Color Controller E-83

Installation and Service Guide

A guide for service technicians

Replacement parts and specifications are subject to change. For the most current parts list, contact your authorized service/support center.

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INTRODUCTION

This document includes information about servicing the Color Controller E-83, which is referred to in this document as the "E-83".

Document conventions

NOTE: The NOTE format highlights important messages and additional information.

The WARNING icon indicates a warning concerning operations which, if not performed correctly, may lead to death or injury. To use the E-83 safely, always pay attention to WARNING icons and messages.

The CAUTION icon indicates a caution concerning operations which, if not performed correctly, may lead to injury. To use the E-83 safely, always pay attention to CAUTION icons and messages.

The IMPORTANT icon indicates operational requirements and restrictions. To operate the E-83 correctly and avoid damage to the E-83 or other property, always pay attention to IMPORTANT icons and messages.

About the E-83

The E-83 adds computer connectivity and highly efficient PostScript and PCL printing ability to the Pro C9110/C9100 printer.

With the E-83, customers can use the printer as a PostScript printer and scanner. Once it is connected to the printer through the network, customers can print to the E-83 from supported client computers on the network.

The E-83 ships with software pre-installed so that customers can use it immediately. However, as part of servicing the E-83, you may need to reinstall software.

How the E-83 operates

When a customer prints, the motherboard and printer interface board process image data. The printer interface board is a custom board and allows the E-83 to communicate with the printer. The CPU controls the transfer of image data to and from the motherboard and runs the PostScript interpreter. DIMMs hold image data during printing.

The interpreter rasterizes the page description file and compresses the image pattern into memory using compression technology. The interpreter outputs the compressed raster data through the image frame buffer memory to the printer interface board. The raster data is sent to the printer, which then renders the image on paper at maximum speed.

Before you service the E-83

Before you service the E-83, it is strongly recommended that you make sure that you have the required tools (page 11) and carefully review all precautions.

Also, keep in mind that the most common cause of a hardware problem is a faulty or loose connection. Before you replace an expensive component, check internal and external connections (see page 41).

Tools you will need

To install or service the E-83, you will need the following tools and parts:

- ESD wrist grounding strap and antistatic mat
- Flathead screwdriver
- #0, #1, and #2 Phillips head screwdrivers
- Needlenose pliers
- E-83 documentation, including the customer media pack and any related service bulletins

IMPORTANT

Avoid touching magnetic tools to storage media such as hard disk drives. Contact between magnetic tools and magnetic storage media may result in data corruption.

Precautions

This section includes information about how to safely operate and service the E-83 and how to avoid damage to E-83 components.

Report shipping damage

If there is evidence of shipping damage, save the shipping boxes and damaged parts. Call the shipper immediately to file a claim and notify your authorized service/support center.

Do not change an existing network

The E-83 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 site administrator.

Do not assign an IP address to the E-83

Only the site administrator should assign an IP address to a network device, including the E-83. If you enter an incorrect IP address for the E-83, errors may occur on connected devices.

Handling boards

When handling a printed circuit board, do not bend it. Hold it by opposing edges, rather than by the corners.

Handling the hard disk drive

To ensure that you do not damage the hard disk drive, do the following:

- Follow electrostatic discharge (ESD) precautions.
- Keep magnets and magnetic-sensitive objects away from the hard disk drive.
- Do not loosen or remove the screws on the top of the hard disk drive. Doing so voids the warranty.
- Handle the hard disk drive by its sides and avoid touching the printed circuit board.
- Do not drop, jar, or bump the hard disk drive.
- Before you remove or install a hard disk drive, allow it to reach room temperature.

Avoid magnets

Keep magnets and magnetic-sensitive objects away from electronic components, especially the hard disk drive.

Avoid fan blades

The E-83 contains hazardous moving parts. When servicing the E-83, keep away from moving fan blades.

Use caution with sharp edges

The edges of some E-83 components are sharp.

Electrostatic discharge

When you work with electronic components, electrostatic discharge is a concern since it can destroy circuits, or damage them, reducing their life span. The area around the printer is most likely not static-free, and electrostatic discharge could occur.

Do the following to avoid damage due to electrostatic discharge:

- Work on a grounded antistatic mat.
- Wear an antistatic wristband, attached to the same location as the antistatic mat.
- Before you remove an electronic component from the shipping box, touch a metal area of the printer to discharge static from your body.
- After you remove an electronic component from the shipping box, place it face up on a grounded antistatic surface.
- Leave electronic components in antistatic bags until you are ready to use them.

- Do not walk on carpet or vinyl while carrying an electronic component, unless it is in an antistatic bag.
- If you remove an electronic component from the printer, immediately place it in an antistatic bag.

The power cable

Observe the following guidelines:

- Only use the power cable that shipped with the E-83 or an appropriate replacement power cable. For replacement parts, see your authorized service support center.
- Before you open the E-83, unplug the E-83.
- Keep the power cable away from foot traffic.
- Do not place objects on the power cable.
- Do not plug the E-83 into a 2-hole, ungrounded outlet by means of a 3-prong adapter.
- Do not plug the E-83 into a circuit connected to heating or refrigeration equipment (including a water dispenser).
- Do not plug the E-83 into a switchable outlet.
- Do not pull the cable to unplug the E-83. Instead, pull the plug.
- Do not tamper with or disable the power cable grounding plug.
- Do not use an extension cord.

Do not bring liquids near the E-83

If liquid spills on the E-83, immediately unplug the E-83.

Do not open the power supply

For more information about the power supply, see "Power supply" on page 87.

Do not open the hard disk drive

For more information about the hard disk drive, see "Hard disk drives" on page 89.

WARNING

Lift the E-83 carefully

To avoid injury, do not lift the E-83 without assistance.

The E-83 weighs approximately 30kg. At least two persons are required to move the device.

Never lift the E-83 by grasping the top panel. The top panel does not support the weight of the E-83.

ATTENTION: Ne jamais soulever le serveur d'impression par sa partie supérieure : celle-ci ne peut pas supporter le poids du système.

AVVERTENZA: Il server di stampa non deve essere mai sollevato afferrandolo dal pannello superiore, in quanto quest'ultimo non può sostenere il peso dell'intero sistema.

WARNUNG: Heben Sie den Druckserver nicht an der oberen Gehäuseabdeckung an. Die obere Gehäuseabdeckung ist nicht dafür ausgelegt, das Gesamtgewicht des Systems zu tragen.

ADVERTENCIA: No levante nunca el servidor de impresión agarrándolo por el panel superior. El panel superior no soporta el peso del sistema.

ADVERTÊNCIA: Nunca erga o servidor de impressão pelo painel superior. O painel superior não suporta o peso do sistema.

WAARSCHUWING: Til de afdrukserver nooit op door het bovenpaneel vast te nemen. Het bovenpaneel kan het gewicht van het systeem niet dragen.

Power supply cord notice

IMPORTANT

The power supply cord is used as the main disconnect device. Ensure that the power outlet is located/installed near the equipment and is easily accessible.

Lithium battery notice

CAUTION

There is a danger of explosion if the battery is replaced with an incorrect type. Replace a battery only with the same type recommended by the manufacturer. Dispose of used batteries according to local regulations.

Short circuit protection

WARNING

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).

INSTALLING HARDWARE

About the installation process

It is strongly recommended that you review this chapter before you install the E-83. Also keep in mind that installation problems are easier to avoid and diagnose if you proceed from the component level to the system level, verifying functionality at each step.

Since the E-83 is connected to the customer's network, be sure to coordinate your installation schedule with the administrator at the customer site. For information about network setup, refer the site administrator to *Configuration and Setup*, which is part of the user documentation set.

If necessary, you can change the default language of the E-83 set at the factory (see "To change the E-83 language" on page 16).

NOTE: You can change the default language that is preinstalled at the factory using the Configure tool available through Command WorkStation and WebTools. Start Configure, choose Fiery Server > Regional Settings. From the Server Language list, select your language and then click Save. When an Alert dialog box appears, click Continue. It takes up to 15 minutes to change languages.

TO INSTALL THE E-83

1. **Check installation requirements and verify site conditions.**

   If possible, obtain verification that the network is operational (see page 16).

2. **Unpack the E-83 (see page 17).**

3. **If applicable, connect the monitor, keyboard, mouse, and furniture to the E-83.**

   For more information on setting up the furniture, see the documentation that comes with the furniture kit.

4. **Connect the following cables (see page 19).**

   - Printer interface (Data Transfer Unit) cables
   - Network cable (upper RJ-45)
   - Crossover Ethernet cable (lower RJ-45)

5. **(Optional) If the E-83 requires a static IP address (for example, in a non-DHCP network environment), work with the site administrator to configure one.**

6. **Complete the installation (see page 26).**

   Remind site administrator to install current user software on client computers that print to the E-83 (see *Printing* and *Utilities*, which are part of the user documentation set).

TO CHANGE THE E-83 LANGUAGE

1. **Access Configure (see page 28).**
2. **In Configure, click Fiery Server > Regional Settings.**
3. **In the Server Language drop-down list, select a language.**
4. **Click Save.**
5. **Click Continue, and then click Reboot.**

   Wait until the E-83 reboots and becomes Idle. It may take up to 15 minutes to complete the system language change.

Checking the customer site

Before you install the E-83, check site conditions and inform the customer of any installation requirements.

TO CHECK THE CUSTOMER SITE

- **Is the printer configured for use with the E-83?**

  For correct settings, see the documentation that accompanies the printer.

- **Is there adequate space for the E-83 near the printer?**

  Make sure there is enough space at the back and on both sides so that cables do not interfere with use or service of the printer (for example, clearing a paper jam).

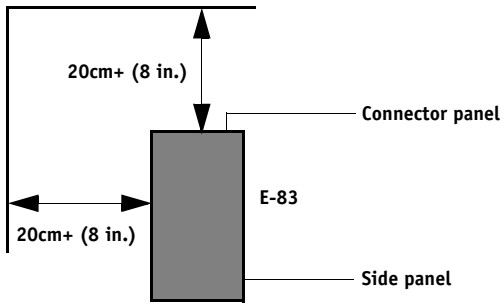


FIGURE 1: Space requirements

- **Is a dedicated, grounded electrical outlet for the E-83 available near the printer?**

  Do not run the E-83 and the printer on the same circuit. If the customer has provided one, use a surge suppressor for the E-83.

IMPORTANT

- **Will the network be available at the time of installation? (See the site administrator.)**

Setting customer expectations

When the site is ready, installation of the E-83 takes about 1 hour. Inform the customer of the following:

- Some nodes on the network may be unavailable during service.
- The site administrator must be available during the installation for network connectivity.

  Equipment downtime and impact on the network can be minimized if the site administrator installs a network connector for the E-83 and confirms network functionality with the connector in place before the date scheduled for the E-83 installation.
- The site administrator must have a networked computer available during the installation. The appropriate software must be installed in advance. Documentation for the networked computer and the network operating software should be available.
- The site administrator must install the user software shipped with the E-83 onto networked Windows and Mac OS computers that will print to the E-83 (user documentation is also included).

Unpacking the E-83

WARNING

Before you unpack the E-83, it is strongly recommended that you review all "Precautions" on page 11 to avoid injury or damage to the E-83.

WARNING

To avoid injury, do not lift the E-83 without assistance.

The E-83 weighs approximately 30kg. At least two persons are required to move the device.

Never lift the E-83 by grasping the top panel. The top panel does not support the weight of the E-83.

The E-83 ships with all of the cables and documentation required for setup.

TO UNPACK THE E-83

It is strongly recommended that you save all packing materials in case you need them later (for example, if you discover something is damaged and need to return it). Do not immediately discard packing materials.

1 **Remove the top cover from the main shipping container.**

   - Color Profiler media pack and spectrophotometer

2 **Remove the box that contains the E-83.**

3 **Remove the accessory kit from the E-83 box and check it for damage.**

4 **Remove the media pack from the accessory kit and check it for damage.**

5 **Carefully lift the E-83 out of the box.**

   Note the orientation of the E-83 in case you need to repack it later.

6 **(If applicable) Unpack the large box containing the Fiery furniture. Using the assembly instructions included with the furniture, complete the following tasks:**

- Assemble the Fiery furniture.
- Install the E-83 in the furniture.
- Attach the monitor to the top of the E-83.
- Place the keyboard in the keyboard tray on the underside of the furniture table top.
- Place the mouse on the table top. Place the ES-2000 Spectrophotometer in the indented section of the table top.

NOTE: The assembly and installation of the Fiery furniture is completed by the riggers.

7 **Locate the EFI/Fiery decal in the shipping container and affix it to the printer as shown.**

FIGURE 2: Affixing the decal to the printer

Connecting the E-83

Before you connect the E-83, it is strongly recommended that you review all "Precautions" on page 11 to avoid injury or damage to the E-83. You must connect the following to the E-83:

- Power cable
- Printer interface (Data Transfer Unit) cables
- Network cable
- Crossover Ethernet cable (lower RJ-45)
- (Optional) Monitor, Keyboard, and Mouse

For information about the monitor, keyboard, and mouse, see the documentation that accompanies those products.

Key

1. **Control panel**
2. **DVD drive**
3. **USB ports**
4. **Reset button**
5. **Power button ( )**

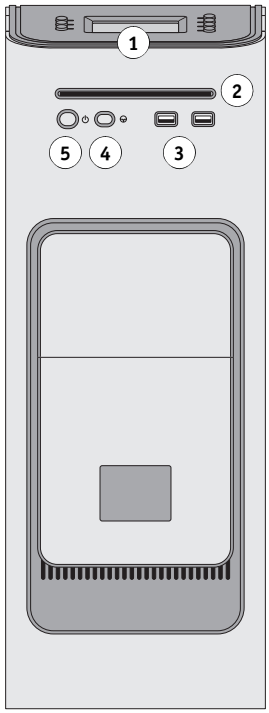


FIGURE 3: E-83 front panel

Key

1. **Power connector**
2. **Power switch**
   |: Power On
   O: Power Off
3. **Type A USB ports (for keyboard, mouse, and spectrophotometer)**
4. **Network port**
5. **Ethernet crossover cable port**
6. **Type A USB ports**
7. **Printer interface (Data Transfer Unit) A (MY) cable port**
8. **Printer interface (Data Transfer Unit) B (CK) cable port**
9. **OFF/ON switch for power synchronization**
   ON: Down
   OFF: Up
10. **Monitor (VGA) port (configuration may vary)**
11. **Bracket cover plate**

NOTE: Unlabeled connectors/ports are not used.

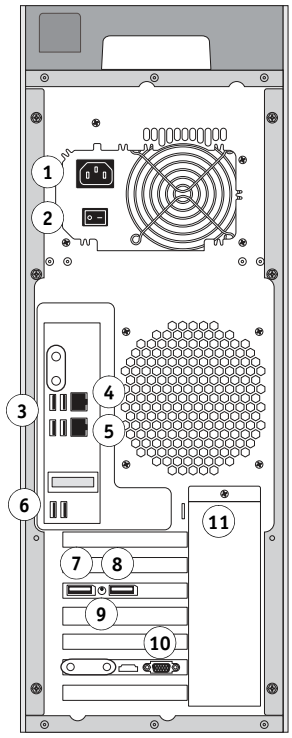


FIGURE 4: E-83 connector panel

Connecting the monitor, keyboard, mouse, and power

Before using the E-83, connect the monitor, keyboard, mouse, and power to the E-83 if applicable.

TO CONNECT THE MONITOR, KEYBOARD, MOUSE, POWER CABLE

1 **Make sure that the E-83 is installed in the furniture and that the monitor is securely attached to the top of the E-83.**

For more information, see the assembly instructions that accompany the furniture.

2 **Place the keyboard in the keyboard tray on the underside of the furniture table top. Place the mouse on the table top.**

3 **Connect the keyboard and mouse cables to the USB ports on the back of the E-83, as shown in** **Figure 4 on page 20****.**

4 **If the monitor VGA cable is not already attached to the monitor, attach it according to the instructions provided with the monitor. Connect the other end of the cable to the monitor VGA port on the back of the E-83.**

Depending on your E-83, the configuration of the VGA port may vary. Connect the cable to the VGA port as shown in **Figure 4 on page 20**.

5 **Connect the monitor power cable to the back of the monitor (some monitors may already have this cable attached). Connect the other end of the cable to a wall outlet.**

Be sure to use the appropriate power cable for your regional outlet type.

6 **Connect the recessed end of the E-83 power cable to the power connector on the back of the E-83, as shown in Figure 4 on page 20. Connect the other end of the cable to a wall outlet.**

Be sure to use the appropriate power cable for your regional outlet type.

Connecting to the printer

Use the following procedure to connect the E-83 to the printer.

TO CONNECT TO THE PRINTER

1 **Power off the printer using the main power switch located behind the front cover.**

2 **If needed, shut down the E-83 (see page 37).**

For information on the USB connection used for the power synchronization, see "Power synchronization" on page 38.

3 **Locate the crossover Ethernet cable that shipped with the E-83.**

4 **Connect one end of the crossover Ethernet cable to the lower RJ-45 port on the E-83 and the other end of the cable to the correct Ethernet port on the printer as shown in Figure 5.**

5 **Make sure that the OFF/ON switch on the printer interface board is set to OFF position.**

6 **Locate two printer interface (Data Transfer Unit) cables that shipped with the printer. Connect the E-83 and the printer using the two printer interface cables as shown in Figure 5.**

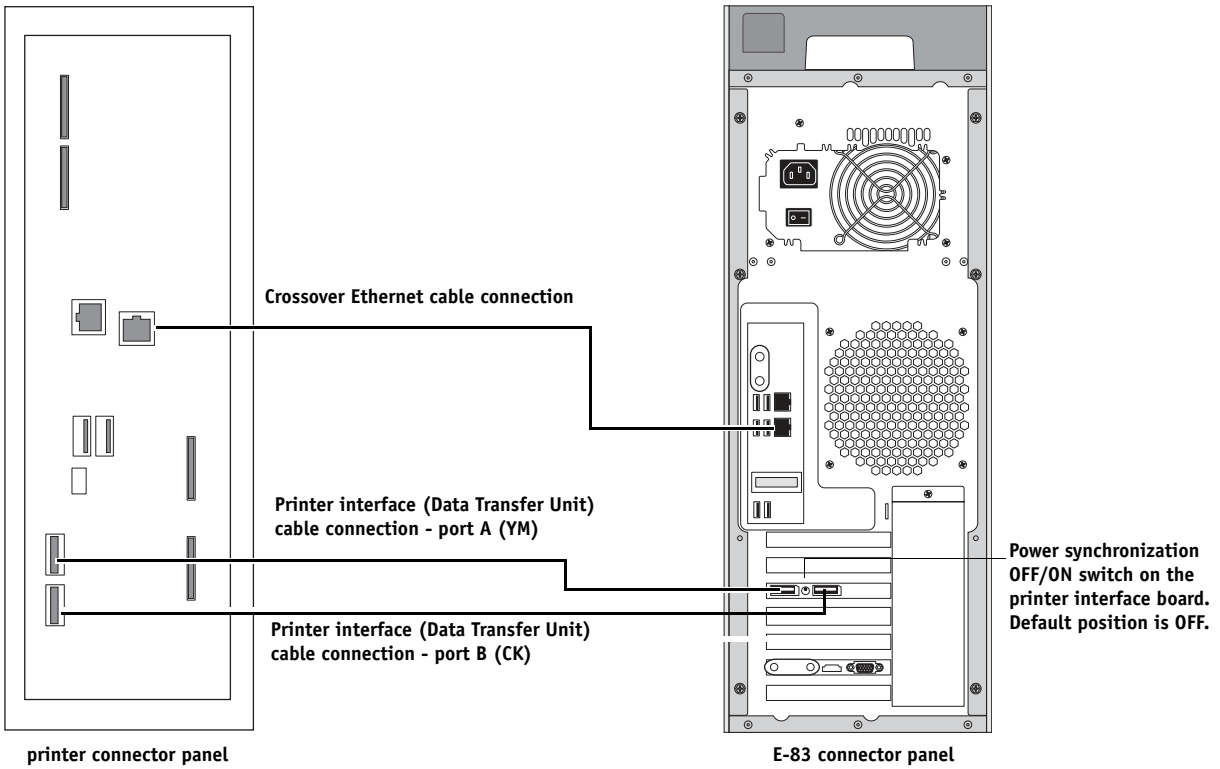


FIGURE 5: Printer and E-83 cable connection

NOTE: To prevent risk of cross-talk, make sure the crossover Ethernet cable does not touch the power cables for the system. Image quality problems or E-83 shutdowns could result.

IMPORTANT

Do not fold the printer interface (Data Transfer Unit) cables. When you bundle up the cable, make a circle with the radius of 10cm (4 inches) or more.

7 **Make sure that the power switch on the back of the E-83 is in the ON (|) position.**

8 **Power on the E-83 by pressing the power button ( ) on the front of the system. Wait approximately 2 minutes for the system to reach Idle.**

The static Fiery logo and server name appear on the E-83 Control Panel when the system reaches Idle.

9 **After the E-83 reaches Idle, power on the printer using its main power switch.**

Connecting to the network

Use the following procedure to connect the E-83 to the customer network.

TO CONNECT TO THE NETWORK

1. **Shut down the E-83 before connecting it to any network device (see page 35).**
2. **Obtain the appropriate straight-through Ethernet cable for the customer network connection:**
   - For 10BaseT link speed, use a cable that is Category 3 or higher
   - For 100BaseTX, use Category 5 or higher (4-pair/8-wire, short-length)
   - For 1000BaseT, use Category 5e or higher (4-pair/8-wire, short-length)

   NOTE: Be sure to use a *straight-through* Ethernet cable for the network connection. To verify the cable type, align the connectors on each end of the cable, as shown in Figure 6. On a straight-through cable, the wire arrangements are identical on both ends; on a crossover cable, the wire arrangements are different.

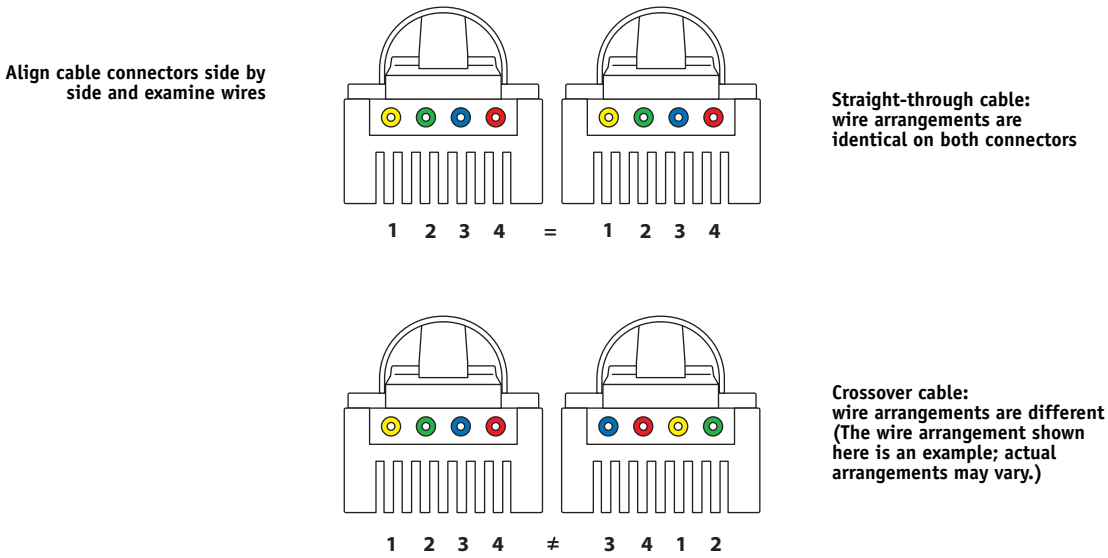


FIGURE 6: Straight-through and crossover Ethernet cables

3. **Connect one end of the network cable to the network connector on the back of the E-83 (see Figure 4 on page 20).**

   The motherboard in the E-83 has an external Ethernet network connector that supports 10/100/1000 Mbps link speed.

4. **Connect the other end of the cable to the customer network.**

Starting the E-83 for the first time

This section describes how to start the E-83 for the first time after connecting the cables.

TO START THE E-83

1 **Make sure that the power switch on the back of the E-83 is in the ON (|) position.**

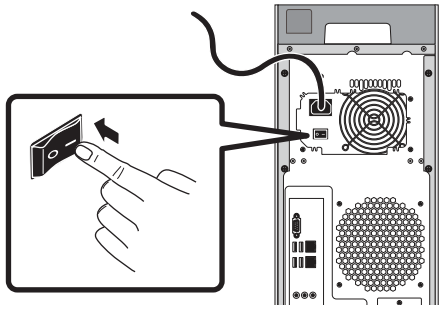


FIGURE 7: E-83 power switch

2 **Power on the E-83 using the power button ( ) on the front panel.**

Press once and release the button to power on the system. The power supply automatically senses the correct voltage.

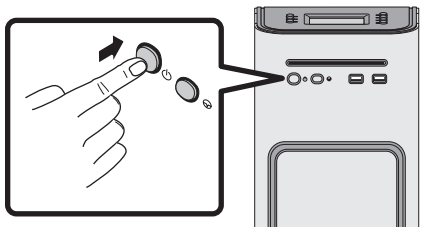
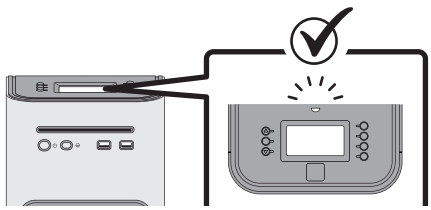


FIGURE 8: E-83 power button

3 **Check the Activity light on the control panel.**



The power supply automatically senses the correct voltage. Allow startup to proceed without interruption. Do not press any buttons on the control panel while the system is starting.

4 **At the Windows login on the monitor, enter** Fiery.1 **in the password field, and then press Enter.**

Type Fiery.1 exactly. The password is case-sensitive; for example, fiery.1 will not work.

5 **Allow startup to proceed until Fiery Ticker status bar appears on the monitor and displays Idle status.**

The E-83 takes approximately 3 minutes to power on and reach Idle.

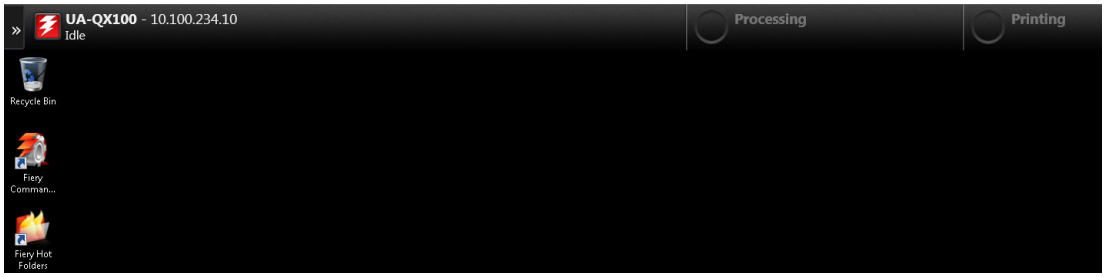


FIGURE 9: Idle status on E-83 monitor

By default, Fiery Ticker and Command WorkStation automatically launches at E-83 startup.

Configuring a static IP address for the E-83

If the customer requires the E-83 to be configured with a static IP address (for example, in a non-DHCP network environment), obtain a valid static IP address from the site administrator and configure the E-83 as described in the following procedure.

TO CONFIGURE A STATIC IP ADDRESS FOR THE E-83

1 **Press Home button on the printer operational panel.**

2 **From the Home screen of the printer touch panel, select Fiery. If the Fiery icon does not display, press the button on the upper right corner of the screen to switch to the icon view.**

3 **Press the Fiery tab.**

4 **Press Setup.**

5 **On the Login screen, press Password. Enter Fiery.1. Press OK.**

Type Fiery.1 exactly as shown. The password is case-sensitive; for example, fiery.1 will not work.

6 **On the Setup screen, do the following:**

- Press WINS. If enabled (yellow), press Use WINS to disable this feature. Press Save.
- Press DNS. If enabled (yellow), press Get DNS address automatically to disable this feature. Press Save.
- Press IP Address. Enter an IP address. Press Save.
- Press IPv4 Address. Press Manual Configuration.

7 **On the Manual Configuration screen, do the following:**

- In the IP Address field, enter an IPv4 address. Press OK.

- In the Subnet Mask field, enter a subnet mask IP address. Press OK.
- In the Default gateway field, enter a default gateway IP address. Press OK.
- When done, press Save. Press Go Back.

8 **On the Setup screen, press Exit Setup.**

9 **Press Reboot Now.**

Completing the installation

To complete the installation of the E-83 at the customer site, do the following:

1 **Print the Test Page and Configuration page (see "Printing E-83 pages from the Fiery Integrated Workstation" on page 27).**

2 **Ask the customer to verify the output.**

3 **Perform any required system upgrades. For instructions, see the documentation that accompanies the system upgrade.**

4 **Ask the site administrator to perform Setup and print some test documents over the network.**

5 **Store the output and the current Configuration page(s) near the printer.**

6 **After the site administrator completes Setup, use the Fiery System Installer to copy the contents of the E-83 hard disk drive to an image file.**

Fiery System Installer is provided in System Software DVD 1. For detailed instructions, see "Using the Fiery System Installer" on page 104.

7 **Inform the site administrator that E-83 user software must be installed on networked computers that print to the E-83.**

8 **Ask the site administrator to make sure that all media shipped with the E-83 is stored in a safe location, accessible to you.**

9 **For additional installation instructions, see the service documentation that accompanies the E-83.**

USING THE E-83

You can access the E-83 with the following:

- The control panel on the E-83 (see page 29)
- The printer touch panel (see page 30)
- The Fiery Integrated Workstation, which includes a monitor, keyboard, and mouse.

  The Fiery Integrated Workstation is provided as an option feature.

Fiery Ticker

When you log on to the E-83 using the Fiery Integrated Workstation or Remote Desktop Connection, Fiery Ticker automatically starts showing the status bar.

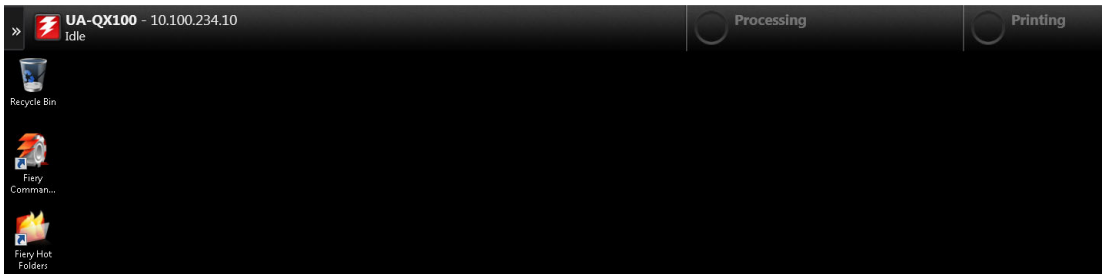


FIGURE 10: Fiery Ticker status bar

You can perform the following tasks using the Fiery Ticker:

- Monitor the activities of the E-83 and printer using the Fiery Notes.
- Manage the E-83 by using Command WorkStation or WebTools
- Shut down, restart, or reboot the E-83

For details, see the Fiery Ticker Help. To access the Fiery Ticker Help, click ">>" icon at the upper left corner of the screen, and select Help.

Printing E-83 pages from the Fiery Integrated Workstation

This section describes how to print the Test Page, Configuration page, and other Fiery pages.

- **Test Page** verifies that all components of the E-83-to-printer interface work. The Test Page is a color file that resides on the E-83 hard disk drive.
- **Configuration page** provides general information about the hardware and software configuration of the E-83, the customer's current settings for Setup, the current calibration, and the IP address of the E-83.

Printing the Configuration page can be helpful during installation, Setup, and service. After installing the E-83 (including connecting to the network) and before default settings are changed in Run Setup, you can obtain a record of the defaults by printing the Configuration page.

TO PRINT E-83 PAGES

1 **At Fiery Ticker screen, click ">>" icon on the upper left corner, and choose Print Pages.**

The Print Pages submenu displays the list of available E-83 pages.

2 **Choose the page that you want to print from the submenu.**

The E-83 sends the selected page to the printer.

3 **If you printed the E-83 Test Page, examine the quality of the Test Page from the printer.**

If the Test Page prints, you know the E-83 is functional and the connection between the E-83 and the printer is working. If the Test Page fails to print, look up printing problems in Table 6 on page 122.

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

- 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 or color 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 so the Test Page can be kept for future reference. For more information, look up printing problems in Table 6 on page 122, or see *Color Printing*, which is part of the user documentation set.

Command WorkStation

As an E-83 service technician, you will typically log on to the system as Administrator. For more information about using Command WorkStation, see Command WorkStation Help.

About Configure

You can access Configure from Command WorkStation or WebTools. For information about using Configure, see the Command WorkStation Help.

TO ACCESS CONFIGURE FROM AN INTERNET BROWSER

1 **Open an Internet browser and type the IP address of the E-83.**

2 **In WebTools, on the Configure tab, click Launch Configure.**

3 **Log on with Administrator privileges.**

TO ACCESS CONFIGURE FROM COMMAND WORKSTATION

1 **In Command WorkStation, as Administrator, do one of the following:**

- In the Server menu, click Configure.
- In Device Center, on the General or Users tabs, click Configure.

2 **If the Fiery Setup dialog box displays, click Configure.**

If you have not completed initial setup, you may want to click Fiery Setup Wizard instead. For more information, see *Configuration and Setup*.

If you use the Fiery Setup Wizard (from Command WorkStation or WebTools) and click Finish at the end of the wizard, the Fiery Setup dialog box does not display again in any location.

E-83 control panel

Use the E-83 control panel to

- Eject media from the DVD drive
- Verify the IP address of the E-83
- Shut down, restart, or reboot the E-83 (see page 35)

For the location of the control panel, see "E-83 diagrams" on page 41.

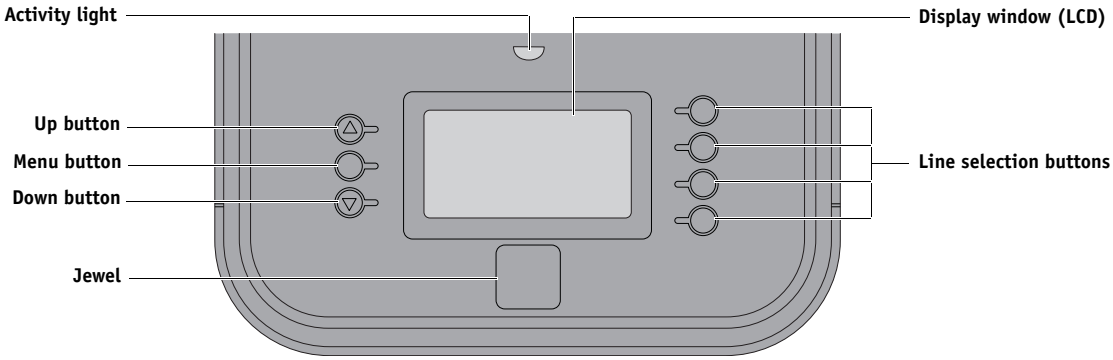


FIGURE 11: E-83 control panel

Activity light

The activity light indicates current E-83 activity. If the light is:

Off, and the display window is not backlit	The E-83 is powered off and the power cable is not plugged into a power outlet.
Off	The E-83 is in Idle state.

Solid amber	The E-83 is powered off, but the power cable is plugged into a power outlet. The control panel continues to draw power when the E-83 is in this state.
Solid green	The E-83 is in Idle state.
Flashing amber	An error has occurred, causing printing to be disabled.
Flashing green	The E-83 is receiving, processing, or printing a job.
Flashing or solid red	An error has occurred, causing printing to be disabled.

Buttons

Line selection buttons	Four line selection buttons on the right side of the control panel that allow you to select the command displayed on the corresponding line of the LCD. A special character (▶) appears on the LCD next to a button when it is available.
Up and Down buttons	Allow you to scroll to different screens in multi-screen lists.
Menu button	Displays the control panel commands.

Using the printer touch panel

The "Fiery" icon of the printer touch panel allows you to interact with the E-83 from the printer. The menus provide access to many of the same options available from Command WorkStation.

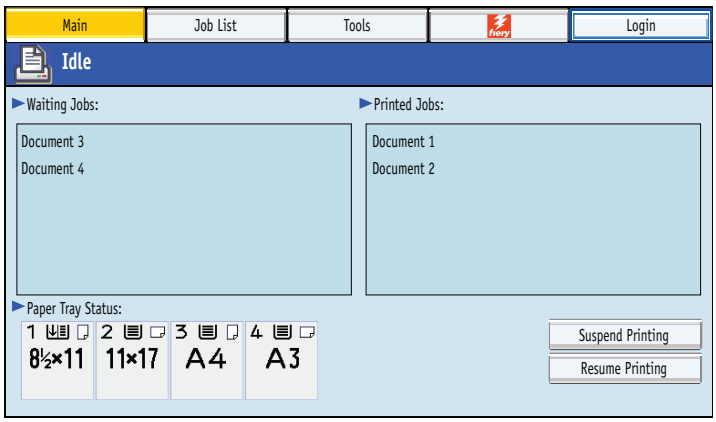


FIGURE 12: Fiery screen on the printer touch panel

TO ACCESS TO THE FIERY SCREEN ON THE PRINTER TOUCH PANEL

1. **Press Home button on the printer operational panel.**
2. **From the Home screen of the printer touch panel, select Fiery. If the Fiery icon does not display, press the button ( )on the upper right corner of the screen to switch to the icon view.**

3 **Press the Fiery tab.**

Main tab

The Main tab is displayed as the starting point. It summarizes waiting and printed jobs and displays paper tray status and other information.

Suspend Printing — Suspend print activity between the E-83 and the printer. Use this command to interrupt the current E-83 job, for example, to perform maintenance tasks. Jobs continue to process on the E-83. After you complete maintenance tasks, choose Resume Printing to continue printing jobs from the E-83.

Resume Printing — Resume print activity between the printer and the E-83 after you select Suspend Printing.

PrintMe tab

The PrintMe tab allows you to submit print jobs using Document IDs if you have a PrintMe subscription. For more information, see *Printing Guide*.

NOTE: PrintMe cloud printing must be enabled in Configure for the PrintMe tab to display in the menu.

Job List tab

The Job List tab on the printer touch panel provides access to jobs according to the status of the job, similar to the Active and Printed Jobs windows in Command WorkStation. The lists are as follows:

Active — Jobs currently waiting to print.

Held — Held jobs.

Printed — Printed jobs.

Secure — Allows you to log on to display secure print jobs.

To change from one list to another, press the desired tab at the bottom of the printer touch panel.

On each of these lists, you can scroll up and down one line at a time, or advance to the top or bottom of the job list. Select a job, and choose the appropriate button to Print, Print and Hold, Delete, or display the Properties of the job. On the Properties tab, you can change the number of copies, but not any other job properties.

Tools tab

The Tools tab allows you to perform tray alignment and calibration.

Tray Alignment — Adjust the placement of text and images on a page so that they are correctly aligned on the sheet of paper and both sides of a duplex sheet have the exact same alignment. For more information about this function, see *Utilities*.

Calibration — Calibrate the E-83 using ColorCal. For more information, see *Color Printing*.

Fiery tab

The Fiery tab provides access to many of the same features available through Command WorkStation.

Fiery Info — Displays information about the current configuration of the E-83.

Printable Info — Allows you to print these system pages from the E-83:

PS Test Page/PCL Test Page: Confirms that the E-83 is properly connected to the printer, and provides color and grayscale samples to troubleshoot problems with the printer or the E-83. Settings on the Test Page may include: Server Name, color settings, printer model, and date and time the Test Page was printed.

PS Font List/PCL Font List: Prints a list of all fonts currently on the E-83 hard disk drive.

Configuration: Provides general information about the hardware and software configuration of the E-83, the current settings for Setup, the current calibration, the IP address of the E-83, and a log of system updates.

Color Charts: Prints samples of the RGB, CMY, and PANTONE colors available from the E-83.

Custom Paper Instructions: Provides the instructions for setting up custom paper entry.

Calibration Instructions: Prints the information on how to perform the calibration.

Job Log: Prints a log of the last 55 jobs.

E-mail Log: Prints a log listing recent e-mail activity.

FTP Log: Prints a log listing recent FTP activity.

NOTE: To print the E-mail or FTP log, you must first enable the appropriate service.

Setup — Enter the Setup menu and change Setup option settings.

Clear Job Log — Clears the job log from the E-83.

Run Diagnostics — To troubleshoot printer interface board, choose this menu.

Clear Server

Clear all jobs in all server queues, as well as all jobs archived on the E-83 hard disk, the index of archived jobs (in the Archive window), all FreeForm masters, and the index of FreeForm masters (in the FreeForm window). Consult with your administrator or operator before choosing Clear Server.

Restart Fiery

Shut down all E-83 activity in the correct manner and then restart. The following options are available from the submenu that appears:

Restart Fiery Service: Resets the server software but does not reboot the entire system. Network access to the E-83 is temporarily interrupted and all currently processing jobs are aborted and may be lost.

Restart System: Shuts down and then reboots the E-83. Network access to the E-83 is terminated and all currently processing jobs are aborted and may be lost.

Shut Down: Shuts down all E-83 activity properly.

Printable Info menu

This section describes how to print pages such as the Test Page and Configuration page from the Printable Info menu (described on page 32). The Printable Info menu is accessed through the Fiery tab (see page 32).

Printing the **Configuration page** can be helpful during installation, Setup, and service. After installing the E-83 (including connecting to the network), and before default settings are changed in Run Setup, you can obtain a record of the defaults by printing the Configuration page.

Before you perform any service procedure, you should print the E-83 Configuration page, if possible, so you are prepared to return the settings to their former configuration, if necessary.

Printing the **Test Page** indicates that the E-83 is functional and that the connection between the E-83 and the printer is working.

TO PRINT A PAGE FROM THE PRINTABLE INFO MENU

1 **If it is not powered on already, power on the printer and allow it to warm up.**

2 **If it is not powered on already, power on the E-83 using the power button on the front panel and allow it to start up completely (approximately three minutes).**

NOTE: If the power synchronization is enabled, the E-83 will automatically powers on when you power on the printer. The default setting for power synchronization is OFF. See "Power synchronization" on page 38 for more information.

3 **Make sure that Idle appears on the Fiery Main menu.**

If Busy or Printing appears, the E-83 is processing and you must wait until Idle appears.

4 **Touch the Fiery tab.**

5 **Touch Printable Info and then select the page that you want to print.**

The E-83 sends the selected page(s) to the printer.

6 **If you printed the Test Page, examine the quality of the page.**

If the Test Page prints, you know the E-83 is functional and the connection between the E-83 and the printer is working. If the Test Page fails to print, look up printing problems in the Troubleshooting table on page 137.

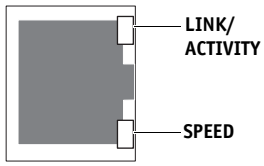
When you examine the Test Page, keep in mind the following:

- 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 or color 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, so the Test Page can be kept for future reference. For more information, look up printing problems in Table 6 on page 122, or see *Color Printing* on the User Documentation CD.

Network status LEDs

Two LEDs next to the network connector indicate the network link status and speed. For additional information about network setup, see *Configuration and Setup*, which is part of the user documentation set.



Ethernet network port (upper RJ-45)

TABLE 1: Network link indicators

LINK/ACTIVITY LED	Network link status
Off	No link to network
Solid green	Valid link to network
Flashing green	Data transfer is in progress

TABLE 2: Network speed indicators

SPEED LED	Network speed
Off	10 Megabits/second
Solid green	100 Megabits/second
Solid yellow or orange	1000 Megabits/second

Starting, shutting down, restarting, and rebooting

Generally, you can leave the E-83 and the printer running all the time. Restarting the E-83 resets the E-83 system software, but does not reboot the entire system. Network access to the E-83 is temporarily interrupted and all currently processing jobs are terminated.

IMPORTANT

Unless instructed otherwise by a troubleshooting procedure, always shut down the E-83 from the control panel or monitor. Do not use the power button on the front to shut down the E-83.

TO START THE E-83

1 **Make sure that the power switch on the back of the E-83 is in the ON (|) position.**

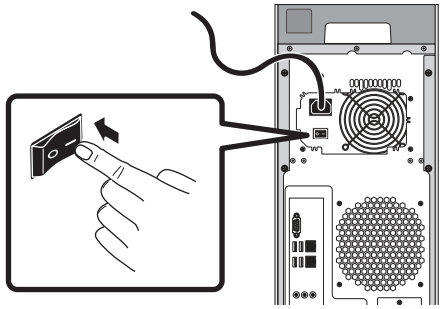


FIGURE 13: E-83 power switch

2 **Power on the E-83 using the power button ( ) on the front panel.**

Press once and release the button to power on the system. The power supply automatically senses the correct voltage.

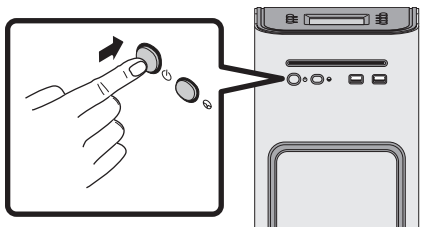


FIGURE 14: E-83 power button

3 **Check the Activity light on the control panel.**

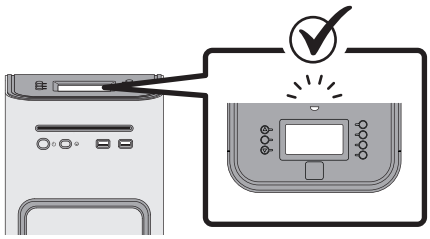


FIGURE 15: E-83 Activity light

The power supply automatically senses the correct voltage. Allow startup to proceed without interruption. Do not press any buttons on the control panel while the system is starting.

4 **On the monitor, log in.**

Type Fiery.1 exactly. The password is case-sensitive; for example, fiery.1 will not work.

If it is not the first time the E-83 has been started after installing system software, the site administrator may have set a different user name and password. The site administrator at the customer site must provide you with the correct user name and password to enable your logon to the system (the password is case-sensitive and must be typed exactly).

NOTE: If the password is lost, you must reinstall all system software (see page 108).

5 **Wait Fiery Ticker to display and reach Idle (requires approximately 3 minutes).**

6 **If Command WorkStation starts automatically, connect to the E-83 with Administrator privileges.**

If Command WorkStation was connected to the E-83 during the previous session, the connection may be reestablished automatically.

If the E-83 is currently disconnected, select the E-83 from the Servers List and click Connect. Choose Administrator from the User menu, type Fiery.1 in the Password field, and then click Login.

NOTE: Fiery.1 is the default password required to connect to the E-83 with Administrator privileges. The password can be changed in E-83 Setup. For more information, see *Configuration and Setup*, which is part of the user documentation set.

TO SHUT DOWN, RESTART, OR REBOOT FROM THE MONITOR

1 **Make sure that the E-83 is not receiving, processing, or printing any files.**

If the system just finished processing, wait at least five seconds after the system reaches Idle before you proceed.

2 **Close all applications except Fiery Ticker.**

3 **Do one of the following:**

- Click the Windows Start button and select Shut Down.
- Click the Windows Start button, click the arrow next to Shut Down, and select Restart.

- Click ">>" icon at the upper-left corner of the screen, and select Server Actions > Restart Fiery or Restart Fiery. Click OK.

4 **If you shut down the E-83, move the E-83 power switch to the off (0) position for maximum energy savings or service (wait 10 seconds before you proceed).**

TO SHUT DOWN, RESTART, OR REBOOT FROM THE PRINTER TOUCH PANEL

NOTE: Notify the network administrator before you remove the E-83 from the network.

1 **Make sure that the E-83 is not receiving, processing, or printing any jobs.**

If Printing appears on the control panel, the E-83 is processing. You must wait until the system finishes and reaches Idle before restarting or shutting down.

If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the shutdown procedure.

2 **Press Home button on the printer operational panel.**

3 **From the Home screen of the printer touch panel, select Fiery. If the Fiery icon does not display, press the button ( )on the upper right corner of the screen to switch to the icon view.**

If the system has just finished processing, wait at least five seconds after the system reaches Idle before beginning the shutdown procedure.

NOTE: Notify the network administrator before you remove the E-83 from the network.

4 **Press the Fiery tab.**

5 **Press Restart Fiery.**

6 **At the next screen, select one of the following options:**

- Restart Fiery Service (soft reset)—Resets the E-83 server software but does not reboot the entire system. Network access to the E-83 is temporarily interrupted and all currently processing jobs are aborted and may be lost. If you choose this option, you may need to wait 1 minute or more for the server software to reset.
- Reboot System (hard reset)—Shuts down all E-83 activity properly and then reboots. Network access to the E-83 is temporarily interrupted and all currently processing jobs are aborted and may be lost.
- Shut Down—Shuts down all E-83 server software and powers off the system. You should always select this option when you want to power off the system. Network access to the E-83 is terminated and all currently processing jobs are aborted and may be lost.

NOTE: Use the reset button on the front of the E-83 only if the system is unresponsive to keyboard or mouse actions.

7 **Press OK.**

Power synchronization

You can enable the power synchronization feature using the switch on the printer interface board. The default switch position is OFF.

When you enable power synchronization, the E-83 synchronizes power with the printer's main power off/on status. If the printer powers off, the E-83 receives signals from the printer through the printer interface (Data Transfer Unit) cables connected to the printer interface board, and automatically starts the shutdown process. If the E-83 receives the startup signals from the printer, the E-83 automatically powers on and begins the startup sequence.

IMPORTANT

After the power synchronization is enabled, make sure to control the E-83 power using the printer.

TO ENABLE THE POWER SYNCHRONIZATION FEATURE AT THE E-83

1 **Shut down the E-83 (see page 35) and the printer.**

2 **Set the switch on the printer interface board to the ON position.**

IMPORTANT

Do not change the switch position when the E-83 is powered on.

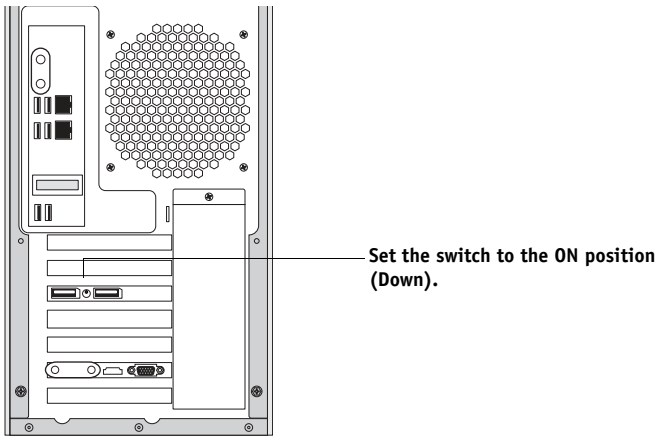


FIGURE 16: Power synchronization switch

3 **Power on the printer.**

The E-83 will automatically start up.

TO DISABLE THE POWER SYNCHRONIZATION

1 **Turn off the printer using the main power switch.**

Wait until the E-83 shuts down.

2 **Make sure that the power switch on the connector panel of the E-83 is OFF position (|).**

3 **Set the switch on the printer interface board to the OFF position.**

IMPORTANT

Do not change the switch position when the E-83 is powered on.

4 **Start the E-83 (see page 35).**

REPLACING PARTS

Generally, the E-83 requires no regular service or maintenance. Use the procedures in this chapter to inspect, remove, reseat, and replace major hardware components.

Overview

This chapter includes information about servicing the following components:

- Boards and cables
- Motherboard components (DIMMs, CPUs, battery)
- Fans
- Power supply
- Hard disk drives
- DVD drive
- Switch bank assembly

Replacement parts are available from your authorized service/support center. The terms “replace” and “replacing” are typically used throughout this document to refer to the reinstallation of existing components. Install new components only when necessary. If you determine that a component you removed is not faulty, reinstall it.

When servicing the E-83, follow the precautions listed on page 11.

For a list of the tools required to service the E-83, see page 11.

For information about the monitor, keyboard, and mouse, see the documentation that accompanies those products.

E-83 diagrams

Key

1. Control panel
2. DVD drive
3. USB ports
4. Reset button
5. Power button ( )

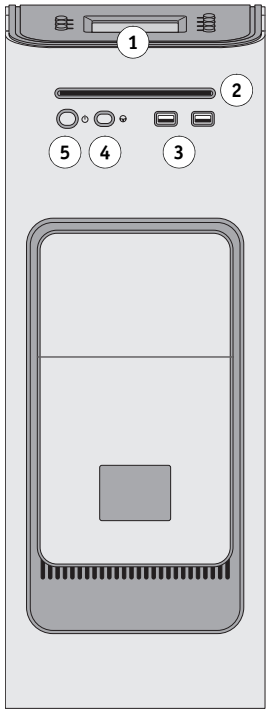


FIGURE 17: E-83 front panel

Key

1. **Power connector**
2. **Power switch**
   |: Power On
   O: Power Off
3. **Type A USB ports (for keyboard, mouse, and spectrophotometer)**
4. **Network port**
5. **Crossover Ethernet cable port**
6. **Type A USB ports**
7. **Printer interface (Data Transfer Unit) A (MY) cable port**
8. **Printer interface (Data Transfer Unit) B (CK) cable port**
9. **OFF/ON switch for power synchronization**
   ON: Down
   OFF: Up
10. **Monitor (VGA) port (configuration may vary)**
11. **Bracket cover plate**

NOTE: Unlabeled connectors/ports are not used.

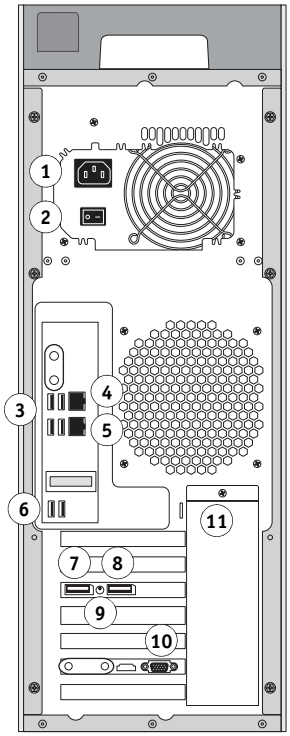


FIGURE 18: E-83 connector panel

Key

1. **Power supply**
2. **Motherboard**
3. **USB ports (for keyboard, monitor, and spectrophotometer)**
4. **Network port**
5. **Crossover Ethernet port**
6. **DVD drive**
7. **HDD1**
8. **HDD2**
9. **HDD3**

NOTE: The hard disk drive cover is not shown.

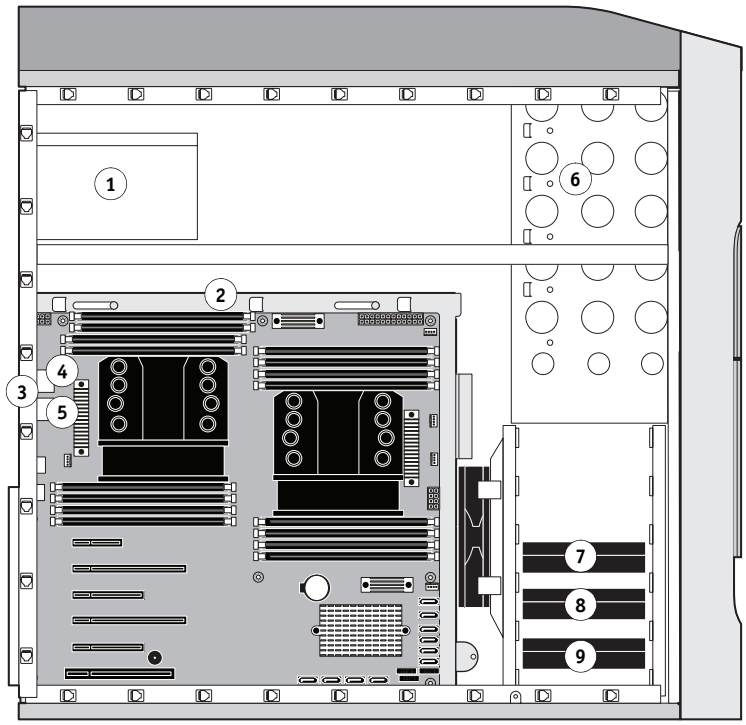


FIGURE 19: E-83 side view

Key

1. Plug for top panel
2. Top panel
3. UIB (user interface board)
4. Power supply support strap
5. Power supply and power cables
6. Pole mount (for monitor option)
7. Chassis
8. DVD drive
9. Switch bank assembly
10. Component sled
11. Option sled
12. Front panel
13. Upper faceplate
14. HDDs (hard disk drives)
15. Front fan assembly
16. Back fan
17. Motherboard tray
18. Motherboard
19. Printer interface board
20. Graphics board
21. 10-pin power button cable
22. DIMMs
23. CPUs cooling assemblies
24. CPUs
25. UIB cable
26. DVD drive data/power cable
27. HDD data cables

NOTE: Monitor, mouse, keyboard, furniture, HDD cover, and other accessories are not shown.

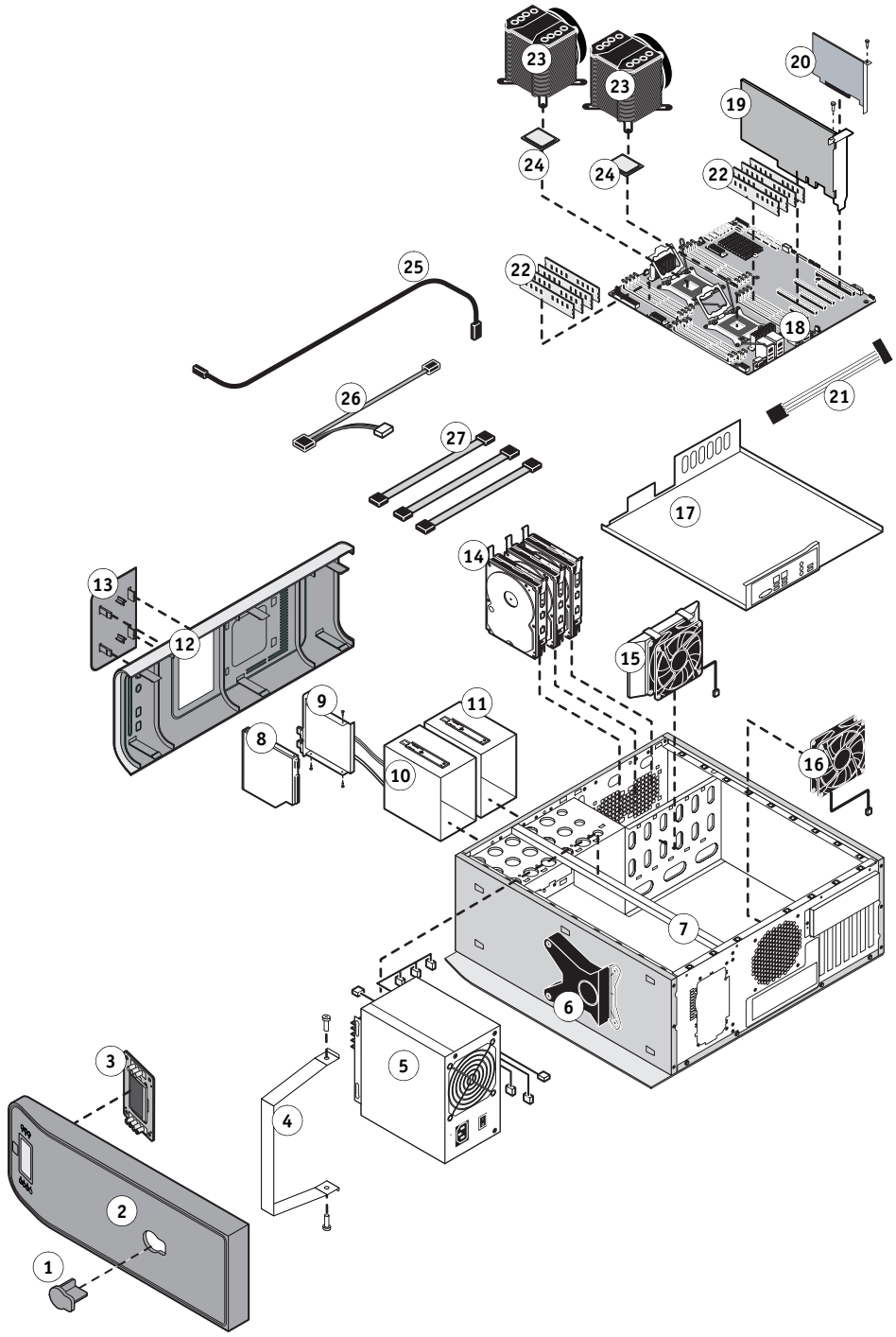
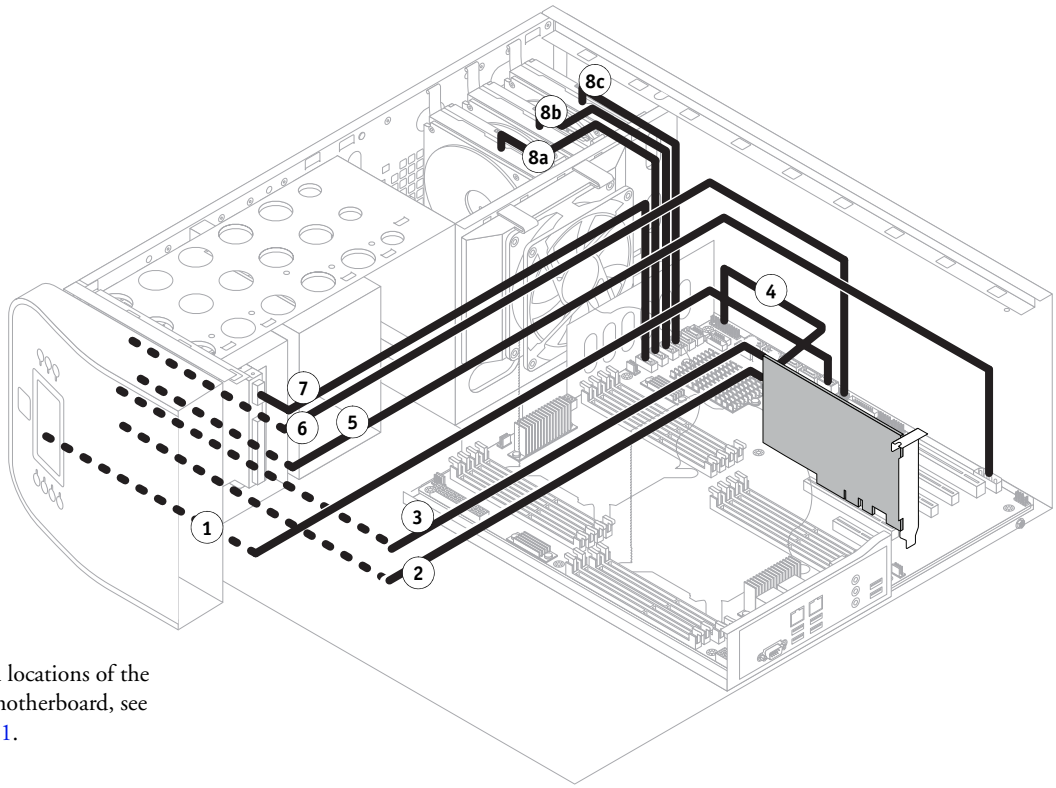


FIGURE 20: Exploded view of the E-83



NOTE: For detailed locations of the connectors on the motherboard, see Figure 33 on page 61.

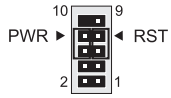
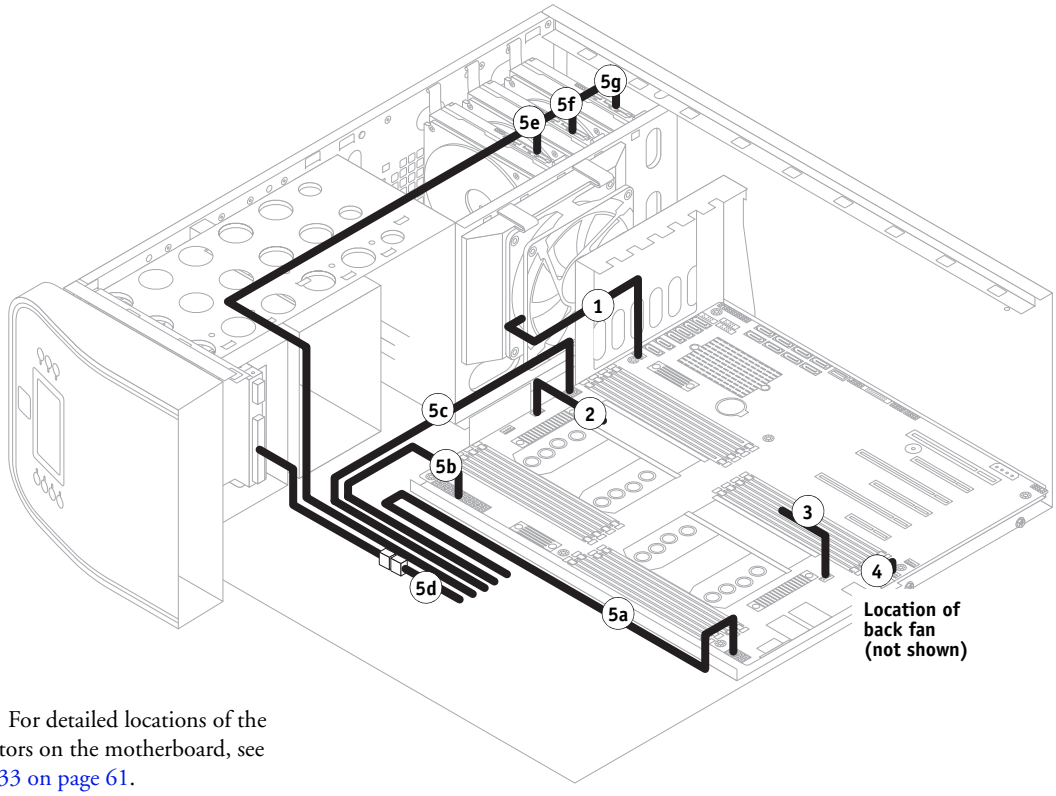
Cable key	From	To (on motherboard)	
1 UIB cable	User interface board	A_USB1	
2. Reset button cable (RESET SW - Blue)	Reset button in switch bank assembly	J352 connector (pin 5, 7) on the printer interface board	Align triangle on cable connector as shown.
3. Power button cable (POWER SW - Green)	Power button in switch bank assembly	J352 connector (pin 6, 8) on the printer interface board	
410-pin power button cable	J351 connector on the printer interface board	FPIO_1 connector on motherboard	
5 Speaker/Buzzer cable	Speaker in switch bank assembly	4PHD_11; align triangle on cable connector as shown.	
6 Front USB cables	Front USB ports in switch bank assembly	USB1	
7 DVD drive data/power cable	DVD drive	SATA0 connector on motherboard	
8 Hard disk drive data cables	a. HDD1 data connector b. HDD2 data connector c. HDD3 data connector	a. SATA1 connector on motherboard b. SATA2 connector on motherboard c. SATA3 connector on motherboard	

FIGURE 21: Data cable connections in the E-83



NOTE: For detailed locations of the connectors on the motherboard, see Figure 33 on page 61.

Cable key	From	To (on motherboard)
1 Front fan cable	Front fan	SYS_FAN3 (3-pin connector)
2 CPU0 fan cable	CPU0 fan	CPU0_FAN
3 CPU1 fan cable	CPU1 fan	CPU1_FAN
4 Back fan cable	Back fan	SYS_FAN4 (3-pin connector)
5 Power supply cables	Power supply (not shown)	a. PW3 (8-pin connector) b. PW1 (24-pin connector) c. PW2 (8-pin connector) d. SATA power connector—DVD drive data/power cable e. SATA power connector—HDD1 f. SATA power connector—HDD2 g. SATA power connector—HDD3

FIGURE 22: Power cable connections in the E-83

Accessing internal components

This section describes how to shut down and open the E-83. Always use the following procedures when opening the E-83 for inspection or service.

Shutting down the E-83

If the E-83 is powered on, you must shut down the system before you access the internal components. See "Starting, shutting down, restarting, and rebooting" on page 35.

Opening the E-83

WARNING

Before you open the E-83, it is strongly recommended that you review "Precautions" on page 11 to avoid injury or damage to the E-83.

TO OPEN THE E-83

When you handle electronic components, follow electrostatic discharge precautions (see page 11).

1 **Shut down the E-83 (see page 47).**

2 **Wait 10 seconds after the E-83 powers off, and then remove all external cables from the back of the system.**

3 **Remove the E-83 from the furniture (see page 147).**

This removal procedure includes removing the left panel of the E-83 and the monitor assembly.

4 **Remove all external panels necessary to access the component that you need to service.**

At the minimum, you must remove the left panel to service the component. You may also need to remove other panels, depending on the component that you need to access. For guidelines on which panels to remove, see the service procedures that accompany a given component.

NOTE: When removing multiple panels from the E-83, use the following order:

- Left panel (see page 48)
- Right panel (see page 48)
- Front panel (see page 49)
- Top panel (see page 51)

5 **Place the E-83 on a flat surface. Carefully position the E-83 so that it is resting on its side and the internal components are facing up.**

TO REMOVE AND REPLACE THE LEFT OR RIGHT PANEL

1 **Remove the three screws that secure the panel to the back of the chassis (see Figure 23).**

Set aside the screws so that you can replace them later.

2 **Pull the back edge of the panel away from the chassis and lift the panel off the chassis.**

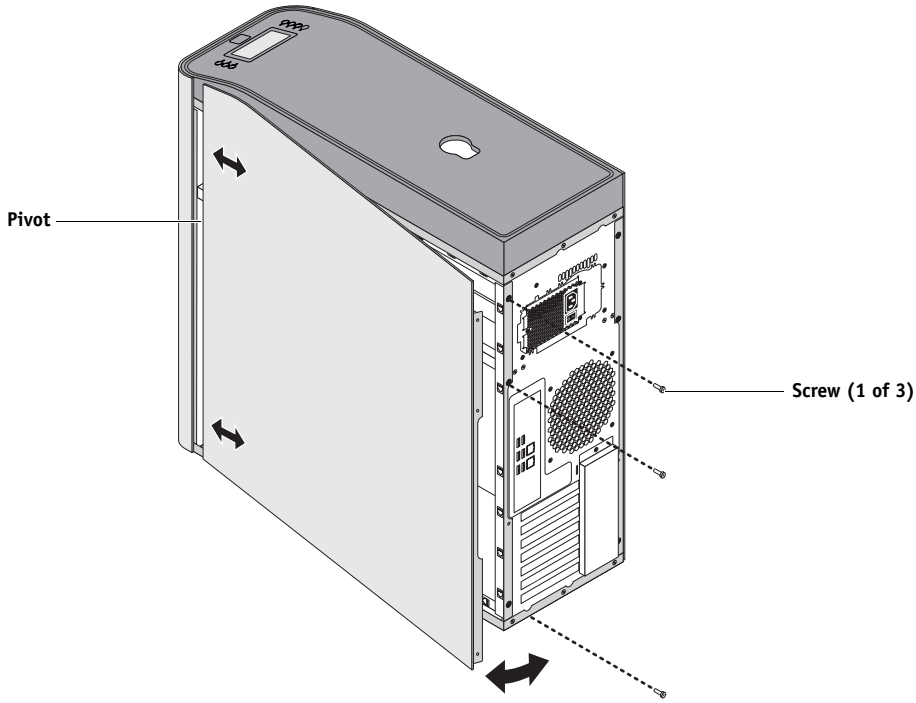


FIGURE 23: Removing/replacing the right panel

3 **To replace the panel, fit the front edge of the panel around the pivot in the chassis (see Figure 23).**

4 **Swing the back edge of the panel closed against the chassis and replace the three screws that you removed earlier.**

Be careful not to damage any cables when replacing the panel. Fold all cables inside the chassis before swinging the panel closed.

TO REMOVE AND REPLACE THE FRONT PANEL

NOTE: To remove the front panel, you must first remove the left and right panels.

1 **Remove the upper faceplate from the front panel (see Figure 24).**

Pull the bottom edge of the faceplate away from the front panel, and carefully remove the faceplate from the front panel.

NOTE: You must remove the upper faceplate in order to remove the front panel from the chassis.

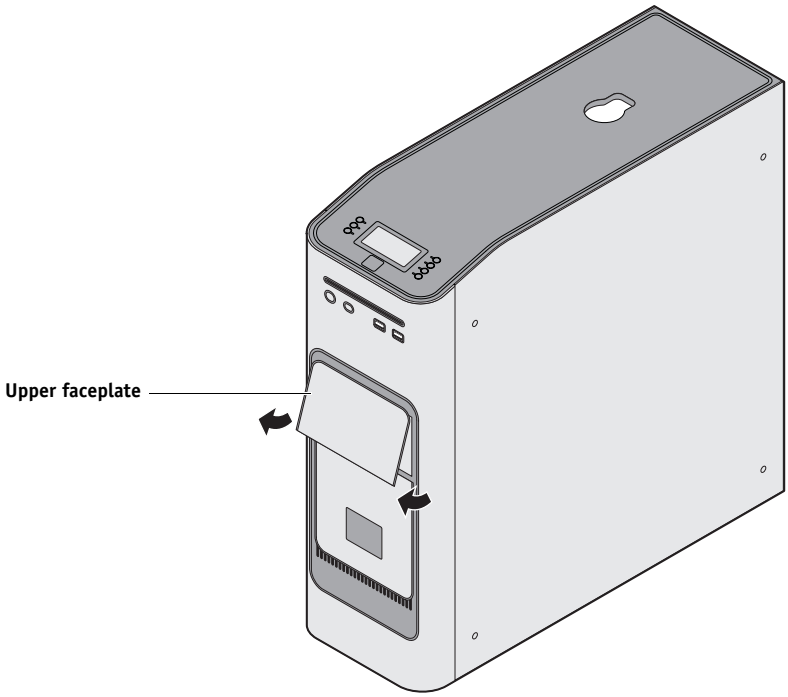


FIGURE 24: Removing the upper faceplate

2 **Pull outward to release the six tabs that secure the front panel to the chassis, and lift the panel off the chassis (see Figure 25).**

First release the two top tabs, then the two middle tabs, and then the two bottom tabs. Use a screwdriver to release the tabs that are hard to reach.

Make sure that the cutouts in the panel clear the power and reset buttons and the front USB ports.

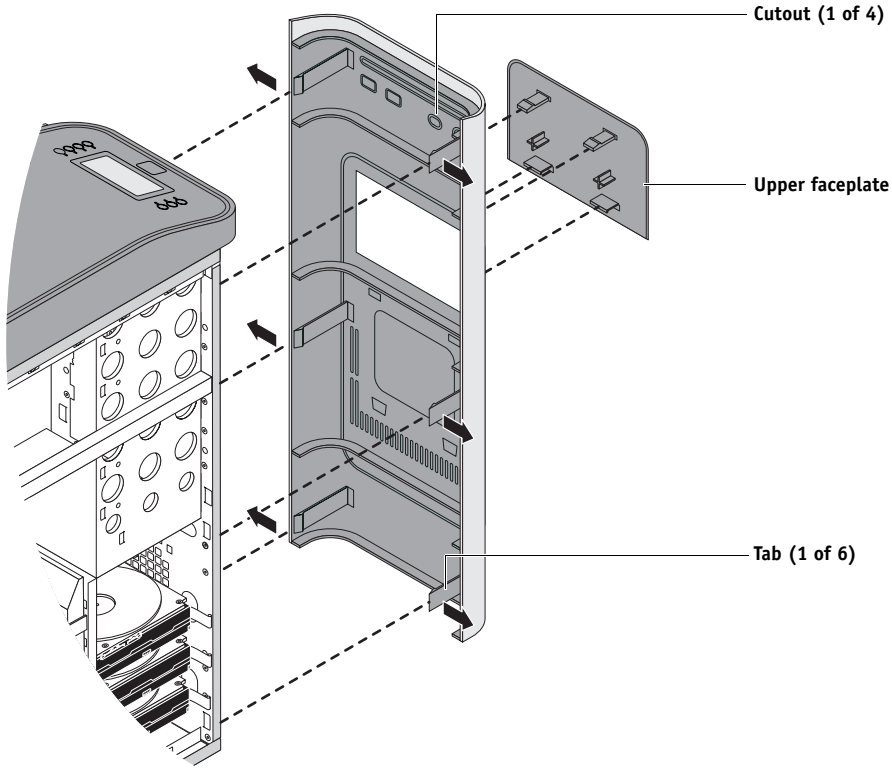


FIGURE 25: Removing/replacing the front panel

3 **To replace the front panel, align the four cutouts in the panel with the power and reset buttons and front USB ports (see Figure 25 on page 50).**

4 **Press the panel against the chassis to lock the panel into place.**

Lock the panel tabs in pairs (first the top tabs, then the middle tabs, then the bottom tabs).

5 **Replace the upper faceplate.**

Orient the faceplate as shown in Figure 25 on page 50. Insert the top tabs of the faceplate into the chassis (see Figure 24 on page 49). Then carefully press the faceplate against the chassis, making sure that all four tabs of the faceplate are securely locked in place.

TO REMOVE AND REPLACE THE TOP PANEL

NOTE: To remove the top panel, you must first remove the left, right, and front panels.

1 **Loosen the panel (see Figure 26).**

Slide the top panel toward the front of the chassis to disengage the hooks in the panel from the six slots in the top of the chassis.

NOTE: You may need to tap the back edge of the panel toward the front of the chassis to disengage the panel.

NOTE: HDD cover is not shown.

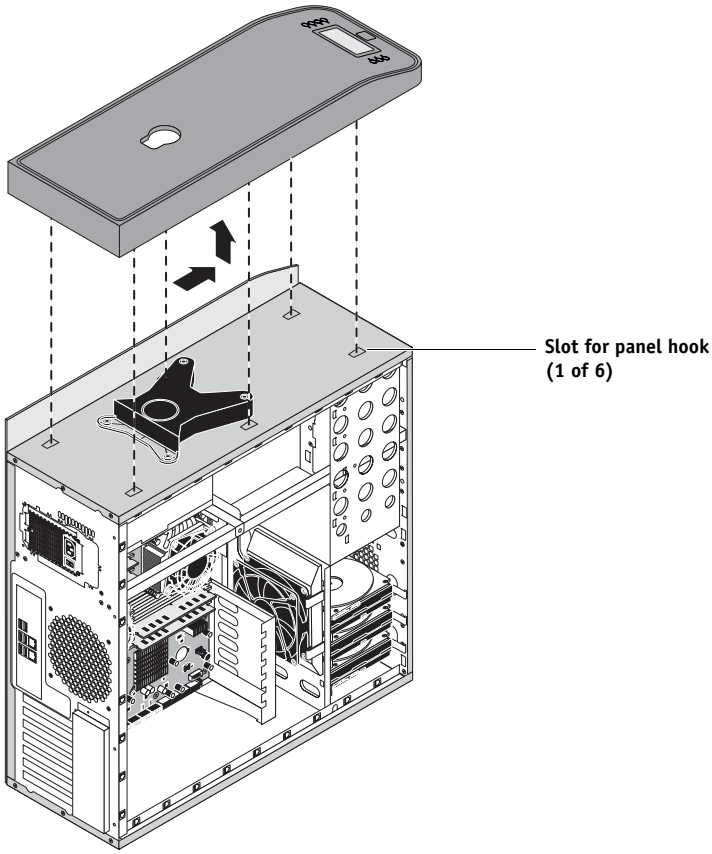


FIGURE 26: Removing/replacing the top panel

2 **Detach the UIB cable from its connector on the motherboard.**

For the connector location, see Figure 21 on page 45.

3 **Remove the panel from the chassis.**

Carefully guide the UIB cable out of the chassis as you remove the panel.

4 **To replace the top panel, first route the UIB cable through the chassis and connect it to the motherboard.**

For the connector location on the motherboard, see **Figure 21 on page 45** and **Figure 33 on page 61**.

5 **Position the top panel on top of the chassis (see Figure 26 on page 51).**

Place the six hooks on the underside of the panel into the slots in the top of the chassis, and then slide the top panel toward the back of the chassis to engage the hooks.

NOTE: You may need to tap the front edge of the panel toward the back of the chassis to engage the panel completely.

Removing and replacing boards

This section includes procedures for removing and replacing the following boards:

- Printer interface board
- Graphics board
- User interface board
- Motherboard

The E-83 is shipped from the factory with a standard board configuration, as shown in Figure 19 on page 43. If an optional component has been installed, see the documentation that accompanies the option kit.

Printer interface board

The printer interface board is a custom board connected to the motherboard. It processes image data and allows the E-83 to communicate with the printer.

For information about the location of this board on the motherboard, see page 59.

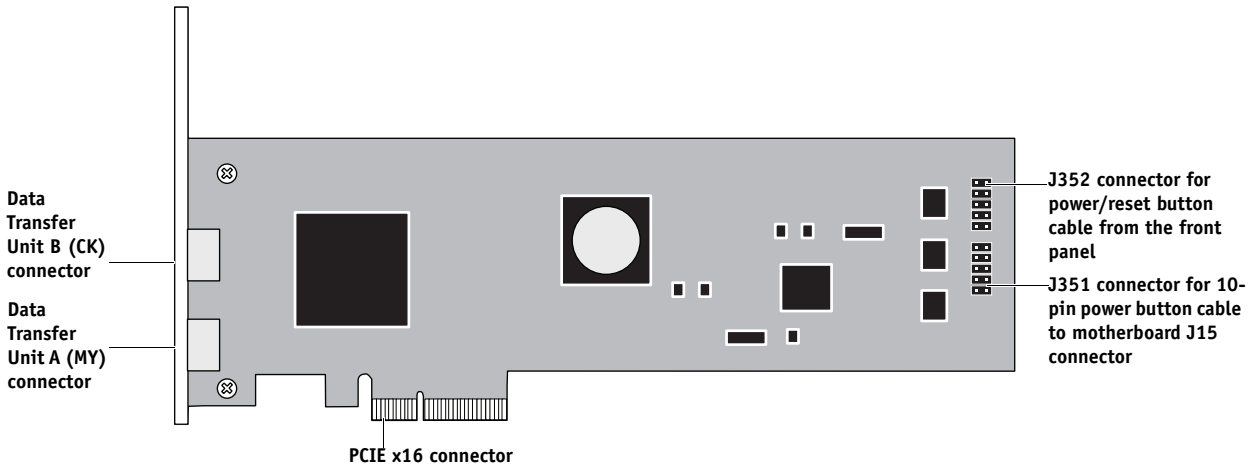


FIGURE 27: Printer interface board (component side)

TO REMOVE THE PRINTER INTERFACE BOARD

When you handle electronic components, follow electrostatic discharge precautions (see page 11).

1. **Shut down the E-83, remove all cables from the back, and open the E-83 (see page 47).**
2. **Remove the screws that secures the board's mounting bracket to the connector panel and save them for later.**
3. **Remove the power/reset button cables from the J352 connector, and the 10-pin power button cable from the J351 connector.**

4 **Gently pull the board out its connector on the motherboard and place it in an antistatic bag.**

TO INSTALL THE PRINTER INTERFACE BOARD

When you handle electronic components, follow electrostatic discharge precautions (see page 11).

1 **Insert the board into the *PCIE_4* connector on the motherboard (see Figure 33 on page 61).**

The component side of the board must face down, toward the base of the chassis. The board connector is keyed to fit only one way.

When reseating the board, be careful not to disturb any motherboard cables that are installed nearby.

2 **Attach the board to the connector panel with the screws you removed earlier.**

3 **Connect the power/reset button cables from the front panel to the J352 connector.**

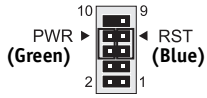


FIGURE 28: J352 connector on the printer interface board

4 **Connect the 10-pin power button cable from the FPIO_1 connector to the J351 connector (see Figure 21 on page 45).**

5 **Reassemble the E-83 and verify its functionality (see page 99).**

Graphics board

The graphics board provides the external VGA port for the monitor video cable. Connect your monitor to the VGA port. The model and appearance of the board may vary between systems. No additional software is required to use the VGA port provided by the board.

For information about the location of this board on the motherboard, see page 59.

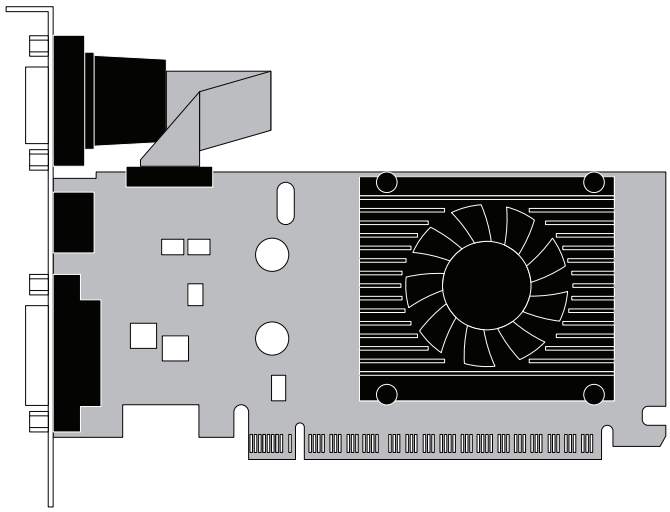


FIGURE 29: Graphics board

TO REMOVE THE GRAPHICS BOARD

When you handle electronic components, follow electrostatic discharge precautions (see page 11).

1 **Shut down the E-83, remove all cables from the back, and open the E-83 (see page 47).**

2 **Remove the screws that secures the board's mounting bracket to the connector panel and save them for later.**

3 **Gently pull the board out its connector on the motherboard and place it in an antistatic bag.**

Be careful not to disturb nearby cables.

TO INSTALL THE GRAPHICS BOARD

When you handle electronic components, follow electrostatic discharge precautions (see page 11).

1 **Insert the board into the *PCIE_2* connector on the motherboard (see Figure 33 on page 61).**

The component side of the board must face down, toward the base of the chassis. The board connector is keyed to fit only one way.

When reseating the board, be careful not to disturb any motherboard cables that are installed nearby.

2 **Attach the board to the connector panel with the screws you removed earlier.**

3 **Reassemble the E-83 and verify its functionality (see page 99).**

User interface board

The user interface board (UIB) provides the interface between the E-83 and the user. The front of the UIB contains circuitry for the following:

- Activity light LEDs
- Display window (LCD)
- Four line selection buttons
- Up and Down buttons
- Menu button

NOTE: The buttons are not included in the user interface board spare kit.

The UIB cable routes from the connector on the back of the user interface board to the designated USB connector on the motherboard (see Figure 21 on page 45 and Figure 33 on page 61).

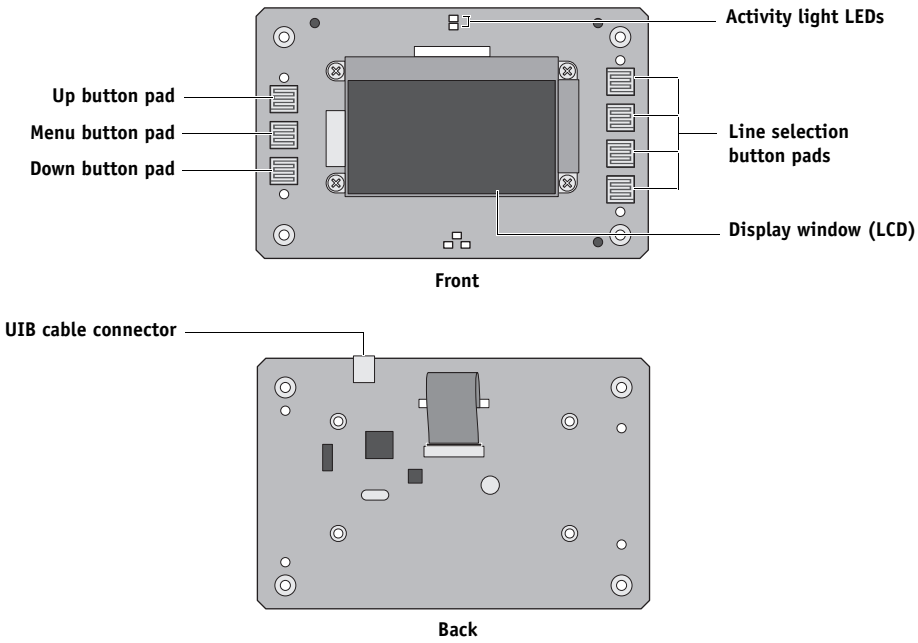


FIGURE 30: Diagram of the user interface board (front and back)

TO REMOVE THE USER INTERFACE BOARD

1. **Shut down the E-83, remove all cables from the back, and open the E-83 (see page 47).**

   To access the UIB, you must remove the left, right, front, and top panels from the chassis.

2. **Detach the UIB cable from its connector on the motherboard, and pull the cable out of the chassis when removing the top panel.**

3. **Turn the top panel over to expose its underside and place it on a padded surface.**

4 **Detach the UIB cable from the connector on the back of the UIB.**

Detach the UIB cable by grasping the cable connector. Avoid pulling on the cable.

5 **Remove the four screws that secure the UIB to the underside of the top panel (see Figure 31).**

6 **Remove the UIB from the top panel. Be sure to remove the plastic lens that covers the display window of the UIB.**

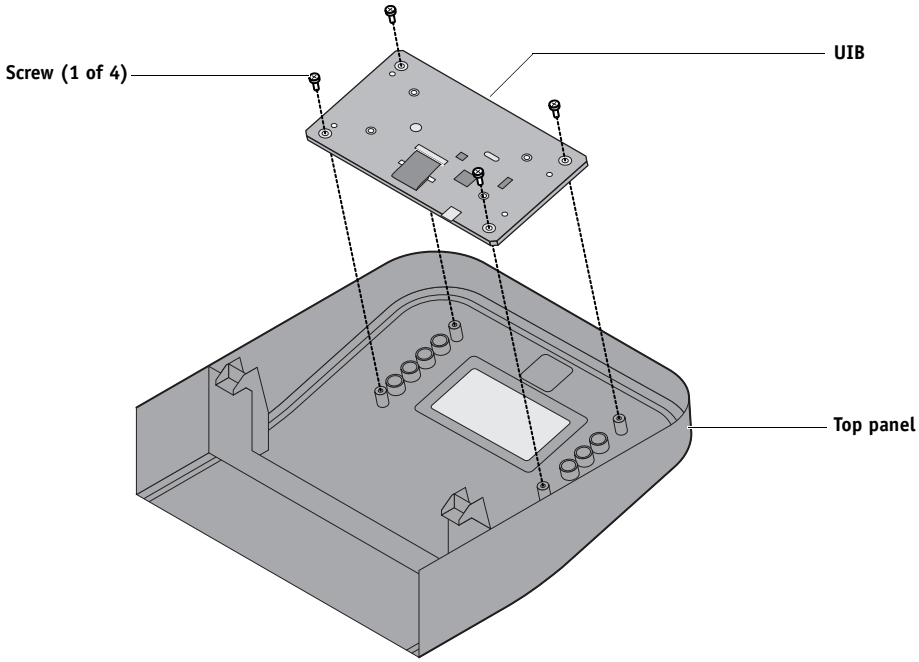


FIGURE 31: Removing/replacing the user interface board

7 **If you are removing the UIB to replace it with a new board, remove the buttons from the old UIB.**

Carefully pull the buttons out of the anchoring holes on the UIB (see Figure 32 on page 58). Take care not to damage the pointed tabs on the back of each button set.

8 **Place the board in an antistatic bag.**

TO REPLACE THE USER INTERFACE BOARD

1 **If you are installing a new UIB, correctly orient the UIB buttons, and then mount them on the new board (see Figure 32).**

The UIB buttons attach directly to the front of the UIB and extend through channels in the top panel. When correctly positioned, the buttons make contact with the button pads on the front of the UIB and provide users with manual status and control capability from the control panel.

Use needlenose pliers to pull the button tabs carefully through the anchoring holes in the UIB until the buttons are secured in place.

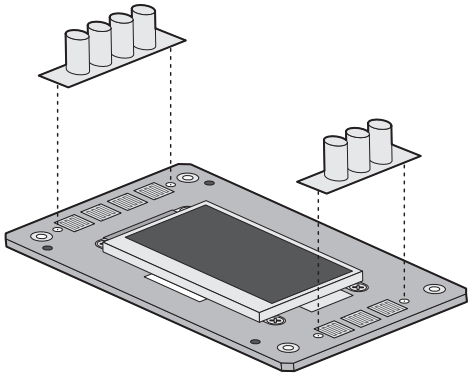


FIGURE 32: Removing/replacing the UIB buttons

2 **Turn the top panel over to expose its underside and place it on a padded surface.**

3 **Position the plastic lens around the display window of the UIB.**

4 **Secure the UIB to the underside of the top panel (see Figure 31 on page 57).**

Hold the plastic lens in place as you position the UIB in the mounting area of the top panel. Carefully fit the UIB buttons through the cutouts in the top panel.

Replace the four screws that secure the UIB to the underside of the top panel. Be sure to use the same screws that you removed earlier.

5 **If you are replacing the UIB cable with a new cable, cut the tie wrap securing the old cable to the underside of the top panel and remove the old cable.**

NOTE: The tie wrap secures the cable during shipment and does not need to be replaced when you replace the cable.

6 **Attach the UIB cable to the connector on the back of the UIB.**

7 **Replace the top panel (see page 51).**

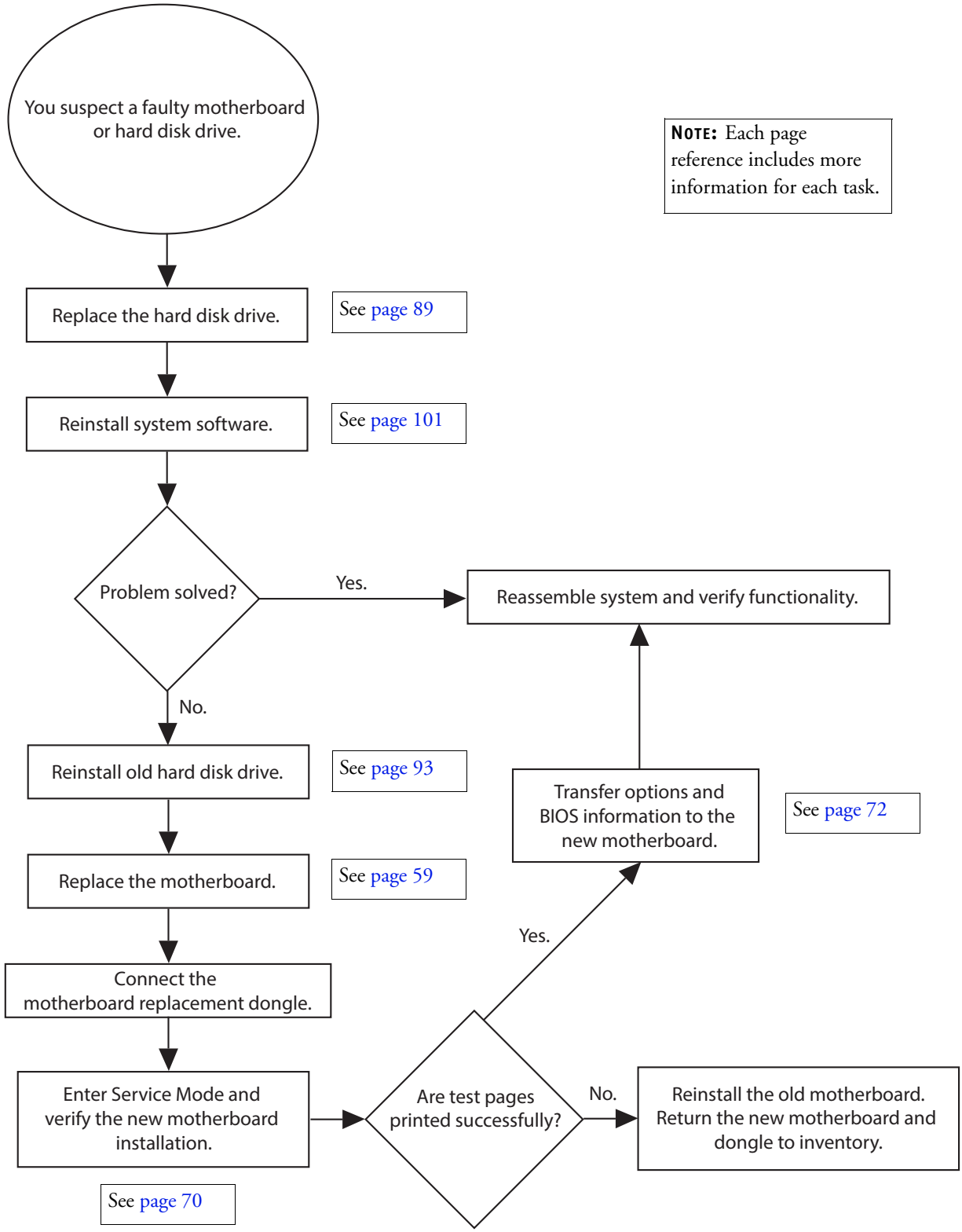
NOTE: When replacing the top panel, be sure to route the UIB cable through the chassis and connect it to the UIB connector (USB1) on the motherboard. For the location of the motherboard connector, see Figure 21 on page 45 and Figure 33 on page 61.

8 **Reassemble the E-83 and verify its functionality (see page 99).**

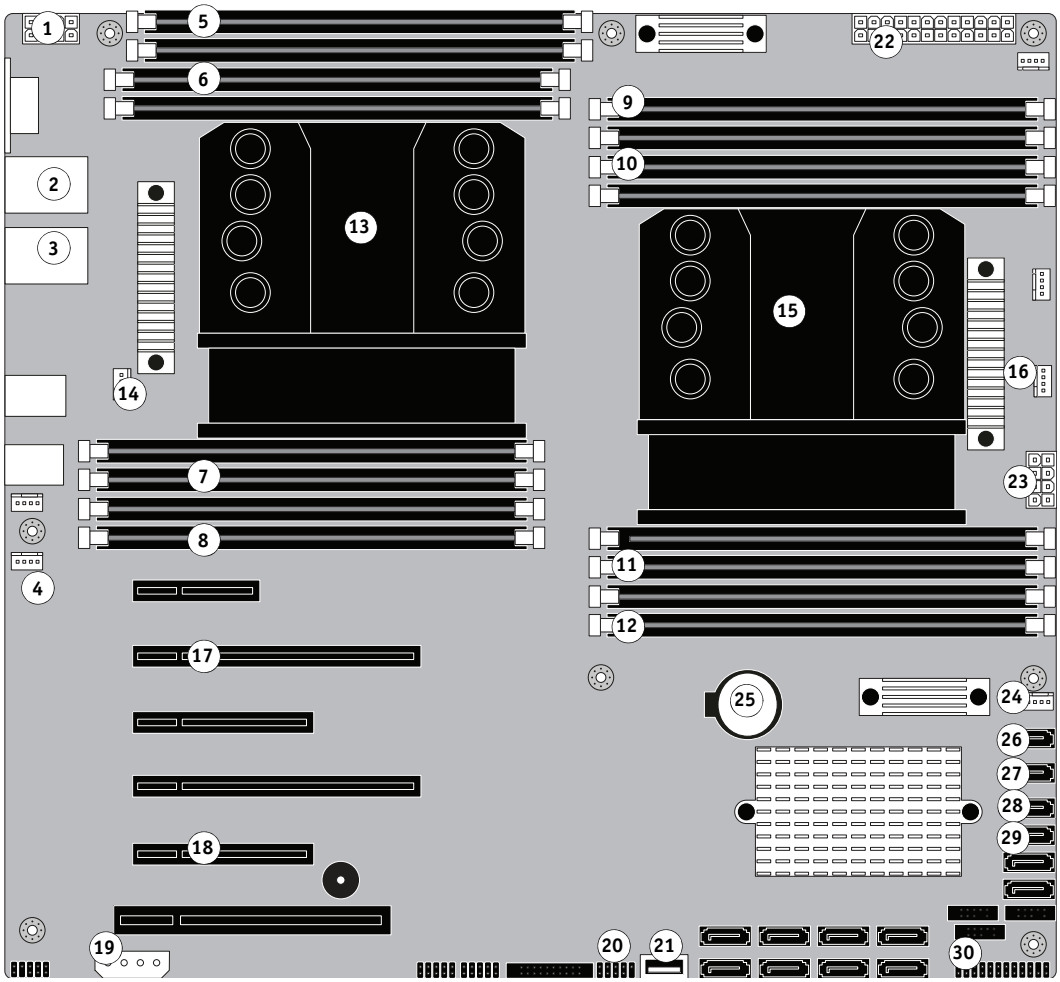
Motherboard

The motherboard contains two CPUs. The CPUs control the image data transferred to and from the printer interface board. The motherboard also controls hard disk drive functions and the communication between the E-83 and external devices.

Motherboard replacement overview



Motherboard parts and connectors



Key

1. 8-pin power connector (PW3)
2. USB ports and 10/100/1000Mbps connector (network)
3. USB ports and 10/100/1000Mbps connector (Crossover Ethernet)
4. Back fan connector (SYS_FAN4)
5. DIMM (G0)
6. DIMM (H0)
7. DIMM (F0)
8. DIMM (E0)
9. DIMM (A0)
10. DIMM (B0)
11. DIMM (D0)
12. DIMM (C0)
13. CPU1 and cooling assembly
14. CPU1 fan connector (CPU1_FAN)
15. CPU0 and cooling assembly
16. CPU0 fan connector (CPU0_FAN)
17. Printer interface board (PCI-E1 x16, PCIE_5 connector)
18. Graphics board (PCI-E2 x8, PCIE_2 connector)
19. Speaker pins (4PHD_11)
20. Front USB port cable connectors (USB1)
21. UIB cable connector (A_USB1)
22. 24-pin power connector (PW1)
23. 8-pin power connector (PW2)
24. Front fan connector (SYS_FAN3)
25. Battery
26. DVD drive connector (SATA0)
27. HDD1 (top) connector (SATA1)
28. HDD2 (middle) connector (SATA2)
29. HDD3 (bottom) connector (SATA3)
30. Power and reset button pins (FPIO_1)

MS—Mounting screws

NOTE: Any connectors not listed are not used.

FIGURE 33: E-83 motherboard

Motherboard jumpers

IMPORTANT

Do not move or change any of the default jumper configurations.

Removing the motherboard

The motherboard attaches to the motherboard tray, which attaches to the side of the chassis, below the power supply. Before you remove the motherboard, you must remove:

- All boards installed on the motherboard
- All cables connecting the motherboard to other components (including the three motherboard power cables, front and back fan cables, DVD drive data/power cable, hard disk drive data cables, UIB cable, front USB cables, power button cable, reset button cable, and speaker cable)

CAUTION

Follow standard ESD precautions (see page 12) when handling components. During service to the motherboard, avoid using excessive force and always place the motherboard on a grounded, non-metallic, static-free surface. Never allow any metal to touch the solder contacts on the underside of the motherboard, especially beneath the battery socket. Improper handling can short-circuit and permanently damage the motherboard.

TO REMOVE MOTHERBOARD COMPONENTS FROM THE MOTHERBOARD

1 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to access the motherboard, you must remove the left panel.

2 **Remove the printer interface board assembly from the motherboard (see page 53).**

In order to access the mounting screws for the board brackets, you must first remove the bracket cover plate from the connector panel.

3 **Remove the following cables attached to the motherboard (for the location of each connector on the motherboard, see Figure 21 on page 45 and Figure 22 on page 46):**

- Front fan cable
- Back fan cable
- Hard disk drive data cables
- DVD drive data/power cable
- UIB cable
- Front USB cables

  To remove the motherboard tray, you may first need to cut the tie wrap that secures the front USB cables to the chassis.
- 8-pin motherboard power cable (PW2)
- 8-pin motherboard power cable (PW3)
- 24-pin motherboard power cable (PW1)

- Power and reset button cables (from the J352 connector on the printer interface board)
- 10-pin power button cable (connecting the J351 connector on the printer interface board and the motherboard)
- Speaker cable

TO REMOVE THE MOTHERBOARD TRAY

NOTE: This procedure assumes that you have removed the printer interface board and cables from the motherboard, as described in "To remove motherboard components from the motherboard" on page 62.

1 **Remove the front fan (see page 82).**

2 **Remove the back fan (see page 85).**

NOTE: If you do not remove the back fan, you may damage the back fan cable when removing the motherboard.

3 **Remove the two screws that secure the connector plate to the back of the chassis (see Figure 34).**

4 **Remove the two thumb screws that secure the motherboard tray to the chassis.**

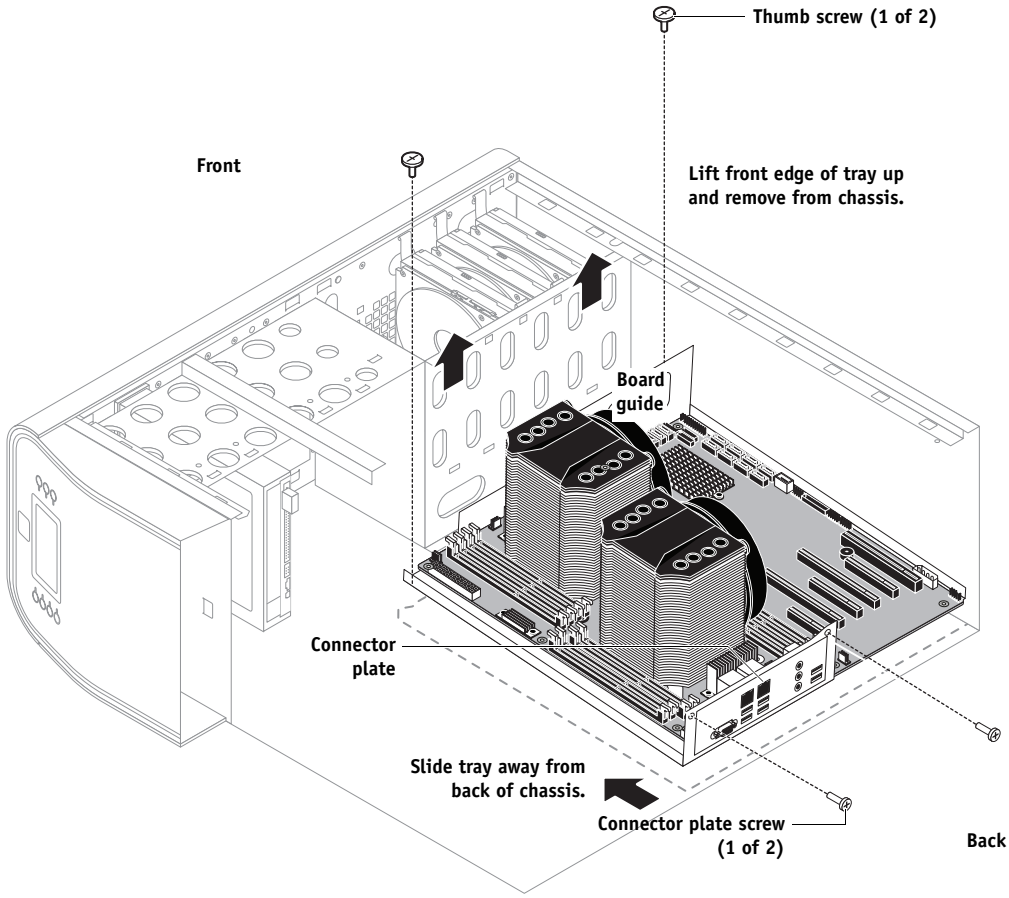


FIGURE 34: Removing the motherboard tray

5 **Slide the motherboard tray away from the back of the chassis until the connector plate detaches from the connector panel (see Figure 34).**

6 **Grasping the board guide, lift the front edge of the motherboard tray and carefully remove the tray from the chassis.**

TO REMOVE THE MOTHERBOARD FROM THE MOTHERBOARD TRAY

CAUTION

Follow standard ESD precautions (see page 12) when handling the motherboard. Avoid using excessive force and always place the motherboard on a grounded, non-metallic, static-free surface. Never allow any metal to touch the solder contacts on the underside of the motherboard, especially beneath the battery socket. Improper handling can short-circuit and permanently damage the motherboard.

1 **Remove the mounting screws that secure the motherboard to the motherboard tray (see Figure 35).**

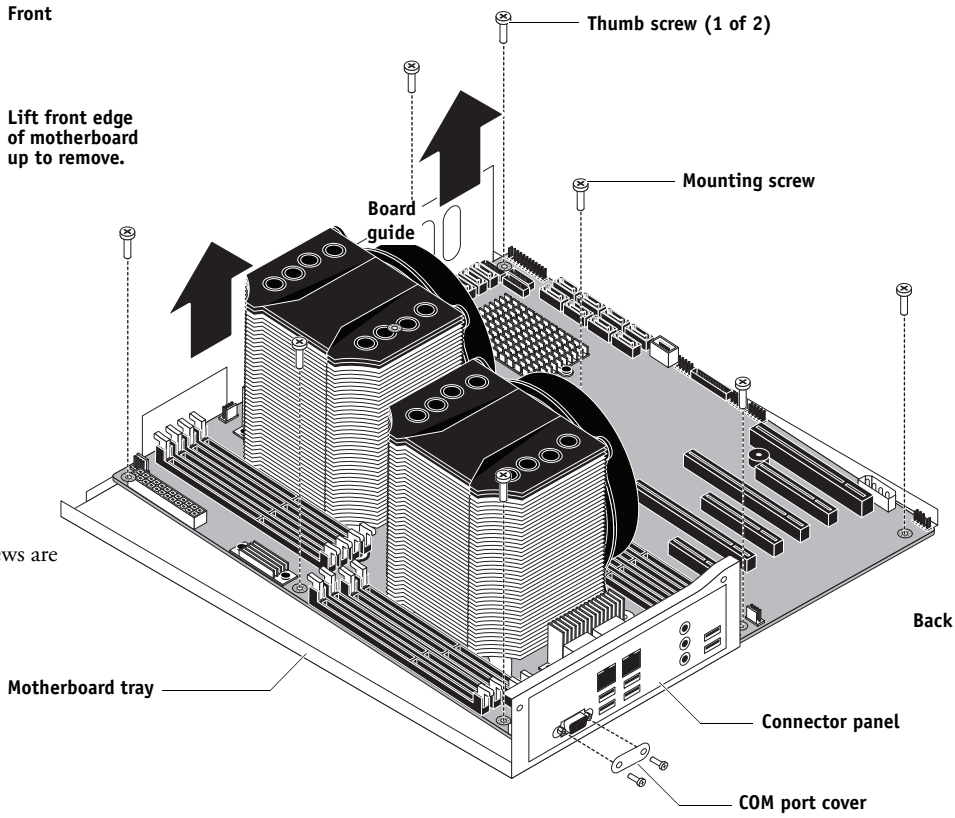
2 **If the COM port cover is attached, remove the two mounting screws and remove the COM port cover (see Figure 35).**

3 **Remove both CPU cooling assemblies from the motherboard (see page 78).**

Each CPU cooling assembly is secured by four screws that secure to posts in the motherboard tray.

IMPORTANT

To avoid flexing and possibly damaging the motherboard during removal of the cooling assemblies, always remove the motherboard screws first. Doing so minimizes tension on the motherboard as the cooling assemblies are removed.



NOTE: Not all mounting screws are shown.

FIGURE 35: Removing the motherboard from the tray

4 **Lift the front edge of the motherboard to detach the back connectors from the connector panel.**

5 **Carefully remove the motherboard from the motherboard tray.**

As you remove the motherboard, make sure that it clears both the connector panel and the board guide. Avoid handling contacts and using excessive force.

6 **If you are replacing the motherboard with a new motherboard, remove the following from the old motherboard:**

- DIMMs (see page 75)
- CPUs (see page 78)

Replacing the motherboard

Follow the procedures in this section to replace the motherboard. Failure to follow these procedures can cause a corrupted system (not easily repaired in the field) or an incomplete installation.

IMPORTANT

If you are installing a new motherboard:

- Transfer the DIMMs and CPUs from the old motherboard. Spare motherboards ship with replacement thermal compound for use when transferring the CPUs.
- Make sure that the new motherboard solves the problem that you are troubleshooting *before you transfer options to the new motherboard*. Transferring options permanently customizes the new motherboard so that it cannot be returned to inventory and cannot be installed in another E-83. If the new motherboard does not solve the problem, do not transfer options. Return the new motherboard and unused motherboard replacement dongle to inventory.
- Do not reinstall system software. Reinstalling system software is not necessary when installing a new motherboard and can result in an error if done before transferring options.

IMPORTANT

- BIOS chips are not interchangeable. Do not transfer the BIOS chip from the old motherboard onto the new motherboard. Doing so can damage the E-83.
- Do not install a new hard disk drive at the same time that you install a new motherboard.

  It is unlikely that both the hard disk drive and the motherboard are defective, therefore, avoid replacing both to solve one problem. If troubleshooting strategies (checking cables and connections, etc.) do not resolve the problem and you suspect either the hard disk drive or the motherboard is at fault, use the following order: replace the hard disk drive; install system software; verify the problem still exists; then move on to other procedures, such as replacing the motherboard. Otherwise, you may need to return the E-83.
- Transfer options to the new motherboard using the motherboard replacement dongle (for details, see page 72).

TO INSTALL THE MOTHERBOARD IN THE MOTHERBOARD TRAY

1. **If protective covers are present on the CPU sockets on the new motherboard, remove them. Then install the covers on the CPU sockets on the old motherboard to protect the circuitry.**
2. **If you are installing a new motherboard, install the DIMMs and CPUs from the old motherboard onto the new motherboard. For DIMMs, see page 75; for CPUs, see page 78.**

IMPORTANT

Follow these guidelines:

- Make sure to use the fresh thermal compound that came with the new motherboard when transferring CPUs onto the new motherboard (for details, see page 81).
- Make sure that the motherboard is placed on an antistatic surface with some padding.
- Do not transfer the BIOS chip from the old motherboard onto the new motherboard. Doing so can cause the system to shut down due to incompatibility issues.

3. **Angle the motherboard so the connectors on the motherboard fit into the cutouts in the connector panel of the motherboard tray (see Figure 35 on page 65).**
4. **Align the mounting holes in the motherboard with the mounting posts on the motherboard tray.**
5. **Install the CPU cooling assemblies that you removed earlier.**

   For detailed installation instructions, see page 78.

6. **Insert the motherboard mounting screws that secure the motherboard to the motherboard tray (see Figure 35 on page 65).**

IMPORTANT

Always install the CPU cooling assemblies before installing the motherboard mounting screws. You may flex and damage the motherboard if you perform the installations in the wrong order.

Partially tighten each mounting screw before completely tightening any one screw. Do not overtighten the screws; doing so could damage traces on the motherboard.

TO REPLACE THE MOTHERBOARD TRAY

NOTE: This procedure assumes that you have installed the motherboard in the motherboard tray, as described on page 67.

1 **Carefully insert the motherboard tray into the chassis.**

Move all cables aside as you insert the motherboard tray; make sure that the tray is not pinching or covering any cables in the chassis.

2 **Place the tray flat in the chassis, fitting the cutouts at the top of the tray over the two standoffs in the chassis (see Figure 36). Slide the tray toward the back of the chassis until the connector plate engages the connector panel.**

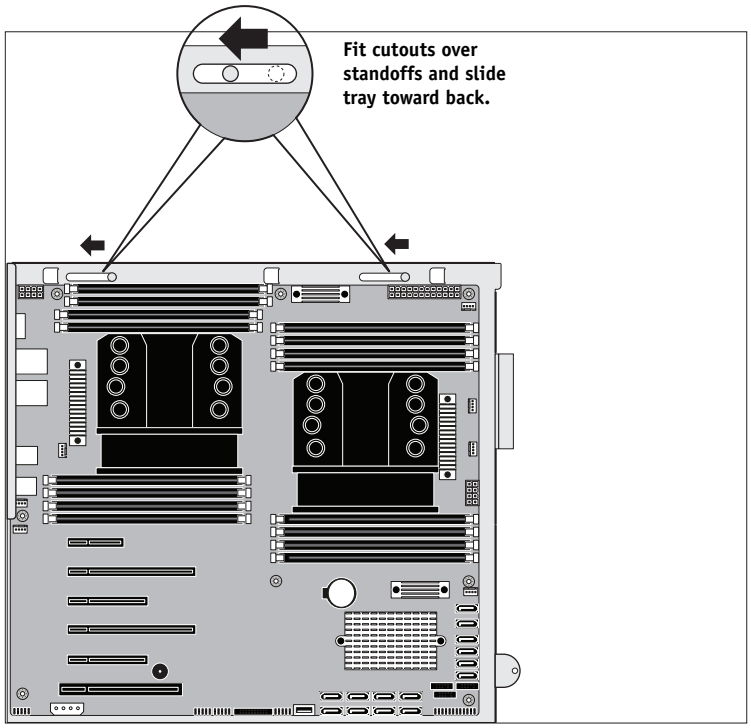


FIGURE 36: Installing the motherboard tray

3 **Replace the two thumb screws that secure the tray to the chassis (see Figure 34 on page 64).**

4 **Replace the two screws that secure the connector plate to the back of the chassis (see Figure 34 on page 64).**

5 **Replace the front fan (see page 82).**

6 **Replace the back fan (see page 85).**

You are now ready to replace motherboard components to complete motherboard hardware installation.

TO REPLACE MOTHERBOARD COMPONENTS

1 **Replace the following cables attached to the motherboard (for the location of each connector on the motherboard, see Figure 33 on page 61):**

- Speaker cable

  Make sure that the triangle on the cable connector is aligned with the correct pin, as shown in Figure 21 on page 45.

- Reset button cable

  Connect reset button cable to the J352 connector, pin 5 and 7 (see Figure 21 on page 45)

- Power button cable

  Connect power button cable to the J352 connector , pin 6 and 8 (see Figure 21 on page 45)

- 10-pin power button cable
- 24-pin motherboard power cable
- 8-pin motherboard power cables

  You may connect either 8-pin cable to either power connector.

- Front USB cables

  You may connect either cable to either USB connector.

- UIB cable
- DVD drive data/power cable
- Hard disk drive data cables

  Connect the hard disk drive data cables as follows:

  – Top hard disk drive (HDD1)—SATA1

  – Middle hard disk drive (HDD2)—SATA2

  – Bottom hard disk drive (HDD3)—SATA3

- Back fan cable
- Front fan cable

2 **Replace the printer interface board assembly to connector PCI-E1 x8 on the motherboard (see page 53).**

When installing the boards, verify the following:

- The main board is installed in connector PCI-E1 x8 on the motherboard, and the board connector is properly aligned with the PCI connector. For the correct connector and slot assignments, see Figure 19 on page 43.
- The three bracket screws are installed on the connector panel slot.

- Unused slots have slot covers installed on the connector panel. Uncovered slots reduce the air flow and could cause the E-83 to overheat.

3 **Replace the bracket cover plate to the connector panel (see Figure 18 on page 42).**

4 **Reassemble the E-83 but do not power on the system.**

Verifying new motherboard installation, and transferring options and BIOS information

After you install a new motherboard and reassemble the system, do the following:

- Verify all functionality by using the motherboard replacement dongle to enter Service Mode. (Service Mode is not indicated on the monitor or LCD, but is entered once you power on with a new motherboard installed and the motherboard replacement dongle installed on a USB port.)

  Service Mode is a temporary state that allows you to make sure that the motherboard solves the problem that you are troubleshooting. Service Mode is exited automatically when you expend the motherboard replacement dongle to transfer options to the new motherboard (see "Entering Service Mode" on page 71).

NOTE: Features of Fiery Impose-Compose are not available while in Service Mode.

- If the new motherboard solves the problem that you are troubleshooting, use the motherboard replacement dongle to transfer options to the new motherboard.

  If you determine while in Service Mode that the problem you are troubleshooting was not fixed by installing a new motherboard, do not expend the motherboard replacement dongle to transfer options to the new motherboard (described below), do not install system software, and do not replace the hard disk drive. Reinstall the old motherboard and return the new motherboard and the unused motherboard replacement dongle to inventory. You may then perform additional service and troubleshooting procedures.

  Transferring options (for example, Fiery Graphic Arts, Premium Edition, if applicable) expends the motherboard replacement dongle. For details, see "Entering Service Mode" on page 71.

IMPORTANT

Do not transfer options to the new motherboard prematurely. Do so only after you verify the new motherboard in Service Mode. Remember that once options are transferred to the new motherboard using the motherboard replacement dongle, the motherboard is customized and cannot be used in another system.

Entering Service Mode

Use the following procedure to verify that the system functions properly after installing a new motherboard.

TO ENTER SERVICE MODE AND VERIFY THE SYSTEM

NOTE: This procedure assumes that the E-83 is powered off, no media is in the DVD drive, you have installed a new motherboard, and that you have reassembled the E-83 and attached external cables.

1 **Make sure the E-83 is connected to the printer.**

2 **Locate the motherboard replacement dongle provided with the new motherboard and connect it to a USB port.**

3 **Remove all USB devices (except for the keyboard and mouse) that may be currently connected to any other USB port.**

Reconnect other dongles and USB devices only after you verify that the E-83 starts up successfully in Service Mode.

4 **Power on the E-83 and allow it to boot without interruption.**

- At the Log On to Windows dialog box, log in as Administrator, type Fiery.1 in the password field, and then press Enter on the keyboard. Type Fiery.1 exactly as shown. The password is case-sensitive; for example, fiery.1 will not work.

At this point the E-83 is in Service Mode, so you can verify that the new motherboard solves the problem that you are trying to troubleshoot. Service Mode is not indicated on the monitor or on the E-83 control panel.

5 **Print the E-83 Test Page.**

6 **Ask the site administrator to connect the E-83 to the network and download a print job over the network (see *Configuration and Setup*, which is part of the user documentation set).**

If the problem that you are troubleshooting persists, or if you are unable to perform steps 4 through step 6 above while in Service Mode, you may conclude that the old motherboard was not the source of the problem and does not need to be replaced. If so, do not transfer options to the new motherboard (described on page 72), do not install system software, and do not replace the hard disk drive. Reinstall the old motherboard and return the new motherboard with the unexpended motherboard replacement dongle to inventory. For more information about troubleshooting system problems, see "Troubleshooting" on page 114.

If installing a new motherboard solved the problem that you are troubleshooting and you are able to print a Test Page and send a print job over the network, you are ready to transfer options to the new motherboard. Service Mode ends automatically when you transfer options to the new motherboard.

Transferring options and BIOS information to the new motherboard

After you verify that the new motherboard solves the problem that you are troubleshooting, you must use the motherboard replacement dongle to transfer options to the new motherboard.

TO TRANSFER OPTIONS AND BIOS INFORMATION TO THE NEW MOTHERBOARD

NOTE: This procedure, which takes approximately 15-20 minutes, assumes that the E-83 is fully assembled with the new motherboard, and verified in Service Mode (see page 71).

1. **Verify that all power is turned off on the E-83.**
2. **Insert the motherboard replacement dongle into a USB port.**
3. **Turn on the E-83.**

   Wait until the E-83 reaches Idle.

4. **On the E-83 control panel, select MB Replacement.**

   The control panel displays “Reading dongle...”, then displays the number of licenses left to apply to the transfer.

5. **Select Yes to confirm the license transfer.**

   The control panel displays “Applying” to indicate the transfer of options and the backup BIOS from the hard disk drive to the BIOS chip on the replacement motherboard.

   NOTE: If you select “No” the process ends and you return to the Functions menu.

6. **Reboot the E-83.**
7. **Remove the motherboard replacement dongle after the E-83 reaches Idle.**

Replacing parts on the motherboard

This section describes how to remove and replace the battery, DIMMs, and CPUs on the motherboard.

Before performing any of these procedures, shut down and open the E-83 (see page 47).

Motherboard battery

The battery is located at socket BAT on the motherboard.

NOTE: Spare batteries are not available through your authorized service/support center. To replace the battery, 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 an incorrect type. Replace the battery only with the same type recommended by the manufacturer. Dispose of used batteries according to local regulations.

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 jeweiligen gesetzlichen Bestimmungen 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 réglementations locales en vigueur.

ADVARSEL!: Litiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Batteriet må kun udskiftes med et andet batteri af samme fabrikat og type. Brugte batterier skal bortskaffes i henhold til gældende regler.

VAROITUS: Paristo voi räjähtää, jos se on vaihdetaan väärän tyyppiseen paristoon. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo paikallisten määräysten mukaisesti.

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

VARNING! Risk för explosion om batteriet byts ut mot en felaktig batterityp! Byt bara ut batteriet mot en batterityp som har godkänts av tillverkaren. Hantera använda batterier enligt lokal miljölagstiftning.

CUIDADO: Existe peligro de explosión si la batería se sustituye por una batería del tipo incorrecto. Sustituya la batería sólo por una batería del mismo tipo que recomienda el fabricante. Deseche las baterías usadas respetando la normativa local.

ATTENZIONE: Esiste pericolo di esplosione se la batteria viene sostituita con una di tipo non corretto. Sostituirla solamente con un tipo raccomandato dal produttore. Lo smaltimento dellebatterie usate deve essere eseguito secondo le normative locali.

AVISO: Existe o perigo de explosão se a bateria for substituída por uma do tipo incorreto. Substitua somente por uma do tipo recomendado pelo fabricante. Descarte as baterias conforme as normas locais.

GEVAAR: Er bestaat ontploffingsgevaar indien de batterij door een verkeerd type wordt vervangen. Vervang de batterij uitsluitend door hetzelfde door de fabrikant aanbevolen type. Ruim gebruikte batterijen op volgens de plaatselijke voorschriften.

TO REPLACE THE MOTHERBOARD BATTERY

1 **Shut down the E-83, remove all cables from the back, and open the system (see page 47).**

In order to access the battery, you must remove the left panel.

2 **Locate the battery on the motherboard (see Figure 33 on page 61).**

3 **Carefully push the clip away from the battery until the socket ejects the battery.**

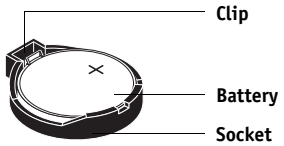


FIGURE 37: Motherboard battery

4 **Slide the battery out of its socket.**

5 **To insert a new battery, slide it into the socket so that the positive (+) side of the battery faces up.**

6 **Press the battery down into the socket until it snaps into place.**

Make sure that the battery is securely installed in the socket.

7 **Reassemble the E-83 and verify its functionality (see page 99).**

8 **Configure the time and date in Setup.**

For more information, see *Configuration and Setup*, which is part of the user documentation set.

DIMMs

The motherboard has 16 DIMM sockets organized into two sets, as shown in Figure 38.

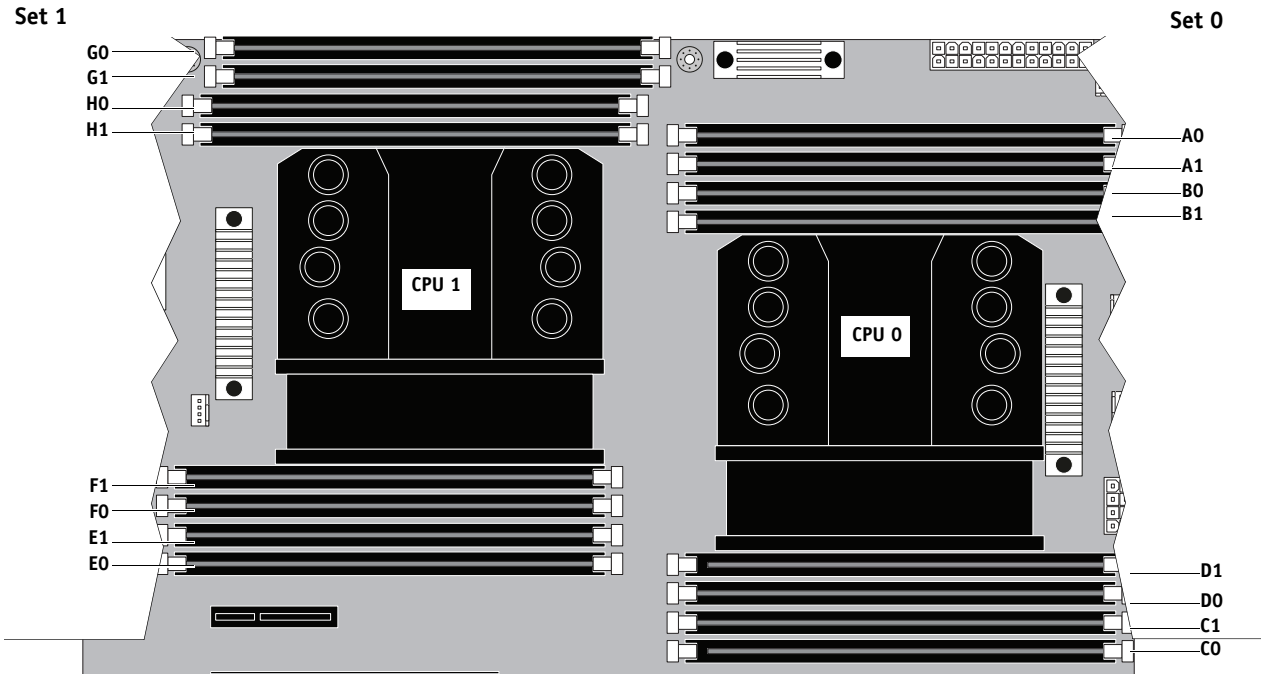


FIGURE 38: Motherboard DIMM sockets

The E-83 standard configuration provides eight 2GB DIMMs, for a total of 16GB of memory (Socket A0, B0, C0, D0, E0, F0, G0, and H0 are occupied).

NOTE: DIMMs must be correctly installed in order for the E-83 to function properly. To ensure proper operation, replace DIMMs only with approved replacement DIMMs from EFI.

NOTE: When installing DIMMs, note the following:

- There are eight channels (A to H) for DIMM slots. Use the same DIMM type for each channel.

- When installing more than eight DIMMs, use the following table for the available slots.

Number of DIMMs	2	3	4	5	6	7	8	10	12	14	16
Socket A0	o	o	o	o	o	o	o	o	o	o	o
Socket A1								o	o	o	o
Socket B0		o	o	o	o	o	o	o	o	o	o
Socket B1								o	o	o	o
Socket C0				o	o	o	o	o	o	o	o
Socket C1									o	o	o
Socket D0						o	o	o	o	o	o
Socket D1									o	o	o
Socket E0	o	o	o	o	o	o	o	o	o	o	o
Socket E1										o	o
Socket F0			o	o	o	o	o	o	o	o	o
Socket F1										o	o
Socket G0					o	o	o	o	o	o	o
Socket G1											o
Socket H0							o	o	o	o	o
Socket H1											o

TABLE 3: Available DIMM slots

TO REPLACE A DIMM

1 **Shut down the E-83, remove all cables from the back, and open the system (see page 47).**

In order to access the DIMMs, you must remove the left panel.

2 **To release a DIMM, push outward on the levers on each side of the DIMM.**

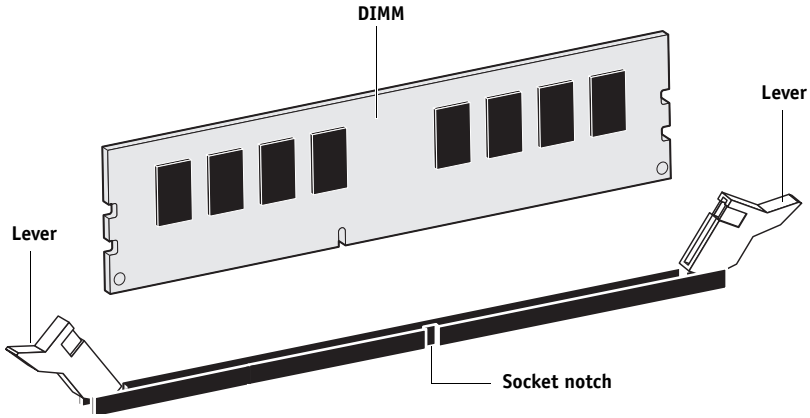


FIGURE 39: Releasing a DIMM

3 **Lift the DIMM straight out of the socket.**

4 **To replace a DIMM, position the DIMM in the socket and press the DIMM straight down into the socket so that the levers lock the DIMM into place.**

NOTE: DIMMs fit in the socket only one way. The notch on the bottom of each DIMM should line up with the notch in the socket.

Make sure that the levers close securely around the ends of the DIMM and each DIMM is fully seated in its socket.

5 **Reassemble the E-83 and verify its functionality (see page 99).**

6 **If you installed a new DIMM, configure the time and date in Setup.**

For more information, see *Configuration and Setup*, which is part of the user documentation set.

Motherboard CPUs

The CPUs are installed in Zero Insertion Force (ZIF) sockets on the motherboard. Before removing a CPU from its socket, you must disconnect the CPU fan cable from the motherboard and remove the CPU cooling assembly from the motherboard. The CPU cooling assembly consists of a fan and a heatsink.

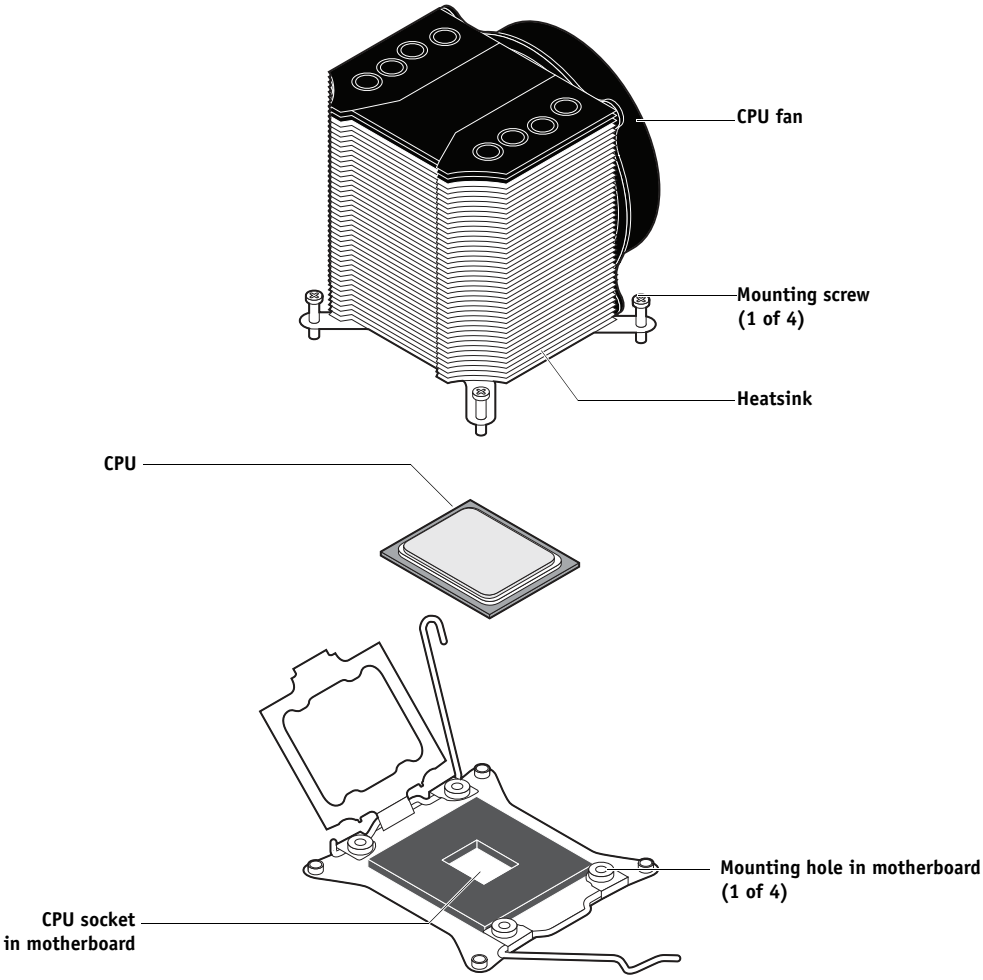


FIGURE 40: CPU, socket, and cooling assembly

CAUTION

Follow standard ESD precautions when handling the motherboard and all components (see page 12).

TO REMOVE A CPU COOLING ASSEMBLY

IMPORTANT

To avoid flexing and possibly damaging the motherboard, always service the CPU cooling assemblies one at a time. If you must service both CPU cooling assemblies, observe the following guidelines: remove, service, and replace the first cooling assembly; then remove, service, and replace the second cooling assembly.

An exception is allowed if you are removing the CPU cooling assemblies to service the motherboard. In this case, first remove the motherboard tray (see page 63), remove the motherboard mounting screws to relieve tension on the motherboard, and then remove both cooling assemblies from the motherboard as described in the following steps.

1 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to access the CPU cooling assembly, you must remove the left panel.

2 **Remove the motherboard tray from the chassis (see page 63).**

3 **Remove the motherboard from the motherboard tray (see page 64).**

4 **Remove the CPU fan cable from its connector on the motherboard (see Figure 22 on page 46).**

5 **Loosen the four mounting screws that secure the CPU cooling assembly to the motherboard and motherboard tray (see Figure 41).**

Partially loosen each screw before loosening any one screw entirely.

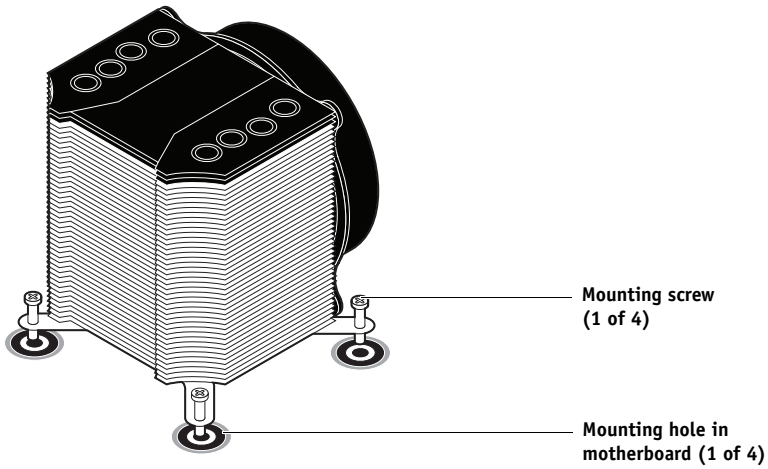


FIGURE 41: Removing/replacing the CPU cooling assembly

6 **Lift the CPU cooling assembly off the CPU.**

CAUTION

Be aware that both the cooling assembly and the CPU may be very hot. Also, use caution when removing the cooling assembly, as the thermal compound applied to the bottom of the heatsink may damage the CPU if the heatsink is removed too forcefully.

First, carefully rotate the cooling assembly on top of the CPU, applying firm pressure to break the thermal seal. Then lift the cooling assembly off the CPU.

TO REMOVE A CPU

NOTE: This procedure assumes that you have removed the CPU cooling assembly, as described on page 79.

1 **Lift the CPU socket levers to release the socket cover (see Figure 42).**

2 **Carefully open the socket cover.**

3 **Grasp the CPU by its edges, gently lift it from the socket and place it on an antistatic surface.**

IMPORTANT

You may have to insert a small, non-magnetic flathead screwdriver between the CPU and the socket to partially disengage the CPU. Use caution when removing, handling, and setting aside the CPU, as the pins on the underside can bend easily.

TO REPLACE A CPU

1 **Wipe the contact surface of the CPU chip with a clean, lint-free cloth to ensure proper contact with the new heatsink.**

IMPORTANT

If you removed the original CPU from the motherboard in order to install it on a new motherboard, be sure to remove all thermal compound residue from the surface of the CPU and the base of the heatsink. It may help to scrape all the residue off the surface using the flat edge of a non-conductive tool. Use a lint-free cloth moistened with alcohol to clean the base of the heatsink.

2 **Insert the CPU into the socket. Make sure that you align the arrow indicating pin 1 on the CPU with the arrow on the CPU socket.**

3 **Carefully close the socket cover, and lower the socket levers to secure the cover.**

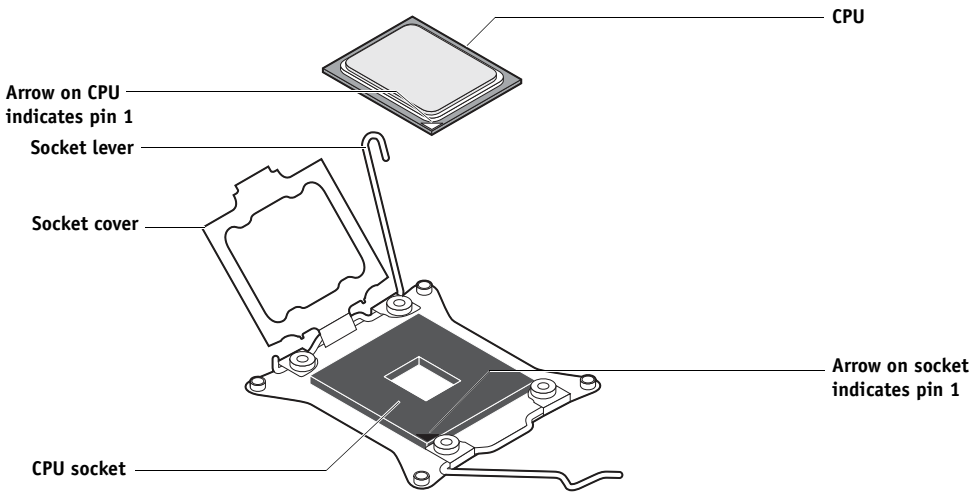


FIGURE 42: Replacing a CPU

TO REPLACE A CPU COOLING ASSEMBLY

NOTE: This procedure assumes that you have installed the CPU in the motherboard CPU socket, as described in page 80.

1 **Prepare the surfaces of the CPU and CPU cooling assembly for proper thermal conduction:**

IMPORTANT

- If you removed the original CPU cooling assembly from the motherboard in order to install it on a new motherboard, first remove all thermal compound residue from the surface of each CPU and the base of each heatsink. (Use the flat edge of a non-conductive tool to scrape off the residue, and a lint-free cloth moistened with alcohol to clean the base of the heatsink.) Then apply fresh thermal compound to the surface of each CPU using the applicator provided with the new motherboard.
- If you are installing a new CPU cooling assembly, make sure that fresh thermal compound is present on the base of the new heatsink. New cooling assemblies ship with thermal compound preapplied to the base of the heatsink.

2 **Place the cooling assembly on the CPU (see Figure 41 on page 79).**

Align the four mounting screws in the cooling assembly with the four mounting holes in the motherboard. Make sure that the thermal compound on the base of the assembly completely covers the CPU chip. Incorrect installation could cause the CPU to overheat.

3 **Tighten the four screws to secure the cooling assembly to the motherboard and motherboard tray.**

To avoid flexing and possibly damaging the motherboard, partially tighten each screw before you tighten any one screw completely.

4 **Connect the CPU fan cable to its designated connector on the motherboard (see page 61).**

5 **Reassemble the E-83 and verify its functionality (see page 99).**

6 **If you installed a new CPU, configure the time and date in Setup.**

For more information, see *Configuration and Setup*, which is part of the user documentation set.

Fans

Inside the E-83, one front fan and one back fan run continuously when the system is on. The fans circulate air inside the E-83 in order to cool integrated circuits within the system. You should hear the fans start as soon as you power on the E-83. If you do not hear the fans, the most likely problem is a faulty cable connection (see Figure 22 on page 46).

Front fan with a hard disk drive cover

The following procedures describe how to remove and replace the front fan. The front fan is secured to the chassis by a plastic mounting bracket.

Between the front fan and the bracket, the hard disk drive (HDD) cover is attached that protects the drives and cables. When you remove or replace the HDD cover, follow the instructions for servicing the front fan.

TO REMOVE THE FRONT FAN ASSEMBLY

1 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to access the fan, you must remove the left panel.

2 **Detach the 3-pin fan cable connector from its connector on the motherboard.**

3 **Remove the fan assembly from the chassis (see Figure 43).**

Press to unlock the latches on the fan mounting bracket, and lift the assembly out of the chassis. When removing the fan assembly, be careful not to disturb or disconnect any cables that are installed nearby.

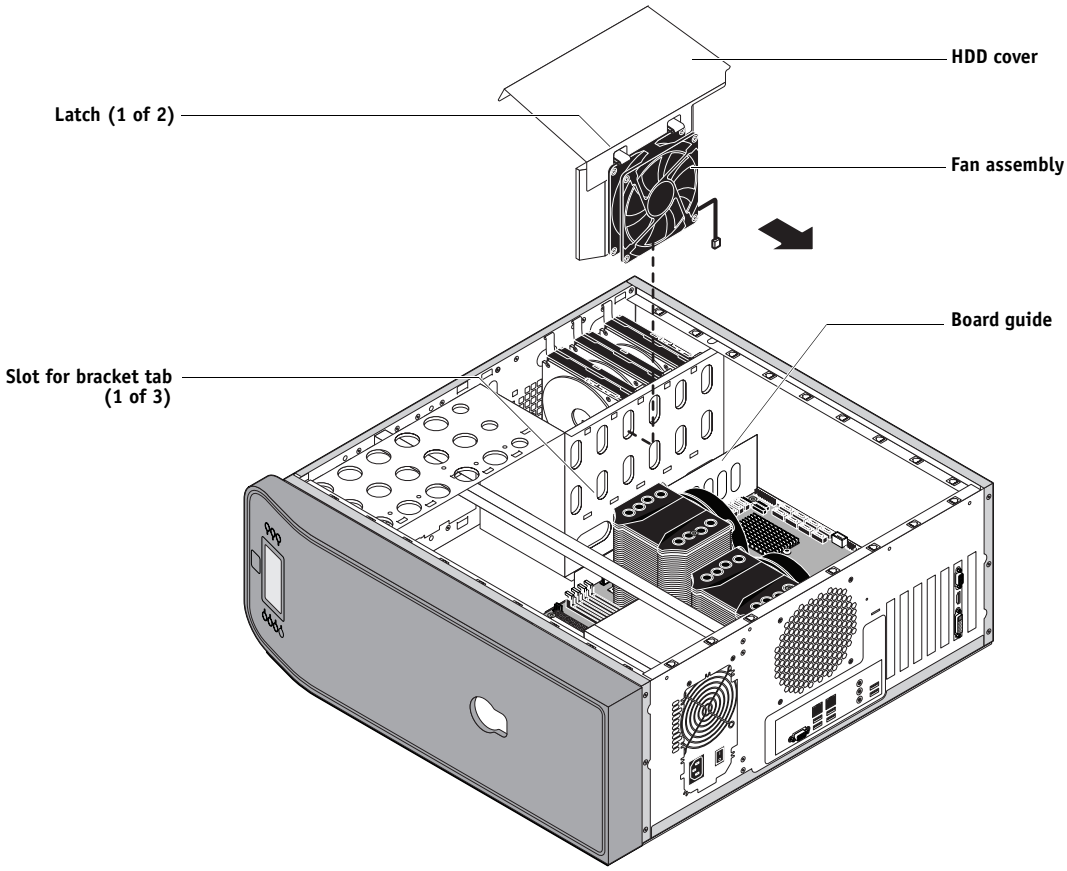


FIGURE 43: Removing/replacing the front fan assembly

4 **If you are replacing the old fan with a new fan, remove the four plastic rivets that secure the old fan to the mounting bracket, and remove the fan from the bracket. If you are replacing the HDD cover, remove the two plastic rivets on the top, and remove the HDD cover from the bracket (see Figure 44).**

To remove a rivet, use a flathead screwdriver to pry loose the rivet head while squeezing and pushing the locking end of the rivet with your fingers.

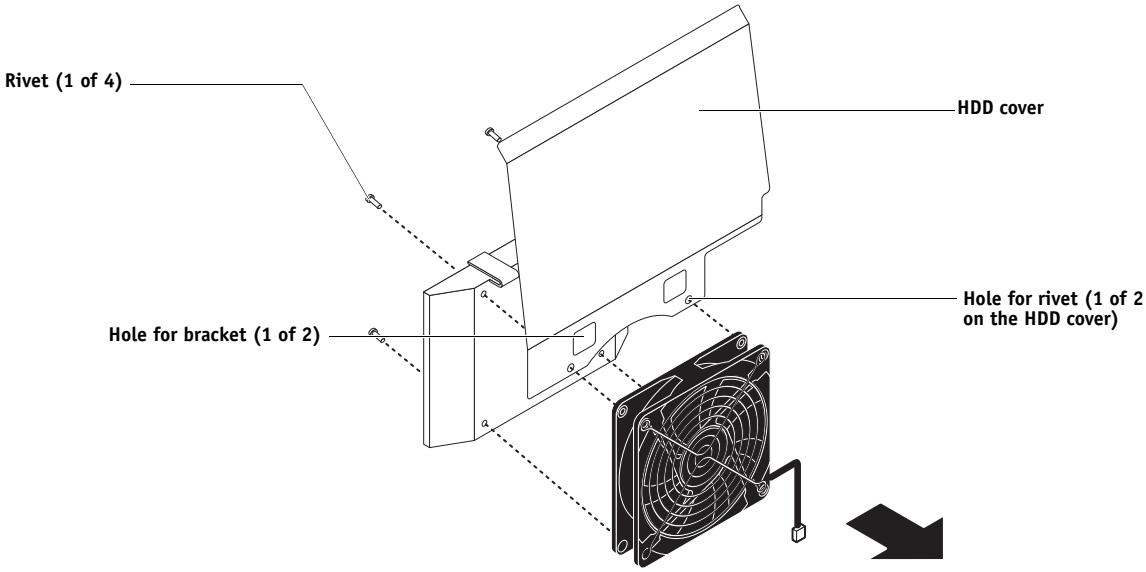


FIGURE 44: Removing/replacing the front fan and HDD cover from the bracket

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TO REPLACE THE FRONT FAN ASSEMBLY WITH THE HDD COVER

1. **Bend the perforated lines on the HDD cover so that the tabs bend at an approximately 90 degree angle.**
2. **Position the HDD cover on the mounting brackets.**

   The top two rivets go through the HDD cover between the fan and the bracket.
3. **Position the fan on the mounting bracket.**

   When correctly positioned, the metal grille on the fan should face away from the bracket and the fan cable should be able to reach its connector on the motherboard.
4. **Replace the four plastic rivets that secure the fan to the mounting bracket (see Figure 44).**

   Hold the fan firmly against the mounting bracket, and push each rivet all the way through the mounting hole until it snaps into locked position. Make sure that the fan is tightly secured to the mounting bracket.

   NOTE: If you are replacing the old fan with a new one and you damaged the original rivets while removing the old fan, use the rivets provided in the bag labeled "FRONT FAN." This bag of rivets accompanies the spare fan kit.
5. **Insert the fan assembly into the space between the board guide and the chassis (see Figure 43 on page 83).**
6. **Secure the fan assembly to the chassis.**

   Fit the three tabs at the bottom of the mounting bracket into the three slots in the chassis (see Figure 43 on page 83). Press the assembly flat against the chassis until the latches on the mounting bracket lock into place.

7 **Connect the 3-pin fan connector to the left three pins of connector J52 on the motherboard (see Figure 22 on page 46 and Figure 33 on page 61).**

8 **Reassemble the E-83 and verify its functionality (see page 99).**

Back fan

The following procedures describe how to remove and replace the back fan.

TO REMOVE THE BACK FAN

1 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to access the fan, you must remove the left panel.

2 **Detach the 3-pin fan cable connector from its connector on the motherboard.**

3 **Remove the four plastic rivets that secure the fan to the chassis, and then remove the fan.**

To remove a rivet, use a flathead screwdriver to pry loose the rivet head while squeezing and pushing the locking end of the rivet with your fingers or a screwdriver.

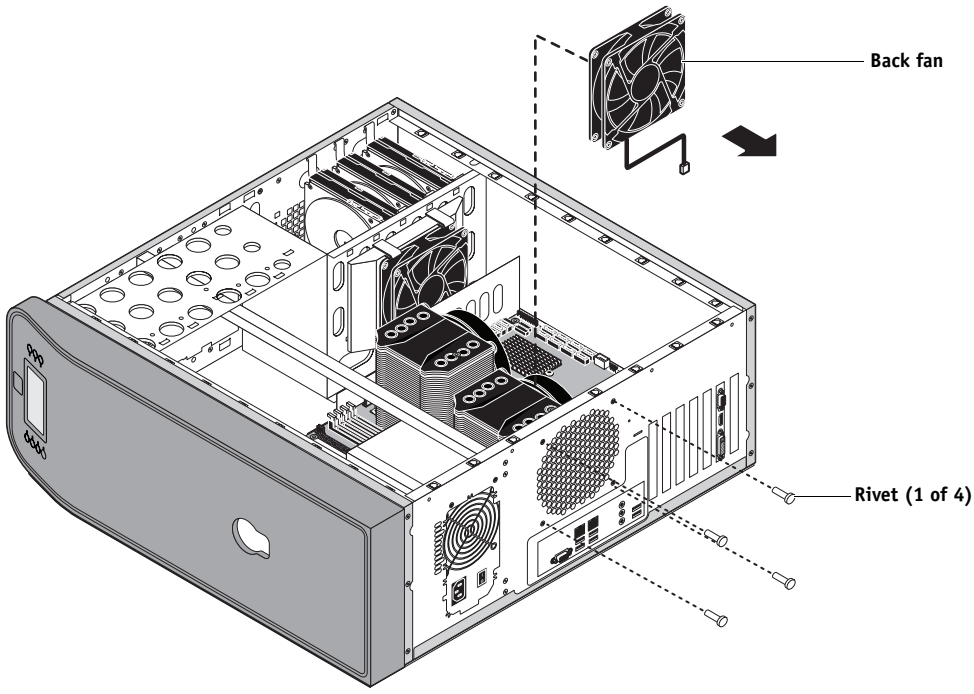


FIGURE 45: Removing/replacing the back fan

TO REPLACE THE BACK FAN

1 **If you are replacing the old back fan with a new back fan, remove the metal grille from the face of the new fan and reattach it to the opposite face of the new fan (see Figure 46).**

To remove the plastic rivets that secure the metal grille to the fan, use a flathead screwdriver to pry loose the rivet head while squeezing and pushing the locking end of the rivet with your fingers or a screwdriver.

To reattach the grille, position the grille against the opposite face of the fan, and push each rivet all the way through the mounting hole until the rivet snaps into locked position. When the grille is correctly attached, the airflow arrow on the fan should point away from the grille.

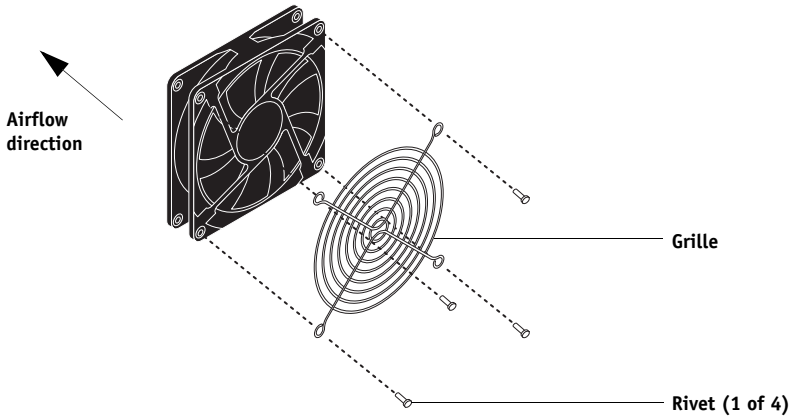


FIGURE 46: Installing the fan grille

NOTE: If you damage the original rivets while removing the grille, use the rivets provided in the bag labeled "FRONT FAN." This bag accompanies the spare fan kit and contains rivets that are identical to the original rivets used to secure the grille to the fan.

2 **Position the fan against the chassis.**

When correctly positioned, the metal grille on the fan should be facing away from the connector panel, and the fan cable should be able to reach its connector on the motherboard.

3 **Align the four holes on the fan with the four holes in the chassis, and replace the four rivets that secure the fan to the chassis (see Figure 45 on page 85).**

Hold the fan firmly against the chassis, and push each rivet all the way until it snaps into locked position. Make sure that the fan is tightly secured to the chassis.

NOTE: If you damaged the original rivets while removing the old fan, use the rivets provided in the bag labeled "BACK FAN." This bag of rivets accompanies the spare fan kit.

4 **Connect the 3-pin fan connector to the top three pins of connector REAR FAN (J50) on the motherboard (see Figure 22 on page 46 and Figure 33 on page 61).**

5 **Reassemble the E-83 and verify its functionality (see page 99).**

Power supply

This section describes how to remove and replace the power supply. For more information about the power supply, see "Physical specifications" on page 145.

CAUTION

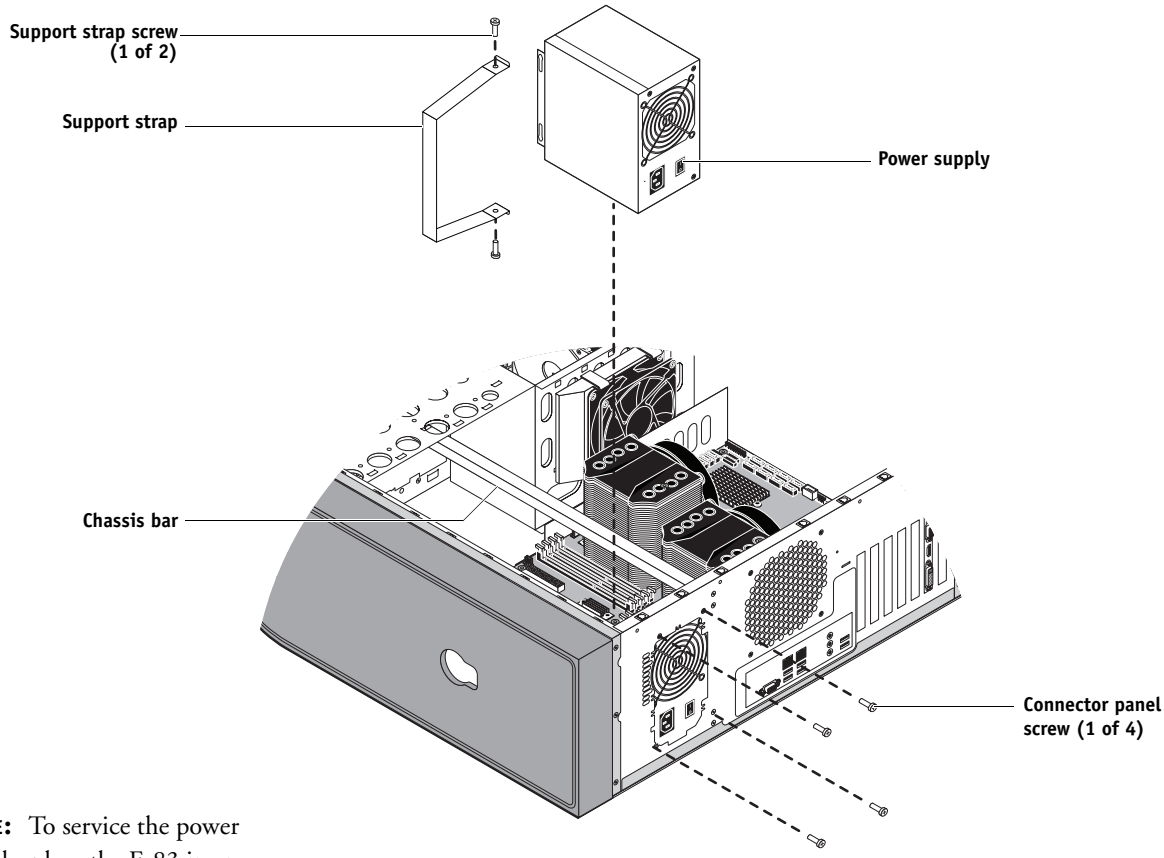
Do not open the power supply for service or troubleshooting purposes. Opening the power supply will void the warranty.

TO REMOVE THE POWER SUPPLY

1. **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

   In order to remove the power supply, you must remove the left and right panels.

2. **Remove the 24-pin power cable from connector PW1 on the motherboard.**
3. **Remove the 8-pin power cables from connectors PW2 and PW3 on the motherboard.**
4. **Remove the SATA power cables from the hard disk drives.**
5. **Detach the SATA power cable from the power connector of the dual cable for the DVD drive.**
6. **Remove any tie wraps securing the power cables to the chassis.**
7. **Place the E-83 in the upright position.**
8. **Remove the two screws that attach the support strap to chassis bar, and remove the support strap from the power supply (see Figure 47).**
9. **Remove the four connector panel screws that secure the power supply to the back of the chassis (see Figure 47).**
10. **Gently lift the power supply with its support beam out of the chassis.**



NOTE: To service the power supply, place the E-83 in an upright position.

FIGURE 47: Removing/replacing the power supply

TO REPLACE THE POWER SUPPLY

1. **Make sure that the E-83 is in upright position.**
2. **Position the power supply inside the chassis (see Figure 47 on page 88).**

   Place the power supply on top of the left and right chassis bars. Fit the ends of the support beam over the chassis bars, and position the power supply so that it is flush against the connector panel.
3. **Install the support strap that attaches the power supply to the chassis bar by replacing the two screws (see Figure 47).**
4. **Install the four screws that secure the power supply to the connector panel of the chassis.**
5. **Connect one of the SATA power cables to the power connector on the dual data/power cable that connects to the DVD drive.**

6 **Connect three of the other SATA power cables to the SATA power connectors on the three hard disk drives.**

NOTE: Some hard disk drives may have both PATA and SATA power connectors. Always connect power to the SATA power connector on the hard disk drive. Do not use the PATA power connector.

7 **Connect the power cables to the motherboard (see Figure 22 on page 46 and Figure 33 on page 61):**

- 8-pin power cables to connectors PW2 and PW3

  You may connect either 8-pin cable to either power connector on the motherboard.

- 24-pin power cable to connector PW1

8 **Replace the tie wraps that you removed earlier.**

9 **Reassemble the E-83 and verify its functionality (see page 99).**

Hard disk drives

The factory-installed hard disk drives (HDD) are formatted and loaded with system software, network drivers, and printer fonts. The hard disk drives are also used to store spooled print jobs.

If you replace a hard disk drive with a new one, you must reinstall system software and user software on the system. (Replacement hard disk drives are not shipped with preinstalled software.) The E-83 remains enabled for features such as the Fiery Graphic Arts Package, once the software is reinstalled.

This section includes separate procedures for replacing a hard disk drive installed inside the E-83 and replacing a hard disk drive installed inside the enclosure of the HDD Security Option.

Proper handling

IMPORTANT

Improper handling can damage the hard disk drive. Handle the hard disk drive with extreme care.

- Use standard ESD practices when grounding yourself and the E-83.
- Keep magnets and magnetic-sensitive objects away from the hard disk drives.
- Do not remove the screws on top of the hard disk drives. Loosening these screws voids the warranty.
- Never drop, jar, bump, or put pressure on the hard disk drives.
- Handle the hard disk drives by the sides and avoid touching the printed circuit boards.
- Allow the hard disk drives to reach room temperature before installation.

Hard disk drive problems may be caused by the following:

- Loose or faulty connection

- Faulty hard disk drive

If you are replacing a hard disk drive with a new one, you must have the following:

- The appropriate system software and documentation for the E-83 you are servicing
- A compatible version of the user software for the networked computers that will be printing to the E-83

Servicing hard disk drives inside the E-83

This section describes how to remove and replace hard disk drives installed inside the E-83.

The hard disk drives are identified as follows:

- HDD1 is the 500GB hard disk drive installed in the top slot of the chassis. HDD1 is partitioned into drive letters c:\ and d:\.
- HDD2 is the 1TB hard disk drive installed in the middle slot of the chassis.
- HDD3 is the 1TB hard disk drive installed in the bottom slot of the chassis. HDD2 and HDD3 are configured together as a single RAID drive, represented by drive letter e:\.

NOTE: HDD cover is not shown.

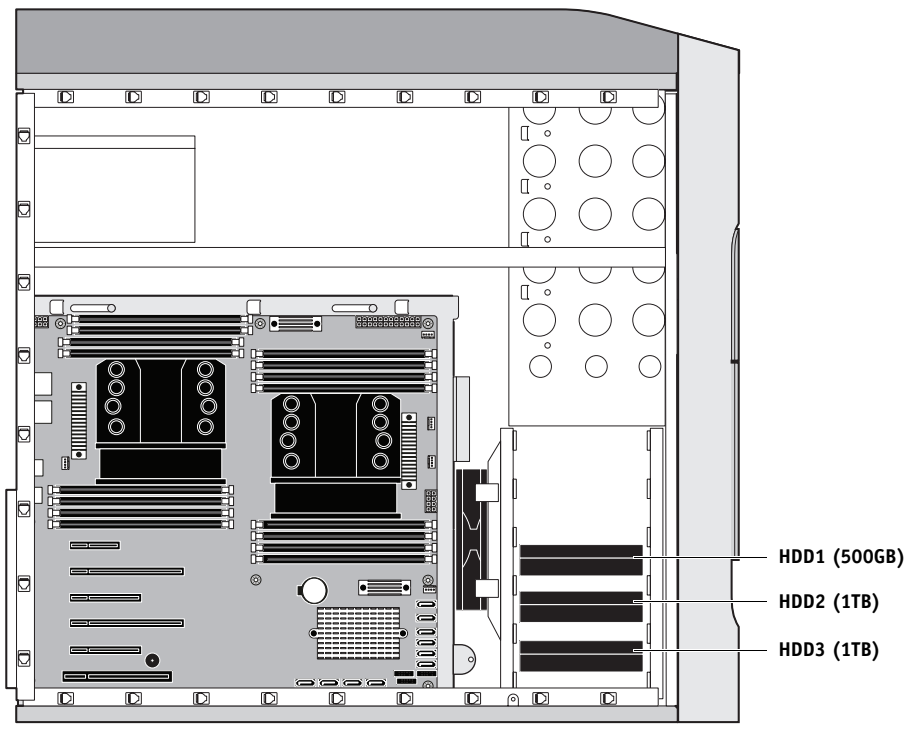


FIGURE 48: E-83 hard disk drives (HDDs)

TO REMOVE A HARD DISK DRIVE

1 **If you have not done so already, ask the site administrator to print the Job Log and save any custom simulation and output profiles. If possible, print the following:**

- Configuration page lists any installed options and records the customer's current Setup configuration (for more information, see page 27).
- Font List lists the fonts currently on the hard disk drives. Along with the fonts provided, the customer may have installed additional fonts (for more information, see page 27).

2 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to access the hard disk drives, you must remove the left panel.

3 **Remove the power cables from all three hard disk drives.**

4 **Remove the data cables from all three hard disk drives.**

5 **Press the latches on the sides of the hard disk drive and slide the hard disk drive assembly out from the chassis (see Figure 49).**

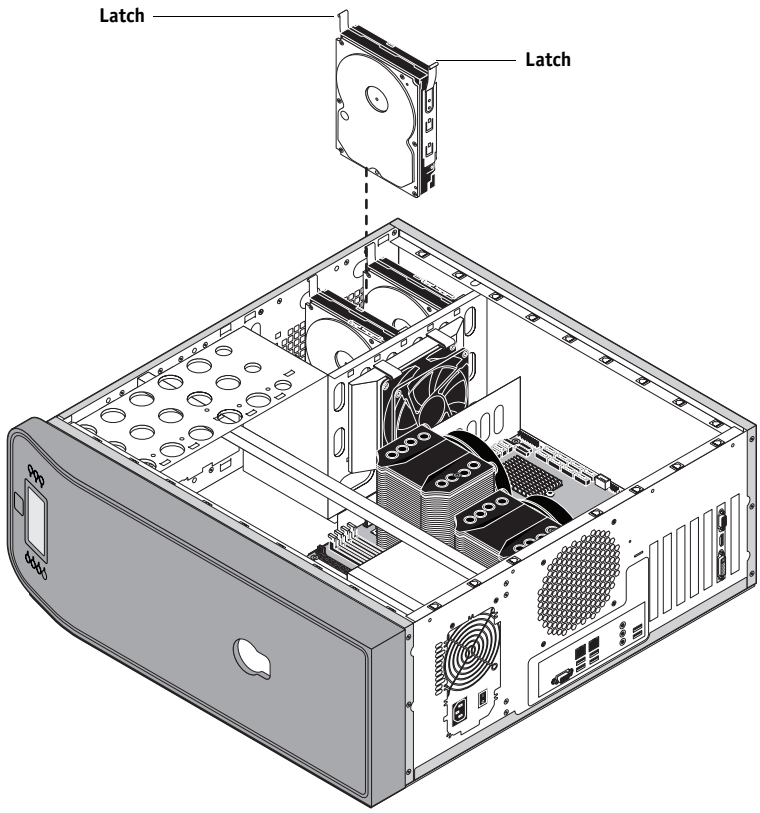


FIGURE 49: Removing/replacing the hard disk drive

6 **If you are replacing the old hard disk drive with a new hard disk drive, remove the four screws that secure the old hard disk drive to its bracket, and remove the hard disk drive (see Figure 50).**

Set the screws aside so you can replace them later.

IMPORTANT

Make sure to support the hard disk drive as you remove the screws. Do not loosen or remove the screws on the hard disk drive covers. Loosening or removing these screws breaks the seal and voids the hard disk drive warranty.

Do not touch the drives with magnetic objects (such as magnetic screwdrivers), and avoid placing magnetic-sensitive objects, such as credit cards and employee ID cards, near the hard disk drives.

7 **Place the hard disk drive in an antistatic bag.**

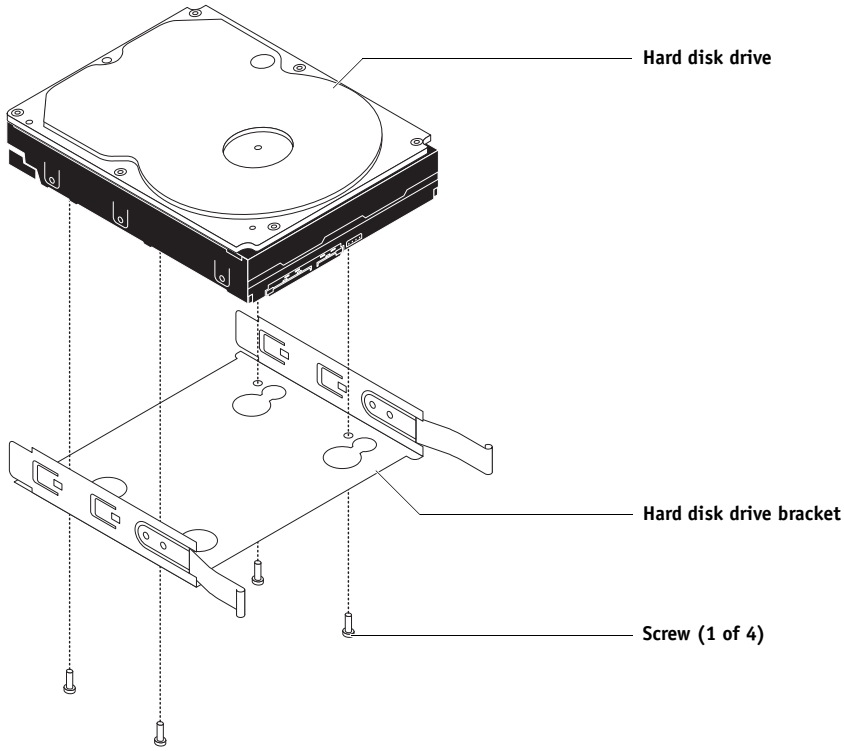


FIGURE 50: Removing/replacing the hard disk drive bracket

Replacement hard disk drives are not shipped with preinstalled system software. After installing a hard disk drive, you must install the appropriate system software.

TO REPLACE A HARD DISK DRIVE

IMPORTANT

Do not replace the hard disk drive and the motherboard at the same time. Doing so may result in system corruption.

It is unlikely that both the hard disk drive and the motherboard are defective; therefore, avoid replacing both to solve one problem. If troubleshooting strategies (checking cables and connections, see page 115 and page 116) do not solve the problem and you suspect the hard disk drive or the motherboard are at fault, use the following order to troubleshoot: replace the hard disk drive, install system software, and then check to see if the problem persists. If so, perform other procedures, such as replacing the motherboard (see page 59).

1 **If you are installing a new hard disk drive, unpack the drive.**

Do not drop, jar, or bump the hard disk drive. Do not touch the hard disk drive with magnetic objects or place magnetic-sensitive objects near the hard disk drive.

2 **Position the hard disk drive inside the hard disk drive bracket and align the mounting holes with the four holes in the bracket.**

Position the hard disk drive as shown in Figure 50 on page 92.

3 **Replace the four screws that secure the hard disk drive to the bracket.**

Make sure that you use the same screws that you removed earlier.

4 **Slide the hard disk drive assembly into its slot in the chassis (see Figure 49 on page 91).**

Make sure that the latches on the hard disk drive bracket are securely locked in the slot.

5 **Connect the data cables between the hard disk drives and their corresponding SATA connectors on the motherboard:**

- Connect HDD1 (the hard disk drive in the top slot) to SATA1 on the motherboard.
- Connect HDD2 (the hard disk drive in the middle slot) to SATA2 on the motherboard.
- Connect HDD3 (the hard disk drive in the bottom slot) to SATA3 on the motherboard.

For the locations of the SATA connectors on the motherboard see Figure 33 on page 61.

6 **Connect the SATA power cable connectors to all three hard disk drives.**

NOTE: Always connect power to the SATA power connectors on the hard disk drives. Do not use the PATA power connectors, if they are present on the hard disk drives.

7 **Reassemble the E-83 (see page 99).**

8 **Connect the cables that you removed from the back of the E-83.**

9 **If you replaced a hard disk drive with a new hard disk drive, install system software and user software (see page 101).**

If a startup error appears on the monitor when you power on the E-83, check the connections.

10 **Verify E-83 functionality (see page 99).**

Servicing hard disk drives inside the security enclosure

This section describes how to replace hard disk drives installed inside the enclosure that ships with the HDD Security Option.

TO INSTALL A REPLACEMENT HARD DISK DRIVE INSIDE THE SECURITY ENCLOSURE

IMPORTANT

Be sure to perform all the steps of this procedure exactly as described. If you fail to perform all the steps of this procedure, system problems may result.

1 **Remove the old hard disk drive from the enclosure, and install the replacement hard disk drive inside the enclosure.**

For detailed instructions, see the documentation that accompanies the HDD Security Option.

2 **Power off the enclosure using the enclosure's main power button.**

3 **Wait one minute.**

4 **Power on the enclosure using the enclosure's main power button.**

5 **Install system software (see page 101).**

If a startup error appears on the monitor when you power on the E-83, check the connections.

6 **Verify E-83 functionality (see page 99).**

Switch bank assembly

The switch bank assembly secures to the component sled in the front of the chassis. The switch bank assembly includes the following components:

- DVD drive
- Power button and power button cable
- Reset button and reset button cable
- Speaker and speaker cable
- Front USB ports and front USB cables

NOTE: For information about servicing the DVD drive, see page 97.

TO REMOVE THE SWITCH BANK ASSEMBLY

1 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to remove the switch bank assembly, you must remove the left, right, and front panels.

2 **Detach the following cables:**

- Data/power cable from the back of the DVD drive

- Power and reset button cables from the motherboard
- Speaker cable from the motherboard
- Front USB port cables from the motherboard

3 **Remove the ferrite that is installed on the front USB port cables near the motherboard.**

Carefully pry open the latch on the side of the ferrite, and remove the ferrite from the cables. Set aside the ferrite so that you can replace it later.

4 **Remove the component sled from the chassis (see Figure 51).**

Press the latches on the sides of the component sled and carefully pull the sled out of its slot in the front of the chassis.

NOTE: Be careful not to damage the EMI gasket lining the slot in the chassis. Guide the cables out of the chassis as you remove the component sled to prevent them from catching or tangling on internal parts.

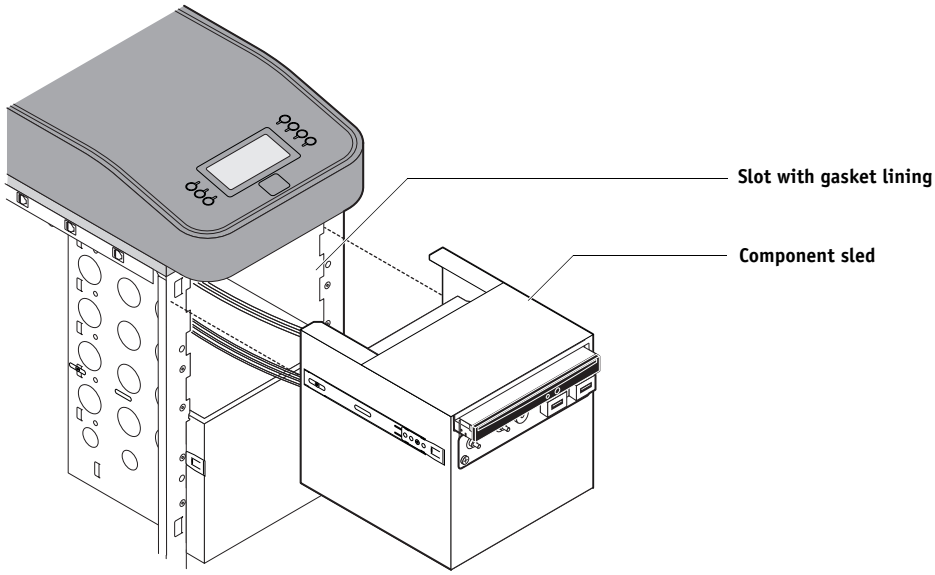


FIGURE 51: Removing/replacing the component sled

5 **Remove the switch bank assembly from the component sled (see Figure 52).**

Remove the three screws that secure the switch bank assembly to the component sled. Pull the switch bank assembly straight out of the component sled.

NOTE: Guide the cables as you remove the switch bank assembly from the component sled. Be careful not to damage the EMI gasket lining the slot in the component sled.

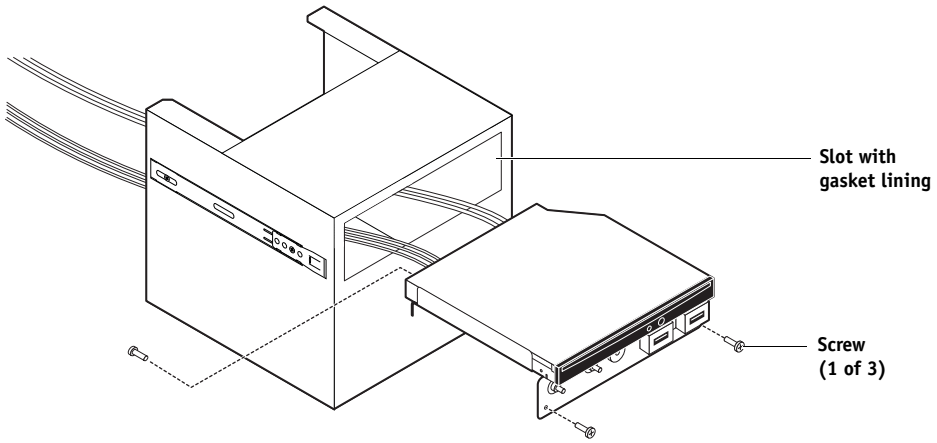


FIGURE 52: Removing/replacing the switch bank assembly

6 **If you are removing the switch bank assembly to replace it with a new assembly, remove the DVD drive (see page 97).**

TO REPLACE THE SWITCH BANK ASSEMBLY

1 **If you are installing a replacement switch bank assembly, attach the extension cables for the power and reset button cables.**

Locate the two extension cables included in the replacement switch bank assembly kit. Attach each extension cable to its corresponding base cable in the switch bank assembly, aligning the arrow on the extension cable connector with the arrow on the base cable connector.

2 **If it is not already attached, secure the DVD drive to the switch bank assembly (see page 98).**

3 **Install the switch bank assembly in the component sled (see Figure 52 on page 96).**

- Starting with the cables, insert the switch bank assembly through the slot in the front of the component sled. Be sure to fold the EMI gasket under and in through the slot when inserting the assembly.
- Replace the three screws that secure the switch bank assembly to the component sled.

4 **Install the component sled in the chassis (see Figure 51 on page 95).**

- Route the cables of the switch bank assembly in through the chassis so that the cables are within reach of their connectors on the motherboard.
- Slide the component sled into the front of the chassis until the latches click into the place.

Be careful not the damage the EMI gasket around the slot in the chassis when installing the component sled.

5 **Connect the following cables (for the location of each connector on the motherboard, see Figure 33 on page 61):**

- Data/power cable to the dual connector on the back of the DVD drive
- DVD data cable to motherboard connector SATA0

- Power button cable to the J352 connector on the printer interface board

  Connect power button cable to the J352 connector, pin 5 and 7 (see Figure 21 on page 45)

- Power button cable to motherboard connector FPIO_1, pins 11 and 13

  Make sure that the triangle on the cable connector aligns with pin 11, as shown in Figure 21 on page 45.

- Reset button cable to the J352 connector on the printer interface board

  Connect reset button cable to the J352 connector , pin 6 and 8 (see Figure 21 on page 45)

- Reset button cable to motherboard connector FPIO_1, pins 15 and 17

  Make sure that the triangle on the cable connector aligns with pin 15, as shown in Figure 21 on page 45.

- Speaker cable to motherboard connector 4PHD_11

  Make sure that the triangle on the cable connector aligns with the correct pin, as shown in Figure 21 on page 45.

- Front USB port cables to the USB1 connector on the motherboard

6 **Install the ferrite around the front USB port cables near the motherboard.**

Use the ferrite that you removed earlier. Place the ferrite around both cables, in between the two preinstalled tie wraps, and snap the edges of the ferrite closed.

7 **Reassemble the E-83 and verify its functionality (see page 99).**

DVD drive

The DVD drive is installed in the front of the chassis. The drive is used to install system software and archive data on writable media.

TO REMOVE THE DVD DRIVE

1 **Shut down the E-83, remove all cables from the back, and then open the system (see page 47).**

In order to access the DVD drive, you must remove the left, right, and front panels from the chassis.

2 **Remove the data/power cable from the dual connector on the back of the DVD drive.**

If you are removing the cable assembly to replace it with a new cable assembly, detach the other ends of the cables from the motherboard and the power supply.

3 **Remove the component sled from the chassis, and then remove the switch bank assembly from the component sled (see page 94).**

4 **Remove the screws that secure the DVD drive to the switch bank assembly (see Figure 53).**

Set aside the screws so that you can replace them later.

NOTE: In some systems, a small metal post in the switch bank assembly is used in place of one of the screws.

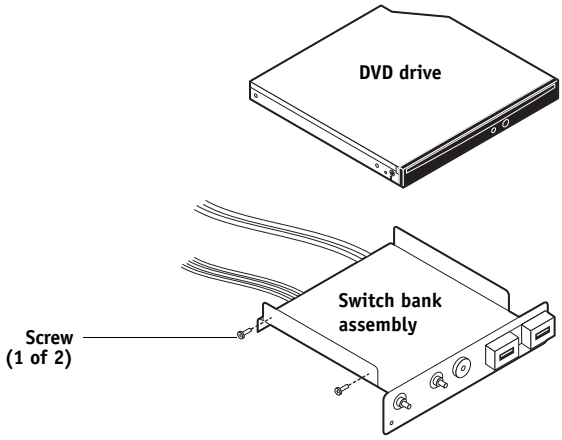


FIGURE 53: Removing/replacing the DVD drive

5 **Remove the DVD drive from the switch bank assembly.**

TO REPLACE THE DVD DRIVE

1 **Secure the DVD drive to the switch bank assembly using the screws that you removed earlier (see Figure 53 on page 98).**

2 **Install the switch bank assembly in the component sled, and then install the component sled in the chassis (see page 96).**

3 **Connect the data/power cable to the dual connector on the back of the DVD drive.**

Make sure that the other ends of the cable are connected to the power supply and to SATA0 on the motherboard.

4 **Reassemble the E-83 and verify its functionality (see page 99).**

Restoring and verifying functionality after service

Complete your inspection and service by reassembling and verifying the E-83.

WARNING

Do not lift the E-83 without assistance. Follow standard ESD precautions when handling internal components (see page 12).

TO REASSEMBLE AND VERIFY THE E-83

1. **Reseat all boards, cables, connectors, and other parts loosened or removed during service.**

   When routing cables in the E-83 make sure that:

   - Covers are securely installed after routing cables.
   - Cables are not looped around internal circuit boards, or components (such as capacitors and resistors).
   - Cable routing does not interfere with the operation of internal components.
   - Cables do not lie on or against any internal heating element.
   - Cables do not interfere with removing or replacing components.
   - Cables do not interfere with opening or closing E-83 panels.
   - Cables are not tangled.
   - Cable slack is secured with tie wraps.

2. **Restore the system to the upright position.**
3. **Replace any panels that you removed earlier, as described in "Opening the E-83" on page 47.**
4. **Reinstall the E-83 in the furniture, as described in "Replacing the E-83 in the furniture" on page 153.**

   This replacement procedure includes reattaching the monitor assembly and the left panel.

5. **If you installed a new hard disk drive, install system software (see page 101).**

   Replacement hard disk drives are not shipped with pre-installed system software.

6. **If you replaced the motherboard with a new motherboard, make sure that the new motherboard solves the problem that you are troubleshooting (see page 71), and then transfer options to the new motherboard (see page 72).**
7. **Make sure to configure the date and time in Setup.**

   For more information, see *Configuration and Setup*, which is part of the user documentation set.

8. **Before you leave the customer site, verify the E-83 operation.**

VERIFY THE E-83 OPERATION

1. **Make sure you reassemble the E-83 (see page 99). For cable connections see page 45 and page 46.**
2. **Connect the monitor, keyboard, mouse, and dongles to the E-83 (see page 42).**
3. **Connect power to the E-83 (see page 42).**
4. **Connect to the printer (see page 21).**
5. **Power on the E-83 (see page 35).**

   If the E-83 does not start, see startup problems in Table 6 on page 122.
6. **Print the Test Page and the Configuration page (page 27).**

   If the Test Page does not print, verify that the printer interface (Data Transfer Unit) cables are securely connected and on the correct ports; verify that the printer interface board is securely connected to the motherboard; look up printing problems in Table 6 on page 122.

   If image quality is poor, test the printer (see the service documentation that accompanies the printer).
7. **Connect to the network (see page 23).**
8. **Ask the site administrator to download a test job over the network.**

   If the job does not print or has poor image quality, look up print problems in Table 6 on page 122 and the user documentation Troubleshooting topics.

SYSTEM SOFTWARE INSTALLATION

This topic provides information related to installing system software.

Overview

The E-83 ships with system software pre-installed on the hard disk drives (HDDs). If you need to reinstall system software in the future, use the System Software DVDs, User Software DVD, and Acrobat/PitStop DVD included with the E-83.

If necessary, you can the default language of the E-83 set at the factory (see page 16).

IMPORTANT

When you install system software, keep the following in mind:

- **Backup/restore:** Before you reinstall the system software, check with the site administrator if there is any backup available to restore.

NOTE: If there is a backup for the entire hard disk drive, make sure to restore this backup first in the Fiery System Installer. Doing so ensures that all the customized settings and jobs on the HDD(s) will be restored. If this backup is not available, restore the image from recovery partition, which is provided with the E-83 by default. This will restore the E-83 to the factory default setting. You must install the system software using the System Software DVDs only when you replaced the hard disk drive, or restoring the backup does not solve the problem you are troubleshooting.

It is recommended to create a backup of the entire hard disk drive after you install the system software and run the initial Setup. To create the backup or restore the system, use the Fiery System Installer. For more information, see *Configuration and Setup*, which is part of the user documentation set.

The following issues apply to the scenario where you reinstall the system from the System Software DVDs.

- **Jobs:** When you install system software, all jobs in all print queues and all jobs archived locally on the E-83 hard disk are deleted. To save jobs, ask the site administrator to save them to removable media or a network location, so they can be re-imported to the E-83 after system software installation. For more information, see Command WorkStation Help.
- **Job Log:** When you install system software, the list of jobs in the Job Log and any jobs in the queues are deleted. The site administrator can use Command WorkStation to save a current list of jobs (not the actual jobs) from the Job Log.

- **Fonts:** When you install system software, all fonts on the hard disk drives are deleted. Resident fonts are reinstalled when you reinstall system software. Any customer-supplied fonts must be reinstalled by the site administrator (see Command WorkStation Help).

  To determine which additional fonts were downloaded to the E-83, print the Font List before you install the system software and again after you complete the system software installation. Any fonts *not listed* after installation will need to be reinstalled. For more information about managing fonts, see Command WorkStation Help.

- **User software:** The E-83 ships with preinstalled user software on the hard disk drives. During system software reinstallation, you are prompted to reinstall user software (including Command WorkStation) using the User Software DVD. The installer also prompts you to insert the Acrobat/PitStop DVD, which contains the Acrobat and PitStop software.

- **User documentation:** All user documentation files stored on the E-83 are deleted when you install system software. If user documentation is resident on the E-83, remind the site administrator to reinstall the documentation files after you install system software.

- **Configuration page:** Before you upgrade to a new version of system software, print the Configuration page (see page 27). The Configuration page provides a record of the customer's current Setup configurations.

- **Backing up and restoring the configuration:** All Setup configurations, as well as all custom files and templates stored on the hard disk drives, are deleted when you install system software. Always back up the current E-83 configuration before you install system software. After the installation is completed, be sure to restore the configuration that you saved earlier. For detailed instructions, see page 102.

- **Monitor profiles:** When you install system software, monitor profiles saved on the hard disk drives are deleted. Monitor profiles for the E-83 monitor are automatically reinstalled when you reinstall Command WorkStation on the system.

- **Compatibility:** After you upgrade system software, remind the site administrator to upgrade user software on all computers connected to the E-83. Using old user software with new system software may negatively affect the system.

Backing up the system configuration

If you back up the system configuration, you can restore it after installing, reinstalling, and upgrading system software. When you back up the system configuration, you save a configuration file that includes one or more of the following:

- Fiery System Settings
- Color Settings
- Preflight Presets
- FreeForm/VDP resources
- Paper Catalog

- Virtual Printers
- Server Presets
- Fonts
- Job Log

If you cannot create a configuration file, ask the site administrator to archive custom color profiles, preflight presets, FreeForm masters, customer-installed fonts, and the Job Log to removable media or a network location.

TO SAVE THE SYSTEM CONFIGURATION BEFORE SYSTEM SOFTWARE INSTALLATION

1. **Ask the site administrator to print the Job Log, Configuration page, and Font List (if possible).**

   For more information, see "Printing E-83 pages from the Fiery Integrated Workstation" on page 27.

2. **On the screen, start WebTools or Command WorkStation from the Fiery Ticker application.**
3. **In WebTools or Command WorkStation, click the Configure tab > Launch Configure.**
4. **Log on with Administrator privileges and click OK.**

   The default Administrator password is Fiery.1 (case-sensitive), but the site administrator may have changed the password.

5. **On the left side, choose Fiery Server > Backup.**
6. **In the Backup dialog box, select the settings you want to back up.**
7. **Enter a file name and location, specify if you want to add the date to the file name, and then click Backup.**
8. **Click Finish.**

Restoring the system configuration

You can restore the configuration of the E-83 to its previous state using a configuration file. For more information about a configuration file, see "To save the system configuration before system software installation" on page 103.

If you could not save a configuration file, you must configure Setup. After you exit Setup and the E-83 reboots, ask the site administrator to restore any archived settings and files. For more information, see *Configuration and Setup*, which is part of the user documentation set.

TO RESTORE THE SYSTEM CONFIGURATION AFTER SYSTEM SOFTWARE INSTALLATION

1. **From Fiery Ticker, start WebTools or Command WorkStation.**
2. **In WebTools or Command WorkStation, click the Configure tab.**
3. **Click the Launch Configure button.**
4. **Enter the Administrator password for the E-83. Click OK.**

5 **The default Administrator password is** Fiery.1**. However, the site administrator can change the password.**

6 **On the left side, choose Fiery Server > Restore.**

7 **Select the reference file and data file. Click Nest.**

For more information, see "To save the system configuration before system software installation" on page 103.

8 **Select settings to restore and click Next.**

9 **Click Finish.**

Using the Fiery System Installer

You can create the system backup or restore from the backup using the Fiery System Installer provided with the System Software 1 DVD.

IMPORTANT

It is recommended to create the system backups periodically.

You can perform following tasks from the Fiery System Installer;

- **New Installation:** Installs the system software from the media shipped with the E-83. Use this option only when the system backup is not available.
- **Restore from backup or recovery partition:** You can restore the system by selecting the backups that you created before. If there is no backup available in the system or in any attached devices, you can only perform the restore from the recovery partition.
- **Back up hard disk drive(s):** Use this option when you create the system backups. You can specify the location of the backup, file name, and other attributes of the backups.
- **Platform Utilities:** You can perform the backup management tasks from this option.

NOTE: You can use the E-83 control panel to operate the Fiery System Installer. You can also use a monitor, mouse, and keyboard attached if available.

TO START THE FIERY SYSTEM INSTALLER

1 **Insert the System Software 1 DVD into the DVD drive of the E-83.**

2 **Restart the E-83 (see page 35).**

3 **Select the language you use for the backup or restore session.**

4 **From "What do you want to do?" screen, select the option.**

Back up with Fiery System Installer

You must back up your system and create a backup image to recover from any unexpected system crashes and the hard disk drive failure.

TO CREATE A SYSTEM BACKUP USING THE FIERY SYSTEM INSTALLER

1 **Start the Fiery System Installer.**

2 **From "What do you want to do?" screen, select Back up hard disk drive(s).**

3 **Configure the backup image settings.**

NOTE: The settings vary depending on the destination you select. Make sure that you specify the valid settings.

- Select a backup destination from one of the following types of media: USB flash drive, external hard disk drive, local hard disk drive, or network share.
- Specify the name of the backup file. The Fiery System Installer creates a folder with the name containing the file name and a time stamp to help you distinguish the backup images. The default file name is the server name. The installer automatically generates the time stamp.
- Enter a description of the backup.
- If you select "Create bootable media" check box, the USB device or hard disk drive specified as a destination will become a bootable media. Select this option when you want to boot the E-83 from the backup media to avoid the situation where the HDD fails and cannot boot the E-83. See "Restore with bootable media" on page 106 for booting from the bootable media.

4 **If you select "USB Drive" or "External Hard Disk" as a destination, make sure you attach the appropriate device to the E-83.**

5 **Start the backup process.**

Restore with Fiery System Installer

If you recover from a system crash, you must restore the system with a backup image.

IMPORTANT

Backed up data can be only restored to the same E-83.

TO RESTORE THE SYSTEM USING THE FIERY SYSTEM INSTALLER

1 **Start the Fiery System Installer.**

2 **If your backup file is stored in the USB drive or external hard disk, attach the device to the E-83.**

3 **From "What do you want to do?" screen, select Restore from backup or recovery partition.**

If you have not previously created a backup image, "Restore from recovery partition" is displayed.

4 **Select the source of the backup.**

Select one of the following options.

- One of the two most recently-created backup images.

- The recovery partition, which restores the default system settings from a hidden hard disk drive partition.
- Search for a backup that you have created on the E-83.

  The installer lists each backup image in the following categories.

  – Location of the backup image: USB flash drive, external hard disk drive, network location, or local hard disk drive

  – Time at which you created the backup image

  – Folder location of the backup image

  Select the backup image and click OK.

5 **When a message appears indicating that all the data will be erased, click Continue to proceed the restore.**

Restore with bootable media

Use the following procedure when you restore the system without using the System Software 1 DVD, or when the E-83 does not boot from the built-in HDD.

To restore from the bootable media, you must have created a backup with "Create bootable media" option.

NOTE: This procedure requires a monitor, mouse, and keyboard to be attached to the E-83.

TO RESTORE FROM THE BOOTABLE BACKUP MEDIA

1 **Turn off the E-83.**

2 **Attach the bootable backup media to the E-83.**

3 **Press the power button to turn on the E-83.**

4 **Press F2 repeatedly during the startup sequence.**

The BIOS setup utility screen appears. If you see the Windows startup screen, the system did not enter the BIOS setup mode. Restart the E-83 and repeat this step.

5 **Select the option to change the boot order, and select the item starting from "UEFI".**

The name of the bootable media appears next to UEFI (for example, UEFI: FLASH Drive AU_USB20 8.07).

6 **Save the BIOS settings and exit the BIOS setup mode.**

Fiery System Installer starts in the same language that the backup was created in. You cannot choose another language.

7 **Follow the process for restoring outlined in "Restore with Fiery System Installer" on page 105 using your bootable media.**

Platform Utilities

Use the Fiery System Installer for advanced procedures, such as erasing hard disks, or use Windows Task Manager to administer the E-83.

The following utilities are available when you select Platform Utilities:

- Erase data from hard disk drive(s)

  If selected, the following methods are provided:

  – Randomized erase for writing random data to all disk sectors before writing zero.

  – Quick erase for writing zeroes to all disk sectors.

- Advanced backup management

  Allows the Administrator to:

  – Load backup settings from a USB drive to apply to system backup images.

  – Save or restore backup history files.

  – Search for backup images created on a replaced system to be applied to the current one.

- Launch Windows Task Manager

  Starts the Windows Task Manager.

Installing system software

When you replace a hard disk drive or want to upgrade to the latest version of system software, you must install both system software and user software. You can install software from the following discs:

- System Software DVDs—Windows operating system and server software for the E-83.
- User Software DVD—user software for installation on the E-83 and client computers.
- Acrobat/PitStop DVD—Adobe Acrobat and Enfocus PitStop, which are required to use the Impose and Compose features of Command WorkStation.

TO INSTALL OR UPGRADE SYSTEM AND USER SOFTWARE

Software installation takes approximately 2-2.5 hours total to complete.

1 **Before you proceed, do the following:**

- Ask the site administrator to
  - Print the Job Log, Configuration page, and Font List, if possible. For more information, see "Printing E-83 pages from the Fiery Integrated Workstation" on page 27.
  - Archive any customer-installed fonts and FreeForm masters, if possible.
  - Save any custom simulation profiles and custom spot color settings, if possible.
- On the E-83, remove all dongles and devices, except the keyboard and mouse.

NOTE: If you do not, installation will fail.

2 **If you are installing system software, back up the system configuration (if possible).**

For more information, see "Backing up the system configuration" on page 102.

3 **Disconnect the following cables from the back of the E-83:**

NOTE: If you do not disconnect the cables now and a cable is accidentally disconnected during software installation, the installation may fail.

- Disconnect the network cable, crossover Ethernet cable, and printer interface (Data Transfer Unit) cables from the back of the E-83 (see Figure 4 on page 20).

  If you do not, installation will fail.

4 **Insert System Software DVD 1 into the DVD drive.**

5 **Reboot the E-83.**

Wait while the system boots from the DVD.

6 **When the language selection screen displays, select a language.**

7 **When "What do you want to do?" screen displays, choose New Installation.**

8 **When "Erase hard disk? " message displays, choose Continue.**

9 **When the "Install optional software? The following software package is optional: Adobe Acrobat/Enfocus Pit-Stop" message appears, click Install. Wait for files to be copied to the E-83 from System Software DVD 1.**

Time required: approximately 5 minutes.

The disc ejects when this step is complete.

10 **When prompted, insert System Software DVD 2, and then System Software DVD 3, into the DVD drive. Wait for files to be copied to the E-83.**

Time required for System Software DVD 2 and 3: approximately eight minutes.

The disc ejects when this step is complete.

11 **When prompted, insert the User Software DVD into the DVD drive. Wait for files to be copied to the E-83.**

Time required: approximately 12 minutes.

Files are copied to drive *E* at *eft\user_sw*.

The disc ejects when this step is complete.

12 **When the "Insert Adobe Acrobat/ Enfocus Pitstop" message displays, insert the Acrobat/ PitStop DVD and follow the on-screen prompts.**

Time required: approximately 10 minutes.

The disc ejects once files are copied.

The E-83 restarts automatically.

13 **Wait while files are installed on the E-83.**

Time required: approximately 45 minutes.

The E-83 restarts automatically.

14 **At the Admin login, enter the password, and then press Enter.**

Fiery.1. is the default password and is case-sensitive.

15 **Follow the on-screen instructions in the Fiery Setup Wizard to configure the E-83 for the customer's print environment.**

For more information on Fiery Setup Wizard, see *Configuration and Setup*, which is part of the user documentation set.

16 **Wait for Command WorkStation to start.**

During installation, a localhost connection to Command WorkStation is created, so when you start the E-83, Command WorkStation starts also.

17 **Shut down the E-83 (see page 36).**

18 **Restore the dongles and devices that you removed in step 1.**

19 **Reconnect the cables that you removed in step 3:**

20 **Start the E-83 (see page 35).**

21 **Install any required software patches (see page 111).**

22 **If you were installing, but not upgrading, system software, restore the system configuration (if possible):**

For more information, see "Restoring the system configuration" on page 103.

23 **Reinstall and reactivate Color Profiler Suite software on the E-83:**

Use the Color Profiler Suite CD to reinstall the software on the E-83. For complete instructions, see the documentation that accompanies the Color Profiler Suite kit.

24 **(Optional) Set up the proxy configuration file if you have a proxy server.**

In Configure (see page 28), click Server > System Updates > Proxy Settings, and enter the proxy server information. Save your changes and reboot the E-83.

For more information on setting up proxy configuration, see *Configuration and Setup*, which is part of the user documentation set.

25 **Before you leave the customer site, remind the site administrator to do the following:**

- Import archived jobs.

  Please note that some archived jobs may not print.

- Register Adobe Acrobat the first time you use it.
- Reinstall the following:
  - Fonts
  - User documentation
  - Custom simulations

  This upgrade may not be compatible with old user software.

System software installation error messages

If an error message displays when you install or upgrade system software, do the following:

- If prompted, save the log.
- If you are not prompted to save the log, record the error message.
- If the network cable and printer interface (Data Transfer Unit) cables are still connected to the E-83, disconnect the cables and perform the installation again, starting from step 4 on page 108.

If you cannot correct the error, contact your authorized service/support center. A log or error message may help to solve the problem. Provide as much specific information as possible.

Installing software patches

As part of reinstalling system software, you must reinstall software patches. For a list of patches that were installed on the E-83, see the Configuration page that you printed before reinstalling. You may also need to reinstall software patches as part of upgrading system software.

IMPORTANT

If you upgraded system software, do not assume that the software patches listed on the Configuration page are required for the upgrade. You must contact your authorized service/support center for a list of required software patches. If you install a software patch that is not required for an upgrade, the system may be corrupted.

After you know which software patches are required for your system, you can download them from System Updates or Configure.

TO DOWNLOAD SOFTWARE PATCHES (SYSTEM UPDATES)

1. **From the Windows Start menu, click All Programs > Fiery > System Updates.**
2. **Click Check Now.**

TO DOWNLOAD SOFTWARE PATCHES (CONFIGURE)

1. **From the Fiery Ticker, start WebTools.**
2. **On the WebTools home page, click the Configure tab.**
3. **On the Configure tab, click Check for Product Updates.**

System updates

Advise the site administrator that the System Updates feature available through the Start menu allows customers to schedule and accept installation of certain E-83 software updates from a secure site on the Internet. By default, the feature is configured to display a notification on the monitor that software updates are available for the E-83. You can also check for system updates by choosing Start > All Programs > Fiery > System Updates, and then clicking Check Now. Depending on how it is configured, System Updates operates manually or automatically. For more information about how to schedule System Updates, see *Configuration and Setup*, which is part of the user documentation set.

You can obtain updates for Windows 7 Professional FES x64 from Microsoft directly. Since these updates are available from Microsoft directly, EFI does not provide them by means of System Updates.

Check for Product Updates (Software Downloads Site)

The Check for Product Updates URL (also known as the Software Downloads Site) allows you to access the Update Server to view and manually download all available updates for E-83 System and User Software. You can access Check for Product Updates by copying and pasting a unique URL into a web browser from a client computer. (For details, see page 112.)

Check for Product Updates is especially useful if your E-83 cannot access the Internet, is behind a firewall, or is otherwise unable or not configured to seek and accept automatic updates from the Update Server (for instance, if you do not want—or the E-83 is unable—to take advantage of the auto-download/auto-installation/auto-notification features available through System Updates).

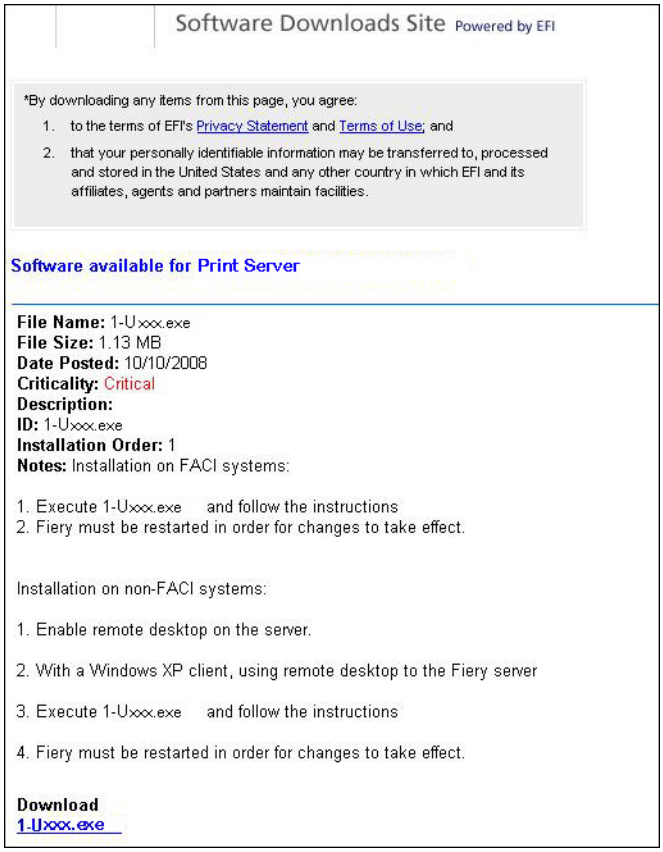
For a detailed procedure, see "To install updates using Check For Product Updates" on page 112.

TO INSTALL UPDATES USING CHECK FOR PRODUCT UPDATES

1 **From a client computer, open a web browser, copy-and-paste or type the following URL, and then press Enter.**

https://liveupdate.efi.com/webupdater/default.aspx?sid=30c6102cf6c45ed1459c05b030a3eb66EF849036.PPD

A window appears, listing available updates.



NOTE: The list that displays when you access Check for Product Updates may include:

- Updates that are unavailable through System Updates and/or are not approved for all users.
- Updates that may already be installed on some E-83 print servers. To help you choose which updates to download, compare the list displayed with the E-83 print server's Configuration Page > Updates log.

2 **For each update that you want to download, click the file name under Download and then select Save to download the update file to a location on the client computer.**

3 **When the updates files have been downloaded, browse to the location of the update file on the client computer and handle it according to the file type, circumstances, and site conditions.**

TROUBLESHOOTING

This chapter identifies the source of common problems that may occur with the E-83 and suggests ways of correcting them. Suggested actions may include reading user documentation.

Troubleshooting process

Problems may occur in one of the following areas:

- Inside the E-83
- In the interface between the E-83 and the printer
- In the interface between the E-83 and the workstations or computers to which it is connected

Troubleshooting the printer, network, remote computers, software applications, and Windows operating system is beyond the scope of this chapter.

CAUTION

When performing the service procedures described in this chapter, follow the precautions listed on page 11.

Install new components only when necessary. If you determine that a component that you removed is not faulty, reinstall it.

Preliminary on-site checkout

Your goal in the preliminary on-site checkout is to solve problems quickly with a minimum of troubleshooting. Start by verifying that the network is functioning, no unauthorized software or hardware is installed on the E-83, and the problem is not with a particular print job or application. To help verify these issues, contact the on-site administrator.

Most problems with the E-83 are caused by loose board or cable connections; therefore, this section begins by describing the quick checks you can do to locate and fix these more obvious problems. Check the external connections to the back of the E-83 before you check internal board and cable connections or replace any components.

For problems that persist after you check the external and internal connections, this section provides a comprehensive list of internal and external checks that may help you remedy the problem.

This section includes the following:

- "Checking interface cables" on page 115

  This section describes the quick checks that you can do to make sure that the problem is not caused by a loose connection at the back of the E-83.

- "Checking internal components" on page 116

  This section describes the quick checks that you can do to make sure that the problem is not caused by a loose board or cable connection inside the E-83.

- "Inspecting the system" on page 116

  This section provides a more comprehensive checklist that you can use to check the E-83 internally and externally. If your initial checks fail, you may want to go through this checklist before concluding that you need to replace a cable or component.

To troubleshoot specific symptoms, see Table 6 on page 122.

Checking interface cables

Before removing the left panel of the E-83 to check internal components, eliminate the most obvious sources of problems. Verify the following:

- All interface cables to the system are plugged into the proper connectors on the back panel of the E-83 (see Figure 54).
- The power cable is plugged into the wall supply.
- The E-83 is powered on.
- The upper LED next to the 10/100/1000 Mbps network port is blinking to indicate network activity (see page 34).

Key

1. **Power connector**
2. **Power switch**
   |: Power On
   O: Power Off
3. **Type A USB ports (for keyboard, mouse, and spectrophotometer)**
4. **Network port**
5. **Crossover Ethernet cable port**
6. **Printer interface (Data Transfer Unit) A (MY) cable port**
7. **Printer interface (Data Transfer Unit) B (CK) cable port**
8. **OFF/ON switch for power synchronization**
   ON: Down
   OFF: Up
9. **Monitor (VGA) port (configuration may vary)**
10. **Bracket cover plate**

NOTE: Unlabeled connectors/ports are not used.

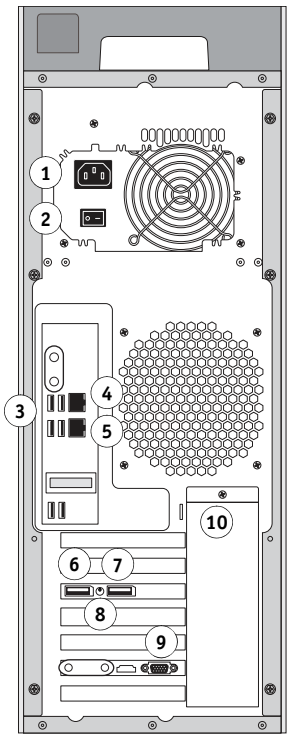


FIGURE 54: Back of the E-83

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

Checking internal components

To check the internal components, you must remove the left panel of the E-83.

CAUTION

Before you remove E-83 panels to inspect and handle internal components, see "Precautions" on page 11. Use standard ESD precautions when handling printed circuit boards and other electronic components.

Use the guidelines and procedures in Replacing parts when disassembling, checking, and reassembling the E-83.

TO CHECK INTERNAL COMPONENTS

1 **Shut down, remove all cables from the back, and then open the E-83 (see page 47).**

In order to access the motherboard, you must remove the left panel.

IMPORTANT

2 **Before you touch any components inside the E-83, attach a grounding strap to your wrist and discharge any static electricity on your body by touching a metal part of the E-83.**

3 **Inspect the inside of the E-83.**

- Make sure that no foreign materials have been dropped into the chassis.
- Look for loose boards and reseat each board securely in its connector on the motherboard.
- Look for loose cables. Reseat each connector firmly.
- Make sure that each connector is properly aligned with its mating connector. If the pins are offset from each other, the board affected will not function properly.

4 **Reassemble the E-83 and verify its functionality (see page 99).**

Inspecting the system

If checking cable and board connections does not fix the problem, consider inspecting the system component by component (see Table 4) and verifying that each hardware component is properly installed and configured before you decide to replace costly components.

If a component in the system you are servicing does not meet a condition listed in Table 4 and it is not clear how to fix the problem (for example, if the system hangs before reaching Idle), locate the behavior in Table 6 on page 122 to see the suggested action(s) for solving the problem.

TABLE 4: Verifying the system

Conditions to verify	Part and additional page references
When the problem occurs, verify the following: • Power cable is connected properly to the E-83 and to the power outlet. • The E-83 is powered on. • Chassis fans are operating. • At least one LED on the network connector is lit. • All external cables required are present, in correct connectors, well-seated. • Cables, cable connectors, and mating connectors appear undamaged.	External connectors, chassis fans, and power connector, page 115
If the problem occurs at power up or reboot, verify the following: • Control panel LCD lights up and logo displays. • Monitor is plugged into correct port and is powered on. • DVD drive is present and no media is in the drive. • DVD drive accepts inserted media. • No error messages or system hangs occur on the monitor before Idle.	DVD drive, page 97
• All replaceable parts are: – Present – Properly aligned – Installed securely – Installed on the appropriate site – The correct part for the system – Not visibly damaged • Chassis and contents have not been tampered with (no unauthorized additions or changes have been made). • Chassis does not contain any foreign objects.	Chassis, page 47
• Motherboard, including components and traces, appears undamaged and no foreign objects are evident. • Each CPU is present, installed in the correct connector, well-seated, and appears undamaged. • Each CPU cooling unit is well-aligned and firmly attached. • Each fan (including fan cable) is well-positioned, installed in the correct connector, and appears undamaged. • Boards required on the motherboard are present, well-seated, and in the correct slots. • Battery is installed.	Motherboard (with motherboard replacement dongle), page 59

Conditions to verify	Part and additional page references
• Each DIMM is well-seated and installed in the correct slot. • DIMM connectors are not oxidized (reseating removes oxidation).	DIMM for E-83, page 75
Printer interface board is: • Present • Installed in the correct slot • Well-seated • Not visibly damaged Required cables (if applicable) is: • Present • Firmly connected in the correct connectors • Not visibly damaged	Printer interface board assembly, page 53
Graphic board is: • Present • Installed in the correct slot • Well-seated • Not visibly damaged All fan and ribbon cables on the board are: • Present • Firmly connected in the correct connectors • Not visibly damaged	Graphics board
Each CPU is: • Present • Installed in the correct socket • The correct speed (CPU speeds must match) • Well-seated • Not visibly damaged The CPU cooling unit is: • Ready for efficient thermal transfer • Well-aligned	CPU and CPU cooling assembly, page 78

Conditions to verify	Part and additional page references
Each fan is: • Properly positioned (not backwards) • Installed in the correct connector • Not visibly damaged (fan, fan cable, cable connector, and motherboard connector)	Fans, page 82
The power supply is: • Present • Correctly installed • Not visibly damaged Cable connectors are: • Firmly connected • Not visibly damaged • Installed in the correct devices	Power supply, page 87
The hard disk drives are: • Present • Correctly installed • Not visibly damaged Hard disk drive data cables are: • Present • Firmly connected to the correct SATA connectors on the motherboard (see page 93) • Not visibly damaged Hard disk drive power cables are: • Present • Firmly connected to the SATA power connectors on the hard disk drives. Do not use the PATA power connectors, if they are present on the hard disk drives. • Not visibly damaged	Hard disk drive (3), page 89

Conditions to verify	Part and additional page references
The DVD drive is: • Present • Correctly installed • Not visibly damaged Also verify that the DVD drive data/power cable is connected to SATA0 on the motherboard.	DVD drive, page 97
Each cable required is: • Present • Installed in the correct connector • Well-seated • Not visibly damaged (cable or connector)	UIB cable, page 56 Data/power cable (to DVD drive), page 97 Cable (to each hard disk drive), page 89 Power cable, page 19
The mouse, monitor, and keyboard are present and appear undamaged. The cables required are: • Present • Installed in the correct connector • Well-seated • Not visibly damaged (cable or connectors)	For the following items, see the documentation that accompanies the package. • Mouse, page 19 • Monitor, page 19 • Keyboard, page 19

Normal startup sequence

When you power on or reboot the E-83, the system runs a startup routine that takes about three minutes. If problems occur during startup and rebooting does not solve the problem, use Table 6 on page 122 to troubleshoot the system.

The following table lists the normal startup sequence as it appears on the E-83 control panel and on the monitor.

Process	Control panel	Monitor
E-83 is powered on.	No backlight	Black screen
Code in the motherboard BIOS tests, initializes, and configures areas on the motherboard.	Lights and then displays efi|fiery logo	Phoenix SecureCore Server screen
		Serial ATA AHCI BIOS screen
		Intel Matrix Storage Manager screen
Windows operating system starts up.	efi|fiery logo	Windows logo screen
		Windows Log On Windows desktop appears after you log on and type the Administrator password.
Server software on the hard disk drives completes startup process.	efi|fiery logo	Fiery Ticker appears with the message Starting... Please wait
	fiery logo	Fiery Ticker indicates Idle

TABLE 5: Boot sequence at power on

Error messages and conditions

To learn possible causes and solutions for a specific error message or condition, find the symptom in Table 6 and perform the appropriate suggested actions.

For errors or conditions that are described as occurring in a specific stage of the boot up process, see "Normal startup sequence" on page 121 for what normally occurs at each stage.

IMPORTANT

Do not install a new hard disk drive and a new motherboard in the E-83 at the same time. If you suspect that the E-83 needs a new hard disk drive and a new motherboard, first install the new hard disk drive and install system software. Then install a new motherboard and perform the system update procedure (see "Replacing the motherboard" on page 66).

NOTE: For ordering information on replaceable components, see the Parts List document. If replacing a specified component does not correct the problem, make sure that you install the old component back in the E-83. For the location of the serial number on the back of the system, see Figure 54 on page 115.

TABLE 6: E-83 error messages and conditions

Symptom	Possible cause	Suggested action
Beep codes during startup		
4 beeps, followed by 3 beeps, followed by 1 beep, followed by 2 beeps	Missing, unmatched, incorrect, or faulty DIMMs	**1 Check for missing DIMMs and reseat the DIMMs to remove any oxidation on the connectors (see page 75).** **2 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard.

Symptom	Possible cause	Suggested action
Startup		
E-83 does not start up.	The E-83 is powered off.	**Press the power button on the front panel.**
	One of the following: • CMOS jumper is missing or incorrectly installed • Faulty power supply (power supply may not be supplying power to the motherboard) • Faulty motherboard (motherboard power plane may not be supplying power to components)	**1 Recheck all of the cables and connections.** **2 Make sure that the CMOS jumper is correctly installed on the two left pins (pins 1 and 2) of J13 on the motherboard (see page 62).** **3 Listen for the power supply fan and feel for air at the back of the unit where the power supply is located.** If you do not feel air from the power supply fan, you may have a faulty power supply, which you will need to replace (see page 87). **4 Feel for air at the back of the unit where the back fan is located to make sure that air is coming out the fan vent.** If the problem persists, you may need to replace the motherboard (see page 59).
Control panel LCD does not light up.	One of the following: • Faulty user interface board (UIB) cable or connections • Faulty UIB	**Recheck the UIB cable connection. If the problem persists, replace the UIB (see page 56).**
Control panel LCD lights but is discolored and/or no logo appears on the LCD.	One of the following: • Faulty user interface board (UIB) cable or connections • Faulty UIB • Loose CPU connection(s) • Faulty CPU(s) • Faulty motherboard	**1 Recheck the user UIB cable connection. If the problem persists, replace the UIB (see page 56).** **2 If the problem persists, verify the CPU and CPU fan connections, and verify that the CPU heatsinks are securely installed (see page 78).** Test the CPUs by removing the CPU installed in socket CPU1 and rebooting. – If the system fails to boot up properly, the CPU in socket CPU0 is faulty and should be replaced. – If the system boots up properly, the CPU in socket CPU0 is good and the CPU that you removed from socket CPU1 may be faulty. To test this, remove the CPU from socket CPU0, install the other CPU in socket CPU0, and reboot. If the system fails to boot up properly, the CPU currently installed in socket CPU0 is faulty and should be replaced.

Symptom	Possible cause	Suggested action
Startup (continued)		
System does not display the Windows Logon window within five minutes of power up, or does not display Fiery Ticker within five minutes of logging on.	One of the following: • System was powered off and then powered on before waiting 10 seconds • Improperly installed keyboard and mouse connections • Missing, unmatched, incorrect, or faulty DIMMs • Faulty or overheated CPU(s) • Faulty motherboard	**1 Power off, wait 10 seconds, and then power on again.** **2 If problem persists, check all cables and connections again and reboot.** Make sure that the keyboard and mouse are installed in the proper connectors. Power off, wait 10 seconds, and power on again. **3 Check the DIMMs and reseat them to remove any oxidation on the connectors (see page 75). Make sure that the DIMM configurations in both socket sets are identical (see page 75).** **4 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard. **5 If the problem persists, verify CPU and CPU fan connections, and verify that the CPU heatsinks are securely installed (see page 78).** Test the CPUs by removing the CPU installed in socket CPU1 and rebooting. – If the system fails to boot up properly, the CPU in socket CPU0 is faulty and should be replaced. – If the system boots up properly, the CPU in socket CPU0 is good and the CPU that you removed from socket CPU1 may be faulty. To test this, remove the CPU from socket CPU0, install the other CPU in socket CPU0, and reboot. If the system fails to boot up properly, the CPU currently installed in socket CPU0 is faulty and should be replaced. **6 If the problem persists, you may need to replace the motherboard (see page 59).**

Symptom	Possible cause	Suggested action
Startup (continued)		
Monitor does not light after three minutes.	One of the following: • Faulty monitor or monitor connections • Monitor is not powered on • Faulty graphics board	**1 Recheck the monitor connections to power and to the E-83.** **2 Make sure that the monitor is powered on.** **3 Reseat the graphics board in its connector on the motherboard, and recheck the cable connections on the board itself.** **4 Replace the monitor.** **5 Replace the graphics board.**
System hangs during motherboard BIOS control of startup.	One of the following: • Missing, unmatched, incorrect, or faulty DIMMs • Faulty or overheated CPU(s)	**1 Recheck all of the cables and connections and reboot.** **2 Check the DIMMs and reseat them to remove any oxidation on the connectors (see page 75). Make sure that the DIMM configurations in both socket sets are identical (see page 75).** **3 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard. **4 If the problem persists, verify the CPU and CPU fan connections, and verify that the CPU heatsinks are securely installed (see page 78).** Test the CPUs by removing the CPU installed in socket CPU1 and rebooting. – If the system fails to boot up properly, the CPU in socket CPU0 is faulty and should be replaced. – If the system boots up properly, the CPU in socket CPU0 is good and the CPU that you removed from socket CPU1 may be faulty. To test this, remove the CPU from socket CPU0, install the other CPU in socket CPU0, and reboot. If the system fails to boot up properly, the CPU currently installed in socket CPU0 is faulty and should be replaced.

Symptom	Possible cause	Suggested action
Startup (continued)		
System does not immediately respond before the Windows logo screen.	One of the following: • Corrupt system software • Faulty hard disk drive • Faulty motherboard	**1 Recheck all cables and connections.** **2 Restore the backup, or reinstall system software (see page 101).** **3 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive. **4 If the problem persists, replace the motherboard (see page 59).** If replacing the motherboard does not correct the problem, make sure you reinstall the old board in the E-83.
System hangs and displays the message: Operating system not found.	Hard disk drive data cables are faulty, loose, or improperly connected.	**Check and reseat the data cables to the hard disk drives.** Make sure that each cable is connected to the correct hard disk drive, and to the correct SATA connector on the motherboard (see page 45).

Symptom	Possible cause	Suggested action
Startup (continued)		
System hangs during Windows control of startup, during or after the Windows logo screen.	One of the following: • Media in DVD drive during startup • Corrupt system software • Missing or faulty DIMMs • Faulty hard disk drive • Faulty or overheated CPU(s) • Faulty motherboard	**1 Make sure that no DVD is in the media drive during startup, and then reboot the system.** **2 Recheck all cables and connections.** **3 If the problem persists, restore the backup, or reinstall the system software (see page 101).** Corrupt system software may cause the system to hang at this screen. **4 Check the DIMMs and reseat them to remove any oxidation on the connectors (see page 75). Make sure that the DIMM configurations in both socket sets are identical (see page 75).** **5 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard. **6 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive. (Suggested actions continued on the following page.)

Symptom	Possible cause	Suggested action
Startup (continued)		
System hangs during Windows control of startup, during or after the Windows logo screen.	See previous page.	(Continued from previous page.) **7 If the problem persists, verify the CPU and CPU fan connections, and verify that the CPU heatsinks are securely installed (see page 78).** Test the CPUs by removing the CPU installed in socket CPU1 and rebooting. – If the system fails to boot up properly, the CPU in socket CPU0 is faulty and should be replaced. – If the system boots up properly, the CPU in socket CPU0 is good and the CPU that you removed from socket CPU1 may be faulty. To test this, remove the CPU from socket CPU0, install the other CPU in socket CPU0, and reboot. If the system fails to boot up properly, the CPU currently installed in socket CPU0 is faulty and should be replaced. **8 If the problem persists, you may need to replace the motherboard (see page 59).** If replacing the motherboard does not correct the problem, make sure you reinstall the old board in the E-83.

Symptom	Possible cause	Suggested action
Startup (continued)		
Fiery Ticker hangs at the message: Starting... Please Wait	One of the following: • Corrupt system software • Faulty hard disk drive	**1 Recheck all cables and connections.** **2 Run Cleanup on the E-83.** – Make sure that the E-83 is not in use. – Go to *EFI\server\spool*. – Double-click the cleanup.bat file. – Power off the E-83. – Power on the E-83. **3 If the problem persists, restore the backup, or reinstall system software (see page 101).** **4 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive.
The system takes a long time to start up.	Possibly one of the following: • The system may be taking longer to boot up in order to finalize installation of a patch or update. • The hard disk drive may have fallen to the bottom of the boot order in the BIOS. This can happen if the system is powered on when the hard disk drive is missing, faulty, or not connected. • System software may be corrupted.	**1 If the slow startup happens following installation of a software patch or update, shut down, and then restart to see if the problem persists.** **2 If the problem persists, make sure that the hard disk drive is present and properly connected. When you reboot the E-83, the hard disk drive will be moved to the top of the boot order in the BIOS.** **3 If the problem persists, restore the backup, or reinstall the system software (see page 101).**

Symptom	Possible cause	Suggested action
Shutdown		
Control panel LCD remains lit even after the system has shut down.	The system has been powered off manually using the power button on the front panel.	**1 Power on the E-83 by pressing the power button on the front panel.** **2 When the system reaches Idle, choose Shut Down from the Windows Start menu. Select Shut Down and click OK.** Always use this procedure to shut down the E-83. If you use the power button to shut down, the LCD will fail to shut down properly.
System problems		
DVD drive is not responding or cannot be located; or media cannot be ejected from the drive.	One of the following: • A CD or DVD is stuck in the drive • Loose cable connections to the DVD drive or faulty cable • Faulty DVD drive • Faulty motherboard	**1 Press the button on the front of the DVD drive to eject the media.** **2 If the media still does not eject, try one of the following:** – On the E-83 control panel, press the Menu button and select Eject CD/DVD. – In Windows, go to My Computer. Right-click the icon for the DVD drive and choose Eject. **3 If the media still does not eject, check the cable connections to the DVD drive (see page 45 and page 46).** **4 Check the DVD cable connection to the motherboard.** **5 If the problem persists, you may need to replace the DVD drive (see page 97).** **6 If the problem persists, you may need to replace the motherboard (see page 59).**
Clock is slow.	Missing or dead battery on the motherboard	**Replace the battery on the motherboard, and then update the system date and time.**

Symptom	Possible cause	Suggested action
System problems (continued)		
System performs slowly or hangs periodically.	One of the following: • Missing or faulty DIMMs, or faulty DIMM connections • Faulty hard disk drive • Overheated or faulty CPU(s) • Faulty motherboard	**1 Check the DIMMs and reseat them to remove any oxidation on the connectors (see page 75). Make sure that the DIMM configurations in both socket sets are identical (see page 75).** Make sure that an even number of DIMMs is installed. Odd-numbered configurations are not supported. **2 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard. **3 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive. (Suggested actions continue on the following page.)

Symptom	Possible cause	Suggested action
System problems (continued)		
System performs slowly or hangs periodically.	See previous page.	(Continued from previous page.) **4 If the problem persists, verify the CPU and CPU fan connections, and verify that the CPU heatsinks are securely installed (see page 78).** Test the CPUs by removing the CPU installed in socket CPU1 and rebooting. – If the system fails to boot up properly, the CPU in socket CPU0 is faulty and should be replaced. – If the system boots up properly, the CPU in socket CPU0 is good and the CPU that you removed from socket CPU1 may be faulty. To test this, remove the CPU from socket CPU0, install the other CPU in socket CPU0, and reboot. If the system fails to boot up properly, the CPU currently installed in socket CPU0 is faulty and should be replaced. **5 If the problem persists, you may need to replace the motherboard (see page 59).**
Check power & cable	One of the following: • The printer is not ready to print • Problem with the connection between the E-83 and the printer	**1 Make sure the printer is powered on and ready to print.** **2 Check again that the printer interface (Data Transfer Unit) cables and crossover Ethernet cable are present and properly connected to the E-83 and the printer (see page 19).** **3 Check again that the printer interface board is present and properly connected to the motherboard (see page 53).** **4 If the problem persists, replace the printer interface cables one at a time (see page 19).** **5 If the problem persists, try replacing the printer interface board assembly (see page 53).** **6 If the problem persists, you may need to service the printer.**

Symptom	Possible cause	Suggested action
System problems (continued)		
Cycle Digital Press Power	One of the following: • Interface cable between E-83 and printer is loose or disconnected • The printer is powered off or not ready to print	**1 Make sure the printer is powered on and ready to print.** **2 Check again that the printer interface cables and crossover Ethernet cable are present and properly connected to the E-83 and the printer (see page 19).** **3 If the problem persists, power off/on the printer and the E-83, waiting one minute after the E-83 reaches Idle before you power on the printer.** **4 Check again that the printer interface board is present and properly connected to the motherboard (see page 53).** **5 If the problem persists, replace the printer interface cables one at a time (see page 19).** **6 If the problem persists, try replacing the printer interface board assembly (see page 53).** **7 If the problem persists, you may need to service the printer.**

Symptom	Possible cause	Suggested action
Service messages		
1 file(s) copied hangs during system software installation after removing first DVD and recycling power.	One of the following: • Normal behavior • Corrupted installation • Lost communication with hard disk drives due to one of the following: – Faulty hard disk drive cable – Faulty hard disk drive – Faulty motherboard	**1 Wait 5-10 minutes to make sure that the system is really hanging. If so, power off, wait 10 seconds, and then power on again.** **2 If the problem persists, restore the backup, or reinstall system software (see page 101).** **3 If the problem persists, recheck cables and connections.** **4 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive. **5 If the problem persists, replace the motherboard (see page 59).**
One of the disks is bad. Cannot continue with installation.	System software installer has detected that one of the hard disk drives is faulty.	**If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive.

Symptom	Possible cause	Suggested action
Service messages (continued)		
Wrong/Missing Dongle	One of the following: • The wrong dongle or no dongle is installed on the E-83 USB port during the options transfer procedure • Motherboard USB port is faulty	**1 Install the correct dongle on the E-83 USB port and repeat the options transfer procedure (see "Transferring options and BIOS information to the new motherboard" on page 72).** **2 If the problem persists, install the dongle on another available USB port and repeat the options transfer procedure.** **3 If the problem persists and you are sure you have the proper dongle, you may need to replace the motherboard (see page 66).**
Used Dongle	The dongle has already been used to transfer options and cannot be reused.	**Obtain an unused dongle and try again.**
Network		

If you suspect a network problem, consider the following:

- If the E-83 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.
- Inappropriate Setup options may cause printing problems.
- Missing or incorrectly placed printer description files may cause application-specific printing errors.

For additional information, see *Configuration and Setup*, which is part of the user documentation set.

Unable to connect to the network, or neither LED on the 10/100/1000Mbps network connector is lit.	One of the following: • Cable is connected to the wrong Ethernet port. Cable should be connected to the upper Ethernet port. • Faulty network cable or connection • Faulty network • Faulty Ethernet interface on the E-83 motherboard	**1 Make sure that the network cable is the correct type and is connected to the designated network port on the back of the E-83 (see page 115).** **2 Check the cable connection to the network.** **3 Replace the cable with a new or tested cable.** **4 If the problem persists, request that the site administrator check Network Setup.** **5 If the problem persists, request that the site administrator check other devices on the network.** If other devices are not functioning, there could be a problem with the network. **6 If the rest of the network is functioning properly and the problem persists, replace the motherboard (see page 59).**

Symptom	Possible cause	Suggested action
Network (continued)		
System starts up slowly (seems to hang) and then displays one or more DHCP error messages on the monitor.	One of the following: • Normal behavior System is searching for a nonexistent DHCP server. DHCP is enabled by default on the E-83 but the customer's network is not using DHCP. • If the customer's network is using DHCP: – Network cable or connection is faulty. – Network is faulty. – Ethernet interface on the E-83 motherboard is faulty.	**1 If the problem persists, request that the site administrator change the default in E-83 Network Setup.** **2 If neither LED on the 10/100/1000Mbps network connector is lit on the E-83 connector panel, check the cable connection to the connector panel and the network. Make sure that the cable is the correct type.** **3 If the network cable is the correct type and is properly connected to the back of the E-83, connect a new network cable to the back of the E-83.** **4 If the problem persists, request that the site administrator check other devices on the network.** If other devices are not functioning, it could be a problem with the network. **5 If the rest of the network is functioning properly and the problem persists, replace the motherboard (see page 59).**

Symptom	Possible cause	Suggested action
Printing		
NOTE: Intermittent print quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print a Test Page to make sure that the printer itself does not need servicing or adjusting.		
Test Page fails to print.	Printer is not ready to print.	**Make sure that the printer is powered on and ready to print.**
	There is a problem with the connection between the E-83 and the printer.	**1 Make sure that the printer is powered on and ready to print.** **2 Recheck that the printer interface cables are present and properly connected to the E-83 and the printer (see page 19).** **3 If the problem persists, power off/on the printer and the E-83, waiting one minute after the E-83 reaches Idle before you power on the printer.** **4 Check again that the printer interface board is present and properly connected to the motherboard (see page 53).** **5 If the problem persists, replace the printer interface cables one at a time (see page 19).** **6 If the problem persists, try replacing the printer interface board assembly (see page 53).** **7 If the problem persists, you may need to service the printer.**
	Corrupted system software (Possible causes continue on following page.)	**Restore the backup, or reinstall system software.**

Symptom	Possible cause	Suggested action
Printing (continued)		
Test Page fails to print.	(Continued from previous page.) Faulty hard disk drive	**Check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive.
E-83 appears on the list of printers on the customer's workstation, but certain jobs do not print.	PostScript error	**1 Make sure that Print to PostScript Error in Setup is set to Yes.** **2 Check for error messages on the E-83 output.**
	Application problem	**1 Print a job from a different application to determine if the problem is associated with a particular application.** **2 Make sure that the connection between the E-83 and the workstation is working by downloading a Test Page from the workstation or printing a simple file, such as a text file.** **3 Resend the problem file.**

Symptom	Possible cause	Suggested action
Printing (continued)		
Configuration page is completely or mostly blank.	One of the following: • Missing, unmatched, incorrect, or faulty DIMMs • Corrupt system software	**1 Check for missing DIMMs and reseat the DIMMs to remove any oxidation on the connectors (see page 75).** **2 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard. **3 If the problem persists, restore the backup, or reinstall the system software.**
A print job stalls or stops after one or a few pages.	PostScript or application error	**1 Cancel the E-83 print job.** **2 If this fails to clear the problem, reboot the E-83.** **3 If the problem persists, right-click Fiery Bar, and in the shortcut menu click Clear Server.**
	Missing, incorrect, or faulty DIMMs or faulty DIMM connections	**1 Power off the E-83; check for missing DIMMs and reseat the DIMMs to remove any oxidation on the connectors (see page 75).** Make sure that an even number of DIMMs is installed. Odd-numbered configurations are not supported. **2 Verify the memory amount on the Configuration page.** **3 If the problem persists, test the DIMMs by removing all DIMMs except for the ones installed in A0 and E0 and reboot the system.** If the system boots to Idle, install a different DIMM in the available slot indicated in Table 3 on page 76 and reboot the system. Continue to install a different DIMM in the slot and reboot the system until the system fails to reach Idle. The last DIMM that you installed may be faulty and should be replaced. **NOTE:** If the system fails to reach Idle with each DIMM installed in the next available slot, the DIMM socket may be faulty and you may need to replace the motherboard. **4 If the problem persists after replacing the DIMMs, you may need to replace the motherboard (see page 59).**

Symptom	Possible cause	Suggested action
Printing (continued)		
Job fails during processing	Interference from old and/or corrupt file(s).	Run Cleanup on the E-83. **1 Make sure that the E-83 is not in use.** **2 Go to *EFI**server**spool*\\.** **3 Double-click the cleanup.bat file.** **4 Power off the E-83.** **5 Power on the E-83.**

Symptom	Possible cause	Suggested action
Printing (continued)		
Color quality is not consistent.	Problem with the printer	**Test the printer and service, if necessary (see the service documentation that accompanies the printer).**
	File or application problem	**1 Print the E-83 Test Page (see page 27).** **2 If the quality of the Test Page is good, there may be a file or an application problem.**
	Out of calibration or calibration information/curves on the active partition are corrupted. (Possible causes continue on the following page.)	**1 Start Command WorkStation and click the Calibrate icon in the toolbar. Click Restore Device in the Calibrator window, and then click OK.** Restore Device restores the currently selected E-83 calibration set to factory defaults. If restoring default calibration does not solve the problem, you may need to service the printer. **2 If restoring default calibration fixes the color quality, the custom calibration may have been the cause of the problem. Request that the site administrator recalibrate the E-83. For more information, see *Color Printing*, which is part of the user documentation set.** **3 If the problem persists after recalibration, the calibration information on the hard disk drive may be corrupt. Reinstall the system software.** **4 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the 1TB hard disk drive in the middle slot may be faulty. – Port-03, the 1TB hard disk drive in the bottom slot may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive.

Symptom	Possible cause	Suggested action
Printing (continued)		
Color quality is not consistent. (Continued from previous page.)	Loose or faulty cable connections, or problem with the printer interface board	**1 Recheck the printer interface cables and connections at the back of E-83 and the printer (see page 19).** **2 Reboot the E-83.** **3 Run the Test I/F Board diagnostic (see page 32).** – If the test passes, continue with the suggested actions below. **4 Restore the backup, or reinstall system software.** **5 Replace the printer interface cables one by one.** **6 Replace the printer interface board assembly.** **7 Replace the motherboard.**
Print quality is poor.	Missing or outdated printer description file	**Make sure that the appropriate printer description file is installed.** For information about printer files, see *Printing*, which is part of the documentation set.
	Application cannot find the appropriate printer description file	
	Problem with the printer (Possible causes continue on the following page.)	**Test the printer and service, if necessary (see the service documentation that accompanies the printer).**

Symptom	Possible cause	Suggested action
Printing (continued)		
Print quality is poor. (Continued from previous page.)	Out of calibration or calibration information/curves on the active partition are corrupted	**1 Start Command WorkStation, click the Calibrate icon in the toolbar. Click Restore Device in the Calibrator window, and then click OK.** Restore Device restores the currently selected E-83 calibration set to factory defaults. If restoring default calibration does not solve the problem, you may need to service the printer. **2 If restoring default calibration fixes the color quality, the custom calibration may have been the cause of the problem. Request that the site administrator recalibrate the E-83. For more information, see *Color Printing*, which is part of the user documentation set.** **3 If the problem persists after recalibration, the calibration information on the hard disk drive may be corrupt. Reinstall the system software.** **4 If the problem persists, check for a faulty hard disk drive.** Reboot the system. At the Serial ATA AHCI BIOS screen on the monitor, wait for the Port-XX displays to appear and press the Pause/Break key. If a hard disk drive description appears next to the Port-01, Port-02, and Port-03 entries, all three hard disk drives are good. If "No device detected" appears next to: – Port-01, the 500GB hard disk drive in the top slot of the chassis may be faulty. – Port-02, the middle 1TB hard disk drive may be faulty. – Port-03, the bottom 1TB hard disk drive may be faulty. Replace the SATA data cable to the suspected faulty drive. If the problem persists, replace the faulty drive.
	Loose or faulty cable connections, or problem with the printer interface board	**1 Recheck the printer interface cables and connections at the back of the E-83 and the printer (see page 19).** **2 Reboot the E-83.** **3 Restore the backup, or reinstall system software.** **4 Replace the printer interface cables one by one.** **5 Replace the printer interface board assembly.** **6 Replace the motherboard.**

Symptom	Possible cause	Suggested action
Printing (continued)		
Pages come out blank or tinted with a color.	Loose cable connection between the E-83 and the printer	**1 Recheck the printer interface cables and connections at the back of E-83 and the printer (see page 19).** **2 Reboot the E-83.**
	Problem with the printer	**Test the printer and service, if necessary (see the service documentation that accompanies the printer).**
	Loose or faulty cable connections, or problem with the printer interface board	**1 Recheck the printer interface cables and connections at the back of E-83 and the printer (see page 19).** **2 Reboot the E-83.** **3 Restore the backup, or reinstall system software.** **4 Replace the printer interface cables one by one.** **5 Replace the printer interface assembly.** **6 Replace the motherboard.**

If the user can print the E-83 Test Page but cannot print a job from a computer on the network, request that the site administrator do the following:

- Check all components of the network, including cables, connectors, terminators, network adapter boards, and network drivers.
- Activate the network and use it to communicate with other printers.
- Check the corrective actions listed in the 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.

SPECIFICATIONS

This chapter provides an overview of E-83 features.

Hardware features

- (2) quad-core Intel Xeon 3.5GHz CPU (up to 3.8GHz with Turbo)
- (8) 2GB DIMMs
- RJ-45 connector for 10Mbps, 100Mbps, or 1000Mbps connectivity over twisted pair cable
- (2) 1TB hard disk drive, (1) 500GB hard disk drive
- DVD-RW drive
- EFI ES-2000 Spectrophotometer
- Keyboard, monitor, and mouse

Physical specifications

- Operating Environment:
  Temperature: +5°C to +40°C
  Relative Humidity: 10%-85% (non-condensing)
- Power Supply Rating: 100-240V, 50-60Hz, 5A
- Rated Power Consumption: 360W
- Dimensions (Depth x Width x Height):
  58.8 cm (23.17 in.) x 21.2 cm (8.36 in.) x 57.6 cm (22.7 in.)
- Weight: 30.35 kg (66.90 lb)

Networking and connectivity

- Supports AppleTalk and TCP/IP protocols simultaneously
- Supports EtherTalk Phase 2
- RJ-45 Ethernet connector that supports 10BaseT/100BaseTX/1000BaseT twisted pair network connectivity

Safety and emissions compliance

The E-83 is certified to meet the Restriction of Hazardous Substances Directive (RoHS). In addition, it meets or surpasses the following government standards:

Safety approvals

- CB-scheme IEC 60950-1:2005(2nd Edition); Am1:2009
- UL 60950-1:2007 R12.11 (TUV NRTL)
- CAN/CSA-22.2 #60950-1-07+A1:2011 (TUV NRTL)
- GS mark by TUV, EN60950-1:2006+A11+A1+A12

EMI/EMC approvals

- FCC Part 15 Verification (NA) Class A
- ICES-003 (NA) Class A
- EN55022:2010/AC:2011(EU) Class A
- C-TICK mark (Australia and New Zealand) Class A
- EN55024:2010 (EU)
- EN61000-3-2: 2006 Plus A1:2009&A2:2009 (EU) Class A
- EN61000-3-3: 2008 (EU)
- EN62311:2008 (EU)

SERVICING THE SYSTEM WITH FURNITURE

This chapter describes how to remove the E-83 from the furniture in order to access internal components for service.

Procedures

If the E-83 is installed in the optional furniture, you need to remove it from the furniture before performing most service procedures.

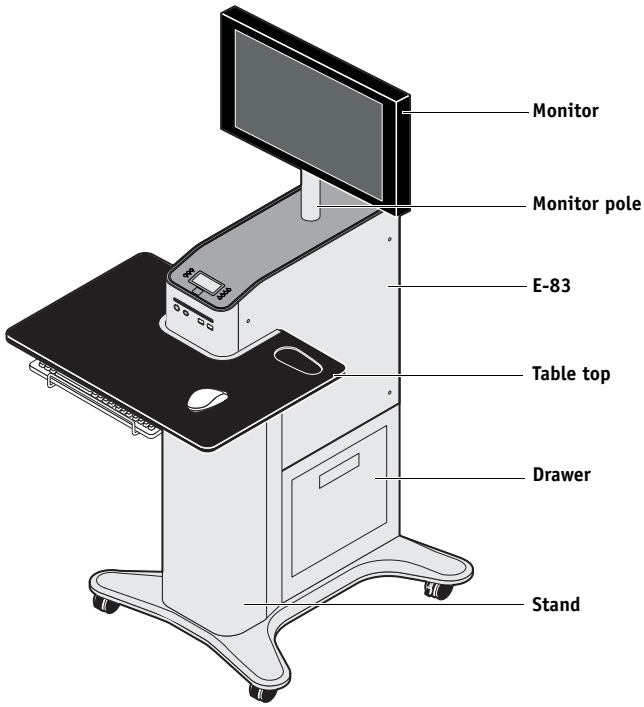


FIGURE 1: E-83 installed on the furniture

REMOVING THE E-83 FROM THE FURNITURE

WARNING

To avoid injury, do not lift the E-83 without assistance.

The E-83 weighs approximately 30kg. At least two persons are required to move the device.

Never lift the E-83 by grasping the top panel. The top panel does not support the weight of the E-83.

1 **Make sure the E-83 is powered off and all the cables are removed from the back of the E-83.**

2 **Remove the cable cover and disconnect the two monitor cables (power and video):**

Power—from the back of the monitor and from the wall outlet

Video—from the back of the monitor and from the back of the E-83

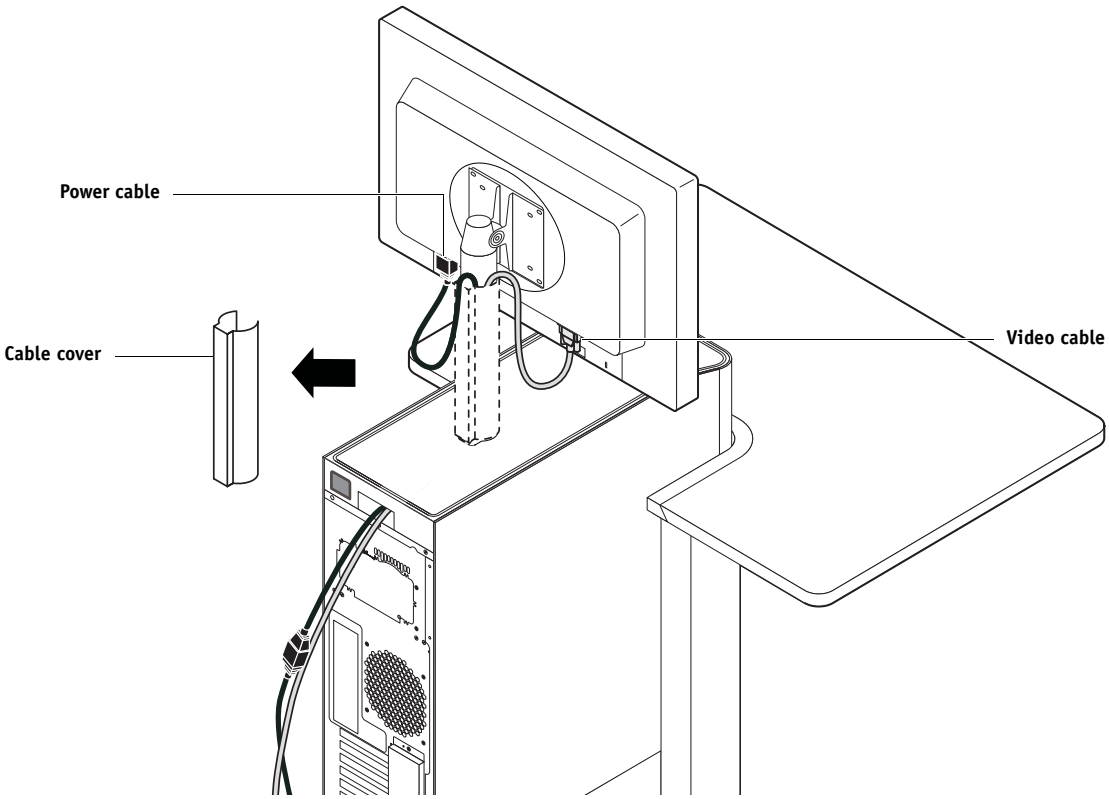


FIGURE 2: Removing the cable cover and monitor cables

3 **Remove the thumbscrews that attach the E-83 stability bracket to the stand.**

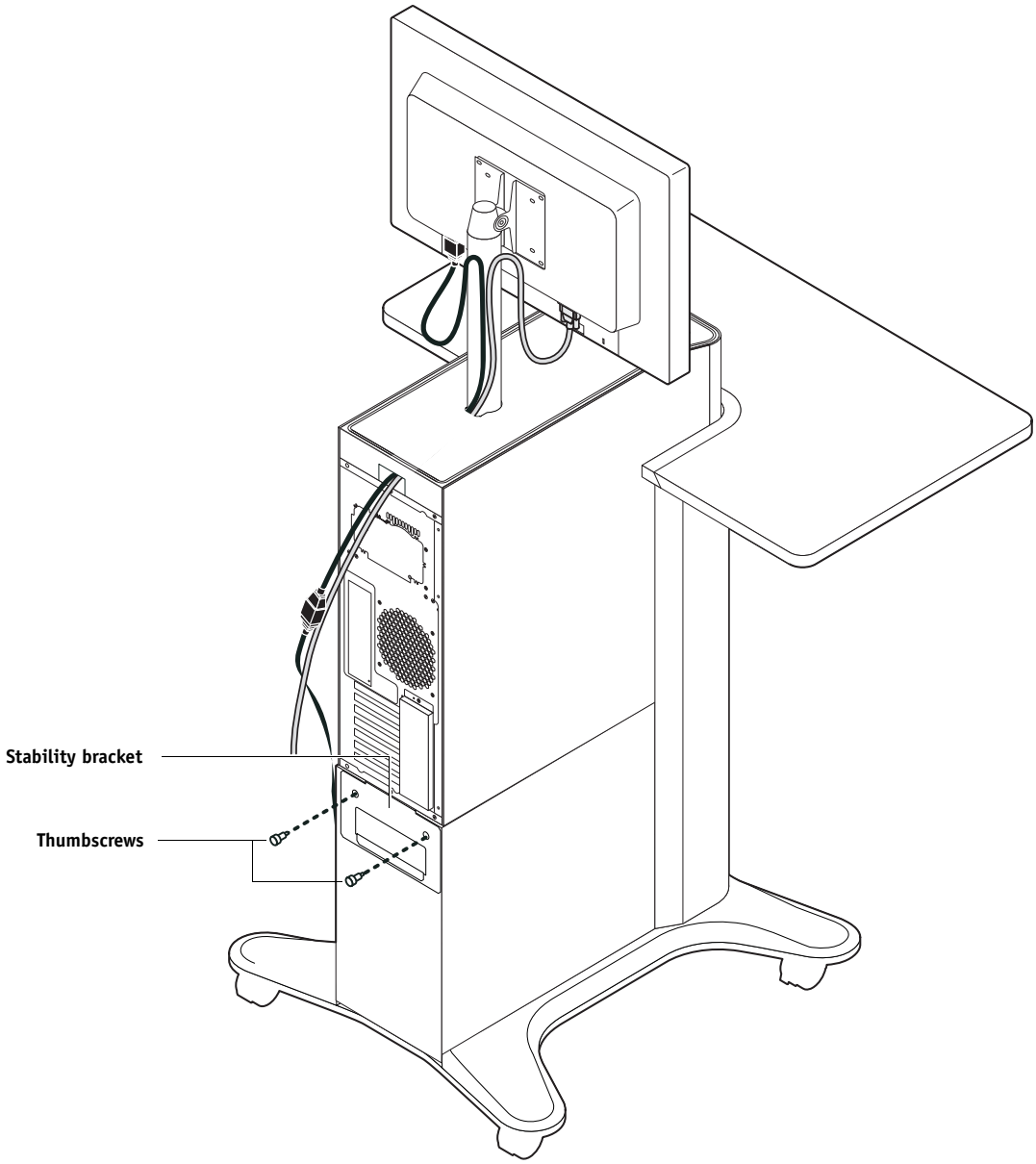


FIGURE 3: Loosening the stability bracket

4 **Lift the bracket and gently pull the Fiery away from the table top.**

Make sure to pull the E-83 out just enough so that the front panel of the E-83 is aligned with the back edge of the table top.

5 **Remove the E-83 left panel (three screws) so that you can access the monitor pole tightening mechanism.**

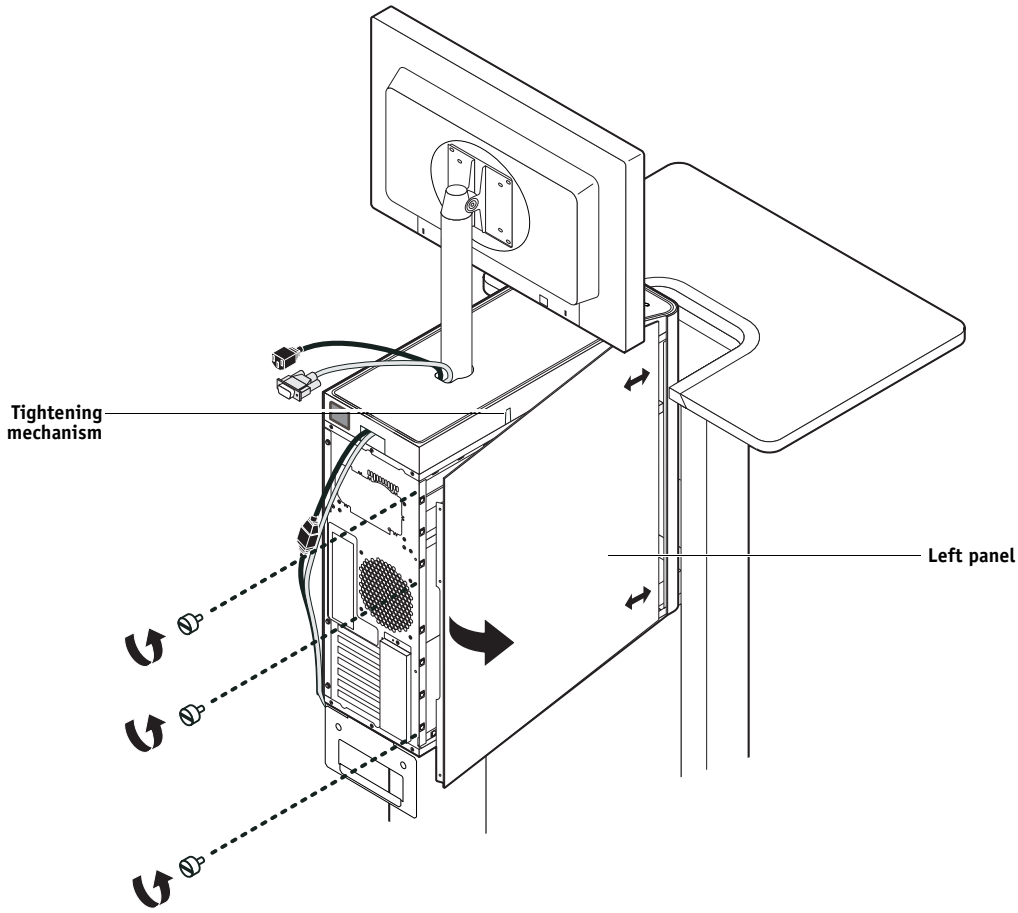


FIGURE 4: Removing the left panel

6 Use the 5mm Allen key to loosen the screw that secures the monitor pole to the E-83.

The 5mm Allen key should be stored in the side drawer of the furniture.

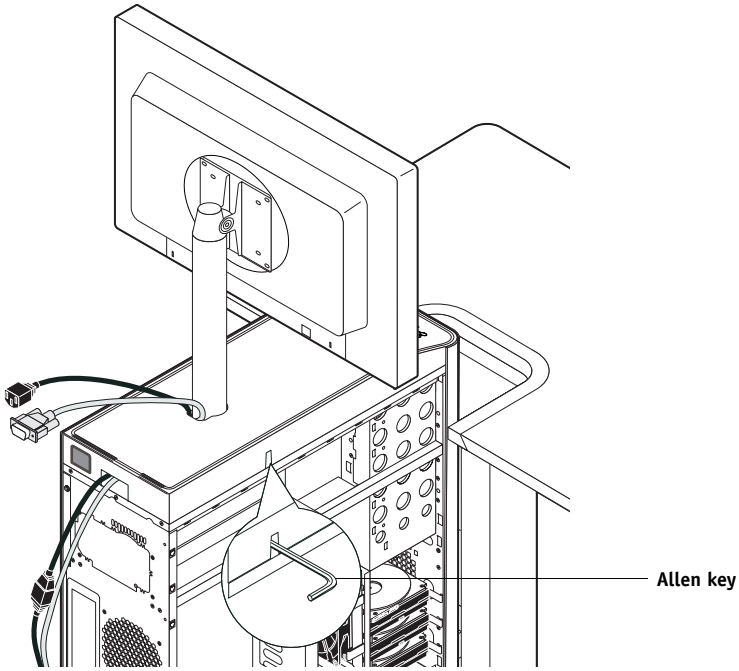


FIGURE 5: Loosening the monitor pole

7 **Holding the monitor pole, gently lift the monitor pole assembly up and out of the E-83 monitor mount.**

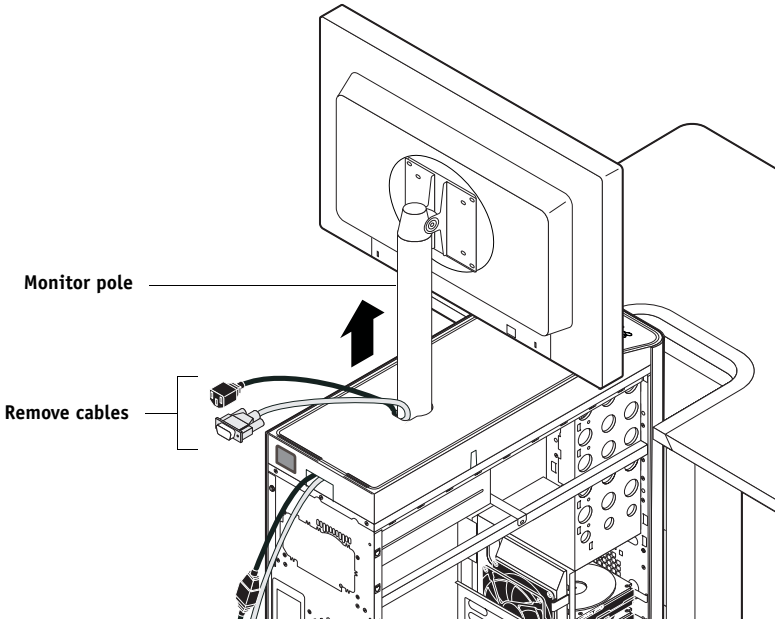


FIGURE 6: Removing the monitor pole assembly

8 **Remove the monitor cables from the E-83 and continue with the instructions in "To open the E-83" on page 47.**

REPLACING THE E-83 IN THE FURNITURE

1 **Make sure that the left side panel is removed from the E-83.**

2 **Place the E-83 upright on the furniture stand. Slide the E-83 forward just until its front panel is aligned with the back edge of the table top.**

Use the handle on the stability bracket to lift the rear of the E-83 and slide it forward.

3 **Feed the monitor cables (power and video) into the access cutout in the back of the E-83. Pull each cable out of the top of the E-83.**

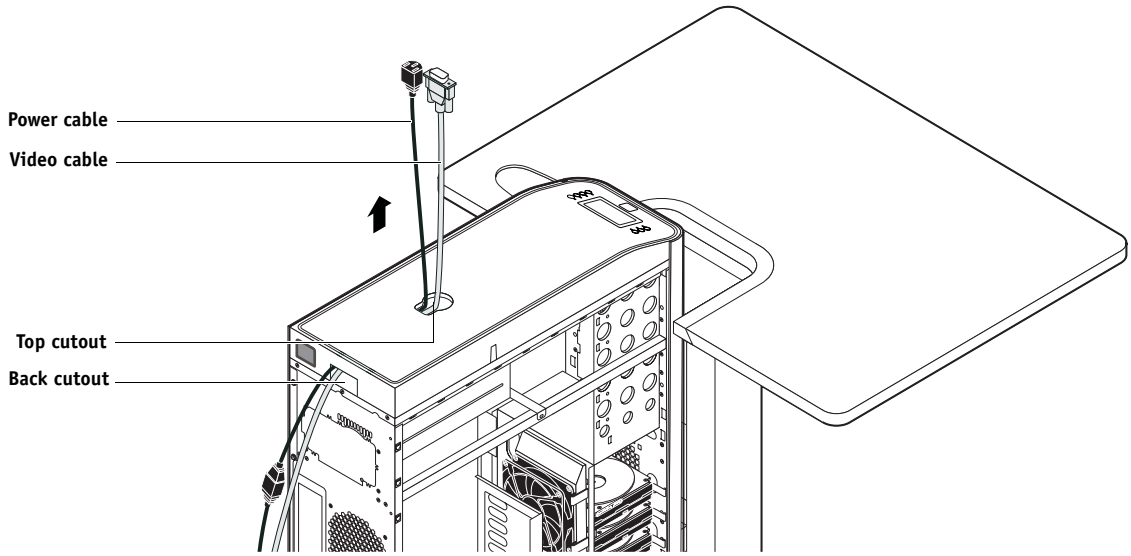


FIGURE 7: Routing the cables through the access cutout

4 **Lift up the pole assembly and insert the pole into the top of the E-83 so that it is inside the monitor mount. Tighten the assembly into place using the 5mm Allen key.**

Store the 5mm Allen key in the side drawer of the furniture.

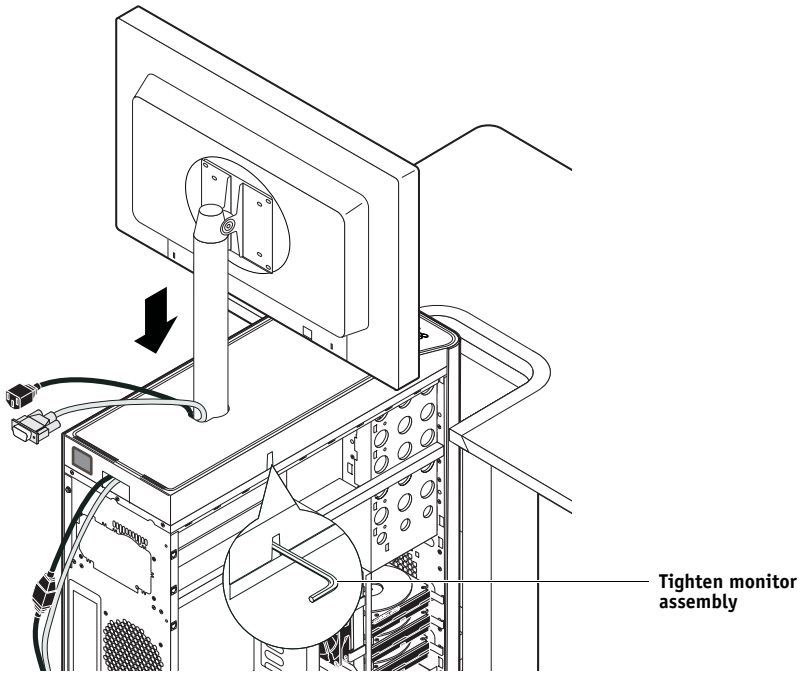


FIGURE 8: Tightening the monitor pole assembly

5 **Reinstall the left panel on the E-83 with the screws you removed earlier.**

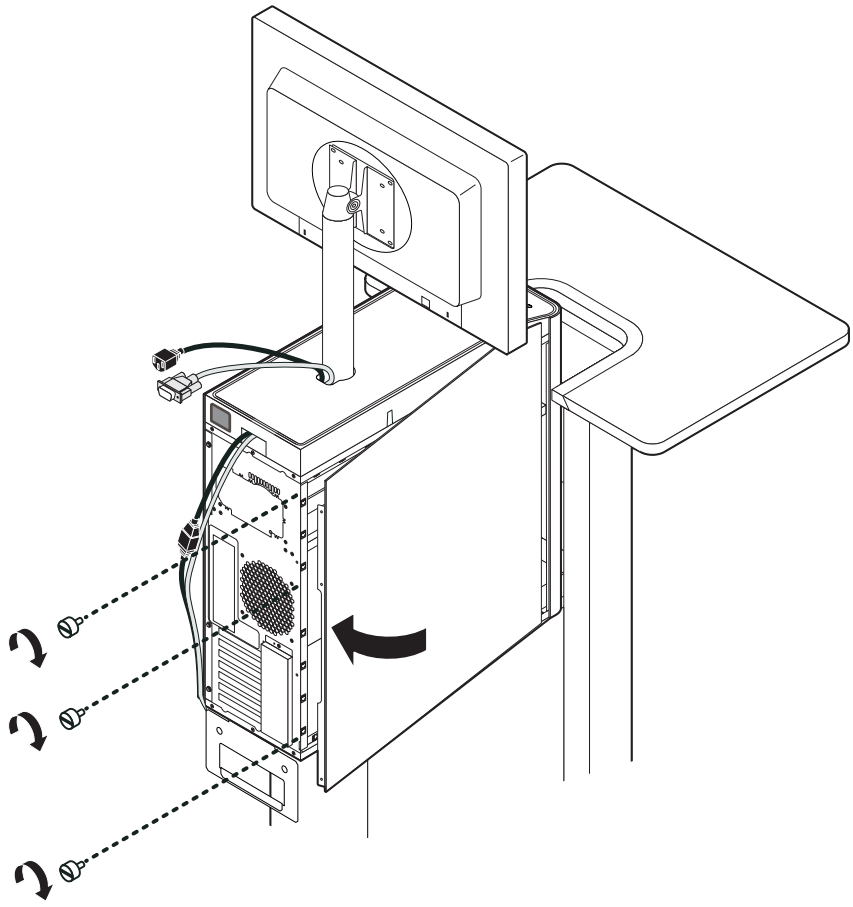


FIGURE 9: Installing the left panel

6 **Use the handle on the stability bracket to lift the rear of the E-83. Slide the E-83 all the way forward into the stand. Lock the E-83 into place with the two thumbscrews you removed earlier.**

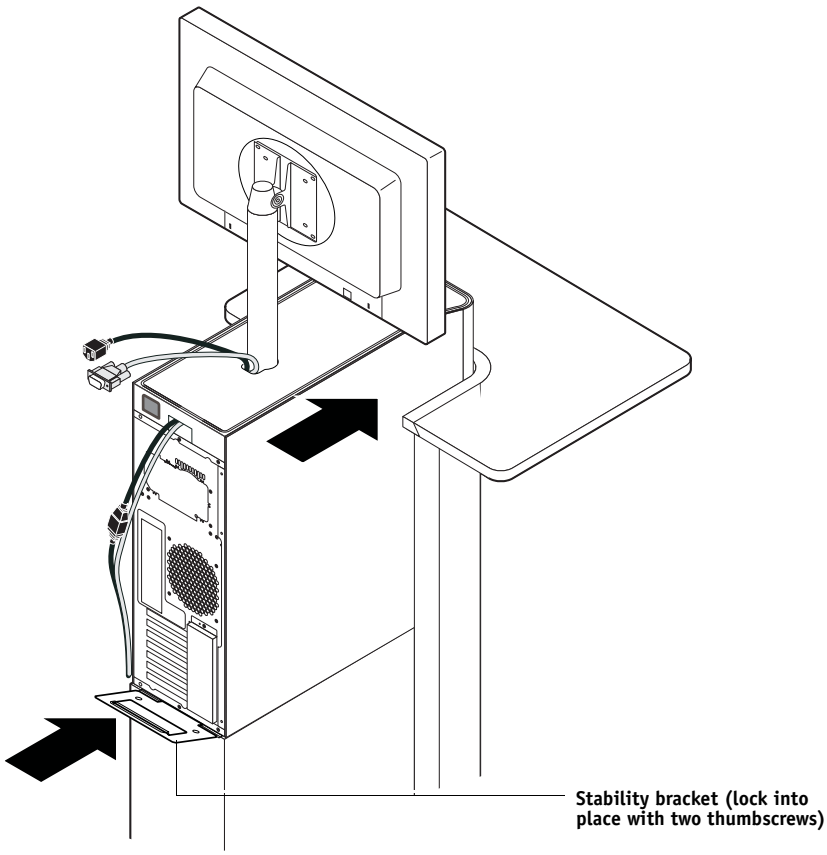


FIGURE 10: Locking the stability bracket

7 **Connect the two monitor cables (power and video):**

Power—to the back of the monitor and to the wall outlet

Video—to the back of the monitor and to the back of the E-83

8 **Replace the cable cover over the cables and monitor pole.**

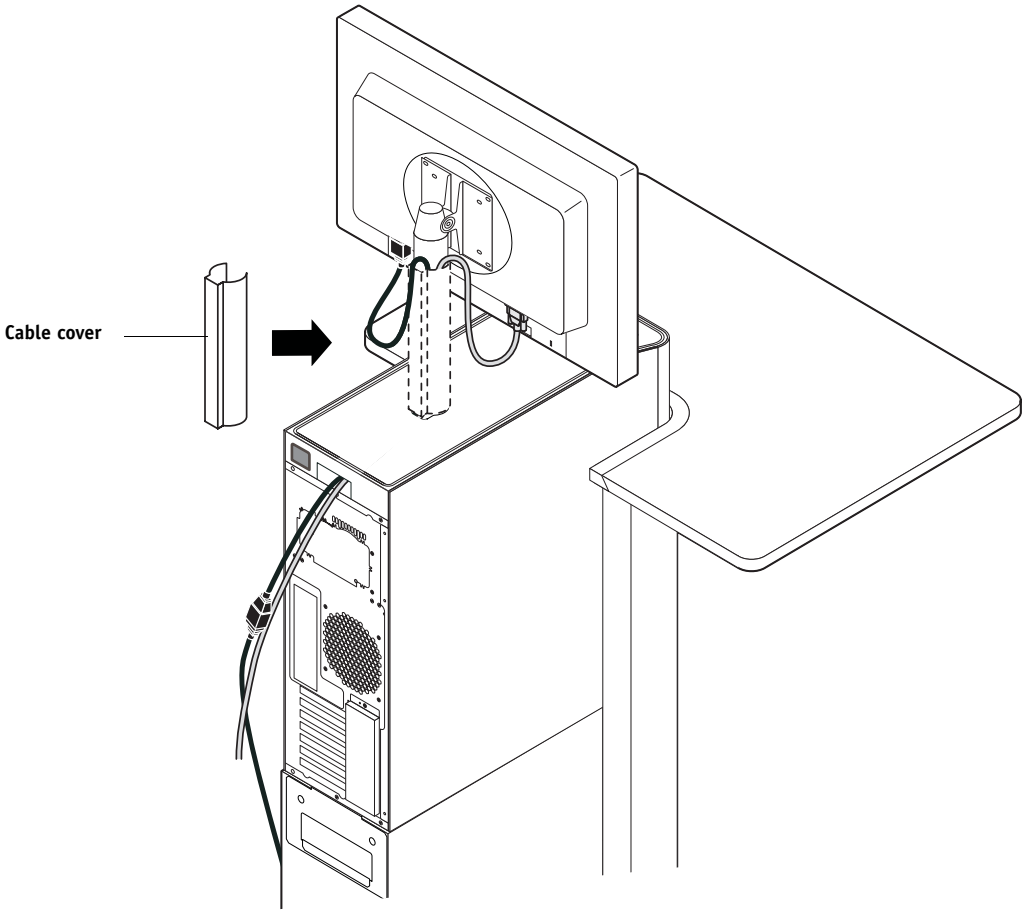


FIGURE 11: Installing the cable cover

9 **Replace the Allen key in the furniture drawer and continue with the instructions for reassembling the E-83 on page 99.**

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