Digital UNIX

DECwindows User's Guide

Order Number: AA-Q917B-TE

March 1996

Product Version: Digital UNIX Version 4.0 or higher

This guide is designed to help both new and experienced DECwindows users learn and use DECwindows Motif software.

Digital Equipment Corporation
Maynard, Massachusetts

Contents

3 Working with Windows

Part 2 Performing Everyday Tasks

4 Performing Common Tasks

5 DECwindows Desktop Applications

6 Customizing the Window Manager

7 Customizing Your Session

Part 3 Advanced User Topics

8 Using Advanced Mail Features

9 Using Configuration Files to Customize Your Windows Environment

10 Access to DECwindows for People with Disabilities

Examples

Figures

Tables

About This Manual

This manual introduces DECwindows Motif applications, describes how to customize your DECwindows environment, and includes advanced user information.

DECwindows Motif is based on the X Consortium specification for the X Window System, Version 11, Release 5 and the Open Software Foundation's OSF/Motif Version 1.2.

Note

All references to DECwindows in this manual refer to DECwindows Motif software.

Audience

This manual is for new and experienced DECwindows users. You need not be familiar with the Digital UNIX operating system or the DECwindows Motif graphical user interface.

For a first-time DECwindows user, this book guides you through DECwindows techniques and features.

For the experienced DECwindows user, information is provided about the Motif interface, customizing your environment, and advanced user topics.

Organization

Use this manual in accordance with your knowledge of DECwindows.

If you are new to windowing systems, read Part 1.

If you are familiar with graphical user interfaces, look over the summaries of the contents of each part and chapter in the following table to review what is familiar about DECwindows and identify the areas you want to know more about.

The manual is divided into four parts comprising 10 chapters and four appendices:

Part 1	Introduces the DECwindows Motif Graphical User Interface and includes all the information you need to get started. It describes the basic window components and how to use the mouse to manipulate these components.
Chapter 1	Introduces DECwindows and describes the main components of the DECwindows interface.
Chapter 2	Describes how to start, pause, and end a DECwindows session and how to run window applications. It also describes how to get help and read documentation on line.
Chapter 3	Describes basic window components and explains how to use the mouse to select and manage these components.
Part 2	Describes how to use and manage window features common to all applications, introduces the DECwindows Motif Desktop Applications, and describes how to use the Options menus to customize your windows environment.
Chapter 4	Describes tasks common to many applications, such as how to work with text, print files, and mix colors. This chapter also describes how to run applications on another host on the network for display on your workstation screen.
Chapter 5	Introduces the DECwindows Motif Desktop applications.
Chapter 6, Chapter 7	Describe how to customize your windows environment with the window manager and Session Manager Options menus.
Part 3	Describes advanced features of Mail, AccessX software, and how to use the `.Xdefaults` and `.mwmrc` configuration files to customize your window environment.
Chapter 8	Describes how to use the advanced features of Mail, including how to change editors, sort incoming mail, and customize your Mail environment.
Chapter 9	Provides advanced topics on customizing your windows environment, including how to customize the file `.mwmrc` and how to modify resources in the file `.Xdefaults`.

Chapter 10	Describes how to use AccessX, software that provides features to help people with different disabilities interact with Digital workstations running the Digital UNIX operating system.
Appendix A	Describes how to use DECwindows with a keyboard.
Appendix B	Describes how to compose characters in the DECterm terminal emulator.
Appendix C	Describes commands that help you manage windows.
Appendix D	Provides sample resource and configuration files.

Related Documents

The printed version of the Digital UNIX documentation set is color coded to help specific audiences quickly find the books that meet their needs. (You can order the printed documentation from Digital.) This color coding is reinforced with the use of an icon on the spines of books. The following list describes this convention:

Audience	Icon	Color Code
General users	G	Blue
System and network administrators	S	Red
Programmers	P	Purple
Device driver writers	D	Orange
Reference page users	R	Green

Some books in the documentation set help meet the needs of several audiences. For example, the information in some system books is also used by programmers. Keep this in mind when searching for information on specific topics.

The *Documentation Overview, Glossary, and Master Index* provides information on all of the books in the Digital UNIX documentation set.

Reader's Comments

Digital welcomes any comments and suggestions you have on this and other Digital UNIX manuals.

You can send your comments in the following ways:

- Fax: 603-881-0120 Attn: UEG Publications, ZK03-3/Y32
- Internet electronic mail:
  `readers_comment@zk3.dec.com`

  A Reader's Comment form is located on line in the following location:

  `/usr/doc/readers_comment.txt`

- Mail:

  Digital Equipment Corporation
  UEG Publications Manager
  ZK03-3/Y32
  110 Spit Brook Road
  Nashua, NH 03062-9987

  A Reader's Comment form is located in the back of each printed manual. The form is postage paid if you mail it in the United States.

Please include the following information along with your comments:

- The full title of the book and the order number. (The order number is printed on the title page of this book and on its back cover.)
- The section numbers and page numbers of the information on which you are commenting.
- The version of Digital UNIX that you are using.
- If known, the type of processor that is running the Digital UNIX software.

The Digital UNIX Publications group cannot respond to system problems or technical support inquiries. Please address technical questions to your local system vendor or to the appropriate Digital technical support office. Information provided with the software media explains how to send problem reports to Digital.

Conventions

The following conventions are used in this manual:

mouse	The term *mouse* is used to refer to any pointing device, such as a mouse, a trackball, a puck, or a stylus.
MB1 (Select) MB2 (Drag) MB3 (Menu)	MB1 indicates the left mouse button, MB2 indicates the middle mouse button, and MB3 indicates the right mouse button. (The buttons can be redefined by the user.)
Ctrl+*x*	A sequence such as Ctrl+*x* indicates that you must hold down the key labeled Ctrl while you press another key or a mouse button.
Return	In some examples, a key name is shown enclosed in a box to indicate that you press a key on the keyboard.
new term, **`user input`**	Boldface text represents the introduction of a new term. Boldface text also indicates information that you must enter from the keyboard or a screen object that you must choose or click on.
% or $	A percent sign represents the C shell system prompt. A dollar sign represents the system prompt for the Bourne and Korn shells.
#	A number sign represents the superuser prompt.
file	Italic (slanted) type indicates variable values, placeholders, and function argument names.
[|], { | }	In syntax definitions, brackets indicate items that are optional and braces indicate items that are required. Vertical bars separating items inside brackets or braces indicate that you choose one item from among those listed.
. . .	In syntax definitions, a horizontal ellipsis indicates that the preceding item can be repeated one or more times.

`cat`(1)	A cross-reference to a reference page includes the appropriate section number in parentheses. For example, `cat`(1) indicates that you can find information on the `cat` command in Section 1 of the reference pages.

Introducing the DECwindows Motif Graphical User Interface 1

Digital provides an easy way to interact with the Digital UNIX operating system—the graphical user interface called DECwindows Motif. The DECwindows Motif interface is based on two industry standards: the X Consortium's X Window System and the Open Software Foundation's Motif user interface. This interface lets you use the mouse or keyboard to interact with applications.

When you log in to your workstation, your screen becomes a visual ''workspace'' where you arrange your work. You can open windows to manipulate files and directories and to run applications and utilities. You can arrange your workspace so that the files and programs you use most often are easily accessible.

Four components work together to create your workspace environment: the X server, the OSF/Motif window manager (mwm), the Session Manager, and X client applications. The following sections introduce these components.

1.1 X Servers and Clients

The DECwindows interface uses the client/server method of computing inherent in the X Window System. A component called the **X server** provides display services. The X server acts as an intermediary between applications and the workstation's display hardware: it handles output from the clients to the display and forwards input (keyboard or mouse) to the appropriate client for processing. **X clients** are applications that use the services of the X Window System.

X clients can run on your workstation or on another system. Because the X Window System has built-in networking capability, applications can run on one system and be displayed on any other workstation on the network that supports the X Window System Protocol.

1.2 Window Manager

A window manager is a special X client that controls the size, placement, and operations of your windows. The Motif window manager (mwm) creates a three-dimensional frame around each window. The window frame contains buttons and handles you use to move, resize, overlap, and shuffle windows on your display and a menu for working with your window. See Figure 3-1.

1.3 Session Manager

The Session Manager provides the top-level interface to your workstation. Use the Session Manager to:

- Start, pause, or quit a session.
- Start applications.
- Customize your session operation. For example, you can specify:
  - Which applications can be started automatically each time you begin a session
  - How the keyboard and mouse should behave
  - What other systems are allowed access to this workstation
  - Support for a language other than English

1.4 X Client Applications

The Digital UNIX operating system includes many X client applications that help you make full use of the windows environment. The applications include terminal emulators, a set of desktop applications, Bookreader software for reading online documentation, Mail, and sample X clients supplied by the X Consortium.

1.4.1 Terminal Emulators

A terminal emulator window provides workstation users with a traditional character-cell interface to run nonwindowing applications and work with your files and directories.

The **DECterm** terminal emulator emulates the following types of terminals: VT320, VT300, VT220, VT102, VT100, VT52, and terminals supporting ReGIS graphics. ReGIS (Remote Graphics Instruction Set) is a graphics protocol for terminals.

The **xterm** terminal emulator emulates VT102 and TEKTRONIX 4014 terminals.

1.4.2 DECwindows Motif Client Applications

The Digital UNIX operating system provides a set of client applications with the DECwindows Motif interface. The desktop applications include:

- **Bookreader**

  Bookreader is an online information access tool for viewing the contents of books distributed and stored on line.

  Digital offers Digital UNIX, ULTRIX, VMS, and layered product documentation in online form, packaged on CD-ROM disc and accessible using Bookreader.

- **Calculator**

  Calculator functions like a handheld calculator. It performs simple arithmetic functions—addition, subtraction, multiplication, division—and computes percentages and square roots. In addition, Calculator also performs trigonometric and inverse trigonometric functions, generates random numbers, and performs other more advanced operations.

- **Calendar**

  Calendar combines the functions of a desktop calendar and an appointment book. You can look at a year or month display, review scheduled appointments one day at a time, or create several different calendars to use for specific purposes.

- **Cardfiler**

  Cardfiler creates electronic ‘‘boxes’’ of index ‘‘cards.’’ Each card has a heading and additional text. Each box contains an alphabetized set of cards pertaining to one or more subjects.

- **CDA Viewer**

  CDA Viewer is a tool for reading documents containing compound text, graphics, and image data on terminals and DECwindows workstations. The CDA Viewer displays text, PostScript, and DDIF documents and files, and lets you page through the document or view an image.

- **Clock**

  Clock displays the time (in both analog and digital format) and date and has an alarm to remind you of appointments.

- **Mail**

  Mail is a window interface to the Rand `mh` Mail Handler. You can exchange messages with other computer users and print, file, delete, reply to, and forward messages. Mail also supports the display of PostScript messages.

- **Notepad**

  Notepad is an editor that allows you to perform simple editing operations on text and to save or retrieve text from files.

- **Paint**

  Paint is a graphics application that lets you create simple pictures by using an assortment of art tools. With Paint you can save your pictures, print them on different kinds of printers, copy them to other applications, or display them on your screen with the CDA Viewer.

- **Print Screen**

  Print Screen takes a snapshot of your workstation screen or just a portion of the screen. You send the snapshot directly to a printer or save it to a file for later printing or for inclusion in another application.

- **Visual Differences**

  Visual Differences provides a graphical display of the differences between two ASCII text files. It compares two files line by line, highlights the differences, and allows you to scroll through the compared files or move from one difference to another.

1.4.3 X Consortium Client Applications

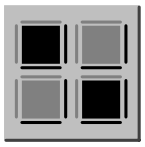
The Digital UNIX operating system supports all of the X Consortium clients that come with the X Window System. Some of these clients duplicate features provided in the Session Manager and several desktop applications. Use whichever application best suits your needs.

The X clients, located in `/usr/bin/X11`, are too numerous to list here. The following table describes some of the more commonly used X clients:

X Client	Description
`xbiff`	Mailbox flag
`xcalc`	Scientific calculator

X Client	Description
`xclock`	Analog/digital clock
`xconsole`	Tool for monitoring system console messages
`xedit`	Simple text editor for windows
`xhost`	Server access control program
`xmh`	X interface to the mail handler
`xrdb`	X server resource database utility
`xrefresh`	Tool to refresh all or part of a screen
`xset`	User preferences utility
`xterm`	X teminal emulator

Starting Your Session 2

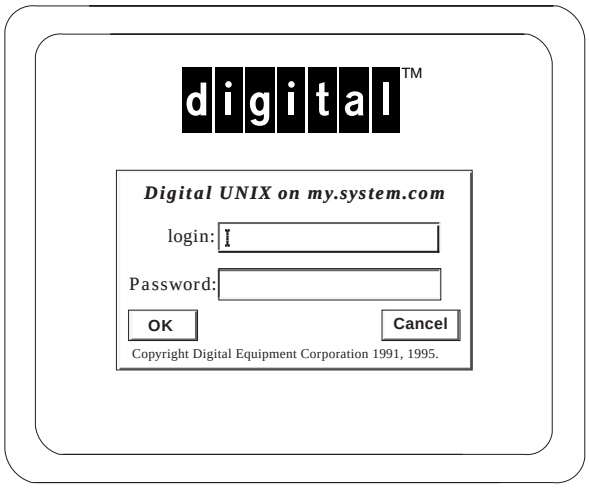


This chapter describes how to log in to a Digital UNIX workstation and begin using window applications. It also provides instructions for reading online documentation and how to get help on any application.

The features described in this chapter require use of the mouse. To learn about using the mouse, read Chapter 3.

2.1 Starting a Session

If your installation and startup procedure is successful, DECwindows displays a Start Session screen that prompts you for your login name and password. (When the operating system is installed, an account with an associated login name and password is established for you.)



ZK–0766U–R

To start a session:

1. Position the mouse pointer over the login text-entry box and click MB1.
2. Type your login name, then press Return.

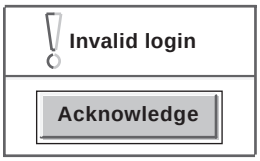
   The Password text-entry box gets input focus.

3. Type your **password**.

   To preserve the secrecy of your password, the letters you type are not displayed on the screen.

4. Press Return, or click on the OK button, if you have entered your login name and password correctly.

If you provide wrong information or make a typing mistake and do not correct it, your system does not let you start a session. Instead, it displays a warning that some information is incorrect.



Press Return or click on the Acknowledge button to dismiss the message. Then retype your information and press Return.

If your system is idle for awhile, the screen saver feature blanks your screen. To restore the screen image, simply move the mouse or press any key.

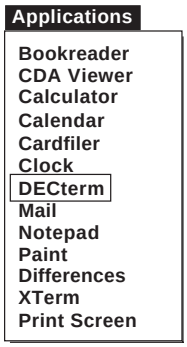
If your user information is correct, your session begins and The Session Manager menu bar and console window (dxconsole) are displayed on your screen. The Session Manager console displays any informational, warning, and error messages you receive during a session.

Note

If your home directory does not exist or is not writable, the login will default to **failsafe mode**. Failsafe mode provides a DECterm window to use to recover from your problem.

If your customized session is corrupted, your session might immediately exit. If this occurs, force failsafe mode by pressing the F1 or F2 function key instead of the Return key after typing your password. Use the DECterm window to correct your customization errors.

2.1.1 Starting Applications



DECwindows applications increase your productivity by automating basic tasks. For example, Mail automates sending and receiving interoffice messages; Cardfiler automates creating and filing index cards.

To run an application, choose the application from the Session Manager Applications menu. DECwindows displays the application in a window. Chapter 5 provides more information on starting and using these applications.

If you want to run character-cell applications or work with files and directories, open a terminal emulator window by choosing DECterm or xterm from the Session Manager Applications menu.

Use a terminal window to enter UNIX commands, access files and directories, or use any other keyboard user interface. If your system is part of a network, you can communicate with other systems and share information and resources.

2.1.2 Reading Documentation On Line

All documentation, including this guide, is available on line. The Bookreader software lets you read documentation on your workstation screen.

Start the Bookreader by choosing Bookreader from the Session Manager Applications menu. The book *Using Bookreader* and libraries of books should appear in a library window. If they do not, check with your system manager or refer to the section ‘‘Displaying the Documentation’’ in the *Installation Guide*.

Libraries contain groups of related book titles. An icon to the left of each library and title indicates whether the title is a library or a book.

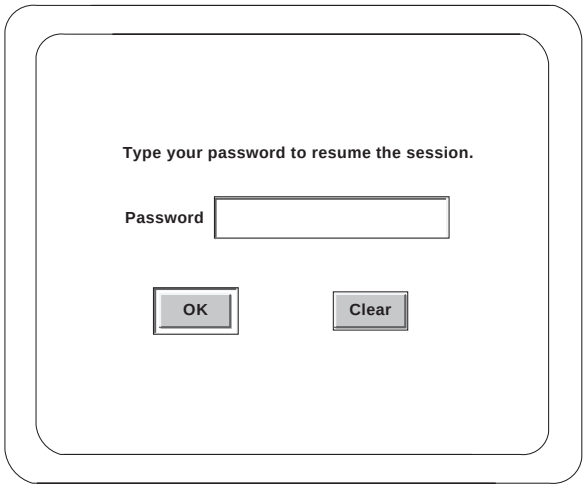
To display the titles of books in a library, double click on the library. A list of book titles for that library appears. To open a book, double click on the book title. For more information about using the Bookreader, see Section 5.2.

2.1.3 Pausing a Session

You can put your current session on hold indefinitely and lock your workstation without ending your session. Any running applications continue to run. When your session is on hold, a blank screen is placed over the workstation screen and the pause dialog box is displayed. Enter your password into this box to resume your session.

Before you put your session on hold, make sure you save any files. Then, if your system fails, you will not lose any information.

To put your current session on hold, choose Pause from Session Manager's Session menu. Your screen is cleared and the pause dialog box is displayed. Type your password and press Return or click on OK to resume your session. All updates to windows are performed and you can resume working without having to re-create your workspace environment.



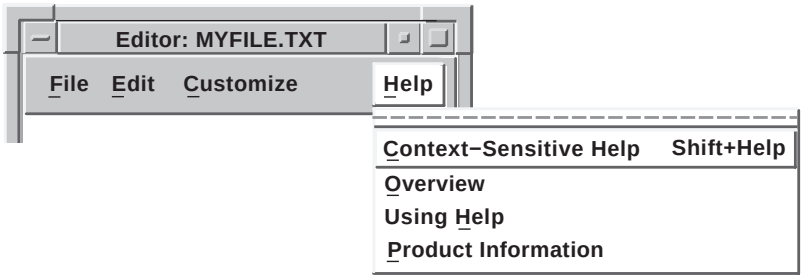
ZK–3528A–GE

2.1.4 Ending a Session

To end your session, choose End Session from the Session Manager Session menu. The Session Manager displays a dialog box asking for confirmation to end your session and save any settings that changed. At the end of your session, all windows are closed and the Start Session screen appears on your workstation screen.

2.2 Getting Help

To get help with any DECwindows application, use the Help menu in the application window:



ZK−1004U−R

The Help system provides information about screen objects, concepts, system messages, or tasks to perform in applications. The Help system is designed to let you request general information on an application and quickly narrow the focus of your inquiry.

A Help menu is available in each Application's menu bar. Most Help menus are organized as follows:

Menu Item	Function
Context-Sensitive Help	Describes any object in the window, such as a menu or push button, and tells how to use the object.
Overview	Summarizes the purpose and functions of the application, and allows navigation to help on those functions.
Using Help	Activates the Help system and tells how to find the information needed.
Product Information	Tells what version of the application is running.

2.2.1 Opening a Help Window

To get help about tasks in any application, choose Overview from the application's Help menu.

To get help about screen objects such as menu names, scroll bars, system messages, and dialog boxes in most applications:

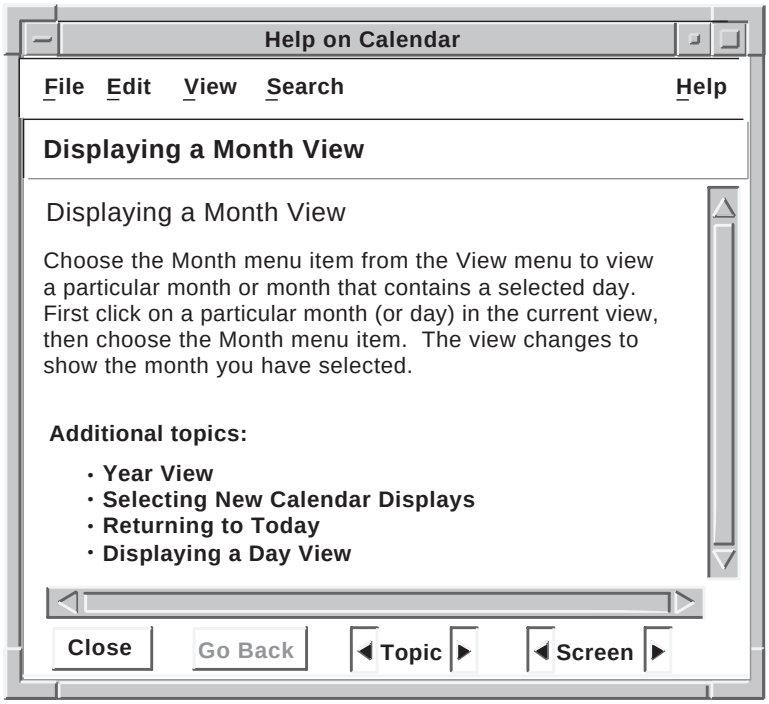
1. Choose Context-Sensitive Help from the application's Help menu.

The pointer will change to a question mark.

2. Click on the screen object.

   A Help window opens, displaying information about the object you specified.

An example of a Help window follows.



ZK–0853U–R

You can display product information about your application, such as the copyright notice, by choosing Product Information from the application's Help menu. In some applications, the Help menu also contains a Glossary menu item, which you can use to look up terms specific to your application.

The Overview topic contains overview text and lists additional topics. These topics are highlighted when you position the pointer on them. Double clicking on a highlighted topic causes the text for that topic to be displayed.

When you first open a Help topic, the following message may be displayed in a message window on your screen:

```
Starting Bookreader
```

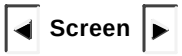
This occurs because the Bookreader software is responsible for displaying the help windows. Bookreader will be started automatically for you.

Use the buttons and arrows at the bottom of the window to move through the text. To close the topic that is displayed on the screen, click on the Close button:

To go back to one or more of the topics viewed previously, click on the Go Back button until you reach the desired topic. A dimmed button, like the Go Back button shown below, means that you are at the first topic:

To move to the next topic or the previous topic, click on the arrow to the right or the left of the word Topic:

To move to the next screen or the previous screen, click on the arrow to the right or the left of the word Screen. If the end of the current topic appears, moving to the next screen opens the next topic.



For more information about using Help in any application:

1. Choose Using Help from the application's Help menu.

   A Help window appears.

2. In the Help window, choose Overview from the Help menu.

2.2.2 An Alternative Help Style

Some applications do not use Bookreader to display a help Topic window. A plain font is used to display text in the alternative help system. In the Topic window, the overview text appears in the top window pane, and the list of additional topics appears in the bottom pane.

This help system lets you select additional topics, retrace your steps, or branch off to a different topic. You can also return to the On Window topic and start down another topic path.

To display an additional topic:

1. Select the item from the list of additional topics.
2. Choose Go To from the View menu.

For still faster navigation, double click on the topic you want. Double clicking on a topic is a shortcut for selecting the topic and choosing Go To.

Help displays the selected topic. Continue to select other topics from the list of additional topics or redisplay the previous topic by clicking on the Go Back button.

In addition to reading help in a Help window, you can:

- See the path you followed to get to a current topic

  Use the Search menu to look at a recorded history of your help session.

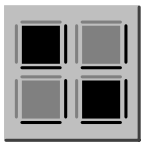
- Search Help for titles and keywords

  Use the Search menu to search Help for words or phrases to see whether they appear in topic titles or in Help text. For example, you might want to see whether a Mail topic title contains the word ‘‘Sending,’’ or you might want to find the topics in which the word ‘‘message’’ appears.

- Save help text in a file

  Use the edit menu to select text from a Help topic and save it in a file. This option lets you print the file for later reference or mail it to another user.

Working with Windows 3



This chapter explains how to work with windows and window components such as menus and dialog boxes. It describes how to use the mouse to select items and to move, resize, and shrink windows.

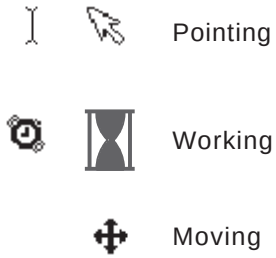
3.1 Using the Mouse

The mouse provides a convenient way to interact with DECwindows and DECwindows applications. Use the mouse to choose commands from a menu, to enlarge and shrink windows, to select, cut, and paste text, and to rearrange windows on your screen.

The mouse has three buttons. MB1 (for mouse button 1) is on the left, MB2 is in the middle, and MB3 is on the right. Most often, you use MB1 to interact with applications. This button arrangement naturally suits right-handed users; you can rearrange this configuration if you prefer to use the mouse with your left hand. See Section 7.5 for information about how to change the mouse button arrangement.

To work with the mouse, make sure that the cable connecting it to the workstation is pointing away from you. Place the mouse on a smooth surface. As you move the mouse, watch your screen to see how moving the mouse moves the **pointer** on the screen in exactly the same way. If you run out of room on your desk, lift the mouse and put it down where you have more room. The pointer does not move when you lift the mouse.

By default the pointer is shaped like an arrow, but it can change shape to reflect the state of an application. For example, it becomes an hourglass or a wrist watch when an application is performing a task that needs more time to complete.



ZK–3573A–GE

3.1.1 Summary of Mouse Techniques

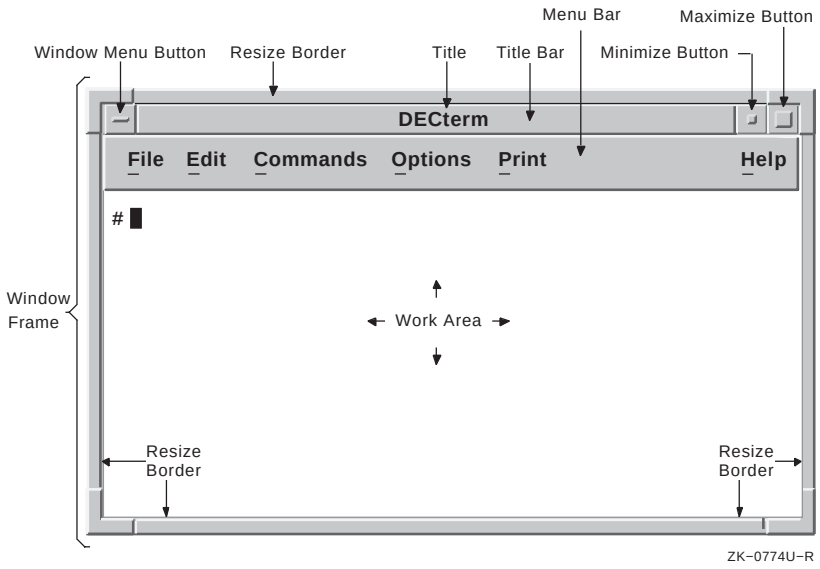
By learning the following mouse techniques, you can work with any DECwindows application:

- **Point**: Using the mouse, position the pointer to where you want the next action to occur.
- **Click**: Quickly press and release any mouse button. You should hear and feel a faint click.
- **Press**: Point to the menu name, scroll bar stepper arrow, or wherever you want the action to occur. Without moving the mouse, press and hold MB1.
- **Drag**: Press and hold MB1 (or MB2), move the pointer, and release MB1 (or MB2).
- **Double click**: Point to the object and click MB1 twice in quick succession.
- **Shift click**: Point to the object. Press and hold the Shift key and click MB1. Release the Shift key.

3.2 Managing Windows

Typically you will run more than one application and so you will work with several windows. This section describes basic features of windows and explains how to move, size, and arrange them.

Figure 3-1: Parts of a Window



3.2.1 Parts of a Window

Most windows include some of the components shown in Figure 3-1:

- The **window frame** surrounds a window and usually consists of resize borders, a title bar, and buttons that you use to rearrange your screen display.
- The **resize border** surrounds an application window and lets you resize the application's window.
- The **title bar** shows the name of the application and contains a window menu button, a minimize button, and a maximize button.
- The **title** identifies the function of a window. For a main window, it usually contains the name of the application. For a dialog box, it can also contain specific information about the use of the window.
- The **window menu button** displays the window menu, which contains menu items for working with windows.
- The **minimize button** lets you shrink a window to an icon on the workspace. An **icon** is a small graphic representation of an

object, usually an application.

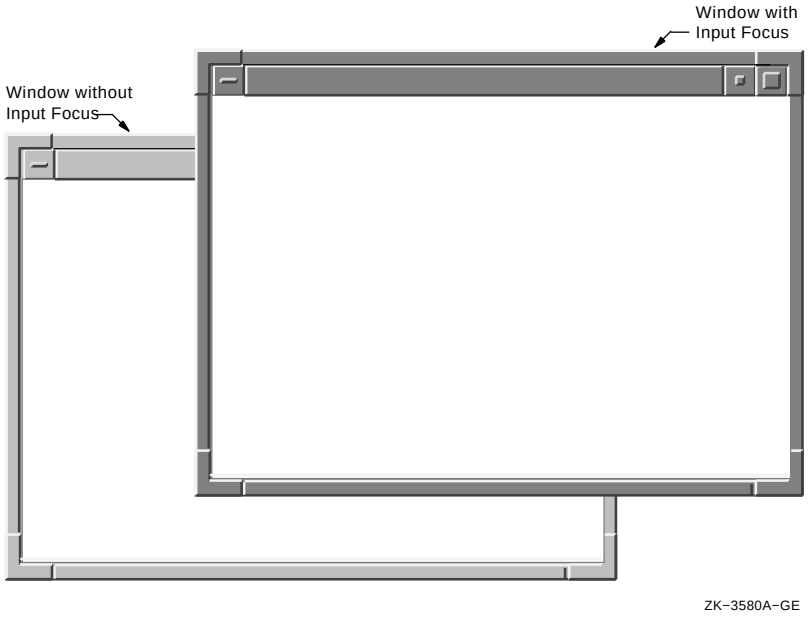
- The **maximize button** lets you increase the size of a window to its maximum allowable size.
- The **menu bar** contains the names of menus you can use to work with the application.
- The **client** or **work area** is the area in a window where you interact with the application.
- The **matte** is an optional decorative border between the window frame and the work area.

3.2.2 Making Windows Active

The system must know which window you are currently using so that what you type ends up in the correct place. By giving a window **input focus**, you tell the system it is the active window. Only one window at a time has input focus.

To give a window input focus, point to the window frame and click MB1. The window frame is highlighted to indicate it is the ‘‘active’’ window. Any keystrokes you type appear in this window.

This way of giving a window focus is called **explicit focus**. You can customize your environment so that simply moving your pointer into a window gives it focus. This is called **pointer focus**. For information on changing this behavior, see Chapter 6.



3.2.3 Moving Windows

You will often want to move the windows to arrange your workspace. To move a window:

1. Position the pointer anywhere in the window's title bar (except on a button). If the title bar of window you want to move is covered with other windows, move those windows to the bottom of the stack of windows by shift clicking MB1 in their title bars. Or minimize them by clicking MB1 in their minimize buttons.
2. Press and hold MB1.
3. Drag the window to the new location.

When you move a window, it is given input focus and moves to the front of the stack of windows.

To cancel a move operation, press the Escape key (or the F11 key).

3.2.4 Resizing Windows

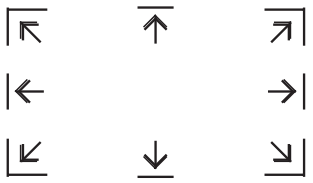
You can resize windows to make working with them more convenient, for example when you want to arrange your screen to have several windows simultaneously visible. Use a window's

resize borders to change its size.

To change the size of a window:

1. Position the pointer on one of the window's resize borders. The resize operation is limited by the side or corner that you select.

   The pointer changes into one of the following **resize cursors**:



ZK–3572A–GE

2. Press and hold MB1.
3. Drag the resize cursor until the window is the size you want.

   To make the window larger, drag the resize cursor toward the outside of the window. To make the window smaller, drag the resize cursor toward the inside of the window. The outline stops moving if you try to make the window smaller than its minimum permissible size.
4. Release MB1.

3.2.4.1 Minimizing Windows

Minimize a window to an icon to free up space on your screen without quitting an application. When you minimize a window, the application it represents continues to run and remains easily accessible.

To minimize a window, point to the window's minimize button and click MB1. The icon appears on the workspace. You can also minimize a window by double clicking MB1 on the window's title.

To restore the icon to a window, point to the icon on the workspace and double click MB1. The window opens at the top of any stack of overlapping windows, is given input focus, and is available for your use.

3.2.4.2 Maximizing Windows

The maximize button enlarges a window so that it fills your screen. When you maximize a window, your other windows and icons stay on the screen, but they are covered by the maximized window.

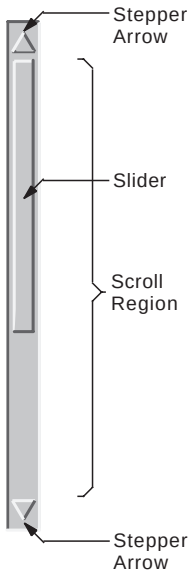
To maximize a window, point to the window's maximize button and click MB1. The window expands to its maximum allowable size.

To restore a maximized window, point to the window's maximize button and click MB1. The window returns to its original size.

3.2.5 Viewing Text with Scroll Bars

Some application windows display **scroll bars**, which let you view the text that does not fit in a single window. Some windows have both horizontal and vertical scroll bars.

A scroll bar consists of **stepper arrows** at either end of the **scroll region**. The **slider** is the thicker box that overlays some of the scroll region. If a vertical slider is at the top of the scroll region, the beginning of the file, list, or other text in the window is visible. If the slider is at the bottom of the scroll region, the end of the text is visible.



The length of the slider, compared to the length of the scroll region, indicates what proportion of all the text in the window is currently visible. For example, a short slider indicates that most of the text is not visible. A long slider that completely fills the scroll bar indicates that all the text is currently displayed.

The following table describes how to use scroll bars:

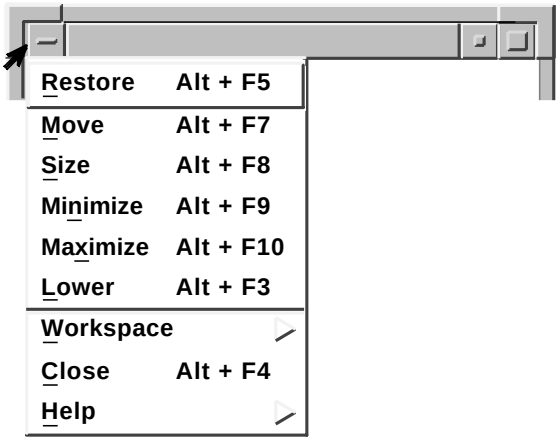
To scroll	Do this
One line at a time	Click MB1 on the stepper arrows.
Forward one window of text at a time	Point to the scroll region below the slider and click MB1.
Back one window of text at a time	Point to the scroll region above the slider and click MB1.
Continuously through the text one line at a time	Press and hold MB1 on either stepper arrow.
Continuously through the text one window of text at a time	Press and hold MB1 in the scroll region.
To a particlar position in the scroll region	Click MB2 in the scroll region above or below the slider.

To scroll	Do this
To another location in the text	Drag the slider to a position in the scroll region that corresponds to the general location you want to see. If the slider is at the top of the scroll region, you are viewing the beginning of the text. If the slider is in the middle of the scroll region, you are viewing the middle of the text. Cancel the drag by clicking another mouse button before releasing MB1.

3.2.6 Special Menus to Manage Windows

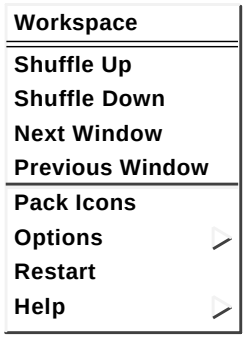
The preceding sections describe how to manage windows by using the buttons and resize borders on the windows' frames. You can access many of these features by using the **Window menu**. Additionally, you can customize and control your DECwindows environment with the **Workspace menu**.

The Window menu contains menu items for working with windows. To display a Window menu, click on the Window Menu button on the left corner of the title bar:



ZK−3661A−GE

The **workspace** is the background of your workstation screen; it is the area of your screen that has no windows, dialog boxes, or icons covering it. The Workspace menu contains general information for arranging windows and customizing the window manager. To display the Workspace menu, press MB1 or MB3 on the workspace:



ZK−3663A−R

You can also display the Workspace menu by choosing Workspace from the Window menu.

3.2.6.1 Using the Workspace Menu to Arrange Windows

When you are working with stacked windows and select a window, the selected window moves to the front of the stack and is given input focus. But if a larger window obscures a smaller window, you cannot select that small window without moving the larger window out of the way. If you use the title bar to move the

larger window, you disrupt your work arrangement.

Use the window-arranging options on the Workspace menu to shuffle your windows without moving them to another location. The options are Shuffle Up, Shuffle Down, Next Window, and Previous Window.

The Shuffle Up and Shuffle Down menu items raise and lower windows on the screen without affecting input focus.

You can shuffle the windows on the screen until a hidden window is displayed and then continue to type in the large window. If no windows are obscuring other windows, shuffling the windows has no effect.

The Next Window and Previous Window menu items change which window is active. The active window is raised to the top of the screen.

The Next Window and Previous Window menu items are useful if you want to circulate through all the windows on the screen. Using these options differs from shuffling windows. Next Window always brings you to the next window even if it is not obscured and always makes that window active.

For example, suppose you have three windows: a clock, the Session Manager window, and a DECterm window. The DECterm window is active. If you select Next Window, then the clock may become active. If you select Next Window again, then Session Manager window becomes active. If you choose Previous Window, then the clock becomes active again.

To	Do this
Raise the bottom-most window to the top of the screen	Choose Shuffle Up from the Workspace menu.
Lower the top-most window to the bottom of the screen	Choose Shuffle Down from the Workspace menu.
Give input focus to a previously active window	Choose Next Window from the Workspace menu.
Give input focus in the reverse order of Next Window	Choose Previous Window from the Workspace menu.

3.2.7 Customizing Your Windows

The DECwindows Motif window manager (mwm) controls the way your windows look (for example, the style and contents of the title bar) and behave when you are working with them. By using the Workspace options menu, you can customize your workspace and windows to suit your working needs and style. For more information about customizing the window manager, see Chapter 6. For advanced topics in customizing, see Chapter 9.

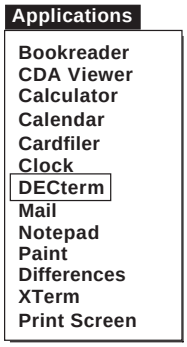
3.3 Interacting with DECwindows

You interact with DECwindows applications by using a mouse or keyboard to make selections from menus or in special windows called dialog boxes. DECwindows applications generate message boxes, informing you of status or errors, for example.

When using DECwindows, some tasks are easier to perform with a mouse and some are easier with a keyboard. Try both mouse and keyboard techniques and use each where it works best. For more information about keyboard techniques and procedures, see Appendix A.

This section describes how to use menus, dialog boxes, and message boxes to interact with DECwindows applications.

3.3.1 Working with Menus



Many times you interact with windows applications by selecting items from a menu. The names of menus available in an application appear on its menu bar.

When working with DECwindows Motif, there are three types of menus. You access these menus in different ways, but all present a selection of items. The menu types are:

- **Pull-down menus**

  Pull-down menus are found in an application's menu bar. ''Pull-down'' refers to the way the menu is displayed when you click on its name. Some pull-down menus contain commands; others list the names of items you can work with.

  To display a pull-down menu, on the menu bar, point to the menu name and press and hold MB1. To select an item, while holding MB1, drag to the item you want and release MB1.

- **Pop-up menus**

  Pop-up menus often duplicate commands that are available from pull-down menus. They can be displayed anywhere on

the applications work area to give you quick access to files or commands.

To display a pop-up menu, press and hold MB3 on the application's work area and drag to the menu item you want. Release MB3 to choose the item.

- **Options menus**

  Options menus appear in a dialog box. Only the current option is displayed until you click on the menu. To display an options menu, press and hold MB1 on the current option. To select an item, hold and drag MB1 to the item you want, then release MB1.

ZK–3581A–GE

You can also display a menu by clicking MB1 on the menu name. To choose an item, click MB1 on the item.

To cancel any menu selection and dismiss the menu, drag the pointer outside the menu and release the mouse button.

Any menu can contain **submenus**: An arrow next to a menu item indicates that a submenu will be displayed when you choose that menu item.

ZK–3530A–GE

If you select a menu item that is followed by three periods (...), a dialog box will appear.

Some applications, such as Mail, offer rectangular **push buttons** to duplicate frequently used commands that are also available as menu items. Push buttons are usually found underneath the area where the application's text and graphics are displayed. To execute these commands, click MB1 on the push button.

3.3.1.1 Two Menu Shortcuts

Menus contain two shortcuts that you can use with your keyboard: accelerators and mnemonics.

An **accelerator** is a key or sequence of keys on your keyboard that you can use to execute a function in a menu. Accelerators are listed in the menu to the right of the function items if they are available for that function.

A **mnemonic** is an underlined letter in a menu name or a menu item. Mnemonics let you display menus and perform tasks by typing letters on your keyboard.

For more information about using keyboard accelerators, see Appendix A.

3.3.1.2 Using Tear-Off Menus

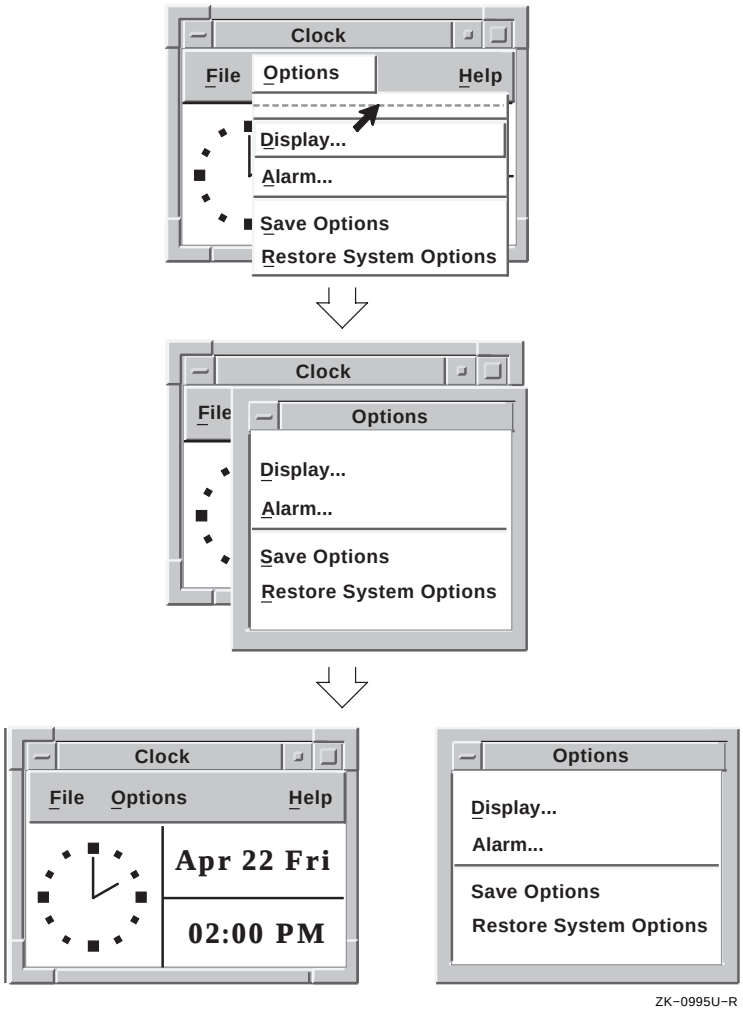
Most DECwindows applications allow you to tear off pull-down menus. Tear-off menus let you keep frequently used menus displayed without repeatedly pulling them down. To tear off a menu:

1. Display a pull-down menu.

   If the menu is a tear-off menu, a dotted line appears at the top of the menu.

2. While holding MB1, drag the pointer to the dotted line; then release MB1.

   The menu will change its appearance and resemble a small dialog box. You can move it to a more convenient location. The menu remains active until you close it or until the parent application is closed.

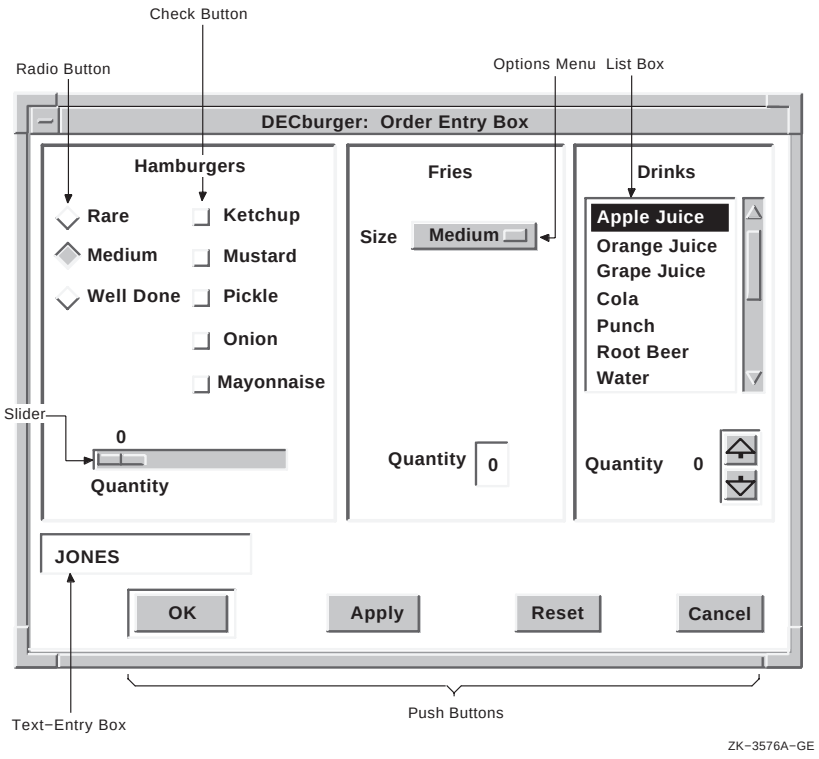


To close a tear-off menu:

1. Click on the Window menu button in the tear-off menu. (The window menu button is described in Section 3.2.1.)
2. Choose the Close menu item.

3.3.2 Working with Dialog Boxes

A DECwindows application displays a dialog box whenever it needs additional information from you to carry out a task. Sometimes you need to type text; other times, you need only click on a button to change a setting.



3.3.2.1 Changing Information in a Dialog Box

Dialog boxes offer various devices, illustrated above, to supply information to an application:

- **Text-entry box**

  A text-entry box is an area in a dialog box where you type information.

  An insertion cursor is visible in each text-entry box. The insertion cursor, which blinks when the text-entry box has input focus, shows you where the text you type will appear. What you type appears to the left of the insertion cursor. Use the <× (Delete) key to correct typing mistakes.

- Diamond-shaped **radio buttons** and square **check buttons**

  Click on a radio button to select one option from many. Click on a check button to turn a setting on or off. A selected radio or check button is dark filled.

- **Slider** and **scale**

  Dialog boxes often contain a scale and slider when you need to supply a numeric value. The arrow in the slider points to the current value. Drag the slider to change the value.

- **List box**

  Choose one of several items by clicking on one in a list box. Scroll bars appear if the choices do not fit in the list box.

- **Push button**

  Click on a push button, such as OK, Apply, or Cancel to tell an application what to do with the information you supplied in the dialog box.

Note

A double border around a push button indicates that it is the **default option**. Default options are those that the application designer anticipates users will most frequently choose. Usually, the OK button is the default option in a dialog box. Whenever you see a button with a double border, pressing Return achieves the same result as clicking on that button.

Usually, the easiest way to interact with a dialog box is with the mouse, as just described. You can also interact with dialog boxes using just the keyboard. See Appendix A.

3.3.2.2 Saving Your Settings

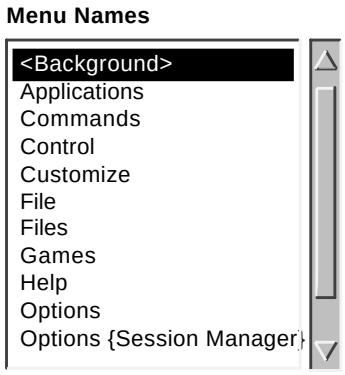
Once you change the settings you want, click on either the OK or the Apply button and the new settings will take effect. If you decide not to change the settings, click on the Cancel button. Some applications might save or apply settings in different ways. Refer to the individual application's help for more information.

Many dialog boxes also have a Help button. Click on the Help button if you need more information about the dialog box and selections you can make.

3.3.2.3 Making Selections from List Boxes

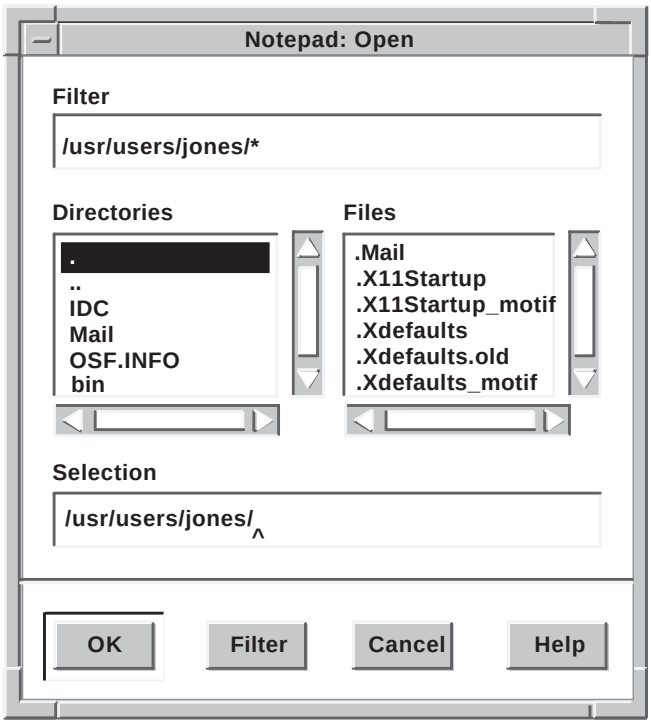
A list box is part of a dialog box that contains a list of items, often file names, from which you can choose. Many applications display a list box when you open or save a file.

To select an item from a list box, position the pointer on the item and click MB1. The item you select is highlighted.



ZK−3660A−GE

If an application needs a file name to complete a task, it displays a **file selection box**.



ZK–0710U–R

A file selection box contains a list box that displays a list of files in the current directory.

To open or use a file, click on a file name in the list box to select it, then click on OK. Alternatively, simply double click on the file name.

If you want to work with a file that does not appear in the list box, type the name of the file in the **Selection** text-entry box and click on OK. Or, use the **Filter** text-entry box to list a subset of files from which you select.

For example, if you are running Bookreader, your entry in the Filter text-entry box might look like this:

```
/usr/staff/jones/*.decw_book
```

3.3.3 Working with Message Boxes

Applications use message boxes to convey information to you. Message boxes can:

- Notify you that an application is starting
- Ask you to confirm a request
- Provide status on an application or particular task
- Ask you if you want to proceed with a task

Click on OK to dismiss a message box.

Part 2 Performing Everyday Tasks

Performing Common Tasks 4

DECwindows applications let you perform many basic tasks the same way. For example, both Mail and DECterm handle text in the same way. This chapter describes how to:

- Edit text
- Print files
- Mix colors
- Run applications across the network

4.1 Working with Text

Your applications provide many shortcuts to editing text that save you from retyping long file names or large blocks of text. Most applications, including the desktop applications, let you move and copy text:

- From one place in a window to another.
- From one window to another window. For example, you can copy text from one Create–Send window in Mail to another.
- From one application to another application. For example, you can move a picture from Paint onto a Cardfiler card.

In addition, most applications provide an Edit menu to cut, copy, and paste text and graphics.

Finally, most applications define specific keys to let you perform basic text editing. These keys, described in Section 4.1.4, let you move the cursor and delete small amounts of text efficiently.

4.1.1 Selecting Text

Before you can delete, copy, or move text to other locations within a window or between windows, select the text. You can select a word, a line, or any amount of continuous text.

The following table summarizes the ways to select text:

To	Do this
Position the cursor where you want the selection to start	Point to the location and click MB1.
Select a word	Point to the word and double click MB1.
Select a line	Point to the line and triple click MB1.
Select a screen of text	Point to the text and click MB1 four times.
Select continuous text, from the original selection point to the point where the button is released	Press and hold MB1 and drag the pointer through the text.
Extend the current selection	Simultaneously press and hold Shift and MB1 while dragging the pointer through the additional text.
Extend the current selection to where the pointer is positioned	Press and hold Shift and click MB1.

You can select only one piece of text at a time. By selecting text in one application, you cancel any other text selection established in the same window or in another application.

4.1.2 Copying Text

After you select text, you can copy it anywhere within a window if the application supports text editing. You can also copy between such applications or from a terminal emulator window to a window that supports text editing. You can copy text in different ways—the choice depends largely on which window you want active after completing the copy operation.

To copy text in windows:

1. Select the text to copy, using the text selection techniques described in Section 4.1.1.
2. Position the cursor where you want the text copied by pointing and clicking MB1.
3. Click MB2.

   The text is copied to the new location.

Some applications use different methods for copying text. See that application's documentation for an explanation of how to copy text in that application.

When copying text between windows using the method just described, the window in which you select the text takes input focus. If that window is not the one in which you are currently working, and to which you copied the text, then you have to reestablish focus to continue your work once you finish the copy. (This scenario doesn't apply if you have customized your workspace to use pointer focus instead of explicit focus. See Section 6.1.)

QuickCopy is a way to grab a piece of text from another window without changing focus. QuickCopy cannot be used if you use pointer focus.

To use QuickCopy:

1. In the current window, position the cursor where you want the text to be copied to by pointing and clicking MB1.
2. In the other window, point to the text you want to copy.
3. Press and hold MB2.
4. Drag across the text you want to copy.

   The text is highlighted as you drag across it.
5. Release MB2.

   The text is copied to the new location in your current window.

To move text from one window to another:

1. In the current window, position the cursor where you want the text pasted by pointing and clicking MB1.

   Make sure the window has input focus.
2. In the other window, point to the text you want to move.
3. Press and hold Ctrl+MB2.
4. Drag across the text you want to move.

   The text is highlighted as you drag across it.
5. Release Ctrl+MB2.

Some applications use different methods for moving text. See each application's documentation for an explanation of how to move text in that application.

4.1.3 Deleting Text with Pending Delete

If you select some text (as described in Section 4.1.1) and then type new text, the selected text is deleted with the first keystroke. Deleting selected text this way is called **pending delete**. With pending delete, you can delete large blocks of text with one keystroke instead of pressing the <× key repeatedly.

To avoid pending delete after you select some text but before you press a key, point to the selected text and click MB1. This cancels the select.

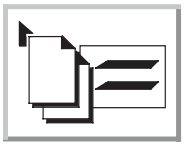
4.1.4 Text Editing Key Definitions

You can use the text editing techniques described in the following table to move the cursor or delete text in most DECwindows applications. Use the arrow keys to move the cursor one character at a time.

To	Press
Move the cursor to the next word	Ctrl+ →
Move the cursor to the previous word	Ctrl+←
Select text to the right of the cursor	Shift+→
Select text to the left of the cursor	Shift+←
Move the cursor to the beginning of the line	F12 or Ctrl+H
Move the cursor to the end of the line	Shift+F12 or Ctrl+E
Move the cursor forward between text-entry boxes	Tab
Move the cursor backward between text-entry boxes	Shift+Tab
Delete the characters to the left of the cursor up to and including the beginning of the word	F13 or Ctrl+J
Delete the characters to the right of the cursor up to and including the end of the word	Shift+F13
Delete the character to the left of the cursor and move all text to the right of the deleted character one space to the left	<×

To	Press
Delete the character after the cursor and move all text to the right of the deleted character one space to the left	Shift+< In overstrike mode, Shift+< deletes the character under the block cursor.
Delete all characters to the start of the line	Ctrl+U
Refresh the window	Ctrl+R

4.1.5 Copying Text with Drag and Drop



The drag-and-drop feature lets you move or copy text appearing in screen objects. Most often, you use this feature to copy text from one text-entry field to another (although text appearing in a dialog box, a label, or a button can also be moved). For example, select text from a card in the Cardfiler desktop application and transfer it to the Notepad. (These desktop applications are discussed in Chapter 5.)

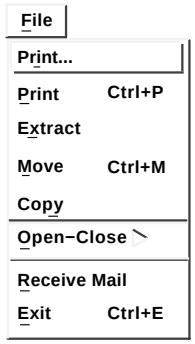
To drag and drop text into a new location:

1. Select the text with MB1. (Text such as error messages cannot be selected. Start with the next step for such text.)
2. Point to the text. To move it, press and hold MB2; to copy it, press and hold Ctrl and MB2.

   A move or copy icon appears.
3. Drag the icon to the location where you want to drop the text; then release MB2.

   If an object is highlighted as you drag the icon across it, you can drop the text into it. For example, you can drop the text into a text-entry field.

4.2 Printing Files

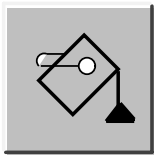


You can print the information displayed by applications that you use. For example, print a mail message, or print a drawing you create in Paint.

When you choose the Print menu item in an application, the application sends a file to the printer. While your job is being printed, you can continue to work in your current application or go on to other tasks.

To print something currently being displayed on your screen—for example, a mail message—choose Print from the application's menu options. The file is sent to the printer specified as the value of the `PRINTER` environment variable. (The *Command and Shell User's Guide* explains how to set environment variables.) If you choose Print..., a print dialog box will appear in which you can specify additional printing options.

4.3 Mixing Colors



Many applications let you choose your own colors for window components. If an application provides this option, it displays a color mixing dialog box when you choose certain settings. For example, the color mixed illustrated above is displayed when you customize window border colors as explained in Section 6.2.

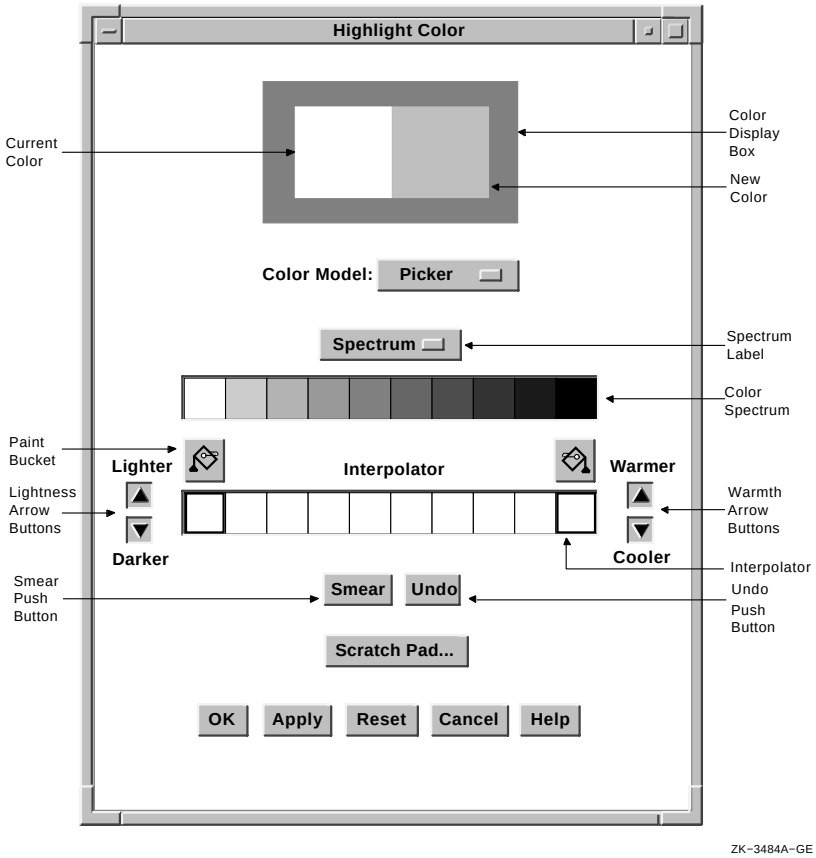
Use the color mixer's Color Model options menu to choose one of the following color models for selecting and defining colors:

- Picker
- Hue, Lightness, Saturation (HLS)
- Red, Green, Blue (RGB)
- Browser
- Gray Scale

You can use each of these models alone, or you can use them in any combination. For example, you can use any color model to select a color and use the Picker color model to blend the selected color.

4.3.1 Using the Color Picker

The Picker is the default color model for the color mixer. It contains the following components:



The color display box displays colors as you mix them.

The color spectrum is a static collection of colors.

The Spectrum options menu lets you set the spectrum to one of the following common color palettes:

- Spectrum (white, red, orange, yellow, green, blue, blue-violet, violet, brown, and black)
- Pastels
- Vivids
- Earthtones

The four color palettes provide a wide variety of colors from which you can choose. The Spectrum options menu also includes any palettes specific to an application.

When you click MB1 on a spectrum tile or interpolator tile, that color becomes the new color. The tile is highlighted, identifying it

as the currently selected color.

You can use the selected color without modification, or you can do one or more of the following tasks:

- Use the interpolator to smear (blend) the selected color into various shades
- Use the arrow buttons to make the color lighter or darker, warmer or cooler
- Switch to another color model and use the features of that model to modify the current selection

Use the two paint buckets to load the interpolator with the colors to smear:

1. Click MB1 on a spectrum tile or interpolator tile.

   The color display box displays the color of that tile.
2. Click on a paint bucket, which fills the interpolator end tile below it with the selected color.
3. Fill both interpolator end tiles or one; the color of the empty interpolator end tile defaults to white.

As an alternative to the paint buckets, use the eyedropper to load the interpolator. Clicking and holding MB1 on a spectrum or interpolator tile, the original color tile, or the new color tile causes the pointer to become an eyedropper filled with the color of that tile.

Move this eyedropper to the interpolator and use it to fill one of the two end tiles by clicking MB1 on one of the tiles. If you do not position the eyedropper directly on one of the two end tiles, the tile closest to the end is filled with the eyedropper color. Note that the cursor must be inside the interpolator.

Use the Undo button to reverse the last interpolator action, which can be a smear, the filling of an end tile, or the activation of one of the warmth or lightness adjustment buttons.

4.3.2 Using Other Color Models

You can also change colors by selecting one of the following models from the Color Model options menu:

Hue, Lightness, Saturation (HLS)
: The HLS color model contains three scales that represent the ranges of hue, lightness, and saturation. Use the scales to change the color as follows:

- Hue is color.
- Lightness is color intensity; that is, the amount of the color.
- Saturation is the purity of the color, or how much the color is diluted by white.

Red, Green, Blue Color Model (RGB)
: The RGB color model contains three scales that represent the color ranges for red, green, and blue. Specify a color by indicating the intensity of color on each of the three scales.

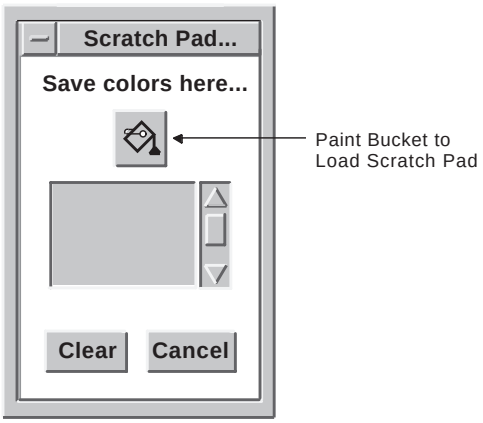
Browser
: The Browser color model displays the colors listed in `/usr/lib/X11/rgb.txt`. Each tile in the window displays a different color along with the color name. Use the scroll bar to display the entire list. Click MB1 on a tile to select a color. The color display box becomes filled with that color. The browser color model is available on all systems.

Gray Scale
: The Gray Scale color model contains a scale that lets you mix gray shades ranging from black to white. Note that switching to the Gray Scale color model converts the current new color to gray.

4.3.3 Using the Scratch Pad

The scratch pad lets you store intermediate colors for later use in color mixing.

To access the scratch pad, click on the scratch pad button in any of the color models.



ZK–2577A–GE

To store the currently selected color in the scratch pad, click on the paint bucket above the scratch pad color tile. The scratch pad adds that color to its list of stored colors. You can scroll through the list with the scroll bar.

Use the Clear button to cancel this list and return the scratch pad to its initial state.

Note that the currently selected color can be one of many color tiles on the Picker color model. When using other color models, however, you can select only the new and original color tiles.

To set the new color tile to a scratch pad color, scroll to the new color and click on the scratch pad color tile. The new color tile changes, and the scratch pad tile is highlighted. In the Picker color model, this highlighting indicates that the scratch pad color can now be dumped into one of the interpolator end tiles by using the paint bucket buttons.

4.4 Running Applications Across the Network

A typical work environment might include a single workstation running DECwindows and displaying applications. Because DECwindows functions across networks and operating systems, you can make the most of your computer resources by running applications—applications you might not have on your workstation—from another computer for local display on your monitor.

Remotely run applications always appear to be running on your workstation but allow you to take advantage of larger computers that may be better suited for a specific computing task.

This section describes how to run a remote application from a remote node and includes information on how to:

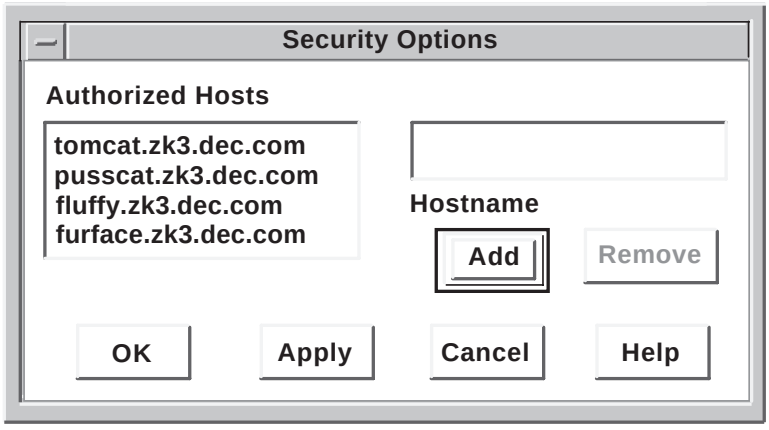
- Authorize access to your workstation
- Log in to a remote host running either the Digital UNIX, ULTRIX, or OpenVMS operating system
- Run applications for display on your workstation

4.4.1 Authorizing Access to Your Workstation

Before using your workstation to display remotely run applications you must authorize the remote computers or hosts to access your display. Use the Security... menu item in the Session Manager Options menu to add the names of those hosts to which you are connected by means of a Transmission Control Protocol/Internet Protocol (TCP/IP) or DECnet network. You must have an account on the remote host in order to log in to start the application.

To grant access to specified remote hosts:

1. Choose Security... from the Session Manager Options menu. This dialog box appears:



ZK–0854U–R

2. Click MB1 in the Hostname text field and type the host name.

   If the connection between your system, and the remote host is through the DECnet network, use DECnet syntax, which requires two colons (::) after the host name. If your connection to the remote host is through the TCP/IP network, colons are unnecessary. Ask your system manager if you don’t know your network type.

3. Click on the Add button.

   The host name appears on the list of authorized hosts.

4. Click on OK to dismiss the dialog box.

4.4.2 Enabling the Display

After registering remote hosts, you are ready to run applications on the remote host. Remember you must have an account so that you can log in and start the application.

To run an application on a remote host for display on your Digital UNIX workstation screen:

1. Open a terminal window on your workstation and, using the `rlogin` (for TCP/IP) or `dlogin` (for DECnet) command, log in to the remote host.
2. On the remote host, specify which workstation screen you want the application displayed on:

   From a Digital UNIX or ULTRIX remote host:

   If you use the C shell, enter this command at the system prompt:

   ```
   setenv DISPLAY your-workstation:0
   ```

   If you use the Bourne or Korn shell, enter these commands at the system prompt:

   ```
   DISPLAY=your-workstation:0
   export DISPLAY
   ```

   Here, `your-workstation` is the name of your local workstation. The single colon indicates that the connection between your system and the remote host is through TCP/IP. Use two colons (::) after your workstation name if the connection is through a DECnet network. The 0 indicates that your workstation has just one monitor, or if it has two, the 0 specifies display on the first monitor. With two monitors, a 1 could be substituted to specify display on the second monitor.

   From an OpenVMS remote host:

   Enter the following command at the system prompt:

   ```
   set display/create/node=your-workstation
   ```

   Here, `your-workstation` is the name of your workstation. The network connection is assumed to be DECnet. If the OpenVMS node is running a product such as DEC TCP/IP Services for OpenVMS, you can specify TCP/IP as the

network transport with the following command format:

```
set display/create/transport=tcpip/node="your-workstation"
```

Without the quotes in this command, OpenVMS would translate your workstation's host name to all uppercase letters. However, the name of your workstation may have been explicitly entered in lowercase in the OpenVMS TCP/IP hosts database. If so, you must enclose the workstation name in quotation marks (" "), as shown in the last command, to preserve any lowercase letters in the name. If you are unsure of how your workstation name has been entered, use the `hostname` command in a DECterm on your workstation.

3. Enter the command that starts the application you wish to run remotely and display on your local workstation.

   See Chapter 5 for the commands used to start DECwindows applications.

Note

You cannot run the Session Manager from a remote host for display on your workstation.

DECwindows Desktop Applications 5

This chapter introduces the following Digital UNIX DECwindows Motif desktop applications:

Use this application	To
Bookreader	Display online documentation on your workstation screen.
Calculator	Perform mathematical operations like a handheld calculator.
Calendar	Keep track of your scheduled appointments and plan your time.
Cardfiler	Organize your information with index cards and card files.
CDA Viewer	Display the contents of many different types of files on your workstation screen.
Clock	Display the time of day (in both analog and digital format) and the date on your workstation screen.
DECterm	Create a window that emulates a VT300 series terminal.
Mail	Exchange messages with other computer users.
Notepad	Create letters or notes and save them to a file for later use.
Paint	Create a picture or an illustration.
Print Screen	Take a snapshot of your entire screen or just a portion of it and print the file containing the snapshot now or later.
Visual Differences	Browse through a graphical display of the differences between two files.

5.1 Starting Applications

To start any of the Desktop Applications, you can choose the application from the Session Manager Applications menu or have the Session Manager automatically start the application. For more information about the Session Manager and automatic startup, see Chapter 7.

You can also start these applications by entering a command in a terminal emulator window (DECterm). For example, to start Paint, enter the following command:

```
/usr/bin/X11/dxpaint &
```

Table 5-1 lists each DECwindows Motif application and its corresponding command as found in `/usr/bin/X11`. Your command must include the full path unless you add `/usr/bin/X11` to your path in your `.login` or `.profile` file. (The *Command and Shell User's Guide* explains how to modify your path.)

The ampersand (&) at the end of the command line causes the application to start in the background, allowing you to perform other tasks in your terminal window.

With many applications you can specify on the command line a file for the application to open, for example:

```
/usr/bin/X11/dxpaint mypicture.img &
```

When Paint starts, it will display the image file `mypicture.img`.

Table 5-1: Starting DECwindows Motif Applications

To start this application	Use this command
Bookreader	`dxbook`
Calendar	`dxcalendar`
Calculator	`dxcalc`
Cardfiler	`dxcardfiler`
CDA Viewer	`dxvdoc`
Clock	`dxclock`
DECterm	`dxterm`
Mail	`dxmail`
Notepad	`dxnotepad`
Paint	`dxpaint`

Table 5-1: (continued)

To start this application	Use this command
Print Screen	`dxprint -X`
Visual Differences	`dxdiff`

5.1.1 Changing Settings

Each application starts with a set of predefined, or default, options. Many applications let you change these default settings by means of an Options or Customize menu. For example, you can:

- Use the Session Manager Options menu to enable security options, change your keyboard language, or change the way the Session Manager starts applications
- Use the Mail Customize menu to select who you want copied on mail replies or select a preferred main window style
- Use the Notepad Options menu to set word-wrap, case-sensitive searches, and font attributes

Pull down the application's Options or Customize menu to see which settings you can change.

5.1.2 For More Information

For complete information about using each application, pull down the Help menu on any window and choose the menu item for the area where you need help.

For more information of using the help menu, see Section 2.2.

If you or your system manager installed the reference page subset on your system, you can also look up reference information for each application by using the `man` command in a terminal window.

Use the command name described in Table 5-1 as input to the `man` command. For example, to read the Paint reference page, enter the following command in a terminal window:

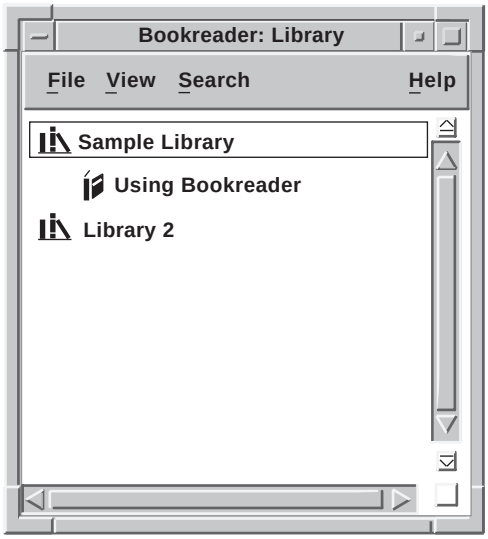
```
% man dxpaint
```

You can also read reference pages with the Bookreader software. Section 5.2 provides more information on the Bookreader. Click on the Digital UNIX Operating System bookshelf to find the Reference Pages bookshelf. The reference pages for the

applications described in this chapter are available in *Reference Pages Section 1*.

5.2 Using Bookreader

With the Bookreader software, you can read online documentation on your workstation screen. To start Bookreader, see Section 5.1. When the Bookreader starts, libraries of books available from Bookreader appear in a library window:



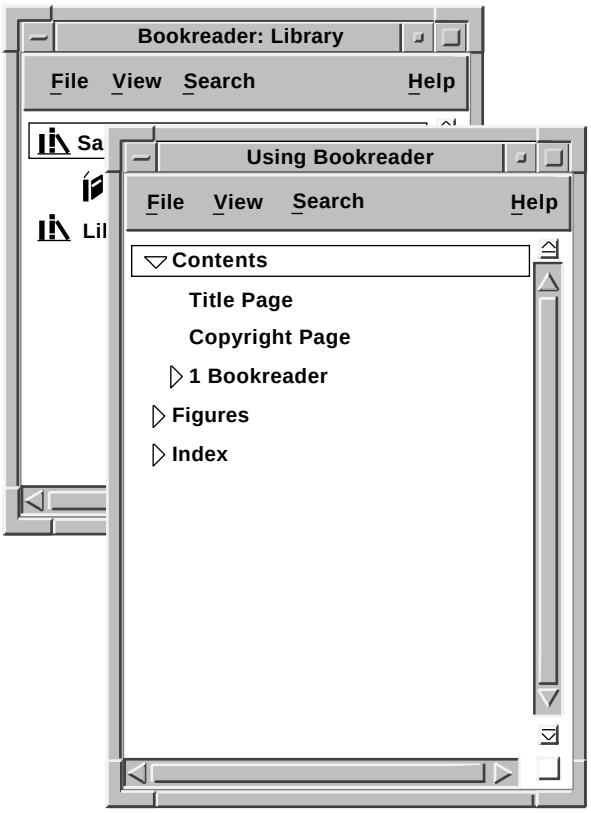
ZK−2638A−GE

Libraries contain groups of related book titles. Each library and title has an icon to the left of it to indicate whether it is a library or a book.

To display the titles of books in a library, double click on the library. A list of book titles for that library appears.

5.2.1 Opening a Book

To open a book, double click on the book's title in the library window. The table of contents for the book you opened appears in a navigation window on your screen:



5.2.1.1 Locating Topics in the Navigation Window

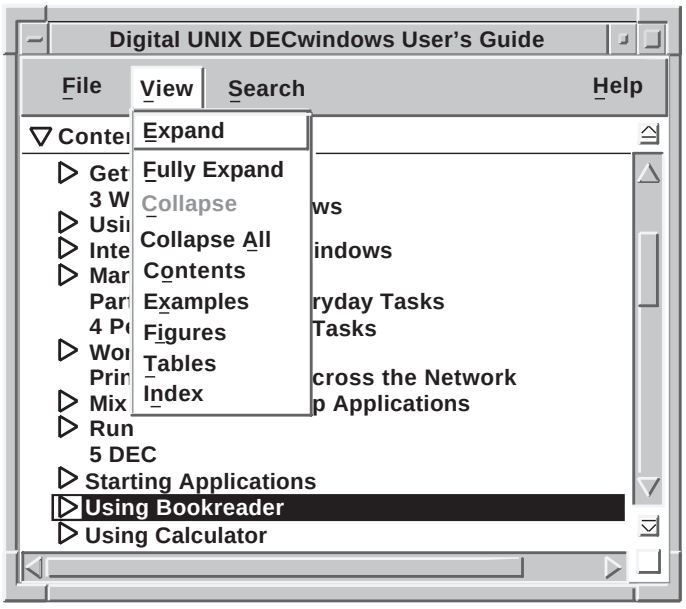
The navigation window contains the main sections of the book, which are typically:

Contents
Figures
Tables
Examples
Index

Notice that some topics are preceded by arrows:

- An arrow that points to a topic indicates that the topic contains subtopics that do not appear on the screen at the moment.

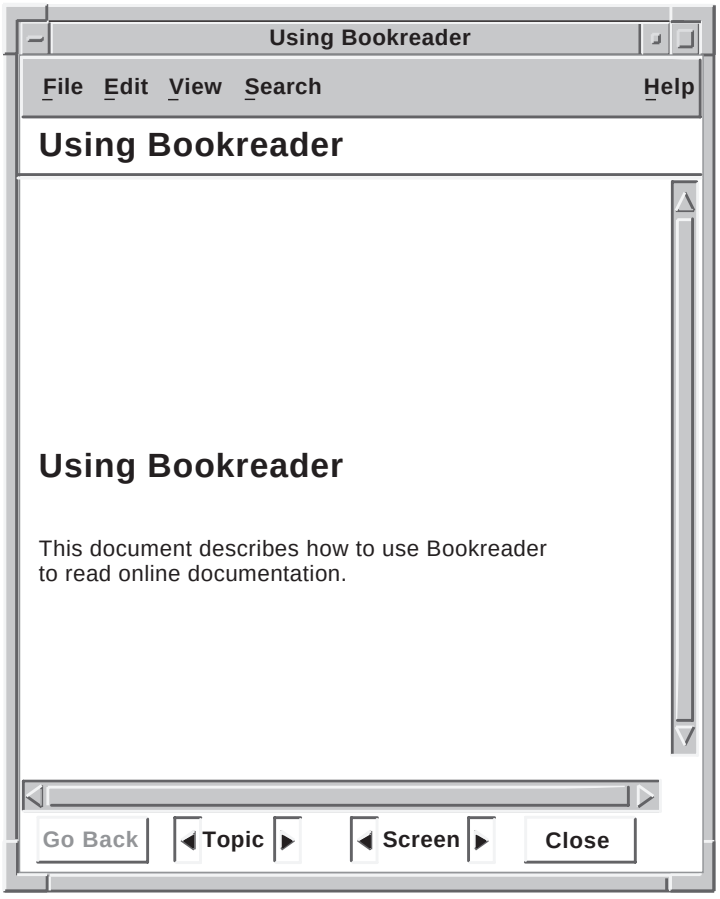
  To display the subtopics, double click on the topic's arrow. Alternatively, you can click on the topic's arrow and choose Expand or Fully Expand from the View menu.



- An arrow that points downward indicates that the subtopics are already displayed on the screen. Double click on the downward arrow to turn off display of the subtopics or click on the topic's arrow and choose Collapse from the View menu.

5.2.2 Opening a Topic to Read Text

To open a topic for reading, double click on the topic listed in the navigation window. The topic you opened appears in a new window called the topic window, as shown in the next illustration.



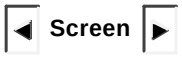
ZK−2643A−GE

Use the buttons and arrows at the bottom of the window to move through the text. To close the topic that is displayed on the screen, click on the Close button:

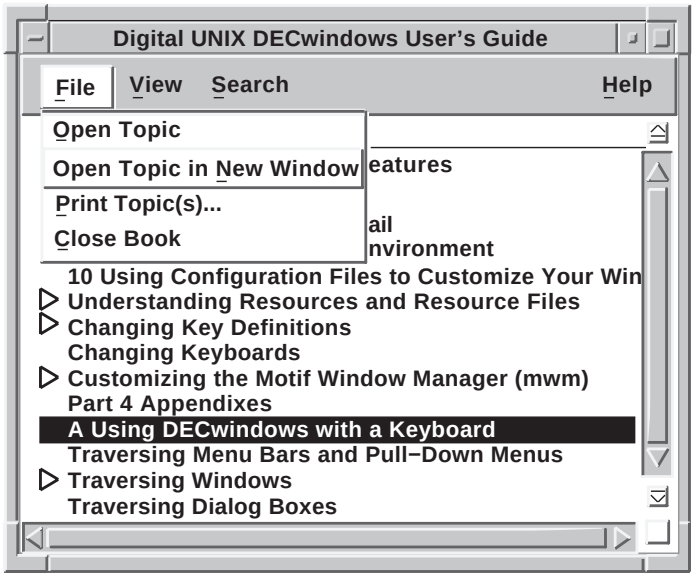
To move to the next topic or the previous topic, click on the arrow to the right or the left of the word Topic:

To go back to one or more of the topics viewed previously, click on the Go Back button until you reach the topic you want. A dimmed button, as shown, means that you are at the first topic:

To move to the next screen or the previous screen, click on the arrow to the right or the left of the word Screen. If the end of the current topic appears, moving to the next screen opens the next topic.



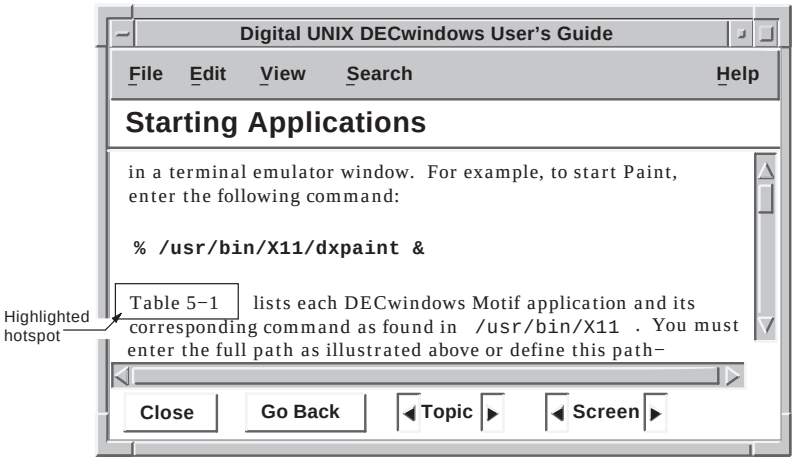
You might want to display more than one topic at a time. For example, you can open an appendix in one topic window while browsing through a chapter in another. Click on the topic in the navigation window or on a hotspot in topic window and choose the Open Topic in New Window menu item from the File menu.



ZK−0992U−R

5.2.2.1 Navigating with Hotspots

Hotspots are highlighted cross-references in the text. The highlighting is a box that surrounds the text of the reference such as a table, figure, or section title.



When you double click on a hotspot, Bookreader takes you directly to the referenced area. This saves you from going back to the table of contents and opening a new topic. The cross-referenced text replaces the current text in the topic window.

By default, hotspots are highlighted only when you position the pointer on them. You can turn on continuous highlighting by choosing Hotspots from the View menu.

5.2.2.2 Displaying Figures, Tables, and Examples

When you double click on a highlighted figure, table, example, or footnote, the reference appears in a separate window.

Text or part of a graphic may sometimes be hidden by the window boundaries. This happens when the width or length of the text or graphic is larger than the window. Use the horizontal or vertical scroll bars to display the hidden area, or use MB1 to enlarge the window (see Section 3.2.4).

5.2.3 Summary of Other Bookreader Features

Other Bookreader features allow you to:

- Access a library that is not included in the list of default libraries or specify a library that resides in your directory under a file name with the `.decw_bookshelf` file extension

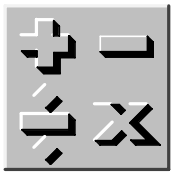
- Read a book that is not included in the default libraries or read books that reside in your directory under file names with a `.decw_book` extension
- Open multiple books in separate windows

For more information, use the online Help for Bookreader.

5.2.4 Something to Try

If you have not already done so, try starting Bookreader now. Double click on in the library window and practice some of the techniques described in this section.

5.3 Using Calculator



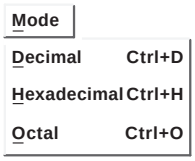
Calculator functions like a handheld calculator: It performs simple arithmetic functions—addition, subtraction, multiplication, division—and computes percentages and square roots. Calculator also performs trigonometric and inverse trigonometric functions, generates random numbers, and performs other more advanced operations. To start Calculator, see Section 5.1.

Unlike a handheld calculator, Calculator has two displays. The top display is the accumulator, which shows the number being entered or the current result, and the bottom display is the memory.

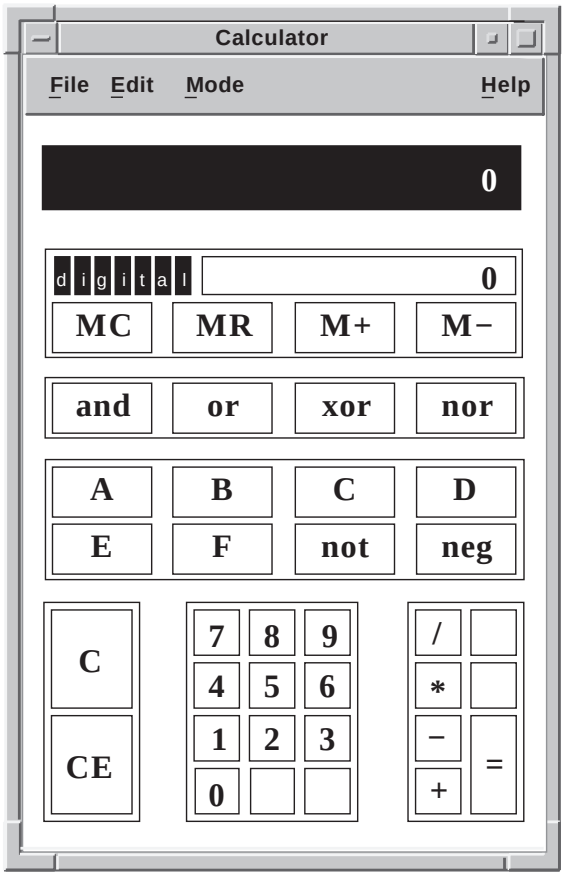
This section describes how to:

- Change from decimal mode to hexadecimal or octal mode
- Enter data
- Perform arithmetic functions
- Use the memory
- Perform special functions
- Transfer data to or from other applications
- Save customized settings

5.3.1 Changing the Mode

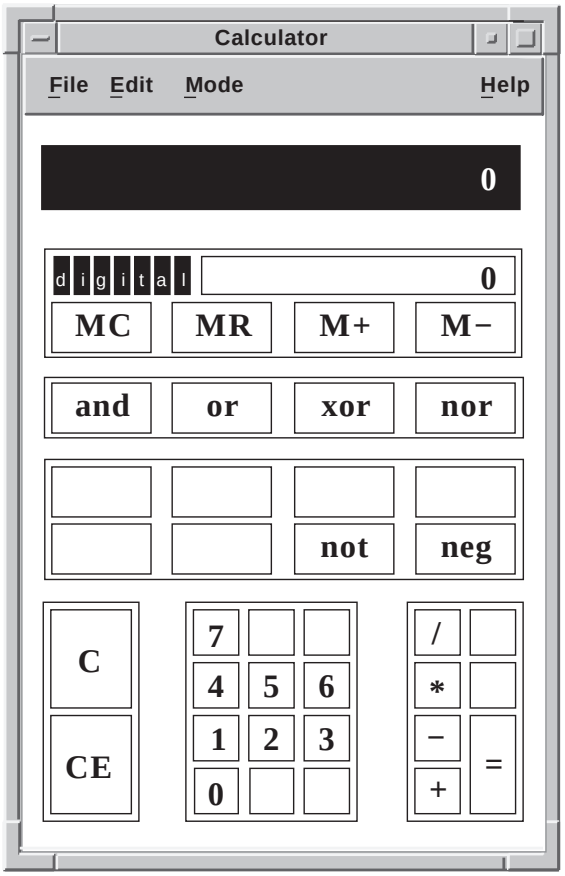


Calculator has three modes: decimal, hexadecimal, and octal. To change Calculator to hexadecimal mode, choose Hexadecimal from the Mode menu. Calculator appears on your screen in hexadecimal mode as shown in the following figure.



ZK−2867A−GE

To change Calculator to octal mode, choose Octal from the Mode menu. Calculator appears on your screen in octal mode as shown in the following figure.



ZK−2868A−GE

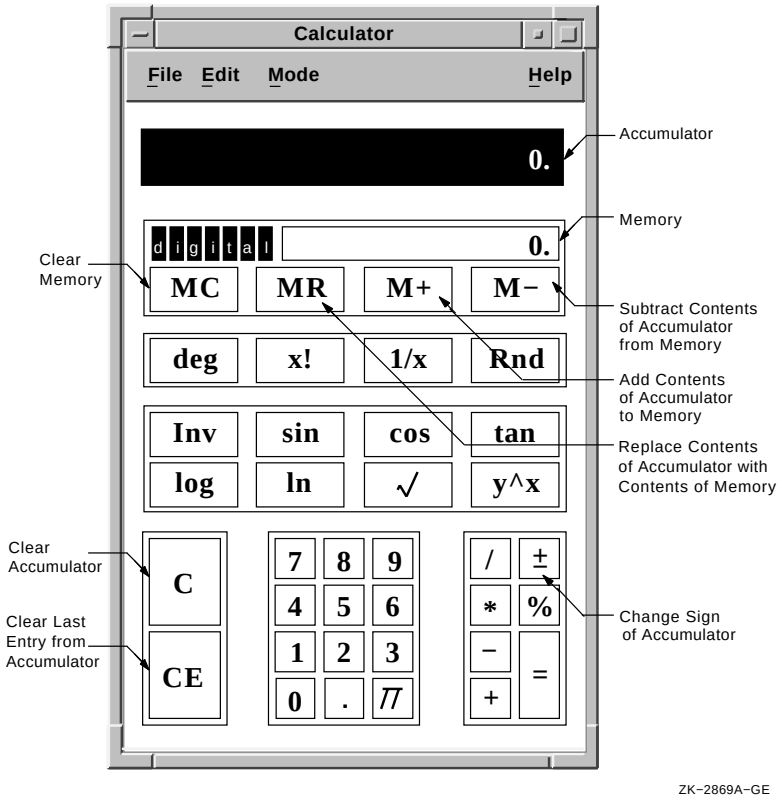
5.3.2 Entering Data

You can use Calculator with either the mouse or the keyboard.

- With the mouse, point to the appropriate button and click MB1.
- From the keyboard, press the keys listed in the following table.

Keyboard Key	Keypad or Special-Function Key	Produces
All Modes		
0–9	0–9	Numbers 0–9 (0–7 in octal mode)
/	PF2	/
*	PF1	*
–	–	–
+	,	+
=	Enter	=
MC	Ctrl+F4	MC
MR	Ctrl+F5	MR
M+	Ctrl+F6	M+
M–	Ctrl+F7	M–
Decimal Mode		
.	.	.
P		pi
N	PF3	+/-
%	PF4	%
C	Shift+F1	Clear
E	Shift+F2	Clear Entry
D	Ctrl+F8	deg (switches the trigonometric argument type: deg, rad, or grad)
!	Ctrl+F9	x! (x factorial)
~	Ctrl+F10	1/x
R	Ctrl+F11	Rnd
I	Shift+F3	Inv (switches sin, cos, and tan to the inverse)
S	Shift+F4	sin (sine)
O	Shift+F5	cos (cosine, or arccosine if Inv is on)
T	Shift+F6	tan (tangent, or arctangent if Inv is on)
LO	Shift+F7	log (or 10 to x if Inv is on)
LN	Shift+F8	ln (or e to x if Inv is on)
Q	Shift+F9	square root function

Keyboard Key	Keypad or Special-Function Key	Produces
^	Shift+F10	y^x (or y to the 1/x if Inv is on)
Hexadecimal and Octal Modes		
&	Ctrl+F8	and
vbar	Ctrl+F9	or
^	Ctrl+F10	xor
	Ctrl+F11	nor
~	Shift+F9	not
!	Shift+F10	neg
C (octal only)	Shift+F1	Clear
E (octal only)	Shift+F2	Clear Entry
Hexadecimal Mode		
A	Shift+F3	A
B	Shift+F4	B
C	Shift+F5	C
D	Shift+F6	D
E	Shift+F7	E
F	Shift+F8	F
Ctrl+C	Shift+F1	Clear
	Shift+F2	Clear Entry



When you enter data into the accumulator, notice that Calculator uses a radix separator (. or ,) to distinguish between entered digits and an operand. To see this, enter the following data:

1. Enter *1134*. Notice that a radix separator does not appear in the accumulator.
2. Enter a plus sign (+). Calculator inserts a decimal point after the number 1134 to signify the completion of an operand.

Depending on the contents of the accumulator, you can use one of the following methods to correct mistakes in computation:

- To erase the last digit you entered into the accumulator, press the ⟨× key.
- To clear the accumulator, click on the CE button.
- To reverse the last operation, choose Undo from the Edit menu. For example, choose Undo to restore the last operand or to remove the previous paste operation.

5.3.3 Performing Arithmetic Functions

Calculator displays numbers in the range of plus or minus 99,999,999,999,999. Calculator performs all calculations in left-to-right order and treats operators with equal importance.

For example, to evaluate the equation 6 + 5 * 3:

1. Find the sum of 6 + 5.

   Calculator displays an 11.

2. Figure the product of 11 * 3.

   The result is 33.

Also note the way Calculator computes percentages. For example, to determine 6 percent of 195:

1. Enter *195*.

   Calculator displays the number in the accumulator.

2. Enter * and Calculator inserts a decimal point.

3. Enter *6*.

   The number 6 appears in the accumulator.

4. Enter *%*.

   The result, 11.7, appears in the accumulator.

5.3.4 Storing Values in Memory

Use the memory display to store results and values for later computation. The figure in memory starts as zero. You can add the contents of the accumulator to memory or subtract the contents of the accumulator from memory by using the M+ and M- buttons, respectively. To enter the contents of memory into the accumulator, click on the MR button. To clear the contents of memory, click on the MC button.

5.3.5 Performing Special Functions

Calculator performs trigonometric and inverse trigonometric functions as well as other special functions.

The special-function keys in decimal mode are as follows:

Key	Description
Decimal Mode	
deg	Degree key. Selects the units for angular measurement. By default, Calculator is in degree mode. Clicking on the deg key places Calculator in the radian mode, which is indicated by the key label changing to ‘‘rad’’. Clicking on the key again places Calculator in gradient mode, which is indicated by the key label changing to ‘‘grad’’. The angular mode has no effect on Calculator unless the trigonometric functions are being used.
x!	Factorial key. Calculates the factorial (x)(x - 1)(x - 2)...(2)(1) of the displayed integer *x*, for integers $0 \leq x \leq 16$. 0! = 1 by definition.
1/x	Reciprocal key. Divides the displayed value *x* into 1, if *x* is not 0.
Rnd	Random number generator key. Generates a random number between 1 and the integer of the display. It does not generate negative numbers or numbers less than 1.
Inv	Inversion key. By default, Calculator performs noninverted trigonometric functions. When you activate the inversion key by clicking on it (which is indicated by the key becoming darkened), Calculator performs inverted trigonometric, log, and exponent functions.
sin	Sine key. Instructs Calculator to find the sine (or arcsine if Inverse is on) of the displayed value.
cos	Cosine key. Instructs Calculator to find the cosine (or arccosine if Inverse is on) of the displayed value.
tan	Tangent key. Instructs Calculator to find the tangent (or arctangent if Inverse is on) of the displayed value.
log	Common logarithm key. Calculates the common logarithm (base 10) of the number *x* in the display, if *x* is greater than 0. If Inverse is on, calculates 10 to *x*.
ln	Natural logarithm key. Calculates the natural logarithm (base e) of the number *x* in the display, if *x* is greater than 0. If Inverse is on, calculates e to *x*.
square root	Square root key. Calculates the square root of the number *x* in the display. The *x* value cannot be negative.

Key	Description
Decimal Mode	
y^x	y to the xth power key. Raises the displayed value *y* to the xth power (or *y* to the 1/x power if Inverse is on). Order of entry is y y^x x. The *y* value cannot be negative, but both *x* and *y* can be fractionals.

The special-function keys in hexadecimal mode are as follows:

Key	Description
Hexadecimal Mode	
A	Enter hexadecimal number A (decimal 10).
B	Enter hexadecimal number B (decimal 11).
C	Enter hexadecimal number C (decimal 12).
D	Enter hexadecimal number D (decimal 13).
E	Enter hexadecimal number E (decimal 14).
F	Enter hexadecimal number F (decimal 15).

The special-function keys in hexadecimal and octal modes are as follows:

Key	Description
Hexadecimal and Octal Modes	
and	In Boolean algebra, calculates logic AND (both propositions are true).
or	In Boolean algebra, calculates logic OR (either proposition is true or both propositions are true).
xor	In Boolean algebra, calculates logic XOR (either of the propositions is true).

Key	Description
nor	In Boolean algebra, calculates logic NOR (both propositions are false).
not	In Boolean algebra, calculates logic NOT (negation).
neg	In Boolean algebra, calculates NEG (the complement of x).

5.3.6 Copying Text

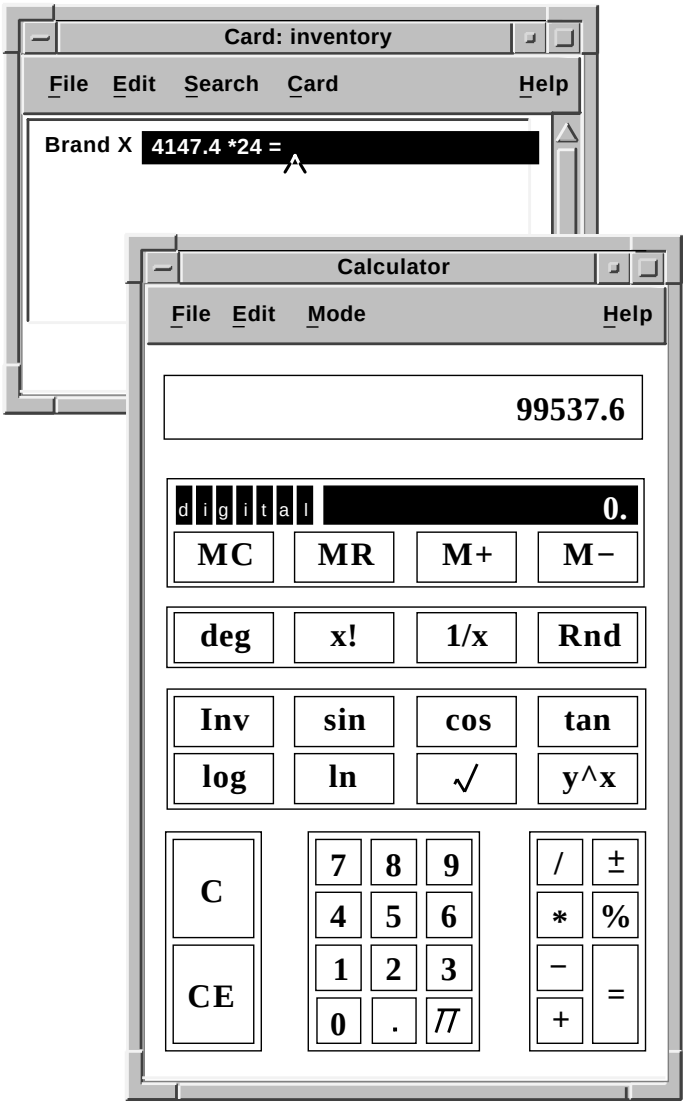
You can copy numbers from another application into Calculator's accumulator and from Calculator's accumulator or memory into another application.

To transfer data from the active display in the calculator window to another application window, choose Copy from the Edit menu. For example:

1. Click on the accumulator display.
2. Enter a number into the accumulator.
3. Choose Copy from the Edit menu, or for greater speed, press and hold MB3 to display a pop-up menu and choose the Copy menu item.

Now you can paste the data to another application's window.

To copy data from another application, select the data and use the application's copy function. Then choose Paste from Calculator's Edit menu. You can paste a number, or you can paste an equation like `4147.4*24=`. Calculator will display the result, `99537.6`. Calculator treats the contents of a paste operation just as if you entered the data from the keyboard. The following figure illustrates pasting an equation copied from a Cardfiler card into Calculator.



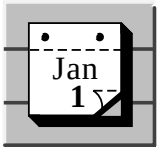
ZK−2871A−GE

5.3.7 Saving Customized Settings

If you change the screen placement and size of Calculator during a session and want to save those settings, choose Save Geometry from the File menu. The next time you start Calculator, the display reflects the new settings.

To restore the default size and placement of Calculator, choose Restore System Settings from the File menu.

5.4 Using Calendar

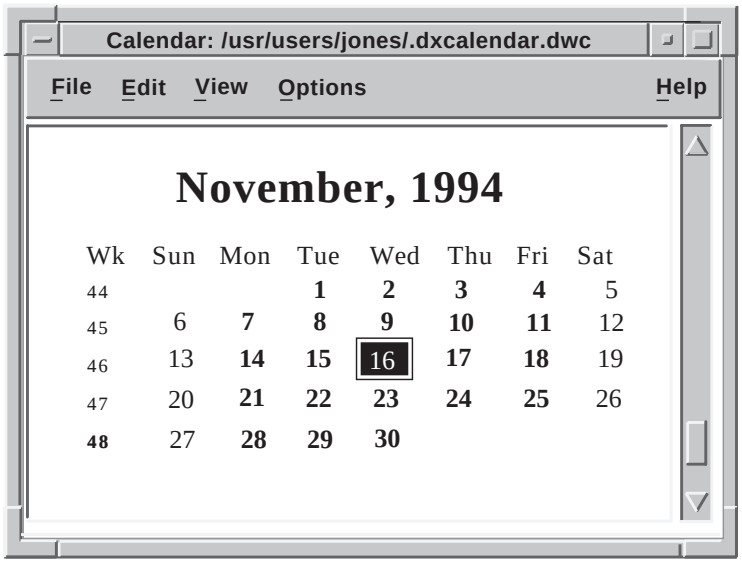


Calendar combines the functions of a desktop calendar and an appointment book to help you keep track of your meetings and plan your time. Calendar lets you look at the display for a full year or month and also allows you to review your scheduled appointments one day at a time. To start Calendar, see Section 5.1.

You can create several different calendars to use for specific purposes. For example, you can create calendars to:

- Keep track of your personal engagements
- Schedule conference room reservations
- Share with a group for group meetings and activities

Calendar has three main displays: day, month, and year. When it starts, Calendar presents the month display on your screen.



ZK–0694U–R

The month display shows the current month and year with the days of the month arranged in weekly rows. The current day has a box surrounding it.

You can move among or within displays as follows:

- To move to a day, month, or year display, double click on a day or year number or a month name. For example, double click on a day number in a month display to change the calendar window to a display of the selected day; or double

click on the year number in a day display to change the window into a calendar of the current year.

- Use vertical or horizontal scroll bars to move backward and forward within a display. For example, in the day display use the bar under the months or the bar to the right of the time slots.
- Use the View menu to display a selected item, the day display for today, or the specified type of display (month, day, year).

In the month and year displays, Calendar helps you distinguish between days containing appointments and free days. When you enter an appointment, the day number changes from a normal (roman) font to an italic font wherever it is displayed. On a color workstation, the day number for days with entries appears in the highlight color.

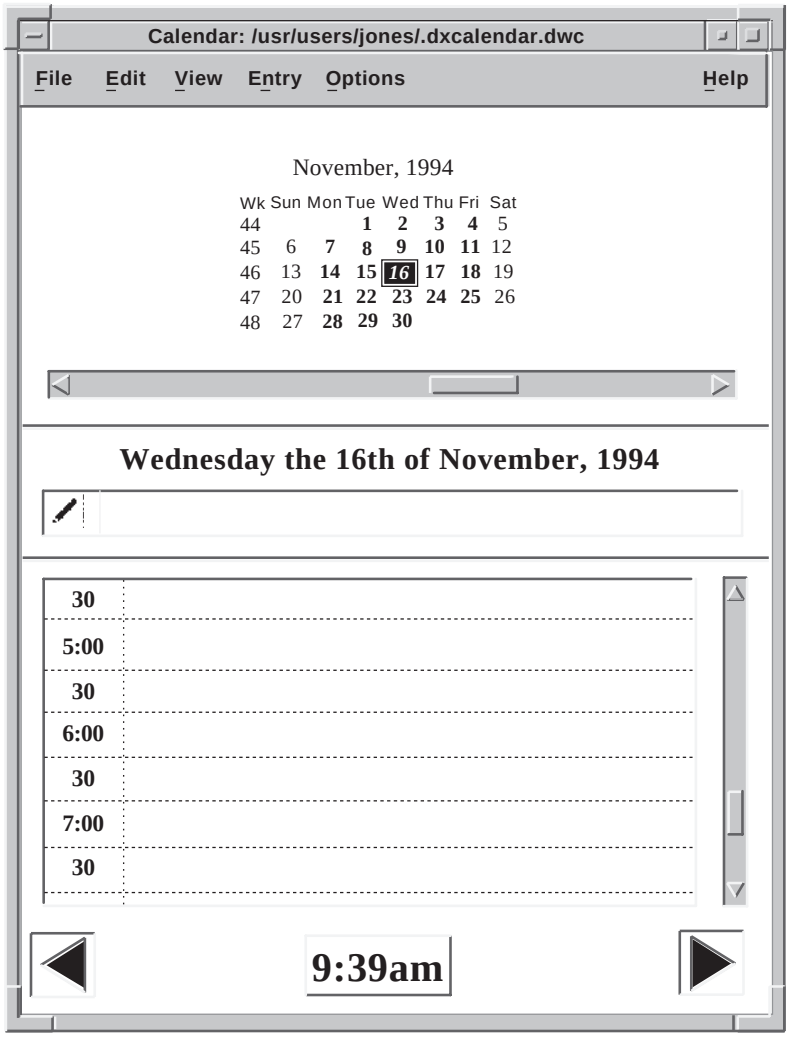
5.4.1 Creating an Entry in the Day Display

The day display shows the time slots for that day. You can type entries, such as appointments, directly into the time slots; or you can use the Entry Editor to type longer entries and specify other options, such as alarms, to remind yourself of appointments.

To record an entry directly in your time display:

1. Display the day for which you want to make the entry.
2. Click (and drag to expand, if necessary) on the desired time slot.
3. Enter the desired text in the time slot.
4. Click in the highlighted area at the left of the time slot (where the times are displayed).

   This action completes the time slot entry.



ZK–0695U–R

To create a long entry or to specify options for the entry, use the time slot Entry Editor:

1. Double click on the desired time slot in the day display.

   The Entry Editor dialog box is displayed. See illustration, below.

2. Enter the text.

   You can use the Tab key, the space bar, Return, and the arrow keys to format the text.

3. Adjust the alarms and repeat intervals as required.
4. If you want, click on icons to add or remove them from the entry display.

   These icons are symbols that act as reminders for the contents of the entry. Calendar attaches no particular meaning to them.

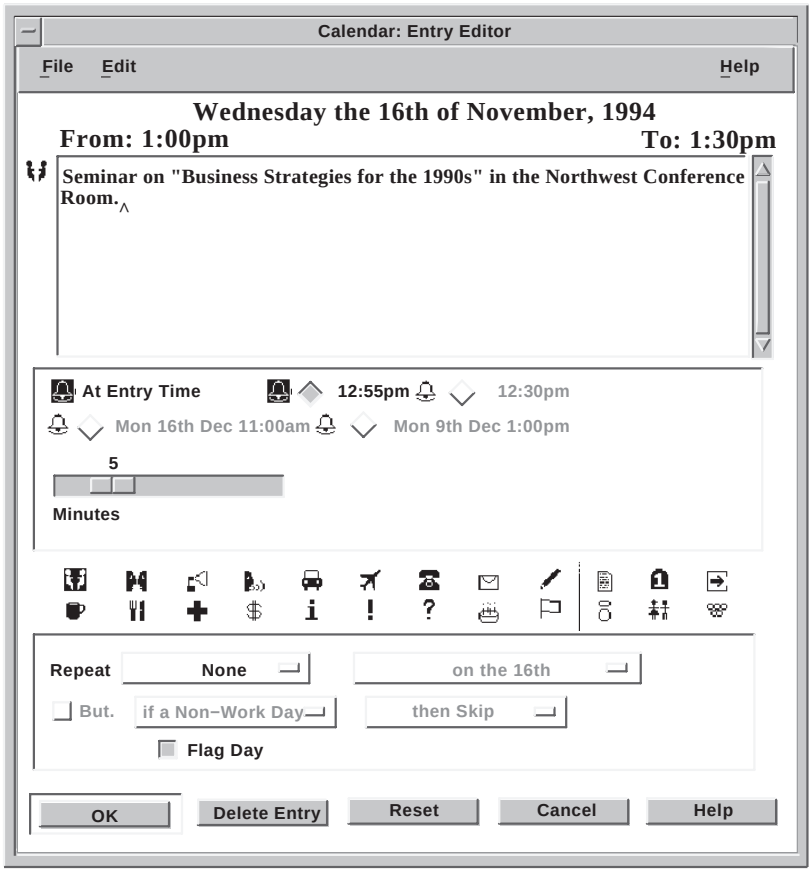
   In the Entry Editor dialog box, icons currently associated with the entry are displayed next to the text entry field, immediately to its left. You can control which icons are displayed by clicking on icons in the list of icons displayed in two rows, lower in the dialog box.

   If an icon is already displayed next to the text entry field, clicking on the same icon in the two-row list of icons removes it from next to the text entry field. If an icon is not displayed next to the text entry field, clicking on it in the two-row list places it next to the text entry field.

   When you OK the dialog box, the icons next to the text entry field will be displayed in the **handle** of the timeslot entry in the day view.
5. Click OK to confirm the entry and to dismiss the Entry Editor.

If you exit from the Entry Editor without entering any text, or if you delete all the text describing a previous entry, the time slot remains unscheduled.

The Entry Editor dialog box is shown below.



ZK–3429A–GE

5.4.2 Sending and Receiving Calendar Entries Through Mail

You can send and receive calendar entries through electronic mail. To do so, you must display both the Calendar entry (or only the correct day display if you are receiving the entry) and a Create–Send window in DECwindows Mail.

To send an entry through electronic mail:

1. Open a Create–Send window in Mail.
2. Select the entry from Calendar by clicking MB1 on the entry's handle.
3. Position the mouse pointer in the Create–Send message area.
4. Click MB2.

To receive an entry through electronic mail:

1. Open the day view and use MB1 to select the text from an existing mail message.
2. Use MB1 to give Calendar input focus.
3. Click MB2 on the Calendar time slot where you want to copy the mail text.

You can also use the Copy and Paste menu items on the Edit menu to copy information from calendar entries to mail messages and vice versa.

5.4.3 Summary of Other Calendar Features

With Calendar, you can also:

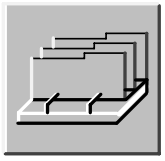
- Set alarms to remind you of appointments
- Mark special days
- Create overlapping entries
- Use the clock in the Day Display
- Use multiple calendars
- Customize your calendar
- Print part of a calendar

For more information, use the online Help for Calendar.

5.4.4 Something to Try

If you have not already done so, try starting Calendar now and open today's Day Display. Enter an appointment and set an alarm to have Calendar remind you of the appointment when the time approaches.

5.5 Using Cardfiler



Cardfiler lets you create an electronic file box of index cards. This electronic file box is called a **card file**. Card files contain **cards**, which can hold information such as names, addresses, and telephone numbers. For example, you could have a card file called Food that is filled with cards containing recipes and names of restaurants. Card files can also contain graphic images and a combination of text and graphics.

By organizing your cards into card files, you can keep one group of cards separate from another group; for example, you can separate your business cards from your personal cards.

When Cardfiler is started, the Cardfiler window appears on your screen. Initially, the card file is empty, but it fills up with index topics as you add cards. The following illustration shows the Cardfiler window displaying the names of six cards.

ZK–0697U–R

5.5.1 Creating or Opening a Card File

You can create a card file first and then add cards to it, or you can create cards and then save them into a card file. For example, you could create a card file called `Clients`, and then fill it with cards that contain the names and telephone numbers of your clients.

To start Cardfiler, see Section 5.1. To create a new card file or open an existing card file:

1. Choose the Open... menu item from the File menu.

   The Select File dialog box appears.

2. To create a new card file, click on the Selection text-entry box and enter the name of the card file you want to create. By default, card files have a file extension of `.card`.

3. Click on the OK button.

   Cardfiler displays a message telling you the file was not found and that a new file is being opened.

4. Click on the Acknowledged button.

5. To open an existing card file, double click on the name of the file in the Files list box.

   The requested card file appears.

5.5.2 Creating Cards

Cards contain units of information, such as a person's name and telephone number, and are organized in card files. You can create a series of cards and save them in a card file, or you can open a card file and then add cards to it. As you add cards, they are sorted alphabetically according to the topic you choose. Most likely, this topic will be the name of something, such as a person, business, or subject. By displaying the topic of each card, the card file window lists the contents of the card file.

To create a card:

1. Choose the Create Card... menu item from the Card menu.

   A dialog box prompts you to enter the topic of the new card.

2. Enter the topic in the Index text-entry box.

3. Click on the OK push button.

   Cardfiler displays a blank card in the card window. The text you entered is added to the title bar at the top of the card window and to the list of card titles in the Cardfiler window.

4. Enter any information you want on the card.

   Using the Return key, space bar, and Tab key, lay out the text as you want it to appear. Cards can contain up to 4000 characters and up to 64KB of images.

5. When you are finished with the card, choose the Close menu item from the Card window's File menu. The Card window closes and the card is added to your card file.

You can open another card in the card file without explicitly closing the current card. When you choose the Create Card... menu item from the Card menu in the Cardfiler window, Cardfiler automatically saves any changes you made to the current card and returns it to the card file before it opens a new card in the file.

If you create a series of cards before you create a card file, you can save them in a new card file.

To save existing cards in a new card file:

1. Create your cards from the empty, untitled card file you see when you start Cardfiler.
2. Choose the Save As... menu item from the File menu to save under a new file name. The Save As dialog box appears.

   In the Selection text-entry box, enter the name of the card file where you want to put your cards. For example, if you created a series of cards that contain information about office supplies your department purchased, you might name the card file `supplies.card`.
3. Click on the OK push button.

   The new card file name appears at the top of the Cardfiler window with a list of all the cards in that card file.

5.5.3 Summary of Other Cardfiler Features

With Cardfiler, you can also:

- Search a card file for text
- Edit or rename a card
- Include images in a card
- Merge card files

For more information, use the online Help for Cardfiler.

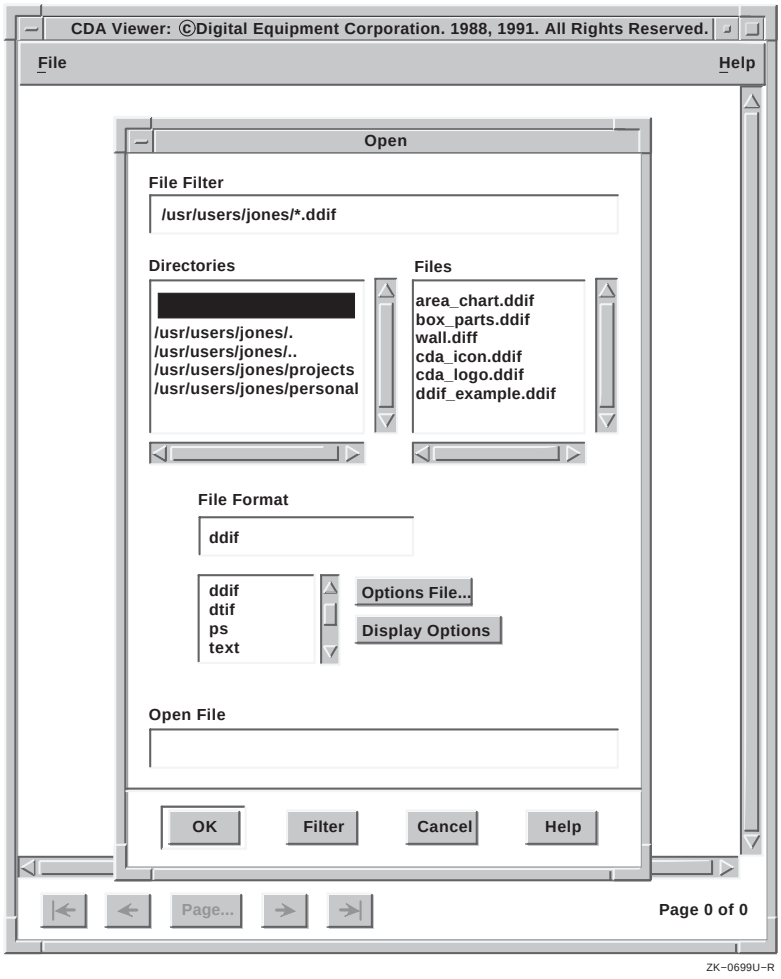
5.5.4 Something to Try

If you have not already done so, try starting Cardfiler now. Create a few cards containing names and phone numbers of acquaintances and save them to a card file called ''friends.''

5.6 Using CDA Viewer

The CDA Viewer lets you display the contents of documents that are in specific file formats such as PostScript, text, and those produced by applications such as Paint, DECwrite, and DECdecision (DDIF and DTIF formats). CDA Viewer works with the CDA converters. Therefore, the converters that are installed on your system determine the specific file formats that you can view. To start CDA Viewer, see Section 5.1.

When the CDA Viewer starts, its Open dialog box and main window appear on your screen, as shown below. The dialog box is where you select the file you want displayed; the main window is where you view files. The Open dialog box's File Format list box shows what file formats can be viewed.



5.6.1 Viewing Files

The following steps form the basic procedure for viewing a file:

1. In the Directories list box, click on the name of the directory that contains the file you want to view.
2. In the File Format list box, click on the format name (also called the **keyword** that applies to the file. If you do not know the format, refer to Section 5.6.2 for more information.
3. (Optional) Click on the Options File... push button to open a dialog box that lets you select an existing options file to control the display.

   In the Directories list box, click on the name of the directory

that contains the options file. Then select the file from the Files list box.

Note

By convention, options file names include the file extension `.cda-options`. If your file name does not follow this convention, the file will not be listed unless you modify the File Filter text-entry box to match the actual file name and then click on the Filter push button.

4. (Optional) Click on the Display Options push button to open a dialog box, shown below, in which you can set the size of the display. The paper size you specify is used only if the document has no inherent format (page size) or if you override the document's format.

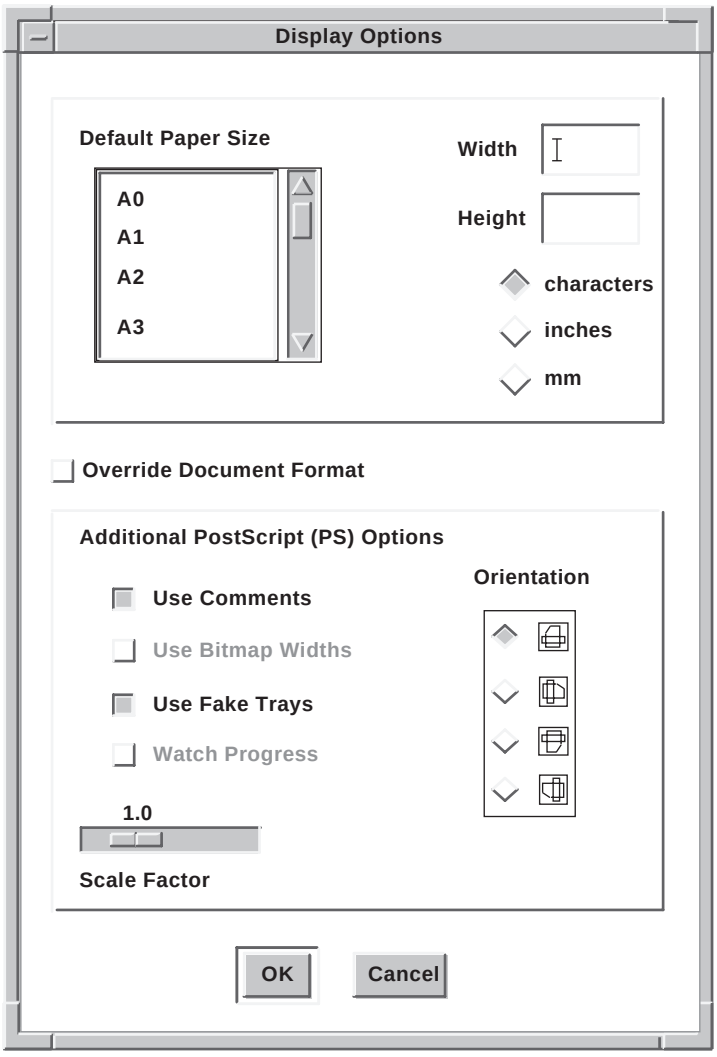
   You can select a paper size from the available list, or you can supply your own values in characters,[1] inches, or millimeters. To supply your own values, first click on the desired unit of measurement; then enter the desired values in the Width and Height text-entry boxes.

   Click on the Override Document Format check button if you want to override the existing format with your own.

   The Display Options dialog box includes several options that apply only to PostScript files.

   Click on the OK push button to return to the Open dialog box.

[1] The characters unit corresponds to the size of a character in the 12-point Courier font, which is CDA Viewer's default font and which is also similar to the standard font used by most printers. In 12-point Courier, and in the character unit as interpreted by CDA Viewer, there are 10 columns per inch (0.1 inch per character horizontally) and 6 rows per inch (0.167 inch per character vertically).



ZK–0701U–R

Note

Processing options, paper size values, and the Override Document Format option apply only to the next file you open. The appearance of the currently displayed document does not change.

5. In the Files list box, double click on the name of the file that you want to view, or click on the file name and then click on the OK push button.

The Open dialog box closes, and the selected file is displayed in the CDA Viewer window. The title bar shows the name of the file, as does the CDA Viewer icon. The number of the currently displayed page and the total number of pages appear in the lower right corner of the window.

You can:

- Move through the file

  Click on the inner arrow buttons at the bottom of the window to move forward or backward one page. Click on the outer arrow buttons to move to the beginning or end of the document. To view a specific page number, click on the Page... push button and enter the page number in the Page dialog box.

- Halt PostScript processing

  If you are viewing a PostScript file, a Cancel push button is displayed at the bottom of the window. While the CDA Viewer is formatting a page, you can click on the Cancel push button to stop processing. Clicking on this button does not close the file; it merely halts processing of the current page.

- Display information about the file you are viewing

  Choose the Document Information... menu item from the File menu. If the file contains the information, CDA Viewer displays the product name (the name of the application that produced the file), title, author, version, and creation date.

- Display diagnostic information

  Choose the Diagnostic Information... menu item from the File menu to display information such as warnings and errors that occurred while you were formatting the file. (This menu selection is dimmed if no diagnostic information is available.)

- Close the file

  Choose the Close File menu item from the File menu to clear the display.

- Open a new file

  Choose the Open File... menu item from the File menu and repeat from step 1.

- Exit CDA Viewer

  Choose the Quit menu item from the File menu.

5.6.2 Specifying Supported File Formats

The file format you specify depends on the application (or the conversion) that produced the file you want to view.

The following table summarizes the file formats supported by CDA converters on all Digital UNIX DECwindows Motif systems. Your system might also support converters for additional formats. All formats that are supported on your system are listed in the File Format area of the Open dialog box, as illustrated above.

Keyword	Description	Default File Extension
ddif	DDIF files created by and for applications such as DECwrite and DECdecision	`.ddif`
dtif	DTIF files created by and for applications such as DECdecision	`.dtif`
ps	PostScript files to be printed on supported output devices	`.ps`
text	Text files that can be edited with a text editor	`.txt`

Note

You can view PostScript files only if the Display PostScript System Extension is installed on your server. If this software is not installed, the ps (PostScript) keyword will not appear in the Open dialog box.

Most formats have an associated default file extension. The preceding table includes the default file extension for each supported format. The default file extension for the format that you select automatically appears in the filter mask, which determines which files are listed. For example, if you specify the text format, the filter mask ends in `.txt`, and the Files list box shows files with that file extension.

Not all file names have the default file extension for their format. You must specify the actual format of the input file, regardless of its file extension.

5.6.3 Summary of Other CDA Viewer Features

With the CDA Viewer, you can also:

- Create an options file to specify processing options
- Specify PostScript options such as landscape or portrait mode
- Adjust the page display size of your PostScript file
- Clarify your PostScript file for online viewing
- View a PostScript file that contains tray size directives.
- View a page as it is being processed, rather than waiting to view the entire page after it has been processed

For more information, use the online Help for the CDA Viewer.

5.6.4 Something to Try

If you have not already done so, try starting the CDA Viewer now and view the sample Clock Tower picture created with Paint or a `.ddif` file you might have created with DECwrite.

To display the Clock Tower:

1. Choose the Open... menu item from the File menu.

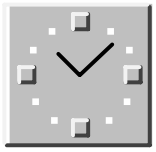
   The Open dialog box appears with the names of the files in your current directory.

2. In the Open File text-entry box, enter the picture file name.

   The clock tower file is located at: `/usr/examples/dxpaint/clock.img`.

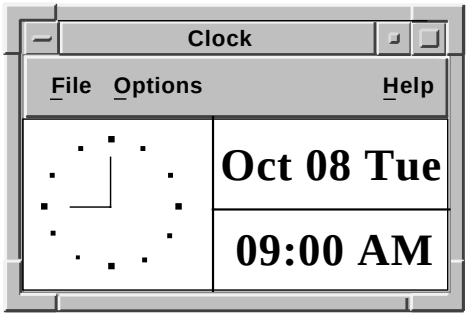
3. Click on the OK push button. The CDA Viewer displays the Clock Tower picture.

5.7 Using Clock



Clock displays the time (in both analog and digital format) and the date. You can change the Clock display to suit your needs. You can also set Clock's alarm to remind you of appointments. To start Clock, see Section 5.1.

After you start Clock, it looks like this:



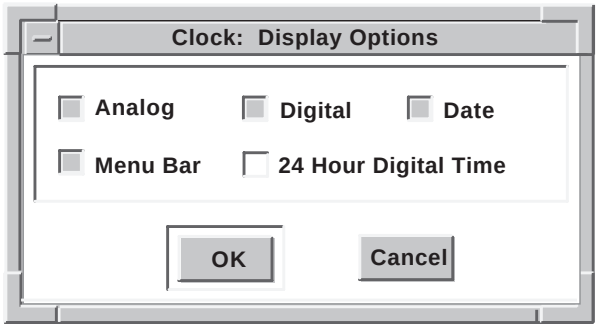
ZK–2874A–GE

5.7.1 Customizing the Clock Display

You can customize the Clock display to include any combination of the date and time regions.

To change the Clock display, choose Display... from the Options menu.

The Display Options dialog box appears:



ZK–0910U–R

Shaded (enabled) check buttons indicate the current settings. To change the setting, click MB1 on a check button or its label. For example, if you want only the analog clock displayed and the Analog, Digital, and Date check buttons are shaded (enabled),

click on the Digital and Date check buttons to disable those settings.

To use the current settings, click on OK. To dismiss the dialog box without changing any settings, click on Cancel.

Alternatively, you can use the Clock pop-up menu to customize the display:

1. Place the pointer anywhere in the Clock display (except the window frame or title bar).
2. Press and hold MB3. A pop-up menu appears.
3. Drag to the Display... menu item.
4. Release MB3. The Display Options dialog box appears.
5. Make any desired changes to the Display Options settings.
6. Click on OK.

You can move or resize the Clock display and save Clock's size and position as well as the Display Options by choosing Save Options from the Options menu or the pop-up menu.

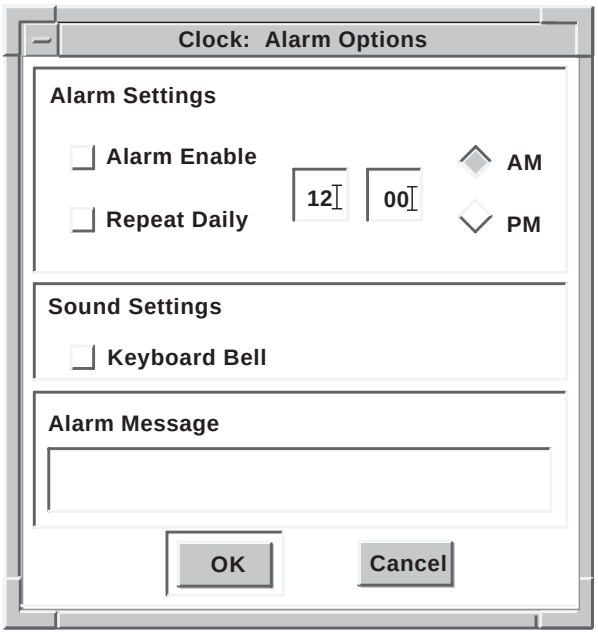
To restore the system defaults, choose Restore System Options from the Options menu or the pop-up menu.

5.7.2 Setting the Alarm

You can set the alarm to remind you of an appointment.

To set the alarm:

1. Choose Alarm... from the Options menu. This brings up the Alarm Options dialog box. (Alternatively, double click anywhere on the Clock display to bring up the Alarm Options dialog box.)



ZK–0909U–R

2. Click on the Alarm Enable check button to enable the alarm.
3. Click on the Keyboard Bell check button to turn on the alarm sound.
4. Type the hour when you want the alarm to sound in the entry box for the hour of the day.

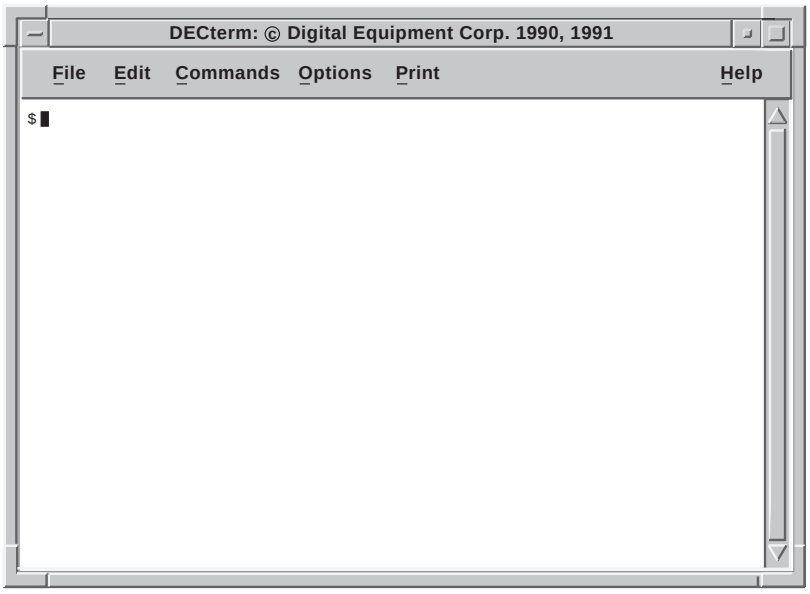
   You can use a 12-hour clock, in which case you need to specify AM or PM, or you can use a 24-hour clock (''military'' time).

   To erase a number that you previously entered or to correct typing mistakes, use the <× key.
5. Finish entering the time you want the alarm to sound in the entry box for the minutes of the hour.
6. If you are using a 12-hour clock, click on either the AM or PM radio button.
7. To display a message on your screen when the alarm sounds, type the message in the Alarm Message entry box. Alarm messages can contain up to 200 characters.
8. To use the current settings, click on OK. To return to the date and time display without changing the previous settings, click on Cancel.

When the alarm goes off, an Alarm dialog box appears containing the Alarm Message, and the keyboard bell sounds if you enabled it. Click on OK in the Alarm dialog box to clear the Alarm dialog box from your screen.

5.8 Using DECterm

The DECterm software is a video terminal emulator. When DECterm is started, a window appears on your screen. Enter commands in this window as you would on any terminal attached to your system or it for remote communications to other systems. To start a DECterm, see Section 5.1.



ZK–3442A–GE

5.8.1 Summary of Other DECterm Features

DECterm also lets you:

- Change the appearance of the DECterm window, for example, font size and window title.
- Change the DECterm display features such as the type of cursor and the use of horizontal and vertical scroll bars.
- Change DECterm general features like terminal type.
- Compose characters.

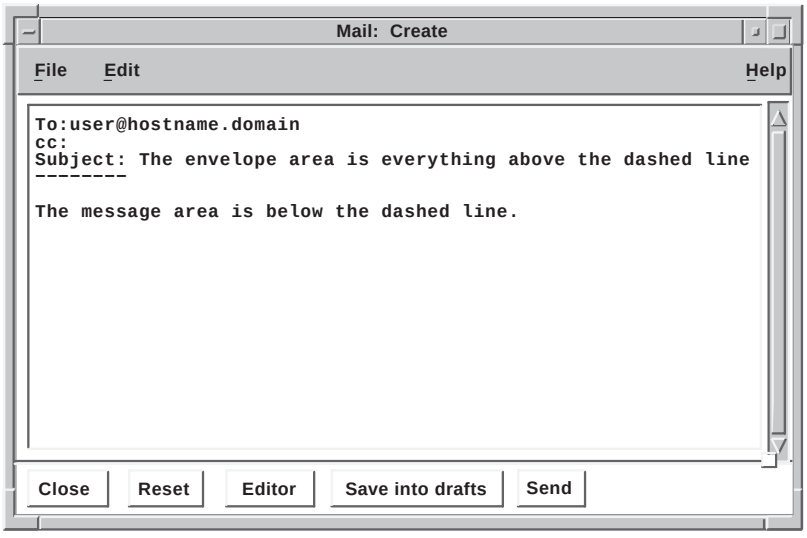
- Choose a National Replacement Character Set (NRCS).
- Change keyboard, graphic, and printer options.

For more information, use the online Help for DECterm or the `dxterm` reference page. See Appendix B for information on how to compose characters.

5.9 Using Mail

The Mail utility (`dxmail`) provides a window-oriented interface to the Rand `mh` Mail Handler. With Mail, you can send messages; read messages sent to you; and print, file, delete, reply to, and forward messages. To start Mail, see Section 5.1.

To send a mail message to any user on your system or another system, click on the Create–Send push button in the Main Inbox window. A Create window opens. You can have multiple Create windows open at one time.



ZK–0994U–R

The Create window is divided into an envelope area and a message area. The envelope area contains the following text-entry fields:

Field	How to Use
To:	Enter the name of the user or users to receive the message. If you are sending mail to someone on your node, specify only their user name. If you are sending mail to someone on another system, you must enter their host name and user name, for example: *node-name::user-name* or *username@hostname* If you are using a message router, enter the address in the appropriate format for your router. You can send a message to several users by separating their user names with commas. If you are typing many addresses and want to continue on a new line, press Return *and* start the new line with whitespace (space or tab) before typing another address.
cc:	Optionally, enter the name of the user or users you want to receive a copy of the message. If you have set the Copy Self on Send option in your mail profile, your user name is displayed. If you are typing many addresses and want to continue on a new line, press Return *and* start the new line with whitespace (space or tab) before typing another address. For information about sending a copy to a distribution list, see Section 5.9.1.
Subject:	Optionally enter the subject of the message. If you want to continue the subject on a new line, press Return *and* start the new line with whitespace (space or tab) before typing more text.

To enter text in any of these fields, position the pointer at the beginning of the appropriate field and click MB1. Use the DECwindows editing commands, described in Chapter 4, to correct mistakes.

If you are entering text in the To;, cc:, or Subject: fields of the envelope and your text wraps to a new line, you must insert a hard return and whitespace (space or tab) at the beginning of the new line.

When the envelope is complete, position the pointer at the message area beneath the dashed line and click MB1. In the message area, enter the text of your message.

You can create the message text by using a text editor, by forwarding an existing message, or by including an existing file. You can also save a draft of the message before you send it. This

is useful if you are interrupted and want to finish a message at a later time.

When you finish creating your message, click on the Send push button to send your mail. The Send push button in the Create window dims after the message is dispatched to all addressees. It remains dimmed until you change something in the window (for example, if you enter text in one of the fields).

Once a message is sent, you can edit it, send it to other users, or choose a command from the File pull-down menu or push buttons.

To create another message, click on the Create window's Reset push button. This clears the message and envelope areas in the window and enables you to enter information for a new message.

To close the window, click on the Close push button.

You can insert an existing file into a mail message by choosing the Include file... item from the File pull-down menu. Mail displays the contents of the file in the Create window at the current cursor location. You can edit the file, provided that it is not a DDIF file.

Mail sends the message to the addressees listed in the To: field.

5.9.1 Sending a Message to a Distribution List

If you need to send one message to many users, you can create a file, called an `aliases` file, that contains a list of users. You then specify the alias in the To: field when you send the message (for example, `project`).

To create mail aliases:

1. Edit your `.mh-profile` file to include the following line:

   ```
   Aliasfile: aliases
   ```

   You can name the file anything you like provided that the name in the `.mh-profile` file agrees with the file name you create in step 2.

2. Create a file named `aliases` in your *$HOME*`/Mail` directory and enter in the user and node names that you want to send mail to in the format:

   <alias name>: name1@node, name2@node, name3@node

For example:

```
project: smith@fisherman, jones@bluefish, \
olsen@striper, johnson@goldfish
```

You can use any of the alias formats that the `mh` mail utility supports. See the `mh-alias`(4) reference page for more information on how to create aliases in the `aliases` file.

5.9.2 Sending PostScript Files

When you send PostScript files, do not use an editor to create a message. Instead, choose the Include file... menu item from the File pull-down menu in the Create window.

Be sure to position the pointer in the message area of the Create window (below the ‘‘Subject:’’ field) so that the PostScript file is not erroneously written into your mail envelope area.

5.9.3 Reading Messages

You can use Mail to read an old or a new mail message. New messages are added to the inbox folder; old messages (messages that have been read) are held in the inbox folder until you move them elsewhere.

When you receive new mail, the inbox folder in the folder box is highlighted. To read the new mail, in the Main Inbox window click on the New Mail or Deliver push buttons or select the New Mail menu item from the Read pull-down menu.

Unread messages are identified in your inbox by an icon resembling an addressed envelope. Double click MB1 on the message to be read. Mail displays the message in a Read window.

A Read window is divided into an envelope window pane and a message window pane. By default, these panes are divided by a dashed line.

The envelope window pane displays the name of the person who sent the message and other address information. Use the scroll bar to display additional information about the message, such as text indicating that the message is marked or has been replied to, the message size, message ID, and whether the message is in a foreign format.

The message window pane displays the mail message. Use the scroll bar to display any text that does not fit in the window pane. Messages you read remain in the inbox folder until you move them to another folder or delete them. To move messages to other

folders, use the Move... push button or the Move... menu item from the File pull-down menu.

5.9.3.1 Reading Nontext Messages

You can view messages in text, PostScript, DDIF, or DTIF format. If you receive a file in a format different from those listed here, you will not be able to view the file in Mail. Mail displays a message informing you of the problem. However, you can print, forward, extract, or reply to such a message.

When displaying a PostScript file...

A PostScript file always begins with a percent sign and an exclamation point (%!). In a Mail message, the %! symbol can be preceded by up to 50 lines of ASCII text. Mail searches the file for the %! symbol and displays the PostScript file. If the message has more than 50 lines of text preceding the %! symbol, you must edit the message to remove excess lines of text before forwarding it.

5.9.3.2 Reading an Old Message

To read an old message, open the drawer and folder containing the message and double click on the appropriate message. The message is displayed in a Read window.

5.9.4 Using Accelerators

The Mail application offers accelerators to perform common Mail tasks quickly. You can also use the arrow keys to traverse menus as well as the drawers and folders in the main window.

The following table shows the accelerators and their corresponding functions:[2]

Press	To Produce
Alt+F	File
Ctrl+E	Edit
Alt+S	Create–Send
Alt+R	Read

[2] Alt is the Compose Character key.

Press	To Produce
Alt+M	Maintenance
Alt+C	Customize
Alt+D	Deliver Mail
Alt+X	Exit
Ctrl+C	Copy Selected Message
Ctrl+E	Extract
Ctrl+O	Open Folder

5.9.5 Summary of Other Mail Features

With Mail, you can also:

- Change the editor you use to create a message
- Search a selected folder for messages that have something in common, for example, all messages that contain a specific word in the subject line
- Customize your Mail environment, including menus and buttons
- Have Mail automatically sort your incoming mail

For more information on these features, see Chapter 8 or Help for Mail.

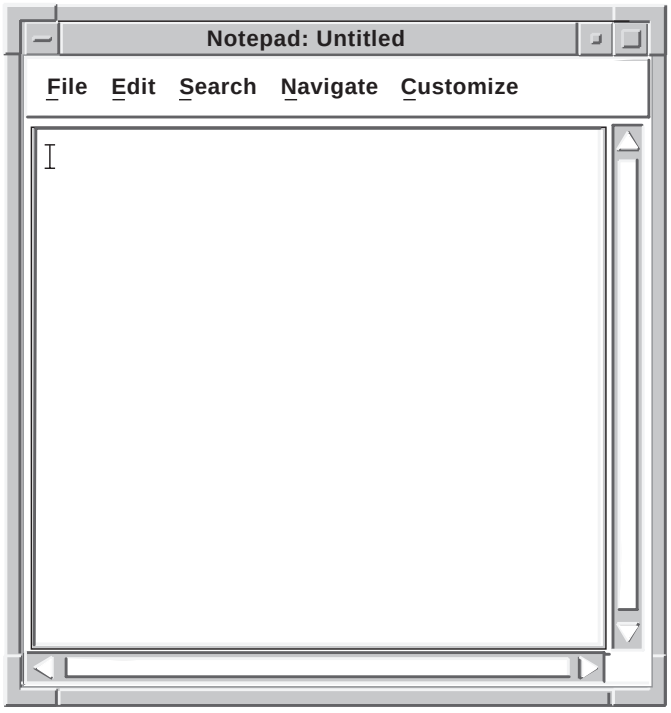
5.9.6 Something to Try

If you have not already done so, try starting Mail now. Click on the Create–Send button to open a Create window and try the techniques described in this section.

5.10 Using Notepad

The Notepad is an editor that lets you do everyday tasks such as recording messages, writing letters, and building data files. The Notepad editor saves your notes in files, which you can store for later revision or incorporation into other files. The Notepad editor supports the techniques for selecting, deleting, moving, and modifying text described in Chapter 4. To start Notepad, see Section 5.1.

When it starts, Notepad displays an empty editing window (shown below) where you can type text from the keyboard or copy in an existing file for editing. Notepad is interactive; you see the changes to a file as you make them.



ZK–0709U–R

5.10.1 Entering Text

To enter text in the Notepad window, click MB1 in the text area and begin typing. Notepad enters the text at the position marked by the cursor. Initially, the cursor is displayed in the upper left corner, but it moves to the right as you type.

The Notepad editor inserts text into a temporary holding area called a **buffer**. The contents of the buffer appear in the Notepad window. At the beginning of an editing session, the buffer contains very little text, but the buffer grows longer as you add information.

A buffer exists only during the editing session. When you end an editing session, you direct the Notepad editor to save or discard the contents of the buffer.

5.10.1.1 Formatting Text

Use the Tab key, the space bar, and the Return key to arrange text in the Notepad window as you want it to appear.

You can also size the Notepad window so it has the line width you want. By default, Notepad wraps text lines at the right margin automatically; you do not have to press Return at the end of every line. To disable word wrapping, choose Word Wrap from the Customize menu. When word wrapping is in effect, a shaded toggle button appears to the left of the Word Wrap menu item. When you disable word wrapping, the toggle button disappears.

5.10.1.2 Scrolling the Buffer

As your text buffer grows, it extends beyond the frame of the Notepad window. To view text at the beginning or end of the buffer, use the vertical scroll bar along the right side of the window. The position of the slider indicates your position in the buffer. When the slider is at the top of the scroll bar, you are at the beginning of the buffer. When the slider is at the bottom of the scroll bar, you are at the end of the buffer. See Section 3.2.5.

5.10.2 Editing a File

The Notepad navigation and editing commands let you move within a text buffer quickly and easily, adding or modifying information.

5.10.2.1 Moving the Cursor

When you insert text in the buffer, Notepad adds the text at the current cursor position, pushing existing text to the right. Therefore, the cursor is normally positioned at the spot where you last entered text.

To move the cursor, position the pointer anywhere in the Notepad window and click MB1. Use the arrow keys to move the cursor.

Press the Ctrl key and the right arrow key at the same time to move the cursor one word to the right. Press the Ctrl key and the left arrow key at the same time to move the cursor one word to the left. Press the Compose Character key and the right arrow key to move the cursor to the end of the line. Press the Compose Character key and the left arrow key to move the cursor to the beginning of the line.

With a long buffer, reposition the cursor by using menu items from the Navigate menu. Choose Go to Top to move to the top of the buffer. Choose Go to Bottom to move to the bottom of the buffer.

To reposition to a specific line in the buffer:

1. Choose the Go to Line... menu item from the Navigate menu.

   Notepad displays a dialog box.

2. Type the line number in the text-entry box and click on the OK push button.

Notepad repositions the cursor to the specified line.

Another method of placing the cursor on a certain line is to select a line number in text anywhere on your workstation and choose the Go to Selected Line Number menu item from the Navigate menu.

For example, if you are reading an error listing file in a DECterm window that contains the line number 1019 and you want to look at line number 1019 in a program source file you are editing in Notepad, select 1019 in DECterm and choose the Go to Selected Line Number menu item from Notepad's Navigate menu. Notepad places the cursor on line 1019 in your Notepad file.

Note

If you are correcting a program source file, you might want to start from the bottom and work your way up so that your edits do not affect how the line numbers in your source file correspond to the line numbers in your error listing file.

5.10.3 Canceling an Edit

To cancel your most recent edit, choose the Undo... menu item from the Edit menu. For example, if you remove text with the Cut menu item, you can restore the text to its former location with the

Undo... menu item.

Notepad keeps a detailed record of all your edits so you can undo a series of edits. To cancel a series of edits:

1. Choose the Undo... menu item from the Edit menu.

   Notepad displays the Undo dialog box.

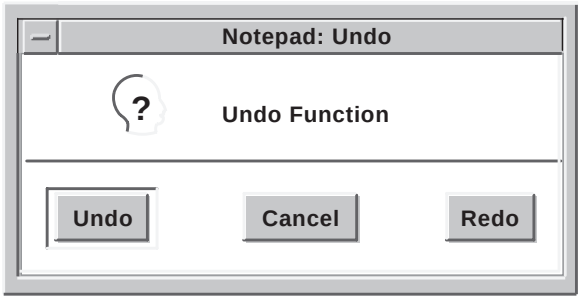
2. Click on the Undo push button to cancel the last editing operation.

   Each time you click on the Undo push button, Notepad cancels another editing operation.

3. If you undo an editing operation by mistake, reinstate the edits by clicking on the Redo push button.

4. To complete the operation, click on the Cancel push button.

You can cancel all the edits of an editing session in one step by choosing the Revert menu item from the File menu. Notepad displays a Save changes dialog box. When you click on the OK push button, Notepad restores the buffer to the state it was in when you first opened the file.



ZK–0729U–R

Because Notepad saves the last text you selected and deleted, you can move text from one location in the text buffer to another location.

5.10.4 Moving Text

To move text in a buffer:

1. Select the text to be moved to another location.
2. Choose the Cut menu item from the Edit menu.
3. Move the cursor to where you want the deleted text inserted by positioning the pointer and clicking MB1.

4. Choose the Paste menu item from the Edit menu.

The deleted text is moved to the new location.

5.10.5 Copying Text

Because Notepad keeps track of your selected text, you can copy text from one location in a text buffer to another location. To copy text in the text buffer:

1. Select the text you want copied to another location.
2. Choose the Copy menu item from the Edit menu to store the copied text.
3. Move the cursor to where you want the selected text copied by positioning the pointer and clicking MB1.
4. Choose the Paste menu item from the Edit menu.

The selected text is copied to the new location.

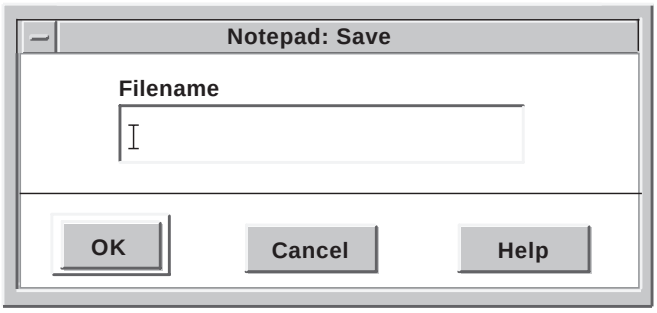
5.10.6 Saving Text in a File

When you add text to Notepad, the editor records the information in the buffer. If you want to save the contents of the buffer, you must direct Notepad to write your text to a file.

To save the text in your buffer as a file:

1. Choose the Save As... menu item from the File menu.

   Notepad displays a dialog box that prompts you for the name of the file.



ZK–0728U–R

2. Enter the name of the file. Use a name that corresponds to the contents of the file so that you can easily recognize it. Use the <× key and arrow keys to make any necessary corrections.
3. Press Return or click on the OK push button.

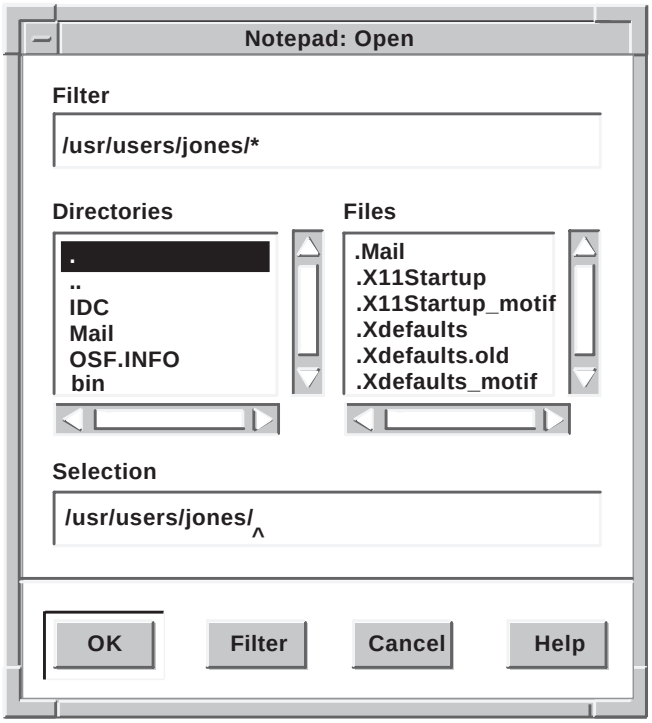
Notepad writes the contents of the buffer to the new file and posts the file name in the title bar of the editing window.

When you make changes to an existing file, it is also necessary to save the changes. Once a file has a name, use the Save menu item to update the file.

To open an existing file:

1. Choose the Open... menu item from the File menu.

   Notepad displays the Open dialog box.



ZK–0710U–R

2. Either select the file from the files listed in the Files list box or enter the file name.

   You can select a file by double clicking on it or by clicking on it once and then clicking on the OK push button.

3. Press Return or click on the OK push button.

The contents of the file appear in the editing window and Notepad displays the file name in the title bar.

You can also open an existing file by selecting a file name in any other window (for example, DECterm) and then choosing the Open Selected menu item from the File menu.

5.10.7 Exiting from an Editing Session

If you modified word wrapping or case-sensitive searches and you would like to save those settings for future editing sessions, choose the Save Current Settings menu item from the Customize menu. To restore your previous settings, choose the Use Last Saved Settings menu item from the Customize menu.

To end an editing session, choose the Exit menu item from the File menu. If you have modified the text in the current buffer since you last saved it, Notepad updates the current file with the changes and closes the Notepad window.

To discard the edits from a session and close the editing window, choose the Quit menu item from the File menu.

If a session is interrupted before you save your edits, Notepad still saves your keystrokes in a journal file. The next time you start Notepad, a message box is displayed giving you the option to recover your edits or remove the journal file.

5.10.8 Summary of Other Notepad Features

With Notepad, you can also:

- Move and copy text from one location in the text buffer to another
- Change the font family and font characteristics such as size, weight, and spacing
- Include an existing file into the current text buffer
- Split your Notepad window into a number of edit windows
- Open a second Notepad and copy text from one Notepad window to another
- Combine the contents of two Notepad windows
- Search and replace text

For more information, use the online Help for Notepad.

5.10.9 Something to Try

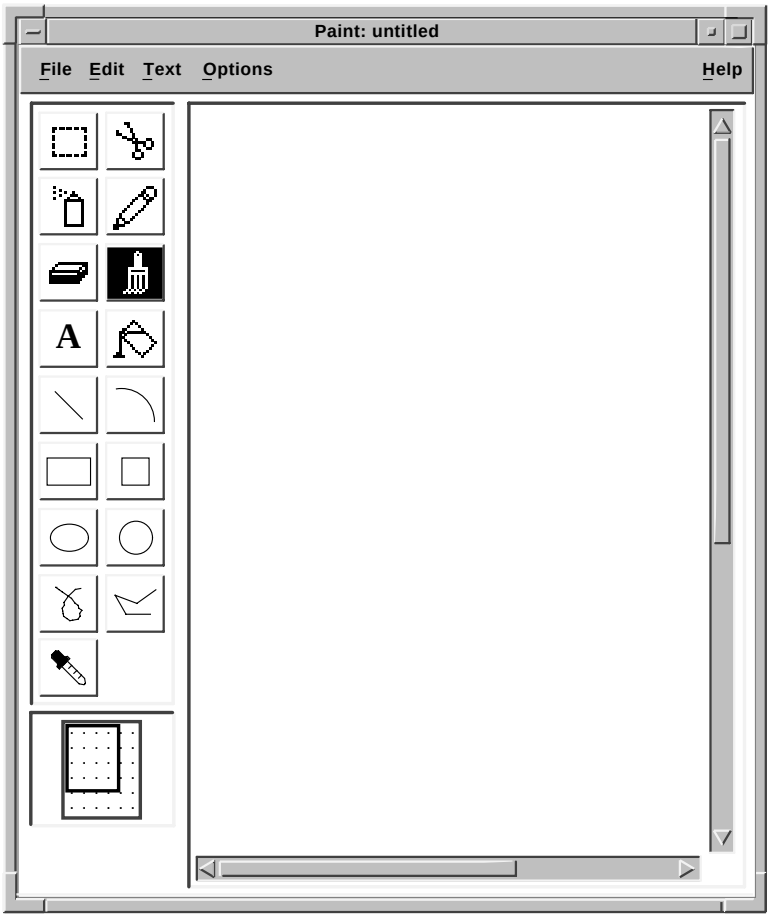
If you have not already done so, try starting Notepad now. Start typing text and then save your text to a file.

5.11 Using Paint

Paint is a graphics application that lets you create a simple picture, such as a sketch or an illustration, using an assortment of art tools. If you have a color monitor, you can choose colors from a color palette. To start Paint, see Section 5.1.

Paint can save your pictures, print them on different kinds of printers, or copy them to other applications. You can also display the pictures on your screen with the CDA Viewer application (see Section 5.6).

When Paint is started, the Paint window appears, as shown below. This window contains a tool palette and a work area where you draw your picture.



ZK–3311A–GE

The Paint window frames a portion of the picture. At the bottom of the tool palette is a representation that shows which portion of the picture is currently visible in Paint's work area. The highlighted box within the larger box represents the size and shape of that part of the picture that is visible. The larger box represents size and shape of the entire picture.

To display different areas of the canvas, press MB1 in the highlighted box and drag until the box is in the position you want. Alternatively, you can use the horizontal and vertical scroll bars to move about the canvas.

Paint is a bitmap graphics application, which means that it treats pictures as a collection of dots called **pixels**. Different drawing tools, such as the Pencil, the Paintbrush, and the Text tool, edit the color of the pixels to create a pattern. Because the canvas has so many pixels in every square inch, you do not actually see patterns of dots. Instead, you see a collection of lines, shapes, and text.

5.11.1 Shortcuts to Paint Operations

You can use certain key combinations, called accelerators, to perform common Paint operations quickly. The following table shows each key combination and its corresponding function:[3]

Press	To Produce
Alt+< ×	Undo
Ctrl+Z	Exit
Shift+Remove	Cut
Ctrl+Insert Here	Copy
Ctrl+O	Open
Shift+Insert Here	Paste
Ctrl+P	Print
Ctrl+S	Save
Ctrl+Q	QuickCopy

In addition to using accelerators, you can also use key combinations to manipulate Paint tools. To produce the results listed in the following table, press and hold the Shift key while you drag MB1:

Tool	Effect
Rectangle	Causes the rectangle to become a square.
Line	Causes the line to be at an angle that is a multiple of 45 degrees.
Paintbrush	Causes the image to be horizontal or vertical.
Pencil	Causes the image to be horizontal or vertical.
Ellipse	Causes the ellipse to become a circle.

[3] Alt is the Compose Character key on keyboards that do not have a separate Alt key.

Tool	Effect
Polyline	Causes angles to be multiples of 45 degrees.
Eraser	Causes the eraser to erase vertically and horizontally only.
Arc	Causes the image to be a quarter circle (instead of a quarter ellipse).

5.11.2 Summary of Other Paint Features

With Paint, you can also:

- Print a painting
- Use color if you have a color monitor
- Create your own patterns
- Move and copy images
- Crop a picture
- Edit a picture

For more information, use the online Help for Paint.

5.11.3 Something to Try

If you have not already done so, start Paint now and try some basic techniques by modifying a sample picture called the Clock Tower.

To display the Clock Tower:

1. Choose the Open... menu item from the File menu.

   The Open dialog box appears with the names of the graphics files in your current directory.

2. In the Selection text-entry box, enter the picture file name.

   The clock tower file is located at:
   `/usr/examples/dxpaint/clock.img`

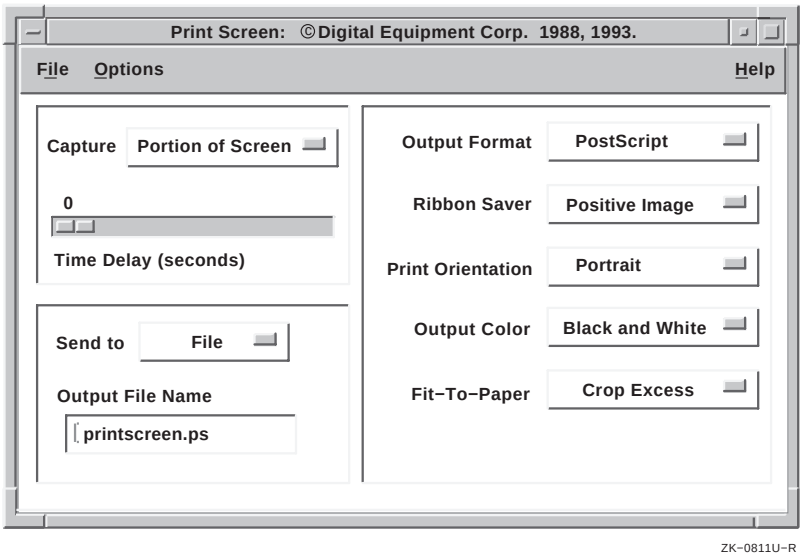
3. Click on the OK push button. Paint displays the Clock Tower picture. You can now practice choosing tools and using some of the Paint menu items. Try changing the time on the clock face.

5.12 Using Print Screen

Print Screen lets you take a snapshot of the entire screen or a portion of the screen. You save the snapshot to a file or print it. By default, a screen snapshot is sent to a file formatted for PostScript printers. To start Print Screen, see Section 5.1.

If you run Print Screen in a terminal emulator window, it defaults to performing screen captures based on command line switches and will not display its Motif graphic user interface (GUI). Use the `-X` switch to display the print screen GUI. This chapter describes the Print Screen GUI. Use the `man dxprint` command to get information on using Print Screen from the command line. (Reference pages are discussed in Section 5.1.2.)

When Print Screen starts, the application window looks like this:

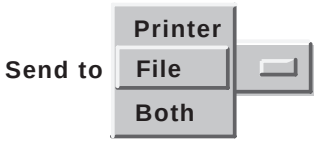


ZK−0811U−R

The default settings, illustrated above, let you save print screen snapshots in a file in PostScript format. However, with the options menus in the Print Screen window you can change the settings to accommodate your particular needs. The next section covers the procedures you use to take screen snapshots, followed by a section summarizing additional customizations possible with the options menus.

5.12.1 Taking Screen Snapshots

Use the ‘‘Send to’’ options menu to choose whether to save a screen snapshot to a file, print the snapshot, or do both.



To actually take the snapshot, choose Print or Print... from the File menu. If you select Send to Printer or Both, then choosing Print sends the snapshot to the default printer, whereas choosing Print... displays a dialog box that lets you choose the printer. If you select Send to File, then choosing Print saves the snapshot to a file; the snapshot is not immediately printed. When you save to a file, you can specify a file name in the Output File Name field, or you can accept the default file name.

In summary, to take a screen snapshot:[4]

1. Arrange the windows on the screen as you want them captured.
2. Use the ‘‘Send to’’ options menu to choose whether to save the snapshot to a file, print the snapshot, or do both.
3. Use the ‘‘Capture’’ options menu to choose to capture the entire screen or just a portion of the screen.
4. Choose Print or Print... from the File menu. Print will print to the default printer. If you chose Printer or Both in step 2, choosing Print... will display a dialog box allowing you to choose a specific printer. If you chose Entire Screen in step 3, then the snapshot operation proceeds immediately and Print Screen will display a watch cursor until the snapshot is completed. If you chose Capture Portion of Screen, continue with the next step.
5. The pointer changes to a capture cursor (+). Move the capture cursor to the upper left corner of the area you want to capture.
6. Press and hold MB1.

[4] Some workstations have special graphics hardware that supports multiple windows each having individual color palettes. An example of such a workstation is one with Digital’s SPXgt graphics accelerator. When performing screen captures on such systems it is important to make sure that the window of interest has input focus before initiating the snapshot. Print Screen will perform the capture operation using the color palette of the window with input focus. The time delay feature should be used to delay the capture until you can set input focus to the appropriate window.

7. Drag the capture cursor until a box surrounds the area you want to capture.
8. Release MB1.

   The cursor changes to a watch cursor until the capture is completed.

5.12.2 Using a Time Delay

You may want a time delay before taking the snapshot. For example, you might want to minimize a window by turning it into an icon or click on a window to give it input focus.

To take a snapshot of all or part of the screen display after a time delay:

1. Set the ‘‘Capture’’ and ‘‘Send to’’ options menus as desired. (See explanation in the previous section.)
2. Specify how many seconds to delay by pressing MB1 on the Time Delay slider and dragging it until you reach your choice.
3. Choose Print or Print... from the File menu.

   If you chose Print..., the Queue Options dialog box appears:

   - Enter the options you want
   - Click on the OK push button

   The time delay begins.
4. During the time delay, arrange the objects on your screen as you want them captured.
5. The time delay ends. If you chose ‘‘Entire Screen’’ in the ‘‘Capture’’ options menu, the whole screen is saved to a file and/or printed. If you chose Portion of Screen:

   - The pointer changes to a capture cursor (+). Move the capture cursor to the upper left corner of the area you want to capture.
   - Press and hold MB1.
   - Drag the capture cursor until a box surrounds the area you want to capture.
   - Release MB1.

5.12.3 Summary of Other Print Screen Features

The following table summarizes additional Print Screen options. For each options menu, in the left column, the default option is indicated in the center column. For more information, use the online Help for Print Screen.

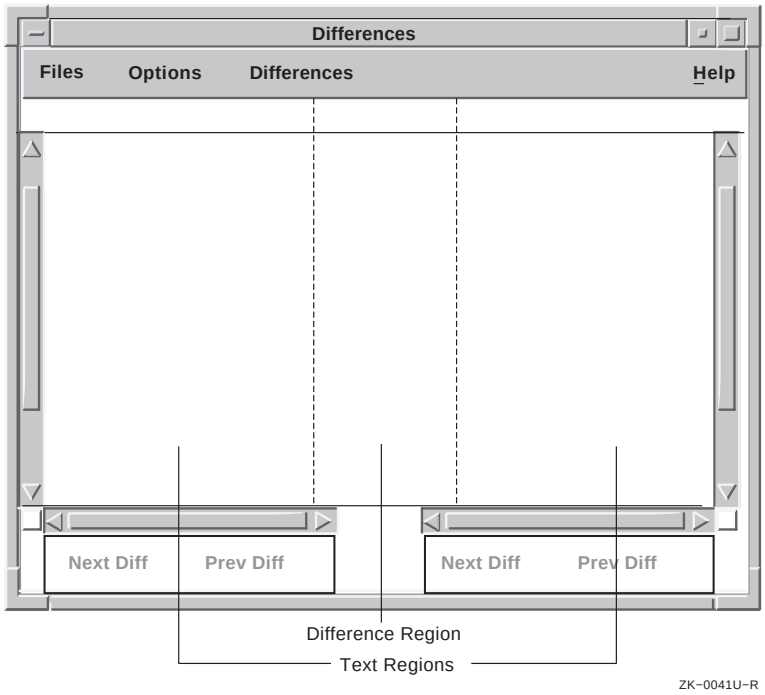
Option Menu	Option	Allows You To
Output Format	Postscript (default)	Print to a PostScript printer or create a PostScript file.
	Sixel	Print to a Sixel device or save to a Sixel file. Sixel files can be viewed in a DECterm window and printed on most Digital printers.
	DDIF	Save to a file in DDIF format for use with applications such as Paint, CDA viewer, or DECwrite.
Ribbon Saver	Positive Image (default)	Take a snapshot that looks like a normal photo print.
	Negative Image	Take a snapshot that looks like a photo negative. May be useful in conserving printer toner or ribbon. Output color must be Black and White or Gray Scale.
Print Orientation	Best Fit	Take a portrait snapshot when captured area is higher than it is wide; otherwise, take a landscape snapshot.
	Portrait (default)	Print a snapshot that is upright when printer paper is viewed with its long dimension vertical.
	Landscape	Print a snapshot that is upright when printer paper is viewed with its long dimension horizontal.
Output Color	Black and White (default)	Capture a black and white snapshot.
	Color	Capture a color snapshot. Requires a color monitor.

Option Menu	Option	Allows You To
	Gray Scale	Capture a gray scale snapshot. Requires a gray scale or color monitor.
Fit-To-Paper	Scale To Fit	Print a snapshot as large as possible.
	Reduce Only	Reduce the size of a snapshot to fit the printer paper if the snapshot is too large.
	Crop Excess (default)	Print only as much of a snapshot as will fit on the printer paper and crop parts that don't fit.
	Increase 2:1	Double the size of a snapshot printed or saved to file.
	Decrease 2:1	Halve the size of a snapshot printed or saved to file.

5.13 Using Visual Differences

Visual Differences is a graphical interface to the `diff` program. You can compare two ASCII text files line by line, and then browse through the graphical display of the highlighted differences. To start Visual Differences, see Section 5.1.

When Visual Differences starts, its main window appears. The title bar contains the application name, followed by the window number. The first window displayed is always labeled 0. The windows are numbered to save confusion if you have more than one Visual Differences window running at the same time. The two empty text regions will be filled with the text from the files you want to compare.



5.13.1 Selecting Files to Compare

To select two files to compare, choose the Open Files... menu item from the File menu. Two file selection dialog boxes are displayed: Left File and Right File. Each dialog box lists the files in the current directory.

To change directory of the files listed, type the pathname of the directory in the File Filter text-entry box and press the Return key (or click on the Filter push button). You can instead double click on the directories listed in the Directories list box. The file selection test-entry box recognizes the tilde (~) character, which represents your home directory.

To select a file, either click on the file name and then click on the OK push button, or double click on the file name. You can also type the file name in the Selection text-entry box and press Return.

You must select one file in each of the dialog boxes.

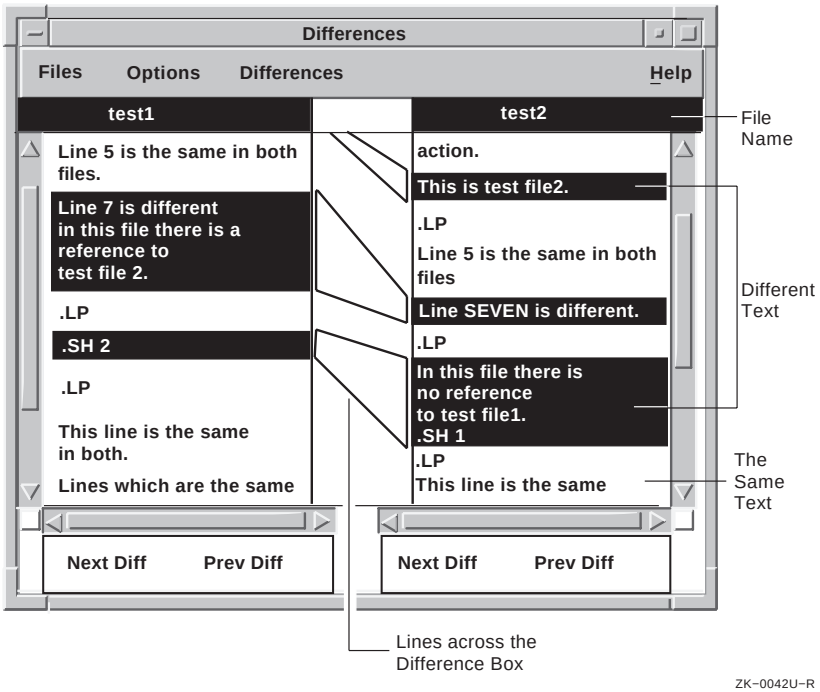
After you enter a file name in each file selection dialog box, you must next choose the Do Differences menu item from the Differences menu, as described in the following section.

5.13.2 Displaying the Differences

To display the differences between the two files that you selected, choose the Do Differences menu item from the Differences menu. The time taken for Visual Differences to display the differences will depend on the length of the files and the number of differences between them.

Note that trailing blanks (spaces and tabs) are not included as differences, and are ignored. Any other strings of blanks are also treated as equal and do not appear as differences.

If there are no differences between the two selected files, if either of the files is a non-ASCII file, or if you have selected a directory instead of a file, an appropriate message dialog box is displayed. The following display shows the differences between two text files:



The files are displayed in two text windows that appear to the left and right of the differences box in the center of the display. Each text region displays the name of its currently selected file.

The differences between the files are connected by lines running across the difference box in the center of the display. These lines show the relationships between the differences in the files, and

where the differences are located in the files.

The differences in the files are shown as areas of highlighted text; common text is not highlighted.

When you start Visual Differences, the display is set up to give you linked vertical scrolling and lines connecting the areas of different text.

With linked vertical scrolling, when you scroll one of the files, the other file is scrolled with it line by line. When scrolling is unlinked, you can scroll the files independently of each other and view different parts of each file at the same time.

5.13.3 Moving Between Differences

Use the scroll bars or the Next Diff and Prev Diff push buttons to browse through the displayed files. When you click on the Next Diff push button, Visual Differences searches forward from the current difference (in the center of the difference display) to the next difference in that file. The application then moves that difference to the center of the display.

When you click on the Prev Diff push button, Visual Differences searches backward from the current difference to find the previous difference in the file. The application then moves that difference to the center of the display.

These buttons are useful for moving quickly between the differences in a long file, especially where there are only a few differences.

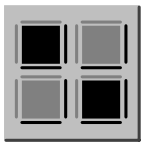
5.13.4 Summary of Other Differences Features

With Differences, you can also:

- Move through the differences in a file
- Change the characteristics of the display, such as line numbers in the differences region
- Compare a new set of files
- Open several Differences windows

For more information, use the online Help for Visual Differences.

Customizing the Window Manager 6



This chapter describes how to use the Workspace Options submenu to change your window manager features. It also includes information about advanced window manager customization options.

By using the window manager customization options, you can change the way your windows look and behave. The window manager provides a customization submenu that lets you customize the following window features:

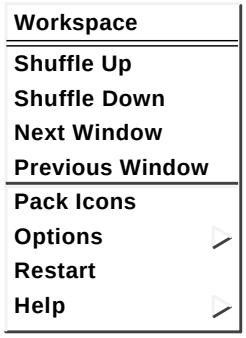
- Workspace
- Border
- Border colors
- Icons
- Icon colors
- Matte

Although the procedures in this chapter describe how to use the window manager Options submenu from the Workspace menu, you can access the same options submenu from every application's Window menu. See Section 3.2.6.

To display the window manager Options submenu, from the Window menu:

1. Choose Workspace from an application's Window Menu.

   The window manager displays the Workspace submenu:



ZK−3663A−R

2. Choose the options submenu from the Workspace submenu.

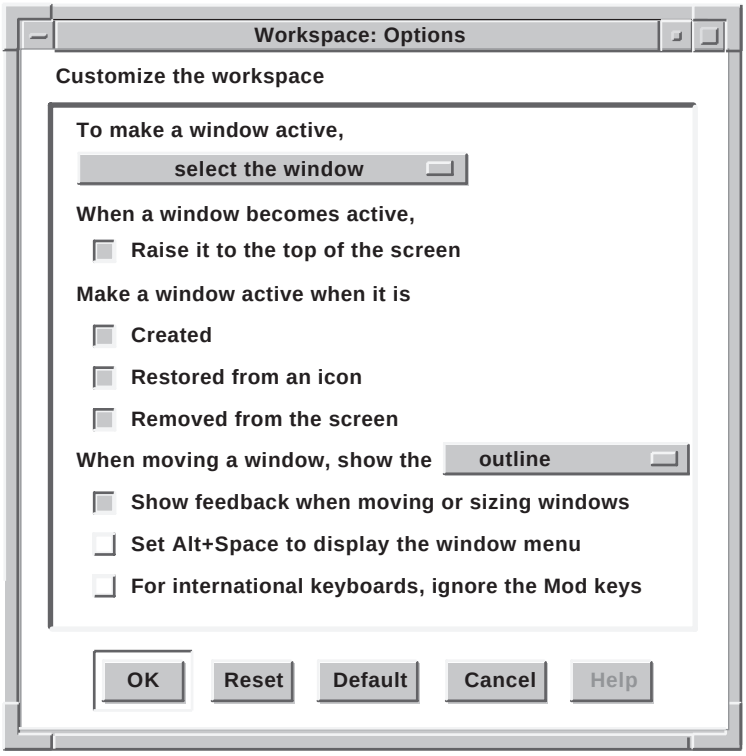
Note

To change colors on a monochrome monitor, you might need to modify pixmap resources. Use the file `/usr/lib/app-defaults/Mwm_bw` as a reference. See Chapter 9 for more information about changing resource settings.

6.1 Customizing Your Workspace

You can change when and how a window becomes active and other Workspace features by changing your Workspace settings.

To change your Workspace settings, choose Workspace... from the Workspace Options submenu. The window manager displays the Workspace Options dialog box:



ZK–2859A–GE

Click on the settings in the dialog box to customize the features you want to change. Use the first options menu in the dialog box to change the way a window is activated. By default, windows use explicit focus to activate a window. That is, you must point to the window and click a mouse button. You can change the explicit focus to pointer focus. With pointer focus enabled, windows are activated as soon as you move the pointer into a window.

Note

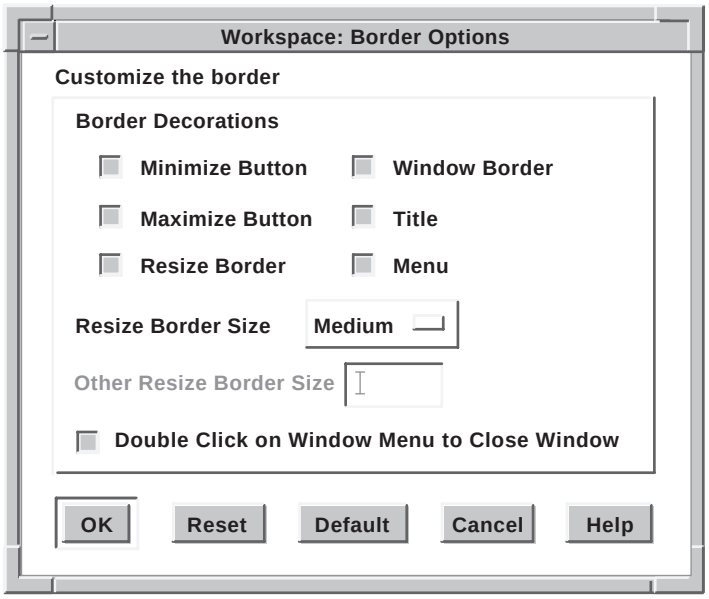
Changing the Moving a Window setting from outline to entire window is recommended only on higher performance workstations.

To improve performance when moving and sizing windows, disable the Show feedback setting.

If you enable the Alt+Space setting, you can use compose sequences only on keyboards that have both Alt and Compose Character keys.

6.2 Customizing Your Window Borders

To change your window borders, choose Border... from the Workspace Options submenu. The window manager displays the Border Options dialog box:



From the Customize Border dialog box, you can change the following settings:

Border decorations
: Click on a border decoration to add or remove it from all your window frames.

Resize border size
: The resize border is the border around the window that you drag to resize a window. To change the size of the border, choose one of the default sizes from the options menu, or choose the Other menu item to enter your own border size.

Other resize border size
: If you choose the Other menu item from the Resize Border Size Options menu, the Other Resize Border Size text-entry box receives input focus. Enter a value in this box to define your own border size.

Double click on window menu to close window
: Click on this setting to enable or disable the Close menu item when you double click on the Window menu.

6.3 Customizing Your Window Border Colors

To change your window border colors, choose Border Colors... from the Workspace Options submenu. The window manager displays the Border Color Options dialog box.

Pick colors that make it easy to distinguish between active and inactive windows. DECwindows displays the Workspace: Border Color Options dialog box, which lets you choose the border background color you want.

From the Workspace: Border Color Options dialog box, you can change the following settings for active or inactive windows:

Foreground
: The color of the title.

Background
: The color behind the title.

Top and Bottom Shadows
: Shadow colors help present the three-dimensional look of DECwindows Motif and must be well-matched. The top shadow colors are on the top and left sides of the border. The bottom shadow colors are on the bottom and right sides of the border. DECwindows automatically determines top and bottom shadow border colors when you change the background color.

  To choose your own shadow colors, disable the Automatic shadow setting.

6.4 Customizing Icon Appearance

To customize the appearance and placement of your icons on the workspace, choose Icons... from the Workspace Options submenu. The window manager displays the Workspace: Icon Options dialog box.

From the Workspace: Icon Options dialog box, you can change the following settings:

- Display an icon box

- Icon placement
- Icon size
- Icon decorations

To customize the position and size of the icon box, move and resize the icon box, then select Apply Current Settings from the Workspace menu to restart the window manager.

6.4.1 Customizing Icon Colors

To change your icon colors, choose Icon Colors... from the Workspace Options submenu. The window manager displays the Workspace: Icon Color Options dialog box.

From the Workspace: Icon Color Options dialog box, you can change the following icon image and icon box color settings:

Foreground
: To change the icon foreground color, click on the Foreground button. DECwindows displays the Workspace: Color Options dialog box, which lets you select the icon foreground color.

Background
: To change the icon background color, click on the Background button. DECwindows displays the Workspace: Color Options dialog box, which lets you select the icon background color.

Top and Bottom Shadows
: Shadow colors help present the three-dimensional look of DECwindows Motif and must be well-matched. The top shadow colors are on the top and left sides of the icon. The bottom shadow colors are on the bottom and right sides of the icon. DECwindows automatically determines top and bottom shadow colors when you change the background color.

  To choose your own shadow colors, disable the Automatic shadow setting and click on the Top Shadow or Bottom Shadow button. DECwindows displays the Workspace: Color Options dialog box, which lets you select the icon shadow color.

Icon Box Colors
: To change the Icon Box Background Color, click on the Automatic color button. Click on the Background button. DECwindows displays the Workspace: Color options dialog box, which lets you select the icon background color.

6.5 Customizing the Matte

To change your matte features, choose Matte... from the Workspace Options submenu. The window manager displays the Matte Options dialog box.

From the Matte Options dialog box, you can change your matte size and color settings.

For more information about adding and removing items from your automatic startup list, see Chapter 7.

6.6 Saving Your New Settings

You can save the changes you make or reinstate other settings as follows:

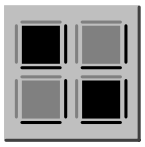
Choose	To
Apply Current Settings	Save the settings you just changed and restart the window manager.
Reset to Last Saved Settings	Reinstate the last settings you saved. Choose this menu item if you want to reset any attributes that you changed temporarily but did not save.
Reset to Default	Reinstate the default settings.

6.7 Advanced Customization

In addition to the menu items available from the Customize submenu, you can change the appearance and behavior of windows by specifying values for elements, known as **resources** in resource configuration files. The window manager gets information from these files each time you start a session, an application, or the window manager.

For information about modifying resource files, see Chapter 9, the appendixes in this guide, and the *OSF/Motif Programmer's Guide.*

Customizing Your Session 7



This chapter describes how to use the options available in the Session Manager Options menu which you can use to customize session features such as your keyboard, language, window colors, and security settings. Where appropriate, this chapter also describes how to customize the screen display for three types of workstations:

- Monochrome system—Supports black-and-white output only
- Intensity system—Supports shades of gray
- Color system—Supports a full spectrum of color

7.1 Customizing Your Startup Environment

You can customize the session manager to automatically start the applications you use each day.

To customize your startup environment:

1. Choose Automatic Startup... from the Session Manager Options menu.

   Session Manager displays the AutoStart dialog box.

2. Click on an application item in the left-hand list box to add it to your automatic startup list.

   The applications are started in the order in which they appear in this list.

   If you want to start one application several times, you must add the application to the startup list for each time you want it started. For example, click on DECterm three times to enable the start of three DECterm windows each time you start a session.

Note

The Motif window manager (mwm) is a main component of your DECwindows working environment. Do not remove the mwm window manager from your automatic startup list unless you are replacing it with another window manager.

7.2 Changing Your Session Manager Settings

You can change certain characteristics of the Session Manager itself. To change your Session Manager settings, choose Session Manager... from Session Manager Options menu. Session Manager displays the Customize Session Manager dialog box.

You can change the following settings from the Customize Session Manager dialog box:

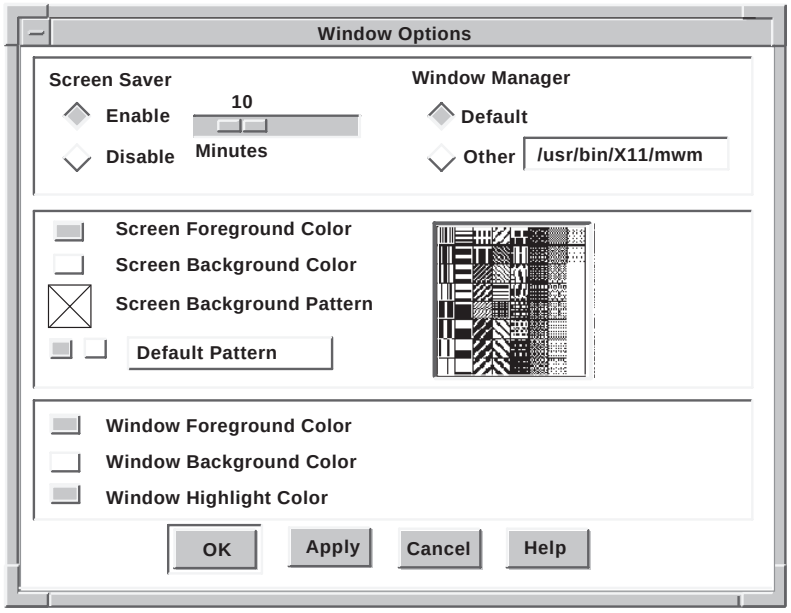
Startup State
: Session Manager is displayed as a window at the start of each session. Click on the Icon button under the Startup State title to specify that Session Manager be stored as an icon at the start of every session.

Confirm End Session
: When you quit a session, Session Manager asks you for confirmation. To disable this option, click on the Confirm Quit Session button. You do not receive a confirmation message when you end your session.

Pause Screen Message
: When you select Pause from Session Managers Session menu, your screen is cleared and a message is displayed in the Pause Session dialog box. You can change the message by editing the text in the Pause Screen text-entry box. To see your new message, choose Pause from the Session Manager Session Menu. See Section 2.1.3.

7.2.1 Customizing Window Patterns and Colors

To change window managers, background, and window colors, choose Window... from the Session Manager Options menu. The Session Manager displays the Window Options dialog box.



ZK−0810U−R

From the Window Options dialog box, you can change any of the following settings:

Window Manager

To choose a window manager, enter the directory path to the window manager file in the text-entry box below and to the right of the title Window Manager then click on the Default or Other button.

Screen Saver

Screen Saver extends the life of your monitor by shutting off its display after a specified time. By default, the monitor shuts off its display after 10 minutes of keyboard or mouse inactivity. Drag the arrow in the slider right or left to change the length of time or click on the Disable button if you prefer to keep the display on indefinitely.

Screen Background Pattern

To change the default background pattern, click on a pattern in Screen Background Pattern section of the Window Options dialog box. The selected pattern is displayed in the pattern viewer. Click on OK or Apply to see your selection in effect.

To choose a solid background or foreground instead of a pattern, click on the boxes to the left of the Default Pattern button. To display the default pattern, click on the Default Pattern button.

Solid Foreground

The screen pattern, when set to anything other than the default pattern, consists of a screen foreground (the filled area in the pattern) and a screen background (the pattern's outline). The selected pattern is displayed in the pattern viewer.

To change the default screen color on intensity and color systems, click on the Screen Foreground Color box. The Session Manager displays a Color Attributes dialog box. For more information about mixing colors, see Section 4.3.

To see your new setting, click on Apply or OK.

Solid Background

This setting applies to intensity and color systems only. To change the default screen background color, click on the Screen Background Color box. Session Manager displays a Color Attributes dialog box.

Note

As explained below, window color changes do not take effect immediately.

Window Background Color

To change the default window background color, click on the Window Background Color box. Session Manager displays a Color Attributes dialog box.

If you save your changes by clicking on Apply or OK in the Customize Windows dialog box, your new setting takes effect when you start your next session.

Window Foreground Color

Changing the Window Foreground Color setting in a window that contains text also changes the color of that text. If the window contains graphics, the color of the graphics changes.

To change the default window foreground color, click on the Window Foreground Color box. Session Manager displays a Color Attributes dialog box.

If you save your changes by clicking on Apply or OK in the Customize Window dialog box, your new setting takes effect when you start your next session.

You can also change the pattern used for highlighting. This is especially useful on monochrome and 4-plane color systems.

Window Highlight Color
: Changing the Window Highlight Color setting determines the color surrounding any button in a dialog box.

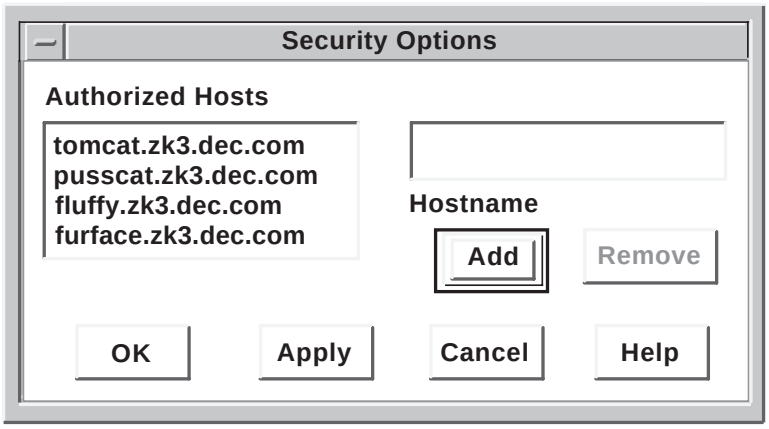
Window Border Color
: Changing the Window Border Color setting determines the color surrounding buttons selected in dialog boxes.

7.2.2 Changing Your Security Settings

DECwindows software allows you to run applications from another computer for display on your workstation monitor. By default, your workstation monitor can display only those applications that are running on your workstation. This prevents users on other systems in the network from displaying applications on your workstation monitor and from capturing and displaying your keystrokes (including your password) on another monitor.

From the Session Manager Security Options dialog box, you can authorize yourself or others to use your monitor to display applications that are running on other systems.

To grant access to specified remote hosts, choose Security from the Session Manager Options menu. A dialog box appears:



ZK–0854U–R

To add a name to the list of authorized hosts:

1. Enter the host name in the Hostname text-entry box.

   If the connection between your system, and the remote host is through the DECnet network, use DECnet syntax, which requires two colons (::) after the host name. If your connection to the remote host is through the TCP/IP network, colons are unnecessary.

2. Click on the Add button.

   The host name appears on the list of authorized hosts.

3. Click on OK to use the new list of authorized hosts.

To save the authorized host list for use in future sessions, select Save Current Settings from the Session Manager Options menu.

7.3 Customizing Keyboard Settings

To change your keyboard settings, choose Keyboard... from the Session Manager Options menu.

From the Customize Keyboard dialog box, you can adjust or disable any of the following settings:

Bell Volume
: This warning bell sounds to alert you to system messages. You can adjust the volume or toggle the bell on or off.

Keyclick Volume
: You can adjust the keyclick volume or toggle the keyclick on or off.

Auto Repeat
: The auto-repeat setting is indicated by a shaded button. To disable Auto Repeat, click on the Disable button.

Lock Key State
: Normally the Lock key on your keyboard produces capital letters but not shifted number keys. To make your keyboard work just like a typewriter keyboard, click on the Shift Lock button. Choosing the Shift Lock option produces both capital letters and shifted number keys when you press the Lock key.

7.4 Setting Another Session Language

By default, DECwindows applications are displayed in American English, but are available in multiple languages. To use DECwindows in another language, you must have the correct language support installed on your system.

To set another session language, choose Language... from the Session Manager Options menu. Session Manager displays the Customize Language dialog box.

Scroll through the list of languages and select one. The next application you start is displayed in that language. If your system does not support the selected language, the application is displayed in American English.

Language capabilities vary between systems. For example, if your system has French language support and you select French as your session language, any applications you run on your workstation are displayed in French. However, if you run an application on a remote host that does not support French, and you direct the display to your workstation by setting the `DISPLAY` environment variable, the application is displayed in American English. (See Chapter 4 for information on running applications on remote hosts).

To find out if an application is available in another language, see the documentation for that application.

7.4.1 Keyboard Type

The location of specific characters on the keyboard varies depending on the keyboard model. Selecting the keyboard type that matches your keyboard model allows the system to display the correct character when you press the corresponding key.

The system default keyboard type is determined by the value of your system's console language variable and by the type of keyboard that was connected when the system was last booted.

If the keyboard on your workstation has been changed since the system was booted, you must set the keyboard type to match the keyboard model. This changes the keyboard type temporarily without permanently changing the system default keyboard type. (For example, you could plug an Austrian German keyboard into a workstation whose system default keyboard type, specified when DECwindows was installed, is French.)

To find your keyboard model number, turn the keyboard upside down and look for a label that specifies the model number. The model number should be in a format similar to LK201-*xx*. (The model number may also be listed as simply LK201. In this case, the *xx* you need is in another place on the label. Look for a number similar to *nn-nnnnn-xx*.) Use this number to select a keyboard type from the Keyboard Type list box. For example, if you are using an Austrian German keyboard and your keyboard model is LK201-NG, select the Austrian German LK201-NG keyboard type.

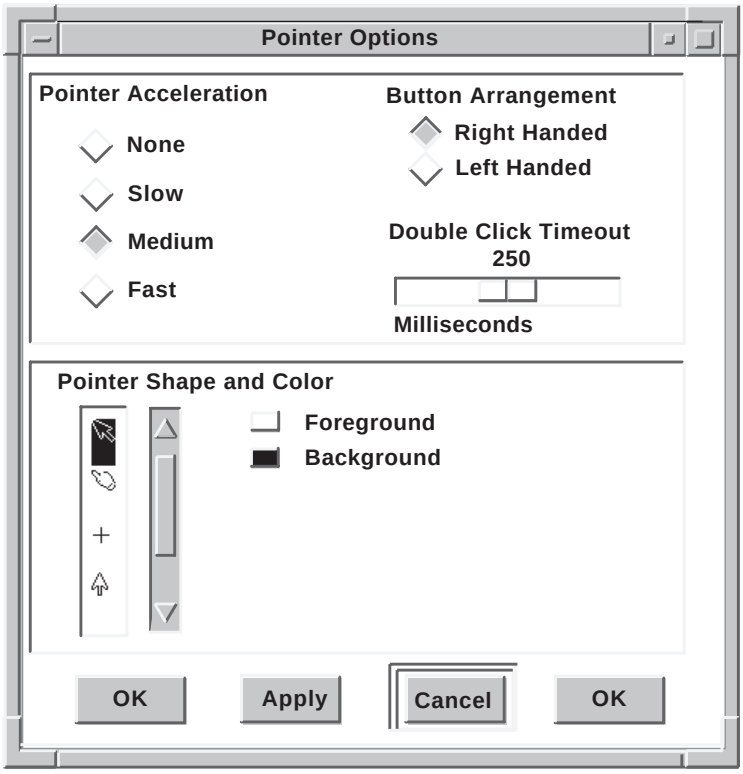
For any language other than North American or U.S., you can also specify whether you want your keyboard to act as a data processing (DP) or typewriter (TW) keyboard. Selecting a data processing keyboard type enables the characters on the right half of the keycaps. Selecting a typewriter keyboard enables the characters on the left half of the keycaps.

To use this new keyboard type for subsequent sessions, save the new setting before you end the current session. The new keyboard type is in effect for your sessions only after DECwindows verifies your password at the start of each new session.

7.5 Customizing Your Pointer

You can change the shape and color of the pointer, as well as certain mouse characteristics. To change your mouse and pointer settings, choose Pointer... from the Session Manager Options menu. Session Manager displays the Pointer Options dialog box.

The Customize Pointer dialog box looks like this on intensity and color systems:



ZK–0809U–R

From the Customize Pointer dialog box, you can change any of the following settings:

Pointer Acceleration
: Click on one of the four options to vary the rate at which the pointer moves in relation to the mouse. The None setting keeps the pointer speed constant. The Fast setting makes the pointer move farther as you move the mouse faster. Thus, you can move the pointer to another part of the screen without moving the mouse the same relative distance. The preset option is Medium.

Mouse Double Click Timeout
: DECwindows distinguishes between two successive single clicks and a double click. Drag the Double Click Timeout slider left or right to specify how fast you have click for a double click. Drag right to allow more time between clicks. You can also adjust the slider by moving the pointer to a location on the scale and clicking MB2.

Pointer Foreground Color

The pointer consists of an outline and a filled center.

On a monochrome system, the pointer's filled area is white with a black outline by default. Click on the Black On White button to reverse the fill and outline colors.

On intensity and color systems, the pointer's filled area or foreground is black by default. To change this setting, click on the Pointer Foreground Color button. Session Manager displays a Color Attributes dialog box. For more information about mixing colors, see Section 4.4.

To see your changes, click on Apply or OK in the Pointer dialog box.

Pointer Background Color

This setting applies to color and intensity systems only. To change the default pointer background color, click on the Pointer Background Color button. Session Manager displays a Color Attributes dialog box.

To see your changes, click on Apply or OK in the Pointer dialog box.

Button Arrangement

The preset mouse button arrangement—MB1 on the left and MB3 on the right—is natural for a right-handed user. You can switch the mouse button arrangement by clicking on the Left Handed radio button. The right mouse button becomes MB1 and the left mouse button becomes MB3. MB2 stays the same.

Pointer Shape

By default, the pointer is a left arrow. To change the pointer shape, scroll through the list of shapes and select the one you want.

7.5.1 Saving Your New Settings

You can save your settings or reinstate other settings as follows:

Choose	To
Save Current Settings	Save the settings you just changed for use in every subsequent session.
Reset to Last Saved Settings	Reinstate the last settings you saved. Choose this menu item if you want to reset any attributes that you changed temporarily but did not save.
Reset to Default	Reinstate the default settings.

Some new settings will not be in effect until you end your current session and begin another one.

7.6 Advanced Customization

When you save your current settings, the Session Manager records the changes in the file `.Xdefaults` in your home directory. The Session Manager reads this file each time you start a session. In addition to the menu items available in the options menu, you can edit resources in this file to further customize your environment. See Chapter 9 for more information about modifying resources. See also the appendixes to this guide and the *OSF/Motif Programmer's Guide*.

Part 3 Advanced User Topics

Using Advanced Mail Features 8

This chapter describes how to use advanced features of Mail (dxmail) which include the following:

- Specifying an editor to create messages
- Searching a selected folder for messages that have something in common
- Sorting incoming mail automatically into appropriate folders
- Customizing your mail environment, including menus and buttons
- Improving Mail startup performance by using a cache file feature

8.1 Changing Editors

Use the DECwindows editing commands, described in Chapter 4, or a text editor to create messages. The `vi` text editor is the Mail program's default editor. If more than one editor is available on your system, for example, `emacs`, you can change editors as follows:

1. Copy the `/usr/lib/X11/app-defaults/DXMail` file to your home directory. This file lists available editors in `choiceEditor:` statements.
2. Remove the comment symbol before the `choiceEditor:` statement that corresponds to the editor you want to use. Such editors as `emacs`, `vi`, and `dxnotepad` are available. For example, to change the default editor to the Notepad, remove the comment character (!) that appears in the following line:

```
!*choiceEditor:   dxnotepad -geometry 600x400-0+20  %s
```

Then, add a comment character to the following line:

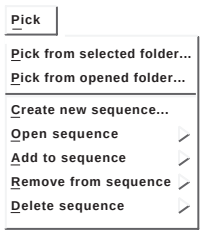
```
*choiceEditor: xterm -geometry =-0+20 -title \
dxmail-vi -e vi %s
```

If you have a private text editor, add a `choiceEditor` line in your `DXMail` file similar to the entries provided and add comment characters to the other `choiceEditor` lines.

3. If you are currently running mail, exit and restart mail. This will ensure that Mail uses the new editor specification.

Note that editor customizations in your login script (for example, your `.login`, `.profile`, or `.cshrc` file) are not in effect when the editor is used from Mail. Customizations must appear in the `.xsession` file in your home directory. For more information about the `.xsession` file, see the *X Window System Administrator's Guide*.

8.2 Picking Messages



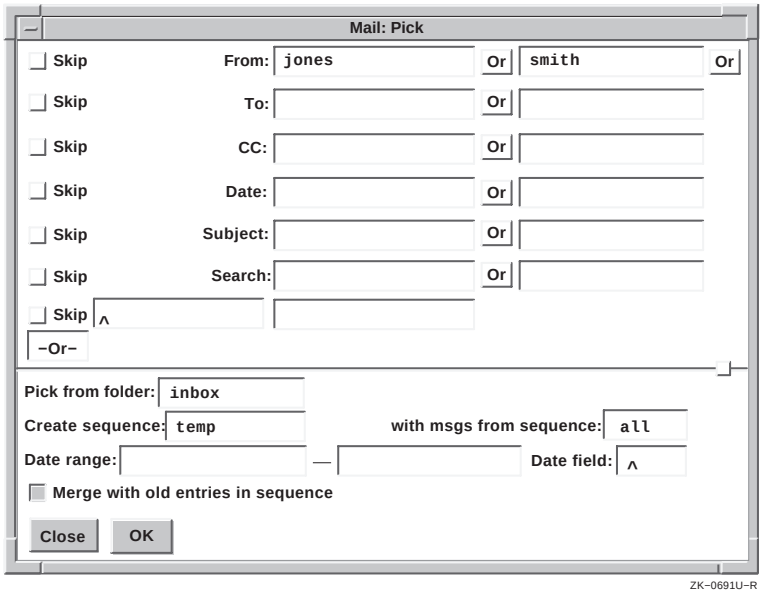
Mail can search the open or selected folder for messages that have something in common. For example, you could pick messages that were sent by a specific user on a specific day, or messages that contain a specific word in the subject line.

Once it finds messages that meet your criteria, Mail displays a list of these messages. You can then perform tasks such as copying, moving, extracting, or reading on this set of messages.

To pick messages:

1. Open or select the folder containing the messages. If you selected multiple folders, the first folder is used for the pick operation.
2. Choose the Pick from opened folder... or the Pick from selected folder... menu item from the Main Inbox window's Pick menu.

   Mail displays a dialog box.



The dialog box lets you specify the criteria for picking messages.

3. Click on the pick criteria text-entry boxes, as explained in the following table, and type in your message pick criteria.
4. After you have entered your pick criteria, click on the OK push button to pick the designated messages, or click on the Cancel push button to cancel the pick operation.

The following table describes the options in the Pick dialog box:

Option	Description
From:	The user name of the sender whose messages you want to pick.
To:	The user name of the addressee, or the name of an alias list whose messages you want to pick.
Cc:	The user name of the addressee (or the name of a distribution list) who received courtesy copies of messages you want to pick.
Date:	The messages received on the date you specify.

Option	Description
Subject:	Any text included in the subject line of messages you want to pick.
Search:	Any text in the message body.
Pick from folder:	The name of the folder from which you want to pick.
Create sequence:	The sequence name you want to use.
With msgs from sequence:	The different sequence name if you would also like to include information from another sequence.
Date range:	The from date and the before date shown in *dd-mmm-yyyy* format, for example, 02-Sep-1992. The before date specifies all messages received before a particular date. The from date specifies the starting date to pick messages.
Date field:	The field that you want the date ranges to search on, such as the Date: field, the Forwarded: field or the Replied: field.
Merge with old entries in sequence:	The sequence messages that are merged into the new sequence.

When you enter text in any of the first five text-entry boxes in the dialog box, Mail searches for matching text anywhere in the corresponding fields of all messages in the open or selected folder.

Search text is case sensitive and is considered a search text string. That is, entering the text John in the From: text-entry box will pick messages from Jane Johnson and John Doe, but not Olav Bejohnesson or JOHN::Smith.

The leftmost column of the screen lists a set of Skip toggle buttons. Enabling these buttons will have these fields skipped during the search process. The rightmost portion of the display lists a set of Or toggle buttons. Enabling these buttons generates another field in the corresponding category that allows you to further define the search process.

Below the row of Skip toggle buttons on the left side of the screen is the -Or- toggle button. Enabling this button causes Mail to produce another set of fields for further defining the search process.

Once you have defined a set of pick criteria, the message list is updated to list only the picked messages. When you close the folder, Mail discards the picking criteria and all messages are again available for reading.

8.3 Autosorting Incoming Mail

This section describes how to modify your Mail environment so that Mail automatically places incoming messages into other folders and drawers besides the `inbox` folder.

You can use the `slocal` function of `mh` mail with Mail to automatically sort incoming mail and to highlight different folders, depending on the type of message received. To do this, set up `slocal` to filter incoming mail. The `slocal` function will, in turn, spool the mail messages into different files, anywhere you specify under your home directory. Mail will also associate each of these spool files with a particular folder. Thus, when the spool files have messages in them, Mail will detect and highlight the corresponding folder to that file.

Setting up your mail environment to automatically sort messages requires that you know how the `slocal` function works. The following example explains how to set up the `maildelivery` file, which is used by `slocal`. Another file called `decxmailcheck` is needed by Mail to map folders with spool files.

Assume that you want to receive mail from a mailing list called `mail_list`. To automatically sort the messages to `mail_list` from the rest of the incoming mail and to specifically highlight a folder named `MailList` perform the following steps.

All ‘‘.’’ files are to be created in the user’s home directory only.

1. Create a `.maildelivery` file in your home directory with at least the following entries:

```
From   mail_list        >       ?       path/mail_list
default -               >       ?       path/inbox
```

   The `path` is the absolute pathname to a private spool area under your home directory.

   For more details on setting up the `.maildelivery` file, refer to the `slocal`(1) reference page.

2. Create a `.decxmailcheck` file in your home directory with at least the following entries:

```
inbox         path/inbox
MailList      path/mail_list
```

   The `path` is the absolute pathname to the spool files created by `slocal`.

3. Create a `.forward` file in your home directory with the following line, including the quote marks:

   `"| /usr/lib/mh/slocal -user username"`

   The *username* is your login name.

To sort your incoming messages, restart Mail. You must restart Mail after every modification to either file.

You should be aware that highlighting of folders works well with top-level folders, but not with subfolders.

8.4 Customizing Your Mail Environment

You can customize many Mail features to suit your working environment. For example, you can specify where to put deleted messages; how to handle carbon copies; and what window display style you want Mail to present. You can also add or remove commands to Mail menus and buttons.

8.4.1 Modifying Your Mail Profile

To make changes to your Mail environment, choose the Modify mail profile... menu item from the Customize menu in the Main Inbox window. The Modify mail profile... menu item is the only menu item. Mail generates the Mail Customizations dialog box where you can make the following changes:

Skip to next message upon deleting current one.
: With this option enabled, mail proceeds to the next message in the current folder when you delete the message you are reading. Disable this setting if you want to specify which message to open next after deleting the current one.

Skip to next message upon moving current one.
: With this option enabled, mail proceeds to the next message in the current folder after you complete a move operation. Disable this option if you want to specify which message you want to open next after moving the current one.

Commit changes in a folder upon closing it.

With this option enabled, Mail performs all changes you have made such as deleting, moving, and copying messages to other folders when you close the current folder. Disable this option if you want to explicitly commit changes by clicking on the Commit changes button.

Renumber messages in a folder after every commit (Slow).

With this option enabled, Mail renumbers all of the mail in the current folder whenever a Commit changes function occurs. If the folder has many messages, this becomes time-consuming.

Digital recommends that you disable this setting if you have numerous messages in your folders. With this option disabled, you must choose the Renumber messages menu item from the Main Inbox window's Maintenance menu to renumber the messages in a folder.

Put deleted messages into wastebasket instead of deleting immediately.

With this option enabled, Mail moves deleted messages to the `wastebasket` folder, allowing you to retrieve them if you deleted them by mistake. Disabling this option causes Mail to irretrievably delete messages.

Buttons affect the current message if no messages are selected.

With this option enabled, Mail highlights all buttons on a selected message whether the button function is available or not. With the button disabled, Mail highlights only those buttons that are functionally available. Normally, this button is disabled.

Open Subfolders when drawer is open.

With this option enabled, Mail opens all folders in a drawer when you open the drawer. Disable this option if you want to open a folder by clicking on the folder name.

Close Subfolders when another folder is opened.

With this option enabled, Mail closes all of the folders in a drawer and removes them from the display when you close the drawer. Disable this option to leave all the folders displayed.

Having all folders displayed can become confusing if you have many folders in several drawers—there is no way to distinguish which folders belong to which drawers.

Beep instead of putting up a No New Mail dialog box.

Mail sounds a beep when you click the New Mail button and

there is no new mail. When you disable this option, Mail instead displays a dialog box indicating that no mail arrived.

Select who to carbon-copy on replies:
You can set only one of the three options in this group at a time.

The Carbon-copy only to sender setting causes Mail to reply only to the originator of the message.

The Carbon-copy to everyone who received original message setting causes Mail to reply to the originator and everyone else who received the original mail.

The Act according to mh_profile, or system default setting causes Mail to send mail according to instructions in your `.mh_profile` file.

Select whether to send yourself a carbon-copy of your replies:
You can set only one of the three options in this group at a time.

The Don't send carbon-copies to yourself setting causes Mail to send a copy of your reply to the originator without sending a copy to yourself.

The Do send carbon-copies to yourself setting causes Mail to send you a copy of your reply.

The Treat yourself just like everyone else setting causes Mail to send only copies of your reply to those addresses specified in the cc: field of the message envelope.

Start dxmail as an icon.
Enable this setting to start Mail as an icon. Disable this setting to cause Mail to automatically display the Main Inbox window when it starts.

Annotate messages that have been replied to.
Enabling this option causes Mail to time-stamp and to identify to whom the reply was sent. Mail also denotes that the message was replied to in the folder message list.

Annotate messages that have been forwarded.
Enabling this option causes Mail to time-stamp and add a forwarding identifier. Mail also denotes that the message was forwarded in the folder message list.

Select Main Window Style.
You can specify which style of window you prefer: Paned window or Outline Style. When you change window styles you must restart Mail to see the changes take effect.

8.4.2 Adding Commands to Menus and Button Boxes

To add or delete commands from pull-down menus and button boxes on any window, edit the `DXMail` resource file as follows. (For information on specifying resources in resource files, see Chapter 9.)

1. Rename the `DXMail` resource file located in your home directory.
2. Copy the default resource file that exists in `/usr/lib/X11/app-defaults` as `DXMail` into your home directory.
3. Retain only the menu or button box entries that you want to modify.
4. Append the contents of the renamed customized `DXMail` resource file to the end of the new `DXMail` file you are creating.
5. Add or delete entries as described in the following example and then restart Mail after saving the changes.

For example, to add a ‘‘rescan’’ option to the lower button box in the Main Inbox window, look for the following entry in the `DXMail` file:

```
"messageCommandBar:      buttonbox"
```

Then add the following information before the `endbuttonbox` line:

```
"rescan:       rescan() \n\"
```

The edited part now looks like this:

```
  messageCommandBar:    buttonbox       \n\
      deliverMail:          incorporate()           \n\
      reply:                reply-selected(send)    \n\
      forward:              forward-selected(send)  \n\
      printNow:             print-selected()        \n\
      move:                 move-selected() \n\
      delete:               delete-selected()       \n\
      rescan:               rescan() \n\
  endbuttonbox
```

Use function names already defined within `dxmail`. You cannot introduce a new function. If you add a function that does not exist, the button appears, but it is dimmed (inactive) and unusable. For example, specifying the following button causes a dimmed (inactive) button:

```
printNow:               print-selected()        \n\
```

8.4.3 Improving Mail Startup Performance

Mail's startup performance is improved by using a cache file feature. Mail uses a cache file to store the names of your drawers and folders so that it can use this information at startup instead of rescanning the `$HOME/Mail` directory hierarchy. You will only see a performance improvement after the second or subsequent restart of Mail. During the first start and in the absence of the cache file, Mail must scan the `$HOME/Mail` directories. The time needed for this is proportional to the size of the directory tree.

If Mail terminates abnormally, it invalidates the cache file and must rescan the `$HOME/Mail` directories upon restart. Mail gives you a menu option to invalidate the cache when exiting the application, if there appears to be an inconsistency between the cache file and the actual layout of the folders in the directory tree. To invoke this option, choose the Invalidate cache on exit menu item from the Maintenance menu in the Main Inbox window.

Using Configuration Files to Customize Your Windows Environment 9

You can use DECwindows as it comes packaged, or you can create a personalized environment. Most Motif applications provide built-in ways to change various settings such as colors and fonts. Customization functions are often found on the Options Menu on an application's menu bar. The customization features provided by an application typically are sufficient for most users. The changes you make with an application's option menu are recorded in special resource files.

You can modify these special files to further customize your environment; for example, you can change:

- The height and width of a window
- The background and foreground color of window components
- The fonts that appear in labels or titles
- The way keyboard keys and mouse buttons map to text editing functions

This chapter introduces the basics you need to customize your windows environment by editing the `.Xdefaults`, `Mwm`, `.mwmrc`, and application-specific resource files. It also describes how to switch keyboard styles, in Section 9.3.

After working through this chapter, you may want to learn more about the things you can customize. Refer to the appendixes to this guide, the `mwm`(1) and `X`(1) reference pages, the MWM section of the *OSF/Motif Programmer's Guide*, the *X Window System Environment* manual, and the *X Window System Administrator's Guide*.

9.1 Understanding Resources and Resource Files

An important feature of the X Window System is its flexibility. You can control many aspects of an application's look and feel by using a variable called a **resource**. You change the behavior or appearance of a program by changing the **value** associated with a resource variable.

A resource is typically named for the aspect of window appearance or behavior that it controls. For example, the resource name `iconBoxTitle` is the title displayed at the top of the icon box. Resources can be set for data such as window size and color, graphics contents, and fonts. The resources for each client are listed on its reference page.

9.1.1 Where Resource Values Are Specified

Resources and values are recorded in special files called **resource files**. Most applications read these files during startup and use the entries you defined to customize the appearance and characteristics of their windows.

The system default resource values are specified in files in `/usr/lib/X11/app-defaults`. These files are `Mwm`, `Xdefaults`, and application-specific resource files.

When you Save Current Settings with the Session Manager, you create an `.Xdefaults` file in your home directory. It differs from `/usr/lib/X11/app-defaults/Xdefaults` insofar as you have customized your session as discussed in Chapter 7. Note the prefix period differentiating the names of your own `.Xdefaults` file from the system defaults file `/usr/lib/X11/app-defaults/Xdefaults`.

When running Session Manager, the values in the file `/usr/lib/X11/app-defaults/Xdefaults` apply to all applications and all users. Values in your `~/.Xdefaults` file affect all applications that *you* run. The values in an application-specific resource file affect only a single application that you run. The values in `/usr/lib/X11/app-defaults/Xdefaults` apply only if you are running Session Manager (`dxsession`). However, the values in `~/.Xdefaults` apply regardless of which session manager you use.

You can also use your `.Xdefaults` file to customize individual applications by adding to it specifications from application-specific resource files. Another way to customize an individual application is by modifying, in your home directory, a copy of its application-specific resource file.

9.1.2 Creating the `.Xdefaults` File

If you select the Save Current Settings menu item from the Session Manager's Options menu, an `.Xdefaults` file is created in your home directory. You can also create one by copying `/usr/lib/X11/app-defaults/Xdefaults` to

`~/.Xdefaults`. You can modify, remove, or add to the entries in it to customize your global windows environment.

See Appendix D for a sample `.Xdefaults` file. Note that comment lines begin with an exclamation point (`!`).

The `.Xdefaults` file is simply a list of resource specification strings you enter or modify to customize your windows environment. Each resource specification in an `.Xdefaults` file has roughly the following format:[1]

[*name**]*resource*: *value*

Here,

name	Specifies the name or name string representing the application or window component to which the resource assignment should apply. If this argument is not specified, the resource assignment is globally available to all applications. You must separate names in this string with either an asterisk (*) or a period (.), as follows: * Specifies that the resource definition applies to all window components even if classes or names are omitted in the specification string. . Indicates that the resource definition applies only to the window component named.
resource	Specifies the resource (characteristic) you want to modify.
value	Specifies the value that is to be assigned to the resource.

Resource names are case sensitive. Most names begin with initial lowercase letters; compound names use initial capital letters to

[1] The exact format of a resource specification is given in Appendix A of the *X Window System Toolkit*, P. Asente & R. Swick, Digital Press, Bedford, MA, 1990.

separate names, for example:

```
backgroundPixel
```

When you finish adding resource specifications to your `.Xdefaults` file, you must load changes into the server to have them take effect. To load changes, take one of the following actions:

- Quit the Session Manager, then start a new session.
- Run the X windows resource database utility to reload the `.Xdefaults` file into the server.[2] Enter:

  ```
  % /usr/bin/X11/xrdb .Xdefaults
  ```

By contrast, you do not have to start a new session or run `xrdb` to effect customizations contained in application-specific resource files—you merely restart the application.

9.1.3 Specifying Colors and Fonts

There are two general ways to specify a color when you are customizing your environment:

- Create a color directly by using a hexadecimal number.
- Use a predefined color name.

To specify a color directly, that is, without using a color name, use a three-part hexadecimal number. The three parts of the number specify the intensity of red, green, and blue, respectively.

The number must begin with a number sign (#) and cannot include any spaces. Each of the three parts must use the same number of digits. Here are some examples:

```
#9047A5    #F0F   #55559999BBBB   #0000FF     #50A070
```

When using a named color, be sure to type the name exactly as it appears in the file `/usr/lib/X11/rgb.txt` on your system. This list of names is also available in the color widget's Browser color model (see Chapter 4).

Table 9-1 lists some of the window elements you can color. For more information, see the documentation for the client you want to modify.

[2] The utility is part of the Basic X Environment subset and might not be installed on your system. See your system manager if it is not installed.

There are many other ways to specify colors. See the *X Window System Administrator's Guide*.

Table 9-1: Example Color Resources

To color this element	Use this resource
Pointer foreground color	`DXsession.pointer_foreground:`
Session Manager display foreground color	`DXsession.display_foreground:`
Session Manager display background color	`DXsession.display_background:`
xterm window text	`XTerm*foreground:`
xterm window background	`XTerm*background:`
xterm window text cursor	`XTerm*cursorColor:`
xterm window mouse pointer	`XTerm*pointerColor:`
Window frame text	`Mwm*foreground:`
Window frame background	`Mwm*background:`
Top and left window frame bevel	`Mwm*topShadowColor:`
Bottom and right window frame bevel	`Mwm*bottomShadowColor:`
Active window frame text	`Mwm*activeForeground:`
Active window frame background	`Mwm*activeBackground:`
Top and left active window beveling	`Mwm*topShadowColor:`
Bottom and right active window beveling	`Mwm*bottomShadowColor:`

9.1.3.1 Resource Specification Examples

Suppose you want all your xterm windows to have a blue background, a yellow foreground, and use the fixed font. Follow these steps:

1. Start your text editor and open the `.Xdefaults` file in your home directory.

2. Insert the following lines into the file:

```
XTerm*foreground:        yellow
XTerm*background:        blue
XTerm*font:              fixed
```

3. Save the file.
4. Load the resources into your display's resource database with the command

```
% xrdb -merge .Xdefaults
```

Start a new terminal window by entering the following command in a terminal window:

```
% xterm &
```

The new window's background should be blue and the foreground (text) should be yellow.

The default font sizes in DECterms are chosen to look best when using 100 DPI fonts. If the default fonts are too small or you are using 75 DPI fonts, you can change the fonts by adding the following resource specifications to the DECterm resource file `/usr/lib/X11/app-defaults/DXterm` or the `.Xdefaults` file in your home directory:

```
DXterm.main.terminal.bigFontSetName:    -*-terminal-*-*-*--*-180-*-*-*-*-*-*
DXterm.main.terminal.littleFontSetName: -*-terminal-*-*-*--*-140-*-*-*-*-*-*
```

9.1.3.2 Specifying Colors and Fonts on the Command Line

Suppose you want to start a new terminal window, but want it to have a red background. You can override the settings in your `.Xdefaults` file by specifying colors on the command line. For example, enter the following command:

```
% xterm -bg red &
```

Since you did not specify a foreground color (`-fg`), the yellow value was read from the `.Xdefaults` file. To see which options are actually available for a particular client, refer to an application's reference page.

To specify a font on the command line, use the `-fn` option. For example, the following command creates an xterm window using

an 18 point font named Courier:

```
% xterm -fn "-*-courier-medium-r-normal--18-*-*-*-*-*-*-*" &
```

The quotation marks surrounding the font name are necessary to prevent your shell from trying to interpret the wildcard font name as a file specification.

For a complete discussion of conventions for font names and font properties, see Part IV of the *X Window System: The Complete Reference to Xlib, X Protocol, ICCM, XLFD.* The *X Window System Administrator's Guide* provides detailed information about locating and managing fonts in the X Window System environment.

9.1.4 Considerations for Setting Resources

Keep the following in mind when customizing resource files:

- Users can modify resource files in their home directory. Superuser privileges are required to modify systemwide resource files.
- Before you edit a resource file, copy the old file to another name. This gives you an easily accessible backup copy that you can reload if you make a serious error.
- Place resource specifications for frequently used clients (for example, `dxsession` or `dxterm`) in front of resource specifications for other clients.
- Use the `ifdef COLOR` construct to create an `~/.Xdefaults` file that supports both color and monochrome monitors. If you do not, colors might be adjusted for monochrome in a way that results in blank displays.
- Clients that access resources from other screens in a multiscreen environment might not have the desired results.

9.1.5 Locating Resources

Resources are assigned when the application program creates a window component or by the application's default resource file. Some applications define unique resources for window components. For example:

- The `PrintCommand` resource in Mail
- The `windowManagerName_default`, `create_terminal`, and `applications` resources in the Session Manager

- The `terminalMode` resource in DECterm

These resources are named in the individual applications' reference pages and default resource files located in:

`/usr/lib/X11/app-defaults/`*`application-name`*

Customize these resources by referencing them by name in your `.Xdefaults` file.

Example 9-1 and Example 9-2 show sample application default-resource files.

Example 9-1: Visual Differences Default-Resource File

```
*dxdiff*textdisplay*fontList:    fixed
*dxdiff*displayLineNumbers:      True
*dxdiff*drawDiffsAsLines:        False
*dxdiff*displaymenu*borderWidth: 1
```

Example 9-2: DECterm Default-Resource File

```
DXterm*terminalMode:            1
DXterm*autoWrapEnable:          on
DXterm*autoResizeTerminal:      on
DXterm*autoResizeWindow:        on
```

9.2 Changing Key Definitions

You can use the `.Xdefaults` file in your home directory to add resource specifications that change the way keys are mapped to text editing commands. Table 9-2 lists the text editing keys you can redefine and describes the preset text editing function for each key.

Table 9-2: Text Editing Keys and Preset Functions

Key	Editing Function
→ (right arrow)	Moves the cursor one character to the right. In a single-line field, the cursor does not move when positioned at the end of the line. In a multiline field, the cursor moves into the first position of the next line.

Table 9-2: (continued)

Key	Editing Function
← (left arrow)	Moves the cursor one character to the left. In a single-line field, the cursor does not move when positioned at the beginning of the line. In a multiline field, the cursor moves into the last position of the previous line.
↑ (up arrow)	In a multiline field, moves the cursor up one line.
↓ (down arrow)	In a multiline field, moves the cursor down one line.
F12	Positions the cursor at the beginning of the line.
Shift/F12	Positions the cursor at the end of the line
F13	Deletes characters to the left of the cursor through the beginning of the word, and shifts to the left all text to the right of the deleted characters.
Shift/F13	Deletes the characters to the right of the cursor through the beginning of the word, and shifts to the left all text to the right of the deleted character.
<× (Delete key)	Deletes the character before the cursor and shifts to the left all text to the right of the deleted character.
Shift/<×	In overstrike mode, deletes the character under the cursor and shifts to the left all text to the right of the deleted character.

9.2.1 Assigning New Text Editing Commands

A translation specification string in your `.Xdefaults` file assigns a text editing command to a named key or mouse button combination. To assign a new editing command to a named key, use the following syntax:

*Text.translations: *key*: *function*

Here,

key	Specifies the key or mouse button that is used to invoke the named function.
function	Specifies the function to be invoked when the named key is pressed.

You can also specify the following mouse buttons in a translation specification string:

Btn1	Left button
Btn2	Middle button
Btn3	Right button

You can assign the following actions to each mouse button:

Down	Action is invoked when the button is pressed.
Up	Action is invoked when the button is released.
PtrMoved	Action is invoked when the mouse button is down and the pointer is moved.

9.2.2 Example Text Translations

Example 9-3 provides text translation entries you can add to your `.Xdefaults` file. These resource specifications assign `emacs`-like key bindings to your keyboard keys when you use the Motif text widget (as, for example, when you edit with the Notepad [`dxnotepad`] desktop application).

Example 9-3: Sample Text Specifications

```
*Text.translations:
!
Shift<Key>osfDelete:    delete-next-character()\n\
<Key>osfDelete:         delete-previous-character()\n\
Shift<Key>osfRight:     forward-word()\n\
Shift<Key>osfLeft:      backward-word()\n\
<Key>F12:               beginning-of-line()\n\
Shift<Key>F13:          delete-next-word()\n\
<Key>F13:               delete-previous-word()\n\
Ctrl<Key>e:             end-of-line()\n\
Ctrl<Key>j:             delete-previous-word()\n\
Ctrl<Key>h:             beginning-of-line()\n\
Ctrl<Key>r:             redraw-display()\n\
Ctrl<Key>u:             delete-to-start-of-line()\n\
```

Example 9-3: (continued)

```
!
!
!
Shift ~Ctrl ~Alt<Btn1Down>:              extend-start()\n\
Shift ~Ctrl ~Alt Button1<PtrMoved>:      extend-adjust()\n\
Shift ~Ctrl ~Alt<Btn1Up>:                extend-end()\n\
Ctrl ~Shift ~Alt<Btn1Down>: grab-focus() set-insertion-point()\n\
Ctrl ~Shift ~Alt Button1<PtrMoved>:      \n\
Ctrl ~Shift ~Alt<Btn1Up>:                \n\
~Shift ~Ctrl ~Alt Button1<PtrMoved>:     extend-adjust()\n\
~Shift ~Ctrl ~Alt<Btn1Up>:               extend-end()\n\
~Shift ~Ctrl ~Alt<Btn3Down>:             stuff()\n\
!
!
!
Ctrl<Key>f:            forward-character()\n\
Ctrl<Key>b:            backward-character()\n\
Alt<Key>f:             forward-word()\n\
Alt<Key>b:             backward-word()\n\
Alt<Key>]:             forward-paragraph()\n\
Ctrl<Key>[:            backward-paragraph()\n\
Ctrl<Key>a:            beginning-of-line()\n\
Ctrl<Key>e:            end-of-line()\n\
Ctrl<Key>n:            next-line()\n\
Ctrl<Key>p:            previous-line()\n\
Ctrl<Key>v:            next-page()\n\
Alt<Key>v:             previous-page()\n\
Alt<Key>\\<:         beginning-of-file()\n\
Alt<Key>\\>:         end-of-file()\n\
Ctrl<Key>z:            scroll-one-line-up()\n\
Alt<Key>z:             scroll-one-line-down()\n\
Ctrl<Key>d:            delete-next-character()\n\
Ctrl<Key>h:            delete-previous-character()\n\
~Shift Alt<Key>d:      delete-next-word()\n\
~Shift Alt<Key>h:      delete-previous-word()\n\
Ctrl<Key>w:            kill-selection()\n\
Ctrl<Key>y:            unkill()\n\
Alt<Key>y:             stuff()\n\
Ctrl<Key>j:            newline-and-indent()\n\
Ctrl<Key>o:            newline-and-backup()\n\
Ctrl<Key>m:            newline()\n\
Ctrl<Key>l:            redraw-display()\n\
Ctrl<Key>k:            kill-to-end-of-line()\n\
Any<Key>:              self-insert()
```

Table 9-3 summarizes the functions you can assign to keys and describes the text-editing action for each.

Table 9-3: Text Functions

Function	Description
`forward-character`	Moves the cursor forward one character.
`backward-character`	Moves the cursor backward one character.
`forward-word`	Moves the cursor forward one word.
`backward-word`	Moves the cursor backward one word.
`forward-paragraph`	Moves the cursor forward one paragraph.
`backward-paragraph`	Move backward one paragraph.
`delete-next-character`	Deletes the character after the insertion point.
`delete-previous-character`	Deletes the character before the insertion point.
`delete-next-word`	Deletes the word after the insertion point.
`delete-previous-word`	Deletes the word before the insertion point.
`delete-next-line`	Deletes the line after the insertion point.
`delete-previous-line`	Deletes the line before the insertion point.
`delete-selection`	Deletes the selection.
`insert-file`	Inserts a file into the text.
`kill-next-word`	Kills the word after the insertion point.
`kill-to-end-of-line`	Kills the characters after the insertion point to the end of the line.
`kill-selection`	Kills the selection.
`newline-and-indent`	Moves the cursor to the next new line and indent.
`newline-and-backup`	Moves the cursor to the beginning of the previous line.

Table 9-3: (continued)

Function	Description
`next-page`	Moves the cursor to the next screenful of text.
`previous-page`	Moves the cursor to the previous screenful of text.
`select-all`	Selects all the text.
`select-word`	Selects the word the insertion point is in.
`stuff`	Inserts the text that was last selected in any window.
`unkill`	Inserts the text that was last deleted.

9.3 Changing Keyboards

Several Digital workstations come with Personal Computer (PC) style keyboards. Currently, these keyboards have one of the following model numbers, although more models may be produced in the future:

- PCXAL
- LK443
- LK444

Other Digital workstations come with keyboards such as the LK201 or LK401.

The two styles of keyboards differ both in the functions assigned to certain keys and in the number of function keys. For example, the PC-style keyboards have only 12 function keys (F1 through F12); the LK201/LK401 keyboards have 20 function keys (F1 through F14, Help, Do, and F17 through F20).

Digital UNIX provides a script that automatically performs mappings to allow you to switch keyboard styles. This script, `/usr/examples/pc_to_lk_keys.sh`, uses the `xmodmap` utility to edit the keyboard modifier map and `keysym` table. (For details about the utility, see the `xmodmap`(1X) reference page.)

If you have a PC-style keyboard, you can run the script to map most of the keys on the two keypads to the right of the main keyboard, as well as a few keys in the top function key row, to the

corresponding keys on the LK201/LK401 keyboards. For example, by running the script, you change the function of the keypad Insert key on the PC-style keyboard to perform the keypad Find function from the LK201/LK401 keyboards.

Similarly, if you have an LK201/LK401 style keyboard, you can run the same script, this time with the `-u` option flag, to map the keypad keys to the corresponding PC-style keys.

A copy of the script is located in the following file on your Digital UNIX system: `/usr/examples/pc_to_lk_keys.sh`

To run the script, at the system prompt enter the name of the file as if you were entering a command. The first command line in the following example changes PC-style keys to LK201/LK401 keys. The second command line changes LK201/LK401 keys to PC-style keys.

```
% /usr/examples/pc_to_lk_keys.sh
% /usr/examples/pc_to_lk_keys.sh -u
```

To have the script run automatically each time you log on to your workstation, use an editor to create or modify the `.xsession` file in your home directory to read as follows :

```
#!/bin/sh
/usr/examples/pc_to_lk_keys.sh
dxsession
```

This change PC-style keys to LK201/LK401 keys. The same `.xsession` file, but with `-u` added to the end of the second line, changes LK201/LK401 keys to PC-style keys.

Now, whenever you log in, your keyboard is automatically set to the different keyboard style.

Table 9-4 shows the keys on the LK201/LK401 keyboard and their corresponding equivalents on the Digital PC-style keyboard.

Table 9-4: LK201/LK401 Key Functions and Their PC-Style Equivalents

Key on the LK201/LK401 Keyboards	Equivalent Key or Function on a PC-Style Keyboard
Help	Print Screen
Do/Menu	Scroll Lock
Insert	Home
Find	Insert
Remove	Page Up

Table 9-4: (continued)

Key on the LK201/LK401 Keyboards	Equivalent Key or Function on a PC-Style Keyboard
Next	Page Down
Select	Delete
Prev	End
Keypad 0	Ins, Keypad 0
Keypad 1	End, Keypad 1
Keypad 2	down arrow, Keypad 2
Keypad 3	PgDn, Keypad 3
Keypad 4	left arrow, Keypad 4
Keypad 5	Keypad 5
Keypad 6	right arrow, Keypad 6
Keypad 7	home, Keypad 7
Keypad 8	up arrow, Keypad 8
Keypad 9	PgUp, Keypad 9
Keypad . (period)	Keypad Del
Keypad -	Keypad + (addition)
Keypad ,	no equivalent PC-style keypad key
Keypad Enter	Keypad Enter
PF1	Num Lock
PF2	Keypad / (division)
PF3	Keypad * (multiplication)
PF4	Keypad - (subtraction)

Note that the Digital PC-style keyboard has a key labeled ← in the position where the key marked <× is located on the LK201/LK401 keyboard. On both styles of keyboard, this key deletes the character to the left of the cursor when pressed. On the PC-style keyboard, you can use the Delete key on the near keypad to delete the character that the block cursor is on or the character to the left of the line cursor.

In keyboard mappings, the ← and <× keys perform the backspace function. The Delete key on the PC-style keyboards performs the delete function.

9.4 Customizing the Motif Window Manager (mwm)

To customize the Motif window manager (mwm), modify a special file called `.mwmrc` or set resources in the `Mwm` file in your home directory.

9.4.1 Setting Window Manager Resources

The `Mwm` file contains resource settings for window manager items such as border, menu, and icon colors; focus policy; use of an icon box; icon placement and size; and menu bindings. The mwm first searches your home directory for the `Mwm` file, then searches for it in `/usr/lib/X11/app-defaults`.

Place all mwm resources in the `Mwm` resource file. For new resources to take effect, select Restart from the Workspace menu to restart mwm.

Tip

For monochrome monitors, mwm overrides the color resources defined in `Mwm` with those defined in `/usr/lib/X11/app-defaults/Mwm_bw` and `/usr/lib/X11/app-defaults/Mwm_gray`.

9.4.2 Customizing Window Manager Behavior

Default operation of mwm is controlled by the systemwide file named `/usr/lib/X11/system.mwmrc`. This file establishes the contents of the Workspace (root) and Window menus, and what key and button combinations you use to invoke menu functions and manage windows.

The file `.mwmrc` defines:

- Window menu names and contents
- What happens when you select a menu item or press a mouse button
- Which keyboard keys act as accelerator keys

See Appendix D for a listing of specific appearance and behaviors you can change.

9.4.3 Customizing the Workspace Menu

This section describes how to make a personal copy of `.mwmrc` to add a Workspace submenu called ‘‘Clients’’ that contains some of the more frequently used X Consortium clients. Appendix D contains a sample file you can use for a reference.

1. Copy the file `system.mwmrc` to your home directory with the following command:

   ```
   % cp /usr/lib/X11/system.mwmrc .mwmrc
   ```

2. Edit the `.mwmrc` file. Look for the following text:

   ```
   Menu RootMenu
   {
           "Workspace"               f.title
           "Shuffle Up"      _U      f.circle_up
           "Shuffle Down"    _D      f.circle_down
           "Next Window"     _N      f.next_key
           "Previous Window" _v      f.prev_key
            no-label                 f.separator
           "Pack Icons"      _P      f.pack_icons
           "Options"         _O      f.menu MwmCustomizeMenu
            no-label                 f.separator
           "Restart..."      _R      f.restart
           "Help"            _H      f.menu MwmHelpMenu
   }
   ```

   After the line that begins with `"Help"` (and before the close brace), insert the following line to add a menu item called Clients to your Workspace menu:

   ```
           "Clients"         _C      f.menu   MyClientsMenu
   ```

   After the close brace, enter the following text to create the new Clients menu. Note the `f.exec` function is used to call each client.

   ```
   Menu   MyClientsMenu
   {
       "Clients Menu"      f.title
       "Start Clock"       f.exec "xclock &"
       "Start Load"        f.exec "xload &"
       "Start Calc"        f.exec "xcalc &"
       "Start xbiff"       f.exec "xbiff &"
   }
   ```

   When you are done, double-check your typing and then save the file.

The changes you made to `.mwmrc` are not read by the window manager until it is restarted. Select the Restart menu item in the Workspace menu to restart the window manager.

Access to DECwindows for People with Disabilities 10

This chapter provides information on AccessX, Puff, Optacon, and Xsoundsentry. These utilities provide features to help people with physical, hearing, and visual disabilities.

10.1 Using AccessX

AccessX provides features to help people with different disabilities interact with Digital workstations running the Digital UNIX operating system (Version 3.0 or higher). These features can make it easier for you to use the standard workstation input devices: the keyboard and the mouse. You interact with the workstation as usual, by entering commands and manipulating menus and dialog boxes. However, with AccessX, you have an easier time performing these input operations.

This section discusses the AccessX features. These features have been incorporated into the Digital UNIX operating system software, so they are available for you to turn on whenever you want to use them. In some instances, you might need to have an administrator establish certain default settings. But, you can turn the features on and off any time.

The following list summarizes the features:

- StickyKeys

  The StickyKeys feature lets you perform multikey operations with one hand, one finger, or a mouth stick. You can use this feature to enter uppercase letters or certain punctuation characters without having to hold down the Shift Lock key while you press the letter key. This feature also makes it easier to enter control characters such as Ctrl/c.

- MouseKeys

  The MouseKeys feature lets you use keys on the numeric keypad as well as other keyboard keys instead of the mouse to perform input functions such as clicking on objects or moving the cursor. With this feature, you can use one finger or a mouth stick to move the cursor to different areas of the screen, manipulate menus, and select, cut, and paste text.

- ToggleKeys

  The ToggleKeys feature provides audio feedback when a keyboard light indicator has been turned on or off. This feature can help people who might have difficulty seeing the keyboard light indicators for these keys or people who are using a keyboard that does not provide light indicators for any keyboard settings.

- RepeatKeys

  The RepeatKeys feature allows you to adjust how fast the auto-repeat keyboard mechanism responds or to turn it off entirely. With this feature turned on, you can set your keyboard so that holding down a key for a longer than average time will not result in a second entry of that character.

- SlowKeys

  The SlowKeys feature makes the keys less likely to respond when brushed accidentally. With this feature turned on, the computer only accepts a key stroke that is held a certain length of time. The computer ignores light keystrokes that are held only for a moment.

- BounceKeys

  The BounceKeys feature eliminates the problem of pressing a key and then accidentally pressing it again before moving to another key. You can set this feature to tell the computer not to process a second pressing of a key unless a certain amount of time elapses between each pressing.

- TimeOut

  The TimeOut feature shuts off the AccessX features on a workstation after a specified period of time. With the TimeOut feature turned on, if you are sharing a workstation and have set some AccessX features, the settings will automatically be turned off before the next person uses the machine. If you want to retain the AccessX settings all the time, you can turn off the TimeOut feature.

There are two ways to enable AccessX on your workstation:

- At the user prompt, enter the `accessx` command and press the Enable AccessX button in the dialog box that appears.
- Use the `+accessx` flag with the `Xdec` command to enable AccessX whenever your system starts up.

You can select the AccessX features from the AccessX dialog box that appears when you choose AccessX from the Applications menu of the DXsession Session Manager or enter the `accessx` command. You use the Adjust Settings dialog box to customize some of the AccessX features. The Adjust Settings dialog box has a Test Area where you can try out settings before applying them to your session.

The next section explains how to bring up the AccessX dialog box and use it to select the AccessX features. The following sections in the chapter explain each feature in detail and provide instructions on how to turn the feature on and off, use it, and customize it. The next to last section explains how to use the Adjust Settings dialog box and the Test Area. The final section discusses the items in the AccessX menu bar.

If you are using a workstation for the first time, be sure to read the earlier chapters in this manual for information about how to use menus, dialog boxes, and other components of the windowing interface.

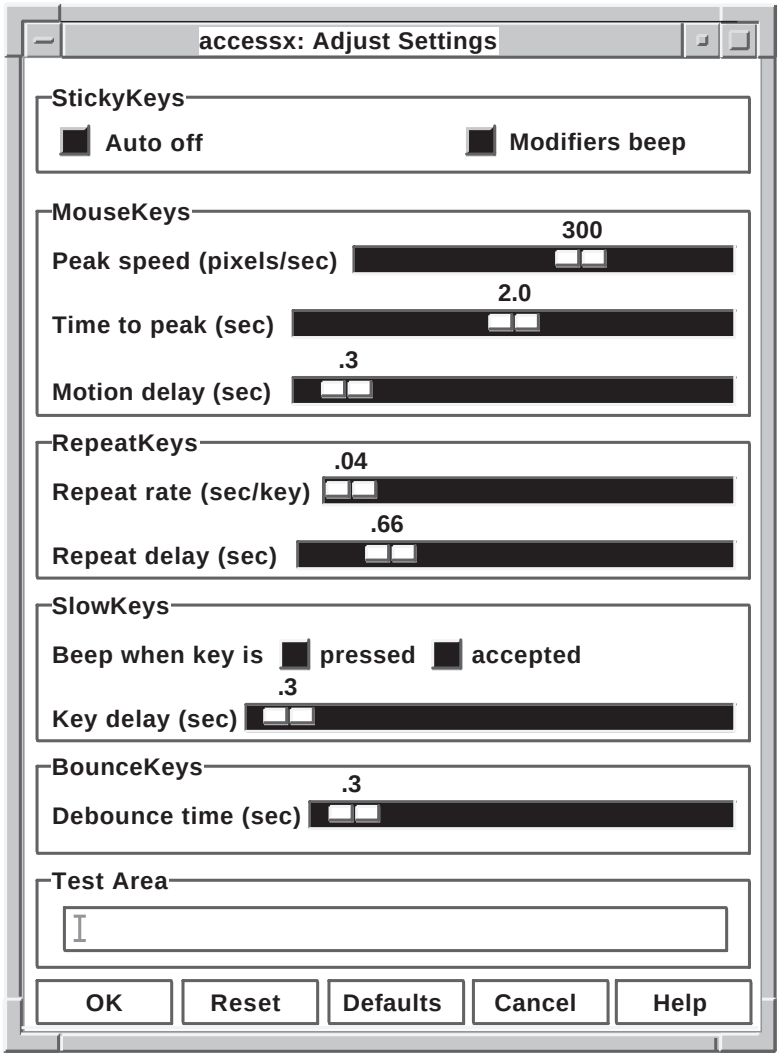
10.1.1 Selecting AccessX Features

To use the AccessX features, you can enter `accessx` at the keyboard or select AccessX from the Applications menu in the Session Manager menu bar. Then, you enable AccessX and the feature or features you want.

Note that there are ways to turn on many of the AccessX features directly from the keyboard. You can use these methods at any time, without having to type `accessx` or select AccessX from the Applications menu. These methods are explained in the sections that describe the individual AccessX features.

When you enter the `accessx` command or select AccessX from the Applications menu, the AccessX dialog box appears on your workstation screen. Figure 10-1 shows the AccessX dialog box.

Figure 10-1: AccessX Dialog Box



ZK−1118U−R

The AccessX dialog box has three areas:

- Menu bar
- Selections for the AccessX utility as a whole
- Area for enabling individual features

The following sections discuss each area.

Note

As you might expect, you can use the mouse to move the pointer anywhere in the AccessX and the Adjust Settings dialog boxes. Once you are in the box, you can also use the Tab key to jump from one area to another within the box. In the Adjust Settings dialog box, you can use the arrow keys to manipulate the sliders to change various settings.

10.1.1.1 Selections for the AccessX Utility

The AccessX dialog box has push buttons for the utility as a whole. The following list describes the buttons.

- Enable AccessX

  Click on the Enable AccessX button to turn on the AccessX utility. The button shown in the dialog box will appear to be pushed in. Now, all the individual AccessX features are available for you to enable (that is, turn on). To turn off the AccessX utility, click on the Enable AccessX button so that it appears pushed out in the dialog box.

  Note that when the Enable AccessX button is pushed out (turned off), you cannot manipulate any of the other buttons in the dialog box. However, you can still select items in the menu bar.

- Beep on feature use

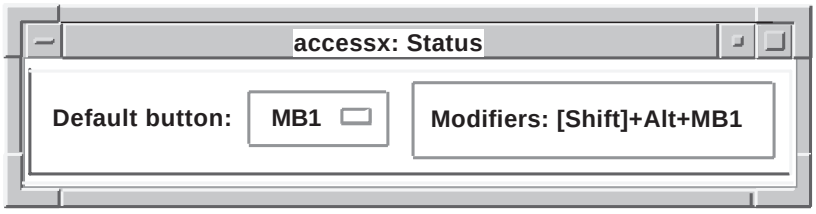
  When you turn the individual AccessX features on or off, the workstation can provide an audible signal; a low-pitched beep followed by a high-pitched beep for ON and a high-pitched beep followed by a low-pitched beep for OFF). You can decide whether you like these audible signals or whether you want to suppress them. Click on the ‘‘Beep on feature use’’ button if you want the workstation to provide the audible signals. The button in the dialog box will appear to be pushed in. If you do not want the workstation to produce these signals, click on the button in the dialog box so that it appears to be pushed out.

  You might find that when you first start using AccessX features, you want the audible signals. Later on, you might prefer to use AccessX without the beeps. To eliminate them, click on the ‘‘Beep on feature use’’ button so that it appears pushed out.

- Show StickyKeys and MouseKeys status

  The status bar displays the status of the keyboard modifiers and the pointer buttons. A section of the status bar shows you what modifiers are locked. If StickyKeys are turned on, when the control key is pressed the first time, it latches the control key and the status box displays this as Modifiers: Control. Figure 10-2 shows a sample Status message box.

Figure 10-2: Show StickyKeys and MouseKeys StatusMessage Box



ZK–1119U–R

- TimeOut

  With the TimeOut feature turned on, the workstation automatically turns off AccessX when the machine is not used for a certain length of time. To use this feature, click on the TimeOut button.

  Notice the slider field to the right of the TimeOut button. You use this field to set the length of time in minutes that you want the workstation to wait before it automatically turns off AccessX. To operate the slider, make sure that the TimeOut button is pushed in. Then, use the mouse to place the cursor on the slider block inside the field. Press MB1 (mouse button 1) to move the slider to the right or left until the number over the block shows the number of minutes you want to set for the TimeOut feature. You can also press the left and right arrow keys to move the slider.

  The length of time it takes before the TimeOut feature turns off AccessX ranges from 1 to 10 minutes. The shorter slider time values are toward the left; the longer ones are toward the right.

Note

Sliders can be difficult to manipulate with the mouse. If you enabled the MouseKeys feature, the movement of the slider will be easier to control. You can also use the left and right arrow keys to move the slider by a single increment. Using the arrow keys offers the best control for moving the slider.

10.1.1.2 Keyboard Control and Keyboard Response Boxes

The bottom portion of the AccessX dialog box contains two boxes with three buttons each. The Keyboard Control box has buttons for the following AccessX features:

- StickyKeys
- MouseKeys
- ToggleKeys

You use these features to control your working environment.

The Keyboard Response box has buttons for the following AccessX features:

- RepeatKeys
- SlowKeys
- BounceKeys

You use these features to customize how keys respond when you press them.

To turn any of these six keyboard features on, use the mouse to move the cursor to the appropriate button and click on it. The workstation displays the button as pushed in to indicate that the feature is turned on. To turn off a feature, click on the button so that the workstation displays it as being pushed out.

Remember that you can turn some of the features on or off directly from the keyboard without having to display the AccessX dialog box. The methods for turning on features directly from the keyboard are explained later in this chapter under the sections for those features that have the keyboard capability.

10.1.1.3 Menu Bar

The following is a list of items in the AccessX menu bar:

- File
- Adjust
- Help

Each menu item contains a submenu. To access the submenu, click on the menu item and then hold down MB1 to display the submenu, or press the Alt key and enter the mnemonic, that is, the underlined letter in the menu. (For example, to access the Adjust menu, press Alt and then enter the letter A.)

The following sections discuss each of the submenus.

10.1.1.3.1 File Submenu – The File menu has three items:

- Load Settings
- Save Settings
- Exit

Select Exit to dismiss the AccessX dialog box and exit from the utility.

The other two menu items deal with saving settings you changed in one or more of the Adjust dialog boxes: Adjust Settings, StickyKeys Adjust, MouseKeys Adjust, or Keyboard Response Adjust. After you finish modifying any settings and pressing the OK button, you need to select the File submenu and then the Save Settings item to preserve your changes.

When you select Save Settings, the settings are recorded in an X Window System resource file. Resource files are used to set the characteristics of your workstation environment, including the number and locations of windows that appear on the desk top when you log in, background and foreground colors, and any AccessX settings.

If you use Save Settings to store your settings in a resource file, those customizations remain in effect each time you log in to your workstation and enable the AccessX utility. Whenever you make changes to your AccessX settings, select Save Settings to store the new settings for the rest of your work session as well as future work sessions.

When you select Save Settings, the utility displays the Save Information message box to indicate whether the save is successful or not. If the save is successful, the message Saved User Profile

Successfully appears in the box. If AccessX has a problem saving the settings you specified, it provides an appropriate error message in this box. Figure 10-3 shows a sample Save Information message box.

Figure 10-3: Save Information Message Box

ZK−1122U−R

If you start making changes to your AccessX settings and then decide you want to restore the settings that were in place at the start of your work session, select Load Settings from the File menu. This menu item reloads the settings that are in the resource file as a result of the last Save Settings action you performed. Figure 10-4 shows a sample Load Information message box.

Figure 10-4: Load Information Message Box

ZK−1123U−R

10.1.1.3.2 Adjust Submenu – The Adjust submenu allows you to access the complete Adjust Settings dialog box or a specific portion of that box. The Adjust submenu has four items:

- All...
- StickyKeys...
- MouseKeys...
- Keyboard Response...

When you select All..., the complete Adjust Settings dialog box appears. This box includes areas for customizing StickyKeys, MouseKeys, RepeatKeys, SlowKeys, and BounceKeys. There is a Test Area near the bottom of the dialog box that you can use to try out your settings. The action buttons are at the bottom of the box: OK, Reset, Defaults, Cancel, and Help. You use the OK button when you are satisfied with your customizations and want to load or save your settings. If you want to restore the settings that were in effect before you did any customization, press Reset. Use Defaults to restore the default system settings. Use Cancel to exit from the dialog box without making any changes. Press the Help button for details about the various elements of the dialog box.

When you select the StickyKeys... submenu item, AccessX displays the StickyKeys portion of the Adjust Settings dialog box, along with a Test Area and the four action buttons. You should select this menu item if you want to customize only the StickyKeys feature.

Similarly, select the MouseKeys... submenu item if you want to customize only that feature. The resulting dialog box includes the MouseKeys portion of the Adjust Settings dialog box and the four action buttons. Note that there is no Test Area in the MouseKeys dialog box. To test your MouseKeys settings, move the cursor by pressing one of the direction keys on the keypad.

If you select Keyboard Response..., you see the RepeatKeys, SlowKeys, and BounceKeys areas of the Adjust Settings dialog box. Again, there is a Test Area where you can try out your settings. The action buttons are at the bottom of this display.

Section 10.1.2 contains complete details on using the Adjust Settings dialog box to customize your AccessX environment. This information applies to the StickyKeys, MouseKeys, and Keyboard Response dialog boxes as well.

10.1.1.3.3 Status Submenu – The Status submenu shows the current status of the following AccessX features:

- StickyKeys...
- MouseKeys...

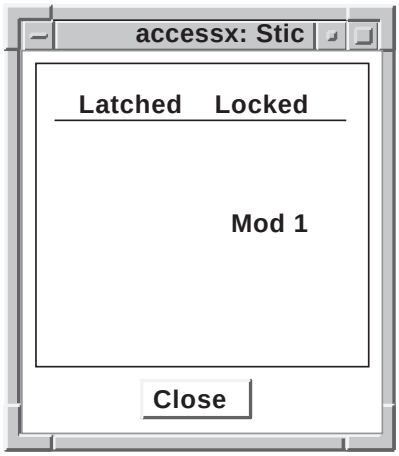
When you select one of these items, a corresponding status box is displayed in the upper left corner of your workstation screen. You can leave the status box displayed while you work if you want. When you are finished with the box, press the close button at the bottom to dismiss the box.

When you select StickyKeys..., the utility displays the StickyKeys status box. There are two columns in this box: Latched and Locked. When you have turned on the StickyKeys feature and used it to latch or lock some keys, this status box shows which keys you have set. Figure 10-5 shows the StickyKeys status box.

The StickyKeys status box reports on seven modifier keys. The following table contains the names of the modifiers keys and their corresponding keyboard keys. Note that Digital UNIX does not assign functions to all modifier keys.

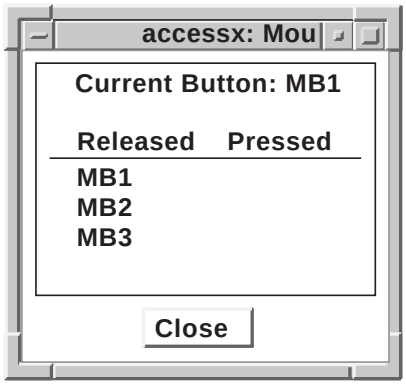
Modifier Key Name	Corresponding Keyboard Key
Shift	Shift Key
Control	Ctrl Key
Mod 1	Usually Alt Key
Mod 2	Usually unassigned
Mod 3	Usually unassigned
Mod 4	Often Num Lock
Mod 5	Usually unassigned

Figure 10-5: StickyKeys Status Box



The MouseKeys status box shows the current mouse button key as well as which mouse button keys are pressed or released. If you are using the MouseKeys feature, whenever you select a mouse button from the numeric keypad, that button is displayed as the Current Button. It remains the Current Button until you select a different mouse button. When you click on a mouse button or press 5 on the numeric keypad with MouseKeys in effect, the MouseKeys status box lets you know which button is being pressed and when it is released. Figure 10-6 shows the MouseKeys status box.

Figure 10-6: MouseKeys Status Box



ZK−1001U−R

These status boxes are helpful in keeping track of which modifier key or mouse button is in effect, especially if you are interrupted in the midst of a multikey operation. You can keep one or both of these status boxes visible at the side on your desk top while you are using AccessX so that you can check the StickyKeys or MouseKeys status at any time.

10.1.1.3.4 Help Submenu – You use the Help submenu to get information about the AccessX features on line while you are using the utility. The Help topics cover much of the same information that is available in this chapter. There are seven help topics:

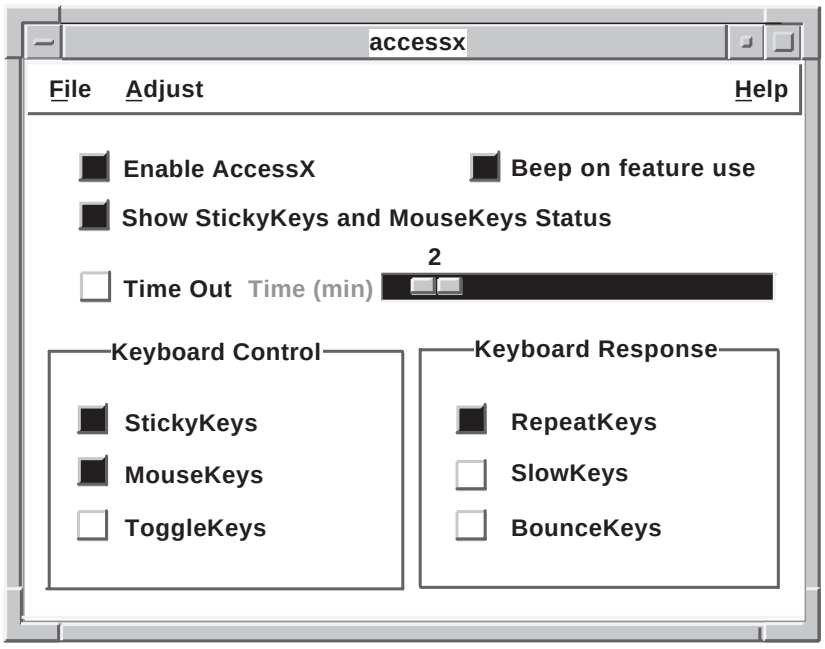
- General...
- StickyKeys...
- MouseKeys...
- ToggleKeys...
- RepeatKeys...
- SlowKeys...
- BounceKeys...

To read the online descriptions, select Help from the AccessX menu bar and then select the topic you want from the Help submenu. The utility displays an AccessX Help window with the information. Use the scroll bar on the right side of the window to move through the descriptions. When you are finished reading, press the Close button at the bottom of the window.

10.1.2 Adjust Settings Dialog Box

Figure 10-7 shows the Adjust Settings dialog box. There are six areas: one for the five keyboard features that you can customize and the Test Area. You can use the Test Area to try out the different customizations to be sure you are comfortable with the new settings.

Figure 10-7: Adjust Settings Dialog Box



ZK−1117U−R

Notice that most of the selections include a slider at the right. Use MB1 (mouse button 1) or the arrow keys to operate the sliders. The scales and values of each slider differ. See the sections on the individual AccessX features for details about each setting.

At the bottom of the box are five buttons: OK, Reset, Defaults, Cancel, and Help. Click on the OK button to indicate that you have completed selecting the customizations you want and are ready for AccessX to implement your choices. Use the Reset button to restore the settings to the way they were before you started to make changes. Use the Defaults button to restore the default system settings. Click on the Cancel button if you want to undo your changes. Click on the Help button to get information about the various boxes within the dialog box.

Near the bottom of the Adjust Settings dialog box is a box labeled Test Area. Use this area to test the settings you have made for the following AccessX features:

- StickyKeys
- RepeatKeys
- SlowKeys
- BounceKeys

ToggleKeys has no customization, so you do not need to use the Test Area for that feature. To test the MouseKeys feature, move the cursor by pressing one of the direction keys on the keypad.

The StickyKeys Adjust and the Keyboard Response Adjust dialog boxes each have Test Areas. You use these Test Areas exactly as you do the one in the Adjust Settings dialog box.

To use the Test Area, do the following:

1. Turn on the feature you want to test, either through the AccessX dialog box or by using the keyboard method.
2. Make whatever adjustments you want for that feature in its area in the Adjust Settings dialog box.
3. Move the cursor to the Test Area and click MB1.
4. Enter some characters on the line in the test field to test your settings for that feature.
5. If you want to adjust a setting, move the cursor to the appropriate location in the Adjust Settings dialog box and then change that setting.
6. Again, move the cursor to the Test Area and click MB1 to test the new setting.
7. Enter more characters on the line to test the new setting.

When you move the cursor out of the Test Area box, you automatically shut off that box. Once you are satisfied with your settings, you can close the Adjust Settings dialog box and continue with your work.

10.1.3 StickyKeys

Certain computer operations require pressing a key and holding it down while pressing a second key. For example, to enter the dollar sign ($), you need to press the Shift key and hold it down while pressing the 4 key on the main keyboard. With the StickyKeys feature turned on, you no longer have to hold the first

key down while pressing the second one when you enter such things as uppercase letters or control characters. After you press the first key of a two-key sequence, you can release it; it stays in effect until you finish pressing the second key.

The StickyKeys feature works for the Shift, Control, Compose Character, and Alt Function keys. These keys are known as **modifier keys**. You use these modifier keys to enter uppercase letters, control characters, 8-bit characters (for example, letters with accent marks), and keyboard accelerators. The StickyKeys feature enables you to press a modifier key and then the key it is to modify with one hand, one finger, or a mouth stick.

The following sections describe how to turn the StickyKeys feature on and off, use it to enter data, and customize its settings.

10.1.3.1 Turning StickyKeys On and Off

You can turn on the StickyKeys feature at any time while you are using your workstation. Use either the AccessX dialog box or your keyboard to turn StickyKeys on or off.

To turn on the StickyKeys feature from the keyboard, press one of the Shift keys on your keyboard five times in succession. Avoid pressing any other keys or moving the mouse until you have finished pressing Shift for the fifth time.

When you turn on StickyKeys, the computer signals with one short, low-pitched beep followed by a short, high-pitched beep. (You can reset AccessX to suppress this audible signal by turning off the ‘‘Beep on feature use’’ button in the AccessX dialog box.)

You turn off StickyKeys the same way you turn it on: by pressing one of the Shift keys five times in succession. When you turn off the feature, the computer signals with a high-pitched beep followed by a low-pitched beep, unless you have customized your AccessX environment to turn off audible signals.

10.1.3.2 Using StickyKeys

The StickyKeys feature works in two ways:

- Latching
- Locking

When you **latch** a modifier key, only the next key you type is affected. You might use latching for entering control key sequences, accessing punctuation characters that require the Shift key (such as the dollar sign or parentheses), entering letters with

accents, or typing the first letter of a person's name.

Follow these steps to latch a modifier key:

1. Turn on the StickyKeys feature if it is not already set.
2. Press the modifier key (Shift, Ctrl, Compose Character, or Alt Function).
3. Press the key you want to be affected by the modifier key.
4. Continue typing.

Note that there is no change to the way the Shift Lock key works when you have StickyKeys turned on.

Locking a modifier key is similar to using the Shift Lock key. With locking in effect, the modifier key remains in effect until you unlock it. In general, you will use the locking feature to enter a group of all uppercase letters or shifted punctuation characters such as the underscore to make a solid line.

Follow these steps to lock and unlock a modifier key:

1. Turn on the StickyKeys feature if it is not already set.
2. Press the modifier key twice in succession. After you press the key once, the system produces a single beep. When you press the modifier key a second time, the system produces a short, low-pitched beep followed by a high-pitched beep.
3. Enter all the characters you want to be affected by the modifier key.
4. Press the modifier key once to unlock it. The system produces a high-pitched beep followed by a low-pitched beep to signal that the key is unlocked.

Using locked StickyKeys with the Shift key is not the same as pressing the Shift Lock (Caps) key on the keyboard. With locked StickyKeys, you enter all the alternate punctuation marks that are paired with the digit keys and other punctuation characters on the main keyboard. For example, with locked StickyKeys, you would input a percent sign when you pressed the 5 key on the main keyboard. With the Shift Lock key in effect, pressing that 5 key would input the digit 5.

Occasionally, you might need to latch more than one modifier key, for example, to enter an uppercase letter with an accent mark or to produce a control key sequence such as Ctrl/^. If you have StickyKeys turned on, all you need to do is press each key in succession. The first modifier key will stay latched while you press the second one and then the non-modifier key. As soon as you

have pressed the non-modifier key, both modifier keys are released.

During your work session, you can use the Status submenu on the AccessX menu bar to determine which StickyKeys have been locked or latched. See Section 10.1.1.3.3 for details.

10.1.3.3 Customizing StickyKeys

To customize your StickyKeys environment, select the All... or StickyKeys... item from the Adjust menu. The StickyKeys feature has the following option buttons:

- Auto off

  You can set the StickyKeys feature to turn off automatically whenever a person uses a modifier key by holding it down while pressing another key. To set the turnoff to be automatic in this way, click on this button to push it in. Automatic turnoff can be useful if several people are using the same workstation and some of them might not be accustomed to using the StickyKeys feature.

- Modifiers beep

  You can decide whether you want the workstation to produce beeps whenever you lock, latch, or release a modifier key. Click on the Modifiers beep button to have the workstation give an audible signal. Note that you can turn this signal on or off regardless of whether you have selected the ‘‘Beep on feature use’’ item in the AccessX dialog box.

10.1.4 MouseKeys

With the MouseKeys feature, you can press keys on the numerical keypad instead of manipulating the mouse to move the cursor and perform window operations such as selecting menus, interacting with dialog boxes, and cutting and pasting text.

The following sections describe how to turn the MouseKeys feature on and off, use it to perform window operations, and customize the settings.

10.1.4.1 Turning MouseKeys On and Off

You can turn on the MouseKeys feature at any time while you are using your workstation. Use either the AccessX dialog box or your keyboard to turn MouseKeys on or off.

To turn on the MouseKeys feature from your keyboard, you need to enter a sequence of three keys: the left Shift key, the key directly to the left of the space bar, and the key in the upper left corner of the numeric keypad. (The key to the left of the space bar might be labeled Compose Character or Alt Function. The key in the upper left corner of the numeric keypad might be labeled PF1 or Num-Lock.) To enter this key sequence, you must hold down the left Shift key, press and hold down the key to the left of the space bar, and then press the key in the upper left corner of the numeric keypad. You can use the StickyKeys or Slow Keys feature to help you enter this multikey sequence.

When you turn on MouseKeys, the computer signals with a low-pitched beep followed by a high-pitched beep. (You can reset AccessX to suppress this audible signal by turning off the ''Beep on feature use'' button in the AccessX dialog box.)

To turn off MouseKeys, press the same combination you used to turn on the feature: the left Shift key, then the key to the left of the space bar, and finally the upper left key on the numeric keypad. When you turn off this feature, the computer signals with a high-pitched beep followed by a low-pitched beep, unless you have customized your environment to turn off that sound.

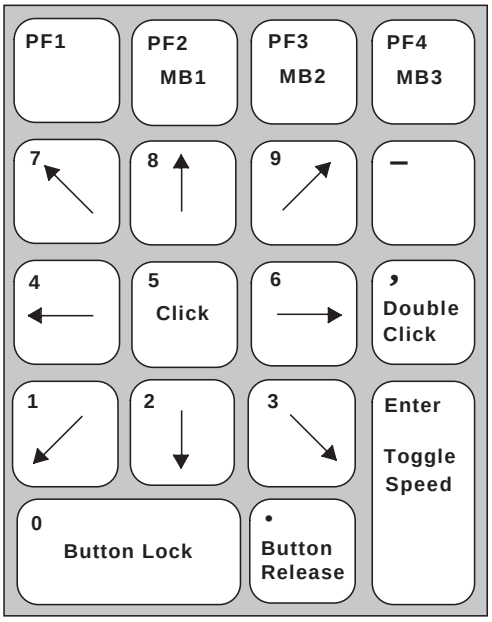
10.1.4.2 Using MouseKeys

In the MouseKeys feature, the actions that can be performed with a mouse have been mapped to the keys on the numeric keypad at the right side of your workstation keyboard. You can perform the following operations:

- Move the cursor.
- Select the appropriate mouse button.
- Click on the selected mouse button.
- Double click on the selected mouse button.
- Lock onto and drag an object.

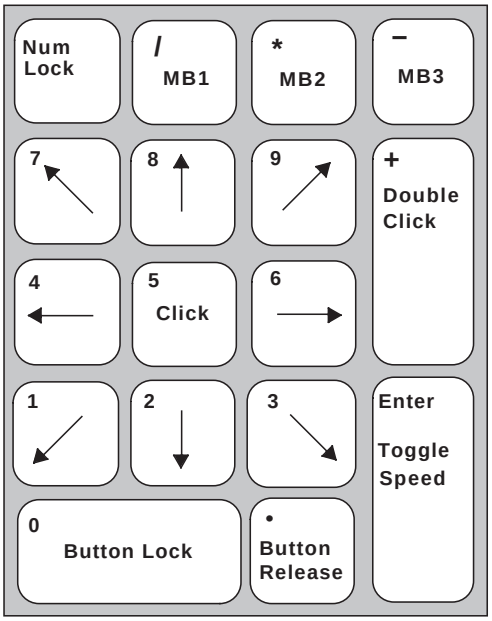
Figure 10-8 shows the numeric keypad with the mouse key operations marked for LK401-style keyboards. Figure 10-9 shows the numeric keypad with the mouse key operations marked for the PC-style keyboards.

Figure 10-8: MouseKeys Operations



ZK–0997U–R

Figure 10-9: MouseKeys Operations - PC-style Keyboard



ZK–0996U–R

To move the cursor on the screen, press the keys that have directional arrows in Figure 10-8 or Figure 10-9. Keys 2, 4, 6, and 8 move the cursor in a straight line, either down, to the left, to the right, or up. Keys 1, 3, 7, and 9 move the cursor in a diagonal line, either to the lower left, lower right, upper left, or upper right. Use the keys in combination to locate the cursor in the exact position you need.

You can hold down a key to continue moving the cursor in the direction you want. When you first press one of these keys, the cursor moves slowly, but as you continue to hold down the key, the movement speeds up. You can adjust this maximum speed to be either faster or slower than the default setting. See Section 10.1.4.4 for details.

To select a mouse button (MB1, MB2, or MB3), press the appropriate key on the top row of the numeric keypad. Note that the MouseKeys feature considers MB1 to be the default. If you are using MB1 to click or double click on an object, all you have to do is press the appropriate click key; you can eliminate first pressing the PF2 key or the slash (/) key on the PC-style numeric

keypad.

To perform a single click with MouseKeys, press the 5 key on the numeric keypad. Pressing this key performs operations such as selecting the window that you want to work in, selecting a menu item, pressing a push button in a dialog box, or dismissing a window. If you press the 5 key without having selected a mouse button, MouseKeys assumes that you want MB1.

There are two ways to perform a double click operation. You can press the 5 key twice in succession, or you can press the comma (,) key or plus sign (+) key on PC-style keyboards. Double clicking is used to start certain operations in some applications.

Locking a mouse button enables you to move to an item you want to select from a pull-down menu or to select text from one location to paste in another. You use the locking feature so that you can move the cursor in a drag operation. Use the 0 key on the numeric keypad to lock a mouse button. Press the period (.) key on the numeric keypad to release a mouse button. If you have not selected a mouse button before pressing the 0 key, MouseKeys assumes that you want to lock MB1.

A common lock and drag operation that you can do with MouseKeys is to cut and paste text. You need to cut and paste text when you want to copy something from one place in a window to another, for example, to repeat a command that you entered previously in that session. You can use cut and paste to copy or move text or command lines from one window to another. You can also use this technique to delete text from one part of your file in an editing session and move it to another file.

The following list shows the steps required to copy a command line from one window to another:

1. Use the keys on the numeric keypad to move the cursor to the start of the command line that you want to copy.
2. Press the 0 key on the numeric keypad to lock MB1.
3. Press the 6 key to select the entire command line. (The selected text will appear in reverse video in your screen.)
4. Press the period key on the numeric keypad to release the drag operation for MB1.
5. Move the cursor to the command prompt in the window where you want to copy the command line.
6. Select MB1 (the PF2 or / key on the numeric keypad) and click (5 on the numeric keypad) to change focus to the new window.

7. Select MB2 (the PF3 or * key on the numeric keypad) and click (5 on the numeric keypad) to copy the command text to the new location.

You can now press Return to issue the command in the new window.

10.1.4.3 Using the Mouse and MouseKeys Together

There are times when you might want to use a combination of the MouseKeys feature and the mouse itself. Even though you have MouseKeys turned on, all the usual mouse capabilities are still available through the mouse itself.

You might find it easier to use the mouse itself to move the pointer long distances, but prefer to use MouseKeys to perform operations that require dragging, such as selecting command lines or text. Being able to use MouseKeys for double clicking can be helpful for people with hand tremors.

10.1.4.4 Customizing MouseKeys

To customize your MouseKeys environment, select the All... or MouseKeys... item from the Adjust menu. The MouseKeys feature has the following option buttons:

- Max speed (pixels/sec)

  The Max speed values refer to how fast the cursor is moving once it has finished accelerating. The speed is measured in pixels per second. (Screen displays on workstations, terminals, and televisions are composed of hundreds or thousands of pixels. Each pixel is a tiny dot that can either be lighted or not depending on the image that is being displayed at a given moment.) Use the slider at the right of the Max speed button to select the speed that the cursor moves when you are using MouseKeys.

  The slider values range from 10 pixels/sec to 1000 pixels/sec. Use MB1 or the arrow keys to move the slider from the lowest value on the left to the higher values on the right. If you find the cursor is moving too fast, you can reduce this value.

- Time to max (sec)

  Use this setting to determine how long it takes for the cursor to reach its maximum speed. The choices are from zero to four seconds. Use MB1 or the arrow keys to move the slider from 0 seconds on the left towards 4 seconds on the right. You might want to start with 2 seconds and later change the setting if you

find the acceleration time is too long or too short.

- Motion delay (sec)

  Use this setting to determine how long before the pointer begins to accelerate.

10.1.5 ToggleKeys

The ToggleKeys feature causes the workstation to beep when a light on the keyboard is turned on or off. Some keyboards or workstation monitors have lights that indicate when this key has been pressed. However, not all systems are equipped with such indicator lights. In addition, some users might not be able to see whether the lights are on or off. With the ToggleKeys feature set, the workstation provides an audible signal each time the Shift Lock key is pressed

With ToggleKeys turned on, when you press the Shift Lock key to turn on its function, the workstation produces a low-pitched beep followed by a high-pitched beep. When you press the Shift Lock key to turn its function off, the workstation produces a high-pitched beep followed by a low-pitched beep.

When the ToggleKeys feature is turned on, the workstation will beep regardless of whether you have selected the ‘‘Beep on feature use’’ item in the AccessX dialog box. That setting applies only to the workstation signal that sounds when the feature itself is turned on or off.

The ToggleKeys feature has no special settings, so there is no box for it in the Adjust... dialog box.

You can turn on the ToggleKeys feature at any time while you are using your workstation. You must use the AccessX dialog box to turn ToggleKeys on or off.

10.1.6 RepeatKeys

The RepeatKeys feature lets you adjust how fast the auto-repeat mechanism works for your keyboard. On most keyboards, when you press a key and hold it down, the computer continues to input the character until you release the key. If you find that keys are repeating when you only intended to input one character, you can adjust the auto-repeat mechanism so that it does not take effect until the key is held down for a longer period of time.

10.1.6.1 Turning RepeatKeys On and Off

You can turn on the RepeatKeys feature at any time while you are using your workstation with the AccessX dialog box.

10.1.6.2 Customizing RepeatKeys

To customize your RepeatKeys environment, select the All... or Keyboard Response... item from the Adjust menu. The RepeatKeys feature has the following option buttons:

- Repeat rate (sec/key)

  The repeat rate determines the speed at which a key will repeat when you continue to hold it down after it has repeated once. The higher the number you select, the slower the key will repeat. Use the slider at the right of the Repeat rate button to select the repeat speed you want.

  The slider values range from 0.01 sec/key to 10 sec/key. The slower values are toward the right; the faster values are toward the left.

- Repeat delay (sec)

  You use this setting to adjust the time you have to hold down a key before it repeats. Use the slider at the right of the Repeat delay button to select the amount of delay time you want.

  The slider values range from one tenth (0.01) of a second to a full four seconds (4). The faster (shorter) delay times are toward the left; the slower (longer) delay times are toward the right.

10.1.7 SlowKeys

The SlowKeys feature lets you adjust the length of time a key must be held down before the computer accepts the signal as input. If you find yourself accidentally brushing keys when moving about the keyboard or pressing keys when your hands are only resting on them, you might want to turn on the SlowKeys feature. With SlowKeys in effect, lightly pressing or brushing a key will not cause that character to be treated as input by the computer. You must hold a key down continuously for a set amount of time before the computer processes the input.

10.1.7.1 Turning SlowKeys On and Off

You can turn on the SlowKeys feature at any time while you are using your workstation. Use either the AccessX dialog box or your keyboard to turn SlowKeys on or off.

To turn on the SlowKeys feature from your keyboard, press the right Shift key and hold it down for about 8 seconds. After 4 seconds, you will hear three short beeps. This is a warning signal in case you had not intended to press the Shift key. Ignore this warning and hold the key down for approximately 4 more seconds until the computer signals with a low-pitched beep followed by a high-pitched beep. (You can reset AccessX to suppress these audible signals by turning off the ‘‘Beep on feature use’’ button in the AccessX dialog box.)

You turn off SlowKeys the same way that you turn it on, that is, by pressing the right Shift key for 8 seconds. Again, after 4 seconds, you will hear three short beeps. Ignore this warning and hold the key down for approximately 4 more seconds until the computer signals with a high-pitched beep followed by a low-pitched beep, unless you have customized your environment to turn off that sound.

10.1.7.2 Customizing SlowKeys

To customize your SlowKeys environment, select the All... or Keyboard Response... item from the Adjust menu. The SlowKeys feature has the following option buttons:

- Beep when key is pressed; accepted

  You can choose to have your workstation produce a beep when you press a key, when that key is accepted, or both. To have your workstation beep when a key is pressed, click on the push button preceding the word ‘‘pressed’’. Click on the push button preceding the word ‘‘accepted’’ to have the workstation beep whenever it processes a keystroke. You can have both buttons pushed in to have the workstation beep when you press the key and again when that key has been accepted as input.

- Key delay (sec)

  Key delay determines how long you have to press a key before the computer accepts that keystroke as input. Use the slider at the right of the Key delay button to change the length of the delay time.

  The slider values range from a tenth of a second (0.1) to a four second delay (4.0). The shorter delay times are toward the left; the longer delay times are toward the right.

10.1.8 BounceKeys

The BounceKeys feature lets you adjust the length of time the computer waits between the time you first press a key and when you press it again before accepting the second keystroke as input. With this feature in effect, the computer ignores a second pressing of a key that can occur when your hand accidentally bounces off a key that you have just pressed. To have the computer accept your pressing a key for the second time, you need to let some time elapse before you press the key again.

The BounceKeys time lapse only applies to pressing the same key a second time. The setting has no effect on how fast the computer processes input when you press one key and then a different key.

10.1.8.1 Turning BounceKeys On and Off

You can turn on the BounceKeys feature at any time while you are using your workstation. You must use the AccessX dialog box to turn on BounceKeys. You also use the AccessX dialog box to turn off BounceKeys.

10.1.8.2 Customizing BounceKeys

To customize your BounceKeys environment, select the All... or Keyboard Response... item from the Adjust menu. The BounceKeys feature has the following option button:

- Debounce time (sec)

  The Debounce time is the length of time you must wait before pressing the same key a second time to have the computer accept both keystrokes as input. Use the slider at the right of the Debounce time button to change the delay time that you must wait to press a key a second time.

The slider values range from a tenth of a second (0.1) to four seconds (4.0). The shorter times are toward the left; the longer times are toward the right.

10.2 Optacon II

The Optacon II, a product of TeleSensory Corporation, is an optical-to-tactile conversion device meant to assist the blind in accessing visual information. The `optacon` utility was made specifically to allow blind users to use an Optacon II to have more access to an X Window System display. The `optacon` utility does so by mapping the pixels surrounding the on-screen pointer to the pins on the Optacon II. All black pixels will cause the associated Optacon II pins to vibrate, and all other pixels will cause the associated Optacon II pins to remain still.

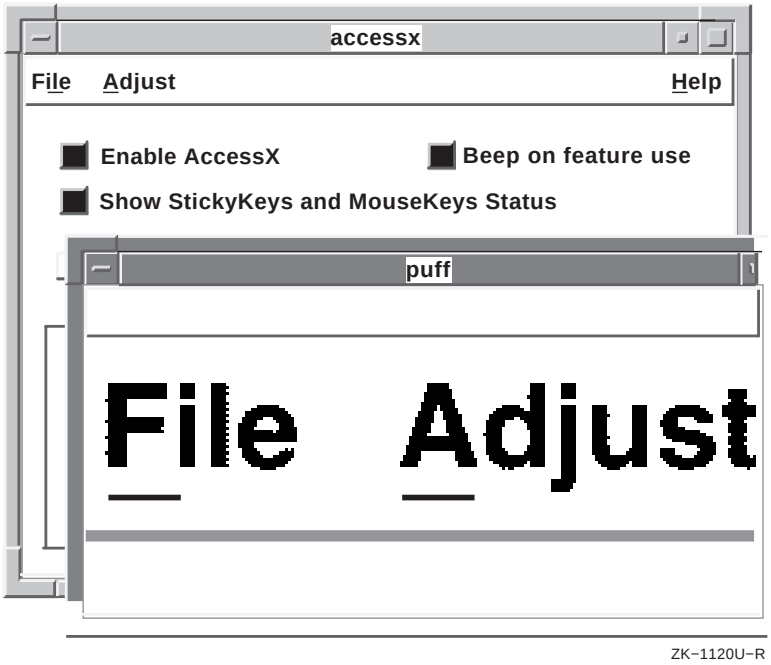
To use the Optacon II utility, you can enter `optacon` at the keyboard or select Optacon from the Applications menu in the Session Manager menu bar. For further information, see the `optacon`(1X) reference page.

10.3 Puff

Puff, developed at the Army High Performance Computing Research Center, provides text and graphics magnification for sight impaired users.

You can invoke the Puff utility by entering the `puff` command or from the Applications menu in the session Manager if the menu was customized to include Puff. Figure 10-10 shows a Puff window magnifying the area around the pointer.

Figure 10-10: Puff Window



For further information, see the `puff`(1X) reference page.

10.4 Xsoundsentry

The `xsoundsentry` utility provides visual indications of bell events that occur in the X server. These bell events result from calls to XBell. (See `XBell`(3X11)). This utility is useful for people with hearing disabilities and well as those who work in noisy environments. For further information, see the `xsoundsentry`(1X) reference page.

Using DECwindows with a Keyboard A

This appendix contains tables and procedures that describe how to use a keyboard to work with menus, windows, and dialog boxes. See Chapter 3 for general information about using DECwindows.

A.1 Traversing Menu Bars and Pull-Down Menus

Table A-1 describes how to traverse menu bars and pull-down menus.

Table A-1: Traversing the Menu Bar and Pull-Down Menus

To	Key Sequence	Example or Explanation
Move to first menu in menu bar	F10	Not applicable in some applications. A DECterm, for example, passes the F10 sequence to the host.
Pull down a menu from the menu bar	Alt+*mnemonic*	Pulls down the menu from the menu bar that is associated with that mnemonic.
Move to next menu item in a pull-down menu	↑ or ↓	Moves the location cursor up or down; it cycles (wraps) at the top and bottom.
Move to another pull-down menu in the menu bar	← or →	Moves the location cursor left or right; it cycles (wraps) at each end.
Activate highlighted menu item	Return, Ctrl+Return, or Enter	Activates the highlighted menu item.
Activate a menu item	*Mnemonic* of the menu item	Mnemonic is the underlined letter in the menu item.
Move location cursor from menu bar to where it was before you started using the menu bar	F11 (ESC)	Works only with an explicit focus policy. With an implicit focus policy, the location cursor moves from the menu bar to wherever the pointer is located.

Table A-1: (continued)

To	Key Sequence	Example or Explanation
Dismiss all menus	F10	If you are using an explicit focus policy, the cursor goes to where it was before you started using the menus. With an implicit focus policy, the focus moves to wherever the pointer is situated.

Table A-2 describes how to traverse submenus.

Table A-2: Traversing Submenus

To	Press	Example or Explanation
Display a submenu	• Arrow key in the direction the menu goes • Ctrl+Arrow key • Return • Ctrl+Return • Enter	Pressing any of the keys listed makes the menu appear.
Activate a menu item in a submenu	Return, Ctrl+Return, or Enter	
Move to another menu item in a submenu	↑ or ↓	These keys move up and down within the submenu; they cycle at the top or bottom.
Move to the pull-down menu item from which the submenu came	←	Makes the submenu menu disappear and highlights the menu item from which the submenu menu came.
Display a submenu or activate an item in a submenu	*Mnemonic* of the menu item or the submenu item	Mnemonic is the underlined letter in the item.

Table A-3 describes how to move to a previous menu.

Table A-3: Moving to a Previous Menu

To	Press	Example or Explanation
Move the location cursor from any submenu item to the parent menu	• ← • Ctrl+← • Ctrl+↑	See Figure A-1.
Move the location cursor from a menu item to the default menu item in the menu just to the left of the current cursor location	• ← • Ctrl+← • Ctrl+↑	See Figure A-1.

Figure A-1: Moving to a Previous Menu

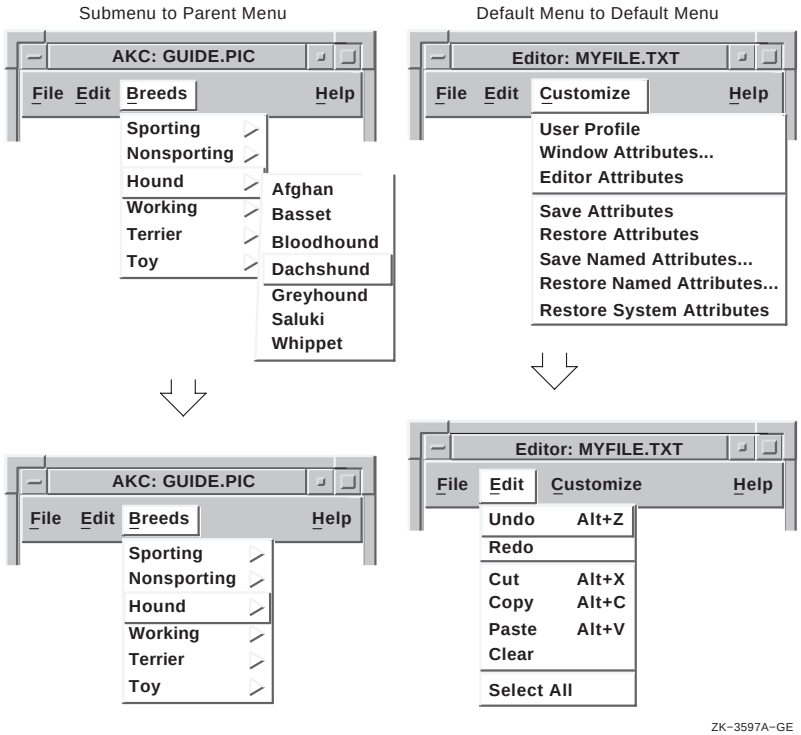
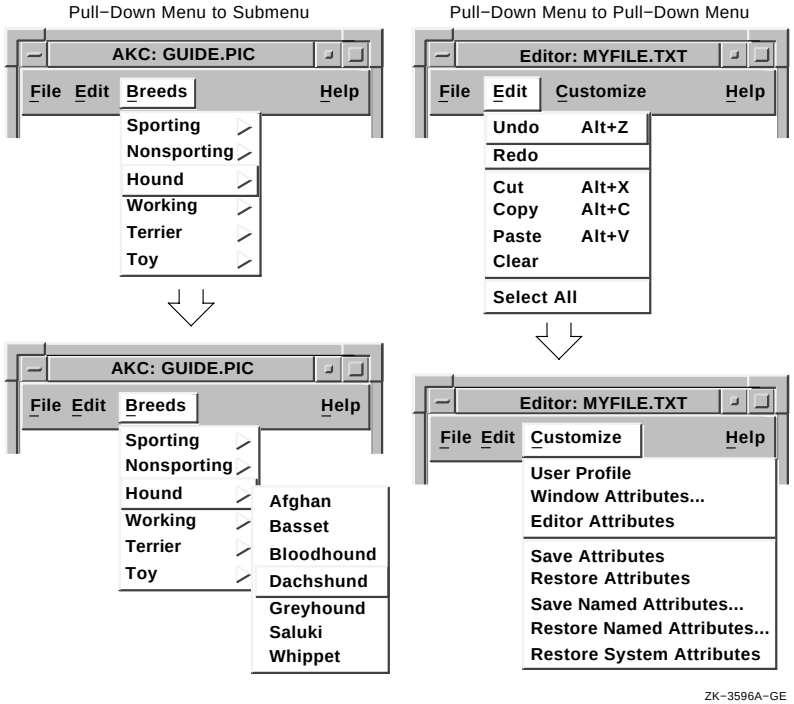


Table A-4 describes how to move to the next menu.

Table A-4: Moving to the Next Menu

To	Press	Example or Explanation
Move the location cursor from a menu item in a pull-down menu to the default menu item in the associated submenu	• → • Ctrl+→ • Ctrl+↓	See Figure A-2.
Move the location cursor from a menu item in a pull-down menu to the default menu item in the pull-down menu just to the right of the current location cursor	• → • Ctrl+→ • Ctrl+↓	See Figure A-2.

Figure A-2: Moving to the Next Menu



A.2 Traversing Windows

The following sections describe how to use your keyboard to move between and within windows.

A.2.1 Moving Between Windows

To move between groups of windows:

- Press Alt+Tab or Alt+F11 to move from one group of windows to another.

  You can also use Alt+Tab or Alt+F11 to move from one minimized window to another when the minimized windows are not in an icon box. When a minimized window has input focus, its window menu appears, and the first menu item (Restore) is highlighted. (To move from one minimized window to another in an icon box, use the arrow keys.)
- Press Alt+F6 or Alt+Shift+F6 to move to the next or previous window within a group of windows..LI Press Alt+Shift+F11 or Alt+Shift+Tab to move to the previous group of windows.
- Press F4 to pop up the window menu of a minimized window when that window is in an icon box.
- Press the arrow keys to move between minimized windows that are in an icon box.
- Press Alt+F5 or Return to restore a minimized icon box.

A.2.2 Moving Within Windows

To move within windows:

- Press F10 to focus on the menu bar.
- Press Shift+F11 (on some keyboards F11 is marked ESC) to pull down the window menu.
- Press Tab to move from one tab group to another.
- Use the accelerators for menu items in the window menu.

The following table summarizes keyboard accelerators available from the Window menu:

To	Press
Move a window	Alt+F7
Size a window	Alt+F8

To	Press
Minimize a window	Alt+F9
Restore a minimized window	Alt+F5
Maximize a window	Alt+F10
Lower a window to the bottom of the window stack	Alt+F3
Close (not minimize) a window	Alt+F4

To move a window around the screen:

1. Press Alt+F7 or:
   - Press Shift+F11 to pull down the window menu.
   - Press ↓ until the Move menu item is highlighted.
   - Press Return or Ctrl+Return to activate the menu item.
2. Press the arrow keys to move the window in the direction that you want it to go. You can also press Ctrl+arrow keys to move the window several pixels at a time.
3. Press Return or Ctrl+Return to finish the operation.

To size a window:

1. Press Alt+F8 or:
   - Press Alt+space bar or Shift+F11 to pull down the window menu.
   - Press ↓ until the Size menu item is highlighted.
   - Press Return or Ctrl+Return to activate the menu item.
2. Press one arrow key to indicate which side of the window to size. For example, press ↑ for the top of the window, ← for the left side, and so on. You can also press two arrow keys, one after the other, to indicate which corner to size. For example, press ↑ and then ← to indicate the upper left corner, and so on.
3. Once you have indicated which side or corner of the window size, press the arrow keys to size the window in the direction that you want the window to be sized. You can also press Ctrl+arrow keys to size the window several pixels at a time.
4. Press Return or Ctrl+Return to finish the operation.

A.3 Traversing Dialog Boxes

Table A-5 describes how to work with dialog boxes.

Table A-5: Working with Dialog Boxes

To	Press
Move forward from tab group to tab group (field to field)	Tab or Ctrl+Tab
Move backward from tab group to tab group	Shift+Tab or Ctrl+Shift+Tab
Move from item to item within a tab group (field)	Arrow keys
Activate a selection in a group of radio boxes, check boxes, or list boxes, or to pop up an options menu	Select, space bar, or Ctrl+space bar
Activate an item in a group of push buttons	Select, space bar, Ctrl+space bar, Return
Activate an item in a group of push buttons	Ctrl+Return or Enter
Activate an item in an options menu or the default action of the dialog box	Return, Ctrl+Return, or Enter
Cancel a dialog box or an options menu	F11 (ESC)

Table A-6 describes how to move within dialog boxes.

Table A-6: Moving Within Dialog Boxes

To	Press	Example or Explanation
Move cursor from button to button	Arrow keys	Sets of check buttons, push buttons, or radio buttons are considered one tab group (a single button is not a tab group). Use the arrow keys to move the location cursor from one item to another.

Table A-6: (continued)

To	Press	Example or Explanation
		For example, if the buttons are arranged vertically, you can press ↑ or ← to go up, and you can press ↓ or → to move down. If the buttons are arranged horizontally, press ← or ↑ to move left, and press → or ↓ to move right. In some cases, buttons are not arranged in a primarily vertical or horizontal manner. Rather, they might be arranged in a box format, as the following numbers show: 1 2 3 4 Pressing the arrows keys moves through the buttons in the following manner (starting at 1): • → moves: 2, 3, 4, 1, 2, 3, 4, 1, . . . • ↓ moves: 3, 2, 4, 1, 3, 2, 4, 1, . . . • ← moves: 4, 3, 2, 1, 4, 3, 2, 1, . . . • ↑ moves: 4, 2, 3, 1, 4, 2, 3, 1, . . .
Insert one space in a text-entry box	Space bar	Pressing Ctrl+space bar does nothing.
Move to another options menu item or another list box item	↑ or ↓	
Move left or right one character	← or →	Use these arrow keys in list boxes to display more text, for example, to display the end of a long file name.
Move up one screen (page)	Prev Screen	

Table A-6: (continued)

To	Press	Example or Explanation
Move down one screen (page)	Next Screen	
Move left one screen	Ctrl+Prev Screen	
Move right one screen	Ctrl+Next Screen	
Go to the top of the list or file	Ctrl+Alt+←	
Go to the bottom of the list or file	Ctrl+Alt+→	
Display leftmost character (go to the beginning of a line)	Alt+←	
Display rightmost character (go to the end of a line)	Alt+→	
Cancel	F11 (ESC)	Pressing F11 (ESC) cancels any action in the entire dialog box and makes the dialog box disappear.

Table A-7 describes how to activate items in a tab group.

Table A-7: Activating Items in a Tab Group

To	Press	Example or Explanation
Activate check or radio buttons	Select, space bar, or Ctrl+space bar	Radio buttons can be either toggled or set.
Activate an options menu	Select, space bar, or Ctrl+space bar	You do not need to keep the key pressed to keep the menu visible. Press the key once and the menu remains.
Activate an options menu item	Return, Ctrl+Return, or Enter	Once you have chosen a menu item, the options menu disappears.

Table A-7: (continued)

To	Press	Example or Explanation
Activate push buttons	Select, space bar, Ctrl+space bar, Return, Ctrl+Return, or Enter	Return or Ctrl+Return activate the default push button. If you have more than one tab group of push buttons, Return and Ctrl+Return activate only the default buttons, and do not activate any buttons in the other tab group.

Composing Characters B

Depending on the keyboard type, you compose characters in either of the following ways:

- Use three-stroke sequences on a LK401 keyboard, including the North American/United Kingdom, Dutch, and Norwegian/Danish keyboards.
- Use two-stroke sequences on other keyboards.

To compose a character:

1. Find the character you want to create in column 1 of the three tables that follow.
2. To compose a three-stroke sequence, press the Compose Character key and type the two characters in column 2.
3. To compose a two-stroke sequence, type the two characters in column 3. The desired character is displayed.
4. Press the Compose Character key, the <× (delete) key, the Tab key, Return key, or the Enter key to cancel a compose sequence.

Note

The North American, United Kingdom, and Dutch keyboards do not have diacritical marks. If you use a diacritical mark, DECterm uses an equivalent character.

Table B-1 lists the characters you can compose in Multinational Character Mode.

Table B-1: Multinational Character Mode Compose Characters

	Character	Three-Stroke Sequence	Two-Stroke Sequence
"	double quotation mark	" space bar	" space bar
#	number sign	++	
’	apostrophe	’ space bar	’ space bar
@	commercial at sign	A A	
[	opening bracket	((	
\	backslash	/ / or / <	
]	closing bracket	))	
^	circumflex accent	^ space bar	^ space bar
`	grave accent	‘ space bar	‘ space bar
{	opening brace	(-	
|	vertical line	/ ^	
}	closing brace	) -	
~	tilde	~ space bar	~ space bar
¡	inverted !	!!	
¢	cent sign	C/ or C|	
£	pound sign	L- or L=	
¥	yen sign	Y- or Y=	
§	section sign	SO or S! or S0	
¤	currency sign	XO or X0	
©	copyright sign	CO or C0	
ª	feminine ordinal	A_	
«	open angle brackets	< <	
°	degree sign	0 ^	
±	plus-or-minus sign	+ - -	
²	superscript 2	2 ^	
³	superscript 3	3 ^	
µ	micro sign	/ U	
¶	paragraph sign	P!	
·	middle dot	. ^	
¹	superscript 1	1 ^	
º	masculine ordinal	O_	
»	closed angle brackets	>>	
¼	fraction one-quarter	1 4	

Table B-1: (continued)

	Character	Three-Stroke Sequence	Two-Stroke Sequence
1/2	fraction one-half	1 2	
¿	inverted ?	??	
À	A grave	A ‘	‘ A
Á	A acute	A ´	´A
Â	A circumflex	A^	^A
Ã	A tilde	A~	~A
Ä	A umlaut	A" or "A	"A
Å	A ring	A* or A˚ (degree sign)	˚A
Æ	A E diphthong	AE	
Ç	C cedilla	C,	
È	E grave	E ‘	‘ E
É	E acute	E ´	´ E
Ê	E circumflex	E^	^E
Ë	E umlaut	E" or "E	"E
Ì	I grave	I ‘	‘ I
Í	I acute	I ´	´ I
Î	I circumflex	I^	^I
Ï	I umlaut	I" or "I	"I
Ñ	N tilde	N ~	~ N
Ò	O grave	O ‘	‘ O
Ó	O acute	O ´	´ O
Ô	O circumflex	O^	^O
Õ	O tilde	O~	~O
Ö	O umlaut	O" or "O	"O
OE	O E diphthong	O E	
Ø	O slash	O /	
Ù	U grave	U ‘	‘ U
Ú	U acute	U ´	´ U
Û	U circumflex	U^	^U
Ü	U umlaut	U" or "U	"U
Ÿ	Y umlaut	Y" or "Y	"Y
ß	German small sharp s	ss	
à	a grave	a ‘	‘ a
á	a acute	a ´	´ a

Table B-1: (continued)

	Character	Three-Stroke Sequence	Two-Stroke Sequence
â	a circumflex	a^	^a
ã	a tilde	a ~	~ a
ä	a umlaut	a" or "a	"a
å	a ring	a* or a˚ (degree sign)	˚a
æ	a e diphthong	a e	
ç	c cedilla	c , (comma)	
è	e grave	e ‘	‘ e
é	e acute	e ´	´ e
ê	e circumflex	e^	^e
ë	e umlaut	e" or "e	"e
ì	i grave	i ‘	‘ i
í	i acute	i ´	´ i
î	i circumflex	i^	^i
ï	i umlaut	i" or "i	"i
ñ	n tilde	n ~	~n
ò	o grave	o ‘	‘ o
ó	o acute	o ´	´ o
ô	o circumflex	o^	^o
õ	o tilde	o ~	~ o
ö	o umlaut	o" or "o	"o
oe	o e diphthong	o e	
ø	o slash	o/	
ù	u grave	u ‘	‘ u
ú	u acute	u ´	´ u
û	u circumflex	u^	^u
ü	u umlaut	u" or "u	"u
ÿ	y umlaut	y" or "y	"y
	ISO Latin 1 Characters		
	no break space	sp sp	
¦	broken vertical bar	¦ or ! ^	
¬	logical not	- ,	
-	soft (syllable) hyphen	- -	
®	registered trademark	R O	
¯	macron	- ^	

Table B-1: (continued)

	Character	Three-Stroke Sequence	Two-Stroke Sequence
¾	three quarters	3 4	
÷	division sign	- :	
´	acute accent	´ ´	
¸	cedilla	, ,	
¨	dieresis	" "	" space bar
Ý	Y acute	Y ’	´ Y
ý	y acute	y ’	´ y
Þ	capital Icelandic thorn	T H	
þ	small Icelandic thorn	t h	
Ð	capital Icelandic Eth	- D	
ð	small Icelandic Eth	- d	

In the ISO Latin 1 mode, the characters w, W, and] are not available.

Table B-2 lists the characters you can compose using typewriter keys in National Replacement Mode.

Table B-2: National Replacement Mode Compose Characters (Typewriter Keys)

	Character	Three-Stroke Sequence	Two-Stroke Sequence
British			
£	pound sign	L- or L=	
`	grave accent	‘ space bar	
Danish			
#	number sign	++	
´	apostrophe	´ space bar	
@	commercial at sign	AA	
`	grave accent	‘ space bar	
Dutch			
£	pound sign	L- or L=	
´	apostrophe	´ space bar	
¼	one quarter	1 4	
½	one half	1 2	

Table B-2: (continued)

	Character	Three-Stroke Sequence	Two-Stroke Sequence
¾	three quarters	3 4	
ij	i j sign	i j	
fl	florin	f -	
`	grave accent	‘ space bar	
´	acute accent	´ ´	
¨	dieresis	" ^	
Finnish			
#	number sign	++	
´	apostrophe	´ space bar	
Flemish and French/Belgian			
£	pound sign	L- or L=	
´	apostrophe	´ space bar	
`	grave accent	‘ space bar	
French Canadian			
´	apostrophe	´ space bar	
à	a grave	‘a	‘a
â	a circumflex	^ a	^ a
è	e grave	‘e	‘e
ê	e circumflex	^ e	^ e
î	i circumflex	^ i	^ i
ô	o circumflex	^ o	^ o
ù	u grave	‘u	ù
û	u circumflex	^ u	^ u
German/Austrian			
´	apostrophe	´ space bar	
`	grave accent	‘ space bar	
Italian			
´	apostrophe	´ space bar	
Norwegian			
´	apostrophe	´ space bar	
`	grave accent	‘ space bar	
Portuguese			
´	apostrophe	´ space bar	
`	grave accent	‘ space bar	
Ã	A tilde	~ A	
Õ	O tilde	~ O	

Table B-2: (continued)

	Character	Three-Stroke Sequence	Two-Stroke Sequence
ã	a tilde	~ a	
õ	o tilde	~ o	
Spanish			
£	pound sign	L- or L=	
´	apostrophe	´ space bar	
§	section sign	!S or OS or 0S	
`	grave accent	‘ space bar	
~	tilde	~ space bar	
Swedish			
#	number sign	++	
´	apostrophe	´ space bar	
É	E acute	´ E	
é	e acute	´ e	
Swiss/French and Swiss/German			
´	apostrophe	´ space bar	
ê	e circumflex	^ e	^ e
î	i circumflex	^ i	^ i
ô	o circumflex	^ o	^ o
ù	u grave	‘ u	‘ u
û	u circumflex	^ u	^ u

Table B-3 lists the characters that you compose in National Replacement Mode using data processing keys.

Table B-3: National Replacement Mode Compose Characters (Data Processing Keys)

	Character	Three-Stroke Sequence
"	double quotation mark	" space bar
#	number sign	+ +
´	apostrophe	´ space bar
@	commercial at	aa or AA or aA
[	opening bracket	((
\	backslash	/ <
]	closing bracket	^ space bar

Table B-3: (continued)

	Character	Three-Stroke Sequence
{	opening brace	(-
|	vertical bar	^ /
}	closing brace	) -
~	tilde	~ space bar

Commands That Help You Manage Windows C

In addition to the Motif window manager (mwm), the following commands are also useful in managing windows:

- `resize`
- `xrefresh`

C.1 Resetting Environment Variables with `resize`

The `resize` command resets the tty's size information and displays a command which you can use in your shell to define the value of the `TERMCAP` environment variable (which contains window length and width information). This enables a shell to reflect the current size of its window.

Do not confuse `resize`, the command, with the window manager function `f.resize`. The `f.resize` function changes the size of a window, but does not reset any environment variables. The `resize` command, on the other hand, does not change the size of a window, but it does reset the tty's window size information and displays a command that can be used to reset the `TERMCAP` environment variable. Resetting this tty size information and/or the `TERMCAP` environment variable enables character-cell programs to adjust their output to the window's new size.

C.1.1 When to Use `resize`

Use `resize` when you notice that a character-cell program or shell does not seem to be using correct window size information.

Usually, it is not necessary to use the `resize` command. Terminal emulators, ttys, and shells use escape sequences, system calls, and signals to communicate window size information, and they automatically keep this information up-to-date, reflecting any changes in the window size. Using `resize` may be necessary when using older implementations of `rlogin` or `telnet`, or `LAT` connections from an `xterm` or DECterm. The `resize` command may also be useful when using an ordinary video terminal with a screen size other than 24×80.

C.1.2 Example

After you have resized a window, either by dragging the window frame or by choosing Size from the window menu, you can reset the `TERMCAP` environment variable to reflect the new window size by issuing the following command:

```
% eval 'resize'
```

C.2 Repainting the Screen with `xrefresh`

The `xrefresh` client repaints the screen or a specified portion of the screen. This client performs a similar task to the `f.refresh` window manager function. However, the `xrefresh` client, because of its options, is more versatile.

C.2.1 When to Use `xrefresh`

Occasionally, an X program might not clean up properly after itself, leaving graphics litter on the screen. Use `xrefresh` any time you want X to redisplay everything on the screen (or on a portion of the screen).

To use `xrefresh`, execute it from the command line of any terminal window. To repaint just a portion of the screen, use the `-geometry` option.

C.2.2 Examples

The following command repaints the entire display:

```
xrefresh
```

This command repaints a portion of the display in the upper-left corner:

```
xrefresh  -white -geometry 400x200+1+1
```

Sample Resource and Configuration Files D

This appendix provides the following sample files:

- The Motif window manager resource file, `Mwm`
- The Motif window manager configuration file, `.mwmrc`
- The resource file `.Xdefaults`

D.1 Motif Window Manager Resources

Example D-1 shows the Motif window manager resources you can customize for color, fonts, placement, and border decorations.

Example D-1: Motif Window Manager Resources

```
! Active border colors
Mwm*activeForeground: #000000000000
Mwm*activeBackground: #9851785167AD
Mwm*activeBackgroundPixmap: unspecified_pixmap
Mwm*activeTopShadowColor: #AF4199C18E2E
Mwm*activeTopShadowPixmap: unspecified_pixmap
Mwm*activeBottomShadowColor: #529737652849
Mwm*activeBottomShadowPixmap: unspecified_pixmap
Mwm*activeAutoShade: True
!
! Window manager menu colors
! This is used for color customization to match the menu colors
! to the active or inactive borders.  If this is set to 0,
! the menu colors will not be changed during customization
Mwm*matchMenuColors : 1
Mwm*menu*foreground: #000000000000
Mwm*menu*background: #9851785167AD
Mwm*menu*backgroundPixmap: unspecified_pixmap
Mwm*menu*topShadowColor: #AF4199C18E2E
Mwm*menu*topShadowpixmap: unspecified_pixmap
Mwm*menu*bottomShadowColor: #529737652849
Mwm*menu*bottomShadowPixmap: unspecified_pixmap
!
! Icon image and box colors
Mwm*iconImageForeground: #000000000000
Mwm*iconImageBackground: #CA94AA469193
Mwm*iconImageBackgroundPixmap: unspecified_pixmap
Mwm*iconImageTopShadowColor: #DC28BC3DA3D6
Mwm*iconImageTopShadowPixmap: unspecified_pixmap
Mwm*iconImageBottomShadowColor: #9851785167AD
Mwm*iconImageBottomShadowPixmap: unspecified_pixmap
```

Example D-1: (continued)

```
Mwm*iconImageAutoShade: True
!
! Set the trough color to set the iconbox color
Mwm*iconbox.IBframe.IBsWindow.hScrollBar.TroughColor:
Mwm*iconbox.IBframe.IBsWindow.vScrollBar.TroughColor:
!
! Inactive border colors
Mwm*foreground: #000000000000
Mwm*background: #CA94AA469193
Mwm*backgroundPixmap: unspecified_pixmap
Mwm*topShadowColor: #DC28BC3DA3D6
Mwm*topShadowPixmap: unspecified_pixmap
Mwm*bottomShadowColor: #9851785167AD
Mwm*bottomShadowPixmap: unspecified_pixmap
Mwm*autoShade: True
!
! Matte colors
Mwm*matteForeground: #000000000000
Mwm*matteBackground: #CA94AA469193
Mwm*matteTopShadowColor: #DC28BC3DA3D6
Mwm*matteTopShadowPixmap: unspecified_pixmap
Mwm*matteBottomShadowColor: #9851785167AD
Mwm*matteBottomShadowPixmap: unspecified_pixmap
Mwm*matteAutoShade: True
!
!
! Set to greater than 0 pixels to add an additional border
! between border and the window
Mwm*matteWidth: 0
!
! Mwm fonts
Mwm*fontList: -*-Menu-Medium-R-Normal--*-120-*-*-P-*-ISO8859-1
!
! Set to Explicit to determine focus by clicking on the window
! or border
! Set to Pointer to determine focus based on the location of
! the pointer
Mwm*keyboardFocusPolicy: Explicit
!
! Policy when the window with focus is minimized or removed
! if focuspolicy is explicit, set to true to give focus to
! the window with previous focus
Mwm*autoKeyFocus: True
!
! Policy when the window with focus is raised
! if focuspolicy is explicit, set to true to give focus to
! the window that is raised
Mwm*raiseKeyFocus: True
!
! if focuspolicy is explicit, set to true to give a window focus
! when it is restored from an icon
Mwm*deiconifyKeyFocus: True
!
! Set to True to raise a window when it is given focus
! Set to False to keep the stacking order the same when a window
! is given focus
Mwm*focusAutoRaise: True
!
! if focuspolicy is explicit,
```

Example D-1: (continued)

```
! set to true to give input focus to a window when it is mapped
Mwm*startupKeyFocus: True
!
! Set to True to place and size windows interactively
! false to use default placement
Mwm*interactivePlacement: False
!
! Delay time to retry interactive placement if it fails
Mwm*interPlaceDelay: 1000
!
! Number of retries for interactive placement before using default
! placement
Mwm*interPlaceRetries: 4
!
! This determines default placement of window when there is
! no specification by the user
! Set to true to have Mwm stagger the positions of a window
! from the top left corner
Mwm*clientAutoPlace: False
!
! Set to true to include the border when positioning a window
! Set to false to exclude the border
Mwm*positionIsFrame: False
!
! Set to true to gray icons in the iconbox
! when the icons are not in the minimized state
Mwm*fadeNormalIcon: True
!
! Border decorations
! Set to all for all decorations
! Set to any of the following to limit decorations:
!    maximize minimize resizeh border menu title
! Set to none for no decorations
Mwm*clientDecoration: all
!
! Set to True for compatibility for running XUI applications
Mwm*useDECMode: True
!
! Set to True to display icon box
! Set to False to displays icons without the icon box
Mwm*useIconBox: False
!
Mwm*iconBoxSBDisplayPolicy:       vertical
!
! Icon decorations
! Set to all or any of the following to control what is
! displayed with an icon
! activelabel label image
Mwm*iconDecoration: activelabel label image
!
! Position of Icon box
! width x height + x position + y position
Mwm*iconBoxGeometry: 14x1+0+2000
!
! Size of resize border
Mwm*resizeBorderWidth: 10
!
! When moving a window,
! if this is set to True, the entire window will move
```

Example D-1: (continued)

```
! if this is set to False, an outline will move
Mwm*moveOpaque: False
!
! Set this to True to ignore the appropriate MOD keys for window
! manager operations depending on the keyboard and language
Mwm*ignoreModKeys: False
! Set this to True to always ignore MOD2, MOD3, MOD4 keys for
! window ! manager operations regardless of the keyboard and
! language
Mwm*ignoreAllModKeys: False
!
Mwm*transientDecoration: Title resize
Mwm*workspaceMenu: True
!
! How to place icons when a window is minimized
! Set to left top for top of screen left to right
! Set to left bottom for bottom of screen left to right
! Set to right top for top of screen right to left
! Set to right bottom for bottom of screen right to left
! Set to top left for left of screen top to bottom
! Set to top right for right of screen top to bottom
! Set to bottom left for left of screen bottom to top
! Set to bottom right for right of screen bottom to top
Mwm*iconPlacement: Bottom Right
!
! Set to True to place icons according to iconPlacement resource
! Set to False for interactive arrangement
Mwm*iconAutoPlace: True
!
! Set to numbers of pixels between the edge of screen and the
! icons
Mwm*iconPlacementMargin: 1
!
! Title for icon box
Mwm*iconBoxTitle: Icon box
!
Mwm*restartSettings: True
!
! Feedback information
! options are all or none or
! behavior move resize placement quit restart kill
Mwm*showFeedback:      behavior placement quit restart kill
!
! Resize Mwm dialog boxes to fit on screen
*DXmfitToScreenPolicy:      as_needed
!
! Double-click on window menu (on border of window)
! Set to true to enable double-click on window menu to "close"
! a window
Mwm*wMenuButtonClick2: False
```

Example D-2 defines the window and root (Workspace) menus and bindings. The Motif window manager searches for `.mwmrc` in your home directory and then `/usr/lib/X11/system.mwmrc`. This can vary depending on the language and certain environment variables set for your system. You can define your configuration file by adding the

following line in the Mwm file located in your home directory:

```
Mwm*configFile: ~/.mwmrc
```

Example D-2: Motif Window Manager Menu Bindings

```
!
! Default bindings as defined in the configuration file
Mwm*buttonBindings: DefaultButtonBindings
Mwm*keyBindings: DefaultKeyBindings
!
! Definition for Window menu on the border of a window
Mwm*windowMenu: DefaultWindowMenu
!
! Definition for Window menu on iconbox
Mwm*iconbox*windowMenu: IconBoxMenu
!
! Definition for System menu when MB1 is pressed on the screen
Mwm*systemMenu: RootMenu
```

D.2 Sample Motif Window Manager Configuration File

The file .mwmrc contains all window manager menu definitions and keyboard bindings. Table D-1 lists the available window manager functions.

Table D-1: The Motif Window Manager Functions

f.beep	f.send_msg	f.normalize
f.exec	f.set_behavior	f.refresh
f.prev_key	f.circle_down	f.raise
f.move	f.focus_key	f.dec_customize
f.pack_icons	f.maximize	f.focus_color
f.restart	f.nop	f.raise_lower
f.refresh_win	f.kill	f.minimize
f.lower	f.separator	f.normalize_and_raise
f.quit_mwm	f.title	f.resize
f.pass_key	f.circle_up	f.raise_lower
f.next_cmap	f.next_key	
f.post_smenu	f.menu	

Example D-3 shows a sample .mwmrc file.

Example D-3: Motif Window Manager Configuration File

```
!               Menu descriptions
!
!
! Root Menu
! Workspace menu from MB1 on screen
Menu RootMenu
{
    "Workspace"                         f.title
    "Shuffle Up"      _U                f.circle_up
    "Shuffle Down"    _D                f.circle_down
    "Next Window"     _N                f.next_key
    "Previous Window" _v                f.prev_key
    no-label                            f.separator
    "Pack Icons"      _P                f.pack_icons
    "Options"         _O                f.menu MwmCustomizeMenu
    no-label                            f.separator
    "Restart..."      _R                f.restart
    "Help"            _H                f.menu MwmHelpMenu
}

! Workspace menu from Window menu
Menu WorkspaceMenu
{
    "Shuffle Up"      _U                f.circle_up
    "Shuffle Down"    _D                f.circle_down
    "Next Window"     _N                f.next_key
    "Previous Window" _v                f.prev_key
    no-label                            f.separator
    "Pack Icons"      _P                f.pack_icons
    "Options"         _O                f.menu MwmCustomizeMenu
    no-label                            f.separator
    "Restart..."      _R                f.restart
}

! Customize menu from window menu
Menu MwmCustomizeMenu
{
    "Workspace..."     _W        f.dec_customize workspace
    "Border..."        _B        f.dec_customize border
    "Border Colors..." _o        f.dec_customize bordercolor
    "Icons..."         _I        f.dec_customize icons
    "Icon Colors..."   _c        f.dec_customize iconcolor
    "Matte..."         _M        f.dec_customize matte
    no-label                     f.separator
    "Apply Current Settings"       _A  f.dec_customize apply
    "Reset to Last Saved Settings" _R  f.dec_customize reset
    "Reset to Default"             _D  f.dec_customize default
}

! Help menu from window menu
Menu MwmHelpMenu
{
    "On Window Manager..." _W f.dec_help mwm
    "On Version..."        _V f.dec_help version
    "On Terms..."          _T f.dec_help terms
}

! Default Window Menu
```

Example D-3: (continued)

```
! Menu associated with window border
Menu DefaultWindowMenu
{
    "Restore"       _R      Alt<Key>F5      f.normalize
    "Move"          _M      Alt<Key>F7      f.move
    "Size"          _S      Alt<Key>F8      f.resize
    "Minimize"      _n      Alt<Key>F9      f.minimize
    "Maximize"      _x      Alt<Key>F10     f.maximize
    "Lower"         _L      Alt<Key>F3      f.lower
    no-label                                f.separator
    "Workspace"     _W                      f.menu WorkspaceMenu
    "Close"         _C      Alt<Key>F4      f.kill
    "Help"          _H                      f.menu MwmHelpMenu
}

! Default Iconbox menu
! Menu associated with the icon box
Menu IconBoxMenu
{
    "Restore"       _R      Alt<Key>F5      f.normalize
    "Move"          _M      Alt<Key>F7      f.move
    "Size"          _S      Alt<Key>F8      f.resize
    "Minimize"      _n      Alt<Key>F9      f.minimize
    "Maximize"      _x      Alt<Key>F10     f.maximize
    "Lower"         _L      Alt<Key>F3      f.lower
    no-label                                f.separator
    "Workspace"     _W                      f.menu WorkspaceMenu
    "Pack Icons"    _P      Shift Alt<Key>F7  f.pack_icons
    "Help"          _H                      f.menu MwmHelpMenu
}
!
!------------------------------- ------------------------------
!
!               Key bindings
!
!
Keys DefaultKeyBindings
{
        Shift<Key>Escape        window|icon         f.post_wmenu
! Commented out to avoid conflict with Compose space
!   Meta<Key>space          window|icon         f.post_wmenu
    Meta<Key>Tab            root|icon|window    f.next_key
    Meta Shift<Key>Tab      root|icon|window    f.prev_key
    Meta<Key>Escape         root|icon|window    f.next_key
    Meta Shift<Key>Escape   root|icon|window    f.prev_key
    Meta Shift Ctrl<Key>exclam root|icon|window f.set_behavior
    Meta Ctrl<Key>exclam    root|icon|window    f.set_behavior
    Meta<Key>F6             window          f.next_key transient
    Meta Shift<Key>F6       window          f.prev_key transient
    Shift<Key>F4            root|icon|window    f.menu RootMenu
    <Key>F4                 icon                f.post_wmenu
}
!
!-------------------------------------------------------------
!
!               Button Bindings
!
!
! Button binding for default keyboard focus policy: Explicit
```

Example D-3: (continued)

```
Buttons DefaultButtonBindings
{
    <Btn1Down>              icon|frame      f.raise
    <Btn3Down>              icon|frame      f.post_wmenu
    <Btn1Down>              root            f.menu RootMenu
    <Btn3Down>              root            f.menu RootMenu
    <Btn1Click2>            title           f.minimize
    Shift <Btn1Click2>      icon            f.minimize
    Shift <Btn1Click>       icon|frame      f.lower
    Ctrl <Btn1Click>        root|icon|frame f.next_key
    Ctrl Shift <Btn1Click>  root|icon|frame f.prev_key
    Meta <Btn1Click>        root|icon|frame f.next_key transient
    Meta Shift <Btn1Click>  root|icon|frame f.prev_key transient
}
```

D.3 Sample `.Xdefaults` Resource File

Example D-4 shows a sample `.Xdefaults` file you can use to set resources for the Session Manager, Motif window manager, and applications.

Example D-4: Sample `.Xdefaults` Resource File

```
#ifndef COLOR
!
!                     Black and white monitor
!
*foreground:                            Black
*background:                            White
*highlight:                             Black
*highlightColor:                        Black
*topShadowColor:                        Black
*bottomShadowColor:                     Black
*topShadowPixmap:                       25_foreground
*bottomShadowPixmap:                    75_foreground
DXsession.display_foreground:           Black
DXsession.display_background:           White
DXsession.display_pattern:              0
DXsession.pointer_foreground:           Black
DXsession.pointer_background:           White
DXsession.pointer_shape:                0
!-------------------------------------------------------
!
#else
!
#ifdef MONOCHROME_ON_COLOR
!
!
!                     Gray-scale monitor
*foreground:                            gray15
*background:                            gray65
*highlight:                             grey15
*highlightColor:                        grey15
*topShadowColor:                        grey80
*bottomShadowColor:                     grey25
```

Example D-4: (continued)

```
DXsession.display_foreground:           grey45
DXsession.display_background:           grey45
DXsession.display_pattern:                   1
DXsession.pointer_foreground:           Black
DXsession.pointer_background:           White
DXsession.pointer_shape:                     0
!
!-------------------------------------------------------------
!
#else
!                     Color monitor
!
*background:    #CA94AA469193
*foreground:    Black
*highlight:             #4BE0624076AE
*highlightColor:        #4BE0624076AE
*topShadowColor:        #DC28BC3DA3D6
*bottomShadowColor:     #9851785167AD
DXsession.display_foreground:   #4BE0624076AE
DXsession.display_background:   #4BE0624076AE
DXsession.display_pattern:      1
DXsession.pointer_foreground:   Black
DXsession.pointer_background:   White
DXsession.pointer_shape:        0
#endif
#endif
```

Index

A

B

C

D

E

F

G

H

I

K

L

M

N

O

P

Q

R

S

T

V

W

X

How to Order Additional Documentation

Technical Support

If you need help deciding which documentation best meets your needs, call 800-DIGITAL (800-344-4825) before placing your electronic, telephone, or direct mail order.

Electronic Orders

To place an order at the Electronic Store, dial 800-234-1998 using a 1200- or 2400-bps modem from anywhere in the USA, Canada, or Puerto Rico. If you need assistance using the Electronic Store, call 800-DIGITAL (800-344-4825).

Telephone and Direct Mail Orders

Your Location	Call	Contact
Continental USA, Alaska, or Hawaii	800-DIGITAL	Digital Equipment Corporation P.O. Box CS2008 Nashua, New Hampshire 03061
Puerto Rico	809-754-7575	Local Digital subsidiary
Canada	800-267-6215	Digital Equipment of Canada Attn: DECdirect Operations KAO2/2 P.O. Box 13000 100 Herzberg Road Kanata, Ontario, Canada K2K 2A6
International	————	Local Digital subsidiary or approved distributor
Internal[a]	————	SSB Order Processing – NQO/V19 *or* U. S. Software Supply Business Digital Equipment Corporation 10 Cotton Road Nashua, NH 03063-1260

[a] For internal orders, you must submit an Internal Software Order Form (EN-01740-07).

Reader's Comments

Digital UNIX
DECwindows User's Guide
AA-Q917B-TE

Digital welcomes your comments and suggestions on this manual. Your input will help us to write documentation that meets your needs. Please send your suggestions using one of the following methods:

- This postage-paid form
- Internet electronic mail: `readers_comment@zk3.dec.com`
- Fax: (603) 881-0120, Attn: UEG Publications, ZKO3-3/Y32

If you are not using this form, please be sure you include the name of the document, the page number, and the product name and version.

Please rate this manual:	Excellent	Good	Fair	Poor
Accuracy (software works as manual says)				
Completeness (enough information)				
Clarity (easy to understand)				
Organization (structure of subject matter)				
Figures (useful)				
Examples (useful)				
Index (ability to find topic)				
Usability (ability to access information quickly)				

Please list errors you have found in this manual:

Page	Description

Additional comments or suggestions to improve this manual:

What version of the software described by this manual are you using?

Name/Title Dept.

Company Date

Mailing Address

Email Phone

Do Not Cut or Tear − Fold Here and Tape

digital™

NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST−CLASS MAIL PERMIT NO. 33 MAYNARD MA

POSTAGE WILL BE PAID BY ADDRESSEE

DIGITAL EQUIPMENT CORPORATION
UEG PUBLICATIONS MANAGER
ZKO3−3/Y32
110 SPIT BROOK RD
NASHUA NH 03062−9987

Do Not Cut or Tear − Fold Here

Cut on
Dotted
Line