

**CN3I02e PS Color Server**

SERVICE GUIDE





# **FIERY X3E SERVICE GUIDE**

**for CF3102/31C-M color copiers**

**A guide for service technicians**



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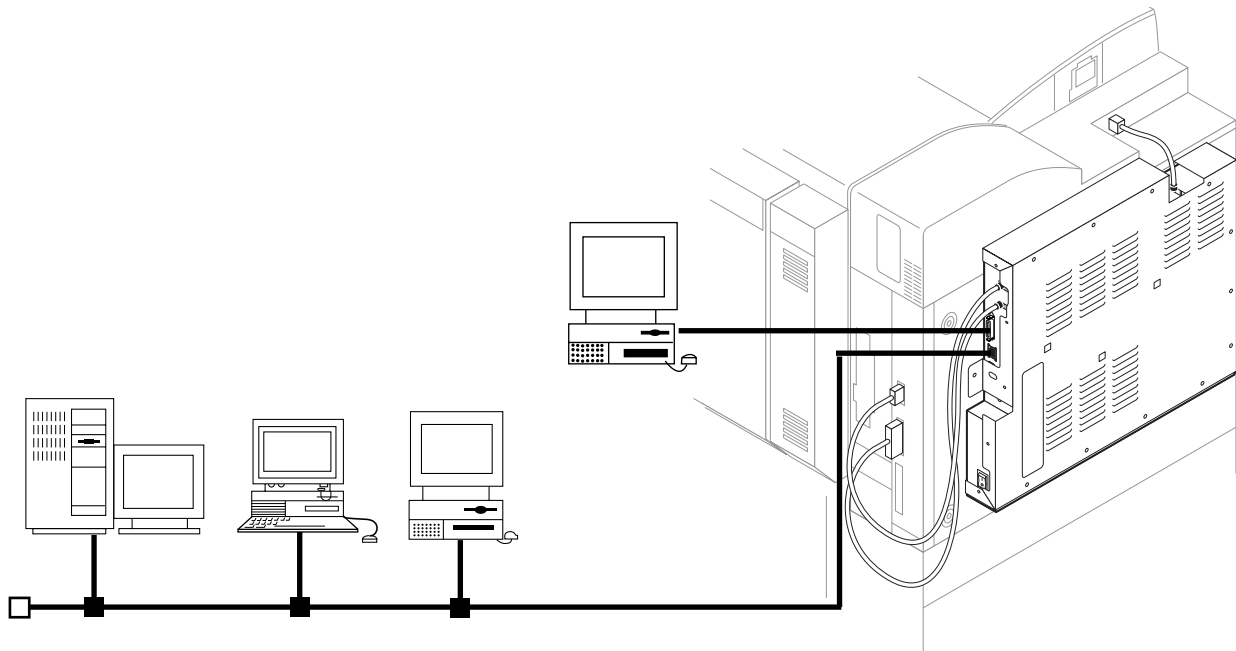


## Overview

### Overview

The Fiery X3e Color Server embeds computer connectivity and highly efficient PostScript and PCL printing capacity into CF3102/31C-M print engines. Generally, the Fiery X3e does not require regular maintenance. The Fiery X3e is shipped with all necessary software already installed.

Use the procedures in this book to inspect, remove, reseal, or replace major hardware components and to reinstall system software. Replacement parts for the Fiery X3e are available from your authorized service support center. You need to reinstall system software if you replace the hard disk drive or receive a more recent version of the system software. You may also reinstall system software as a way to troubleshoot the system.



**FIGURE A** Printing system

### Scope of this guide

This service guide describes how to remove or replace major hardware Fiery X3e components and also how to reinstall system software. It does not describe in detail how to install the Fiery X3e into the print engine and does not include information on the Fiery X3e's dedicated power supply, the power cabling, or the print engine interface cables inside the Fiery X3e pan. For information, see the documentation from the print engine manufacturer.

## Precautions

## Precautions

Always observe the following general precautions when servicing the Fiery X3e assembly:

**1. Report any shipping damage.**

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

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

The Fiery X3e is probably connected to an existing Local Area Network (LAN) based on Ethernet hardware. The network is the link between the customer's computer, existing laser printers, and other prepress equipment. Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and express permission of the network administrator.

**3. Never assign an IP address in Network Setup.**

Only the network administrator should assign an IP address on a network device. Entering an incorrect IP address to the Fiery X3e can cause unpredictable errors on any or all devices.

**4. Follow standard ESD (electrostatic discharge) precautions while working on the internal components of the print engine.**

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

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

- Attach a grounding strap to your wrist. Attach the other end to a good ground.
- When you remove an electronic component, place it into an antistatic bag immediately. Do not walk across a carpet or vinyl floor while carrying an unprotected board.
- Leave new electronic components inside their antistatic bags until you are ready to install them.
- When you unpack the electronic components, touch a metal area of the print engine to discharge the static on your body. Place the components on a grounded antistatic surface, component-side up.

**5. Avoid flexing a printed circuit board, and handle it by opposing edges (not corners) only.**

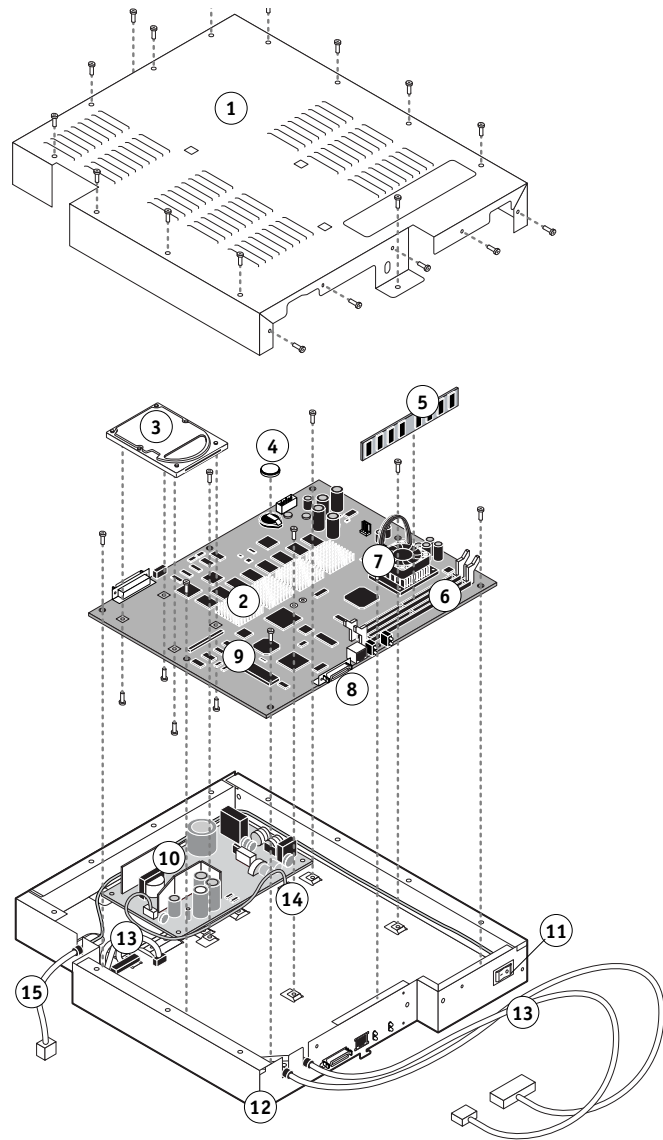
**6. Never set a cup of coffee—or any liquid—on or near any components or the print device.**

## Accessing the Fiery X3e

### Key

1. Pan cover
2. Fiery X3e motherboard
3. HDD
4. Battery
5. DIMM
6. DIMM sockets
7. CPU cooling assembly
8. External connectors and LEDs
9. BIOS chip
10. Fiery X3e power supply
11. Fiery X3e power switch
12. Pan and faceplate
13. Cables to print engine
14. Fiery X3e power supply cable
15. Power cable

**NOTE:** Exhaust fan with bracket (not shown)



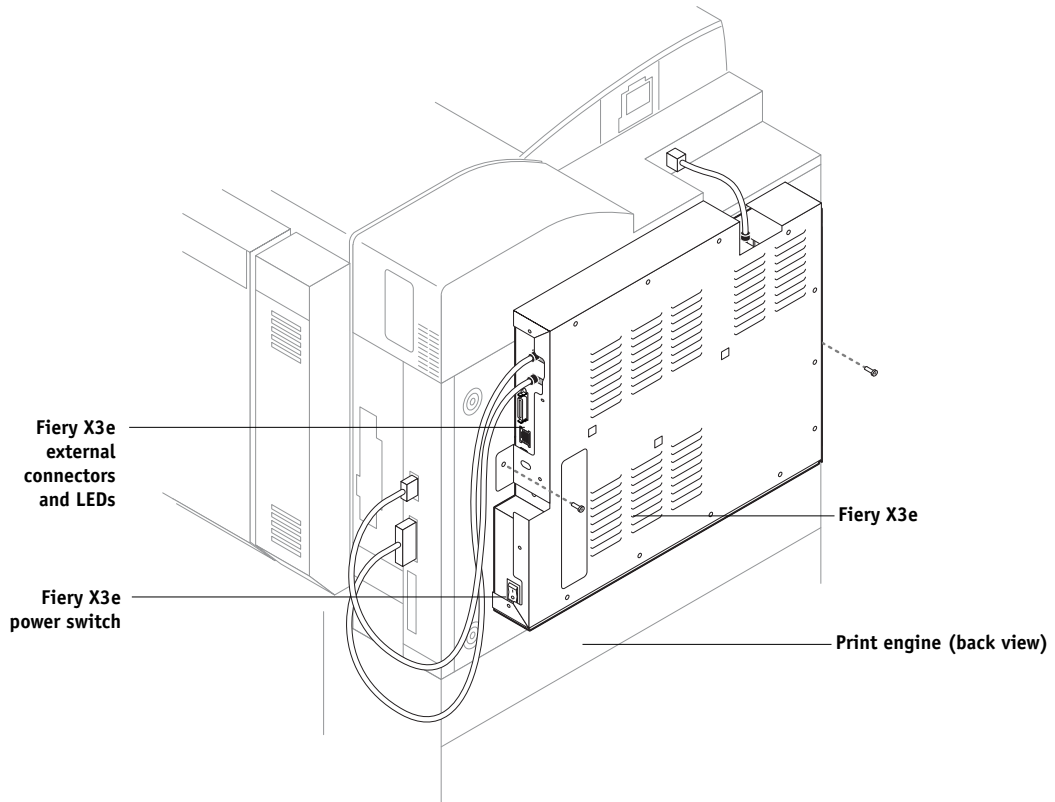
**FIGURE B** Fiery X3e exploded view

## Accessing the Fiery X3e

To service the Fiery X3e, you need to:

- Shut down and power off the Fiery X3e
- Power off and unplug the print engine
- Remove the Fiery X3e assembly from the print engine (see Fiery X3e installation instructions, not provided in this service guide.)

## Accessing the Fiery X3e



**FIGURE C** Fiery X3e installed in the print engine

In the Fiery X3e Functions menu, under Shut Down, there are three choices:

- Restart Server—Resets the Fiery X3e server software without resetting the underlying operating system
- Shut Down System—Shuts down the Fiery X3e properly so that you can safely power off the Fiery X3e
- Reboot System—Resets both the Fiery X3e and the underlying operating system, and then reboots the Fiery X3e

Choose Shut Down System when you are ready to inspect and/or service the Fiery X3e, according to the following procedure.

## Accessing the Fiery X3e

### TO SHUT DOWN THE FIERY X3E

1. Press the Utility button and then touch the Controller Detail key.

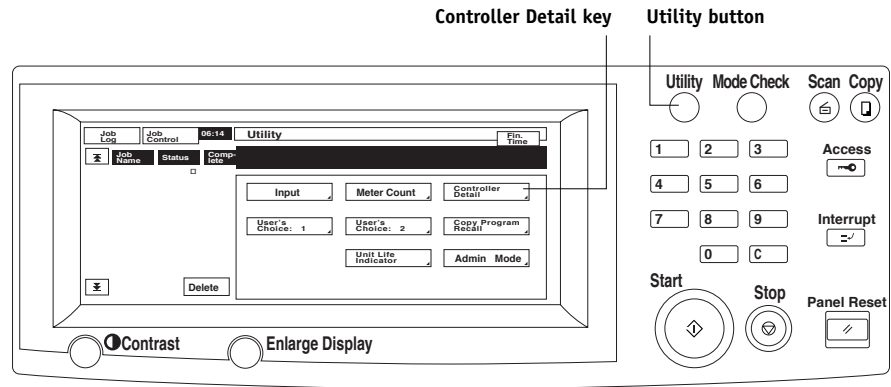


FIGURE D Control Panel and Utility screen

2. Make sure that the Fiery displays Idle.

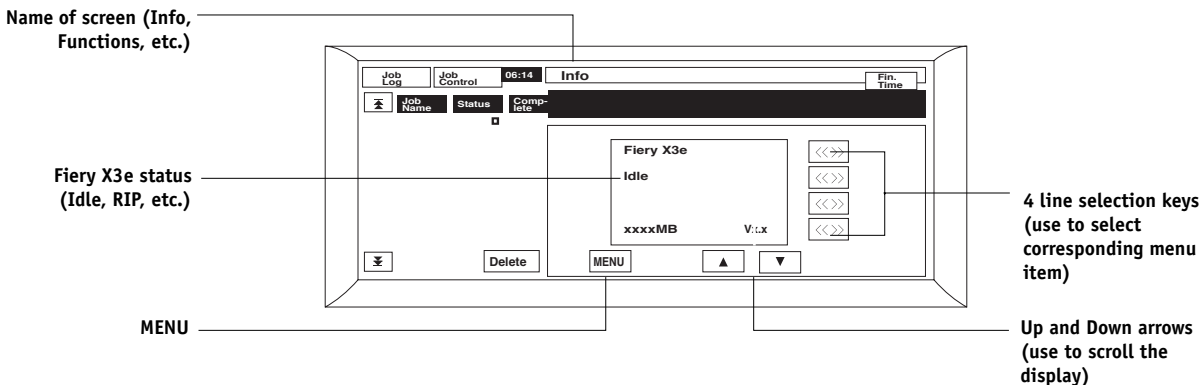


FIGURE E Fiery X3e LCD screen

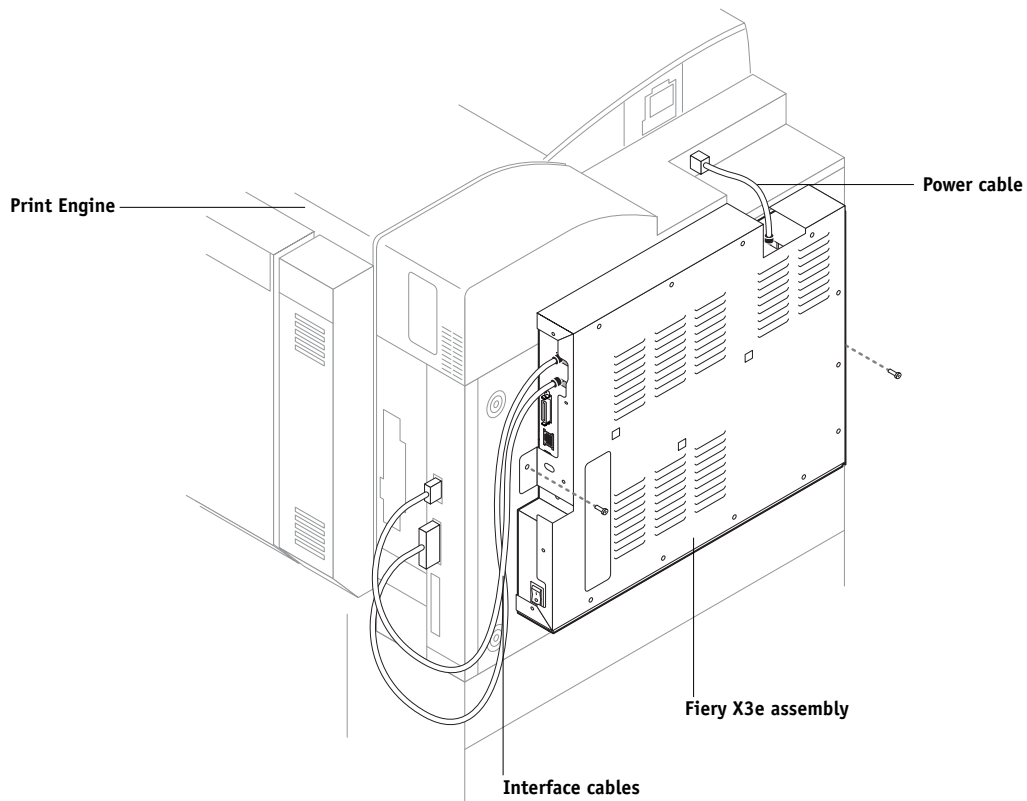
3. Touch MENU to access the Functions screen.
4. Select Shut Down from the Functions screen.
5. Select Shut Down System from the Shut Down screen.  
The message It is now safe to power off the system.... is displayed.
6. Power off the Fiery X3e using the Fiery X3e power switch on the Fiery X3e faceplate.  
**NOTE:** If you are recycling power, wait at least five seconds before powering back on.
7. Power off the print engine using its main power switch and then unplug the print engine.

### TO OPEN THE FIERY X3E



**CAUTION:** Before you touch any parts inside the print engine, make sure to wear an ESD grounding wrist strap and follow all ESD safety precautions.

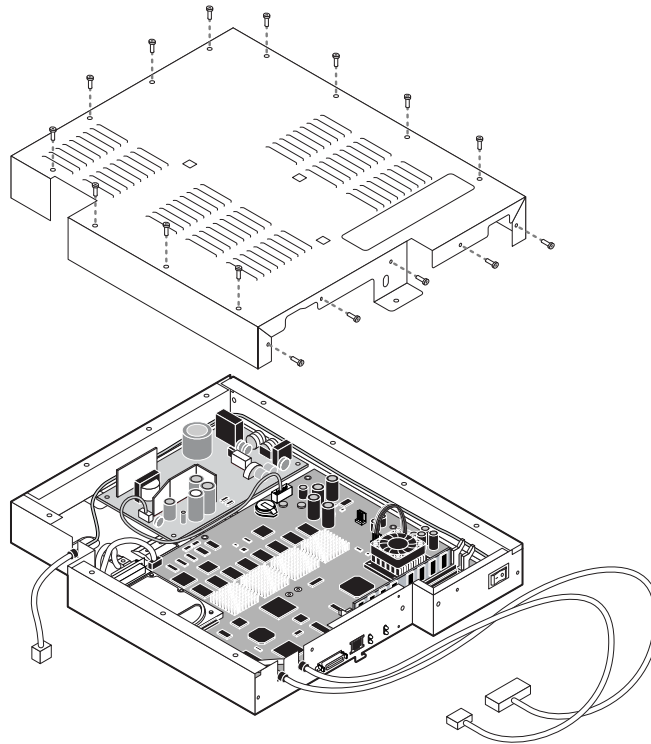
1. Shut down the Fiery X3e as described on page 5.
2. Disconnect the external cables from the faceplate of the Fiery X3e.
3. Disconnect the two print engine interface cables and the power cable from the print engine connectors.
4. Remove the two screws that attach the Fiery X3e pan cover to the print engine.
5. Unhook and remove the Fiery X3e assembly from the print engine.



For detailed information on removing/installing the Fiery X3e, see the print engine manufacturer's installation instructions (not included in this service guide).

6. With the Fiery X3e on a flat surface, remove the screws that secure the pan cover to the pan and then lift the pan cover from the pan (see the following figure). Set the pan cover and screws aside.

## Checking connections



**FIGURE F** Fiery X3e screw holes for pan cover

The Fiery X3e is now ready for inspection and service.

## Checking connections

The most common causes of hardware problems are faulty or loose connections. Before you decide to replace any parts of the Fiery X3e, make sure to verify all cables and connections. If you have concluded that all external connections are good, then check the internal connections:

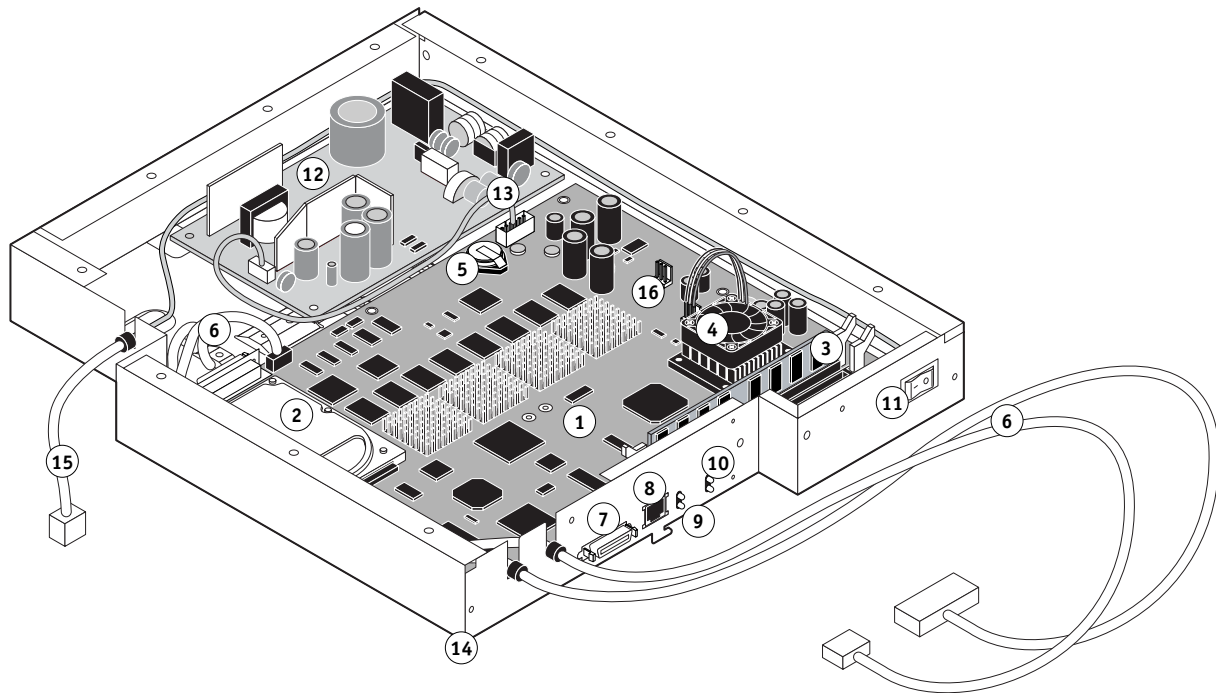
- Two print engine interface cables—connections between the Fiery X3e and the print engine
- HDD—connection to the Fiery X3e motherboard
- CPU fan—connection to the Fiery X3e motherboard
- DIMMs—connection to the DIMM sockets on Fiery X3e motherboard
- Power cabling—connections between the Fiery X3e power switch, the Fiery X3e power supply, and the print engine
- Exhaust fan with bracket—connection to Fiery X3e motherboard
- Fiery X3e power supply—connection to the Fiery X3e motherboard

## Checking connections

### Key

1. Fiery X3e motherboard
2. HDD
3. DIMM and DIMM sockets
4. CPU cooling assembly
5. Battery
6. Interface cables to print engine
7. Parallel port connector
8. RJ-45 network connector
9. Network LEDs
10. Power/HDD LEDs
11. Fiery X3e power switch
12. Fiery X3e power supply
13. Power supply cable
14. Pan and faceplate
15. Power cable
16. Connector for exhaust fan

**NOTE:** Exhaust fan with bracket not shown; pan cover not shown.



**FIGURE G** Components on the Fiery X3e



## Checking connections

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### TO CHECK INTERNAL CONNECTIONS



**CAUTION:** Before you touch any parts inside the print engine, make sure to wear an ESD grounding wrist strap and follow all ESD safety precautions.

1. **Make sure that all Fiery X3e cables, devices, and DIMMs are present, intact, properly aligned, and well seated in their connectors.**
2. **Specifically check the following:**
  - Socketed DIMMs at J48 (standard) and J49 (upgrade option). See page 12.
  - HDD connection to the Fiery X3e motherboard at the IDE connector for the HDD.
  - Exhaust fan cable connection to Fiery X3e motherboard J911.
  - CPU fan cable connection to the Fiery X3e motherboard at J903.
  - Connections between the print engine interface cables and the Fiery X3e motherboard at J859 and J872.
  - Fiery X3e power supply cable connection to Fiery X3e motherboard at J858.
  - Battery in Fiery X3e motherboard socket BT200.
  - Power cable connections to the power supply in the print engine, Fiery X3e power supply, and the Fiery X3e power switch. The print engine power supply supplies power to the Fiery X3e power supply. See the print engine manufacturer's documentation for information.
3. **After verifying connections, if one or more Fiery X3e components are still not getting power, then check the print engine:**
  - Interface to the Fiery X3e
  - Power supply and/or power cablingSee the print engine manufacturer's documentation for information.

## Removing and replacing the Fiery X3e motherboard

When the Fiery X3e motherboard needs to be removed and replaced, use the following procedures.

---

### TO REMOVE THE FIERY X3E MOTHERBOARD



**CAUTION:** Make sure you use an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions while performing this procedure.

1. **Shut down and open the Fiery X3e as described on page 5 and page 6.**
2. **Disconnect the two print engine interface cables from motherboard connectors J859 and J872.**
3. **Disconnect the Fiery X3e power supply cable from motherboard connector J858.**
4. **Remove the screws (seven, maximum) that secure the Fiery X3e motherboard to the pan. (See Figure B on page 3 for locations of screws.)**

If necessary to access a screw location in the center of the motherboard, remove the exhaust fan as described on page 14.

5. **Slide the motherboard away from the faceplate cutouts.**
6. **Lift the motherboard out of the pan and set it on a flat anti-static surface.**  
As you remove it, be careful to avoid stressing the motherboard or the surrounding cables in the pan.
7. **If you are replacing the motherboard with a new motherboard, then remove the following components from the old motherboard:**
  - DIMMs (see page 12)
  - Exhaust fan (see page 14)
  - HDD (see page 16)

---

### TO REPLACE THE MOTHERBOARD IN THE PAN

1. **If you are replacing an old motherboard with a new motherboard, then install the components that you removed or disconnected from the old motherboard:**
  - HDD (see page 16)
  - Exhaust fan (see page 14)
  - DIMMs (see page 12)
2. **Align the motherboard with the screw holes in the bottom of the pan, sliding the edge connectors into the faceplate cutouts.**

As you install it, be careful to avoid stressing the motherboard or the surrounding cables in the pan.

## Removing and replacing Fiery X3e components

3. **Install the screws (seven, maximum) that secure the Fiery X3e motherboard to the pan. (See Figure B on page 3 for locations of screws.)**

If you removed the exhaust fan previously in order to access a screw location in the center of the motherboard, then make sure to reinstall it as described on page 14.

4. **Connect the Fiery X3e power supply cable to motherboard connector J858.**
5. **Connect the two print engine interface cables to motherboard connectors J859 and J872.**
6. **Reassemble the unit and verify functionality (see page 18).**

## Removing and replacing Fiery X3e components

Before you decide to replace costly components, make sure to verify the connections between the print engine and the Fiery X3e. Also, verify the connections of each replaceable Fiery X3e component. For more information on troubleshooting, see page 32.

The following sections describe how to remove and install replaceable parts on the Fiery X3e:

- DIMMs
- Battery
- Exhaust fan
- CPU cooling assembly
- Hard Disk Drive (HDD)

For information on replacing other components, see the print engine manufacturer's documentation.



**CAUTION:** Make sure to use an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions while performing these procedures.

## Removing and replacing Fiery X3e components

### DIMMs

Each DIMM (dual in-line memory module) is held in place by levers at each end of its socket on the Fiery X3e.

The memory capacity for the Fiery X3e is 256MB. The standard configuration is one 128MB DIMM installed in socket J48. To upgrade, install another 128MB DIMM in socket J49.

Approved DIMMs are available from your authorized service support center.

---

#### TO REPLACE OR UPGRADE A DIMM

1. To release a DIMM, push outward on the lever on each side of the DIMM (see Figure H).

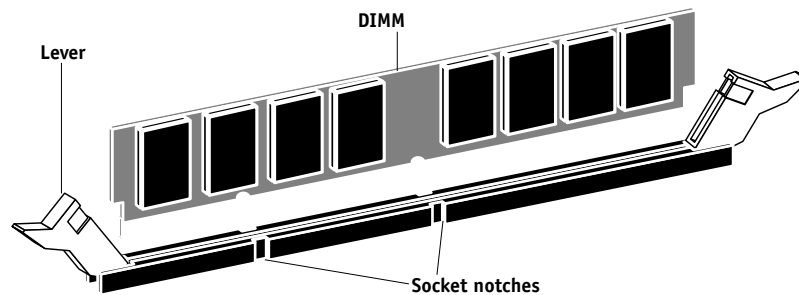


FIGURE H Releasing a DIMM

2. Slide the DIMM straight out of the socket to avoid damaging the DIMM or the socket, and set the DIMM aside.
3. To install a DIMM, insert it straight into the socket. Push the DIMM into the socket until the levers snap into place.

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

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

4. Reassemble the unit and verify functionality (see page 18).

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

## Removing and replacing Fiery X3e components

### Battery

The battery on the Fiery X3e board is located at BT200. To replace it, use a 3V manganese dioxide lithium coin cell battery (Panasonic CR2032 or equivalent).



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

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

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

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

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

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

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

---

#### TO REPLACE THE BATTERY

1. **Locate the battery on the Fiery X3e.**
2. **Carefully lift up the clip that holds the battery.**

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



**FIGURE I** Fiery X3e battery

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

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

5. **Reassemble the Fiery X3e and verify functionality.**

See “Restoring functionality after service” on page 18.

The date and time of day are lost when the old battery is removed.

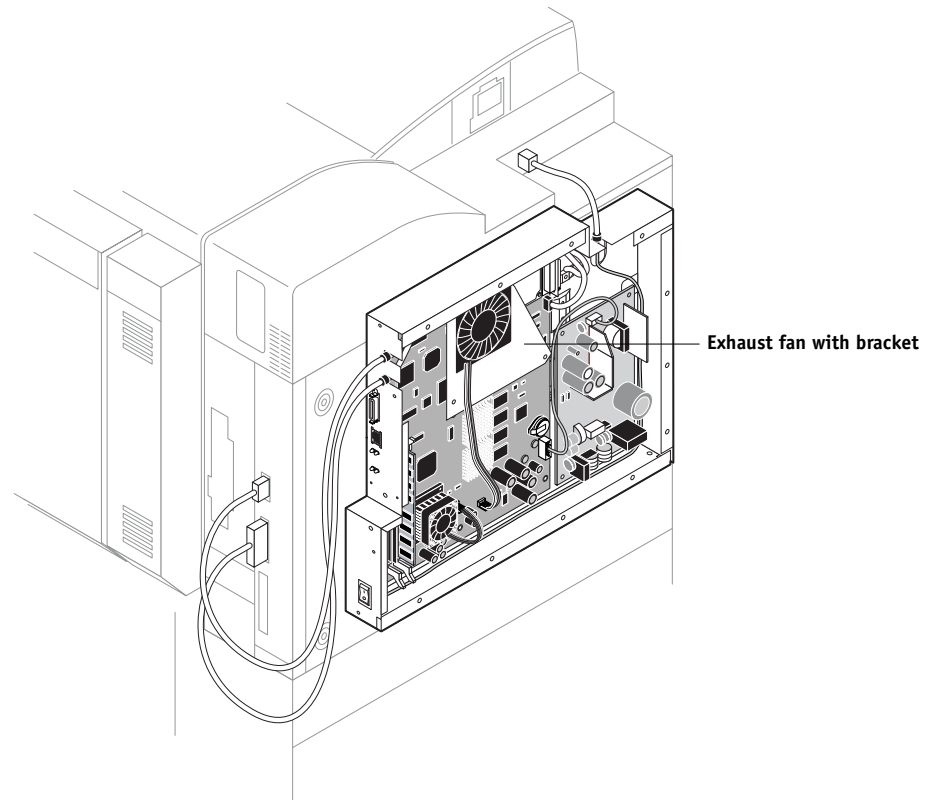
See the *Configuration Guide* for instructions on entering Server Setup to program the system date and time.

## Removing and replacing Fiery X3e components

### Exhaust fan

The exhaust fan cools the system by blowing air away from the Fiery X3e through the vent on the pan cover.

**NOTE:** If the exhaust fan is not present or is not functioning, the Fiery X3e does not print.



**FIGURE J** Exhaust fan with bracket

---

#### TO REPLACE THE EXHAUST FAN

1. Shut down and open the Fiery X3e as described on page 5 and page 6.
2. Disconnect the fan cable from the motherboard connector labeled CHASSIS FAN (J911).
3. Remove the three screws that secure the fan bracket to the motherboard and remove the exhaust fan, keeping it attached to the bracket. Set the screws aside.
4. Install the new bracket and fan assembly using the screws just removed.
5. Connect the fan cable to the motherboard connector labeled CHASSIS FAN (J911).
6. Reassemble the unit and verify functionality as described on page 18.

## CPU cooling assembly

The CPU cooling assembly consists of a heatsink and fan for dissipating heat generated by the CPU. See Figure G on page 8 for the location.

---

### TO REPLACE THE CPU COOLING ASSEMBLY

1. Shut down and open the Fiery X3e as described on page 5 and page 6.
2. Remove the motherboard from the pan as described on page 10.
3. Disconnect the fan cable from the motherboard connector labeled CPU FAN (J903).
4. Pinch each of the four tension screws on the underside of the motherboard to detach the CPU cooling assembly from the motherboard.

When replacing the fan, make sure to install it in its original orientation.

5. Align the new CPU cooling assembly over the CPU and then push the four tension screws through the screw holes until they snap into place.
6. Connect the fan cable to the motherboard connector labeled CPU FAN (J903).  
The motherboard connector is keyed so that the cable fits only one way.
7. Install the motherboard into the pan as described in “Removing and replacing the Fiery X3e motherboard” on page 10.
8. Reassemble the unit and verify functionality as described on page 18.

## Removing and replacing Fiery X3e components

### Hard disk drive

The factory-installed hard disk drive (HDD) is formatted and loaded with all Fiery X3e software, including operating software, system software, network drivers, and printer fonts. Because the HDD is used to store spooled print jobs, available disk space is displayed on the Control Panel.

If the hard disk drive needs to be replaced, you will need to install the system software on the new hard disk drive. If you are replacing the HDD, you need:

- The appropriate System Software on CD
- The latest version of user software (for networked computers that will be printing to the Fiery X3e)

Before you replace the HDD, if possible, print the following from the Functions menu:

- Configuration page —records the customer's current Setup configuration (custom settings will be lost when you install system software).
- Font List—details what fonts are resident on the Fiery X3e. Along with the fonts that are provided on the System Software CD, the customer may have installed additional fonts that will be deleted when system software is installed.

For information on installing system software see page 24.

### Proper handling

Handle the hard disk drive with care:

- Use proper ESD practices when grounding yourself and the Fiery X3e.
- Keep magnets and magnetic-sensitive objects away from the HDD.
- Do not remove the screws on top of the HDD. Loosening these screws voids the warranty.
- Never drop, jar, or bump the HDD.
- Handle the HDD by its sides and avoid touching the printed circuit board.
- Allow the HDD to reach room temperature before installation.

HDD problems may be a result of the following:

- Loose or faulty connection
- Faulty HDD

Before you decide that the HDD needs to be replaced, make sure that the connectors on the HDD and on the motherboard are intact, aligned properly, and firmly connected. If the pins are bent, gently straighten them with a pair of needlenose pliers.



---

### TO REMOVE THE HDD



**CAUTION:** Before you touch any parts inside the print engine, make sure to wear an ESD grounding wrist strap and follow all ESD safety precautions.

1. **Shut down and open the Fiery X3e as described on page 5 and page 6.**
2. **Remove the motherboard from the pan as described on page 10.**
3. **Remove the four screws on the back of the Fiery X3e motherboard that secure the HDD. See page 3.**

Set the screws aside so you can replace them later.

4. **Remove the HDD from the motherboard HDD connector.**

When replacing the HDD, insert the HDD connector into the HDD connector on the Fiery X3e motherboard so that pin 1 on the HDD printed circuit board (PCB) fits into the pin socket on the motherboard (indicated by an arrow next to the IDE label).

5. **Place the HDD in an antistatic bag.**

Do not touch the drive with magnetic objects, such as magnetic screwdrivers. Do not place items near the hard disk drive that are sensitive to magnets, such as credit cards and employee ID cards. See “Proper handling” on page 16.

---

### TO REPLACE THE HDD



**CAUTION:** Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling Fiery X3e components.

1. **Handle the hard disk drive with care.**  
Do not touch it with magnetic objects or place any objects near it that are sensitive to magnets. See “Proper handling” on page 16.
2. **Align the HDD to the motherboard HDD connector and insert the HDD carefully to make a firm connection.**

Make sure that pin 1 on the HDD (indicated on the HDD PCB) is aligned with the pin 1 socket on the motherboard (indicated by an arrow next to the IDE label).

Tipping the HDD and/or the motherboard so as to align the top row of pins first may help you make a firm connection without bending any pins.

3. **Secure the HDD to the motherboard using the four screws you removed earlier (see page 3).**
4. **Install the motherboard into the pan as described on page 10.**
5. **Reassemble the unit and verify functionality as described on page 18.**

**NOTE:** If you replaced the HDD, you will need to install system software according to the procedure in “System Software” on page 24. A spare HDD is shipped without system software.

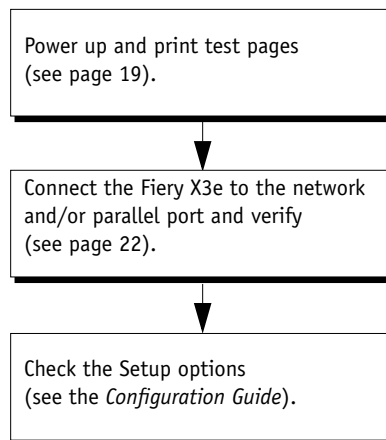
## Restoring functionality after service

To complete any service procedures performed on the Fiery X3e, install the Fiery X3e inside the print engine as described in the Fiery X3e installation instructions (not provided in this guide) and verify that it is working properly. To verify the installation, check the connections of the Fiery X3e first to the print engine and then to the network and the parallel port.

---

### TO REASSEMBLE AND VERIFY THE FIERY X3E

1. **Reseat any cables, devices, DIMMs, or other parts of the Fiery X3e assembly that you may have loosened or removed during inspection or service. See “Checking connections” on page 7.**
2. **Install the Fiery X3e assembly in the print engine.**  
See the Fiery X3e installation instructions (not provided in this guide).
3. **If you installed a new HDD, install system software according to the procedure in “System Software” on page 24.**  
A spare HDD is shipped without system software.
4. **Before you leave the customer site, verify Fiery X3e operation as described in the following flow diagram.**



**FIGURE K** Steps to verify the Fiery X3e

## Printing Fiery X3e pages

The Control Panel allows you to print special pages that are included in the Fiery X3e system software. These pages reside on the Fiery X3e HDD and include the Test Page, Configuration page, Job Log, Control Panel Map, and Font List.

### Printing the Configuration page

The Configuration page lists all the settings in effect from the current Setup. After you have finished running Setup, print a Configuration page to confirm your settings. If the Fiery X3e is rebooting, allow the Fiery X3e to reboot and return to Idle before printing a Configuration page.

Before you perform any service procedure, you should print the Fiery X3e Configuration page (if possible) so that you are prepared to return the settings to their former configurations, if necessary.

After the connection to the network is made, the network administrator can customize Setup options according to the network and user environment. Using the Configuration page as a guide can help speed up this process. For more information, see the *Configuration Guide*.

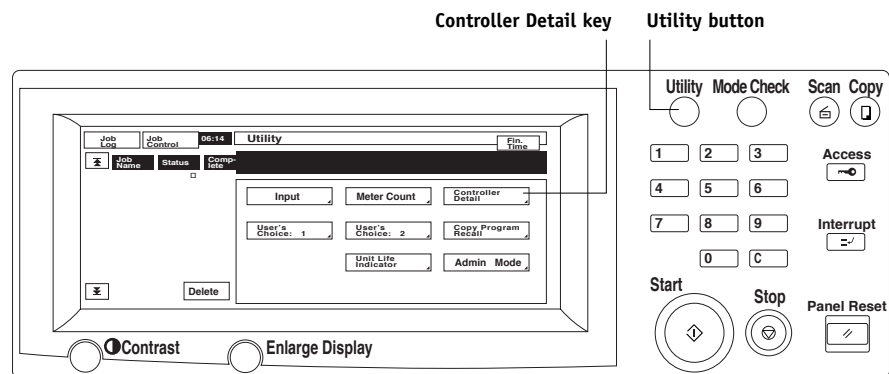
### Printing the Test Page

Before connecting the Fiery X3e to the network, print the Test Page. The Test Page is a file that resides in the Fiery X3e. Output verifies that the Fiery X3e is functional and connected properly to the print engine.

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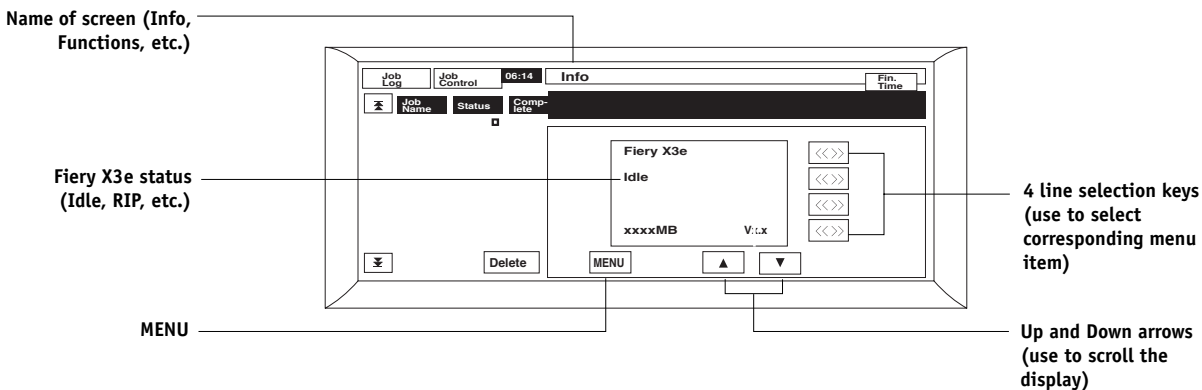
#### TO PRINT FIERY X3E PAGES FROM THE CONTROL PANEL

1. Press the Utility button and then touch the Controller Detail key.



## Printing Fiery X3e pages

### 2. Touch MENU to access the Functions screen.



### 3. Select Print Pages from the Functions screen.

### 4. Select PS Test Page.

The message, “Sending...” appears.

### 5. Examine the Test Page.

If the Test Page prints, you know that the Fiery X3e print engine is functional and that the connection between the Fiery X3e and the print engine is good. When you examine the Test Page, keep in mind that:

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

Poor image quality may indicate a need to calibrate the system or service the print engine.

### 6. To print other Fiery X3e pages, such as the Configuration page, return to the Print Pages screen and select the page you wish to print.

### 7. Store or post the current Configuration page near the server in an accessible location for quick reference.

Users can find handy information on this page, such as the current Setup configuration.

You are now ready to connect the Fiery X3e to the network and have the network administrator print a few test documents to verify the network connection.

# Running diagnostics

To run diagnostics on the Fiery X3e, use the following procedure.

---

### TO RUN DIAGNOSTICS ON THE FIERY X3E

1. **Press the Utility button and then touch the Controller Detail key (see “Control Panel and Utility screen” on page 5).**
2. **Make sure that the Fiery displays Idle (see “Fiery X3e LCD screen” on page 5).**
3. **Touch MENU to access the Functions screen.**
4. **Select Shut Down from the Functions screen.**
5. **Select Reboot System from the Shut Down screen.**

The message Rebooting system is displayed.

Wait a few minutes as the Fiery X3e reboots, paying close attention to the Control Panel LCD. You may need to press the Utility button and then touch the Controller Detail key in order to redisplay the Fiery X3e screen.

6. **As soon as “Press any key to enter config mode” appears, touch MENU (or any other Fiery X3e key on the Control Panel LCD).**

**NOTE:** If you do not touch a Fiery X3e key immediately, the Fiery X3e resumes booting and does not enter Config Mode. If this occurs, reboot the Fiery X3e and try again.

7. **Select Diagnostics and then select Startup.**

Startup runs all the Startup diagnostics one time and then resumes booting the Fiery X3e. Custom runs a selected subset of tests and then returns to the Config Mode menu. It is intended for factory use only.

**NOTE:** If the system software does not include diagnostics, the system message Diagnostics are not installed is displayed and then the Fiery X3e resumes booting.

## Config Mode

Config Mode offers the following menu items:

- Diagnostics—Run startup or custom tests
- Resume Boot—Continue booting the Fiery X3e
- Installation—Install system software on the Fiery X3e
- Clear Server—Continue booting the Fiery X3e
- Version Info—Display BIOS version information

Choose Shut Down System when you are ready inspect and/or service the Fiery X3e.

## Verifying connection to the network

The Fiery X3e provides twisted pair connectivity to an Ethernet network. This section describes how to connect the Fiery X3e to the network and then print a few test documents in order to verify the connection.

Category 3, category 4, or category 5 unshielded twisted pair (UTP) network cable can be used for 10BaseT. Category 5 UTP cable can be used for 100BaseTX. The network cable connects to the RJ-45 connector at the faceplate of the Fiery X3e (see Figure L on page 22).

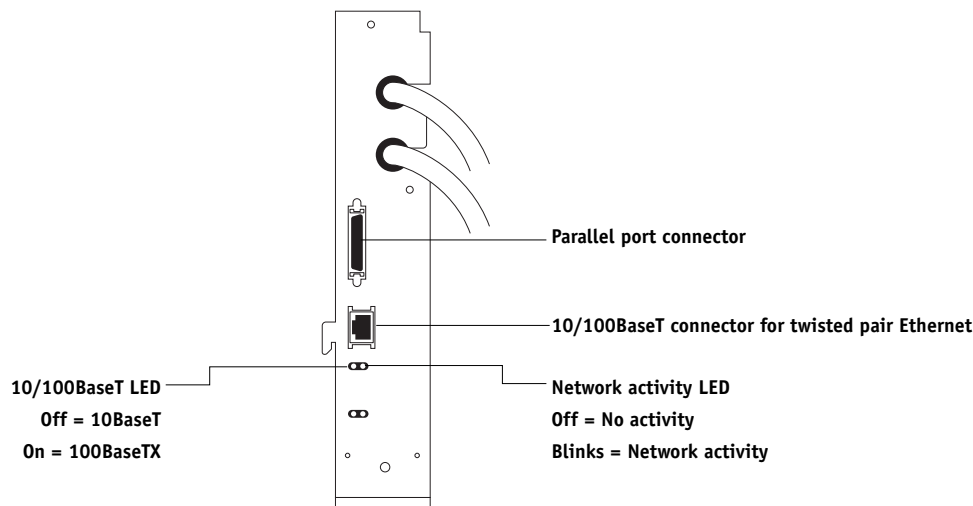


FIGURE L Fiery X3e external connectors

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### TO CONNECT A TWISTED PAIR CABLE TO THE FIERY X3E

1. Shut down and power off the Fiery X3e according to the procedure on page 5 and page 6.
2. Connect the network cable to the RJ-45 connector at the faceplate of the Fiery X3e.
3. Configure Setup options.

It is the network administrator's responsibility to configure Setup according to the network and user environment. Default settings in Setup may be adequate although they may not be optimal for the user's environment. Refer the network administrator to the *Configuration Guide* for Setup information.

4. After configuring Setup options, verify the network connection.

Once the network connection has been made and the Fiery X3e has the correct Setup configuration and is Idle, the Fiery X3e should be available on the network.

The network administrator should perform any additional network Setup, verify the network connection, verify that the Fiery X3e appears in the list of printers, and print a few test documents from a networked computer that will use the Fiery X3e. (See the *Configuration Guide* for more information.)

## Verifying the parallel port connection

The IEEE 1284-C parallel connector (female 36-pin mini-Centronics) on the Fiery X3e provides a high-speed interface port for connecting the Fiery X3e to the parallel port of a PC. The parallel connector can be used for installing system software (see page 24) and for printing documents.

The Fiery X3e can be connected to the network and to a parallel port device at the same time (see Figure L on page 22).

An IEEE 1284 cable is required. One end of the cable requires a male IEEE 1284-C connector for connecting to the Fiery X3e.

**NOTE:** For optimal performance, use a short cable; longer cables may cause erroneous operation.

---

### TO CONNECT THE FIERY X3E TO A PC

**NOTE:** If the PC is for installing system software, make sure it meets the minimum requirements specified in *Getting Started*.

1. **Shut down and power off the Fiery X3e according to the procedure on page 5 and page 6.**
2. **Power off the PC.**
3. **Connect an IEEE 1284 cable to the IEEE 1284-C parallel connector on the Fiery X3e.**
4. **Connect the other end of the parallel cable to the parallel port of the PC.**

If the PC has more than one parallel port connector, ask the network administrator to indicate the preferred parallel port to use for the print engine.

5. **Power on the PC and the Fiery X3e (and the print engine if it is not already on).**
6. **Configure Setup options.**

It is the network administrator's responsibility to configure Setup according to the network and user environment. Default settings in Setup may be adequate although they may not be optimal for the user's environment. Refer the network administrator to the *Configuration Guide* for Setup information.

7. **After configuring Setup options, verify the parallel port connection.**

Once the parallel port connection has been made and the Fiery X3e has the correct Setup configuration and is Idle, the network administrator should print a few test documents from the PC connected to the print engine. See the *Configuration Guide* for more information.

### System Software

The Fiery X3e system software is installed in the HDD at the factory. You will need to reinstall system software when you upgrade to a newer version of system software or when you replace the HDD. You also may try reinstalling system software when you are troubleshooting the system, especially if checking connections does not solve the problem. The Fiery X3e System Software CD includes two system software files to be installed over the parallel port of the Fiery X3e.

### System Software installation reminders

Keep in mind the following when installing system software:

- **Fonts**—Installing system software deletes all fonts that the customer has installed on the Fiery X3e. Only resident fonts will be restored during system software installation. Fiery Downloader can be used to reinstall additional fonts.  
  
To determine which additional fonts were downloaded to the Fiery X3e, print the Fonts List before you format the HDD and again after you complete the system software installation. Any fonts not listed after installation will need to be reinstalled. See the *Printing Guide* for more information.
- **Language**—Screens for installing system software are always displayed in English, even if the print engine is configured for another language.
- **Compatibility**—The latest user software must be installed onto all computers that print to the Fiery X3e. Using incompatible versions of the system and user software may result in system problems.

### Installing System Software

The System Software CD contains two files. The first file is the smaller of the two and contains basic information required for the Fiery X3e to boot; the second contains all of the system software.

To install system software using the parallel port on the Fiery X3e, you need:

- A PC with Windows 9x/Me
  - CD-ROM drive
  - At least 400MB of disk space free
  - Support for ECP mode on the parallel port

**NOTE:** If you use a PC with Windows XP or Windows 2000, installing system software over the parallel port may succeed but you may need to install and use a utility that fixes ECP mode. Without the fix, ECP mode on those platforms runs very slowly. Contact your authorized service support center for more information.

- IEEE 1284 parallel cable, short, with an IEEE 1284-C connector on one end.



## System Software

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

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

Before you can install system software, you must also add a generic printer to your PC using the Add a Printer function.

---

### TO SET UP THE PC

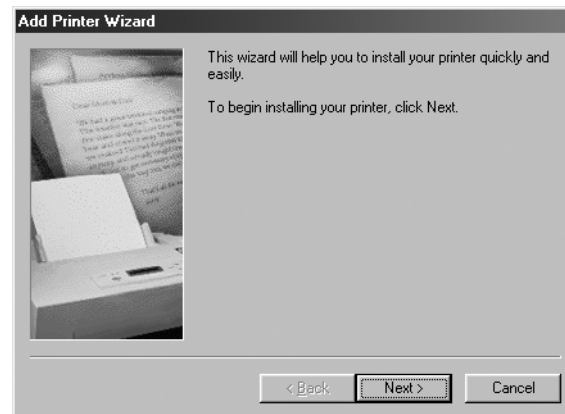
- 1. Access the PC BIOS and make sure that Parallel Port Mode is set to ECP.**

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

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

- 2. In Windows, click Start, choose Settings, and then choose Printers.**

- 3. Double-click Add Printer.**



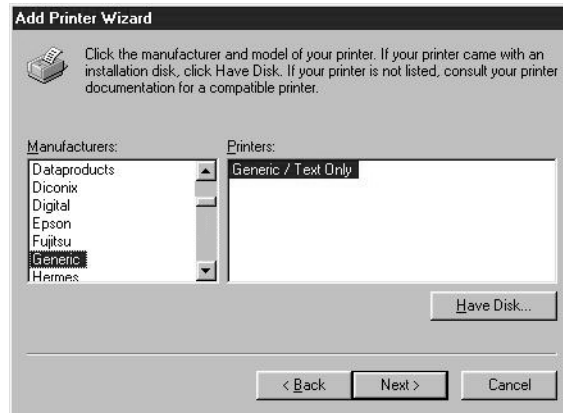
The Add Printer wizard appears. You will use this wizard to add a generic printer to your PC.

- 4. Click Next.**

- 5. Select the Local Printer option, and click Next.**

## System Software

6. Select Generic from the Manufacturers list, and click Next.

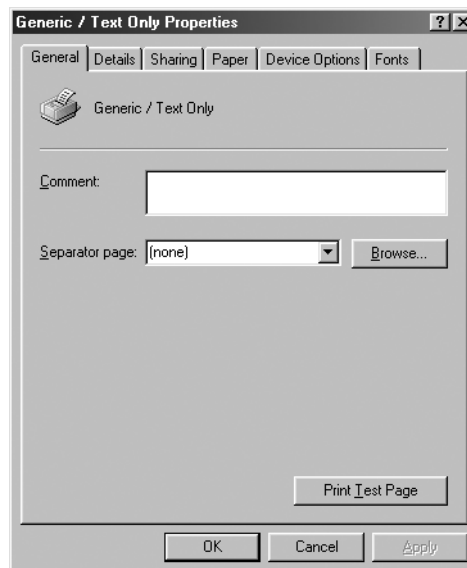


7. Select LPT 1: Printer Port from the list of available ports, and click Next.
8. Accept the default printer name. In response to the question "Do you want your Windows-based programs to use this printers as the default printer," select No. Then click Next.
9. In response to the question "Would you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

The generic printer is added to your PC.

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

The Properties dialog box for the generic printer is displayed.



## System Software

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

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

12. **Click Spool Settings. Specify settings as described below, and then click OK.**

- Select “Spool print jobs so program finishes printing faster” and then select “Start printing after first page is spooled.”

Selecting these options ensures no disruption from a parallel port timeout.

- If the option is available, select “Disable bi-directional support for this printer.”
- Choose RAW from the Spool data format menu.

13. **Click Port Settings, and select “Spool MS-DOS print jobs” and “Check port state before printing.” Then click OK.**

14. **Click Apply, and then click OK to activate the settings and exit from the Printer Properties screen.**

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

---

### TO PREPARE FOR INSTALLATION USING THE PARALLEL PORT

1. **Print the Configuration page from the Functions menu (if possible) to record the customer's current Setup configuration (see "Printing Fiery X3e pages" on page 19).**  
Setup defaults to its original configuration when system software is installed.
2. **Print the Font List(s) from the Functions menu.**  
The Font List(s) details what fonts are resident on the Fiery X3e. Along with the fonts that are provided on the System Software CD, the customer may have installed additional fonts that will be deleted when system software is installed.
3. **Power off the Fiery X3e and the PC before attaching any cables.**
4. **Connect an IEEE 1284 cable to the LPT1 port on your PC (generally, a 25-pin D-type connector) and to the parallel port connector on the Fiery X3e. See page 23.**

---

### TO INSTALL SYSTEM SOFTWARE USING THE PARALLEL PORT

1. **Shut down and power off the Fiery X3e.**  
Follow the procedure on page 5 but keep the print engine plugged in and powered on.
2. **Power on the PC and insert the System Software CD into the PC CD-ROM drive.**
3. **In Windows, click Start, choose Programs, and then choose MS-DOS Prompt to bring up an MS-DOS window.**  
Do not use the option to "Shut Down and Restart Windows in DOS mode."
4. **At the MS-DOS prompt, navigate to the CD-ROM drive directory. Type dir and press the Enter key to display the contents of the CD.**  
To find the correct letter for the CD-ROM drive, open the My Computer folder and read the drive letter associated with the CD-ROM icon.  
The file name, including the extension, is displayed at the end of the MS-DOS line of text that provides information about each file. Note the file name of the smaller file first. That is the boot file.
5. **Locate the boot file on the System Software CD.**  
The boot file will have a descriptive name: for example, boot.efi. The boot file is the smaller of the two files on the System Software CD.
6. **At the MS-DOS prompt, type the following command but *do not* press the Enter key yet:**  
copy boot.efi lpt1 /b  
/b specifies the binary option (not ASCII).  
**NOTE:** Make sure to spell the file name correctly and include the file extension. *Do not* press the Enter key yet.
7. **Power on the Fiery X3e using the Fiery X3e power switch.**

## System Software

**8. Wait 5 seconds and then press the Enter key on the PC.**

**NOTE:** If the Enter key is pressed too soon (under 5 seconds) or too late (over 25 seconds), the boot file transfer may fail. If the transfer fails, recycle power on the Fiery X3e, and try again, starting from step 6.

**9. Press the Utility button and then touch the Controller Detail key as soon as it becomes available. Watch the Fiery X3e screen.**

You may need to repeat pressing the Utility button and the Controller Detail key to continue displaying the Fiery X3e screen.

**10. Select Installation from the Choose Function menu.**

The message “Flushing parallel port. Please wait...” will appear on the Control Panel LCD.

**11. Return to the PC and locate the system file on the System Software CD.**

The system file will have a descriptive filename: for example, system.efi. The system file will also be the larger of the two files on the System Software CD.

**12. At the PC, type the following command at the MS-DOS prompt but *do not* press the Enter key yet:**

```
copy system.efi lpt1 /b
```

/b specifies the binary option (not ASCII). The system file is the larger file.

**NOTE:** Make sure to spell the file name correctly and include the file extension. *Do not* press the Enter key yet.

**13. At the message “Copy software to parallel port” on the Control Panel LCD, select OK. Then press the Enter key on the PC.**

**NOTE:** If the Enter key is not pressed within 10 seconds, the system file transfer may fail. If the transfer fails, try again from step 10.

Wait while the Fiery X3e Control Panel LCD displays status messages and progress indicators as the Fiery X3e formats the disk and performs all phases of the installation. You may need to repeat pressing the Utility button and the Controller Detail key to continue displaying the Fiery X3e screen.

Do not touch any keys on the Fiery X3e LCD screen during this time.

This process takes approximately 20 minutes and can take much longer depending on your PC. If you want to monitor the PC's progress while it downloads the file, open the printer window on the PC (click Start menu > Control Panel > Printers and then double-click the appropriate printer icon) although you may need to set up a column in the printer window for showing the progress.

## System Software

14. **At the message “Installation was successful” on the Control Panel LCD, touch OK. Then select Resume Boot from the Choose Function menu.**

Wait while the Fiery X3e reboots. Ignore the message, “Press any key to enter Config Mode.” After several minutes the Fiery X3e displays the language screen. You may need to repeat pressing the Utility button and the Controller Detail key to continue displaying the Fiery X3e screen.

15. **Select the name of the language you want to use, scrolling if necessary to display the required language.**

16. **Select a Market Region.**

**NOTE:** If you select English as the language, you must then select “US English” or “UK English”. If you select “US English” the default paper size is US (non-metric) and the time stamp is MM/DD/YY. If you select “UK English”, the default paper size is metric and the time stamp is DD/MM/YY.

17. **At the Setup screen, reenter the customer’s settings from the Configuration page that you printed earlier.**

Enter settings and save changes for Server, Network, and Printer Setup, in that order. Ignore the settings not included on the Configuration page if it is more appropriate for the network administrator to set them. See the *Configuration Guide* for more information.

18. **After all setup options are configured, select Exit Setup from the Setup screen.**

The Fiery X3e will reboot with the updated system software and setup options.

19. **When the Fiery X3e reaches the Idle screen, exit MS-DOS at the PC and remove the System Software CD from the CD-ROM drive.**

20. **Power off the Fiery X3e and PC before you remove the parallel cable.**

## Specifications

## Specifications

The Fiery X3e has or makes use of the following features.

### Hardware features

- 700MHz Intel Pentium III CPU
- 128MB memory (one DIMM), upgradeable to 256MB (with additional 128MB DIMM)
- Hard disk drive (HDD)
- IEEE 1284 parallel port
- 10/100BaseTX network port for network printing
- Battery—3V manganese dioxide lithium coin cell (Panasonic CR2032 or equivalent)
- Dedicated power supply— Max 40W; max 5V, 8A (5V  $\pm$  3% consumption)
- Independent power switch

### Networking and connectivity

The Fiery X3e has the following networking features:

- Supports AppleTalk, TCP/IP, and IPX protocols simultaneously
- RJ-45 port for twisted pair (10BaseT/100BaseTX) network connection

### User software

A complete description of Fiery X3e user software is provided in *Getting Started*. The latest user software must be installed onto all computers that print to the Fiery X3e. Using incompatible versions of the system and user software may result in system problems.

### Safety and emissions compliance

The Fiery X3e has been certified to meet or surpass the following standards:

#### Safety approvals

- EN 60950 (TÜV Bauart geprüft)
- UL 1950, CAN/CSA-C22.2 950

#### EMC approvals

- FCC Class A
- VCCI Class A
- EN55022 Class B
- EN55024
- AS/NZS 3548 Class B
- AS/NZS 4252.1
- CB scheme IEC60950
- CNS 13438 Class B (BSMI)

### The troubleshooting process

The following sections identify the sources of common problems that may occur with the Fiery X3e and suggests ways of correcting them.

These sections do not attempt to provide troubleshooting information for attached computers such as PCs, for the print engine, or for extensive networks. Refer problems in these areas to the appropriate service departments and network administrators.

The troubleshooting process is designed to eliminate the most obvious causes of failure before progressing to more complex issues. “Where problems occur” on page 32 gives an overview of the Fiery X3e components and indicates areas most likely to require troubleshooting.

- Try a phone check before you go to the customer site.  
“Before you go to the customer site” on page 34 suggests areas you should check before making a service call to the customer site. With a phone call, you can find out if the problem is a simple operating failure or a failure caused by a network or configuration change. You can ask the customer to check for loose cables on the back of the print engine and loose connections at a power strip or outlet.
- Check for obvious causes of problems.
- Check network connections.  
“Preliminary on-site checkout” on page 35 takes you through the initial visual checks you should make when you arrive at the customer site.  
“Checking the network” on page 37 provides guidelines for checking the network connections between the print engine and the computers to which it is connected, as well as information on several printing problems.

### Where problems occur

The Fiery X3e is a built-in print server for the print engine, and it is generally part of a configuration like the one shown in Figure M. Problems may occur in one of the following areas:

- The Fiery X3e or the print engine
- The interface between the Fiery X3e and the print engine
- The interface between the Fiery X3e and computers that print to it



## The troubleshooting process

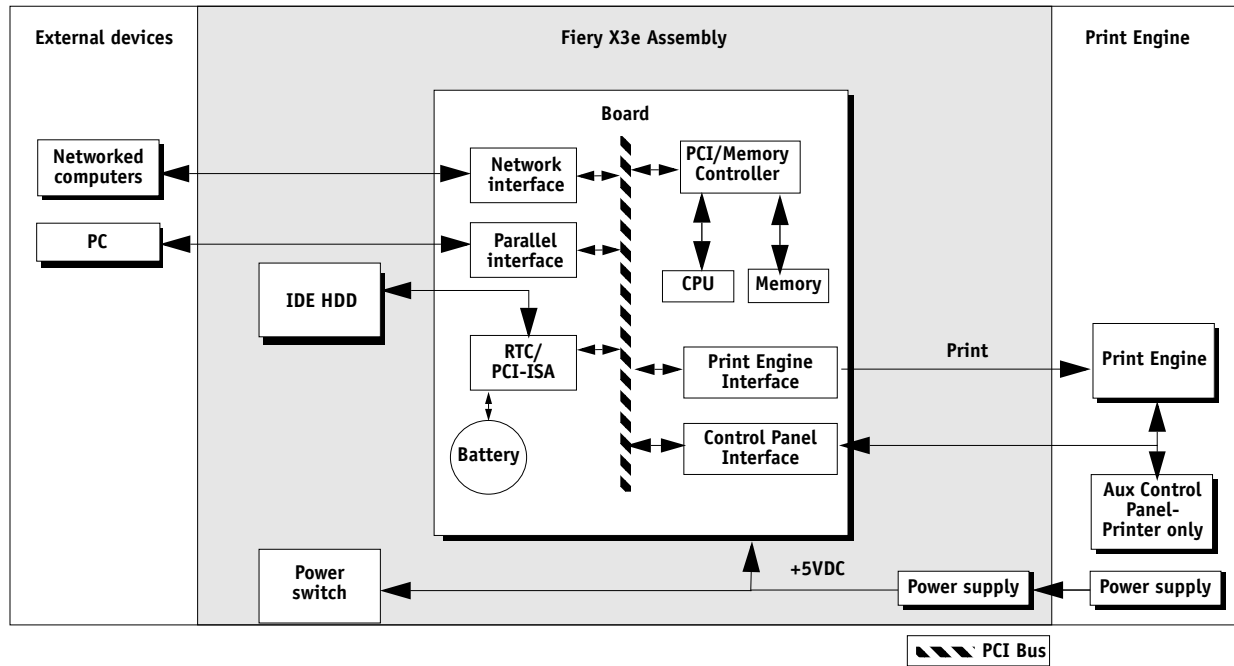


FIGURE M Fiery X3e functional diagram

## The troubleshooting process

### Before you go to the customer site

Before you make a service call to a customer site, talk to the customer on the phone, and check the following items:

#### 1. Does the print engine work?

If the print engine works, but the user cannot print the Fiery X3e Test Page, a service call is probably required.

#### 2. Is the failure caused by a simple operating problem?

- Is there a printing problem?
  - Does the Fiery X3e Test Page fail to print?
  - Does the Fiery X3e fail to respond to a print command?
  - Does printing seem to take a long time?
  - Is print quality poor?
  - Does the Fiery X3e fail to appear in the list of printers?

If the answer to any of these questions is yes, refer the customer to the *Job Management Guide*.

If the customer has followed the corrective actions in the *Job Management Guide* and has failed to solve the problem, be prepared to make a service call. Keep a log of the failures the customer has observed.

#### 3. Has the customer made any network changes?

If network changes have occurred, request that the customer's network administrator verify the Fiery X3e network requirements.

#### 4. Is the user having printing problems with a particular image file?

If there are problems with files from particular applications, the user may be more successful using different print settings.

If your telephone call fails to clear up the problem, proceed to the next phase, the preliminary on-site checkout.

## The troubleshooting process

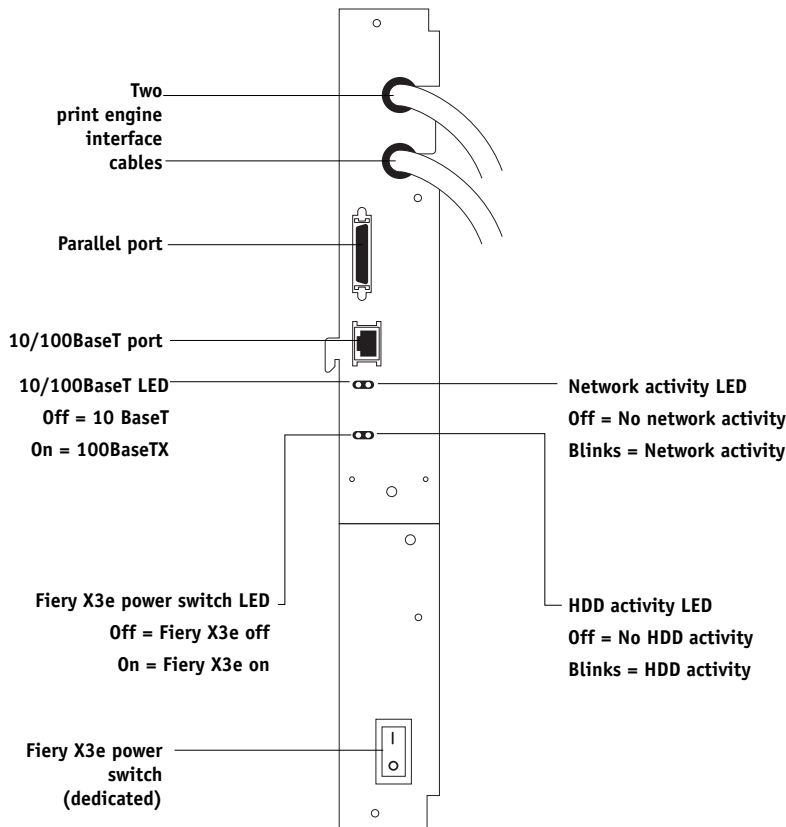
### Preliminary on-site checkout

Your goal in the preliminary on-site checkout is to eliminate obvious problems, such as loose or missing cables and connectors.

### Checking connections

Before you remove the Fiery X3e:

- Make sure the external cables are connected properly.



**FIGURE N** Fiery X3e faceplate

- Make sure the power cable is plugged into the wall outlet and that the print engine is powered on.
- Make sure the Fiery X3e is properly connected to the print engine.

See also “Checking connections” on page 7. See other documentation for guidelines when disassembling, checking, and reassembling the print engine. If all the connectors are in place and the problem still exists when the print engine is powered on, then proceed to the next phase of troubleshooting.

---

### TO CHECK INTERNAL CONNECTIONS



**CAUTION:** Before you touch any parts inside the print engine, make sure to wear an ESD grounding wrist strap and follow all ESD safety precautions.

1. **Make sure that all Fiery X3e cables, devices, and DIMMs are present, intact, properly aligned, and well seated in their connectors.**
2. **Specifically check the following:**
  - Socketed DIMMs at J48 (standard) and J49 (upgrade option) See page 12.
  - HDD connection to the Fiery X3e motherboard at the IDE connector for the HDD.
  - Exhaust fan cable connection to Fiery X3e motherboard J911.
  - CPU fan cable connection to the Fiery X3e motherboard at J903.
  - Connections between the print engine interface cables and the Fiery X3e motherboard at J859 and J872.
  - Fiery X3e power supply cable connection to Fiery X3e motherboard at J858.
  - Battery in Fiery X3e motherboard socket BT200.
  - Power cable connections to the power supply in print engine and the Fiery X3e power switch. The print engine power supply supplies power to the Fiery X3e power supply. See other documentation for information on the Fiery X3e power supply.
3. **After verifying connections, if one or more Fiery X3e components are still not getting power, then check the print engine:**
  - Interface to the Fiery X3e
  - Power supply and/or power cabling

See other documentation for more information.

## The troubleshooting process

### Checking the network

Printing problems may arise if the network hardware or software is not set up properly or does not match network settings on the Fiery X3e. Problems may also arise when printing from a specific application or printing a particular file.

Most of these problems show up as printing problems and do not necessarily indicate a Fiery X3e malfunction. The customer's network administrator can eliminate many printing problems without requiring you to make a service call. The network administrator deals with:

- Error conditions on the print engine
- Network connection problems that result in the print engine not appearing in list of printers on the customer's computers

**NOTE:** If the print engine does not appear in the list of printers on the network, there may be another device on the network with the same IP address.

- Conflicting network settings in Setup and on the customer's computers
- Printing problems caused by inappropriate Setup options
- Application-specific printing errors caused by missing or incorrectly installed printer description files

## The troubleshooting process

### Printing to the Fiery X3e

If the customer can print the Fiery X3e Test Page but cannot print a job from a computer on the network, you may have to make a service call. However, first make sure the network administrator has done the following:

- Checked all components of the network, including cables, connectors, terminators, network adapter boards, and network drivers.
- Activated the network and used it to communicate with other printers.
- Confirmed 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.

When you make a service call, check the Fiery X3e faceplate at the side of the print engine to make sure that the appropriate network connection is in place. Print quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print a Test Page to make sure that the print engine does not need servicing or adjusting. Also, make sure the correct paper is being used in the print engine.

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

### If the printer does not print

The following table lists possible causes and solutions when the printer does not print.

<b>TABLE A</b> Causes and solutions when printer does not print	
<b>Possible Cause</b>	<b>Solution</b>
Is the power on?	<ul style="list-style-type: none"><li>• Power on the print engine and the Fiery X3e (each has its own power switch).</li></ul>
Is the print engine interface connector properly connected?	<ul style="list-style-type: none"><li>• Make sure print engine interface connectors are properly connected to the print engine and to the Fiery X3e.</li></ul>
Is the specified paper loaded?	<ul style="list-style-type: none"><li>• Load the specified paper in any of the input trays.</li></ul>
Can you print a Test Page from the printer driver?	<ul style="list-style-type: none"><li>• If you cannot, the print engine may be out of order. Contact your authorized service support center.</li></ul>
Exhaust fan not present or not functioning	<ul style="list-style-type: none"><li>• Verify that the exhaust fan is present and functioning (see page 14).</li></ul>

## The troubleshooting process

### Other printing problems

The following table lists other printing problems and what to do about them.

<b>TABLE B</b> Other printing problems	
<b>Problem</b>	<b>Action</b>
An image is printed on the reverse side of the paper.	<ul style="list-style-type: none"><li>• Reload the paper in the paper tray upside down.</li></ul>
Multiple pages are fed through the print engine at once.	<ul style="list-style-type: none"><li>• Remove all the pages from the paper tray and fan them gently before reloading.</li></ul>
Paper misfeeds occur frequently.	<ul style="list-style-type: none"><li>• Check the paper size settings. Use the recommended paper. Avoid using curled, folded, wrinkled, perforated, or glossy paper.</li></ul>
It takes too long to complete the print job.	<ul style="list-style-type: none"><li>• The data is so large or complex that it takes additional time to process. If the Data indicator is blinking, data is being processed. Wait until it is finished.</li></ul>





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