Altos Computer Systems

XENIX®/UNIX®
Using the AOM Menu System

Document History

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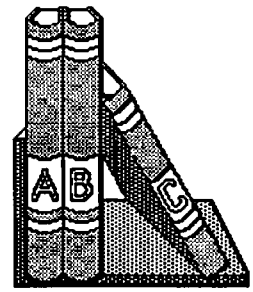
How to Use This Manual



This manual explains how to use the Altos Office Manager (AOM) Menu System, an easy-to-use solution for your office needs. AOM provides simple commands for accessing system and application functions. This manual explains how to use AOM for the XENIX RunTime System and for UNIX System V.

NOTE

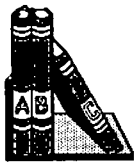
The last section of the manual, "Change Information," summarizes the changes that have been made to the manual since the previous version.

WHICH PARTS TO READ

The manual is divided into two parts. Part I is for everyone; Part II is for the system administrator. Depending on how you want to use the AOM Menu System, you should refer to different parts of this manual.

Everyone should read the following chapters:

- Chapter 1, "Using the AOM Menu System", explains how to log in and log out, and how to use the menus.
- Chapter 2, "Using Your Files and Directories", explains how to back up and restore files, and how to manage your directories.
- Chapter 3, "Using the System", explains the AOM commands for maintaining backup copies of data files, sending messages, changing passwords, and using other system utilities.



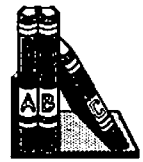
If you are the system administrator read the following chapters which are in Part II of this manual:

- Chapter 4, "The System Administrator", explains system administrator responsibilities, how to become a system administrator, and how to set up a password.
- Chapter 5, "Managing the System", explains management procedures, such as displaying processes and changing file permissions.
- Chapter 6, "Using the Menu Manager", explains how to locate the AOM menus, install a new application, and change a menu.

Read the appendices for information about the Business Shell, setting up multiple AOM Menu Systems, and troubleshooting.

For information about applications installed with AOM on your system, refer to the appropriate application manual.

For information about AOM Windows (if installed, on your system) see the manual *AOM Windows User's Guide.*



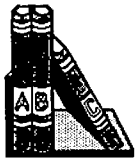
MANUAL CONVENTIONS

This section describes the keys, symbols, and control characters used in this manual.

Symbols	Description
boldface type	What you type or select
boldface type	Used for commands
UPPERCASE	Used for menu names
nn	Number
[ ]	Used to indicate XENIX or UNIX

Throughout this manual, pictures at the tops of pages help you locate the information you want. There is a different picture associated with each chapter.

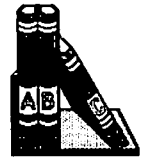
When information describes the XENIX or UNIX operating system, the term "operating system" or just "system" is used. If the description applies to only one system, the specific system will be stated.



You can use the AOM Menu System and AOM WINDOWS with a variety of terminals, each of which has a different keyboard. This manual uses notation to represent the keys you press when you use the Altos III; if your terminal doesn't have one of these keys, the table below lists alternate keys.

Notation	Definition	Equivalent
Retn or <Retn>	Carriage return	RETURN
Help	Display help text	?
Home	Move to upper-left	Ctrl-t
Break/Del	Stop executing program	Break/Del Rubout
Esc	Cancel a command; select a file; change to a new directory	Escape
Down Arrow	Cursor Key	
Up Arrow	Cursor Key	
Right Arrow	Cursor Key	
Left Arrow	Cursor Key	

Throughout most of the AOM Menu System, pressing the Esc key returns you to the menus without making any changes. Typing a **q** returns you to the menus after the changes have been made (executed). Typing any key, or Retn, returns you to the menus after the changes you made have been executed and any messages are displayed.



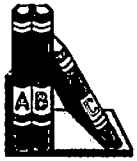
Control character sequences provide the terminal functions described in the chart below. To form a control sequence, press and hold down the Control key (represented in this manual as Ctrl) while pressing the designated alpha key (lower-case letter).

Control Character	Function	Equivalent Key
Ctrl-h	Backspaces and erases	Backspace
Ctrl-s	Stops scrolling	
Ctrl-q	Resumes scrolling	

RELATED MANUALS

If you have questions that this manual doesn't cover, refer to one of the following Altos manuals:

- The Owner's Guide, Setting Up Guide, or Operator's Guide for your computer shows how to connect your computer and run preliminary tests.
- The Installing XENIX manual for each system describes how to install the XENIX RunTime operating system.
- The Installing UNIX manual describes how to install the UNIX operating system.
- The Commands Directory for XENIX and UNIX and the *Xenix System V Reference Manual* describe the commands and miscellaneous files available in the the XENIX RunTime System.



- The individual application manuals describe information about that application.
- The *AOM Windows User's Guide* describes how to use windows in AOM.

Contents

FIGURES

TABLES

PART I -- INFORMATION FOR EVERYONE

There are two main parts to this manual. Part I includes the following:

- Definition of the AOM (Altos Office Manager) Menu System
- Explanation of how to log in and log out of AOM or AOM Windows
- Description of how to use the AOM Menu System
- Description of the AOM commands that enable you to manage your files and directories
- Description of commands to use certain system utilities
- Explanation of how to move between AOM or AOM Windows and your operating system, and between AOM or AOM Windows and BSH (if installed)

NOTE

If you are a system administrator and need to do such things as set up user accounts, configure ports, install an application program, or reorganize the AOM or AOM Windows menus, turn to Part II first.

For specific information about using AOM Windows, see the *AOM Windows User's Guide.*

Chapter 1
Using the AOM Menu System

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WHAT IS THE AOM MENU SYSTEM?

The Altos Office Manager Menu System (referred to as AOM) provides a user-friendly interface to applications (such as Uniplex and File-it!) and specific system utilities (such as creating directories, backing up files, and listing files). AOM also provides simple procedures for installing application software and managing the system. This chapter explains how to get in to AOM and how to use it.

Another product that is similar to AOM is called AOM Windows. This product enables you to use all the same interfaces and functions of AOM and to run multiple applications and utilities in windows. The general functions described in this manual, such as selecting menus, are the same for AOM and AOM Windows. For specifics about using AOM Windows see the manual *AOM Windows User's Guide.*

If you want to know which applications are installed on your system, look at the Menu Manager page (see the section "Viewing the Menu Manager Page" in Chapter 6, for how to read this page) or ask your system administrator.

HOW TO START AOM

The way you get in to AOM or AOM Windows depends on how your system is set up. After you log in:

- AOM or AOM Windows may start automatically.
- You may need to type the command **aom** (for AOM) or **waom** (for AOM Windows) at the system prompt.

This section explains how to log in to your system. The following sections explain what will occur after you log in, depending on how your system is set up.

Because many people can use your operating system at the same time, your system must be able to differentiate between you and other users. Before the system will process your requests, you must identify yourself by logging in.

A typical login sequence for XENIX might look like Figure 1-1.

```
Altosnnn login: marlene <Retn>
Password:

Welcome to XENIX
$
```

Figure 1-1. Typical Login for XENIX Operating System

You may log in to the system by typing a user name (a unique name that has been assigned only to you).

Usually, your system administrator assigns a user name and sets up a user account for you. Ask the system administrator for your user name; often it's your first name. The user name in Figure 1-1 is marlene.

The "nnn" after the word Altos represents the system number.

NOTE

You might already have a system prompt ($), if so, just type:

$ login marlene Retn

Be sure to type your user name exactly as it has been assigned to you, because your system differentiates between upper-case and lower-case letters.

Logging in Directly to AOM

If your system is set up to automatically enter AOM or AOM Windows, after you log in, you will see a screen similar to the one shown in Figure 1-2. You can now begin to use AOM or AOM Windows.

```
Altos Office Manager                          B_Page

W O R D  P R O C E S S I N G          S P R E A D S H E E T

Uniplex Main Menu                     Multiplan
Edit Document                         Print Spreadsheet
Print Document                        Merge with Transfer File
Mail Merge                            Delete Spreadsheet
Delete Document
Update Dictionary

P O P U P

Phone Book
Address Book
Filing System

                Quit: Q  Help: HELP  Page: First Letter of Name
Available Pages:  B_Page AOM_Utilities Sys_Utilities Menu_Manager
```

Figure 1-2. Example AOM Menu System

Entering AOM from the Operating System

If your system is set so the system prompt is displayed after you log in, then, at the system prompt type the command **aom** (or **waom** if AOM Windows is installed on your system), then press Retn. You will see a screen similar to the one shown in Figure 1-2. You can now begin to use AOM or AOM Windows.

NOTE

The manual *AOM Windows User's Guide* explains how to use AOM Windows commands and special applications.

HOW TO USE AOM

This section explains how to use the AOM or AOM Windows menu screens. It defines the parts of the screen, how to select and cancel a command, how to choose another menu or page, and how to move the cursor around the page.

When you enter AOM or AOM Windows, you will see four squares containing menus for the applications and utilities that are installed on your system. You will also see three lines of information about the menus.

The screen shown in Figure 1-3, contains the following parts:

- Menus
- Page Name
- Key Line
- Available Pages Line

The sections on the next pages explain these parts.

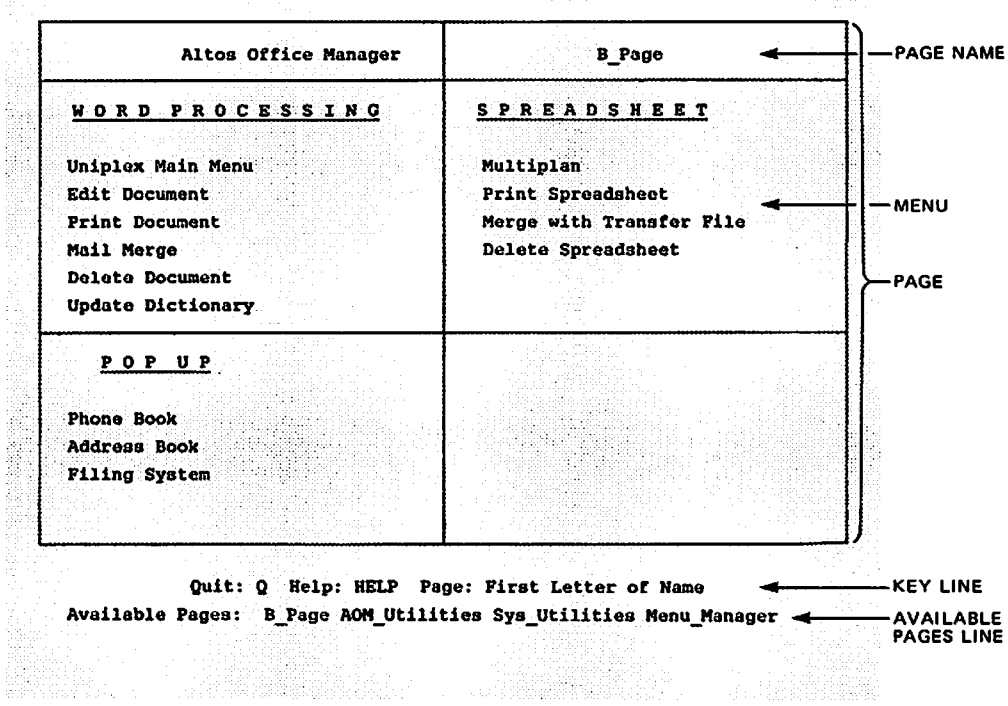


Figure 1-3. Four Parts of the AOM Screen

Menus

Each menu is a list of commands for performing utility and application functions.

For example, one of the menus in Figure 1-3 is called WORD PROCESSING. This name enables you to access commands for using the AOM word processing application.

Page Name

The menus are organized on pages; each page has a name. For example, the page that contains the three menus WORD PROCESSING, SPREADSHEET, and POPUP is called the B_Page. The name of the page is in the upper-right corner of the screen. Figure 1-4 shows the B_Page. Page names can be changed by the system administrator using the Menu Manager (as explained in Chapter 6, "Using the Menu Manager").

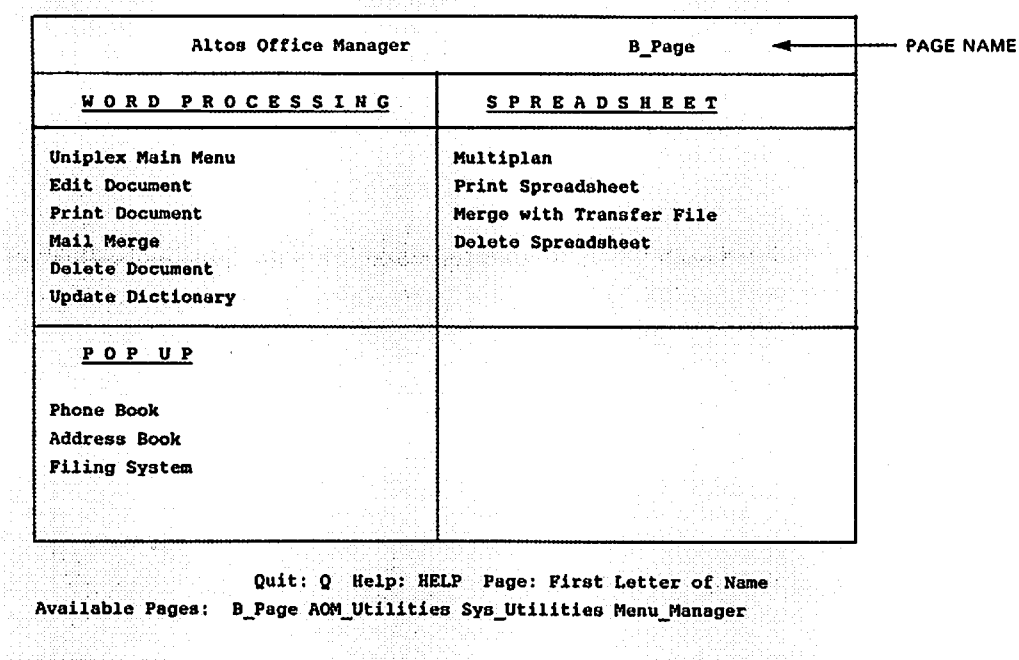


Figure 1-4. B_Page

AOM and AOM Windows have three default pages:

- AOM_Utilities page
- Sys_Utilities page
- Menu Manager page

There can be one to eight pages, depending on what the system administrator has set up. You will see these names at the bottom of your screen on the Available Pages Line (see explanation below). The names may be different from those listed above, and there may be more pages, depending on what your system administrator has set up for you.

To learn how to access a page and the commands on these pages, see the section "Introducing Menus and Pages" later in this chapter.

Key Line

The first line of words at the bottom of the screen is called the Key Line. These words tell you which keys to press to use AOM. Figure 1-5 shows the Key Line. This line changes to correspond to your terminal, so don't worry if your Key Line looks a little different from the one in this figure.

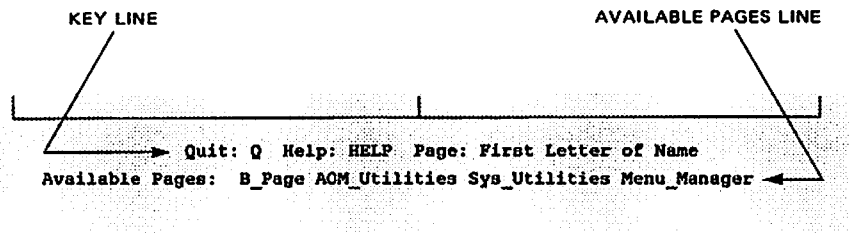


Figure 1-5. Key Line and Available Pages Line

Available Pages Line

The line below the Key Line is the Available Pages Line. It contains the names of the available pages and looks similar to the one shown previously in Figure 1-5.

Introducing Pages and Menus

The following sections explain how to select pages, menus, and commands in menus. They also explain what is on the three default AOM pages, how to move around a page, and how to cancel a command.

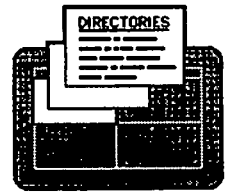
Selecting a Page

To select a page that contains the command you want to use, type the first letter of the page name. The page you selected will be displayed on your screen.

For example, type **s**. The Sys_Utilities page will be displayed on your screen. This is the name of this page when it is first installed. Your system administrator may have changed the name.

NOTE

If you do not know what menus are on a page, you can look at the Menu Manager. For a description of the Menu Manager, refer to Chapter 6, "Using the Menu Manager."



Selecting a Menu

To select a menu on a page, type the number of the menu. The menus are numbered from 1 to 4, as shown in Figure 1-6.

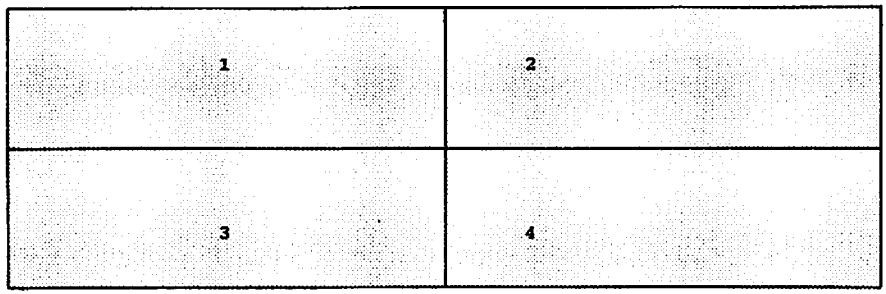


Figure 1-6. Numbering of Menus

For example, to move the cursor from the DIRECTORIES menu to the MESSAGES menu, as shown in Figure 1-7, type **2** (the number key at the top of the keyboard and on the numeric keypad for the Altos III).

Altos Office Manager	AOM_Utilities
D I R E C T O R I E S	M E S S A G E S
Create Directory	Who is on the System?
Move to New Directory	Send a Message
List Directory Contents	Send to All Users
Details of Directory Contents	Allow/Disallow Messages
Display Current Directory Name	
Delete Directory	
F I L E S	B A C K U P / R E S T O R E
Display Contents of File	Format Floppy Disk
Print a File	Backup Files to Floppy Disk
Copy a File	Restore Files from Floppy Disk
Move a File	List Tape/Floppy Disk Files
Delete a File	Backup Files to Tape
Change File Permissions	Restore Files from Tape

Quit: Q Help: HELP Page: First Letter of Name
Available Pages: B_Page AOM_Utilities Sys_Utilities Menu_Manager

Figure 1-7. Selecting the MESSAGES Menu

Selecting a Command in a Menu

Each one-line phrase in a menu is called a command. You use a command to tell AOM or AOM Windows to do something. When you select a command, you are actually selecting a utility or application function.

To select a command, move the cursor to it and press Retn. For example, move the cursor to the Create Directory command on the

AOM_Utilities page. Move the cursor to a command by pressing the Arrow keys (see the section "Moving the Cursor" later in this chapter).

A quicker way to select a command is to type the number of the menu, a \ (back slash), then the number of the command, and press Retn. The menus and commands are invisibly numbered. The menus are one to four (left to right) and the commands are one to six (top to bottom). For example, if you are in the AOM_Utilities page, to select the **Print a File** command in the FILES menu, type **3\2** and press Retn.

If there are only three commands in a menu and you type **\5** for a command, the cursor moves to the third command (the last one in the menu).

Canceling a Command

If you change your mind about using a command, press Esc, then type **c** to cancel the command and return to the AOM or AOM Windows menus.

For example, try moving the cursor to the **List Directory Contents** command in the DIRECTORIES menu, then press Retn. Type in the name **test**, then before pressing Retn, press Esc, then type **c**.

The AOM_Utilities page returns to the screen.

Using the Default Pages

- AOM_Utilities page
- Sys_Utilities page
- Menu Manager page

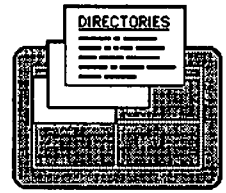
The menus and commands contained on these pages are shown in Figure 1-8 and briefly described below. To learn how to access a page, see the previous section "Selecting a Page".

```
Altos Office Manager                                    AOM_Utilities

        D I R E C T O R I E S                   M E S S A G E S

Create Directory                        Who is on the System?
Move to New Directory                   Send a Message
List Directory Contents                 Send to All Users
Details of Directory Contents           Allow/Disallow Messages
Display Current Directory Name
Delete Directory

        F I L E S                       B A C K U P / R E S T O R E

Display Contents of File                Format Floppy Disk
Print a File                            Backup Files to Floppy Disk
Copy a File                             Restore Files from Floppy Disk
Move a File                             List Tape/Floppy Disk Files
Delete a File                           Backup Files to Tape
Change File Permissions                 Restore Files from Tape

                Quit: Q  Help: HELP  Page: First Letter of Name
Available Pages:  B_Page AOM_Utilities Sys_Utilities Menu_Manager
```

Figure 1-8. AOM_Utilities Page

The AOM_Utilities page, contains the following menus and commands:

- The DIRECTORIES menu contains commands for managing your directories, such as creating a directory and listing the



files in a directory. See Chapter 2, "Using Your Files and Directories," for more details about these commands.

- The FILES menu contains commands for using your files, such as looking at the contents of your files, printing a file, and copying a file. See Chapter 2, "Using Your Files and Directories," for more details about these commands.

- The BACKUP/RESTORE menu contains the commands for maintaining your files and directories, such as formatting a floppy disk, and backing up and restoring files to floppy disk or tape. See Chapter 3, "Using the System," for more details about these commands.

- The MESSAGES menu contains the commands for checking to see who is logged in, sending a message to one user, sending a message to all users, and allowing and disallowing a message. See Chapter 3, "Using the System," for details about these commands.

The Sys_Utilities page contains system utility commands. It includes two menus, SYSTEM STATS and UTILITIES. If you are a system administrator, this page also includes the menus, SYSTEM ADMIN I and SYSTEM ADMIN II, which contain commands for managing the system status. Figure 1-9 shows the Sys_Utilities page.

- SYSTEM STATS menu contains the commands for displaying the system date and time, the current user and port, and system processes. See Chapter 3, "Using the System," for more details about these commands.

- UTILITIES menu contains the commands for changing your password, checking the amount of space on the disk, using system commands, and becoming the system administrator. See Chapter 3, "Using the System," for more details about these commands.

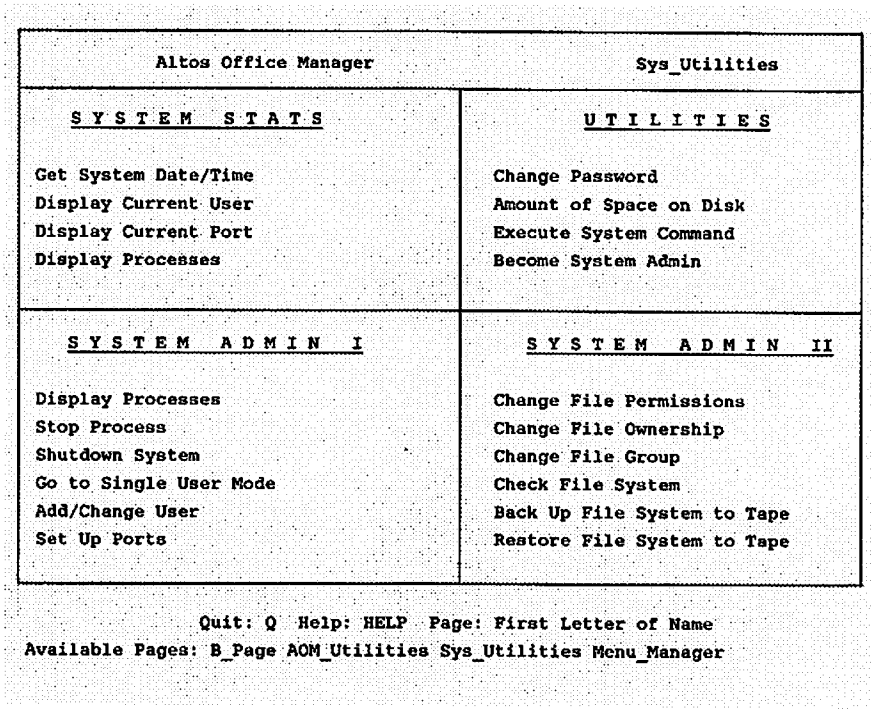


Figure 1-9. Sys_Utilities Page

- SYSTEM ADMIN I menu contains the commands for managing system processes, setting up the system, and adding or changing users. See Chapter 5, "Managing the System," for more details about these commands.

- SYSTEM ADMIN II menu contains the commands for managing file permissions and ownerships, and maintaining the file system. See Chapter 5, "Managing the System" for more details about these commands.

There is another page that looks similar to these pages. It is called the Menu Manager page. The Menu Manager page shows you all the menus available and the page on which each menu is located. Figure 1-10 shows the Menu Manager page.

This page will look different for the system administrator (see Chapter 6, "Using the Menu Manager"). The system administrator can also use the commands on the Menu Manager page to change the location of a menu on a page, change permissions of a menu, install a new menu (such as an application), update or add a menu, and rename a page. See Chapter 6, "Using the Menu Manager" for more details about this page.

For AOM Windows, there are two additional commands that enable you to use a feature in AOM Windows. See the chapter, "Using the Menu Manager" in the manual, *AOM Windows User's Guide.*

```
1. B_Page          2. C_Page          3. D_Page          4. E_Page
5. F_Page          6. G_Page          7. AOM_Utilities   8. Sys_Utilities

+-----------------------------------+-----------------------------------+
|   1.                              |   1.                              |
|   2.                              |   2.                              |
|   3.                              |   3.                              |
|   4.                              |   4.                              |
|   5.                              |   5.                              |
|   6.                              |   6.                              |
|   7. Directories                  |   7. Messages                     |
|   8. System Stats                 |   8. Utilities                    |
+-----------------------------------+-----------------------------------+
|   1.                              |   1.                              |
|   2.                              |   2.                              |
|   3.                              |   3.                              |
|   4.                              |   4.                              |
|   5.                              |   5.                              |
|   6.                              |   6.                              |
|   7. Files                        |   7. Backup/Restore               |
|   8.                              |   8.                              |
+-----------------------------------+-----------------------------------+

Quit
To leave the Menu Manager, press RETN.
```

Figure 1-10. Menu Manager Page

Moving the Cursor

The highlighted area surrounding a command is called the cursor. You can move the cursor to any other menu or command on the screen by pressing the Arrow keys. For example, try the following steps to learn how to move the cursor around the AOM_Utilities page:

1. Press the Right Arrow key.

   The cursor moves from the **Create Directory** command in the DIRECTORIES menu to the **Who is on the System?** command in the MESSAGES menu.

2. Press the Down Arrow key several times to move the cursor to the **Format Floppy Disk** command in the BACKUP/RESTORE menu.

3. Press the Left Arrow to move to the **Display Contents of File** command in the FILES menu.

4. Press the Down Arrow until the **Change File Permissions** command is highlighted. Press the Down Arrow once more.

   The cursor wraps around the top of the screen to highlight the **Create Directory** command in the DIRECTORIES menu.

5. Press the Up Arrow.

   The cursor wraps around to the **Change File Permissions** command in the FILES menu. You can wrap the cursor around either from top to bottom (with the Up Arrow) or bottom to top (with the Down Arrow) as shown in Figure 1-11.

6. Press the Home key to quickly move the cursor to the top-most command in the upper-left menu.

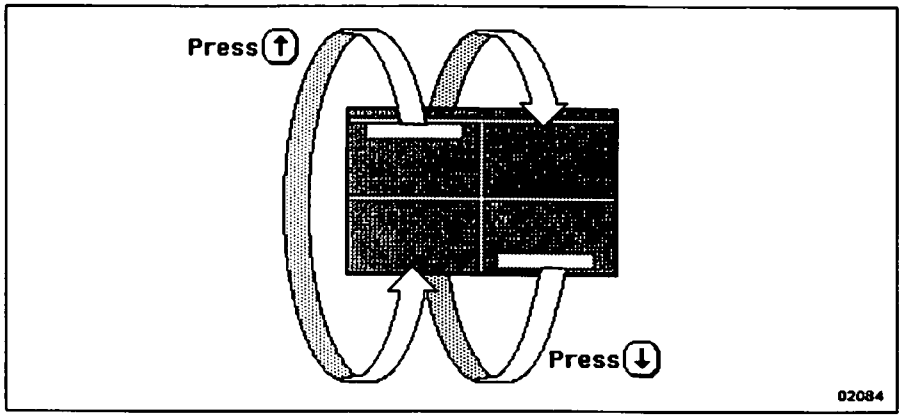


Figure 1-11. Cursor Wraparound

NOTE

If you are using an Altos III terminal, and the cursor is dimly highlighted, you may want to change the display to be in reverse video. To do this:

1. Press the Reset/SetUp key.
2. Press the Right Arrow to move the cursor to the Attribute field.
3. Press the Retn key until this field is set to REVERSE.
4. Press the Reset/SetUp key.

5. Type **y** to save the changes when you turn on your terminal again.

Selecting File(s) or Directory(ies)

For many AOM commands you are asked to type a file or directory name. Figure 1-12 shows an example of the prompt for the Copy a File command.

```
------------------@x5/usr/terry----------------------------
Select file to copy                (Use ESC to cancel.)

Type file name:        <                                  >
```

Figure 1-12. Typing a File Name

You can enter a name by using one of the following methods:

- Type the file or directory name and press Retn.
- Press the Down Arrow or press Esc and select the **Select File** command. Then, move the cursor to the name and press Retn or the **Execute** command.

The first method allows you to select one file name by typing it at the prompt (after the words "Type file name:" in Figure 1-12).

The second method allows you to select one or more files by selecting file name(s). To do this, you can press the Down Arrow key. A list of the files in the current directory is displayed (Figure 1-13 shows an example).


```
------------------@x5/usr/laurie---------------------------
Select a file to display                (Use ESC to cancel.)

Pick a file below:

addr.ad                 budget.yr
gett                    sales.qtr4
xyz.corp                sales.qtr3
abc.corp
budget.qtr
```

Figure 1-13. Point-and-Pick List

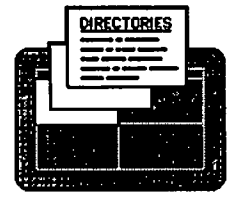
You can also display a list by pressing the Esc key. A command line is displayed (see Figure 1-14). Select the Select_File command and you will see a list of files.

```
Execute  Cancel  New_Directory  Select_File
To select a file, press RETN; press ESC to continue with menu.
```

Figure 1-14. ESC Command Line

To select any of these commands, type the first letter of the command (or move the cursor to the command and press Retn). For example, to select the Select_File command, type **s**.

Whether you use the Down Arrow or the Esc and Select_File command, you select the name(s) from the list in the same way. If you want to select just one name, move the cursor to the name you want, then press Retn.



To select more than one name, move the cursor to the first name and press the Spacebar. You will see a right and left caret (<>) as shown in Figure 1-15. Do this for every file name you want. When you select the last of the names, press Retn or press Esc and select the Execute command (see Figure 1-15).

```
------------------@x5/usr/laurie----------------------------
Select a file to display                (Use ESC to cancel.)

Pick a file below:

  addr.ad                budget.yr
> gett <                  sales.qtr4
  xyz.corp                sales.qtr3
> abc.corp <
  budget.qtr
```

Figure 1-15. Selecting More Than One File

The Execute command is used instead of Retn if the cursor is not on the last file you want to select. For example, if you select a few files on one page, then look through the next two pages for other names you might want to select, but do not choose any, the cursor is now on a file you don't want to select. Rather than going back to the last file you want, just select the Execute command.

To select file(s) in a different directory from the current one, you can use the Move to New Directory command (see the section "Move into a New Directory" in Chapter 2). Or, you can use the command line shown in Figure 1-14. Press Esc and select the New_Directory command. The current directory is displayed at the top of the screen (@x5/usr/laurie in Figure 1-15). Type the name of the directory you want to change to and press Retn. You can

then select the file(s) from this new directory using the Down Arrow key or the **Select_File** command (as explained previously).

To cancel a command, press Esc then select the **Cancel** command. It returns you to the AOM menus.

GETTING HELP

To find out how to use a command in any menu, press Help. The top of the screen describes how to select a command. Below that, there is a description of the command you selected.

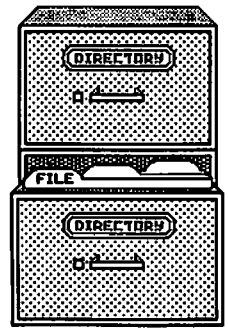
When you have finished reading the Help description you can press any key to return to the AOM menus. If you want to leave the help screen and return to the AOM menus, just type **q**.

LOGGING OUT OR QUITTING

Type **q** when you want to leave AOM. The program returns you to whatever you were doing when you started AOM:

- If you automatically entered AOM or AOM Windows when you logged in, you will be logged out when you type **q**.
- If you typed **aom** or **waom** from your system prompt to get into AOM or AOM Windows, you will be returned to the system prompt when you type **q**. Then, to log out from the system, type Ctrl-d.

Chapter 2
Using Your Files and Directories



(BLANK)

This chapter explains how to use directories and how to manage files. It describes tasks such as creating a directory, listing details about files in a directory, and changing file permissions.

NAMING A FILE OR DIRECTORY

Figure 2-1 shows an example of the directory and file structure of your operating system. Directories and files are arranged in a hierarchical structure, with root as the top directory. A single slash (/) indicates you are in the root directory.

The full pathname of any directory or file begins at the root directory. This directory is always specified with a slash (/). A full pathname consists of a series of one or more directories and may contain a single file name. When specifying a full pathname of a file, be sure to include the initial slash (/) and a slash after each directory along the path.

When you first start AOM, you are in your home directory. Your directories and files are typically located in /usr/*username*, where *username* is the name you use when you log in. For example, the user Laurie might have all her files and directories in /usr/laurie. The name of the directory is a complete specification of where that directory is in relation to the total file system. For example, Terry has a file named "document" (see Figure 2-1). The full pathname of that file is /usr/terry/smith/document.

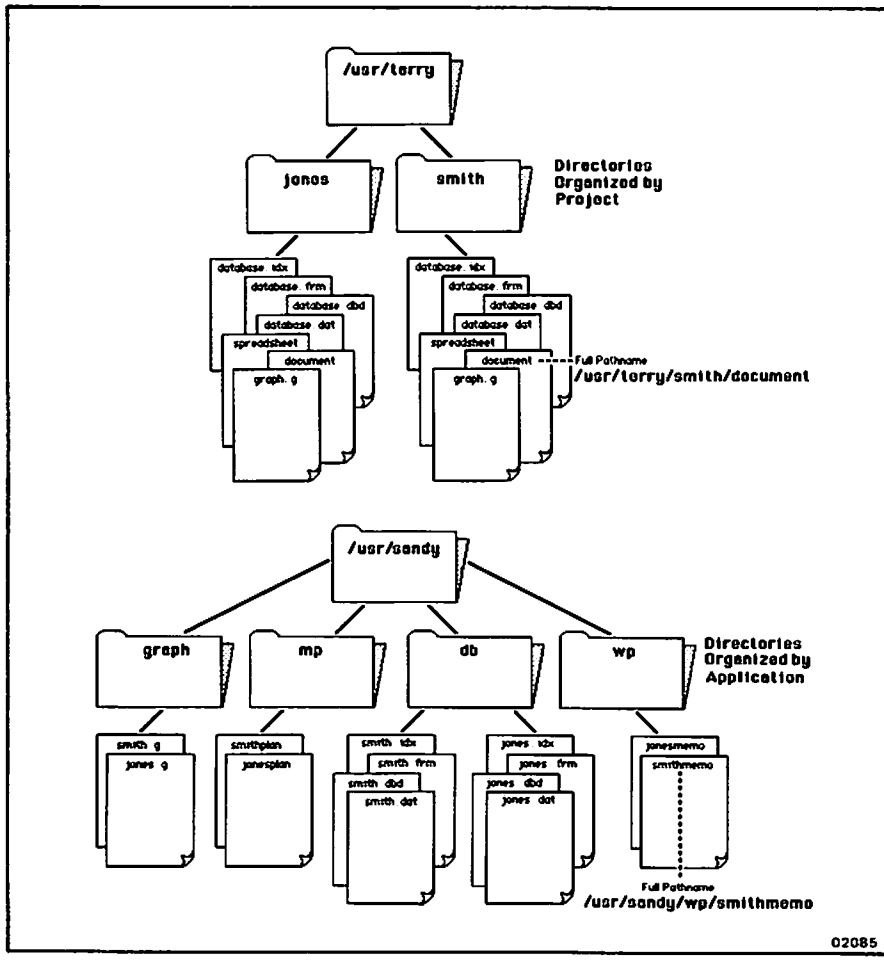
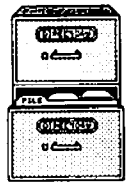


Figure 2-1. Directory Structure



Usually, a directory contains files on the same subject. Each directory and file must have a name that you assign (except your home directory, which is assigned by the system administrator). A file name must be unique. A directory name or a file name can have up to 14 characters. Because the following characters have special functions, do not use them in file names:

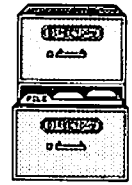
asterisk	*	Left square bracket	[
comma	,	right square bracket	]
semicolon	;	slash	\
colon	:	backslash	/
question mark	?	left single quote	`
exclamation point	!	right single quote	'
left parenthesis	(	double quote	"
right parenthesis	)	space	

When you first create files, you may wish to place all of them in one directory, such as /usr/terry in Figure 2-1. However, as you become more adept, you can have directories and files that are many levels below this directory (e.g. jones and smith in Figure 2-1).

When you are working in a directory or file, it is called the "current" directory or file. To create or access a directory or file in your current directory, type the file name. To create or access a directory or file not in the current directory, you can use two methods.

Fr example, when you select an AOM command, such as **Print a File**, you will be prompted for a name. If you want to print the file "smithmemo" in directory /usr/sandy/wp (see Figure 2-1), and you are currently in directory /usr/sandy/db, you can first change to /usr/sandy/wp (see sections "Selecting File(s) or Directory(ies)" in Chapter 1, or "Move Into a New Directory" in this chapter).

Another way is to type the complete pathname when prompted for the file name. In this example, type **/usr/sandy/wp/smithmemo.**



USING DIRECTORIES

A directory is just like a file folder; the directory can be used to separate a group of files from your other files. A directory can also contain other directories, which in turn can contain files or more directories.

Create a Directory

You'll find the commands for using directories in the DIRECTORIES menu, shown in Figure 2-2. Refer to this figure for the explanation of the individual commands in this section.

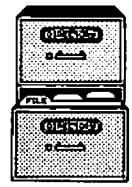
```
                    D I R E C T O R I E S

Create Directory
Move to New Directory
List Directory Contents
Details of Directory Contents
Display Current Directory Name
Delete Directory
```

Figure 2-2. DIRECTORIES Menu

To create a directory:

1. Select the **Create Directory** command. Chapter 1, "Using the AOM Menu System," explains how to select commands.

   You will be prompted to enter the name of the directory you want to create.



2. Type the name for the directory you want to create, and press Retn.

See the section at the beginning of this chapter "Naming a File or Directory" for naming criteria.

To use the directory, you need to move into it.

Move Into a New Directory

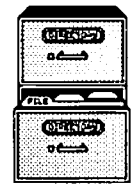
There are several ways to move into a new directory. Step 2 in the following procedure explains the different methods you can use.

1. Select the **Move to New Directory** command.

   The current directory name is displayed at the top center of the screen and you are prompted to enter the directory name.

2. Then, use one of the following methods to move to a new directory:

   - To move to a directory contained by the current directory (one directory down), press the Down Arrow; then pick the directory from the list by moving the cursor to the directory name and pressing Retn.
   - To move more than one directory down, type the portion of the directory's pathname beginning from the current directory. For example, if the jones directory in Figure 2-1 contains a directory named phase1, and if you are in /usr/terry, and want to move into directory phase1, you can use the pathname jones/phase1 to move two directories down.
   - To move one directory up, type .. (two periods).
   - To move two directories up, type ../.. (two periods, a slash, and two periods).



- To move up and over to another directory, type **../** followed by the directory name. For example, to move from /usr/terry/jones to the /usr/terry/smith directory you could type **../smith.**

If you prefer, type the full pathname of any directory to move to it.

3. End your entry by pressing Retn. A message displays the name of the directory you moved to.

List the File Names in a Directory

To see a list of the directory and file names in a directory:

1. Select **List Directory Contents.**

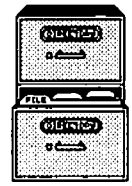
   You will be prompted for the directory name.

2. Type . and Retn to see the current directory list. To see the contents of any other directory, specify the directory the same way you would with the **Move to New Directory** command (see previous section).

3. Press Retn to complete your entry. After a few seconds, the screen displays a list of names. These names can be directories and/or files.

   To see which are directories and which are files, select the **Details of Directory Contents** from the DIRECTORIES MENU (see next section).

If the list of names is too long to fit on one screen, a message tells you to press the Spacebar to display more of the list, or to press the Esc key to stop the listing and return to the AOM menus.



List Details About the Files in a Directory

The **Details of Directory Contents** command displays more information about the files in a directory.

Select the directory by the same methods as those described for the **List Directory Contents** command.

Figure 2-3 is an example of showing details of files in a directory.

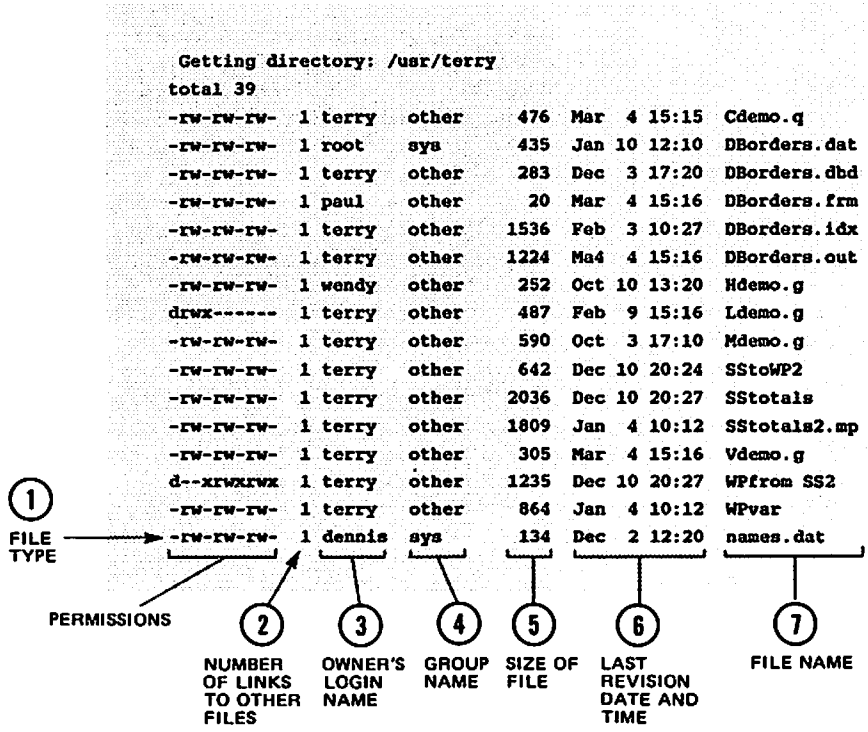


Figure 2-3. Detailed Directory Listing

You will see 10 characters in the first column. They have the following meaning:

- First character (the left-most in the line) - If it is a dash, the item is a file. If it is a d, the item is a directory.

- Second through tenth characters (called permission characters) - The permission characters are:

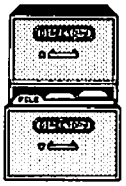
r (read) -	being able to look at the contents of the file or directory.
w (write) -	being able to change the file or directory contents.
x (execute) -	being able to run the program (if this is a file) or move to the directory (if this is a directory).
- (no permission) -	not able to read, write, or execute the file or directory.

The permissions characters are arranged in three sets of three. Each of the nine character positions answers a question:

- The first three characters (rwx), in order, answer "Can the owner of this item read it, write it, or execute it?" The characters rwx mean yes for all three, but a dash in any position means no permission for that capability. For example, r-x means you can read and execute that file, but you can't write to it.

- The second three characters apply to users who are in the owner's group. User groups are set up by the system administrator.

- The third three characters are the permissions for any other user.



You can change the permissions for any file or directory that belongs to you with the Change File Permissions command, explained later in this chapter.

The remaining columns show the following information:

Column 2
Shows the number of links. The number of links for a file are important mainly for programmers. If you're interested in linking files, refer to the *Commands Directory* manual for a description of the ln command.

Column 3
Shows the owner's name or id number. The owner's name (or id number) is the name of the user who created the file. You create a file within one of the application programs, or by copying the file from another user.

Column 4
Shows the group name. The group name of the owner of this file is displayed in the fourth column. The group name is "other" unless the system administrator changes it.

Column 5
Shows the size of the file in bytes. Each byte is roughly equivalent to a character.

Column 6
Shows the last revision date and time of a file, which are determined by the system time when the file was last changed. The time is shown in 24-hour time.

Column 7
Shows the file name (or directory name).

Display the Name of the Current Directory

If you ever forget where you are, select **Display Current Directory Name**. A message displays the full pathname of the current directory.

Delete a Directory

Before you delete a directory, you must delete all of the files or directories it contains by using the **Delete File** command (explained later in this chapter) and the **Delete Directory** command. When the directory is cleared of files and directories, do the following:

1. Select the **Delete Directory** command.

2. Type or pick the directory name from the list.

   If a message appears saying that the directory isn't empty, the directory wasn't cleared.

MANAGING FILES

You can move files regardless of their origin. You can display, print, or copy the files that you own or that someone else has authorized you to read. You can delete a file only if you have permission to change it. If you get the message "no file found" when you try to use one of the commands in the FILES Menu, it may mean one of the following:

- You don't own the file.
- You don't have permission to read it.
- It doesn't exist.

- You haven't specified the correct directory name; try using the full path name.

```
                    F I L E S

Display Contents of File
Print a File
Copy a File
Move a File
Delete a File
Change File Permissions
```

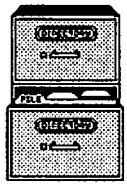
Figure 2-4. FILES Menu

Display the Contents of a File

If you've forgotten what a file contains, a quick way to look at it is with the **Display Contents of File** command.

After you select the **Display Contents of File** command, type the name of the file or pick the name(s). You can look at a file in another directory by typing the file's pathname. For how to select multiple files from another directory, see the section, "Selecting File(s) or Directory(ies)."

Some files contain special characters if they are created by specific applications, so you might see some strange characters when the file is displayed on the screen or printed. If this occurs, refer to the specific application manual for how to print the file.



Print a File

To print file(s):

1. Select the **Print a File** command.

   You will be prompted to type the file name.

2. Type the file name and press Retn.

   Or, use the point-and-pick method to select one or more files (see the section, "Selecting File(s) or Directory(ies) in Chapter 1).

   If your system has more than one printer, a message asks you to type the name of the printer you want to use. Type the name and press Retn.

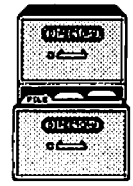
   A few seconds later, the file(s) begin printing.

If you want to see how a file will look when it is printed, display the file with the **Display Contents of File** command (explained earlier in this chapter) before you print it.

Copy a File

You can copy file(s) from the current directory or from any other directory. You can also copy file(s) from other users, as long as you have read permission for the other user's file(s).

Use the **Details of Directory Contents** command (explained earlier in this chapter) to see what the permissions are for a file. Use the **Change File Permissions** command (explained later in this chapter) to change the permissions for any of your own files.



To copy file(s):

1. Select the **Copy a File** command.

   You will be prompted to type the file name.

2. If the file(s) is in the current directory, type the file name(s) and press Return (or use the point-and-pick method to select one or more files as explained in the section "Selecting File(s) or Directory(ies)" in Chapter 1). If the file is in another directory, type the file's pathname or change to a new directory with the **New Directory** command (see the section "Selecting File(s) or Directory(ies)").

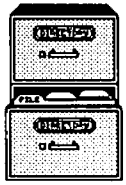
   You will be prompted for the new file or directory name into which you want to copy the selected file. If you select more than one file, copy them into a directory.

3. Type just the file name(s) to place the file in the current directory. Type a pathname to put the file in another directory, or just the directory name if you want to use the same file name(s) in a different directory.

4. Press Return.

   You will see a message that says the file you selected was "copied to" the new file name you typed in.

   If you do not see this message, the copy wasn't made. You should try the command again, being sure to type or select the correct name of the file from which you are copying. If you type a pathname for the name to copy to, make sure that directory exists. If you still have trouble, see your system administrator for help.



Move a File

You can move file(s) from one directory to another or you can rename a file by moving it to a new name. You must have write permission to the directories you use.

To move file(s):

1. Select the **Move a File** command.

   You will be prompted for the file name.

2. Type the name of the file and press Retn.

   Or, use the point-and-pick method to select one or more file names (see the section, "Selecting File(s) or Directory(ies)" in Chapter 1). If you move more than one file, they must be moved into a directory, not a file.

   You will be prompted for the new file or directory name.

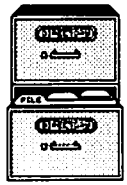
3. Type the new file or directory name and press Retn.

   If you want to rename the file, just type the new name. If you want to move file(s) to a different directory, type the directory name.

   If you type just the directory name, the file(s) you are moving will keep the same name. If you move just one file and you want it to have a different name in the new directory, type the directory name and the file name.

Delete a File

You must have write permission for a file and the directory containing the file to delete a file.



To delete a file:

1. Select the **Delete a File** command.

   You will be prompted for the file name.

2. Type the name of the file and press Retn.

   Or, use the point-and-pick method to select one or more files (see the section, "Selecting File(s) or Directory(ies)" in Chapter 1).

   A message asks you to confirm that you want to delete the file(s). If you are deleting more than one file, a message will be displayed for each file.

4. Type **y** to continue with the deletion, or type **n** to cancel it.

5. Press Retn.

   If you get a message other than the message saying that the file(s) is deleted, the file(s) wasn't deleted. Either you mistyped the name of the file(s), or you aren't authorized to delete it.

Change File Permissions

You must own a file or directory (or be the system administrator) to change who is permitted to use a file.

There are three categories of permissions for a file:

- Read -- (look at its contents)
- Write -- (change its contents)
- Execute -- (use the file as a command) or search (move into the directory)

To change the permissions on a file:

1. Select the **Change File Permissions** command.

   You will be prompted to type file name.

2. Type the file name and press Retn.

   Or, use the point-and-pick method to select one or more files (see the section, "Selecting File(s) or Directory(ies)" in Chapter 1).

If you own the file, the screen looks much like Figure 2-5.

```
Function ---- >  Change File Permissions of mymail

Use left and right arrow keys to move to the permission you wish to change.

          Press SPACE BAR to change permissions.

          To make the changes and quit, type 'q'.


Owner's Permissions:     Group's Permissions:     All Others' Permissions:
 Read   Write  Execute     Read   Write  Execute     Read   Write   Execute
  yes    yes    yes        yes    no     yes         yes    no      no
```

Figure 2-5. Changing File Permissions

The permissions are grouped into three categories:

- Owner's Permissions
- Group's Permissions
- All Others' Permissions

The person who created or copied the file is the owner. If there are other users in your group, your system administrator can tell you who they are. All other users means anyone who logs in to the system.

Change the permissions of the file by pressing the Spacebar until you see yes or no under the type of permission.

For example, if you want the group permission for a file to be yes for the read permission, move the cursor under "Read" for the Group's Permissions category, then press the Spacebar until you see yes.

BACKING UP AND RESTORING FILES

As a precaution against loss of files, you can copy (back up) your files onto a floppy disk or tape. You can use a backup copy of a file to transfer the file in to another system. You can back up entire directories or just a few files.

If you want to back up a large quantity of files, you'll find it's much quicker to back up to tape. If you want to copy a few files from your system to load in to another system, it's usually easier to back up to a floppy disk.

The commands for copying files to and from tape or disk are in the BACK UP/RESTORE menu, shown in Figure 2-6. Refer to this figure when you read about the individual commands in this section.


```
B A C K U P / R E S T O R E

Format Floppy Disk
Back Up Files to Floppy Disk
Restore Files from Floppy Disk
List Tape/Floppy Disk Files
Back Up Files to Tape
Restore Files from Tape
```

Figure 2-6. BACK UP/RESTORE Menu

Floppy Disks

This section explains how to format a disk, back up to and restore files from a floppy disk, and how to list the files on the floppy. It explains how to use wildcard characters to simplify the process of backing up several files. This section explains how to format (prepare the disk) before you back up files.

Formatting a Floppy Disk

Before you can back up files to a floppy disk, you must format the disk. The formatting process prepares a disk to receive data and deletes any information currently recorded on the disk.

Before you begin, make sure there is no write-protect tab on the disk. Figure 2-7 shows the write-protect tab.

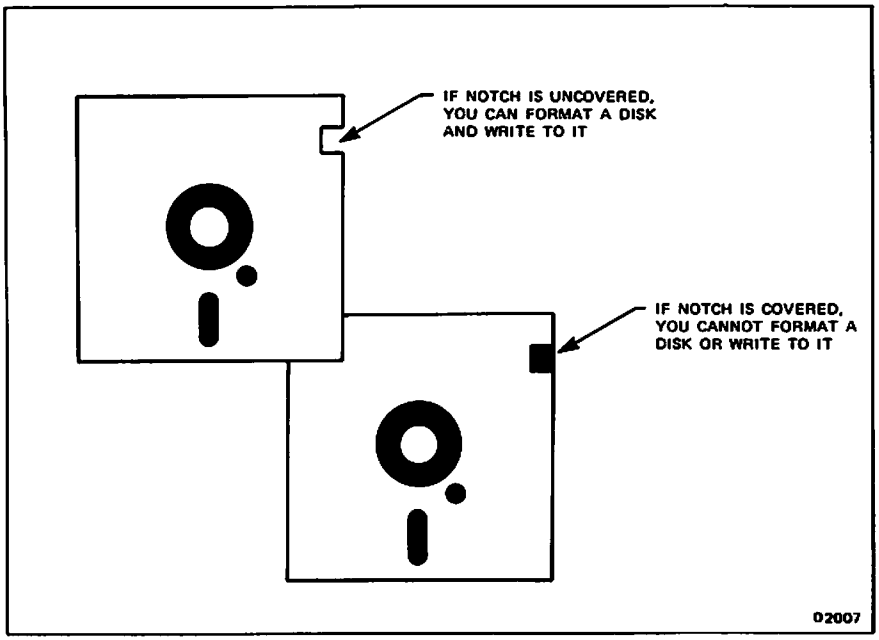
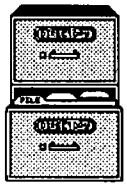


Figure 2-7. Remove Write-Protect Tab to Format a Disk

1. Select the **Format Floppy Disk** command.




```
XENIX FLOPPY DISK FORMAT        rev 1.7

 Choose one :

      1 - Altos format                    /dev/fd096ds9
      2 - IBM-AT (slow) format    XENIX   /dev/fd048ds9
      3 - IBM-AT (fast) format    XENIX   /dev/fd096ds15
      4 - Quit

Command:[default Altos]
```

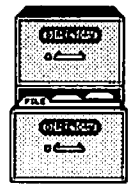
Figure 2-8. Screen for Format Floppy Disk Option (XENIX)

2. Choose the appropriate number to format the disk you are using (usually you will choose 1 or just press Retn).

3. Make sure the disk contains no information you value. Then, insert the floppy disk in the drive, and press Retn.

   The formatting process takes a few minutes. When the process is finished, the formatting choices are displayed again.

4. If you want to format another disk, repeat steps 2 through 4. If you don't want to format any more disks, type the number for Quit, and press Retn to quit this command. Make sure you format enough disks before you start backing up files.



Backing Up Files to Floppy Disk

Before you begin backing up, think about how you want to restore the files:

- If you want to restore files into another directory either on your own system or another one, move into the directory containing the files. This way you can restore the files into any directory you choose.
- If you want to make sure the files retain their full pathnames when restored, move into the root (/) directory.

To move into another directory, select the **Move to New Directory** command in the DIRECTORIES menu. To learn how to use this command, refer to the section "Move into a New Directory" in this chapter.

To back up files:

1. Make sure you format enough floppy disks to contain the files. If you run out, you'll have to cancel the **Back Up** command to format more disks and begin the back up again. A floppy disk holds approximately 245 (8 1/2 x 11) printed pages or 720K bytes.

   You can see the number of bytes in a file by using the **Details of Directory Contents** command (see "Using Directories" in this chapter for more details about this command).

2. Move into the appropriate directory, as explained above.
3. Select the **Back Up Files to Floppy Disk** command.

   You are prompted for the file or directory name(s) you want to back up.

4. Type the file or directory name(s), then press Return.

You can enter the names of the files to back up in several ways:

- To back up the current directory and the contents of all its files and directories, type * (an asterisk) and press Retn.
- To back up one file, type its name and press Retn.
- To back up several files at a time, use wildcard characters. Refer to the section "Using Wildcard Characters" in this chapter for instructions.
- Type the full pathname if you aren't in the directory you want to back up or if you want to retain the same pathname.

5. Insert a formatted disk in the drive. Make sure the write protect tab is removed (see Figure 2-7).

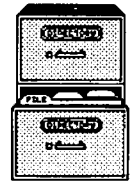
   A list of backup types is displayed.

6. Type **a**, **b**, or **c**, depending on the type of backup you're making:

   a. Appends files if you want to add any file(s) to the end of the disk. The existing files on the disk aren't disturbed. If one of the files you're appending has the same name as an existing file, the latest appended version will be the one restored.

   b. Updates files if you want to copy any new files or updates any files that have changed since you last backed up to this disk.

   c. Creates a new backup on a disk if you want to erase the contents of the disk and start over with the current files you chose.



The files are listed on the screen as they are copied. If you copy so many files that you fill up the disk, a message tells you to take out the disk and insert a formatted disk.

If there is a problem with the floppy (such as you left the write protect tab on it), you will see an error message.

7. Type **y** and press Retn to continue.

   If you need more than one disk to back up a series of files or directories, record the sequence of the backup on the disk label with a felt-tip pen. For example, if you back up three disks, mark the disks 1 of 3, 2 of 3, and 3 of 3. When you restore the files, you must restore them in the order you backed them up.

8. When the backup is finished, press any key to continue.

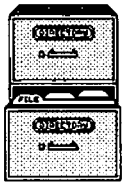
Using Wildcard Characters

When you back up files, you may not want to use only the asterisk (*) character because it copies all the files from the current directory and from all directories below. However, if you want to copy several files, typing the file names may take a long time. Wildcard characters can speed this process.

There are three kinds of wildcard characters you can use:

- * (the asterisk), which stands for any number of any characters and also no characters in a set position. For instance, entering *out copies all files whose names end with the characters out.

- ? (the question mark), which stands for any one character. For instance, entering ???out copies all file names with six characters that have the last three characters as out.



- [] (left and right brackets), which enclose a list or range of single characters. Entering **[abc]out** copies files named aout, bout, and cout. Entering **[d-g]out** copies files named dout, eout, fout, and gout. Entering single characters between the brackets is a list, and entering two characters separated by a hyphen is a range.

You can use the wildcard characters in combination:

???out*2 copies the following files (among others):

135outjkjkjk2
jkjoutj2
abcout2

***[1-5]out** copies these files (among others):

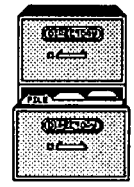
jkjkj2out
r4out
13244out

out[s4c]? copies these files (among others):

outs3
out4u
outc9

An asterisk at the end will copy files from subdirectories. For instance, **out*** copies these files (among others):

out.dbd
out.dat
outside/more
outside/sheet
outside/document/jones
out



Listing Files on Disk

To list the contents of a disk or tape, follow these steps:

1. Select the **List Tape/Floppy Disk Files** command.
2. Type **b** for a floppy disk.
3. Insert the tape or disk in the drive.
4. Press any key to continue.

The contents of the tape or disk are displayed.

Restoring Files From Floppy Disk

Before you restore files from a disk, list the contents of the disk with the **List Tape/Floppy Disk Files** command.

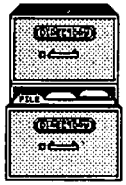
If the names in the list begin with / (a slash), they will be restored with their full pathnames from the root directory. Be careful which files you restore, because any files with the same pathnames will be overwritten by the restored files.

If the names don't begin with a / (a slash), decide into which directory you want to copy the files. If files with the same names already exist in the directory you choose, they will be overwritten. If the disk you're restoring from contains files with partial or full pathnames, new directories will be created if they don't already exist.

To restore files:

1. Move to the directory into which you want to copy the files.
2. Select the **Restore Files from Floppy Disk** command.

   You are prompted to enter the file or directory name(s).



3. Type the name(s), then press Return.

   You can type four types of entries:

   - * (an asterisk) to restore all of the files from the disk
   - A file name to restore just one file
   - A directory name to restore all files in a directory
   - Several file names separated by spaces to restore two or more files

   You cannot use wildcard characters (other than *) for restoring files.

4. Insert the disk you want to restore from, if it isn't already inserted. If you are restoring from a series of backup disks, begin with the first disk. A message will tell you when to insert the next disk.

5. Then, press any key.

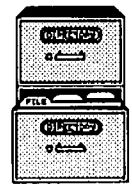
   After a few seconds, the names of the files being restored are listed on the screen.

   If there is a problem with the disk from which you are restoring (such as it was inserted backwards into the drive), you will see an error message.

Cartridge Tapes

This section explains how to back up and restore files to tape, and how to list the files on the tape. If you need to back up and restore files in other ways, refer to the following:

- For XENIX, refer to the archive and restore commands in the *Altos XENIX Commands Directory* or the *XENIX System V Reference Manual.*



- For UNIX, refer to **finc, frec,** and **volcopy** in the *Altos UNIX System V Commands Directory.*

Backing Up Files to Tape

The procedure to back up to tape is a little different than to back up to floppy disk.

To back up to tape:

1. Make sure the tape is blank; it does not need to be formatted.

2. Move into the appropriate directory, as explained in the section "Backing Up Files to Floppy Disk" in this chapter.

3. Select the **Back Up Files to Tape** command.

   You will be prompted for the file or directory name(s) you want to back up.

4. Enter the names of the files to back up.

   You can do this in several ways:

   - To back up the current directory and the contents of all its files and directories, type * (an asterisk) and press Retn.
   - To back up one file, type its name and press Retn.
   - To back up several files at a time, use **wildcard characters.** Refer to the section "Using Wildcard Characters" in this chapter for instructions.
   - Type the full pathname if you aren't in the directory you want to back up.

5. Insert a tape in the drive. Make sure the arrow is Not set to SAFE so writing is allowed (see Figure 2-9).

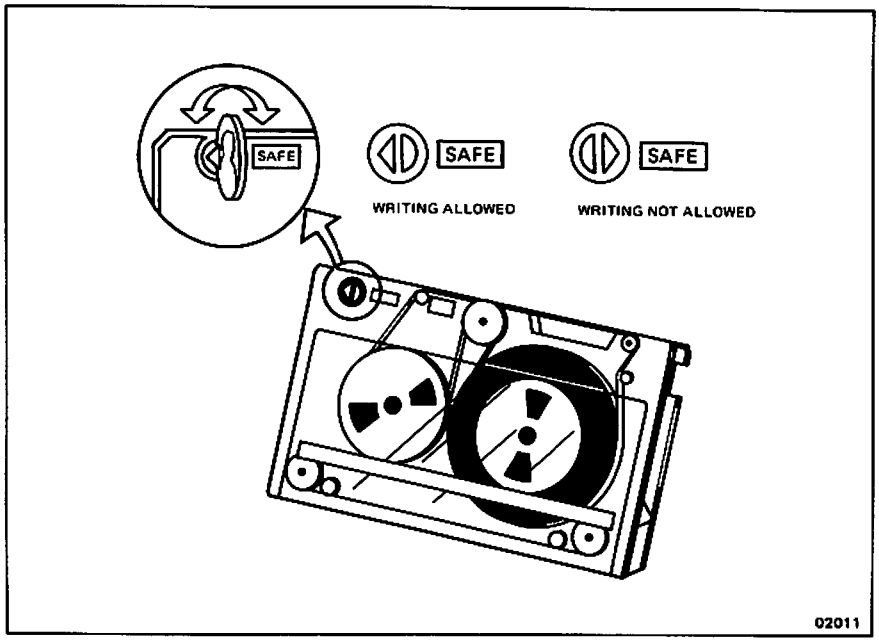
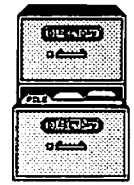


Figure 2-9. Arrow on Tape Drive is Not Set to SAFE

A new back up tape is automatically created. The files are listed on the screen as they are copied. If you copy so many files that you fill up the tape, a message tells you to take out the tape and insert another one.



CAUTION

This new procedure writes over all data that is currently on the tape, so be sure there is nothing on the tape you need.

6. Type **y** and press Retn to continue.

   If you need more than one tape to back up a series of files or directories, record the sequence of the backup on the tape. For example, if you back up three tapes, mark the disks 1 of 3, 2 of 3, and 3 of 3. When you restore the files, you must restore them in the order you backed them up.

   When the backup is finished, a message tells you to press any key to continue.

Listing Files on Tape

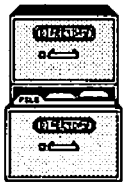
To list the contents of a tape, follow these steps:

1. Select the **List Tape/Floppy Disk Files** command.
2. Type **a** for a tape.
3. Then, insert the tape in the drive.
4. Press any key to continue.

The contents of the tape are displayed.

Restoring Files From Tape

The procedure for restoring files from tape is a little different from restoring files from floppy disk.



To restore files:

1. Move to the directory into which you want to copy the files. See the previous section in this chapter "Restoring Files From Floppy Disk" for general information about being in the correct directory.

2. Select the **Restore Files from Tape** command.

   You are prompted for the file or directory name(s) you want to restore.

3. Type the name(s), then press Retn.

   You can type three types of entries:

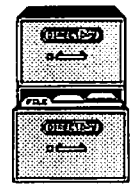
   - * (an asterisk) to restore all of the files from the tape.
   - A file name to restore just one file.
   - Several file names separated by spaces to restore two or more files.

   You cannot use wildcard characters (other than *) for restoring files.

4. Insert the tape you want to restore from, if it isn't already inserted. If you are restoring from a series of backup tapes, begin with the first tape. A message will tell you when to insert the next tape.

5. Then, press any key.

   After a few seconds, the names of the files being restored are listed on the screen.



Backing Up an Entire Hard Disk to Tape

A system administrator can back up an entire hard disk to tape. For how to do this, see the section, "Back Up a File System to Tape" in Chapter 5. To restore a file system from tape, see the section, "Restore a File System from Tape" in Chapter 5.

SENDING MESSAGES

The commands for sending and receiving messages are included in the MESSAGES menu, shown in Figure 2-11. Refer to this figure when you read the description for each command in this menu.

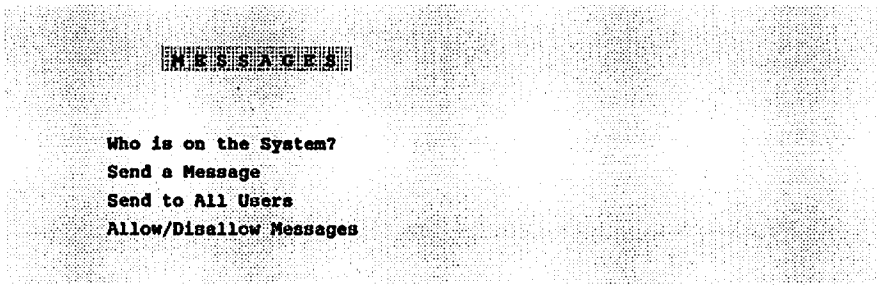
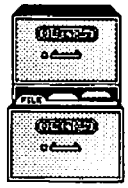


Figure 2-11. MESSAGES Menu

When you send a message, it interrupts whatever other users are doing, and displays the message wherever the cursor is positioned on the screen of the user to whom you have sent the message.

If you have an urgent message to send, use the Send a Message, or Send to All Users commands in the MESSAGES menu. If the message is not urgent, you may want to use another mail system, if one is installed on your system.



Check to See Who is Logged In

You cannot send a message to a user who isn't logged in. To see who is logged in, select the Who is on the System? command.

After a few seconds, the list of users appears on your screen as shown in Figure 2-12. The categories tell you each user's login name, the terminal they are using and the date and time they logged in.

```
Function -----> List users on the system

NAME      TERMINAL      LOGIN TIME
-----------------------------------
kim         console          Jun 26 09:36
terry       tty2             Jun 26 08:40
chris       tty4             Jun 26 10:20
```

Figure 2-12. List of Users on the System

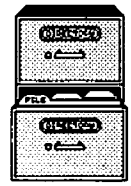
Press any key to return to the MESSAGES menu.

Send a Message to One User

You can send a message to just one user. The user must be logged in at the time you send the message. The section "Checking to See Who is Logged In" (earlier in this chapter) explains how to check who is currently logged in.

1. Select the Send a Message command.

   You will be prompted for the user name.



2. Type the name of the user to whom you want to send a message.

   The user name is displayed when you select the Who is on the System? command.

   Be prepared to type your message immediately after the next step.

3. Press Retn.

   The user's terminal beeps, and lets the user know that a message will be arriving from you.

   Whatever the user was doing is interrupted, but not canceled.

4. Type your message.

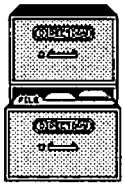
   Press Retn before you reach the end of each line or the text may wrap to the next line in the middle of a word. Each time you press Retn, that portion of your message is displayed on the other user's terminal.

5. When you are finished with your message, press Retn to move the cursor to the beginning of the next line, then press Ctrl-d and then press any key.

   The other user can then continue at their terminal with whatever they were doing. To learn how to clear the screen of the message, read the section "Clear a Message From Your Screen" later in this chapter.

NOTE

If you get the message "Permission denied" just after entering the user's name, that user has disallowed messages. To send a message to that



person, that user must allow messages, as explained later under the section "Allow or Disallow Messages" in this chapter.

Send a Message to All Users

You can send a message to all users who are currently logged in. With this command, you have as much time as you need to compose your message.

1. Select the **Send to All Users** command.

2. Type the message you want to send. When you are finished, press Retn, then press Ctrl-d.

   After you press Ctrl-d, all users are notified that a broadcast message is arriving. Then your message is displayed.

Clear a Message from Your Screen

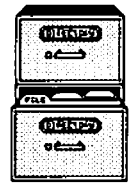
A message that you receive has no effect on the contents of the file you're using or on the command you're using; however, to clear the message from your screen:

- If you're using an AOM command, press Esc to get out of it. Then, reselect the command.

- If you have the AOM menus displayed, select Help, then type **q** to return to the menus.

Allow or Disallow Messages

If you don't want to be interrupted by any messages, you can disallow them. You are initially set to have messages allowed.

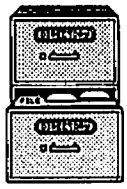


To disallow messages:

1. Select the Allow/Disallow Messages command.
2. Type **a**.

   A message tells you that messages are disallowed.
3. Press any key to return to the MESSAGES menu.

   To allow messages again, just type **b** in step 2.



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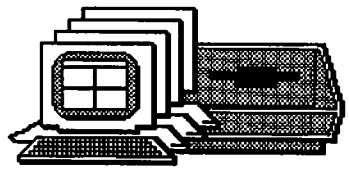
Chapter 3
Using the System



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DISPLAYING SYSTEM STATISTICS

The SYSTEM STATS menu contains commands for checking information about the system, such as displaying what current users are logged in to the system. Figure 3-1 shows the commands in the SYSTEM STATS menu. Refer to this figure when you read the description for each command in this menu.

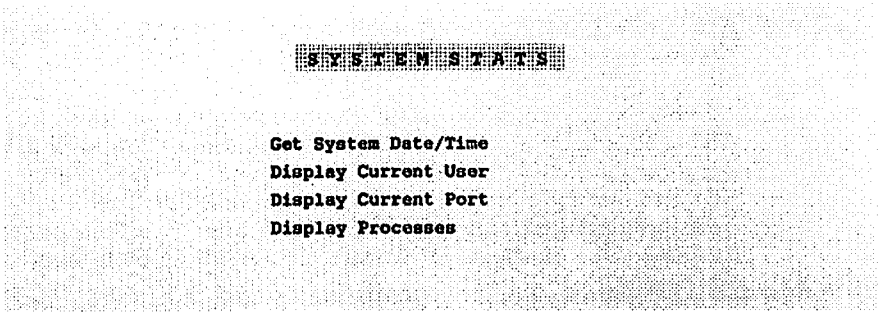


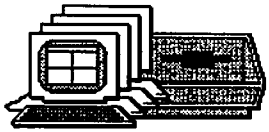
Figure 3-1. SYSTEM STATS Menu

Get the System Date and Time

The latest file revision date and time for each of your files is set according to the system time. To check the system time:

1. Select the **Get System Date/Time** command.

   The date and time are displayed on your screen, as shown in Figure 3-2. If you have AOM Windows, date and time may be displayed in a window.




```
Wednesday

June 23, 1987

Time: 5:25 pm
```

Figure 3-2. Displaying the Date and Time

2. Press any key to return to the SYSTEM STATS menu.

   For XENIX, you must be a system administrator logged in as root or admin to change the date and time. UNIX allows you to change the date and time whether or not you are a system administrator. Refer to the date command in the *XENIX Commands Directory* or the *XENIX System V Reference Manual* or the date command in the *UNIX System V Commands Directory.*

Display a User's Login

You may want to check what user is logged in at a particular terminal. For example, you may want to use someone else's terminal, or someone may be logged in at your terminal.

1. Select the **Display Current User** command.

   The current user login name is displayed.

2. Press any key to return to the SYSTEM STATS menu.

Display a User's Port

You may want to display what port you are currently logged into. The **Display Current Port** command displays port names, such as /dev/tty02 and /dev/console.

1. Select the **Display Current Port** command.

   Your port name is displayed.

2. Press any key to return to the menus.

Display Processes

You may occasionally find problems with the processes running on your system, such as a program running continuously (looping) or locking up your terminal.

All processes on the system are assigned a process identification (PID) number. To identify the process causing the problem, select the **Display Processes** command.

For an explanation of what you see, refer to the section "Display Processes" in Chapter 5.

USING SYSTEM UTILITIES

The commands in the UTILITIES menu enable you to change a password, check the amount of free space on disk, use a system command, become a system administrator, or run a shell. Figure 3-3 shows the commands in the UTILITIES menu. Refer to this figure when you read the description for each command in this menu.

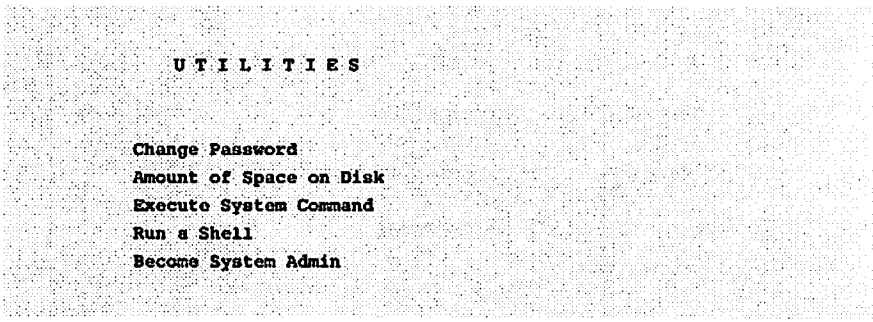


Figure 3-3. UTILITIES Menu

Set and Change Your Password

The only way the computer knows who you are is with a log-in name. Everyone in your company could know this log-in name and could log in and use your files. To avoid this, set up a log-in password for yourself.

To create or change a password:

1. Select the Change Password command.

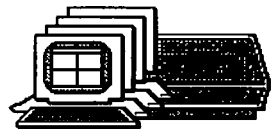
   The prompt "Old password:" is displayed if you are changing a password. The prompt "New password:" is displayed if you are creating a password. Skip to Step 3 if you are creating a new password.

2. Type the old password, then press Retn. The characters you type will not be displayed.

   The prompt "New password:" is displayed.

3. Type a new password, then press Retn.

   The password must be at least six characters long. For XENIX,



you can use any keys on the keyboard. Choose a sequence of keys that are easy for you to remember, but difficult for someone else to guess.

For UNIX, the password must have at least two alphabetic characters and one numeric character (or a special character such as %). It must also differ from the old password by at least three characters.

A message asks you to retype your new password.

4. Type your password again exactly as you did in step 2. Press Retn.

5. Press any key to return to the Sys_Utilities menu.

Display the Amount of Space on the Hard Disk

To see how much free space is available on the system's hard disk, select the **Amount of Space on Disk** command. After several seconds, a message displays your device name, the directory you are in, the number of available blocks and inodes, and for some systems the total number of blocks on the system, the number used and the percent of the system available for use.

Each block contains 512 bytes. Every character is equivalent to a byte, including special characters that don't display on the screen like line feeds, and carriage returns. This gives you an idea of how much room is left on the disk.

If the figure is below 1000 blocks or 15%, it's time to get more space by backing up the file (if you want to save it), then deleting files you do not need on the system.

Execute a System Command

To use any system command that would ordinarily be typed from the system prompt ($ or #), use the Execute System Command. You can select this command in two ways:

- Select Execute System Command.
- Type ! from any of the AOM menus.

You can type one command at a time. If you want to execute more than one command, type them on the same line, separated by semicolons.

Run a Shell

This command enables you to work in the Bourne shell.

To go to the Bourne shell:

1. Select the Run a Shell command.

   You will see the system prompt for the shell.

2. To return to the AOM Menu, press Ctrl-d at the shell prompt..

Refer to the following section "Moving Between Shells" for how to move to the Business Shell (BSH) or AOM Windows shell. Appendix A in this manual explains how to use BSH.

Become a System Administrator

Some system commands can be used only by the system administrator. You select this command if you want to give system maintenance or administration commands at the prompt.

Be aware that this command takes you to the system prompt to do system administration procedures; you cannot use certain AOM commands, such as commands for managing the Menu Manager. For how to give commands in the AOM Menu System as a system administrator, see Chapter 4 in Part II of this manual.

1. Select the **Become System Admin** command.

   You will be prompted for the system administrator password, if one has been established.

   If you are on WorkNet, you may be prompted for the password for the other systems.

2. Type the password.

   If you are on WorkNet, type the password for each system you will be using.

   You will see the prompt #, which indicates that you can now use all system commands. Remember, this does not include certain AOM commands, such as ones for using the Menu Manager.

3. Type system commands.

4. When you are finished with system administration, type Ctrl-d at the system prompt to return to the UTILITIES menu.

   You are no longer the system administrator and cannot give system administration commands.

MOVING BETWEEN SHELLS

You can move from within AOM to your operating system to use system commands. You can then easily move back into AOM. You can also move between AOM, AOM Windows, and BSH. This section explains how to accomplish these moves.

Access the Operating System from the AOM Shell

If you are working in AOM and decide you want to use a command at the system prompt, you can access the operating system by doing the following:

1. Type ! (exclamation mark) or select **Execute System Command** or **Run a Shell** command.

   You will see a message telling you to type a command.

2. You can now type the system command(s) you want to use.

   If you select **Run a Shell**, you can give more than one command before returning to AOM. However, for the other commands you can type several commands by typing a ; (semicolon) between commands.

   For example, let's say the cursor is at the **Change Directory** command in AOM, but you want to first check the files in the current directory to make sure a file is not in that one and then you want to display the time. You can quickly go to the system prompt by typing an ! (exclamation mark). Then type the XENIX command **ls** (to list the files in the current directory), a semicolon (;), then type **date**.

   The contents will be listed, then the date and time, and then you will be prompted to press any key, which will return you to the AOM Menu System. Figure 3-6 shows what this example would look like on your screen.

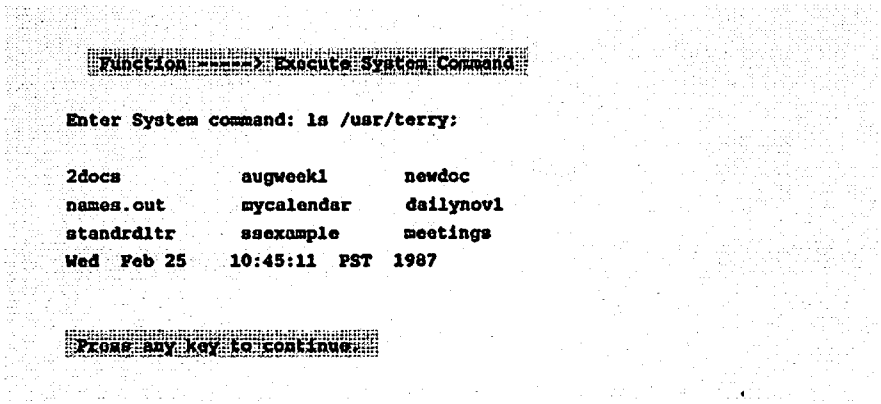


Figure 3-4. Accessing an Operating System From AOM

Returning to the AOM Shell from the Operating System

If you are in the operating system and want to return to the AOM shell, type Ctrl-d.

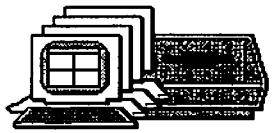
You will be returned to the AOM shell. You can now continue selecting AOM commands.

Move Between Shells

You can move between the following shells if they are installed on your system.

- AOM Windows Shell
- AOM Shell
- BSH Shell

To move from one shell to another, first type ! (exclamation mark) and then type the command for the Shell you want to access. The commands are:



Command	Shell
waom	AOM Windows Shell
aom	AOM Shell
bsh	BSH Shell

NOTE

The more shells you open, the slower your system will run. Be sure to exit from any shell you are not using.

When you want to return to the last shell you were using, quit from the shell (usually by typing **q**), then press any key to return to the shell you were in previously.

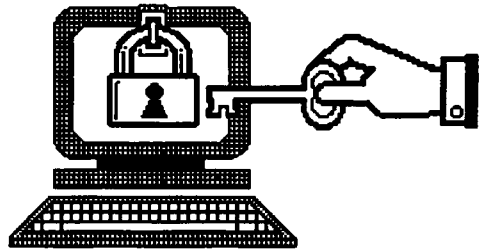
PART II - INFORMATION FOR THE SYSTEM ADMINISTRATOR

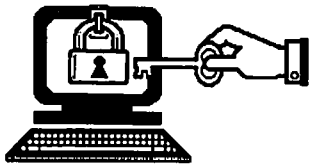
Part II is for the person who installs the software and maintains the system. That person is called the system administrator. This part of the manual describes the following:

- The responsibilities of a system administrator.
- How to set up the system administrator password.
- How to manage the operating system.
- How to use the Menu Manager.

This part of the manual assumes you have read the first part of this manual and are familiar with the operating system.

Chapter 4
The System Administrator





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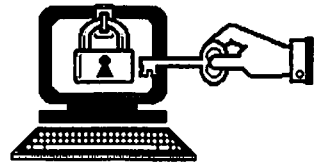


RESPONSIBILITIES

The system administrator needs to periodically check and maintain the operating system to keep it running smoothly.

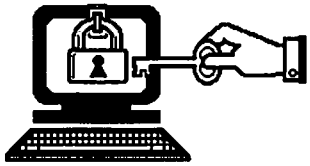
The responsibilities for managing the system include such procedures as:

- Adding or changing user accounts
- Setting up (configuring) ports and printers
- Checking and cleaning up files
- Backing up the file system
- Managing disk space
- Stopping a process or the system
- Changing file permissions when necessary

The responsibilities for organizing and maintaining the AOM Menu System include such procedures as:

- Installing and updating applications
- Moving a menu to a different page
- Renaming a page

To perform system administration procedures you must log in as System Administrator (admin) or as root. The next section explains these two log in procedures.



BECOMING THE SYSTEM ADMINISTRATOR

To become a system administrator and perform system administration procedures, you must follow a specific procedure when you log in.

To log in as system administrator, do the following:

1. Type **admin** or **root** (for UNIX) at the login prompt.

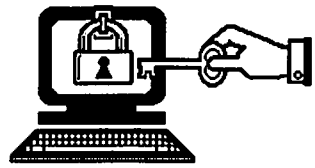
   You will be prompted for a password if one has been set up.

2. Type the password for your system.

   If the system is set up to automatically put you in the AOM Menu System, you will see the first page. If you are not automatically put in AOM, type **aom** (or **waom** for AOM Windows), then Retn. You can then go to the System Utilities page or the Menu Manager page and access the commands you need to use. Refer to Chapters 5 and 6 for how to use these commands.

NOTE

You can also become a system administrator after you log in by selecting the **Become System Admin** command in the AOM_UTILITIES menu. However, you will only be able to use commands at the system prompt and not in the AOM Menu System because this command takes you out of AOM until you press the key to return to the menus.



SETTING UP SYSTEM ADMINISTRATOR PASSWORD

For system security, you will want to set passwords for the admin and root login accounts. The following procedure explains how to change or set a password for admin and root.

1. Log in as admin or root (for UNIX).

   You will be put in to AOM (if this is your default shell).

2. Select the **Change Password** command in the AOM_UTILITIES menu.

   The message "New password:" is displayed on the screen.

3. Type a new password, then press Retn.

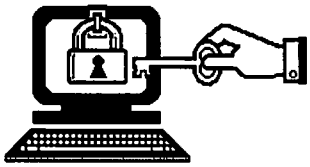
   You will not see the characters you type.

   The password must be at least six characters long. For XENIX, you can use any keys on the keyboard. Choose a sequence of keys that are easy for you to remember, but difficult for someone else to guess.

   For UNIX, the password must have at least two alphabetic characters and one numeric character (or a special character such as %). It must also differ from the old password by at least three characters.

   A message asks you to retype your new password.

4. Type your password again, exactly as you did in Step 3, then press Retn.



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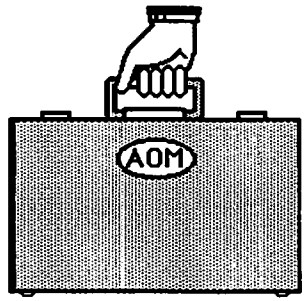
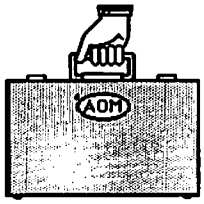
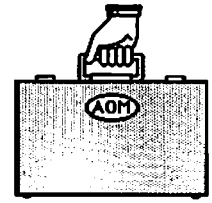


Chapter 5
Managing the System





USING THE SYSTEM ADMIN I MENU

Commands for maintaining the system are included in the SYSTEM ADMIN I menu, shown in Figure 5-1. Refer to this figure when you read about the individual commands in this section.

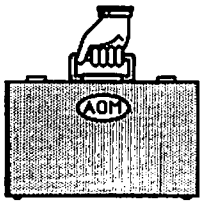
```
S Y S T E M   A D M I N   I


    Display Processes
    Stop Process
    Shutdown System
    Go to Single User Mode
    Add/Change User
    Set Up Ports
```

Figure 5-1. The SYSTEM ADMIN I Menu

Display Processes

At times you'll want to look at information about the processes (programs) running on your system. For instance, there may be a process that is taking too long to complete or is causing a terminal to hang (not operate). If this happens, you can identify the process causing the problem and then stop it.

To display information about active processes, select the Display Processes command. Figures 5-2 and 5-3 show examples of Process Status screens for XENIX and UNIX. Note that there are different column headings displayed. The column headings are explained in Table 5-1.




```
Function ----- > Display Processes

F  S  UID   PID  PPID  C  PRI  NI  ADDR  SZ  WCHAN  STIME  TTY   TIME CMD
1  S terry 1822     1  0   30  20    4C  24  9d40  09:07:12 co/0 0:01 -sh
1  S root  1978     1  0   40  20    37  16  f000  09:30:20  3   0:11 /etc/ed
```

Figure 5-2. A Process Status Screen for XENIX

```
 UID    PID   PPID   C     STIME TTY      TIME COMMAND
root      0      0   0   Feb 27  ?        0:00 swapper
root      1      0   0   Feb 27  ?        1:17 /etc/init
root      2      0   0   Feb 27  ?        0:00 vhand
root  14268      1   0 18:12:50 console  0:00 /etc/getty console 9600
root   4960      1   0   Feb 28  tty01    0:41 /etc/getty tty01 9600
```

Figure 5-3. A Process Status Screen for UNIX

Table 5-1. Explanation of a Process Status Screen

Column Heading	Meaning
F	Flags associated with the process: 01: in core 02: system process 04: locked in core (physical I/O) 10: being swapped 20: being traced by another process Other numbers indicate combinations of these flags.
S	State of the process O: nonexistent S: sleeping W: waiting R: running I: intermediate Z: terminated T: stopped
UID	The login name of the process initiator.
PID	The process identification (PID) number.
PPID	The process identification number for the parent process.
C	Process utilization for scheduling.
PRI	Priority of the process; high numbers are low priority.
NI	Number used in priority computation.

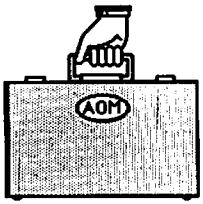


Table 5-1. Explanation of a Process Status Screen (Cont.)

Column Heading	Meaning
ADDR	If resident in memory, the core address. Otherwise, the disk address.
SZ	The size in blocks of the data area.
WCHAN	The event for which the process is waiting (sleeping). If blank, the process is running.
STIME	The starting time of the process.
TTY	The number of the tty (terminal or printer) controlling the process. If you have AOM Windows, this column also displays a slash and the number of the Window in which the process is running.
TIME	The cumulative execution time for the process.
CMD (or) COMMAND	The name of the command.

Stop a Process

To stop a process that is causing a problem, do the following:

1. Display all the processes as described above.

2. Write down the process identification (PID) number of the process you want to stop; you'll find this number in the fourth column.

3. Select the **Stop Process** command in the SYSTEM ADMIN I menu.

   You will be prompted to enter the process id number (PID).

4. Type the PID number of the process you want to stop and press Retn.

CAUTION

Don't stop the init, swapper, setmode processes for XENIX and UNIX. Also, for XENIX, don't stop the update process, and for UNIX, the vhand process. Stopping these processes will cause system problems.

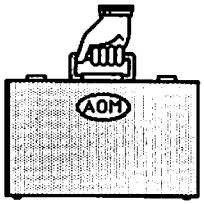
Stop and Start the Operating System

If you have to turn off the power or reset the system, first make sure there are no users on the system. You must log in as root or admin to stop the system..

The procedures for stopping the operating system depend on the system you are using. For XENIX, the system is stopped completely; for UNIX, the system is brought to Single User Mode.

The following procedures explain how to stop and start the XENIX, UNIX, and XENIX System V operating systems.

Before starting these procedures, select the **Who is on the System?** command in the AOM_Utilities menu to see if anyone is still logged in.



Then, select the **Send to All Users** command in the AOM_Utilities menu to send a message to all users that you are going to shut down the system (see the section "Send a Message to All Users" in Chapter 3).

Now, follow the steps for your system.

XENIX and XENIX System V

1. Select the **Shutdown System** command on the Sys_Utilities menu.

   [XENIX only] A prompt on the screen asks you to specify the number of minutes until shutdown (0-15). Type the number of minutes. The system will send a message to all users to finish and log out because the system will shut down in the number of minutes you specified.

   [XENIX System V only] A prompt asks you if you want to continue. If you do, type **y**; if you do not, type **n**.

2. If there is a floppy disk in the disk drive, remove it.

   You'll know the system has shut down when you see the following message on the console:

```
** Normal System Shutdown **
```

To start the system after stopping it, you can either turn the system off, then on, or reset the system.

If your system was not shut down properly, a file checking program will begin. You may first receive a message that the system was not shut down properly and the root file system will be cleaned.

After you reset the system, you are asked if you want to check the file system. Type **n** if you don't; type **y** (or nothing) if you do.

For XENIX System V, you may see a message telling you the system is dirty before you see the file check message. If you are warned that the system is dirty, type **y** for checking the file system. If there is no warning, you can type **n** (to not check the system) or you don't have to type anything and the system will automatically be checked.

The system validates the consistency of the disk file system, which may have been damaged, and automatically repairs it. If there is no damage to the system, you will see a screen similar to the following:

```
/dev/root

** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Free List
nn files nnn blocks nnn free
```

If the file system was damaged, it is automatically repaired, then the system displays a log of the corrections that were made.

After the file system has been repaired, the system reboots automatically and asks you to enter the time and date.

If you have any doubt whether the file system has been repaired satisfactorily, you can restore the hard disk from backup files.

UNIX

1. Select the **Shutdown System** command on the Sys_Utilities menu.

   A prompt on the screen asks if you want to continue.

2. If you do, type **y**; if not type **n**.

   The system sends a message to all users to finish and log out because the system will shut down in one minute.

3. If there is a floppy disk in the disk drive, remove it.

   You'll know the process is complete when you see the following message on the console:

```
** SYSTEM MAINTENANCE MODE**
```

At this time, you are asked if you want to check the file system. If you do, type **y** (or nothing); if you don't, type **n**. The file system is checked, then the message "Boot UNIX no sync" is displayed. At this point, you turn the RESET/RUN key to RESET, then back to RUN, to start the system again.

The system validates the consistency of the disk file system, which may have been damaged, and automatically repairs it.

If there is no damage to the system, you will see a screen similar to the following:

```
/dev/root

** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Free List
nn files nnn blocks nnn free
```

If the file system was damaged, it is automatically repaired by the system, then the system displays a log of the corrections that were made.

After the file system has been repaired, the system reboots automatically and asks you to enter the time and date.

If you have any doubt whether the file system has been repaired satisfactorily, you can restore the hard disk from backup files.

Go To Single User Mode

When you need to become the only user on the system (for example, to stop the system), use the Single User Mode. You must be logged in as root to work in this mode.

You should always go into Single User Mode before using the check file system program because open files might be removed and the system might be shut down (see "Check the File System" in this chapter).

To go to Single User Mode:

1. Select the **Go To Single User Mode** command.

   For UNIX, AOM automatically goes to single user mode after one minute. After the specified time, UNIX goes into Single User Mode. It displays on the screen a series of messages and finally:

```
INIT: SINGLE USER MODE
```

For XENIX System V, you are asked if you want to continue. If you do, type **y**; if not, type **n**. The system automatically goes to single user mode after one minute.

For XENIX, you see a prompt asking you to specify the number of minutes before shutdown. The screen displays the following:

```
Minutes until shutdown? (0-15)
```

Type the number of minutes and press **Return**. After the specified time, the system shuts down, reboots, then displays a message on the screen. Follow the instructions for your system.

At this point, you can work in the shell as the system administrator. To bring the system back up for other users (multiuser mode), at the prompt press **Ctrl-d** for XENIX and XENIX System V and type **multiuser** for XENIX System V and UNIX.

Add and Change User Accounts

The system administrator can set up and change a user login account for each person using the system. Figure 5-4 shows the information that can be changed for a user login account. To do this, select the Add User or Change User command.

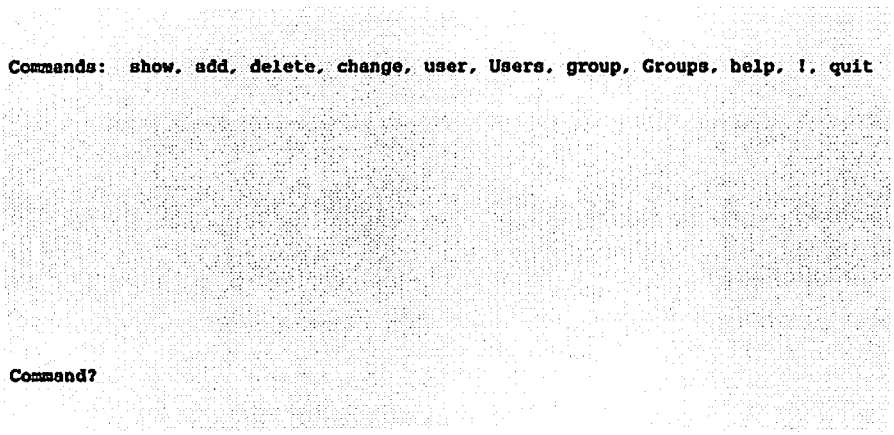


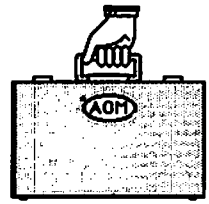
Figure 5-4. Initial Screen

When you first select the Add/Change User command, you will see just the top row of commands shown in Figure 5-4 and the prompt "Command?" at the bottom of the screen. For some systems, your terminal type is displayed and you are asked if the type is correct. If it is, type **y** and press Retn; if not, type **n** and press Retn, then enter the correct type and press Retn.

Descriptions of each command and how to select a command are in the following sections of this chapter. When you select the add or change command and type a user name, you will see the login account information for that user (as shown in Figure 5-5).


```
                                User Administration

Commands: show, add, delete, change, user, Users, group, Groups, help!, quit


          a. User:              terry
          b. User Id:           119
          c. Group:             Other
          d. Group Id:          1
          e. Password:          <SET>
          f. Full Name:         terry
          g. Directory:         /usr/terry
          h. Shell:             /bin/acmlogin


          q. (quit -- return to top level)


        Which field?
```

Figure 5-5. User Login Account

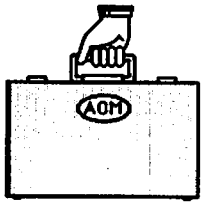


User Administration Commands

Command words appear at the top of the User Administration screen. To set up a user account, use a combination of two command words, typing the first letter of each word. Table 5-2 shows the commands and a description of each command.

Table 5-2. User Administration Commands

Command	Description
add user	Adds a new user to the system
add group	Adds a new group to the system
delete user	Deletes a user from the system
delete group	Deletes a group from the system
show user	Displays a user's attributes
show group	Displays a group's attributes
change user	Changes a user's attributes
change group	Changes a group's attributes
show Users	Shows all current users
show Groups	Shows all current groups
! shell command	Takes you to XENIX Shell; execute commands
help	Displays the help screen
quit	Returns to AOM, Business Shell, or XENIX/UNIX Shell.



Adding a User Account

When you create or change a user account, use the following guidelines:

1. Make the user name short (the user will enter it often). A user name can have up to 8 letters or numbers, but it cannot contain a space.

   The user enters the name exactly as created. Use only lower-case letters.

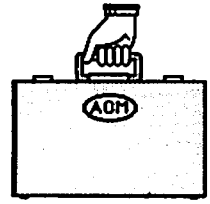
2. Do not use a name with any upper-case letters unless that person actually has a terminal that has only upper-case letters. If a name is created with any upper-case letters, the system assumes that the user has a terminal with only upper-case letters, such as a Teletype. The use of the system is thereby constrained.

3. To remove a password, change the password to <NOT SET> by typing **e** then press **Retn**.

4. Choose the shell the user will log in to. The default log in Shell for new users is AOM.

The shells are:

- /bin/waomlogin -- AOM Windows Shell (with menus)
- /bin/aomlogin -- Altos Office Manager Shell (with menus)
- /bin/bsh -- Business Shell (with menus)
- /bin/sh -- XENIX or UNIX Shell
- /bin/csh -- C Shell (XENIX Development System and UNIX System V).



To create a user account:

1. Type **a**.

   The word "add" appears at the bottom of the screen.

2. Type **u**.

   The word "user" appears next to add. At this point, you can get out of the command by pressing Del.

3. Type a user name, and press Retn.

   You can only enter one user or group at a time.

The system automatically assigns user ID, group ID, full name, directory, and shell. Shells can be one of the following: AOM Windows Shell, Altos Office Manager Shell, Business Shell, or XENIX/UNIX Shell.

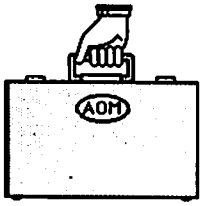
NOTE

> If your system is on a network, make sure the user ID and account name are the same on all machines in the network.

For example, to add a user named kim, type the following:

a(dd) u(ser) kim Retn

A message on the screen tells you that the system is updating the new user kim. The screen then displays the system settings for kim (see Figure 5-6). To change a setting, type the single letter that is to the left of each line.



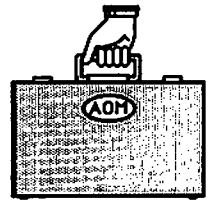
Initially, the password is not set. New users should set their own password by using the Change Password command in the AOM UTILITIES menu, described in Chapter 3, Using the System.

The text <SET> in the password line means a password has been assigned for that account. If you want to unset a password, type **e** and press **Return**. The password line displays <NOT SET>.

If AOM is not automatically displayed on the screen after a user logs in, you can set the account so AOM is the default log in shell by changing the shell to be /bin/aomlogin.

```
                        User Administration

Commands: show, add, delete, change, user, Users, group, Groups, help!, quit


                        a. User:       kim
                        b. User ID:    28
                        c. Group:      other
                        d. Group Id:   1
                        e. Password:   <NOT SET>
                        f. Full Name:  kim
                        g. Directory:  /usr/kim
                        h. Shell:      /bin/aomlogin

                        q. (quit -- return to top level)


    Command: add user kim
```

Figure 5-6. Example of Creating a New User Account



4. Type **q** when you are finished. A message on the screen tells you the system is installing files for the new user. You can then enter another User Administration command, or type **q** to return to AOM.

Set Up the Ports for Terminals and Printers: Configure a Port

Your system is already set up so you can connect Altos terminals and standard printers to the ports on your system. See your installation manual for the settings for your system.

You may want to change these settings when you first install your system or at some later time. Altos provides a utility that enables you to add, change, and remove port assignments.

The following sections explain how to use this utility. Read the section that pertains to your operating System (XENIX, XENIX System V, or UNIX).

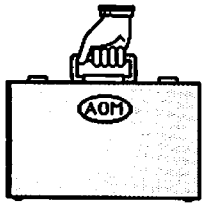
Setting Up or Changing a Port for XENIX

This section explains how to set up or change a port for XENIX. For how to do this for XENIX System V, see the next section, "Setting Up or Changing a Port for XENIX System V."

Port configuration commands are:

- c = change a port assignment
- d = display all port assignments
- h = display the port configuration help message
- q = exit from the port configuration program
- r = remove a port assignment
- t = test a printer

Once you are in the port configuration program, select a command by typing the first letter of the command and press Retn.



Select the **Set Up a Port** command. The current terminal and printer assignments for the ports on your system are displayed. Figure 5-7 shows an example of an eight-user system.

```
                    PORT CONFIGURATION UTILITY
                    ==========================

Now loading the port configuration information ... loaded!

Hardware  Software  Device    Terminal  Printer  Baud   Parity  Word   Modem?
 Name      Name      Type      Type     Number   Rate           Len
--------  --------  ------  ---------  -------  -----  ------  ----  ------

PORT00    console   terminal  altos3             9600
PORT01    tty01     printer             default         none    8 bits
PORT02    tty02     terminal  altos3             9600
PORT03    tty03     terminal  altos3             9600
PORT04    tty04     terminal  altos3             9600
PORT05    tty05     terminal  altos3             9600
PORT06    tty06     terminal  altos3             9600
PORT07    tty07     terminal  altos3             9600
PORT08    tty08     terminal  altos3             9600

Commands:    (c)hange port,    (d)isplay,   (h)elp,    (q)uit
             (r)emove port,    (t)est printer

Type a command (c, d, h, q, r, or t) and press RETURN:
```

Figure 5-7. Set Up a Port Screen

1. Type **c** and press **Retn** to change a port assignment.

   A message on the screen prompts you to type a port name.

2. Type the port hardware or software name.

   For example, type **port 02** and press Retn for the terminal connected to port 2.

   The system displays the current settings for that port.

3. You are prompted for the type of device connected to that port; valid device types are terminal, printer, and none (no device connected). Specify a new type of device and press Retn, or just press Retn to leave this setting unchanged.

4. For terminals, the system displays the terminal type, for example, altos3 for the Altos III terminal.

   Type a **?** and press Retn to scroll through the screens of terminal names. Press any key and Retn to return to the terminal selection screen.

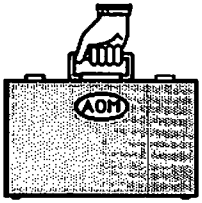
   Type the terminal name that corresponds to your terminal type, or press Retn to leave this setting unchanged.

5. Then, the system displays the current speed (baud rate) for that port.

   Specify a new speed, or press Retn to leave this setting unchanged. If you type an incorrect speed, the system shows the possible speeds.

6. A message tells you that there is no auxiliary (transparent) printer on that port. That is, there is no printer connected to the terminal that is connected to that port.

   If you want to connect an auxiliary printer, type **y** and press Retn. During printing, all other input and output to your terminal is disabled. You can stop printing and use your terminal again by pressing the Break/Del key. If you do not want to connect an auxiliary printer, press only Retn (instead of **y** and Retn).



7. A message tells you there is no modem on that port.

   Type **y** and press Retn if you wish to connect a modem, or press Retn to leave this setting unchanged.

The system displays the final settings for that port, and the command line reappears on the screen. If you are finished changing the settings and want to resume installation, type **q** and press Retn.

The system asks for confirmation that the port assignments are correct. If they are correct, type **y** and press Retn. You will be asked if you want to exit. Type **y** or **n** and press Retn.

Setting Up a Printer

Your system is already set up for either a serial or parallel printer.

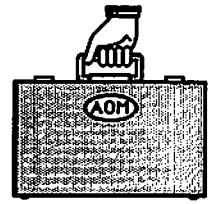
To add a printer, or change a printer port:

1. Specify "printer" when you are prompted for the device type (see Step 3 in the previous section).

2. Specify a printer number for the port and press Retn. Valid numbers are 0 through 9. The default printer is printer 0. For example, the first (default) printer number is 0, the second printer is 1.

   If you are setting up a parallel printer, skip steps 3 through 6; they do not apply.

3. The screen displays the current speed (baud rate) for that port. Possible speeds are 110, 150, 300, 300c, 1200, 1200P, 2400, 2400Q, 4800, 9600, 9600i, or 19200. Specify a new speed, or press Retn to leave this setting unchanged.



4. Next, the screen displays the current parity setting, either odd, even, or none. Specify a new parity, or press Retn to leave this setting unchanged.

   If you change the parity setting, the word length (in bits) is automatically adjusted for you. For no parity, the word length is 8, for odd or even parity, the word length is 7.

5. Finally, a message tells you there is no modem on that port. Type **y** and press Retn if you wish to connect a modem, or press Retn to leave this setting unchanged.

The screen displays the final settings for that port. Then the command line reappears on the screen. At this point, you should test the printer port.

Testing a Printer

After you set up a port for a printer, test it by selecting **t**, test a printer.

1. Type a printer number or port name. For example, if you just set up port 7 for printer 1 (the second printer on your system), you can type either port 07 or 01.

   A message tells you the system is testing the printer you specified, and the screen displays the settings for that port.

Then the following display appears on the screen:

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

0123456789!@#$%^&*()[]{};':",./<>?
```

The printer should print this display, and advance to the top of the next page.

If the display prints correctly, the printer is set up correctly.

However, if the serial printer does not print correctly, check one or more of the following:

- Baud rate on the printer
- Parity setting on the printer
- Printer setting for linefeed or carriage return
- Printer setting for XON/XOFF protocol
- Word length setting
- Printer cable

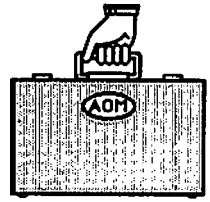
If the parallel printer does not print correctly, check the printer manual and one or all of the following:

- Paper or ribbon
- ON LINE setting
- Printer cable

When you finish setting up the ports, type **q** and press **Retn** to quit. The following messages appear:

```
Are you certain the port assignments are now
correct? (y/n)
```

Type **y** and press **Retn** to confirm.



After you type **y**, a message on the screen tells you that the port configuration program has concluded.

Setting Up or Changing a Port for XENIX System V

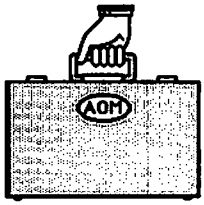
Select the Set Up a Port command. The system tells you what your terminal type is (as shown in Step 1).

1. Your terminal type is xxxxx - Correct? (y/n) where *xxxxx* is the terminal type. If correct, press Retn. If not, enter the correct terminal type and press Retn.

   The Port Configuration screen appears (see the example shown in Figure 5-8).

```
Feb 23  15:20:17   1987                          Press ^W for Help

                        PORT CONFIGURATION UTILITY

Port       Device    Terminal  Printer  Printer No.  Baud  Action  Modem?
Name       Type      Type      Name     or Runstate  Rate  On/Off

console    terminal  altos3                          9600  On      no
parallel   printer                                         off
tty01      printer              laser    default     9600  off     no
tty02      terminal  altos3              2           9600  On      no
tty03      terminal  altos3              2           9600  On      no
tty04      terminal  altos3              2           9600  On      no
tty05      terminal  altos3              2           9600  On      no
tty06      terminal  altos3              2           9600  On      no
tty07      terminal  altos3              2           9600  On      no
tty08      terminal  altos3              2           9600  On      no
tty09      terminal  altos3              2           9600  On      no

To add a new port to the list.
MAIN-MENU:   Add   Change   Delete   Remote-printer   Quit
```

Figure 5-8. Port Configuration Screen (XENIX System V)



Use this screen to add a new port to the list, change a port's settings, or remove a port from use. You can set up a port for use with a terminal, printer, or modem.

The top line of the screen displays the current date and tells you to press Ctrl-w to get Help.

The center part of the screen lists the following for the ports on your system:

- Port name (e.g., console, parallel, tty01)
- Type of device (terminal or printer)
- Type of terminal
- Printer name (or run state)
- Printer number (or run state)
- Baud rate
- Action — on or off
- Modem connection

The bottom of the screen contains a Message line and Command line. The Command line currently contains the Main menu. From this menu, you can add, change, or delete a port, set up a remote printer, or quit the program. (Other menus also appear on the Command line.)

Note that the cursor is on the Add option, and the Message line explains, "To add a new port to the list." The Message line displays a description of a command. When necessary, this line also displays an error or warning message.

As you use the Port Configuration program, you will be selecting commands or items from two types of menus:

- Command line menu
- Center screen menu

The following tables explain how to select a command or item from each of these menus.

Table 5-3. Command Line Menu

Action	Key to Press
Move to another command	First letter of a command
Right (move forward)	Spacebar
Left (move backward)	Backspace
Select highlighted command (current setting or default)	Retn

Table 5-4. Center Screen Menu

Action	Key(s) to Press
Select highlighted option (current setting or default)	Retn
Move down in a column	Down Arrow, Ctrl-d, or Spacebar

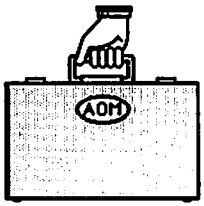


Table 5-4. Center Screen Menu (Continued)

Action	Key(s) to Press
Move up in a column	Up Arrow or Ctrl-u
Move right in a row	Right Arrow or Ctrl-r
Move left in a row	Left Arrow or Ctrl-l
Go to next screen	Next Scrn or Ctrl-n
Go to previous screen	Prev Scrn or Ctrl-p

There are Help screens to guide you through this program. If you need an explanation of a particular option, press Ctrl-w, which will display help for the current screen.

Adding a Port

To add (enable) a new port,

1. Select Add from the Command line. The screen displays a list of valid port names.

2. Type the name of the new port (**tty16**, for example). The default settings for that port are displayed. You can press Retn to select the default settings or select a new setting. The message line displays the following:


```
A video display unit with a screen and keyboard.
DEVICE-TYPE:  Terminal Printer Other
```

3. Specify a new device type (t, p, or o) or press Retn to leave this setting unchanged.

4. For terminals, the screen displays a list of all valid terminals. Select the terminal type (or type its name), and press Retn.

   For printers, see the section, "Setting Up a Printer," later in this chapter.

   Next, you are asked if you want to set up a modem on the port.

5. Select Yes or No and press Retn.

6. The screen displays the available baud rates (speeds). Select a new baud rate and press Retn.

7. Then you are asked to select an action: Active (on) or Inactive (off). Select the action for that port and press Retn.

8. A message then asks if you want an auxiliary printer on the port. Select Yes or No.

   If you select No, the final settings for the port appear on the screen. If you select Yes, a list of printers appears on the screen.

NOTE

If you print from an auxiliary printer the system will redirect data to the printer using the terminal's transparent print mode. All echoed output to the terminal will be disabled; however, you can stop printing and regain control of the terminal by pressing Del.

9. Select a printer from the list and press Retn. You prompted to type a printer name and printer number. (Valid numbers are 0 to 255, and valid names are up to 14 alphanumeric characters.)

10. Next, you are asked to supply the mode flags for the auxiliary printer. These flags set the protocol for the printer (for example, odd or even parity). Your printer manual explains these flags. Press Retn for the default, or enter the flags for your particular printer.

11. The Port Configuration screen reappears, displaying the ports (including the changes you've just made).

    The final settings are displayed for that port. If you are finished changing the settings and want to resume installation, select Quit and press Retn.

12. You are asked for confirmation that the port assignments are correct. If they are correct, select Yes and press Retn. The system updates the port configuration information.

    If the changes are not correct, select No. You are asked if you want to continue in pconfig. If you want to make other changes or corrections, select Yes.

Changing a Port

1. To change the settings for a port, select Change from the Main menu Command line.

2. Select the port you wish to change by moving the cursor to that port (or typing its name) and pressing Retn.

   You are asked questions about the device attached to that port.

   The screen displays the type of device connected to that port; valid types are terminal, printer, or other (for example, a modem).

3. Specify a new type of device (**t**, **p**, or **o**) or just press Retn to leave this setting unchanged.

   The default settings for the port are displayed. You can press Retn to select the default settings, or enter information about the port. Select a new type of device or press Retn to leave the setting unchanged.

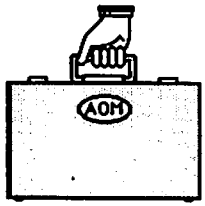
   If you select Printer, see the following section, "Setting Up a Printer."

4. For terminals, the screen displays a list of the valid terminals. The cursor is on the current terminal type (if the device on this port was previously a terminal).

   Select the terminal type (or type its name) and press Retn, or press Retn to leave this setting unchanged.

5. Next, you are asked if you want to set up a modem on that port. Select **y** or **n** and press Retn, or press Retn to leave this setting unchanged.

6. The screen displays the available baud rates (speeds). Select a baud rate and press Retn.



7. Then you are asked to select an action: Active (on) or Inactive (off). Select the action for that port and press Retn.

8. A message then asks if you want an auxiliary printer on the port. Select **y** or **n**.

   If you select **n**, the final settings for the port appear on the screen. If you select **y**, a list of printers appears on the screen.

NOTE

If you set up an auxiliary printer and select it for printing, the system will redirect data to the printer using the terminal's transparent print mode. During printing, all other input and output to the terminal will be disabled; however, you can stop the printing and regain control of the terminal by pressing Del.

9. Select a printer from the list and press Retn. You are then prompted to type a printer name and printer number. (Valid numbers are 0 to 255, and valid names are up to 14 alphanumeric characters.)

10. Next, you are asked to supply the mode flags for the auxiliary printer. These flags set the protocol for the printer (for example, odd or even parity). Your printer manual explains these flags. Press Retn for the default, or enter the flags for your particular printer.

11. The Port Configuration screen reappears, displaying the ports (including the changes you've just made).

    The final settings are displayed for that port. If you are finished changing the settings and want to resume installation, select Quit and press Retn.

12. You are asked for confirmation that the port assignments are correct. If they are correct, select **y** and press Retn. The system updates the port configuration information.

    If the changes are not correct, select **N**. You are asked if you want to continue in **pconfig**. If you want to make other changes or corrections, select **y**.

Setting Up a Printer

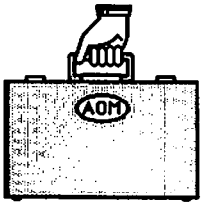
Your system is already set up for a serial and parallel printer. Using the Port Configuration program, you can do the following:

- Change the existing serial printer
- Add another serial printer
- Change the printer device assigned to the parallel port
- Set up a remote printer

Serial Printer

To add or change a serial printer port,

1. Select **Add** or **Change** from the Main menu Command line.
2. Select the port you want to change.
3. Select **Printer** when you are prompted for a device type. A list of valid printer types appears on the screen.
4. Select a printer type from the list, or if you are adding a printer, enter the type (e.g., laser) and press Retn. You are then asked to supply a name for the printer.



5. Type a name for the printer and press Retn. Valid names can be up to 14 alphanumeric characters. The next prompt asks for a printer number.

6. Type a number for the printer and press Retn. Valid numbers are 0 through 255. The first (default) printer is printer 0, the second printer is 1, and so on.

7. Then the screen displays valid baud rates (speeds) for the printer; the cursor highlights the current baud rate. Select a rate and press Retn, or press Retn to leave this setting unchanged.

8. Next, a message asks you to enter the printer mode flags, and displays the default values for these flags. These flags set the protocol for the printer (e.g., odd or even parity). Your printer manual explains these flags. For example,

   cs8 -parity opost -nl -tabs

   Press Retn to select the displayed flags, or enter new flags as you are prompted.

The Port Configuration screen reappears and displays the settings for the ports, including the changes you've just made.

Parallel Printer

To change the printer device assigned to the parallel printer port, follow the previous instructions for setting up a Serial Printer. Press Retn at every step, except Step 4, so you retain the same values for all settings but the printer type. For Step 4, enter the printer type.

NOTE

Use a Centronics interface on the parallel port.

Setting Up a Remote Printer

A remote printer is one that is attached to a port on a system that is connected to your system. To set up a remote printer:

1. Select Remote-printer from the Command line. You are prompted for a printer name.

2. Select or type a name for the printer and press Retn. Then you are asked to enter a number for the printer.

3. Type a number for the printer and press Retn. Valid numbers are 0 through 255. The first (default) printer is printer 0, the second printer is 1, and so on. Then you are asked for a printer type.

4. Select or enter the printer type (e.g., laser) and press Retn. The next prompt asks for the name of the remote machine to which the printer is connected.

5. Type the name of the remote machine and press Retn. Then the screen displays valid baud rates (speeds) for the printer; the cursor highlights the current baud rate.

6. Select a baud rate and press Retn, or press Retn to leave this setting unchanged.

7. Next, a message asks you to enter the printer mode flags, and displays the default values for these flags. These flags set the protocol for the printer (e.g., odd or even parity). Your printer manual explains these flags. For example,

   ```
   cs8 -parity opost -nl -tabs
   ```

8. Press Retn to select the displayed flags, or enter new flags as you are prompted.

The Port Configuration screen reappears and displays the settings for the ports, including the changes you've just made.

Testing a Printer

After you set up a port for a printer, it's a good idea to test it using the lp or lpr program. Do this after you finish the installation procedure. For example, type

lpr *filename* and press Retn

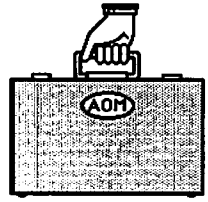
where *filename* is the name of a file (e.g., /etc/passwd). If the printer does not print correctly, refer to your printer manual and check one or more of the following:

- The printer is connected to the correct port and is switched to "ON."
- You have the correct type of printer cable.
- The following settings for the printer are correct:
  - baud rate
  - parity setting
  - linefeed or carriage return settings
  - X-ON/X-OFF protocol
  - word length setting

10. If you are finished changing the settings, type **q**. The system askes if you want to save these new settings.

11. If you do, type **y** and press Retn. The system updates the port configuration information.

    If you don't want to save the changes, type **n**. You are asked if you want to continue. Type **n** to return to the command line; type **y** to return to the Sys_Utilities menu without saving the changes.



Removing a Port

To remove a port from use,

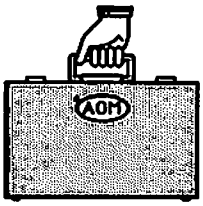
1. To delete a port, type **d**.
2. Select **Remove** from the Command line. A message asks if you are sure you want to delete the port from use.
3. To confirm the deletion, select **y**. If you don't want to remove the port, select **n**. At this point, you can remove another port from use.
4. To return to the Port Configuration Main menu, select **Quit**.

Leaving the Port Configuration Program

When you are finished making changes to the port,

1. Select **Quit** from the Command line. A message asks if you want to save the changes.
2. Select **y** to save the changes; select **n** if you don't want to save any changes.

   You are asked if you want to continue in **pconfig**. If you select **y**, the **pconfig** screen reappears. If you select **n**, installation continues.
3. To save the changes you have made, select **y**. The ports are reconfigured, and installation resumes (see the next section.)



Setting Up or Changing a Port for UNIX

Select the Set Up a Port command. The system tells you what your terminal type is (as shown in Step 1).

1. The screen displays:

```
Your terminal type is xxxxx - Correct?  (y/n)
```

   where xxxxx is the terminal type.

2. Type **y** if your terminal type is displayed, and go on to Step 4.

   Type **n** if the terminal type displayed is not correct. The system then asks you to enter the terminal type.

3. Enter the correct terminal type. The system tells you what your terminal is and asks you to confirm it. When you type **y**, the port configuration screen appears.

4. Type **d** to display the current port assignments (shown in Figure 5-9).

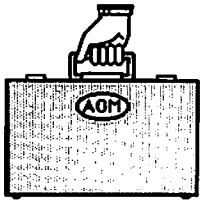
```
Port       Device     Terminal   Baud Rate    Action     Modem    Printer

console    terminal   altos3     B9600        respawn    no
parallel   printer                            off        no
tty01      printer    altos3     B9600        off        no       lpr
tty02      terminal   altos3     B9600        respawn    no
tty03      terminal   altos3     B9600        respawn    no
tty04      terminal   altos3     B9600        respawn    no
tty05      terminal   altos3     B9600        respawn    no
tty06      terminal   altos3     B9600        respawn    no
tty07      terminal   altos2     B9600        respawn    no
tty08      terminal   altos2     B9600        respawn    no


Commands:    (a)dd port.      (d)isplay port      (q)uit    ! - escape to
             (c)hange port.   (r)emove port       (h)elp      shell
Type a command (a, c, d, r, q, or h) and press RETURN:
```

Figure 5-9. Port Configuration Screen (UNIX)

Port configuration commands are:

- a = add a port assignment
- c = change a port assignment
- d = display all port assignments
- r = remove a port assignment
- q = exit the port configuration program
- h = display help information
- ! = invoke a UNIX sub-shell

To select a command, type the first letter of the command.



5. To change a port assignment, type **c**, and the screen displays:

```
Enter port to change (console, tty??, or parallel):
```

6. Type the port hardware or software name. For example, type **console** and press Retn for the terminal connected to port 00, **tty02** and press Retn for port 02, or **parallel** for the parallel printer port.

   The screen displays the current settings for that port, and the system asks you questions about the device that is attached to that port.

   The screen displays the type of device connected to that port; valid types are terminal, printer, or other (any device configuration that the port configuration program doesn't understand).

7. Specify a new type of device (**t**, **p**, or **o**), or press Retn to leave this setting unchanged.

8. Type **help** and press Retn to display the available terminal types. The system then displays the contents of /usr/lib/terminfo, which you can scroll through by pressing the Retn key to see all the terminal types supported.

9. Press the Spacebar to continue, Retn to scroll one more line of text into view, or **q** to quit.

10. Type the terminal name that corresponds to your terminal type and press Retn, or press only Retn to leave this setting unchanged.

    The system then asks you to enter the port action: **r** for respawn (this enables the port) or **o** for off (this disables the port).

11. Type **r** to enable the port, **o** to disable the port, or Retn to leave this setting unchanged. When you do this, the system tells you to type **help** to display the available baud rates.

12. Type **help** and press Retn if you want to see the baud rates and baud rate identifiers. If you are using a modem with this terminal, choose an identifier that has the word MODEM before the baud rate (for example, MODEM1200). If you are not using a modem, choose a numerical identifier, such as 9600.

13. Specify a new baud rate setting, or press Retn to leave this setting unchanged. The final settings are then displayed for the port, and the command line reappears on the screen.

14. If you are finished changing the settings, type **q**.

    The system asks if you want to save these new settings.

15. If you do, type **y** and press Retn. The system updates the port configuration information. If you don't want to make these changes, type **n**, and you are asked if you want to quit without saving the changes. Type **n** to return to the command line; type **y** to return to the Sys_Utilities menu without saving the changes.

Setting Up a Serial Printer

Your system is already set up for a parallel printer (see Figure 5-8). If you wish to add a serial printer, or change a serial printer port,

1. Type **c** for Change a port.

2. Type the port number (for example, tty02).

3. When you are asked to enter the port type, type **p** for printer.

Next, a message asks you to enter the printer name (lpr? or none). By entering a printer name, you are assigning this port to print on the specified printer. Printer numbers correspond to the file /dev/lp. Valid numbers are 0 through 9. The default printer is printer 0. For example, the first (default) printer number is 0, the second printer is 1, and so on.

4. Enter a printer name, such as lpr2, to specify the printer defined as lp2 in the /dev/lp file. Enter none if a printer is assigned to this port and you want to remove the assignment.

   The screen displays the current speed (baud rate) for the port, and tells you to type help to display the available baud rate identifiers.

5. Type **help** and press Retn if you want to see the baud rates and baud rate identifiers. If you are using a modem with this printer, choose an identifier that has the word MODEM before the baud rate (for example, MODEM1200). If you are not using a modem, choose a numerical identifier, such as 9600.

6. Specify a new baud rate setting, or press Retn to leave this setting unchanged. The final settings are then displayed for the port, and the command line reappears on the screen.

7. Type **q** to leave the pconfig screen. The system asks for confirmation that the port assignments are correct.

8. If they are correct, type **y** and press Retn. The system updates the port configuration information. If you don't want to make these changes, type **n**, and you are asked if you want to quit without saving the changes. Type **n** to return to the command line; type **y** to return to the Sys_Utilities menu.

Setting Up a Parallel Printer

Your system is already set up for a parallel printer (see Figure 5-8). If you wish to change the printer device assigned to the parallel port, you will follow the same procedure (in the previous section) for setting up a serial printer, except you will not be prompted for a baud rate.

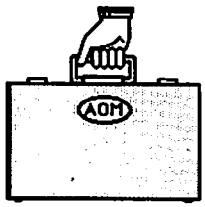
If for some reason the printer does not print correctly, check the printer manual and one or more of the following for the type of printer you are using:

Serial Printer:

- The paper, ribbon, or print wheel.
- The baud rate on the printer.
- The parity setting on the printer.
- The printer setting for linefeed or carriage return.
- The printer setting for X-ON/X-OFF protocol.
- The word length setting.
- The printer cable.

Parallel Printer:

- The paper, ribbon, or print wheel.
- The printer is switched to "ON LINE."
- The printer cable.



USING THE SYSTEM ADMIN II MENU

Other commands for maintaining the system are in the SYSTEM ADMIN II menu, shown in Figure 5-10. You must be the system administrator to use the commands on this menu. Refer to this figure when you read about the individual commands in this section.

```
S Y S T E M   A D M I N   II


Change File Permissions
Change File Ownership
Change File Group
Check File System
Back Up File System to Tape
Restore File System to Tape
```

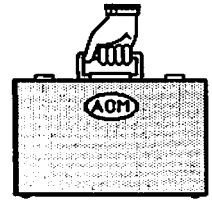
Figure 5-10. The SYSTEM ADMIN II Menu

Change File Permissions

From time to time, you may need to change who is permitted to use a file or directory. For a description of the Change File Permissions command, refer to the section "Change File Permissions" in Chapter 2.

Change File Ownership

When you create a file or directory, it belongs to you. You can change the file ownership so it belongs to someone else.



To change ownership:

1. Select the Change File Ownership command.

   You are prompted to type the name of the file.

2. Type the name of the file and press Retn.

   You can also select one or more files with the point-and-pick method (see the section "Selecting File(s) or Directory(ies)" in Chapter 1).

   You are prompted for the login name of the new owner.

   If you type a file name that AOM doesn't recognize, you will see a list of valid file names. Use the point-and-pick method to select one.

3. Type the login name of the new owner and press Retn.

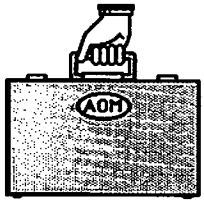
4. Press any key to return to the SYSTEM ADMIN I menu.

If you can't change the ownership, the file may not belong to you. Only the system administrator can change the ownership of files belonging to others on the system.

Change File Group

When you create a file or directory, it is usually assigned to the group named "other." Select the List Details of Directory Contents command in the DIRECTORIES menu (see Chapter 2) to see the name of the group.

There can be more than one group per system. This command is useful if there is more than one group on a system and you don't want a particular group to be able to read, write, or execute the other group's files. The system administrator can create a new group by using the Add/Change User command.



NOTE

For this command, you do not have to be a system administrator to change the group name of a file that belongs to you.

To change the group:

1. Select the **Change File Group** command.

   You are prompted for the name of the file.

2. Type the name of the file and press Retn.

   You are prompted for the name of the group to which you want to change.

3. Type the name of the group and press Retn.

   If you pick a group name that AOM doesn't recognize, you see a message telling you that the group name is unknown.

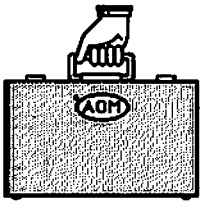
Check a File System

If you think there is a problem with your file system, you can check it with this command. You can use this command to check and/or repair your file system.

To check a file system:

1. Select the **Check File System** command.

2. You will be prompted for one of three file checking procedures. Type one of the following letters and press Retn.



r Repair the file system non-interactively. Tells you if there are any problems; corrects them automatically.

i Repair the file system interactively. Tells you if there are any problems; prompts you for y or n to correct the problems.

c Check file system integrity only. Tells you if there are problems, but doesn't correct them.

Back Up a File System to Tape

It is always a good idea to back up your file system at least once a week in case there is a system problem and your files are lost.

To back up your file system:

1. Select the **Backup File System to Tape** command.

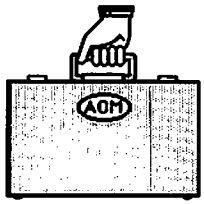
   You will be asked to enter the file system you want to backup.

2. Type the name of the disk that has the file system you want to back up.

   You can also select the file system name by pressing the Down Arrow. The names of the partitions on the hard disk are displayed. Not all partitions contain file systems.

CAUTION

The root file system is usually on rhd0b. If you are backing up the root system, you must go to the system prompt. Type !, then type dump.hd.



3. Then you are asked to type a label for the tape. Type any text you want. For example, type

   This is tape #1, created on 2/27/87

4. Press Esc to execute, cancel, or select a file system from a menu.

5. Select the Execute command.

   You will see information about the tape.

6. Press any key to return to AOM menus.

Restore a File System to Tape

You may want to restore a file system after there has been a problem or if you want to return some files to your system after deleting them.

To restore your file system:

1. Select the **Restore File System to Tape** command.

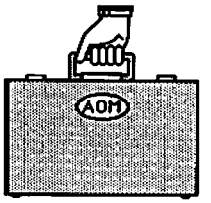
   You will see two options displayed:

   <i> Displays information about a tape.

   <r> Restores a file system.

2. Type the letter of the option you want and press Retn.

   If you type i, information about the tape is displayed, including the label you typed in the **Backup File System to Tape** program. When done, you will see a message to press any key to return to the AOM menus.



If you type **r**, information about the tape is displayed as it is being restored. When done, you will see a message that says to press any key to return to the AOM menus.

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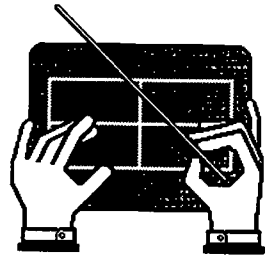
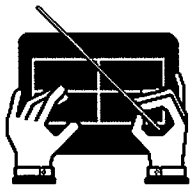
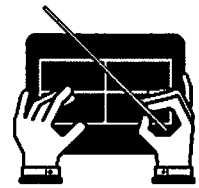
Chapter 6
Using the Menu Manager





(BLANK)

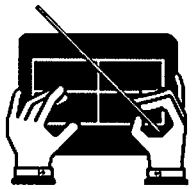


This chapter explains how to use the Menu Manager. You can use the Menu Manager to see what utilities and applications are installed on your AOM system, and to see the location of a menu on a page.

To get to the Menu Manager from any page, type **m**. The Menu Manager will look similar to the one shown in Figure 6-1.

```
1. B_Page          2. C_Page          3. D_Page          4. E_Page
5. F_Page          6. G_Page          7. AOM_Utilities   8. Sys_Utilities

        1.                                 1.
        2.                                 2.
        3.                                 3.
        4.                                 4.
        5.                                 5.
        6.                                 6.
        7. Directories                     7. Messages
        8. System Stats                    8. Utilities

        1.                                 1.
        2.                                 2.
        3.                                 3.
        4.                                 4.
        5.                                 5.
        6.                                 6.
        7. Files                           7. Backup/Restore
        8.                                 8.

Quit
To leave the Menu Manager, press RETN.
```

Figure 6-1. Menu Manager for Everyone



If you log in as admin or root, you can also use the Menu Manager to manage applications. AOM displays a row of commands at the bottom of the screen. The system administrator can use these commands to:

- Install, update, add, and remove applications.
- Move menus from one page to a different page.
- Change the permission on a menu so only the system administrator has access to it.
- Change the name of a page.

Figure 6-2 shows the Menu Manager for the system administrator.

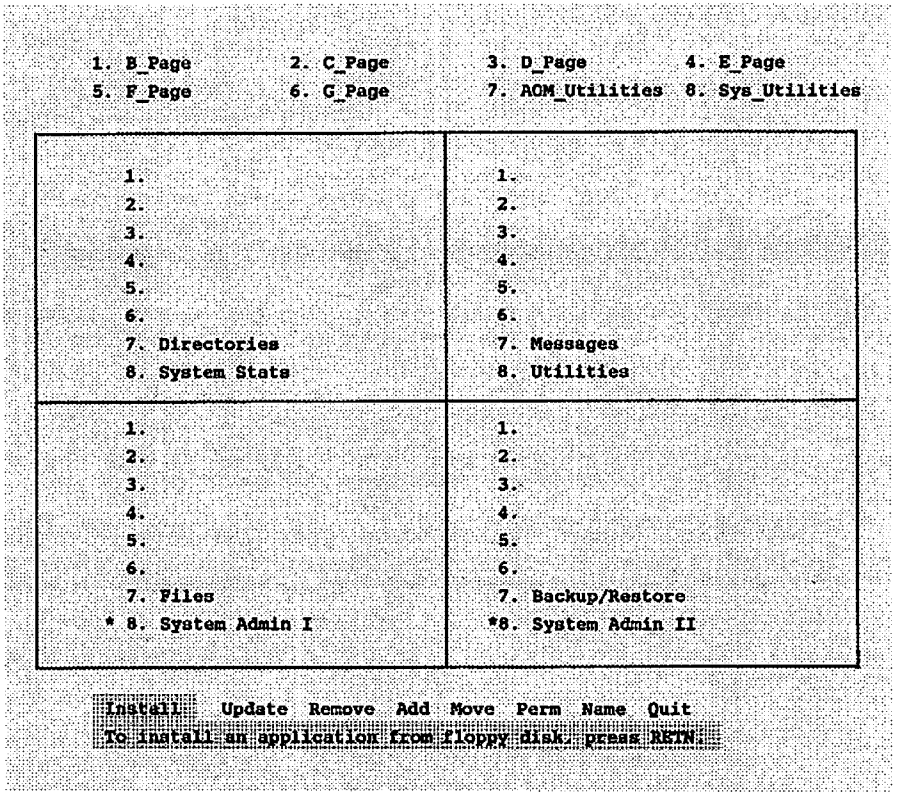
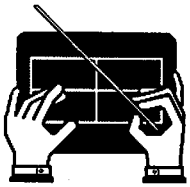


Figure 6-2. Menu Manager for the System Administrator



VIEWING THE MENU MANAGER PAGE

The Menu Manager page looks similar to an AOM page; it is also divided into four areas. These four areas, called menu blocks, contain lists of the available AOM menus.

The lists of AOM menus are numbered; these numbers indicate the page on which the menu is located. For example, the 7 in front of the DIRECTORIES menu in Figure 6-2, means the menu DIRECTORIES is located on page 7.

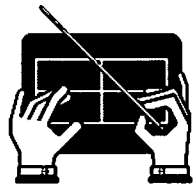
To access this page, you need the page name. The page names are listed above the menu blocks in two rows of names, numbered one through eight; these are the page numbers and their names. For example, "7. AOM Utilities" is page number 7, named AOM Utilities. The DIRECTORIES menu is on page 7, so to access the DIRECTORIES menu you must select the AOM Utilities page.

To select the page, type **a**, which is the first letter of the AOM Utilities page. For a more detailed description of how to select a page, see the section "Selecting a Page" in Chapter 1.

If there are no menus on a page, nothing is shown for that page number.

An asterisk (*) in front of a menu indicates that only a system administrator has access to that menu. For more information about the asterisk, refer to "Changing Permission on a Menu" in this chapter.

The menu blocks also show you where on a page the menu is located. For example, "7. Files" in the lower-left menu block (as shown in Figure 6-2), means the FILES menu is located at the lower-left corner of page 7. (Files might not be at 7 if your system administrator has set up your menus differently.)



LEAVING THE MENU MANAGER

To leave the Menu Manager, press **q** for Quit. You will return to the menu displayed last on your screen.

INSTALLING AN APPLICATION

To install an application into AOM, use the Install command to copy the application from floppy disk or tape.

To install an application:

1. Select the Install command by moving the cursor to the command and pressing **Retn**, or by typing **i** (see Figure 6-3).

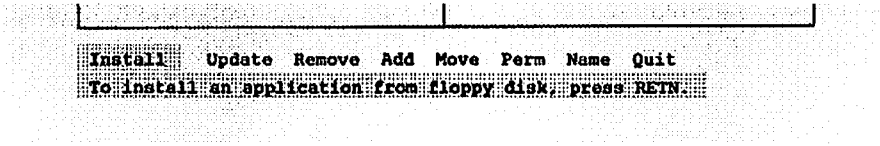
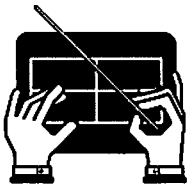


Figure 6-3. Install Command

   You are asked if you want to install from disk or tape.

2. Type **a**(tape) or **b**(floppy disk).

3. Insert the floppy disk or tape that contains the application you want to install into the disk drive.



4. Press any key to continue with the installation.

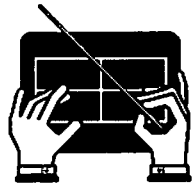
   You will see the names of the files being installed and information about the number of bytes and blocks for each file. (Figure 6-4 shows an example of the CALENDAR menu being installed.) The installation instructions for the application are displayed.

```
x Calendar.hlp, 24832 bytes, 49 tape blocks
x Calendar.msg, 6700 bytes, 14 tape blocks
                .
                .
                .
update linked to install

       Installation Procedure for The Altos Calendar Manager

This installation procedure must be run by root (super-user)
Press RETURN to continue, or DELETE to abort.

Moving programs to usr/bin ...

Moving library to /usr/lib/CM ...


Installation of The Altos Calendar Manager completed
Press any key to continue.
```

Figure 6-4. Application Being Installed

5. Follow the instructions on the screen, or refer to the application manual to complete the installation.

   When installation is complete, a message tells you to press any key to continue.



6. Press any key.

   The menu is displayed, showing the name of the application in the first available page. There is a short delay while the files are being installed, then the cursor returns to the Menu Manager commands. To learn how to move the application to another page, see "Moving a Menu to a Different Location" in this chapter.

UPDATING AN APPLICATION

If an application is already installed in AOM, you can update the installed version by using the Update command to copy the new version from a floppy disk.

To update an already installed application:

1. Select the **Update** command by moving the cursor to it and pressing **Retn**, or typing **u** (see Figure 6-5).

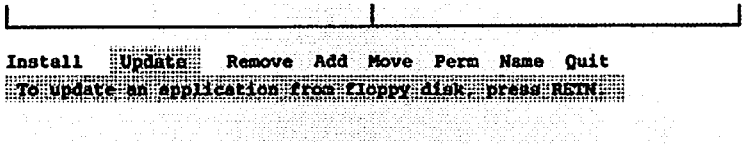
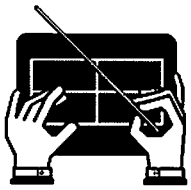


Figure 6-5. Update Command

   You are asked if you want to update from tape or floppy disk.

2. Type **a**(tape) or **b**(floppy disk).

3. Insert the floppy disk with the application you want to update into the disk drive.



4. Press any key to continue the update. You will see the names of the files being updated and information about the number of bytes and blocks for each file (Figure 6-6 shows an example of the CALENDAR menu being updated).

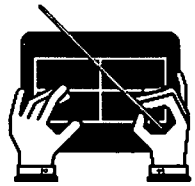
   The update instructions for the application are displayed.

```
x Calendar.hlp, 24832 bytes, 49 tape blocks
x Calendar.msg, 6700 bytes, 14 tape blocks
                        .
                        .
                        .

update linked to install

        Installation Procedure for The Altos Calendar Manager

This installation procedure must be run by root (super-user)
Press RETURN to continue, or DELETE to abort.

Moving programs to usr/bin ...

Moving library to /usr/lib/CM ...


Installation of The Altos Calendar Manager completed
Press any key to continue.
```

Figure 6-6. Example Applications Update

5. Follow the instructions on the screen, or refer to the application manual to complete the update.

   When the update is complete, a message tells you to press any key to continue.



6. Press any key.

   The menu is displayed, showing the name of the application in the first available page. There is a short delay while the files are being updated, then the cursor returns to the Menu Manager commands. The old menus for the application you are updating are removed before the new one(s) are added.

   To learn how to move the application to another page, see "Moving a Menu to a Different Location" in this Chapter.

REMOVING A MENU

If you no longer want a menu in AOM, you can remove it from AOM, but still keep it on your system in case you want to add it back later.

To remove a menu from AOM:

1. Select the **Remove** command by moving the cursor to the command and pressing **Retn**, or typing **r** (see Figure 6-7).

   The cursor moves to the menu in the upper-left menu block.

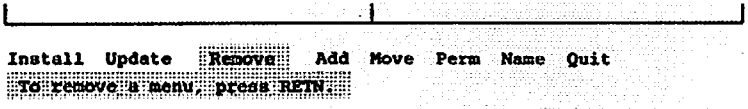
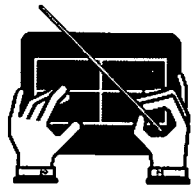


Figure 6-7. Remove Command

2. Move the cursor to the menu you want to remove.



3. Press Retn.

   The menu is removed from the screen and the cursor returns to the **Remove** command.

The menu is removed from AOM, but not from the system. Later, if you want to use this menu, you can add it back into AOM. To learn how to add the menu into AOM from the system, refer to the next section in this chapter.

ADDING A MENU

You can add an application or utility that is on the system into AOM by using the **Add** command to add a menu. Remember that a menu is simply an interface, or way to access, an application or utility.

To add a menu:

1. Select the **Add** command by moving the cursor to it and pressing Retn, or by typing **a** (see Figure 6-8).

   You will be prompted for the menu name.

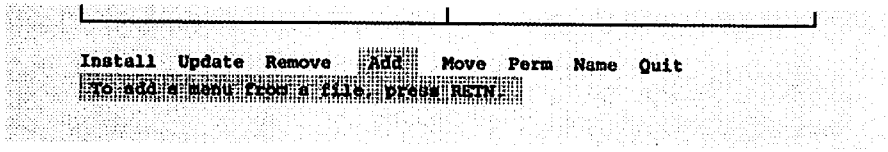
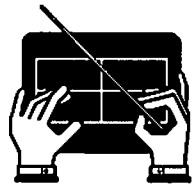


Figure 6-8. Add Command



2. Type or select the name of the file that contains the application you want to add, then press Retn.

   Menus for the applications you have installed are in the /usr/aom/menu directory. To see which AOM applications you can add, list the contents of the /usr/aom/menu directory by using the point-and-pick method. The section "Selecting File(s) or Directory(ies)" in Chapter 1 explains how to change a new directory, list its contents, then select a file.

   The Menu Manager is displayed, showing the application name in the first available page number.

   For example, the Menu Manager might look like Figure 6-2. Then, if you type /usr/aom/menu/fileit, and press Retn, the Menu Manager will then show the File-it! menu name in the upper-left menu block at page number 1 (see Figure 6-9).

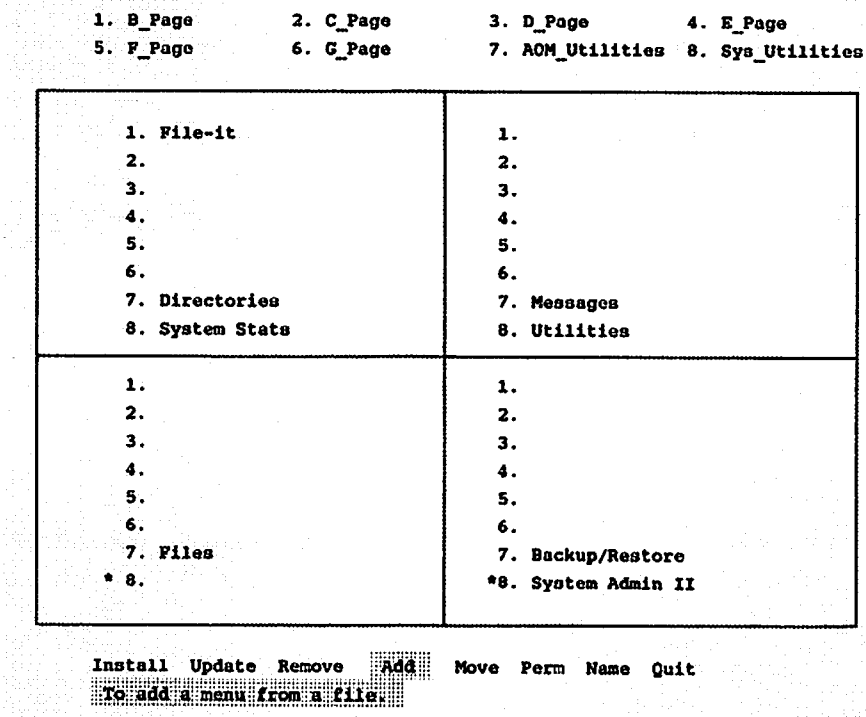
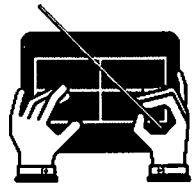


Figure 6-9. Adding a Menu

MOVING A MENU TO A DIFFERENT LOCATION

You may want to move a menu from one location to another by using the Move command. To move a menu from one location to another:



1. Select the Move command by moving the cursor to it and pressing Retn, or by typing **m** (see Figure 6-10).

   The cursor moves to the first menu in the upper-left menu block, and a message tells you to press Retn to choose a menu, or press Esc to cancel this command.

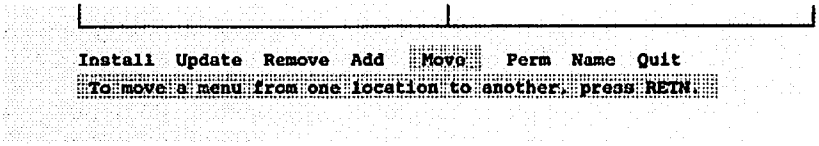


Figure 6-10. Move Command

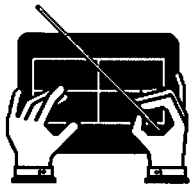
3. Move the cursor to the menu that you want to move, then press Retn.

   The cursor moves back to the first menu in the upper-left menu block and you will again see the message about pressing Retn to choose a menu, or pressing Esc to cancel the command.

4. Move the cursor to the page number where you want the menu to be located, then press Retn.

   The menu name is moved to the new location. The cursor is returned to the Move command.

When you leave the Menu Manager, then select the page you moved the menu to, you will see the menu on that page. You can move a menu to any available page.



CHANGING PERMISSIONS ON A MENU

As a system administrator, you can change the permission on any of the menus installed in AOM so that only you have access to that menu.

To change the permissions on menus:

1. Select the **Perm** command by moving the cursor to the command and pressing Retn, or by typing **p** (see Figure 6-11).

   The cursor moves to the first menu in the upperleft menu block. A message tells you to press the Spacebar to change the permission on the menu, or to press Esc to cancel the command.

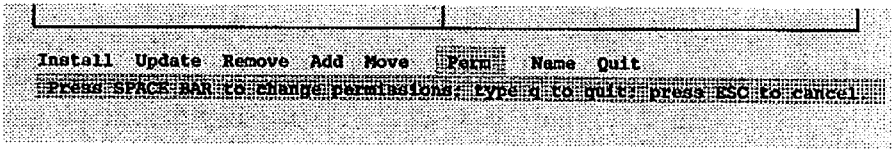


Figure 6-11. Perm Command

3. Move the cursor to the menu you want to change, then press the Spacebar.

   An asterisk (*) is displayed to the left of the page number and the menu name. You can continue changing permission on other menus by moving the cursor to the menu, then pressing the Spacebar.

   To change the permission back so anyone can use the menu, move the cursor to the menu you want to change, then press the Spacebar. The asterisk is removed.

4. When you are done, press **q** to quit, or Esc to cancel the command.

CHANGING THE NAME OF AN AOM PAGE

You can change the name of an AOM page to something you like better by using the Name command.

All the AOM page names are numbered and listed across the top of the Menu Manager. There are eight pages as Figure 6-12 shows.

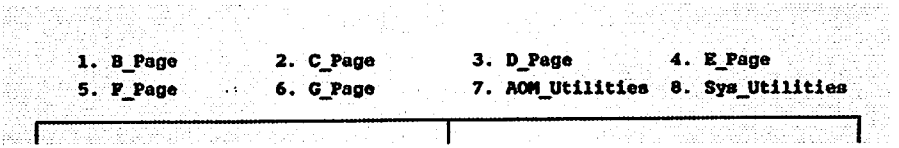
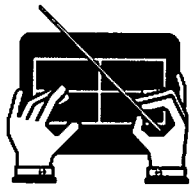


Figure 6-12. Page Names

To change the name of an AOM page:

1. Select the Name command by moving the cursor to it and pressing Retn, or by typing **n** (see Figure 6-13).

   The cursor moves to the first AOM page name in the rows of names at the top of the Menu Manager. A message tells you to press Retn to select the page you want to rename, or press Esc to cancel the command.




```
Install  Update  Remove  Add  Move  Perm  Name  Quit
To change the name of a page, press RETN.
```

Figure 6-13. Name Command

3. Move the cursor to the page you want to name, then press Retn.

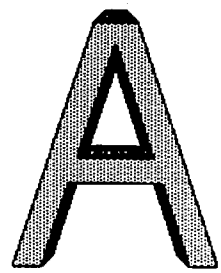
   The existing name is removed.

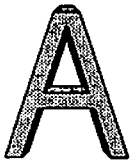
4. Type the name of the page. The name can contain up to 15 characters, and must start with a letter that is different from the existing page names.

5. Press Retn.

   The name is inserted and the cursor returns to the Name command.

Appendix A
Business Shell Menu System





ACCESSING THE BUSINESS SHELL MENU SYSTEM

This section describes how to use the Business Shell and its programs. You use these programs to create directories and files, send messages to other users, and save and restore files. Figure A-1 on the next page shows the organization of the Business Shell menus. (The UNIX System V menus will look a little different.)

If BSH is set up as your default shell, you will automatically enter BSH when you log in. If it is not your default shell, then at the system prompt, type **bsh** and Retn. To learn how to log in to the system, refer to Chapter 1, "Using the AOM Menu System" in Part I of this manual.

How to Use the Business Shell

The Business Shell accesses programs for file management that a regular user needs and system management utilities that an administrator needs. These programs ask you for appropriate information, and then do the necessary work for you. The Business Shell menus group programs so you can access them efficiently.

To select a program, type the letter to the left of that program, but do not press the Retn key. Sometimes another menu appears with additional selections that you can choose (e.g., **k** for System Administration).

To return to the previous menu, press the Retn key when any menu prompt is displayed.

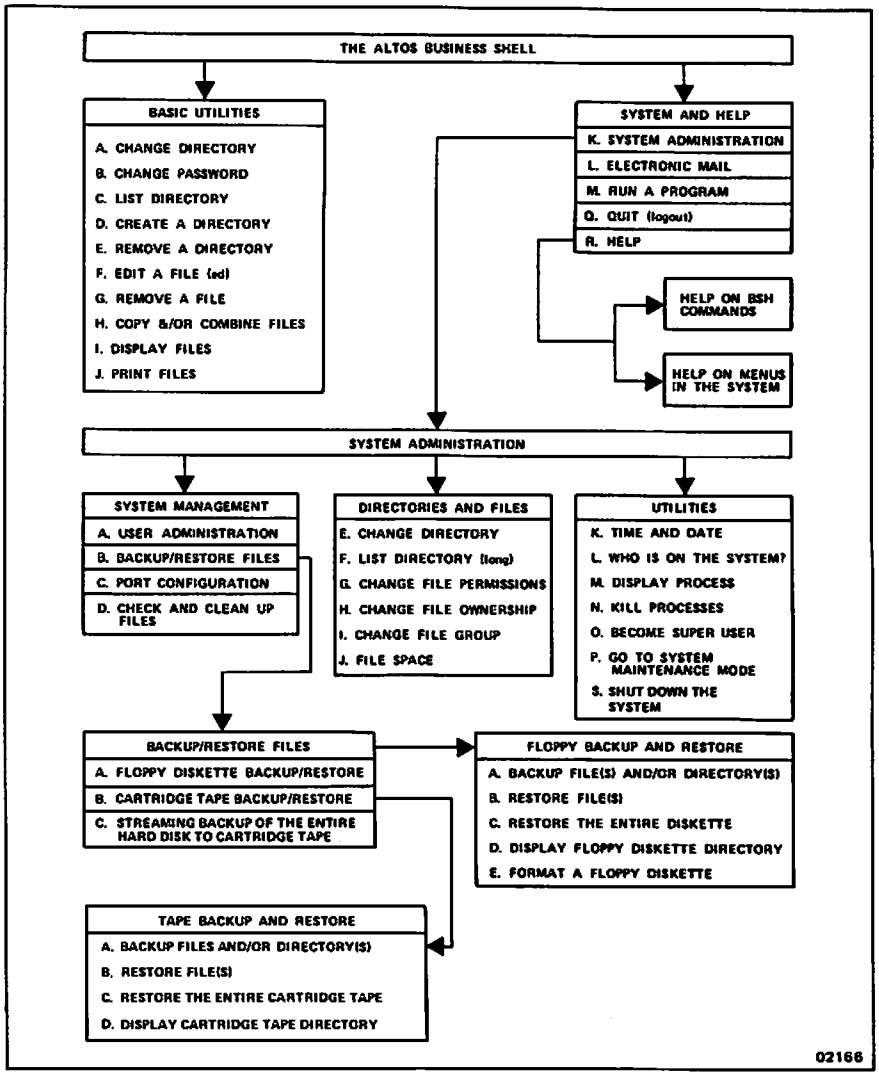
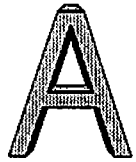


Figure A-1. Organization of the Business Shell Menu System



Fast Mode/Slow Mode

The Business Shell operates in either fast mode or slow mode.

In the fast mode, when you type a letter for a menu item, the system responds immediately. You do not need to press the Retn key.

In the slow mode, the system does not respond until you press the Retn key.

In either mode, when you wish to enter a command that does not begin with a lower-case alphabetic character, such as **?**, **??**, or Name?, you must end the command by pressing the Retn key.

To change from the fast mode (the factory or default setting) to the slow mode when you see the following prompt:

```
Type a letter to make your selection > ?mode
```

Type **?mode.** You will then see the following:

```
Mode = FAST: change to slow?  (y/n) y
```

Type **y** to change to slow mode. To return to fast mode, type **?mode** again, then **y.**

BASIC UTILITIES

Basic utilities you can access include:

- Change password
- Create a directory

- List directory
- Remove a directory
- Create and edit a file
- Remove a file
- Copy and/or combine files
- Display files
- Print files

Figure A-2 shows the Business Shell main menu, which contains Basic Utilities and System and Help selections. Refer to this figure for the individual command descriptions in this Appendix.

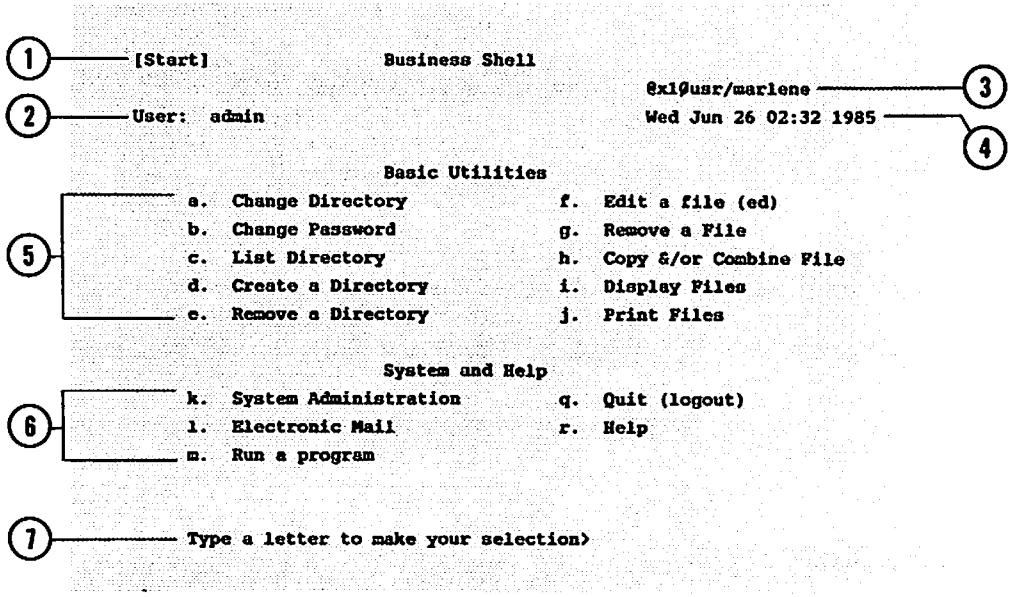


Figure A-2. The Business Shell Main Menu

The parts of the menu are defined as follows:

1. The menu name (top, center)
2. The current user (your login name in upper-left corner)
3. The complete pathname (upper-right corner)
4. The date and time (upper-right corner)
5. The basic utilities (first group of letters)
6. The system and help utilities (second group of letters)
7. The menu prompt (bottom)

Create a Directory

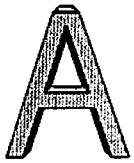
We recommend that you set up a directory to contain related files. Then, you can go directly to a set of files. This is similar to opening a file drawer devoted to one subject. You can also create a directory (called a subdirectory) within a directory.

It's best to limit the number of files contained in a directory. If a directory contains more files than can fit on a screen when you display the directory contents, archive or remove the files you no longer need, or create a subdirectory in that directory.

To create a directory, type **d**, Create a Directory. The prompt "Name of directory(s) to create?" appears. Enter the name of the directory you wish to create, and press Retn.

To verify that the directory was created, type **c**, List Directory.

If you have two hard disks and are working on the first hard disk, you can create/access directories and files on the second hard disk. Select **a**, Change Directory, and type **/usr2** and press Retn.



Your working directory is now on the second hard disk. You can, if you wish, work from the first to the second hard disk. For example, if you are working on the first hard disk and want to create a directory named accounting on the second hard disk, select **d**, Create a Directory, and type **/usr2/accounting** and press Retn.

List a Directory

To list the contents of a directory, type **c**, List Directory. Directories within directories are indicated by a slash (/) after the name, for example, newuser/ (see Figure A-3).

```
asktime*      init*          mtab          shutdown*     update*
checklist     menusys.bin    newuser/      systemid      utmp
getty*        mkfs*          sgroup        termcap       wall*
group         mknod*         spasswd       ttys
haltsys*      mtod           passwd        ttytype
init*         mount*         rc*           unmount*
```

Figure A-3. List a Directory

Change a Directory

To change to another directory, type **a**, Change Directory. The prompt "Change to which directory?" appears. Enter the name of the directory you wish to access, and press Retn. The system changes to the specified directory and places the name of that directory above the date in the upper-right corner of the Business Shell menu.

Remove a Directory

To remove a directory, type **e**, Remove a Directory. The prompt "Name of directory(s) to remove?" appears (see Figure A-4). Enter the directory(s) and press Return. Note that you can't be working in the directory that you want to remove. Check your current pathname, which is displayed in the upper-right corner above the date. If necessary, change the directory by selecting the Change Directory menu item.

```
[Start]                    Business Shell
User:  admin                                    Wed Jun 26 02:32 1985

                           Basic Utilities
     a.  Change Directory                  f.  Edit a file (ed)
     b.  Change Password                   g.  Remove a File
     c.  List Directory                    h.  Copy &/or Combine File
     d.  Create a Directory                i.  Display Files
     e.  Remove a Directory                j.  Print Files

                           System and Help
     k.  System Administration             q.  Quit (logout)

Name of directory(s) to remove?
```

Figure A-4. Remove a Directory

After removing a directory, type **c**, List Directory, to verify that it was removed.

CAUTION

When you remove a directory, all of the files in that directory are also removed. If you want to save a file, copy it to another directory before you remove the first directory.

Create and Edit a File

A computer file is similar in concept to a paper file; they both contain information. A file can contain the text of a letter, financial data, or a list of customers. A file can contain as little or as much information as you want.

To create and edit a file, type **f**, Edit a File (ed). The prompt "Name of file(s) to invoke editor on?" appears. Enter the file name and press Retn to start your editing session. Refer to the section about the Ed text editor in your system's User Guide for editing instructions.

Display a File

To display a file, type **l**, Display Files. The prompt File "File(s) to display?" appears. Enter one or more files, each separated by a space and press Retn. Enter the full pathname of the file; if it's in your current directory, just enter the file name.

The content of the first file is displayed. If a file is longer than one screen, "--More--" and the percentage of text that has been displayed appears at the bottom of the screen. Press Spacebar to see the next screenful. Press Retn to display each subsequent line in the file.

If you enter more than one file name, press Retn to view the next file.

You can exit the file at any time without affecting its contents by pressing Break/Del.

Copy and Combine Files

To copy or combine files, type **h**, Copy and/or Combine Files. You are prompted for the names of the "old file(s)" and the "new file." The names of the old and new files must be different.

For example, if you enter a single old file, junel, and a single new file, junel.new, your directory now contains two files with different names and identical content. You have a back-up file for security. Should you destroy part of a file, you can retrieve the other copy. Note that the old file contents will write over the contents (if any) in the new file.

You can copy two or more files into a new file; when prompted for old files, separate file names with a space. Files are attached one after the other in the order you enter them. To copy files from the first to the second hard disk, enter

old file(s) **/usr/*dirname/filename***
new file **/usr2/*dirname/filename***

where

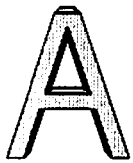
dirname = the name of the directory.

filename = the name of the file you wish to copy.

You can omit the new name if you want the file name to be the same on both disks.

For example, to copy a file named sales (in the accounting directory on the first disk), enter

old file(s) **/usr/accounting/sales**
new file **/usr2/accounting**



Print a File

To print files, type **j**, Print Files. The prompt "File(s) to print?" appears. Enter the name of the file to be printed and press Retn. If you want to print more than one file, separate file names with a space. (Your system must be configured to a connected printer.)

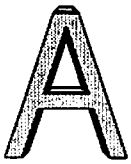
Remove a File

To remove a file, type **g**, Remove a File. The prompt "Name(s) of file(s) to remove?" appears (see Figure A-5). Enter the file name or multiple file names each separated by a space, and press Retn. List the directory to verify file removal.

If you enter a directory name instead of a file name, the word "directory" appears and nothing is deleted.

```
[Start]                    Business Shell
User:  admin                                        Wed Jun 26 02:32 1985
                           Basic Utilities
     a.  Change Directory                  f.  Edit a file (ed)
     b.  Change Password                   g.  Remove a File
     c.  List Directory                    h.  Copy &/or Combine File
     d.  Create a Directory                i.  Display Files
     e.  Remove a Directory                j.  Print Files

                           System and Help
     k.  System Administration             q.  Quit (logout)

Name(s) of file(s) to remove?

(Type RETURN to continue)
```

Figure A-5. Remove a File.



Change a Password

To change your password, type **b**, Change Password. You are prompted to enter your old password. You are asked to enter a new password, and then asked to retype the new password. The password does not show on the screen. (The section "Using System Utilities" in Chapter 3 describes more about passwords.)

SYSTEM AND HELP

You can use system administration utilities, run a program, see help screens, log out of the system, and send and receive electronic mail by using the System and Help menus.

Using Electronic Mail

The system provides a convenient way for you to send and receive messages to other users on the system via electronic mail. After receiving mail, you can save it in various places (files) or discard it.

To send and receive mail, type **l**, Electronic Mail. The prompts "Receive mail" or "Send mail" appear (see Figure A-6).

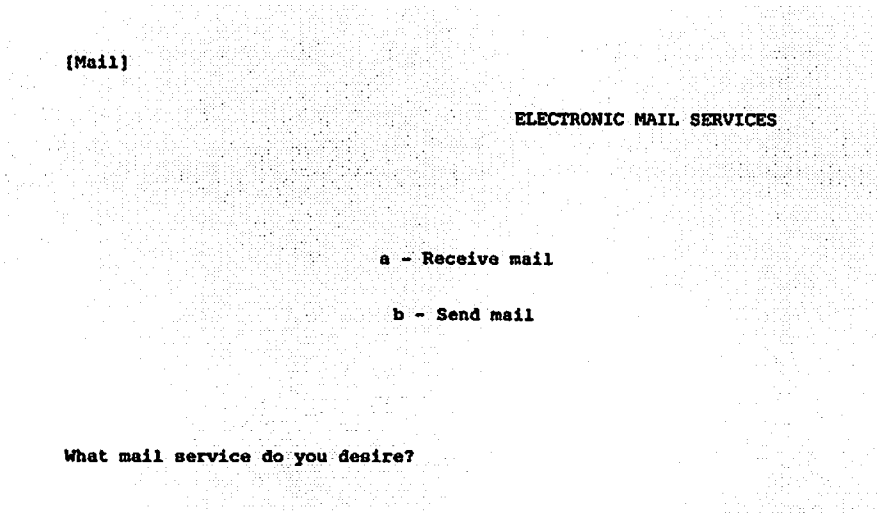


Figure A-6. Using Electronic Mail.

Sending Mail

To send mail, type **b**. Enter the login name of the person(s) you are writing; separate names with a space and press Return. Then type the message, using the keys shown in Table A-1 for editing.

Table A-1. Editing Keys.

Keys	Results
Arrow keys	Move the cursor
BACKSPACE	Deletes a character to the left of the cursor
DEL CHAR	Deletes a character at the cursor
INS CHAR	Inserts a character at the cursor
Retn	Ends a line; goes to the beginning of the next line

When finished, send the message by typing Retn and Ctrl-d. Press Retn to return to the previous menu.

Receiving Mail

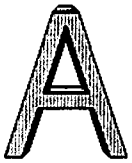
To receive mail, type **a**. All messages in your mail file are displayed, one after the other, starting with the most recent one. After a message displays, a question mark (?) prompt appears. When the ? prompt displays, you have the options shown in Table A-2 on the next page.

Table A-2. Mail Options

Options	Results
Retn	Displays the next message. If there are no more messages, returns you to the previous menu
d Retn	Deletes the last message, displays the next message
m user Retn	Mails the message to a specified user
p Retn	Displays the previous message again
q Retn	Quits, returns to the prompt line
s [file] Retn	Saves message in your current directory's mbox file, or the file you specify
w [file] Retn	Writes the message (without heading) to your current directory's mbox file, or the file you specify
x Retn	Exits to the prompt line without changing the message

Running a Program

All of the menu items in the menu systems are programs. When you select a menu item you are in effect causing the program to execute. For example, pressing the **f** key in the Business Shell, causes execution of the "editor" program.



You may want to run a program that is not in the Business Shell. To do so, type **m**, Run a Program, under the System and Help section of the Business Shell main menu.

Executing a Program

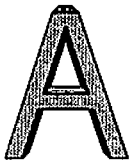
You can execute a program in either an a.out or arbitrary file. The a.out file usually contains the result of the last compilation. Type **a** to execute the program in the a.out file. Figure A-7 shows the prompt for this program.

```
[Execute]                                                    RUN A PROGRAM

     Type
     a          - Execute the program in file "a.out"

     b          - Help on running programs

     !program   - Run an arbitrary program

     Type a RETURN to go back to the previous menu.

     Command>
```

Figure A-7. Execute a Program.

Using the ! Command

You can run a program by entering the ! command from almost all menu prompts in the Business Shell. When you enter !, you exit from the Business Shell and can enter system commands directly.



Then you can use system commands (including commands not available through the Business Shell). Refer to the section "Moving Between Shells" in Chapter 3 for details.

OBTAINING HELP WHILE IN THE BUSINESS SHELL

The Business Shell contains Help menus for each menu in the system. To display Help information for the menu in which you are working, enter ? Retn. The Help description for the menu is displayed (see Figure A-8). The commands that give help information are as follows:

Retn	Display help for current menu
Name? Retn	Display help for the named menu
Mail? Retn	Display help for the "mail" menu
index Retn	Display an index of the available menus

When asking for help for a named menu (for example, Backup? Retn), capitalize the first letter of the name (so the menu system doesn't think you are selecting a menu item).

To display the Help menu, type **r**, Help, under the System and Help section of the main menu. You have the option of selecting

a. A list of Business Shell commands

b. A list of menus in the system


```
[Help]                                  HELP IS AVAILABLE ON THESE SUBJECTS

     BSH is a "user-friendly" menu system which allows you to
interface with the operating system in a simple manner. It is a nice
interface to the operating system for running applications and for
system maintenance and administration.

     BSH contains "help" menus for each of the menus in the system.
You may display an index of the available menus by selecting the Dir
menu, or you may issue the ? index command.

          a.   Help on BSH command
          b.   List of menus in the system

Make a selection or type a RETURN to go back to the previous menu >
```

Figure A-8. Help Menu

Business Shell Commands

When you type **a**, command descriptions are displayed (see Table A-3). Select the letter to the left of the command to see more explanation.

Table A-3. BSH Commands.

Select Command	Short Explanation
prompt	Executes the function associated with the menu entry (for example, type either a, b, or c).
menu	Goes to the named menu.

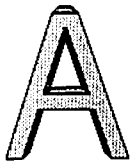
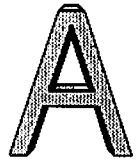


Table A-3. BSH Commands (Continued)

Select Command	Short Explanation
<Return>	Returns to the preceding menu. By entering successive Returns, you can retrace the path through the menus.
? or ??	Shows the help menu for the current display. Return from a help menu by entering Retn.
name?	Displays help information for the named menu.
!command	Causes immediate exit to the system shell. The rest of the line is executed in a sub-shell. Return to the Business Shell by entering Ctrl-d. You can select a specific shell: the standard system shell (sh) or the Business Shell (bsh). See the section "Moving Between Shells" in Chapter 3.
?index	Displays the name of every menu in the current menu system. The "Dir" menu contains a short version of the index.
?mode	Sets the mode as either fast-mode or slow-mode.
Quit	Exits the Business Shell and returns control to the system.



Business Shell Menus

When you type **b**, menus in the system are listed as shown below:

```
Backup          FloppyBackup      Start
Backup?         FloppyBackup?     Start?
Commands?       Help              SysAdmin
Dir             Help?             SysAdmin?
Dir?            Mail              TapeBackup
Execute         Mail?             TapeBackup?
Execute?
```

BECOMING THE SYSTEM ADMINISTRATOR

The section below explains how to become system administrator (super user) after you are in BSH. Refer to Chapter 4 "The System Administrator" in Part II for an explanation of how to become the System Administrator before getting into BSH or AOM. How to become the system administrator (super user) once you have logged in:

1. If you are in the Business Shell (as a regular user), type **k**, System Administration. Then type **o**, Become Super User.

2. When you are prompted for the password, enter root's password.

When you finish the system administration function(s), you can return to your user account by pressing **q** in the Business Shell.

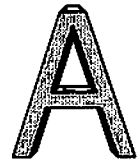
The system administrator responsibilities are explained in Chapter 4. A special password should be set up for the system

administrator. The section Setting and Changing Passwords in Chapter 1 explains how to set up a password.

SYSTEM ADMINISTRATION MENU

The rest of this chapter tells you how to check and maintain the system, e.g., back up and restore files, add a new user, and change file ownership.

To access the system administration utilities from the Business Shell, type **k**, System Administration. The System Administration menu appears (see Figure A-9).



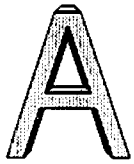

```
[SysAdmin]                          SYSTEM ADMINISTRATION UTILITIES

User:  admin

       System Management                    Directories & Files

a.   User Administration            e.   Change Directory
b.   Backup/Restore Files           f.   List Directory (long)
c.   Port Configuration             g.   Change File Permissions
d.   Check and Clean Up Files       h.   Change File Ownership
                                    i.   Change File Group
       Utilities                    j.   File space

k.   Time and Date
l.   Who is on the System?
m.   Display Processes
n.   Kill Processes
o.   Become Super User
p.   Go to System Maintenance mode
s.   Shut Down the System

What system administration function do you desire?>
```

Figure A-9. The System Administration Menu

USER ADMINISTRATION

To add users to the system or change user characteristics,

1. Access the Business Shell as the super user.
2. Type **k** to access the System Administration menu (see Figure A-9, shown above).



3. Type **a** to access the User Administration program.

The User Administration screen appears (see Figure A-10). The User Administration commands and guidelines for creating or changing a user account are explained in the section "Add and Change User Accounts" in Chapter 5.

```
                    User Administration

Commands:  show, add, delete, change, user, Users, group, Groups,
           help, !, quit


Command?
```

Figure A-10. User Administration Screen

CONFIGURING THE PORTS

For your system to work properly with a printer or terminal, the system needs to know certain things about that printer or terminal. Your system is already set up so you can connect Altos terminals and standard printers to the ports on the back of the computer.

If you want to connect another type of printer or terminal, use the Port Configuration program. You must be the super user (admin or root) to use this program.

You can't change a port while it is being used, so ask the user to log off before you begin.

To access the port configuration program,

1. Type **k** to select the System Administration menu.

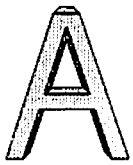
2. Type **c** to select the Port Configuration program (see Figure A-12). The following screen shows an example of the terminal and printer assignments for the ports on an Altos 2086 system for 10 users (your screen may differ slightly).

NOTE

To stop the screen from scrolling (the text rolling up on the screen), press Ctrl-s. To continue scrolling, press Ctrl-q.

```
PORT00    console   terminal   altos3          9600
PORT01    tty01     printer          default          none   8 bits
PORT02    tty02     terminal   altos3          9600
PORT03    tty03     terminal   altos3          9600
PORT04    tty04     terminal   altos3          9600
PORT05    tty05     terminal   altos3          9600
PORT06    tty06     terminal   altos3          9600
PORT07    tty07     terminal   altos3          9600
PORT08    tty08     terminal   altos3          9600
PORT09    tty09     terminal   altos3          9600
PARALLEL  plp       none

Commands:  (c)hange port.     (d)isplay.    (h)elp.     (q)uit
           (r)emove port.     (t)est printer

Type a command (c, d, h, q, r, t) and press RETURN:
```

Figure A-11. Port Configuration Program



Port configuration commands are explained in the section "Set Up the Ports for Terminals and Printers: Configure a Port."

BACKING UP AND RESTORING FILES

You should regularly back up the file system on your hard disk by making copies of those files on floppy disk or tape. If your system is used heavily, you should back up weekly, or better yet, daily.

You should make several copies of sensitive or potentially expensive data or programs. If a file system crash occurs, or if your tape or floppy disk becomes damaged, you will then have a backup copy.

You can back up and restore single files and whole directories or subdirectories.

1. Type **k** to access the System Administration menu.

2. Type **b** to access the Backup/Restore Files menu (see Figure A-13).

3. The Backup/Restore menu appears. You can back up to floppy disk and tape. (The Backup/Restore menu for UNIX, does not include streaming backup.)

For information about naming files, see the section "Naming a File or Directory" in Chapter 2.

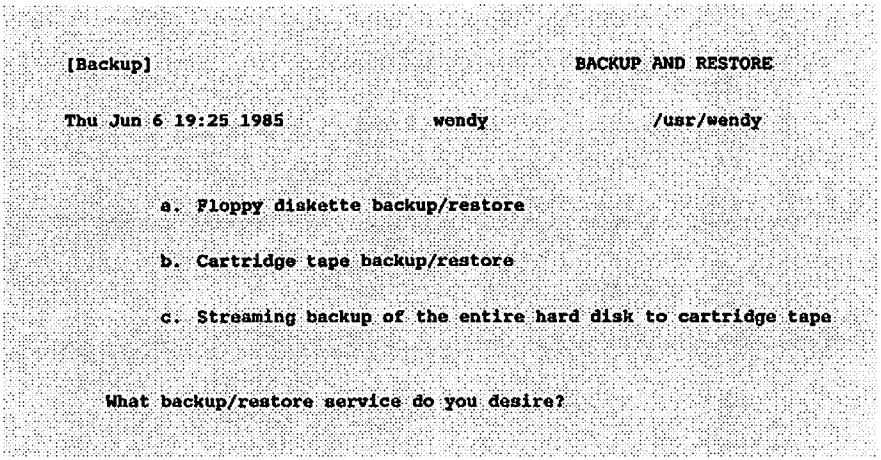


Figure A-12. Backup/Restore Files Menu

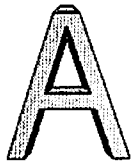
Floppy Disk Backup/Restore

You can back up and restore directories and files on floppy disk.

Formatting Disks

To save a file or a group of files, you need a sufficient number of floppy disks that have been formatted for double-density operation.

To estimate the number of floppy disks you will need, each disk can hold about 250 printed pages. Files are saved across disk boundaries, so you can use all disk space. Be sure to format enough floppy disks before you begin the backup process. Remove the write-protect tab before you format the floppy disk (see Figure 2-7 in Chapter 2 for a picture of the write-protect tab). Remember that formatting a disk will erase any information on the disk, so be sure the disk contains no information you value.



To format a floppy disk,

1. Type **k**, System Administration.
2. Type **b**, Backup/Restore Files.
3. Type **a**, Floppy Diskette Backup/Restore.
4. Type **e**, Format a floppy disk.

You are prompted to choose a number:

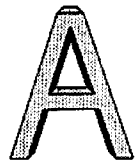
```
1 - Altos format                    /dev/fd096ds9
2 - IBM-AT (slow) format    XENIX   /dev/fd048ds9
3 - IBM-AT (fast) format    XENIX   /dev/fd096ds15
4 - Quit

Command: [default Altos]
```

The directions on the screen will tell you when to insert a floppy disk for formatting.

Backing Up Files

To back up a file on floppy disk,

1. Type **k**, System Administration.
2. Type **b**, Backup/Restore Files.
3. Type **a**, Floppy Diskette Backup/Restore. The Floppy Backup and Restore menu appears on the screen.




```
[FloppyBackup]                                  FLOPPY BACKUP AND RESTORE

Fri Jul 5 04:42 1985            admin

          a.  Backup file(s) and/or directory(s)

          b.  Restore file(s)

          c.  Restore the entire diskette

          d.  Display floppy diskette directory

          e.  Format a floppy diskette

        What floppy backup/restore service do you desire?
```

Type **a**, Backup file(s) and/or directory(s). Then type the name of the file(s) and/or directory(s) you wish to back up. Separate names with a space. All file names must be typed. Wildcard characters cannot be used.

The form of file and directory names you use is important. If you specify a file or directory with a complete pathname, such as

/usr/john/tempest.c Retn

the backup procedure makes note that a complete pathname was used. When the file is restored, it's put back as /usr/john/tempest.c, regardless of the working directory of the restorer. The restore overwrites any previous file of that name, and, if necessary, creates a directory in which to put it. A complete pathname is one that begins with "/."

The system tells you to remove and insert floppy disks whenever files or directories are too big for a single disk. Label and number the disks. (Be sure to indicate the total number, such as 1 of 5, 2 of 5, and so forth.) The sequence of disks is important because files are being saved across disk boundaries. The first part of a file may be on one disk, the rest on the next disk. Restore files in the order they were backed up. When you finish, store the floppy disks in a safe place.

Restoring Files

To restore a directory with all its subdirectories and files, do the following:

1. Insert the first floppy disk in the sequence.

2. Change to the name of the directory to be restored.

3. Type **b**, Restore file(s) or **c**, Restore the entire diskette.

For example, to restore all the files in the directory named /usr/wendy (the only contents of one floppy disk), insert the disk, and type **c**, Restore the entire diskette.

It is not necessary for the restore designation to match the designation used to save the files. In the example above, the /usr/wendy files can be restored from files saved under /usr.

Listing Saved Files

To list the files on a floppy disk, type **d**, Display floppy diskette directory.

Cartridge Tape Backup/Restore

You can back up and restore from the hard disk to cartridge tape. You must be system administrator to use this procedure. To back up to cartridge tape,

1. Type **k**, System Administration.
2. Type **b**, Backup/Restore Files.
3. Type **b**, Cartridge Tape Backup/Restore (see Figure A-13).

The Cartridge Tape Backup/Restore menu appears.

```
[TapeBackup]

                                        TAPE BACKUP AND RESTORE

Tue Jun 25 18:48 1985              wendy

          a.  Backup file(s) and/or directory(s)

          b.  Restore File(s)

          c.  Restore the entrie cartridge tape

          d.  Display cartridge tape directory


     What tape backup/restore service do you desire?
```

Figure A-13. Tape Backup/Restore

Select **a** to back up file(s) and/or directory(s). Enter the name of the file(s) and/or directory(s) when you are prompted, and press Retn.

Additional information about using tape backup is available in the help menus.

To restore the contents of your hard disk from tape:

- Type **b** to restore file(s). A message on the screen asks you to enter the name of the file(s), then press Retn.
- Type **c** to restore the entire cartridge tape. A message on the screen asks you to place the tape in the drive and press Retn when ready.

CAUTION

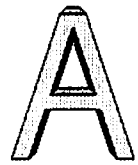
If you restore the entire cartridge tape, you will overwrite all existing data on the hard disk and restore the hard disk to the condition it was when the backup was made.

Streaming Mode Tape Backup/Restore [XENIX Only]

In XENIX, you can back up and restore from the hard disk to tape using the streaming mode. You must be system administrator to use this procedure.

NOTE

The 586/986 do not have the streaming backup option.



Backing Up Files

To back up the entire hard disk to tape in the streaming mode,

1. Type **k**, System Administration.

2. Type **b**, Backup/Restore Files.

3. Type **c**, Streaming backup of the entire hard disk to cartridge tape.

A message on the screen asks you to place a tape in the drive, and press Retn when ready.

After you insert the tape and press Retn the screen displays information about the backup. For example,

```
Tape number: 1
Date created: Mon Oct 29 16:11:11 1984
Starting block number: 0
File system name: /dev/rhd0b
```

The entire file system on the hard disk is copied to the tape. This process can take from 15 to 20 minutes for a 40-megabyte hard disk. If you want to stop the backup, press Break/Del.

During the backup procedure, the system may find a disk sector that should not be used. The system flags that sector and displays a message about the bad sector. When you restore the file system, any bad sectors are skipped.

If you want to restore the file system from the tape to the hard disk, use the restore option on the main menu (see the next section for directions).

Restoring Files

To restore the entire contents of your hard disk from tape,

1. Shut down and reboot XENIX from the "XENIX Root File System" floppy disk (follow the procedures described in your Installing XENIX manual).

2. From the main menu, enter **c** Retn, Restore data to the hard disk from cartridge tape.

3. Insert the tape and follow the instructions on the screen.

CAUTION

The restore utility will overwrite all existing data on the hard disk and restore the hard disk to the condition it was when the backup was made.

Backing Up/Restoring the Second Hard Disk

To back up all files on the second hard disk,

1. Insert the tape.

2. Enter !

3. Enter at the system prompt:

   /etc/umount /dev/hd1a Retn
   archive /dev/rhd1a /dev/rsct Retn

4. When complete, press Ctrl-d, then press Retn to return to the BSH menu.

To restore files from cartridge tape to the second hard disk,

1. Insert the tape.
2. Enter **b** Retn, Cartridge Tape Backup/Restore.
3. Enter

```
/etc/umount /dev/hd1a Retn
recover /dev/rsct /dev/rhd1a Retn
```

CHECKING AND CLEANING UP FILES

The file system check program examines and cleans up the file system. You should use this program at least once a day, as it can improve system performance. All users should be logged off.

CAUTION

The System may be shut down by this procedure.

To verify and repair any inconsistencies in the /dev/root file system:

1. Log in as system administrator and type the password. The Business Shell main menu appears on the screen.
2. Type **k** to select the System Administration.
3. Type **d**, Check and Clean Up Files.

For an explanation of the file system check program, see the section "Check the File System" in Chapter 5.

The system automatically clears and salvages the file system, and then shuts down the system. Restart the system. See Booting From the Hard Disk later in this chapter for instructions for XENIX. For how to bring UNIX up for all users, see the UNIX System V documentation.

OTHER UTILITIES

The utilities discussed in this section are listed in the Utilities and Directory Files menus in the System Administration menu. The Change Directory utility is discussed in the previous section "BASIC UTILITIES." Becoming the super user is discussed at the beginning of this chapter.

Listing Directory

Listing your current directory in the long format displays access permissions, the number of characters in the file, and the date of the last changes made to the file.

To list your current directory, type **k**, System Administration. Then type **f**, List Directory (long). Figure A-14 shows an example.

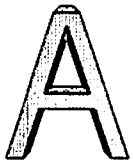

```
Directory:   /etc

total 152
-rwxr-xr-x   1    root     sys        329    Jan 27  00:00   asktime*
-rw-r--r--   1    root     sys         10    Jan 27  00:00   checklist
-rwx--x--x   1    root     sys       1982    Jan 27  00:00   getty*
-rw-r--r--   1    root     0           44    Jan 27  00:00   group
-rwx--x---   1    root     sys       3564    Jan 27  00:00   haltsys*
-rwx--x--x   1    root     sys       1230    Jan 27  00:00   inir*
-rwx--x--x   1    root     sys       4784    Jan 27  00:00   init*
```

Figure A-14. List Directory Example

The directory name and size are at the top of the listing. The size of the directory is given in 512- byte blocks for the 586 and 986 and 1K byte blocks for the 2086 series, 586T, 986T, and 3068. See Displaying Disk Usage for more information about blocks. The columns in this listing are explained in the section "List Details About Files in a Directory" in Chapter 2.

Changing File Permissions

To change file permission, type **k**, System Administration. Then type **g**, Change File Permissions. The prompt "File(s) for which permissions are to be changed?" appears. Enter the file name (or names separated by a space) and Retn. The screen displays the current permissions and prompts: "Change files to permission." The sections "Change File Permissions" and "List Details About Files in a Directory" in Chapter 2 explain the meaning of the permission symbols ls (-rwx).



First, enter the class(es) of users for which permission is to be changed. This is some combination of

u = user (you)
g = group
o = other
a = all three: u, g, and o (the default).

You can add (+) or remove (-) one of the three permissions: "r" (read), "w" (write), or "x" (execute). For example, if you want group members to execute one of your files, enter

g+x Retn

If you want to deny group members and all others read permission for a file, enter

go-r Retn

Changing File Ownership

To change file ownership, type **k**, System Administration. Then, type **h**, Change File Ownership. The prompt "File(s) for which ownership is to be changed?" appears. Enter the file name(s) and press Retn. You are shown the current owner(s) for the file(s), and prompted "Change file to owner." Enter a valid owner name. When you list the directory, that directory's file(s) and new owner are displayed.

Changing File Groups

To change file groups, log in as super user. Type **k**, System Administration. Then, type **i**, Change File Group. The prompt "file(s) for which the group is to be changed?" appears. Press Retn if you wish to see the current groups for the files. After you enter the file name(s), the "current group(s) for these files" displays. Then the prompt "Change files to group:" appears. Enter a valid group name.

Displaying Disk Usage (File Space)

To see how much free space is available on the system's hard disk, select j. File Space. After several seconds, a message displays /dev/hd0b, followed by a number of blocks and inodes.

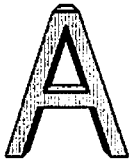
Each block contains 512 bytes for the 586 and 986, and 1K bytes for the 2086 series, 586T, 986T, and 3068. Every character is roughly equivalent to a byte, including special characters that don't display on the screen like line feeds, and carriage returns. This gives you an idea of how much room is left on the disk.

If the number of blocks is below 500, you should consider obtaining additional space by deleting files no longer used.

To display disk usage, type **k**, System Administration. Then type **j**, File Space.

```
Free Blocks:

File system   Kbytes  used  avail  capacity  Mounted on
/dev/root     124151  59974 64177  48%       /

Disk Usage:

1     ./diskette
2     ./outbox
3     ./inbox
30    ./XenixDevSys
63    .
```

Figure A-15. Display File Space



The screen displays

- The remaining disk space (free blocks)
- The directories and their block size (in 512-byte blocks)
- The total number of the blocks in your current directory (denoted by the period).

To determine individual file sizes, display disk usage in the system shell, see the *XENIX Commands Directory* or *Reference* and the *UNIX Commands Directory.*

Displaying or Setting the Date and Time

To display or set the date and time, type **k**, System Administration. Then type **k**, Time and Date. You can press Retn to display the date and time.

You will see the prompt:

```
Current date and time:
  - type RETURN to see the date and time.
  - type YYMMDDHHMM to set the date and time
```

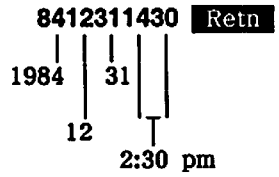
NOTE

(UNIX displays YYMMDDhhmm)

You can set the time and date by entering the year, month, day, hour, and minutes using the format:

YY = current year
MM = current month
DD = current day of month
HH = hour (24 hour clock) (hh for UNIX)
MM = minutes (mm for UNIX)

For example, enter December 31, 1984, 2:30 p.m. as



Displaying Who is on the System

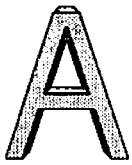
To display who is currently logged on the system, type **k**, System Administration. Then type **l**, Who is on the System?

Displaying Processes

All processes on the system are assigned a process identification (PID) number.

Occasionally, a program may go awry; it may loop forever or lock up your terminal. If this happens, identify the process causing the problem.

To display currently active processes, type **k**, System Administration. Then type **m**, Display Processes, to display information on all system processes in the long listing format (see Figure A-16). the column headings that appear on the screen are explained in the section Display Processes in Chapter 3.




```
Process Status

F S UID   PID PPID C  PRI NI ADDR SZ WCHAN STIME    TTY  TIME CMD
3 S root    0    0 11   0 20 20    4  49e0       ?    ?  290:56 swapper
0 S root    1    0  0  30 20 123  16 5ac2       ?    ?    0:02 /etc/init
0 S root   34    1  0  28 20 193  12 4336  14:13:00 2      0:00 -2 (getty)
1 S root   31    1  0  40 2b  3a  12 f000  15:12:00 co     0:01 /etc/update
0 S root   63    1  0  30 2b 10b  12 5aea         .  co     0:03 -sh -c /usr/lib/bsn
0 S root   78   63 24  30 20 143  36 5b3a         .  co     1:08 /usr/lib/bin
1 S root  112   78 27  57 2b  23  44              .  co     0:01 ps -alx
```

Figure A-16. Display Processes

Killing Processes

You may find it necessary to stop a process because, for example, it locks up a terminal so you can't enter anything, or it is consuming so much of the system's resources that other tasks cannot be performed.

You can stop (kill) your own process, but you must be super user to kill another user's process. To kill a process,

1. Type **k**, System Administration, under the System and Help section of the main menu.

2. Type **m** to display system processes. Write down the process identification (PID) number for the processes you want to kill.

3. Then type **n**, Kill Processes. The prompt "Kill which processes?" displays.

4. Enter the process identification (PID) number (or numbers, separated by spaces) and press Retn.

After you kill a process, the main menu returns to the screen.

CAUTION

You should know which processes are safe to kill. Some processes must continue to run for the system to operate properly.

If you receive the message, "No such process," the process may have completed. Verify by displaying the process.

System Maintenance Mode

You can go to System Maintenance mode when you need to become the only user on the system. You can then, for example, install WorkNet.

To go to System Maintenance mode, type **p** from the System Administration menu. The screen displays the following:

```
System Maintenance mode will shut down all terminals except
the main console.

Do you want to shut down the other terminals?  (y/n)
```

To shut down other terminals, enter **y** Retn. A message will ask you to enter the number of minutes (0-15) until shutdown.

For XENIX, type in the number of minutes. After the specified minutes, XENIX shuts down, reboots, and displays the following:

```
System Maintenance mode (single user)
#
```

For UNIX, BSH automatically assigns a default time of 60 seconds, then begins shutting down the system. After the specified time, UNIX goes into Single User Mode. It displays on the screen a series of messages and finally:

```
INIT: SINGLE USER MODE
```

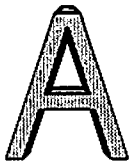
At this point you can work in the shell as the super user.

To bring the XENIX back up for other users, display the Options menu by typing **options** Retn. When you are finished with system maintenance, return to the Options menu by typing **a** Retn.

For UNIX, to bring the system back up for other users, see the System V Installing UNIX manual.

SHUTTING DOWN THE SYSTEM

If you have to turn off the power or reset your Altos computer system, you need to shut it down properly. You must be the super user to perform this function. For the UNIX operating system, the system is not shut down, but instead is brought to Single User Mode.



For how to stop and start the UNIX operating system, see the *System V Installing UNIX* manual.

To shut down the system for XENIX,

1. Log in as admin on the system console, and enter admin's password when prompted.

2. Type **k**, System Administration.

3. Type **s**, Shut Down the System.

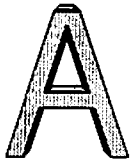
The remaining steps for this shut down procedure for XENIX is explained in the section "Stop and Start the Operating System" in Chapter 5.

RECOVERING FROM IMPROPER SHUTDOWN

If the operating system is not shut down properly, a file checking program will begin. For XENIX, you may receive the following message after you restart the system:

```
The system was not shut down properly.
The root file system will be cleaned.
(Type "no" only if you want to avoid cleaning.)
```

For UNIX, fsck runs, then the message "Boot UNIX no sync" is displayed. At this point, you turn the RESET/RUN key to RESET, then back to RUN, to start the system again.



The system validates the consistency of the disk file system, which may have been damaged, and automatically repairs it. If there is no damage, you will see the following:

```
/dev/root
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Free List

nn files nnn blocks nnn free
```

If the file system was damaged, it is repaired automatically and the system displays a log of the corrections that were made.

Then the system reboots automatically and asks you to enter the time and date.

If you have any doubt whether the file system has been repaired satisfactorily, you can restore the hard disk from backup files.

MOVING BETWEEN SHELLS

You can move between the Business Shell and the operating, and between the Business Shell and AOM. The section "Moving Between Shells" in Chapter 3 explains how to do these moves.

BOOTING FROM THE HARD DISK

The following procedure explains how to start up (boot) the XENIX system from the hard disk. For how to boot the UNIX system from hard disk, refer to the *System V Installing UNIX* manual.

1. Be sure that your terminal is connected to the console on the Altos computer system.

2. Turn on the Power Switch or, with the power on, reset the system. The screen displays

```
PASSED POWER-UP TEST
Monitor Version n.nn

Press any key to interrupt boot
```

Don't press a key, the monitor will go to the hard disk and read in the XENIX operating system. This requires about 20 seconds or so. Go to step 3.

If you happen to press a key, within a few seconds you will see a choice of possible entries for booting. Enter **1** to boot from the hard disk.

```
Enter (1) to boot from Hard Disk
Enter (2) to boot from Floppy Disk

Enter option:  1
```

3. A message appears that tells the version of XENIX and amount of available memory on your system.

   On some systems you will see a message asking you to press Ctrl-d to proceed with normal startup or enter the root password for system maintenance mode. When you are finished with system maintenance, press Ctrl-d to continue.

4. The screen displays the date and time. For example,

```
I think it's Thu Sep 27 18:08:10 1984
Enter date (yymmdd) or press RETURN
Enter time (hhmm) or press RETURN
```

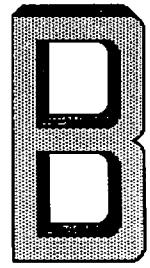
   Sometimes you may get a different message. It starts "The system was not shut down properly..." If you see this message, see Recovering From Improper Shutdown in this chapter.

5. When the login prompt appears on all terminals, respond with your user name and password, if one has been set.

LOGGING OUT

When you are finished working on the system, you should log out. To log out from the Business Shell main menu, enter **q**, Quit. Depending on how your system is set up, you may return to the system prompt. To log out from the system prompt, type Ctrl-d Retn.

Appendix B
AOM Error Messages



If a message appears on your screen that you don't understand, consult the following alphabetical list. Each message is followed by a description that tells you why the message appeared, and what to do about it.

If you see a message that is not on this list, it may be a system or application message. For these messages, consult the individual application manuals and the following manuals:

> *XENIX Commands Directory* (see messages in the section "Miscellaneous Files")
>
> *System V Programmer and Error Message Reference*

Cannot access file (file name).

> You tried to access a file that does not exist or that you do not have permission to read. Type another file name or ask the owner of the file to change the permissions so you can access it.

Cannot open directory (directory name).

You tried to access files in a directory that you do not have permission to search. Ask the owner of the directory to change the permissions so you can search it.

Cannot open file (file name).

You tried to access a file that does not exist or that you do not have permission to read. Type another file name or ask the owner of the file to change the permissions so you can access it.

Cannot read directory (directory name).

You tried to look at the contents of a directory you don't have permission to read. If you need to see the contents ask the owner to change the directory's permissions.

Directory already exists.

You tried to create a new directory that already exists. Select the **Create Directory** command again and type another name.

File already exists.

You tried to create a new file that already exists. Select the **Create File** command again and type another name.

File (file name) not found.

You typed the name of a file that doesn't exist. Select a name from the list below.

Help file not found: (file name)

AOM is unable to read one of the files in the /usr/aom/help directory. See your system administrator for help.

Invalid file given -- pick a file name below:

You typed the name of a file that does not exist, or you typed the name incorrectly. Move the cursor to the file name that you do want in the list below, and press Retn. If you do not see the file you want, you may be in the wrong directory. Type the full pathname.

Invalid directory given -- pick a file name below:

You typed the name of a directory that does not exist, or you typed the name incorrectly. Move the cursor to the directory name that you do want in the list below, and press Retn. If you do not see the directory you want, you may be in the wrong directory. Type the full pathname.

Invalid file or directory name entered.

You typed the name of a directory or file that does not exist, or you typed the name incorrectly. Move the cursor to the file or directory name that you do want in the list below, and press Retn. If you do not see the file or directory you want, you may be in the wrong directory. Type the full pathname.

Mismatch -- password unchanged.

You didn't type your password exactly the same way twice while using the Change Password command. Select the command again and type the password again.

No directory found.

You tried to pick a directory from the list. There are no directories contained in the current directory. Move to the directory that contains the directory you want.

No file found.

You tried to pick a file from the list. There are no files in this directory. Move to the directory that contains the file you want.

Page name cannot begin with the same letter as an existing page.

You tried to name a page using a name that starts with the same letter as a name that already exists or that starts with M (reserved for Menu Manager) or Q (reserved for Quit). Select the Name command again, and type another name.

Please use a longer password.

You typed a new password that is shorter than six characters. Type a new password of at least six characters.

Please use at least one non-numeric character.

You typed a new password with only numbers in it. Type a new password with at least one letter in it.

Sorry.

You became system administrator and typed the wrong password. Select the **Become System Admin** command, and type the password again.

Unable to copy (file name).

You tried to copy a file that does not have permission for you to copy. If you are not the owner, ask the owner to change the permissions.

Unable to copy (directory name).

You tried to copy a directory that does not have permission for you to copy. If you are not the owner, ask the owner to change the permissions.

Unable to delete (file name).

You tried to delete a file. You typed a file name incorrectly or one that doesn't exist. Select the **Delete a File** command again, and type another file name.

Unable to initialize graphics.

AOM could not read the /usr/aom/AOMcap file. Change the permissions on this file so that AOM can read it.

Unable to initialize menu text.

AOM could not read the /usr/aom/aomtext file. Change the permissions on this file so that AOM can read it.

Unable to initialize page names.

You cannot read the file /usr/aom/aomnames. See your system administrator for help.

Unable to initialize terminal: (terminal type)

AOM could not find your terminal type in the /etc/termcap file. Select the **Set Up Ports** command and check the list to see if your terminal is set to the correct terminal type. If it is not, type the correct terminal type.

Unable to move to directory: (directory name)

You tried to move a directory that doesn't exist, or you may be in the wrong directory. Select the **Move to New Directory** command again, and type in another directory name, or type the full pathname.

Unable to rename (file name).

You tried to rename a file and you do not have write permission on the directory into which you are moving the file.

Unable to rename (directory name).

You tried to rename a directory and you do not have write permission on the directory into which you are moving the directory. Ask the owner to change the permissions on the directory so that you can access the directory.

You cannot change permissions on this file.

You tried to change the permissions on a file you don't own. Ask the owner to change the permissions on the file.

You cannot open this file.

Someone changed the permissions for the help files. See your system administrator for help.

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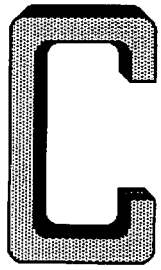
Appendix C
Installing Multiple AOM Menu Systems



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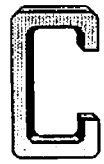


INTRODUCTION

You can set up different menu systems for different users on the same system. For example, you might want to set up one menu system for personnel and one for accounting. This reduces the number of menus each user sees, and also provides a degree of data security and privacy.

For example, you might want to set up a menu system for personnel that would include only the database, word processing, and utilities menus. You might want to set up a different menu system for accounting that would include only the spreadsheet, graphics, word processing, and utilities menus.

The following procedures explain:

1. How to set up individual AOM menu systems.

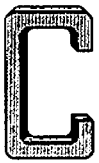
2. How to tailor them for specific groups of users.

SETTING UP MENU DIRECTORIES

First, determine how many different sets of menus you need to set up. If you want to set up one for four users in accounting, and another one for three users in personnel, then you need to set up two directories to hold the tailored menus.

1. Log in as root.

2. Create a directory (that will contain the menus) for each different type of user. The directory can be located in any /usr directory or sub-directory.



For example, you might create the directories, /usr/acctg/aom and /usr/inven/aom, for accounting and inventory users, respectively.

3. Copy the following AOM menu files from the /usr/aom directory to each of the directories that you created in step 2:

   - aom.msgs
   - aomnames
   - aomtext
   - aomplanes

   If you install AOM Windows, you will want to copy the following files (includes form files):

   - creatext
   - msgs.aom
   - msgs.lfi
   - form.archive
   - form.recover
   - form.fsck

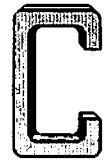
CHANGING THE USER'S ENVIRONMENT

Next, you need to add the AOMDIR environment variable to each user's .profile file.

Use the Uniplex, vi, or ed editor to modify each user's .profile file. Add commands to set the AOMDIR variable and to export it.

For example, using the accounting directory you set above, enter these statements in the .profile files for each user in the accounting group:

```
AOMDIR = /usr/acctg/aom Retn
export AOMDIR Retn
```



You must be a system administrator to change .profile files that are not your own. For more information about the .profile file, see miscellaneous files in the *XENIX Commands Directory*, *Xenix System V Reference Manual*, or special files in the *UNIX System V Commands Directory*.

TAILORING AOM MENUS

This section explains how to create the different AOM Menu Systems that each user will see.

At this point, you should have already created and tested any application menus to be used.

NOTE

When you install an application, the menu will be moved in to the directory /usr/aom/menu. When you list this directory, you will see the application installed, no matter what directory AOMDIR was set to when you did the installation. You can add the menu to any menu system with the add command; there is no need to install it again. (See Chapter 6, "Using the Menu Manager").

To tailor the menus for each user, make sure you're logged in as root, and perform these steps:

1. Set the AOMDIR environment variable and export it for the directory that you created in the first section in this appendix.

For example, to set AOMDIR variable and export it for the accounting directory, type the following at the system prompt:

AOMDIR = /usr/acctg/aom Retn
export AOMDIR Retn

Make a note of the type of user (for example, accounting) indicated by the directory in the AOMDIR command. In steps 2-7 below, you will be tailoring menus for that group.

2. Start AOM by typing **aom** and pressing Retn.

3. Select the Menu Manager by typing **m**.

4. Rearrange or delete the menus that come with AOM (if necessary). Use the instructions in Chapter 6, "Using the Menu Manager."

5. For any application already installed on your system, use the add command on the AOM Menu Manager page. Otherwise, use the install command. To put the menu in to different menu systems, install the menu in to one menu system then add it to the others.

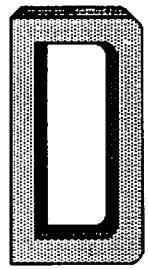
   Place the menus in the appropriate locations on the menu displays using the instructions in Chapter 6, "Using the Menu Manager."

6. Leave AOM by typing **q** and pressing Retn on the Altos Office Manager screen.

Repeat steps 1-6 for the remaining directories that you created in the section "Setting Up Menu Directories."

7. When you're finished tailoring each group's menus, log out.

Appendix D
Troubleshooting the System



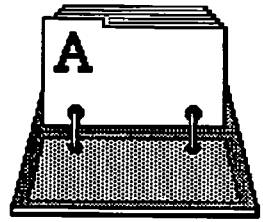
If you perform daily preventive maintenance procedures, such as checking and cleaning up files, saving and backing up files, managing disk space on the system, and monitoring processes, your operating system should run smoothly.

However, emergencies do occur. The system may be shut down improperly due to a power failure or someone accidently resetting it.

AOM displays error messages on your terminal. Additional error messages can also come from the operating system and individual application programs that you have installed.

Some errors, such as the entering of illegal commands, are simple errors that an individual user can solve. Others, such as bad sectors on the hard disk, may require the use of Altos diagnostics.

If the problem persists, and you have tried all of the available maintenance tools listed in this chapter, try checking and cleaning up files by selecting the **Check File System** command in the SYSTEM ADMIN II menu in AOM or by typing **d** on the System Administration menu in BSH. If you still cannot fix the problem, use the system Diagnostics.



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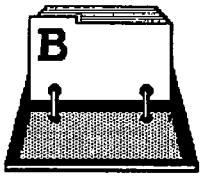

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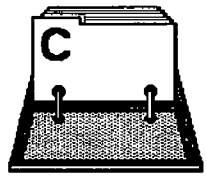

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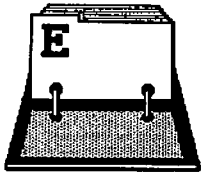

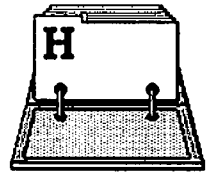

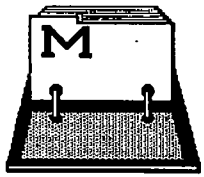

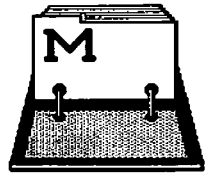

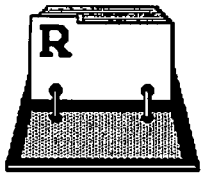

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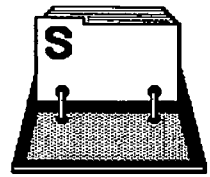

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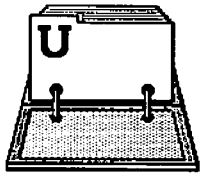

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