Data General

Customer Documentation

Using the AOS/VS System Management Interface (SMI)

Using the AOS/VS System Management Interface (SMI)

069-000203-02

For the latest enhancements, cautions, documentation changes, and other information on this product, please see the Release Notice (085-series) supplied with the software.

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Notice

Using the AOS/VS System Management Interface (SMI)
069-000203-02

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A vertical bar in the margin of a page indicates substantive technical change from the previous revision.

Preface

Welcome to the AOS/VS System Management Interface (SMI). The SMI is an easy-to-use, menu-driven interface to various parts of the AOS/VS operating system. It makes certain system management tasks, such as file backup, printer management, and system shutdown, easier to perform than from the Command Line Interpreter (CLI).

Who Should Read This Book

This book is for users and system managers on systems that will run the SMI on preinstalled or site-installed systems. Preinstalled systems run AOS/VS Model 31133. Site-installed systems run AOS/VS Model 3900.

The first third of this manual covers information intended for the typical system user. It provides a brief overview of AOS/VS and describes some tasks that the user can perform via the easy-to-use menus, such as controlling printers and doing backups of personal files.

The system user who also performs system management tasks will find the entire manual useful for everyday system management tasks, advanced system management functions, and error situations.

We suggest that you read the first two chapters before you use the SMI for the first time. Then read the other portions as you need them.

At the beginning of each chapter and some chapter sections, we have placed a key showing the type of user for which the chapter or section is intended. For example, Chapter 5 describes administrative functions not available to most users. The chapter heading includes the following key:

This chapter is for the

System Manager ☑

System User ☐

How This Book Is Organized

This manual is divided into six chapters, four appendixes, a glossary, and three tear-out summary sheets. The contents are organized as follows:

Chapter 1 *For system managers and system users.*
Introduces AOS/VS and discusses the role of the system manager and the importance of system security. It also introduces the EXEC program, which supervises the multiuser environment. It explains how to use the menus and the on-line Help facility, and introduces the interactive system management tutorial.

Chapter 2 *For system managers and system users.*
Describes the SMI program and how to use SMI menus and keywords. It also shows how to use the on-line Help facility with the SMI, and discusses running the SMI in tutorial mode.

Chapter 3 *For system managers and system users.*
Describes the SMI Main Menu and its options, including the Control Printers Menu, to which all system users have access.

Chapter 4 *For system managers and system users.*
Describes how to back up and restore files using the SMI archiving menus. It explains the backup and restoration procedures for both personal files and system-wide files, for systems using diskettes and systems using tape.

Chapter 5 *For system managers only.*
Describes the Administrative Functions Menu and its submenus. These include menus for managing user profiles, consoles, printer queues and forms, and batch operations; customizing the system (including configuring); and shutting down the system.

Chapter 6 *For system managers only.*
Describes the SMI error messages and abnormal system shutdowns.

Appendix A *For system managers and system users.*
Lists the SMI keywords and the menu option each one performs. It also includes a chart outlining the SMI menu hierarchy and related keywords.

Appendix B *For system managers only.*
Lists the device names and device codes for disks, diskettes, and tapes available on systems running preinstalled AOS/VS. It also includes information you might need to define console lines on these systems, and on defining a console line for printers that requiring CTS hardware flow control.

Appendix C *For system managers only.*
Describes what to expect if you use a hard-copy terminal as the system console.

Appendix D *For system managers only.*
Describes how to modify your system to operate within or without the SMI environment.

Related Documentation

Depending on what you want to do with AOS/VS and what other software you will run on your system, you might find some of the following documentation helpful.

Related AOS/VS Documentation

To use the SMI effectively, an appropriate set of the following books will prove particularly helpful. The first two books below are a good place to start. The following books contain considerably more detail and technical information than you will find in this manual or the learning and starting books.

- *Learning to Use Your AOS/VS System* (069-000031), unless you already possess a working knowledge of AOS/VS, is the best place to start learning about your system.
- *Starting and Updating Preinstalled AOS/VS* (069-000293) for Model 31133 systems. If you received your system with AOS/VS already installed on the system disk, you also received this basic startup book. It explains how to bring up your system for the first time, change preset values, and keep your system up to date.
- *Installing, Starting, and Stopping AOS/VS* (093-000675) explains site-installed first-time issues as well as background information for certain system management issues.
- *Managing AOS/VS and AOS/VS II* (093-000541) in addition to the previous manual provides background information for certain system management issues.
- *Supplement I to Managing AOS/VS and AOS/VS II* (093-000714) describes the new EXEC utility that manages the multiuser environment. Insert this supplement as Chapter 3 in the manual *Managing AOS/VS and AOS/VS II*.
- *Supplement II to Managing AOS/VS and AOS/VS II* (093-000715) describes the old EXEC utility that manages the multiuser environment under AOS/VS Rev. 7.60. Insert this supplement as Chapter 3 in the manual *Managing AOS/VS and AOS/VS II*.
- *AOS/VS and AOS/VS II Error and Status Messages* (093-000540) describes all the operating system error messages, including those you might encounter during system installation, startup, and shutdown.
- *Using the CLI (AOS/VS and AOS/VS II)* (093-000646) describes the AOS/VS and AOS/VS II file and directory structure and how to use the CLI, a command line interpreter, as the interface to the operating system.
- *AOS/VS and AOS/VS II Glossary* (069-000231) explains important terms and concepts.

Refer to the Documentation Set after the Index for a complete, annotated list of AOS/VS documentation.

Other AOS/VS Documentation

SED Text Editor User's Manual (AOS and AOS/VS) (093-000249)
AOS/VS System Concepts (093-000335)
AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary
?A through ?M (093-000542)
?N through ?Z (098-000543)

Graphics and Windowing

Introduction to Computer Graphics (014-001216)
CEO Drawing Board™ User's Manual (069-700010)

Communications and Networks

Using the XODIAC™ Network Management System (093-000178)
Managing and Operating the XODIAC™ Network Management System (093-000260)
Managing Your TermServer Network (093-000527)

Comprehensive Electronic Office

Getting Started with the CEO® System (069-000036)
Managing Your CEO® System (093-000286)
Using CEO® Word Processing (093-000285)

In addition, if you are using programming languages or database products (such as INFOS® II), you will find the documentation that comes with these products helpful.

Documentation Conventions

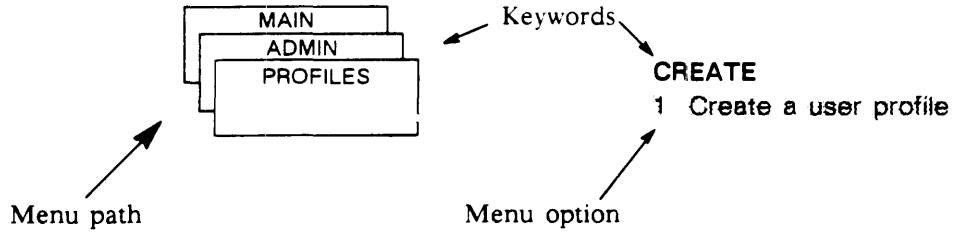
In this book, we use the words *terminal*, *console*, and *system console*. They mean the following:

Terminal — An interactive device with a keyboard for input and a screen or printer for output. A terminal with a screen (like the DASHER® D460) is called a display terminal; a terminal with a printer (like the DASHER TP2) is called a hard-copy terminal.

Console — Another word for terminal. We use console in this book to mean any terminal on the system, including the system console. Consoles can be display terminals or hard-copy terminals; *console lines* can be defined for terminals, serial printers, and modems.

System Console — The terminal that will display diagnostic messages and from which you will bring up AOS/VS. You determined your system console during installation; refer to the installation manual for your system if you are unsure which terminal is your system console.

Wherever applicable, this manual uses figures like the following to illustrate SMI menu paths and their related keywords:



Chapter 2, "About the SMI," describes how you should use menus, command screens and keywords.

The chapter title appears at the top of each page in this manual. To help you find information on more specific topics, many page headings also include keywords (such as CREATE or PROFILES), subject headings (like Memory Dump), or both. For example, the following page heading appears in Chapter 3, "The SMI Main Menu Options." The page on which it appears describes controlling printers using the PRINTERS keyword.

The SMI Main Menu Options
PRINTERS

In examples and figures,

We use this typeface to show your input.

We use this typeface to show system messages and prompts.

We use this typeface to show screens and status displays.

```
We use this typeface to show output from a hard-copy console.
```

For keywords and commands, we show user input in all UPPERCASE letters, but you can use lowercase, UPPERCASE, or any combination of the two.

Additionally, we use certain symbols in special ways.

↵ means press the New Line key on your keyboard.

) is the AOS/VS CLI prompt.

[] means press the space bar. (We use this only where we must; normally, you can see where to put spaces.)

Contacting Data General

Data General wants to assist you in any way it can to help you use its products. Please feel free to contact the company as outlined below.

Manuals

If you require additional manuals, please use the enclosed TIPS order form (United States only) or contact your local Data General sales representative.

If you have comments on this manual, please use the prepaid Comment Form that appears at the back. We want to know what you like and dislike about this manual.

Telephone Assistance

If you are unable to solve a problem using any manual you received with your system, and you are within the United States or Canada, contact the Data General Service Center by calling 1-800-DG-HELPS for toll-free telephone support. The center will put you in touch with a member of Data General's telephone assistance staff who can answer your questions.

Free telephone assistance is available with your warranty and with most Data General service options. Lines are open from 8:30 a.m. to 8:30 p.m., Eastern Time, Monday through Friday.

For telephone assistance outside the United States or Canada, ask your Data General sales representative for the appropriate telephone number.

Joining Our Users Group

Please consider joining the largest independent organization of Data General users, the North American Data General Users Group (NADGUG). In addition to making valuable contacts, members receive FOCUS monthly magazine, a conference discount, access to the Software Library and Electronic Bulletin Board, an annual Member Directory, Regional and Special Interest Groups, and much more. For more information about membership in the North American Data General Users Group, call 1-800-877-4787 or 1-512-345-5316.

End of Preface

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Chapter 1 - Introduction to AOS/VS

Chapter 2 - About the SMI

Chapter 3 - The SMI Main Menu Options

Chapter 4 - Backing Up and Restoring Files

Chapter 5 - The Administrative Functions Menu

Chapter 6 - Handling Errors

Appendix A - Keyword Summary

Appendix B - Device Names, Device Codes, and Console Lines

Appendix C - Using a Hard-Copy System Console

Appendix D - Changing the SMI Environment

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Chapter 1
Introduction to AOS/VS

This chapter is for the

System Manager ☑

System User ☑

This manual describes the AOS/VS System Management Interface (SMI), an easy-to-use, menu-driven program that helps you with system management functions and some file maintenance tasks. The SMI can run on any ECLIPSE® MV/Family computer that runs AOS/VS.

This chapter briefly describes AOS/VS for new users. If you are already familiar with AOS/VS, skip to Chapter 2, which begins the discussion of SMI.

What Is AOS/VS?

The operating system you have chosen to run on your system is AOS/VS, Data General's Advanced Operating System with Virtual Storage. An operating system is a program that runs other programs. It handles the task of communicating with *peripherals*, such as terminals and printers, as well as deciding which program should run at any given time.

You, or a program you are running, issue *commands* to the computer, which the operating system translates for the computer. The computer does what the operating system instructs; then tells the operating system that it is done. The operating system then displays an appropriate message to you.

The virtual storage or virtual memory that is a feature of AOS/VS allows programs to be very large without requiring a large amount of physical memory.

The operating system is the lowest level of computer software; it *supports* higher level software, such as word processors, computer languages, and other applications you might have that are specific to your work environment.

AOS/VS is a general-purpose operating system that runs on 32-bit Data General ECLIPSE computers. It is a *timesharing* system, meaning that it can serve many users at the same time, each of whom is using a terminal and using word processing or other operations. AOS/VS also supports *batch* operations, which are jobs that run without human intervention or attention. AOS/VS can also run *real-time* programs, which can gain direct access to *devices* (for example, a disk or a printer), receive priority scheduling, and remain in the computer's memory.

AOS/VS Models

ECLIPSE MV/1000™ DC, ECLIPSE MV/1400™ DC, ECLIPSE MV/2000™ DC, ECLIPSE MV/2500™ DC, ECLIPSE MV/3500™ DC, ECLIPSE MV/5500™ DC, and DS/7500 systems run a specially designed *model* of AOS/VS, Model 31133. On these systems, which we call deskside ECLIPSE systems, the operating system software is *preinstalled* on your computer's hard disk before you receive the computer and thus these systems are referred to as preinstalled systems. Other systems run AOS/VS Model 3900. Preinstalled systems come with the SMI enabled; system managers of Model 3900 systems can choose to run their systems with the SMI enabled. (See Appendix D in this manual for the details.)

AOS/VS Processes

AOS/VS is a *multiprogramming* system; it can run many programs simultaneously. Each running program is called a *process*. Every user on the system is running at least one process. Each process has a specified amount of main memory; it often has its own terminal; and it can use the devices. On some large computers, AOS/VS can manage over 1000 processes at the same time.

Security on AOS/VS

AOS/VS allows only authorized people to log on user terminals. An authorized person is one for whom the System Manager has created a *user profile*. The profile determines what the user's privileges are and what system resources (like disk space and main memory) the user is assigned. We describe system security and user profiles in more detail in Chapter 3, "Managing the System."

The AOS/VS File System

Before you get AOS/VS running on your system, you should understand the AOS/VS file system. If you are a system user — not performing any system management functions — dealing exclusively with the CEO® system or an application program, you might not need to worry about AOS/VS files. However, an introduction to the method AOS/VS uses to store data would be useful for most system users.

AOS/VS stores information for you in *files*, which reside on portions of the disk. You specify a filename for each file, and AOS/VS uses this name to keep track of where the file is on the disk. You use the filename any time you need to refer to that file. Filenames can be from 1 to 31 characters long, and can contain any of the following characters: A - Z, a - z, 0 - 9, $ (dollar sign), _(underscore), ? (question mark), and . (period). (Note that the system converts all alphabetic characters in the filename to uppercase, so it will not differentiate between FILE1 and file1, for example.) You can have files on diskettes or tape, as well as on the hard disk.

Directory Files and Data Files

There are many different types of files, but the two you will deal with most are directory files and data files. A *directory file* catalogs and contains other files, but it has no information of its own that you can use. You store your data files (and other directory or nondirectory files) in a directory.

You can think of a directory as folders in a filing cabinet, and data files as files. One folder can contain one or more secondary folders for holding files. Therefore, you can have a small folder (directory) containing just files (data files). Or you can have a large folder (directory) holding both files (data files) and several other folders (subordinate directories) with their files (data files). AOS/VS allows you to have up to eight levels of directories, not including the root directory. (We will define the root directory momentarily.)

The organization of all directories on a system makes up a hierarchy resembling Figure 1-1.

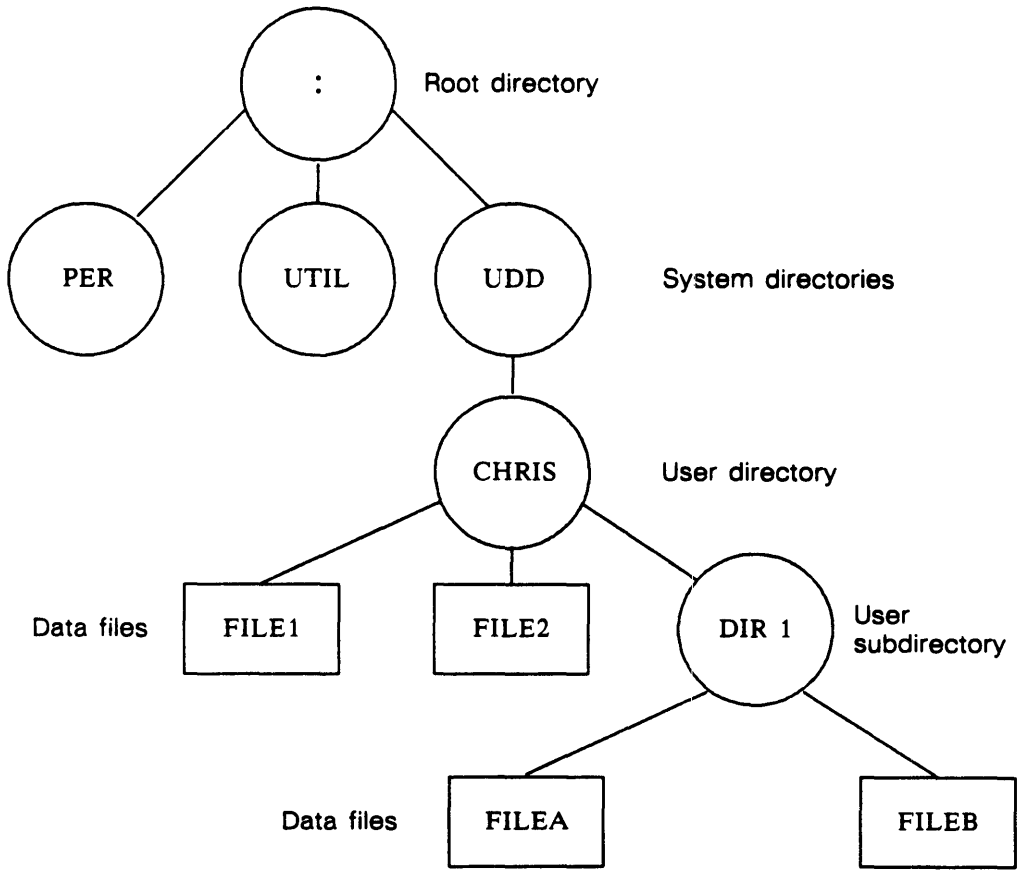


Figure 1-1 A Directory Tree

The *root* directory (:) is the top directory in the AOS/VS file system. It contains all other files. Three of the system directories subordinate to the root are PER, which contains files for each of the system's peripheral devices (such as the printers and terminals), UTIL, which contains system utilities (such as text editors), and UDD, which is the User Directory Directory and contains a directory for each system user.

In Figure 1, we show one user's directory, CHRIS, located in the UDD directory. For a multiuser system, the UDD directory would contain many subordinate directories, at least one for each user.

Pathnames

When you work within the AOS/VS file system, you are always positioned in a directory. The directory you are positioned in at any given time is your *working directory*.The default working directory (that is, the directory that will be your working directory unless you specify otherwise) is your own username directory. Therefore, using our example above, user Chris's working directory will be CHRIS. Chris can refer to any file in the working directory, such as FILE2, using a *simple* filename, that is, the filename alone — FILE2. But if, for example, Chris makes :UTIL the working directory (by using the DIR command) then FILE2 can only be referred to via a *pathname*.

A pathname is merely a name showing the directory structure from the working directory to the file. A *full pathname* is a name that shows the directory structure from the root directory to the file. In the example above, the pathname would be :UDD:CHRIS:FILE2.

(Note that you can type filenames and pathnames in either upper- or lowercase, or any combination of the two; both :udd:chris:file2 and :UDD:Chris:FILE2 are acceptable pathnames identifying the same file.)

For more basic information on files, pathnames, and the AOS/VS file system, see *Learning to Use Your AOS/VS System. Using the CLI (AOS/VS and AOS/VS II)* contains detailed information on file management. (We discuss the CLI later in this chapter.)

Template Characters

As we mentioned earlier, to refer to a file, you specify its filename. Or you can specify just part of a name by using a *template*. A template is a character that matches certain characters or specifies where to search for files. We list the templates your system uses in Table 1-1.

Table 1-1 Template Characters

Template Character	What it Means
*	Match any single character except a period.
-	Match any series of characters not containing a period.
+	Match any series of characters.
\	Omit a filename or filenames (specified after the backslash, possibly including template characters).
#	Search in the specified directory and in all subordinate directories. Without this template, the search is restricted to the working or specified directory.

For example, suppose user Robin has a directory in :UDD:ROBIN called CUSTOMERS, and this directory contains files ADAMS, ADKINS, ARMSTRONG, and ATWATER, among others. If Robin specifies AD+, the search will find ADAMS and ADKINS. If Robin specifies A+, the search will locate all four above-mentioned files. For more information on templates, see *Learning to Use Your AOS/VS System*.

Control Sequences and Special Keys

While running the system, you should be aware that there are keyboard control sequences and special keys that do things like govern terminal display and interrupt program execution. You might need to use some of these keys, and you should be aware of what will happen if you accidentally type one of them.

To enter a control sequence, first press the Ctrl key; then, while holding Ctrl down, press the other key in the sequence (either upper- or lowercase). Table 1-2 lists the control sequences and special keys and their functions.

Table 1-2 Control Sequences and Special Keys

Key(s)	Function
Ctrl-S	Suspends terminal display; that is, it freezes your screen. To resume display, enter the Ctrl-Q sequence. The Ctrl-S/Ctrl-Q sequence is useful when you want to display long files on the terminal screen and the screen is scrolling too quickly.
Ctrl-Q	Resumes terminal display suspended by Ctrl-S. Also scrolls a screen that is in Page Mode.
Ctrl-U	Erases the current input line. Ctrl-U is often easier than using the delete (Del) key repeatedly to erase a long input line.
Ctrl-D	Terminates the current keyboard input operation. (End of File from keyboard.)
Ctrl-O	Discards all output sent to the terminal until a subsequent Ctrl-O is issued.
Ctrl-C Ctrl-A	Interrupts and restarts dialog in some programs. Also interrupts execution of AOS/VS CLI commands.
Ctrl-C Ctrl-B	Immediately terminates the current program process in AOS/VS, such as the CLI, the System Management Interface (SMI) program, or a text editor.
Del key	Erases the last character typed. If you are using a hard-copy terminal, Del echoes as an underscore (_).
Break or Brk or Cmd-Break	Unless disabled, gives control of the system console to the SCP CLI. Chapter 6 describes what to do if you enter the break sequence by mistake.

Function Keys

Like the control sequences, function keys on your terminal perform specialized functions, depending on what program is running when you use them. Figure 1-2 shows the location of the function keys on the keyboard of a DASHER® D210, D211, D410, D411, D460, or D470 terminal.

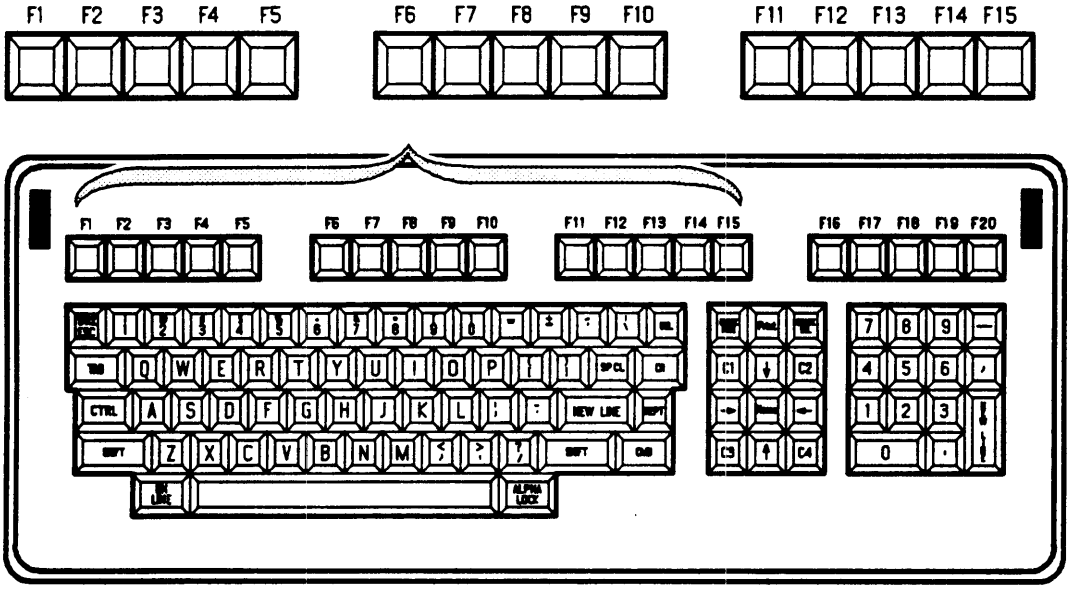


Figure 1-2 Location of Function Keys

The function keys are numbered from left to right, with the leftmost key being F1. Some of the function keys are used in conjunction with the Shift and/or Ctrl keys to perform a function. The SMI programs that we describe in this manual recognize several function keys, listed in Table 1-3.

Table 1-3 Function Keys Recognized by the SMI

Key	Name	Function
F1	Execute	Enters all data currently displayed in the fields of a command screen.
Shift-F1	Help	Displays Help text about the current menu or input field.
F3	Previous Screen	Scrolls back to the previous screen. Used with displays of Help text.
F4	Next Screen	Scrolls ahead to the next screen. Used with displays of Help text.
Shift-F4	Begin/End Line	Moves the cursor to the beginning of the line. If the cursor is already at the beginning of the line, moves it to the end of the line.
F7	Insert Space	Inserts a space (a blank) at the cursor position.
F8	Delete Character	Removes the character at the cursor position.
F9	Delete	Within a menu or command screen, erases any text in the input field at which the cursor is positioned.
Shift-F9	Delete Word	Removes the word on which the cursor is positioned.
F11	Cancel/Exit	Exits from the current menu or command screen and returns to the previous screen.
Shift-F11	Back Field	Returns to the previous input field in a command screen.

Figure 1-3 shows the location of these keys on your keyboard.

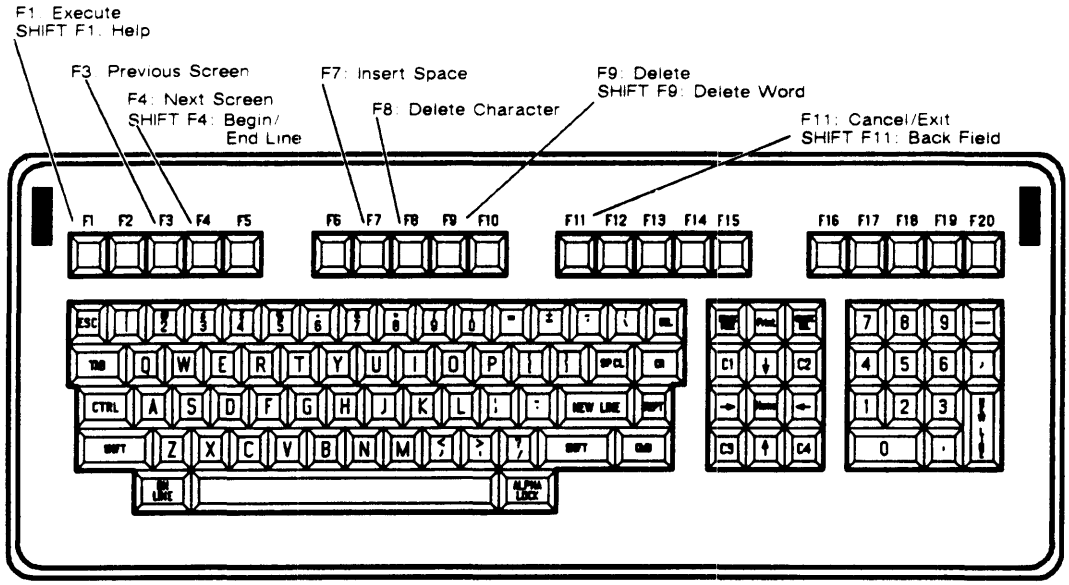


Figure 1-3 Function Keys Recognized by the SMI

The descriptions in later chapters of this manual explain specific situations in which these function keys are useful. Their meanings will be clearer to you when you see them in context.

What Is the CLI?

The Command Line Interpreter (CLI) is a command language that you can use while running AOS/VS, to issue commands to the computer. The CLI has built-in commands that you can enter, using a specific format, to do a number of functions including

- Creating or deleting files.
- Compiling, linking, or running programs.
- Setting or displaying the status of CLI environment parameters.
- Copying files to tape or diskette, or loading files from tape or diskette.
- Controlling processes.
- Managing the system.

Many of these functions you can also perform from SMI menus, as you will discover in the next few chapters. You can also enter the CLI via an SMI menu option, or by typing the CLI keyword from any SMI menu. (See the section "Using Keywords," in Chapter 2.)

For complete information on the CLI, see *Using the CLI (AOS/VS and AOS/VS II)*. In addition, *Learning to Use Your AOS/VS System* has a chapter called "A Session with AOS/VS," which is a helpful introduction to the CLI once you have entered it.

What Do You Want to Do?

Different portions of this book will be useful to different types of system users. Specifically, there are two audiences for this manual: the regular system user, and the system user who will be responsible for performing system management tasks. We refer to the latter user as the system manager for simplicity, although we realize this user may not actually have such a title.

In this manual, each chapter and some chapter sections are preceded by a key that shows which type(s) of user the chapter or section is intended for.

The System User

System users who will run only a job-specific application program, and who won't deal at all with the AOS/VS file system, won't need this book; they will just need instructions for the application they will be using. However, users who will be working on the system and using AOS/VS files will need to read parts of this book. These users will be concerned with part or all of the following chapters: 1, "Introduction to AOS/VS," 2, "About the SMI," 3, "The SMI Main Menu Options," 4, "Backing up and Restoring Files," and 6, "Handling Errors." Most users need to read only the sections of these chapters that are marked as appropriate for the system user. For example, the beginning of this chapter indicates that the entire Chapter 1 is appropriate for both system users and system managers; the second part of Chapter 6 is marked as appropriate for system managers only.

If you will be using the CLI, you should also see the *Using the CLI (AOS/VS and AOS/VS II)*. If you will be a CEO user, see *Getting Started with the CEO® System* and other CEO documentation as needed.

The System Manager

If you will be performing system management tasks, you might need to read this whole manual. You may, however, be performing only a few specific system management tasks, in which case you can refer to just the sections that apply to those tasks.

For some system management tasks, this manual is just a takeoff point. *Installing, Starting, and Stopping AOS/VS* and *Managing AOS/VS and AOS/VS II* provide detailed information for running AOS/VS Model 3900. Note, however, that neither of these manuals deals with the menu-driven interface. They are also much more technical than the manual you are reading now; it would be a good idea to go through this entire manual and *Learning to Use Your AOS/VS System* before reading *Installing, Starting, and Stopping AOS/VS* or *Managing AOS/VS and AOS/VS II* At the least, you should be familiar with the CLI before doing so.

Bear in mind that, as you proceed with your system management tasks using the menu-driven SMI interface, you can always turn to this manual and the on-line Help system for assistance. We describe the Help system in Chapter 2.

What Does the System Manager Do?

The person acting as system manager is responsible for a number of tasks, including

- Starting up and shutting down the system.
- Setting the system date and time.
- Determining what will happen each time the system comes up.
- Creating and modifying user profiles.
- Managing terminal users.
- Managing the devices, such as the disk and printer.
- Backing up the system and restoring it in the event of a system failure.
- Controlling the batch queue.
- Managing the network.
- Installing and managing new software and software updates.

Many of these functions you can perform by selecting them from the System Management Interface (SMI) program's menu series. The system will then instruct you on the screen as to what you must do.

The rest of this chapter explains what you should know about system security, and how to use the above-mentioned menus to perform system management functions. More difficult and less-often-used system management functions, such as monitoring your disk space, are covered in Chapter 5, "Advanced Functions."

System Security

Because computers contain important and often valuable information, it is vital that you have adequate security for your system. Not only must the information stored within the computer be secure from unqualified persons, but tapes and diskettes must also be stored securely, and the system console should be located in an area accessible only to those who need it.

This section describes how to maintain security in all of these areas. If you are at an installation where even greater security is imperative, and you are using TEO™ software on *pixel-mapped* (graphics) terminals, you might want to run AOS/VS without the SMI program. Refer to *Managing AOS/VS and AOS/VS II* for more information.

Physical Security

Anyone who can touch the actual computer or its disk unit(s) can bring the system down. If your installation requires strict security, it is essential that you keep the computer and preferably the system console in a secure location. It should be in a room that is locked when the system manager or operator is away, and the system console should not be left in a program to which access should be restricted (as discussed later in this chapter) when the system manager is not around.

Similarly, it is important to keep vital tapes or diskettes, such as system backups, locked up where no one can take or damage them. If users need any files restored from system backup, they can ask the system operator or manager, or other person designated as archive manager, for the appropriate tape or diskette(s).

The physical security of your installation also depends on the environmental conditions. Be sure to keep the computer area clean, uncluttered and free of dirt and dust. It is also essential to keep the temperature within the range 32 to 100 degrees Fahrenheit (0 to 38 Celsius). If the computer gets too hot or too cold, it can go down, and information on your disk could be lost. Ideally, the computer should remain in temperatures between 55 and 85 degrees Fahrenheit.

User Profiles

On a multiuser system, it is important to have a secure system. There are many functions that the system manager alone should be able to perform. The system manager assigns *profiles* to restrict users from features they don't need, but to ensure that they have the ability to perform tasks they do need. Each user profile has a username/password pair; no one can use the profile without knowing the password. This helps maintain system security.

Each user's profile tells which system resources are available to that user and which *privileges* the user does and doesn't have. For example, three privileges that users can have are System Manager, Superuser, and Superprocess. AOS/VS comes with two types of predefined, or "ready-made," profiles that you can assign: the System Manager profile and the System User profile. Each of these profiles assigns the user 25000 *disk blocks* for files. (Disk blocks are sections of space on the disk for storing information.)

NOTE: Be careful not to confuse the System Manager *privilege* with the System Manager *profile*. The System Manager privilege is one of many settings in a user profile. The System Manager profile is an entire user profile that has as one of its settings the System Manager privilege.

Users who have the System Manager profile have the Superuser, Superprocess, and System Manager privileges. The System Manager profile allows users to perform administrative tasks such as managing the batch queue, terminating processes, starting up and shutting down the system, and creating or modifying user profiles. That is, the profile permits access to the restricted administrative functions that branch off the System Management Interface (SMI) Main Menu, described later in this chapter.

You should limit the number of users to whom you give the System Manager profile. In fact, you might find that you alone need the System Manager profile.

The System User profile is for other system users who don't need the privileges of system management. Assign this type of profile to the majority of your system users.

The section "Managing User Profiles," later in this chapter, explains how to assign profiles to system users with the easy-to-use menu system. If you want to create different profiles from the two ready-made ones that come with AOS/VS (for example, to increase a user's allocated disk space, or to create a type of profile between System User and System Manager), you will have run the PREDITOR profile editor. We outline this procedure in Appendix D.

The SYSMGR Profile

AOS/VS comes with a profile that has the username SYSMGR. The SYSMGR profile is a System Manager profile; that is, it contains all the privileges necessary to perform system management functions on AOS/VS. When AOS/VS is loaded on the system, the SYSMGR profile is loaded with it. Initially, the SYSMGR profile's password is SYSTEM_MANAGER, but we recommend that you change it right away, for security reasons.

Chapter 5 has information on changing profile information, including the password, via SMI. To change your password at logon, enter your username as usual. At the prompt for password, type the existing password, but instead of pressing New Line, press the Erase Page (or Ctrl -L) key. The system will prompt you for the new password. A password must be from 6 to 15 characters long, and can contain any printable character except the caret (^). For more information on changing your password at logon, refer to *Learning to Use Your AOS/VS System*.

EXEC and the Multiuser Environment

When you bring up AOS/VS, the multiuser environment is in place as soon as you run the UP.CLI macro. (On systems running preinstalled AOS/VS, the proper UP macro runs automatically.) A program called EXEC, located in the AOS/VS directory :UTIL, supervises the multiuser environment. EXEC performs several functions, including

- Logging users on and off — When a user attempts to log on, EXEC checks for a valid profile. If the username/password pair entered matches a profile, EXEC creates a user process with the values stored in that user's profile. When the user terminates the user process by logging off, EXEC keeps track of the active processes on your system .
- Managing printer and batch queues — EXEC maintains a batch input, list, and batch output file for each batch request, and it sends print requests to the appropriate printer. It manages the queues with very little user intervention.

The system manager uses a series of EXEC commands to perform various system management functions. The SMI allows you to perform many of these commands by selecting them from menus, rather than by entering an EXEC command from the CLI.

Note that the SMI program does not contain *every* EXEC command; rather, it includes those most often used. Refer to *Managing AOS/VS and AOS/VS II*, for a complete list of EXEC commands, and a detailed description of the EXEC program.

If you would like more information on AOS/VS before you begin using the SMI, refer to *Learning to Use Your AOS/VS System*.

End of Chapter

Chapter 2
About the SMI

This chapter is for the

System Manager	✓
System User	✓

Your operating system has all the features described in Chapter 1 and in *Learning to Use Your AOS/VS System*; in addition, it has available the SMI program's *menu-driven interface* that allows you to perform certain system management tasks more easily than you would without the SMI. An *interface* is the interaction between you and the computer — how the computer communicates with you and what you see on your screen. *Menu-driven* means that you will see menus — that is, lists of options — on your screen, from which you can select the functions you want to perform.

The SMI also comes with an on-line Help system, which you can use to get information at any time. We will describe the Help system and how to use menus later in this chapter.

What Is the SMI?

The SMI program is an easy-to-use, menu-driven program that allows you to perform various EXEC commands and a few CLI commands. Some of SMI's system management functions, such as controlling the printers and backing up or restoring personal files, are available to all users on the system. Other functions are restricted to users, such as SYSMGR, who have the System Manager privilege in their user profiles (as do all users to whom you have assigned the System Manager profile provided by the SMI).

Running the SMI

Deskside ECLIPSE systems running preinstalled AOS/VS Model 31133 are *generated* before delivery to run the SMI as described in this manual. On systems running AOS/VS model 3900, the SMI will not work unless the system manager *generates* the system appropriately (by running the VSGEN program and editing some macros). If you want to generate an SMI environment on your system, refer to "Appendix D - Changing the SMI Environment."

Entering the SMI

There are several ways to get to the SMI Main Menu. If your initial program file (set in the profile) is SMI.PR, you will automatically receive the SMI Main Menu when you log on. (Note that on some systems, SMI.PR is SYSMGR's initial program file on first time startup. You can change the SYSMGR profile, however, to make a different program come up on logon. We describe how to modify profiles in Chapter 5.)

Any system user can get to the SMI Main Menu by executing the SMI program, either from the CLI or from Data General's automated office system, CEO. To execute SMI from the CLI, you have two choices. You can use the SMI.CLI macro, as follows:

```
) SMI ↵
```

Or you can enter the following command:

```
) XEQ SMI ↵
```

If you have the System Manager privilege in your profile, you should be in your own user directory when issuing the above command. The SMI.CLI macro automatically places you in your own user directory, so it doesn't matter what your working directory is when you execute SMI via the macro.

Any CEO user can enter SMI, as long as the CEO manager has added SMI as a public user application. To run the SMI user application from CEO, select the "User applications" option from either the Utility Functions Menu or the Interrupt Menu (press the Interrupt function key, F5). Then specify that you want to work with public applications, and then specify the option number for the SMI application. Refer to your CEO documentation for more detailed instructions on running user applications.

When you have executed SMI, the SMI Main Menu will appear on your screen, as shown in Figure 2-1.

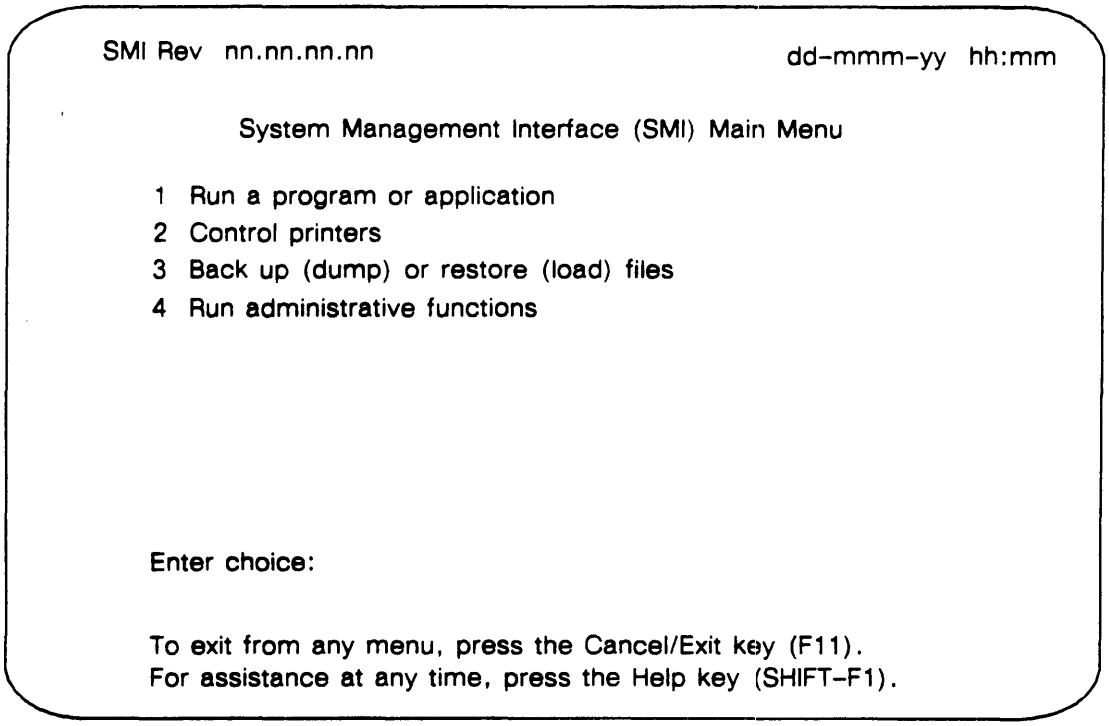


Figure 2-1 SMI Main Menu

Although any system user can execute the SMI program, not all users will see exactly the same SMI Main Menu. Only those users having the System Manager privilege in their profiles will have option 4; regular system users will see just the first three options.

NOTE: If you are running the SMI from a hard-copy terminal, its menus and screens will look and function somewhat differently from the way they do on a display terminal. See Appendix C for details.

Pressing Cancel/Exit (F11) from the SMI Main Menu will return you to wherever you were when you executed the SMI. Whenever you exit the SMI from the SMI Main Menu, you will first receive a screen informing you that this will happen, giving you the option to remain in SMI. If you went into the SMI directly when you logged on (that is, if SMI is your initial program), pressing Cancel/Exit will log you off.

While running SMI, you can get to the SMI Main Menu from anywhere else in the SMI menu series by executing the keyword MAIN. In the rest of this chapter, we have indicated the keyword for each menu or command in uppercase letters, enclosed in parentheses, after the heading describing the option. For example, the next section is "Exiting from the SMI (BYE)." To select this option from any menu within the SMI, just type BYE and press New Line.

Exiting from the SMI (BYE)

To exit from the SMI program, press the Cancel/Exit function key (F11) from the SMI Main Menu, then answer Y (yes) to the question that asks if you really want to exit from the SMI. Alternatively, you can type the keyword BYE from any SMI menu, and you will exit the SMI immediately. If you entered the SMI from the CLI, or from CEO, or some other program, you will return to that program. If you entered the SMI when you logged on, you will be logged off.

Entering the CLI (CLI)

The SMI program has a keyword that allows you to enter the CLI at any time, while still running SMI. If you enter the keyword CLI at any menu, you will then see a special CLI prompt, as follows:

Enter choice: **CLI** ↵

SMI_CLI)

This *SMI_CLI)* prompt, like the *CEO CLI)* prompt that you get if you enter the CLI from CEO, shows you that you are running the CLI on top of another program. It reminds you that you are still running the SMI and that if you enter BYE and press New Line at this prompt, you will return to the SMI.

You can also enter the CLI via option "1 Run a program or application" on the SMI Main Menu, as described in the next chapter.

Using the System Menus and Command Screens

One of the features that makes the SMI easy to use is the collection of menus and command screens. If you have used software such as CEO, you will already be familiar with menus; but we recommend that you read through this section regardless. The SMI menus and screens aren't identical to those of CEO.

Using Menus

A menu is a screen that contains anywhere from two to nine (rarely more) options, from which you must select what you want to do next. The SMI menus offer many functions that you would otherwise be able to perform only by using the AOS/VS CLI. The menus make these functions much easier to perform by presenting the various parts of a task in a clear, logical sequence, and by eliminating complicated keystroke entries.

Figure 2-2 shows a sample menu, which resembles the menus you will see when you run the SMI.

```
Program Name Rev  nn.nn.nn.nn                    dd-mmm-yy hh:mm

                          Sample Menu

=>   1  First menu option

     2  Second menu option

     3  Third menu option

     4  Fourth menu option

     5  Fifth menu option



     Enter choice:  1

     To exit from any menu, press the Cancel/Exit key (F11).
     For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 2-2 Sample Menu

The top line of the menu is called the *status line*. On SMI menus, it reports the release of SMI that you are running, as well as the current system date and time. Note that the date and time are updated only when the screen is refreshed; that is, when a new screen comes up, or when you rewrite the current screen by pressing the Erase Page key. If you leave your terminal while an SMI screen is displaying, and don't return for many minutes or hours, the time displaying when you return will be the same as when you left.

After the *Enter choice:* prompt on each menu, you will see an option number. That option is the *default* option; that is, the option you are most likely to want at that particular time. Depending on the menu, the *Enter choice:* prompt will appear either like the prompt in Figure 2-2, or in brackets, like the following:

Enter choice [1]:

On some menus, there will also be an arrow (like =>), which points to the option appearing as the default. We call this arrow the *menu cursor*. In Figure 2-2, option 1 is the default.

Selecting Menu Options

To accept the default menu choice, just press New Line. To select any option on a menu, type its number and press New Line. Alternatively, you can use the arrow keys, also known as Cursor Up and Cursor Down keys, to move the menu cursor to a different option. For example, suppose the default is option 1. To select option 2, you can either type 2, or you can press the downarrow key once. The menu cursor will move down so it is positioned next to option 2, and a 2 will appear after the *Enter choice:* prompt. To confirm that this is the option you want, press New Line.

If you select an option that isn't on the menu (for example, 6 in the sample menu in Figure 2-2), you will get an error message that prompts you to enter a valid choice.

Exiting from Menus

Should you ever look at a menu screen and decide you don't want to select any of its options, you can exit from the menu by pressing Cancel/Exit (F11). F11 is the eleventh function key, counting from the left, on the row of function keys at the top of your keyboard.

Pressing F11 will do one of the following:

- Return you to the previous menu screen, if there is one to which you can return.
- Present an intermediate screen showing what will happen if you continue the Cancel/Exit function. (This will happen if you are trying to exit from a menu for which there is no previous menu; that is, the SMI Main Menu.)

In the second instance, you can return to the menu from which you pressed Cancel/Exit if you decide you don't want to continue the Cancel/Exit function. The intermediate screen will tell you how to do this.

NOTE: While running SMI on a hard-copy terminal, use the Esc-C sequence to perform the Cancel/Exit function (press Esc; then press C).

Using Command Screens

A command screen is a screen that contains one or more prompts, at which you are expected to enter information. You might have to give the SMI some information about your system, or specify a certain printer or queue that you want to use, or type values such as the date and time.

Command screens often contain default values after the prompts, like the menus do. Figure 2-3 shows a sample command screen, with default values filled in.

```
SMI Rev 07.68.00.00                          15-OCT-90 10:37

                              Print Files

    Specify the pathname of each file to print, the name of the queue
    in which you want to place your print request(s), and the name of
    the form to use.

    Pathname(s):

    Queue name: LPT

    Form name: DEFAULT




    To exit from any menu, press the Cancel/Exit key (F11).
    For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 2-3 Sample SMI Command Screen

Like the SMI menus, the command screens display a status line at the top of the screen, and information on exiting the screen and getting help at the bottom of the screen.

The places on each command screen at which you can enter information are called *input fields*. Most input fields require you to enter a value; but on some command screens you can enter a null string (specify no entry), usually by just pressing New Line.

To accept any default response, just press New Line while at the prompt. To enter a different response, type over the default response, and erase any extra characters by pressing Erase Eol or the space bar the necessary number of times. Or you can press CR, which will erase to the end of the line and place the cursor at the next input field. (CR functions the same as if you had pressed Erase Eol, and then New Line.) To enter a null string, press CR while at the first character position of the input field, or press Erase Eol, and then New Line.

You can use the arrow keys to move between input fields. For example, if you answered the first and second prompts, and then decided to change your response to the first, you could press the uparrow key, which will move the cursor back to the previous input field. Similarly, you can proceed to the next input field by using the downarrow key instead of New Line or CR.

At any command screen, you can press the Execute function key (F1) from any prompt on the screen to indicate that all values currently displayed are correct. For example, if the screen comes up and you type your response for the first field, and want the default responses for the remaining input fields, you can press Execute instead of New Line at the first prompt. Or you can press New Line, and then press Execute at the second or any subsequent prompt.

Getting Help

At times, the SMI might display a menu that has options you don't entirely understand. Or there might be an input field on a command screen for which you aren't sure what information to enter. If this happens, you can either consult the appropriate portion of this manual, or, for a quick explanation of your options at any time, you can press the Help key, Shift–F1 (press and hold the Shift key; then press F1).

If you are positioned at a menu screen when you request help, the on-line Help system will supply a brief explanation of the menu's options, designed to help you make your selection immediately. If you pressed the Help key while at a command screen, the help screen will apply directly to the input field you were positioned at when you requested help. We describe the Help system in more detail later in this chapter.

Using Keywords

As you become proficient with the SMI menus, you will find that they branch and make up many different menu paths. Figure 2–4 shows a sample set of menus and their menu hierarchy.

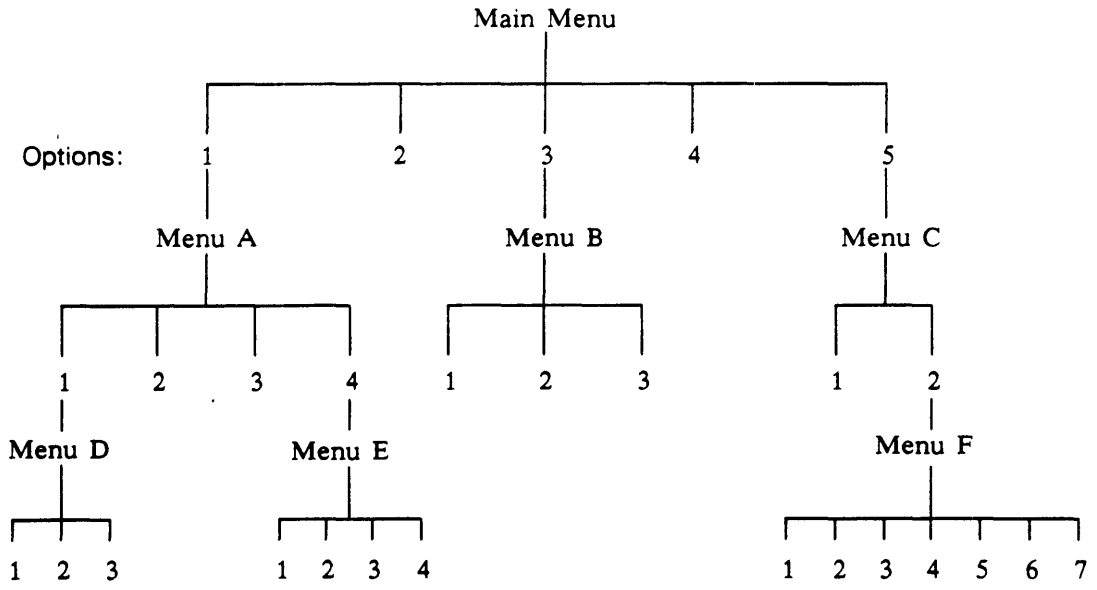
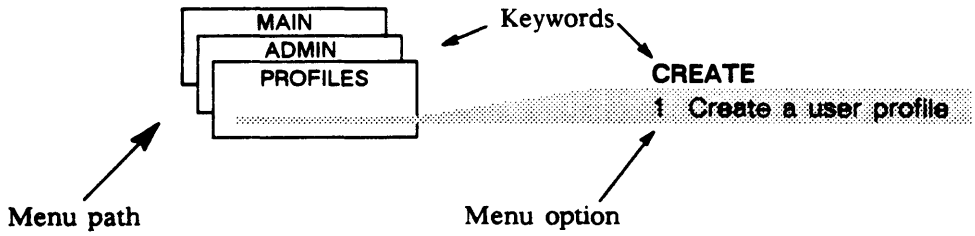


Figure 2–4 A Menu Hierarchy

Suppose, using Figure 2–4 as a guide, you are positioned at Menu F, and you want to perform a function that is on Menu E. Using the method we described earlier, you would have to press Cancel/Exit once to get to Menu C, press Cancel/Exit again to get to the Main Menu; then select option 1 to get to Menu A, and option 4 to get to Menu E. Then from Menu E you could select the option you wanted.

Alternatively, if you find this method too time-consuming, you can get to any menu or menu option by entering a *keyword*. There are *menu keywords* and *command keywords*. A menu keyword places you in a certain menu screen, where you can choose an option, while a command keyword selects a certain menu option and places you in a command screen, where you can enter information to execute a command. When you exit a menu screen, you will return to the menu from which you issued the keyword. When you exit a command screen, you will return to its superior menu.

Wherever applicable, this manual uses figures like the following to illustrate SMI menu paths and their related keywords:



See Appendix A for a list of all the SMI keywords. It explains what each keyword does and what arguments, if any, you can supply. Appendix A also includes a diagram, like the Figure 2–4, that shows the actual SMI keywords and menu structure. These keywords and their functions will mean more to you after you have read the next few chapters.

NOTE: Some menus and menu options are restricted to System Managers only. The keywords for these menus and options will work only if you have the necessary privileges. Chapters 1 and 5 deal with privileges and user profiles in more detail. Be sure to read this information before attempting to use restricted keywords.

For example, using the diagram in Figure 2–4, suppose the keyword for Menu E is PRINTERS. If you currently have Menu F (or any other menu) on your screen, all you have to do is type PRINTERS and press New Line, and you will be at Menu E.

As an example of a command keyword, suppose you want to send a message to all users, but don't want to bother going through the menus and prompts to get to the menu option "Send a message to all consoles." One of the keywords listed in Appendix A is BROADCAST. You could enter the keyword BROADCAST by itself, as follows:

Enter choice: **BROADCAST** ↵

This will bring up the Send a Message to All Consoles screen, at which you could type your message. Alternatively, you could enter an entire keyword command string, for example:

Enter choice: **BROADCAST The system will be coming down in 5 minutes.** ↵

This string consists of the keyword command (BROADCAST) and its *arguments*, the words that compose the message you want to send to everyone. It lets you send the message without bringing up the Send a Message to All Consoles screen, allowing you to remain at your current position in the menu structure.

Note that if you do enter an entire string in this way, you must be sure you know the command keyword and argument(s) that the system expects. For some command keywords, the system needs several pieces of information. With any command keyword, you can enter one, some, all, or none of the required arguments. If you don't enter all required arguments, the system will present the command screen for you to fill in the remainder of the information. The arguments you have supplied will already be entered on the screen, as long as you have not supplied more than the command accepts.

Note that you can enter keywords in upper- or lowercase, and you can abbreviate them to minimal uniqueness; that is, you can use the fewest number of characters that uniquely identify that keyword. For example, three of the keywords for the SMI program are CONFIGURE, CONSOLES, and CONTINUE. These are the only three keywords beginning with CON, so you can abbreviate them to CONF, CONS, and CONT, respectively.

The SMI program has two keywords that do not bring up an SMI menu or screen: CLI and BYE. The CLI keyword places you in the CLI, where the CLI prompt will look like this:

SMI_CLI)

The BYE keyword allows you to exit from the SMI. If you entered the SMI from the CLI, then you will return to the CLI. If you entered the SMI when you logged on, you will be logged off the system.

The next section describes the Help facility.

The On-Line Help Facility

You can get an explanation of your options on any SMI menu or input screen by requesting help from the on-line Help facility. Help is available throughout the entire SMI program. Getting help does not interrupt activity in progress; when you are finished viewing help screens you will return to exactly where you were when you requested help.

The help is *context-sensitive*; that is, the text on the help screen will be directly related to what you were doing when you requested help.

Requesting Help

To request help, press the Help function key, Shift-F1. (F1 is the leftmost function key at the top of your keyboard. Press and hold the Shift key; then press F1, and the help screen will appear.)

Figure 2-5 shows the location of the Help key on your keyboard.

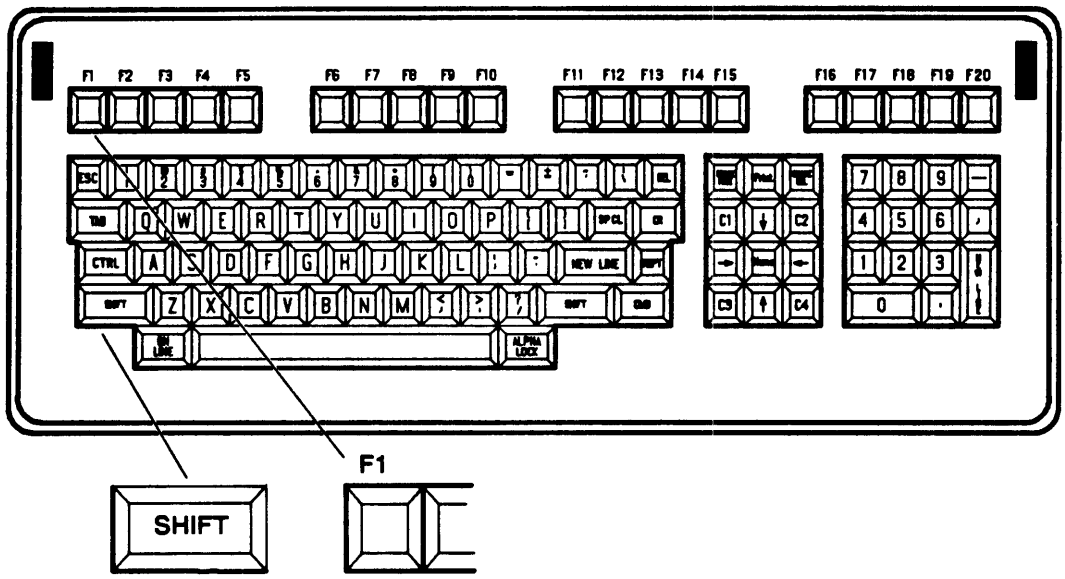


Figure 2-5 The Help Key

NOTE: If you are using a hard-copy terminal to run the SMI, use the Esc-H sequence to request help. (See Appendix C for details.)

After you view the help screen or screens, you can press the Cancel/Exit key (F11) to return to whatever screen you were at when you requested help.

Scrolling the Help Display

Some help displays are more than one screen long. When this is the case, you will see the first help screen, and then can choose if you want to continue viewing help or return to where you were when you requested help. Similarly, if you are at the second or subsequent help screen, you can scroll the help back to a previous screen.

To scroll a help display, use the Previous Screen and Next Screen function keys (F3 and F4, respectively). Figure 2-6 shows their location on your keyboard.

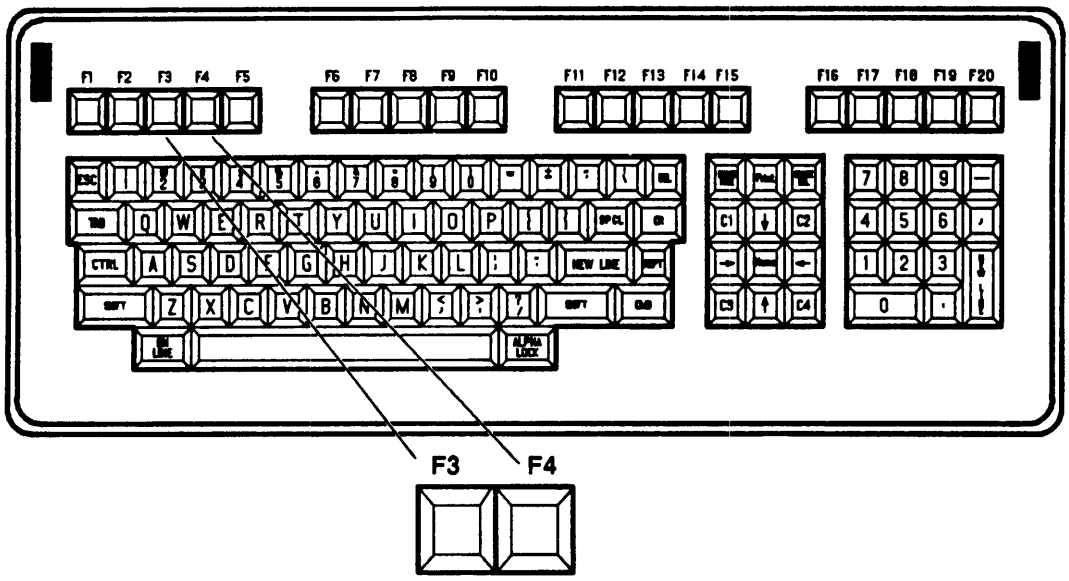


Figure 2-6 The Previous Screen and Next Screen Function Keys

When you press F4, the system will scroll the help display one screen forward. This function key will not work if you are viewing the last screen of the help display. When you press F3, the system will scroll the current help display back one screen. This allows you to review the help you saw just previously. The Previous Screen key will not be functional if you are viewing the first screen of the help display.

The next three chapters of this manual describe all the options available through the SMI program.

End of Chapter

Chapter 3
The SMI Main Menu Options

This chapter is for the

System Manager ☑

System User ☑

When you enter the SMI, the first menu you will see is the SMI Main Menu. Figure 3–1 shows the SMI Main Menu.

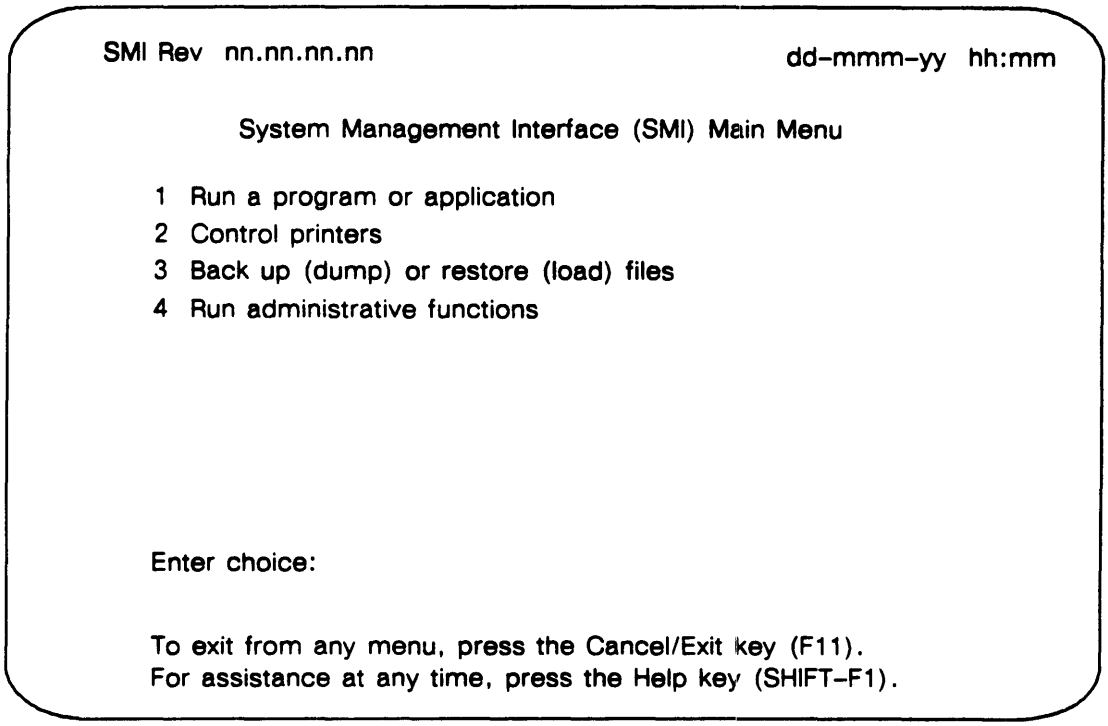


Figure 3–1 SMI Main Menu

Although any system user can execute the SMI program, not all users will see exactly the same SMI Main Menu. Only those users having the System Manager privilege in their profiles will have option 4; regular system users will see just the first three options.

NOTE: If you are running the SMI from a hard-copy terminal, its menus and screens will look and function somewhat differently from the way they do on a display terminal. See Appendix C for details.

The SMI menus all display a status line at the top of the screen, which notes the program name and release number and the current date and time. The time will be updated only when the screen is refreshed. Therefore, when a new menu or command screen displays, or when you press the Erase Page key, the time will be updated; but if you leave your terminal while an SMI screen is displaying, and don't return for many minutes or hours, the time displaying when you return will be the same as when you left.

Getting to the SMI Main Menu

There are several ways to get to the SMI Main Menu. If your initial program file (set in your user profile) is :UTIL:SMI.PR, you will automatically receive the SMI Main Menu when you log on.

(Note that SMI.PR is SYSMGR's initial program file on first time startup. You can change the SYSMGR profile, however, to make a different program come up when you log on. We describe how to modify profiles in Chapter 5.)

While running SMI, you can get to the SMI Main Menu from anywhere else in the SMI menu series by issuing the keyword MAIN. In the rest of this chapter, we have indicated the keyword for each menu or command in uppercase letters, parenthesized, after the heading describing the option. For example, the next section is "Running a Program or Application (PROGRAM)." To select this option from any menu within the SMI, just type the keyword PROGRAM and press New Line.

Exiting from the SMI Main Menu

Pressing Cancel/Exit (F11) from the SMI Main Menu will bring up a screen informing you that if you continue with the Cancel/Exit procedure, you will exit from the SMI and return to wherever you were when you executed SMI. If you went into the SMI directly at logon (that is, if SMI is your initial program), you will be logged off. The screen gives you the opportunity to answer Y (yes) to exit from SMI or N (no) to return to the SMI Main Menu. You can directly exit the SMI by entering the keyword BYE at any SMI menu. The system responds to the BYE keyword by returning you to wherever you were before you executed SMI.

The rest of this chapter describes the options available on the SMI Main Menu. Remember that only the first three options are open to users without the System Manager privilege.

Running a Program or Application (PROGRAM)

MAIN

PROGRAM
1 Run a program or application

Option "1 Run a program or application" on the SMI Main Menu allows you to run any application or program to which you have access. When you select option 1, or use the PROGRAM keyword from anywhere within SMI, the system will display the following screen, which prompts you to enter a CLI command line or a macro, and which will tell the system what you want to run:

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                    Run a Program or Application

    Enter a CLI command line or a macro name, or press New Line to
    enter the CLI:
```

If you want to enter the CLI, just press New Line at the prompt, or type CLI and press New Line. Otherwise, type the command line or macro name and press New Line. (Note that CLI is also an SMI keyword. You can enter the keyword CLI from anywhere in the the SMI menu series and immediately enter the CLI.)

For example, suppose you wanted to run the PREDITOR profile editor, to give a user more disk space than the 25,000 blocks initially allocated. You would respond to the prompt in the following way:

Enter a CLI command line or a macro name, or press New Line to enter the CLI:

XEQ PREDITOR ↵

If the command you enter is one that takes arguments, you can type them on the same line. For example, suppose user Sandy wanted to use the SED text editor to edit a disk file in the directory :UDD:SANDY called MINUTES_10.04.90. Sandy could type the following:

XEQ SED :UDD:SANDY:MINUTES_10.04.90 ↵

where :UDD:SANDY:MINUTES_10.04.90 is the pathname to the file to edit. Both SED and :UDD:SANDY:MINUTES_10.04.90 are arguments to the command XEQ. For detailed information on how to enter and use CLI commands, you should refer to *Using the CLI (AOS/VS and AOS/VS II)*

The SMI will clear the screen and start up the program you specify. When you are finished running the program or application, the SMI will display the program's termination message. It will then prompt you to press New Line to continue with the SMI and you will return to the SMI Main Menu.

Controlling the Printers (PRINTERS)

MAIN

PRINTERS
2 Control printers

Option "2 Control printers" on the SMI Main Menu lets any user issue a subset of printer commands. The keyword for this menu is PRINTERS. Before using these commands, you should be familiar with how printers and print queues work under AOS/VS. Be sure you understand the differences between the following items before you continue:

printer	The physical printing device. The machine from which your printout emerges. The system manager names these devices when defining the printer lines. (See Chapter 5 for information.)
print queue	A file that holds print requests until the printer and system are ready to process them. A queue can send requests to one printer, or to many printers. Similarly, a printer can accept print requests from one or many queues. It is up to the system manager to determine which queues will be associated with which printers. (See Chapter 5 for information.)
print request	The file or document that you have sent to a queue to be printed. You can queue print requests from the CLI, from CEO, from the Control Printers Menu, or an application program.
print job	Same as print request.
sequence number	A number that the system assigns to each print request. When you display the contents of print queues, the list shows the sequence numbers. To cancel a request in a print queue, you must know its sequence number.

The system manager names printers and queues via the SMI. See the "Specifying the System Configuration" portion of the section "Customizing the System" in Chapter 5 for information on naming printers. The "Managing Printers and Print Queues" section of Chapter 5 explains how to name print queues.

If you have any questions as to the names of your printers and print queues, or which queues are associated with which printers, see your system manager.

When you select option "2 Control printers" on the SMI Main Menu, the Control Printers Menu will appear on your screen, as shown in Figure 3-2.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Control Printers Menu

        1  Print files
        2  Display contents of print queues
        3  Cancel requests in print queues
        4  Align printer paper
        5  Pause a printer
        6  Continue a printer
        7  Clear a printer




        Enter choice:

        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 3-2 Control Printers Menu

More advanced printer functions are available to users with the System Manager privilege in their profiles via the Manage Printers and Print Queues Menu, described in Chapter 5.

To exit from the Control Printers Menu at any time, press the Cancel/Exit function key, (F11). You will return to the SMI Main Menu or, if you got to the menu by entering the PRINTERS keyword, you will return to the menu from which you issued the keyword.

Printing Files (QPRINT)

You can send files to a queue to await printing by selecting option "1 Print files" on the Control Printers Menu or by specifying the QPRINT keyword. When you select this option, the system will prompt you to enter the queue you want the file(s) placed in, the printer form to use, and the pathname of each file you want printed. After you enter the information, you will return to the Control Printers Menu. As long as you entered legal filenames, your files will print, and you can pick up the output at the printer when they finish. (Note that this option works only for files stored in the AOS/VS file system. To print CEO documents, you use the CEO print option.)

Be sure to specify a queue that has been created and is open. If the queue has never been created or has been deleted, you will receive a *Queue does not exist* error message. If the queue exists, but is not a print queue, you will receive the message *Queue is not a print queue*. If the print queue exists, but is closed, you will see the message *Queue is not open*.

If you have the System Manager privilege in your profile, you can open the queue if it exists, or create it if you need to, via the Manage Printers and Print Queues Menu (see Chapter 5). If you do not have the System Manager privilege, see your system manager.

For example, suppose user Robin has the file REPORT and a directory called LETTERS in the user directory :UDD:ROBIN. Robin wants to print REPORT and a file in the LETTERS directory called EVANS on the letter-quality printer, using the default form. The queue associated with this printer is LQP1. To print these files from the Control Printers Menu, Robin selects option "1 Print files," as follows:

Enter choice: **1** ↵

The Print Files screen appears, and Robin answers the prompts as follows:

Pathname(s): **:udd:robin:report :udd:robin:letters:evans** ↵

Queue name: *LQP1* ↵

Form name: *DEFAULT* ↵

The files enter the LQP1 queue and await printing. The Control Printers Menu reappears on Robin's screen.

If you specify a form name other than the default, you'll have to use the "Switch to special form" option on the Control Printer Forms Menu to change the printer form. Note that this menu is restricted to users with the System Manager privilege in their profiles, so if you don't have this privilege, you will have to accept the default form, or ask your system manager to switch the forms for you. Chapter 5 explains how to use the Control Printer Forms Menu to print a request using special forms.

Note that if you use the QPRINT keyword to print any files directly — instead of selecting the menu option — you will be able to specify only pathnames as arguments; not a queue name or form name. For example, suppose user Chris wants to print the file PRODUCT.LIST in the user directory :UDD:CHRIS on the default printer and on the default form. At any SMI menu, Chris could enter the following:

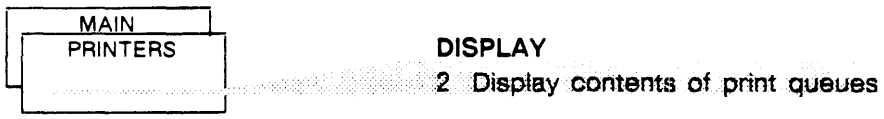
Enter choice: **QPRINT :UDD:CHRIS:PRODUCT.LIST** ↵

The file would be sent to the default printer to await printing, and Chris could continue working at the current menu.

If you don't want the default value for either queue name or form, you must specify the QPRINT keyword without any arguments, and proceed to the Print Files screen to specify the queue name and form name.

See the "Sample Session Using the Control Printers Menu," later in this chapter, for another example of printing a file.

Displaying the Contents of Print Queues (DISPLAY)



Option "2 Display contents of print queues" on the Control Printers Menu (keyword DISPLAY) lets you see what is currently in the print queue(s). You might want to do this, for example, to see where in a queue your print request is located, or to see if the print queue you want to use is open.

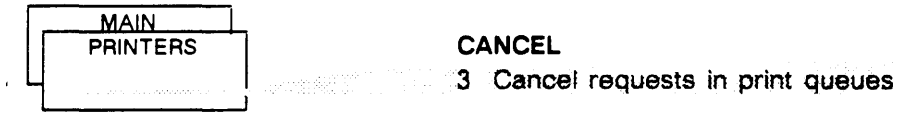
When you enter 2 at the Control Printers Menu, the system displays a message asking which print queue you want to display. You can either specify a specific queue or press New Line to display all the local queues on your system. After your response, the system will display the print queue(s). From this listing you can see which queues are open and which are closed; that is, to which queues you can send requests (open) and to which you cannot (closed). The display will also show what requests are queued to each queue, if any. Each queued request will have a sequence number, name of the process that queued it, and the AOS/VS pathname to the queued file. For example, your listing of queue contents might look like the following:

```
BATCH_OUTPUT        PRINT      Open
* 1019 D            JORDAN     :UDD:JORDAN:?14.CLI.001.JOB

BATCH_LIST          PRINT      OPEN


LPT                 PRINT      Open
  1259 D            SYSMGR     :BACKUP.90.04.15


LQP                 PRINT      Open
  1264              LEE        :UDD:LEE:QUARTERLY_REPORTS:Q190
  1265 N            LEE        :UTIL:FF
  1266              ROBIN      :UDD:ROBIN:REPORT
  1267              ROBIN      :UDD:ROBIN:LETTERS:EVANS
  1268 D            CEO_MGR    :CEO_FILES:CEO_MGR:043.DOC.LQ

LQP1                PRINT      Open
  934 A             JR         :UDD:COMMON:SYSTEM_NOTES
* 952               SULLY      :UDD:SULLY:EDITORIAL
  953               SANDY      :UDD:SANDY:PERSONAL:LIST
```

Flags explanation:
D = /DELETE
N = /NOTIFY
A = Unexpired /AFTER
* = Active

If your queue contents take up more than one screen, the screen will go into Page mode. This means one screen will display, and then the screen will freeze, as if you had entered the Ctrl-S sequence. To scroll to the next screen, enter the Ctrl-Q sequence. When all the queue contents have been displayed, you can return to the Control Printers Menu by pressing New Line.

Canceling a Queued Print Request (CANCEL)



Option "3 Cancel requests in print queues" on the Control Printers Menu lets you cancel any request you have made to a print queue. When you select 3, or specify the CANCEL keyword, the system displays a message asking for the name of the print queue from which you want to delete entries. You can either specify a specific queue or press New Line to display all the local queues on your system. After you answer the prompt for a queuename, the system displays the print queue(s) and prompts you for the sequence number(s) that you want removed. You can specify up to 10 sequence numbers. You can cancel any request that you have queued, whether it is currently active (marked with an asterisk on the queue display) or not. However, if a request has already completed, or was queued by another user, then you cannot cancel it.

(Users with the System Manager privilege can cancel requests queued by other users from the Manage Printers and Print Queues Menu, described in Chapter 5.)

After you specify which request(s) you want to cancel, you will return to the Control Printers Menu.

Aligning the Printer Paper (ALIGN)

On occasion, you will have to align the paper in the printer; for example, after the printer runs out of paper and you add more, or if the paper gets bunched up and misaligns itself. When you want to realign the printer paper, select option 4 on the Control Printers Menu or specify the ALIGN keyword. The system will prompt you for the printer name and the number of pages you want reprinted, if any.

NOTE: Be sure to type the printer name correctly; do not confuse the name of the printer with the name of a print queue. For example, a letter-quality printer named PRINTER2 might be associated with queue name LQP1. If you are unsure of the correct printer name, ask your system manager.

If you want to reprint some pages after realigning the printer paper, specify the number you want and press New Line. The default is five pages, counting back from the last page printed. If you don't want any, type 0 and press New Line. The system will pause the current print request, and then instruct you to go fix the alignment of the printer paper and to press New Line when you are done. When you press New Line after aligning the paper, the system will reprint the pages you specified, and return you to the Control Printers Menu.

Pausing a Printer (PAUSE)

Option "5 Pause a printer" on the Control Printers Menu lets you temporarily stop a printer. You might want to do this, for example, if you need to change the paper on the printer. Pausing the printer prevents any other jobs from printing until you continue the printer — option 6 on the Control Printers Menu.

When you select option "5 Pause a printer," or issue the PAUSE keyword, the system will prompt you to enter the name of the printer you want paused. It will then return you to the Control Printers Menu.

NOTE: Be sure to type the printer name correctly; do not confuse the name of the printer with the name of a print queue. For example, a letter-quality printer named PRINTER2 might be associated with queue name LQP1. If you are unsure of the correct printer name, ask your system manager.

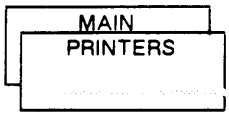
See the "Sample Session Using the Control Printers Menu," later in this section, for an example of the "Pause a printer" option.

Continuing a Printer (CONTINUE)

If you have previously used option 5 to pause a printer, then option "6 Continue a printer" allows you to restart it. When you select option 6, or specify the CONTINUE keyword, the system will prompt you to enter the name of the printer you want continued. Enter the appropriate name, and you will return to the Control Printers Menu. Be sure to enter the printer name correctly.

See the "Sample Session Using the Control Printers Menu," later in this section, for an example of continuing a printer.

Clearing a Printer (CLEAR)



CLEAR
7 Clear a printer

Option "7 Clear a printer" on the Control Printers Menu allows you to clear a printer that has become *hung*. A hung printer is one that has suspended printing for some reason. Clearing it often helps to get it working again. When you select option 7, or specify the CLEAR keyword, the system prompts you to enter the name of the printer you want cleared. Type the appropriate name and press New Line. You will return to the Control Printers Menu.

NOTE: Be sure to type the printer name correctly; do not confuse the name of the printer with the name of a print queue. For example, a letter-quality printer named PRINTER2 might be associated with queue name LQP1. If you are unsure of the correct printer name, ask your system manager.

For example, suppose PRINTER1 is hung. You would first make sure the printer's power was turned on and its Ready light lit. If they were, you would then select option 7 on the Control Printers Menu, and type PRINTER1 at the prompt, as follows:

Printer: **PRINTER1** ↵

The system would then return you to the Control Printers Menu.

Sample Session Using the Control Printers Menu

Let's assume you are logged on to the system as SYSMGR. You want to print a large file in Sandy's user directory, called INVENTORY. But suppose you notice the paper has almost run out on your printer, and you want your INVENTORY file to be one large printout. If you queue it now the paper will run out in the middle of the file and you will have a break in the printout. So you decide to pause the printer, place a new box of paper on the printer, and then continue the printer and print your file. To do this, you might use the following steps:

1. Select option "5 Pause a printer" on the Control Printers Menu, as shown below.

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm

                          Control Printers Menu

        1  Print files
        2  Display contents of print queues
        3  Cancel requests in print queues
        4  Align printer paper
        5  Pause a printer
        6  Continue a printer
        7  Clear a printer




        Enter choice: 5 ↵

        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (SHIFT-F1).
```

2. The Pause a Printer screen appears, at which you must specify the printer name, PRINTER1.

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm

                          Pause a Printer

        Please enter the name of the printer you want to pause.

        Printer:  PRINTER1 ↵
```

The printer will pause when the currently printing job is finished (if there is one) and the Control Printers Menu will reappear on your screen.

3. Go to the printer, remove the nearly empty box of paper, put a new box of paper in place (being sure to align it correctly), and return to your terminal. (Later, when the new box of paper runs out, you can replace it with the nearly empty box and use it up for other jobs.)
4. Select option "6 Continue a printer."

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm
                          Control Printers Menu
    .
    .
    .
    6  Continue a printer
    7  Clear a printer

    Enter choice:  6 ↵
```

5. At the Continue a Printer screen, you specify the printer that you paused.

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm
                          Continue a Printer

    Please enter the name of the printer you want to continue.

    Printer:  PRINTER1 ↵
```

6. The printer will continue processing its requests, and the Control Printers Menu will reappear on your screen. To queue your large file to print, select option "1 Print files."

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm
                          Control Printers Menu

    1  Print files
    .
    .
    .

    Enter choice:  1 ↵
```

7. At the Print Files screen, type the pathname of the file and the name of the queue, and accept the default form name.

```
SMI Rev  nn.nn.nn.nn                                  dd-mmm-yy  hh:mm
                                Print Files

     Specify the pathname of each file to print, the name of the queue
     in which you want to place your print request(s), and the name of
     the form to use.

     Pathname(s):  :UDD:SANDY:INVENTORY ↵

     Queue name:  LPT ↵

     Form name:  DEFAULT ↵
```

8. The Control Printers Menu will reappear on your screen. To ensure the request has been queued, select option "2 Display contents of print queues."

```
SMI Rev  nn.nn.nn.nn                                  dd-mmm-yy  hh:mm
                            Control Printers Menu

     1  Print files
     2  Display contents of print queues
     .
     .

     Enter choice:  2 ↵
```

9. The system will prompt you to specify the queuename or to press New Line to display all queues; for example:

```
SMI Rev  nn.nn.nn.nn                                  dd-mmm-yy  hh:mm
                            Display Print Queues

     Specify the name of the print queue you want to display. To display
     all local queues, press NEW LINE.

     Queuename: ↵

     LPT                  PRINT      Open
     *239               SYSMGR   :UDD:SANDY:INVENTORY
     ...
```

The file appears as sequence number 239 in the LPT queue, and it is already printing or "active."

10. Now suppose user Sandy comes and tells you that the file you are printing is obsolete; the file you really need is called INVENTORY2. You can stop the print request by selecting option "3 Cancel requests in print queues" on the Control Printers Menu.

```
SMI Rev  nn.nn.nn.nn                                  dd-mmm-yy  hh:mm
                          Control Printers Menu

    .
    .

    3  Cancel requests in print queues


    Enter choice:  3 ↵
```

11. The system will prompt you to specify the print queue for which you want to cancel requests. Enter it as follows:

```
SMI Rev  nn.nn.nn.nn                                  dd-mmm-yy  hh:mm
                        Cancel Print Queue Requests

    Specify the name of the print queue for which you want to cancel
    requests. To specify all local queues press NEW LINE.

    Queuename:  ↵
    LPT                  PRINT      Open
    *239                 SYSMGR     :UDD:SANDY:INVENTORY
    ...
```

12. The system will prompt you to enter the sequence number of the print request you want to cancel. Enter it as follows:

```
    LPT                  PRINT      Open
    * 239                SYSMGR     :UDD:SANDY:INVENTORY
      241                LEE        :UDD:LEE:SYSTEM_NOTES
      242 N              LEE        :UTIL:FF
    ...
    Flags explanation:
    N = /NOTIFY
    * = Active
    Enter the sequence number of each request you want to cancel:
    239 ↵
```

13. The system will cancel the printing request and redisplay the Control Printers Menu. Now you can queue the correct file by selecting option "1 Print files" again.

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm
                          Control Printers Menu

   1  Print files
   .
   .
   .

   Enter choice:  1 ↵
```

14. At the Print Files screen, type the pathname of the file and the queue name for the printer, and accept the default form name.

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy  hh:mm
                             Print Files

      Specify the pathname of each file to print, the name of the queue
      in which you want to place your print request(s), and the name of
      the form to use.

      Pathname(s):  :UDD:SANDY:INVENTORY2  ↵
      Queue name:  LPT  ↵
      Form name:  DEFAULT  ↵
```

The system will return you to the Control Printers Menu. When the file is printed, you can pick it up at the printer.

Backing Up or Restoring Files (ARCHIVE)

Option "3 Back up (dump) or restore (load) files" on the SMI Main Menu lets any user back up files or restore previously backed-up files. This menu option applies to both personal file backups and system-wide backups. You can also select this option by specifying the ARCHIVE keyword from anywhere in the SMI menu series.

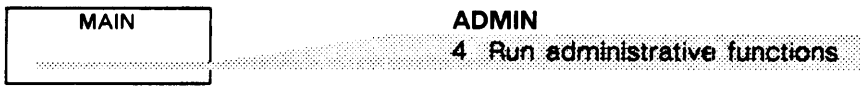
Before you select this option, be sure you know the following:

- Whether you are backing up or restoring files.
- Which type of media you are using — tape or diskettes.
- Which type of files you are using — personal (individual user) or system-wide (all users)
- For system-wide backup/restore, whether the operation will be full or incremental.
- Which files you are backing up or restoring.

Once you have all of this information, select option 3. The system will then present the Archive (Back Up or Restore Files) Menu, which is described in Chapter 4, "Backing Up and Restoring Files."

Read Chapter 4 before you attempt to back up or restore any files. It explains the purpose of file backup as well as the method by which you will back up and restore files.

Performing Administrative Functions (ADMIN)



You will see option "4 Perform administrative functions" on the SMI Main Menu only if you have the System Manager privilege in your user profile. These functions are restricted in this way because they should be performed only by designated system management users; nonprivileged users could unknowingly cause damage to the system or its other users if they had access to the restricted functions.

If you have the required privilege and want to perform restricted administrative functions, type 4 and press New Line. We discuss the Administrative Functions Menu and its options in Chapter 5.

End of Chapter

Chapter 4
Backing Up and Restoring Files

The first part of this chapter is for the

System Manager ☑

System User ☑

This chapter describes the process of backing up and restoring files. Backing up or *dumping* files means copying disk files to another type of media, such as diskettes or tape. Restoring or *loading* files means putting backed-up files on the disk. Backing up files is also referred to as *archiving*.

Both the system manager and individual users will want to read at least part of this chapter; the system manager will need to do system-wide backups, while system users might want to back up their own files or other files to which they have access.

The backup and restoration procedures covered in this chapter are for logical backups. The SMI performs only *logical backups*, in which files are copied onto media by user; for example, on a system-wide backup, user Sandy's files might be copied first (files in :UDD:SANDY), and then user Lee's files, and then user Dale's files, and then user SYSMGR's files, and so on. In comparison, a *physical backup* copies every sector of the disk without grouping files in any way. Files on a physical backup are copied in the order in which they are physically stored on the disk.

If you want to do backups other than the types described in this chapter, you will have to use the CLI and run the appropriate backup programs. Refer to *Managing AOS/VS and AOS/VS II* and *Using the CLI (AOS/VS and AOS/VS II)* for information.

Why Back Up Files?

You can store a lot of important, and often irreplaceable, information on your computer system. The hard disk on which the information is stored is stable and reliable, but it is not invulnerable. Accidental (or malicious) deletions or mechanical failure could destroy information on the disk.

Regular backup procedures ensure that you can restore files — like documents, reports, letters, business data, and programs — in case they are lost.

System-Wide Backups Versus Personal File Backups

The system manager is responsible for performing system-wide backups at regular intervals. A system-wide backup is a backup of all user files on the system. It does not back up the actual AOS/VS system and utility files; these you can restore from your release media (tape or diskette) if necessary. See the section "Scheduling Your Backups," later in this chapter, to determine how often system-wide backups should be performed.

Although most system managers do perform regular system-wide backups, individual users often want to keep a more recent copy of important files they are working on day to day. While a system-wide backup makes a copy of all user files, a personal file backup can contain as many or as few files as the user wants. It can contain files in the user's own directory, or in any directory to which the user has access.

For example, suppose the system manager, Sandy, does system-wide backups every Friday afternoon; but Lee has a file named DOC.TXT that is updated every day and is critically important. Lee might want to back up DOC.TXT every afternoon so that if something goes wrong, Lee can restore the file from a more recent copy than Sandy's weekly copy.

In addition, personal file backups allow a user to make a copy of one or a few files on tape or diskettes to take and load onto another system.

Full Versus Incremental Backups

A full system-wide backup copies all the user files on the disk, which can take hours and use many diskettes. An incremental backup copies only files that are new or changed since the last full backup; therefore it could take as little as one or two diskettes and a few minutes. Restoring files from full or incremental backups is not difficult; you restore each incremental set, from the latest to the earliest, and then the full backup set.

If you do few full backups and many incremental backups, you'll spend less time doing backups, but more time restoring files. Also, you'll need to keep track of more backup sets. Another disadvantage is that *all* the files that were ever backed up are restored from the backup diskettes or tapes. This means that if you have to restore a whole disk, someone will have to go through the directories and delete all the old files that were purposely deleted since the last full backup. (The computer can't tell the difference between files that were deleted intentionally and files deleted accidentally.) Finally, if you are using tape, you will have to use a whole tape for each backup, whether full or incremental. This means that for incremental backups, a lot of tape will be wasted.

On the other hand, if you do only full backups, or just one or two incremental backups between full backups, restoration is easy, and little cleanup is necessary if you have to restore a whole disk. But the amount of diskettes and the time involved doing full backups may be unacceptable. Generally, if you are using diskettes, a good compromise is one full backup followed by four to seven incremental backups. If you are using tapes, however, you might decide to do full backups more often, since you will waste much less tape, and full backups don't take as long with tape as they do with diskettes. For tapes, you might want to do one full backup followed by one or two incremental backups.

Note that incremental backups via the SMI menus are an option on system-wide backups only. Individual system users performing personal file backups with SMI must do full backups, but they can specify which files they want to back up.

Scheduling Your Backups

The frequency with which you do backups, whether system-wide or personal, depends on the rate at which information develops at your particular installation, and the importance of the new information. We recommend that full system-wide backups be done a minimum of once a month, with an incremental backup at least once a week. You might want to vary the frequency of backups based on the development of new information — that is, do more backups during periods of high activity. However, we caution you that, like many boring tasks, file backups are more likely to happen if they are done at regular intervals.

Individual users backing up personal files should use their own discretion with respect to backup frequency, taking into consideration how often system-wide backups are done and how often the information in their files is updated. As with system-wide backups, we recommend that you back up personal files on a regular schedule, to ensure that the procedure gets done.

What Types of Media Are Available?

You can use either diskettes or tape to back up and restore files, depending on which drive(s) you have on your system. The files you are backing up are located on the hard (or Winchester) disk inside the system. This chapter describes the procedures for backing up and restoring personal or system-wide files with both diskettes and tape after discussing the different media types.

You might want to do your backups on diskettes; but if your system has both tape and diskette drives, you should be aware that a tape holds much more information than a diskette does, so you will need to use many more diskettes than tapes. This may not be an issue for personal backups, since the amount of data being dumped is not usually great; but it is an important consideration for system-wide backups. The later section on "Backing Up System-Wide Files" explains this in more detail.

Whatever type of media you use, you should always keep at least two sets of backup media available. That way, if something goes wrong while performing a new backup to one set, you still have a recent and reliable backup from which to restore files, if necessary.

The SMI Archive Menu (ARCHIVE)

To perform file backup or restoration, select option "3 Back up (dump) or restore (load) files" on the SMI Main Menu. Or you can issue the keyword ARCHIVE from anywhere in the SMI menu series. For users with the System Manager privilege in their profiles, the screen shown in Figure 4-1 will then appear. For other system users, the same menu will appear, but only the first two options will show on the screen. Items 3 through 9 are available only for users who might need to perform system-wide backups and who have System Manager privilege.

```
SMI Rev. n.nn.nn.nn                              dd-mmm-yy  hh:mm

        Archive (Back Up or Restore Files) Menu

    1  Back up personal files
    2  Restore personal files
    3  Back-up system-wide files
    4  Restore system-wide files
    5  Display disk space statistics
    6  Disable consoles from logging on
    7  List all processes running
    8  Send a message to all consoles
    9  Terminate user processes


    Enter choice [1]:

    To exit from any menu, press the Cancel/Exit key (F11).
    For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4-1 Archive (Back Up or Restore Files) Menu

To return to the SMI Main Menu from the Archive Menu, press the Cancel/Exit function key (F11).

Backing Up Personal Files (BACKUP)

You can use SMI to back up one or more of the files in your own user directory, or in another directory to which you have W (Write), R (Read), and E (Execute) access. Select option "1 Back up personal files" on the Archive Menu, or specify the keyword BACKUP from any SMI menu. The Back Up Personal Files screen, with default responses for each question or prompt in uppercase, will appear as shown in Figure 4-2.

```
SMI Rev. n.nn.nn.nn                          dd-mmm-yy  hh:mm

                    Back Up Personal Files

  Back up to tape or diskettes? (T = Tape, D = Diskettes)  TAPE

  Back up from which directory?   :UDD:USERNAME

  To back up all files, press NEW LINE. To back up specific
  files, type their pathnames or use templates.

  File(s):

  Send list of backed-up files to the printer, to a disk
  file, or don't create a list? (P = Printer, F = File,          PRINTER
  N = None)



  To exit from any screen, press the Cancel/Exit key (F11).
  For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4-2 Back Up Personal Files Screen

Answer the questions and prompts. To accept a default value, just press New Line while on that line. Otherwise, type the letter of the choice you want (for multiple choice questions).

At the *tape or diskettes?* prompt, you can specify any removable medium on the system by entering the device name for the tape or diskette unit you want to use. When you accept the default, or type T or D, the system responds by displaying the device name corresponding to that entry. If the default device name displayed by your system is not the device you want to use, overwrite the default display with the appropriate device name, and then press New Line. (You will have to use the uparrow key to return to the *tape or diskettes?* field).

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

At the *...directory?:* prompt, type the pathname of the directory that contains the files you want to back up (the default is your initial user directory). You must have W (Write), R (Read), and E (Execute) access to this directory, and E access to any directories superior to it.

At the *File(s):* prompt, type the names of the files you want to back up. Again, be sure you have proper access to the directory and R (Read) access to the files you specify, or else the files won't be backed up.

At the *Send list...* prompt, if you specify to send the list of backed-up files to a disk file, you will be prompted to enter a filename. The default will be BACKUP.yy.mm.dd in your user directory, where yy is two digits for the year, mm is two digits for the month, and dd is two digits for the day. If you want the listing to display on your screen, specify @CONSOLE as the filename. *Be sure to look at this listing*. If any errors occur in the backup, this file will be the only place they will show up.

For example, suppose user Terry wants to use diskettes instead of tape (the default), and wants to back up just the files whose names begin with 01 (for example, 0140 and 0176) in the directory :UDD:TERRY:INVOICES. Terry also wants the list of files backed up to go to a disk file, using the default filename. Terry would enter D at the first prompt, type :UDD:TERRY:INVOICES at the *...directory?:* prompt, specify the appropriate files (using a template) at the *File(s):* prompt, type F at the last prompt, and then press New Line or the Execute key when the *Filename:* prompt came up showing the default filename. The screen would then look like Figure 4-3.

```
SMI Rev. n.nn.nn.nn                          dd-mmm-yy  hh:mm

                    Back Up Personal Files

Back up to tape or diskettes? (T = Tape, D = Diskettes)     @DPJ10

Back up from which directory?   :UDD:TERRY:INVOICES

To back up all files, press NEW LINE. To back up specific
files, type their pathnames, or use templates.

File(s): 01+

Send list of backed-up files to the printer, to a disk
file, or don't create a list? (P = Printer, F = File,
N = None )                                                  FILE

Filename:  :UDD:TERRY:BACKUP.90.09.19


To exit from any screen, press the Cancel/Exit key (F11).
For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4-3 Sample Back Up Personal Files Screen

Note that after Terry enters D in response to the media question, the SMI will write out the default device name for diskette media on the screen: *@DPJ10*. Similarly, it will write out the word *FILE* on the screen after Terry enters F for the list question.

When the screen has all the correct information, press New Line while at the last prompt. Alternatively, you can press the Execute key (F1) from anywhere on the screen and the system will accept all answers as they appear.

Once you complete the Back Up Personal Files screen, the screen will clear and, after a brief pause, the system will begin instructing you how to perform the backup. Note that if you decide to cancel your backup when it is already underway, the Cancel/Exit key will work only when a prompt appears on the screen. While the system is copying files to the tape or diskette, it doesn't recognize the Cancel/Exit function key. You can, however, interrupt a backup to diskettes by issuing the Ctrl-C Ctrl-A sequence at any time.

The next section describes the on-line instructions and your responses while backing up personal files to tape. The section following that description shows the procedure for backing up personal files to diskettes.

Backing Up Personal Files to Tape

Before beginning a backup, determine how many tapes you will need. Since the smallest capacity tape you can use holds 20 Mbytes of information, one tape is usually adequate for backing up personal files. If you need more than one tape, have the additional tapes ready.

When you execute your final entry to the Back Up Personal Files screen, the SMI passes your answers and its own default specifications to the DUMP_II utility. DUMP_II displays a banner similar to the following:

DUMP_II Rev 07.68.00.00 on Wednesday 3-Oct-90 at 2:57:55 PM
Options: DUMP_II/BUFFERSIZE=16384/SMI/
MAXCAPACITY/RETAIN=0/V/L=:UDD:TERRY:INVOICES:BAC
KUP.90.10.03),@LMT:VOL01:BACKUP
Directory: :UDD:TERRY:INVOICES

Respond MOUNTED <device> or REFUSED when ready.

NOTE: For detailed information on DUMP_II/LOAD_II, including error messages, refer to *Using the CLI (AOS/VS and AOS/VS II)* and *AOS/VS and AOS/VS II Error and Status Messages*. Make sure to check any documentation-changes files for the latest information.

Insert or mount a blank or scratch tape in the drive. When the tape is inserted or mounted correctly, type **mounted** and the device name for your tape drive in upper- or lowercase letters. (The SMI displayed this device name for you on the first line of the Back Up Personal Files screen).

Respond MOUNTED <device> or REFUSED when ready.

MOUNTED @MTJ0 ↵

When you press New Line after entering the device name, DUMP_II begins backing up your files.

While it backs up the files you specified, DUMP_II displays on your screen the tape volume number, volume ID, and backup device name. If the utility requires you to do anything (such as mount another volume of tape), it will display the instructions or request on your terminal screen. Remember to write the volume number of each tape on a label and secure the label to the tape. When the backup is completed, DUMP_II displays a *DUMP_II* completed message followed by the elapsed time, CPU time, and the number of disk blocks backed up to tape.

When the backup is completed, remove the last tape and apply a label. Then press New Line to re-enter the SMI. The SMI will then redisplay the Archive Menu.

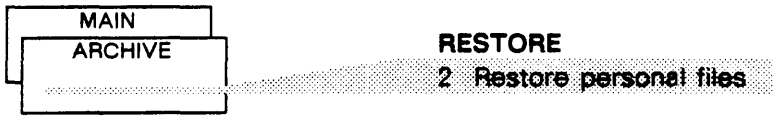
Backing Up Personal Files to Diskettes

To back up personal files, one or two diskettes should be adequate. When you have finished entering information on the Back Up Personal Files screen, and have pressed New Line or Execute, use the following steps. (Note that all italicized text in the first column is system output. Text in parentheses describes what the system is doing.)

System Message or Action	Your Action
	Using a felt-tipped pen, label the first diskette with the date and VOL01. Insert it into the diskette drive.
*** Backup from directory <pathname> at hh:mm:ss on dd-mmm-yy ***	
Please insert the first diskette to receive backup material.	
This diskette and any others used for backup will be overwritten — so don't use diskettes that have material you want to keep.	
Please number the paper label of each diskette as it is filled so that — if needed — the diskettes can be restored in the correct order.	
— Beginning file backup —	
Please insert a diskette if not already inserted. *Unit [@DPJ10] Volume ID [VOL01]? [y]*	You already have a diskette inserted. Press New Line to initiate the backup.
(The system copies files to the diskette. If it needs another diskette, it will prompt you as follows:)	
Please insert next diskette. *Unit [@DPJ10] Volume ID [VOL02]? [Y]*	Label the second diskette with the date and VOL02. Remove the first diskette from the drive and insert the second. Press New Line.
(The system continues to copy files to diskette. If it needs another diskette, it will prompt you as above.)	Respond accordingly, labeling the third diskette VOL03.
(When the backup is complete, the system will display the following:)	
*** Backup of <pathname> complete at hh:mm:ss ***	Remove the last diskette.
(The system will display the following:)	
Press NEW LINE to continue.	Press New Line.
(The Archive Menu will appear on your screen.)	

Store your diskettes in a safe place. Be sure to handle and store them carefully.

Restoring Personal Files (RESTORE)



You will need to restore files from your personal backup if something happened to the files on the hard disk and your system manager's last system backup was not as recent as your personal backup. Or you might have accidentally deleted a file that you subsequently discovered you still need, or you might want to load a file from a tape or diskette that someone else has given you.

To restore personal files from backup, find your diskettes or tape containing the desired files. Then select option "2 Restore personal files" on the Archive Menu or use the keyword RESTORE from any SMI menu. The Restore Personal Files screen will appear, as shown in Figure 4–4.

```
SMI Rev. n.nn.nn.nn                                  dd-mmm-yy  hh:mm

                        Restore Personal Files

  Restore from tape or diskettes? (T = Tape, D = Diskettes)     TAPE

  Load files into which directory?   :UDD:USERNAME

  Delete existing files with same names as backed-up files,
  or keep the more recent copy? (D = Delete, R = Recent)        RECENT

  To restore all files, press NEW LINE. To restore specific files,
  type the pathnames by which they are backed up, or use templates.

  File(s):

  Send list of restored files to the printer, to a disk file,
  or don't create a list? (P = Printer, F = File, N = None)     PRINTER


  To exit from any menu, press the Cancel/Exit key (F11).
  For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4–4 Restore Personal Files Screen

Answer the prompts and press New Line after each one, or press the Execute key (F1) from anywhere on the screen when all responses that appear on the screen are what you want.

At the *tape or diskettes?* prompt, you can specify any removable medium on the system by entering the device name for the tape or diskette unit you want to use. When you accept the default, or type T or D, the system responds by displaying the device name corresponding to that entry. If the default device name displayed by your system is not the device you want to use, overwrite the default display with the appropriate device name, and then press New Line. (You will have to use the uparrow key to return to the *tape or diskettes?* field).

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

Indicate which directory you want the files loaded into. Be sure you have W (Write) R (Read), and E (Execute) access to the directory you specify, and E access to all directories above it.

Next specify whether you want the system to delete files already on the disk that have the same names as files on the backup media. The alternative is to have the system compare the time-last-modified on the existing file and the backed-up file, and to keep whichever is most recent.

For example, suppose the backup media contains a file named :UDD:CHRIS:PROJECT_STATUS, and a file by the same pathname exists on the disk already. Let's say you specify to keep the more recent copy. The system finds the time-last-modified to be 23-AUG-90 08:34:27 on the backed up version, but 07-SEP-90 16:48:22 on the disk version. In this case, it will keep the on-line version rather than restoring the file from media. Had you specified to delete existing files with the same names as backed up files, it would have restored the 23-AUG-90 version of the file and deleted the version dated 07-SEP-90.

After specifying R (recent) or D (delete), indicate which files you want restored. To have all files on the tape or diskettes restored, just press New Line. Then tell the system where to send a list of the restored files. If you specify to send the list of restored files to a disk file, you will be prompted for a filename. The default filename will be RESTORE.yy.mm.dd in your user directory, where yy is two digits for the year, mm is two digits for the month, and dd is two digits for the day of the month. For example

:UDD:DALE:RESTORE.90.09.15

is the file that contains the list of files restored to user Dale's directory on September 15, 1990. If you want the listing to display on your screen, specify @CONSOLE as the filename. *Be sure to look at this listing.* If any errors occur during the restoration, this file will be the only record of them.

Once you have filled in the Restore Personal Files screen and pressed New Line at the last prompt or the Execute key, the restoration will begin. Follow the steps in one of the next two sections, depending on which type of media you are using.

Restoring Personal Files from Tape

To restore personal files from tape, have the tape(s) ready. If you are restoring from more than one tape, be sure the tapes are in the correct order (beginning with volume 1).

When you execute your final entry to the Restore Personal Files screen, the SMI passes your answers and its own default specifications to the LOAD_II utility. LOAD_II displays a banner similar to the following:

LOAD_II Rev 07.68.00.00 on Wednesday 3-OCT-90 at 3:08:39 PM
Options: LOAD_II/MAXCAPACITY/SMI/V/L=@LPT/DELETE,@LMT:VOL01:
BACKUP,+
Directory: :UDD:TERRY:USERNAME

Respond MOUNTED <device> or REFUSED when ready.

NOTE: For detailed information on DUMP_II/LOAD_II, including error messages, refer to *Using the CLI (AOS/VS and AOS/VS II)* and *AOS/VS and AOS/VS II Error and Status Messages*. Make sure to check any documentation-changes files for the latest information.

Insert or mount the first tape in the drive. When the tape is inserted or mounted correctly, type mounted and the device name for your tape drive in upper- or lowercase letters. (The SMI displayed this device name for you on the first line of the Restore Personal Files screen).

Respond MOUNTED <device> or REFUSED when ready.

MOUNTED @MTJ0 ↵

When you press New Line after entering the device name, LOAD_II begins loading files to your disk.

While it copies the files you specified from tape to the disk, LOAD_II displays on your screen the tape volume number, volume ID, and the device name of the tape drive you are using. The utility also displays the file format and the date and time the backup was created, as in the following example:

Volume number: 01, volid: VOL01, mounted on: @MTJ0
Dumpfile is in CLI format, revision 15
Created on Tuesday 11-SEP-90 at 2:59:32 PM

If the utility requires you to do anything it will display the instructions or request on your terminal screen. When the restore is completed, LOAD_II displays a *LOAD_II completed* message followed by the elapsed time, CPU time, and the number of disk blocks copied to your disk.

When the restore is completed, remove the last tape, and then press New Line to re-enter the SMI. The SMI will then redisplay the Archive Menu.

Restoring Personal Files from Diskettes

When you restore files from diskettes, you must use the diskettes in each fileset in the same order as you backed them up; that is, VOL01 comes first, and then VOL02, and so on. Use the following steps. (Note that all italicized text in the first column is text the system outputs to the screen. Text in parentheses shows what the system is doing.)

System Message or Action	Your Action
	Assemble all diskettes in the backup set in order. Insert the first diskette (VOL01) in the diskette drive.
** *Restoration within directory <pathname> at hh:mm:ss on dd-mmm-yy* **	
Please insert the first diskette of the backup fileset.	
Insert the fileset diskettes - when prompted - in the order in which they were originally dumped.	
-- Beginning file restoration --	
Please insert a diskette if not already inserted.	
Unit [@DPJ10] Volume ID [VOL01]? [y]	You already have a diskette inserted. Press New Line to start the restoration
(The system copies the files from the diskette to the hard disk. It then prompts you to insert the next diskette:)	
Please insert next diskette.	
Unit [@DPJ10] Volume ID [VOL02]? [y]	Remove the first diskette from the drive and insert the second (VOL02). Press New Line when you are done.
	Repeat this procedure until the backup is complete. Be sure to insert diskettes in the correct order.
(When the restoration is complete, the SMI will display the following message:)	
** *Restoration of <pathname> complete at hh:mm:ss* **	Remove the last diskette from the drive. Save the set of backup diskettes at least until you have another, more recent, set.
(The SMI will redisplay the Archive Menu.)	

The remainder of this chapter is for the

System Manager ☑

System User ☐

Backing Up System-Wide Files

It's a good idea to schedule your system-wide backups at a time when few, if any, people are using the system. For example, you might want to back up the system at 5:00 or 6:00 on Friday afternoon, or very early in the morning before most users are in. There are a couple of reasons for this:

- System-wide backups can slow down the system, inconveniencing other users.
- If any users have files open while you are performing the backup, the open files will not be backed up. Therefore, the backup would be incomplete.

For these reasons, options 5 through 8 are available on the Archive Menu, so you can notify active users that you will be performing a backup, and terminate active processes if you like.

This section describes the recommended procedure for performing a system-wide backup. It includes the following steps:

1. Figure how many tapes or diskettes you will need for the backup.
2. Disable consoles so no more users can log on.
3. Determine if any users are logged on.
4. Notify your active users that you are going to do a system-wide backup. Instruct them to log off. (It might be a good idea to do this 10 or 15 minutes before you want to start the backup, to give the users a chance to finish up what they are working on.)
5. Terminate any user processes that are still active, so that no files will be opened during the backup.
6. Bring down CEO® software, INFOS II®, and any other application that keeps open files (such as SQL or DBMS), if they are running.
7. Perform the system-wide backup.
8. Bring CEO, INFOS II, and other applications back up, if neccessary.
9. Enable consoles so users can log back on.

You might prefer to reorder these steps; for example, some system managers like to broadcast a message before disabling consoles from logging on. Whatever procedure you decide to follow, be sure that all your system users are familiar with your backup procedure. In particular, be sure your users know that if they leave their terminals for extended amounts of time, their processes could be terminated if you decide to do a backup.

Figuring How Many Tapes or Diskettes You Will Need

The number of tapes or diskettes you will need to perform a system-wide backup depends on several factors. The three major factors follow:

- Whether you are doing a full or incremental backup.
- Which size hard disk you have.
- How full your disk is.

AOS/VS and its related files take up a certain amount of your disk space. If you also have CEO, INFOS II, or a programming language on your disk, this software will take up additional space. The remaining space is available for system users to use. Since you won't back up the AOS/VS or other software files, the number of diskettes or tapes your system-wide backup will need depends on how much of this remaining available disk space is being used.

Option "5 Display disk space statistics" on the Archive Menu (keyword SPACE) lets you find out how much of your disk space is being used.

When you specify option 5, or enter the keyword SPACE, the system will send you statistics about the available space in your root directory. For example, suppose Lee selects option 5 and sees the following:

MAX 690851, CUR 509693, REM 181158

where *MAX* = maximum amount of available space.
CUR = current amount of space in use.
REM = remaining available space.

All of the values displayed are in disk blocks; a disk block is equal to 512 bytes. The value Lee is concerned with is the one for CUR, because the disk space currently in use holds the data Lee will be backing up.

The CUR value, however, represents some of the space that is holding AOS/VS files, which won't be backed up. So the first thing Lee must do is subtract an estimate of this space from the CUR value. If your system is running AOS/VS model number 31133 or 3900, 24,000 disk blocks is a reasonable estimate. Lee would perform the following calculation:

509693 - 24000 = 485693 (Adjusted CUR Value)

To determine the amount of media required for a system-wide backup, Lee would then use the adjusted CUR value in the following equation:

$$\frac{\text{adjusted CUR x 512}}{\text{tape/diskette capacity } \textit{in bytes}} = \text{\# of tapes/diskettes needed}$$

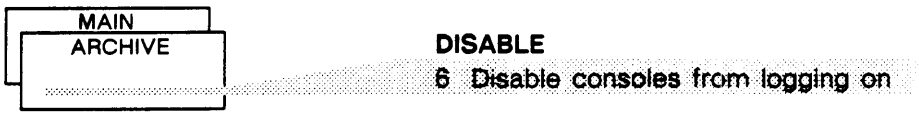
Suppose Lee will be backing up to model 6352, 1/2-in., 130-Mbyte cartridge tape. He would fill in the equation as follows:

$$\frac{485693 \times 512 = 248{,}674{,}816}{130{,}000{,}000} = 1.913 \text{ (2) tapes needed for backup}$$

Dealing with Active System Users

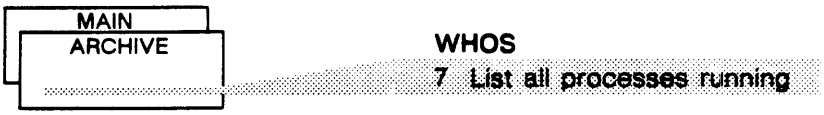
As we mentioned earlier, it is best to do system-wide backups when no other users are on the system. Therefore, before you do a backup, you should prevent more users from logging on, and have the current users log off the system.

Select option "6 Disable consoles from logging on" on the Archive Menu.



Note that this option won't harm any users that are currently logged on; it will just prevent any additional users from logging on to the system. When current users log off, their terminals will be disabled from logging on again.

Next choose option "7 List all processes running."



The system will display all active processes. For example, suppose it is nearly 5:00 p.m. on a Friday. You enter 7 at the Archive Menu and see something like the following:

```
Elapsed  8:04:52,  CPU  0:00:32.725,  I/O Blocks    28, Page Secs 7362
PID:     1 PMGR        PMGR              :PMGR.PR
PID:     2 OP          OP                :CLI16.PR
PID:     3 OP          EXEC              :UTIL:EXEC.PR
PID:     4 OP          LPB               :UTIL:XLPT.PR
PID:     5 OP          INFOS_II          :INFOS:INFOS_II.PR
PID:     6 CEO_MGR     CEO_FSA           :UTIL:CEO_DIR:CEO_FSA.PR
PID:     7 OP          NETOP             :NET:NETOP.PR
PID:     8 OP          X25_LMGR          :NET:X25_LMGR.PR
PID:     9 SYSMGR      00009             :CLI16.PR
PID:    10 SYSMGR      CON6              :UTIL:SMI.PR
PID:    11 CHRIS       CON21             :CLI16.PR
PID:    14 SANDY       CON2              :CLI16.PR
PID:    15 CHRIS       CEO_CP_11         :UTIL:CEO_DIR:CEO_CP.PR
        Press NEW LINE to continue.
```

Aside from yourself (SYSMGR), there are two users still logged on. You want to be sure all files will be backed up, so you don't want any users to be logged on while you are performing the backup. Before you continue further, you should warn any active users about the impending system-wide backup, and give them a chance to log off the system. You can use option 8 on the Archive Menu to broadcast a message from your console to all other consoles on the system.

From the list of running processes, press New Line to return to the Archive Menu; then select option "8 Send a message to all consoles."

MAIN
ARCHIVE

BROADCAST
8 Send a message to all consoles

At the screen that appears, type your message:

```
                    Send a Message to All Consoles

Type the message you want to send to all system users; then press NEW LINE.

Doing a system-wide backup in 10 minutes. Please finish up and log off. ↵

From Pid  9 : {SYSMGR} - Doing a system-wide backup in 10 minutes.
Please finish up and log off.

Press NEW LINE to continue
```

When you press New Line, the system returns to the Archive Menu.

Wait the allocated time; then select option "7 List all processes running" again from the Archive Menu. The list of active processes, similar to the following, will display.

```
Elapsed  8:14:58,  CPU  0:00:32.825,  I/O Blocks    28,  Page Secs 7363
PID:     1 PMGR        PMGR          :PMGR.PR
PID:     2 OP          OP            :CLI16.PR
PID:     3 OP          EXEC          :UTIL:EXEC.PR
PID:     4 OP          LPB           :UTIL:XLPT.PR
PID:     5 OP          INFOS_II      :INFOS:INFOS_II.PR
PID:     6 CEO_MGR     CEO_FSA       :UTIL:CEO_DIR:CEO_FSA.PR
PID:     7 OP          NETOP         :NET:NETOP.PR
PID:     8 OP          X25_LMGR      :NET:X25_LMGR.PR
PID:     9 SYSMGR      00009         :CLI16.PR
PID:    10 SYSMGR      CON6          :UTIL:SMI.PR
PID:    14 SANDY       CON2          :CLI16.PR
        Press NEW LINE to continue.
```

You see that user Sandy is still working. Suppose you send another message and Sandy still does not log off. You might conclude that Sandy is away from the terminal, and select option "9 Terminate user processes" from the Archive Menu to terminate Sandy's process. When you select option 9, the list of active processes will appear again, along with a prompt. Enter Sandy's PID number:

Enter the PID of each process you want to terminate: **14** ↵

Now you, as PIDs 10 and 9, are the only active user. You are ready to continue with the system-wide backup.

If your system is running CEO and/or INFOS II software (or any other application that keeps open files, such as SQL or DBMS), continue with the following instructions for bringing down those programs before the backup. If your system is not running one of these programs, you can skip the next procedure and continue with "Using the Back Up System-Wide Files Screen (SYSBACKUP)."

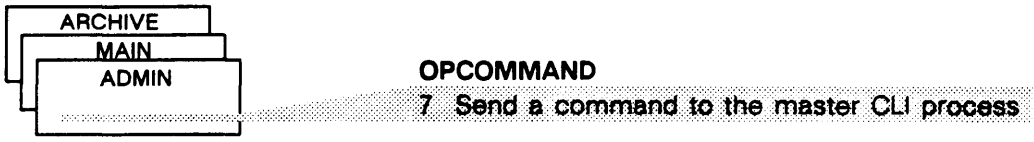
Bringing Down CEO and INFOS II Software

If your system is running CEO, and/or INFOS II, a system-wide backup won't back up CEO files or open INFOS II databases. To ensure that all files are backed up, shut down CEO and INFOS II (and other applications that keep open files, such as SQL or DBMS) before doing the backup. You can do so easily in one of two ways. Your system's DOWN macro brings down CEO, INFOS II, and the network. Unless your DOWN macro performs some tasks that you do not want done before a backup, you can bring down CEO and INFOS II simply by executing the DOWN macro. (Enter the keyword DOWN from any menu.)

NOTES: If you have networking software running and you choose to invoke the DOWN macro, then you will have to bring the network back up again after the backup, along with INFOS II and CEO.

To bring down applications other than CEO or INFOS II, refer to the documentation that accompanied the application software.

Alternatively, you can use option "7 Send a command to the master CLI process" on the Administrative Functions Menu. (See Chapter 5 for the Administrative Functions Menu.) Either use the Cancel/Exit function key to return to this menu, or issue the OPCOMMAND keyword from the Archive Menu.



When you select this option, you will see a screen that prompts you to enter a CLI command line.

Enter the appropriate command, depending on whether you want to bring down CEO or INFOS II. (If you are bringing down both CEO and INFOS II, remember to bring down CEO first.) For example, to bring down CEO, you would type the following:

```
                    OPCOMMAND Interface
          To exit, press the Cancel/Exit key (F11)
Searchlist = :  :UTIL
Directory = :

) :UTIL:CEO_DIR:DOWN.CEO ↵
... (system response) ...
)
```

To bring down INFOS II, you would continue as follows:

OPCOMMAND Interface
To exit, press the Cancel/Exit key (F11)
Searchlist = : :UTIL
Directory = :

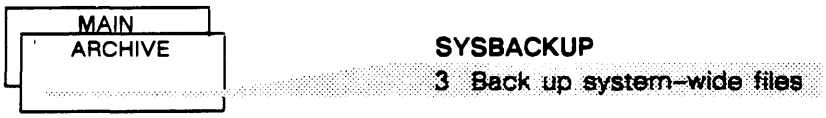
) **:UTIL:CEO_DIR:DOWN.CEO** ↵
... (system response) ...

) **:INFOS:INFOS_DOWN** ↵
... (system response) ...

) **BYE** ↵

If you used the OPCOMMAND keyword to reach the OPCOMMAND CLI prompt, you will return to the Archive Menu after you type BYE and press New Line, or after you press the Cancel/Exit key. If you arrived at the Send a Command to the Master CLI Process screen by traversing the menus, you can return to the Archive Menu in the same manner or by using the ARCHIVE keyword. You can proceed directly to the Back Up System-Wide Files screen by using the SYSBACKUP keyword. Remember that you will have to bring up INFOS II and CEO again after the backup. (We describe the procedure later in this chapter.)

Using the Back Up System-Wide Files Screen (SYSBACKUP)



When you are ready to start the system-wide backup, select option "3 Back up system-wide files" on the Archive Menu. (The keyword for this option is SYSBACKUP.) The screen shown in Figure 4-5 will appear.

```
SMI Rev. n.nn.nn.nn                          dd-mmm-yy  hh:mm

                    Back Up System-Wide Files

   Back up to tape or diskettes? (T = Tape, D = Diskettes)     TAPE

   Full or incremental backup? (F = Full, I = Incremental)     FULL

   Send list of backed-up files to the printer, to a disk
   file, or don't create a list? (P = Printer, F = File,       PRINTER
   N = None)




   To exit from any screen, press the Cancel/Exit key (F11).
   For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4-5 Back Up System-Wide Files Screen

Select your media type, whether you want to do a full or incremental backup, and if you want a listing of backed-up files. The default responses appear in the right column. If the letter for the response you want already appears, press New Line. To select an alternative response, type the appropriate letter.

At the *tape or diskettes?* prompt, you can specify any removable medium on the system by entering the device name for the tape or diskette unit you want to use. When you accept the default, or type T or D, the system responds by displaying the device name for that entry. If the default device name displayed by your system is not the device you want to use, overwrite the default display with the appropriate device name, then press New Line. (You will have to use the uparrow key to return to the *tape or diskettes?* field).

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

When you press New Line to accept a default value, or after you type a letter, the entire word for that response will appear on the screen. For the tape or diskette options, the system displays the default device name for that medium. When you are done with the screen, press the Execute key (F1) or press New Line at the last question on the screen.

For example, suppose the defaults appear as shown in Figure 4-5, but you want the list of backed-up files to go to a disk file instead of to the printer. You would press New Line twice: once to select the default tape device and once to select FULL. Then type F at the third question. When you press New Line this time, the system will write out the entire word *FILE* in the right column, and then prompt you for a filename. The screen would look similar to Figure 4-6.

```
SMI Rev. n.nn.nn.nn                          dd-mmm-yy  hh:mm

                Back Up System-Wide Files

  Back up to tape or diskettes? (T = Tape, D = Diskettes)     @MTJ0

  Full or incremental backup? (F = Full, I = Incremental)     FULL

  Send list of backed-up files to the printer, to a disk
  file, or don't create a list? (P = Printer, F = File,
  N = None)                                                   FILE

  Filename:  :BACKUP.90.05.02




  To exit from any screen, press the Cancel/Exit key (F11).
  For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4-6 Sample Back Up System-Wide Files Screen

Note that the default filename has the format :BACKUP.yy.mm.dd, where yy represents two digits for the year, mm represents two digits for the month, and dd represents two digits for the day. The file will be in the root directory, as indicated by the : before the filename. To accept this filename, press New Line. To specify a different filename, type it and press New Line. Specify @CONSOLE as the filename if you want the listing to display on your screen. *Be sure to look at the listing.* If any errors occur during the backup, this file will be the only record of them.

Once you have finished entering information on the Back Up System-Wide Files screen, the system will begin the backup. Note that, if you decide to cancel the backup while it is in progress, you must press the Cancel/Exit function key when a prompt appears on the screen. While the system is copying files to a tape or diskette, it does not recognize the Cancel/Exit. You can interrupt a backup to diskettes at any time, however, by issuing the CTRL-C CTRL-A sequence.

The next four sections describe the following types of system-wide backup:

- Full system-wide backup to tape.
- Full system-wide backup to diskettes.
- Incremental system-wide backup to tape.
- Incremental system-wide backup to diskettes.

Full System-Wide Backup to Tape

The number of cartridge or reel tapes you will need for system-wide backups varies, depending on how much of your disk is full. Use the formulas listed earlier for an estimate of how many tapes to have available.

When you execute your final entry to the Back Up System-Wide Files screen, the SMI passes your answers and its own default specifications to the DUMP_II utility. DUMP_II displays a banner similar to the following:

DUMP_II Rev 07.68.00.00 on Wednesday 1-Oct-90 at 3:36:28 PM
Options: DUMP_II/BUFFERSIZE=16384/SMI/MAXCAPACITY/RETAIN=0/V
/L=:UDD:BACKUP.90.10.01,@LMT:VOL01:BACKUP
Directory: :

Respond MOUNTED <device> or REFUSED when ready.

NOTE: For detailed information on DUMP_II/LOAD_II, including error messages, refer to *Using the CLI (AOS/VS and AOS/VS II)* and *AOS/VS and AOS/VS II Error and Status Messages*. Make sure to check any documentation-changes files for the latest information.

Insert or mount a blank or scratch tape in the drive. When the tape is inserted or mounted correctly, type mounted and the device name for your tape drive in upper- or lowercase letters. (The SMI displayed this device name for you on the first line of the Back Up System-Wide Files screen).

Respond MOUNTED <device> or REFUSED when ready.

MOUNTED @MTJ0 ↵

When you press New Line after entering the device name, DUMP_II begins backing up your files.

While it copies the system-wide files to tape, DUMP_II displays on your screen the tape volume number, volume ID, and backup device name. If the utility requires you to do anything (such as mount another volume of tape), it will display the instructions or request on your terminal screen.

Each time DUMP_II fills a tape, it requests the next volume. Remember to write the volume number of each tape on a label and secure the label to the tape.

When the backup is completed, DUMP_II displays a *DUMP_II completed* message followed by the elapsed time, CPU time, and the number of disk blocks backed up to tape. Remove the last tape and apply a label, then press New Line to re-enter the SMI. The SMI will then redisplay the Archive Menu.

Full System-Wide Backup to Diskettes

If you specified a full backup using diskettes on the Back Up System-Wide Files screen, follow these steps to perform the backup. (Note that all italicized text in the first column is actual system output. Text in parentheses shows what the system is doing.)

System Message or Action	Your Action
	Label the first diskette in your set with the date and VOL01. Insert it in the diskette drive.
*** Full backup from directory : at hh:mm:ss on dd-mmm-yy ***	
Please insert the first diskette to receive backup material.	
This diskette and any others used for backup will be overwritten -- so don't use diskettes that have material you want to keep.	
Please number the paper label of each diskette as it is filled so that — if needed — the diskettes can be restored in the correct order.	
-- Beginning file backup --	
Please insert a diskette if not already inserted. *Unit [@DPJ10] Volume ID [VOL01]? [y]*	You already have a diskette inserted Press New Line to begin the backup.
(The system copies files to the diskette; then prompts you when the first diskette is full.)	
Please insert next diskette. *Unit [@DPJ10] Volume ID [VOL02]? [y]*	Remove the first diskette. Label the next diskette with the date and VOL02 and insert it into the drive. Press New Line.
(The system will continue to prompt you for diskettes until it is finished with the backup. Be sure to label each one correctly. When all files have been backed up, the system will display the following:)	
Please remove the diskette.	
*** Full backup of directory : complete at hh:mm:ss ***	Remove the last diskette.
This backup has created the file LAST_BACKUP in this directory for future backups. Don't delete this file.	

As the system message states, the backup also creates a file in the root directory called LAST_BACKUP. *Do not delete this file.* It is critical for future backups.

Store your diskettes in a safe place. Be sure to handle and store them carefully.

Incremental System-Wide Backup to Tape

Incremental system-wide tape backup proceeds the same as full system-wide tape backup. Refer to the earlier section "Full System-Wide Backup to Tape" for details.

Incremental System-Wide Backup to Diskettes

When you select incremental backup using diskettes via the Back Up System-Wide Files screen, use the following steps. (Italicized text in the first column is actual system output. Text in parentheses shows what the system is doing.)

System Message or Action	Your Action
	Label your first diskette with the date and INC (for incremental). Also label it VOL01. Insert the diskette into the diskette drive.
*** Incremental backup from directory : at hh:mm:ss on dd-mmm-yy ***	
This backup will dump all files created or modified since dd-mmm-yy -- hh:mm:ss	
Please insert the first diskette to receive backup material.	
This diskette and any others used for backup will be overwritten -- so don't use diskettes that have material you want to keep.	
Please number the paper label of each diskette as it is filled so that -- if needed -- the diskettes can be restored in the correct order.	
-- Beginning file backup --	
Please insert a diskette if not already inserted. *Unit [@DPJ10] Volume ID [VOL01]? [y]*	You already have a diskette inserted. Press New Line to initiate the backup.
(The system begins copying new or modified files to the diskette. If it needs another diskette, it will prompt you.)	
Please insert next diskette *Unit [@DPJ10] Volume ID [VOL02]? [y]*	Remove the first diskette. Label the second diskette as you did the first, calling it VOL02 instead of VOL01. Insert VOL02 into the diskette drive. Press New Line.
(The system will continue to copy files to the diskette. If it needs more diskettes, it will prompt you as above. When the backup is finished, the system will display the following message:)	
*** Incremental backup of directory : complete at hh:mm:ss *** *This backup has created the file :LAST_BACKUP in this directory for future backups. Don't delete this file.*	Remove the last diskette. Store your diskettes in a safe place. Remember to *never* delete the critical :LAST_BACKUP file.

Bringing Up INFOS II and CEO Software

If you brought down CEO and/or INFOS II (or other applications that keep open files, such as SQL or DBMS) to perform the system-wide backup, or if they weren't running previously but you want to start them up now, you can do so via the same option we described earlier. Either get to the Administrative Functions Menu and select option "7 Send a command to the master CLI process," or specify the OPCOMMAND keyword.

You will see a prompt to enter a CLI command line.

NOTES: If you are starting up both INFOS II and CEO, be sure to start up INFOS II first. CEO software uses an INFOS II database, so INFOS II must be running before CEO comes up.

To bring up applications other than CEO or INFOS II, refer to the documentation that accompanied the application software.

To start up INFOS II, respond to the OPCOMMAND CLI prompt as follows:

```
                    OPCOMMAND Interface
          To exit, press the Cancel/Exit key (F11)
Searchlist = :  :UTIL
Directory = :

) :INFOS:INFOS_UP ↵
... (system response) ...
)
```

To start up CEO, continue as follows:

```
                    OPCOMMAND Interface
          To exit, press the Cancel/Exit key (F11)
Searchlist = :  :UTIL
Directory = :

) :INFOS:INFOS_UP ↵
... (system response) ...
) :UTIL:CEO_DIR:UP.CEO ↵
... (system response) ...
)
```

If you brought these products down by running the DOWN macro, and also had networking software running, you will have to bring the network back up too. Execute the UP.NETWORK.CLI macro, being sure to enter the correct pathname (:UP.NETWORK or :NET:UTIL:UP.NETWORK, depending on where in the file system your UP.NETWORK.CLI macro is located).

For example, if your UP.NETWORK.CLI macro is located in the root directory, you would continue as follows:

```
            OPCOMMAND Interface
            To exit, press the Cancel/Exit key (F11)
Searchlist = :  :UTIL
Directory = :
) :INFOS:INFOS_UP ↵
... (system response) ...
) :UTIL:CEO_DIR:UP.CEO ↵
... (system response) ...
) :UP.NETWORK ↵
... (system response) ...
) BYE ↵
```

If you used the OPCOMMAND keyword to reach the OPCOMMAND CLI prompt, you will return to the Archive Menu after you type BYE and press New Line, or after you press the Cancel/Exit key. If you arrived at the Send a Command to the Master CLI Process screen by traversing the menus, you will return to the Administrative Functions Menu.

Enabling Consoles After the Backup

After you have performed the system-wide backup (and started up INFOS II and CEO, if applicable), re-enable consoles so users can resume working. (Note that if you didn't use option "5 Disable consoles from logging on" on the Archive Menu, you won't need to enable consoles now.)

There are two ways you can enable consoles from the SMI. You can do so from the Manage Consoles Menu (to which you can get by selecting option "2 Manage consoles" on the Administrative Functions Menu). Enabling consoles is option 5 on the Manage Consoles Menu.

You can also enable consoles while still at the Archive Menu or any other SMI menu by entering the keyword CENABLE. That is, you would enter the following at the menu's prompt:

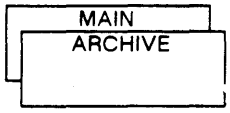
Enter choice: **CENABLE** ↵

The Enable Consoles screen would appear, at which you would specify to enable all consoles (the default) by pressing New Line at the prompt. For example,

Console(s): ↵

All consoles would then be enabled for users to log on, and the Archive Menu (or any other SMI menu from which you issued the CENABLE keyword) would be redisplayed on your screen.

Restoring System-Wide Files (SYSRESTORE)



SYSRESTORE
4 Restore system-wide files

To restore system-wide files from backup, gather your backup diskettes or tapes, making sure you have your last full backup and any incremental backups you've done since the full backup. Arrange the sets of diskettes or tapes in order, with the most recent incremental dump first, and be sure to have the diskettes or tapes for each backup in order.

NOTE: If your system is running CEO, INFOS II, or other applications that keep open files (such as SQL or DBMS), you should bring these applications down before restoring system-wide files. Refer to the earlier section, "Bringing Down CEO and INFOS II Software."

Then select option "4 Restore system-wide files" on the Archive Menu, or issue the keyword SYSRESTORE from any SMI menu. The Restore System-Wide Files screen will appear, as shown in Figure 4-7.

```
SMI Rev. n.nn.nn.nn                          dd-mmm-yy  hh:mm

                  Restore System-Wide Files

   Restore from tape or diskettes? (T = Tape, D = Diskettes)    TAPE

   Delete existing files with same names as backed-up files,
   or keep the more recent copy? (D = Delete, R = Recent)       RECENT

   To restore all files, press NEW LINE. To restore specific files,
   type the pathnames by which they are backed up, or use templates.
   File(s):

   Send list of restored files to the printer, to a disk
   file, or don't create a list? (P = Printer, F = File,
   N = None                                                     PRINTER


   To exit from any menu, press the Cancel/Exit key (F11).
   For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4-7 Restore System-Wide Files Screen

Note that the default response for each question appears in uppercase letters on the right of the screen. To accept any default, just press New Line while at the prompt. Otherwise, type the letter for the value you want and press New Line. When all the correct responses are on the screen, press the Execute key (F1) from anywhere on the screen or press New Line at the last question.

At the *tape or diskettes?* prompt, you can specify any removable medium on the system by entering the device name for the tape or diskette unit you want to use. When you accept the default, or type T or D, the system responds by displaying the device name for that entry. If the default device name displayed by your system is not the device you want to use, overwrite the default display with the appropriate device name, and then press New Line. (You will have to use the uparrow key to return to the *tape or diskettes?* field).

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

The second question asks if you want the system to delete files already on-line that have the same names as files on the backup media. The alternative is to have the system compare the time-last-modified on the existing file and the backed-up file, and to keep whichever is newer. For example, suppose the backup media has a file :UDD:SANDY:GUIDELINES, and a file by the same pathname exists on-line already. Let's say you specify to keep the more recent copy. The system finds the time-last-modified to be 11-SEP-90 14:11:33 on the backed up version, but 14-OCT-90 10:24:50 on the version on-line. In this case, it will keep the on-line version rather than restoring the file from media. Had you chosen to delete existing files with the same names as backed up files, it would have restored the 11-SEP-90 version of the file and deleted the version dated 14-OCT-90.

After you specify Recent or Delete, the screen prompts you to indicate which files you want restored. To have all files restored, just press New Line.

Then tell the system where to send a list of the restored files. If you specify to send the list of restored files to a disk file, you will be prompted for a filename. The default filename will be RESTORE.yy.mm.dd, in the root directory, where yy is two digits for the year, mm is two digits for the month, and dd is two digits for the day of the month. For example

RESTORE.90.10.17

is the default filename for the listing of files restored on October 17, 1990. If you want the listing to display on the console screen, specify @CONSOLE as the filename. *Be sure to look at this listing.* If any errors occur during the file restoration, this file will be the only record of them.

For example, suppose user Lee, who has the System Manager privilege, is restoring system-wide files from a 1/2-inch tape device. The device name for this device, say MTJ11, was previously specified through the Specify System Configuration Menu as the default backup/install medium. Lee wants the most recent copies of files kept, and wants all files restored, which are the defaults, but wants the list of files restored to go to a disk file in :UDD:LEE called SYSTEM_RESTORE. Lee would fill in the screen as shown in Figure 4-8.

```
SMI Rev. n.nn.nn.nn                          dd-mmm-yy hh:mm

                    Restore System-Wide Files

Restore from tape or diskettes? (T = Tape, D = Diskettes)  TAPE ↵
@MTJ11

Delete existing files with same names as backed-up files,
or keep the more recent copy? (D = Delete, R = Recent)   RECENT ↵
RECENT

To restore all files, press NEW LINE. To restore specific files,
type the pathnames by which they are backed up, or use templates.
File(s):

Send list of restored files to the printer, to a disk
file, or don't create a list? (P = Printer, F = File,
N = None)                                                FILE ↵
Filename:  :UDD:LEE:SYSTEM_RESTORE ↵


To exit from any menu, press the Cancel/Exit key (F11).
For assistance at any time, press the Help key (SHIFT-F1).
```

Figure 4–8 Sample Restore System-Wide Files Screen

Note that the *Filename:* prompt appeared after Lee entered FILE to indicate a disk file for the list of restored files.

When you have answered all questions and prompts, press New Line at the last prompt or press the Execute key (F1) from anywhere on the screen. The next two sections cover restoration of system-wide files from tape and diskettes, respectively.

Restoring System-Wide Files from Tape

To restore system-wide files from tape, collect your set of backup tapes from the most recent full backup, and any incremental sets you've done since then. Arrange the tapes in order, placing the most recent incremental backup first and the full backup last. Be sure the tapes in each set are in the correct order (beginning with tape volume 1).

When you execute your final entry to the Restore System-Wide Files screen, the SMI passes your answers and its own default specifications to the LOAD_II utility. LOAD_II displays a banner similar to the following:

LOAD_II Rev 07.68.00.00 on Wednesday 10-Oct-90 at 4:11:17 PM
Options: LOAD_II/MAXCAPACITY/SMI/V/L=@LPT/DELETE,@LMT:VOL01:
BACKUP
Directory: :

Respond MOUNTED <device> or REFUSED when ready.

NOTE: For detailed information on DUMP_II/LOAD_II, including error messages, refer to *Using the CLI (AOS/VS and AOS/VS II)* and *AOS/VS and AOS/VS II Error and Status Messages*. Make sure to check any documentation-changes files for the latest information.

Insert or mount the first tape in the drive. When the tape is inserted or mounted correctly, type **mounted** and the device name for your tape drive in upper- or lowercase letters. (The SMI displayed this device name for you on the first line of the Restore System-Wide Files screen).

Respond MOUNTED <device> or REFUSED when ready.
MOUNTED @MTJ0 ↵

When you press New Line after entering the device name, LOAD_II begins restoring your files.

While it copies the files you specified from tape to the disk, LOAD_II displays on your screen the tape volume number, volume ID, and the device name of the tape drive you are using. The utility also displays the file format and the date and time the backup was created, as in the following example:

Volume number: 01, volid: VOL01, mounted on: @MTJ0
Dumpfile is in CLI format, revision 15
Created on Wednesday 3-Oct-90 at 3:36:28 PM

If the utility requires you to do anything, it will display the instructions or request on your terminal screen. Each time LOAD_II needs more data, it requests the next volume.

When the restore is completed, LOAD_II displays a *LOAD II completed* message followed by the elapsed time, CPU time, and the number of disk blocks restored from tape. Remove the last tape, then press New Line to re-enter the SMI. The SMI will then redisplay the Archive Menu.

NOTE: If you brought down CEO, INFOS II, or other applications that keep open files (such as SQL or DBMS), remember to bring these applications back up after restoring system-wide files. Refer to an earlier section, "Bringing Up CEO and INFOS II Software."

Restoring System-Wide Files from Diskettes

To restore system-wide files from diskettes, locate your most recent full backup and any incremental backups taken since the full backup. Arrange the diskettes in the correct order: the most recent incremental backup first, next most recent next, and so on, with the full backup last. Then use the following steps. (Note that all italicized text in the first column is system output. Text in parentheses describes what the system is doing.)

System Message or Action	Your Action
	Insert VOL01 of the most recent incremental backup in the diskette drive.
** *Restoration within directory : at hh:mm:ss on dd-mmm-yy* **	
Please insert the first diskette of the backup fileset.	
Insert the fileset diskettes - when prompted- in the order in which they were originally dumped.	
-- Beginning file restoration --	
Please insert a diskette if not already inserted.	You already have a diskette inserted. Press New Line to start file restoration.
Unit [@DPJ10] Volume ID [VOL01]? [y]	
(The system copies the files from the diskette to the disk. When it has finished with the first diskette, it prompts you for the next:)	
Please insert next diskette *Unit [@DPJ10] Volume ID [VOL02]? [y]*	Remove the first diskette from the diskette drive and insert VOL02. Press New Line. Repeat this procedure when prompted until you have used all the diskettes in the backup set.
(When the restoration is complete, the system will display this message:)	
** *Restoration of directory : complete at hh:mm:ss* **	Remove the last diskette from the drive. Store the set of diskettes in a safe place. Save them until you make at least one more full backup.

NOTE: If you brought down CEO, INFOS II, or other applications that keep open files (such as SQL or DBMS), remember to bring these applications back up after restoring system-wide files. Refer to an earlier section, "Bringing Up CEO and INFOS II Software."

End of Chapter

Chapter 5
The Administrative Functions Menu

This chapter is for the

System Manager ☑

System User ☐

The Administrative Functions Menu

MAIN

ADMIN
4 Run administrative functions

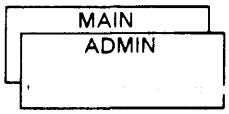
You can get to the Administrative Functions Menu by selecting option "4 Run administrative functions" on the SMI Main Menu, or by entering the keyword ADMIN from any menu screen in the SMI program. But you must have the System Manager privilege in your profile to display the Administrative Functions Menu or any of its subordinate menus or command screens. To perform many of the functions available through these menus, you also need the Superuser privilege or the Superprocess privilege, or both.

The Administrative Functions Menu appears in Figure 5-1.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                    Administrative Functions Menu

        1  Manage user profiles
        2  Manage consoles
        3  Customize the system
        4  Manage printers and print queues
        5  Control printer forms
        6  Manage the batch queue
        7  Send a command to the master CLI process
        8  Shut down the system


        Enter choice:

        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-1 Administrative Functions Menu

Managing User Profiles (PROFILES)



PROFILES
1 Manage user profiles

Each person who needs to use your system must have a valid user profile. Only users with the Superuser privilege can create, modify, or delete user profiles. If you select option "1 Manage user profiles" on the Administrative Functions Menu, the Manage User Profiles Menu will appear, as shown in Figure 5–2. You can also get to this menu by issuing the keyword PROFILES from any SMI menu screen.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                      Manage User Profiles Menu

        1  Create a user profile
        2  Modify a user profile
        3  Delete a user profile

        Enter choice:

        To exit from any menu, press the Cancel/Exit Key (F11).
        For assistance at any time, press the Help key (Shift-F1).
```

Figure 5–2 Manage User Profiles Menu

To return to the Administrative Functions Menu, press the Cancel/Exit function key (F11).

Creating a User Profile (CREATE)

Select option "1 Create a user profile" on the Manage User Profiles Menu when you want to create a new user profile. The screen shown in Figure 5-3 will appear. You can also get this screen by using the CREATE keyword. Note that the default responses for all prompts except username and password will appear on the screen.

```
SMI Rev nn.nn.nn.nn                          dd-mmm-yy hh:mm

                    Create a User Profile

Please fill in the blanks with the information requested.

Username (1 - 15 characters):

Password (6 - 15 characters):

Will this user need to perform system managemnent tasks (Y or N)? N

Initial program to run when user logs on:  :CLI:PR

Initial command (IPC) File:  :SETUP.CLI



To exit from any menu, press the Cancel/Exit Key (F11).
For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-3 Create a User Profile Screen

To create a new user profile, just fill in the blanks as indicated. The first prompts ask for a username and a password for the new profile. Be sure you enter a username between 1 and 15 characters in length, and a password between 6 and 15 characters. Allowable characters for username are A through Z, 0 through 9, underscore (_), period (.), question mark (?), and dollar sign ($). If you enter a username that already has an existing profile, you will receive an error message and will have to enter a different username. For the password, you can use any printable characters on the keyboard except the caret (^) character.

The SMI will not encrypt the password you have just created. If you want to further secure the password — beyond the usual invisibility feature — you must run the PREDITOR profile editor program. For a description of the advantages and disadvantages of encryption, and how to use PREDITOR, refer to *Managing AOS/VS and AOS/VS II.*

The next question asks if the profile will be for a user who will need to perform system management tasks. If you answer no (the default), the profile will be that of a regular system user. If you answer yes, the user will have a System Manager profile (like the SYSMGR profile), which contains the privileges Superuser, Superprocess, and System Manager. Refer to the "User Profiles" section in Chapter 1 for a discussion of the System User and System Manager profiles provided by the SMI.

Next, the screen asks for the initial program. Enter the pathname of the program you want this user to be running every time he or she logs on; that is, the CLI, SMI, CEO, or an application program. For example, for the CLI, you would enter :CLI.PR and for CEO, :UTIL:CEO_DIR:CEO_CP.PR. The default is :CLI.PR. (Refer back to the section "AOS/VS File System" in Chapter 1 for a quick review of pathnames.) Note that this pathname is restricted to 63 characters.

Finally, enter the pathname of the initial IPC file (or press Erase Eol or CR to erase the default response if you don't want to specify an IPC file). The IPC file is a small command file that executes each time the user logs on. It typically contains instructions that set default ACLs for the user's files and a default search list, so you might want each user to have the same IPC file. The filename should be easy to remember; a common choice is :SETUP.CLI.

The IPC file also often contains a call to a macro of the same name located in the user's own directory. Users can then edit the SETUP.CLI files located in their own directories to contain whatever they want, and these instructions will execute after those in the initial IPC file that you set up. Note that the IPC pathname is restricted to 63 characters.

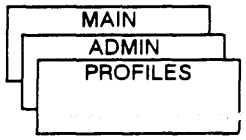
While you are entering information, you can return to a previous field by using the uparrow (or Cursor Up) key or by pressing the Back Field function key (Shift-F11). You can move ahead to any field by pressing New Line or the downarrow. When you are finished entering information, press New Line at the *Initial command (IPC) file:* prompt, or press the Execute key (F1) from anywhere on the screen. You will return to the Manage User Profiles Menu. The new profile will be in effect immediately and the user can log on.

Figure 5-4 shows a sample Create a User Profile screen with responses entered. The profile is for a regular system user, whose username will be LEE. LEE's initial password will be KINGSTON, initial program will be the CLI, and initial IPC file will be :SETUP.CLI.

```
SMI Rev nn.nn.nn.nn                          dd-mmm-yy hh:mm

                    Create a User Profile

Please fill in the blanks with the information requested.

Username (1 - 15 characters): LEE

Password (6 - 15 characters): KINGSTON

Will this user need to perform system management tasks (Y or N)? N

Initial program to run when user logs on: :CLI:PR

Initial command (IPC) File: :SETUP.CLI


To exit from any menu, press the Cancel/Exit Key (F11).
For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-4 Sample Create a User Profile Screen

Modifying a User Profile (MODIFY)



MODIFY
2 Modify a user profile

If you want to modify a user profile that already exists, select option "2 Modify a user profile" on the Manage User Profiles Menu, or specify the keyword MODIFY from anywhere in the SMI menu series. A screen will appear, prompting you to enter the username of the profile you want to modify:

```
SMI Rev nn.nn.nn.nn                              dd-mmm-yy hh:mm

                        Modify a User Profile

Enter a username. The existing values for that profile will appear
as defaults.

Username:
```

Enter a username. If you enter a username that does not have an existing profile, you will receive an error message and will have to enter a different username.

Note that the username is the one piece of information in a profile you cannot change. This is because the system uses this name to refer to the profile.

After you enter the username, the remaining Modify a User Profile prompts will appear. The profile's current settings will display as the defaults, with the exception of the password, which will not display for security reasons. To accept any of the current settings, including the password, just press New Line. To change any, type the new information and press New Line. If you make any mistakes, you can use the Back Field key (Shift-F11) or the uparrow to return to a previous entry on the screen.

For example, suppose we want to modify the profile of user LEE, whose profile we just created in the preceding section. We meant to give LEE all of the privileges in the System Manager profile; but when we created the profile, we specified that LEE would not be performing system management tasks. Using option "2 Modify a user profile" on the Manage User Profiles Menu, we can change that now. After selecting option 2, we answer LEE to the *Username:* prompt on the Modify a User Profile screen, as follows:

```
SMI Rev nn.nn.nn.nn                              dd-mmm-yy hh:mm

                        Modify a User Profile

Enter a username. The existing values for that profile will appear
as defaults.

Username: LEE )
```

The system will take this username and find its existing profile, and display the information in the profile as default answers to the remaining prompts on the Modify a User Profile screen, as shown in Figure 5-5.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Modify a User Profile

     Enter a username. The existing values for that profile will appear
     as defaults.

     Username:  LEE

     Password (6 - 15 characters):

     Will this user need to perform system management tasks (Y or N)? NO

     Initial program to run when user logs on:  :CLI.PR

     Initial command (IPC) File:  :SETUP.CLI




     To exit from any menu, press the Cancel/Exit key (F11).
     For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-5 Sample Modify a User Profile Screen

Our cursor in Figure 5-5 will be positioned after the password prompt. Using the New Line key or the downarrow key, we can get to the next field, which we want to change. Note that the SMI writes out the full YES or NO existing default for that profile to the *...system management tasks?* prompt. We then type Y over the N, press the space bar once to erase the O, and press New Line, as follows:

Will this user need to perform system management tasks (Y or N)? Y □ ↵

The word YES will appear where NO used to be. Since we want to keep the rest of the screen the same, we can either press New Line two more times, to accept the values for initial program and initial IPC file, or we can simply press the Execute function key (F1) to specify that we want to accept all values as they now appear on the screen.

When you have finished entering the profile information, press New Line from the prompt for the initial IPC, or press Execute (F1) from anywhere on the screen. You will return to the Manage User Profiles Menu.

Modifying Encrypted Passwords

The SMI program does not encrypt passwords. If you attempt to modify an encrypted password, the SMI displays a warning message on your screen before accepting the specified profile settings, as shown in Figure 5-6.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Modify a User Profile

   Enter a username. The existing values for that profile will appear
   as defaults.

   Username:  LEE

   Password (6 - 15 characters):

   Will this user need to perform system management tasks (Y or N)? YES

   Initial program to run when user logs on:  :CLI.PR

   Initial command (IPC) File:  :SETUP.CLI

   You are about to modify an encrypted password.  The new password
   cannot be encrypted.  Do you still want to change it (Y or N)?


   To exit from any menu, press the Cancel/Exit key (F11).
   For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-6 Sample Modify a User Profile Screen with Encryption Warning

You can change an encrypted password to a new password by answering Y to the message prompt, pressing New Line, and then entering the new password. The SMI will not encrypt the new password (though it will hide the new password from view). To encrypt any password you must use the PREDITOR (Profile Editor) program. For a description of the advantages and disadvantages of encryption, and how to use PREDITOR, refer to *Managing AOS/VS and AOS/VS II*.

Deleting a User Profile (DELETE)

When a user no longer needs to use your system, you might want to delete that user's profile to save disk space. To delete a profile, select option "3 Delete a user profile" on the Manage User Profiles Menu. You can also get to the Delete a User Profile screen by issuing the keyword DELETE from any SMI menu.

The system will prompt you for the username of the profile you want to delete, as shown in Figure 5-7. *Be sure no one will ever need to use that profile again before you delete it.*

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Delete a User Profile

     Enter the username of the profile you want to delete:

     Deleting a user profile does not delete the user's directory
     in :UDD.  You can still access the files there, or delete the
     directory.

     Delete the user's directory in :UDD (Y or N)? Y




     To exit from any menu, press the Cancel/Exit key (F11).
     For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-7 Delete a User Profile Screen

If you are sure that you want to delete the user's profile, type the username and press New Line. For example, suppose user SULLY no longer works in your department and you want to delete SULLY's user profile. Your entry would look like the following:

Enter the username of the profile you want to delete: **SULLY** ↵

The SMI reminds you that deleting a user's profile does *not* delete that user's directory in :UDD. You can still access the files there, or delete the directory if no one needs it. *Be absolutely certain no one will need to use any of this user's files before you delete the directory*. Once you've deleted it, you will have only your system-wide backups and the user's personal file backups (if any) from which to restore any of this user's files.

NOTE: If you don't delete the user's :UDD directory when you delete the profile, you won't be able to create a new profile with that username. If you attempt to, you will receive a *Username directory already exists* error message. If you subsequently want to delete this directory, you will have to use the CLI to do so. You might want to back up the directory to tape or diskettes first.

Managing Consoles (CONSOLES)

Option "2 Manage consoles" on the Administrative Functions Menu allows you to perform a number of functions involving other system users. The Manage Consoles Menu appears in Figure 5-8. You can also get to this menu by using the CONSOLES keyword.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Manage Consoles Menu

        1  List all processes running
        2  Send a message to all consoles
        3  Terminate a user process
        4  Display status of consoles
        5  Enable consoles
        6  Disable consoles
        7  Clear consoles


        Enter choice:


        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-8 Manage Consoles Menu

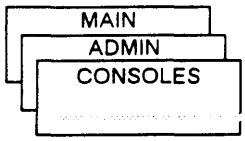
To return to the Administrative Functions Menu from the Manage Consoles Menu, press the Cancel/Exit function key, F11.

All of the options on the Manage Consoles Menu also apply to windows on pixel-mapped terminals. The system treats each window as if it were an individual console.

When you specify a console name for any option on the Manage Consoles Menu, use the name without the preceding @ sign; for example, CON8, CON12, and not @CON8 or @CON12. Similarly, specify window names without the preceding @ sign on the console name. For example, if you have a window called WIN2 on a pixel-mapped terminal called PMAP1, you would specify PMAP1:WIN2 as the console name.

NOTE: To create and manipulate windows, you must have an application program. *AOS/VS System Concepts* describes the system calls you need to implement such a program.

Listing All Processes Running (WHOS)



WHOS
1 List all processes running

Option "1 List all processes running" on the Manage Consoles Menu allows you to list all of the active processes on your system. This information is useful for several reasons; for example, you might want to know if a certain system user is logged on, or you might want to know someone's process ID (PID) number so you can send a message.

When you select option 1, or specify the WHOS keyword, you will receive a list of processes running, each of which specifies a PID, a username, and what program is running. For example, your list might look something like the following:

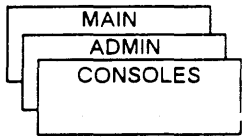
```
Elapsed  7:04:52,  CPU  0:00:32.725,  I/O Blocks    28,  Page Secs 7362
PID:     1 PMGR          PMGR          :PMGR.PR
PID:     2 OP            OP            :CLI16.PR
PID:     3 OP            EXEC          :UTIL:EXEC.PR
PID:     4 OP            CON4          :UTIL:XLPT.PR
PID:     5 CEO_MGR       CEO_FSA       :UTIL:CEO_DIR:CEO_FSA.PR
PID:     6 SYSMGR        CON3          :UTIL:SMI.PR
PID:     7 OP            NETOP         :NET:NETOP.PR
PID:     8 OP            X25_LMGR      :NET:X25_LMGR.PR
PID:     9 CHRIS         CON21         :CLI16.PR
PID:    10 KRUPP         VCON1         :CLI16.PR
PID:    11 OP            011           :LOCK_CLI.PR
PID:    12 OP            INFOS_II      :INFOS:INFOS_II.PR
PID:    13 JR            CON5          :CLI16.PR
PID:    14 CEO_MGR       CEO_LOG       :UTIL:CEO_DIR:CEO_LOG.PR
PID:    15 CEO_MGR       CEO_POA       :UTIL:CEO_DIR:CEO_POA.PR
PID:    16 CEO_MGR       CEO_CSA       :UTIL:CEO_DIR:CEO_CSA.PR
PID:    17 CEO_MGR       CEO_QMA       :UTIL:CEO_DIR:CEO_QMA.PR
PID:    18 SYSMGR        00018         :CLI16.PR
PID:    20 ASHLEY        CON13         :CLI16.PR
PID:    21 LEE           VCON3         :CLI16.PR
```

Suppose you are user SYSMGR. This display shows that you are running the SMI (:UTIL:SMI.PR) as PID 6, on the console CON3, and that you also have a CLI process running as PID 18. (PID 18 is the process that is performing the "List all processes running" request.)

Aside from active processes, this display tells you how long your system has been running. The value listed after "Elapsed" indicates this in the format hh:mm:ss. In this example, the system has been running just over 7 hours.

The list of processes displays on the screen in Page Mode. That is, once the screen is full, it will freeze. To make it scroll up, use the Ctrl-Q sequence (press and hold the Ctrl key; then press Q). Once the end of the list is displayed, the system will prompt you to return to the Manage Consoles Menu by pressing New Line.

Sending a Message to All Consoles (BROADCAST)



BROADCAST
2 Send a message to all consoles

Option "2 Send a message to all consoles" on the Manage Consoles Menu allows you to broadcast a message to all running processes. You might want to do this, for example, if you want to remind all users about a meeting, or if you want to tell users what time the system will be coming down. The keyword for this option is BROADCAST, and it will take arguments. That is, from any SMI menu, you can type BROADCAST followed by the entire message you want to send. Once you press New Line, the system will send the message to all consoles.

When you select option 2 or type BROADCAST with no arguments, the system will prompt you to type the message you want to broadcast. It will then send the message to all terminals logged on, including yours, so you will be able to verify that the message was sent out. You can then return to the Manage Consoles Menu by pressing New Line.

Figure 5-9 shows a sample dialog of what happens once you select option 2 on the Manage Consoles Menu.

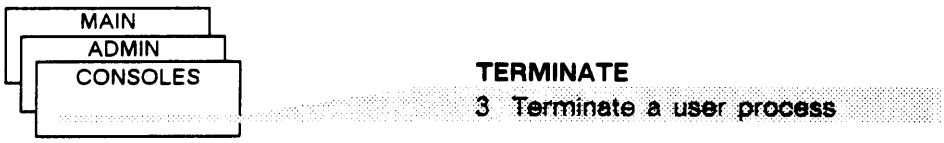
```
                Send a Message to All Consoles

Type the message you want to send to all system users; then
press New Line.

The system will be coming down at 5:00 p.m. today. ↵

From Pid  n :  {SYSMGR} - The system will be coming down at
5:00 p.m. today.


Press New Line to continue.
```

Figure 5-9 Sample Broadcast Message

Note that you could receive the prompt to press New Line and return to the Manage Consoles Menu before you receive the broadcast message on your screen. If the message appears on your menu screen, you can refresh the screen by pressing the Erase Page key.

Terminating a User Process (TERMINATE)

You might need to terminate a user process if, for example, a user gets *hung* in a program. (The term hung means the state in which the program is running, but nothing is happening; the process is suspended indefinitely.) Or sometimes a user will accidentally attempt to type out an unprintable program file on a terminal screen, which could cause it to emit strange characters and beeping sounds for several minutes. Rather than sitting through this, the user might ask you to terminate his or her process.



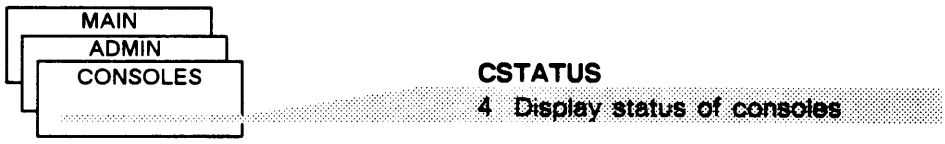
Before terminating anyone, you need to know the user's process ID (PID) number. When you select option "3 Terminate a user process," (or use the keyword TERMINATE) the system will display a list of all processes running on the system. (See the sample listing under the section "Listing All Processes Running," listed earlier.) If the list of processes is longer than one screen, the SMI will place the screen in Page mode. This means the screen will freeze when it is full, and you will have to press Ctrl-Q to continue it to the next screen.

When all current processes have been displayed, the system will prompt you to enter a PID for each process you want to terminate. Type the number(s) (up to a total of 10) and press New Line. The system will then return to the Manage Consoles Menu.

If you want to check to be sure the PID you specified was terminated, you can then select option "1 List all processes running" on the Manage Consoles Menu. The PID(s) you specified to terminate should no longer appear on the list.

NOTE: The SMI will allow you to specify only PIDs greater than 4. This is to prevent you from causing an abnormal shutdown of EXEC or the system.

Displaying Status of Consoles (CSTATUS)



Option "4 Display status of consoles" on the Manage Consoles Menu allows you to see the status of any device connected to a console line on the system (terminals, printers, or modems). The keyword for this option is CSTATUS. When you select this option, the system will prompt you to enter the console names of the device whose status you want to see. You can specify up to seven console names, or press New Line to display the status of all consoles. If the status display takes up more than one screen, the SMI will display the status of several devices at a time, and then prompt you to press New Line to scroll the screen.

Console status for each console consists of a message from the EXEC process, telling you the console is *enabled*; that is, ready to use on the system, and what user, if any, is logged on. It also tells you how many attempts a user has to log on at that console; that is, if a user enters an incorrect username/password pair, how many times the device will accept log-on attempts before temporarily locking.

You will receive a *Console unknown to EXEC* message for any console you specify that is not enabled; EXEC is aware only of consoles that are enabled. And if you specify a console that does not exist, you will generate a *File does not exist* error message, which could overwrite some of the information on your screen. Note that you may or may not have an actual device cabled to each console line, but the system will still consider the consoles to exist if they are defined in the :PER directory.

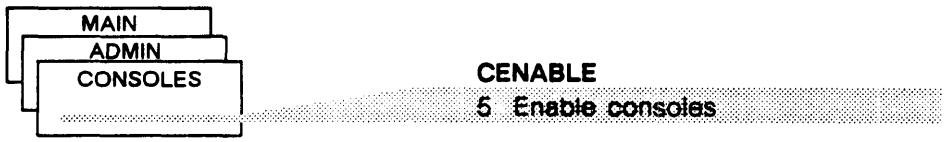
For example, suppose you specify the consoles CON2, CON3, CON4, CON5, CON6, VCON0, and VCON1. Your console status display might look like the following:

```
@CON2  Enabled, Logon tries =  5, Continue, PID:  14, User = CRH
@CON3  Enabled, Logon tries =  5, Continue, PID:  11, User = SYSMGR
Console unknown to EXEC
@CON5  Enabled, Logon tries =  5, Continue, PID:  21, User = CAREY
@CON6  Enabled, Logon tries =  5, Continue, PID:  12, User = LEE
@VCON0 Enabled, Logon tries =  5, Continue, Not logged on
Console unknown to EXEC
```

From this display, you can see that CON4 and VCON1 are not enabled, but the rest of the specified consoles are. All enabled consoles except VCON0 have users currently logged on.

At the end of the display, the system will prompt you to press New Line to return to the Manage Consoles Menu.

Enabling Consoles (CENABLE)



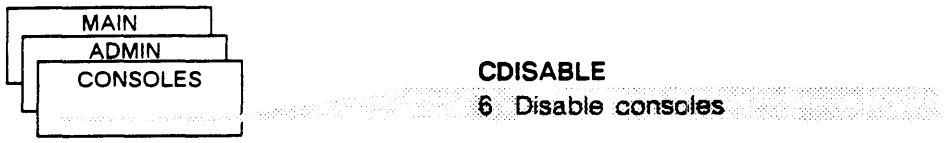
Before any users can log on to their terminals, the consoles must be enabled. This is done automatically when your system comes up; however, if you disable any consoles from logging on (which is option 6 on the Manage Consoles Menu), you can use the Enable consoles option to re-enable them. Select option "5 Enable consoles" on the Manage Consoles Menu or use the CENABLE keyword. The system will prompt you to enter the console name(s) that you want enabled, or to press New Line if you want to enable all consoles. You can specify up to 10 separate console names.

The console names are the names displayed when you select option "4 Display status of consoles" on the Manage Consoles Menu; for example, CON2 or VCON0. These names identify the consoles to the system. You must type the names without the preceding @ sign that appears on the status display. For example, suppose you have selected the console status option described above and received the status listing pictured. You see by the listing that consoles CON4 and VCON1 aren't enabled. You can enable them by responding to the prompt on the Enable Consoles screen as follows:

Console(s): **CON4 VCON1** ↵

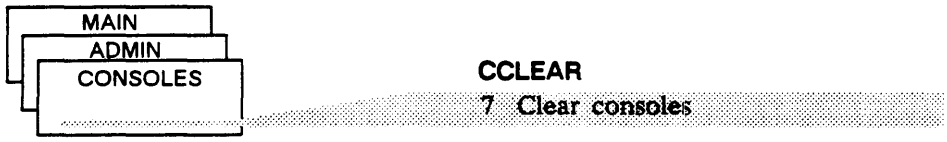
You will then be prompted to press New Line to return to the Manage Consoles Menu. If you want to check to be sure the consoles you specified were enabled, you can use option 4 to display console status again. CON4 and VCON1 should now appear on the listing as enabled.

Disabling Consoles (CDISABLE)



At times, you may want to disable all or some users from logging on, for security reasons. Select option "6 Disable consoles" on the Manage Consoles Menu or use the CDISABLE keyword. The system will prompt you to enter a console name or names. You can specify up to 10 console names. Or you can indicate that you want all consoles disabled by pressing New Line at the prompt. The system will then return you to the Manage Consoles Menu. From there, you can select option 4 to ensure that the consoles you specified were disabled. (EXEC displays the message *Console unknown to EXEC* for a disabled console.) You can subsequently re-enable the consoles with option "5 Enable consoles" on the Manage Consoles Menu.

Clearing Consoles (CCLEAR)

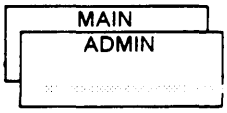


Option "7 Clear consoles" on the Manage Consoles Menu allows you to clear a console that has become hung for some reason. When you enter 7, or specify the CCLEAR keyword, the system will prompt you to enter which consoles you would like cleared. Enter the console name(s) (up to 10) as prompted, using the same naming format as for the other options on the Manage Consoles Menu. For example, suppose user Sandy on the pixel-mapped terminal PMAP1 tells you the program running in WINDOW1 is hung. You select option 7 and receive the Clear Consoles screen. You respond to the prompt in the following way:

Console(s): **PMAP1:WINDOW1** ↵

You will then return to the Manage Consoles Menu. User Sandy would then return to the console to ensure that the window was working properly.

Customizing the System (CUSTOMIZE)



CUSTOMIZE
3 Customize the system

Option "3 Customize the system" on the Administrative Functions Menu allows you to perform various functions that tailor your system to your needs. When you select option 3, the Customize the System Menu will appear. Its options are shown in Figure 5-10. The keyword for this menu is CUSTOMIZE.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yyyy  hh:mm

                    Customize the System Menu

      1  Specify system configuration
      2  Install software
      3  Change the system date or time
      4  Specify the pathname of the default system
      5  Edit the UP macro
      6  Edit the DOWN macro
      7  Edit the system log-on message
      8  Edit the system SETUP macro

      Enter choice:

      To exit from any menu, press the Cancel/Exit key (F11).
      For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-10 Customize the System Menu

To return to the Administrative Functions Menu, press the Cancel/Exit key, F11.

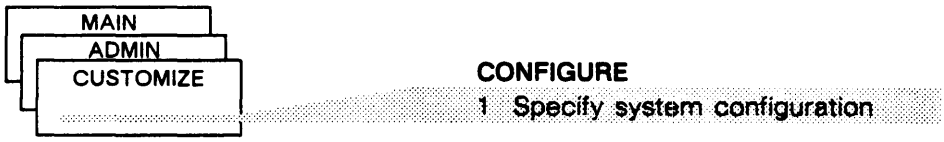
Specifying the System Configuration (CONFIGURE)

The system knows, to some degree, what hardware it consists of. However, it doesn't know which type of removable media you will usually use to back up files or which printer you will use most often. And it can't tell which of your lines have terminals on them and which have printers.

It is very important that you tell the system this information the first time you log on. You should come directly to the Specify System Configuration Menu when you bring up the system for the first time.

NOTE: If your system uses an ITC/128 or LTC/64 TermController, you must define and specify printers and console lines in the TermServer network software when you configure or reconfigure your system using the SMI. For example, since printers and modems usually require different parameters than user terminals, you must establish Permanent Virtual Circuit(s) for them with your TermServer/TermController software, and ensure that your system UP macro recognizes and starts the devices on the correct lines. Refer to *Managing Your TermServer Network* and *Installing, Starting, and Stopping AOS/VS* for detailed information.

NOTE to CEO Users:
You must use the Specify System Configuration Menu to define your printers to the system *before* you define them via CEO. When you subsequently define the printers for CEO, be sure to give them the same names that you do for SMI, or you may get unexpected results.



Option "1 Specify system configuration" on the Customize the System Menu brings up the Specify System Configuration Menu, which lets you tell the system many useful pieces of information, including

- Type of removable media to use as the default for archiving and installing software.
- Printer to be named as the default on appropriate command screens.
- Type of parallel printer you have.
- Which device — terminal, printer, or modem — is on each asynchronous communications line.
- Baud rate (speed of data transfer) for each line.
- Default page format for printers.

The system will use this information to process your requests, and therefore make your system management tasks easier for you. You need to enter this information only once. Subsequently, you can come back to this menu and change any of the information, or add information if you add printers or modems to your system or change which lines any devices are on.

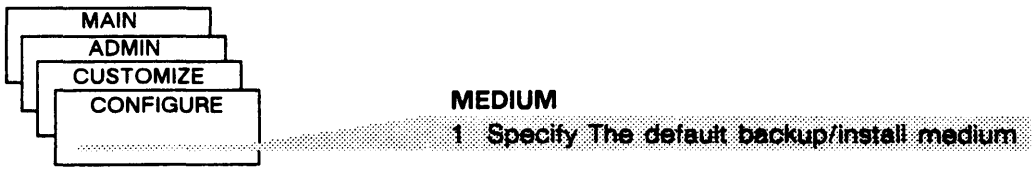
NOTE: The information you specify for system configuration will take effect at your next powerup. That is, *you must power off and on again in order for the system to use this information*. The exceptions are the default specifications for backup/install medium and printer, which take effect immediately.

When you select option "1 Specify system configuration" on the Customize the System Menu, or specify the CONFIGURE keyword, you will receive the Specify System Configuration Menu, as shown in Figure 5-11.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                  Specify System Configuration Menu

      1  Specify the default backup/install medium
      2  Define parallel printers
      3  Define console lines

      Enter choice:

      To exit from any menu, press the Cancel/Exit key (F11).
      For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-11 Specify System Configuration Menu

Specifying the Default Backup/Install Medium (MEDIUM)



When you select option "1 Specify the default backup/install medium" on the Specify System Configuration Menu or use the MEDIUM keyword, the Specify the Default Backup/Install Medium screen will appear. The screen will display your system model, and prompt you to enter your default medium, as follows:

System Model: MV/10000 DC

Default backup/install medium (specify a device name): @MTB0

(The model number of your system will appear, and the default medium appropriate to your system, where we have shown MV/10000 DC and @MTB0 as an example.)

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

At the prompt for a default medium, enter the device name (sometimes called the *unit name*) of the device that you will most often use when backing up files or installing software to the system, or press New Line to accept the default that appears. Note that you do not have to type the @ sign that precedes each device name; if you leave it off, the SMI will add it for you.

For example, suppose you have an MV/2000 DC system with a model 6300 tape drive and a diskette drive, and you want to use the tape drive as the default backup/install device. You would respond to the prompt as follows:

System Model: MV/2000

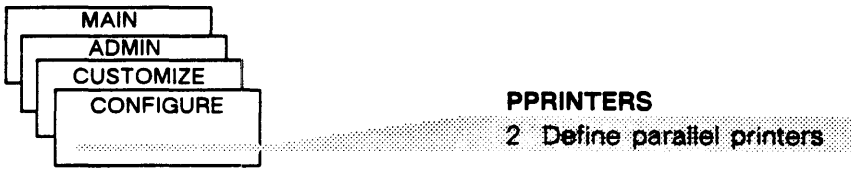
Default backup/install medium (specify a device name): **@MTD0** ↵

Once you have specified the default medium, you will return to the Specify System Configuration Menu. The device you indicated will appear as the default in backup and install screens until you use this option again to change it to something else.

Defining a Parallel Printer (PPRINTERS)

A parallel printer is a printer that has eight data lines between it and the processor. This allows 8 bits (1 byte) of information to reach the printer at a time, as opposed to a serial printer, which receives just 1 bit at a time. Thus, parallel printers process print requests more quickly than do serial printers.

If you have a parallel printer on your system, select option 2 on the Specify System Configuration Menu, or specify the PPRINTERS keyword, to define the printer's parameters to your system. (You define serial printers to your system by defining their console lines. We describe this in the next section.)



The system will prompt you for how many parallel printers you have. Press New Line to accept the default, 1, or type the number of parallel printers you have and press New Line. You will then receive a prompt for device name. Type the appropriate device name and press New Line, or just press New Line to accept the default. The rest of the screen will then appear, as shown in Figure 5--12.

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

```
SMI Rev  nn.nn.nn.nn                              dd-mmm-yy hh:mm

                        Define a Parallel Printer


Printer:  1

Device name:  @LPJ0

Number of characters to print per line (16 - 255):        80

Number of lines to print per page (6 - 144):              66

Printer name:

Will this printer be the default printer (Y or N)?        NO



To exit from any menu, press the Cancel/Exit key (F11).
For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-12 Define a Parallel Printer Screen

The next two prompts ask for the number of characters to print per line, and the number of lines to print per page on this printer. Type the values you want or press New Line to accept a default.

NOTE: The characters per line and lines per page specifications (CPL and LPP) you define at this screen will be used for print requests *only if* you haven't specified a default form for the printer and the user does not specify a form name on the print request. See the section "Controlling Printer Forms (FORMS) later in this chapter for information on specifying forms.

In addition, these CPL and LPP values take effect immediately only if the parallel printer is your default printer. For nondefault printers, the values will take effect at the next powerup (the next time you execute the UP.CLI macro).

The next prompt asks for a printer name. Choose a name that is easy to remember. We suggest using a name like PRINTER1 for your default printer, and PRINTER2, PRINTER3, and so on for other printers. It's a good idea to write each printer's name on a piece of paper and post it on the printer, so other users will know which name to use to refer to the printer. Be sure to name each of your printers a different name, and do not give any printer a name that you plan to give to a printer queue. Both printer and queue names are stored in :PER, which cannot have two filenames the same.

Give the printer a valid filename, or use its device name as its filename; for example, @LPJ0. The SMI will interpret the @ sign to mean the :PER directory. If you specify a name that already exists in the :PER directory, you will receive a *Name already exists* error.

Next, specify if this parallel printer will be the default printer. If you specify this printer as the default, its name will appear as the default on all SMI prompts that ask for a printer name. More important, the SMI instructs the UP macro to start up automatically the queues LPT, BATCH_LIST, and BATCH_OUTPUT to whichever printer you specify as the default. Each time you power up your system (execute the UP.CLI macro), the system will start those three queues to the default printer. The default printer specification will take effect immediately, but the queues will start up automatically only at subsequent power ups. To use these queues before the next powerup, you will have to start them explicitly. See the "Managing Printers and Print Queues" section later in in this chapter.

You can specify just one printer to be the default, and it can be either the parallel printer or a serial printer. Note, however, that if you specify more than one printer to be the default, the SMI will assume that the default is the last printer specified as such. This allows you to change your mind if you indicate a printer as the default, and then decide you want a different one instead.

Answer the prompt with a Y or N, and press New Line. You will return to the Specify System Configuration Menu.

Defining Console Lines (LINES)

To define the parameters of your console lines, select option "3 Define console lines" on the Specify System Configuration Menu or specify the LINES keyword. You will receive the Define Console Lines screen, which will prompt you for which console numbers you want to define. *Note that you are required to define only those lines that have a serial printer or a modem on them.* Unless you define a line otherwise, the system will assume that the line is a regular terminal line with a baud rate of 9600 (the default).

Type the console numbers for the lines that you want to define.

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

On some computers, you can put modems only on certain lines. Refer to the documentation that came with your computer to see if any such restrictions apply. Appendix B in this manual notes these restrictions for the computer systems listed above.

When you enter console numbers, omit the CON; that is, type just the number. For example, to specify CON22 you would type 22. Note that you can specify console number ranges, but if you do, don't put spaces between the numbers and the dash, and don't use the word to or through. For example, to define CON6, CON7, CON8, and CON9 you could respond to the prompt as follows:

Which console lines do you want to define?
(Type console numbers or ranges): **6-9** ↵

After you specify the lines you want to define, you will then see Define a Console Line screens — one screen for each line on your system that you want to define.

The Define a Console Line screen appears in Figure 5-13.

```
SMI Rev nn.nn.nn.nn                          dd-mmm-yy hh:mm

                      Define a Console Line

Console:  CON6

Baud rate for this line (300 1200 1800 2400 3600 4800 9600):    9600

Is there a modem on this line (Y or N)?                         NO

Is there a printer on this line (Y or N)?                       NO



To exit from any menu, press the Cancel/Exit key (F11).
For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-13 Define a Console Line Screen

The *baud rate* indicates the speed at which a line or modem can transfer data, in bits per second. The standard (and default) baud rate for console devices is 9600. For modems it is 1200. Since each character requires 10 bits, characters are transferred at 1/10 the baud rate; that is, 960 characters per second for consoles and 120 characters per second for modems, using the default values. Type the value you want and press New Line.

NOTE: If you specify a baud rate that is too high on a letter-quality printer, you might receive Data Overrun or Data Check errors. A baud rate of 2400 is appropriate for most letter-quality printers. If you still receive errors on your printer with the baud rate at 2400, reset it to 1200. Be sure to set the baud rate switch on the printer itself to the same value. Then shut the system down and start it up again, to make the new value take effect.

The next two prompts allow you to specify if the line has a modem or printer on it. *Don't answer Y (Yes) to both of these prompts.* You can't have both a modem and a printer on a line.

If you answer Y to the last prompt, indicating the line has a serial printer on it, four more questions will appear on the bottom of the screen, as shown in Figure 5-14.

NOTES: Any nondefault printer that you define on a console line will need to have its console line disabled (only lines for terminals should be enabled) and a queue started to it, or else it will not be usable. We describe two methods of disabling lines and starting queues under the "Preparing a Printer..." headings at the end of this section.

If you define a printer that requires hardware flow control on a line otherwise available for modems, you must still define the device as a printer, and edit the :UP_LINES macro accordingly. See the section "Defining Lines for Printers with CTS Hardware Flow Control," in Appendix B.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Define a Console Line

Console:  CON6

Baud rate for this line (300 1200 1800 2400 3600 4800 9600):      1200

Is there a modem on this line (Y or N)?                           NO

Is there a printer on this line (Y or N)?                         YES

Number of characters to print per line (1 - 255)                  80

Number of lines to print per page (1 - 144)                       66

Printer name:

Will this printer be the default printer (Y or N)?                NO

To exit from any menu, press the Cancel/Exit key (F11).
For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-14 Define a Console Line Screen with Printer Questions

Press New Line if you want to accept a default value. Once you've answered all of the prompts and questions, or pressed the Execute function key to indicate that all information on the screen is correct, you will receive the Define a Console Line screen for the next console in the range you specified at the original Define Console Lines screen. When you are finished specifying the last line, you will return to the Specify System Configuration Menu.

NOTE: The characters per line and lines per page specifications (CPL and LPP) you define at this screen will be used for print requests *only if* you haven't specified a default form for the printer and the user does not specify a form name on the print request. See the section "Controlling Printer Forms (FORMS) later in this chapter for information on specifying forms.

In addition, these CPL and LPP values take effect immediately only if this printer is your default printer. For nondefault printers, the values will take effect at the next powerup (the next time you execute the UP.CLI macro).

When you give a printer a name, it's a good idea to write this name down, along with the location of the printer. Then tape a name tag on each printer so all its users will know which printer to specify on requests to SMI. Be sure to give each printer a different name, and don't give any printer a name that you intend to give to a queue. Both printer and queue names are stored in :PER, which cannot have two filenames the same.

Give each printer a valid filename, or you can use its device name as its filename; for example, @CON12. (The SMI will interpret the @ sign to mean the :PER directory.) If you specify a name that already exists in the :PER directory, you will receive a *Name already exists* error.

Next, specify if this printer will be the default printer. The SMI always assumes that the last printer specified as the default is the printer you intended; you can have only one default device. If you specify this printer as the default, its name will appear as the default on all SMI prompts that ask for a printer name. More important, the SMI instructs the UP macro to automatically start up the queues LPT, BATCH_LIST, and BATCH_OUTPUT to whichever printer you specify as the default. Each time you power up your system (execute the UP.CLI macro), the system will start those three queues to the default printer. The default printer specification will take effect immediately, but the queues will start up automatically only at subsequent power ups. To use these queues before the next powerup, you will have to start them explicitly. See the "Managing Printers and Print Queues" section later in in this chapter.

While at the Define a Console Line screen, you can use the arrow keys (Cursor Up and Cursor Down) to move between input fields if you want to change any of your answers.

If you press the Cancel/Exit function key while at the Define a Console Line screen, the values at the current screen will be discarded, but any other lines that you already defined will still be defined. For example, suppose you specify that you want to define consoles 4, 6, 7, and 10 when prompted for console numbers. Subsequently, you fill in the Define a Console Line screen for CON4 and CON6, but then press Cancel/Exit while defining CON7. The values for CON4 and CON6 will remain intact, but CON7 and CON10 will not have been defined.

However, processing for CON4 and CON6 won't be complete, because you interrupted the process. You won't have to redefine these lines, but you will have to subsequently use the Define Console Lines option again and run it to completion (that is, don't interrupt by pressing Cancel/Exit). Therefore, you would select the Define Console Lines option again and define CON7 and CON10. The system would then have the information for all four lines.

Any nondefault printer that you define on a console line will need to have its console line disabled (only lines for terminals should be enabled) and a queue started to it, or else it will not be usable. There are two methods for doing these tasks, depending on how you will use the printer:

- If your printer will remain on one console line indefinitely, follow the steps in the next section, "Preparing a Printer That Will Be On the Same Console Line Permanently."
- If you have a non-default printer that is likely to be moved from line to line, use steps that follow in the section, " Preparing a Printer That Is Likely to Be Moved from Line to Line." (This might be the case, for example, if you have a very high quality printer that several different people might need to use from time to time, and might therefore move from office to office.)

Use one set from the following instructions; *do not* do both. Note that the first procedure presents a permanent solution; it needs to be done only once. The second solution is temporary; it must be performed every time the system is brought up.

Preparing a Printer That Will Be On the Same Console Line Permanently

1. Define the printer at the Define Console Lines screen.
2. From the Manage Consoles Menu, disable the printer's console line, specifying its console name (for example, CON16).
3. Create a queue and associate it with the printer, specifying the name you gave the printer when you defined it in step 1. (Use option "4 Create a print queue" of the Manage Printers and Print Queues Menu.)
4. Select option "5 Edit the UP macro" on the Customize the System Menu.
5. Add the following lines to the UP macro after the line that calls the UP_LINE macro:

```
CONTROL @EXEC START queuename @printername
PAUSE 3
CONTROL @EXEC SILENCE @printername
CONTROL @EXEC CONTINUE @printername
```

   where "queuename" is the name of the queue you created in step 3, and "printername" is the name you gave the printer at the Define Console Line screen.

   The printer will be usable now and for every subsequent startup.

Preparing a Printer That Is Likely to Be Moved from Line to Line

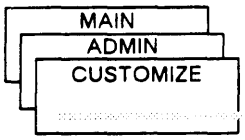
1. Define the printer at the Define Console Lines screen.
2. From the Manage Consoles Menu, disable the printer's console line, specifying its console name (for example, CON16).
3. Start a queue to the printer, specifying the name you gave the printer when you defined it in step 1. (Use option "8 Start a print queue" of the Manage Printers and Print Queues Menu.)

The printer will then be usable.

Note that this solution is to be used only for a printer that you are likely to move often, because *it must be repeated every time the system is brought up*. For a long term solution, use the steps listed under "Preparing a Printer That Will Be On the Same Console Line Permanently," above.

NOTE: The information you specify for system configuration will take effect at your next powerup. That is, you must turn the power off and then on again before the system can use this information. The exceptions are the default backup/install medium, and the default printer, which take effect immediately. Note however, that *queues* assigned to the default printer will start up automatically only for subsequent powerups, because they are started via the UP macro. To use these queues before the next powerup, you will have to start them explicitly. See the "Managing Printers and Print Queues" section later in in this chapter.

Installing Software (INSTALL)



INSTALL
2 Install software

Option "2 Install software" on the Customize the System Menu lets you install software on your system, such as CEO or a programming language. You can also select this option by specifying the INSTALL keyword from anywhere within the SMI menu series. Have your tape or diskettes at hand when you select this option, and the Release Notice for the software product you intend to install.

NOTE: You should not attempt to use the SMI for installing system software, such as AOS/VS updates or new releases, onto your system. For information on installing system software on your system, refer to the manual listed below that supports your system.

- *Starting and Updating Preinstalled AOS/VS* (for Model 31133)
- *Installing, Starting, and Stopping AOS/VS* (for Model 3900)

Use the INSTALL keyword, or select option "2 Install software" on the Customize the System Menu. You will see the Install Software screen. The screen has the following prompts and default values:

```
SMI Rev  nn.nn.nn.nn                                  dd-mmm-yy hh:mm

                              Install Software


Media type (T = Tape, D= Diskette):
TAPE

Directory:
:
Files: (specify filenames and /or templates)
#

Send a list of installed files to the printer, to a disk file, or
don't create a list?  (P = Printer, F = File, N = None)  PRINTER




To exit from any menu, press the Cancel/Exit key (F11).
For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-15 Install Software Screen

The default for media type will be whatever you specified at the Specify the Default Backup/Install Medium (MEDIUM) screen (which follows the Specify System Configuration menu).

At the *Media type:* prompt, type T for tape, D for diskette, or the device name for the unit from which you want to install the software. If you type T or D, the system displays the device name of the default unit for that media type. For example, if you will be loading software from diskettes, type D, then press New Line.

Media type (T = tape, D = diskette):
D ↵

The system responds as follows:

Media type (T = tape, D = diskette):
@DPJ10

If the default device name displayed by your system is not the device you want to use, overwrite the default display with the appropriate device name, then press New Line. (Use the uparrow key to return to the media type field.) Refer to Appendix B for the device names of diskette and tape drives if you are using a deskside ECLIPSE system. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

To determine your response to the *directory:* prompt, look at the Release Notice for the software product you are installing. Locate the portion of your Release Notice that gives the load instructions. It will tell you which directory you must load the software into. The default is the root (:). Suppose you are loading FORTRAN 77 software, and the FORTRAN 77 Release Notice says to make :UTIL:F77 the working directory. You will answer the prompt as follows:

Directory:
:UTIL:F77 ↵

The SMI will check to see if this directory exists. If it doesn't, it will create it for you. (The directory would already exist if you had previously loaded the software and were now loading an update, or if you created it yourself from the CLI.) If the directory does already exist, then when the SMI loads the files off the release media, it will delete any files already existing in the directory that have the same name as files you are installing, and replace them with the new files from the release media.

The next prompt allows you to specify a subset of the files that came with the software release. You will in most cases want to load everything on the medium. Unless you have a specific reason for not doing so, accept the default # template by pressing New Line.

Files: (Specify filenames and/or templates.)
↵

The last prompt on the Install Software screen asks you to specify where you want the system to send a list of the installed files. If you choose to send a list of installed files to a disk file, you will be prompted for a filename. The system provides a default filename with the format :INSTALL.yy.mm.dd, indicating the year, month, and day of install. The file will be in the root directory, as indicated by the : before the filename.

To accept this filename, press New Line. To specify a different filename, type it and press New Line. If you want the listing to appear on your screen, specify @CONSOLE as the filename. *Make sure to look at this listing.* This file will be the only record of any errors that might occur during installation. If you only send the listing to your console screen, the SMI keeps no other record of your file installation.

If you are **installing from tape**, your response to the *Send a list of installed files* prompt completes the Install Software screen. The SMI then passes your answers to the LOAD_II utility, which installs the software from tape to your disk. LOAD_II begins copying files to your disk and displays a banner similar to the following on your screen:

LOAD_II Rev 07.68.00.00 on Wednesday 10-Oct-90 at 3:27:33 PM
Options: LOAD_II/V/L=:UDD:UTIL:F77:INSTALL.90.10.10/DELETE,@MTJ0,+
Directory: :UDD:UTIL:F77

NOTE: For detailed information on DUMP_II/LOAD_II, including error messages, refer to *Using the CLI (AOS/VS and AOS/VS II)* and *AOS/VS and AOS/VS II Error and Status Messages*. Make sure to check any documentation-changes files for the latest information.

While it copies the files you specified from tape to the disk, LOAD_II displays on your screen the file format and the date and time the tape was created, as in the following example:

Dumpfile is in CLI format, revision 15
Created on Tuesday 18-Sep-90 at 1:53:48 PM

If the utility requires you to do anything, it will display the instructions or request on your terminal screen. Each time LOAD_II needs more data, it requests the next volume.

When the install is completed, LOAD_II displays a *LOAD_II completed* message followed by the elapsed time, CPU time, and the number of disk blocks installed from tape. Remove the last tape, and then press New Line to re-enter the SMI. The SMI will redisplay the Customize the System Menu.

If you are **installing from diskettes**, the system requests additional information. After you respond to the *Send a list of installed files* prompt, the following message appears on your screen:

Fileset name:
@LFD:VOL1:

Find the section in your Release Notice that deals with loading from diskettes. (Remember, this prompt applies to diskette users only.) Then find the line that starts with LOAD/V @LFD:... The fileset name is the pathname beginning with @LFD. The default response is partial — @LFD:VOL1: — you must append the rest of the pathname. (If the volume number shown in your Release Notice is not VOL1, you can type over the default response with the correct one.)

NOTE: If the software you want to install is contained on a single diskette, the pathname in the Release Notice will begin with @DPJ rather than @LFD. In such cases, use the LOAD line supplied in the Release Notice.

For example, continuing with our FORTRAN 77 example, suppose the LOAD line in the Release Notice reads like this:

LOAD/V @LFD:VOL1:F77 # <New Line>

You would answer your prompt for fileset name as follows:

Fileset name:

*@LFD:VOL1:***F77** ↵

(Note that the # template in the LOAD line of the Release Notice indicates which files to load. You already specified this at the *Files:* prompt.)

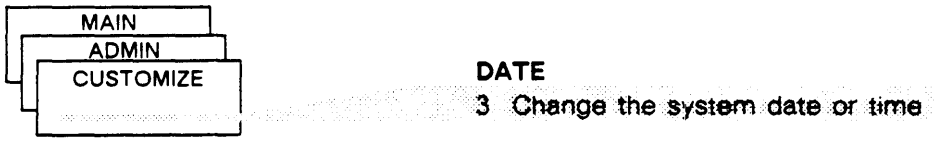
Once you have completed the Install Software screen, the system prompts you to press New Line when the medium is mounted or inserted. SMI will then load files from the diskette or tape into the directory you specified, and send a list of those files to the destination you chose. When the system is ready for the next diskette or tape (if applicable), SMI will prompt you.

When the software installation is complete, the SMI prompts you to remove the diskette or tape from the drive. When you have removed your tape or diskette, press New Line. You will return to the Customize the System Menu.

If you need information on handling, storing, inserting, or removing tapes or diskettes, see the appropriate manual listed below for starting your system.

- *Starting and Updating Preinstalled AOS/VS* (for Model 31133)
- *Installing, Starting, and Stopping AOS/VS* (for Model 3900)

Changing the System Date or Time (DATE)



You are required to set the system date and time when you first bring up your system; the starting manual that came with your system describes the procedure for setting these values while powering up the first time. After your first powerup, you can use option 3 on the Customize the System Menu, (keyword DATE), to change the system date or time when it isn't accurate. For example, if you live in a region that observes Daylight Savings Time, you will have to change the time twice a year. You will also have to reset the date and time whenever you change your computer's battery pack, which powers the clock and calendar.

When you select option "3 Change the system date or time" on the Customize the System Menu, or use the DATE keyword, the SMI displays a Change the System Date or Time screen like Figure 5-16.

```
SMI  Rev  nn.nn.nn.nn                          dd-mmm-yyyy  hh:mm

                    Change the System Date or Time

     Enter the date and time in the formats shown below. Press
     New Line after each entry.


     Enter current date (dd-mmm-yyyy or mm/dd/yyyy):

     Enter current time (hh:mm:ss, AM or PM optional):

     Enter offset from GMT ([+/-] hh:mm):



     To exit from any menu, press the Cancel/Exit key (F11).
     For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-16 Change the System Date or Time Screen

Follow the instructions on your screen. If you keep within the general formats indicated on your screen, the SMI will accept date and time entries in several different combinations of digits and letters. Regardless of how you specify them on the Change the System Date or Time screen, the SMI will always display the date in day-month (in letters)-year format (for example, 25-AUG-90), and the time in 24-hour format (as in 18:00 for six o'clock).

NOTE: If you change the date or time backwards (for example, to replace Daylight Savings Time with Standard Time), the SMI will display the following message:

WARNING: You are attempting to set the date and/or time back!

Any users who are logged on will not be charged for correct elapsed time.

Are you sure you want to do this? (Y = Yes, N = NO)

If you do not need to account for the exact amount of time users are logged on your system, answer Y and press New Line to continue adjusting the date and/or time.

If you do need to account for the exact amount of time users are on your system, answer N and press New Line. The system will display the Change the System Date or Time screen.

Press the Cancel/Exit key (F11) to display the Administrative Functions Menu; then select option "2 Manage Consoles." Use the options on the Manage Consoles Menu to disable consoles and, if necessary, terminate any active users before you change the system date and/or time.

You can specify the current date by entering digits for the day of the month (dd on your menu prompt), letters to define the month (mmm), and digits for the year (yy or yyyy). If you use this digit and letter format, separate the day, month, and year by either hyphens or spaces. For example, the SMI will accept any of the following entries:

24-APR-90	24 AP 90	24-APRIL-90	24 apri 90
24-APR-1990	24 AP 190-	24-APRIL-1990	24 apri 1990

You can also use digits alone to enter the date, specifying the month first, then the day of the month followed by the year. If you prefer to enter the date with digits, remember to use slashes or spaces (*not hyphens*) to separate month, day, and year. Using April 24, 1990 as an example, you could enter any of the following:

04/24/90	4 24 90	4/24/90	04 24 90

NOTE: You need enter only the last two digits for the year, as shown in some of the previous examples. The SMI will precede a two-digit year entry with 19 by default.

You can specify the time by entering digits alone, or by indicating a.m. or p.m. If you use digits, enter hours (hh on your menu prompt), minutes (mm), and seconds (ss) based on a 24-hour clock. Separate the hours, minutes and seconds with either colons (:) or spaces; *do not use slashes or hyphens*. If you do not specify a value for minutes or seconds, the SMI assigns zeros to that entry. For example, to specify exactly 2:45 p.m., you could enter any of the following:

14:45:00 14 45 00 14:45 14 45

If you choose to indicate a.m. or p.m. rather than use a 24-hour clock, simply specify AM or PM. You can abbreviate the AM or PM to A or P, either upper- or lowercase, but the SMI will not accept periods. Separate the hours, minutes, and seconds with either colons or spaces. For example, the following are all valid entries for the same time:

2:45:00 PM 2 45 P 2:45 p 2 45 pm

If you make a mistake while typing the date or time, you can use the left- and rightarrow keys (← and →) to move backwards and forwards within the input field. You can also use the uparrow (Cursor Up) and downarrow (Cursor Down) keys to move from one input field to another. Likewise, you can use the Back Field function key (Shift-F11) to move back to the previous entry on the screen.

To enter an offset from GMT, determine the direction and number of time zones *from* the Universal Time Standard (UTS) *to* your computer's zone. In the GMT offset format +/- hh:mm,

+	represents zones *East* of the Greenwich meridian.
-	represents zones *West* of the Greenwich meridian.
hh	represents hours; valid entries are 0 through 12.
mm	represents minutes; valid entries are 0 through 59.

Take care to enter the correct + or - sign; if you omit the sign, the system assumes a positive value (+).

For example, Eastern Standard Time is 5 hours behind Greenwich Mean Time (five zones west of the Greenwich meridian). You enter the offset from GMT for a computer with current time set to EST as follows:

Enter offset from GMT (+/- hh:mm): **-5:00** ↵

Suppose Dale, in Los Angeles, needs to enter a value for the GMT offset on October 15, 1990, at 10:12 a.m. Daylight Savings Time. His computer's standard time is 8 hours behind GMT, so the standard offset would be -8:00. However, since Dale wants his system in Los Angeles to use Daylight Savings Time, he needs to adjust the GMT offset accordingly by adding 1 (positive) hour to -8:00. Dale would answer the prompts as shown in Figure 5-17:

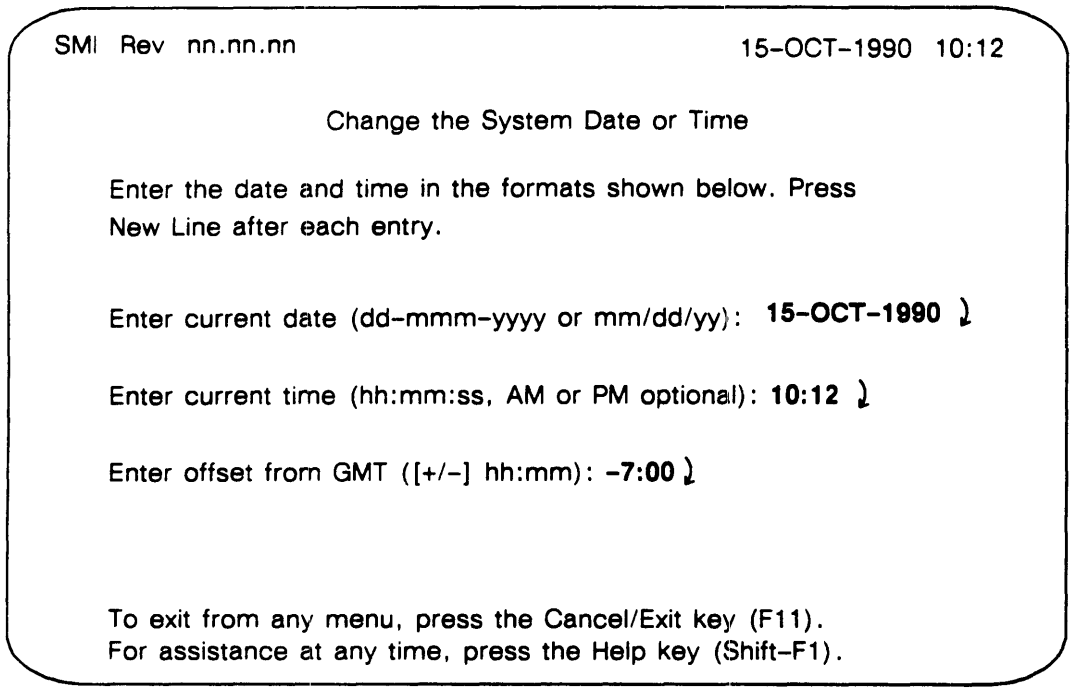


Figure 5-17 Sample Change the System Date or Time Screen

When Dale resets his system to Pacific Standard Time in the fall, he will change the offset value to -8:00.

When you press New Line after your GMT entry, you will return to the Customize the System Menu.

Specifying the Pathname of the Default System (SYSTEM)

AOS/VS includes a program called VSGEN, which we describe in the manual *Installing, Starting, and Stopping AOS/VS*. With VSGEN you can define AOS/VS systems other than the default system. If you choose to do so, you can specify that the system you generated will be the system that comes up every time you start up, rather than the original default system. To do this, select option "4 Specify the pathname of the default system" on the Customize the System Menu, or specify the SYSTEM keyword.

The system will then prompt you to enter the system's pathname (the pathname of the system file). Enter the pathname of the system file you created with VSGEN; for example,

System pathname: **SYSGEN:NEW_SYSTEM.PR** ↵

If you enter a pathname for a file that does not exist, (or begin your entry with a colon), you will receive an error message.

When you finish specifying the pathname of the default system, the SMI returns you to the Customize the System Menu. For subsequent power ups, the system you specified will be the default.

Editing the UP Macro (UPCLI)

The UP macro (:UTIL:SMI_UP.CLI) runs every time you bring your system up. It performs tasks such as bringing up the multiuser environment, enabling consoles, and starting up the network, INFOS II, and CEO. The UP macro that comes with your system is adequate for the first time you power up, and possibly for all future powerups. It includes calls to the macros that bring up the network, INFOS II, and CEO, so that if you have this software loaded on your system, it will be brought up. If you don't have this software, it doesn't matter.

NOTE: While we provide a means to edit the UP macro from the SMI, we do not do so for the UP_EXEC.CLI macro. This is because we strongly recommend that you do *not* edit the UP_EXEC.CLI macro. If you did, you could make a mistake that could cause the system to hang when it powers up. The UP_EXEC.CLI macro should be sufficient for your needs as provided.

Note that the UP.NETWORK.CLI macro that comes with XODIAC must be edited before it will actually execute and be accurate for your network configuration. (Refer to your XODIAC documentation for instructions.) The UP macro expects the UP.NETWORK.CLI macro to be in the root directory (:) or in :NET:UTIL.

Similarly, if you are a CEO user, you might need to edit your UP.CEO.CLI macro (located in :UTIL:CEO_DIR) for your particular system, or you might want to add more instructions to the UP macro. For example, the UP macro starts the queues LPT, BATCH_LIST, and BATCH_OUTPUT to the default printer, but it does not start up any queues for letter-quality printers. It also does not enable logging, which some CEO users want. See your CEO documentation to find out if you will need to make any corrections to either macro.

It is important for the UP macro to bring up these software products in the correct order; that is, first the network, and then INFOS II, and finally, CEO. While it is not required, we have enabled consoles in the UP macro *after* bringing up the network, INFOS II, and CEO. Otherwise, users might log on and attempt to use CEO, for example, before it is running.

For more information, refer to the appropriate documentation for each software product you have loaded.

The UP macro automatically creates a *log file*, which shows what is happening while the UP macro executes. The file, called UP.LOG, is located in the root directory. If you have any problems during the system startup, you can view or print out this file (using the CLI commands TYPE or QPRINT) to see what actually occurred. In any case, once AOS/VS has started up, it is a good idea to list all running processes (SMI keyword WHOS) and be sure all the products you brought up in the UP macro are actually running.

If your system comes up without any problems, you might want to disable logging for future startups, to save the disk space used by the log file. Wait until your next time starting up the system, and then select option "5 Edit the UP macro" on the Customize the System Menu (keyword UPCLI).

Find the following lines in the UP macro, somewhere around line 20.

```
DELETE/2=IGNORE :UP.LOG.BU
RENAME/2=IGNORE :UP.LOG <,.BU>
LOGFILE :UP.LOG
TRACE/COMMAND/MACRO/LOG
```

(These lines instruct the system to change any existing log file named UP.LOG into a backup file named UP.LOG.BU, to create a new log file named UP.LOG, and to enable logging to the new file.)

To disable logging, *do not* delete these lines. Rather, you can make them inexecutable by changing the [!EQUAL,1,1] statement that precedes them to read [!EQUAL,1,2] instead. You should find this line just before the four lines listed above. Later, if you want to re-enable logging at startup, change the statement back to [!EQUAL,1,1].

When you are ready to edit the UP macro, select option 5 from the Customize the System Menu. Or you can issue the UPCLI keyword. You will use the SED text editor to modify the UP macro. If you are not familiar with SED, be sure to have the *SED Text Editor User's Manual (AOS and AOS/VS)* nearby. (The SMI will display a message to this effect when you select option 5, before putting you in SED.)

The UP macro is split into two sections. The first section does not appear when you select option "5 Edit the UP macro." This helps prevent you from making mistakes that might prevent the system from coming up. It cannot, however, ensure that you won't do so. Use care when editing the UP macro. Determine in advance what you want to add, delete, or change in the UP macro; you will be less likely to make mistakes. Note that your UP macro cannot contain !READ pseudomacros (see *Using the CLI (AOS/VS and AOS/VS II)* for details on !READ).

When you exit from SED (enter BYE on the command line), you will return to the Customize the System Menu.

If you want to use a text editor other than SED to edit the UP macro, you will have to do so from the CLI, or use option "1 Run a program or application" on the SMI Main Menu and enter the appropriate command line.

Editing the DOWN Macro (DOWNCLI)

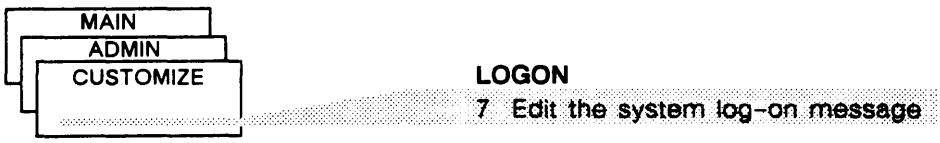
Running the DOWN macro (DOWN.CLI) is a regular part of shutting down your system. (We describe system shutdown in detail, later in this chapter.) The DOWN macro brings down CEO, INFOS II, and the network. Note that it does not disable consoles from logging on; in the section of this chapter that deals with system shutdown we recommend that you disable consoles (SMI keyword CDISABLE) before you execute the DOWN macro.

Be sure to refer to the documentation for CEO, INFOS II, XODIAC, and other applications to see if you must add anything to the DOWN macro. Note that CEO, INFOS II, and the network are brought down in the opposite order from which they were brought up. That is, CEO is brought down first, and then INFOS II, and finally, the network.

To edit the DOWN macro from the Customize the System Menu, select option "6 Edit the DOWN macro" or issue the keyword DOWNCLI. You will use the SED text editor. If you are not familiar with SED, be sure to have your *SED Text Editor User's Manual (AOS and AOS/VS)* at hand. (The SMI will display a message to this effect when you select option 6, before putting you in SED.) Know in advance what in the DOWN macro you want to add or delete before you begin; you will be less likely to make mistakes. When you exit from the SED text editor (enter BYE on the command line), you will return to the Customize the System Menu.

If you want to use a text editor other than SED to edit the DOWN macro, you will have to do so from the CLI, or use option "1 Run a program or application" on the SMI Main Menu, and enter the appropriate command line.

Editing the System Log-On Message (LOGON)



The system log-on message is a text file that prints out on all users' screens at logon. This file might contain information such as the name of the system manager, the time the system will be coming down, or other work-related items. To modify your system's log-on message, select option "7 Edit the system log-on message" on the Customize the System Menu. Or specify the LOGON keyword from any SMI menu.

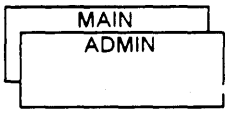
The system will place you in the SED text editor to edit the system log-on message. Therefore, be sure you have the *SED Text Editor User's Manual (AOS and AOS/VS)* handy if you aren't familiar with SED. (The system will display a message to this effect when you select option 7, before putting you in SED.)

Note that the system log-on message is different from the user's initial IPC file. The IPC file can differ from user to user, especially if each user has an IPC file in his or her own directory, and it can perform a number of tasks. The system log-on message, however, will be the same for each user that logs on the system, and all it does is write information out to the screen.

Editing the System SETUP Macro (SETUP)

The system SETUP macro (SETUP.CLI) is a small set of instructions that executes when the system comes up. It contains items such as setting the default access control list (ACL) for all files created, and the default search list. (The ACLs determine which users have which access privileges to a particular file.) To edit this macro, you will use the SED text editor. When you select option "8 Edit the system SETUP macro" on the Customize the System Menu, or specify the SETUP keyword, the system will display a message telling you that the system will place you in SED if you continue. If you aren't familiar with SED, be sure you have the *SED Text Editor User's Manual (AOS and AOS/VS)* handy before you proceed.

Managing Printers and Print Queues (PQUEUES)



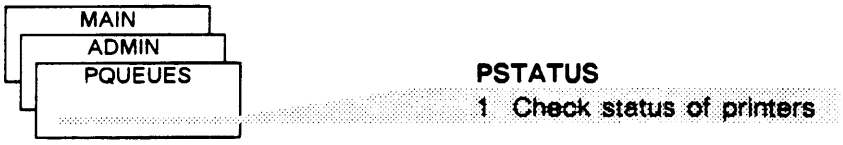
PQUEUES
4 Manage printers and print queues

Option "4 Manage printers and print queues" on the Administrative Functions Menu allows you to perform printer functions not available to regular system users. When you select this option, the Manage Printers and Print Queues Menu will appear on your screen, as shown in Figure 5-18. Issuing the keyword PQUEUES from any SMI menu will also bring up this menu.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                Manage Printers and Print Queues Menu

     1  Check status of printers
     2  Cancel queued print requests
     3  Terminate (flush) a currently printing request
     4  Create a print queue
     5  Delete a print queue
     6  Open a print queue
     7  Close a print queue
     8  Start a print queue
     9  Stop a printer and/or print queue


     Enter choice:

     To exit from any menu, press the Cancel/Exit key (F11).
     For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-18 Manage Printers and Print Queues Menu

Checking the Status of Printers (PSTATUS)



When you select option "1 Check status of printers" on the Manage Printers and Print Queues Menu, or specify the PSTATUS keyword, you receive a display of information about your system's printers and the print queues associated with them. The display lists printer information by device name; for example, @PRINTER1.

The status listing displays the queues associated with each printer, as well as default form specifications, such as lines per page (LPP) and characters per line (CPL). If you have several printers, the display can take up more than one screen.

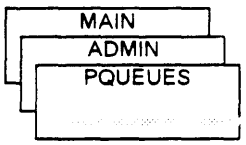
After all status has displayed, you can return to the Manage Printers and Print Queues Menu by pressing New Line.

For example, suppose you have printers PRINTER1 and PRINTER2 on your system. If you select option 1, your display might look like the following:

```
@PRINTER1 processing:   BATCH_OUTPUT, BATCH_LIST, LPT
CPL = 250, LPP = 60, Headers = 1, Trailers = 0
Even pagination enabled, Binary mode disabled
Bias factor = 0, Process type = Swappable, Priority = 1

@PRINTER2 processing:   LQP
CPL = 80, LPP = 63, Headers = 0, Trailers = 0
Even pagination disabled, Binary mode enabled
Bias factor = 0, Process type = Swappable, Priority = 2
```

For information on any of the other statistics, refer to the sections on process types, priority, and the EXEC SPOOLSTATUS command in *Managing AOS/VS and AOS/VS II*.

Canceling Queued Print Requests (PCANCEL)



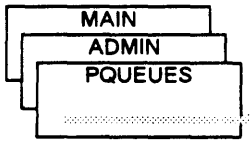
PCANCEL
2 Cancel queued print requests

Option "2 Cancel queued print requests" on the Manage Printers and Print Queues Menu lets you cancel (or remove from the print queue) a request. PCANCEL is the keyword for this option. Canceling a request differs from terminating a request in that you *cancel* a job that has not yet started, whereas you *terminate* or *flush* a job that is currently printing. Terminating a print request is described next as option 3 on the Manage Printers and Print Queues Menu. Both of these options allow you to remove requests made by *any* user on the system, unlike the CANCEL request on the Control Printers Menu, which allows you to cancel only requests you have made.

When you select option "2 Cancel queued print requests," the system will display the print queue(s) and prompt you for the sequence number of each request that you want canceled. You can cancel any queued requests (up to 10), as long as they are not yet active. If a request is marked with an asterisk on the queue display (which indicates that it is currently printing), then you cannot cancel it.

After you indicate which queued job(s) to remove, the SMI will return you to the Manage Printers and Print Queues Menu.

Terminating (Flushing) an Active Print Request (PFLUSH)

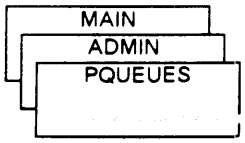


PFLUSH
3 Terminate (flush) a currently printing request

You can use option "3 Terminate (flush) a currently printing request" on the Manage Printers and Print Queues Menu (or the PFLUSH keyword) to terminate any active print request. To remove a request from the queue before it becomes active, use option "2 Cancel queued print requests" on the Manage Printers and Print Queues Menu, described previously.

When you select option "3 Terminate (flush) a currently printing request," the system will prompt you to specify the printer that is processing the request you want to terminate. It will then display the status of the printer and prompt you to confirm that the displayed printer request is the one you want terminated. If it is, enter Y; otherwise, enter N. You will then return to the Manage Printers and Print Queues Menu.

Creating a Print Queue (PCREATE)



PCREATE
4 Create a print queue

To create a new print queue, you must decide

- What you will name the queue.
- Which printer(s) the queue will be associated with.

In general, it is best to stick with standard queue names. Some products, such as CEO, expect queues to have the standard names, so to get print requests sent to the correct printer, you must name them appropriately. The standard queue names follow:

Printer Type	Queue Name	Additional Queue Names
Line printer or default printer	LPT	LPT1, LPT2, etc.
Letter-quality printer	LQP	LQP1, LQP2, etc.
Laser printer	LPE	LPE1, LPE2, etc.

For example, if you have one line printer and two letter-quality printers on your system, and want one queue associated with each, your queue names would be LPT, LQP, and LQP1. Queues for output from batch jobs are generally called BATCH_LIST and BATCH_OUTPUT.

NOTE: When you use the SMI option to configure your system (described earlier in this chapter in the CUSTOMIZE-CONFIGURE section), you can define a parallel (line printer type) printer, and printers on console lines. When doing so, you can specify one of your printers to be the default printer. If you do so, the SMI automatically starts the queues LPT, BATCH_LIST, and BATCH_OUTPUT and associates them with the default printer.

When you choose option "4 Create a print queue," the system will prompt you to enter the queue name and which printer(s) you want to associate the queue with. Once you have entered this information, you can press New Line to return to the Manage Printers and Print Queues Menu. The keyword for this option is PCREATE.

For example, suppose you want to create a new queue for your letter-quality printer, PRINTER2. You already have one queue going to PRINTER2, called LQP, so you want to call the new queue LQP1. You would respond to the prompts as follows:

Queue name: **LQP1** ↵

Printer(s): **PRINTER2** ↵

Note that the printer(s) you name at the *Printer(s)* prompt must already have been defined using the Configure the System Menu.

When you have answered both prompts, you will return to the Manage Printers and Print Queues Menu. If you specify a queue name that already belongs to a print queue, you will receive the message *Queue already exists*. If you specify a name for which there is already a file of some other type in the :PER directory (such as a text file or directory), you will receive the message *File name already exists*. In either case, you will have to specify a different name for the queue.

When you create a new queue, the SMI also opens and starts the queue and continues its associated printer(s) so the queue will be ready for use immediately.

NOTE: Although you can use CEO to create queues, you must use the SMI (or the CLI) to open and start the queues and continue the printers. Unlike SMI, CEO does not perform these functions for you when you create a queue.

Deleting a Print Queue (PDELETE)

Option "5 Delete a print queue" on the Manage Printers and Print Queues Menu lets you delete any print queue that you no longer need. The SMI first closes the queue before deleting it, so users cannot queue any more requests to it. PDELETE is the keyword for this option.

NOTE: Be sure there are no requests left in the queue before you delete it. Deleting a print queue discards all requests in the queue.

Use option "1 Check status of printers" before you choose to delete any queue. If you specify to delete a queue that does not exist, you will not receive an error message, but no harm will be done. If you specify to delete a queue that is not a print queue, you will receive the message *Queue is not a print queue.*

When you select option "5 Delete a print queue," the system will prompt you to enter the queue name. Type it and press New Line. The system will remind you that deleting a queue discards its contents, and will prompt you to confirm your selection. Enter Y or N. You will then return to the Manage Printers and Print Queues Menu.

Opening a Print Queue (POPEN)

You can open any print queue you have closed by selecting option "6 Open a print queue" on the Manage Printers and Print Queues Menu, or by specifying the POPEN keyword. Opening a queue allows users to queue requests to it. Note that if you create a queue with option "4 Create a print queue" (described earlier) it will be opened automatically. You need only use option "6 Open a print queue" on queues that you have closed by using option "7 Close a print queue."

When you select option "6 Open a print queue," you will receive a prompt for a queue name. Type the name of the queue you want to open and press New Line. You will return to the Manage Printers and Print Queues Menu.

If you specify a queue name that does not exist, you will receive the message *Queue does not exist.* If the queue you specify is not a print type queue, the message will be *Queue is not a print queue.* If you specify a queue that is already open, no harm will be done; you will receive the message *Queue is already open.*

See the example in the next section, "Closing a Print Queue."

Closing a Print Queue (PCLOSE)

Closing a print queue prevents users from placing any more requests in it. When you select option "7 Close a print queue" on the Manage Printers and Print Queues Menu, or specify the PCLOSE keyword, the system will prompt you to enter a queue name. Type the name of the queue you want to close and press New Line. You will return to the Manage Printers and Print Queues Menu. Subsequently, you can reopen the queue with option "6 Open a print queue."

If you attempt to close a queue that doesn't exist, you will receive a *Queue does not exist* message. If you specify a queue that is not a print queue, the message *Queue is not a print queue* will appear. If you specify a queue that is already closed, you will receive the message *Queue is not open.*

For example, suppose your system has a letter-quality printer, and one queue associated with the printer, named LQP. The printer needs a new ribbon and you won't be getting a new one until the next day, so you want to close the queue to the printer to prevent it from filling up with requests that can't yet be processed. From the Manage Printers and Print Queues Menu, select option "7 Close a print queue," as follows:

Enter choice: **7** ↵

You will receive the Close a Print Queue screen, with some introductory text and a prompt for the queue name. Type LQP and press New Line, as follows:

Queue name: **LQP** ↵

The Manage Printers and Print Queues Menu will reappear. The next day, when the new ribbon is on the printer, you will want to reopen the LQP queue. From the Manage Printers and Print Queues Menu, select option "6 Open a print queue":

You will receive the Open a Print Queue screen, again with some introductory text and a prompt for queue name. Type LQP and press New Line, as follows:

Queue name: **LQP** ↵

The LQP queue will now be open again for users' print requests.

Starting a Print Queue (PSTART)

Option "8 Start a print queue" on the Manage Printer and Print Queues Menu (keyword PSTART) lets you associate an existing queue with a certain printer (or printers). This option also continues each specified printer so it is ready to accept requests from the queue.

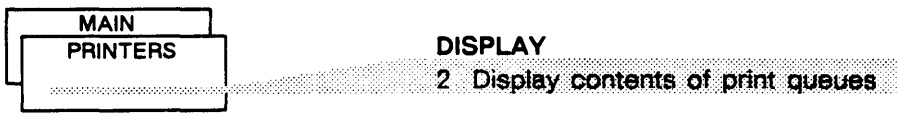
Note that if the queue is not open, users will not be able to send requests to it. If a queue is started, it will process requests already in the queue; the queue must be open, however, for any additional requests to be queued to it.

NOTE: When you power up your system, the queues LPT, BATCH_OUTPUT, and BATCH_LIST are opened and started to the default printer via the UP macro. If you want other queues started, however, you must either add the CONTROL @EXEC START queuename command line to the UP macro (where "queuename" is the name you gave the queue when you created it), or come to the Manage Printers and Print Queues Menu and start the queue via option "8 Start a print queue."

When you select option "8 Start a print queue," the SMI will prompt you for a queue name and the printer(s) that you want the queue associated with. If you specify a queue whose name does not exist in the :PER directory, you will receive a *Queue does not exist* message. If the name you specify is a queue, but not a print queue, you will receive the message *Queue is not a print queue.*

For example, you might have a print queue called LQP that sends requests to a letter-quality printer. If you added another letter-quality printer to your system, you might want to have the same queue feed requests to it so that requests would all be handled in first-in first-out order. (If you had separate queues for the two printers, someone might send a request to one queue, where it might wait behind a lengthy job; meanwhile, the job on the other queue might have finished, leaving the printer available and idle.) To use the existing queue for the new printer, you would need to associate the LQP queue with the new printer.

In this example, you might first check to be sure the queue is open, by selecting option "2 Display contents of print queues" on the Control Printers Menu (keyword DISPLAY).



The queue name should have the words "PRINT Open" next to it. If it doesn't, then open the queue by selecting option "6 Open a print queue" on the Manage Printers and Print Queues Menu (keyword POPEN).

Once the queue is open, select option "8 Start a print queue" on the Manage Printer and Print Queues Menu by typing 8 and pressing New Line:

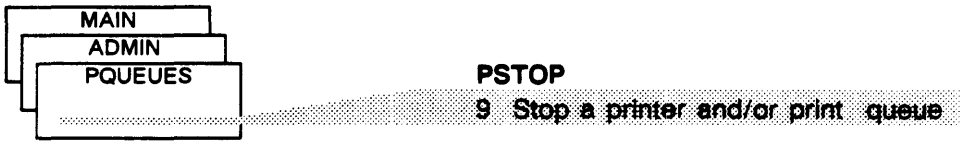
You would then see the Start a Print Queue screen, consisting of some introductory text and prompts for queue name and printer(s). If you called the new printer PRINTER2 on the Specify System Configuration screens, you would enter the following:

Queue name: **LQP** ↵

Printer(s): **PRINTER2** ↵

You would then return to the Manage Printers and Print Queues Menu. The LQP queue would begin distributing printing requests to both your original printer and to the new printer, sending the next queued request to whichever printer became available first.

Stopping a Printer and/or Print Queue (PSTOP)



You can use option "9 Stop a printer and/or print queue" to dissociate a queue from a printer, or stop a printer, or do both.

NOTE: If you use the PSTOP keyword to select this option, you cannot enter any arguments to the PSTOP keyword command. When you enter PSTOP at any SMI menu, the Stop a Printer and/or Print Queue screen will come up.

When you select option 9 or the PSTOP keyword, you will receive prompts for both queue name and printer. Answer the prompts as follows:

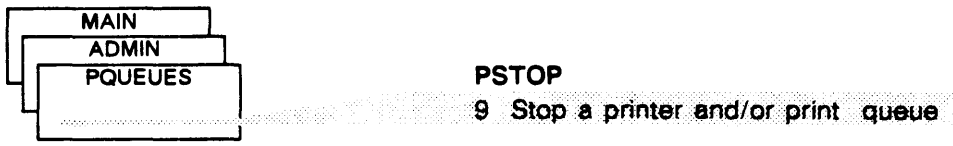
Table 5-1 PSTOP Prompts and User Responses

If you want to	At the "Queue name:" prompt	At the "Printer:" prompt
Stop a printer.	Press New Line.	Enter the printer name.
Dissociate a queue from *all* printers it is associated with.	Enter the queue name.	Press New Line.
Dissociate a queue from one printer.	Enter the queue name.	Enter the printer name.

Note that stopping a print queue does not close the queue. If you want the queue closed, so users can no longer queue requests to it, you must close it via option "7 Close a print queue" (PCLOSE).

If the name you specify for the queue is not an existing queue name, you will receive the error *Queue does not exist*. If the name belongs to a queue, but not a print queue, you will receive the message *Queue is not a print queue*. In either case, you can enter a different name, or press Cancel/Exit to exit from the Stop a Printer and/or Print Queue screen.

For example, suppose we continue the example we began in the preceding section, "Starting a Print Queue." Let's say the second printer we added, PRINTER2, is in user Dale's office and Dale has an important all-day meeting going on. We don't want users going into Dale's office to pick up printouts during the meeting; therefore, we no longer want PRINTER2 to be associated with any print queues, because many users are sending requests to the queues and PRINTER2 is no longer available to them. We don't want to close the queue, however, or we won't be able to send requests to PRINTER1. From the Manage Printers and Print Queues Menu, we select option "9 Stop a printer and/or print queue."



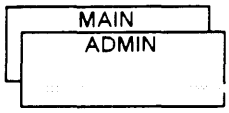
We then receive some introductory text on the Stop a Printer and/or Print Queue screen, and the prompts for queue name and printer. We answer the prompts in the following way:

Queue name: ↵

Printer: **PRINTER2** ↵

The Manage Printers and Print Queues Menu will reappear, and PRINTER2 will have been dissociated from the LQP print queue (and any others it may have been associated with).

Controlling Printer Forms (FORMS)



FORMS
5 Control printer forms

A printer form is a special format to use for printing requests. You can define different forms by using the Forms Control Utility (FCU). This utility is described in the manual *Using the CLI (AOS/VS and AOS/VS II)*, and more extensively in CEO documentation, if you are a CEO user.

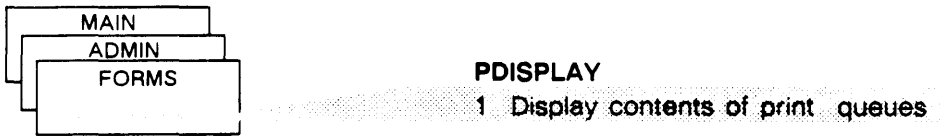
Option "5 Control printer forms" on the Administrative Functions Menu allows you to set or change printer forms. When you select 5, the Control Printer Forms Menu will appear on your screen, as shown in Figure 5-19. You can also get this menu by specifying the FORMS keyword from any SMI menu.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                        Control Printer Forms Menu

        1  Display contents of print queues
        2  Display status of printers with form names
        3  Switch to special form
        4  Restore to default form
        5  Change the default form
        6  Change the number of lines per printed page
        7  Change the number of characters printed per line




        Enter choice:

        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-19 Control Printer Forms Menu

To return to the Administrative Functions Menu, press the Cancel/Exit function key (F11).

Displaying the Contents of Print Queues (PDISPLAY)

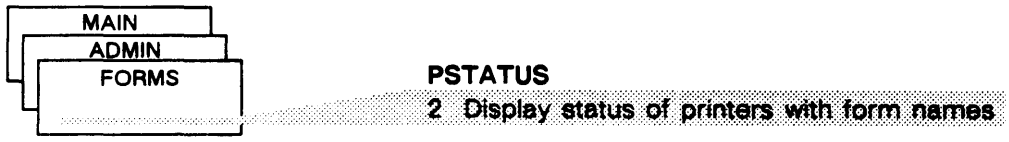


Option "1 Display contents of print queues" on the Control Printer Forms Menu lets you check the print queue contents before you perform any other printer form functions. The keyword for this option is PDISPLAY. It's a good idea to use this option before choosing any other option on this menu, in case other users have queued requests. You wouldn't want to change the default form on a printer to PAYCHECKS, for example, until other users finished printing out their business letters or technical reports on that printer.

Option "1 Display contents of print queues" also allows you to be certain the queue you want to use is open. If its status shows as "Closed," you will have to go to the Manage Printers and Print Queues Menu to open the queue.

When you select this option, a listing of the print queues and the queued requests will display on your screen. If the list is too long to fit on one screen, your terminal will be placed in Page mode. This means one screen will print out, then the screen will freeze. To continue the display, type the Ctrl-Q sequence. When the full listing has displayed, the system will prompt you to press New Line to return to the Control Printer Forms Menu.

Displaying the Status of Printers with Form Names (PSTATUS)



Option 2 on the Control Printer Forms Menu lets you display the status of the printers and print queues. The status also shows the form name if special forms are in effect. The display lists printer information by device name; for example, @PRINTER1.

The keyword for this option is PSTATUS; using this option from the FORMS menu performs the same function as selecting the "Check status of printers" option on the Manage Printers and Print Queues Menu.

The status listing displays the queues associated with each printer, as well as form specifications, such as lines per page (LPP) and characters per line (CPL). If you have several printers, the display can take up more than one screen. If this happens, you can freeze the display by entering the Ctrl-S sequence. To resume scrolling, enter the Ctrl-Q sequence.

For information on any of the other statistics, refer to the sections on process types, priority, and the EXEC SPOOLSTATUS command in *Managing AOS/VS and AOS/VS II*.

After all status information has displayed, you can return to the Control Printer Forms Menu by pressing New Line.

Switching to a Special Form (SPECIAL)

Select option "3 Switch to special form" on the Control Printer Forms Menu (or specify the keyword SPECIAL) to indicate that you want to change the type of form for the print request(s) you are going to do. There are several steps you must follow in order to use special forms.

1. Find the paper forms that you will need for your special forms print request.
2. Use the Forms Control Utility (FCU) to create the form specification if it does not already exist.
3. Queue your print request from the Control Printers Menu (or from the CLI or CEO). *Be sure to specify the form name on the print request.* If you use the Control Printers Menu or the QPRINT keyword, you will be prompted for the form name. If you are using the CLI, the print request will consist of the QPRINT command with the /FORMS= switch (see your CLI manual for details).
4. If you aren't already running the SMI program, execute it (from the CLI, type XEQ SMI and press New Line.) Get to the Control Printer Forms Menu (keyword FORMS).
5. Select option "3 Switch to special form." This instructs the system that you are going to use a special form so it will be able to process your print request. The system will prompt you for a form and printer name.
6. Enter the name of the form you specified on your print request, and the printer you want to use the form on. The system will pause the printer and prompt you to go change the paper.
7. Go to the printer and change the paper to the type necessary for your special form. (If another job is printing, wait until it finishes.)
8. Return to the screen and press New Line, as prompted. The system will instruct the printer to continue processing requests.
9. After your print job has finished, select option "4 Restore the default form" on the Control Printer Forms Menu. The system will prompt you for the name of the printer on which you want to restore the form.
10. Enter the printer's name. The system will instruct you to go change the printer paper back to the regular type.
11. Change the paper on the printer back to the default type. Then return to your terminal and press New Line.

NOTE: Restoring the default form after using special forms is very important. If you fail to do so, the system will not process other users' print requests.

For example, suppose user Lee is in charge of Payroll. Every Thursday, Lee selects the special form CHECKS and runs all the paychecks through the LQP queue to print on PRINTER3. Here are the steps Lee would follow:

1. Gather the check forms. (The form CHECKS is already defined via FCU so Lee does not have to create it.)
2. From the Control Printers Menu, select option "1 Print files" to queue the print request.

   Enter choice: **1** ⤶

3. At the Print Files screen, enter the appropriate information.

```
                              Print Files

      .
      .
      .
      Pathname:  :UDD:SYSMGR:PAYCHECKS ⤶

      Queue name:  LPT ⤶

      Form name:  CHECKS ⤶
```

4. The Control Printers Menu reappears. Specify the keyword FORMS to get to the Control Printer Forms Menu.

   Enter choice: **FORMS** ⤶

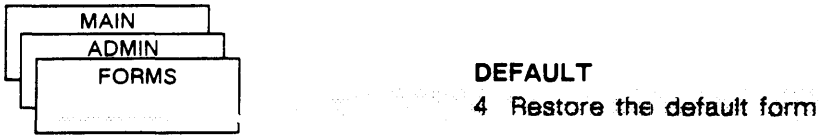
5. Select option "3 Switch to special form" on the Control Printer Forms Menu to switch the printer to the special form. Type the form name and the printer name at the prompts.

   Form: **CHECKS** ⤶

   Printer: **PRINTER3** ⤶

6. Go to PRINTER3 and change the paper to check blanks. Then return to the screen and press New Line.
7. When the checks have all printed, select option "4 Restore Default Forms" (see the next section for details). Type the printer name when prompted.
8. Change the paper back to the regular type.
9. Return to the terminal screen and press New Line.

Restoring the Default Form (RDEFAULT)



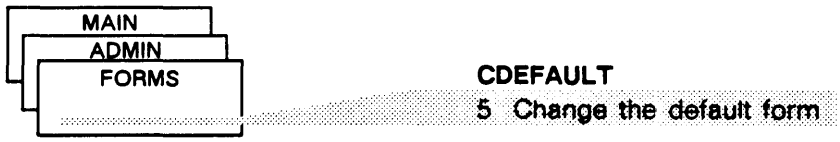
Use option "4 Restore the default form" on the Control Printer Forms Menu to restore the default form on the printer after you have used a special form (option 3, above). When you select option 4, the SMI will display the Restore the Default Form screen, at which you are prompted to enter the printer name on which you want the default form restored. Type the name and press New Line. You will return to the Control Printer Forms Menu. The keyword for this option is RDEFAULT.

In our example above with user Lee in Payroll, after the checks were printed and Lee had selected option "4 Restore the default form" on the Control Printer Forms Menu (step 7 of the example), Lee would enter the following in response to the prompt for printer name:

Printer: **PRINTER3** ↵

Now the system would prompt Lee to go change the paper on the printer, and then to return to the screen and press New Line. Once Lee did so, other users' requests would be processed on the printer, using the standard form for that printer.

Changing the Default Printer Form (CDEFAULT)



Option "5 Change the default form" on the Control Printer Forms Menu allows you to change the name of the form that normally prints on a printer. Before you attempt to use this option, be sure you know the name of the form you want for the new default. The Forms Control Utility stores all form specifications in the directory :UTIL:FORMS.

Once you select option 5, or specify the CDEFAULT keyword, the system will display the Change the Default Form screen, which prompts you to enter the form name and the printer on which you want to change the default form. Enter the correct information. The system will then prompt you to go to the printer and change the paper. Once you've done so, press New Line at the prompt and you will return to the Control Printer Forms Menu.

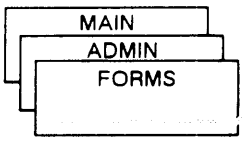
For example, suppose Lee in Payroll now has PRINTER3 to be used almost exclusively for printing checks. Lee wants the default form for that printer to be CHECKS, so it won't need to be changed all the time. From the Control Printer Forms Menu, Lee would select option 5 and respond to the prompts as follows:

Form: **CHECKS** ↵

Printer: **PRINTER3** ↵

The system would then instruct Lee to go change the printer paper, and to return to the screen and press New Line. Once Lee did so, the new default form would be ready to use.

Changing the Number of Lines Printed Per Page (LPP)



LPP
6 Change the number of lines printed per page

Option "6 Change the number of lines printed per page" on the Control Printer Forms Menu (keyword LPP) allows you to make the text on printed pages shorter or longer. You can use this option in conjunction with option "7 Change the number of characters printed per line" to change the whole page format. Note that these options do not affect special forms; they apply only when you queue requests to print without a special form.

When you select option 6, you will receive the Change the Number of Lines Printed Per Page screen, which prompts you to enter the number of lines you want, and the printer on which to change the value. The allowable range of values for lines per page is 6 through 144. For example, suppose you want to set PRINTER2 to print 55 lines per page. You would answer the prompts in the following way:

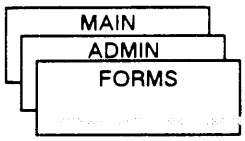
Number of lines: **55** ↵

Printer: **PRINTER2** ↵

After you have entered your answers, you will return to the Control Printer Forms Menu. The new number of lines per page will be in effect.

Note that you don't need to use this option when you switch to a special form. Each form has its own values defined for characters per line and lines per page. Using this option does, however, mean that the default printer form is no longer in effect. To reset the default printer form, select option "5 Change the default form" and specify the appropriate form name.

Changing the Number of Characters Printed Per Line (CPL)



CPL
7 Change the number of characters printed per line

You can adjust the line length of a printed page by selecting option "7 Change the number of characters printed per line" on the Control Printer Forms Menu. When you select option 7, or specify the CPL keyword, you will receive a screen that prompts you to enter the number of characters and the printer on which you want to change this value. The range of acceptable values is 16 through 255. Enter the number that specifies the maximum number of characters that you want printed on each line.

For example, suppose you want to print a document with a wide right margin so that its reviewers can mark comments there. You might want to set the maximum number of characters to print per line to 50 (instead of the normal 72 to 80). The printer you will be using is PRINTER1. You would respond to the prompts on the Change the Number of Characters Printed Per Line screen as follows:

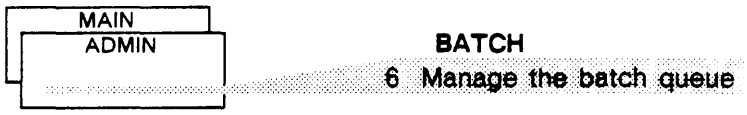
Number of characters: **50** ↵

Printer: **PRINTER1** ↵

After you have entered the values, you will return to the Control Printer Forms Menu.

Note that you don't need to use this option (or change the number of lines per page) when you switch to a special form. Each form has its own values defined for characters per line and lines per page. Using this option to change the number of characters per line does, however, mean that the default printer form is no longer in effect. To reset the default printer form, select option "5 Change the default form" and specify the appropriate form name.

Managing the Batch Queue (BATCH)



The batch queue allows you to send requests that don't need human interaction to the processor. For example, suppose you want to run a program that has a disk file as input, and you don't want your terminal to be tied up waiting for the program to finish. You can send the job to the batch input queue. In batch, the requests process in a continuous, autonomous stream. The batch input queue is like a file that holds the batch requests. It then assigns each request to a batch stream. When a batch job is finished, its output goes to a batch output queue (BATCH_OUTPUT on the queue display).

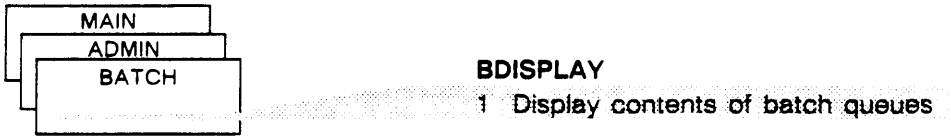
Managing the batch queue is option 6 on the Administrative Functions Menu. When you select it, you will receive the Manage Batch Queue Menu shown in Figure 5-20. The keyword for this menu is BATCH.

```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                    Manage Batch Queue Menu

        1  Display contents of batch queue
        2  Display status of batch streams
        3  Cancel a queued batch job
        4  Terminate (flush) a currently running request
        5  Pause a batch stream
        6  Continue a batch stream




        Enter choice:

        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-20 Manage Batch Queue Menu

To return to the Administrative Functions Menu, press the Cancel/Exit key, F11.

Displaying the Contents of the Batch Queue (BDISPLAY)



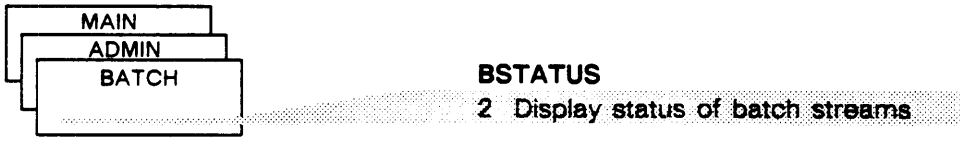
Option "1 Display contents of batch queue" on the Manage Batch Queue Menu allows you to see what jobs are waiting in the batch input queue. You might want to do this to check to see if your batch job is running, or is finished, or to see where in the queue a job lies. When you select option 1, or specify the BDISPLAY keyword, the system will display the contents of the batch input queue. For example, your screen might look something like the following:

```
BATCH_INPUT          BATCH     Open
  342 A              SYSMGR    :SYSMGR:USERS:SORT_LIST
* 347                DALE      :MACROS:DAILY_SWEEP
  348                CHRIS     :UDD1:CHRIS:BACKUP

Flags explanation:
A = Unexpired /AFTER
* = Active
```

This example shows that user SYSMGR queued a batch request called SORT_LIST to be processed after a specified time interval. Dale's batch job is currently processing, and Chris's request is awaiting processing.

If your batch queue contents take up more than one screen, the system will freeze the screen once it is full. To scroll the screen up, use the Ctrl-Q sequence. When all contents have been displayed, you can press New Line to return to the Manage Batch Queue Menu.

Displaying the Status of Batch Streams (BSTATUS)



When you send a request to the batch input queue, the queue assigns the request to a batch stream. Option "2 Display status of batch streams" on the Manage Batch Queue Menu (keyword BSTATUS) lets you see the status of each batch stream. Note that batch streams are named by appending an underscore and a number to the batch input queue name. If you select option 2, your screen might look something like the following:

BATCH_INPUT_ 1 [Idle] Paused
Bias factor = 0, Process type = Swappable, Priority = 3

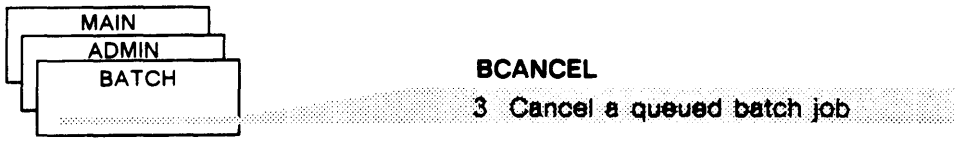
BATCH_INPUT_ 2 [Idle]
Bias factor = 0, Process type = Swappable, Priority = 3

This sample display tells you that streams BATCH_INPUT_1 and BATCH_INPUT_2 are both *idle*; that is, they aren't running any jobs. BATCH_INPUT_2 is available for use, but BATCH_INPUT_1 is paused. To use BATCH_INPUT_1, you would have to first continue the batch stream. (A section on "Continuing a batch stream (BCONTINUE)" follows later in this chapter.)

For information on any of the other statistics, refer to the sections on process types, priority, and the EXEC STATUS command in *Managing AOS/VS and AOS/VS II*.

After the batch stream status is displayed, you can return to the Manage Batch Queue Menu by pressing New Line.

Canceling a Queued Batch Request (BCANCEL)



Option "3 Cancel a queued batch job" on the Manage Batch Queue Menu allows you to remove a queued request that has not yet begun processing. You can remove any inactive request, no matter who queued it. When you enter 3, or use the BCANCEL keyword, the system will display the contents of the batch queue. If the display takes up more than one screen, the system will put your screen in Page mode, which means the screen will freeze once it is full. You can scroll the screen by using the Ctrl-Q sequence.

When all queue contents have been displayed, the system will prompt you to enter the sequence number of each request that you want removed from the queue. Enter the number(s) and press New Line. You will then return to the Manage Batch Queue Menu. To ensure that each request you specified was canceled, you can then select option "1 Display contents of batch queue." If the requests are still awaiting processing in the queue, you should see the C flag next to the sequence number of each request you specified, signifying that it was canceled.

Terminating (Flushing) a Currently Running Batch Request (BFLUSH)

Option "4 Terminate (flush) a currently running request" on the Manage Batch Queues Menu lets you terminate an active batch job. When you enter 4, or issue the BFLUSH keyword, the system will display the status of the batch streams. The system will put your screen in Page mode, which means the screen will freeze once it is full. You can scroll the screen by using Ctrl-Q.

When the status of each stream has been displayed, the system will prompt you to enter the number of each stream you want to flush. Batch streams are named by appending an underscore and a number to the batch input queue name; the SMI expects you to enter just the number. For example, to flush BATCH_INPUT_2 you would answer the prompt as follows:

Specify the number of each stream ...
or press New Line to flush all streams: **2** ↵

Remember that flushing the stream cancels only the request that is currently active. Any queued requests following the active request will begin processing after the active request is flushed. After you enter the number of each stream you want to flush, or press New Line for all streams, the system will return you to the Manage Batch Queue Menu.

Pausing a Batch Stream (BPAUSE)

Option "5 Pause a batch stream" on the Manage Batch Queue Menu lets you suspend batch queue processing by pausing one or more batch streams. When you select option 5, or use the BPAUSE keyword, the status of the batch streams will display, so you can see which are active and which are already paused. The system will then prompt you to enter which batch stream(s) you want to pause. Type each stream's number and press New Line, or press New Line for all. You will return to the Manage Batch Queue Menu. To ensure that the correct streams are paused, you can then select option "2 Display status of batch streams."

For example, suppose you want to pause any batch stream that is not currently processing a request. At the Manage Batch Queue Menu, you would select option 5, and then respond to the prompts as shown below:

BATCH_INPUT_1, Sequence number = 130, Qpriority = 130, User = SYSMGR
PID = 26, Pathname :UDD:SYSMGR:?24.CLI.00001.JOB
Bias factor = 0, Process type = Swappable, Priority = 3

BATCH_INPUT_2 [Idle]
Bias factor = 0, Process type = Swappable, Priority = 3

Specify the number of each batch stream you want to pause, or
press New Line for all: **2** ↵

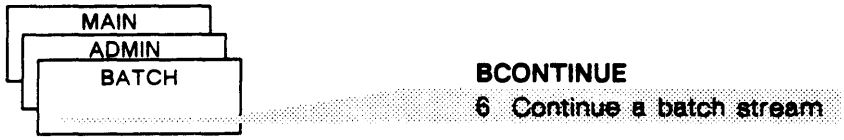
You would then receive the Manage Batch Queue Menu on your screen, from which you might select option "2 Display status of batch streams." You would receive the following:

BATCH_INPUT_1, Sequence number = 130, Qpriority = 130, User = SYSMGR
PID = 26, Pathname :UDD:SYSMGR:?24.CLI.00001.JOB
Bias factor = 0, Process type = Swappable, Priority = 3

BATCH_INPUT_2 [Idle] Paused
Bias factor = 0, Process type = Swappable, Priority = 3

This batch stream status verifies that BATCH_INPUT_2 was paused, as requested.

Continuing a Batch Stream (BCONTINUE)



Continuing a batch stream means allowing the stream to continue processing after it has been paused; that is, continuing releases a paused stream. Option "6 Continue a batch stream" on the Manage Batch Queue Menu (keyword BCONTINUE) lets you continue any batch streams that are currently paused.

When you select option 6, the system will display the status of the batch streams and prompt you to enter the number of each stream you want continued, or to press New Line for all streams.

For example, suppose you now want to continue the stream you paused in the previous example. You would receive the following status display, and answer the prompt as shown:

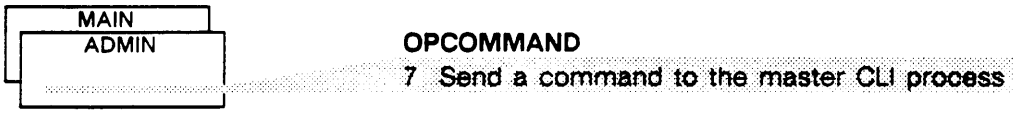
BATCH_INPUT_1, Sequence number = 130, Qpriority = 130, User = SYSMGR
PID = 26, Pathname :UDD:SYSMGR:?24.CLI.00001.JOB
Bias factor = 0, Process type = Swappable, Priority = 3

BATCH_INPUT_2 [Idle] Paused
Bias factor = 0, Process type = Swappable, Priority = 3

Specify the number of each paused batch stream that you want to continue, or press New Line for all: **2**

You would then return to the Manage Batch Queue Menu, from which you could select option "2 Display status of batch streams" again if you wanted to verify that BATCH_INPUT_2 was continued.

Sending a Command to the Master CLI Process (OPCOMMAND)



Option "7 Send a command to the master CLI process" on the Administrative Functions Menu lets you send a command directly to the master CLI process, which shows up as PID 2 when you display all processes running. The keyword for this option is OPCOMMAND. This option is available mainly so you can shut down and start up the network and programs such as CEO and INFOS II without powering down the system.

NOTE: You should not use the SMI OPCOMMAND option to issue commands that you could otherwise execute by a standard CLI process. Since this option was designed for the specifically limited application outlined below, other commands you enter through this option may not work as expected. (For example, to use the TYPE command you must specify the current list file by entering TYPE/L rather than TYPE; if you change the list file, the TYPE command will not work.) Before you attempt to use option 7 for functions other than shutting down or starting up CEO, INFOS II, or the network, you should refer to the appropriate section(s) of *Installing, Starting, and Stopping AOS/VS*.

When you select option "7 Send a command to the master CLI process," the system displays a CLI prompt as shown below. The prompt is initially preceded by your superuser/superprocess search list and directory, and by a reminder that you are using the limited OPCOMMAND interface rather than the standard CLI.

```
        OPCOMMAND Interface
    To exit, press the Cancel/Exit key (F11).
Searchlist = : :UTIL
Directory = :
)
```

When you enter a CLI command at the prompt, the SMI will send it to the master CLI (also called PID 2 or OP CLI), which will issue the command to the system. (This is necessary because some commands — including those to shut down or start up CEO, INFOS II, and the network — must be issued by the master CLI in order to work.) Once the SMI has sent the command, it displays any system responses to it. Then it displays another CLI prompt in case you want to use the OP CLI again. You return to the Adminstrative Functions Menu (or the menu from which you entered the OPCOMMAND keyword), by pressing the Cancel/Exit key (F11), or typing BYE (or BY) and pressing New Line.

For example, suppose Robin, the system manager, wants to do a system-wide file backup. In Chapter 4, "Backing Up and Restoring Files," we recommend that you have users log off the system and shut down CEO and INFOS II when you are going to perform a system-wide backup. That way, the CEO and INFOS II databases will be closed and backed up along with the system-wide user files. Robin's system is running both CEO and INFOS II, so she will need to shut them both down. After notifying users of the upcoming backup (using the keyword BROADCAST), Robin enters the keyword OPCOMMAND and responds to the prompts as follows:

```
                    OPCOMMAND Interface
          To exit, press the Cancel/Exit key (F11)
Searchlist = :  :UTIL
Directory = :

) :UTIL:CEO_DIR:DOWN.CEO ↵
... (system response) ...
) :INFOS:INFOS_DOWN ↵
... (system response) ...)
 BYE ↵
```

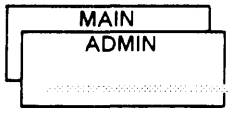
Robin then uses the Archive Menu to continue with the backup procedure. We describe file backup in Chapter 4.

After the backup was complete, Robin would return to the Administrative Functions Menu and select option "7 Send a command to the master CLI process" again. At the command line prompt, Robin would enter the following:

```
                    OPCOMMAND Interface
          To exit, press the Cancel/Exit key (F11)
Searchlist = :  :UTIL
Directory = :

) :INFOS:INFOS_UP ↵
... (system response) ...
) :UTIL:CEO_DIR:UP.CEO ↵
... (system response) ...
) BYE ↵
```

Robin's screen would then redisplay the Administrative Functions Menu.

Shutting Down the System (SHUTDOWN)



SHUTDOWN
8 Shut down the system

Select option "8 Shut down the system" on the Administrative Functions Menu when you want to bring down AOS/VS on your system. If you select this option by mistake, don't worry; the system will not shut down immediately. Instead, it will display the Shut Down the System Menu, as shown in Figure 5-21.

You can also get to this menu by entering the keyword SHUTDOWN from any menu in the SMI program.

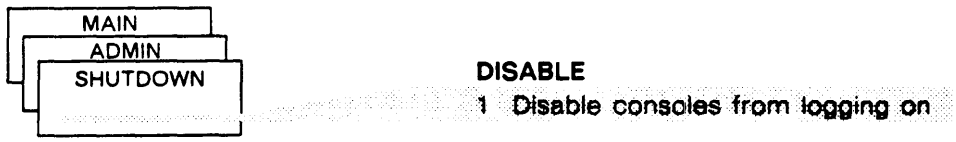
```
SMI Rev  nn.nn.nn.nn                          dd-mmm-yy  hh:mm

                      Shut Down the System Menu

        1  Disable consoles from logging on
        2  List all processes running
        3  Send a message to all users
        4  Terminate active processes
        5  Execute the DOWN macro
        6  Shut down the system




        Enter choice:

        To exit from any menu, press the Cancel/Exit key (F11).
        For assistance at any time, press the Help key (Shift-F1).
```

Figure 5-21 Shut Down the System Menu

To return to the Administrative Functions Menu from this menu, press the Cancel/Exit function key (F11).

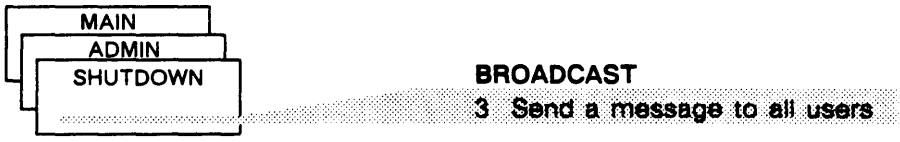
When you want to shut down the system, it is important that you first make certain that no users are logged on and running programs, such as CEO or a text editor. If you are on a multiuser system, we recommend that you follow these steps for an orderly system shutdown:

1. Select option "1 Disable consoles from logging on" (keyword DISABLE) to ensure that no other users can log on the system during the shutdown process. (Unlike the CDISABLE option, DISABLE automatically affects the entire system.)



2. Select option "2 List all processes running" (keyword WHOS). The system will display a list of all processes running on the system, as it does when you select the "List all processes running" option on the Manage Consoles Menu or the Archive Menu.

3. If you see that there are active users (that is, any users logged on the system) other than yourself, then select option "3 Send a message to all users" (keyword BROADCAST).

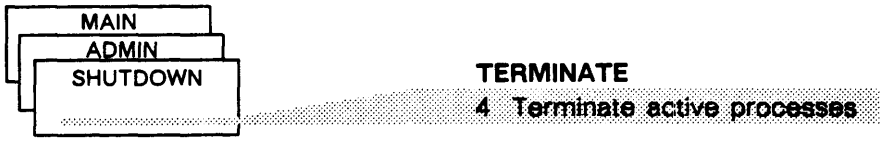


When prompted, type the appropriate message, for example:

Type the message you want to send to all system users; then press New Line.
The system is coming down in 5 minutes. Please log off. ↵

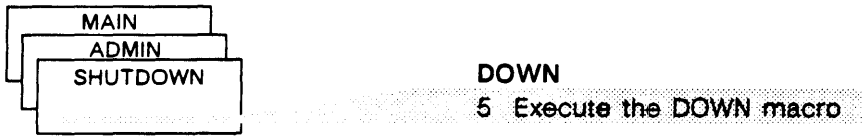
4. After the time interval you specified to your users has passed, select option "2 List all processes running" (Step 2) again to be sure everyone has logged off the system. If you find some users are still active, broadcast another message using option "3 Send a message to all users."

5. Sometimes, users might leave their desks and don't see the messages. In cases like this, you will have to terminate their processes. Select option "4 Terminate active processes" (keyword TERMINATE).



As it does on the Manage Consoles Menu, this option will display active processes and ask which you want to terminate. Enter the appropriate PID number(s) (up to a total of 10).

6. As soon as there are no more active users, select option "5 Execute the DOWN macro" (keyword DOWN). The DOWN macro performs some important functions like shutting down CEO, INFOS II, and the network, if you have them running.



7. After the DOWN macro executes, the only active processes remaining should be PMGR, OP, EXEC, XBAT, XMNT, XLPT, and your own PID(s). Select option "2 List all processes running" (Step 2) to be sure this is the case.

8. Finally, choose option "6 Shut down the system" (keyword SYSDOWN).

You will receive the following message:

```
                    Shut Down the System

     Before you shut down the system, be sure there are no active
     processes aside from PMGR, OP, EXEC, XLPT, and your own PIDS.
     If you haven't yet done this, enter N or just press New Line
     and you will return to the Shut Down the System Menu.


     Do you want to shut down the system now (Y or N)?
```

9. Type Y (or YES) and press New Line. Your screen will clear and then display the following message:

*** *Starting system shutdown* ***

Once the system has shut down, you will see this message on the system console:

System shutdown

Please turn off power.

10. Turn off your system's power. Your shutdown is complete. (See the following NOTE for an alternative to turning off power.)

NOTE: Although the screen instructs you to turn off power to your system, this is not required. If you do not want to power your system down every time you shut down AOS/VS, and you don't mind using the SCP CLI for a couple of commands, then you can follow these steps instead of turning power on and off.

1. Enter the break sequence: Cmd-Break on most keyboards, or just Brk or Break for keyboards that don't have a Cmd key. Some machines require that you *repeat the break sequence three times.*
   The SCP-CLI> prompt will appear.

2. When you are ready to power up again, enter the RESET command:
   SCP-CLI> **RESET** ↵

3. Instruct the SCP CLI to boot from the device you want to run by using the command BOOT nn, where nn is the device code for the medium you want to use (usually the system hard disk).

   If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device codes. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device codes.

   For example, to start your system from a hard disk with device code 24, you would enter the following:

   SCP-CLI> **BOOT 24** ↵

4. You would then proceed as with a regular power up sequence, from the point immediately following the Automatic Program Load Menu.

End of Chapter

Chapter 6
Handling Errors

The first part of this chapter is for the

System Manager ☑

System User ☑

This chapter is divided into the following major sections:

- SMI and Related Error Messages
- The Break Sequence
- Abnormal System Shutdowns.

We discuss the error messages first because they apply to all system users. The sections on the break sequence and abnormal system shutdowns contain information that concerns the system manager only.

SMI and Related Error Messages

This section lists and describes the error messages displayed by the SMI program, and some related AOS/VS and EXEC messages that you might receive. You might receive some additional AOS/VS, CLI, or EXEC error messages, depending on what you are doing. We have included only the most common ones in this manual. See the manual *AOS/VS and AOS/VS II Error and Status Messages* for descriptions of all AOS/VS, CLI, and EXEC error messages.

Each SMI message that we list here will show up on the screen of whichever user caused the error or status condition. Other messages, however, might appear on the system console instead. For example, messages from the EXEC process and device errors will display on the system console. When this happens, the person using the system console will have to take note of the error and act accordingly, and then press the Erase Page key to refresh the screen before continuing.

Table 6-1 lists all SMI (and some related) error and status messages alphabetically and describes when you might receive each one.

Table 6-1 SMI and Related Error and Status Messages

Message	Description
A line cannot have both a modem and a printer	At a Define a Console Line screen, you answered "Yes" to the question asking if the console line has a modem on it, and "Yes" to the question asking if the line has a printer on it. One console line cannot have both. Check your hardware and change at least one of your responses to "No."
**ABORT* 32-bit process trap*	A process started by the Starter program or the SMI has terminated abnormally.
**ABORT* Console interrupt*	A console interrupt interrupted a process subordinate to Starter or SMI.
**ABORT* Customer chained*	An error occurred with the network.
**ABORT* Customer-server connection broken*	You were working over the network and the connection was broken, so your process was terminated.
**ABORT* Terminated by superior process*	A process higher in the process hierarchy than yours has terminated your process.
Console line number is too high	At the Define Console Lines screen, you specified a console number higher than the range allowed. The range for your system depends on how many console lines you have; see "Defining console lines" in Chapter 5.
Console line number is too low	At the Define Console Lines screen, you specified a console number lower than the range allowed. Valid console numbers begin at 2.
Console unknown to EXEC	In a console status display, a console that exists in :PER is not enabled. (This will appear once for each disabled console in the list.)
Data Check Error or *Data Overrun Error*	You probably specified a baud rate too high for a letter-quality printer. Try 2400, or 1200 if 2400 resulted in error.

(continues)

Table 6-1 SMI and Related Error and Status Messages

Message	Description
Directory access denied, File <pathname>	You attempted to back up files in a directory to which you do not have access. You must have W (Write), R (Read), and E (Execute) access to the directory.
Drive not ready. (Is diskette properly inserted, and is latch closed?)	The diskette drive is not currently usable by the system. Remove the diskette and reinsert it. Close the latch. See your startup manual if you need further instructions.
Enter one of the menu entry numbers listed, or enter a command	You specified a number that is not one of the current menu options, or a word that is not a valid keyword.
Fatal diskette error – Halting	The system has encountered an error with the diskette that it cannot fix. There might be a problem with the diskette drive. Phone Data General.
File access denied, File <pathname>	You attempted to back up files to which you do not have R (Read) access.
File name already exists	When creating a queue, you attempted to give it a name that is already a filename in the :PER directory. Give it a different name. Do not attempt to give a queue a name that you have already assigned or plan to assign to a printer.
Illegal password character	You attempted to specify a password character that is not allowed. Valid password characters are all printable characters except for the caret (^) character.
Illegal username character	The username you entered when creating a profile contains a character that is not allowed in usernames. The valid username characters are A – Z, 0 – 9, underscore (_), period (.), question mark (?), and dollar sign ($).

(continued)

Table 6-1 SMI and Related Error and Status Messages

Message	Description
Input number is too large	The number you specified at the current input field is larger than allowed for that field.
Invalid baud rate specified	The value you entered for baud rate at the Define a Console Line screen is not one of the allowable values. Look at the list of values on the screen and select one.
Invalid console name	You specified the name of a console that does not exist, or you typed a console's name incorrectly.
Invalid date	The date you specified at the Change System Date or Time screen either is not a valid date, or is not in an acceptable format. You must specify the date in the format dd-mmm-yy or mm/dd/yy.
Invalid device name	The name you specified at a prompt for a device name is not a valid device name. If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.
Invalid fileset name	While attempting to install software from diskette, you specified an invalid name when prompted for a fileset. Check the software product's Release Notice for the correct fileset name.

(continued)

Table 6-1 SMI and Related Error and Status Messages

Message	Description
Invalid time	The time you specified at the time field of the Change System Date or Time screen is either not a valid time, or is not in an acceptable format. You must specify the time in the format hh:mm:ss, with AM or PM optional. If you don't specify AM or PM, a 24-hour format is assumed.
Keyword does not accept arguments	You attempted to enter arguments to a command keyword that does not accept them.
Keyword expected but not found	SMI expected you to enter a keyword at, or as part of, the current input field.
Keyword is unknown	The value you entered is not one of the SMI keywords. Check the listing of SMI keywords in Appendix A to find the keyword you need.
Library does not contain the screen format, <screen-name>	A screen is missing from your SMI package. Phone Data General.
No help available for input <field-name>	There is no help text on-line for the input field at which you pressed the Help key. Refer to the appropriate section of this manual for instructions.
Non-unique abbreviation	The abbreviation you used at an input field is not unique. You must enter a longer abbreviation or the entire word.
Number expected but not found	SMI expected you to enter a numeric value at, or as part of, the current input field.
Numeric argument out of range	The number you specified as an argument is not within the acceptable range for that argument.

(continued)

Table 6-1 SMI and Related Error and Status Messages

Message	Description
Password must have 6 to 15 characters	You attempted to set or change a profile's password to something with an invalid number of characters. Passwords must be at least 6 and no more than 15 characters long.
Pathname must start at the root	You specified a filename or pathname that did not begin at the root directory (:). Be sure to specify the complete pathname.
PIDs lower than 5 cannot be terminated via SMI	You attempted to terminate a process whose PID number is less than 5. Because the low PIDs belong to processes crucial to the system, such as EXEC and the peripheral manager (PMGR), the SMI prevents you from terminating them and therefore from accidentally shutting down the system. If, for some reason, you do need to terminate a PID lower than 5, you can do so from the CLI.
Please complete this field or press a function key	You did not fill in a required input field. Enter a value or press Cancel/Exit to abandon the screen. Or press the Help key to get more information.
Please give a "Yes" or "No" reply	The current input field will accept only a Yes or No answer (optionally specified Y or N).
Process termination - error flag but no error code	A subordinate process started SMI has or terminated.
Queue already exists	While attempting to create a queue, you specified a name for which a queue already exists. Give the queue a different name. Do not attempt to give a queue a name that you have already assigned or plan to assign to a printer.
Queue does not exist	While attempting to open, start, stop, or delete a print queue, you specified a name that does not belong to any queue.

(continued)

Table 6-1 SMI and Related Error and Status Messages

Message	Description
Queue is already open	You specified to open a print queue that is already open.
Queue is not a print queue	The queue whose name you specified is a queue, but not a print queue. You were attempting to start, stop, open, or delete the queue, or to queue a print request to it. Try another queue name.
Queue is not open	You attempted to close a queue that is already closed, or you tried to queue a print request to a closed queue.
Range numbers must be in ascending sequence	The numbers you specified to indicate a range of numbers are not in ascending order. Reorder them with the lower number first.
Terminated by system	The system has terminated the subordinate process that was running.
The first line is already on display.	While viewing help, you pressed the Previous Screen function key (F3) while the first line of help text was already being displayed.
The last line is already on display.	While viewing help, you pressed the Next Screen function key (F4) while the last line of help text was already being displayed.
Too many arguments to command	The command or command keyword that you specified doesn't accept as many arguments as you entered.
Unknown keyword	The value you entered is not one of the SMI keywords. Check the listing of SMI keywords in Appendix A to find the keyword you need.
User trap	Something has failed. Try to continue what you were doing, but realize you will probably get this error again. If you reproduce the error, you can either attempt to debug the program you were running, or submit a Software Trouble Report (STR) to Data General.

(continued)

Table 6-1 SMI and Related Error and Status Messages

Message	Description
Username already exists	You attempted to create a user profile with a username for which a profile already exists. Enter a different username.
Username directory already exists	You tried to create a user profile with a username for which there is already a directory in :UDD. This probably happened because you deleted that user's profile, but opted not to delete the user's :UDD directory. Choose a different username, or back up the existing username directory to tape or diskette, and then use the CLI to delete the directory.
Username does not exist	When attempting to modify or delete a profile, you specified a username for which no profile exists.
<Username> does not have write access to <pathname>. You cannot back up this directory.	You attempted to back up files in a directory to which you don't have W (Write) access. You must have W, R (Read), and E (Execute) access to the directory.
Username must have 1 to 15 characters	The username you specified when creating a user profile did not have a valid number of characters. Usernames must be between 1 and 15 characters.
You are not privileged to perform this function	Your profile doesn't contain the privileges required to perform the function you were attempting.

(concluded)

If you receive an error message not listed in this table, refer to *AOS/VS and AOS/VS II Error and Status Messages*.

If you receive an unlisted error message during startup on a deskside ECLIPSE system, refer to *Starting and Updating Preinstalled AOS/VS*.

The rest of this chapter contains information for system managers only.

The remainder of this chapter is for the

System Manager ☑

System User ☐

The Break Sequence

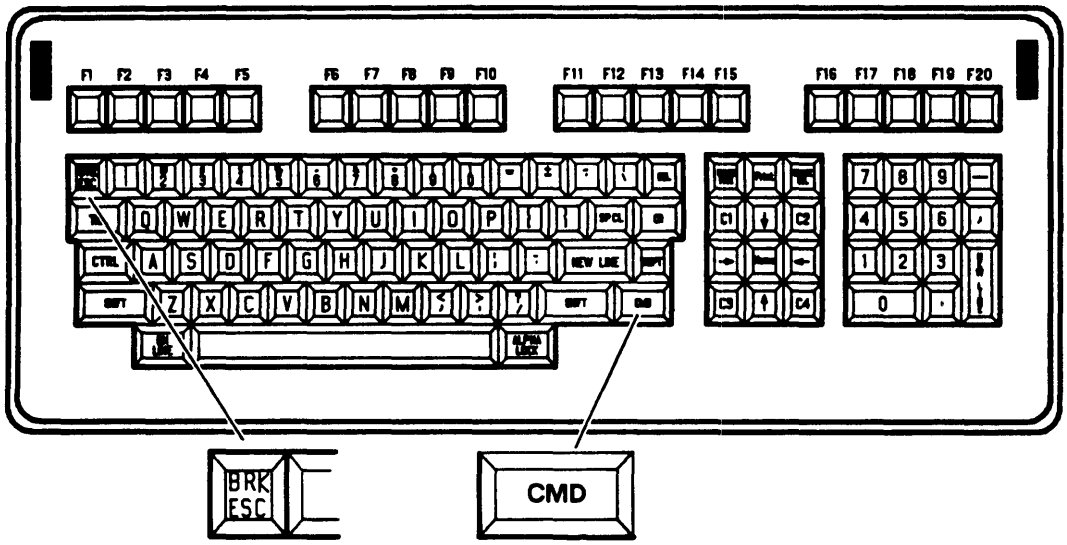


Figure 6-1 Break Sequence Keys

From most terminals on your sytem, the break sequence has no effect. If you type Brk or Cmd-Break, the terminal will ignore it. However, if you issue the break sequence from the system console, the console will turn control over to the System Control Program (SCP) Command Line Interpreter (CLI). The SCP is the so-called "bottom layer" of everything that is running on your system. If this happens, you will see the following prompt on the system console:

SCP-CLI>

Unless you are familiar with the SCP CLI and want to use it to perform a specific function, you should return immediately to the program you were running prior to entering the SCP. On deskside ECLIPSE systems, enter the CONTINUE command at the SCP-CLI prompt, as follows:

SCP-CLI> **CONTINUE** ↵

On other computers, enter the command TTY, as follows:

SCP-CLI> **TTY** ↵

Your system will return to the program you were running before you typed the break sequence.

NOTE: The break sequence for deskside ECLIPSE systems requires that you press the Break key three times while holding down the Command key before the system enters the SCP.

Abnormal System Shutdowns

An abnormal AOS/VS shutdown on a system running the fully enabled SMI is any shutdown not performed from SMI's Shut Down the System Menu. In addition, if you receive an *ABNORMAL SYSTEM SHUTDOWN* message during a normal shutdown, then it too is an abnormal shutdown. An abnormal shutdown can result from a deadlock (hang), fatal AOS/VS error message (panic), hardware failure (which might cause a panic), or power failure.

The following software tools can help you handle and recover from abnormal shutdowns.

Memory dump routine	Copies main processor memory to tape or diskette for later analysis.
AOS/VS Emergency Shutdown (ESD) routine	Tries to turn the abnormal shutdown into a normal shutdown.
AOS/VS disk fixer (FIXUP)	Corrects disk inconsistencies and allows you to restart AOS/VS. FIXUP takes much longer than ESD to run, but it also corrects inconsistencies that ESD can't. You are not required to run FIXUP unless ESD fails.

NOTE: For detailed information on FIXUP or ESD, refer to *Installing, Starting, and Stopping AOS/VS*.

This section describes situations when you might need these tools, and how to use them in the event of an abnormal shutdown.

System Deadlocks

If AOS/VS doesn't seem to be processing requests, it might be in a deadlock. Deadlocks can occur for a number of reasons; but they usually occur when your system has been overloaded with too many processes needing the same resources.

The primary symptom of a deadlock is long *response time*. That is, the system takes a long time to respond to input or may, in fact, not respond at all. Users might complain that nothing is happening on their terminals, and you might get slow or no response to requests you issue at the system console. (Note that if the system console shows a *FATAL AOS/VS ERROR* message, a panic has occurred; see the next section.)

Any time a terminal seems to be hung, the first thing to do is enter Ctrl-Q at that terminal, in case a Ctrl-S has frozen its display. (Also check the red LED light above the Hold key, if the terminal has one. If it is lit, press the Hold key once.) If this restores activity, fine; you've found the problem. If it doesn't, make sure the terminal is on and its on-line light is glowing.

Next, if you are running SMI, you might issue the WHOS command keyword, or select the "List all users logged on" option on an applicable menu. (If you are using the CLI, type ? and press the New Line key.) As the list of active processes displays, you might recognize some as typical processor-demanding jobs; for example, a batch stream that's performing a file backup. A user doing an individual file backup might also slow down the system, and if you're doing a system-wide file backup, you might even be causing the slowdown (one of the reasons we suggest you perform system-wide backups when no other users are logged on).

If you discover the problem process(es), you must then decide whether to live with the slowdown until it is done, or to terminate the problem process(es). (You can terminate a process from the SMI at the Archive Menu, the Manage Consoles Menu, or the Shut Down the System Menu; the keyword for this option is TERMINATE.)

NOTE: Be sure to talk to the user running the process before you terminate it.

If terminating a problem process doesn't help the response time, or if the system console won't accept any input, you will have to force a shutdown and bring up AOS/VS again. Follow these steps:

1. Type the break sequence on the system console: hold down the Command key and press the Break key (press the Break key three times for deskside ECLIPSE systems), or press the Brk or Break key. You will receive the SCP CLI prompt:

   SCP-CLI>

2. You will have to use the SCP CLI to reset the processor and force an emergency shutdown. This is very easy; just enter the following commands at the SCP-CLI prompt:

   SCP-CLI> **RESET** ↵

   SCP-CLI> **START 50** ↵

   This should abort processing and start a shutdown. (If, by any chance, nothing happens, type the break sequence again; then type TTY and press New Line.)

The system console will display the following message:

AOS/VS Processing Aborted
Do you want a memory dump (to submit a Software Trouble Report (Y or N)? [Y]

3. Answer the prompt. It is often a good idea to have a memory dump when you encounter a problem, and you should always have a dump if you intend to submit an STR to Data General. It will help the engineers to determine the cause of the problem. However, with deadlock situations, unless the problem occurs repeatedly, a memory dump and STR might not be necessary.

4. If you decide to perform the memory dump, press New Line or type Y and press New Line, and skip to the section called "Doing a Memory Dump." If you don't want a memory dump, type N and press New Line; then go to the section "About ESD."

System Panics

Sometimes a system will encounter an error condition so severe that it cannot or dares not recover from it. When this happens, AOS/VS panics. It displays a fatal error message and you have to run *Emergency Shutdown (ESD)*. We describe an AOS/VS panic situation next.

If AOS/VS panics, the system performs the following steps:

1. AOS/VS sends you a fatal error message on the system console in the following format:

   FATAL AOS/VS ERROR: x

value1	*value2*	*value3*	*value4*
value5	*value6*	*value7*	*value8*
stkptr	*frmptr*	*stklim*	*stkbas*

   Do you want a memory dump (to submit a Software Trouble Report) (Y or N)? [Y]

   where *value1* .... *stkbas* are all numeric panic values that the system prints out.

   Generally, you should log each panic in a system log book kept near the system console. Note the time, the revision of the AOS/VS system, any unusual conditions (such as new software or hardware) that may have caused the panic, and the panic values. The written record is especially important if your system console is a display terminal rather than a hard-copy terminal. Panic records can be very important to Data General personnel whom you might call for assistance.

   Whenever you encounter a fatal error, it is a good idea to take a *memory dump* to submit to Data General with your Software Trouble Report (STR). The dump will help DGC engineers to find the cause of the error.

2. Answer the *...memory dump...* prompt.

   a. If you enter N, ESD will run, and you will receive the message

      Running ESD ...

      Skip to the section "About ESD."

   b. If you want a memory dump, go to the next section, "Doing a Memory Dump."

Doing a Memory Dump

AOS/VS always offers to do a memory dump after it panics or you issue the break sequence and RESET/START 50 sequence. As we mentioned earlier, Data General engineers analyze memory dumps to try to determine the problem when you submit an STR. You can skip the dump by entering N in response to the *Do you want a memory dump....* prompt, but do so only if you don't want to submit an STR. To perform a memory dump, use the following steps:

1. Get a scratch tape or several scratch diskettes (about three diskettes for each 2 Mbytes of memory). Diskettes must be hardware formatted. (Note that if there is already a diskette in the diskette unit *and it is initialized as an LDU*, you must first remove it and set it aside.)
2. Mount the tape or insert a diskette in the appropriate unit.
3. Enter Y in response to the prompt that asks if you want a memory dump (if you haven't already). You will receive the following prompt:

   Dump to magnetic tape or diskette (T or D)? [T]
4. Enter T if you want to dump to tape, D if you want to use diskettes.

   a. If you enter T or just press New Line to accept the tape default, you will receive the following prompt:

      Please mount tape. Then specify unitname. [MTxn]

      (*x* and *n* represent the character and number variables in the default unit name.)

      Type the device name for your tape drive and press New Line. To accept the default, just press New Line.

      NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

      The memory routine checks the device and performs the dump. When it is done, it rewinds the tape and displays the following message:

      Memory dump completed.

      Running Emergency Shutdown (ESD)

      ESD then runs automatically. Remove the tape and label it in preparation for the STR. (Skip the remaining steps and refer to the next section "About ESD.")

   b. If you enter D for diskette, you will see the following:

      Please insert diskette in unit. Then specify unitname. [DPxn]

      (*x* and *n* represent the character and number variables in the default unit name.)

   Proceed to Step 5.

5. Type the appropriate device name for your diskette drive.. The routine will check the device, and then start the dump. It will display the message *Dumping* followed by a period every 30 seconds or every minute. For example, after 5 minutes the message might look like this:

   Dumping.....

   When the diskette is full, the routine displays the message

   Diskette is full.
   Please insert next diskette in unit. Press New Line when ready.

NOTE: If you are using a deskside ECLIPSE system, refer to Appendix B in this manual for a list of valid device names. For other systems, refer to *Installing, Starting, and Stopping AOS/VS* for a complete list of device names.

6. Remove the diskette and insert the next one. Be sure to number them.

   The *Dumping* message and the prompt that follows will repeat until the dump is finished. Then the routine will prompt you to remove the last diskette and press New Line, before it begins running ESD, as follows:

   Memory dump completed. Please remove diskette.
   Press New Line when ready.

7. Remove the final diskette and label it in preparation for the STR.

   If you had a diskette that was initialized as an LDU in the diskette unit, reinsert it *before* you press New Line to run ESD. After you press New Line, the system will display the following message:

   Running Emergency Shutdown (ESD)

   See the next section, "About ESD."

NOTE: If the memory dump routine encounters an error, it will prompt you to retry. To do this, remove the tape or diskette, mount or insert a different one, and enter Y.

About ESD

The system tries to run ESD after a panic or a break, RESET/START 50 sequence, and after you have done or skipped the memory dump. ESD is a routine that tries to restart AOS/VS and force a normal shutdown, by doing things like closing open files. ESD cannot, however, cope with certain system errors, and it can't verify the accuracy of system databases that the panic may have affected. But it does offer a good way to handle panics.

When ESD runs, it displays the following messages:

Running Emergency Shutdown (ESD)

File system restart
Now restarting device 0nn unit 0

Flushing buffers

Open file processing

The processor is halted. The system will then display the following:

System shutdown

Please turn off power.

NOTE: You are not required to turn off system power. This message is present for the benefit of deskside ECLIPSE system users who may want to power their systems down every night.

In order to allow a *warm start* to bring up AOS/VS next time, don't turn off power. Instead, press the break sequence (Cmd-Break on most terminals). When you want to bring up AOS/VS again, issue the SCP commands RESET and BOOT nn, where nn is the device code of the system disk. (See the SHUTDOWN section of Chapter 5 for details.)

If you want to turn off system power, do so now. Then turn it on again to restart *cold*.

If ESD fails, it issues a fatal error message of its own. If this happens, we recommend that you accept the default response at that point, which is to take a memory dump. If you submit this dump with an STR to Data General, it will help us to improve ESD. After the dump is complete, ESD will attempt to run again. If it fails again, it cannot deal with the error.

When ESD encounters an error condition that it cannot overcome, you should run the AOS/VS disk maintenance program FIXUP, briefly described next.

The AOS/VS Disk Fixer (FIXUP)

Abnormal shutdown leaves the disk(s) in an unpredictable state, with open files that may not have been updated. ESD, if it succeeds, updates files with information that was entered, but not yet written to the files (information in system buffers). It also closes the files and restores disk integrity.

If ESD fails, however, then you must run FIXUP to fix the disk. On most Data General computers, you must specify when you want FIXUP to run. However, on deskside ECLIPSE systems, FIXUP runs automatically on powerup after an abnormal shutdown if the system appears to need it. You will know FIXUP is running if you see the following message at the bottom of your screen:

Please wait while the disk is being fixed, DPxn

For more information on FIXUP or ESD, refer to *Installing, Starting, and Stopping AOS/VS*.

End of Chapter

Appendix A
Keyword Summary

This appendix is for the

System Manager ☑

System User ☐

This appendix describes the keywords usable with the SMI program. Note that the SMI keywords are valid only while you are running the SMI.

Table A–1 lists the SMI keywords. Each table lists the keywords alphabetically, and for each keyword includes the following information:

- Its minimally unique abbreviation.
- Menu or menu option that it represents.
- Whether it is a menu keyword or command keyword.
- Whether or not the keyword and its resulting menu or command is restricted to users with the System Manager profile provided by the SMI (like SYSMGR). If other system users attempt to use a keyword for a restricted function, they will receive an error message.)
- Any optional arguments.

In the table, you will notice that a portion of each keyword is in **bold** print. The bold portion is the minimally unique part of the keyword; that is, the fewest number of characters that you can type to specify that keyword. Note that, when future keywords are added to SMI, the minimal uniqueness of existing keywords could change. In general, you can specify most keywords with two to four characters.

Figure A–1 follows the keyword table. The figure illustrates SMI menu structure, and includes keywords to indicate their relationship to menu options.

Menu Keywords and Command Keywords

Each keyword in this summary is either a *menu keyword* or a *command keyword*.

Menu keyword	Brings up a menu screen. Menu keywords do not take arguments.
Command keyword	When issued without arguments, brings up a command screen. When issued with all required arguments, immediately invokes the command. When issued with an insufficient number of required arguments, displays the command screen with the supplied arguments filled in, in the order they were typed.

When supplying arguments with a command keyword, separate each one with a space or comma.

Type an additional comma for any argument that you don't want to supply on the keyword command line if there is a subsequent argument that you do want to supply. (For instance, you might forget what the first argument is, but want to supply the second, third, and fourth arguments on the keyword command line.)

For example, the DATE keyword takes arguments for date and time. Suppose you forget the required format for the date. You could enter just the time argument on the keyword command line, and then enter the date argument at the command screen, which tells you the format. You could type the following:

DATE,,10:08:00

The first comma separates the command keyword from the first argument, which is a null string. The second comma separates the null argument from the second argument — 10:08:00 — which is the argument for the time. When you enter this line, the SMI will display the Change the System Date or Time screen with 10:08:00 filled in at the time input field. You can then fill in the date and press the Execute key (F1) to instruct the SMI to issue the command.

Table A-1 Alphabetical Listing of SMI Keywords

Keyword	Menu or Function	Command or Menu	SYSMGR Only?	Optional Arguments
ADMIN	Administrative functions	Menu	Yes	None
ALIGN	Align the printer paper	Command	No	printer name pages
ARCHIVE	Archive (back up or restore files)	Menu	No	None
BACKUP	Back up personal files	Command	No	None
BATCH	Manage the batch queue	Menu	Yes	None
BCANCEL	Cancel a queued batch request	Command	Yes	seq. number
BCONTINUE	Continue a batch stream	Command	Yes	stream number
BDISPLAY	Display contents of the batch input queue	Command	Yes	None
BFLUSH	Terminate a currently running batch request	Command	Yes	stream number
BPAUSE	Pause a batch stream	Command	Yes	stream number
BROADCAST	Send a message to all consoles	Command	No*	message
BSTATUS	Display status of batch streams	Command	Yes	None
BYE	Exit from the SMI program	Command	No	None
CANCEL	Cancel requests in print queues	Command	No	seq. number(s)
CCLEAR	Clear consoles	Command	Yes	consolename(s)
CDEFAULT	Change the default printer form	Command	Yes	form name printer name
CDISABLE	Disable consoles from logging on	Command	Yes	consolename(s)
CENABLE	Enable consoles	Command	Yes	consolename(s)

* The menu options you perform with the BROADCAST and WHOS keywords are not restricted to system managers, but they appear only on restricted menus. Regular system users can select either option by specifying its keyword from any SMI menu.

(continues)

Table A-1 Alphabetical Listing of SMI Keywords

Keyword	Menu or Function	Command or Menu	SYSMGR Only?	Optional Arguments
CLEAR	Clear a hung printer	Command	No	printer name
CLI	Enter the CLI	Command	No	None
CONFIGURE	Specify system configuration	Menu	Yes	None
CONSOLES	Manage consoles	Menu	Yes	None
CONTINUE	Continue a printer	Command	No	printer name
CPL	Change the number of characters printed per line	Command	Yes	no. of chars. printer name
CREATE	Create a user profile	Command	Yes	username password sysmgr type? initial prog. initial IPC
CSTATUS	Display status of consoles	Command	Yes	console(s)
CUSTOMIZE	Customize the system	Menu	Yes	None
DATE	Change the system date or time	Command	Yes	date time
DELETE	Delete a user profile	Command	Yes	username
DISABLE	Disable consoles from logging on	Command	Yes	None
DISPLAY	Display contents of print queues	Command	No	None
DOWN	Execute the DOWN macro	Command	Yes	None
DOWNCLI	Edit the DOWN macro	Command	Yes	None
FORMS	Control printer forms	Menu	Yes	None
INSTALL	Install software	Command	Yes	media type directory
LINES	Define console lines	Command	Yes	None

(continued)

Table A-1 Alphabetical Listing of SMI Keywords

Keyword	Menu or Function	Command or Menu	SYSMGR Only?	Optional Arguments
LOGON	Edit the system log-on message	Command	Yes	None
LPP	Change the number of lines printed per page	Command	Yes	number lines printer name
MAIN	System Management Interface (SMI) Main Menu	Menu	No	None
MEDIUM	Specify the default backup/install medium	Command	Yes	None
MODIFY	Modify a user profile	Command	Yes	username
OPCOMMAND	Send a command to the master CLI process	Command	Yes	command line
PAUSE	Pause a printer	Command	No	printer name
PCANCEL	Cancel queued print requests	Command	Yes	seq. no(s).
PCLOSE	Close a print queue	Command	Yes	queue name
PCREATE	Create a print queue	Command	Yes	queue name printer(s)
PDELETE	Delete a print queue	Command	Yes	queue name
PDISPLAY	Display status of queues	Command	Yes	None
PFLUSH	Terminate currently printing request	Command	Yes	printer name
POPEN	Open a print queue	Command	Yes	queue name
PPRINTERS	Define parallel printers	Command	Yes	None
PQUEUES	Manage printers and print queues	Menu	Yes	None
PRINTERS	Control printers	Menu	No	None
PROFILES	Manage user profiles	Menu	Yes	None

(continued)

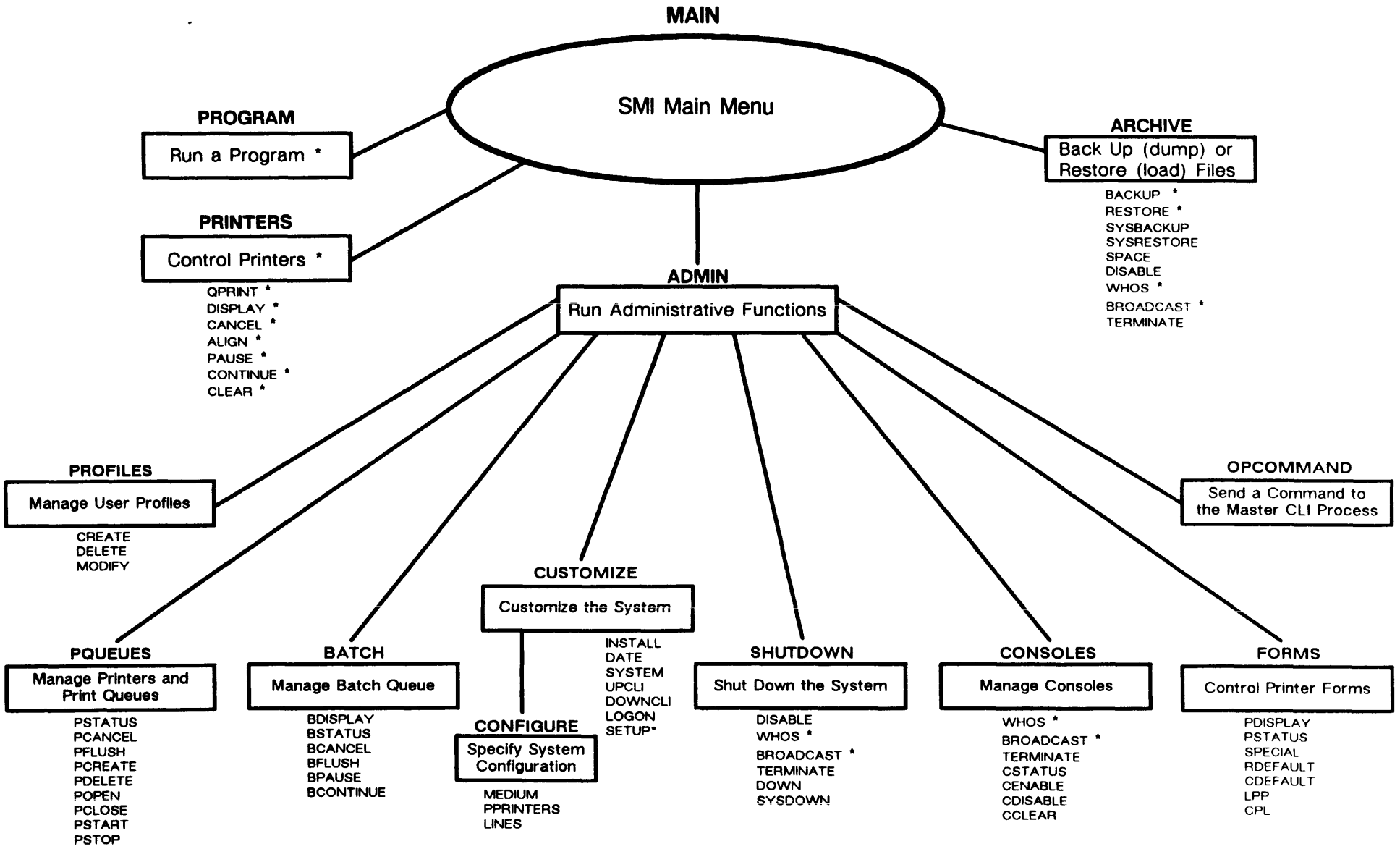
Table A-1 Alphabetical Listing of SMI Keywords

Keyword	Menu or Function	Command or Menu	SYSMGR Only?	Optional Arguments
PROGRAM	Run a program or application	Command	No	command line
PSTART	Start a printer or print queue	Command	Yes	queue name printer name
PSTATUS	Check status of printers	Command	Yes	None
PSTOP	Stop a printer and/or print queue	Command	Yes	None
QPRINT	Print files	Command	No	pathname(s)***
RDEFAULT	Restore the default form	Command	Yes	printer name
RESTORE	Restore personal files	Command	No	None
SETUP	Edit the system SETUP macro	Command	Yes	None
SHUTDOWN	Shut down the system	Menu	Yes	None
SPACE	Display disk space statistics	Command	Yes	None
SPECIAL	Use special forms	Command	Yes	form name printer name
SYSBACKUP	Back up system-wide files	Command	Yes	None
SYSDOWN	Shut down the system	Command	Yes	None
SYSRESTORE	Restore system-wide files	Command	Yes	None
SYSTEM	Set the default system name	Command	Yes	system name
TERMINATE	Terminate user processes	Command	Yes	None
UPCLI	Edit the UP macro	Command	Yes	None
WHOS	List all processes running	Command	No*	None

* The menu options you perform with the BROADCAST and WHOS keywords are not restricted to system managers, but they appear only on restricted menus. Regular system users can select either option by specifying its keyword from any SMI menu

*** The QPRINT keyword accepts only file pathnames as arguments, and assumes the default queue and form name.

(concluded)



* Available to all system users

Options not marked by a single asterisk are restricted to System Managers only

Enter CLI at any menu to create a CLI process

Enter BYE at any menu to exit the System Management Interface (SMI)

Figure A–1 SMI Keywords and Menu Structure

Appendix B
Device Names, Device Codes, and Console Lines

This appendix is for the

System Manager	✓
System User	

This appendix contains hardware-related information you might need to configure or customize a computer system running preinstalled AOS/VS. It also includes a brief description of how to define console lines and edit the :UP_LINES macro to accommodate printers that require clear-to-send (CTS) hardware flow control. This last section, "Defining Lines for Printers with CTS Hardware Flow Control," covers all Data General computer systems.

This appendix is organized as follows:

- The section "Device Names and Device Codes" includes a list of the device names and device codes for disk, diskette, and tape units available on deskside ECLIPSE systems. For a much more extensive device list that covers the entire Data General product line, refer to Appendix B in *Installing, Starting, and Stopping AOS/VS*.
- The section "Specifying Console Lines" contains information for configuring a deskside ECLIPSE system. "Defining Console Lines (LINES)" in the "Specifying System Configuration" section of Chapter 5 describes the circumstances under which you might need this material. Note that much of the material in Tables B-2, B-3, and B-4, and the accompanying text refers *only* to specific systems. For information that covers the entire Data General product line, refer to *Installing, Starting, and Stopping AOS/VS*.
- The section "Defining Lines for Printers with CTS Hardware Flow Control" outlines a necessary step you must perform whenever you attach a printer that requires CTS hardware flow control to a console line.

Device Names and Device Codes

Table B-1 lists the valid device names and device codes for disk, diskette, and tape devices supported by deskside ECLIPSE systems. You need these names; for example, when you define a default medium (MEDIUM), or whenever you back up or install software to a device other than a default device.

Table B-1 Device Names and Device Codes for Deskside ECLIPSE Systems

Device	Device Name	Device Code
System Disk Unit	@DPJ0	24
Additional Disk Unit	@DPJ1	24
CSS/DC Disk Units	@DPJ20	25
	@DPJ21	25
	@DPJ22	25
	@DPJ23	25
Diskette Drive	@DPJ10	64
Model 6351 (21-Mbyte) 1/8-in. Mini Cartridge Tape Drive	@MTJ0	23
Second 1/8-in. Mini Cartridge Tape Drive	@MTJ1	23
Model 6577 1/4-in. Cartridge Tape Drive (QIC)	@MTJ0	23
	@MTJ1	23
	@MTJ2	23
	@MTJ3	23
Model 6352 (130-Mbyte) 1/2-in. Cartridge Tape Drive or Model 6341 1/2-in. Reel-to-Reel Tape Drive	@MTJ10	63
Model 6586/6587 1/2-in. Self-Loading Reel-to-Reel Tape Drive	@MTJ10	63
Second 1/2-in. Tape Drive	@MTJ11	63

NOTE: The device names correspond to physical line connections determined at installation. For more information, refer to the labels on the back of your computer unit and the installation book(s) for your system.

Specifying Console Lines

Deskside ECLIPSE systems include a system board that can handle terminals, modems, and printers, and you can add optional asynchronous communications boards to handle additional terminals, modems, and printers. In some cases, you can actually improve system performance by removing devices from lines connected to the system board and attaching them to lines connected to an optional asynchronous board. In either case, you may need to know which lines are connected to specific devices in order to set appropriate characteristics. This section describes the options available for the deskside ECLIPSE systems and how the default system AOSVS_SMI.PR allocates console line numbers to physical lines.

The ECLIPSE MV/1000 DC computer system supports the addition of one or two optional 16-line asynchronous communications boards (LAC-16 IIs). The LAC-16 II includes modem support on three lines, and CTS hardware flow control on four lines. These systems also support the addition of one or more optional 8-line local-bus modem controllers (LMC-8 II, Model 4814), which include modem support on all eight lines.

The ECLIPSE MV/1400 DC computer system supports the addition of an optional 12-line asynchronous communications board (LAC-12). The LAC-12 includes modem and CTS hardware flow control support on two lines. These systems also support the addition of one or more optional 8-line local-bus modem controllers (LMC-8, Model 4806), which include modem support on all eight lines.

The ECLIPSE MV/2000 DC and ECLIPSE MV/2500 DC computer systems support optional LAC-12 boards and 32-line asynchronous communications boards (LAC-32s). The LAC-32 includes modem support on six lines and CTS hardware flow control on eight lines. The ECLIPSE MV/2000 DC and ECLIPSE MV/2500 DC can include one or two LAC boards of either type, or one of each. These systems also support the addition of one or more optional 8-line local-bus modem controllers (LMC-8, Model 4806), which include modem support on all eight lines.

The ECLIPSE MV/3500 DC system includes an integrated 8-line asynchronous controller on the system board, which includes CTS hardware flow control support on all eight lines and full modem support on four lines. These systems also support the addition of one or more optional 8-line local-bus modem controllers (LMC-8 II, Model 4814), which include modem support on all eight lines, or LAC-16 II boards.

The ECLIPSE MV/5500 DC system includes a LAC-16 integrated on the system board. The integrated LAC-16 includes full modem and CTS hardware flow control on four lines. You can add additional LAC-16, LAC-32, or LMC-8 II boards in the optional slots.

Table B-2 shows which console numbers correspond to which lines on your computer's system board. If your system does *not* include a local-bus asynchronous communications board (also called a LAC, IAC, or asynch board) or a local-bus modem controller (LMC-8), determine the correct console number from Table B-2.

Table B-2 System Board Console Lines and Corresponding Console Numbers for Deskside ECLIPSE Systems

ECLIPSE MV/2500 Systems

Line	Console
1	CON2 — Full modem and CTS hardware flow control support
2	CON3

DS/7500 (2 Mbytes of Memory*) and ECLIPSE MV/2000 Systems

Line	Console
1	CON2 — Full modem and CTS hardware flow control support
2	CON3
3	CON4
4	CON5

DS/7500 (4+ Mbytes of Memory*) and ECLIPSE MV/1000 and ECLIPSE MV/1400 Systems

Line	Console
1	CON2 — Full modem and CTS hardware flow control support
2	CON3
3	CON4
4	CON5
5	CON6 — Full modem and CTS hardware flow control support
6	CON7
7	CON8
8	CON9
9	CON10
10	CON11

ECLIPSE MV/3500 Systems

Line	Console
1	CON12 — Full modem and CTS hardware flow control support
2	CON13 — Full modem and CTS hardware flow control support
3	CON14 — Full modem and CTS hardware flow control support
4	CON15 — Full modem and CTS hardware flow control support
5	CON16 — CTS hardware flow control support
6	CON17 — CTS hardware flow control support
7	CON18 — CTS hardware flow control support
8	CON19 — CTS hardware flow control support; system console

ECLIPSE MV/5500 Systems

Full modem and CTS hardware flow control support		Standard terminal and printer support			
Line	Console	Line	Console	Line	Console
1	CON12	5	CON16	11	CON22
2	CON13	6	CON17	12	CON23
3	CON14	7	CON18	13	CON24
4	CON15	8	CON19	14	CON25
		9	CON20	15	CON26
		10	CON21	16	CON27

*DS/7500 systems with 4 Mbytes of system board memory show the model name in yellow lettering on the front of the computer unit. Tan lettering indicates a system with 2 Mbytes of memory.

On systems other than the ECLIPSE MV/3500 DC and MV/5500 DC, if your system includes an asynchronous communications board (also called a LAC, IAC, or asynch board), you should connect your user terminals, printers, and modems to the lines on the LAC board rather than the lines on the system board. Removing these devices from the system board significantly upgrades system performance. The MV/1000 DC, MV/1400 DC, and most DS/7500 system boards support modems on the first and fifth lines, which the SMI associates with CON2 and CON6. Only CON2 supports modems in MV/2000 DC, MV/2500 DC, and some DS/7500 systems. Although CON2 can support a modem or printer attached to a system board, your system performs much better if these devices are attached instead to the appropriate lines on a LAC board.

NOTE: For ECLIPSE MV/3500 DC and ECLIPSE MV/5500 DC systems, the integrated asynchronous controller is on device code 42. The console lines on the integrated 8-line asynchronous controller are always assigned numbers 2 through 11. The console lines on the integrated LAC-16 are always assigned numbers 2 through 17. You can add additional LAC-16, LAC-32, or LMC-8 boards in the optional slots on device codes specified in the hardware manuals. The console numbers on any additional boards are assigned in the order of the board device codes, depending on the base line numbers you specify. If you specify the lowest allowable base lines, the first additional board will have console numbers 12 through 12+n-1 on an 8-line integrated asynchronous controller or 18 through 18+n-1 on a LAC-16, where n is the number of lines on the first additional board. The second additional board will start with console number 12+n (on an MV/3500 DC system) or 18+n (on an MV/5500 DC system), and so forth.

When defining console lines for LAC boards, keep in mind that console numbers corresponding to physical lines on the board(s) depend on which card slots in the computer chassis contain a LAC board, and how many lines the board in slot A includes. The ECLIPSE MV/1400 DC computer system supports only a single 12-line asynchronous communications board, located in slot A in the computer chassis.

NOTE: The ECLIPSE MV/1000 DC and ECLIPSE MV/3500 DC systems can support two 16-line asynchronous communications boards, and do not have "A" and "B" slots marked on the computer chassis. The first (or only) LAC-16 II board in these systems is configured by jumpers to the equivalent of slot A in the ECLIPSE MV/1400/MV/2500 chassis. A second LAC-16 II is jumpered to slot B, and should reside higher in the option card stack (farther from the system board) than the first (slot A) controller. If you are uncertain of the board/slot correspondence on your ECLIPSE MV/1000 DC system, refer to *Installing and Maintaining ECLIPSE MV/1000™ DC Systems* and *Technical Notice for ECLIPSE MV/1000™ and LAC-16 II Users*. For ECLIPSE MV/3500 DC systems, refer to *Installing and Maintaining ECLIPSE MV/3500™ DC Systems*.

If your system includes one or more LAC boards, you should attach your modem(s), serial printer(s), and terminals to the LAC board rather than the system board. Use Table B-3, Table B-4, and the accompanying text to determine the appropriate LAC board lines and their corresponding console numbers. (Tables B-3 and B-4 do not apply to ECLIPSE MV/3500 DC and ECLIPSE MV/5500 DC systems.)

For any line on a LAC board located in slot A of your computer chassis, the console number equals the line number plus 11. For example, the SMI associates the ninth line on a 12-line LAC board (LAC-12) in slot A with CON20; 9+11=20. Table B-3 shows which console numbers correspond to which lines on a LAC board located in slot A. Table B-3 also illustrates which LAC lines support modems and which lines support printers that require CTS (clear-to-send) hardware flow control.

Table B-3 LAC Board Console Lines and Corresponding Console Numbers LAC Board Located in Slot A

12-Line Local-Bus Asynchronous Communications Board (LAC-12) in Slot A

Standard terminal and printer support

Line	Console	Line	Console
1	CON12	6	CON17
2	CON13	7	CON18
3	CON14	8	CON19
4	CON15	9	CON20
5	CON16	10	CON21

Full modem and CTS hardware flow control support

Line	Console
11	CON22
12	CON23

16-Line Local-Bus Asynchronous Communications Board (LAC-16 II) in Slot A (ECLIPSE MV/1000 DC Only)

Full modem and CTS hardware flow control support

Line	Console
1	CON12
2	CON13
3	CON14

CTS hardware flow control support

Line	Console
4	CON15

Standard terminal and printer support *

Line	Console	Line	Console
5	CON16	11	CON22
6	CON17	12	CON23
7	CON18	13	CON24
8	CON19	14	CON25
9	CON20	15	CON26
10	CON21	16	CON27

32-Line Local-Bus Asynchronous Communications Board (LAC-32) in Slot A

Full modem and CTS hardware flow control support

Line	Console
1	CON12
2	CON13
3	CON14
4	CON15
5	CON16
6	CON17

CTS hardware flow control support

Line	Console
7	CON18
8	CON19

Standard terminal and printer support *

Line	Console	Line	Console
9	CON20	21	CON32
10	CON21	22	CON33
11	CON22	23	CON34
12	CON23	24	CON35
13	CON24	25	CON36
14	CON25	26	CON37
15	CON26	27	CON38
16	CON27	28	CON39
17	CON28	29	CON40
18	CON29	30	CON41
19	CON30	31	CON42
20	CON31	32	CON43

*The first eight lines on all LAC-32 boards support the RS-232-C interface standard. LAC-32 model number 4626 supports the RS-232-C standard on all 32 lines. LAC-32 model number 4627 supports the RS-232-C interface on the first eight lines and the RS-422 interface on lines 9-32.

NOTE: If your system includes both a LAC board and an LTC/64 TermController, you must configure lines and console numbers for devices on the LTC/64 through the TermServer network software associated with that board. To determine the beginning console number for your LTC/64 devices, you can use the instructions that follow for a LAC board located in slot B. Refer to *Managing your TermServer Network* and *Installing, Starting, and Stopping AOS/VS* for detailed information.

For a LAC board located in slot B on your computer chassis, determine the console number as follows:

Line number + 11 + Number of LAC lines in slot A = Console number

For example, if slot A does not contain an asynchronous communications board, the ninth line of a LAC in slot B corresponds to CON20 just as it would if the board were located in slot A (9+11+0=20). However, if slot A contains a 12-line LAC board, the ninth line on the board in slot B corresponds to console number 32; 9+11+12=32. If slot A contains a 32-line LAC board (LAC-32), line 9 corresponds to 9+11+32 — console number 52.

Note that the characteristics of a LAC board line remain constant regardless of the board's slot placement or a line's console number. For example, LAC-12 boards support modems on lines 11 and 12 whether those lines correspond to any of the following console lines:

- CON22 and CON23
  (LAC-12 in slot A, or LAC-12 in slot B, with no LAC in slot A)
- CON34 and CON35 (LAC-12 in slot B, with another LAC-12 in slot A)
- CON54 and CON55 (LAC-12 in slot B, with a LAC-32 in slot A).

On a LAC-32, you can connect terminals and most printers to any line. The first eight lines on a LAC-32 support printers that require CTS (clear-to-send) hardware flow control, and you can connect modems to the first six lines — even though their console numbers might differ according to board location. Table B-4 shows which console numbers for LAC boards located in slot B support CTS and which support modems.

Table B-4 Console Numbers for LAC Lines in Slot B Supporting Modems and CTS Hardware Flow Control

	No LAC in Slot A	LAC-12 in Slot A	LAC-32 in Slot A
LAC-12 in Slot B: Modem or CTS lines	CON22, CON23	CON34, CON35	CON54, CON55
LAC-32 in Slot B: CTS lines	CON12 through CON19	CON24 through CON31	CON44 through CON51
LAC-32 in Slot B: Modem or CTS lines	CON12 through CON17	CON24 through CON29	CON44 through CON49

Be sure that you have your console lines labeled correctly according to these tables. If you don't, fix them now. When you define console lines here, in the SMI, the SMI assumes this arrangement of lines regardless of how you may have marked the lines while setting up your machine.

Defining Lines for Printers with CTS Hardware Flow Control

Take particular care to attach modems and printers that require CTS (clear-to-send) hardware flow control only to those console lines that include modem and/or hardware flow control support. If you define a standard line for devices other than a regular terminal or printer, you will not receive an error message, but your modem or printer will not work correctly.

If you attach a printer of any type to a line that supports modems, *you must still define the device as a printer*. If the printer requires CTS hardware flow control, you must also edit the macro :UP_LINES, which contains specifications for the characteristics of each line you define. You edit the :UP_LINES macro after you have finished configuring console lines.

To edit a macro other than the UP or DOWN macros (for which the SMI has specific menu-driven options), follow these steps:

- From the CLI, turn superuser on, then enter the root directory, as follows:

) **SUPERUSER ON** ↵

  *) **DIRECTORY :** ↵

- Run an editor program on the macro. For example, if you use the SED text editor, you would enter the following:

  *) **XEQ SED** ↵

  name of file to edit: **UP_LINES** ↵

To edit the macro :UP_LINES to include your printer with hardware flow control, find the line that begins with CHARACTERISTICS and ends with the console line that this printer is on. For example, if the printer is on line CON28, the macro line will look something like this:

CHARACTERISTICS/1=IGNORE/2=IGNORE/DEFAULT.../OFC..../ @CON28

To make the printer work correctly, simply change the /OFC to read /HOFC (output flow control to *hardware* output flow control), being careful not to add any extra spaces or delete any other characters. The line will then look something like this:

CHARACTERISTICS/1=IGNORE/2=IGNORE/DEFAULT.../HOFC..../ @CON28

The SMI will automatically assign these characteristics to your printer line on subsequent powerups, until you redefine the console line and/or edit the :UP_LINES macro again.

End of Appendix

Appendix C
Using a Hard-Copy System Console

This appendix is for the

System Manager	✓
System User	

When you run AOS/VS, you can use a display terminal, graphics terminal, or hard-copy terminal as your system console. Some system managers like to use a hard-copy terminal so that in case of error, there will be a printed record of system messages.

If you run the SMI from a hard-copy terminal, you will notice a few differences from running it on display terminals. This appendix briefly describes these differences.

Also in this appendix,

We use this typeface to indicate hard-copy terminal output.

Using a Hard-Copy Terminal

Using a hard-copy terminal isn't quite the same as using a display terminal, but with a little practice, you should find that you get used to it very soon. This section includes some tips on using hard-copy terminals while running the SMI.

Character Echoing

Many characters echo differently on a hard-copy terminal than they do on a display terminal. For example, when you press the Del (delete) key, it will echo as an underscore, rather than erasing the previous character, as it does on a display terminal. The key still functions in the same way, however; it just looks differently on the display.

For example, suppose you are at an SMI menu's `Enter choice:` prompt and want to enter the ARCHIVE keyword, but you misspell it and type ARCHIBE. The line, when corrected, will look like this:

```
Enter choice: ARCHIBE_ _VE
```

The first underscore echoed the first Del keystroke, which deleted the E; the second underscore echoed the second Del keystroke, which deleted the B. The V and E will then immediately follow the ARCHI part of the keyword.

Similarly, the Esc key echoes as a dollar sign ($). Some of the control sequences, such as Ctrl-U, will echo on the hard-copy terminal. When they do, the Ctrl key echoes as a caret (^). (The Ctrl key alone does not echo as a caret, however.) Other control sequences are functional, such as Ctrl-A, as we describe in the "SMI Menu and Command Screen Displays" section of this appendix.

The Cancel/Exit and Help Functions

The hard-copy terminal doesn't have function keys. Two functions that you use function keys to perform on display terminals running the SMI are Cancel/Exit and Help. During the early stages of powerup, you can press Esc for Cancel/Exit and H for Help. However, since alphabetic characters indicate keywords in the SMI, you will have to use special escape sequences to perform these functions from a hard-copy terminal while running the SMI.

To perform the Cancel/Exit function, which returns you to the previous menu or command screen from the current screen, use Esc-C. Press the Esc key, and then press C. This sequence will echo as $CANCEL/EXIT. For example, suppose you are at the SMI's Control Printers screen and you want to return to the Main Menu. The *Enter choice:* prompt has the default response, `1`, displayed after it. If you press the Esc-C sequence, the line will then look like this:

```
Enter choice: 1$CANCEL/EXIT
```

The SMI Main Menu will then print.

Similarly, if you want Help text at any time, you can issue the Esc-H sequence. Press the Esc key, and then press H. The entire Help text relevant to the current prompt will print, and then the prompt will reappear. If you want to see the entire menu or command screen again, press the Erase Page key and it will print again.

Like the Cancel/Exit escape sequence, the Help escape sequence echoes as $HELP. For example, suppose you are at the prompt for media type at the Back Up Personal Files screen. If you type the Help escape sequence, the line will then look like the following:

```
Back up to tape or diskette?  (T = Tape, D = Diskette)       $HELP
```

The Help text for this prompt will then print.

SMI Menu and Command Screen Displays

When you run the SMI on a hard-copy terminal, the menus and command screens will be different from the way they look on display terminals. Each screen will print out completely, and then each prompt for input will print again, in turn, at the bottom of the display. Menus and command screens work somewhat differently.

Menu Displays

When the first menu is displayed on a hard-copy terminal, the entire menu will display, including the status line, the Enter choice: prompt, and the lines explaining how to use the Cancel/Exit and Help keys. The next time a menu or command screen is displayed, however, the status line and the lines about Cancel/Exit and Help will not appear. (You can make them appear any time by pressing the Erase Page key, which reprints the entire screen.)

When the Enter choice: prompt is not the last line on the display, it will be redisplayed at the bottom of the printout, complete with the default choice. For example, the printout for the SMI Main Menu will look like Figure C-1.

```
   SMI   Rev nn.nn.nn.nn              dd-mmm-yy  hh:mm

         System Management Interface (SMI) Main Menu

=> 1  Run a program or application
   2  Control printers
   3  Back up (dump) or restore (load) files
   4  Run administrative functions

Enter choice: 1

To exit from any menu, press Esc and then C
For assistance at any time, press Esc and then H

Enter choice: 1
```

Figure C-1 SMI Main Menu as Displayed on a Hard-Copy Terminal

You will be positioned at the Enter choice: prompt at the bottom of your printout. You can then type a number, use the arrow keys (if present), or type a keyword, just as you would do at a regular display terminal. Whatever you type will be echoed on the next line, complete with the Enter choice: prompt. For example, suppose you press the downarrow (or Cursor Down) key. The last two lines of the hard-copy display will then look like this:

```
Enter choice: 1
Enter choice: 2
```

If you then pressed New Line, you would choose option "2 Control printers," and see the Control Printers Menu print.

If you type a keyword, the entire word will display on a new line as you type it. For example, suppose after pressing the downarrow, in the example above, you decide you want to see the Control Printer Forms Menu. Instead of pressing New Line, you type the keyword FORMS, and then New Line, as follows:

```
Enter choice: 1
Enter choice: 2
Enter choice: FORMS ↵
```

Command Screen Displays

Command screen displays are similar to menu displays, but when there are multiple prompts, they are a little trickier. The entire command screen will be displayed, complete with default responses, and then the first prompt will reappear at the bottom of the display, but without its default choice. You can display the default by issuing a Ctrl-A sequence. (You can also display the default response after you've typed some characters, if you first delete the typed characters. You might do this if you first wanted a nondefault response, and subsequently decided you wanted the default after all.)

For example, suppose you, as user SYSMGR, issue the BACKUP keyword from an SMI menu. The Back Up Personal Files screen will print as shown in Figure C-2.

```
    SMI   Rev nn.nn.nn.nn                    dd-mmm-yy  hh:mm

                  Back Up Personal Files

Back up to tape or diskette?  (T = Tape, D = Diskette)
T

Back up from which directory?  :UDD:SYSMGR

To back up all files, press New Line.  To back up
specific files, type their pathnames, or use templates.

File(s):

Send a list of backed up files to the printer, to a disk
     file, or don't create a list?  (P = Printer, F = File,

N = None):
P

Back up to tape or diskette?  (T = Tape, D = Diskette)
```

Figure C-2 Back Up Personal Files Screen on a Hard-Copy Terminal

Suppose you want to accept the default backup medium, which is tape. You could type T or press Ctrl-A at the prompt. Like the display terminal, which takes the T and echoes it as *TAPE* when you press New Line, the hard-copy terminal will redisplay the prompt line with the entire word TAPE printed. It will then display the next prompt. For example, let's say you pressed Ctrl-A, and then New Line at the prompt. The last few lines of the display would then look similar to this:

```
Back up to tape or diskette?  (T = Tape, D = Diskette)      T
Back up to tape or diskette?  (T = Tape, D = Diskette)      @MTB0
Back up from which directory?
```

Suppose you again press Ctrl-A to display the default directory. The last few lines will then look like this:

```
Back up to tape or diskette?  (T = Tape, D = Diskette)      T
Back up to tape or diskette?  (T = Tape, D = Diskette)      @MTB0
Back up from which directory?  :UDD:SYSMGR
```

You decide you really want to back up the files in :UDD:SYSMGR:REPORTS, so you can simply add :REPORTS to the end of :UDD:SYSMGR, and press New Line. The last few lines will appear as follows:

```
Back up from which directory?  :UDD:SYSMGR:REPORTS

Back up from which directory?  :UDD:SYSMGR:REPORTS File(s):
```

You can see that the next prompt also appears. Note that its preceding text does not appear. This is a feature of the hard-copy functionality — only the line of the prompt with the input field will appear. This can become confusing, as with the next prompt, which is for the destination of the list of backed up files. It will display as follows:

```
N = None):
```

When you see a prompt like this and aren't sure what it's asking, refer back to the original display of the whole screen. (Or you can press Erase Page and the entire screen will redisplay.) By looking at the whole screen, you can see that the full prompt reads as follows:

```
Send a list of backed up files to the printer, to a disk file, or
don't create a list?  (P = Printer, F = File, N = None):          P
```

You can then enter the appropriate response.

Benefits and Restrictions of the Hard-Copy Terminal

From the descriptions above, you have probably already noted some of the advantages and disadvantages of using a hard-copy terminal to run SMI. This section will briefly summarize them.

Advantages

Having the ability to run SMI on a hard-copy terminal has the following advantages:

- It allows a user to work on the system console, even when it isn't a display terminal.
- The hard-copy terminal provides a printed record of all errors and user actions.

Disadvantages

Some disadvantages to running SMI on a hard-copy terminal are the following:

- Some characters echo differently on a hard-copy terminal than on a display terminal.
- You must use escape sequences to perform the functions performed by the Cancel/Exit and Help function keys on a display terminal.
- Prompts that take up more than one line are displayed in full only when the entire screen is displayed. Just the line containing the input field is displayed when you must enter a response.
- Seeing a prompt appear more than once can be confusing.
- The SMI system management tutorial is not an option on hard-copy terminals.

End of Appendix

Appendix D
Changing the SMI Environment

This appendix is for the

System Manager	✓
System User	

Managing an AOS/VS system usually requires a working knowledge of the CLI and EXEC, as well as familiarity with programs and macros. The System Management Interface (SMI) makes it easier to perform some system management tasks by providing you with menus and command screens instead of relying on your detailed knowledge of the system.

Every AOS/VS system you receive from Data General includes the programs that make up the SMI. Systems that run preinstalled AOS/VS can use the SMI as described in this manual immediately. To use the SMI on other systems, you must modify the system as described in this appendix.

We designed the SMI primarily for novices, but even experienced system managers may welcome a tool that makes their tasks easier to perform. Conversely, managers of systems that run the SMI automatically might prefer to tailor their systems so they can directly control the entire management of their AOS/VS system. You can modify any AOS/VS system to operate within or outside the SMI environment.

This appendix outlines three procedures that modify your system environment. It also provides technical information on the SMI environment that experienced system managers may find useful. Each set of instructions assumes that you know your system well, and have carefully considered why you want to modify your system. These outlines also assume some familiarity with VSGEN, PREDITOR, and editing macros. If you are unsure of any step, refer immediately to the appropriate section of *Installing, Starting, and Stopping AOS/VS* or *Managing AOS/VS and AOS/VS II*. The appendix is organized as follows:

- "Creating Customized User Profiles" describes the SMI default profiles and shows how to create profiles other than those provided by the SMI.
- "Disabling the Preinstalled SMI Environment" describes how to remove the SMI environment on systems running preinstalled AOS/VS. This procedure also excludes the Starter program from the automatic powerup sequence.
- "Enabling the SMI Environment" describes how to prepare a system running site-installed AOS/VS to run within an SMI environment.
- "SMI Operating System and Files" provides technical information on the files and implementation procedures that constitute the SMI environment.

Creating Customized User Profiles

When you create a user profile as described in Chapter 5 using the SMI PROFILES option, a command screen prompt asks if you want the owner of this profile to perform system management tasks. If you answer No, the system assigns to that user a predefined profile that prevents him or her from performing any administrative functions. If you answer Yes, the profile you and the SMI create will include all system manager privileges. In either case, the SMI assigns to that profile a set of default privileges that you would otherwise have to specify in detail yourself.

Systems running preinstalled AOS/VS include the OP and SYSMGR profiles in their software. If you designate the user as a System Manager when creating a profile, the profile will have the same settings as the shipped SYSMGR profile. Otherwise, it will be a regular System User profile.

Table D-1 shows the values used for the non-privileged System User profile on the left. The values on the right show where the SYSMGR profile and the OP profile differ from the System User profile. SYSMGR represents the default System Manager profile.

Table D-1 SMI User Profiles

System User	SYSMGR	OP
Encrypt password [No]		
Initial IPC file [:SETUP.CLI]		
Program [:CLI.PR]	:SMI.PR	
Create without block [Yes]		
Use IPC [Yes]		
Use console [Yes]		
Use batch [Yes]		
Use virtual console [Yes]		
Access local resources from remote machines [Yes]		
Change password [Yes]		
Unlimited sons [Yes]		
Change priority [No]	Yes	Yes
Change type [No]	Yes	Yes
Change username [No]	Yes	Yes
Access devices [No]	Yes	Yes
Superuser [No]	Yes	Yes
Superprocess [No]	Yes	Yes
System Manager privilege [No]	Yes	Yes
Modem [No]	Yes	Yes
Change address space type [Yes]		
Change working set limit [No]		Yes
Priority [2]		
Max qpriority [0]		
Disk quota [25000]		
Logical address space - batch [-1 system default]		
Logical address space - non-batch [-1 system default]		
Minimum working set size - batch [-1 system default]		
Maximum working set size - batch [-1 system default]		
Minimum working set size - non-batch [-1 system default]		
Maximum working set size - non-batch [-1 system default]		

(continued)

Table D-1 SMI User Profiles

System User	SYSMGR	OP
Default user locality - non-batch [0]		
Use other localities - non-batch [No]		
Default user locality - batch [0]		
Use other localities - batch [No]		
User comment [REGULAR USER]	SYSMGR	OP

(concluded)

You can always create profiles different from the two that the SMI can provide. For example, you might want to give some users more disk space than 25000 blocks. As another example, you might want to give user Robin the ability to perform most system management functions, which the System Manager privilege allows, but you don't want to allow Robin to terminate user processes or manage user profiles, which require the Superprocess and Superuser privileges, respectively. So you would want to give Robin the System Manager privilege, but not the ready-made System Manager profile. To create profiles other than the two ready-made profiles supplied by the SMI, you must run PREDITOR, the profile editor.

To create a customized user profile, follow these steps:

1. Turn on Superuser privilege; then select option "1, Run a program or application" from the SMI Main Menu.

2. At the *Run a program or application* screen prompt, execute PREDITOR as follows:

   XEQ PREDITOR ↵

3. Once PREDITOR is running, use the following procedure:

   a. Enter E (to "edit" an existing profile), or C (to "create" a new profile) at the first *Command:* prompt, and then press New Line.

   b. Enter the appropriate username at the *Username:* prompt. If you are creating a new profile, you must also enter a password at the *Password:* prompt.

   c. Press the New Line key repeatedly until the prompt you need appears. (The program also displays current or default values after each prompt.) The Superuser, Superprocess, and System Manager privilege prompts all appear close together in the PREDITOR dialog. The prompt for disk space comes later.

   d. Answer any prompts for information you want to change by entering a new value; press New Line for all other prompts.

4. Exit PREDITOR by typing BYE and pressing New Line at the *Command:* prompt. The changes you made to the user's profile will take effect *the next time the user logs on the system*.

For additional information, see the chapter on PREDITOR in *Managing AOS/VS and AOS/VS II*.

Disabling the Preinstalled SMI Environment

This section outlines the procedure to modify a *preinstalled* AOS/VS Model 31133 system to duplicate more closely the operation of other AOS/VS Model 3900 systems. This section also describes how to eliminate automatic execution of the Starter program. (Starter precedes AOS/VS in the startup sequence for 31133 systems.)

Your AOS/VS Model 31133 system was preinstalled with the SMI environment enabled. This brings you (as SYSMGR) immediately into the SMI each time you log on the system, and simplifies some of the system administration required to manage everyday operations. To control your system more directly, you can *disable* the SMI by building a system that excludes the SMI environment.

Tailoring your system to disable the SMI requires that you *generate* a new system using the VSGEN program, and then customize the new system. It involves the following major steps:

1. Running the VSGEN program
2. Installing outstanding updates (if necessary)
3. Editing the UP.CLI macro
4. Making the new system the default
5. Renaming STARTER.SYS (optional for model 31133 systems)

The following numbered steps lead you through the system generation procedure. They assume a working knowledge of your system; particularly with VSGEN and editing macros. If you are unsure of any step, refer immediately to the appropriate section of *Installing, Starting, and Stopping AOS/VS* or *Managing AOS/VS and AOS/VS II* before you continue.

1. Run the VSGEN program to generate a new system.

   a. Make sure :UTIL is in your search list, turn on Superuser privilege, and position yourself in the :SYSGEN directory, as follows:

) **SEARCHLIST [!SEA] :UTIL** ↵

) **SUPERUSER ON** ↵

      *) **DIRECTORY :SYSGEN** ↵

   b. Determine the name of your current system specification file, as follows:

      *) **F/AS +SMI+.SSF** ↵

   c. Execute VSGEN, specifying the specification file supplied by Data General (the name will end with _SMI) as the default; for example,

      *) **XEQ VSGEN/DEFAULT=MV2000_SMI** ↵

      (Do *not* include suffixes such as .SSF in the XEQ VSGEN command.)

      VSGEN will respond:

      Welcome to VSGEN – Type H for help

      Enter a command:

   d. Use the Parameters command (P); then change the system parameters to remove the initial IPC for PID 2 and exclude the SMI.

      Enter a command: **P** ↵

      The following prompts are those you have to change; enter square brackets with nothing between them at the first prompt and **N** at the second. Just press New Line to accept the defaults at other prompts.

      Initial IPC message for PID 2 [default] [ ] ↵

      .

      .

      .

      Do you wish to use the System Management Interface [Y] **N** ↵

      .

      .

      .

      Enter a command:

e. Use the Name command (N) to name the new system. Remember to call it something other than the name for the existing system; we recommend something fairly simple such as NEW_SYSTEM.

Enter a command: **N** ↵

Enter new system name [none]: **NEW_SYSTEM** ↵

(Do *not* include suffixes such as .PR in your entry.)

Enter a command:

f. Use the Build (B) command to build the system.

Enter a command: **B** ↵

VSGEN displays the following Build messages. Respond to the prompt to save TMP files by pressing New Line, as shown:

Creating specification file

Do you want to save TMP files? [Y] ↵

System build in progress

After several minutes, VSGEN will display this message:

System build completed

Enter a command:

g. Exit VSGEN with the Quit command (Q).

Enter a command: **Q** ↵

After running VSGEN to build a new system, you must customize the new system as described in the next section before it will work properly.

Customizing Your New System

2. If your newly generated system already includes the latest update material, continue to Step 3.

   You should update your newly generated system by installing any outstanding AOS/VS updates at this point in the modification procedure. To install any such software, use the instructions in your latest AOS/VS Model 3900 Update Notice or *Installing, Starting, and Stopping AOS/VS.*

3. Edit the UP.CLI macro to create the EXEC process.

   NOTE: Make certain you do not confuse the UP.CLI macro with UP_EXEC.CLI. You should never edit UP_EXEC.CLI unless absolutely necessary. If you make a mistake, you could prevent the system from coming up.

   a. After the line that turns on Superuser privilege (SUPERUSER ON), add the following lines:

      PROCESS/DEFAULT/DIRECTORY=@/NAME=EXEC/CALLS=32 EXEC
      WAIT_FOR_PORT @EXEC

   b. The SMI handles its own labeling and mounting. If you plan to use labeled tapes without the SMI, you must enable the EXEC labeled tape facility. To enable the labeled tape facility, edit the :UP.CLI macro as follows:

      After the line CONTROL @EXEC OPEN BATCH_LIST add the following line:

      CONTROL @EXEC OPEN MOUNTQ

   c. Refer to the section on security in *Managing AOS/VS and AOS/VS II* for a description of LOCK_CLI. Take particular notice of the LOCK_CLI password requirements. If you decide to further secure your system console in this manner, change the execute :CLI line (toward the end of the UP.CLI macro) to the following:

      execute :LOCK_CLI

4. After editing the UP.CLI macro, you should make the new system the default operating system.

   a. Use the CLI command RENAME to rename :STARTER.SYS to any other name. Make certain the you can remember the new name in case you need it later. For example,

) **SUPERUSER ON** ↵

      *) **DIRECTORY :** ↵

') **RENAME :STARTER.SYS :NEW_STARTER.SYS** ↵

This prevents the Starter program from executing automatically whenever you power up your system.

b. Bring down AOS/VS.

c. Turn power off; then turn power back on.

d. When the Operating System Load Menu appears, select option "2 Enter the Technical Maintenance Menu." Note that your system console displays the Technical Maintenance Menu with 10 options rather than the shorter Technical Maintenance Menu your system used to display.

e. At the Technical Maintenance Menu, select option "8 View or change the default operating system filename."

f. At the prompt, specify the name of the system you just generated, for example:

:SYSGEN:NEW_SYSTEM.PR ↵
(Make certain you include the .PR suffix in your entry.)

g. When you return to the Technical Maintenance Menu, select option "1 Load and start the default operating system." Your new default system will come up. On subsequent powerups, the SYSBOOT program will load and start your new default operating system as it does on systems running AOS/VS Model 3900.

Your system should now operate as if it ran AOS/VS Model 3900. Remember to use the appropriate documentation for the new system. You should also note that future update and release notices refer to your new system as a "tailored" system.

Enabling the SMI Environment

This section outlines the procedure to modify site-installed AOS/VS Model 3900 systems to execute the SMI environment described in this manual.

Tailoring your system to run the SMI requires that you *generate* a new system using the VSGEN program, and then customize the new system. It involves the following major steps:

1. Running PREDITOR to create a System Manager profile.
2. Running VSGEN to specify the following:
   - The SMI macro, :UTIL:SMI_UP_EXEC.CLI, as the initial IPC file.
   - That you want to use the System Management Interface.
3. Installing outstanding updates (if necessary).
4. Editing your system UP.CLI macro, or making SMI_UP.CLI your system UP.CLI macro.
5. Editing your system DOWN.CLI macro, or making SMI_DOWN.CLI your system DOWN.CLI macro.
6. Creating a :LOGON directory, and a link in :UTIL to the LOGON.MESSAGE file.
7. Specifying a new default operating system.

The following numbered steps lead you through the system generation procedure. They assume a working knowledge of your system; particularly with VSGEN and editing macros. If you are unsure of any step, refer immediately to the appropriate section of *Installing, Starting, and Stopping AOS/VS*.

1. Run the PREDITOR program to create a System Manager profile with the following privileges (See "Creating Customized User Profiles," earlier in this appendix):
   - System Manager privilege
   - Initial program: SMI.PR
   - Unlimited sons
   - Change priority
   - Change type
   - Change username
   - Access devices
   - Superuser
   - Superprocess
   - Change address space type

   Your system's OP profile probably has some or most of these privileges. Systems with preinstalled AOS/VS include a System Manager profile with the initial username/password pair SYSMGR/SYSTEM_MANAGER. Only users with such a System Manager profile can perform all of the SMI options.

2. Run the VSGEN program to generate a new system.

   a. Make sure :UTIL is in your search list, turn on Superuser privilege, and position yourself in the :SYSGEN directory, as follows:

) **SEARCHLIST [!SEA] :UTIL** ↵

) **SUPERUSER ON** ↵

      *) **DIRECTORY :SYSGEN** ↵

   b. Determine the name of your current system specification file, as follows:

      *) **F/AS +.SSF** ↵

   c. Execute VSGEN, specifying the current specification file as the default, for example:

      *) **XEQ VSGEN/DEFAULT=MV10000** ↵

      (Do *not* include suffixes such as .SSF in the XEQ VSGEN command.)

      VSGEN will respond:

      Welcome to VSGEN - Type H for help

      Enter a command:

   d. Use the Parameters command (P) to change the system parameters to remove the initial IPC for PID 2 and include the SMI.

      Enter a command: **P** ↵

      Press New Line to accept the existing parameters until VSGEN displays the following prompt:

      Initial IPC message for PID 2 [default]

      Enter the pathname of a macro that does both of the following:

      - Creates the EXEC process
      - Enables @CON0

      (Use the SMI macro :UTIL:SMI_UP_EXEC.CLI. If you create your own macro, make sure it closely follows :UTIL:SMI_UP_EXEC.CLI. If your macro does not create the EXEC process and enable @CON0, you won't be able to log on.) For example,

      Initial IPC message for PID 2 [default] **:UTIL:SMI_UP_EXEC.CLI** ↵

Just press New Line to accept the defaults at other prompts.

.

.

.

Answer Yes at the SMI prompt:

Do you wish to use the System Management Interface [N] **Y** ↵

.

.

.

Enter a command:

e. Use the Name command (N) to name the new system. Remember to call it something other than the existing system name. For example, we'll call it NEW_SYSTEM.

Enter a command: **N** ↵

Enter new system name [none]: **NEW_SYSTEM** ↵

(Do *not* include suffixes such as .PR in your VSGEN entry.)

Enter a command:

f. Use the B command to build the system.

Enter a command: **B** ↵

VSGEN displays the following Build messages. Respond to the prompt to save TMP files by pressing New Line, as shown:

Creating specification file

Do you want to save TMP files? [Y] ↵

System build in progress

After several minutes, VSGEN will display this message:

System build completed

Enter a command:

g. Exit VSGEN with the Q (Quit) command.

Enter a command: **Q** ↵

After running VSGEN to build a new system, you must customize the new system as described in the next section before it will work properly.

Customizing Your New System

3. If your newly generated system already includes the latest update material, continue to Step 4.

   You should update your newly generated system by installing any outstanding AOS/VS updates at this point in the modification procedure. To install any such software, use the instructions in your latest AOS/VS Model 3900 Update Notice or *Installing, Starting, and Stopping AOS/VS* (whichever is appropriate for your system).

4. Replace or modify your UP.CLI macro to accommodate your new system.

   Move the macro SMI_UP.CLI from :UTIL into your root directory (:).

) **SUPERUSER ON** ↵

   *) **DIRECTORY :** ↵

   *) **MOVE : :UTIL:SMI_UP.CLI** ↵

   If you create your own UP.CLI macro, use SMI_UP.CLI as a template to modify your existing UP.CLI macro. Your macro must closely follow :UTIL:SMI_UP.CLI; make certain you perform the following steps.

   a. Edit your existing UP.CLI macro to delete the line that creates the EXEC process. Only one EXEC process can run on the system; your new system IPC macro already creates it.

   b. Check your UP.CLI macro for the pseudomacro !READ. Make sure your UP.CLI is not interactive by deleting the !READ. The system will not come up with an interactive UP.CLI.

   c. Delete any line that executes :LOCK_CLI.

      NOTE: If you think you may alternate between running your system with the SMI and without it, you might want your UP.CLI macro to do a conditional test for the file :2.INPIPE. The existence of :2.INPIPE indicates that you are running a system with the SMI option, and *do not* want the UP.CLI to create the EXEC process.

5. Replace or modify your DOWN.CLI macro to accommodate your new system.

   Move the macro SMI_DOWN.CLI from :UTIL into your root directory (:).

) **SUPERUSER ON** ↵

   *) **DIRECTORY :** ↵

   *) **MOVE : :UTIL:SMI_DOWN.CLI** ↵

   If you create your own DOWN.CLI macro, use SMI_DOWN.CLI as a template to modify your existing DOWN.CLI macro. Your macro must closely follow :UTIL:SMI_DOWN.CLI; make certain you perform the following procedures.

   a. Edit your existing DOWN.CLI to test for the file :2.INPIPE, and make conditional the line that halts or terminates EXEC.

   b. Make sure that your DOWN.CLI macro is not interactive.

6. Let users edit the LOGON.MESSAGE file.

   a. Create a directory :LOGON with an ACL of +WARE.

   b. Move the LOGON.MESSAGE file from :UTIL to :LOGON.

   c. Create a link in :UTIL to the log-on message by typing the following:

) **CREATE/LINK LOGON.MESSSAGE :LOGON:LOGON.MESSAGE** ⤶

7. Make the new system the default operating system.

   a. Bring down AOS/VS.

   a. Restart your system, as described in your startup documentation.

   b. When the Operating System Load Menu appears, select option "2 Enter the Technical Maintenance Menu."

   c. At the Technical Maintenance Menu, select option "8 View or change the default operating system filename."

   d. At the prompt, specify the name of the system you just generated, for example:

      :SYSGEN:NEW_SYSTEM.PR ⤶

      (Make certain you include the .PR suffix in your entry.)

   e. When you return to the Technical Maintenance Menu, select option "1 Load and start the default operating system." Your new default system will come up.

      Your new system should now run the SMI environment described in this manual. Remember to use the appropriate documentation for the new system. You should also note that future update and release notices refer to your new system as a "tailored" system.

SMI Files

The :SYSGEN:MV2000_SMI.PR and the :SYSGEN:MV5500_SMI.PR systems have the System Management Interface enabled; the initial message to PID 2 is :UP_EXEC.CLI.

When you run a system with the SMI option enabled (with a YES specification to the VSGEN prompt *Do you wish to use the System Management Interface?)*, the initial program (PID 2) starts with the file :2.INPIPE as the @INPUT file. This file is a pipe. The initial program's @OUTPUT file is @NULL. The SMI program assumes that PID 2 is a CLI process.

During each powerup, the system creates the :2.INPIPE file with the default ACL of +,WARE. Anyone with the Superuser privilege can change the ACL. Changing the ACL will not restrict users with the System Manager profile from using the pipe from the SMI.

All commands to PID 2 must be written to the pipe through the SMI command OPCOMMAND ("Send a command to the master CLI process"), or with the CLI command WRITE/L=:2.INPIPE. Changing the ACL can restrict users from sending commands through the pipe via the WRITE/L command. If you use the :UTIL:UP_EXEC.CLI macro, it sets the pipe ACL to null, so only users with the Superuser privilege can use the WRITE/L command to the pipe.

To send a macro to PID 2 with the WRITE/L CLI command, type its name and arguments without brackets. In general, do not use macros with the !READ pseudomacro; otherwise the master CLI will appear to hang until you send the required input.

At shutdown, the system will display the message *Turn power off*. It will not return to the SCP CLI. You are not required to turn power off, however; but can instead issue the break sequence to give control to the SCP CLI.

The following files are shipped on the AOS/VS release media for model 31133. *Do not delete any of these files.*

Directory :

DOWN.CLI
DPJ1_FIXUP_SCRIPT.FXP
SETUP.CLI
UP.CLI
UP_EXEC.CLI

Directory :HELP

SMI_HELP

Directory :UTIL

BELL.CLI
BROADCAST_CLI
BROADCAST_SELF.CLI
CHECK_CON0.CLI
CLI.CLI
DISKETTE_BACKUP.CLI
DISKETTE_RESTORE.CLI
EDIT.CLI
INSTALL.CLI
PM.CLI
SMI.CLI
SMI.PR
SMI.ST
SMI_CLI.OL
SMI_CLI.PR
SMI_CLI..ST
SMI_ERMES
SMI_TEXT
TAPE_BACKUP.CLI
TAPE_RESTORE.CLI
WAIT_FOR_NO_PORT.CLI
WAIT_FOR_PORT.CLI
WHOS.CLI

The SMI creates or modifies the following files during execution:

:CONFIG_DEFAULTS	Created by SMI; rewritten for a LINES or MEDIUM command.
:CONFIG_PDEFAULTS	Rewritten for a PPRINTERS command.
:DEFAULT.SYS	Deleted and recreated for a SYSTEM command. Link to the default system pathname used by the Starter program; the link resolution name excludes the initial colon.
:DOWN.CLI	Edited for a DOWNCLI command.
:LO :LOGON.MESSAGE	Edited for a LOGON command.
:SETUP.CLI	Edited for a SETUP command.
:SYSTEM_ID.CLI	Deleted and recreated for any CONFIGURE command (MEDIUM, PPRINTERS, LINES).
:UP.CLI	Edited for an UPCLI command.
:UP_DPRINTER.CLI	Deleted and recreated for a PPRINTERS or LINES command.
:UP_LINES.CLI	Deleted and recreated for a LINES command.
:UP.LOG	Created by UP macro during execution.
:UP.LOG.BU	Saved by UP macro.
:UP_MEDIUM.CLI	Deleted and recreated for a MEDIUM command.
:UP_PPRINTERS.CLI	Deleted and recreated for a PPRINTERS command.
List files	Created when the user specifies a BACKUP, RESTORE, SYSBACKUP, or SYSRESTORE command.
Printer names in :PER	Created when the user specifies a PPRINTERS or LINES command.
Queue names in :PER	Created when the user specifies a PCREATE command.
:UPD and :UDD entries	Created, modified, or deleted for profiles for a CREATE, MODIFY, or DELETE command.

End of Appendix

Index

Within this index, commands, keywords, programs, and acronyms are in uppercase letters (e.g., ADMIN). First-level headings begin with a capital letter (e.g., Abnormal system shutdowns); all other entries are in lowercase letters.

Symbols

A

B

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Document Set

For Users

Learning to Use Your AOS/VS System (069-000031)

A primer for all users, this manual introduces AOS/VS (but the material applies to AOS/VS II) through interactive sessions with the CLI, the SED and SPEED text editors, programming languages, Assembler, and the Sort/Merge utility. *Using the CLI (AOS and AOS/VS)* is a good follow-up.

Using the CLI (AOS/VS and AOS/VS II) (093-000646)

For all users, this manual explains the AOS/VS and AOS/VS II file and directory structure and how to use the CLI, a command line interpreter, as the interface to the operating system. This manual explains how to use the CLI macro facility, and includes a dictionary of CLI commands and pseudomacros.

AOS/VS and AOS/VS II Glossary (069-000231)

For all users, this manual defines important terms used in AOS/VS and AOS/VS II manuals, both regular and preinstalled.

OIS CONNECTION User's Guide (014-001426)

Using this manual, all users in North America can use the OIS CONNECTION software, a communications product that lets users access the On-line Information System from the CLI or CEO. Templates are *OIS CONNECTION* template (D200-SERIES) (093-000603) and *OIS CONNECTION* template (D210-series) (093-000604).

SED Text Editor User's Manual (AOS and AOS/VS) (093-000249)

For all users, this manual explains how to use SED, an easy-to-use screen-oriented text editor that lets you program function keys to make repetitive tasks easier. The *SED Text Editor* template (093-00036l) accompanies this manual.

For System Managers and Operators

Starting and Updating Preinstalled AOS/VS (069-000293)

For those working with preinstalled (as opposed to regular) systems, these manuals explain how to start, update, and change certain system parameters on systems that come with AOS/VS or AOS/VS II preinstalled and with the System Management Interface (SMI) enabled. The manuals help interpret power-up errors. *Using the AOS/VS System Management Interface* and *Using the AOS/VS II System Management Interface* are companion manuals.

Information Update: Starting Your ECLIPSE MV/1000 DC (014-001728)

Updates *Starting and Updating Preinstalled AOS/VS* and *Starting and Updating Preinstalled AOS/VS II.*

Installing, Starting, and Stopping AOS/VS (093-000675)

For system managers and operators of regular (as opposed to preinstalled) systems, these manuals explain the steps necessary to format disks, install a tailored operating system, create the multiuser environment, update the system or microcode, and routinely start up and shut down the system. *AOS/VS and AOS/VS II Error and Status Messages* and *Managing AOS/VS and AOS/VS II* are companions to these manuals.

AOS/VS and AOS/VS II Menu-Based Utilities (093-000650)

A template. A number of system management programs, such as Disk Jockey, VSGEN, and the SMI, use the function keys shown on this template.

AOS/VS and AOS/VS II Error and Status Messages (093-000540)

For all users, but especially for system managers and operators of regular systems, this manual lists error and status messages, their source and meaning, and appropriate responses. This manual complements *Installing, Starting, and Stopping AOS/VS, Installing, Starting, and Stopping AOS/VS II,* and *Managing AOS/VS and AOS/VS II.*

Managing AOS/VS and AOS/VS II (093-000541)

For system managers and operators, this manual explains managing an AOS/VS or AOS/VS II system, but programmers will also find material of interest to them. Topics include editing user profiles, managing the multiuser environment, backing up and restoring files, improving system availability, using runtime tools, diagnosing system error conditions, fine-tuning system performance, and maintaining system security. Appendixes cover such topics as modem support and printer mapper files. This manual complements the "Installing" manuals, whether for regular or preinstalled systems.

Supplement I to Managing AOS/VS and AOS/VS II (093-000714)

For system managers and operators of regular (as opposed to preinstalled) AOS/VS II systems, this supplement describes the new EXEC program that manages the multiuser environment. Insert this supplement as Chapter 3 in the manual *Managing AOS/VS and AOS/VS II.*

Supplement II to Managing AOS/VS and AOS/VS II (093-000715)

For system managers and operators of regular (as opposed to preinstalled) AOS/VS systems, this supplement describes the old EXEC program that manages the multiuser environment under AOS/VS Rev. 7.60. Insert this supplement as Chapter 3 in the manual *Managing AOS/VS and AOS/VS II.*

For Programmers

SPEED Text Editor (AOS and AOS/VS) User's Manual (093-000197)

For programmers, this manual explains how to use SPEED, a powerful (but unforgiving) character-oriented text editor.

AOS/VS Macroassembler (MASM) Reference Manual (093-000242)

For assembly language programmers, this reference manual describes the use and operation of the MASM utility, which works under AOS/VS and AOS/VS II.

AOS/VS Link and Library File Editor (LFE) User's Manual (093-000245)

For AOS/VS and AOS/VS II programmers, this manual describes the Link utility, which builds executable program files from object modules and library files, and which can also be used to create programs to run under the AOS, MP/AOS, RDOS, RTOS, or DG/UX™ operating systems. This manual also describes the Library File Editor utility, LFE, for creating, editing, and analyzing library files; and the utilities CONVERT and MKABS, for manipulating RDOS and RTOS files.

AOS/VS Debugger and File Editor User's Manual (093-000246)

For assembly language programmers, this manual describes using the AOS/VS and AOS/VS II debugger for examining program files, and the file editor FED for examining and modifying locations in any kind of disk file, including program and text files. The *AOS/VS Debug/FED* template (093-000396) accompanies this manual.

AOS/VS System Concepts (093-000335)

For system programmers and application programmers who write assembly-language subroutines, this manual explains basic AOS/VS system concepts, most of which apply to AOS/VS II as well. This manual complements both volumes of the *AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary*.

AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?A through ?M (093-000542)
AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?N through ?Z (093-000543)

For system programmers and application programmers who want to use system calls, this two-volume manual provides detailed information about system calls, including their use, syntax, accumulator input and output values, parameter packets, and error codes. *AOS/VS System Concepts* is a companion manual.

Other Related Documents

AOS/VS and AOS/VS II Performance Package User's Manual (093-000364)

For system managers, this manual explains how to use the AOS/VS and AOS/VS II Performance Package (Model 30718), a separate product that is useful for analyzing and perhaps improving the performance of AOS/VS and AOS/VS II systems.

Backing Up and Restoring Files With DUMP_3/LOAD_3 (093-000561)

For system managers, operators, and experienced users, the DUMP_3/LOAD_3 product, separately available, provides backup and enhanced restoration functions, including precise indexing of files on a backup tape set.

Configuring Your Network with XTS (093-00689)

Describes how to manage and operate Data General's XODIAC™ Transport Service (XTS) under AOS/VS. Intended for network administrators, managers, or operators responsible for designing, configuring, or maintaining a network management system.

Installing and Administering DG TCP/IP (093-701027)

For network managers and operators, explains how to install and manage a TCP/IP network under AOS/VS.

Managing and Operating the XODIAC™ Network Management System (093-000260)

For network managers and operators, describes how to install and manage the Data General proprietary network software.

Managing Your Network with DG/OpenNMS (093-000486)

Describes how to use the Data General/Open Network Management System (DG/OpenNMS) software. Explains how to load the software, create the DG/OpenNMS environment, and use the Network Management Interface (NMI) to manage the network. Intended for network managers, administrators, and operators.

Managing Your XODIAC™ Network with DG/ONMS (093-000625)

Explains how to manage XTS II, MTA, and the XODIAC agents (FTA, RMA, and SVTA) with DG/OpenNMS.

Using CLASP (Class Assignment and Scheduling Package) (093-000422)

For system managers, this manual explains how to use the AOS/VS and AOS/VS II Class Assignment and Scheduling Package (Model 31134), a separate product that is useful for tailoring process scheduling to the needs of a specific site.

Using the Dump Tool (093-000519)

For experienced system programmers and operating system experts, this manual explains how to use the Dump Tool to find and display the values of locations in memory dump and break files.

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Rev. 8/87

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Using the
AOS/VS System
Management
Interface
(SMI)

069-000203-02

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