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# DECimage Scan Software for VMS User's Guide

**November 1989**

**This guide describes how to use DECimage Scan Software for VMS.**

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Version 2.0

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# Contents

<b>About This Guide</b> .....	ix
<b>1 Introduction to DECimage Scan Software</b>	
What Is DECimage Scan Software? .....	1-1
What Is Needed to Run DECimage Scan Software? .....	1-1
What Can You Do with DECimage Scan Software? .....	1-2
Before Using DECimage Scan Software .....	1-2
<b>2 Getting Started</b>	
Starting a DECwindows Session .....	2-1
Starting a DECimage Scan Software Session .....	2-3
Using the DECimage Scan Software Menu Bar .....	2-3
Terminating a DECimage Scan Software Session .....	2-6
Terminating a DECwindows Session .....	2-6
<b>3 Customizing Image Display and Delivery</b>	
Using the Customize Menu Without Opening Dialog Boxes .....	3-2
To Save Current Settings .....	3-3
To Restore Previously Saved Settings .....	3-3
To Use the Factory Default Settings .....	3-3
Using the Display Settings Dialog Box .....	3-3
To Magnify the Display .....	3-4
To Open a Scaled View Window .....	3-6
To Adjust the Percentage of Magnification .....	3-8
Using the Delivery Settings Dialog Box .....	3-8

To Select the Scan Mode .....	3-9
To Set the Number of Pages to Scan .....	3-10
To Assign File Names Automatically .....	3-10
To Choose Automatic or Manual Delivery .....	3-11
To Compress Data In an Image File .....	3-11
Using the Save and Restore Settings Dialog Boxes .....	3-11

## 4 Scanning Images

Types of Images .....	4-1
Line Art Originals .....	4-1
Continuous Tone Originals .....	4-2
Combinations of Line Art and Continuous Tone .....	4-3
Gray Scale Image Files .....	4-3
Color Image Files .....	4-4
Using the Commands Menu .....	4-5
To Select the Scanner .....	4-5
To Scan Documents .....	4-6
To Modify the General Setup of the Scanner .....	4-6
To Adjust the Resolution .....	4-8
To Adjust the Brightness .....	4-8
To Adjust the Contrast .....	4-9
To Adjust the Grain .....	4-9
To Choose the Page Size .....	4-9
To Choose the Scan Mode .....	4-10
To Modify the Frame Setup of the Scanner .....	4-11
To Choose the Unit of Measurement .....	4-12
To Define a Scan Frame with a Rubberband Box .....	4-12
To Define Windows with a Rubberband Box .....	4-14
To Enter Measurement Coordinates .....	4-16

## 5 Modifying Scanned Images

Using the Edit Menu .....	5-1
Using the Rubberband Box to Define Regions of Interest .....	5-2
Using the DECwindows Clipboard .....	5-2
Moving and Copying Images .....	5-3
By Rotation .....	5-3
By Cutting to the Clipboard .....	5-6
By Copying to the Clipboard .....	5-6
By Pasting from the Clipboard .....	5-7
Modifying an Image .....	5-7
By Cropping a Region .....	5-7
By Washing a Region to White or Black .....	5-8

By Reversing a Region to Negative .....	5-9
Undoing Edit Changes .....	5-10
Clearing All of an Image .....	5-11

## 6 Storing and Transmitting Image Files

Creating a File Directory .....	6-1
Using the File Menu .....	6-1
To Open Files .....	6-2
To Save Files .....	6-3
To Mail Displayed Image Files .....	6-5
To Quit a DECimage Scan Software Session .....	6-6
To Exit a DECimage Scan Software Session .....	6-6

## 7 Getting Help Online

Using the Help Menu .....	7-1
Using the DECimage Scan Software Help Menu Bar .....	7-3
To Save a Help Screen to a File .....	7-4
To Select All of a Help Screen for Filing .....	7-4
To View Help Topics .....	7-4
To Search Help .....	7-5
By History .....	7-5
By Title .....	7-6
By Keyword .....	7-7
To Get Instructions on Using Help Menus .....	7-8

## A DECimage Scan Software Error Messages

Software Error Messages .....	A-1
Operational Error Messages .....	A-1

## B Using DECwindows

Using the Mouse .....	B-1
Selecting Windows .....	B-3
Choosing Items from Pull-Down Menus .....	B-3
Choosing Items from Submenus .....	B-4
Choosing Items from Pop-Up Menus .....	B-5
Choosing Items from Option Menus .....	B-6
Supplying Information in Dialog Boxes .....	B-6
Moving in a Dialog Box .....	B-8

Making Selections from List Boxes .....	B-8
Scrolling .....	B-9
Moving Windows .....	B-10
Changing the Size of Windows .....	B-11
Shrinking Windows .....	B-12
Expanding Icons to Windows .....	B-13
Stacking Overlapping Windows .....	B-13
Making Stacked Windows Stick in Place .....	B-13
Releasing Windows Locked in the Stacking Order .....	B-14
Editing Text .....	B-14
Selecting Text .....	B-15
Copying Text .....	B-16
Moving Text Between Windows .....	B-17
Deleting Text with Pending Delete .....	B-17
Text Editing Key Definitions .....	B-17
Composing Special Characters .....	B-19
Getting Help .....	B-19
Invoking Help .....	B-20
Navigating in Help .....	B-21
Searching Help for Titles and Keywords .....	B-22
Exiting from Help .....	B-23
Putting a Session on Hold .....	B-23
Ending a Session .....	B-24

## Glossary

## Figures

2-1	DECwindows Start Session Dialog Box .....	2-1
2-2	DECwindows Session Manager and DECterm Windows .....	2-2
2-3	DECimage Scan Software File Menu .....	2-4
2-4	DECimage Scan Software Edit Menu .....	2-4
2-5	DECimage Scan Software Commands Menu .....	2-5
2-6	DECimage Scan Software Customize Menu .....	2-5
2-7	DECimage Scan Software Help Menu .....	2-6
3-1	Dialog Boxes Affected by Save Settings .....	3-2
3-2	Display Settings Dialog Box .....	3-3
3-3	Halftone Image at Differing Percentages of Magnification .....	3-5
3-4	Scan Window with Magnify Off .....	3-6
3-5	Scan Window with Magnify On and Scaled View Enabled .....	3-7
3-6	Delivery Settings Dialog Box .....	3-8

3-7	Save Current Settings Dialog Box .....	3-12
3-8	Restore Settings Dialog Box .....	3-13
4-1	Halftone Image Scanned and Rendered from Continuous Tone Photograph .....	4-2
4-2	Gray Scale Image File .....	4-3
4-3	Color Image File Displayed as Bitonal .....	4-4
4-4	Scanner Selection Dialog Box .....	4-5
4-5	Scanner Setup Dialog Box .....	4-7
4-6	Scanner Frame Setup Dialog Box .....	4-11
4-7	Using the Rubberband Box to Define a Scan Frame .....	4-13
4-8	Using the Rubberband Box to Define Windows .....	4-14
5-1	Rotate Dialog Box .....	5-3
5-2	A Landscape Image in Portrait Orientation .....	5-4
5-3	Image Rotated to Landscape Orientation .....	5-6
5-4	Image Before and After Cropping .....	5-8
5-5	Image Areas Washed to White and Black .....	5-9
5-6	Image with Two Areas Reversed .....	5-10
6-1	Open As Dialog Box .....	6-2
6-2	Save As Dialog Box .....	6-3
6-3	DECimage Scan Mail: Create Dialog Box .....	6-5
7-1	Help Overview Window .....	7-2
7-2	Help About Window .....	7-3
7-3	Help Save As... Dialog Box .....	7-4
7-4	Search Topic History Window .....	7-5
7-5	Search Topic Titles Window .....	7-6
7-6	Search Topic Keywords Window .....	7-7
7-7	Using Help Window .....	7-8
A-1	Error Message Dialog Box .....	A-2

## Tables

4-1	DECimage Scan Software Page Sizes .....	4-10
4-2	Scan Frame Settings for Page Sizes .....	4-16
A-1	DECwindows Error Messages .....	A-1
A-2	DECimage Scan Software Error Messages .....	A-2



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# About This Guide

## Purpose of This Guide

This guide describes the DECimage Scan Software for VMS product and how you can use it to electronically **scan**, **store**, and **mail digitized image files**.

## Who Should Use This Guide

This guide is intended for the user of DECimage Scan Software and assumes a familiarity with **digital image processing** and the operation of **DECwindows** products. For a summary of some basic DECwindows techniques, refer to Appendix B in this guide.

## Structure of This Guide

This guide contains the following chapters:

Chapter 1	Introduces DECimage Scan Software features, and necessary prerequisites for their use.
Chapter 2	Provides instructions on how to start DECimage Scan Software.
Chapter 3	Explains the DECimage Scan Software scanner setup options.
Chapter 4	Explains the scan command, the halftone and scanning enhancement options, and the selection of the scan frame and windows.
Chapter 5	Discusses the modification of scanned images.
Chapter 6	Discusses filing and transmitting scanned images.
Chapter 7	Discusses getting online help.
Appendix A	Presents a reference table of DECimage Scan Software error messages and associated corrective actions.
Appendix B	Presents an introduction to using DECwindows.
Glossary	Provides an alphabetical listing of terms used in this guide.
Index	

## For More Information

In addition to this guide, the DECimage Scan Software documentation set contains the following:

- *DECimage Scan Software for VMS Release Notes*
- *DECimage Scan Software for VMS Installation Guide*
- *DCL IMAGE User's Guide*
- *DCL IMAGE Quick Reference Card*

Other related documents include:

- *DECwindows Installation Guide*
- *DECwindows User's Guide*
- *MD300 Scanner Installation/Owner's Manual*

## Conventions

The following conventions are used in this guide:

Convention	Meaning
mouse	The term <i>mouse</i> is used to refer to any pointing device, such as a mouse, a puck, or a stylus.
MB1, MB2, MB3	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.)
<code>Return</code>	A key name is shown enclosed to indicate that you press a key on the keyboard.
blue-green ink	Blue-green ink in figures indicates information that you must enter from the keyboard or a screen object you must choose or click on.
<b>boldface text</b>	Boldface text represents the introduction of a new term, defined in the Glossary section of this guide.
UPPERCASE	Uppercase letters indicate that you must enter a command (for example, enter OPEN/READ).

## New and Changed Features

The name of this product has been changed from VAXimage Scanning Application to DECimage Scan Software. The following changes have been made from Version 1.0 of the software:

### Changes

- Startup by using the following DCL command:  
`$ IMAGE INTERACTIVE`
- The rubberband box can be defined in either the Scaled View or Scan window

### Enhancements

- At application startup time the default settings file is automatically opened and the settings applied to the current session.
- Addition of a Cut option to the Edit menu to allow a user to copy a region to the clipboard and clear the defined region to white.

- A Clear All option has been added to the edit menu to allow a user to clear the image data from the display window to allow resizing the Scan window and altering the magnification without redisplaying the image.
- Additions to Customize menu to allow the user to save and restore working settings to named files.
- Additions to File menu to prompt for saving files before quitting a session.
- Slider bars have been added to the Magnify option in the customize display settings dialog box.
- Slider bars and direction options have been added to the Rotate dialog box.
- The Scaled View window is now selectable on or off as an option during magnify.
- Improved halftoning.

### **Version Incompatibility**

The settings parameter file from Version 1.0;

`SYSS$LOGIN:PSCAN$VALS.DAT`

has been superseded in this release by the following settings default file:

`DECW$USER_DEFAULTS:ISA$SETTINGS.DAT`

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# Introduction to DECimage Scan Software

This chapter provides a brief introduction to the DECimage Scan Software product.

## What Is DECimage Scan Software?

DECimage Scan Software is an electronic scanning program you can use for **image acquisition** of **digital images** from paper or film originals. You can manipulate these images on a workstation screen and store or distribute the modified files. You can also use other **image capable** devices, such as printers, and applications, such as DCL IMAGE to **render** and **adjust revisable form image files**.

## What Is Needed to Run DECimage Scan Software?

You can use DECimage Scan Software on any workstation running Digital's DECwindows software in a VMS or ULTRIX environment. To scan originals, you must also have at least one Digital MD300 **scanner** connected as an **image input device** on the same network.

You can also use DECimage Scan Software to manipulate images that have been scanned in **Digital Document Interchange Format (DDIF)** on other scanners.

A workstation is needed to scan and modify images. However, they can be filed in formats that you can **view** on any bitmapped terminal screen. They can also be printed to a **sixel** or **PostScript** printer, either alone, or as part of another application which incorporates sixel files.

## What Can You Do with DECimage Scan Software?

DECimage Scan Software lets you create an electronic image from a scanned page. Operational features let you:

- Scan with either a local or remote scanner
- Scan single or multiple pages
- File scanned images automatically
- Adjust image **resolution**
- Halftone images during scanning
- Adjust image **brightness** and **contrast** when scanning in halftone mode
- Revise the scanned image by cropping, washing, reversing, rotating, cutting, and pasting

## Before Using DECimage Scan Software

Before attempting to use the DECimage Scan Software:

- You must have DECwindows installed and operating on your workstation. If it is not, refer to the *DECwindows Installation Guide* for instructions.
- You must know how to use DECwindows. If you are not familiar with DECwindows operation, refer to the *DECwindows User's Guide* to familiarize yourself with the overall operation of DECwindows. For a brief introduction to using DECwindows, you can refer to Appendix B in this guide.
- You must have DECimage Scan Software installed on your workstation. If it is not, refer to the *DECimage Scan Software Installation Guide* for instructions.
- Your MD300 scanner must be completely installed and operational. If it is not, refer to the *MD300 Scanner Installation / Owner's Manual* for instructions.

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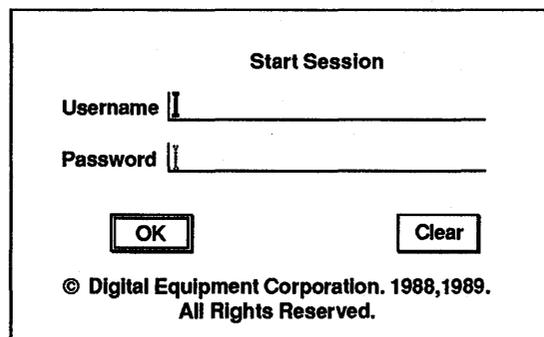
## Getting Started

This chapter discusses how to start a DECwindows session and how to use DECimage Scan Software windows, dialog boxes, and menus. Because DECimage Scan Software is a DECwindows application, you should be familiar with the use of DECwindows before attempting to scan, modify, store, or transmit images. For an introduction to the DECwindows techniques you use with DECimage Scan Software, refer to Appendix B in this guide.

### Starting a DECwindows Session

If the workstation system startup procedure has been successful, your screen should appear as shown in Figure 2-1.

Figure 2-1 DECwindows Start Session Dialog Box



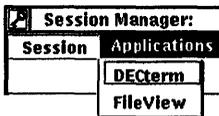
The dialog box is titled "Start Session". It contains two input fields: "Username" and "Password", each with a vertical cursor icon on the left and a horizontal line for text entry. Below the input fields are two buttons: "OK" and "Clear". At the bottom of the dialog box, there is a copyright notice: "© Digital Equipment Corporation. 1988, 1989. All Rights Reserved."

**Note** *If the DECwindows Screen Saver has been enabled, you may have to move the mouse to display the Start Session dialog box. If your workstation is on and you cannot display the Start Session box, ask your system manager for help.*

To log in on the DECwindows Start Session dialog box:

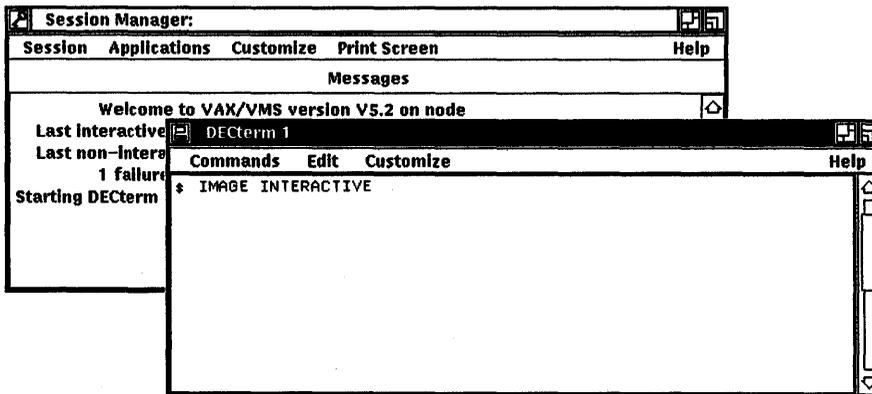
- 1 Type in your username and press **Return**.
- 2 Type in your password.  
To preserve the secrecy of your password, the letters you type are not displayed on the screen.
- 3 Click MB1 on the OK push button, or press **Return**.

When you have completed your login procedure, the Session Manager window appears. To get a DECterm window on the screen as shown in Figure 2-2, use the following procedure:



- 1 Point the mouse to Applications on the title bar of the Session Manager window.
- 2 Press and hold MB1 and pull down the Applications menu.
- 3 Drag the mouse to DECterm and release MB1.

**Figure 2-2** DECwindows Session Manager and DECterm Windows



## Starting a DECimage Scan Software Session

You can start a DECimage Scan Software session, using Digital Command Language (DCL). To initialize DECimage Scan Software using DCL, type the following command at the dollar sign (\$) prompt in the DECterm window and press **Return**.

```
$ IMAGE INTERACTIVE
```

**Note** *You can initialize more than one DECimage Scan Software session during any DECwindows session. However, you should be aware that initializing more than one DECimage Scan Software session can slow system performance.*

## Using the DECimage Scan Software Menu Bar

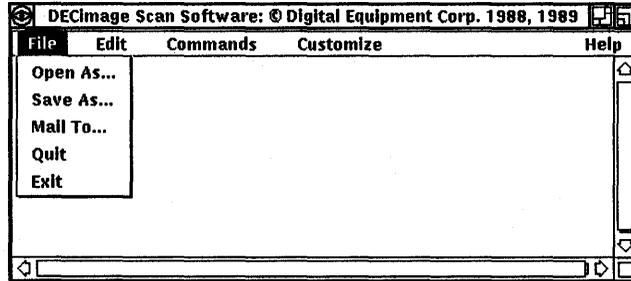
To use the DECimage Scan Software options, you make selections from the pull-down menus shown in Figure 2-3 through Figure 2-7.

**Note** *When any of the menu options displayed on a pull-down menu are gray, the option cannot be accessed because a necessary previous step has not been completed. For example, all Edit options are gray when an image is not displayed in the DECimage Scan Software window because they cannot be used without an image. To activate the Edit options, you must either scan an image or restore an image from a file.*

The functions of the DECimage Scan Software pull-down menus are as follows:

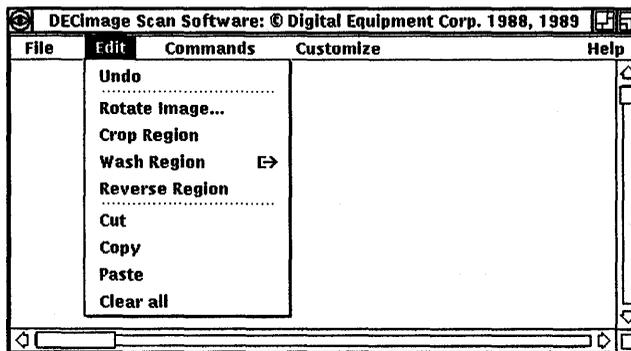
- Use the File menu (Figure 2-3) to store or mail the scanned image and to terminate the DECimage Scan Software session. For more information, refer to Chapter 6, Storing and Transmitting Image Files.

Figure 2-3 DECimage Scan Software File Menu



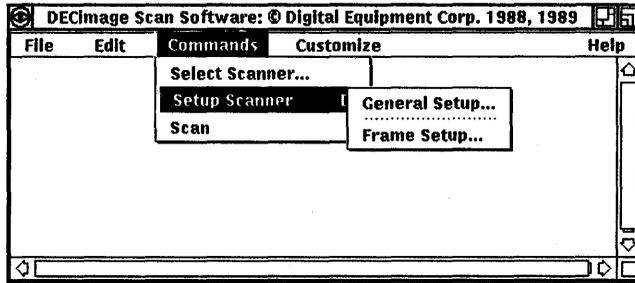
- Use the Edit menu (Figure 2-4) to modify the scanned image. For more information, refer to Chapter 5, Modifying Scanned Images.

Figure 2-4 DECimage Scan Software Edit Menu



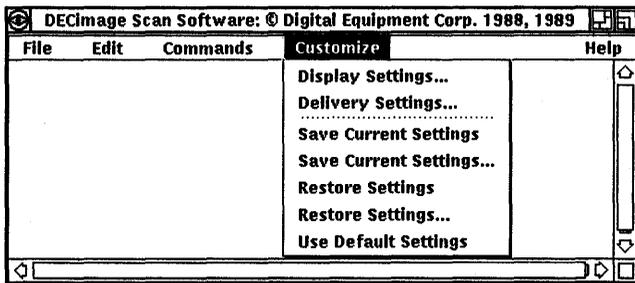
- Use the **Commands** menu (Figure 2-5) to make general scanner settings, to select **scan frame** and window dimensions, and to scan a document. For more information, refer to Chapter 4, *Scanning Images*.

**Figure 2-5** DECimage Scan Software **Commands** Menu



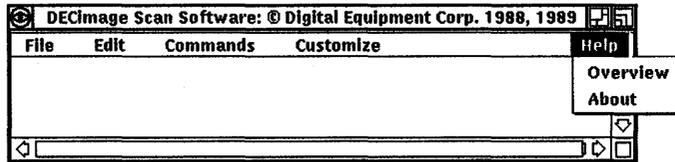
- Use the **Customize** menu (Figure 2-6) to make display and delivery settings. For more information, refer to Chapter 3, *Customizing Image Display and Delivery*.

**Figure 2-6** DECimage Scan Software **Customize** Menu



- Use the Help menu (Figure 2-7) to find information about how to use the DECimage Scan Software menu items. For more information, refer to Chapter 7, Getting Help Online.

Figure 2-7 DECimage Scan Software Help Menu



## Terminating a DECimage Scan Software Session



When you are finished using DECimage Scan Software, you can terminate a session by choosing Quit or Exit from the File pull-down menu. If you choose Quit, and you have not saved the scanned or modified image to a file, DECimage Scan Software will prompt you to ask if you want to terminate the session without saving your work. You may then terminate the DECwindows session, or you may initialize another DECwindows application.

## Terminating a DECwindows Session



You may terminate the DECwindows session by choosing Quit from the Session pulldown menu in the Session Manager window.

---

## Customizing Image Display and Delivery

You may want to change the way the scanner reads an image, or displays it on your terminal. For example, if you have a sheet feeder on your scanner, you can customize the DECimage Scan Software to scan multiple pages and give each one a distinct file name. Or, if you want to closely examine an image, you can customize DECimage Scan Software to display a magnified image in the **scan window**. This chapter describes how to use the **Customize** menu to make these types of changes.

### Customize

Display Settings...  
Delivery Settings...  
.....  
Save Current Settings  
Save Current Settings...  
Restore Settings  
Restore Settings...  
Use Default Settings

The **Customize** menu allows you to streamline the process of scanning and viewing images by adjusting both the **Display** and **Delivery Settings** and storing them as the defaults for multiple pages. You can also use the **Customize** menu to save the settings made when customizing scanner setup and framing using the **Commands** menu, as described in Chapter 4.

Therefore, while becoming familiar with the **Customize** options, you should also understand the relationship between **Customize** settings and other menu options.

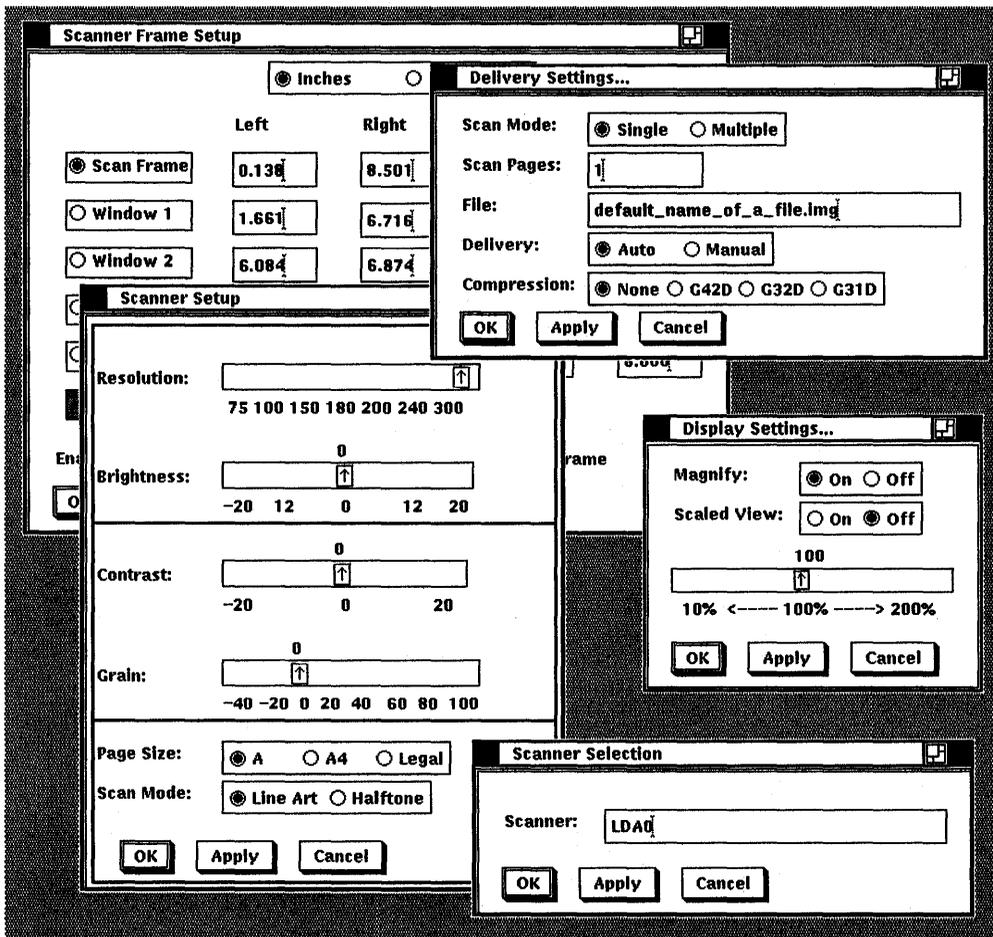
Some of the options on the **Customize** menu open up dialog boxes when selected. Each of these is identified by three periods (...) to indicate an interactive option. The remaining three, **Save Settings**, **Restore Settings**, and **Use Default Settings**, take effect immediately.

To use the **Display** and **Delivery Settings** dialog boxes, to save settings, to restore previously saved settings, or to use the default settings, pull down the **Customize** menu and click MB1 to select the options described in the following sections.

## Using the Customize Menu Without Opening Dialog Boxes

The Save Settings, Restore Settings, and Use Default Settings options can all be selected from the Customize pull-down menu. Each execution of Save Settings or Restore Settings uses the settings on all five dialog boxes as shown in Figure 3-1. Therefore, you should check all of these settings before choosing Save Settings or Restore Settings.

Figure 3-1 Dialog Boxes Affected by Save Settings



To apply any of the following options directly, pull down the Customize menu, point to the option, and release MB1.

## To Save Current Settings

Selecting Save Settings automatically saves all of the current settings of all the Display and Delivery Settings dialog boxes.

## To Restore Previously Saved Settings

Selecting Restore Settings automatically restores the settings saved from the previous use of Save Settings on all of the Display Settings and Delivery Settings dialog boxes. You can use this to clear the settings you just made if they do not turn out the way you wanted them.

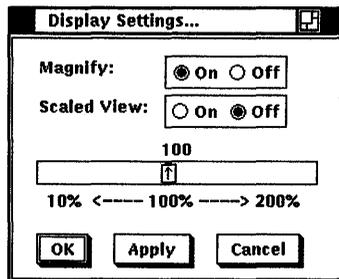
## To Use the Factory Default Settings

Selecting Use Default Settings automatically restores all of the settings from the initial installation of the DECimage Scan Software.

## Using the Display Settings Dialog Box

The Display Settings dialog box (Figure 3-2) allows you to enlarge the image displayed in the Scan window, and provide a Scaled View window for localizing the viewing area of the displayed image.

Figure 3-2 Display Settings Dialog Box



If you make any changes from the current settings, click on the Apply push button to see the revised display. While the image is being revised, the title bar of the Scan window will display the following message:



You can then preview the revised image and decide if the settings are what you want. If you are satisfied, enable the dialog box by

clicking MB1 on the OK push button. If the revised display is not what you want, adjust the percentage or settings and click on the Apply push button again, or click on the Cancel push button to go back to the original settings.

**Note** *When the system is working to modify the display of the image, the cursor symbol should change from an arrow to a watch. However, if the cursor is still positioned in the dialog box, the normal cursor may be displayed. If you are not sure whether the display is still being modified, move the cursor into the Scan window and see if it turns into a watch.*

If you decide to keep the modified display settings for additional images, pull down the Customize menu and release MB1 on the Save Settings option. Once chosen, the settings will become the new default settings. Unless the custom settings are saved with Save Settings they will be erased when the session is terminated.

### To Magnify the Display

You can customize the display to preview an enlarged or reduced version of a scanned image by selecting Magnify in the Display Settings dialog box and adjusting the slider bar from 10 to 200%.

Magnify:  On  Off

At the highest resolution settings, a 200% enlargement would allow you to closely examine the quality of a scanned image. However, the degree of magnification varies with the resolution setting in the Scanner Setup dialog box (see Figure 4-5) and the resolution of your monitor screen.

When you are displaying images screened in halftone mode, you may have to experiment with different percentages in the Display Settings dialog box. Figure 3-3 shows an image file displayed at different percentages. The one on the left has some undesirable patterns displayed at 37%. The one on the right is the same file displayed at 45%. In either case, the image file, although scanned at a resolution 300 dots per inch (dpi), is displayed at the resolution of the display device at 75 or 100 dpi. Refer to Figure 4-1 to see the image shown in Figure 3-3 rendered to a PostScript output at 300 dpi.

Figure 3-3 Halftone Image at Differing Percentages of Magnification

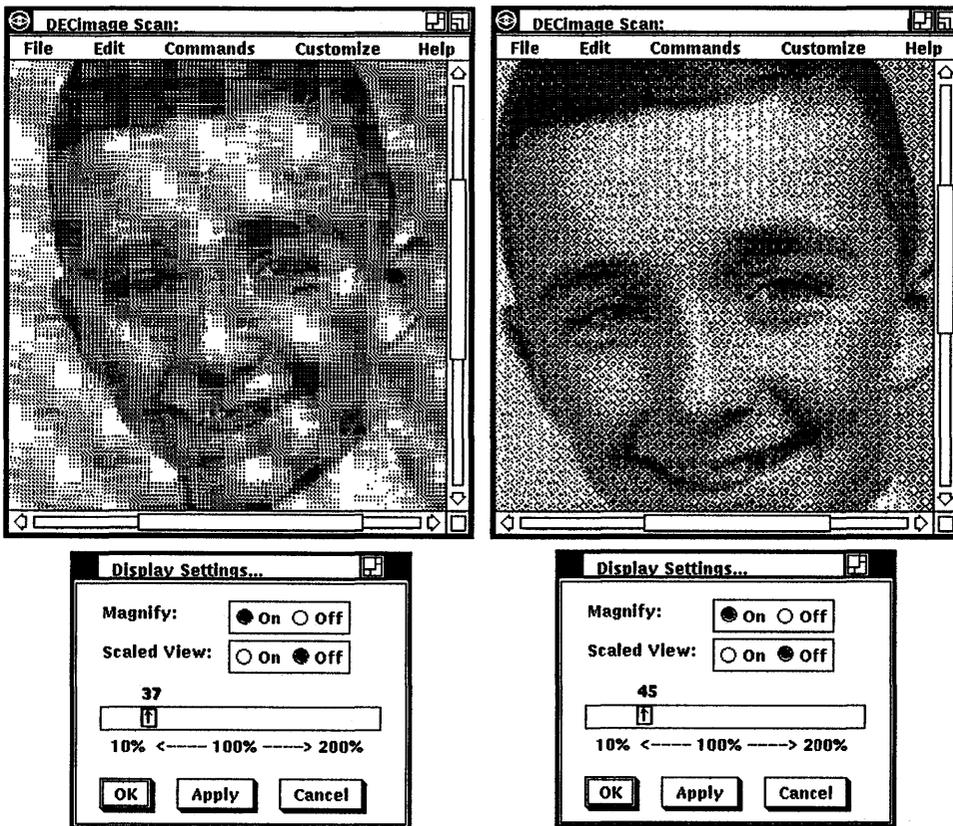
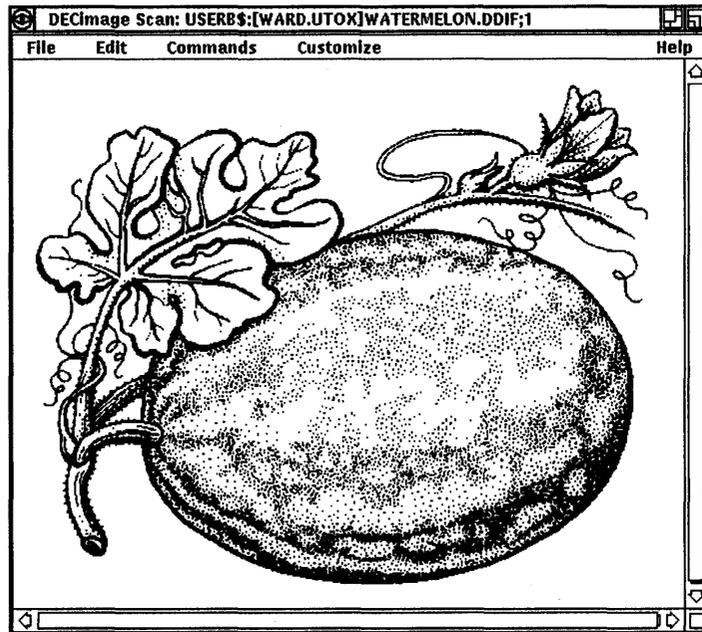


Figure 3-4 shows an image in the Scan window with Magnify off. When Magnify is on, only a portion of the magnified image displays in the Scan window. Figure 3-5 shows image in the Scan window with Magnify on and Scaled View enabled. To pan the display and view selected portions of the enlarged image, drag the mouse on the scroll bar sliders at the bottom and right sides of the window, or turn on the Scaled View option and use the reference box to select an area to view.

Figure 3-4 Scan Window with Magnify Off



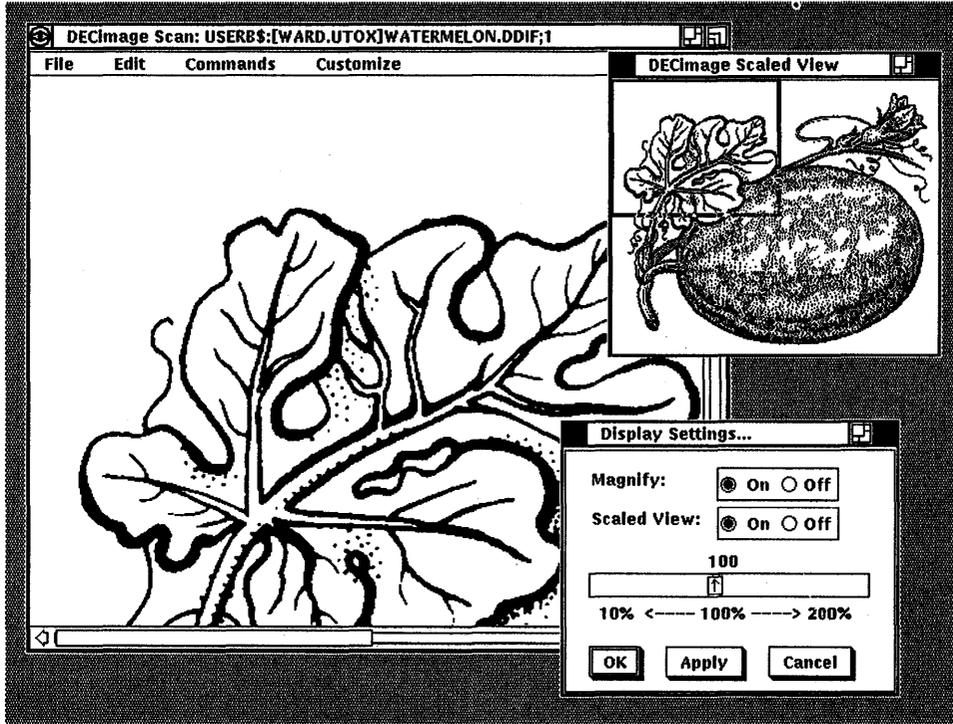
### To Open a Scaled View Window

Setting the Scaled View option to On provides you with an additional window for localizing the viewing area of a displayed image.

Scaled View:  On  Off

This enables you to control what portion of the scanned image is displayed in the Scan window. The small box shown in the Scaled View window in Figure 3-5 is the reference box. The reference box outlines the magnified portion shown in the Scan window.

Figure 3-5 Scan Window with Magnify On and Scaled View Enabled



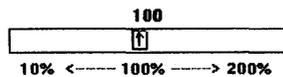
You can use one of the following methods to move the reference box and display different portions of the image:

- Scroll the enlarged image by dragging or clicking the slider, the scroll bar, or the arrows on the bottom or side of the window. The reference box will follow the positioning of the image.
- Move the pointer to the reference box in the Scaled View window, press and hold MB2, drag the box to the new location, and then release MB2.

**Note** When the pointer is inside the reference box, and MB2 is pressed, the cursor should change from an arrow to a box. If the cursor does not change, release MB2, move the pointer inside the reference box, and press MB2 again.

## To Adjust the Percentage of Magnification

The slider bar in the Display Settings dialog box allows you to view the image at a range of sizes from 10 to 200%. This option is only available when Magnify is set to On. To change the percentage of magnification in the Scan window, point the cursor on the percentage slider, press MB1, and drag the mouse up or down the scale.

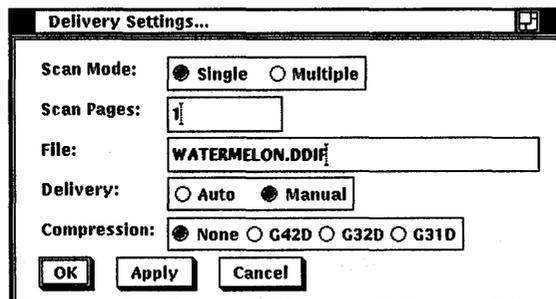


When the number you want is displayed, release MB1. To view the image at the selected percentage, click on the Apply push button. The Scan window will repaint the scanned image to the display. If you want to use that size, click on the OK push button.

## Using the Delivery Settings Dialog Box

The Delivery Settings dialog box (Figure 3-6) gives you the option of automatically scanning single or multiple images in a compressed or uncompressed format. You can also specify the number of pages to be scanned and assign a file name to be created automatically.

Figure 3-6 Delivery Settings Dialog Box



Delivery Settings options are defined by setting radio and push buttons, except for the Scan Pages and File options, which have text entry fields. However, the changes you make do not take effect until you enter them by clicking on the OK push button. These settings will remain in effect for the rest of the current scanning session, or until you go in and change them again. To exit the dialog box without keeping the changes, click on the Cancel push button. Unless the custom settings are saved with Save Settings, they will be erased when the session is terminated.

## To Select the Scan Mode

The Scan Mode radio buttons allow you to choose Single if you are only scanning one document at a time, or Multiple if you want to scan successive documents using the same setup.

Scan Mode:  Single  Multiple

This option tells DECimage Scan Software if it must assign sequential file names to successive documents. If you have an Automatic Document Feeder (ADF) installed on the MD300 scanner, you can select Multiple and scan up to 50 consecutive pages (the limit of the ADF) automatically.

**Note** *If you do not have an ADF installed on your scanner, you can still set the Scan Mode to Multiple (if the scanner is within reach of your workstation and you can hand-feed successive documents into the scanner). Be sure to allow each page to go all the way through the scanner before adding the next one.*

Because the Scan window is disabled when scanning multiple images, you may want to scan a single page first to see if all of the settings are satisfactory. Scan Mode must be set to Multiple with Delivery set to Auto and a file name entered in the File text field. If you want to view the image, you must select Single Scan mode.

**Note** *When scanning multiple pages in Auto Delivery mode, the last page scanned will display in the Scan window.*

## To Set the Number of Pages to Scan

If Delivery is set to Auto, Scan Pages lets you set the number of pages to be scanned when Scan Mode is set to Multiple, and Delivery is set to Auto.

Scan Pages:

To enter the number of pages to be scanned, click MB1 on the Scan Pages text entry field. Then type the numeric entry on the keyboard and press **Return**. When Delivery is set to Manual, the Scan Pages field is ignored and each image must be filed separately using the Save As from the File menu.

## To Assign File Names Automatically

The File text entry field lets you create the name of the file in which each scanned image will be stored. If you have set Delivery to Auto, you can then scan multiple pages without using Save As from the File menu for each image. DECimage Scan Software will give each page a unique file name by adding an underscore and a number to each image file.

File:

For example, if you use MUMBLE.IMG in the File field and scan four pages, you will get four files labeled MUMBLE\_1.IMG through MUMBLE\_4.IMG. This option is particularly useful during multiple page, automatic scanning sessions.

To enter a file name, click MB1 in the File text entry field. Then type the file specification, for example, MYSCAN.IMG, on the keyboard and press **Return**.

**Note** *Each time you scan in Multiple Scan Mode, the automatic file naming counter is reset. For example, if you scan four pages you will get FILENAME\_1.IMG;1 through FILENAME\_4.IMG;1. If you scan an additional four pages, you will have two versions of each file, FILENAME\_1.IMG;1, FILENAME\_1.IMG;2.*

*However, the Open File dialog box will only display a directory of the most recent versions, unless you add ;\* to the name in the File Filter text entry field. For more information, see Chapter 6.*

## To Choose Automatic or Manual Delivery

The Delivery lets you choose between automatic or manual filing of images. For Manual Delivery, you must use Save As from the File menu for each image. For Auto Delivery, you must also enter a file name in the File field.

Delivery:  Auto  Manual

Auto Delivery is particularly useful during multiple page, automatic scanning sessions.

## To Compress Data In an Image File

The Compression option allows you to save the image file in a compressed format for more efficient storage and transmission. DECimage Scan Software uses standards of **image compression** set by the **Comite Consultatif Internationale Telegraphique et Telephonique (CCITT)**. There are three different CCITT compression types to choose from: group 42D, group 32D and group 31D.

Compression:  None  G42D  G32D  G31D

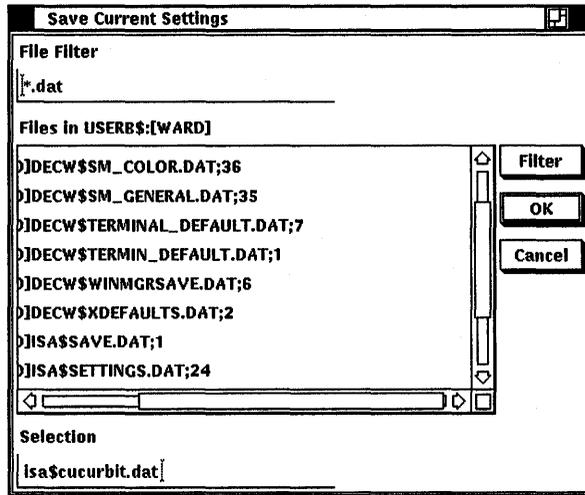
By compressing an image you can save storage space when saving or mailing files, or when writing portions of an image file to the DECwindows clipboard.

*Note Choose None for Compression when scanning in halftone mode.*

## Using the Save and Restore Settings Dialog Boxes

The Save Current Settings and Restore Settings options allow you to save the current settings to a data file, or choose the settings previously saved in a data file. Using the Save Current Settings dialog box (Figure 3-7), you can assign a file name unique to your application, or even for a given type of image. When you want to impose those settings on a future session, you select that settings file from the list displayed in the Restore Settings dialog box.

Figure 3-7 Save Current Settings Dialog Box



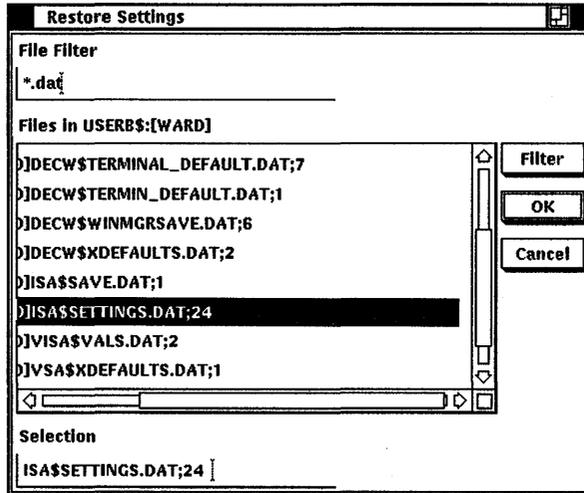
Use the following procedure to save current settings to a file:



- 1 Pull down the Customize menu and click MB1 on Save Current Settings...  
The Save Current Settings dialog box (Figure 3-7) appears.
- 2 If necessary, to change the directory, do the following:
  - a Click MB1 on the File Filter text entry field.
  - b Enter the directory specification.
  - c Click MB1 on the Filter push button to apply.
- 3 Show the directory list of files by dragging or clicking the slider, the scroll bar, or the arrows on the bottom or side of the dialog box.  
You may then select an existing file to store your settings in, or create a new one.
- 4 To select an existing file, point to one of the listed files and double click MB1.
- 5 To create a new settings file, do the following:
  - a Click MB1 on the Selection text entry field.
  - b Enter the new settings file name.
  - c Click MB1 on the OK push button.

The Restore Settings dialog box (Figure 3–8) lets you recall previous custom settings stored with Save Settings. To restore the previous settings, pull down the Customize menu, point to Restore Settings and release MB1.

**Figure 3–8 Restore Settings Dialog Box**



Use the following procedure to use a stored settings file:



- 1 Pull down the Customize menu and click MB1 on Restore Settings...  
The Restore Settings dialog box (Figure 3–8) appears.
- 2 If necessary, to change the directory, do the following:
  - a Click MB1 on the File Filter text entry field.
  - b Enter the directory specification.
  - c Click MB1 on the Filter push button to apply.
- 3 Scroll the list of files by dragging or clicking the slider, the scroll bar, or the arrows on the side of the dialog box.
- 4 Select the file to contain the current settings by pointing to one of the listed files and double clicking MB1. The file name will display in the Selection text entry field.
- 5 Click MB1 on the OK push button.



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## Scanning Images

Before you scan in an image, there are several options you should review. Are you scanning for **line art** or **halftone**? What page size are you feeding to the scanner? You might also want to identify which remote scanner you are using. There are also several adjustments you can make to control the quality of the scanned image and select portions of an original for different treatments.

This chapter discusses the difference between line art and **continuous tone** images and describes how to use the Commands pull-down menu to select a scanner and modify the way it will read an image.

### Types of Images

Although the MD300 scanner is only capable of reading original images as **bitonal** (black and white), DECimage Scan Software is capable of converting these images to either line art or halftone form.

#### Line Art Originals

Text and graphic information with clearly defined areas of high contrast are best suited for line art mode. In line art mode, the scanner sees each part of the image as either black or white. Any gray areas are changed to either black or white. Examples include typewritten or typeset pages, engineering drawings, and handwritten documents.

Printed halftones of resolution less than 1200 dpi should also be scanned in line art mode to preserve the original halftone screening and avoid **moiré patterns** or other undesirable effects.

## Continuous Tone Originals

Photographs or drawings that include continuous tone information are best scanned in halftone mode. Although gray areas are still changed to black and white, halftone mode produces an illusion of gray by using different patterns of black dots. An example of a photograph scanned in halftone mode and rendered to PostScript output using **DCL IMAGE** is shown in Figure 4-1.

**Figure 4-1** Halftone Image Scanned and Rendered from Continuous Tone Photograph



Printed halftones of higher resolution (more than 1200 dpi), such as those pictures printed in some specialized publications or on high-resolution printers, should be scanned in halftone mode as if they were continuous tone.

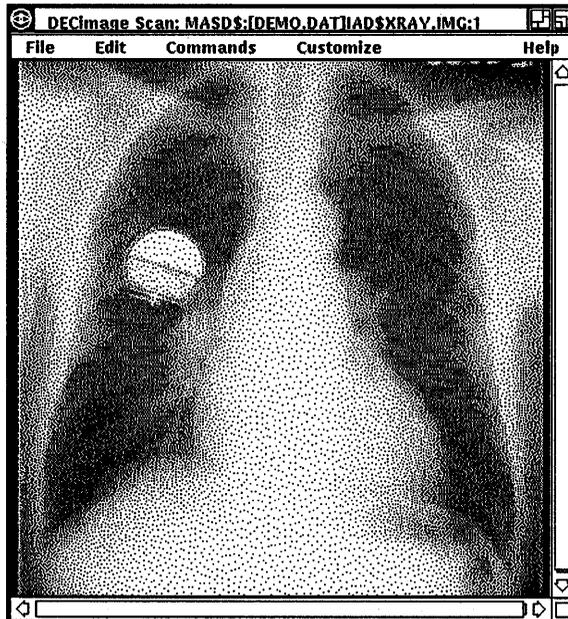
## Combinations of Line Art and Continuous Tone

If you have originals that combine continuous tone or high-resolution halftones with text or line art, they can be scanned together in complementary modes. You can define windows in the Scanner Frame Setup dialog box to read selected areas in the opposite mode, either line art or halftone, from the one chosen in the Scanner Setup dialog box.

## Gray Scale Image Files

DECimage Scan Software can be used to display and modify higher quality (**gray scale**) images, such as x-rays, from other sources rendered in DDIF format. An example of a gray scale image file is shown in Figure 4-2.

Figure 4-2 Gray Scale Image File



## Color Image Files

The MD300 scanner is not capable of digitizing a continuous tone color original to a color image file. It is only capable of creating a digitized, bitonal image. However, DECimage Scan Software can be used to display and modify **multispectral** color images from other sources rendered in DDIF format, and is capable of **dithering** the image to represent the **chrominance** information in a bitonal mode on a **monochrome workstation** or **display device**. Figure 4-3 shows a color image displayed as bitonal.

Figure 4-3 Color Image File Displayed as Bitonal



## Using the Commands Menu



The Commands pull-down menu allows you to determine how the scanner will provide information to the DECimage Scan Software. By choosing and setting options on various dialog boxes, you can select a scanner and set it up to read originals of different types and sizes, and control the format and resolution of the image. Two of these options, General Setup and Frame Setup, interact with options on the Customize menu. Therefore, before using any of the options on the Commands menu, you should be familiar with the Customize options described in Chapter 3.

### To Select the Scanner

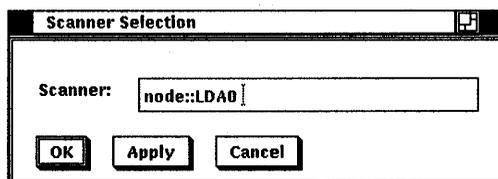
The Select Scanner option lets you access and control a local or remote scanner. To select a scanner, do the following:

- 1 Press and hold MB1. Pull down the Commands menu, point to Select Scanner... and release MB1.

The Scanner Selection dialog box (Figure 4-4) displays the identifier of the scanner. If you are using the default scanner connected to the system running the DECimage Scan Software, it should be LDA0.

- 2 Click MB1 on the OK push button to accept the default of LDA0, or, if you are using a scanner on a remote node, click MB1 on the Scanner text entry field and type the node::device identifier for a remote scanner.
- 3 Click MB1 on the OK push button to use the scanner shown in the text entry field, or click on the Cancel push button to revert to the default scanner.

Figure 4-4 Scanner Selection Dialog Box



## To Scan Documents

The Scan option allows you to scan a document directly to a file, when in auto delivery mode, or to the Scan window for checking and modifying, when in manual delivery mode. (Refer to Chapter 3 to select the delivery mode settings.) To scan a document, press MB1, pull down the Commands menu and click MB1 on the Scan option.

**Notes** *Use of the Scan option assumes you have access to an operational scanner. For scanner installation and operating instructions, refer to the MD300 Scanner Installation/Owner's Manual.*

*Documents to be scanned should be placed in the feeder face down with the top of the page positioned to feed first. If you should get a Fatal Drive Error message, check to see if the document is jammed in the feeder.*

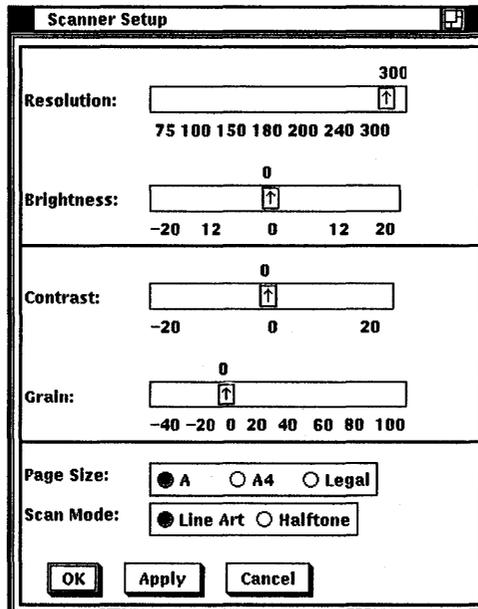
## To Modify the General Setup of the Scanner



The Scanner Setup dialog box (Figure 4-5) lets you adjust the resolution, contrast, brightness and **grain** of an image. In routine scanning operations, you will probably choose the default values for these four enhancement options. However, adjusting the settings can improve the quality of some images. You also use the Scanner Setup dialog box to select the page size of the originals and specify scanning in line art or halftone mode.

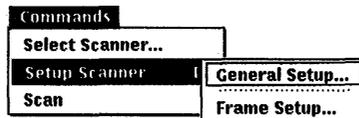
In some scanning applications, you will use both the General Setup dialog box (Figure 4-5) and the Frame Setup dialog box (Figure 4-6). Therefore, it is important that you understand the relationship between the two dialog boxes before changing any General Setup settings, especially if you are going to scan combined line art and halftone images.

Figure 4-5 Scanner Setup Dialog Box



Use the following procedure to adjust the Scanner Setup dialog box options:

- 1 Pull down the Commands menu, point to the Setup Scanner option and pull aside to the General Setup option.



- 2 Release MB1. The Scanner Setup dialog box will appear.
- 3 Drag MB1 on the slider bars for resolution, contrast, brightness, and grain. Release MB1 when the setting you want is displayed.

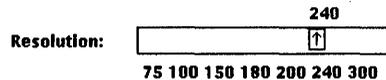
**Note** All of the slider bars in the Scanner Setup dialog box jump to the nearest appropriate setting (displayed below the slider) when MB1 is released.

- 4 Choose Page Size and Mode by clicking MB1 on the appropriate radio button: A, A4, or Legal.

- 5 Click MB1 on the OK push button to accept the displayed settings, or click on the Cancel push button to revert to the previously saved settings.

You can save these settings with the Save Current Settings option from the Customize pull-down menu as described in Chapter 3.

**To Adjust the Resolution** The Resolution option lets you choose preset sampling resolutions for the scanner. For images that require a high resolution, such as halftones, choose from the high end of the scale.

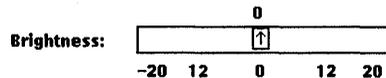


This will give a better quality result with sharp definition, but at the expense of time and data storage. If the image is only going to be screened and checked for informational content, choose from the lower end of the scale for a quicker result and more efficient use of storage space.

**Note** *The Resolution scanning range is displayed in dots per unit. The unit of measurement is determined by the Units setting in the Frame Setup dialog box.*

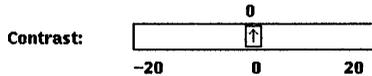
If the Units radio button in the Frame Setup dialog box has been set to Inches, the range of the Resolution slider bar will be from 75 to 300 dots per inch (dpi). If Units has been set to Centimeters, the range will be from 30 to 118 dots per centimeter (dpc).

**To Adjust the Brightness** The Brightness option works like the brightness adjustment on a computer terminal or a television screen. The five possible adjustments are -20, -12, 0, 12, and 20; the higher the setting the brighter the image.



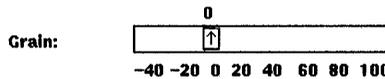
You can use brightness adjustment to lighten dark images. High brightness adjustments tend to counteract high contrast adjustments.

**To Adjust the Contrast** The contrast option works like the contrast adjustment on a computer terminal or a television screen. The three possible adjustments are -20, 0, and 20; the higher the setting the greater the contrast.



You can adjust the contrast to enhance dim images or images with dark backgrounds. High contrast adjustments tend to counteract high brightness adjustments.

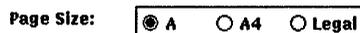
**To Adjust the Grain** The grain option can be used only when Scan Mode is set to Halftone. Grain is similar in function to the dots in halftone screening. The lowest grain setting (-40) results in images approximately four times as coarse as the highest grain setting (100). The highest grain setting results in the sharpest image.



When Scan Mode is set to Line Art, grain is automatically read at the default, which is 0, regardless of the setting of the slider bar. If you do not change the grain setting when scanning in halftone mode, the scanner will scan at the default. The grain adjustment range is from -40 to 100 in increments of 20.

**Note** You should use the halftone mode with the grain option only when scanning such original graphic images as photographs, washes, and shaded sketches or for finer screen printed halftones. If you choose the grain option for scanning previously screened images, such as newspaper and magazine halftones, you may get a moiré pattern or other unwanted effects that will detract from the quality of the image.

**To Choose the Page Size** The page size option tells the scanner to continue scanning for a specific length. This option lets you choose one of the three page sizes, shown in Table 4-1, by clicking MB1 on the appropriate radio button: A, A4, or Legal.



This enables you to reset the scanner when scanning smaller documents to avoid wasting storage space on nonimage data.

**Table 4-1 DECimage Scan Software Page Sizes**

Page Size	Dimensions
A	8 1/2 x 11 inches
A4	21.0 x 29.7 centimeters
Legal	8 1/2 x 14 inches

**Note** *If a scan frame has been enabled by the Scanner Frame Setup dialog box, or by previously saved settings, choosing a new Page Size does not reset the scan frame dimensions. Either disable the Scan Frame toggle button (shown enabled in Figure 4-7), or enter new scan frame settings to match the new page size. Refer to Table 4-2 for scan frame dimensions.*

If no scan frame has been saved with the Save Settings menu option, or if the Scan Frame toggle button is not enabled, the page size selections automatically choose the proper scan frame. See the section, To Define a Scan Frame with a Rubberband Box, in this chapter for more information.

**To Choose the Scan Mode** The Scan Mode option lets you choose the way an image is read by clicking MB1 on the radio button for Line Art or Halftone. Halftoning lets you scan original shaded art such as photographs, sketches, and washes. By setting Scan Mode to Halftone, you automatically enable the grain option in the Scanner Setup dialog box.

Scan Mode:  Line Art  Halftone

You can also scan for a single image, in more than one mode, by setting windows in the Frame Setup dialog box. By enabling selected windows, you can then scan the areas defined in those windows in the **complement mode** to the Scan Mode selected in the General Setup dialog box.

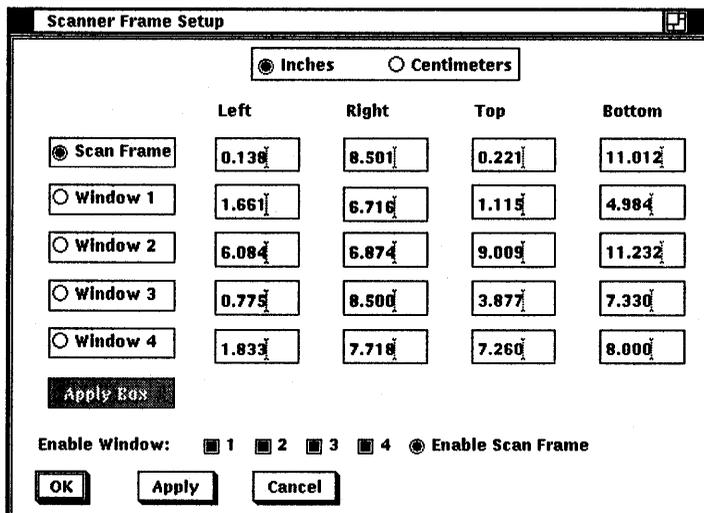
For example, if you have a page of text with a photo in one corner, define and enable a window for the photo area using the Scanner Frame Setup dialog box. Then select Line Art as the Scan Mode in the Scanner Setup dialog box. When the image is scanned, the defined window will be read as halftone and the remainder of the image area will be scanned as line art.

General Setup...  
 .....  
 Frame Setup...

## To Modify the Frame Setup of the Scanner

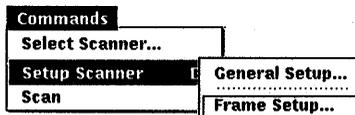
The Frame Setup dialog box (Figure 4-6) lets you define the area of a page to be scanned. You can enable up to four windows, within the image area, to scan portions of an image in the alternative scan mode to that chosen with the mode option. For example, you could enable the windows to scan in the halftone mode when the rest of the page will be in line art mode. Or, if there was only a small portion of a page that you needed to display, you could define and enable a scan frame area to save on memory usage.

Figure 4-6 Scanner Frame Setup Dialog Box



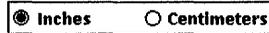
Use the following procedure to display the Scanner Frame Setup dialog box:

- 1 Pull down the Commands menu, point to the Setup Scanner option, and drag the mouse aside to the Frame Setup option.



- 2 Release MB1. The Frame Setup dialog box will appear.

**To Choose the Unit of Measurement** To choose the Units of measurements for defining window locations, click MB1 on the Inches or Centimeters radio button.



Remember that the Unit of measurement shown in the General Setup dialog box (Figure 4-5) will also change automatically.

**To Define a Scan Frame with a Rubberband Box** You can choose one of two methods for defining the area to be scanned. Use the keyboard to enter the **coordinates** information in the Scan Frame Left, Right, Top, and Bottom text entry fields in the Scanner Frame Setup dialog box (Figure 4-6), or use the rubberband box in the Scan window, as shown in Figure 4-7.

*Note Using the keyboard may be more accurate in defining the Scan Frame for some scanning applications, but the rubberband box is easier to use.*

Use the following procedure to define a scan frame:

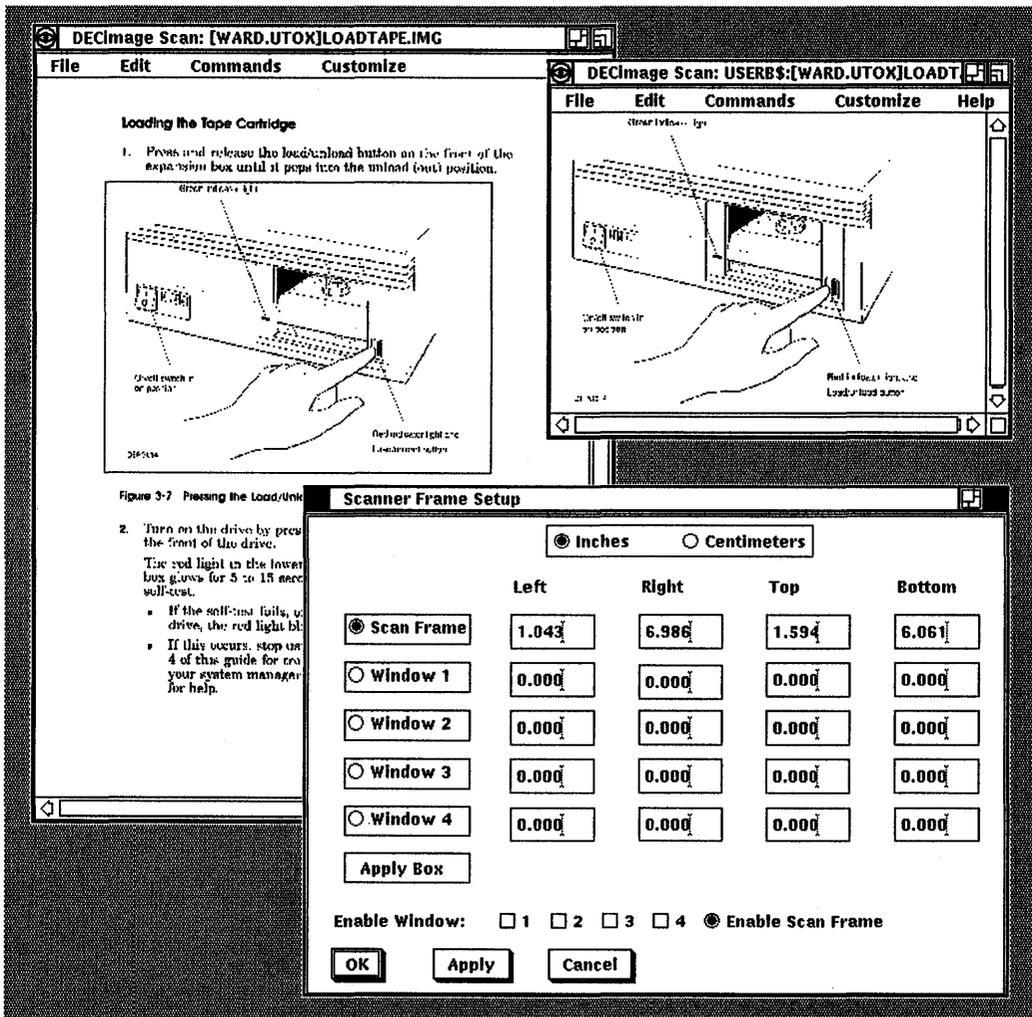
- 1 Scan a document without defining any scan frame.
- 2 Pull down the Commands menu, point to the Setup Scanner option and pull aside to the Frame Setup option.
- 3 Release MB1. The Frame Setup dialog box will appear.  
If necessary, move the dialog box to one side so it does not block your view of the image.
- 4 Enable the rubberband by clicking MB1 on the Scan Frame radio button.
- 5 Move the mouse to the Scan window and draw a rubberband box around the portion of the image to be scanned.
- 6 Click MB1 on the Apply Box push button. The coordinates will appear in the text entry fields.



Left	Right	Top	Bottom
<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>

- 7 Click MB1 on the Enable Scan Frame toggle button.
- 8 Click MB1 on the OK push button.

**Figure 4-7 Using the Rubberband Box to Define a Scan Frame**

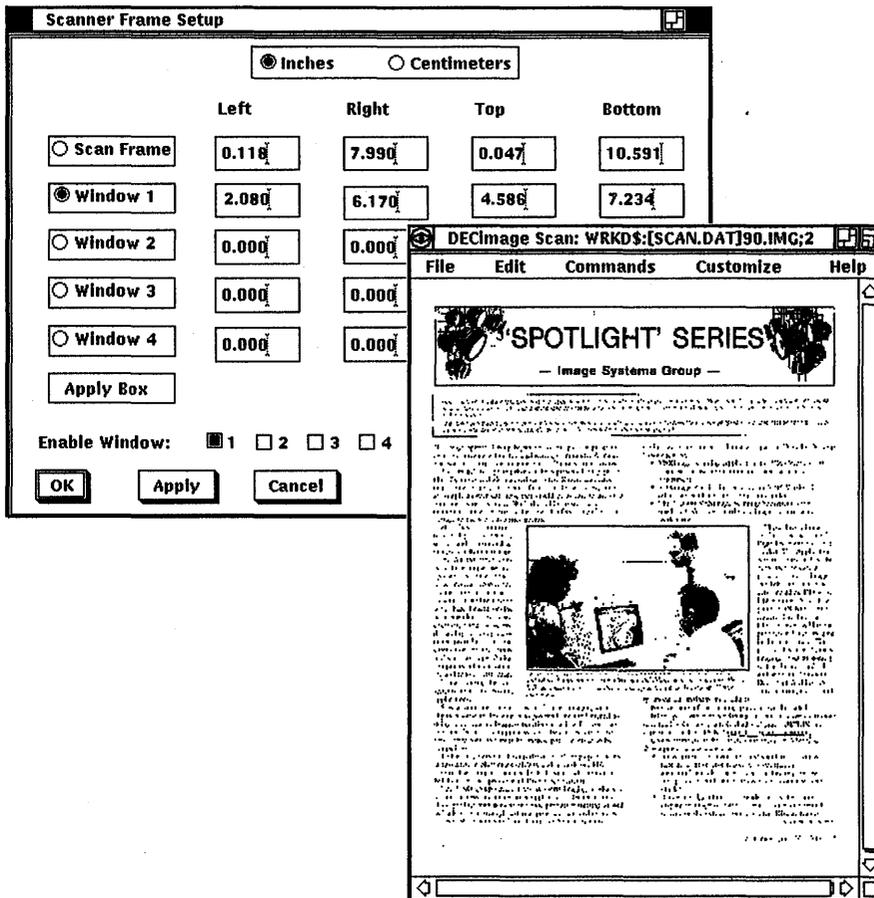


- 9 Scan the same document again. This time, only the area you defined in the scan frame will be read. If you need to fine tune the definition of the scan frame, do the following:
  - a Click MB1 on the text entry field to be changed.
  - b Change the numbers according to your calculations.
- 10 Click MB1 on the OK push button to activate the settings.

You can save Scanner Frame Setup settings for a later session by choosing Save Current Settings from the Customize menu.

**To Define Windows with a Rubberband Box** You can choose one of two methods for defining the area to be scanned. Use the keyboard to enter the coordinate information in the Left, Right, Top, and Bottom text entry fields for any of four windows in the Frame Setup dialog box (Figure 4-6), or use the rubberband box in the Scan window, as shown in Figure 4-8.

Figure 4-8 Using the Rubberband Box to Define Windows



Use the following procedure to define windows:

- 1 Scan a document without defining any windows.
- 2 Pull down the Commands menu, point to the Setup Scanner option and pull aside to the Frame Setup option.
- 3 Release MB1. The Frame Setup dialog box will appear. If necessary, move the dialog box to one side so that it does not block your view of the image.
- 4 Enable the rubberband box by clicking MB1 on the Enable Window radio button for Window 1, 2, 3, or 4.

Window 1

Enable Window:     1    2    3    4

- 5 Move the mouse to the Scan window and draw a rubberband box around the portion of the image that you want to be scanned in a complement mode.

**Note** *Complement mode means that, if the document is being scanned in line art mode, the windows you define will be scanned in halftone mode.*

- 6 Click MB1 on the Apply Box pushbutton. The coordinates will appear in the text entry fields for that window.
- 7 Repeat steps 4, 5, and 6 for any additional windows.
- 8 Click MB1 on the Enable Window toggle button for each of the windows you want scanned in complement mode.
- 9 Click MB1 on the OK push button.
- 10 Scan the same document again. This time, the areas defined by any enabled windows will be scanned in the complement mode to the Scan Mode you have selected. If you need to fine tune the definition of any of the windows, do the following:
  - a Click MB1 on the Left, Right, Top, or Bottom text entry field for the appropriate window.
  - b Change the numbers according to your calculations.
- 11 Click MB1 on the OK push button to activate the settings.

You can save Frame Setup settings for a later session with the Save Settings option chosen from the Customize menu.

**To Enter Measurement Coordinates** You can enter measurements in the Scanner Frame Setup dialog box from the keyboard using the following procedure. Coordinates to enter for changing the Scan Frame for a new Page Size are shown in Table 4-2. Point zero for the x-axis (horizontal) and y-axis (vertical) is the upper left corner of the Scan window.

- 1 Pull down the Commands menu, point to the Setup Scanner option and pull aside to the Frame Setup option.
- 2 Release MB1. The Frame Setup dialog box will appear.
- 3 Click MB1 on the Units radio button for Inches or Centimeters.
- 4 Click MB1 on the Scan Frame Left, Right, Top, or Bottom text entry field.
- 5 Enter the numbers taken from Table 4-2.
- 6 Click on the Enable Scan Frame toggle button.

**Table 4-2 Scan Frame Settings for Page Sizes**

Page Size	Units	Dialog Box Entries			
		y-axis (vertical)		x-axis (horizontal)	
		Left	Right	Top	Bottom
A	Inches	0.000	8.500	0.000	11.000
A4 <sup>1</sup>	Centimeters	0.000	21.000	0.000	29.700
A4 <sup>2</sup>	Centimeters	0.300	21.300	0.000	29.700
Legal	Inches	0.000	8.500	0.000	14.000

<sup>1</sup>Manual Delivery Scan Frame settings. When using Manual Deliver for A4 documents, always place the document against the left guide of the scanner feed.

<sup>2</sup>Auto Delivery Scan Frame settings. The document must be centered in the Automatic Document Feeder.

---

## Modifying Scanned Images

After you have scanned an image, or acquired an image from another source, you can modify it to delete unwanted portions, clean up defects, or otherwise alter the presentation. This chapter describes the ways in which you can change an image file using the Edit menu options and the Scan and Scaled View windows.

### Using the Edit Menu

While the DECimage Scan Software is not an image editor, you can, with practice, make a variety of creative improvements, especially with image files scanned in line art mode.



The Edit pull-down menu allows you to revise the scanned image and combine it with elements from a variety of sources to create an entirely new image. You can wash portions of an image, and then paste in new images. Or, you can reverse callouts or portions of an image for added emphasis.

If you have scanned an image in upside-down, you can use the Rotate Image option to invert the Scan window display. The Rotate Image option provides a dialog box with a slider bar and options for adjusting the **rotation angle** and direction of rotation.

## Using the Rubberband Box to Define Regions of Interest

Except for the Rotate Image, Undo, and Clear All options you must use the **rubberband box** to define a **rectangular region of interest (ROI)** before applying Edit commands. When using the rubberband box with the Edit options there are two things you should remember:

- You can use the rubberband box to select the regions to be modified in either the Scan window or the Scaled View window.
- You must select the region to be modified with the rubberband box before choosing an option from the Edit pull-down menu.

To select a region with the rubberband box, do the following:

- 1 Point the cursor to one corner of the region to be selected.
- 2 Press and hold MB1.
- 3 Drag the mouse in any direction. An outline box appears in the window.
- 4 When the box accurately defines the region to be edited, release MB1.

You can then choose one of the options from the Edit pull-down menu. To cancel a rubberband box, click MB1 once in the same window as the rubberband box.

## Using the DECwindows Clipboard

DECimage Scan Software makes use of a DECwindows tool called the **clipboard**. The clipboard is a data buffer that allows the temporary storage and retrieval of an image. However, you can only put one thing at a time on the clipboard. If you cut something out of a window, it goes to the clipboard. If you cut an additional image, the second one overwrites the first, which is then lost.

To save an image written to the clipboard, you must use the Paste option before selecting another image to be copied. If you want to save an image for later pasting, store the image in a file by using the Save As option on the File menu.

**Note** *The previous image copied to the clipboard is erased with each new execution of Copy or Cut, or by Copy/Cut commands executed from other DECwindows applications.*

The clipboard allows you to move or copy information between two different scanned images, or between different applications. For example, you could copy a portion of one image to another or use the DECwindows Paint application to set a line of text and then copy it from the Paint window to the Scan window.

**Note** *Moving data between windows is often a trial and error process. You may have to use the Undo option and repeat an operation several times until you get the correct results.*

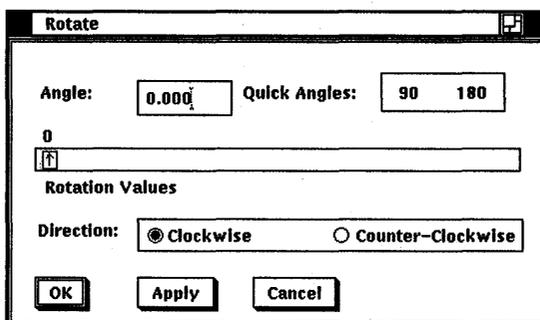
## Moving and Copying Images

You can use the Rotate Image option to rotate all of an image, and use the Cut, Copy, and Paste, to move all or part of a scanned image. The Cut, Copy, and Paste options move selected areas to and from the DECwindows clipboard. Each time you write to the clipboard, you overwrite the previously stored data. Therefore, when you cut something to the clipboard, you must paste it in its new position before cutting additional material.

### By Rotation

The Rotate dialog box (Figure 5-1) lets you rotate an image from .001° to 359.999° in either a clockwise or a counterclockwise direction. Rotate Image is useful for editing landscape images that were scanned in a portrait orientation.

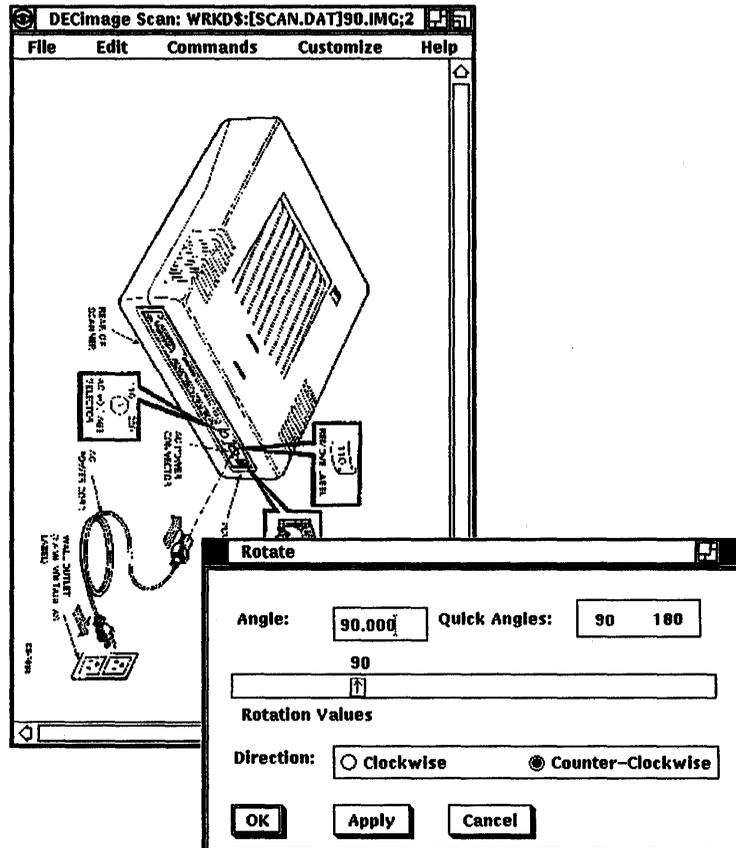
Figure 5-1 Rotate Dialog Box



**Note** *If the rotation angle you select puts part of the image outside the scan window, DECimage Scan Software automatically adjusts the size of the window so that there's no loss of image data.*

Figure 5-2 shows the Scan window with a landscape image displayed in a portrait orientation.

Figure 5-2 A Landscape Image in Portrait Orientation



The Rotate dialog box allows you to set the direction and number of degrees of rotation for the image in the Scan window using the following procedure:

- 1 Pull down the Edit menu, point to the Rotate Image option and release MB1.
- 2 When the Rotate dialog box displays, you have several options.

- If the image was fed into the scanner upside-down, or if you want to rotate a portrait image to **landscape** orientation, as shown in Figure 5-3, you can select 180 or 90 from the Quick Angles option.

Quick Angles:

- You can change the direction of rotation by selecting **Clockwise** or **Counter-Clockwise**.

Direction:  Clockwise  Counter-Clockwise

- If you want to rotate the image to an angle other than 180° or 90°, drag MB1 on the Rotation Values slider bar until the number you want is displayed in the Angle text entry field.

Angle:

159

Rotation Values

- If you want to set the rotation angle to fractional degrees, click MB1 in the Angle text entry field and use the keyboard to change the numbers. Use the **<X>** key to erase any previous settings.
- 3 Effect the settings of the dialog box by clicking MB1 on the **OK** push button, or click on the **Cancel** push button to dismiss the dialog box without altering the image. If you want to try out an angle, without dismissing the Rotate dialog box, you can click MB1 on the **Apply** push button.

If the revised display is not what you want, select the **Undo** option from the **Edit** menu, or change the number in the Angle text entry field and repeat the procedure for a different rotation.



To copy a region of an image to the clipboard, do the following:

- 1 Use the rubberband box to select the area to be copied.
- 2 Choose Copy from the Edit pull-down menu.

You can then move the copy of the selected portion to another location.

### **By Pasting from the Clipboard**

The Paste option lets you paste an image stored in the clipboard onto another image. To paste an image from the clipboard, do the following:

- 1 Use the rubberband box to select the area on which the clipboard image is to be pasted.
- 2 Choose Paste from the Edit pull-down menu.

## **Modifying an Image**

The Edit menu allows you to make several modifications to defined portions of an image. You can wash out a selected area to remove defects or unwanted information in an image. You can also enlarge the image and make detailed changes by reversing the on/off setting of small groups of pixels. You can also use the Crop Region option to reduce the storage area required for an image to be saved.

### **By Cropping a Region**

The Crop Region option lets you trim all of an image except the region you choose to retain. Figure 5-4 shows the Scan window with a region selected for **cropping**. If the Customize Display Settings Magnify option has been set to Off, the image enlarges to fill the Scan window after the crop is completed.

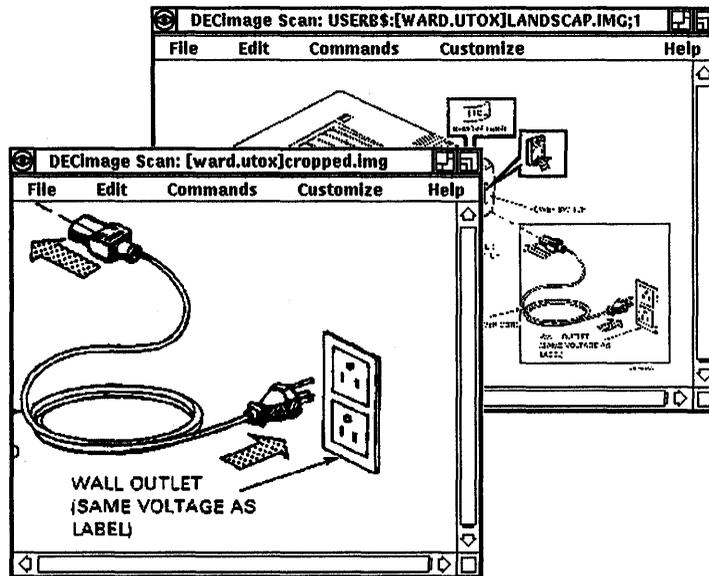
To crop an image, do the following:

- 1 Use the rubberband box to define the area to be saved.
- 2 Choose Crop Region from the Edit pull-down menu.

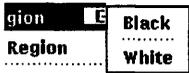
The image will then be displayed in the Scan window without extra white space in the margins of the image.

***Note** If the Customize Display Settings Magnify option has been set to On, you will have to apply the rubberband box in the Scaled View window in order to see the entire image to be cropped.*

Figure 5-4 Image Before and After Cropping



### By Washing a Region to White or Black

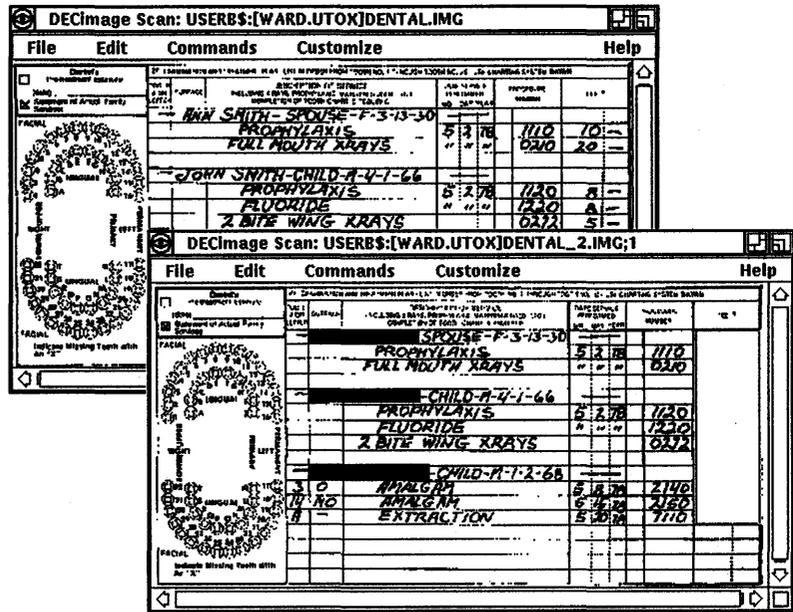


The Wash Region option lets you wash a selected portion of an image to a solid color. The wash may be either white or black. On images with a white background, a white wash erases a portion of an image. A black wash can be used on a white background (or vice versa) to indicate that information has been purposely blotted out. You can also use the Wash Region option on a magnified image to clean up defects from the scanned original. Figure 5-5 shows parts of an image washed to white and black.

To wash a region of a scanned image, do the following:

- 1 Use the rubberband box to select the region to be washed.
- 2 Choose Wash Region from the Edit pull-down menu.
- 3 Choose either White or Black from the Wash Region submenu.

Figure 5-5 Image Areas Washed to White and Black



Look at the corrected image in the Scan window. If you are not satisfied with the results, choose the Undo option and then reselect the area to be washed.

### By Reversing a Region to Negative

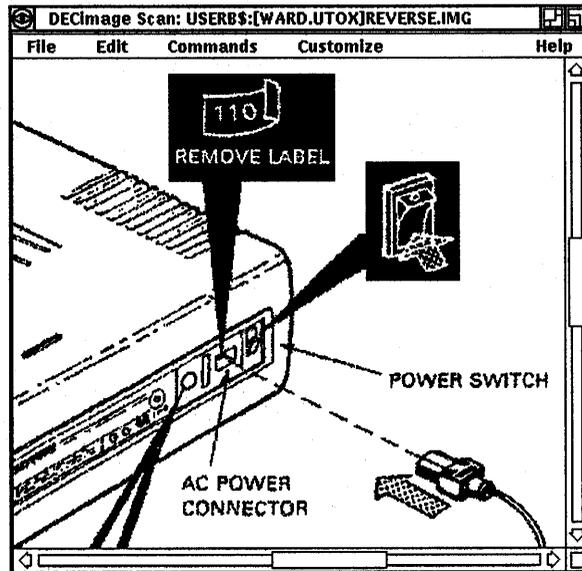
The Reverse Region option lets you change white to black and black to white on a selected portion of an image or create a negative of the entire image. When Reverse Region is executed the area inside of the rubberband box is reversed.

To reverse a region of an image, do the following:

- 1 Use the rubberband box to select the region to be reversed.
- 2 Choose Reverse Region from the Edit pull-down menu.

Figure 5-6 shows an image with two regions reversed to negative.

Figure 5-6 Image with Two Areas Reversed



## Undoing Edit Changes

If you want to cancel a change that you made to an image, use the Undo option from the Edit menu.

Undo is the first option on the Edit pull-down menu, but it remains inactive (grayed out on the screen) until one of the other Edit options has been executed. You can use this Edit option to undo a crop, a wash, or any of the Edit options including Rotate Image and Clear All.

However, you can only undo the previous Edit option. That is you can undo a wash only if you have not filed the image and exited the session, or chosen another Edit option to further modify the image. If you have executed Wash Region and you then choose Rotate, you cannot restore the washed portion of the image except by scanning it again.

If you choose Undo twice in a row, you can reverse the effects of the Undo option. For example, if you wash a region to white, and then find you need to go back and look at the image area that you deleted, you can select undo to restore the display. When you are satisfied, select Undo again to proceed with the wash.

## **Clearing All of an Image**

If you do not wish to save the image displayed in the Scan window, you can select Clear All from the Edit menu. This option allows you to quickly clear the display without storing the revised image. This is useful if you are only viewing images to confirm content and are not making any changes to the scanned image.



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## Storing and Transmitting Image Files

Once you have finished with an image, you can either file it or transmit it. The File pull-down menu is what you use to access directories of stored files, to save a scanned image, or to mail image files to other users. You also use the File menu to exit or quit the current DECimage Scan Software session. This chapter discusses the storage and transmission of images.

### Creating a File Directory

If this is the first time DECimage Scan Software is being used on your system, you may want to create a separate directory in which to store image files. If it is necessary to create a directory, you must enter the CREATE/DIRECTORY command before initializing DECimage Scan Software.

To create a sub-directory at the DCL level, open a DECterm window, as shown in Chapter 1, type the command and a suitable directory name, as shown below and press **[Return]**.

```
$ CREATE/DIRECTORY [.mydirectory]
```

### Using the File Menu



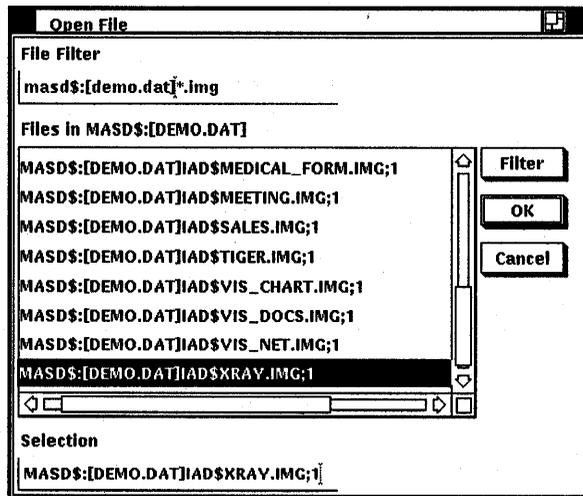
The File menu is used to call up files from a directory and display them in the Scan window, to save scanned images to a file, and to mail image files to other users. You also use the File menu Exit or Quit options to terminate the DECimage Scan Software session. The Save As and Mail To options are grayed out when you start a session. They only become available choices after you have opened an image file, or scanned in a new image.

Except for the Exit and Quit options, each of the File menu options requires you to type information into a text entry field in a dialog box. Open As and Save As require a file name. Mail To requires a destination and a title.

## To Open Files

You can use the Open As option on the File pull-down menu to retrieve a previously-stored image file and display it in the Scan window. The Open As dialog box, shown in Figure 6-1, provides you with text data entry fields, slider bars, and push buttons.

Figure 6-1 Open As Dialog Box



Use the following procedure to open a file from a directory:

- 1 Pull down the File menu and click MB1 on Open As...
- 2 If necessary, to change the directory, do the following:
  - a Click MB1 on the File Filter text entry field.
  - b Enter the directory specification.
  - c Click MB1 on the Filter push button to apply.
- 3 Show the directory list of files by dragging or clicking the slider, the scroll bar, or the arrows on the bottom or side of the dialog box.

- 4 Select a file by pointing to one of the listed files and click MB1. The selected file will be highlighted and will appear in the Selection text entry field.
- 5 Click MB1 on the OK button or double click on the highlighted file name to open the selected file.

**Note** Unless you add `;` to the File Filter text entry field, the Open As dialog box will only list the most recent version of each file name. To show a more detailed listing of all files in a directory, enter a `DIRECTORY/SIZE/DATE` command at the DCL level.

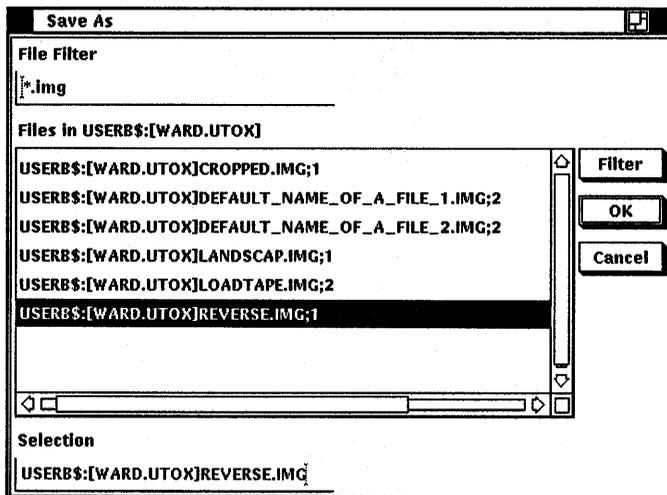
To avoid using disk storage space unnecessarily, you should periodically use the PURGE command at the DCL level to delete earlier versions of image files. To purge your directory, open a DECterm window, as shown in Chapter 1, enter the following command and press `Return`:

```
$ PURGE
```

### To Save Files

You can use the Save As option on the File pull-down menu to save a scanned or modified image, displayed in the Scan window, to a file. The Save As dialog box, shown in Figure 6-2, provides you with text data entry fields, slider bars, and push buttons.

**Figure 6-2 Save As Dialog Box**



Use the following procedure to save a file to a directory:

- 1 Pull down the File menu and click MB1 on Save As...
- 2 If necessary, to change the directory, do the following:
  - a Click MB1 on the File Filter text entry field.
  - b Enter the directory specification.
  - c Click MB1 on the Filter push button to apply.
- 3 To file a previously stored image under the same name, do the following:
  - a Scroll through the directory list of files by dragging or clicking the slider, the scroll bar, or the arrows on the right side of the dialog box.
  - b Select the file name to be used by pointing and double clicking MB1.
- 4 To assign a new file name, do the following:
  - a Click MB1 on the Selection text entry field.
  - b Enter the file name using the keyboard.
  - c Click MB1 on the OK push button.

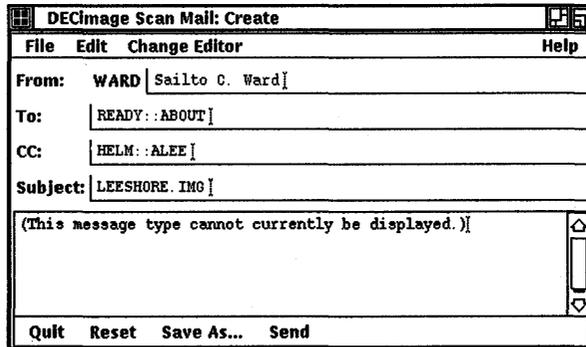
### **Notes**

- *The Save As option is only available if you have an image displayed in the Scan window. If you are not currently viewing an image file, the Save As option will be grayed out on the File pull-down menu.*
- *Unless you include a file name extension of .IMG, the Save As dialog box will apply a .DDIF extension by default.*

## To Mail Displayed Image Files

The Mail To option on the File menu is only capable of transmitting images displayed in the Scan window. If you want to send either stored image files or textual mail messages, use DECwindows Mail or another Digital mail facility. Figure 6-3 shows the DECimage Scan Mail: Create dialog box.

Figure 6-3 DECimage Scan Mail: Create Dialog Box



To mail an image to another user do the following:

- 1 Either scan an image or use Open As to display a filed image.
- 2 Choose the Mail To... option from the File menu.
- 3 Click MB1 on the To: text entry field
- 4 Type the addressee's node::name in the To: text entry field, for example MYNODE::MYNEIGHBOR.
- 5 Click MB1 on the CC: text entry field
- 6 Type the name and address of those who are to receive copies in the CC: text entry field, for example MYNODE::USER\_A.
- 7 Click MB1 on the Subject: text entry field
- 8 Type a subject title on the Subject: text entry field, for example, Scanned image of hardware components.
- 9 Click MB1 on the Send menu button.

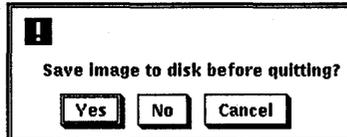
To send additional mail with new data in the dialog box text entry fields, click MB1 on the Reset menu button.

To file an image, click MB1 on the Save As... menu button.

To quit mail without sending an image, click MB1 on the Quit menu button.

### **To Quit a DECimage Scan Software Session**

To end a DECimage Scan Software session, without saving the files that you have displayed or modified, choose Quit from the File pull-down menu. DECimage Scan Software will display a caution dialog box and prompt you to acknowledge that you have not saved your work from the current session.



### **To Exit a DECimage Scan Software Session**

To end a DECimage Scan Software session, automatically saving the files that you have displayed or modified, choose Exit from the File pull-down menu.

---

## Getting Help Online

There are several places you can look for help when using DECimage Scan Software. You can read this manual for instructions on how to use the various menus, or use the help pull-down menu options. This chapter discusses the online help for DECimage Scan Software. For instructions on using DECwindows online help, refer to Appendix B.

### Using the Help Menu

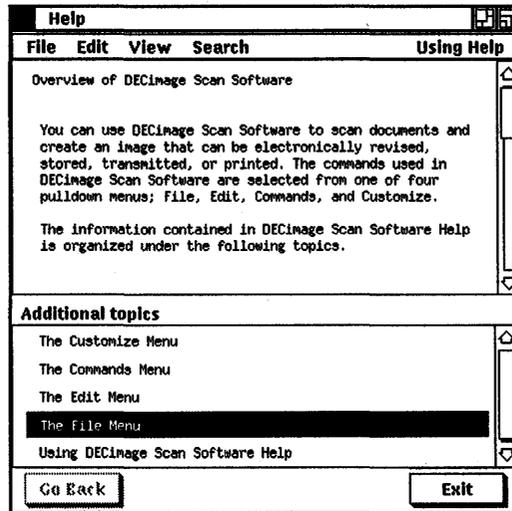


You can get help while in a DECimage Scan Software session by using the following procedure:

- 1 Press and hold MB1.
- 2 Drag the pointer down the screen to activate the pull-down menu.
- 3 Choose either Help or About.
- 4 Release MB1.
  - If you select Overview, the Help Overview window (Figure 7-1) will appear.
  - If you select About, the Help About window (Figure 7-2) will appear.

Using the Help Overview menu you can find a list of each menu option in the topic, Overview of the DECimage Scan Software. Detailed information for these options is located in the Additional topics menu.

**Figure 7-1 Help Overview Window**

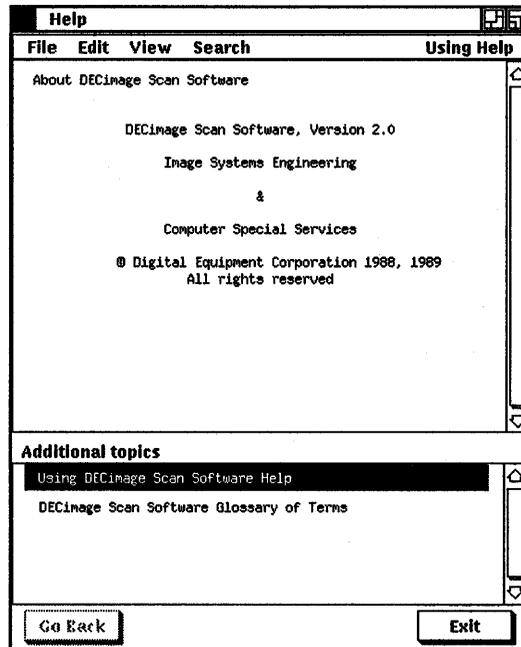


After identifying the option in the Help Overview menu, you can get Help about any menu option by completing the following steps:

- 1 Move the pointer to the appropriate Additional topics title, for example, The File Menu.
- 2 Double click MB1.
- 3 When the Help message for The File Menu displays in the window, move the pointer to an Additional Topic, for example, Open As, and double click MB1.

From the Help About menu, you can get help on how to use DECimage Scan Software help, or display a glossary of DECimage Scan Software terms. The Overview of DECimage Scan Software menu gives the version number, licensing, copyright information, and Additional topics for using help and a glossary.

**Figure 7-2 Help About Window**



The first Additional topic, **Using DECimage Scan Software Help**, explains that to find an individual DECimage Scan Software menu option you must know both which menu and which menu item offers the option. For example, to find the menu option **Magnify**, you must know that **Magnify** is an option of the item **Display Settings** on the **Customize** menu.

The second Additional topic, **DECimage Scan Software Glossary of Terms**, will provide you with an explanation of the terms that are used to describe the application.

To move back to a previous Help topic, click MB1 on the **Go Back** push button. To leave Help, click MB1 on the **Exit** push button.

## **Using the DECimage Scan Software Help Menu Bar**

Once you have accessed the online help for DECimage Scan Software, you can use the pull-down menus to search for specific information and write or edit material to a file.

## To Save a Help Screen to a File

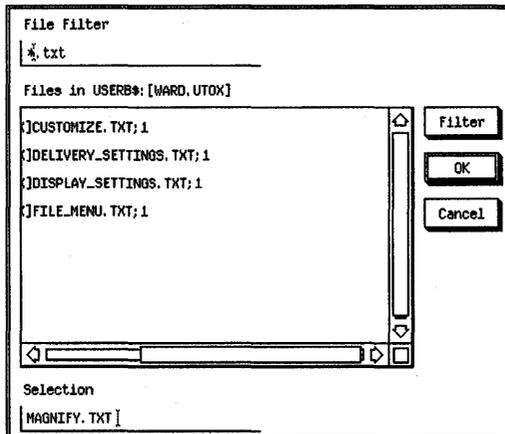
### File

Save As...  
Exit

The File option lets you exit a help session, or save a Help screen to your own file directory. To save a Help screen, select Save As... from the File pull-down menu to display the dialog box as shown in Figure 7-3. Type a file name in the Selection text entry field and click on the OK menu button.

**Note** Before saving the screen, you must use the Edit Select All option to copy the screen to the Clipboard.

Figure 7-3 Help Save As... Dialog Box



## To Select All of a Help Screen for Filing

### Edit

Copy  
Select All

The Edit pull-down menu lets you use the Select All option to copy a Help message to your personal file directory. To save a Help file, you must also choose Save As... from the File menu and specify a file name.

## To View Help Topics

### View

Go To Topic  
Go Back  
Go To Overview  
Visit Topic  
Visit Glossary

The View pull-down menu lets you visit the glossary, go back to the previous screen or go directly to the overview without repeatedly clicking on the OK push button. To go back to the DECimage Scan Software Help Overview, choose Go To Overview from the View pull-down menu.



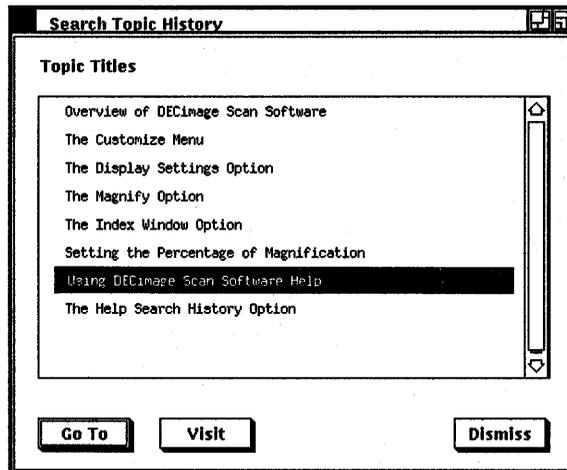
## To Search Help

The Search pull-down menu lets you do one of the following:

- Read a history of all topics chosen during the current Help session and go back to a previously chosen help topic without clicking on the Go Back push button.
- Display a list of Help message titles by typing in part of a title.
- Display a list of Help message titles by typing in a keyword.

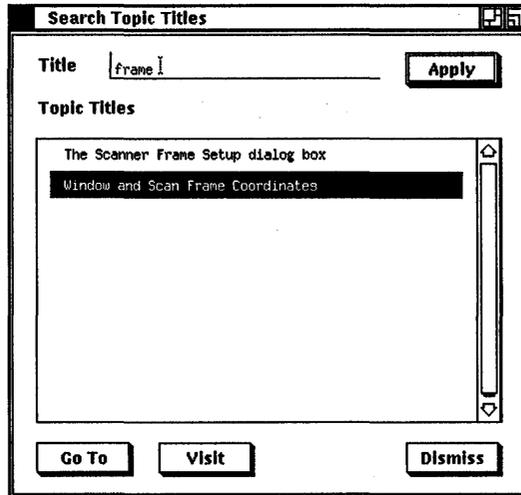
**By History** To display a record of help messages displayed during the current help session, choose the History option from the Search pull-down menu. Figure 7-4 shows the Help History window. To go back to a previously chosen Help topic: move the pointer to the appropriate Help topic listed in the History window, and double click MB1.

Figure 7-4 Search Topic History Window



**By Title** Title lets you choose from a list of Help message titles by typing in part of a topic title. By typing in the word settings, for example, you will display a list of all Help message titles that include the word settings. You can use the Title option to display the Search Topic Titles menu (Figure 7-5) to get help about any menu, any menu option, or any item on any dialog box.

**Figure 7-5 Search Topic Titles Window**

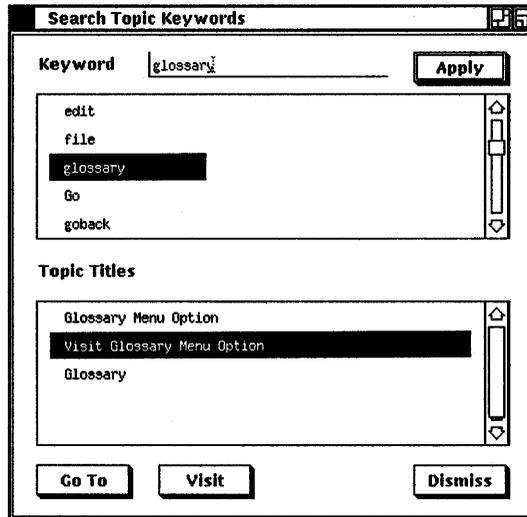


You can use the Title option whenever you have a question about any DECimage Scan Software feature. To choose a Help message by Title, do the following:

- 1 Choose Title from the Search pull-down menu.
- 2 When the Search Topic Titles window displays, use the pointer to choose the appropriate title, and double click MB1.

**By Keyword** Keyword lets you choose from a list of Help message titles by typing in a keyword. Figure 7-6 shows the Search Topic Keywords window. By typing in the word settings, for example, you will display a list of all Help message titles with the word settings. You can use the Keyword option to get help about any menu, any menu option, or any item on any dialog box.

**Figure 7-6 Search Topic Keywords Window**



Keyword is another way to get help in DECimage Scan Software. You can use the Keyword option whenever you have a question about any DECimage Scan Software feature. To choose a Help message by Keyword, do the following:

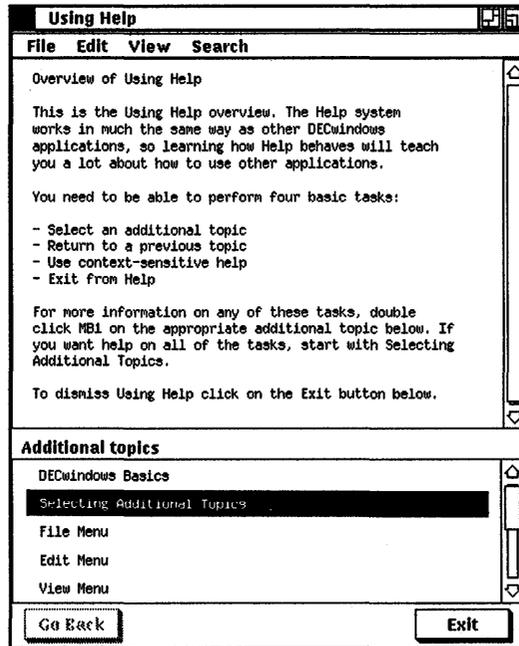
- 1 Choose Keyword from the Search pull-down menu.
- 2 When the Search Topic Keyword window displays, use the pointer to choose the appropriate keyword and double click MB1.

Using Help
Overview
Glossary
About

## To Get Instructions on Using Help Menus

Using Help pull-down menu provides you with instructions on how to use online help and how to access the DECwindows Help screens. Figure 7-7 shows the Using Help window.

**Figure 7-7 Using Help Window**



# A

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## DECimage Scan Software Error Messages

This chapter describes the types of error messages you can encounter when using DECimage Scan Software.

### Software Error Messages

Software error messages are less common than operational error messages and appear on the screen only when there is a major system problem. When you are experiencing a software error message, it will be impossible to initialize DECimage Scan Software. The only possible course of action is to contact your system manager or your Digital Customer Service Representative.

Some DECwindows software error messages and their meaning are listed in Table A-1.

**Table A-1 DECwindows Error Messages**

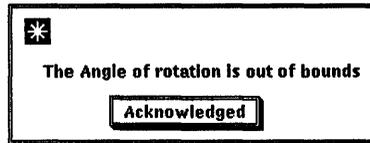
<b>Error Message</b>	<b>Meaning</b>
NOOPNHIER	Unable to open UIL hierarchy.
NOREGCLAS	Unable to register image widget class.
NOFETMAIN	Unable to fetch main window widget.
NOFETWIDG	Unable to fetch widget.

### Operational Error Messages

If you make a procedural error while using DECimage Scan Software, an error message dialog box (Figure A-1) displays on the screen. The dialog box displays one of the error messages listed in Table A-2. Before taking any corrective action, you must

click MB1 on the Acknowledged push button located at the bottom of the dialog box.

**Figure A-1 Error Message Dialog Box**



**Table A-2 DECimage Scan Software Error Messages**

<b>Error Message</b>	<b>Meaning</b>	<b>Corrective Action</b>
Cannot connect to scanner	No device available.	Check scanner selection.
DECwindows Clipboard Empty	You have attempted to execute the Paste option without first copying an image to the Clipboard.	Execute the Cut or Copy option.
DECwindows Clipboard Data Truncated	Insufficient memory in DECwindows clipboard.	Define a smaller region of interest with the rubberband box.
DECwindows Clipboard Locked	Clipboard being used by another user.	Try again.
Error reading from the environment file	Disk error.	See your system manager.
Error writing to the environment file	Disk error.	See your system manager.
Fatal Drive Error	The scanner is not feeding properly.	Check that the documents are not jammed in the feeder and that the feed-tray guides are not binding.
Invalid file specification	You have mistyped or misspelled the file name.	Check the file name and type again.
Invalid image coordinate specified	You have defined a rubberband box coordinate too large for the Scan Frame.	Redefine the coordinate.
Invalid region of interest definition	The area you have defined with the rubberband box does not contain any image data.	Redefine the area.

(continued on next page)

**Table A-2 (Cont.) DECImage Scan Software Error Messages**

<b>Error Message</b>	<b>Meaning</b>	<b>Corrective Action</b>
No image available to perform action	You have attempted to edit a nonexistent image.	Either scan an image or retrieve a filed image.
No previous action to undo?	There is nothing to be undone.	You must have used one of the Edit options for the Undo option to have effect.
Obsolete version of environment file	The environment file was created by an earlier version of DECImage Scan Software.	Choose Use Default Settings from the Customize pull-down menu.
The angle of rotation is out of bounds	You have typed a rotational angle larger than 360° or smaller than .001°.	Specify an acceptable angle.
The scan window is outside the scan frame area	The area you have defined for a scan window is outside the area defined by the scan frame.	Define a new window or a new frame.
Unable to create a new environment file	You have assigned an invalid file name to the settings file, or you do not have sufficient privileges to create a new settings file.	Correct the file name or see your system manager.
Unable to open the environment file	The requested settings file does not exist.	Check the file name for misspelling and type it in again.
Use the Rubberband to specify a rectangle	You have attempted to execute an option requiring a rubberband box without first defining the rubberband box.	Define a rubberband box.



# B

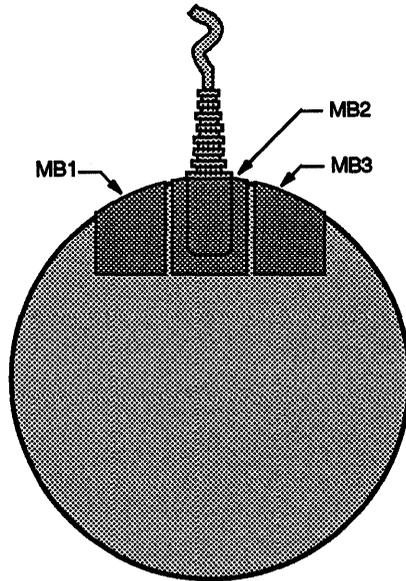
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## Using DECwindows

You work with most DECwindows applications by using the same handful of techniques. This appendix summarizes some basic techniques you use in DECwindows.

### Using the Mouse

The mouse—the hand-held pointing device attached to your workstation monitor—makes using DECwindows as easy as pointing to an object on your screen and clicking a button. The mouse has three buttons. Unless you specify otherwise, 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.



You can do all your work with DECwindows by mastering the following mouse techniques:

- **To point:** Using the mouse, move the cursor to where you want the next action to occur.
- **To click:** Quickly press and release MB1. You should hear and feel a faint click.
- **To press:** Point to the menu name, scroll bar stepping arrow, or wherever you want the action to occur. Without moving the mouse, press and hold MB1 or MB2. If you are pointing at a menu name, pressing MB1 pulls down a menu and keeps it down until you release MB1.
- **To drag:** Press and hold MB1, move the pointer, and release MB1. For example, you drag a window outline to move it to another place on your screen. To cancel a drag in progress, click MB3 before releasing MB1. If you are displaying a pull-down menu, cancel the drag operation by moving the pointer outside the menu.

- To double click: Point to the object and click MB1 twice in quick succession.
- To shift click: Point to the object. Press and hold the Shift key and click MB1. Release the Shift key.

## Selecting Windows

When you have several windows open at once, you give one window input focus by selecting it. When a window has input focus, your typing and mouse activity are directed to that window.

To select a window:

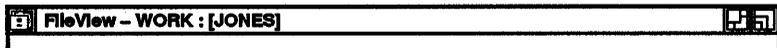
- 1 Point to a location in the window or title bar (anywhere except on a button).  
In the FileView window, point to the title bar.
- 2 Click MB1.

The window's title bar becomes highlighted to indicate it has input focus. Any keystrokes you type will appear in this window. The title bar is no longer highlighted when another window has input focus.

Window with Input Focus

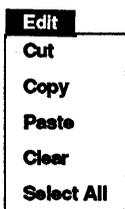


Window Without Input Focus



Occasionally, a dialog box lacks a window management button, usually the resize or shrink-to-icon button. The window will not take input focus if you click MB1 in the space that these buttons usually occupy. To select a window missing one of these window management buttons, point to another location in the window and click MB1 again.

## Choosing Items from Pull-Down Menus



Some pull-down menus contain commands. Others contain the names of items you can work with. You tell DECwindows what you want to do or what you want to work with by choosing commands or items from pull-down menus. Any menu item followed by three periods ( . . . ) is your cue that a dialog box will be displayed if you choose that menu item.

To choose an item from a pull-down menu:

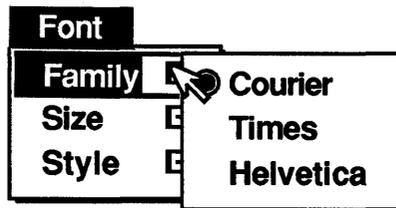
- 1 On the menu bar, point to the name of the menu you want to display.
- 2 Press and hold MB1.  
This highlights the menu name and pulls down a menu.
- 3 While holding MB1, drag the pointer to the menu item you want.
- 4 Release MB1.

If you change your mind while looking at a pull-down menu, drag the pointer outside the menu and release MB1. The menu disappears and no action is taken.

Some applications use push buttons to duplicate frequently used commands that are also available as menu items. To execute these commands quickly, click MB1 on the push button.

## Choosing Items from Submenus

A menu item with a submenu icon—an arrow pointing to the right—indicates that a corresponding submenu is available. If you choose that menu item, you need to refine your choice by displaying its submenu and choosing a menu item from that submenu.

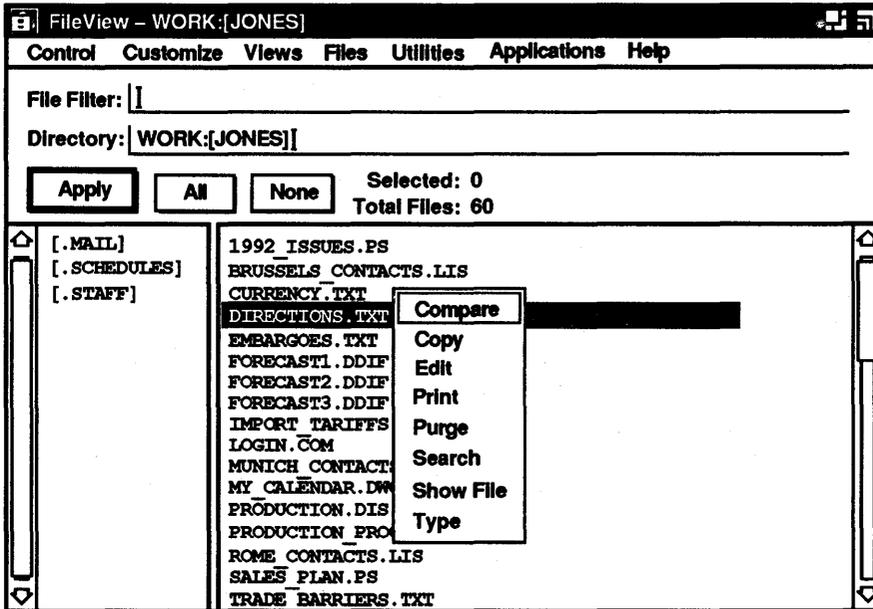


To display a submenu and choose a menu item from it:

- 1 Pull down the primary menu by pressing and holding MB1 and dragging to the menu item you want.
- 2 Drag the pointer onto the submenu icon.  
A submenu is displayed to the right of the menu.
- 3 Drag the pointer to the item you want to choose from the submenu.
- 4 Release MB1.

## Choosing Items from Pop-Up Menus

DECwindows provides pop-up menus to make it easier for you to work with files and applications. Pop-up menus give you quick and direct access to functions within applications by reducing your use of the mouse.



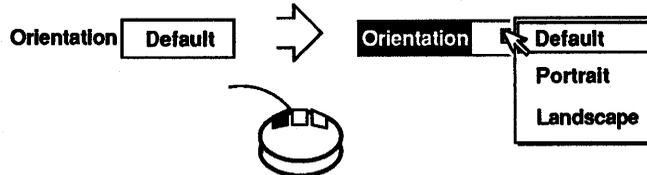
To display a pop-up menu:

- 1 Press and hold MB2 on the work area—directly beneath the menu bar—where you interact with the application.  
In the FileView window, press and hold MB2 on the file type whose corresponding pop-up menu you want to display.
- 2 Drag the pointer to the menu item you want.
- 3 Release MB2.

If you change your mind while looking at a pop-up menu, drag the pointer outside the menu and release MB2. The menu disappears and no action is taken.

## Choosing Items from Option Menus

An option menu is a pop-up menu that appears in a dialog box. An option menu allows you to choose one option from a list of options displayed in a pop-up menu. The current option is displayed. To see the other options from which you can choose, you display the option menu.



To display an option menu:

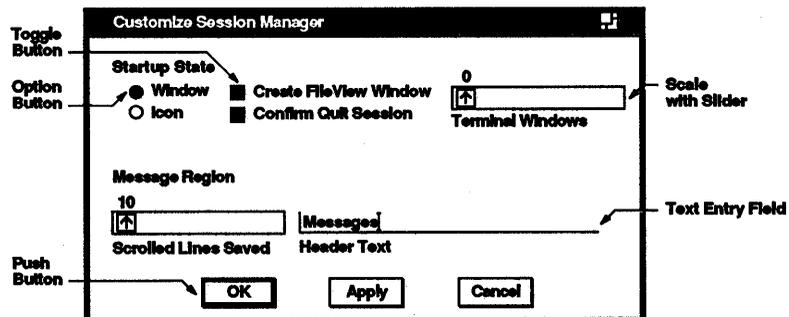
- 1 Press and hold MB1 on the current option.
- 2 Drag the pointer to the menu item you want.
- 3 Release MB1.

The option menu disappears. The option you chose is now the current option.

If you decide not to change the original option, drag the pointer outside the menu and release MB1. The menu disappears and no changes occur.

## Supplying Information in Dialog Boxes

DECwindows 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 MB1 on a button to change a setting. Some dialog boxes display settings you chose earlier.



**Dialog boxes contain various ways for you to supply information to an application:**

- **By typing text in a text entry field. The blinking text cursor shows you where the text you type will appear. What you type appears to the left of the text cursor. Use the <X> key to correct typing mistakes.**
- **By clicking on option buttons or square toggle buttons. Option buttons let you select one option from a group. Toggle buttons let you turn a setting on or off.**
- **By dragging the slider in a 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.**
- **By selecting choices, for example, file names, from a list box. The list box may contain scroll bars if the available choices do not fit in the list box.**
- **By clicking on rectangular push buttons. Push buttons, such as OK, Cancel, or Filter, let you tell DECwindows what to do with the information you supplied in the dialog box.**

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

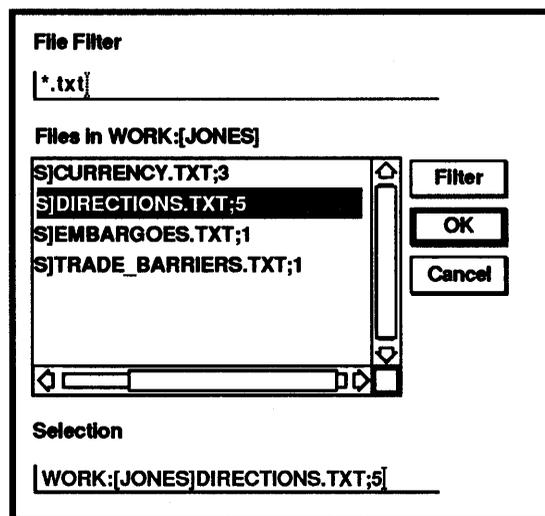
## Moving in a Dialog Box

How you move in a dialog box depends on the object you want to work with. The following table describes the ways in which you can move and change settings in a dialog box:

To	Do this
Move forward between text fields	Press the Tab key, or point to the field to which you want to move and click MB1.
Move backward between text fields	Press the Shift/Tab keys, or point to the field to which you want to move and click MB1.
Move the text cursor within a text field	Point to where you want the text inserted and click MB1, or use the right and left arrow keys to move the text cursor right or left. New characters push existing ones to the right.
Change the numeric value on a scale	Drag the slider on the scale right or left, or point to another location on the scale and click MB1.
Change an option or toggle button setting	Point to the option or toggle button and click MB1.

## Making Selections from List Boxes

List boxes appear in dialog boxes and contain many kinds of items 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, point to the item and click MB1. The item you selected is highlighted. If the list box contains files, the file name is highlighted to indicate it is selected. Click on OK to see the file.



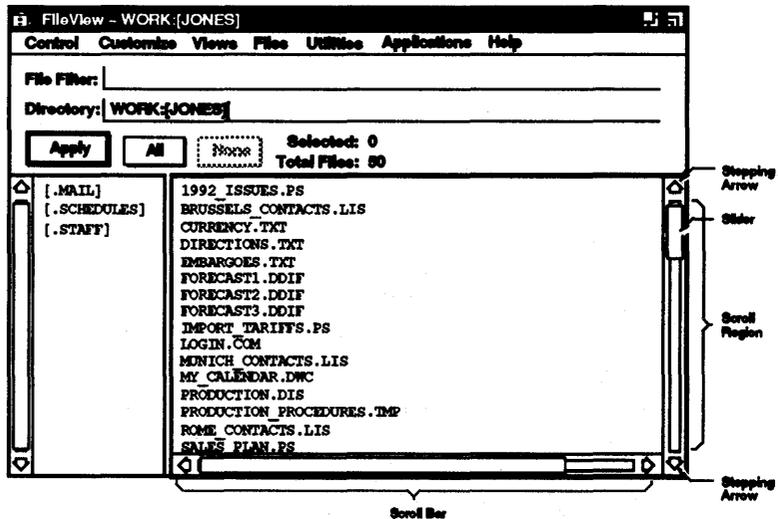
In list boxes that contain file names, DECwindows provides a shortcut for you to open files. Double clicking on a file name in a list box produces the same results as selecting that file name and clicking on OK.

## Scrolling



Some windows display scroll bars, which you use to view the text that does not fit in the window. Some windows have both horizontal and vertical scroll bars.

A scroll bar consists of stepping arrows at either end of the long, thin box called the scroll region. The slider is the thicker box that overlays the scroll region. If the slider is at the top of the scroll region, the beginning of the file or list is visible. If the slider is at the bottom of the scroll region, the end of the file or list is visible.



The size of the slider is relative to the total amount of text in the document and indicates how much more text remains to be displayed. For example, a small slider indicates that much text remains to be displayed. A large 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 stepping arrows at either end of the scroll bar.
Forward one window-full of text at a time	Point to the scroll region beneath the slider and click MB1.
Back one window-full of text at a time	Point to the scroll region above the slider and click MB1.
Continuously through the list or file one line at a time	Press and hold MB1 on the stepping arrows at either end of the scroll bar.
Continuously through the list or file one windowful of text at a time	Press and hold MB1 in the scroll region.
To another location in the list or file	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 list or file. If the slider is in the middle of the scroll region, you are viewing the middle of the list or file. Cancel the drag operation by clicking another mouse button before releasing MB1.

## Moving Windows

You use the title bar to move the windows on your screen. If one window partially obscures another, you might want to arrange them so that each is completely visible.

To move a window:

- 1 Point to the window's title bar (anywhere but on a button).



- 2 Press and hold MB1.  
An outline of the window appears.
- 3 Drag the pointer to the new location.
- 4 Release MB1.

If the window was partially obscured by other windows, it pops to the top of the stack of windows and is given input focus.

To cancel a window moving operation in progress, click another mouse button before releasing MB1. The outline disappears, and the window is not moved.

Occasionally, a title bar (usually in a dialog box) is missing a window management button, usually the resize or shrink-to-icon button. If you point to the space that these buttons usually occupy and try to drag the window, the window does not move. To drag a window missing one of these window management buttons, point to another location in the title bar and try again.

## Changing the Size of Windows



Sometimes you want to make the window you are working in very large. Other times, you might want several small windows, such as when several applications are running simultaneously. You can change the size of your windows to suit your needs by using the resize button.

To change the size of a window:

- 1 Point to the window's resize button.



- 2 Press and hold MB1.

The pointer changes into a small resize cursor.

- 3 Drag the resize cursor to the size you want.

To make the window larger, drag the resize cursor beyond the window border. To make the window smaller, drag the resize cursor beyond the window border and back in.

- 4 Release MB1.

You can change the size of a window in one dimension (height or width) or in both dimensions simultaneously. To change the size in one dimension, drag the resize cursor across one border of the window. As long as you cross only one border, the outline that follows the resize cursor changes in only one dimension. If after crossing one border you cross an adjacent border, you see an outline that can change in both dimensions.

If you drag the resize cursor through one border and then through the *opposite* border, the first border you crossed reverts to its original location, and the other border becomes an outline that follows the resize cursor.

To cancel a window resizing operation in progress, click another mouse button before releasing MB1. The outline disappears, and the window retains its original size.

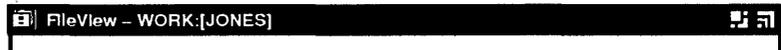
## Shrinking Windows

When you start an application, its icon appears in the Icon Box. You shrink a window to an icon if you want to free up space on your screen to run other applications, but don't want to exit from the application. The application continues to run in memory and remains easily accessible, but does not take up any room on your screen. Any processes continue to execute while the application is stored as an icon.

To shrink a window to an icon:

- 1 Point to the window's shrink-to-icon button.

Shrink-to-  
Icon Button



- 2 Click MB1.

The window closes and its icon in the Icon Box appears bold.

You cannot shrink the Icon Box to an icon.

When the application is running in a window, its icon is dimmed. The icon appears bold when the application is stored in the Icon Box. You can make the icons large or small by specifying your choice in the Session Manager's Customize Window dialog box. To display this dialog box, choose the Window menu item from the Session Manager's Customize menu.

If the Icon Box contains more icons than can be displayed at once, scroll bars appear.

As you stop and start many applications, your Icon Box develops gaps where icons used to be. You can rearrange the icons in the Icon Box in two ways:

- By moving the icons. To move an icon, point to it, press and hold MB1, and drag it to a new location.
- By clicking on the Icon Box's shrink-to-icon button. In all applications, clicking on this button shrinks the window to an icon. Clicking on this button in the Icon Box, however, eliminates the gaps where icons for applications no longer running used to be.

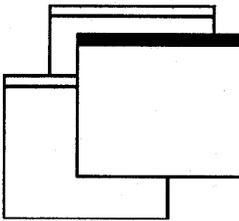
## Expanding Icons to Windows

When you expand an application's icon, you open a window for that application. If you have more than one window open and expand an icon to a window, that new window is placed on top of the stack of overlapping windows. If the window accepts text entry, it is also given input focus.

To expand an icon to a window:

- 1 Point to the icon in the Icon Box.
- 2 Click MB1.

## Stacking Overlapping Windows



You do not have to move a window in order to see its entire contents. When windows are overlapping, clicking on a window's push-to-back button pushes that window to the bottom of the stack. The next window is then fully visible.

To push the top window to the bottom of a stack of overlapping windows:

- 1 Point to the top window's push-to-back button.



- 2 Click MB1.

If you try this repeatedly with three or more windows, you see that the windows cycle through the stacking order, moving up one position in the stack each time a window is moved to the bottom of the stack.

## Making Stacked Windows Stick in Place

When you are working with stacked windows and select a window, it moves to the top of the stack and is given input focus. You can, however, prevent a partially obscured window from popping to the top of the stack of windows when you select it. This means that you can arrange the windows on your screen to display only what you need to see and then secure them in place.

For example, you might have DECterm, Notepad, Mail, and FileView windows open. If you arrange the windows so that the portion of each window you need to work with is visible, you do not want the window to pop to the top of the stack whenever you select it. For example, you probably need to see just the last few lines in the DECterm window so you can enter commands.

To lock overlapping windows in the stacking order:

- 1 Point to a window's push-to-back button.
- 2 Shift click on the button.

That window is pushed to the bottom of the stack.



The lower right-hand corner of the push-to-back button is filled to indicate that the window is stuck in the stacking order. Although the window will be given input focus when you select it, it will not pop to the top of the stack.

You can still, however, push a window that you've fixed in the stacking order to the bottom or bring it to the top of the stack to see it unobscured. Clicking on a window's filled push-to-back button moves that window to the opposite position in the stack, but does not give it input focus. Clicking on a filled push-to-back button pushes an unobscured window to the bottom of the stack. Clicking on a filled push-to-back button pops a partially or mostly obscured window to the top of the stack.

### Releasing Windows Locked in the Stacking Order

To release a window locked in the stacking order, shift click again on its push-to-back button. If the window was on the bottom of the stack, it pops to the top; if the window was on top, it is pushed to the bottom. The window's push-to-back button is no longer filled.

## Editing Text

DECwindows provides many ways to edit text, which saves you from retyping long file names or large blocks of text. Most applications allow you to move or 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 into a Cardfiler card.

In addition, most applications provide an Edit menu that allows you to cut, copy, and paste text and graphics. See the *VMS DECwindows Desktop Applications Guide* for more information about using the Edit menu in specific applications.

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

## Selecting Text

Before you can copy or move text to other locations in a window or between windows, you must select the text. You can copy text in any increment, including a word, a line, or a paragraph at a time. Text selection is progressive, meaning that the amount of text selected increases with successive clicks of MB1. The following table describes how 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 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 the Shift key and MB1 and drag the pointer through the additional text.
Extend the current selection to where the pointer is positioned	Press and hold the Shift key and click MB1.

In addition, some applications provide a way for you to select larger blocks of text at a time. For example, you can select a paragraph of text in EVE by pointing to the paragraph and clicking MB1 four times. You can select an entire mail message or the contents of a Notepad file by pointing to the text and clicking MB1 five times.

Only one piece of text can be selected at a time. By selecting text in one application, you cancel any other text selection you may have established in the same window or in another application.

## Copying Text

If you can type text in a window, you can select and copy text from one place to another in the same window, between windows of the same application or between different applications.

You can also copy text from a FileView window—including FileView's file list—into an application that supports text entry.

To copy text within a window, between windows in the same application, or between applications:

- 1 Select the text you want to copy using the text selection techniques described in the previous section.
- 2 Position the cursor where you want the text copied by pointing and clicking MB1.
- 3 Click MB3.

The text is copied to the new location.

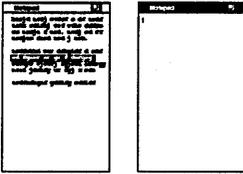
The window from which you selected text takes input focus. Sometimes, however, you want to copy text from another window to your current window without losing input focus in your current window. QuickCopy solves this dilemma.

To use QuickCopy:

- 1 In the current window, position the cursor where you want the text copied by pointing and clicking MB1.
- 2 In the other window, point to the text you want to copy.
- 3 Press and hold MB3.
- 4 Drag the pointer across the text you want to copy.  
The text is underlined as you drag across it.
- 5 Release MB3.

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

## Moving Text Between Windows



DECwindows also lets you work in one window, select text from another, and move that text to the current window without losing input focus in your current window. The text is deleted from its original location.

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/MB3**.
- 4 Drag the pointer across the text you want to move.  
The text is underlined as you drag across it.
- 5 Release **Ctrl/MB3**.  
The text is moved to the new location and deleted from the old.

## Deleting Text with Pending Delete

When you mark text for pending delete, you can delete large blocks of text with one keystroke instead of pressing the **<X>** key repeatedly. You mark text for pending delete by selecting it as described in the section **Selecting Text**. The selected text is deleted when you press any key. You can then type new text.

To cancel a pending delete selection (once you select the text but before you press a key), point to the selected text and click MB1.

## Text Editing Key Definitions

You can use the text editing techniques described in the following table to move the cursor or delete text in any DECwindows application.

To	Press
Move the text cursor one character to the right	Right arrow key. In a text field with only one line, the text cursor does not move beyond the end of the line. In a text field with multiple lines, the text cursor moves to the first position in the next line.
Move the text cursor one character to the left	Left arrow key. In a field with only one line, the text cursor does not move beyond the beginning of the line. In a field with multiple lines, the text cursor moves to the last position in the previous line.
Move the cursor to the next word	Shift/right arrow keys.
Move the cursor to the previous word	Shift/left arrow keys.
Move the cursor up one line in a text field with multiple lines	Up arrow key.
Move the cursor down one line in a text field with multiple lines	Down arrow key.
Move the cursor to the beginning of the line	F12 key or Ctrl/H keys.
Move the cursor to the end of the line	Shift/F12 keys or Ctrl/E keys.
Move the cursor forward between text fields	Tab key.
Move the cursor backward between text fields	Shift/Tab keys.
Delete the characters to the left of the cursor up to and including the beginning of the word	F13 key or Ctrl/J keys. (In EVE, Ctrl/J deletes the characters to the right of the cursor up to and including the end of the word.)
Delete the characters to the right of the cursor up to and including the end of the word	Shift/F13 keys. Not enabled in EVE.
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	<X> key.
Delete the character after the cursor and move all text to the right of the deleted character one space to the left	Shift/<X> keys. In overstrike mode, Shift/<X> deletes the character under the block cursor. Not enabled in EVE.
Delete all characters to the start of the line	Ctrl/U keys.
Refresh the window	Ctrl/R keys.

## Composing Special Characters

In DECwindows, you can use compose sequences to create special characters. A compose sequence is a series of keystrokes that creates characters that do not exist as standard keys on your keyboard. See the list of multinational character and ISO Latin 1 compose sequences in the *VMS DECwindows Desktop Applications Guide*.

Depending on the keyboard type, you compose characters in either of the following ways:

- Using three-stroke sequences on a VT200- or VT300-series keyboard.
- Using two-stroke sequences on any VT200-series keyboard except North American.

To compose a character using the list of compose sequences in Appendix A in the *VMS DECwindows Desktop Applications Guide*:

- 1 Find the character you want to create in column 1.
- 2 To compose a three-stroke sequence, press and hold the Compose key while you press the space bar, and then type the two characters in column 2.

To compose a two-stroke sequence, type the two characters in column 3. The desired character is displayed.

To cancel a compose sequence, press and hold the Compose key while you press the space bar, or press the <X> key, Tab key, Return key, or Enter key.

See the *VMS DECwindows Desktop Applications Guide* for information about composing characters in DECterm.

## Getting Help



You can get help in any DECwindows application by using the Help menu. Help provides brief information about screen objects, concepts, or tasks you can perform in applications. Some applications also let you get help on specific screen objects, for example, scroll bars and menu items, by using the Help key and MB1.

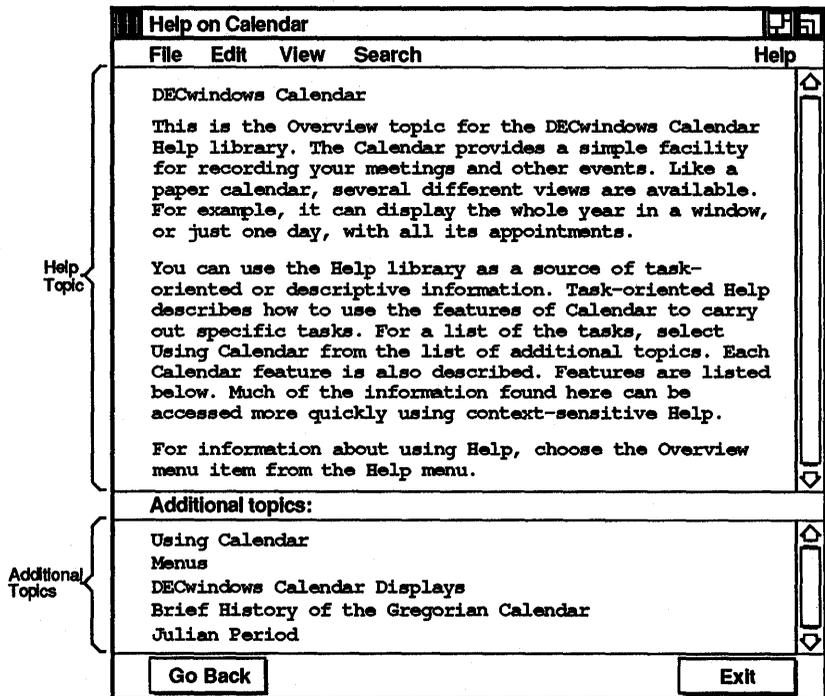
Help is designed to let you request general information on an application and quickly narrow the focus of your inquiry. In Help, you can

- Navigate quickly through help topics. Help keeps track of the path you used to get to a particular topic, which makes it easy for you to retrace your steps and follow a different path.
- Search Help for a keyword or topic supplied by the application.

## Invoking Help

To get help on tasks in DECwindows applications, choose the Overview menu item from the application's Help menu.

A help window opens with the Overview topic displayed. The Overview topic includes a list of additional topics that explain how to do common tasks.



- The help topic describes the task or object about which you requested help. Scroll bars are displayed if the text cannot fit in one frame.

- The Additional topics list contains related topics that you can select to display more information. You select these topics by pointing to them and double clicking MB1.
- The help buttons, Go Back and Exit, let you display the previous help frame or exit from Help.

To get help on bold such as menu names, scroll bars, and dialog boxes, point to the screen object, and press and hold the Help key on your keyboard while you click MB1. Note that help on objects is not available in all DECwindows applications.

To get help on a menu item, press the Help key while you press and hold MB1 on the menu item, then release MB1.

A help window opens, displaying information on the object you specified.

You can display product information about your application, such as the software version number, by choosing the About menu item 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. For more information about using Help, choose the Help menu item from the Help menu in each application's help window.

## Navigating in Help

When you select a topic from the Additional topics list in the Overview window, you start down a path that is limited only by your own curiosity. You can follow a path of topics by continuing to select additional topics, retrace your steps and branch off to a different topic, or return to the Overview frame and start down another path.

To select an additional topic:

- 1 Point to the item and click MB1.

The topic is highlighted to indicate it is selected.

- 2 Choose the Go To menu item from the View menu.

Faster still, just double click on the topic you want. Double clicking on a topic is a shortcut for selecting the topic and choosing the Go To menu item.

Help displays the selected topic. You can continue to select other topics from the Additional topics list or redisplay the topic you last saw by clicking on the Go Back button.

If you want to display the current topic and a new topic simultaneously:

- 1 Select another topic from the Additional topics list.
- 2 Choose the Visit menu item from the View menu.

Instead of replacing the current help topic with the new topic, another help window opens displaying information about the new topic. You can then explore other topics from the new help window and keep the current topic open for reference.

To see the path you followed to get to your current topic:

- 1 Choose the History... menu item from the Search menu.  
Help displays a dialog box that lists the topics you have already seen.
- 2 Double click on a topic to replace the current topic or select a topic and click on the Visit button to open another help window without replacing the current topic.

When you finish looking at a topic and want to close the help window, click on the Exit button. To return to the Overview frame, choose the Go To Overview menu item from the View menu in any help window.

## Searching Help for Titles and Keywords

You can 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 help topic title contains the word "Sending", or the topic in which the keyword "message" appears.

To search for a word or phrase contained in a topic title:

- 1 Choose the Title... menu item from the Search menu.  
Help displays a dialog box.
- 2 In the Title text field, type the word or phrase for which you want to search.  
Leave this field empty if you want Help to display a list of every topic title.
- 3 Click on Apply.  
Help displays the topics whose titles contain the word or phrase you specified.

To display the topic whose title contains the word or phrase you searched for, double click on the topic or select it and click on the Visit button. Help displays the topic in another window. The Search Topic Titles dialog box remains open for you to continue your topic search.

Help for each application has predefined keywords that you can search for. To search for a keyword used in a topic:

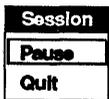
- 1 Choose the Keyword... menu item from the Search menu.  
Help displays a dialog box that lists the keywords defined for that application.
- 2 Double click on the keyword for which you want to search.  
Help lists the topics in which the keyword is used.

To display the topic in which the keyword is used, double click on the topic or select it and click on the Visit button. Help displays the topic in another window. The Search Topic Keywords dialog box remains open for you to continue your keyword search.

## Exiting from Help

To exit from Help, click on the Exit button. If you have multiple help windows open, you must close each one.

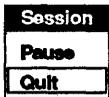
## Putting a Session on Hold



At any time, you can put your current session on hold indefinitely and lock your workstation without ending your session. When you put your session on hold, your screen is cleared, but your session is maintained exactly as it was. Any applications you started continue to run.

To put your current session on hold, choose the Pause menu item from the Session Manager's Session menu. Your screen is cleared and the Continue Session dialog box is displayed. To continue your session, type your password and press Return. Once the system verifies your password, your session resumes. If the Continue Session dialog box remains on your screen, you probably made a typing mistake. Click on the Clear button and type your password again.

## Ending a Session



You can end a session at any time. When you end a session, DECwindows stops all applications and clears the screen.

To end your session:

- 1 Choose the Quit menu item from the Session Manager's Session menu.
- 2 The Session Manager displays a dialog box asking you to confirm that you want to end the session. Click on OK or press **Return**.

---

# Glossary

## **bitonal**

Having pixels which are only 1 bit deep. Bitonal images have only two intensity values, 1 and 0 (which usually correspond to black and white). Contrast with the definitions for *gray scale* and *multispectral*.

## **brightness**

A relative measure of light energy. Brighter objects emit more light energy.

## **CCITT**

See *Comite Consultatif Internationale Telegraphique et Telephonique*.

## **chrominance**

Representation of color information in an image. Bitonal and gray scale images do not contain chrominance information. Multispectral images, which are images with more than one color, contain chrominance information.

## **clipboard**

A DECwindows tool for cutting and pasting images between windows.

## **Comite Consultatif Internationale Telegraphique et Telephonique**

An international consultative committee that sets international communications usage standards, which include facsimile, mail, and image compression.

**complement mode**

In scanning, the complement mode is the mode opposite that specified for a frame. A window within a frame is scanned in the complement mode. For example, if the scan mode for the frame is halftone, the complement mode for a window in the frame is line art.

**continuous tone**

A photograph or an image that has shades of gray or gradations of color. Both gray scale and multispectral images are called continuous tone images.

**contrast**

The degree of difference in brightness between the highlights and shadows of an image.

**coordinates**

A system for locating objects on a plane. In imaging applications, X represents the horizontal axis and Y represents the vertical axis, with the origin [0,0] at the upper left corner of the image. Coordinates are discrete and are expressed in terms of pixels.

**cropping**

The process of extracting a piece of an image, usually rectangular in shape, to create a new, smaller image.

**DCL IMAGE**

A component of the DECimage Scan Software product set that provides users with a set of DCL commands and qualifiers that apply and demonstrate basic imaging capabilities. DCL IMAGE is an image-capable application built using the other DECimage Application Services components.

**DDIF**

*See Digital Document Interchange Format.*

**DECwindows**

Digital's implementation of the X Window System.

## **Digital Document Interchange Format (DDIF)**

A document architecture that allows for the interchange of revisable form compound documents between Digital software systems. DDIF defines a standard for encoding document data, including text, graphics, and images.

## **digital image processing**

The manipulation of digital images by a computer, including:

- Acquiring images
- Manipulating and processing images
- Displaying images on video display devices and printers

## **digital images**

Images represented in digital format. A digital image is a two-dimensional array of pixels. Digital images contain both attribute information and pixel data.

Digital images can be either synthesized images or digitized images. They are represented in memory by ISL as image frames, and on disk in one of the following formats: bitmap, DDIF, PostScript, or sixel.

## **digitized image**

An image captured from paper, film, or television by a digitizing device such as a scanner. Digitized data is constructed from real-world data.

## **display device**

The DECwindows workstation screen or the printable surface of an image-capable printer.

## **dithering**

A method of creating the illusion of continuous tone pictures on output displays that are capable of producing only a few intensity levels.

## **dots per centimeter**

The number of sample points per centimeter. This ratio is meaningful only during digitizer or display operations.

## **dots per inch (dpi)**

The number of sample points per inch. This ratio is meaningful only during digitizer or display operations.

**dpc**

See *dots per centimeter*.

**dpi**

See *dots per inch*.

**grain**

An IIS image input device attribute. The grain attribute specifies the size of a square cluster of dots in which a threshold value is applied to each dot. The result is a distribution of black and white dots that gives the appearance of gray. This attribute has an effect in halftone mode only.

**gray scale**

An image whose pixel values represent shades of gray (the number of gray levels supported is  $2^n - 1$  where  $n$  is the depth of the image). Contrast with *bitonal*.

**halftone**

A method of creating the illusion of continuous tone pictures with bitonal representation. Halftoning usually takes place during the input process.

**image acquisition**

The process of creating digitized images from analog data. The image acquisition process requires a device that samples the physical attributes of an object or scene that originates from the real world. An example of a device used in image acquisition is a scanner, which measures the physical attribute of light.

**image capable**

The ability of an application or device to incorporate images and image processing into its functionality. DCL IMAGE is an example of an image-capable application. The PrintServer 40 is an example of an image-capable device.

**image compression**

A method of encoding an image for storage or transmission by using fewer bits of data than the original, uncompressed image contains. Image compression may result in an image that is not bit-identical with the original image.

**image input device**

A hardware device, such as a scanner, used to digitize an image and store the image data and attributes in an image file.

**landscape**

The orientation of a document or image in which the width is greater than the height

**line art**

A bitonal image or a mode of scanning that generates a threshold bitonal image.

**moiré pattern**

A lithographic term for the effect produced when one halftone screen is overlaid with another to produce an unwanted appearance of wavy lines.

**monochrome**

An image characteristic that indicates the image contains only points of one hue or one color. Bitonal and gray scale images are often called monochromatic images.

**multispectral**

An image characteristic that indicates the image contains points of more than one hue or color. Color images are often called multispectral images.

**pan**

To cause the screen image to appear to move horizontally or vertically.

**pixel**

A shortened form of the phrase "picture element" (also called pel). A pixel is the smallest addressable unit in a digital image.

**portrait**

The orientation of a document or image in which the height is greater than the width.

**PostScript**

A device-independent page description language that formats data for PostScript printers such as the PrintServer 40.

**region of interest (ROI)**

A region of interest (ROI) with a rectangular boundary constructed by the x- and y-coordinates of the beginning of the ROI; the number of pixels from the left corner to the right corner; and the number of scanlines from the top corner to the bottom corner.

**render**

To create a final form image file from a revisable form image for display on a specific device.

**resolution**

An image input or output device attribute that describes the number of pixels per unit length in height and width. See *dots per centimeter* and *dots per inch*.

**revisable form image**

Includes image data and attributes. When combined, these form the source for final form images. Data is in a format that may be transformed into other revisable form images or final form images. Attributes necessary to describe and correctly render for final form are provided. Contrast with *final form images*.

**ROI**

See *region of interest*.

**rotate**

To turn an image or region of interest around the z-axis for a specified number of degrees.

**rotation angle**

The floating point number that specifies the degrees by which to rotate an image.

**rubberband box**

A rectangular region of interest defined by pressing MB1 and dragging the mouse.

**scan**

The process by which a two-dimensional image is digitized. This process requires an input device such as a scanner.

**scan frame**

The area of the source document from which to transmit image data.

**scanner**

An image input device that reads data from a physical image and translates that data to a stream of pixels. These pixels are then typically encoded as data and transferred to a storage device.

**scan window**

The area of the screen in which an image is previewed after acquisition from the scanner.

**sixels**

A group of six vertical pixels that represent a binary bitmap for a graphic device. One sixel is encoded into one (printable) ASCII character. A series of sixels is used to represent an image.

**view**

To display a final form image, generally on a video device.



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# Index

## A

- Adjusting images
  - cropping, 5-7
  - rotating, 5-3
- Applications
  - moving between, B-3
  - running as icons, B-12
- Automatic Document Feeder, 3-9

## B

- Bitonal, 4-1
- Brightness, 4-8

## C

- CCITT, 3-11
- Characters, creating special keyboard,  
B-19
- Chrominance, 4-4
- Clear All, 5-11
- Clicking, B-2
- Clipboard, 5-2
  - copying to, 5-6
  - cutting to, 5-6
  - pastings from, 5-7
- Color images, 4-4
- Commands menu
  - Scan option, 4-6

## Commands menu (Cont.)

- Select Scanner option, 4-5
- Setup Scanner options, 4-6, 4-11
- Complement mode, 4-10
- Compose sequence, B-19
- Compress, 3-11
- Continuous tone, 4-1, 4-2
- Contrast, 4-9
- Coordinates, 4-12, 4-14, 4-16
- Copying Regions, 5-6
- Create/Directory command, 6-1
- Cropping images, 5-7
- Crop Region, 5-7
- Cursor
  - moving, B-17
  - resizing, B-11
- Customize menu, 3-1, 3-2
  - Delivery Settings option, 3-8
  - Display Settings option, 3-3
  - Restore Settings option, 3-3, 3-11
  - Save Settings option, 3-3, 3-11
  - Use Default Settings option, 3-3

## D

- DCL IMAGE, Glossary-2
- DDIF, 1-1
- DECwindows, 2-1, B-1 to B-24
- Default options, choosing, B-7
- Default Settings, 3-3

Delivery Mode, 3-11  
Delivery Settings, 3-8  
    dialog box, 3-8 to 3-11  
Dialog box, 3-1  
    components of, B-6  
    moving within, B-8  
    start session, 2-1  
Display Settings, 3-3  
    dialog box, 3-3 to 3-8  
Dithering, 4-4  
Dots per centimeter, 4-8  
Dots per inch, 3-5, 4-1  
Double clicking, B-3  
Dragging, B-2

## E

Edit menu, 5-1  
    Copy option, 5-6  
    Crop Region option, 5-7  
    Cut option, 5-6  
    Paste option, 5-7  
    Reverse Region option, 5-9  
    Rotate Image option, 5-3  
    Undo option, 5-10  
    Wash Region option, 5-8  
Enhancement options, 4-8 to 4-10  
Error messages, A-2 to A-3  
Exit, 6-6

## F

### File

    automatic delivery of, 3-10  
    compression, 3-11  
    creating a directory, 6-1  
    mailing a file, 6-5  
    opening a file, 6-2  
    saving a file, 6-3

### File menu, 6-1

    Exit option, 6-6  
    Mail To option, 6-5  
    Open As option, 6-2  
    Quit option, 6-6  
    Save As option, 6-3

Frame Setup dialog box, 4-11, 4-16

## G

General Setup dialog box, 4-6  
Grain, 4-9  
Gray scale, 4-3

## H

### Halftone

    scanning printed halftones, 4-1

Halftone Mode, 4-10, 4-11  
    grain adjustment, 4-9

### Help

    about DECwindows, B-19  
    choosing topics, B-21  
    invoking, B-20  
        with Help key and MB1, B-21  
    menu items, 7-4  
    navigating, B-21  
    overview of DECimage Scan Software,  
        7-2  
    requesting on objects, B-20  
    searching, B-22  
    using DECimage Scan Software Help,  
        7-3

Help About window, 7-3

Help key, B-21

Help Overview window, 7-2

Help window, B-20

## I

### Icon

    expanding to a window, B-13  
    storing in icon box, B-12

### Image

    acquisition, Glossary-4  
    compression, 3-11  
    input device, Glossary-5  
    scanning, 4-1

Input focus, B-3

    giving to a window, B-13

## **K**

### **Keys**

text editing, B-17

## **L**

Landscape image, 5-5

Line art, 4-1

List box, B-8

Luminance, 4-8

## **M**

### **Magnify**

percentage, 3-8

relationship to resolution, 3-4

### **Mail**

transmitting an image, 6-5

Mail To, 6-5

MD300 scanner, 1-1, 1-2, 4-1

### **Menu**

See Option menu

See Pop-up menu

See Pull-down menu

See Submenu

Mode option, 4-10

Moiré pattern, 4-1

Mouse, B-1

Multiple scanning, 3-9

Multispectral, 4-4

## **O**

Open As, 6-2

### **Option button**

defined, B-7

using, B-8

Option menu, B-6

## **P**

Page Size, 4-9

Paste, 5-7

Pending delete, B-17

Pixels, Glossary-5

Pointing, B-2

Pop-up menu, B-5

Portrait image, 5-3

Pressing, B-2

Pull-down menu, B-3

Push button, B-7

Push-to-back button, B-13 to B-14

## **Q**

### **QuickCopy**

copying text with, B-16

Quit, 6-6

Quitting a DECimage Scan Software session, 2-6

## **R**

Rectangular ROI, 5-2

Region of interest, 5-2

Rendered image, 4-2

Resize button, B-11

Resolution, 4-8

Restore Settings, 3-3  
dialog box, 3-11

Reverse Region, 5-9

### **Rotate Image**

rotation angle for, 5-3

### **Rubberband box**

used for scan frame setup, 4-12 to 4-14

used for window setup, 4-14 to 4-15

used to define regions of interest, 5-2

## **S**

Save As, 6-3

Save Current Settings, 4-8

Save Settings, 3-1, 3-3, 4-10  
dialog box, 3-11

### **Scale**

defined, B-7

using, B-8

Scaled View window, 3-3

- Scan Frame, 4-11
- Scan Mode, 3-9
- Scanner, 1-1, 1-2, 4-1
  - frame setup, 4-11 to 4-16
  - general setup, 4-6 to 4-10
  - selection, 4-5
- Scanner Setup dialog box, 4-6
- Scan Pages, 3-10
- Scan window, 3-1, 3-3, 3-6
- Scan Windows, 4-11
- Scrolling, B-9
- Session
  - ending, 6-6, B-24
  - putting on hold, B-23
- Session Manager, B-24
- Setup Scanner dialog box
  - adjustment slider, 4-7
- Shift clicking, B-3
- Shrink-to-icon button, B-12
- Sixels, 1-1
- Slider, B-9
- Software error messages, A-1
- Stacked windows, B-13
- Starting DECimage Scan Software, 2-3
- Start Session dialog box, 2-1 to 2-2
- Stepping arrow, B-9
- Submenu, B-4

## T

- Terminating a DECimage Scan Software session, 2-6
- Terminating a DECwindows session, 2-6

## Text

- copying, B-16
- deleting, B-17
- editing, B-14, B-17
- moving between windows, B-17
- selecting, B-15, B-17

Text entry fields

- moving between, B-8
- typing in, B-7

- Title bar
  - moving a window with, B-10
- Toggle button, B-8
  - defined, B-7

## U

- Undo, 5-10
- Undoing Changes
  - with the Edit Clear All command, 5-11
  - with the Edit Undo command, 5-10

## W

- Wash Region, 5-8
- Window
  - changing size of, B-11
  - copying text between, B-16
  - directing typing to, B-3
  - locking in the stacking order, B-13
  - moving, B-10
  - moving text between, B-17
  - popping to top of stack, B-13
  - releasing from a fixed stacking order, B-14
  - selecting, B-3, B-13
  - shrinking, B-12
  - stacking, B-13
- Workstation
  - locking, B-23

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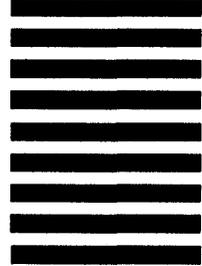
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