



COLOR CONTROLLER E-750 SERVICE GUIDE

for digital copiers

A guide for service technicians

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Preface

The *Service Guide* is intended for certified E-750 and copier service technicians servicing a E-750. If you have not received installation and service certification, you should not attempt to install or service a E-750. Electronics for Imaging, Inc. does not warrant the performance of the E-750 if installed or serviced by non-certified personnel.

About this guide

This guide is divided into the following sections:

- “Preface”
Gives general information about this guide and general information that you should know before you attempt to install or service the E-750.
- Chapter 1, “Introduction”
Provides general information about the E-750.
- Chapter 2, “Using the E-750 Control Panel”
Tells you how to use the Control Panel for E-750 functions, such as canceling print jobs or printing Test and Configuration pages.
- Chapter 3, “Service Procedures”
Describes removal and replacement procedures for E-750 assembly components.
- Chapter 4, “Troubleshooting”
Identifies the source of common problems and suggests ways of correcting them.
- Appendix A, “Specifications”
Provides an overview of E-750 hardware specifications.

Customers should not use the technical service documentation. Do not leave this guide behind after you make a service call.

About the illustrations in this guide

Illustrations in this guide reflect the E-750 assembly at the time of publication. Components shown in these illustrations are subject to change. To receive information about any components that do not match illustrations in this guide, contact your authorized service support center.

Terminology and conventions

The term “network administrator” refers to the person responsible for maintaining the network at the customer site.

The term “Control Panel” describes the separate E-750 Control Panel attached to the front of the copier. It includes an LED, a display window, and several control buttons.

The term “PC” refers to any IBM PC or compatible computer running Microsoft Windows over MS-DOS.

The term “100BaseT” refers to 100BaseTX.

The term “HDD” refers to the hard disk drive that is part of the E-750 assembly.

The term “E-750” refers to the functional module that supports network printing and associated features for the copier.

NOTE: The note indicator highlights important messages and additional information.



The caution icon indicates a need for special care and safety when handling the equipment.

Precautions

Always observe the following general precautions when installing and servicing the E-750 assembly:

- **Report any shipping damage.**

If there is any evidence of shipping or handling damage to packing boxes or their contents, save the damaged boxes and parts, call the shipper immediately to file a claim, and notify your authorized service/support center.

- **Never alter an existing network without permission.**

The E-750 is probably connected to an existing Local Area Network (LAN) based on Ethernet hardware. The network is the link between the customer’s computer, existing laser printers, and other prepress equipment. Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and express permission of the network administrator.

Precautions

- **Never enter an IP address in Network Setup.**

Only the network administrator should enter an IP address on a network device. Assigning an incorrect IP address to the E-750 can cause unpredictable errors on any or all devices.

- **Follow standard ESD (electrostatic discharge) precautions while working on the internal components of the copier.**

Static is always a concern when servicing electronic devices. It is highly unlikely that the area around the copier is static-free. Carpeting, leather-soled shoes, synthetic clothing fibers, silks, and plastics may generate a static charge of more than 10,000 volts. Static discharge is capable of destroying the circuits etched in silicon microchips, or dramatically shortening their life span. By observing standard precautions, you may avoid extra service calls and save the cost of a new board.

When possible, work on a ground-connected antistatic mat. Wear an antistatic wristband, grounded at the same place as the antistatic mat. If that is not possible:

- Attach a grounding strap to your wrist. Attach the other end to a good ground.
- When you remove an electronic component, place it into an antistatic bag immediately. Do not walk across a carpet or vinyl floor while carrying an unprotected board.
- Leave new electronic components inside their antistatic bags until you are ready to install them.
- When you unpack the electronic components, touch a metal area of the copier to discharge the static on your body. Place the components on a grounded antistatic surface, component-side up.
- **Avoid flexing a printed circuit board and handle it by opposing edges (not corners) only.**
- **Be careful of sharp edges when handling metal parts of the E-750 assembly or copier.**
- **Never set a cup of coffee—or any liquid—on or near any components or the copier.**

Tools you will need

To service the E-750, you should bring the following:

- ESD wrist grounding strap
- Antistatic mat
- #1 and #2 Phillips head screwdrivers (non-magnetic)
- Small needlenose pliers
- Flashlight
- This guide and any technical notes you may have for the E-750

Chapter 1: Introduction

The E-750 provides highly efficient color printing capability for the copier. Users can print from networked PCs running Windows 9x/Me, Windows NT or Windows 2000/XP, and from networked Mac OS computers.

Features

As an integral part of the printing system, the E-750 enables users to:

- Send images over TCP/IP, Novell, and AppleTalk networks
- Spool print jobs and select a printing priority for each job. Users can control spooled print jobs sent to the E-750 with remote user software running on networked PCs and Mac OS computers
- Print files in color and black and white
- Print PostScript, EPS, and PDF files
- Use the copier as a high-resolution color scanner with EFI Fiery Scan™ software
- Use 136 resident fonts (117 Adobe Type 1 PostScript and 19 TrueType) plus two Adobe Multiple Master fonts used for font substitution when printing PDF files. The Fiery Downloader or any third-party LaserWriter downloader, such as the Adobe Font Downloader, can be used to download additional fonts
- Use built-in EFI Fiery ColorWise® color management and EFI Fiery NetWise™ network features.

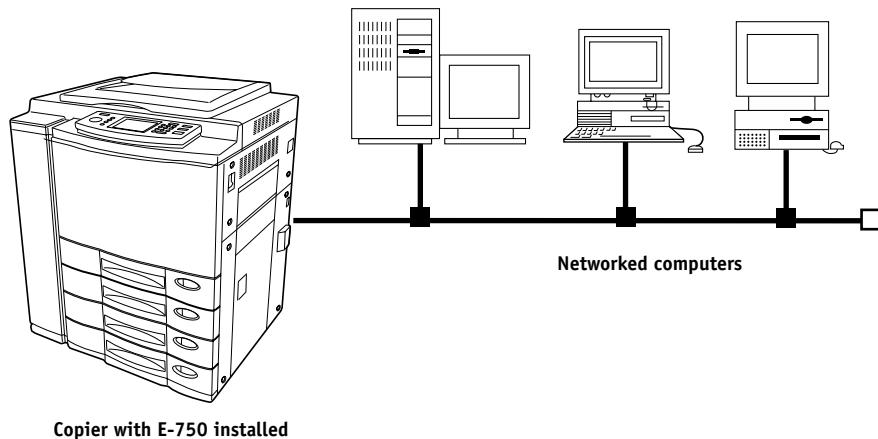


FIGURE 1-1 E-750 printing system

How the E-750 operates

The E-750 provides efficient image processing and printing control. The E-750 board includes a 850MHz Intel Pentium III CPU with a built-in floating point accelerator that runs the PostScript Interpreter, which interprets the page description file to produce the image pattern in memory. The EFI Fiery RIPChips™ on the board control data management and other system functions, freeing up the CPU for efficient image data processing.

Image data is processed by the E-750, which sends the information to the copier. Raster data is supplied to the laser in the copier at full copier rated speeds in order to charge the drum and render the final image on paper.

One or more high-speed DIMMs (dual in-line memory module) on the E-750 board hold image data during printing. The DIMM configuration is 256MB.

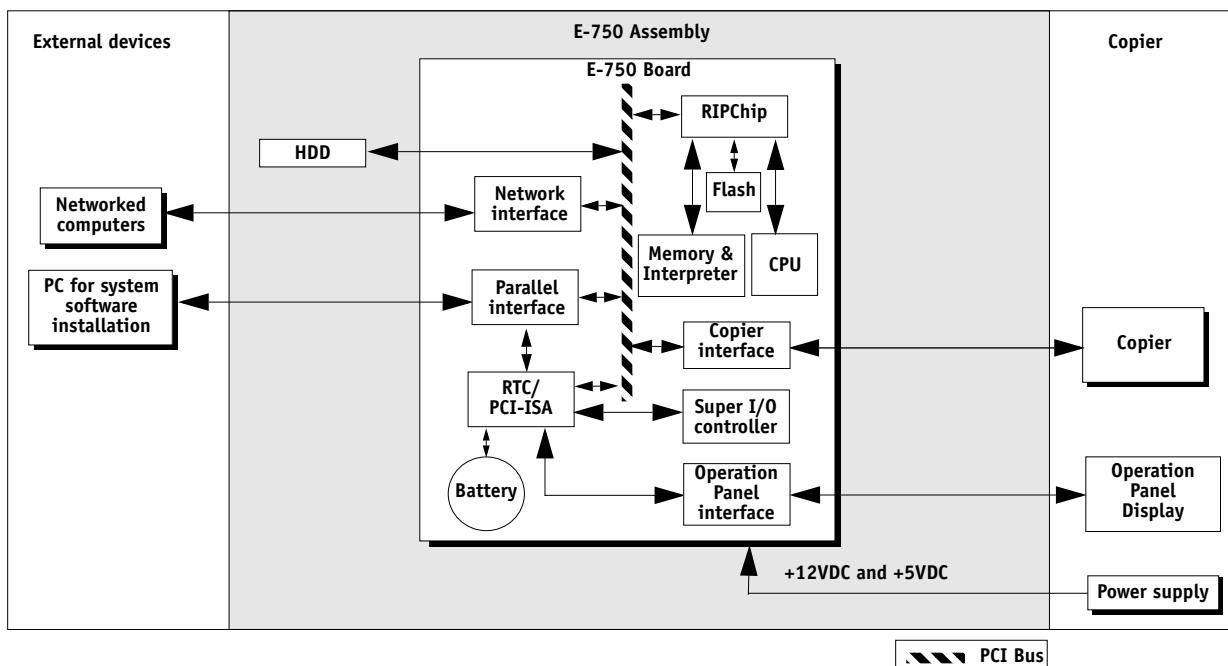


FIGURE 1-2 E-750 functional diagram

E-750 print options

The efficient PostScript capabilities of the E-750 allow customers to use a variety of applications to create printed color pages of text and/or images. Since the E-750 has the ability to print an image while processing the next image (RIP-While-Print®), it is capable of printing documents at full copier speeds.

Users can print documents directly from the applications in which they were created. In addition, the E-750 offers an efficient way to print files that have been saved in PostScript, EPS (Encapsulated PostScript), or PDF format. These files can be downloaded directly to the E-750 using the Fiery Downloader™, a remote utility provided with E-750. Customers can print documents directly from applications running on networked PCs.

User software

User software is provided on the User Software CD. The network administrator or the user at the customer site is responsible for installing software onto computers that will use the E-750 over the network.

The User Software CD includes:

Adobe PostScript Printer Driver	Enables users to print to the E-750 from Windows and Mac OS computers; also supports special E-750 and PostScript 3 features.
PostScript Printer Description file (PPD)	This file is used with the PostScript printer driver that allows the E-750 to appear in popular applications' Print and Page Setup dialog boxes. The E-750 PPDs provide information about the E-750 and the user's particular copier model to the application and printer driver you are using.
PostScript Fonts (Mac OS only)	PostScript screen and printer fonts that correspond to the 138 PostScript printer fonts installed on the E-750 (128 Adobe Type 1 and 10 TrueType). See the E-750 user documentation for a complete list of PostScript fonts installed on the E-750.
Fiery Downloader	Enables users to print PostScript files, Encapsulated PostScript (EPS) files, and Portable Document Format (PDF) files directly to the E-750 without opening the application in which they were created. Fiery Downloader also enables you to manage the printer fonts installed on the E-750.

1

Introduction

Command WorkStation (Windows only)	Allows the operator to manage job flow and control E-750 functions from remote workstations. For more information, see the <i>Job Management Guide</i> .
Command WorkStation LE (Mac OS 10.2.x)	Allows the operator to manage job flow and control E-750 functions from remote Mac OS computers. For more information, see the <i>Job Management Guide</i> .
EFI Fiery Spooler™ (Mac OS 9.x only)	Enables users to view the order and priority of print jobs, customize printer settings for jobs, delete jobs, and move jobs between queues. It can also be used to view job accounting information.
ColorWise Pro Tools™	ICC-open color management and calibration tools; enables users to edit and download ICC profiles.
Fiery Remote Scan	Enables users to scan images from the copier directly into an image-editing application such as Photoshop, or to another remote destination.
EFI Job Monitor (Windows only)	Allows users to monitor the print status of jobs sent to the E-750 and to track the status of consumable materials on the printer.
Printer Delete Utility	Enables users to find and delete E-750 printer drivers from their computers.
Color management files	ColorSync and ICM color management files that enables users to maintain consistent color from the original artwork to the colors displayed on the monitor to the printed output.
Color reference files	Reference pages that you can print to view the range of colors available on the E-750. For the most predictable color results, refer to these pages when defining colors in applications. For more information on color management, see the E-750 user documentation.
Calibration files	Includes measurements files and targets that you used with ColorWise Pro Tools.
MRJ (Mac OS 9.x only)	Mac OS Runtime for Java installer. MRJ is required by all Java-based Fiery utilities. When installing these utilities, if MRJ is not detected the MRJ installer is automatically launched.

1

User software

Fiery WebTools

The E-750 can support Internet or intranet access with EFI Fiery WebTools™, which include Status, WebLink, Installer, WebDownloader, WebScan, and WebSetup.

For more information on WebTools, see the E-750 user documentation.

Chapter 2: Using the E-750 Control Panel

This section describes the E-750 functions on the Control Panel. The E-750 Control Panel is separate from the copier Operation Panel and is located on the left side of the copier. You will use the buttons on the Control Panel to access and monitor different features of the E-750.

Status/Control overview

Current status and Setup information are displayed on the E-750 Control Panel. Print activity can be monitored in the display window and specific E-750 functions (such as printing a Test Page and installing or updating system software) are controlled using the buttons on the E-750 Control Panel. An activity light assists in providing status information.

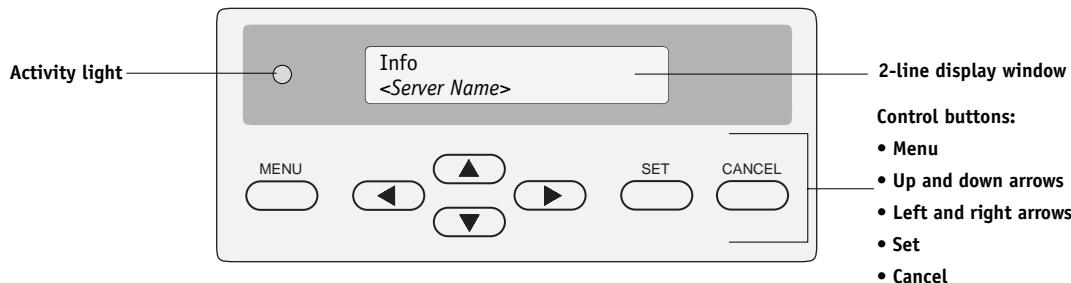


FIGURE 2-1 E-750 Control Panel

Activity light

The activity light on the E-750 Control Panel indicates copier status and provides the following information:

Activity light status	Condition
Off	Off when the E-750 is off.
Solid green	Solid green indicates the copier is ready to receive jobs, processing or printing a job, or communicating with a remote computer (for example, through EFI Command WorkStation™).
Solid orange	Solid orange indicates there is an error that prevents printing (see the E-750 user documentation for more information).
Solid red	Solid red for more than 30 seconds may indicate a communication error between the E-750 and the copier.

2

Using the E-750 Control Panel

Buttons

The control buttons on the E-750 Control Panel allow you to navigate the various screens and to send commands. Usually, the display window shows the name of the screen on the first line and one menu item or message on the second line. The buttons perform the following functions:

Buttons	Description
Menu	Use to move from the Idle screen to the runtime screens and the Functions screen. Use in the Setup menus to go back one level.
Set	Selects the currently displayed menu item and proceeds to the next screen.
▲	Use to scroll up the screen to the previous entry in a list or portion of a message. When the top of the screen is reached, pressing the up arrow displays the bottom of the screen.
▼	Use to scroll down the screen to the next entry in a list or portion of a message. When the bottom of the screen is reached, pressing the down arrow displays the top of the screen.
►	Use to advance the cursor to the text-entry position to the right.
◀	Use to backspace the cursor to the text-entry position to the left. In a text field, it deletes the character to the left.
Cancel	Use to cancel a process, and to move from the runtime screens to the Functions screen and the Idle screen.

2 Screens

Screens

While one or more jobs are being sent to the E-750, runtime information is displayed on the E-750 Control Panel. If an Alert condition arises, the Alert screen is displayed.

Pressing the Menu button moves from the Idle screen to any active runtime screens (RIP, Print, Alert) and then to the Functions screen. Pressing the Cancel button moves from any active runtime screen to the Functions screen and then to the Idle screen.

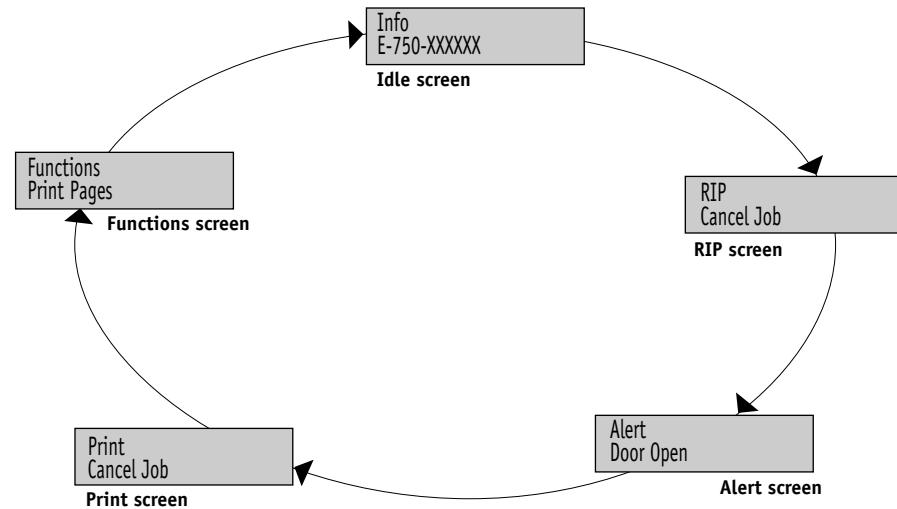
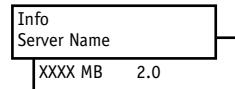


FIGURE 2-2 E-750 Control Panel screens

2 Using the E-750 Control Panel

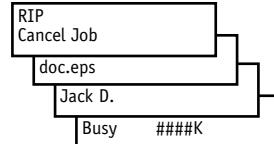
These screens contain the following information:

Idle status screen



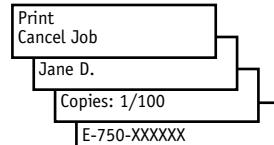
The first line of this screen displays the status of the E-750. The status can be Info, Processing, Printing, Error, or Offline. The second line of the screen displays the copier's name on the network. Scrolling down displays the amount of disk space available on the hard disk drive, and the current system software version. Normally, if no jobs are currently being processed or printed, the Idle screen displays Info (a job may be between processing and printing). The Idle screen is the default screen.

RIP status screen



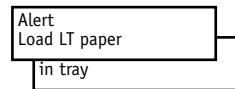
Allows you to cancel the job being processed. Displays the name of the file, the name of the user who sent the job, the status, and the amount of the job in kilobytes that has been processed so far. To cancel a job, display Cancel Job and press the Cancel button.

Print status screen



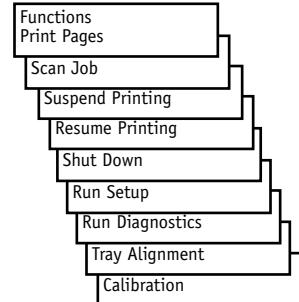
Allows you to cancel the job being printed. Displays the name of the user who sent the job, the number of copies printed so far, and the number of copies requested. To cancel a job, display Cancel Job and press the Cancel button.

Alert screen



Displays a message if an error or other Alert condition arises. Pressing the down arrow button may be necessary to view the entire error message. If other screens are being accessed, the Alert screen is redisplayed frequently until the condition is resolved.

Functions screen



Gives you access to administrative functions not normally performed from a remote workstation (see "Functions screen" below for information on the available functions).

Functions screen

The Functions screen allows you to perform a variety of administrative functions that do not affect print jobs of other users. To access the Functions screen, press the Menu button. Use the up/down arrow buttons to scroll through the list of menu items. Press the Set button when the option you want to select is displayed. Press the Menu button or do nothing to return to the Main screen.

The following options are available from the Functions screen:

Print Pages—Enables you to print special pages from the copier:

- **Test Page**—Prints the Test Page resident on the E-750 hard disk drive. The Test Page confirms that the E-750 is properly installed in the copier and allows you to view information about color and grayscale to troubleshoot E-750 functions. The following information also displays: Server name, Printer name, Calibration, Measurements, Date & Time, CMYK Simulation, RGB Source, Rendering Style, Color Mode, and Compression. For more information, see the E-750 user documentation.
- **Configuration**—Prints the current device configuration, including information about all current Setup settings, calibration profile, and the Ethernet address of the E-750 board.
- **Job Log**—Prints the log of the last 55 jobs. For more information about the job log, see the E-750 user documentation.
- **Control Panel Map**—Prints a visual overview of the screens that you can access from the Control Panel display. This map is useful when navigating through the various Setup screens.
- **Color Charts**—Prints the color reference charts, including swatches of the RGB, CMY, and Pantone colors available from the E-750.
- **Font List**—Prints a list of all the fonts resident on the E-750 hard disk drive, including any fonts that were downloaded to the E-750 by the customer.
- **E-mail Log**—Prints a log of the jobs sent to the E-750 using the e-mail printing feature. For more information about e-mail printing, see the E-750 user documentation.

Scan Job—Allows users to initiate a scan job from the Control Panel. For more information, see the *Printing Guide*.

Suspend Printing—This option interrupts the current print job. If it has not finished processing, the job will continue processing but will not print. Select Resume Printing to continue with the print job.

2

Using the E-750 Control Panel

Resume Printing—Resumes printing after interrupting the print job in order to make copies.

Shut Down—When you select this option, you can choose from the following:

- Restart Server—Resets the E-750 system software but does not reboot the entire system. Network access to the E-750 is temporarily interrupted and all currently processing jobs are aborted and might be lost.
- Shut Down System—Shuts down all E-750 activity properly so that you can power off the system using the main power switch on the copier. You should always select this option before powering off the copier.
- Reboot System—Shuts down all E-750 activity properly and then restarts.

Run Setup—allows you to access the Setup options in order to configure the network and printing environment. Typically it is the network administrator's responsibility to configure Setup according to the network and user environment. See the E-750 user documentation for a list of options and detailed descriptions of each Setup option.

NOTE: Setup is required the first time the copier is powered on and after E-750 system software is installed. You must save changes to Server, Network, and Printer Setup after installing system software.

Run Diagnostics—When you select this option, you can run the following tests:

- Video Diagnostics—Runs diagnostics on the image processing capabilities of the E-750.
- Test E-mail—Runs diagnostics on the e-mail printing feature. For more information about e-mail printing, see the E-750 user documentation.

Tray Alignment—Use this feature to align input trays for printing. Aligning the trays helps to center an image on the printed page or to match the front and back images of a duplex printed page. For more information, see the *Job Management Guide*.

Calibration—Accesses the Calibration menus. Requires a password, if one has been set. For more information, see the E-750 user documentation.

2

Config Mode

Config Mode

The E-750 Control Panel provides a Config Mode screen which lets you perform special functions such as clearing all jobs on the E-750, installing system software, and viewing system software version information.

TO USE CONFIG MODE FUNCTIONS

1. **Power on or reboot the E-750.**
2. **When the “Press any key to enter config mode” screen appears on the Control Panel, press any key on the Control Panel.**

The Config Mode screen appears.

>Diagnostics<
V Resume Boot

3. **Select the desired option from the Config Mode screen.**
 - Diagnostics—[This option is for factory use only.]
 - Resume Boot—Exits Config Mode and continues the normal E-750 startup routine.
 - Installation—Lets you perform system software installation (see page 3-27).
 - Clear Server—Clears all jobs from the E-750 queues. This option also clears the Job Log, all jobs saved on the E-750 hard disk drive, and the index of all archived jobs.
 - Version Info—Displays system information for the E-750.

Shutting down, rebooting, and restarting the E-750

Generally, you can leave the E-750 and the copier running all the time. This section describes how to reboot, shut down, and restart the E-750 when necessary.

Shutting down and rebooting the E-750

You may need to shut down the E-750 for service, or reboot the entire E-750 system. When you do so, fonts that have been downloaded to the hard disk drive are not deleted. Print jobs in the Hold queue, the Printed queue, and jobs that have been processed but not printed are not deleted; they will be available for printing when you restart the E-750.

2

Using the E-750 Control Panel

TO SHUT DOWN THE E-750

1. Make sure that no jobs are being processed or printed (the activity light should be off).
2. Press the Menu button on the Control Panel to access the Functions menu.
3. Use the Down arrow to scroll to Shut Down. Press the Set button.
4. Use the Down arrow to scroll to Shut Down System. Press the Set button.

The activity light turns orange, and the message “Shutdown in progress” appears on the Control Panel.

5. When the activity light turns off and the message “Safe to power off the system” appears on the Control Panel, power off the copier using the main power switch.

NOTE: After powering off the copier, wait at least three seconds before powering it back on.

TO REBOOT THE E-750

1. Press the Menu button on the Control Panel to access the Functions menu.
2. Use the Down arrow button to scroll to Shut Down. Press the Set button.
3. Use the Down arrow button to scroll to Reboot System. Press the Set button.

The E-750 will reboot.

Restarting the E-750

Restarting the E-750 resets the E-750 system software, but does not reboot the entire system. Network access to the E-750 is temporarily interrupted and all currently processing jobs are aborted.

TO RESTART THE E-750

1. Press the Menu button on the Control Panel to access the Functions menu.
2. Use the Down arrow to scroll to Shut Down. Press the Set button.
3. Use the Down arrow to scroll to Restart Server. Press the Set button.

If an error occurs during startup, the activity light will turn red. Check the Control Panel display for details of the error.

3

Overview

Chapter 3: Service Procedures

Generally, the E-750 assembly does not require regular maintenance. Use the procedures in this chapter to inspect, remove, reseat, or replace major hardware components. This chapter also describes how to install system software on the E-750.

Overview

This chapter includes information on the following:

- Cable connections (page 3-6)
- E-750 board (page 3-8)
- E-750 board components
 - CPU cooling assembly (page 3-11)
 - DIMMs (page 3-13)
 - Battery (page 3-14)
- Fans (page 3-16)
- Hard disk drive (page 3-17)
- System software (page 3-22)

See Figure 3-1 on page 3-2 for an overview of E-750 board components. Replacement parts are available from your authorized service representative.



When performing the procedures described in this chapter, see “Precautions” on page viii and “Tools you will need” on page x.

The E-750 system software is installed on the hard disk drive at the factory. You will need to re-install system software if you:

- Replace the hard disk drive
- Upgrade to a more recent version of the system software

3 Service Procedures

Key

- 1. Faceplate
- 2. Tray
- 3. E-750 board
- 4. Hard disk drive
- 5. HDD power cable
- 6. HDD cable
- 7. Battery
- 8. DIMM(s)
- 9. CPU assembly
- 10. Copier interface connector
- 11. Intake fan 1
- 12. Intake fan 2
- 13. Power supply cable
- 14. Control Panel cable
- 15. Top cover

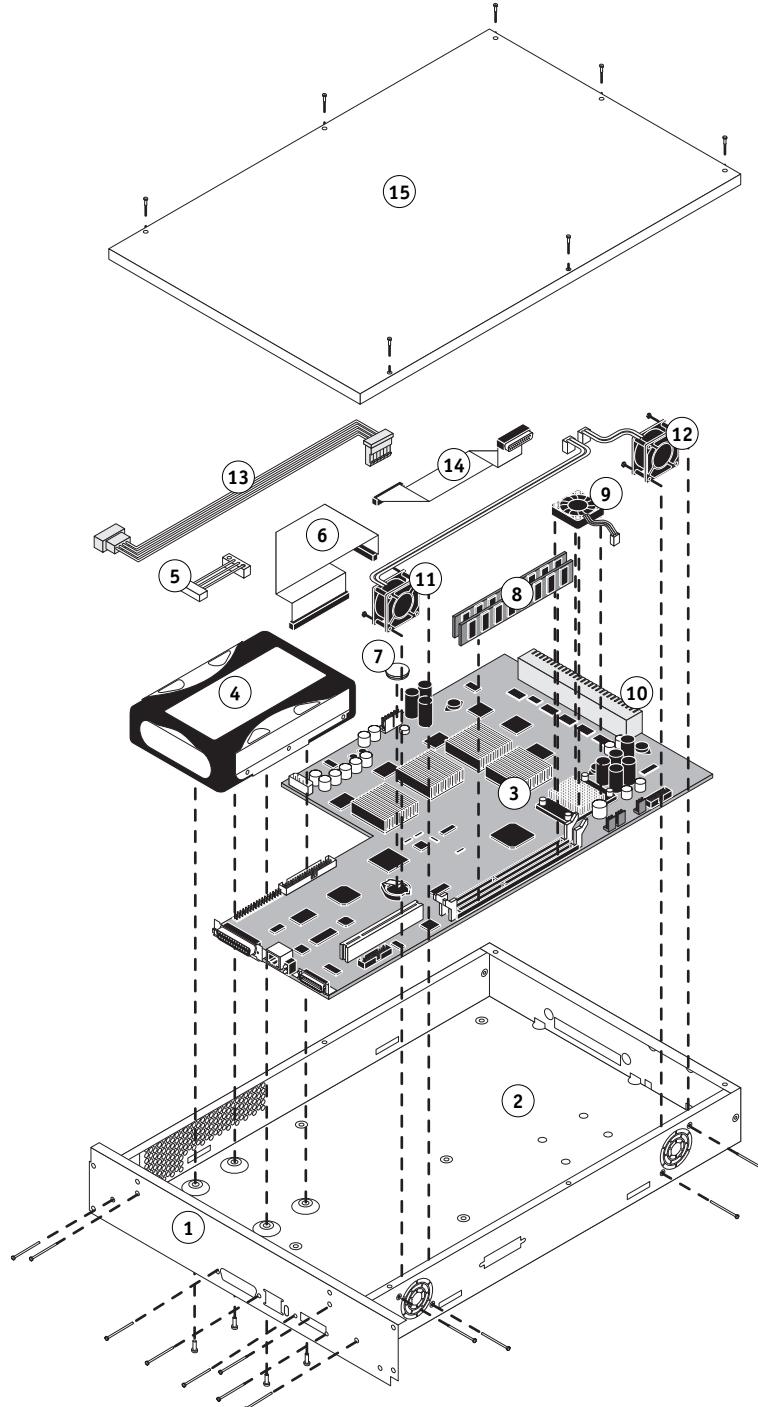


FIGURE 3-1 Exploded view of E-750 assembly

3

E-750 assembly

E-750 assembly

The E-750 board has a 850MHz CPU that controls the video image data transferred to and from the copier. The E-750 board provides the Ethernet networking interface, controls hard disk drive functions, and handles the communication between the E-750 and external devices.

The E-750 board has two DIMM sockets (see Figure 3-4 on page 3-8 and also “DIMMs” on page 3-13). The E-750 board is configured with 256MB of memory at the factory.

The E-750 connects to the copier via the copier interface connector at the back of the E-750 assembly. When the entire E-750 assembly is installed inside the copier, the following connectors are accessible from the faceplate:

- 25-pin parallel port for dongle
- 10/100BaseT network port
- 36-pin parallel port for system software installation

Following are instructions for accessing, removing, and replacing the E-750 board, as well as components such as the CPU fan, DIMMs, battery, intake fans, and HDD.



Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before following this procedure.

Accessing E-750 assembly components

In order to service the E-750, you need to shut down and open the copier. For instructions, see other documentation included with the copier. Once the E-750 assembly is removed from the copier, you can access its components.

TO REMOVE THE E-750 ASSEMBLY

1. Shut down the copier.
2. Open the side of the copier so that you can access the E-750 assembly.
For details on opening the copier, see the other documentation included with the copier.
3. Remove the network cable from the E-750 network port (see page 3-26).
4. Pull the E-750 assembly about six inches out of the copier slot.
5. Remove the power supply cable from the copier power supply (see page 3-7).
6. Remove the Control Panel cable from the E-750 Control Panel (see page 3-7).
7. Pull the E-750 assembly out of the copier.

3

Accessing E-750 assembly components

TO ACCESS E-750 COMPONENTS

1. Remove the eight screws that secure the faceplate to the E-750 tray. Pull the faceplate away from the tray and set it aside.
2. Remove the seven screws that secure the top plate to the E-750 tray. Lift the top cover off of the assembly tray and set it aside.

E-750 components are now accessible.

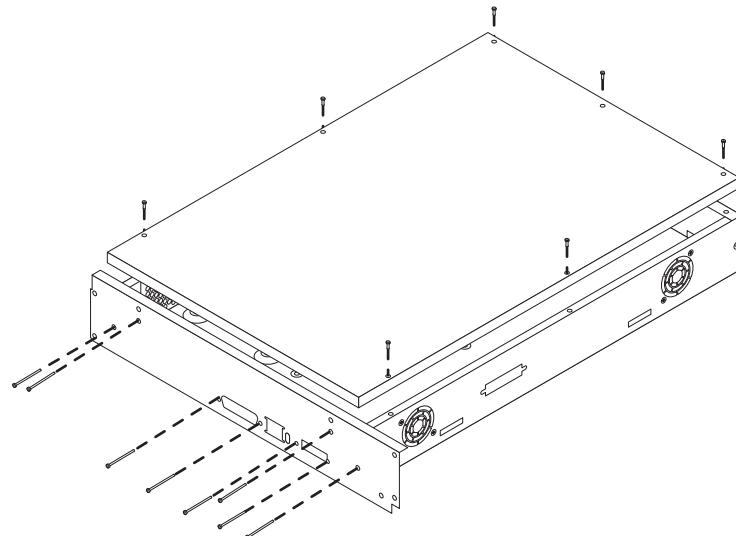


FIGURE 3-2 Screws for faceplate and top cover

Checking connections

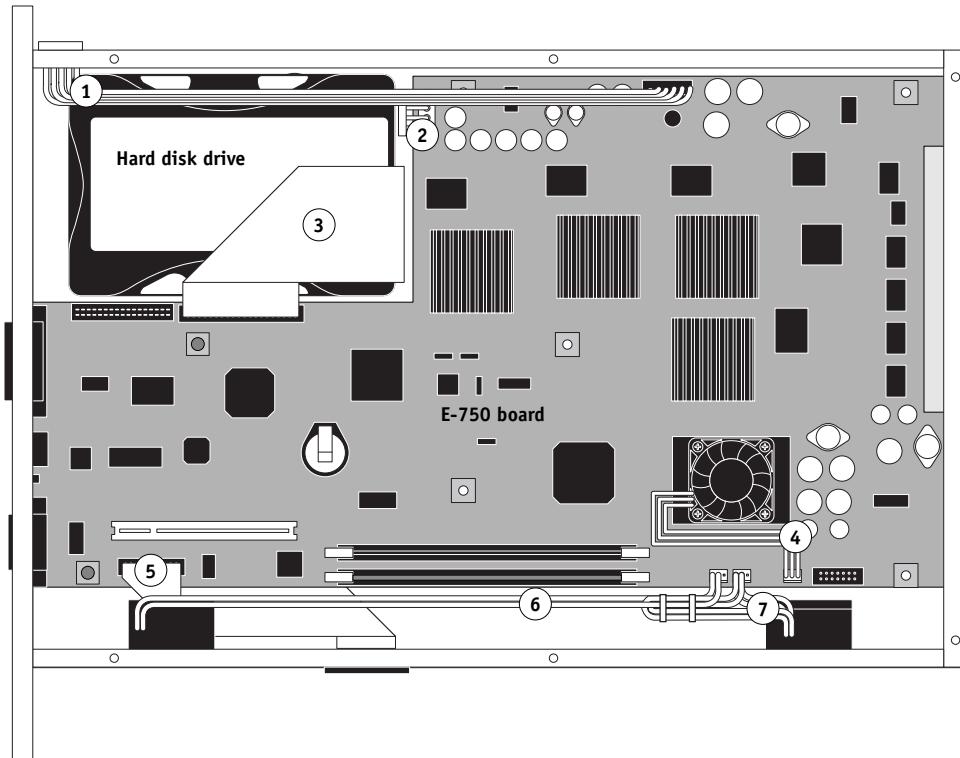
The most common causes of hardware problems are faulty or loose connections. Once you conclude all external connections are good, check the internal connections.

TO CHECK CONNECTIONS

1. **Before you touch any parts inside the copier, attach an ESD grounding wrist strap.**
2. **Inspect internal ribbon cables to see if they are intact.**
Faulty ribbon cables are easily overlooked. Check the contact point between the cable and the connector to ensure that they have not separated. If a ribbon cable is suspect, substitute it with a tested cable.
3. **Make sure that all E-750 cables and the DIMM(s) are properly aligned and well seated on their E-750 connectors. For connector and DIMM socket locations on the E-750, see Figure 3-4 on page 3-8.**
4. **After tightening connections, if one or more E-750 components are still not getting power, you may need to check the copier power supply.**

3

Checking connections



Cable	From	To E-750 board connector
1. Power supply cable	Copier power supply	J918
2. HDD power cable	Hard disk drive	J911
3. HDD cable	Hard disk drive	J920
4. CPU fan cable	CPU fan	J351
5. Control Panel cable	Copier	J919
6. Intake fan 1 cable	Intake fan 1	J353
7. Intake fan 2 cable	Intake fan 2	J352

FIGURE 3-3 Cable connections in the E-750 assembly

E-750 board

Use the procedures in this section to remove and replace the E-750 board for service.

Key

1. 36-pin parallel port for system software installation (J923)
2. Ethernet port (J581)
3. 25-pin parallel port for dongle (J921)
4. Control Panel cable connector (J919)
5. BIOS socket (U202)
6. HDD cable connector (J920)
7. Battery (BT200)
8. DIMM socket (J48)
9. DIMM socket (J49)
10. HDD power cable connector (J911)
11. Power supply cable connector (J918)
12. CPU/ CPU fan/ heatsink (U1)
13. Cable connector for intake fan 1 (J353)
14. Cable connector for intake fan 2 (J352)
15. CPU fan cable connector (J351)
16. Copier interface connector

NOTE: Connectors and components not listed are not used.

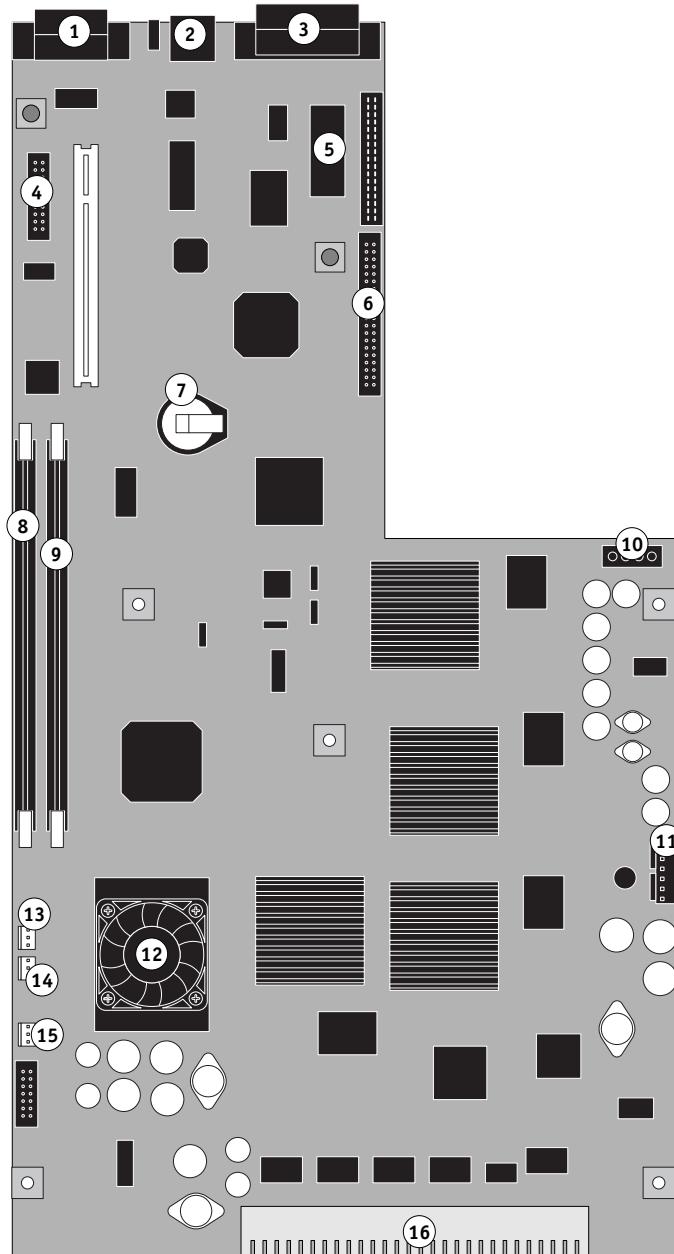


FIGURE 3-4 E-750 board

3

E-750 board

TO REMOVE THE E-750 BOARD

- 1. Remove the E-750 assembly as described on page 3-4.**
- 2. Open the E-750 assembly as described in page 3-5.**
- 3. Remove cables connected to the E-750 board:**
 - HDD cable at J920
 - HDD power cable at J911
 - Power supply cable at J918
 - Control Panel cable at J919
 - Intake fan 1 cable at J353
 - Intake fan 2 cable at J352
- 4. Remove the hard disk drive as described on page 3-18.**
- 5. Remove the 7 screws that secure the board to bottom of the tray.**
- 6. Carefully lift the board out of the tray.**

To avoid damage to components on the back of the board, first lift the board straight up before lifting it away from the closed end of the tray.

3

Service Procedures

TO REPLACE THE E-750 BOARD

1. Align the E-750 board with its mounting holes in the tray. Replace the mounting screws you removed earlier.
2. Replace the hard disk drive as described on page 3-20.
3. Replace cables to their connectors on the E-750 board:
 - HDD cable to J920
 - HDD power cable to J911
 - Power supply cable to J918
 - Control Panel cable to J919
 - Intake fan 1 cable to J353
 - Intake fan 2 cable to J352
4. Reassemble the E-750 and verify its functionality (see the connection verification steps described in "Restoring E-750 functionality after service" on page 3-21).

3

Replacing E-750 board components

Replacing E-750 board components

This section describes how to remove and install the following replaceable parts on the E-750 board:

- CPU cooling assembly
- DIMM(s)
- Battery

To access E-750 board components, remove and open the E-750 assembly as described on page 3-4 and page 3-5.

CPU cooling assembly

The CPU cooling assembly consists of two components: a heatsink and an air intake fan. The CPU fan runs continuously when the copier is on.

TO REMOVE THE CPU COOLING ASSEMBLY

1. Remove the CPU fan cable from board connector J351.
2. Using a Phillips screwdriver, remove the four screws that fasten the CPU fan to the CPU heatsink. Set aside the screws so that you can replace them later.

When using the screwdriver, make sure not to apply excessive pressure on the board.

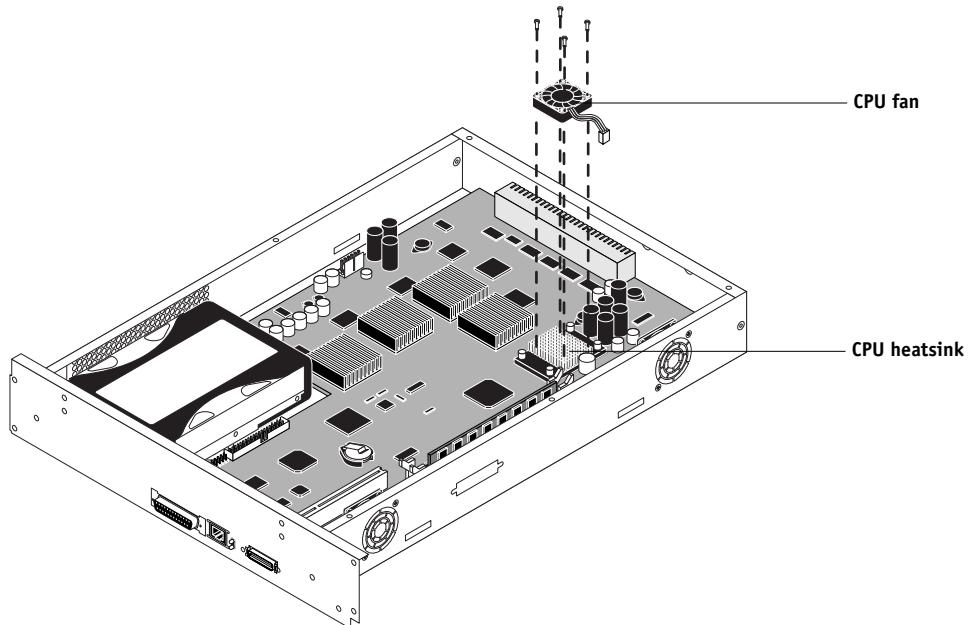


FIGURE 3-5 Removing the CPU fan

3 Service Procedures

3. Remove the CPU fan and set it aside.
4. Detach the four push pins that secure the CPU heatsink to the E-750 board.

Using a pair of needlenose pliers, pinch together the fastener ends of each pin, accessible through a hole in the bottom of the tray. At the same time, pull the pin head up to detach the pin from the E-750 board.

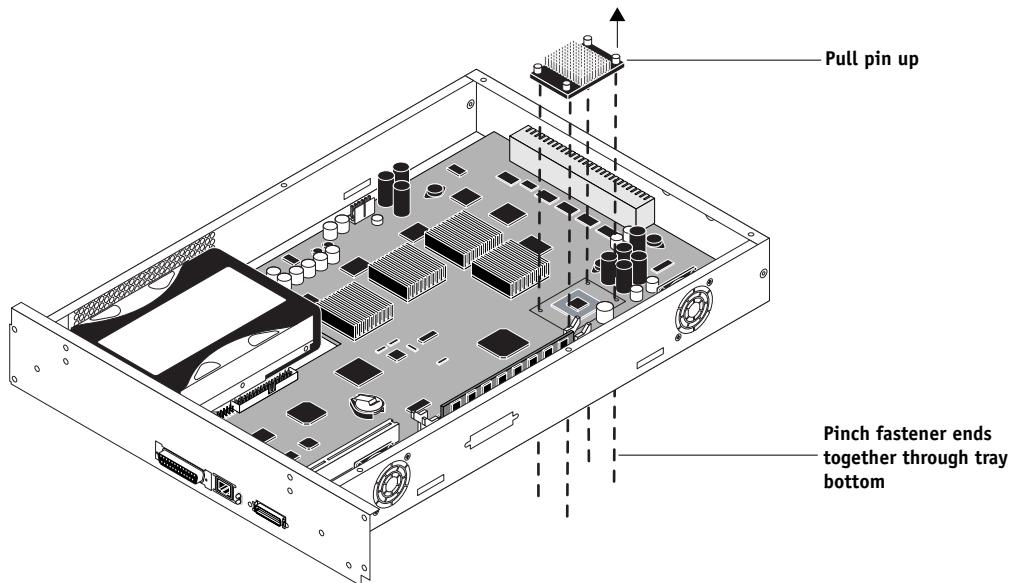


FIGURE 3-6 Removing the CPU heatsink

5. Remove the CPU heatsink from the CPU socket.

3

Replacing E-750 board components

TO INSTALL THE CPU COOLING ASSEMBLY

1. **Position the CPU heatsink on the CPU socket, aligning the four heatsink pins with the four holes in the E-750 board.**
2. **Carefully push all pins down until they snap into place on the board.**
Be sure not to apply excessive pressure on the board.
3. **Position the CPU fan on top of the CPU heatsink.**
4. **Attach the CPU fan to the CPU heatsink with the four screws you removed earlier.**
When using the screwdriver, make sure not to apply excessive pressure on the board.
5. **Connect the CPU fan cable to connector J351.**
6. **Reassemble the copier and verify functionality as described in other copier documentation.**

DIMMs

There are two DIMM sockets on the E-750 board: J48 and J49. A DIMM (dual in-line memory module) is held in place by levers at each end of its socket on the E-750 board.

The E-750 is configured with one 256MB DIMM installed in socket J48.

For a maximum of 512MB of memory, you may install an additional 256MB DIMM in socket J49. Additional approved DIMMs are available from your authorized service representative.

3 Service Procedures

TO REPLACE A DIMM

1. To release a DIMM, push outward on the lever on each side of the DIMM. See the following figure.

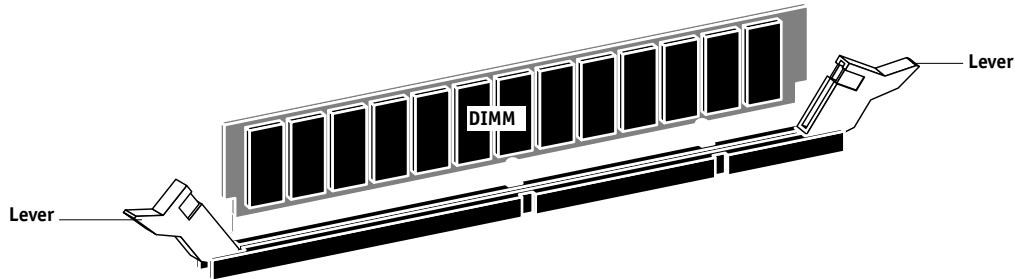


FIGURE 3-7 Releasing a DIMM

2. Slide the DIMM out of the socket and set it aside.
3. To install a DIMM, slide it into the socket. Push the DIMM into the socket until the levers snap into place.

Make sure that the levers close securely around the ends of the DIMM and that the DIMM is fully seated in its socket. Avoid flexing the board while you firmly seat the DIMM in its socket.

The DIMM fits the socket only one way. The two notches on the bottom of the DIMM should line up with the notches in the socket.

4. Reassemble the unit and verify functionality.

See "Restoring E-750 functionality after service" on page 3-21.

To verify memory capacity, print a Configuration page to check the amount of memory recorded.

Battery

The battery on the E-750 board is located at BT200. To replace it, use a 3V manganese dioxide lithium coin cell battery (Panasonic CR2032 or equivalent).



CAUTION: There is danger of explosion if the battery is replaced with the incorrect type. Replace only with the same type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

ACHTUNG: Es besteht Explosionsgefahr, wenn die Batterie durch eine Batterie falschen Typs ersetzt wird. Als Ersatz dürfen nur vom Hersteller empfohlene Batterien gleichen oder ähnlichen Typs verwendet werden. Verbrauchte Batterien müssen entsprechend den Anweisungen des Herstellers entsorgt werden.

ATTENTION: Il y a risque d'explosion si la pile est remplacée par un modèle qui ne convient pas. Remplacez-la uniquement par le modèle recommandé par le constructeur. Débarrassez-vous des piles usées conformément aux instructions du constructeur.

ADVARSEL!: Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Lever det brugte batteri til leverandøren.

3

Replacing E-750 board components

VAROITUS: Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

ADVARSEL: Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

WARNING: Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparat-tillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

TO REPLACE THE BATTERY

1. Locate the battery on the E-750 board socket BT200 (see Figure 3-4 on page 3-8).
2. Carefully lift up the clip that holds the battery.

Use caution when lifting up the clip; excessive force could cause the clip to lose its tension.

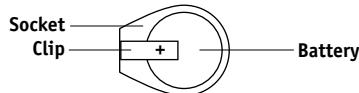


FIGURE 3-8 E-750 battery

3. Pull the battery out of its socket and release the clip.
4. To insert a new battery, slide the battery into the socket under the clip with the positive (+) side facing up.

Make sure the clip holds the battery securely in the socket.

5. Reassemble the E-750 and verify functionality (see page 3-21).

NOTE: When you power on, let the start-up diagnostics complete, then power off and power on again to initialize the realtime clock.

The date and time of day are lost when the old battery is removed. See the E-750 user documentation for instructions on entering Server Setup to program the system date and time.

3 Service Procedures

Fans

There are two intake fans that cool the E-750 assembly when it is running. The fans are mounted on the side of the E-750 tray.

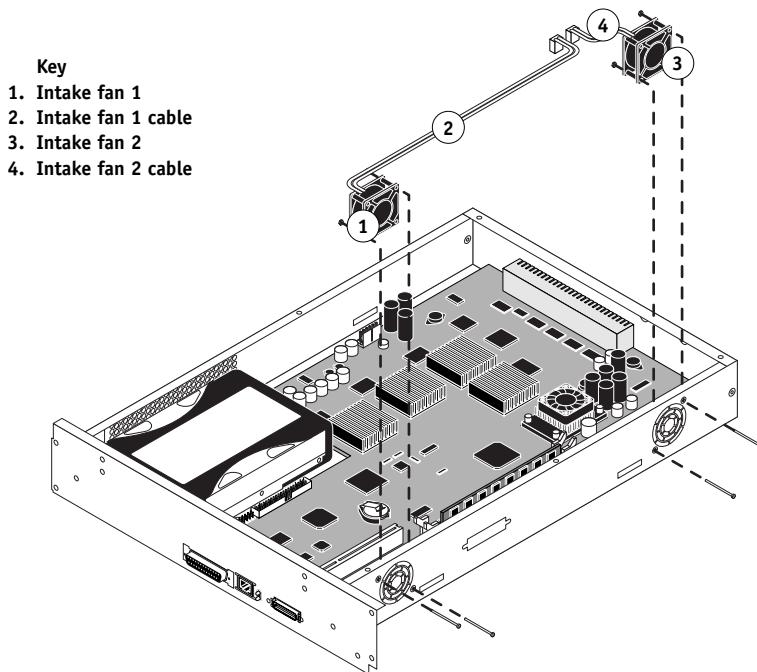


FIGURE 3-9 Intake fans in the E-750 tray

TO REMOVE THE FANS

1. Remove and open the E-750 assembly as described on page 3-4 and page 3-5.
2. If you are removing intake fan 1, remove the fan cable from board connector J353.
3. If you are removing intake fan 2, remove the fan cable from board connector J352.
4. Remove the two screws that secure the fan to the E-750 tray; be sure to hold the nuts on the inside of the corner mounting.
5. Lift the fan out of the tray.

3

Hard disk drive

TO REPLACE THE FANS

- 1. Replace the two screws that secure the fan to the E-750 tray; be sure to hold the nuts on the inside of the corner mounting.**
Be sure to position the fan so that the fan blades are closest to the E-750 tray.
- 2. If you removed intake fan 1, replace the fan cable to board connector J353.**
- 3. If you removed intake fan 2, replace the fan cable to board connector J352.**
- 4. Reassemble the E-750 and verify functionality (see page 3-21).**

Hard disk drive

The factory-installed hard disk drive (HDD) is formatted and loaded with all E-750 software, including operating software, system software, network drivers, and printer fonts.

Instructions for installing system software are provided to service technicians in a separate kit and also are included in this guide.

If you are replacing the HDD, you need:

- The appropriate System Software CD
- The latest version of user software (for networked computers that will be printing to the E-750)

Proper handling

Handle the hard disk drive with care:

- Use proper ESD practices when grounding yourself and the E-750.
- Keep magnets and magnetic-sensitive objects away from the HDD.
- Do not remove the screws on top of the HDD. Loosening these screws voids the warranty.
- Never drop, jar, or bump the HDD.
- Handle the HDD by its sides and avoid touching the printed circuit board assembly.
- Allow the HDD to reach room temperature before installation.

Hard disk drive problems may be a result of the following:

- Loose or faulty connection
- Faulty hard disk drive

3

Service Procedures

Before you decide that the hard disk drive needs to be replaced, make sure that all cables are connected properly.

! If the hard disk drive needs to be replaced, you'll need to install the system software on the new hard disk drive. (Replacement drives are shipped without E-750 system software installed.) Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling E-750 components.

TO REMOVE THE HDD

1. Print the following from the Functions menu:

- Configuration page—records the customer's current Setup configuration.
If you are installing a new drive you will need to reinstall system software. The Setup configuration will be reset to the default configuration when the HDD is replaced.
- Font List—details the fonts that are resident on the E-750 HDD. The installed fonts will need to be reinstalled when the HDD is replaced.

2. Remove and open the E-750 assembly as described on page 3-4 and page 3-5.

3. Remove the HDD cable from board connector J920.

4. Remove the HDD power cable from board connector J911.

5. Remove the four screws that secure the HDD to the bottom of the tray. Be sure to hold the HDD in place while you remove the screws.

Set the screws aside so you can replace them later.

3 Hard disk drive

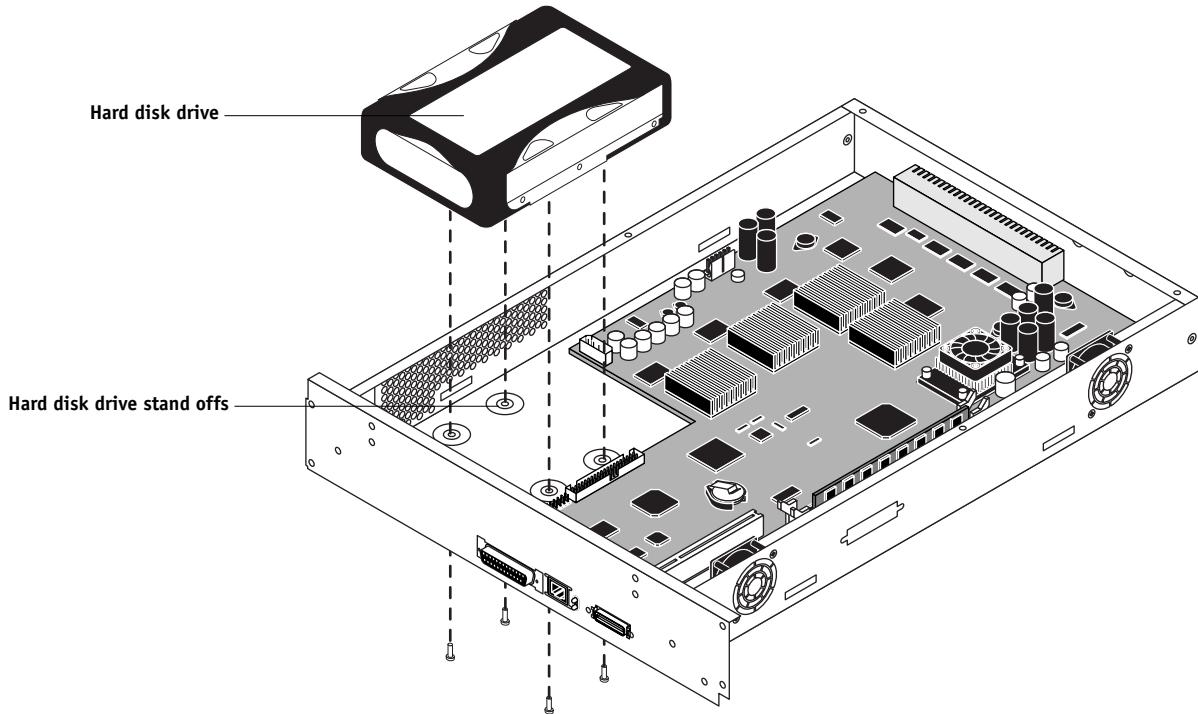


FIGURE 3-10 Removing the hard disk drive

6. **Lift the HDD out of the tray.**
7. **Handle the HDD with care and place it in an antistatic bag.**

Do not touch the drive with magnetic objects, such as magnetic screwdrivers. Do not place items near the hard disk drive that are sensitive to magnets, such as credit cards and employee ID cards. See “Proper handling” on page 3-17.

3 Service Procedures

TO INSTALL A NEW HARD DISK DRIVE



Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling E-750 components.

- 1. Handle the hard disk drive with care.**
Do not touch it with magnetic objects or place any objects near it that are sensitive to magnets. See "Proper handling" on page 3-17.
- 2. Position the HDD so that its connectors are facing toward the back of the tray.**
- 3. Hold the assembly chassis at an angle and replace the four screws you removed earlier. Be sure to hold the HDD in place while you secure it.**
- 4. Attach the HDD cable to board connector J920.**
- 5. Attach the HDD power cable to board connector J911.**
- 6. Restore functionality as described on page 3-21.**
- 7. If the HDD is a replacement, install system software as described on page 3-22.**

Replacing the E-750 assembly

Use the procedure below to reinstall the E-750 assembly in the copier after service.

TO REPLACE THE E-750 ASSEMBLY

- 1. Shut down the copier.**
- 2. Open the side of the copier.**
For details on opening the copier, see the other documentation included with the copier.
- 3. Place the E-750 assembly on the runners in the copier slot, and push the assembly about halfway into the copier.**
- 4. Replace the power supply cable to the copier power supply (see page 3-7).**
- 5. Replace the Control Panel cable to the E-750 Control Panel (see page 3-7).**
- 6. Push the E-750 assembly all the way into the copier, until the connector at the back of the assembly snaps into the copier interface.**
- 7. Replace the network cable to the E-750 network port (see page 3-26).**
- 8. Reassemble the copier as described in the other documentation included with the copier.**

3

Restoring E-750 functionality after service

Restoring E-750 functionality after service

Use the procedure below to restore the E-750 after service.

TO RESTORE THE E-750

1. Reinstall any boards, cables, connectors, and other parts of the E-750 assembly that you loosened during inspection or service.
2. Reinstall the E-750 assembly in the copier as described on page 3-20.
3. Before you leave the customer site, verify E-750 operation as outlined below.

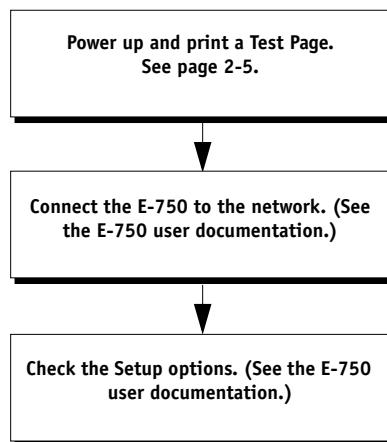


FIGURE 3-11 E-750 connection verification steps

System software

The E-750 System Software CD includes system software to be installed over the parallel port of the E-750.

The E-750 system software is installed in the HDD at the factory. You will need to install system software if a more recent version is required, you replace the HDD, or if you discover problems with the current system.

System software installation reminders

Keep in mind the following when installing system software:

- **Job Log**—Installing system software deletes the list of jobs in the Job Log and any jobs in the queues. The network administrator at the customer site can save a current list of jobs (not the actual job) from the Job Log using Fiery Spooler.
- **FONTs**—Installing system software deletes all fonts that the customer has installed on the E-750. Only resident fonts will be restored during system software installation. Fiery Downloader can be used to reinstall any additional fonts the customer may have downloaded.

To determine which additional fonts were downloaded to the E-750, print the Font List before you format the HDD and again after you complete the system software installation. Any fonts not listed after installation will need to be reinstalled. See the E-750 user documentation for more information.

- **Language**—Screens for installing system software installation are always displayed in English, even if the copier is configured for another language.
- **Compatibility**—The latest user software must be installed onto all computers that print to the E-750. Using incompatible versions of the system and user software may result in system problems.

3

System software

Installing system software

The System Software CD contains several files. The Boot.efi file contains basic information required for the E-750 to boot; the System.efi file contains all of the system software.

To install system software using the parallel port on the E-750, you need:

- A PC with Windows 9x/Me
 - A CD-ROM drive built in or attached
 - At least 300MB of disk space free
 - Support for ECP mode on the parallel port
- IEEE 1284 bi-directional parallel cable (maximum 6 feet long)
One end of the parallel cable requires an MDR-36 male connector for connecting to the female mini-Centronics connector on the E-750.

The PC will need to be configured so the parallel port mode in the BIOS is set to ECP. When you access the PC BIOS to set the parallel port mode to ECP, you may discover that ECP is the default mode, or you may discover that ECP mode is not supported at all. If ECP is not supported, you can either install an add-in board (not provided), use a different PC, or opt for a much slower installation using Compatibility Mode.

In addition to accessing the BIOS, setting up the PC also requires certain port and printer settings in Windows 9x/Me. Before you begin installing system software, follow the procedure for setting up the PC.

TO SET UP THE PC

1. Access the PC BIOS and make sure that Parallel Port Mode is set to ECP.

Power on the PC and immediately press the key indicated on your monitor for entering the BIOS (or a likely key if it is not indicated). Pressing a likely key repeatedly (ESC, DEL, F1, or a combination) may interrupt the starting of Windows and access the BIOS or give you directions for accessing the BIOS.

Once in the BIOS, you may have to scroll through several screens to reach the settings for the parallel port. After setting the Parallel Port Mode to ECP, save your changes and exit the BIOS.

2. In Windows, click the Start button, point to Settings, and then click Printers.

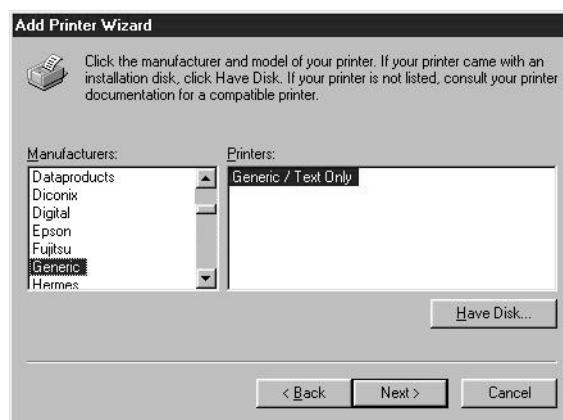
3 Service Procedures

3. Double-click Add Printer.



The Add Printer wizard appears. You will use this wizard to add a generic printer to your PC.

4. Click Next.
5. Select the Local Printer option, and click Next.
6. Select Generic from the Manufacturers list, and click Next.



7. Select LPT 1: Printer Port from the list of available ports, and click Next.
8. Accept the default printer name. In response to the question "Do you want your Windows-based programs to use this printer as the default printer," select No. Then click Next.
9. In response to the question "Would you like to print a test page," select No. Then click Finish.

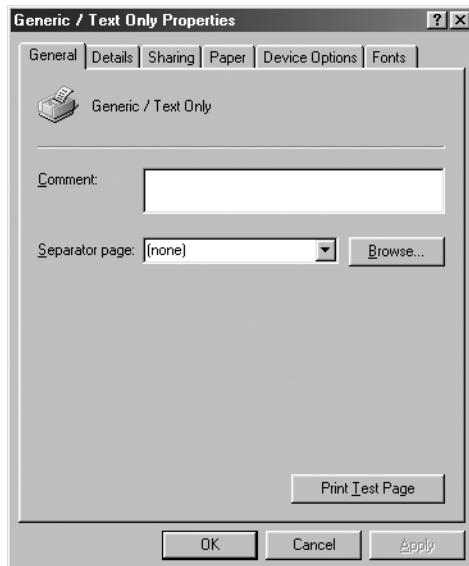
The generic printer is added to your PC.

3

System software

10. Click the Start button, point to Settings, and then click Printers. Right-click the icon for the generic printer, and choose Properties from the menu that appears.

The Properties dialog box for the generic printer is displayed.



11. Click the Details tab and make sure the field "Print to the following port:" reads exactly as follows: LPT 1: (ECP Printer Port).

If this field reads LPT 1: (Printer Port) instead of LPT 1: (ECP Printer Port), the LPT1 port settings in the BIOS for ECP mode have not been configured. Reboot the PC to reenter the BIOS and set the parallel Port Mode to ECP. Compatibility mode will work but the installation will take much longer.

12. Click Spool Settings. Specify settings as described below, and then click OK.
 - Select "Spool print jobs so program finishes printing faster" and then select "Start printing after first page is spooled."Selecting these options ensures no disruption from a parallel port timeout.
 - If the option is available, select "Disable bi-directional support for this printer."
 - Choose RAW from the Spool data format menu.
13. Click Port Settings, and select "Spool MS-DOS print jobs" and "Check port state before printing." Then click OK.
14. Click Apply, then OK to activate the settings and exit from the Printer Properties screen.

The PC is properly configured. Now prepare for the installation.

3

Service Procedures

TO PREPARE FOR INSTALLATION USING THE PARALLEL PORT

1. **Print the Configuration page from the Functions menu (if possible) to record the customer's current Setup configuration (see page 2-5).**

Setup defaults to its original configuration when system software is installed.

2. **Print the Font List(s) from the Functions menu.**

The Font List(s) details what fonts are resident on the E-750. Along with the fonts that are provided on the System Software CD, the customer may have installed additional fonts that will be deleted when system software is installed.

3. **Power off the copier and the PC before attaching any cables.**

4. **Connect an IEEE 1284 cable to the LPT1 port on your PC (generally, a 25-pin D-type connector) and to the 36-pin parallel connector on the E-750.**

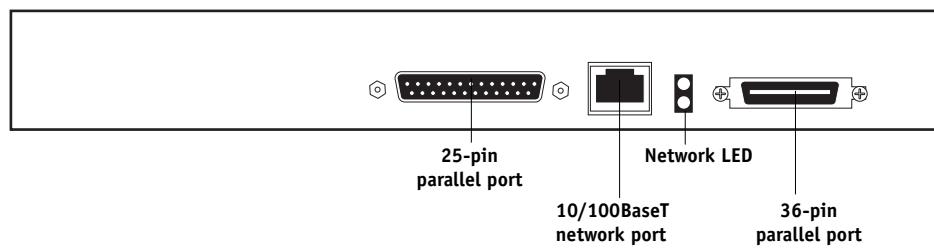


FIGURE 3-12 External connectors on the E-750

Now you are ready to install system software.

3

System software

TO INSTALL SYSTEM SOFTWARE USING THE PARALLEL PORT

1. **Power on the PC and insert the System Software CD into the PC CD-ROM drive.**
2. **In Windows, click the Start button, point to Programs, and then click MS-DOS Prompt to bring up an MS-DOS window.**

Do not use the option to “Shut Down and Restart Windows in DOS mode”.

3. **At the MS-DOS prompt, navigate to the CD-ROM drive directory. Type dir and press the Enter key to display the contents of the CD.**

To find the correct letter for the CD-ROM drive, open the My Computer folder and read the drive letter associated with the CD-ROM icon.

The filename including the extension is displayed at the end of the MS-DOS line of text that provides information about each file. Note the filename of the smaller file first. That is the boot file.

4. **At the MS-DOS prompt, type the following command:**
copy Boot.efi lpt1 /b

Do not press the Enter key yet.

Boot.efi refers to the boot file on the System Software CD and /b specifies the binary option (not ASCII). Make sure to spell the filename correctly and include the file extension.

5. **Power on the copier. As soon as the activity light on the Control Panel lights up, press the Enter key on the PC.**

NOTE: If the Enter key is pressed too soon or too late, the boot file transfer may fail. If the transfer fails, recycle power on the copier and try again, starting from step 4.

6. **Wait for the system to boot up.**

Status messages appear on the Control Panel as the boot file is downloaded and the system boots. This process may take several minutes.

After the copier has powered up, the Config Mode screen will appear on the Control Panel.

>Diagnostics<
V Resume Boot

7. **At the Config Mode screen, scroll to display the Installation option, and press the Set button.**

The message “Flushing Parallel Port. Please wait...” appears on the Control Panel.

3

Service Procedures

8. When the message "Copy software to parallel port" appears on the Control Panel, return to the PC and type the following command at the MS-DOS prompt:

```
copy System.efi lpt1 /b
```

System.efi refers to the system file on the System Software CD and /b specifies the binary option (not ASCII). Make sure to spell the filename correctly and include the file extension.

9. Press the Enter key on the PC. Then press the Set button on the Control Panel.

Wait while the E-750 Control Panel displays status messages indicating that the E-750 is receiving the file and installing the system software. Do not press any keys during this time. This process takes approximately 15 minutes and can take much longer depending on your PC.

10. When the message "Installation was successful" appears on the Control Panel, press the Set button.

The Config Mode screen appears.

11. Select the Resume Boot option and press the Set button.

Once the system boots up, the language screen will appear on the Control Panel.

12. Select the language you want to use.

13. At the Setup screen, select Run Setup and press the Set button. Reenter the customer's settings from the Configuration page that you printed earlier.

Enter settings for Server, Network, and Printer Setup, in that order. Ignore the settings not included on the Configuration page if it is more appropriate for the network administrator to set them. See the E-750 user documentation for more information.

14. After all setup options are configured, select Exit Setup from the Setup screen, and press the Set button.

The E-750 will reboot with the updated system software and setup options.

15. When the E-750 reaches the Idle screen, exit MS-DOS at the PC and remove the System Software CD from the CD-ROM drive.

16. Power off the copier and PC, and remove the parallel cable.

4

The troubleshooting process

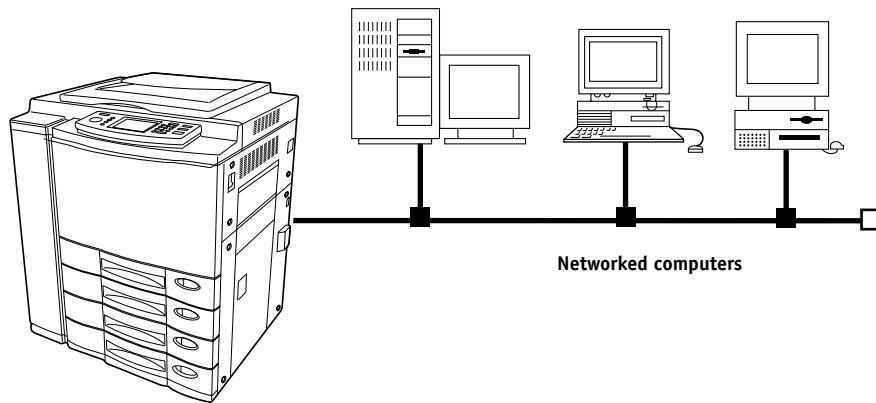
Chapter 4: Troubleshooting

This chapter identifies the source of common problems that may occur with the E-750 and suggests ways of correcting them.

The troubleshooting process

The E-750 is a print server for printers, and is generally part of a configuration like the one shown below. Problems may occur in one of three areas:

- In the E-750 assembly
- In the interface between the E-750 and the printer
- In the interface between the E-750 and the workstations or computers to which it is connected



Copier with E-750 installed

FIGURE 4-1 E-750 printing system

This chapter does not attempt to provide troubleshooting information for attached computers such as PCs or Mac OS computers, for print engines, or for networks. You should refer problems in these areas to the appropriate service departments and network administrators.



When performing the service procedures described in this chapter, follow the precautions listed on page viii.

The terms “replace” and “replacing” are typically used throughout this chapter to mean reinstallation of existing components. Install new components only when necessary. If you determine that a component you have removed is not faulty, make sure to reinstall it.

Preliminary on-site checkout

Most problems with the E-750 are caused by loose component or cable connections; therefore, this section directs you to verify external and internal connections before replacing any components.

NOTE: Make sure the site administrator has verified that the network is functioning, no unauthorized software or hardware is installed on the E-750, and there are no problems with a particular print job or application.

For problems that persist after you have verified the external and internal connections, this section describes how to inspect the system.

This section includes the following:

- “Checking external connections” on page 4-3
- “Checking internal connections” on page 4-4
- “Inspecting the system” on page 4-5

To troubleshoot problems according to specific symptoms, refer to Table 4 -2 on page 4-9.

Checking external connections

Before removing the E-750 from the printer to check internal components, first eliminate the most obvious sources of problems. Make sure that:

- The printer power cable is plugged into the wall supply and the printer is powered on.
- The E-750 assembly is well-seated and properly attached to the printer.
- All external cables are plugged into the proper external connectors on the E-750 faceplate (see Figure 4-2).
- The power cable from the E-750 is attached to the printer power supply.
- The top LED next to the network port is lit to indicate network connectivity.
- The Control Panel cable is attached to the E-750 Control Panel.

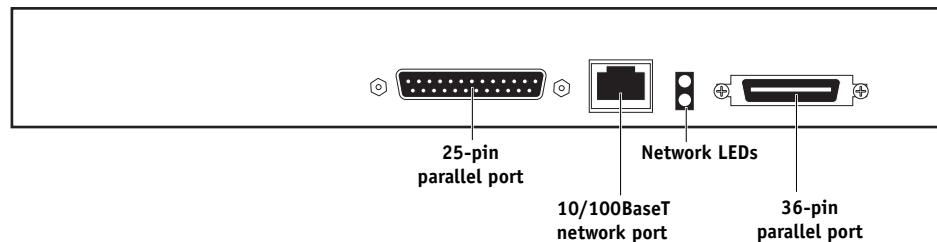


FIGURE 4-2 External connectors on the E-750

If all the connections are properly in place and the power is on, proceed to the next stage of troubleshooting.

Checking internal connections

To check the internal connections you must remove the E-750 from the printer. Use the guidelines in Chapter 3, “Service Procedures” when removing, disassembling, checking, and reassembling the E-750.



Before you access internal components, review the safety precautions on page viii. Use ESD precautions when handling printed circuit boards and electronic components.

TO CHECK INTERNAL CONNECTIONS

1. **Power off the printer, remove the E-750 from the printer, and open the E-750 assembly (see page 3-4).**



2. **Before you touch any components inside the E-750, attach a grounding strap to your wrist and discharge any static electricity on your body by touching a metal part of the E-750.**

3. **Inspect the inside of the E-750.**

- Make sure no unwanted objects have been dropped inside the E-750.
- Look for cables that are obviously loose. Reseat each connector firmly.
- Make sure each connector is properly aligned with its mating connector. If the pins are offset from each other, the component affected will not function properly.
- Reseat the DIMM(s) to remove any oxidation on the connectors (see page 3-13).

If these quick checks do not identify the problem, see “Inspecting the system” on page 4-5 before reassembling the E-750.

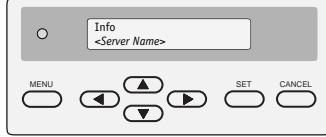
4. **Reassemble the E-750 and verify functionality (see page 3-21).**

Inspecting the system

If your initial checks of the cable and board connections do not fix the problem, you can inspect the system on a component-by-component basis, as described in Table 4-1. A comprehensive inspection allows you to verify that each hardware component is properly installed and configured, and helps you avoid replacing expensive components unnecessarily.

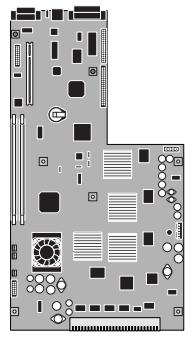
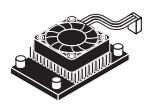
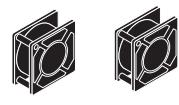
If the system you are servicing does not meet a condition listed in Table 4-1 below and it is not obvious what action(s) you should take to fix the problem (for example, if the system hangs before reaching Idle), locate the behavior in Table 4-2 on page 4-9 and perform the suggested action(s) given for the condition.

TABLE 4-1 Verifying the system

Conditions to verify	Part and page references
When problem occurs, verify that: <ul style="list-style-type: none"> • Main power switch on copier is on • Power cable from the copier is attached to the correct connector on the E-750 board • Power cable from the copier is connected properly to the power outlet • E-750 assembly is well-seated, connected properly to the copier • Network link activity LED on RJ-45 connector is blinking • All external cables required are present, in correct connectors, well-seated • Cables, cable connectors, and mating connectors appear undamaged 	External connectors, page 4-3 
If problem occurs at power up or reboot, verify that: <ul style="list-style-type: none"> • Activity LED on the Control Panel lights • Control Panel display screen lights up and boot up messages display • No error messages or system hangs occur before reaching Idle • After the system reaches Idle, the Control Panel keys work 	Control Panel, page 2-1 

4 Troubleshooting

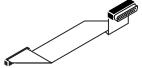
TABLE 4-1 Verifying the system

Conditions to verify	Part and page references
<ul style="list-style-type: none"> • All replaceable parts are: <ul style="list-style-type: none"> • Present • Properly aligned • Installed securely • Installed on the appropriate site • The correct part for the system • Properly configured, if configurable (such as HDD jumper) • Appear undamaged • Assembly and contents have not been tampered with (no unauthorized additions or changes have been made) • Assembly does not contain any unwanted objects 	E-750 assembly
<ul style="list-style-type: none"> • E-750 board, including components and traces, appears undamaged and no unwanted objects are evident • The CPU is present, well-seated, and appears undamaged • The CPU cooling unit is well-aligned and firmly attached • Each fan required (including fan cable) is well-positioned (not backwards), installed in the correct connector, and appears undamaged • Each DIMM is well-seated and installed in the correct slot • Battery is installed 	E-750 board, page 3-8
<ul style="list-style-type: none"> • Each DIMM is well-seated, and installed in the correct slot • DIMM connectors are not oxidized 	<p>DIMM for E-750, page 3-13</p> 
<p>The CPU cooling assembly is:</p> <ul style="list-style-type: none"> • Properly positioned (CPU fan is not upside-down) • Firmly attached to the CPU socket • Connected to the proper cable connector on the E-750 board 	<p>CPU cooling assembly, page 3-11</p> 
<p>Each intake fan is:</p> <ul style="list-style-type: none"> • Blowing air when the system is running • Properly positioned (not backwards) • Installed in the correct connector • Unblocked by nearby cables and components • Fan, fan cable, cable connector, and mating connector appear undamaged 	<p>Intake fans 1 and 2, page 3-16</p> 

4

Preliminary on-site checkout

TABLE 4-1 Verifying the system

Conditions to verify	Part and page references
The HDD required is:	Hard disk drive (HDD), page 3-17
<ul style="list-style-type: none"> • Present • Correctly installed • Undamaged • Configured as the primary master according to label 	
HDD cable and HDD power cable are:	
<ul style="list-style-type: none"> • Present • Firmly attached to the correct connector on the E-750 board • Undamaged 	
Each cable required:	Control Panel cable, page 3-7
<ul style="list-style-type: none"> • Is present • Is installed in the correct connector • Is well-seated • Appears undamaged (including connectors) 	
	HDD cable, page 3-7
	
	HDD power cable, page 3-7
	
	Power supply cable, page 3-7
	
	XREF

Normal startup sequence

When you power on or reboot the E-750, the system runs the following startup routine on the Control Panel. The routine takes approximately 2-4 minutes to reach the Idle screen. If the system hangs during the startup sequence, note the screen displayed and then check Figure 4-3 on page 4-8 for the possible problems and suggested actions.

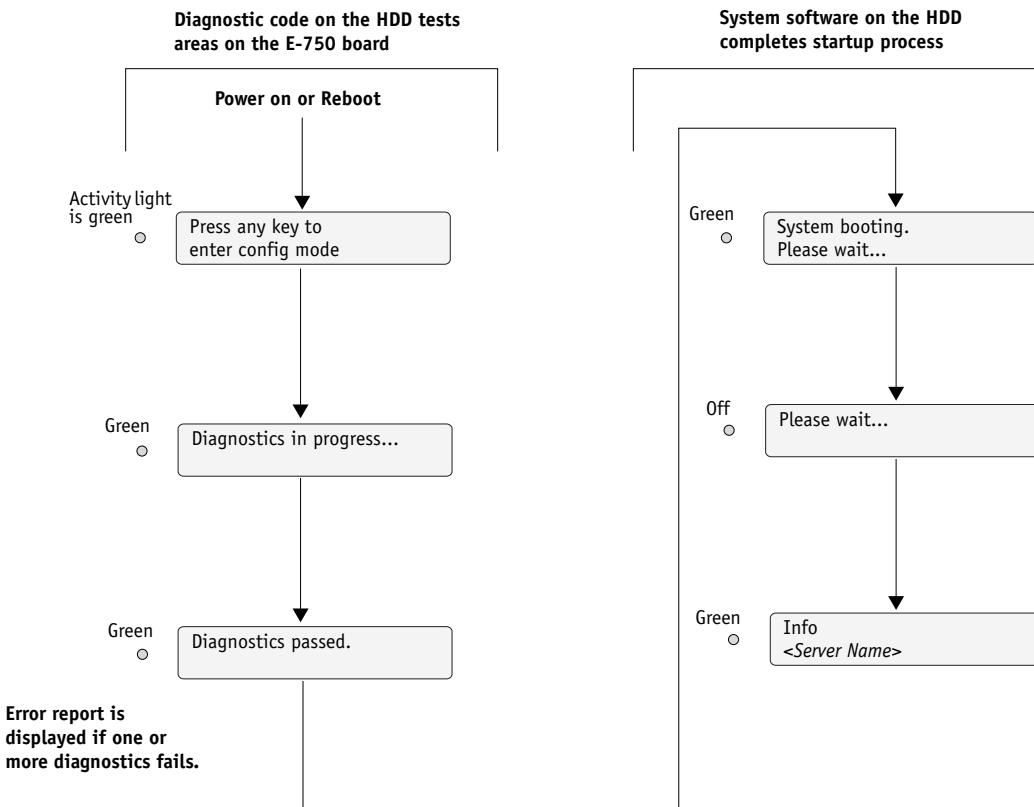


FIGURE 4-3 Normal startup sequence

Error messages and conditions

To address specific error messages or conditions, refer to Table 4-2 below. Use the table to locate the problem or symptom you want to fix, read about the possible causes, and then perform the suggested actions to solve the problem.

TABLE 4-2 E-750 error messages and conditions

Symptom	Possible cause	Suggested action
Startup		
NOTE: If none of the suggested actions solves the problem, you may need to replace the E-750 board.		
E-750 does not start up (Control Panel activity light is not lit and no text appears)	<p>The copier is powered off.</p> <p>One of the following:</p> <ul style="list-style-type: none"> • Copier is not supplying power to the E-750 board • Missing, incorrect, or faulty DIMM(s) • Corrupt BIOS 	<p>Make sure the main power switch on the copier is in the on position.</p> <ol style="list-style-type: none"> 1. Check again all cables and connections. 2. If the printer starts up but the E-750 does not start up, check for a missing or faulty DIMM. Reseat the DIMM to remove any oxidation on the connectors (see page 3-13). 3. If the problem persists, verify the DIMM connection. Test the DIMM by rebooting with the DIMM installed in the other socket. If the problem still persists, replace the DIMM. 4. If the problem persists, replace the E-750 board (see page 3-8).
Control Panel activity light is lit but no text appears	<p>One of the following:</p> <ul style="list-style-type: none"> • Cable connection between E-750 and the Control Panel is faulty. • Control Panel interface is faulty. 	<ol style="list-style-type: none"> 1. Check again the Control Panel cable connection (see page 3-7). 2. If the problem persists, contact your authorized service/support center.
System boots. Please wait...		
System hangs at screen for 2 minutes or longer	<p>One of the following:</p> <ul style="list-style-type: none"> • Corrupt system software • Faulty HDD 	<ol style="list-style-type: none"> 1. Check again all cables and connections. 2. If the problem persists, reinstall system software (see page 3-22). 3. If the problem still persists, replace the HDD (see page 3-17). If replacing the HDD does not correct the problem, make sure you reinstall the old HDD.
Please wait...		
System hangs at screen for 2 minutes or longer	<p>One of the following:</p> <ul style="list-style-type: none"> • Network connection is faulty • Corrupt system software 	<ol style="list-style-type: none"> 1. Check that the network cable is connected to the 10/100BaseT network port on the E-750. 2. If the problem persists, reinstall system software (see page 3-22).

4 Troubleshooting

TABLE 4-2 E-750 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Diagnostic messages		
CPU: Speed >Fail: <i>[error message]</i>	System software is faulty or corrupted.	<ol style="list-style-type: none"> 1. Power off the printer, wait 10 seconds, and power on the printer again. 2. If the problem persists, reinstall system software (see page 3-22). 3. If the problem persists, contact your authorized service/support center.
<i>[component]: [test name]</i> >Fail: <i>[error message]</i>	Specified component (e.g., ENET) is faulty or corrupted.	<ol style="list-style-type: none"> 1. Power off the printer, wait 10 seconds, and power on the printer again. 2. If the problem persists, contact your authorized service/support center.
System Software installation messages		
Installation failed. Data stalled.	One of the following: <ul style="list-style-type: none"> • Lost communication between E-750 and PC 	Check cable connections between the E-750 and the PC, power off the printer, and repeat system software installation.
Installation failed. Unexpected end of file.	<ul style="list-style-type: none"> • File transfer has been interrupted 	
Installation failed. Timed out.	E-750 has timed out before receiving file from System Software CD.	Make sure "Start printing after first page is spooled" is selected in printer Properties on the PC.
Installation failed. Checksum error.	File from System Software CD has been transferred in the wrong format.	Make sure "/b" appears in the MS-DOS command line for copying the file in binary format (see page 3-27).
Installation failed. Write failed.	One of the following: <ul style="list-style-type: none"> • Problem with the connection between the E-750 and PC • HDD error 	<ol style="list-style-type: none"> 1. Check cable connections between the E-750 and the PC, power off the printer, and repeat system software installation. 2. If the problem persists, you may need to replace the HDD (see page 3-17).
Control Panel messages		
Copier offline	One of the following: <ul style="list-style-type: none"> • The printer is not ready to print. • Problem with the connection between the E-750 and the printer. 	<ol style="list-style-type: none"> 1. Make sure the printer is powered on and indicates it is ready to print. 2. If the problem persists, power off the printer, wait 10 seconds, and power on the printer again. 3. Check again that the E-750 assembly is well-seated and connected properly to the copier. 4. If the problem persists, test the printer and service if necessary (see printer service documentation).

4

Error messages and conditions

TABLE 4-2 E-750 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
System performance		
System performs slowly and hangs periodically.	<p>One of the following:</p> <ul style="list-style-type: none"> • DIMM(s) are missing or faulty, or DIMM connections are faulty • CPU is overheated or faulty • System software is corrupted • E-750 board is faulty 	<ol style="list-style-type: none"> 1. Check for missing DIMMs (see page 3-13). 2. Reseat the DIMMs to remove any oxidation on the connectors. 3. Make sure CPU fan cable is connected to the E-750 board (see page 3-7). 4. If the problem persists, reinstall system software (see page 3-22). 5. If the problem persists, you may need to replace the E-750 board (see page 3-8).
Network		
Keep in mind the following if you suspect a network problem:		
	<ul style="list-style-type: none"> • If the E-750 does not appear in the list of printers on the network, there may be another device on the network with the same Ethernet hardware address • There may be conflicting network settings in Setup and on the customer's workstation • Printing problems may be caused by inappropriate Setup options • Application-specific printing errors may be caused by missing or incorrectly placed printer description files • System software may be corrupted 	
Also see the E-750 user documentation for additional information.		
Unable to connect to the network, or top network LED is not lit.	<p>One of the following:</p> <ul style="list-style-type: none"> • Network cable or connection is faulty • Network is faulty • System software is corrupted • Ethernet interface on the E-750 board is faulty 	<ol style="list-style-type: none"> 1. Have the network administrator check Network Setup. 2. Make sure that the network administrator has checked other devices on the network. If other devices are not functioning, there could be a problem with the network. 3. If the top network LED is not lit on the E-750 faceplate, check the cable connection to the 10/100BaseT connector and the network. Make sure the cable is the correct type. 4. If the network cable is the correct type and is properly connected to the 10/100BaseT connector on the E-750, connect a new network cable to the 10/100BaseT connector. 5. If the problem persists, reinstall system software (see page 3-22). 6. If the rest of the network is functioning properly and the problem persists, replace the E-750 board (see page 3-8).

4 Troubleshooting

TABLE 4-2 E-750 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Printing		
	NOTE: Intermittent print quality and color quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print a test page to verify the printer itself.	
Test Page fails to print.	<p>The printer is not ready to print.</p> <p>Faulty connection between the E-750 and the printer.</p>	<p>Make sure the printer is powered on and indicates it is ready to print.</p> <ol style="list-style-type: none"> 1. Check again that the E-750 assembly is well-seated and connected properly to the copier. 2. If the problem persists, power off the printer, wait 10 seconds, and power on the printer again. 3. If the problem persists, test the printer and service if necessary (see printer service documentation).
A print job stalls or stops after one or a few pages.	<p>One of the following:</p> <ul style="list-style-type: none"> • A PostScript or application error • System software is corrupted 	<ol style="list-style-type: none"> 1. Cancel the E-750 print job. 2. If this fails to clear the problem, reboot the E-750. 3. If the problem persists, select Clear Server from the menu on the Control Panel (see page 2-7). 4. Set Print Cover Page to Yes and re-send the problem job; The Cover Page will indicate PS Error. You can also double-click the problem job in the Command WorkStation window to get more information on the PostScript error. 5. If the problem persists, reinstall system software (see page 3-22).
	Missing, incorrect, or faulty DIMM(s) or faulty DIMM connections.	<ol style="list-style-type: none"> 1. Power off the E-750; check for missing DIMMs and reseat the DIMMs to remove any oxidation on the connectors (see page 3-13). 2. Verify memory amount on the Configuration Page. 3. If the problem persists after replacing the DIMMs, you may need to replace the E-750 board (see page 3-8).

4

Error messages and conditions

TABLE 4-2 E-750 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Printing (con't)		
Color quality is inconsistent.	A printer problem. A file or application problem.	Test the printer and service if necessary (see printer service documentation). 1. Print a E-750 Test Page (see page 4-16). 2. If the quality of the E-750 Test Page is good, the error condition may be caused by a file or an application problem.
Print quality is poor.	A missing or outdated printer description file. The application cannot find the appropriate printer description file. E-750 is out of calibration.	1. Make sure the appropriate printer description file is installed. See the E-750 user documentation for a list of printer files. 2. Calibrate the E-750. See the E-750 user documentation for details.
Pages come out blank, or tinted with green or some other color.	A faulty connection between the E-750 and the printer.	1. Check again that the E-750 assembly is well-seated and connected properly to the copier 2. Reboot the E-750.

If the user can print the E-750 Test Page but cannot print a job from a computer on the network, make sure the network administrator has:

- Checked all components of the network, including cables, connectors, terminators, network adapter boards, and network drivers
- Activated the network and used it to communicate with other printers
- Checked the corrective actions listed in the E-750 user documentation
- Confirm that the applicable network settings in Setup (such as AppleTalk zone, IP address, Subnet mask, and Gateway address) match the settings used in the network

NOTE: EPS file generation is not completely standardized among applications. Some users may encounter problems while printing certain EPS files.

Diagnostic tools

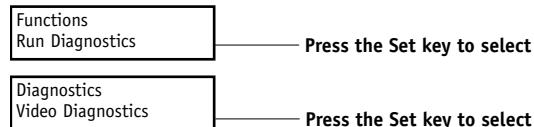
Additional diagnostic tools are available through the E-750 Functions menu. These include video diagnostics, e-mail diagnostics, and printing a Test Page.

Video diagnostics

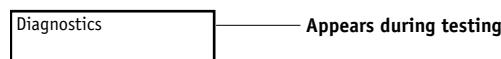
One of the menu items in the Functions screen on the E-750 Control Panel is Run Diagnostics. Select Run Diagnostics to run Video Diagnostics if you suspect there may be a problem with processing image data on the E-750 (for example, the print quality of output is poor).

TO RUN VIDEO DIAGNOSTICS

1. At the E-750 Idle screen, press the Menu key to view the Functions menu.
2. Select Run Diagnostics and then Video Diagnostics.



3. Press the Set key to start the diagnostics.



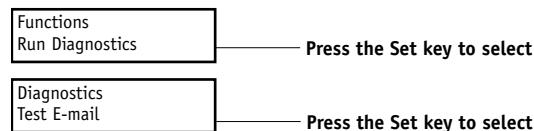
4. If "Video Diags passed" appears, press the Menu key to return to the Functions menu.
5. If "Video Diags failed" appears, try the following actions:
 - Check that the E-750 assembly is well-seated and connected properly to the copier.
 - Reseat the E-750 board in the assembly (see page 3-10).
 - If the problem persists, you may have to replace the E-750 board.

Test E-mail

Test E-mail allows you to perform a quick test of the E-750 E-mail feature without actually having to scan a document off the printer glass and e-mail it over the network. The test causes the system to send an e-mail to itself. You review the results of the test by printing the E-mail Log through the Functions menu.

TO RUN TEST E-MAIL

1. At the E-750 Idle screen, press the **Menu** key to view the Functions menu.
2. Select **Run Diagnostics** and then **Test E-mail**.



3. Press the **Set** key to start the diagnostics.
4. Wait for the length of time that is twice the E-mail polling interval.

To find out the length of the polling interval in minutes, look up the Polling Interval under Email Services on the current Configuration Page.

5. Print the Email Log to verify that the E-mail internal transmission and reception was successful.

To print the Email Log, see “Functions screen” on page 2-5. The Email Log should report Transmission succeeded and Reception succeeded for the test e-mail.

A successful transmission indicates that the E-750 is capable of sending an e-mail over the network. A failed transmission indicates a problem with the E-750 setup options. Have the network administrator confirm setup options (see the *Configuration Guide*).

Printing the Test Page

If the Test Page does not print or has a low-quality image, the E-750 board or the connection to the copier may be faulty or the copier may not be functioning properly.

TO PRINT THE TEST PAGE

- 1. Power on the copier and allow it warm up.**

Messages appear on the E-750 Control Panel as the E-750 runs through its Start-up diagnostics.

- 2. At the Ready screen, press the Menu key once to display the Functions menu.**

- 3. Select Print Pages then Test Page.**

Press the Set key to select the option displayed. Press the down arrow key to display each option.



The E-750 sends the Test Page to the copier and displays the RIP and Print status screens so you can monitor the job.

- 4. Examine the quality of the Test Page from the copier.**

If the Test Page prints, you know that the E-750 print engine is functional and that the connection between the E-750 and the printer is good. If the Test Page does not print, refer to the suggested actions for this problem in Table 4-2 on page 4-9.

When you examine the Test Page, keep in mind that:

- All color patches should be visible, even though they may be very faint in the 5% and 2% range.
- Each color's patch set should show uniform gradation from patch to patch as the color lightens from 100% to 0%.

Poor image quality may indicate a need to calibrate the system or service the printer. Information on the Test Page includes the date and time of the last calibration. Keep the Test Page for future reference. For more information on calibration, see the E-750 user documentation.

A

Specifications

Appendix A: Specifications

This chapter provides an overview of E-750 features.

Hardware features

- CPU—850MHz Intel Pentium III
- Memory—256MB standard; 512MB maximum
- 10GB hard disk drive (minimum)

Networking and connectivity

- Supports AppleTalk, TCP/IP, and IPX protocols simultaneously
- Supports EtherTalk Phase 2
- Ethernet network support

User software

A complete description of E-750 user software is provided in the E-750 user documentation. For optimal E-750 performance, current versions of the user software should be maintained on every network computer that might print to the E-750.

Safety and emissions compliance

The E-750 has been certified to meet or surpass the following government standards:

Safety approvals

- UL 60950-2000
- CSA 22.2 #60950-2000
- EN 60950 (TUV/Bauart mark)

EMC approvals

- FCC Class A
- VCCI Class A
- EN 55022 Class A
- EN 55024
- AS/NZS 3548 Class A

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