer value	The size of the file

Example :

```
<FileSizesConfiguration id="CC">
  <FileVersion version="v6r2"/>
  <FileSizesRecord>
    <FileSize id="ADXCSTLF" size="2048"/>
    <FileSize id="ADXCSONF" size="8"/>
    <FileSize id="ADXCISOAF" size="4"/>
    <FileSize id="ADXCIOBF" size="4"/>
    <FileSize id="ADXCIOCF" size="8"/>
    <FileSize id="ADXCIODF" size="8"/>
    <FileSize id="ADXCIOEF" size="32"/>
    <FileSize id="ADXCIOFF" size="8"/>
    <FileSize id="ADXCIOIF" size="21"/>
    <FileSize id="ADXCIOJF" size="2"/>
    <FileSize id="ADXCIOHF" size="16"/>
  /FileSizesRecord>
/FileSizesConfiguration>
```

Controller Extensions XML Tags

This is the root tag:

<ControllerExtensions>

Table 163. ControllerExtensions nested XML elements

Element name	Required or implied	Number of possible elements
Element Name	Required or valid values	Number of possible elements
FileVersion	Required	1
Controller	Required	1 or more

FileVersion

Table 164. FileVersion XML

Attributes	Valid values	Description
Version	v6r2	Version element introduced or last modified

<Controller>

Table 165. Controller XML

Attributes	Valid values	Description
id	A two character string	The controller id

Table 166. Controller nested XML elements

Element name	Required or implied	Number of possible elements
Element Name	Required or valid values	Number of possible elements
Extensions	Required	1

Table 167. Extensions nested XML elements

Element name	Required or implied	Number of possible elements
Element Name	Required or valid values	Number of possible elements
Extension	Required	1 or more

Table 168. Extension XML

Attributes	Valid values	Description
location	An alphanumeric string	Directory where extension is located
suffix	An alphanumeric string	File name of the extension

Example :

```
<ControllerExtensions>
  <FileVersion version="v6r2"/>
  <Controller id="CC">
    <Extensions>
      <Extension location="adx_spgm:" suffix="ADXXTSGT.DAT"/>
      <Extension location="adx_spgm:" suffix="ADXXTSFF.DAT"/>
    </Extensions>
  </Controller>
</ControllerExtensions>
```

Configuration Utility for legacy configuration

The Configuration Utility function for the legacy configuration information, such as the terminal device group records and terminal load definitions for 4683 and 4693 terminals, remains unchanged from previous releases. It is compatible with 4690 OS Version 2 Release 4 and later.

Terminal Device Group XML tags

An XML file, representing a device group, consists of a root tag (TerminalDeviceGroupFile) and any number of device group elements (DeviceGroup), which contain XML elements representing all the devices for that particular device group. The following list provides all of the valid XML elements and the nested XML elements required to configure each type of device.

Note: Within a DeviceGroup, if an XML element is not defined to represent a particular device, it is assumed that a device of that type is not attached or configured. Unless otherwise specified, all possible nested XML elements of a particular device are required; however, their order is not significant.

Device group root tag

<TerminalDeviceGroupFile>

Values: There are no values associated with this tag.

Nested XML: The nested XML tag is <DeviceGroup>.

Example:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
```

Device group

<TerminalDeviceGroupFile>
<DeviceGroup>

Values: Indicates the terminal type for which the device group is defined, where **T** stands for Terminal and **CT** stands for Controller Terminal.

4683T
4683-4x1T
4693-2x2T
4693-3x1T
4693-3w1T
4693-4x1T
4693-5x1/7x1CT
4693-5x1/7x1T
4694-0x4/1xxT
4694-1xx/205CT
4694-205T
4694-206/307CT
4694-206/307T
4694-246/347CT
4694-246/347T
4694-2x4/245CT
4694-2x4/245T
4694-247CT
4694-247T
4694-207CT
4694-207T

Nested XML:

To form a valid device group, the device group name, keyboard and system display must be defined. There are a number of other valid tags including those to define features, such as Java redirection, shared video, or serial ports, along with additional devices, such as keyboards or displays. The table below specifies the tags that are valid for each terminal type. If a tag or device is absent from a device group structure, it is assumed that the device or feature is not present or configured. The tags explicitly referenced in the table

are special devices or features called Feature Tags. Feature Tags are defined first in the table and then other devices, which are more common to all terminal types, are defined following the Feature Tags.

Table 169. Nested XML in device group

Terminal types	Nested XML	Number allowed	Required
4683T	<DeviceGroupName> <RAMDisk> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2	Yes No Yes Yes No
4683-4x1T	<DeviceGroupName> <RAMDisk> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2 2	Yes No No Yes Yes No
4693-2x2T	<DeviceGroupName> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2	Yes No Yes Yes No
4693-3x1T	<DeviceGroupName> <DualAsyncAdapter> <RAMDisk> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2 2 2	Yes No No No Yes Yes No
4693-3w1T	<DeviceGroupName> <DualAsyncAdapter> <RAMDisk> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 4 2 2	Yes No No No Yes Yes No
4693-4x1T	<DeviceGroupName> <DualAsyncAdapter> <RAMDisk> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 4 2 2	Yes No No No Yes Yes No
4693-5x1/7x1T	<DeviceGroupName> <DualAsyncAdapter> <RAMDisk> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2 2 2	Yes No No No Yes Yes No

Table 169. Nested XML in device group (continued)

Terminal types	Nested XML	Number allowed	Required
4693-5x1/7x1CT	<DeviceGroupName> <DualAsyncAdapter> <RAMDisk> <SharedKeyboard> <SharedVideo> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 4 2 1 1 2	Yes No No No No Yes Yes No
4694-0x4/1xxT 4694-205T 4694-206/307T 4694-246/347T 4694-2x4/245T 4694-247T 4694-207T	<DeviceGroupName> <DualAsyncAdapter> <JavaRedirection> <PS2Keyboard> <RAMDisk> <SystemSerialPort> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2 1 1 2 2	Yes No No No No No Yes Yes No
4694-1xx/205CT, 4694-206/307CT 4694-246/347CT 4694-2x4/245CT 4694-247CT 4694-207CT	<DeviceGroupName> <DualAsyncAdapter> <JavaRedirection> <RAMDisk> <SharedKeyboard> <SharedVideo> <i>Any keyboard</i> <i>Any system display</i> <i>Other devices...</i>	1 2 1 2 1 1	Yes No No No No No Yes Yes No

Feature tags

The following section describes the feature tags in the XML configuration file.

Device group name (required)

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <DeviceGroupName>
```

Value: Indicates the name of the device group. The value must be 1 to 8 alphanumeric characters and unique from all other device groups.

Nested XML: Not applicable.

Example:

```
<DeviceGroupName>SAMPLE01</DeviceGroupName>
```

System serial ports

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <SystemSerialPort>
```

Value: Not applicable.

Nested XML: These are the nested XML tags:

```
<Socket>                                A, B
<PortNumber>                            1–4
```

Example:

```
<SystemSerialPort>
  <Socket>A</Socket>
  <PortNumber>2</PortNumber>
</SystemSerialPort>
```

Shared video display

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <SharedVideo>
```

Value: None

Nested XML:

A Video Display must be nested in the tag.

Example:

```
<SharedVideo>
  <VideoDisplay>
    see Video Display
  </VideoDisplay>
</SharedVideo>
```

Shared keyboard

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <SharedKeyboard>
```

Value: None

Nested XML:

A keyboard must be nested in the tag. The tags are:

```
<Keyboard4693ANPOSWith3TrackMSR>
<KeyboardANPOS>
<KeyboardANPOSWith3TrackMSR>
```

Example:

```
<SharedKeyboard>
  <KeyboardANPOSWith3TrackMSR>
    see KeyboardANPOSWith3TrackMSR
  </KeyboardANPOSWith3TrackMSR>
</SharedKeyboard>
```

Java redirection

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <JavaRedirection>
```

Value: Not applicable.

Nested XML:

These are the tags:

<IOProcessor>	1 (true) or 0 (false)
<ANDISPLAY1>	1 (true) or 0 (false)
<ANDISPLAY2>	1 (true) or 0 (false)
<CashReceiptMonitor>	1 (true) or 0 (false)
<CashReceiptHandler>	1 (true) or 0 (false), (4690 OS Version 3 Release 1 only)
<DocumentInsert>	1 (true) or 0 (false), (4690 OS Version 3 Release 1 only)

<code><SummaryJournal></code>	1 (true) or 0 (false), (4690 OS Version 3 Release 1 only)
<code><MSR></code>	1 (true) or 0 (false), (4690 OS Version 3 Release 1 only)
<pre> <JavaRedirection> <IOProcessor>0</IOProcessor> <ANDISPLAY1>1</ANDISPLAY1> <ANDISPLAY2>0</ANDISPLAY2> <CashReceiptMonitor>0</CashReceiptMonitor> </JavaRedirection> </pre>	

PS2 keyboard

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <PS2Keyboard>

```

Value: 1 (PS2 keyboard for Java), 2 (shared keyboard)

Nested XML:

If the value is 2, a keyboard must be nested in the tag.

```

  <Keyboard4693ANPOSWith3TrackMSR>
  <KeyboardANPOS>
  <KeyboardANPOSWith3TrackMSR>

```

Value: 0 (no PS2 keyboard), 1 (PS2 keyboard for Java), 2 (shared keyboard)

Nested XML: If the value is 2, a keyboard must be nested in the tag.

```

  <Keyboard4693ANPOSWith3TrackMSR>
  <KeyboardANPOS>
  <KeyboardANPOSWith3TrackMSR>

```

Example:

```

  <PS2Keyboard>2
    <Keyboard4693ANPOSWith3TrackMSR>
    ...see Keyboard4693ANPOSWith3TrackMSR...
    </Keyboard4693ANPOSWith3TrackMSR>
  </PS2Keyboard>

```

Device tags

The following tags are optional in the XML configuration file.

Video display

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <VideoDisplay>

```

or

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardA>
    <VideoDisplay>

```

Value: Not applicable.

Nested XML:

Depending on the terminal to which the video display is connected, different nested XML elements are required and allowed. Below are the terminals and the type of video display required. This type is then used in Table 170 on page 706 to specify what tags are required.

Terminals	Type of video display
4683 Terminal	1
4683-4x1 Terminal	2
4693 Terminal	3
4694-0x4 Terminal	4
4694-205 Terminal	4
4694-2x4 Terminal	4
4694-206 Terminal	5
4694-207 Terminal	5
4694-246 Terminal	5
4694-247 Terminal	5
4693 Controller/Terminal	6
4694-1x4 Controller/Terminal	7
4694-2x4 Controller/Terminal	8
4694-206 Controller/Terminal	8
4694-207 Controller/Terminal	8
4694-246 Controller/Terminal	8
4694-247 Controller/Terminal	8

Table 170. Video display tag and values

XML tag	Values	Type
<DeviceName>	VDISPLAY or VDISPLAY2	ALL
<SystemDisplay>	1 (yes) or 0 (no)	ALL
<DisplayFormat>	12x40, 16x60, 25x80	ALL
<Socket>	81	1
<MonitorType>	5M, 9M, 12M, or 12C	1
<Screensaver>	1 (disable) or 0 (enable)	3, 4, 5, 6, 7, 8
<Monochrome>	1 (yes) or 0 (no)	4, 5
<JavaGraphics>	1 (yes) or 0 (no)	4, 5
<TouchScreen>	1 (yes) or 0 (no)	4, 5, 7, 8
<IntegratedKeypad>	1 (yes) or 0 (no)	4, 5, 7, 8
<IntegratedMSR>	1 (yes) or 0 (no)	4, 5, 7, 8
<USBAttached>	1 (yes) or 0 (no)	5, 8

Notes:

- If <JavaGraphics> is set to 1 (yes), then it must contain two nested tags:
 - ColorResolution – 256, 64K
 - DisplayResolution – 640x480, 800x600, 1024x768
 - If <Monochrome> is set to 1 (yes), then <JavaGraphics> must be set to false.
 - If <TouchScreen>, <IntegratedMSR>, or <IntegratedKeypad> is set to 1 (yes), then an <LCDVideoDisplay> element must be defined elsewhere in the Device Group.
- For Enhanced Mode, 25x80 is the only DisplayFormat that is supported for 4690 OS. 16x60 and 12x40 are not supported

Example:

```
<VideoDisplay>
  <DisplayFormat>25x80</DisplayFormat>
  <DeviceName>VDISPLAY</DeviceName>
  <SystemDisplay>1</SystemDisplay>
```

```

    <Screensaver>1</Screensaver>
    <Monochrome>0</Monochrome>
    <JavaGraphics>1
      <ColorResolution>64K</ColorResolution>
      <DisplayResolution>1024x768</DisplayResolution>
    </JavaGraphics>
    <TouchScreen>1</TouchScreen>
    <IntegratedMSR>1</IntegratedMSR>
    <IntegratedKeypad>1</IntegratedKeypad>
  </VideoDisplay>

```

LCD/video display

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <LCDVideoDisplay>

```

Value: Not applicable.

Nested XML:

The tag is:

```

<Socket>

```

4, 4A, 4B, 9, 9E, 9A, 9B, 9C

Note: If an MSR is integrated into the Video Display, then a Three-Track MSR must be nested in the tag <ThreeTrackMSR>

Example:

```

<LCDVideoDisplay>
  <Socket>4A</Socket>
  <ThreeTrackMSR>
    ...see ThreeTrackMSR...
  </ThreeTrackMSR>
</LCDVideoDisplay>

```

Cash drawers/alarm

Cash Drawers can be plugged into either socket 3A or socket 3B. Alarms can only be plugged into socket 3B. Two Cash Drawers/Alarms can be configured.

Toshiba cash drawer:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ToshibaCashDrawer>

```

Value: Not applicable.

Nested XML:

The tag is:

```

<Socket>

```

3A, 3B

Example:

```

<ToshibaCashDrawer>
  <Socket>3A</Socket>
</ToshibaCashDrawer>

```

Non-Toshiba cash drawer:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <NonToshibaCashDrawer>

```

Value: Not applicable.

Nested XML:

The tags are:

<Socket>	3A, 3B
<PulseDuration>	1-1048 (milliseconds)

Example:

```
<NonToshibaCashDrawer>
  <Socket>3A</Socket>
  <PulseDuration>86</PulseDuration>
</NonToshibaCashDrawer>
```

Alarm:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <Alarm>
```

Value: Not applicable.

Nested XML:

The tag is:

<Socket>	3B
----------	----

Example:

```
<Alarm>
  <Socket>3B</Socket>
</Alarm>
```

Displays

Eight different types of displays can be configured. Of the eight types of displays, five types are configured exactly the same way. How to configure the first five types of displays is explained first and is followed by how to configure the remaining three types of displays. Up to four displays can be configured on different sockets. However, a two-sided VFD and a Y-Cable with two LCDs both count as two displays. If four displays are configured, one display must be a Shopper Display. One system display is required and each display must have a unique name.

Alphanumeric display:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <AlphanumericDisplay>
```

All-Points-Addressable (APA) display:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <APADisplay>
```

Liquid Crystal Display (LCD):

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <LCDDisplay>
```

Operator display:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <OperatorDisplay>
```

Vacuum Fluorescent Display (VFD):

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <VFDDisplay>

```

Value: Not applicable.**Nested XML:**

The tags are:

<Socket>	4, 4A, 4B, 9, 9E, 9A, 9B, 9C
<DeviceName>	ANDISPLAY, ANDISPLAY2, ANDISPLAY3
<SystemDisplay>	1 (yes) or 0 (no)

Note: If an operator display is integrated into a keyboard, the <Socket> tag is omitted.

Example:

```

<APADisplay>
  <Socket>4B</Socket>
  <DeviceName>ANDISPLAY</DeviceName>
  <SystemDisplay>0</SystemDisplay>
</APADisplay>

```

Shopper display:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ShopperDisplay>

```

Value: Not applicable.**Nested XML:**

The tag is:

<Socket>	4, 4A, 4B, 9, 9E, 9A, 9B, 9C
----------	------------------------------

Example:

```

<ShopperDisplay>
  <Socket>9</Socket>
</ShopperDisplay>

```

Two-sided Vacuum Fluorescent Display (VFD):

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <TwoSidedVFDDisplay>

```

Value: Not applicable.**Nested XML:**

The tags are:

<Socket>	4, 4A, 4B, 9, 9E, 9A, 9B, 9C
<Side1>	
<Side2>	

Note: Because both sides of the device need to be configured, each side has its own set of tags with the normal nested XML for a display. Each side tag should have the following nested tags:

<DeviceName>	ANDISPLAY, ANDISPLAY2, ANDISPLAY3
--------------	-----------------------------------

<SystemDisplay> 1 (yes) or 0 (no)

Example:

```
<TwoSidedVFDDisplay>
  <Socket>4</Socket>
  <Side1>
    <DeviceName>ANDISPLAY</DeviceName>
    <SystemDisplay>1</SystemDisplay>
  </Side1>
  <Side2>
    <DeviceName>ANDISPLAY2</DeviceName>
    <SystemDisplay>0</SystemDisplay>
  </Side2>
</TwoSidedVFDDisplay>
```

Y-cable with two Liquid Crystal Displays (LCD):

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <YCableWithTwoLCDDisplays>
```

Value: Not applicable,

Nested XML:

The tags are:

<Socket>	4, 4A, 4B, 9, 9E, 9A, 9B, 9C
<Side1>	
<Side2>	

Note: Because sides of the device need to be configured, each side has its own set of tags with the normal nested XML for a display. Each side tag should have the following nested tags:

<DeviceName>	ANDISPLAY, ANDISPLAY2, ANDISPLAY3
<SystemDisplay>	1 (yes) or 0 (no)

Example:

```
<YCableWithTwoLCDDisplays>
  <Socket>9B</Socket>
  <Side1>
    <DeviceName>ANDISPLAY3</DeviceName>
    <SystemDisplay>0</SystemDisplay>
  </Side1>
  <Side2>
    <DeviceName>ANDISPLAY</DeviceName>
    <SystemDisplay>0</SystemDisplay>
  </Side2>
</YCableWithTwoLCDDisplays>
```

Keyboards

All keyboards are configured identically. However, keyboards with integrated devices include the tags for those integrated devices. Following are the configurations for all keyboards including examples with and without integrated devices. Keyboards can be plugged into sockets 5, 5A, or 5B only. Only one keyboard can be defined (an integrated keypad does count as a keyboard, nor does a shared keyboard on a controller or plugged into the PS2 port).

3209 Point-of-Sale Keyboard with JUCS MSR:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <Keyboard3209POSWithJUCMSR>
```

4693 Alphanumeric Point-of-Sale (ANPOS) keyboard with three-track MSR:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard4693ANPOSWith3TrackMSR>
```

4693 modifiable layout keyboard with three-track MSR:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard4693ModifiableLayoutWith3TrackMSR>
```

4693 Point-of-Sale (POS) keyboard:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard4693POS>
```

4693 Point-of-Sale (POS) keyboard with three-track MSR:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard4693POSWith3TrackMSR>
```

4693 Point-of-Sale (POS) keyboard with three-track MSR and display:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard4693POSWith3TrackMSRAndDisplay>
```

50-Key keyboard:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard50Key>
```

50-Key keyboard with JUCC MSR:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <Keyboard50KeyWithJUCCMSR>
```

Alphanumeric keyboard:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <KeyboardAlphanumeric>
```

Alphanumeric Point-of-Sale (ANPOS) keyboard:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <KeyboardANPOS>
```

Alphanumeric Point-of-Sale (ANPOS) keyboard with dual-track MSR:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <KeyboardANPOSWith2TrackMSR>
```

Integrated keyboard/operator display:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <KeyboardWithIntegratedOperatorDisplay>
```

Integrated keyboard/operator display with dual-track MSR:

```
<TerminalDeviceGroupFile>  
<DeviceGroup>  
  <KeyboardWithIntegratedOperatorDisplayAnd2TrackMSR>
```

Keyboard-V Point-of-Sale (POS) keyboard with JUCS MSR:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <KeyboardVPOSWithJUCMSR>
```

Keyboard-VI Point-of-Sale (POS) keyboard with JUCS MSR:

```
<KeyboardVIPOSWithJUCMSR>
  <Socket>5</Socket>
  <JUCMSR>
    <ReadTracks>2</ReadTracks>
  </JUCMSR>
</KeyboardVIPOSWithJUCMSR>
```

4693 modifiable layout keyboard with JUCS MSR:

```
<TerminalDeviceGroupFile
  <Device Group
    <Keyboard4693ModifiableWithJUCMSR>
```

Value: Not applicable.

Nested XML:

The tag is:

<Socket> 5, 5A, 5B

Notes:

1. If the keyboard has an integrated device, it must be nested in the tag:

```
<ThreeTrackMSR>
<TwoTrackMSR>
<OneTrackMSR>
<JUCMSR>
<OperatorDisplay>.
```
2. The Alphanumeric Keyboard and Matrix Keyboard are valid only on 4683 terminals.
3. All 4693 keyboards, Keyboard-V/VI, 50-Key Keyboard with JUCS MSR and 3209 POS Keyboard with JUCS MSR are not valid on 4683 terminals.
4. The 3209 POS Keyboard with JUCS MSR and the 50-Key Keyboard with JUCS MSR are different names for the same keyboard.
5. The 3209 POS Keyboard is for use with the 4690 OS Version 3 Release 1.
6. The 50-Key Keyboard with JUCS MSR is for use with the 4690 OS Version 2 Release 4.
7. The Alphanumeric Keyboard and 50-Key Keyboard can also have an MSR plugged into socket 6. If this is the case, the MSR must be nested in the keyboard tag.

Examples:

```
<KeyboardANPOS>
  <Socket>5A</Socket>
</KeyboardANPOS>

<KeyboardVPOSWithJUCMSR>
  <Socket>5</Socket>
  <JUCMSR>
    ...see JUCS MSR...
  </JUCMSR>
</KeyboardVPOSWithJUCMSR>

<KeyboardWithIntegratedOperatorDisplayAnd2TrackMSR>
  <Socket>5</Socket>
  <TwoTrackMSR>
```



```

    ...see Dual Track MSR...
  </TwoTrackMSR>
  <OperatorDisplay>
    ...see Operator Display...
  </OperatorDisplay>
</KeyboardWithIntegratedOperatorDisplayAnd2TrackMSR>

```

Magnetic Stripe Readers

There are four types of Magnetic Stripe Readers (MSR): Dual-Track MSR, JUCS MSR, Single-Track MSR and Three-Track MSR. Only the Dual-Track MSR can be used as a standalone MSR and is usually plugged into socket 5B. All other MSRs are integrated into different devices. A maximum of two MSRs can be defined. Also, two MSRs can be defined only when one of the MSRs is integrated into a keyboard. In this case, the MSR on the keyboard is ignored.

Dual-track MSR:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <KeyboardIntegratedOperatorDisplayAnd2TrackMSR>
      <TwoTrackMSR>

```

or

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <TwoTrackMSR>

```

Value: Not applicable.

Nested XML:

The tags are:

<Socket>	5B, 9B (3w1 only)
<ReadTracks>	1, 2

Note: If the MSR reads more than one track, separate the tracks with a comma. Order is not significant in the list of tracks to be read. The <Socket> tag is omitted when the MSR is integrated into a keyboard.

Example:

```

<KeyboardANPOSWith2TrackMSR>
  <Socket>5</Socket>
  <TwoTrackMSR>
    <ReadTracks>2</ReadTracks>
  </TwoTrackMSR>
</KeyboardANPOSWith2TrackMSR>

<TwoTrackMSR>
  <Socket>5B</Socket>
  <ReadsTracks>1,2</ReadTracks>
</TwoTrackMSR>

```

JUCS MSR:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <Keyboard50KeyWithJUCMSR>
      <JUCMSR>

```

Value: Not applicable.

Nested XML:

The tags are:

<ReadTracks>

2, JIS-II

Note: If the MSR reads more than one track, separate the tracks with a comma. Order is not significant in the list of tracks to be read.

Example:

```
<KeyboardVPOSWithJUCCMSR>
  <Socket>5</Socket>
  <JUCCMSR>
    <ReadTracks>JIS-II,2</ReadTracks>
  </JUCCMSR>
</KeyboardVPOSWithJUCCMSR>
```

Single-track MSR:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <Keyboard50Key>
      <OneTrackMSR>
```

Value: Not applicable.

Nested XML: The tag is:

<Socket>

6

Example:

```
<KeyboardAlphanumeric>
  <Socket>5A</Socket>
  <OneTrackMSR>
    <Socket>6</Socket>
  </OneTrackMSR>
</KeyboardAlphanumeric>
```

Three-track MSR:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <Keyboard4693POSWith3TrackMSR>
      <ThreeTrackMSR>
```

Value: Not applicable.

Nested XML: The tag is:

<ReadTracks>

1, 2, 3

Note: If the MSR reads more than one track, separate the tracks with a comma. Order is not significant in the list of tracks to be read.

Example:

```
<Keyboard4693ANPOSWith3TrackMSR>
  <Socket>5A</Socket>
  <ThreeTrackMSR>
    <ReadTracks>1,2</ReadTracks>
  </ThreeTrackMSR>
</Keyboard4693ANPOSWith3TrackMSR>
```

Printers

The Point-of-Sale printers and Fiscal printers are configured the same way. They can be plugged only into socket 7.

Fiscal printer:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <FiscalPrinter>
```

Point-of-Sale (POS) printer:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <POSPrinter>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	7
<JournalBufferSize>	0-250

Example:

```
<FiscalPrinter>
  <Socket>7</Socket>
  <JournalBufferSize>123</JournalBufferSize>
</FiscalPrinter>
```

Flatbed scanners

One flatbed scanner can be defined for any particular Device Group. Scanners plug into either socket 9, 9E, 9A, or 17 (depending on the terminal type). The simple scanner, as well as the 4696 and 4698 scanners, can have an integrated scale. If this is the case, the scale is nested in the scanner.

Scanner:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <Scanner>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9E, 9A, 17
<EnableTone>	1 (yes) or 0 (no)

Note:

- If a scale is integrated, it must be nested in the tag <Scale>.
- The integrated scale, if present, should contain one nested tag:

<UnitOfMeasure>	1 (lbs), 2 (kg)
-----------------	-----------------

Example:

```
<Scanner>
  <Socket>17</Socket>
  <EnableTone>1</EnableTone>
```

```

    <Scale>
      <UnitOfMeasure>1</UnitOfMeasure>
    </Scale>
  </Scanner>

```

4686 Scanner:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <IBM4686Scanner>

```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9E, 9A, 17
<EnableTone>	1 (yes) or 0 (no)
<Motor-LaserTimeout>	0 (no timeout), 5 (min), 10 (min), 15 (min)
<ScansPerRead>	1-4
<DoubleReadTimeout>	1 (short), 2 (med), 3 (long)
<LEDBlinkRate>	0.5, 0.75, 1.0 (sec)

The following label types can be supported:

<UPC-EAN>	1 (support) or 0 (do not support)
<UPC-EANandUPC-D>	1 (support) or 0 (do not support)
<ITF>	1 (support) or 0 (do not support)
<Codabar>	1 (support) or 0 (do not support)
<Code39>	1 (support) or 0 (do not support)
<Code93>	1 (support) or 0 (do not support)
<Code128>	1 (support) or 0 (do not support)

Note:

- If <UPC-EANandUPC-D> is marked as supported, then <UPC-EAN> cannot be marked as supported (it is implied). At least one label type must be supported but no more than two label types can be supported.
- If <EnableTone> is set to 1 (yes), then it must contain the following nested tags:

<BeepDuration>	80, 120, 160 (milliseconds)
<BeepVolume>	1-4
<BeepFrequency>	1-4

- If <ITF> is marked supported, then it must contain the following nested tag:

<ITFLabelLength>	4-32 even
------------------	-----------

Example:

```

<IBM4686Scanner>
  <Socket>9A</Socket>
  <EnableTone>1
  <BeepDuration>80</BeepDuration>
  <BeepVolume>1</BeepVolume>
  <BeepFrequency>4</BeepFrequency>
</EnableTone>
  <Motor-LaserTimeout>15</Motor-LaserTimeout>
  <ScansPerRead>2</ScansPerRead>
  <DoubleReadTimeout>1</DoubleReadTimeout>
  <LEDBlinkRate>1.0</LEDBlinkRate>
  <UPC-EAN>1</UPC-EAN>

```

```

<UPC-EANandUPC-D>0</UPC-EANandUPC-D>
<ITF>1
  <ITFLabelLength>6</ITFLabelLength>
</ITF>
<Codabar>0</Codabar>
<Code39>0</Code39>
<Code93>0</Code93>
<Code128>0</Code128>
</IBM4686Scanner>

```

4696 Scanner:

```

<TerminalDeviceGroupFile>
<DeviceGroup>
  <IBM4696Scanner>

```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9E, 9A, 17
<Scale>	See notes
<EnableTone>	1 (yes) or 0 (no)
<Motor-LaserTimeout>	5 (min), 10 (min), 15 (min)
<DoubleReadTimeout>	1 (short), 2 (med), 3 (long)
<LEDBlinkRate>	0.5, 0.75, 1.0 (sec)

The following label types can be supported:

<UPC-EAN>	1 (support) or 0 (do not support)
<UPC-EANandUPC-D>	1 (support) or 0 (do not support)
<EdgeDecode>	1 (enabled) or 0 (disabled)
<ScansPerRead-UPC-D>	1-3
<ScansPerRead-UPC-A>	1-3
<ScansPerRead-UPC-E>	1-3
<ScansPerRead-EAN-8>	1-3
<ScansPerRead-EAN-13>	1-3
<ScansPerRead-In-Store>	1-3
<PriceCheckVerification>	0 (none), 4 (digits), 5 (digits)
UPC-EEExpansion	1 (to EAN13), 2 (to UPCA), 0 (none)
UPC-AExpansion	1 (to EAN13) or 0 (none)

Note:

- Either <UPC-EANandUPC-D> or <UPC-EAN> must be marked as supported (but not both)
- If <EnableTone> is set to 1 (yes), then it must contain the following nested tags:

<EnableVolumeSwitch>	1 (yes) or 0 (no)
<BeepVolume>	1-3
<BeepFrequency>	1-3

- If <UPC-EANandUPC-D> is not marked supported, then <ScansPerRead-UPC-D> should not be included in the nested XML.
- The integrated scale should contain the following nested tags:

<UnitOfMeasure>	1 (lbs), 2 (kg)
<RegulatoryConformance>	1 (US, HB44, SGM-1) or 2 (EEC, OIML)
<RemoteScaledisplay>	1 (yes) or 0 (no)

Example:

```
<IBM4696Scanner>
  <Socket>9A</Socket>
  <Scale>
    <UnitOfMeasure>1</UnitOfMeasure>
    <RegulatoryConformance>1</RegulatoryConformance>
    <RemoteScaleDisplay>1</RemoteScaleDisplay>
  </Scale>
  <EnableTone>1
    <EnableVolumeSwitch>1</EnableVolumeSwitch>
    <BeepVolume>2</BeepVolume>
    <BeepFrequency>2</BeepFrequency>
  </EnableTone>
  <Motor-LaserTimeout>15</Motor-LaserTimeout>
  <DoubleReadTimeout>1</DoubleReadTimeout>
  <LEDBlinkRate>0.75</LEDBlinkRate>
  <UPC-EAN>0</UPC-EAN>
  <UPC-EANandUPC-D>1</UPC-EANandUPC-D>
  <EdgeDecode>1</EdgeDecode>
  <ScansPerRead-UPC-D>1</ScansPerRead-UPC-D>
  <ScansPerRead-UPC-A>1</ScansPerRead-UPC-A>
  <ScansPerRead-UPC-E>2</ScansPerRead-UPC-E>
  <ScansPerRead-EAN-8>2</ScansPerRead-EAN-8>
  <ScansPerRead-EAN-13>1</ScansPerRead-EAN-13>
  <ScansPerRead-In-Store>1</ScansPerRead-In-Store>
  <PriceCheckVerification>0</PriceCheckVerification>
  <UPC-EEExpansion>0</UPC-EEExpansion>
  <UPC-AExpansion>0</UPC-AExpansion>
</IBM4696Scanner>
```

4697 Scanner:

```
<TerminalDeviceGroupFile>
<DeviceGroup>
  <IBM4697Scanner>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9E, 9A, 17
<EnableTone>	1 (yes) or 0 (no)
<Motor-LaserTimeout>	5 (min), 10 (min), 15 (min)
<LEDBlinkRate>	0.5, 0.75, 1.0 (sec)

The following label types can be supported:

<UPC-EAN>	1 (support) or 0 (do not support)
<UPC-EANandUPC-D>	1 (support) or 0 (do not support)
<ITF>	1 (support) or 0 (do not support)
<Codabar>	1 (support) or 0 (do not support)
<Code39>	1 (support) or 0 (do not support)
<Code93>	1 (support) or 0 (do not support)
<Code128>	1 (support) or 0 (do not support)
<EdgeDecode>	1 (enabled) or 0 (disabled)
<ScansPerRead-UPC-D>	1-3
<ScansPerRead-UPC-A>	1-3
<ScansPerRead-UPC-E>	1-3
<ScansPerRead-EAN-8>	1-3
<ScansPerRead-EAN-13>	1-3
<ScansPerRead-In-Store>	1-3
<PriceCheckVerification>	0 (none), 4 (digits), 5 (digits)

<UPC-EEexpansion>	1 (to EAN13), 2 (to UPCA), 0 (none)
<UPC-AExpansion>	1 (to EAN13) or 0 (none)

Note:

- Either <UPC-EANandUPC-D> or <UPC-EAN> must be marked as supported (but not both). Only one of the remaining label types can be supported. If any of the remaining label types are supported, then <EdgeDecode> cannot be enabled and should not be included in the nested XML.
- If <EnableTone> is set to 1 (yes), then it must contain the following nested tags:

<EnableVolumeSwitch>	1 (yes) or 0 (no)
<BeepVolume>	1-3
<BeepFrequency>	1-3

- If <UPC-EANandUPC-D> is not marked supported, then <ScansPerRead-UPC-D> should not be included in the nested XML.
- If <ITF> is marked supported, then it must contain the following nested tags in the order shown:

<FirstITFLabelLength>	4-32 even
<SecondITFLabelLength>	4-32 even

Example:

```
<IBM4697Scanner>
  <Socket>9A</Socket>
  <EnableTone>1
    <EnableVolumeSwitch>1</EnableVolumeSwitch>
    <BeepVolume>2</BeepVolume>
    <BeepFrequency>2</BeepFrequency>
  </EnableTone>
  <Motor-LaserTimeout>15</Motor-LaserTimeout>
  <DoubleReadTimeout>1</DoubleReadTimeout>
  <LEDBlinkRate>0.75</LEDBlinkRate>
  <UPC-EAN>0</UPC-EAN>
  <UPC-EANandUPC-D>1</UPC-EANandUPC-D>
  <ITF>1
    <FirstITFLabelLength>10</FirstITFLabelLength>
    <SecondITFLabelLength>0</SecondITFLabelLength>
  </ITF>
  <Codabar>0</Codabar>
  <Code39>0</Code39>
  <Code93>0</Code93>
  <Code128>0</Code128>
  <ScansPerRead-UPC-D>1</ScansPerRead-UPC-D>
  <ScansPerRead-UPC-A>1</ScansPerRead-UPC-A>
  <ScansPerRead-UPC-E>2</ScansPerRead-UPC-E>
  <ScansPerRead-EAN-8>2</ScansPerRead-EAN-8>
  <ScansPerRead-EAN-13>1</ScansPerRead-EAN-13>
  <ScansPerRead-In-Store>1</ScansPerRead-In-Store>
  <PriceCheckVerification>0</PriceCheckVerification>
  <UPC-EEexpansion>0</UPC-EEexpansion>
  <UPC-AExpansion>0</UPC-AExpansion>
</IBM4697Scanner>
```

4698 Scanner:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <IBM4698Scanner>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9E, 9A, 17
<Scale>	See notes
<EnableTone>	1 (yes) or 0 (no)
<Motor-LaserTimeout>	5 (min), 10 (min), 15 (min)
<LEDBlinkRate>	0.5, 0.75, 1.0 (sec)

The following label types can be supported:

<UPC-EAN>	1 (support) or 0 (do not support)
<UPC-EANandUPC-D>	1 (support) or 0 (do not support)
<ITF>	1 (support) or 0 (do not support)
<Code39>	1 (support) or 0 (do not support)
<Code128>	1 (support) or 0 (do not support)
<P2Supplementals>	1 (support) or 0 (do not support)
<P5Supplementals>	1 (support) or 0 (do not support)
<CouponSupplementals>	1 (support) or 0 (do not support)
<EdgeDecode>	1 (enabled) or 0 (disabled)
<ScansPerRead-UPC-D>	1-3
<ScansPerRead-UPC-A>	1-3
<ScansPerRead-UPC-E>	1-3
<ScansPerRead-EAN-8>	1-3
<ScansPerRead-EAN-13>	1-3
<ScansPerRead-In-Store>	1-3
<ScansPerRead-ITF>	1-3
<ScansPerRead-Code39>	1-3
<ScansPerRead-Code128>	1-3
<PriceCheckVerification>	0 (none), 4 (digits), 5 (digits)
<UPC-EEExpansion>	1 (to EAN13), 2 (to UPCA), 0 (none)
<UPC-AExpansion>	1 (to EAN13) or 0 (none)

Note:

- Either <UPC-EANandUPC-D> or <UPC-EAN> must be marked as supported (but not both). Any number of the remaining label types can be supported.
- If <EnableTone> is set to 1 (yes), then it must contain the following nested tags:

<EnableVolumeSwitch>	1 (yes) or 0 (no)
<BeepVolume>	1-3

- If <UPC-EANandUPC-D> is not marked supported, then <ScansPerRead-UPC-D> should not be included in the nested XML
- If <ITF> is not marked supported, then <ScansPerRead-ITF> should not be included in the nested XML. Likewise for <Code39> and <Code128>.
- If <ITF> is marked supported, then it must contain the following nested tags in the order shown:

<FirstITFLabelLength>	4-32 even
<SecondITFLabelLength>	4-32 even

- The integrated scale, if present, should contain the following nested tags:

<UnitOfMeasure>	1 (lbs), 2 (kg)
<RegulatoryConformance>	1 (US, HB44, SGM-1) or 2 (EEC, OIML)
<RemoteScaleDisplay>	1 (yes) or 0 (no)

Example:


```

<IBM4698Scanner>
  <Socket>9A</Socket>
  <EnableTone>1
    <EnableVolumeSwitch>1</EnableVolumeSwitch>
    <BeepVolume>2</BeepVolume>
  </EnableTone>
  <Motor-LaserTimeout>5</Motor-LaserTimeout>
  <DoubleReadTimeout>1</DoubleReadTimeout>
  <LEDBlinkRate>0.75</LEDBlinkRate>
  <UPC-EAN>0</UPC-EAN>
  <UPC-EANandUPC-D>1</UPC-EANandUPC-D>
  <ITF>0</ITF>
  <Code39>1</Code39>
  <Code128>1</Code128>
  <P2Supplementals>0</P2Supplementals>
  <P5Supplementals>0</P5Supplementals>
  <CouponSupplementals>0</CouponSupplementals>
  <EdgeDecode>1</EdgeDecode>
  <ScansPerRead-UPC-D>1</ScansPerRead-UPC-D>
  <ScansPerRead-UPC-A>1</ScansPerRead-UPC-A>
  <ScansPerRead-UPC-E>2</ScansPerRead-UPC-E>
  <ScansPerRead-EAN-8>2</ScansPerRead-EAN-8>
  <ScansPerRead-EAN-13>1</ScansPerRead-EAN-13>
  <ScansPerRead-In-Store>1</ScansPerRead-In-Store>
  <ScansPerRead-Code39>1</ScansPerRead-Code39>
  <ScansPerRead-Code128>3</ScansPerRead-Code128>
  <PriceCheckVerification>0</PriceCheckVerification>
  <UPC-EExpansion>0</UPC-EExpansion>
  <UPC-AExpansion>1</UPC-AExpansion>
</IBM4698Scanner>

```

Handheld scanners

In addition to a flatbed scanner, one handheld scanner or barcode reader can be configured for a terminal. The IBM Handheld Scanner and the non-IBM Handheld Scanner are configured in the same way. However, the IBM scanner can only be plugged into socket 5 or socket 5B, and the non-IBM scanner can only be plugged into socket 9 or socket 9B. The scanner configurations are shown below, followed by the configuration of the IBM Bar Code Reader. For the configuration of an IBM 1520 A01 Handheld Scanner, see “Expansion card devices” on page 727. It is possible to have a handheld scanner plugged into an Expansion Card and a handheld scanner or barcode reader plugged into another socket.

IBM handheld scanner:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <HandheldScanner>

```

Non-IBM handheld scanner:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <NonIBMHandheldScanner>

```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	5, 5B, 9, 9B, 9E
<EnableTone>	1 (yes) or 0 (no)

The following label types can be supported:

<UPC-EAN>	1 (support) or 0 (do not support)
<UPC-D>	1 (support) or 0 (do not support)
<ITF>	1 (support) or 0 (do not support)

<Code39> 1 (enabled) or 0 (disabled)

Note:

- Any number of label types can be supported, including zero.
- If <ITF> is marked supported, then it must contain the following nested tags in the order shown:

<MinITFLabelLength> 2-30 even

Example:

```
<HandheldScanner>
  <Socket>5B</Socket>
  <EnableTone>0</EnableTone>
  <UPC-EAN>1</UPC-EAN>
  <UPC-D>0</UPC-D>
  <Code39>1</Code39>
  <ITF>1
    <MinITFLabelLength>6</MinimumITFLabelLength>
  </ITF>
</HandheldScanner>
```

IBM bar code reader:

```
<TerminalDeviceGroupFile>
<DeviceGroup>
  <IBMBarCodeReader>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9B, 9E
<EnableTone>	1 (yes) or 0 (no)
<Model>	1, 2

The following label types can be supported by Model 1 or 2:

<UPC-EANandCodabar>	1 (support) or 0 (do not support)
<UPC-EANandCode39>	1 (support) or 0 (do not support)
<UPC-EANandITF>	1 (support) or 0 (do not support)

The following label types can be supported only by Model 2:

<UPC-EANandUPC-D>	1 (support) or 0 (do not support)
<UPC-EANandCode93>	1 (support) or 0 (do not support)
<UPC-EANandCode128>	1 (support) or 0 (do not support)
<UPC-EANCodabarand2and5>	1 (support) or 0 (do not support)
<2and5DigitPeriodical>	1 (support) or 0 (do not support)

Note: Exactly one label type tag must be marked as supported for Model 1 or Model 2.

Example:

```
<IBMBarCodeReader>
  <Socket>9B</Socket>
  <Model>1</Model>
  <EnableTone>1</EnableTone>
```

```

    <UPC-EANandCodabar>0</UPC-EANandCodabar>
    <UPC-EANandCode39>0</UPC-EANandCode39>
    <UPC-EANandITF>1</UPC-EANandITF>
  </IBMBarcodeReader>

```

Other devices

Non-IBM device:

```

<TerminalDeviceGroupFile>
<DeviceGroup>
  <NonIBMDevice>

```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	9, 9A, 9B, 9C, 9E
<DeviceID>	64, 65, 68, 69
<PortNumber>	1, 2, 3, 4

Note: Up to three non-IBM devices can be configured on a terminal. Each must have a unique device ID and port number.

Example:

```

<NonIBMDevice>
  <Socket>9A</Socket>
  <DeviceID>68</DeviceID>
  <PortNumber>2</PortNumber>
</NonIBMDevice>

```

Uninterrupted Power Supply (UPS):

```

<TerminalDeviceGroupFile>
<DeviceGroup>
  <UPS>

```

Value: Not applicable.

Nested XML: The tags are:

<PortNumber>	1, 2, 3, 4
<Manufacturer>	1 (APC), 2 (Best Power Corp)
<MinsUntilTurnedOff>	0-15 (minutes)
<SecsBetweenWarnings>	5-90 (seconds)

Note: The port number specified for the UPS must be defined by one of the system serial ports or by a dual asynchronous card. A value of 0 for <MinsUntilTurnedOff> indicates the operating system should not turn off the UPS device at any time after a power failure.

Example:

```

<UPS>
  <PortNumber>2</PortNumber>
  <Manufacturer>1</Manufacturer>
  <MinsUntilTurnedOff>14</MinsUntilTurnedOff>
  <SecsBetweenWarnings>85</SecsBetweenWarnings>
</UPS>

```

Expansion cables

Y-Cables, W-Cables and the 4683 Feature Expansion cable can be used to attach multiple devices to one socket. When an expansion cable is used, the XML for the devices attached to the cable are nested in the cables tag. In most cases, the attached devices are configured as previously described. The one difference is the <Socket> tag of each device is omitted when attached to a Y-Cable or to a W-Cable (but not a Feature Expansion Cable) and instead the socket is specified in the expansion cables configuration.

Y-Cables:

```
<TerminalDeviceGroupFile>
<DeviceGroup>
  <Y-Cable>
```

Value: Not applicable.

Nested XML: The tag is:

```
<Socket>                                4, 5, 9, 9E
```

Note:

- Attached devices should be nested in the tag.
- The Y-Cable tag is not used to represent the two LCDs attached by a Y-Cable. See “Y-cable with two Liquid Crystal Displays (LCD)” on page 710.
- Y-Cables can be nested on socket 5 only.
- Order is significant in the nested XML of a Y-Cable or a W-Cable. The socket must be the first tag, followed by device 1, device 2 and device 3.
- It is possible to have a Y-Cable with only one device plugged into socket 5. However, this is used only to plug a handheld scanner or a dual-track MSR into socket 5, without a keyboard.

Example:

```
<Y-Cable>
  <Socket>4</Socket>
  <TwoSidedVFDDisplay>
    <Side1>
      <DeviceName>ANDISPLAY</DeviceName>
      <SystemDisplay>0</SystemDisplay>
    </Side1>
    <Side2>
      <DeviceName>ANDISPLAY2</DeviceName>
      <SystemDisplay>0</SystemDisplay>
    </Side2>
  </TwoSidedVFDDisplay>
  <OperatorDisplay>
    <DeviceName>ANDISPLAY3</DeviceName>
    <SystemDisplay>0</SystemDisplay>
  </OperatorDisplay>
</Y-Cable>
```

W-Cables:

```
<TerminalDeviceGroupFile>
<DeviceGroup>
  <W-Cable>
```

Value: Not applicable.

Nested XML: The tag is:

```
<Socket>                                9, 9E
```

Note:

- Attached devices should be nested in the tag.
- Order is significant in the nested XML of a Y-Cable or a W-Cable. The socket must be the first tag and followed by device 1, device 2 and device 3.

Example:

```
<W-Cable>
  <Socket>9E</Socket>
  <NonIBMDevice>
    <DeviceID>64</DeviceID>
    <PortNumber>2</PortNumber>
  </NonIBMDevice>
  <AlphanumericDisplay>
    <DeviceName>ANDISPLAY</DeviceName>
    <SystemDisplay>1</SystemDisplay>
  </AlphanumericDisplay>
  <NonIBMDevice>
    <DeviceID>68</DeviceID>
    <PortNumber>3</PortNumber>
  </NonIBMDevice>
</W-Cable>
```

4683 Feature Expansion Cable:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <FeatureExpansionCable>
```

Value: Not applicable.

Nested XML: The tag is:

```
<Socket>
```

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Note:

- Attached devices should be nested in the tag.
- Feature Expansion Cables can be attached only to 4683-4x1 terminals.
- The socket tag must be the first tag in Feature Expansion Cables.

Example:

```
<FeatureExpansionCable>
  <Socket>17</Socket>
  <Y-Cable>
    <Socket>5B</Socket>
    <HandheldScanner>
      <EnableTone>1</EnableTone> 7
      <UPC-EAN>1</UPC-EAN>
      <UPC-D>1</UPC-D>
      <Code39>1</Code39>
      <ITF>0</ITF>
    </HandheldScanner>
    <TwoTrackMSR>
      <ReadTracks>2,3</ReadTracks>
    </TwoTrackMSR>
  </Y-Cable>
</FeatureExpansionCable>
```

4683 Expansion Cards

4683 Expansion Cards can be plugged into 4683-type terminals to allow for more sockets. Expansion cards are plugged into sockets 2A and 2B. There are 5 types of expansion cards (A, B, C, D and E). Any type of expansion card can be plugged into 4683 terminals. Types B, C, D and E can be plugged into

4683-4x1 terminals. The XML elements for the devices attached to the expansion card are nested in the XML element of the expansion card . Below are the configurations for the five types of expansion cards.

Type A Expansion Card

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardA>
```

Type B Expansion Card

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardB>
```

Type C Expansion Card

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardC>
```

Type D Expansion Card

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
```

Type E Expansion Card

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardE>
```

Value: Not applicable.

Nested XML: The tag is:

<Socket> 2A, 2B

Note:

- Attached devices should be nested in the tag.
- Each expansion card has different sockets. Table 171 shows the different sockets for each expansion card.

Table 171. Expansion card sockets

Card Type	Available sockets
A	81
B	21, 29
C	21, 23, 25, 29
D	21, 23, 25, 26, 29
E	23, 25

Example:

```
<ExpansionCardB>
  <Socket>2B</Socket>
  <Scale>
    <Socket>21</Socket>
    <UnitOfMeasure>2</UnitOfMeasure>
  </Scale>
```

```

<CoinDispenser>
  <Socket>29</Socket>
</CoinDispenser>
</ExpansionCardB>

```

Expansion card devices

OCR handheld readers:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <OCRHandHeldReader>

```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	21
<EditChecking>	1 (available) or 0 (not available)
<MaxCharactersToRead>	1-240

Note: Only one handheld reader can be defined for any given device group. Furthermore, both a handheld reader and an IBM 1520 A01 Handheld Scanner cannot be defined for any given device group.

Example:

```

<OCRHandHeldReader>
  <Socket>21</Socket>
  <EditChecking>0</EditChecking>
  <MaxCharactersToRead>45</MaxCharactersToRead>
</OCRHandHeldReader>

```

IBM 1520 A01 handheld scanners:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <IBM1520A01HandheldScanner>

```

Value: Not applicable.

Nested XML: The tag is:

<Socket>	21
----------	----

Note: Only one IBM 1520 A01 Handheld Scanner can be defined for any given device group. Furthermore, both a handheld reader and an IBM 1520 A01 Handheld Scanner cannot be defined for any given device group.

Example:

```

<IBM1520A01HandheldScanner>
  <Socket>21</Socket>
</IBM1520A01HandheldScanner>

```

Serial IO device:

```

<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <SerialIODevice>

```

Value: Not applicable.

Nested XML: These are the tags:

<Socket>	23
<PortNumber>	1-4

Note: More than one Serial I/O Device can be configured when more than one expansion card is being used. However, the port number must be unique for each device that calls for a serial port.

Example:

```
<SerialIODevice>
  <Socket>23</Socket>
  <PortNumber>2</PortNumber>
</SerialIODevice>
```

RS-232 device:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <RS232Device>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	25
<PortNumber>	1-4

Note: More than one RS-232 device can be configured when more than one expansion card is being used. However, the port number must be unique for each device that calls for a serial port.

Example:

```
<RS232Device>
  <Socket>25</Socket>
  <PortNumber>3</PortNumber>
</RS232Device>
```

Current loop device:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <CurrentLoopDevice>
```

Value: Not applicable.

Nested XML: The tags are:

<Socket>	25
<PortNumber>	1-4

Note: More than one Current Loop Device can be configured when more than one expansion card is being used. However, the port number must be unique for each device that calls for a serial port.

Example:


```
<CurrentLoopDevice>
  <Socket>25</Socket>
  <PortNumber>1</PortNumber>
</CurrentLoopDevice>
```

Magnetic wand:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <MagneticWand>
```

Value: Not applicable.

Nested XML: The tag is:

```
<Socket> 26
```

Note: Only one magnetic wand can be configured for any particular device group.

Example:

```
<MagneticWand>
  <Socket>26</Socket>
</MagneticWand>
```

Coin dispenser:

```
<TerminalDeviceGroupFile>
  <DeviceGroup>
    <ExpansionCardD>
      <CoinDispenser>
```

Value: Not applicable.

Nested XML: The tag is:

```
<Socket> 29
```

Note: Only one coin dispenser can be configured for any particular device group.

Example:

```
<CoinDispenser>
  <Socket>29</Socket>
</CoinDispenser>
```

Terminal load definition XML tags

An XML file representing a load definition consists of a root tag (TerminalLoadDefinitionFile) and 1 to 999 load definition elements (LoadDefinition), which contain XML elements representing all the settings for that particular load definition. This section describes all the valid XML elements and the nested XML elements required to configure a load definition. Unless otherwise specified, all nested XML elements are required; however, their order is not significant.

Load definition root tag

```
<TerminalLoadDefinitionFile>
```

Value: Not applicable.

Nested XML: The nested XML tag is <LoadDefinition>.

Terminal load definition

```
<TerminalLoadDefinitionFile>  
<TerminalLoadDefinition>
```

Values: Indicates the terminal type for which the device group is defined.

4683-xx1T
4683-xx2T
4683-4x1T
4693-2x2T
4693-3x1T
4693-3w1T
4693-4x1T
4693-5x1/7x1CT
4693-5x1/7x1T
4694-0x4/1xxT
4694-1xx/205CT
4694-205T
4694-206/307CT
4694-206/307T
4694-246/347CT
4694-246/347T
4694-2x4/245CT
4694-2x4/245T
4694-247CT
4694-247T
4694-207CT
4694-207T

Nested XML: Depending on the terminal for which the load definition is defined, different nested XML elements are required and allowed. Below are the terminals and the type of load definition required. The type of load definition is then used in Table 172 on page 731 to specify the required tags.

Terminal type	Load definition
4683-xx1 Terminal	1
4683-4x1 Terminal	1
4683-xx2 Terminal	2
4693-2x2 Terminal	2
4693 Terminals (except 4693-2x2)	3
4694 Terminals	4
4693 Controller/Terminal	5
4694 Controller/Terminal	5

Table 172. Terminal load definition XML tags

XML tag	Load definition	Required
<TerminalNumber>	ALL	Yes
<DeviceGroupName>	ALL	Yes
<ApplicationDump>	ALL	Yes
<PartnerTerminalNumber>	2	Yes
<TCP-IP>	3, 4	No
<JavaApplication>	4, 5	No
<PrimaryApplication>	ALL	No
<SecondApplication>	ALL	No
<ThirdApplication>	ALL	No

Note: The presence of a <TCP-IP> or a <JavaApplication> tag indicates the feature is enabled; their absence indicates the feature is not enabled. In addition to the Java application, at least one application must be configured. Applications must be defined in order (that is, the <PrimaryApplication> must be configured, in order for <SecondApplication> to be configured).

Terminal load definition required tags

The following information provides details for all the tags listed in Table 172.

Terminal number

```
<TerminalLoadDefinitionFile>
<TerminalLoadDefinition>
  <TerminalNumber>
```

Value: This tag can either contain a single number to define a single terminal load definition, or it can contain a range of numbers to define multiple terminals that use the same terminal load definition. A single number must be between 1-999 and should be unique in the load definition file. A range should be in the format xxx-yyyO/E where xxx is the first terminal in the range, yyy is the last terminal in the range, and O or E can be used to define either the odd or the even terminals in the range specified. In the absence of O or E, every terminal in the range is defined..

Nested XML: Not applicable.

Example:

```
<TerminalNumber>2-54E</TerminalNumber>
```

Device group name

```
<TerminalLoadDefinitionFile>
<TerminalLoadDefinition>
  <DeviceGroupName>
```

Value: A value with the 1-8-character alphanumeric name of the device group to be loaded on this terminal.

Nested XML: Not applicable.

Example:

```
<DeviceGroupName>SAMPLE01</DeviceGroupName>
```

Application dump

```
<TerminalLoadDefinitionFile>
  <TerminalLoadDefinition>
    <ApplicationDump>
```

Value:

- 0** If a dump should be taken when an application ends abnormally
- 1** If a dump should not be taken

Nested XML: Not applicable.

Example:

```
<ApplicationDump>1</ApplicationDump>
```

Partner terminal number

```
<TerminalLoadDefinitionFile>
  <TerminalLoadDefinition>
    <PartnerTerminalNumber>
```

Value: This tag can either contain a single number to specify a single partner terminal or a range to specify multiple partner terminals. A one-to-one ratio from the satellite to the partner terminal should be specified. Therefore, if a single load definition is being defined, then a single partner should be specified and if a range is being defined, then the partner range should be the same size. The range format is xxx-yyyO/E where xxx is the first terminal in the range, yyy is the last terminal in the range, and O or E can be used to define either the odd or the even terminals in the range specified. In the absence of O or E, every terminal in the range is specified.

Nested XML: Not applicable.

Note: Partner terminals must be of the same class. Therefore, a 4683-xx2 terminal should have partner terminal type of either 4683-xx1 or 4683-4x1. In the same way, a 4693-2x2 terminal should have partner terminals of type 4693 (with the exception of the 4693-3w1, which cannot be a partner terminal).

Example:

```
<PartnerTerminalNumber>52-100E</PartnerTerminalNumber>
```

Terminal load definition optional tags

TCP-IP

```
<TerminalLoadDefinitionFile>
  <TerminalLoadDefinition>
    <TCP-IP>
```

Value: Not applicable.

Nested XML: The tags are:

<AddressMethod>	1 (manual) or 2 (DHCP server)
<TCCMethod>	1 (system setting) or 2 (IP)

The tags shown in Table 173 are for manual IP settings.

Table 173. Terminal load definition tags for manual IP settings

Tags	IP setting
<IPAddress>	xxx.xxx.xxx.xxx

Table 173. Terminal load definition tags for manual IP settings (continued)

Tags	IP setting
<SubnetMask>	xxx.xxx.xxx.xxx
<Router>	xxx.xxx.xxx.xxx
<NameServer>	xxx.xxx.xxx.xxx
<DomainName>	0-36 alphanumeric characters
<Hostname>	0-8 alphanumeric characters

Note: If <AddressMethod> is set to DHCP, then the tags for manual IP settings should be omitted. IP addresses must be unique between all terminals in a load definition file. In addition, they must follow the guidelines shown in Table 174.

Table 174. IP Address guidelines

Address	1st Field	2nd Field	3rd Field	4th Field
IP Address	0-126 or 128-223	0-254	0-254	1-254
Subnet Mask	255	0-254	0-254	0-254
Router	0-223	0-254	0-254	0-254
Name Server	0-223	0-254	0-254	0-254

Additionally, the subnet mask and IP address must follow these guidelines. If the first field of the IP address is 0-128, the subnet mask must be greater than 255.0.0.0. If the first field of the IP address is 129-192, the subnet mask must be greater than 255.255.0.0. Otherwise, the subnet mask must be greater than 255.255.255.0.

Example:

```
<TCP-IP>
  <IPAddress>126.162.122.39</IPAddress>
  <SubnetMask>255.255.255.0</SubnetMask>
  <Router>123.123.123.123</Router>
  <NameServer>123.123.123.125</NameServer>
  <DomainName>DOMAIN</DomainName>
  <Hostname>TERM039</Hostname>
  <AddressMethod>1</AddressMethod>
  <TCCMethod>2</TCCMethod>
</TCP-IP>
```

Java application

```
<TerminalLoadDefinitionFile>
  <TerminalLoadDefinition>
    <JavaApplication>
```

Value: The name of the Java class to be run.

Nested XML: The tags are:

<Parameters>	Runtime parameters for Java class
<JavaVersion>	1, 2 (4690 OS Version 3 Release 1 only)

Note: The sum of the Java class name and parameters must be less than 65 characters.

Example:

```
<JavaApplication>IBMDefault
  <Parameters></Parameters>
  <JavaVersion>2</JavaVersion>
</JavaApplication>
```

Applications

There can be a maximum of three non-Java applications. However, a primary application must be defined before a second application can be defined, and a second application must be defined before a third application can be defined. The primary application name can be set to any application. The second and third application names are hard coded and cannot be edited. Following are the configurations of the applications.

Primary application

```
<TerminalLoadDefinitionFile>  
<TerminalLoadDefinition>  
<PrimaryApplication>
```

Second application

```
<TerminalLoadDefinitionFile>  
<TerminalLoadDefinition>  
<SecondApplication>
```

Third application

```
<TerminalLoadDefinitionFile>  
<TerminalLoadDefinition>  
<ThirdApplication>
```

Value: The name of the application to be executed must be 1-25 alphanumeric characters.

Nested XML: The tags are:

<CommandTail>	1-16 alphanumeric characters
<KeyboardRecordName>	1-8 alphanumeric characters

Note: Though the nested XML tags are required, <CommandTail> can be left empty for the primary application, and <KeyboardRecordName> can be left empty for any of the three applications.

The application name for the second and third application must be R::ADX_SPGM:ADXZE30L.286

Example:

```
<PrimaryApplication>R::ADX_SPGM:ADXTSMAL.286  
<CommandTail></CommandTail>  
<KeyboardRecordName></KeyboardRecordName>  
</PrimaryApplication>
```

Appendix L. Classic to Enhanced Conversion Utilities

4690 OS V6R1 introduced a new mode of operation for 4690 controllers, the Enhanced Mode. Two utilities are provided to simplify the task of converting Classic Mode controllers to Enhanced Mode. The first, ADXC2EFG.286, allows users to remotely convert controllers from Classic Mode to Enhanced Mode without requiring operator intervention at the controller. The second, ADXC2RCU.286, allows users to remotely switch controller roles. This switching is necessary because ADXC2EFG.286 cannot convert a controller that is the acting master or the acting file server. The conversion utilities are only supported on controllers running the 4690 Multiple Controller Feature.

ADXC2EFG.286 (C2E)

ADXC2EFG.286, also known as C2E, is a 4690 executable program that initiates the conversion process. It can be run from command mode or from Remote Command Processor (RCP). To run it from a command line, type:

```
ADXC2EFG BACKGRND a
```

Where:

BACKGRND

This parameter is passed automatically to any program started by RCP. It must be present, although it is not case sensitive.

a RCP Status File (ADX_SDT1:ADXC2SHSF.DAT) Reset Indicator:

Y Overwrite existing messages in the status file.

N Append new messages to the existing status file.

C2E checks to make sure that the controller meets the requirements for Classic to Enhanced conversion. These requirements include:

- The controller is running the 4690 Multiple Controller Feature.
- The controller can communicate with the acting Master.
- The controller is not the acting Master.
- The controller is not the acting File Server.
- The controller has at least 1 GB of memory.
- The controller is running in Classic Mode.

For a controller split-role configuration, the additional requirements are:

- The Alternate Master can communicate with the acting Master.
- The Alternate File Server can communicate with the acting File Server.

If C2E finds that one or more of these requirements is not met, it logs a message in the acting Master controllers RCP status file and ends.

If the conversion can proceed, the controller will reboot. During IPL, CPREP and DPREP (if necessary) run to prepare the hard drives for Enhanced Mode. After this step has completed, the LAN Disk Rebuild Utility runs. The C: and D: drive (if necessary) are rebuilt from the acting Master controller. No user input is required. After the LAN Disk Rebuild Utility completes successfully, the controller reboots a final time. When the final IPL finishes, the controller is running in Enhanced Mode.

LAN Disk Rebuild Utility logs status information in the file ADX_SDT1:ADXNSL1F.DAT and ADX_SDT1:ADXNSL2F.DAT on the master controller. In C2E mode, additional information about the conversion is logged in these files, including the final status of the conversion. See the Disk Rebuild Utility section in the *4690 OS: User's Guide*.

C2E error recovery

If C2E encounters an error or the store controller reboots during the cprep step, a fatal error requiring manual intervention results. If C2E encounters an error during dprep or LAN Disk Rebuild, it will IPL the controller and try again. C2E will continue to retry in this case until the conversion is successful or until it is stopped by store personnel or a service technician booting from a supplemental CD or memory key.

If the C2E conversion fails, you must manually restore your system. You have two options:

1. Restore Classic Mode controller:
 - a. Boot the Classic Supplemental CD.
 - b. Run cprep.
 - c. Run dprep, if you have a D: drive.
 - d. Run LAN Disk Rebuild (adxnsl0l) and rebuild C: and D: using the current Master controller.
2. Manually convert to Enhanced Mode:
 - a. Boot the installation CD.
 - b. Select the option to run the supplemental OS.
 - c. Run cprep.
 - d. Run dprep, if you have a D: drive.
 - e. Run LAN Disk Rebuild (adxnsl0l) and rebuild C: and D: using the current Master controller.

Limitations

- 4690 V6R2 must be installed and running on the Classic Mode controller prior to conversion.
- This solution requires the MCF feature be active in the store with at least two controllers.
- Acting Master controllers cannot be converted.
- Acting File Server controllers cannot be converted.
- C2E will include error recovery and retry capabilities. Should the procedure fail, however, manual recovery will be necessary.
- C2E will not check the machine type of the controller that is being converted to verify that it can support Enhanced Mode.
- LAN Disk Rebuild has a list of files that it does not copy to the target machine. C2E excludes these same files.
- The acting Master controller and the controller that is being converted must have the same number of hard drives.
- The C2E utility is based off LAN Disk Rebuild. Therefore, the C2E utility can only run on one controller at a time.
- The C2E utility causes the controller to restart which may result in the following message in the C2E status file but does not indicate an error: "Command ADX_SPGM:ADXC2EFG.286 may not have completed. RC = 806043A1 The final return code is 806043A1."

ADXC2RCU.286 (Controller Role Change Utility)

The Controller Role Change Utility (CRCU) is an additional utility that is necessary if you want to convert an entire store from Classic Mode to Enhanced Mode without user intervention. It is an RCP-enabled program that deactivates the Master or File Server controller and then activates the Alternate Master or Alternate File Server controller. After switching, the C2E utility can be run on the configured Master (or

configured File Server) to convert it to Enhanced Mode. The Controller Role Change Utility can then be run again to return the controllers to their original roles.

To run the Controller Role Change Utility from a command line, type:

```
ADXC2RCU BACKGRND a b
```

Where:

BACKGRND

This parameter is passed automatically to any program started by RCP. It must be present, although it is not case sensitive. CRCU will work if a different string is passed, but any running, success, or failure messages will not have the correct parameters listed.

a RCP Status File (ADX_SDT1:ADXCSHSF.DAT) Reset Indicator:

Y Overwrite existing messages in the status file.

N Append new messages to the existing status file.

The reset indicator is required, although it is not case sensitive. If a different character is passed, the setting defaults to N.

b Indicates what of these action to take:

M The Master and the Alternate Master should switch roles.

F The File Server and the Alternate File Server should switch roles.

B Both the Master and File Server should be switched.

A valid action indicator is required, although it is not case sensitive.

CRCU logs status information in the RCP status file (ADX_SDT1:ADXCSHSF.DAT) of the acting Master Controller. A running message is logged to indicate CRCU was started. If CRCU successfully changes the requested roles, a success message is logged. If a problem occurred during role switching, a failure message is logged. One or more error messages will also be logged to indicate why the failure occurred. The following situations will cause error messages to be logged:

- The controllers are not running on a LAN.
- There are RCP errors.
- Errors are received from Deactivate Master API.
- Errors are received from Deactivate FS API.
- Errors are received from Activate Master API.
- Errors are received from Activate FS API.

If the Master controller is being switched, CRCU will also switch the RCP status file from the initial Acting Master to the new Acting Master. Just before deactivating the Acting Master, the RCP status file is copied from the acting Master to the acting Alternate Master. After the copy, messages are logged into both status files. If the switch is completed successfully, the status file on the new acting Alternate Master is erased and logging continues in the new acting Master's status file. If the switch fails, the two status files may end up identical or the status file on the resulting acting Alternate Master may be empty, depending on where the failure occurred.

If a role switch fails, CRCU will attempt to return the system to its original state.

Limitations

- The Controller Role Change Utility will not retry if the role change is unsuccessful or if it is interrupted by an unexpected controller IPL.

- In the case of an unexpected controller IPL, such as a power failure, the state of the Master controller and of the Alternate Master will depend on how long the application had run.

Remotely Converting a Store from Classic Mode to Enhanced Mode

C2E can be combined with the Controller Role Change Utility and RCP to remotely convert an entire store from Classic Mode to Enhanced Mode.

For example, consider a store using CC as the Master/File Server, DD as the Alternate Master/Alternate File Server, and EE as a subordinate. This would be the procedure for converting this store:

1. Send an RCP job to convert DD with C2E.
2. Send an RCP job to convert EE with C2E.
3. Send an RCP job to deactivate CC as the Master/File Server controller and activate DD as the acting Master/acting File Server controller, using the Controller Role Change Utility.
4. Send an RCP job to convert CC with C2E.
5. Send an RCP job to deactivate DD as the acting Master/acting File Server controller and activate CC as the Master/File Server controller, using the Controller Role Change Utility.

Appendix M. Notices

This information was developed for products and services offered in the U.S.A.

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Toshiba Global Commerce Solutions
Attn: General Counsel
3039 E. Cornwallis Rd
RTP, NC 27709

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This information is for planning purposes only. The information herein is subject to change before the products described become available.

Telecommunication regulatory statement

This product is not intended to be connected directly or indirectly by any means whatsoever to interfaces of public telecommunications networks, nor is it intended to be used in a public services network.

Electronic Emission Notices

When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Toshiba Global Commerce Solutions is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Class A Emission Compliance statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Australia and New Zealand Class A Statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

European Union Electromagnetic Compatibility (EMC) Directive Conformance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Toshiba Global Commerce Solutions cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-Toshiba Global Commerce Solutions option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Responsible manufacturer:

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3039 Cornwallis Road
Building 307
Research Triangle Park, North Carolina 27709
United States of America

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Germany Class A Statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Toshiba Global Commerce Solutions empfohlene Kabel angeschlossen werden. Toshiba Global Commerce Solutions übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Toshiba Global Commerce Solutions verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Toshiba Global Commerce Solutions gesteckt/eingebaut werden.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden: "Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:

Toshiba Global Commerce Solutions
3039 Cornwallis Road
Building 307
Research Triangle Park, North Carolina 27709
United States of America

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:

Toshiba Global Commerce Solutions
Brand Manager - Europe, Middle East & Africa
3 NEW SQUARE, FELTHAM, TW14 8HB Great Britain
Building: 1 Floor: NA | Office: MOBILE
Tel: 44-7967-275819
e-mail: robin_lyon@uk.ibm.com

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Japan Voluntary Control Council for Interference Class A statement

Attention: This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

Japan Electronics and Information Technology Industries Association (JEITA) statement

高調波ガイドライン適合品

Japan Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guidelines with Modifications (products greater than 20 A per phase)

Korean communications statement

Please note that this device has been approved for business purposes with regard to electromagnetic interference (Type A). If you find this is not suitable for your use, you may exchange it for a non-business purpose one.

이 기기는 업무용(A급)으로 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

Russian Electromagnetic Interference (EMI) Class A statement

ВНИМАНИЕ! Настоящее изделие относится к классу А. В жилых помещениях оно может создавать радиопомехи, снижения которых необходимы дополнительные меры

People's Republic of China Class A electronic emission Statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

中华人民共和国“A类”警告声明

声 明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

Taiwan Class A compliance statement

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

European Community (EC) Mark of Conformity Statement

This product is in conformity with the protection requirements of EC Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Toshiba Global Commerce Solutions cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-Toshiba Global Commerce Solutions option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Electrostatic Discharge (ESD)

Attention: Electrostatic discharge (ESD) damage can occur when there is a difference in charge between the part, the product, and the service person. No damage will occur if the service person and the part being installed are at the same charge level.

ESD damage prevention

Anytime a service action involves physical contact with logic cards, modules, back-panel pins, or other ESD sensitive (ESDS) parts, the service person must be connected to an ESD common ground point on the product through the ESD wrist strap and cord.

The ESD ground clip can be attached to any frame ground, ground braid, green wire ground, or the round ground prong on the AC power plug. Coax or connector outside shells can also be used.

Handling removed cards

Logic cards removed from a product should be placed in ESD protective containers. No other object should be allowed inside the ESD container with the logic card. Attach tags or reports that must accompany the card to the outside of the container.

Japanese Electrical Appliance and Material Safety Law statement

本製品およびオプションに電源コードセットが付属する場合は、それぞれその装置専用のものになっていますので他の機器には使用しないで下さい。

Japanese power line harmonics compliance statement

高調波ガイドライン適合品

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Cable ferrite requirement

All cable ferrites are required to suppress radiated EMI emissions and must not be removed.

Product recycling and disposal

This unit must be recycled or discarded according to applicable local and national regulations. Toshiba Global Commerce Solutions encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Toshiba Global Commerce Solutions offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products. Information on Toshiba Global Commerce Solutions product recycling offerings can be found on the Toshiba Global Commerce Solutions product recycling web site.

Español:

Esta unidad debe reciclarse o desecharse de acuerdo con lo establecido en la normativa nacional o local aplicable. Toshiba Global Commerce Solutions recomienda a los propietarios de equipos de tecnología de la información (TI) que reciclen responsablemente sus equipos cuando éstos ya no les sean útiles. Toshiba Global Commerce Solutions dispone de una serie de programas y servicios de devolución de productos en varios países, a fin de ayudar a los propietarios de equipos a reciclar sus productos de TI. Se puede encontrar información sobre las ofertas de reciclado de productos de Toshiba Global Commerce Solutions en el sitio web Toshiba Global Commerce Solutions product recycling.



Notice: This mark applies only to countries within the European Union (EU) and Norway.

Appliances are labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.

Remarque : Cette marque s'applique uniquement aux pays de l'Union Européenne et à la Norvège. L'étiquette du système respecte la Directive européenne 2002/96/EC en matière de Déchets des Equipements Electriques et Electroniques (DEEE), qui détermine les dispositions de retour et de recyclage applicables aux systèmes utilisés à travers l'Union européenne. Conformément à la directive, ladite étiquette précise que le produit sur lequel elle est apposée ne doit pas être jeté mais être récupéré en fin de vie.

注意：このマークは EU 諸国およびノルウェーにおいてのみ適用されます。

この機器には、EU 諸国に対する廃電気電子機器指令 2002/96/EC(WEEE) のラベルが貼られています。この指令は、EU 諸国に適用する使用済み機器の回収とリサイクルの骨子を定めています。このラベルは、使用済みになった時に指令に従って適正な処理をする必要があることを知らせるために種々の製品に貼られています。

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE. For proper collection and treatment, contact your local Toshiba Global Commerce Solutions representative.

Disposal of IT products should be in accordance with local ordinances and regulations.

Battery return program

This product may contain sealed lead acid, nickel cadmium, nickel metal hydride, lithium, or lithium ion battery. Consult your user manual or service manual for specific battery information. The battery must be recycled or disposed of properly. Recycling facilities may not be available in your area. For information on disposal of batteries go to the Battery disposal web site or contact your local waste disposal facility.

For Taiwan:



Please recycle batteries.

For the European Union:



Notice: This mark applies only to countries within the European Union (EU)

Batteries or packaging for batteries are labeled in accordance with European Directive 2006/66/EC concerning batteries and accumulators and waste batteries and accumulators. The Directive determines the framework for the return and recycling of used batteries and accumulators as applicable throughout the European Union. This label is applied to various batteries to indicate that the battery is not to be thrown away, but rather reclaimed upon end of life per this Directive.

Les batteries ou emballages pour batteries sont étiquetés conformément aux directives européennes 2006/66/EC, norme relative aux batteries et accumulateurs en usage et aux batteries et accumulateurs usés. Les directives déterminent la marche à suivre en vigueur dans l'Union Européenne pour le retour et le recyclage des batteries et accumulateurs usés. Cette étiquette est appliquée sur diverses batteries pour indiquer que la batterie ne doit pas être mise au rebut mais plutôt récupérée en fin de cycle de vie selon cette norme.

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In accordance with the European Directive 2006/66/EC, batteries and accumulators are labeled to indicate that they are to be collected separately and recycled at end of life. The label on the battery may also include a chemical symbol for the metal concerned in the battery (Pb for lead, Hg for mercury and Cd for

cadmium). Users of batteries and accumulators must not dispose of batteries and accumulators as unsorted municipal waste, but use the collection framework available to customers for the return, recycling and treatment of batteries and accumulators. Customer participation is important to minimize any potential effects of batteries and accumulators on the environment and human health due to the potential presence of hazardous substances. For proper collection and treatment, contact your local Toshiba Global Commerce Solutions representative.

This notice is provided in accordance with Royal Decree 106/2008 of Spain: The retail price of batteries, accumulators and power cells includes the cost of the environmental management of their waste.

For California:

Perchlorate material – special handling may apply

Refer to California Department of Toxic Substances Control.

The foregoing notice is provided in accordance with *California Code of Regulations Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials*. This product/part includes a lithium manganese dioxide battery which contains a perchlorate substance.

Flat panel displays

The fluorescent lamp in the liquid crystal display contains mercury. Dispose of it as required by local ordinances and regulations.

Monitors and workstations

Connecticut: Visit the website of the Department of Energy & Environmental Protection for information about recycling covered electronic devices in the State of Connecticut, or telephone the Connecticut Department of Environmental Protection at 1-860-424-3000.

Oregon: For information regarding recycling covered electronic devices in the state of Oregon, go to the Oregon Department of Environmental Quality site.

Washington: For information about recycling covered electronic devices in the State of Washington, go to the Department of Ecology Web site or telephone the Washington Department of Ecology at 1-800-Recycle.

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Glossary

This glossary includes terms and definitions from the *IBM Dictionary of Computing* (New York; McGraw-Hill, Inc., 1994).

A

ABM. Asynchronous balanced mode.

access method. A software component in a processor for controlling the flow of information through a network.

ACF/VTAM. Advanced Communications Function for the Virtual Telecommunications Access Method.

active. (1) Able to communicate on the network. A token-ring network adapter is active if it is able to transmit and receive on the network. (2) Operational. (3) Pertaining to a node or device that is connected or is available for connection to another node or device. (4) Currently transmitting or receiving.

adapter. (1) In the point-of-sale terminal, a circuit card that, with its associated software, enables the terminal to use a function or feature. (2) In a LAN, within a communicating device, a circuit card that, with its associated software and/or microcode, enables the device to communicate over the network.

adapter address. Twelve hexadecimal digits that identify a LAN adapter.

ADCS. Advanced Data Communications for Stores

address. (1) In data communication, the IEEE-assigned unique code or the unique locally administered code assigned to each device or workstation connected to a network. (2) A character, group of characters, or a value that identifies a register, a particular part of storage, a data source, or a data link. The value is represented by one or more characters. (3) To refer to a device or an item of data by its address. (4) The location in the storage of a computer where data is stored.

Advanced Data Communications for Stores (ADCS). An IBM-licensed product that functions at the host processor to permit host-to-store communication.

alert. (1) An error message sent to the system services control point (SSCP) at the host system. (2) For IBM LAN management products, a notification indicating a possible security violation, a persistent error condition, or an interruption or potential interruption in the flow of data around the network. See also *network management vector transport*. (3) In SNA, a record sent to a system problem management focal point to communicate the existence of an alert condition. (4) In the NetView program, a high-priority event that warrants

immediate attention. This data base record is generated for certain event types that are designed by user-constructed filters.

alphanumeric. Pertaining to a character set containing letters, digits, and other special characters.

Alphanumeric point-of-sale keyboard (ANPOS keyboard). This keyboard consists of a section of alphanumeric keys, a programmable set of point-of-sale keys, a numeric keypad, and system function keys. If attached through the PS/2 port, this keyboard can optionally include a pointing device.

alternate adapter. In a personal computer that is used on a LAN and that supports installation of two network adapters, the adapter that uses alternate (not standard or default) mapping between adapter-shared RAM, adapter ROM, and designated computer memory segments. The alternate adapter is usually designated as adapter 1 in configuration parameters. Contrast with *primary adapter*.

Alternate File Server. A store controller that maintains image versions of all non-system mirrored files and that can assume control if the configured File Server becomes disabled.

Alternate Master Store Controller. The store controller that can take control of the LAN if the configured Master Store Controller becomes disabled. It maintains image versions of both system mirrored and system compound files.

American National Standard Code for Information Interchange (ASCII). The standard code, using a coded character set consisting of 7-bit coded characters (8 bits including parity check), used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII set consists of control characters and graphics characters.

ANPOS keyboard. Alphanumeric point-of-sale keyboard.

API. Application program interface.

application program. (1) A program written for or by a user that applies to the user's own work. (2) A program written for or by a user that applies to a particular application. (3) A program used to connect and communicate with stations in a network, enabling users to perform application-oriented activities.

application program interface (API). The formally defined programming language interface that is between an IBM system control program or a licensed program and the user of the program.

architecture. A logical structure that encompasses operating principles including services, functions, and protocols. See *computer architecture*, *network architecture*, *Systems Application Architecture (SAA)*, *Systems Network Architecture (SNA)*.

ARTIC adapter. A family of communications coprocessor adapters that, with appropriate electrical interfaces, can support a wide range of communication devices. For the Toshiba Store System, an ARTIC adapter provides communications support for ASYNC, SDLC, and X.25 communications.

ASCII. American National Standard Code for Information Interchange.

async. asynchronous.

asynchronous (async). (1) Pertaining to two or more processes that do not depend upon the occurrence of specific events such as timing signals. (2) Without regular time relationship; unexpected or unpredictable with respect to the execution of program instructions.

asynchronous balanced mode (ABM). An operational mode of a balanced data link in which either combined station can send commands at any time and can initiate transmission of response frames without explicit permission from the other combined station.

attach. (1) To connect a device physically. (2) To make a device a part of a network logically. Compare with *connect*.

attaching device. Any device that is physically connected to a network and can communicate over the network.

B

background. On a color display, the part of the display screen that surrounds a character.

background application. A non-interactive program that can be selected from the background application screen or that can start automatically when the system is IPLed or when the controller is activated as the master or file server. Contrast with *foreground application*.

backup. Pertaining to a system, device, file, or facility that can be used in the event of a malfunction or the loss of data.

bar code. A code representing characters by sets of parallel bars of varying thickness and separation that are read optically by transverse scanning.

baseband. (1) A frequency band that uses the complete bandwidth of a transmission medium. Contrast with *broadband*, *carrierband*. (2) A method of data transmission that encodes, modulates, and impresses

information on the transmission medium without shifting or altering the frequency of the information signal.

base unit. The part of the 4683 Point-of-Sale terminal that contains the power supply and the interfaces.

BASIC. Beginner's All-purpose Symbolic Instruction Code. A programming language that uses common English words.

basic conversation. A conversation in which programs exchange data records in an SNA-defined format. This format is a stream of data containing 2-byte length prefixes that specify the amount of data to follow before the next prefix.

batch. Smaller subdivisions of price change records within an event. Each batch has a 12-character ID and a 30-character description field.

baud. The rate at which signal conditions are transmitted per second. Contrast with *bits per second (bps)*.

beacon. (1) A frame sent by an adapter on a ring network indicating a serious ring problem, such as a broken cable. It contains the addresses of the beaconing station and its nearest active upstream neighbor (NAUN). (2) To send beacon frames continuously. An adapter is *beaconing* if it is sending such a frame.

beaconing. An error-indicating function of token-ring adapters that assists in locating a problem causing a hard error on a token-ring network.

binary. (1) Pertaining to a system of numbers to the base two; the binary digits are 0 and 1. (2) Pertaining to a selection, choice, or condition that has two possible different values or states.

bind. In SNA products, a request to activate a session between two logical units.

BIND. See bind session.

bind session (BIND). In SNA products, a request to activate a session between two logical units (LUs).

bit. Either of the binary digits: a 0 or 1.

bits per second (bps). The rate at which bits are transmitted per second. Contrast with *baud*.

block size. (1) The minimum size that frames are grouped into for retransmission. (2) The number of data elements (such as bits, bytes, characters, or records) that are recorded or transmitted as a unit.

bootstrap. A sequence of instructions whose execution causes additional instructions to be loaded and executed until the complete computer program is in storage.

bps. Bits per second.

Bps. Bytes per second.

bridge. (1) An attaching device connected to two LAN segments to allow the transfer of information from one LAN segment to the other. A bridge may connect the LAN segments directly by network adapters and software in a single device, or may connect network adapters in two separate devices through software and use of a telecommunications link between the two adapters. (2) A functional unit that connects two LANs that use the same logical link control (LLC) procedures but may use the same or different medium access control (MAC) procedures. Contrast with *gateway* and *router*.

broadband. A frequency band divisible into several narrower bands so that different kinds of transmissions such as voice, video, and data transmission can occur at the same time. Synonymous with *wideband*. Contrast with *baseband*.

buffer. (1) A portion of storage used to hold input or output data temporarily. (2) A routine or storage used to compensate for a difference in data rate or time of occurrence of events, when transferring data from one device to another.

bus. (1) In a processor, a physical facility on which data is transferred to all destinations, but from which only addressed destinations may read in accordance with appropriate conventions. (2) A network configuration in which nodes are interconnected through a bidirectional transmission medium. (3) One or more conductors used for transmitting signals or power.

byte. A string consisting of 8 bits that is treated as a unit, and that represents a character. See *n-bit byte*.

C

C. A high-level programming language designed to optimize run time, size, and efficiency.

C & SM. Communications and systems management.

cable loss (optical). The loss in an optical cable equals the attenuation coefficient for the cables fiber times the cable length.

cable segment. A section of cable between components or devices on a network. A segment may consist of a single patch cable, multiple patch cables connected together, or a combination of building cable and patch cables connected together. See *LAN segment*, *ring segment*.

call. The action of bringing a function or subprogram into effect, usually by specifying the entry conditions and jumping to an entry point.

carrierband. A frequency band in which the modulated signal is superimposed on a carrier signal (as differentiated from baseband), but only one channel is present on the medium. Contrast with *baseband*, *broadband*.

cash drawer. A drawer at a point-of-sale terminal that can be programmed to open automatically. See *till*.

CCB. Command control block.

CCC/IP. Controller-to-Controller Communications over Internet Protocol.

CCITT. Comité Consultatif International Télégraphique et Téléphonique. The International Telegraph and Telephone Consultative Committee.

CD. Corrective diskette.

CD-ROM. Compact disc Read-only memory. High-capacity read-only memory in the form of an optically read compact disk.

chain. (1) Transfer of control from the currently executing program to another program or overlay. (2) Referencing a data record from a previous data record.

channel. (1) A functional unit, controlled by a host computer, that handles the transfer of data between processor storage and local peripheral equipment. (2) A path along which signals can be sent. (3) The portion of a storage medium that is accessible to a given reading or writing station.

CICS. Customer Information Control System.

circuit. (1) A logic device. (2) One or more conductors through which an electric current can flow.

class. (1) A template for creating objects; a class defines data and methods; a class is a unit of organization in a Java program. A class can pass on its public data and methods to its subclasses. (2) A collection of variables and methods that an object can have, or a template for building objects.

.class file. A file containing machine-independent Java bytecodes. The Java compiler generates *.class* files for the Java interpreter to read.

class method. A class method is a function that is defined as a part of a class.

classpath. An environment variable used to define all the directories where *.class* files are found.

.class variable. A variable allocated once per class. Class variables have global class scope and belong to the entire class instead of an instance.

clear. To delete data from a screen or from memory.

COBOL. Common business-oriented language. A high-level programming language, based on English, that is used primarily for business applications.

command. (1) A request for performance of an operation or execution of a program. (2) A character string from a source external to a system that represents a request for system action.

command control block (CCB). In the Token-Ring Network, a specifically formatted information provided from the application program to the adapter support software to request an operation.

Common Programming Interface-Communications (CPI-C). Provides languages, commands, and calls that allow the development of applications that are more easily integrated and moved across environments supported by Systems Applications Architecture (SAA).

communication adapter. A circuit card and its associated software that enable a device, such as a personal computer, to be connected to a network or another computer (examples include binary synchronous, asynchronous, modem, and LAN adapters).

communications and systems management (C & SM). A set of tools, programs, and network functions used to plan, operate, and control an SNA communications network. C & SM runs on the store controller and must also exist at the host site.

compact disc- read-only memory (CD-ROM). (1) A 4.75-inch optical memory storage medium, capable of storing approximately 650 megabytes of data. Data is read optically by means of a laser. (2) A disc with information stored in the form of pits along a spiral track. The information is decoded by a compact-disc player and interpreted as digital audio data, which most computers can process.

compile. (1) To translate all or part of a program expressed in a high-level language into a computer program expressed in an intermediate language, an assembly language, or a machine language. (2) To prepare a machine language program from a computer program written in another programming language by making use of the overall logic structure of the program, or generating more than one computer instruction for each symbolic statement, or both, as well as performing the function of an assembler. (3) To translate a source program into an executable program (an object program). (4) To translate a program written in a high-level programming language into a machine language program.

compound files. Files that are kept on all store controllers.

computer architecture. The organizational structure of a computer system, including hardware and software.

concurrent conversations. The ability of a transaction program (TP) to manage more than one LU 6.2 conversation at the same time. When this ability is written into a TP, the TP is said to be *managing concurrent conversations*.

configuration. The group of devices, options, and programs that make up a data processing system or network as defined by the nature, number, and chief characteristics of its functional units. More specifically, the term may refer to a hardware configuration or a software configuration. See also *system configuration*.

configuration parameters. Variables in a configuration definition, the values of which characterize the relationship of a product, such as a bridge, to other products in the same network.

connect. In a LAN, to physically join a cable from a station to an access unit or network connection point. Contrast with *attach*.

contention. In a LAN, a situation in which two or more data stations are allowed by the protocol to start transmitting concurrently and thus risk collision.

contention loser. In APPC, the LU that must request and receive permission from the session partner LU to allocate a session. Contrast with *contention winner*.

contention winner. The LU that can allocate a session without requesting permission from the session partner LU. Contrast with *contention loser*.

contiguous. Touching or joining at the edge or boundary; adjacent. For example, an unbroken consecutive series of memory locations.

controller. A unit that controls input/output operations for one or more devices.

conversation. A logical connection between two programs over an LU type 6.2 session that allows them to communicate with each other while processing a transaction. See also *basic conversation* and *mapped conversation*.

conversation partner. One of the two programs involved in a conversation.

conversation state. The condition of a conversation that reflects what the past action on that conversation has been and that determines what the next set of actions may be.

corrective diskette (CD). A set of diskettes that contain modules to replace the modules in the active program subdirectory. The first diskette of the set must contain a product control file that describes which product the modules are to be applied to and a list of all modules that are to be replaced.

CRC. Cyclic redundancy check.

cursor. A movable point of light (or a short line) that indicates where the next character is to be entered on the display screen.

Customer Information Control System (CICS). An IBM licensed program that enables transactions entered at remote terminals to be processed concurrently by user-written application programs. It includes facilities for building, using, and maintaining data bases.

customer receipt. An itemized list of merchandise purchased and paid for by the customer.

customize. To tailor a program or store system through option selection.

cyclic redundancy check (CRC). Synonym for *frame check sequence (FCS)*.

D

data. (1) A representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by human or automatic means. (2) Any representations such as characters or analog quantities to which meaning is or might be assigned.

data circuit-terminating equipment (DCE). In a data station, the equipment that provides the signal conversion and coding between the data terminal equipment (DTE) and the line.

data communication. (1) Transfer of information between functional units by means of data transmission according to a protocol. (2) The transmission, reception, and validation of data.

data file. A collection of related data records organized in a specific manner; for example, a payroll file (one record for each employee, showing such information as rate of pay and deductions) or an inventory file (one record for each inventory item, showing such information as cost, selling price, and number in stock.) See also *data set, file*.

data link. (1) Any physical link, such as a wire or a telephone circuit, that connects one or more remote terminals to a communication control unit, or connects one communication control unit with another. (2) The assembly of parts of two data terminal equipment (DTE) devices that are controlled by a link protocol, and the interconnecting data circuit, that enable data to be transferred from a data source to a data link. (3) In SNA, see also *link*. **Note:** A telecommunication line is only the physical medium of transmission. A data link includes the physical medium of transmission, the protocol, and associated devices and programs; it is both physical and logical.

data processing system. A network, including computer systems and associated personnel, that

accepts information, processes it according to a plan, and produces the appropriate results.

data rate. See *data transfer rate, line data rate*.

data set. Logically related records treated as a single unit. See also *file*.

data terminal equipment (DTE). (1) That part of a data station that serves as a data source, data receiver, or both. (2) Equipment that sends or receives data, or both.

data transfer. (1) The result of the transmission of data signals from any data source to a data receiver. (2) The movement, or copying, of data from one location and the storage of the data at another location.

data transfer rate. The average number of bits, characters, or blocks per unit of time passing between equipment in a data-transmission session. The rate is expressed in bits, characters, or blocks per second, minute, or hour.

data transmission. The conveying of data from one place for reception elsewhere by means of telecommunications.

dB. Decibel.

DBCS. Double-byte character set.

DCE. Data circuit-terminating equipment.

DDA. Data Distribution Application.

debug. To detect, diagnose, and eliminate errors in computer programs.

decibel (dB). (1) One tenth of a bel. (2) A unit that expresses the ratio of two power levels on a logarithmic scale. (3) A unit for measuring relative power. The number of decibels is 10 times the logarithm base (base 10) of the ratio of the measured power levels; if the measured levels are voltages (across the same or equal resistance), the number of decibels is twenty times the log of the ratio. See also *neper*.

default. Pertaining to an attribute, value, or option that is assumed when none is explicitly specified.

default value. The value the system supplies when the user does not specify a value.

delayed data maintenance. A function that allows the item record, the operator and the check authorization files to be maintained from the host on an immediate or a delayed basis.

destination. Any point or location, such as a node, station, or particular terminal, to which information is to be sent.

device. (1) A mechanical, electrical, or electronic contrivance with a specific purpose. (2) An input/output unit such as a terminal, display, or printer. See also *attaching device*.

device channel. In Toshiba Point-of-Sale terminals, a path along which signals for serial input/output devices can be sent. For these terminals, the device channel controller or adapter is contained on the system board.

diagnostic diskette. A diskette containing diagnostic modules or tests used by computer users and service personnel to diagnose hardware problems.

diagnostics. Modules or tests used by computer users and service personnel to diagnose hardware problems.

dialing. Using a dial or pushbutton telephone to initiate a telephone call. In telecommunication, attempting to establish a connection between a terminal and a telecommunication device over a switched line.

direct memory access (DMA). A procedure or method designed to transfer data between main storage and I/O units without intervention of the processing unit.

directory. (1) A table of identifiers and references that correspond to items of data. (2) An index that a control program uses to locate one or more blocks of data that are stored in separate areas of a data set in direct access storage.

disabled. (1) Pertaining to a state of a processing unit that prevents the occurrence of certain types of interruptions. (2) Pertaining to the state in which a transmission control unit or audio response unit cannot accept incoming calls on a line.

DISC. Disconnect character.

disk. A round, flat plate coated with a magnetic substance on which computer data is stored. See also *integrated disk*, *fixed disk*.

diskette. A thin, flexible magnetic disk permanently enclosed in a protective jacket. A diskette is used to store information for processing.

Disk Operating System (DOS). An operating system for computer systems that use disks and diskettes for auxiliary storage of programs and data.

display. (1) A visual presentation of data. (2) A device that presents visual information to the point-of-sale terminal operator and to the customer, or to the display station operator.

distributed. Physically separate but connected by cables.

Distributed Systems Executive (DSX). An IBM licensed program available for IBM host systems that

allows the host system to get, send, and remove files, programs, formats and procedures in a network of computers.

DMA. Direct memory access

domain. An SSCP and the resources that it can control.

DOS. Disk Operating System.

double-byte character set (DBCS). A set of characters in which each character is represented by 2 bytes. Languages such as Japanese, Chinese, and Korean, which contain more symbols than can be represented by 256 code points, require double-byte character sets. Because each character requires 2 bytes, the typing, display, and printing of DBCS characters requires hardware and programs that support DBCS. Contrast with single-byte character set.

driver. Software component that controls a device.

drop. A cable that leads from a faceplate to the distribution panel in a wiring closet. When the IBM Cabling System is used with the Token-Ring Network, a drop may form part of a lobe. See also *lobe*.

DSX. Distributed Systems Executive.

DTE. Data terminal equipment.

dump. (1) To write at a particular instant the contents of storage, or part of storage, onto another data medium for the purpose of safeguarding or debugging the data. (2) Data that has been dumped.

E

EAN. European article number.

EBCDIC. Extended binary-coded decimal interchange code.

EIA. Electronic Industries Association. See *EIA interface*.

EIA interface. An industry-accepted interface for connecting devices having voltage-related limits.

emulation. (1) The imitation of all or part of one computer system by another, primarily by hardware, so that the imitating system accepts the same data, executes the same programs, and achieves the same results as the imitated computer system. (2) The use of programming techniques and special machine features to permit a computing system to execute programs written for another system.

enabled. (1) On a LAN, pertaining to an adapter or device that is active, operational, and able to receive frames from the network. (2) Pertaining to a state of a processing unit that allows the occurrence of certain

types of interruptions. (3) Pertaining to the state in which a transmission control unit or an audio response unit can accept incoming calls on a line.

envelope. (1) Information added to a frame or other message unit to allow it to be transmitted using a protocol other than the protocol in which the message unit originated. (2) To surround or enclose a message unit in information to allow the message unit to be transmitted using a protocol other than the protocol in which the message originated.

error condition. The condition that results from an attempt to use instructions or data that are invalid.

error message. A message that is issued because an error has been detected.

Ethernet. A 10-megabit baseband local area network that allows multiple stations to access the transmission medium at will without prior coordination, avoids contention by using carrier sense and deference, and resolves contention by using collision detection and transmission. Ethernet uses carrier sense multiple access with collision detection (CSMA/CD).

European article number (EAN). A number that is assigned to and encoded on an article of merchandise for scanning in some countries.

evaluation. Reduction of an expression to a single value.

exchange identification (XID). The ID that is exchanged with the remote physical unit when an attachment is first established.

execute. To perform the actions specified by a program or a portion of a program.

execution. The process of carrying out an instruction or instructions of a computer program by a computer.

exit. To execute an instruction or statement within a portion of a program in order to terminate the execution of that portion. **Note:** Such portions of programs include loops, routines, subroutines, and modules.

expansion board. In a personal computer, a panel containing microchips that a user can install in an expansion slot to add memory or special features. Synonymous with *expansion card*, *extender card*.

expansion card. Synonym for *expansion board*.

expansion slot. In a personal computer, one of several receptacles in the system board of the system unit or expansion unit into which a user can install an expansion board such as a memory expansion option.

extended binary-coded decimal interchange code (EBCDIC). A coded character set consisting of 8-bit coded characters.

extender card. Synonym for *expansion board*.

F

fault. An accidental condition that causes a functional unit to fail to perform its required function.

feature. A part of a Toshiba product that may be ordered separately by the customer.

Feature Expansion. A card that plugs into a 4683 Point-of-Sale Terminal and allows additional devices to be used.

field. On a data medium or a storage medium, a specified area used for a particular category of data; for example, a group of character positions used to enter or display wage rates on a panel.

file. A named set of records stored or processed as a unit. For example, an invoice may form a record and the complete set of such records may form a file. See also *data file* and *data set*.

file name. (1) A name assigned or declared for a file. (2) The name used by a program to identify a file.

file server. (1) A store controller that maintains prime versions of all non-system mirrored files. (2) A high-capacity disk storage device or a computer that each computer on a network can access to retrieve files that can be shared among the attached computers.

file type. The attribute of a file that specifies to which store controllers it is distributed.

fixed disk (drive). In a personal computer system unit, a disk storage device that reads and writes on rigid magnetic disks. It is faster and has a larger storage capacity than a diskette and is permanently installed.

foreground. On a color display, the part of the display area that is the character itself.

foreground application. An interactive program that can be selected by system menus or started in command mode. Contrast with *background application*.

formatted diskette. A diskette on which track and sector control information has been written and that can be used by the computer to store data. **Note:** A diskette must be formatted before it can receive data.

frame. (1) The unit of transmission in some LANs, including the Token-Ring Network. It includes delimiters, control characters, information, and checking characters. On a token-ring network, a frame is created from a token when the token has data appended to it. On a token-bus network, all frames including the token frame contain a preamble, start delimiter, control address, optional data and checking characters, end delimiter, and are followed by a minimum silence period. (2) A housing for machine elements. (3) In synchronous

data link control (SDLC), the vehicle for every command, every response, and all information that is transmitted using SDLC procedures. Each frame begins and ends with a flag.

frame check sequence (FCS). (1) A system of error checking performed at both the sending and receiving station after a block-check character has been accumulated. (2) A numeric value derived from the bits in a message that is used to check for any bit errors in transmission. (3) A redundancy check in which the check key is generated by a cyclic algorithm. Synonymous with *cyclic redundancy check (CRC)*.

franking. Printing an indication on a document that the document has been processed. This franking may be a store header line, a "total" line, or a transaction number that is printed when a check, a discount coupon, or a gift certificate is inserted in the document insert station of the point-of-sale terminal during certain types of transactions.

frequency. The rate of signal oscillation, expressed in hertz (cycles per second).

function. (1) A specific purpose of an entity, or its characteristic action. (2) A subroutine that returns the value of a single variable. (3) In data communications, a machine action such as a carriage return or line feed.

G

gateway. A device and its associated software that interconnect networks of systems of different architectures. The connection is usually made above the Reference Model network layer. For example, a gateway allows LANs access to System/370 host computers. Contrast with *bridge* and *router*.

group. (1) A set of related records that have the same value for a particular field in all records. (2) A collection of users who can share access authorities for protected resources. (3) A list of names that are known together by a single name.

H

hardware. Physical equipment as opposed to programs, procedures, rules, and associated documentation.

HCP. Host command processor for advanced data communications.

HCP. Host command processor.

header. The portion of a message that contains control information for the message such as one or more destination fields, name of the originating station, input sequence number, character string indicating the type of message, and priority level for the message.

host application program. An application program that the host processor executes.

host command processor (HCP). The SNA logical unit of the programmable Store System store controller.

host computer. (1) The primary or controlling computer in a multi-computer installation or network. (2) In a network, a processing unit in which resides a network access method. Synonymous with *host processor*.

host processor. (1) In a network, a computer that primarily provides services such as computation, data base access, or special programs or programming languages. (2) Synonym for *host computer*.

host processor. (1) A processor that controls all or part of a user application network. (2) In a network, the processing unit in which resides the access method for the network. (3) In an SNA network, the processing unit that contains a system services control point (SSCP). (4) A processing unit that executes the access method for attached communication controllers. (5) The processing unit required to create and maintain PSS. Synonymous with *host computer*.

I

IBM Disk Operating System (DOS). A disk operating system based on MS-DOS**.

identifier. String of characters used to name elements of a program, such as variable names, reserved words, and user-defined function names.

idles. Signals sent along a ring network when neither frames nor tokens are being transmitted.

image version. Copy of a prime version of a file. See *prime version*.

inactive. (1) Not operational. (2) Pertaining to a node or device not connected or not available for connection to another node or device. (3) In the Token-Ring Network, pertaining to a station that is only repeating frames or tokens, or both.

information (I) frame. A frame in I format used for numbered information transfer. See also *supervisory frame*, *unnumbered frame*.

initialize. In a LAN, to prepare the adapter (and adapter support code, if used) for use by an application program.

initial program load (IPL). The initialization procedure that causes an operating system to begin operation.

input device. Synonym for *input unit*.

input field. An unprotected display field that the terminal operator can add to, modify, or erase by using the keyboard. Contrast with *protected field*.

input/output (I/O). (1) Pertaining to a device whose parts can perform an input process and an output process at the same time. (2) Pertaining to a functional unit or channel involved in an input process, output process, or both, concurrently or not, and to the data involved in such a process.

input unit. A device in a data processing system by means of which data can be entered into the system. Synonymous with *input device*.

insert. To make an attaching device an active part of a LAN.

integrated. Arranged together as one unit.

integrated disk. An integral part of the processor that is used for magnetically storing files, application programs, and diagnostics. Synonymous with *disk*.

interactive. Pertaining to an application or program in which each entry calls forth a response from a system or program. An interactive program may also be conversational, implying a continuous dialog between the user and the system.

interface. (1) A shared boundary between two functional units, defined by functional characteristics, common physical interconnection characteristics, signal characteristics, and other characteristics as appropriate. (2) A shared boundary. An interface may be a hardware component to link two devices or a portion of storage or registers accessed by two or more computer programs. (3) Hardware, software, or both, that links systems, programs, or devices.

interference. (1) The prevention of clear reception of broadcast signals. (2) The distorted portion of a received signal.

interleave. To insert segments of one program into another program so that the two programs can, in effect, be executed at the same time.

interrupt. (1) A suspension of a process, such as execution of a computer program, caused by an external event and performed in such a way that the process can be resumed. (2) To stop a process in such a way that it can be resumed. (3) In data communication, to take an action at a receiving station that causes the sending station to end a transmission. (4) A means of passing processing control from one software or microcode module or routine to another, or of requesting a particular software, microcode, or hardware function.

interrupt level. The means of identifying the source of an interrupt, the function requested by an interrupt, or the code or feature that provides a function or service.

I/O. Input/output.

I/O device. Equipment for entering and receiving data from the system.

IP. Internet Protocol.

IPL. Initial program load.

isochronous. Time-dependent. Refers to processes in which data must be delivered within certain time constraints.

item. (1) One member of a group. (2) In a store, one unit of a commodity, such as one box, one bag, or one can. Usually an item is the smallest unit of a commodity to be sold.

J

Java. An object-oriented programming language designed to be platform independent.

Java application. A Java Virtual Machine (JVM) combined with its class and parameters.

Java Virtual Machine (JVM). Java interpreter that runs the class.

jumper. A connector between two pins on a network adapter that enables or disables an adapter option, feature, or parameter value.

JUCC. Japan Unified Cash Card.

JVM. See Java Virtual Machine.

K

K. When referring to storage capacity, a symbol that represents two to the tenth power, or 1024.

Kb. Kilobit.

KB. Kilobyte.

keyboard. A group of numeric keys, alphabetic keys, special character keys, or function keys used for entering information into the terminal and into the system.

keyed file. Type of file composed of keyed records. Each keyed record has two parts: a key and data. A key is used to identify and access each record in the file.

kilobit (Kb). 1024 binary digits.

kilobyte (KB). 1024 bytes for processor and data storage (memory) size.

L

label. Constant, either numeric or literal, that references a statement or function.

LAN. Local area network.

LAN segment. (1) Any portion of a LAN (for example, a single bus or ring) that can operate independently but is connected to other parts of the establishment network by bridges. (2) An entire ring or bus network without bridges. See *cable segment*, *ring segment*.

LCD. Liquid crystal display.

leased line. Synonym for *nonswitched line*.

LED. Light-emitting diode.

light-emitting diode (LED). A semiconductor chip that gives off visible or infrared light when activated.

line connection. In the Toshiba Store System, the physical connection (or equipment) between nodes that provides two-way communication and error correction and detection between one link station and one or more other link stations. **Note:** In SNA, this physical connection is called a *link connection*. In the Toshiba Store System, it is called a *line connection*.

line data rate. The rate of data transmission over a telecommunications link.

link. (1) In the Toshiba Store System, the logical connection between nodes including the end-to-end link control procedures. (2) The combination of physical media, protocols, and programming that connects devices on a network. (3) In computer programming, the part of a program, in some cases a single instruction or an address, that passes control and parameters between separate portions of the computer program. (4) To interconnect items of data or portions of one or more computer programs. (5) In SNA, the combination of the link connection and link stations joining network nodes. See also *link connection*. **Note:** A link connection is the physical medium of transmission; for example, a telephone wire or a microwave beam. A link includes the physical medium of transmission, the protocol, and associated devices and programming; it is both logical and physical.

link connection. (1) All physical components and protocol machines that lie between the communicating link stations of a link. The link connection may include a switched or leased physical data circuit, a LAN, or an X.25 virtual circuit. (2) In SNA, the physical equipment providing two-way communication and error correction and detection between one link station and one or more other link stations. (3) In the Toshiba Store System, the logical link providing two-way communication of data from one network node to one or more other network nodes.

listing. A printout of source code.

load. In computer programming, to enter data into memory or working registers.

lobe. In the Token-Ring Network, the section of cable (which may consist of several segments) that connects an attaching device to an access unit.

local area network (LAN). A computer network located on a user's premises within a limited geographical area. **Note:** Communication within a LAN is not subject to external regulations; however, communication across the LAN boundary may be subject to some form of regulation.

local program. The program being discussed within a particular context. Contrast with *remote program*.

logical file name (LFN). An abbreviated file name used to represent either an entire file name or the drive and subdirectory path part of the file name.

logical link. In an MVS/VS multisystem environment, the means by which a physical link is related to the transactions and terminals that can use the physical link.

logical unit (LU). (1) In SNA, a port through which an end user accesses the SNA network in order to communicate with another end user and through which the end user accesses the functions provided by system services control points (SSCPs). An LU can support at least two sessions, one with an SSCP and one with another LU, and may be capable of supporting many sessions with other logical units. (2) A type of network addressable unit that enables end users to communicate with each other and gain access to network resources.

logon (n). The procedure for starting up a point-of-sale terminal or store controller for normal sales operations by sequentially entering the correct security number and transaction number. Synonymous with *sign-on*.

log on (v). (1) To initiate a session. (2) In SNA products, to initiate a session between an application program and a logical unit (LU). Synonymous with *sign-on*.

loop. (1) A set of instructions that may be executed repeatedly while a certain condition prevails. See also *store loop*. (2) A closed unidirectional signal path connecting input/output devices to a network.

LU. Logical unit.

M

magnetic stripe. The magnetic material (similar to recording tape) on merchandise tickets, credit cards, and employee badges. Information is recorded on the

stripe for later “reading” by the magnetic stripe reader (MSR) or magnetic wand reader attached to the point-of-sale terminal.

magnetic stripe reader (MSR). A device that reads coded information from a magnetic stripe on a card, such as a credit card, as it passes through a slot in the reader.

maintenance analysis procedure (MAP). Deprecated term for *procedure*. See *procedure*.

maintenance diskette. See *corrective diskette*.

Manufacturing Automated Protocol (MAP). A broadband LAN with a bus topology that passes tokens from adapter to adapter on a coaxial cable.

MAP. (1) Maintenance analysis procedure. (2) Manufacturing Automated Protocol.

mapped conversation. A conversation in which programs exchange data records with arbitrary data formats agreed upon by the applications programmers.

mapping. Establishing a correspondence between the elements of one set and the elements of another set.

master store controller. The store controller that maintains prime versions of system mirrored files and all compound files.

Mb. Megabit.

MB. Megabyte.

MCF Network. Multiple store controllers communicating on a network using DDA. This provides data redundancy among the store controllers.

media. Plural form of *medium*.

medialess. Not fitted with a direct access storage device, such as a diskette drive or fixed disk drive, as in some models of Toshiba Point of Sale Terminals.

medium. (1) A physical carrier of electrical or optical energy. (2) A physical material in or on which data may be represented.

megabit (Mb). A unit of measure for throughput. 1 megabit = 1,048,576 bits.

megabyte (MB). A unit of measure for data. 1 megabyte = 1,048,576 bytes.

megahertz (MHz). A unit of measure of frequency. 1 megahertz = 1,000,000 hertz.

memory. Program-addressable storage from which instructions and other data can be loaded directly into registers for subsequent execution or processing.

message. (1) An arbitrary amount of information whose beginning and end are defined or implied. (2) A

group of characters and control bit sequences transferred as an entity. (3) In telecommunication, a combination of characters and symbols transmitted from one point to another. (4) A logical partition of the user device’s data stream to and from the adapter. See also *error message*, *operator message*.

MHz. Megahertz.

Micro Channel. The architecture used by IBM Personal System/2 computers, Models 50 and above. This term is used to distinguish these computers from personal computers using a PC I/O channel, such as an IBM PC, XT, or an IBM Personal System/2 computer, Model 25 or 30.

migration. Upgrade of a program to a newer version or release.

mirrored files. Files that are kept on both the Master Store Controller and the Alternate Master Store Controller or on both the File Server and Alternate File Server. System mirrored files are kept on the Master Store Controller and Alternate Store Controller and non-system mirrored files are kept on the File Server and Alternate File Server.

Mod1. A generic name used to refer to a point-of-sale terminal in the Toshiba 4690 Store System that loads and executes programs. A Mod1 can be any of the following models: 4683-001, 4683-A01, 4683-P11, 4683-P21, 4683-P41, 4683-421, 4693-xx1, and 4694-xx4 (terminal part if a controller/terminal).

Mod2. A generic name used to refer to a point-of-sale terminal in the Toshiba 4690 Store System that does not load and execute programs, but attaches to a terminal that does. A Mod2 can be one of the following models: 4683-002, 4683-A02, or 4693-2x2.

modem (MODulator/DEModulator). A device that converts digital data from a computer to an analog signal that can be transmitted in a telecommunication line, and converts the analog signal received to data for the computer.

module. A program unit that is discrete and identifiable with respect to compiling, combining with other units, and load; for example, the input to, or output from, an assembler, compiler, linkage editor, or executive routine.

modulo check. A function designed to detect most common input errors by performing a calculation on values entered into a system by an operator or scanning device.

monitor. (1) A functional unit that observes and records selected activities for analysis within a data processing system. Possible uses are to show significant departures from the norm, or to determine levels of utilization of particular functional units. (2) Software or hardware that observes, supervises, controls, or verifies operations of a system.

monochrome display. A display device that presents display images in only one color.

MSR. Magnetic stripe reader.

multiple controller system. Synonym for *MCF Network*.

multipoint. Pertaining to communication among more than two stations over a single telecommunication line.

multipoint line. A telecommunication line or circuit connecting two or more stations. Contrast with *point-to-point line*.

N

name. An alphanumeric term that identifies a data set, statement, program, or cataloged procedure.

n-bit byte. A string that consists of n bits.

NCP. Network control program.

neper. A unit for measuring power. The number of nepers is the logarithm (base e) of the ratio of the measured power level.

NetBIOS. Network Basic Input/Output System.

NetView. A host-based IBM network management licensed program that provides communication network management (CNM) or communications and systems management (C & SM) services.

NetView Distribution Manager (NetView DM). A component of the NetView family supporting resource distribution within *Change Management*, and providing central control of software and microcode distribution and installation, to processors in a distributed/departmental (SNA) network system. It allows a similar control of user data objects across the network, and provides the facilities to support the remote initiation of command lists.

network. (1) A configuration of data processing devices and software connected for information interchange. (2) An arrangement of nodes and connecting branches. Connections are made between data stations.

network administrator. A person who manages the use and maintenance of a network.

network architecture. The logical structure and operating principles of a computer network. See also *systems network architecture (SNA)* and *Open Systems Interconnect (OSI) architecture*. **Note:** The operating principles of a network include those of services, functions, and protocols.

Network Basic Input/Output System (NetBIOS). A message interface used on LANs to provide message,

print server, and file server functions. The IBM NetBIOS application program interface (API) provides a programming interface to the LAN so that an application program can have LAN communication without knowledge and responsibility of the data link control (DLC) interface.

network control program (NCP). A control program for the 3704 or 3705 Communications Controller, generated by the user from a library of Toshiba-supplied modules.

network file system (NFS). A system that allows you to mount remote file systems across homogeneous and heterogeneous systems.

network management vector transport (NMVT). The portion of an alert transport frame that contains the alert message.

NFS. network file system

node. (1) Any device, attached to a network, that transmits and/or receives data. (2) An end point of a link, or a junction common to two or more links in a network. Nodes can be processors, controllers, or workstations. Nodes can vary in routing and other functional capabilities. (3) In a network, a point where one or more functional units interconnect transmission lines.

node address. The address of an adapter on a LAN.

nonswitched line. (1) A connection between systems or devices that does not have to be made by dialing. Contrast with *switched line*. (2) A telecommunication line on which connection does not have to be established by dialing. Synonymous with *leased line*.

nonvolatile random access memory (NVRAM). Random access memory that retains its contents after electrical power is shut off.

NRZI. (1) Non-return-to-zero inverted transmission. (2) Non-return-to-reference transmission in which the zeros are represented by a bit cell boundary transition in the information signal, and ones are represented by the absence of a bit cell boundary transition.

NVRAM. nonvolatile random access memory

O

OCR. Optical character recognition.

offline. Operation of a functional unit without the control of a computer or control unit.

online. Operation of a functional unit that is under the continual control of a computer or control unit. The term also describes a user's access to a computer using a terminal.

open. (1) To make an adapter ready for use. (2) A break in an electrical circuit. (3) To make a file ready for use.

Open Systems Interconnect (OSI). (1) The interconnection of open systems in accordance with specific ISO standards. (2) The use of standardized procedures to enable the interconnection of data processing systems. **Note:** OSI architecture establishes a framework for coordinating the development of current and future standards for the interconnection of computer systems. Network functions are divided into seven layers. Each layer represents a group of related data processing and communication functions that can be carried out in a standard way to support different applications.

Open Systems Interconnect (OSI) architecture. Network architecture that adheres to a particular set of ISO standards that relates to Open Systems Interconnect (OSI).

Open Systems Interconnect (OSI) Reference Model. A model that represents the hierarchical arrangement of the seven layers described by the Open Systems Interconnect (OSI) architecture.

operating system. Software that controls the execution of programs. An operating system may provide services such as resource allocation, scheduling, input/output control, and data management. Examples are IBM DOS and IBM OS/2.

Operating System/2 (OS/2). A set of programs that control the operation of high-speed large-memory IBM Personal Computers (such as the IBM Personal System/2 computer, Models 50 and above), providing multitasking and the ability to address up to 16 MB of memory. Contrast with *Disk Operating System (DOS)*.

operation. (1) A defined action, namely, the act of obtaining a result from one or more operands in accordance with a rule that completely specifies the result for any permissible combination of operands. (2) A program step undertaken or executed by a computer. (3) An action performed on one or more data items, such as adding, multiplying, comparing, or moving.

operational environment. (1) A summation of all of the Toshiba-supplied basic functions and the user programs that can be executed by the store controller to enable the devices in the system to perform specific operations. (2) The collection of Toshiba-supplied controller data and user programs, plus lists, tables, control blocks, and files that reside in a controller and control its operation. (3) The physical environment (for example: temperature, humidity, layout, or power requirements) that is needed for proper machine performance.

operator. (1) A symbol that represents the action being performed in a mathematical operation. (2) A person who operates a machine.

operator message. A message from the operating system or a program telling the operator to perform a specific function or informing the operator of a specific condition within the system, such as an error condition.

optical character recognition (OCR). The machine identification of printed characters through the use of light-sensitive devices.

option. (1) A specification in a statement, a selection from a menu, or a setting of a switch, that may be used to influence the execution of a program. (2) A hardware or software function that may be selected or enabled as part of a configuration process. (3) A piece of hardware (such as a network adapter) that can be installed in a device to modify or enhance device function.

OS. Operating system.

OS/2. Operating System/2.

OSI. Open Systems Interconnect.

OS/VS. Operating System/Virtual Storage.

owner. In relation to files, an owner is the user that creates the file and therefore has complete access to the file.

P

pacing. A technique by which a receiving component controls the rate of transmission by a sending component to prevent overrun or congestion.

packet. (1) In data communication, a sequence of binary digits, including data and control signals, that is transmitted and switched as a composite whole. (2) Synonymous with *data frame*. Contrast with *frame*.

packet assembler/disassembler (PAD). A functional unit that enables data terminal equipments (DTEs) not equipped for packet switching to access a packet switched network.

packing. Method of conserving disk storage space by stripping the high-order nibbles from ASCII numerals and storing the remaining low-order nibbles two to a byte.

PAD. Packet assembler/disassembler.

page. (1) The portion of a panel that is shown on a display surface at one time. (2) To move back and forth among the pages of a multiple-page panel. See also *scroll*. (3) In a virtual storage system, a fixed-length block that has a virtual address and is transferred as a unit between main storage and auxiliary storage.

panel. The complete set of formatted information that appears in a single display on a visual display unit.

parallel port. (1) A port that transmits the bits of a byte in parallel along the lines of the bus, one byte at a time, to an I/O device. (2) On a personal computer, it is used to connect a device that uses a parallel interface, such as a dot matrix printer, to the computer. Contrast with *serial port*.

parameter. (1) A name in a procedure that is used to refer to an argument passed to that procedure. (2) A variable that is given a constant value for a specified application and that may denote the application. (3) An item in a menu or for which the user specifies a value or for which the system provides a value when the menu is interpreted. (4) Data passed between programs or procedures.

parity (even). A condition when the sum of all of the digits in an array of binary digits is even.

parity (odd). A condition when the sum of all of the digits in an array of binary digits is odd.

partner. See *conversation partner*.

partner terminal. The term used to describe the relationship of a Mod 1 terminal and Mod 2 terminal when they are attached to each other.

password. In computer security, a string of characters known to the computer system and a user, who must specify it to gain full or limited access to a system and to the data stored within it.

path. (1) Reference that specifies the location of a particular file within the various directories and subdirectories of a hierarchical file system. (2) In a network, any route between any two nodes. (3) The route traversed by the information exchanged between two attaching devices in a network. (4) A command in IBM DOS and IBM OS/2 that specifies directories to be searched for commands or batch files that are not found by a search of the current directory.

PCI DSS. Payment Card Industry Data Security Standards.

peer node. Any *other* SNA type (2.1) node (another 4680/4690 store controller, AS/400, or others).

permanent virtual circuit (PVC). A virtual circuit that has a logical channel permanently assigned to it at each data terminal equipment (DTE). A call establishment protocol is not required.

personal computer (PC). A desk-top, free-standing, or portable microcomputer that usually consists of a system unit, a display, a keyboard, one or more diskette drives, internal fixed-disk storage, and an optional printer. PCs are designed primarily to give independent computing power to a single user and are inexpensively priced for purchase by individuals or small businesses.

Examples include the various models of the IBM Personal Computers, and the IBM Personal System/2 computer.

personal identification number (PIN). A numeric identification code assigned to a customer to protect funds and data from unauthorized users.

physical link. In an MVS/VS multisystem environment, the actual hardware connection between two systems. Contrast with *logical link*.

physical unit (PU). In SNA, the component that manages and monitors the resources of a node, such as attached links and adjacent link stations, as requested by a system services control point (SSCP) through an SSCP-SSCP session.

pipe. A sequential file in a memory buffer that is used to pass messages from one program to another.

PLD. Power line disturbance.

plug. (1) A connector for attaching wires from a device to a cable, such as a store loop. A plug is inserted into a receptacle or plug. (2) To insert a connector into a receptacle or socket.

point-of-sale terminal. A unit that provides point-of-sale transaction, data collection, credit authorization, price look-up, and other inquiry and data entry functions.

point-to-point line. A switched or nonswitched telecommunication line that connects a single remote station to a computer. Contrast with *multipoint line*.

polling. (1) Interrogation of devices for purposes such as to avoid contention, to determine operational status, or to determine readiness to send or receive data. (2) In data communication, the process of inviting data stations to transmit, one at a time. The polling process usually involves the sequential interrogation of several data stations.

polling characters (address). A set of characters specific to a terminal and the polling operation; response to these characters indicates to the computer whether the terminal has a message to enter.

port. (1) An access point for data entry or exit. (2) A connector on a device to which cables for other devices such as display stations and printers are attached. Synonymous with *socket*.

post. (1) To affix to a usual place. (2) To provide items such as return code at the end of a command or function. (3) To define an appendage routine. (4) To note the occurrence of an event.

POST. Power-On Self Test.

power line disturbance (PLD). Interruption or reduction of electrical power.

Power-On Self Test (POST). A series of diagnostic tests that are run automatically each time the computer's power is switched on.

presentation space (PS). In 3270 emulation, the image of the 3270 screen data that is held in random access memory. This screen appears on the store controller or the terminal display when 3270 emulation is used in operator console mode; it is the virtual screen for applications using the 3270 emulator API. The presentation space is fixed as 24 lines of 80 characters on the display.

primary adapter. In a personal computer that is used on a LAN and that supports installation of two network adapters, the adapter that uses standard (or default) mapping between adapter shared RAM, adapter ROM, and designated computer memory segments. The primary adapter is usually designated as adapter 0 in configuration parameters. Contrast with *alternate adapter*.

primary application. A program that controls the normal operating environment of your store (for example, programs that provide sales support).

primary store controller. The store controller designated to control the store loop under normal conditions.

prime version. The version of a file to which updates are made. The prime version of a file may be maintained on either the Master Store Controller or the File Server. Copies of the prime version, called image versions, are distributed to other store controllers.

printout. Any printed document produced by a point-of-sale terminal printer or by some other printer.

problem determination. The process of determining the source of a problem as being a program component, a machine failure, a change in the environment, a common-carrier link, a user-supplied device, or a user error.

procedure. (1) A set of related control statements that cause one or more programs to be performed. (2) In a programming language, a block, with or without formal parameters, whose execution is invoked by means of a procedure call. (3) A set of instructions that gives a service representative a step-by-step procedure for tracing a symptom to the cause of failure.

processor. In a computer, a functional unit that interprets and executes instructions.

Programmable Store System (PSS). A store system, such as the Toshiba Store System, that can be programmed to perform user-determined functions.

prompt. A character or word displayed by the operating system to indicate that it is ready to accept input.

protected field. A display field that the terminal operator cannot add to, modify, or erase using the keyboard. Contrast with *input field* and *unprotected field*.

protocol. (1) A set of semantic and syntactic rules that determines the behavior of functional units in achieving communication. (2) In SNA, the meanings of and the sequencing rules for requests and responses used for managing the network, transferring data, and synchronizing the states of network components. (3) A specification for the format and relative timing of information exchanged between communicating parties.

PS. Presentation space.

PSS. Programmable Store System.

PU. Physical unit.

public switched (telephone) network (PSN). A telephone network that provides lines and exchanges to the public. It is operated by the communication common carriers in the USA and Canada, and by the PTT Administrations in other countries.

PVC. Permanent virtual circuit.

Q

queue. A line or list formed by items in a system waiting for service; for example, tasks to be performed or messages to be transmitted in a message routing system.

R

RAM. Random access memory.

RAM disk. Synonym for *virtual drive*.

RAM paging. A technique that allows the computer software to access all of the RAM on adapters that contain 64 KB of RAM, without having to map the entire shared RAM into the computer's memory map. The shared RAM on the adapter is paged into the computer's memory map one 16 KB page at a time.

random access. An access mode in which specific logical records are obtained from or placed into a mass storage file in a nonsequential manner.

random access memory (RAM). A computer's or adapter's volatile storage area into which data may be entered and retrieved in a nonsequential manner.

RCMS. Remote change management server.

read. To acquire or to interpret data from a storage device, from a data medium, or from another source.

read-only memory (ROM). A computer's or adapter's storage area whose contents cannot be modified by the user except under special circumstances.

real storage. The main storage in an virtual storage system. Contrast with *virtual storage (VS)*.

receive. To obtain and store information transmitted from a device.

record. A collection of related items of data, treated as a unit; for example, in stock control, each invoice could constitute one record. A complete set of such records may form a file.

reference diskette. A diskette shipped with the point-of-sale equipment. The diskette contains code and files used for configuration of options and for hardware diagnostic testing.

remote change management server (RCMS). The Toshiba Store System function that interfaces with the host DSX program for file transmission.

remote program. The program at the other end of a conversation with respect to the reference program. Contrast with *local program*.

remote program load (RPL). A function provided by adapter hardware components and software that enables one computer to load programs and operating systems into the memory of another computer, without requiring the use of a diskette or fixed disk at the receiving computer.

remove. (1) To take an attaching device off a network. (2) To stop an adapter from participating in data passing on a network.

response. The information the network control program sends to the access method, usually in answer to a request received from the access method. (Some responses, however, result from conditions occurring within the network control program, such as accumulation of error statistics.)

retry. In data communication, sending the current block of data a prescribed number of times or until it is entered correctly and accepted.

return code. (1) A value (usually hexadecimal) provided by an adapter or a program to indicate the result of an action, command, or operation. (2) A code used to influence the execution of succeeding instructions. (3) A value established by the programmer to be used to influence subsequent program action. This value can be printed as output or loaded in a register.

ring network. A network configuration in which a series of attaching devices is connected by unidirectional transmission links to form a closed path. A ring of a Token-Ring Network is referred to as a LAN segment or as a token-ring network segment.

ring segment. Any section of a ring that can be isolated (by unplugging connectors) from the rest of the ring. A segment can consist of a single lobe, the cable between access units, or a combination of cables, lobes, and/or access units. See *cable segment*, *LAN segment*.

ring station. A station that supports the functions necessary for connecting to the LAN and for operating with the token-ring protocols. These include token handling, transferring copied frames from the ring to the using node's storage, maintaining error counters, observing medium access control (MAC) sublayer protocols (for address acquisition, error reporting, or other duties), and (in the full-function native mode) directing frames to the correct data link control (DLC) link station.

ring status. The condition of the ring.

RIPL. Remote IPL.

RMA. Remote Management Agent.

ROM. Read-only memory.

root directory. Highest or base level directory in a hierarchical file system. Subdirectories branch off of the root directory.

router. An attaching device that connects two LAN segments, which use similar or different architectures, at the Reference Model network layer. Contrast with *bridge* and *gateway*.

routing. (1) The assignment of the path by which a message will reach its destination. (2) The forwarding of a message unit along a particular path through a network, as determined by the parameters carried in the message unit, such as the destination network address in a transmission header.

RPL. Remote program load.

S

SAA. Systems Application Architecture.

SABM. Set asynchronous balanced mode.

satellite. (1) A computer that is under the control of another computer and performs subsidiary operations. (2) An offline auxiliary computer. (3) A Toshiba point-of-sale terminal under the control of a master terminal.

SBCS. Single-byte character set.

scan. To pass an item over or through the scanner so that the encoded information is read. See also *wandering*.

scanner. A device that examines the bar code on merchandise tickets, credit cards, and employee badges and generates analog or digital signals corresponding to the bar code.

scroll. To move all or part of the display image vertically or horizontally to display data that cannot be observed within a single display image. See also *page (2)*.

SDLC. Synchronous Data Link Control.

SDLC link. A data link over which communications are conducted using the Synchronous Data Link Control (SDLC) discipline.

secondary application. A user-written program that is designed to operate with operator intervention.

sector. A 512-byte area of the control unit diskette, the amount of data that is transferred at one time to or from the diskette.

segment. See *cable segment*, *LAN segment*, *ring segment*.

serial port. On personal computers, a port used to attach devices such as display devices, letter-quality printers, modems, plotters, and pointing devices such as light pens and mice; it transmits data one bit at a time. Contrast with *parallel port*.

server. (1) A device, program, or code module on a network dedicated to providing a specific service to a network. (2) On a LAN, a data station that provides facilities to other data stations. Examples are a file server, print server, and mail server.

session. (1) A connection between two application programs that allows them to communicate. (2) In SNA, a logical connection between two network addressable units that can be activated, tailored to provide various protocols, and deactivated as requested. (3) The data transport connection resulting from a call or link between two devices. (4) The period of time during which a user of a node can communicate with an interactive system, usually the elapsed time between log on and log off. (5) In network architecture, an association of facilities necessary for establishing, maintaining, and releasing connections for communication between stations.

session group. In System/36 advanced program-to-program communication, a number of sessions managed as a unit.

set asynchronous balanced mode (SABM). In communications, a data link control command used to establish a data link connection with the destination in asynchronous balanced mode. See also *asynchronous balanced mode (ABM)*.

shared RAM. Random access memory on an adapter that is shared by the computer in which the adapter is installed.

signal. (1) A time-dependent value attached to a physical phenomenon for conveying data. (2) A variation of a physical quantity, used to convey data.

sign-on. (1) A procedure to be followed at a terminal or workstation to establish a link to a computer. (2) To begin a session at a workstation.

single-byte character set (SBCS). A character set in which each character is represented by a one-byte code. Contrast with double-byte character set.

SNA. Systems Network Architecture.

socket. Synonym for *port (2)*.

source. The origin of any data involved in a data transfer.

SSCP. System services control point.

state. See *conversation state*.

station. (1) A point-of-sale terminal that consists of a processing unit, a keyboard, and a display. It can also have input/output devices, such as a printer, a magnetic stripe reader or cash drawers. (2) A communication device attached to a network. The term used most often in LANs is an *attaching device* or *workstation*. (3) An input or output point of a system that uses telecommunication facilities; for example, one or more systems, computers, terminals, devices, and associated programs at a particular location that can send or receive data over a telecommunication line. See also *attaching device*, *workstation*.

store controller. A programmable unit in a network used to collect data, to direct inquiries, and to control communication within a point-of-sale system.

store loop. In the Toshiba Store System, a cable over which data is transmitted between the store controller and the point-of-sale terminals.

Store Loop Adapter. A hardware component used to connect the loop to a store controller.

subarea node. An SNA type 5 node (a host processor), which will control all communications with the store controller.

subdirectory. Any level of file directory lower than the root directory within a hierarchical file system.

subordinate store controller. A store controller that receives copies of all system compound files and may also receive all application compound files.

supervisory (S) frame. A frame in supervisory format used to transfer supervisory control functions. See also *information frame*, *unnumbered frame*.

SVC. Switched virtual circuit.

switch. On an adapter, a mechanism used to select a value for, enable, or disable a configurable option or feature.

switched line. A telecommunication line in which the connection is established by dialing. Contrast with *nonswitched line*.

switched virtual circuit (SVC). A virtual circuit that is requested by a virtual call. It is released when the virtual circuit is cleared.

symbolic destination name. Variable corresponding to an entry in the side information.

synchronous. (1) Pertaining to two or more processes that depend upon the occurrence of a specific event such as a common timing signal. (2) Occurring with a regular or predictable timing relationship.

Synchronous Data Link Control (SDLC). A discipline conforming to subsets of the Advanced Data Communication Control Procedures (ADCCP) of the American National Standards Institute (ANSI) and High-level Data Link Control (HDLC) of the International Organization for Standardization, for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or nonswitched links. The configuration of the link connection may be point-to-point, multipoint, or loop.

system. In data processing, a collection of people, machines, and methods organized to accomplish a set of specific functions. See also *data processing system* and *operating system*.

system board. In a system unit, the main circuit board that supports a variety of basic system devices, such as a keyboard or a mouse, and provides other basic system functions.

system configuration. A process that specifies the devices and programs that form a particular data processing system.

Systems Application Architecture (SAA). An architecture developed by IBM that consists of a set of selected software interfaces, conventions, and protocols, and that serves as a common framework for application development, portability, and use across different hardware systems.

system services control point (SSCP). In SNA, the focal point within an SNA network for managing the configuration, coordinating network operator and problem determination requests, and providing directory

support and other session services for end users of the network. Multiple SSCPs, cooperating as peers, can divide the network into domains of control, with each SSCP having a hierarchical control relationship to the physical units (PUs) and logical units (LUs) within its domain.

Systems Network Architecture (SNA). The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through, and controlling the configuration and operation of, networks. **Note:** The layered structure of SNA allows the ultimate origins and destinations of information, that is, the end users, to be independent of, and unaffected by, the specific SNA network services and facilities used for information exchange.

T

task. A basic unit of work.

TCC Network. A system in which the terminals and controllers communicate using either a store loop, a token-ring or an Ethernet.

telephone twisted pair. One or more twisted pairs of copper wire in the unshielded voice-grade cable commonly used to connect a telephone to its wall jack. Also referred to as “unshielded twisted pair” (UTP).

tender. Money, checks, coupons, or trading stamps used as payment for merchandise or service.

terminal. In data communication, a device, usually equipped with a keyboard and a display, capable of sending and receiving information over a communication channel.

terminal number. A number assigned to a terminal to identify it for addressing purposes.

threshold. (1) A level, point, or value above which something is true or will take place and below which it is not true or will not take place. (2) In Toshiba bridge programs, a value set for the maximum number of frames that are not forwarded across a bridge due to errors, before a “threshold exceeded” occurrence is counted and indicated to network management programs. (3) An initial value from which a counter is decremented from an initial value. When the counter reaches zero or the threshold value, a decision is made and/or an event occurs.

till. A tray in the cash drawer of the point-of-sale terminal, used to keep the different denominations of bills and coins separated and easily accessible.

token. A sequence of bits passed from one device to another on the token-ring network that signifies permission to transmit over the network. It consists of a starting delimiter, an access control field, and an end delimiter. The frame control field contains a token bit

that indicates to a receiving device that the token is ready to accept information. If a device has data to send along the network, it appends the data to the token. When data is appended, the token then becomes a frame. See *frame*.

token-ring. A network with a ring topology that passes tokens from one attaching device (node) to another. A node that is ready to send can capture a token and insert data for transmission.

token-ring network. (1) A ring network that allows unidirectional data transmission between data stations by a token-passing procedure over one transmission medium so that the transmitted data returns to and is removed by the transmitting station. The Token-Ring Network is a baseband LAN with a star-wired ring topology that passes tokens from network adapter to network adapter. (2) A network that uses a ring topology, in which tokens are passed in a circuit from node to node. A node that is ready to send can capture the token and insert data for transmission. (3) A group of interconnected token-rings.

TP. Transaction program.

trace. (1) A record of the execution of a computer program. It exhibits the sequences in which the instructions were executed. (2) A record of the frames and bytes transmitted on a network.

transaction. (1) The process of recording item sales, processing refunds, recording coupons, handling voids, verifying checks before tendering, and arriving at the amount to be paid by or to a customer. The receiving of payment for merchandise or service is also included in a transaction. (2) In an SNA network, an exchange between two programs that usually involves a specific set of initial input data that causes the execution of a specific task or job. Examples of transactions include the entry of a customer's deposit that results in the updating of the customer's balance, and the transfer of a message to one or more destination points.

transaction program (TP). A program that processes transactions in or through a logical unit (LU) type 6.2 in an SNA network. Application transaction programs are end users in an SNA network; they process transactions for service transaction programs and for other end users. Service transaction programs are Toshiba-supplied programs that typically provide utility services to application transaction programs.

transmission. The sending of data from one place for reception elsewhere.

transmit. To send information from one place for reception elsewhere.

twisted pair. A transmission medium that consists of two insulated conductors twisted together to reduce noise.

typematic. A keyboard button that will continue to enter characters or repeat its function as long as the button is held down.

U

uninterruptible power supply. A buffer between utility power or other power source and a load that requires uninterrupted, precise power.

universal product code (UPC). An encoded number that can be assigned to and printed on or attached to an article of merchandise for scanning.

universal serial bus. An industry standard that makes it easy to expand PC functionality. The USB is a 12-Mbps serial bus designed to replace almost all low-to-medium speed connections to peripheral devices such as keyboards, mice, and printers.

unnumbered acknowledgment. A data link control (DLC) command used in establishing a link and in answering receipt of logical link control (LLC) frames.

unnumbered (U) frame. A frame in unnumbered format, used to transfer unnumbered control functions. See also *information frame*, *supervisory frame*.

unprotected field. A display field that the terminal operator can add to, modify, or erase using the keyboard. Contrast with *protected field*.

UPC. Universal product code.

UPS. Uninterruptible power supply.

USB. universal serial bus

user. (1) Category of identification defined for file access protection. (2) A person using a program or system.

user exit. A point in a Toshiba-supplied program at which a user-written program may be given control.

utility program. (1) A computer program in general support of the processes of a computer; for instance, a diagnostic program, a trace program, a sort program. (2) A program designed to perform an everyday task such as copying data from one storage device to another.

V

variable. (1) A named entity that is used to refer to data and to which values can be assigned. Its attributes remain constant, but it can refer to different values at different times. (2) In computer programming, a character or group of characters that refers to a value and, in the execution of a computer program, corresponds to an address. (3) A quantity that can assume any of a given set of values.

version. A separate Toshiba-licensed program, based on an existing Toshiba-licensed program, that usually has significant new code or new function.

VFD. Vacuum fluorescent display.

VFS. virtual file system.

video display. (1) An electronic transaction display that presents visual information to the point-of-sale terminal operator and to the customer. (2) An electronic display screen that presents visual information to the display operator.

virtual circuit. Synonym for *virtual connection*.

virtual connection. (1) A connection between two nodes on the network that is established using the transport layer and provides reliable data between nodes. (2) A logical connection established between two data terminal equipment (DTE) devices. Synonymous with *virtual circuit*.

virtual drive. Computer memory used as if it were a direct access storage device. Synonym for *RAM disk*.

virtual file system (VFS). Within 4690 OS V2, the virtual file system is used to provide support for long file names by creating two virtual drives that support file names greater than eight characters in length.

virtual machine (VM). A functional simulation of a computer and its associated devices. Each virtual machine is controlled by a suitable operating system, for example, a conversational monitor system. VM controls concurrent execution of multiple virtual machines on one host computer.

virtual storage (VS). (1) The storage space that may be regarded as addressable main storage by the user of a computer system in which virtual addresses are mapped into real addresses. The size of virtual storage is limited by the addressing scheme of the computer system and by the amount of auxiliary storage available, not by the actual number of main storage locations. (2) Addressable space that is apparent to the user as the processor storage space, from which the instructions and the data are mapped into the processor storage locations. Contrast with *real storage*.

VM. Virtual machine.

VS. Virtual storage.

W

wand. A commercially available device used to read information encoded on merchandise tickets, credit cards, and employee badges.

wanding. Passing the tip of the wand reader over information encoded on a merchandise ticket, credit card, or employee badge.

wideband. Synonym for *broadband*.

work file. A file that is both created and deleted in the same job.

workstation. (1) An I/O device that allows either transmission of data or the reception of data (or both) from a host system, as needed to perform a job: for example, a display station or printer. (2) A configuration of I/O equipment at which an operator works. (3) A terminal or microcomputer, usually one connected to a mainframe or network, at which a user can perform tasks.

X

XID. Exchange identification.

X.21. In data communication, a recommendation of the CCITT that defines the interface between data terminal equipment (DTE) and public data networks for digital leased and circuit switched synchronous services.

X.21 bis. In data communication, an interim specification of the CCITT that defines the connection of data terminal equipment (DTE) to an X.21 (public data) network using V-series interchange circuits such as those defined by CCITT V.24 and CCITT V.35.

X.25. A CCITT Recommendation that defines the physical level (physical layer), link level (data link layer), and packet level (network layer), of the OSI Reference Model. An X.25 network is an interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) operating in the packet mode, and connected to public data networks by dedicated circuits. X.25 networks use the connection-mode network service.

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