



EB-105
Service Procedures

Part Number: 45014909

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Overview

The Fiery EB-105 Print Controller embeds computer connectivity and highly efficient PostScript and PCL printing capability into black and white copiers. The Fiery EB-105 is designed for specific copier models (not described in this document).

The Fiery EB-105 is shipped with all necessary software already installed. This document describes how to service the Fiery EB-105 and reinstall system software, if necessary.

NOTE: This document assumes that the Fiery EB-105 is already installed in the copier. Information on how to install the Fiery EB-105 is not included in this document. The Controller Box that encloses the Fiery EB-105 does not need to be removed in order to remove the Fiery EB-105 from the copier.

Generally, the Fiery EB-105 does not require regular maintenance. Use these procedures to inspect, remove, reseal, or replace major hardware components and also to reinstall system software.

This document includes information on:

- Fiery EB-105 and Fiery EB-105 components
 - DIMMs (page 14)
 - Battery (page 15)
 - Hard disk drive (page 16)
- System software (page 28)

See page 13 for an overview of Fiery EB-105 components.

Replacement parts for the Fiery EB-105 are available from your authorized service representative.

The Fiery EB-105 system software is installed on the hard disk drive at the factory. You will need to reinstall system software if you:

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

Overview

Key

- 1. Fiery EB-105 board
 - 2. Battery
 - 3. HDD cable
 - 4. HDD
 - 5. HDD bracket
 - 6. DIMM
 - 7. DIMM sockets
 - 8. Connector to copier
 - 9. Connector for optional Token Ring board
 - 10. RJ-45 network connector
 - 11. LINK LED for network activity
 - 12. Service switch
 - 13. Dual LEDs (DIAG-R and DIAG-G)
 - 14. Parallel port connector
- NOTE: Faceplate not shown

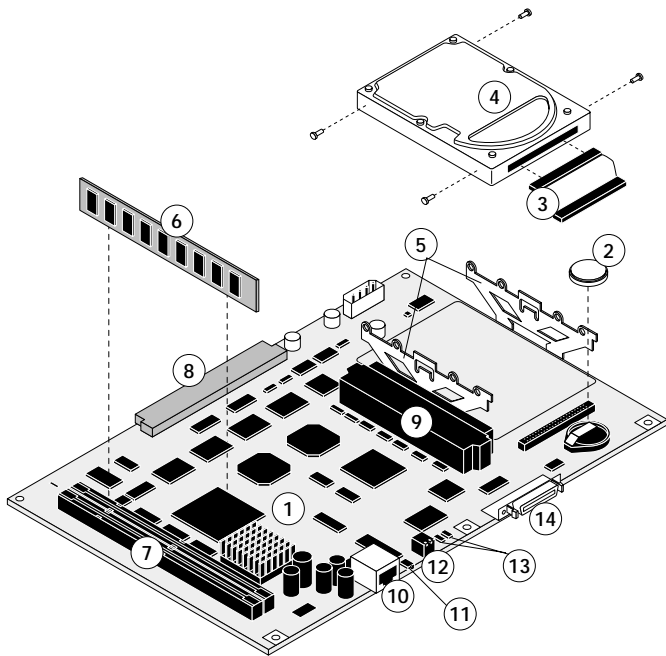


FIGURE A Fiery EB-105 exploded view

Accessing the Fiery EB-105

NOTE: In order to service the Fiery EB-105, you need to shut down and open the copier from the back and then remove the Fiery EB-105 from the copier. The Controller Box that encloses the Fiery EB-105 does not need to be removed in order to remove the Fiery EB-105 from the copier. (Information on how to install the Fiery EB-105 is not included in this document.)

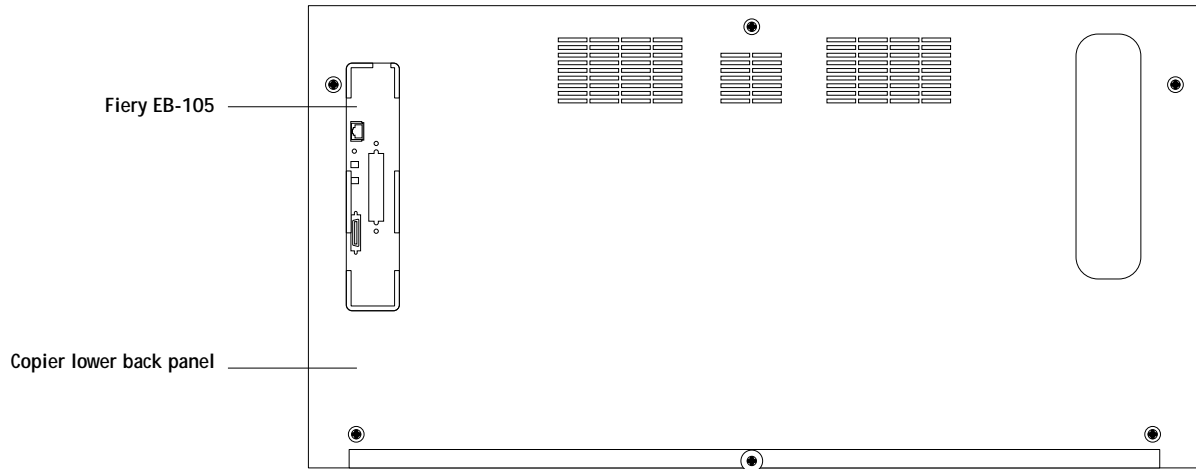


FIGURE B Fiery EB-105 installed in the copier

Checking connections

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

- Video interface connection between the Fiery EB-105 and the copier
- HDD cable connection from the HDD to the Fiery EB-105 connector J1
- DIMMs

TO CHECK INTERNAL CONNECTIONS



1. Before you touch any parts inside the copier, attach an ESD grounding wrist strap.
2. Inspect internal ribbon cables to see if they are intact.
Faulty ribbon cables are easily overlooked. Check the contact point between the HDD cable and connector J1 for separation. If a ribbon cable is suspect, substitute it with a tested cable. The cable is keyed to fit the shrouded Fiery EB-105 connector in only one way. (The red line on the ribbon cable goes to Pin 1 on the connector.)
3. Make sure that all Fiery EB-105 cables, boards, and DIMMs are properly aligned and well seated on their connectors.
 - Fiery EB-105 connection to copier. This connection is for the video interface and for receiving power from the copier power supply.
 - HDD ribbon cable from the HDD to the Fiery EB-105 connector J1. See Figure A on page 8.
 - Socketed DIMMs. See page 14.
 - If an option board is present, check Fiery EB-105 connector J9. See the specific option kit for documentation.
4. After tightening connections, if one or more Fiery EB-105 components are still not getting power, you may need to check connections required for installing the Fiery EB-105 into the copier or check the copier power supply.

(Information on installing the Fiery EB-105 and on the copier power supply are not included in this document.)

Checking connections

LEDs, jumpers, and switches

The Fiery EB-105 has three activity indicators (LEDs) and one switch that are accessible at the faceplate.

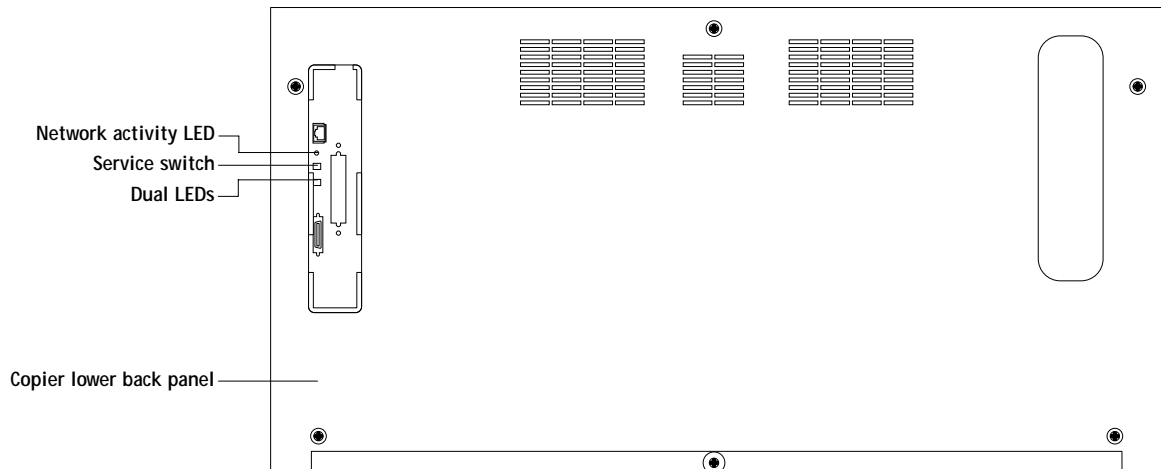


FIGURE C LEDs and switches

- Network Activity LED and Dual LEDs—Adjacent to the on-board RJ-45 connector, the green LED blinks to indicate network activity. It is labeled LINK on the Fiery EB-105 board.
Adjacent to the switch are dual LEDs, one red and one green. They are labeled DIAG-R and DIAG-G on the Fiery EB-105 board. For more information, see “LED patterns” on page 43.
- Service Switch—A service switch is located between the activity LEDs. The service switch enables service functions. The switch is configured in the OFF position for normal operation, with both switches to the right (away from the board). To perform service functions, such as reinstalling system software, power off the copier and move the switch to the ON position, with both switches to the left (toward the board). After installing system software, power off the copier and return both switches to the OFF position to resume normal operation.
- Jumpers—No jumpers are installed in the standard configuration. A jumper (not provided) must be installed on two-pin jumper area J28 in order to upgrade the Flash. (After the upgrade is finished, make sure to remove the jumper you install.) J28 is located by the DIMMs, adjacent to the Flash ROM at U5. For more information, see “Flash Upgrade” on page 35.

Replacing the Fiery EB-105

When the Fiery EB-105 needs to be replaced, use the following procedure.



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

TO REPLACE THE FIERY EB-105

1. Shut down and open the copier from the back as described in other documentation.
2. Remove the Fiery EB-105 from the copier.
The Controller Box that encloses the Fiery EB-105 does not need to be removed in order to remove the Fiery EB-105 from the copier. Remove the two screws that attach the Fiery EB-105 faceplate to the Controller Box and remove the Fiery EB-105 with the faceplate attached.
3. Remove the DIMMs from the Fiery EB-105 according to the procedure described on page 14.
4. Remove the HDD from the Fiery EB-105 according to the procedure described on page 16.
5. Unpack the new Fiery EB-105 and install the HDD and DIMMs you removed earlier onto the new board.
To reinstall the DIMMs, see page 14.
To reinstall the HDD, see page 18.
6. Reassemble the unit and verify functionality (see page 19).

Replacing Fiery EB-105 components

NOTE: Before performing these procedures, you must shut down and open the copier from the back as described in other documentation. Remove the Fiery EB-105 from the copier. Remove the two screws that attach the Fiery EB-105 faceplate to the Controller Box and remove the Fiery EB-105 with the faceplate attached.

The CPU on the Fiery EB-105 controls the video image data transferred to and from the copier. The Fiery EB-105 provides the Ethernet networking interface, controls hard disk drive functions, and handles the communication between the Fiery EB-105 and external devices. The Fiery EB-105 has two DIMM sockets that can hold 64MB of memory in each socket (see Figure A on page 8 and also “DIMMs” on page 14). The hard disk drive (HDD) is on board. Also included is one 32-bit PCI connector (5 volt) for adding token ring capability.

When the Fiery EB-105 is installed inside the copier, the connectors for external devices are easily accessible from the back of the copier.

The following sections describe how to remove and install replaceable parts on the Fiery EB-105:

- DIMMs
- Battery
- Hard Disk Drive (HDD)



Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before performing these procedures.

Key

1. Fiery EB-105 board
2. Battery
3. HDD cable
4. HDD
5. HDD bracket
6. DIMM
7. DIMM sockets
8. Connector to copier
9. Connector for optional Token Ring board
10. RJ-45 network connector
11. LINK LED for network activity
12. Service switch
13. Dual LEDs (DIAG-R and DIAG-G)
14. Parallel port connector

NOTE: Faceplate not shown

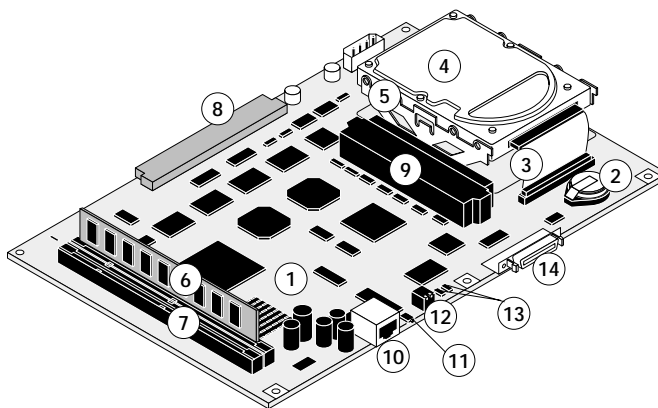


FIGURE D Components on the Fiery EB-105

Replacing Fiery EB-105 components

DIMMs

Each DIMM (dual in-line memory module) is held in place by levers at each end of its socket on the Fiery EB-105.

The minimum configuration for the Fiery EB-105 is 64MB: one 64MB DIMM installed in one socket, J24. To upgrade to 128MB, install a 64MB DIMM in the second socket, J23.

Approved DIMMs are available from your authorized service representative.

TO REPLACE OR UPGRADE A DIMM

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

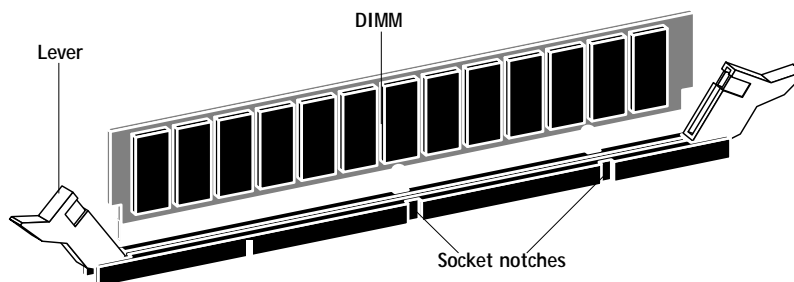


FIGURE E Releasing a DIMM

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

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

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

4. Reassemble the unit and verify functionality (see page 19).

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

Battery

The battery on the Fiery EB-105 is located at BT1, near the HDD. 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.

TO REPLACE THE BATTERY

1. Locate the battery on the Fiery EB-105 (see Figure D on page 13).

2. Carefully lift up the clip that holds the battery.

A see-through isolation sheet is attached to the battery clip and covers the battery. Make sure this isolation sheet remains in place.

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

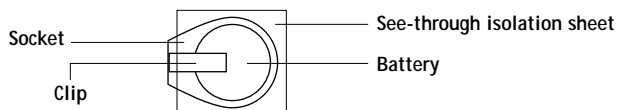


FIGURE F Fiery EB-105 battery

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 unit and verify functionality (see page 19).

NOTE: When you power on, let the Fiery EB-105 reach the Idle state, then power off and power on again to initialize the realtime clock.

Hard disk drive

The factory-installed hard disk drive (HDD) is formatted and loaded with all Fiery EB-105 software, including operating software, system software, network drivers, and printer fonts. The HDD is used to store spooled print jobs. Available disk space is listed on the Configuration Page.



If the hard disk drive needs to be replaced, you'll need to install the system software on the new hard disk drive. (Replacement drives are shipped without Fiery EB-105 system software installed.)

If you are replacing the HDD, you need:

- The appropriate System Software CD
- The latest version of user software (for networked computers that will be printing to the Fiery EB-105)

See “System Software” on page 28 for instructions.

Proper handling

Handle the hard disk drive with care:

- Use proper ESD practices when grounding yourself and the Fiery EB-105.
- 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.

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

- Loose or faulty connection
- Faulty hard disk drive

Before you decide that the hard disk drive needs to be replaced, make sure that the cable is connected properly.



Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling Fiery EB-105 components.

Replacing Fiery EB-105 components

TO REMOVE THE HDD

1. Remove the HDD cable from board connector J1 and from the HDD. Set aside the cable so you can use it later.

The cable is keyed to fit only one way into the shrouded connector on the Fiery EB-105. The red line on the cable goes to Pin 1 on the connector.

2. Remove the four screws that secure the HDD to the HDD bracket.

Set the screws aside so you can replace them later.

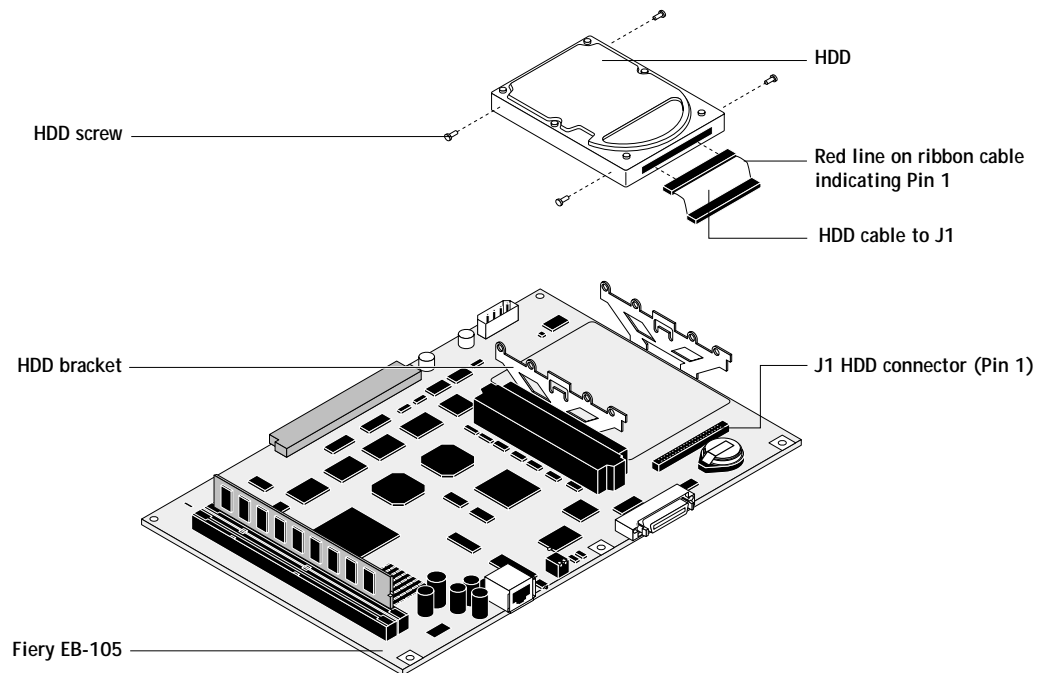


FIGURE G Removing the hard disk drive

3. Handle the HDD with care and place it in an antistatic bag.

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

TO INSTALL THE HDD



Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling Fiery EB-105 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. Secure the HDD to the bracket on the board using the four screws you removed earlier. (See Figure G on page 17).



3. Connect the HDD cable you removed earlier to the HDD and to board connector J1.
Make sure the cable remains firmly connected to J1.
4. Reassemble the unit and verify functionality (see page 19).
If the HDD or the Fiery EB-105 board is a replacement, you need to install system software as described on page 28.

Restoring functionality after service

To complete any service procedures performed on the Fiery EB-105, reinstall the Fiery EB-105 inside the copier and verify that it is working properly. To verify the installation, check the connection of the Fiery EB-105 first to the copier and then to the network and the parallel port.

TO REASSEMBLE AND VERIFY THE FIERY EB-105

1. Reseat any boards, cables, connectors, and other parts of the Fiery EB-105 that you loosened or removed during inspection or service.
2. Install the Fiery EB-105 in the copier and reassemble the copier as described in other documentation.
3. If you replaced the HDD or the Fiery EB-105 board, reinstall system software according to the procedure in "System Software" on page 28.
4. Before you leave the customer site, verify Fiery EB-105 operation as described below.

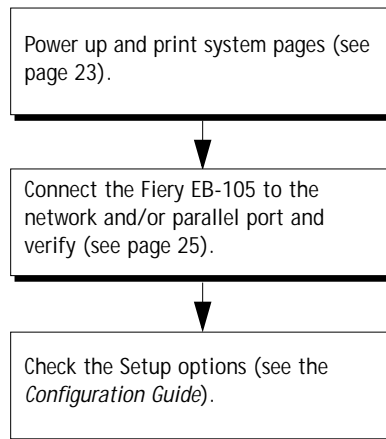


FIGURE H Fiery EB-105 connection verification steps

Using the Operation Panel

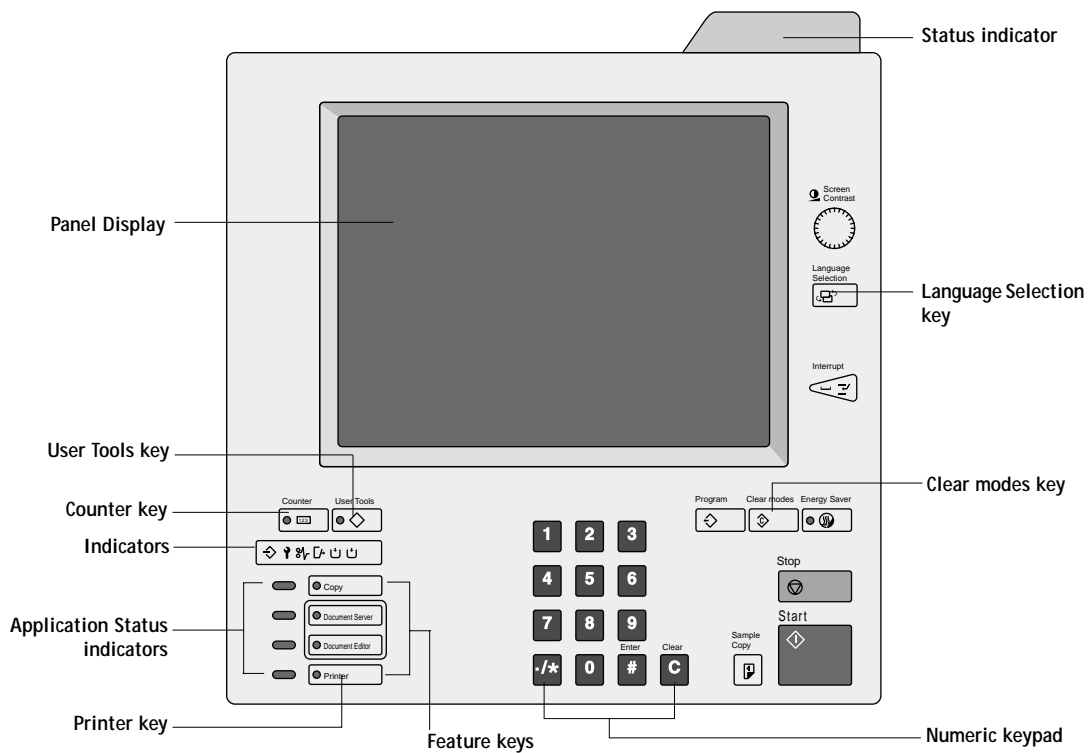


FIGURE I Operation Panel

Using the Operation Panel

Status/Control features

The following list summarizes the status/control features of the Operation Panel.

Status Indicator	Off—Ready to print Solid Green—Printing Flashing red—Toner low Solid red—An error has occurred.
Panel Display	Shows the operation status, error messages, and functions menus.
Language Selection key	Press to change the display language.
User Tools key	Press to change the default settings and conditions to meet your requirements.
Counter key	Press to view and/or print the total number of prints and copies made.
Indicators	These indicators show errors or the status of the printer.
Application Status indicators	These show the status of the Copier, Document Server, Document Server Editor, and Printer features. Green—A feature is active. Red—A feature has been interrupted.
Feature keys	Press the appropriate key to choose one of the following features: Copier, Document Server, Document Server Editor, or Printer.
Numeric keypad	Press to enter numeric values, such as the password to enter SP Mode.

Panel Display

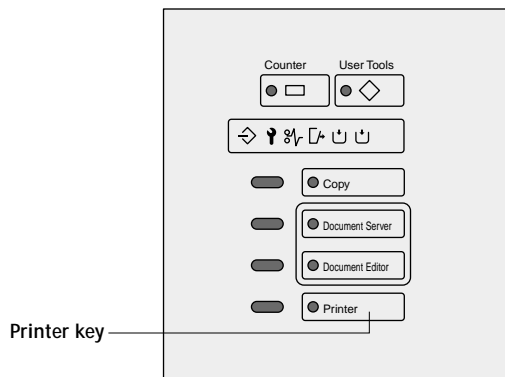
The Panel Display shows the status of the printer, presents error messages, and provides function menus. To select an item in the display, lightly press it with your finger. When the item is highlighted, it is selected. Items that are not available appear greyed out.

NOTE: Do not apply a strong shock or force of more than about 30N (about 3kgf) to the panel display or it may be damaged.

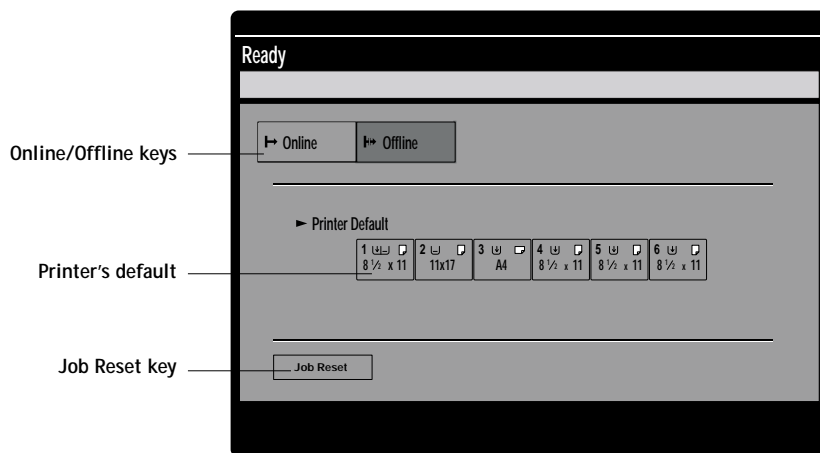
Using the Operation Panel

Online and Offline display

To access printer screens, press the Printer key on the Operation Panel.



The following status screen appears:



Online/Offline

The online/offline keys indicate the printer's status: "Online" or "Offline". When the printer is online, it can receive data from a computer. When the printer is offline, it cannot receive data from a computer. To change the printer's status when it is online, press the offline key. To change the printer's status when it is offline, press the online key.

Printer's Default

Shows the default input tray which is selected from the Panel Display.

NOTE: If "Auto" is selected, no tray is highlighted.

Job Reset key

Press this key to cancel the current print job. This key is displayed only when the printer is offline.

Printing system pages from the Operation Panel

The List Print tab allows you to print system pages from the Operation Panel of the Fiery EB-105. These pages include the PCL and PostScript demo pages, PCL and PostScript font lists, Disk Directory List, and Minor Error Log.

Printing the Configuration Page

The Configuration Page lists all the settings in effect from the current Setup.

Before you perform any service procedure, you should print the Fiery EB-105 Configuration Page (if possible) so that you are prepared to return the settings to their former configuration, 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. After making changes to the PostScript, Parallel, or Network tabs, the printer needs to be restarted in order for the settings to take effect and appear on the Configuration Page. For more information, see the *Configuration Guide*.

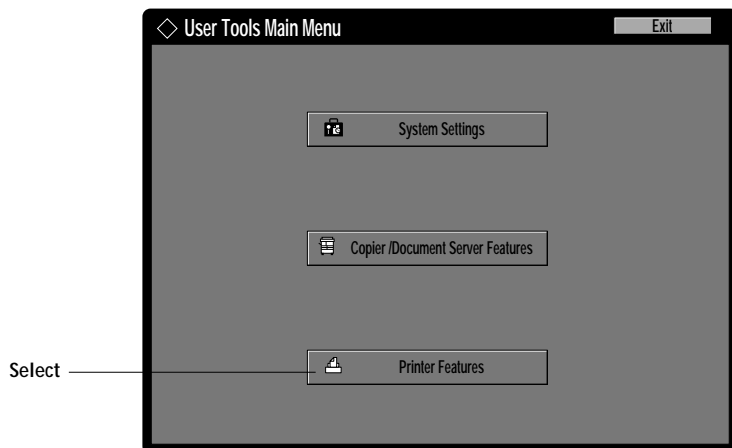
Printing Demo Pages

Before connecting the Fiery EB-105 to the network, print each Demo Page, one for Postscript (PS) and one for PCL (Printer Control Language). Demo Pages are files that reside on the Fiery EB-105 hard disk drive. Output verifies that the Fiery EB-105 is functional and connected properly to the copier.

Printing system pages from the Operation Panel

TO PRINT THE SYSTEM PAGES

1. At the Operation Panel, press the User Tools key and then the Printer Features key.



2. Press the List Print tab.

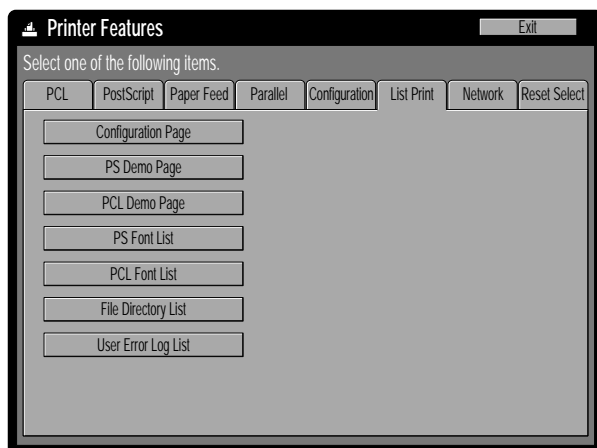


FIGURE J Printing system pages

3. Select the Configuration Page, a Demo page, or one of the lists.

NOTE: When both PS (PostScript) and PCL (Printer Control Language) are installed, make sure to print both Demo Pages.

4. Examine the Demo Page.

If the Demo Page prints, you know that the Fiery EB-105 print engine is functional and that the connection between the Fiery EB-105 and the copier is good.

5. Post the current Configuration Page near the server for quick reference.

Users need the information on this page, such as the current Setup settings.

Verifying connection to the network

Verifying connection to the network

The Fiery EB-105 provides twisted pair connectivity to an Ethernet network.

This section describes how to connect the Fiery EB-105 to the network and then print a few test documents in order to verify the connection.

Category 3 or Category 5 unshielded twisted pair (UTP) network cable can be used for 10BaseT. Category 5 cable is required for 100BaseTX.

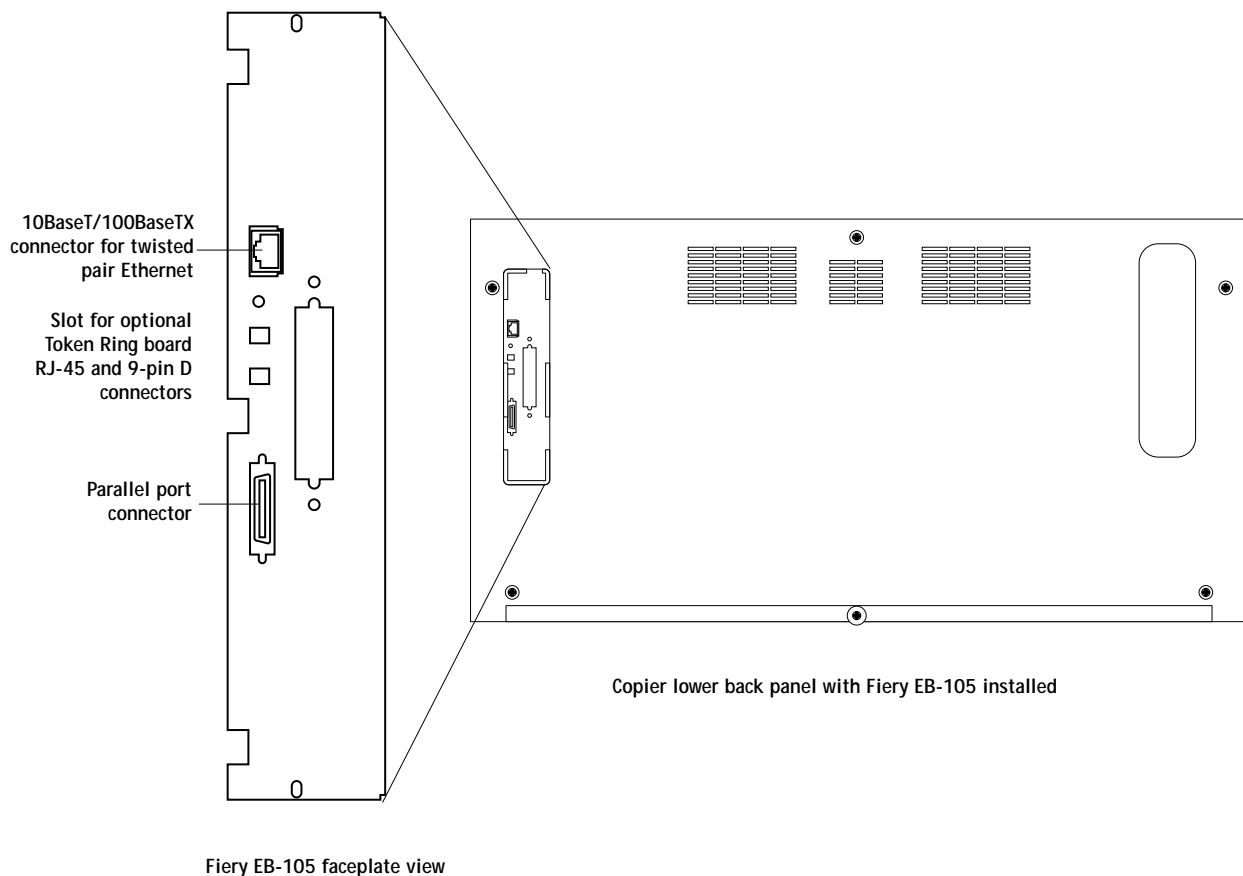


FIGURE K Fiery EB-105 network and parallel port connectors

Verifying the parallel port connection

TO CONNECT A TWISTED PAIR CABLE TO THE FIERY EB-105

Category 5 unshielded twisted pair (UTP) network cable must be used for 100BaseTX. It connects to the RJ-45 connector on the Fiery EB-105 (see Figure K on page 25).

1. Power off the copier before connecting the Fiery EB-105 to any network device.
2. Connect the network cable to the RJ-45 connector on the Fiery EB-105.
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 EB-105 has the correct Setup configuration and is Idle, the Fiery EB-105 should be available on the network.

The network administrator should perform any additional network Setup, verify the network connection, verify that the Fiery EB-105 appears in the list of printers, and print a few test documents from a networked computer that will use the Fiery EB-105. (See the *Configuration Guide* for more information.)

Verifying the parallel port connection

On the Fiery EB-105, the parallel connector (female 36-pin mini-Centronics) provides a high-speed interface port for connecting directly to the parallel port of a PC. The parallel port can be used for installing system software (see page 28) and for printing documents.

The Fiery EB-105 can be connected to the network and to a parallel port device at the same time. See Figure K on page 25.

An IEEE 1284 bi-directional cable is required. One end of the cable requires a male IEEE 1284-C (36-pin mini-Centronics) connector for connecting to the Fiery EB-105.

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

Verifying the parallel port connection

TO CONNECT THE FIERY EB-105 TO A PC

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

1. Power off the copier before connecting the Fiery EB-105 to a PC.
2. Power off the PC.
3. Connect a parallel (Centronics) cable to the 36-pin mini Centronics connector on the Fiery EB-105.
4. Connect the other end of the parallel cable to the parallel port of the PC.

If there is more than one parallel port connector on the back of the PC, ask the network administrator to indicate the preferred parallel port to use for the copier.

5. Power on the PC and the copier.
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 EB-105 has the correct Setup configuration and is Idle, the network administrator should print a few test documents from the PC connected to the copier. See the *Configuration Guide* for more information.

System Software

The Fiery EB-105 System Software CD includes one system software file to be installed over the parallel port of the Fiery EB-105.

Install system software when:

- You replace the Fiery EB-105 hard disk drive (HDD)
- You replace the Fiery EB-105 board
- You upgrade to a more recent version of the system software

System Software installation reminders

Keep in mind the following when installing system software:

- **Job Log**—Formatting the HDD deletes the list of jobs in the Job Log and any jobs in the queues. The network administrator at the customer site can save a current list of jobs (not the actual job) from the Job Log using Fiery Spooler or WebSpooler.
- **Fonts**—Formatting the HDD deletes all fonts that the customer has installed on the Fiery EB-105. 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 EB-105, print the Font List before you format the HDD and again after you complete the system software installation. Any fonts not listed after installation will need to be reinstalled. See the *Printing Guide* for more information.

- **User Code Log and Network Settings**—User code log information and network setup settings are not retained. The network settings can be entered manually using the Operation Panel to enter the information from the Configuration Page. The User code log information cannot be manually restored. To restore user code log information and the network settings automatically, you can save two files before installing system software and then restore the two files after installing system software. This procedure and additional PC and software requirements are described in other documentation.
- **Language**—Screens for installing system software are always displayed in English, even if the copier is configured for another language.
- **Compatibility**—The latest user software must be installed onto all computers that print to the Fiery EB-105. Using incompatible versions of the system and user software may result in system problems.

Installing System Software

To install system software using the parallel port on the Fiery EB-105, you need:

- A PC with Windows 95 or 98
 - A CD-ROM drive built in or attached
 - At least 400MB of disk space free
 - Support for ECP mode on the parallel port
- IEEE 1284 bi-directional parallel cable (short)

One end of the parallel cable requires a male IEEE 1284-C (36-pin mini-Centronics) connector for connecting to the Fiery EB-105.

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

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

TO SET UP THE PC

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

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

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

2. Install the PostScript printer driver for the Fiery EB-105 from the User Software CD in the Windows subdirectory (for example, the win_9x directory).

This driver supports IEEE 1284 fast throughput over an ECP parallel port and allows you to configure all port and spool settings required for a successful installation. You may skip this step if a comparable printer driver is already installed on the PC. See *Getting Started* for directions on installing printer drivers.

3. In Windows, click the Start button, point to Settings, and click Printers.
4. Click the icon for the printer and choose Properties from the File menu.
5. Click the Details tab and make sure the box "Print to the following port:" reads exactly as follows: LPT 1: (ECP Printer Port).

If this box reads LPT 1: (Printer Port), then Parallel Port Mode is not set to ECP (see step 1). Compatibility mode will work but the installation will take much longer.

NOTE: If you are using a Windows NT or Windows 2000 PC, this appears under the Ports tab not Details tab and you may need Administrator access permissions.

6. Click Spool Settings and select "Spool print jobs so program finishes printing faster," "Start printing after last page is spooled," and, if it is not greyed out, "Disable bi-directional support for this printer". Then click Apply and click OK.

NOTE: The "Start printing after first/last page is spooled" setting generally does not affect this procedure significantly. Choosing "last page" may result in a faster installation. If your PC is likely to spool the file very slowly, however, choose "Start printing after first page is spooled" in order to avoid disruption from a parallel port timeout.

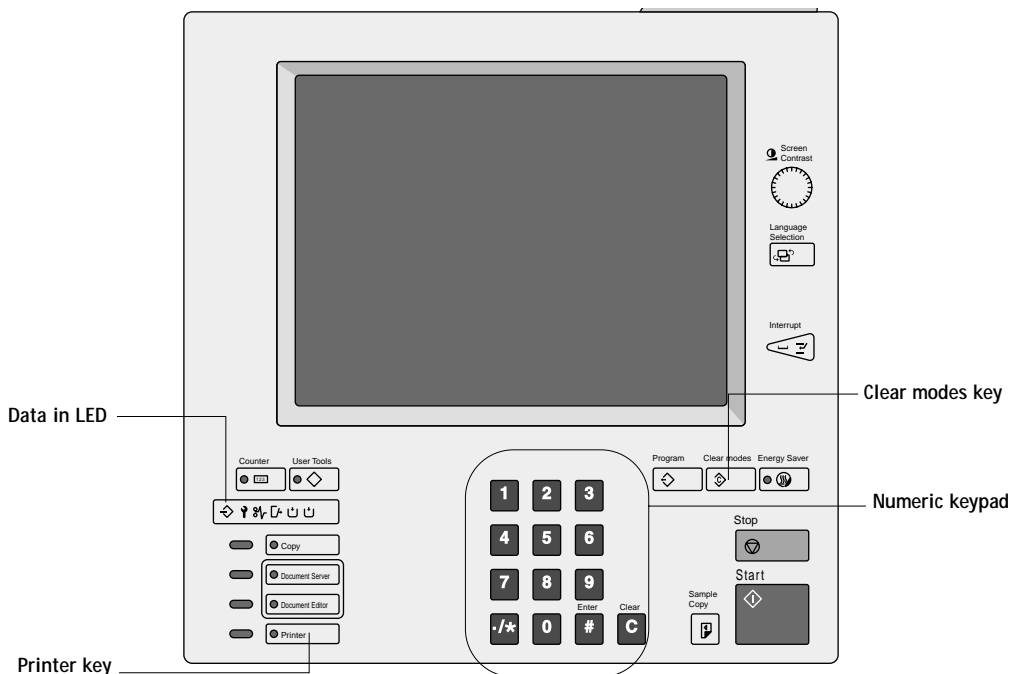
Disabling Windows support for the bi-directional parallel port helps the system software installation to succeed.

7. Click Port Settings and ensure that "Spool MS-DOS print jobs" and "Check port state before printing" are checked. Click OK.
8. Click Apply, then OK to activate the settings and exit from the Printer Properties screen.

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

TO PREPARE FOR INSTALLATION USING THE PARALLEL PORT

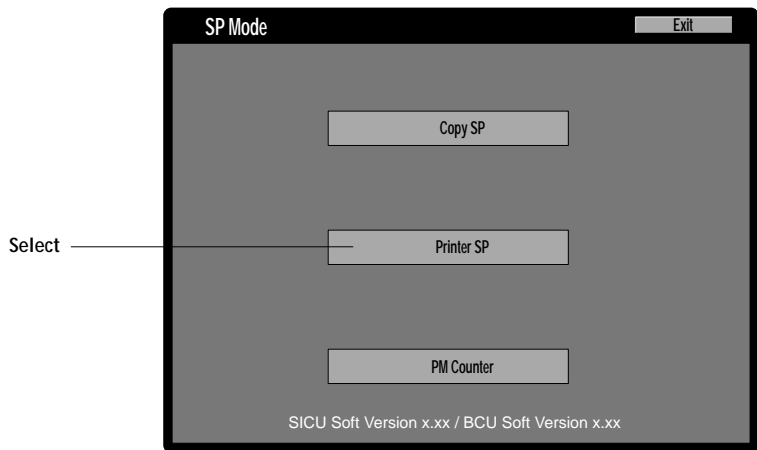
1. Print the Configuration Page (if possible) to record the customer's current configuration (see "Printing system pages from the Operation Panel" on page 23).
Setup settings are reset to the default configuration when system software is installed.
2. Print the Font List.
The Font List details what fonts are resident on the Fiery EB-105 HDD. Along with the fonts that are provided on the System Software CD, the customer may have installed additional fonts that will be deleted when the HDD is formatted.
3. Power off the copier and the PC before attaching the cable.
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 EB-105 (see Figure K on page 25).
5. Switch ON the dual switch at the Fiery EB-105 faceplate in order to allow service procedures to be performed (see page 11).
6. Power on the copier and wait for the data in LED to blink green.



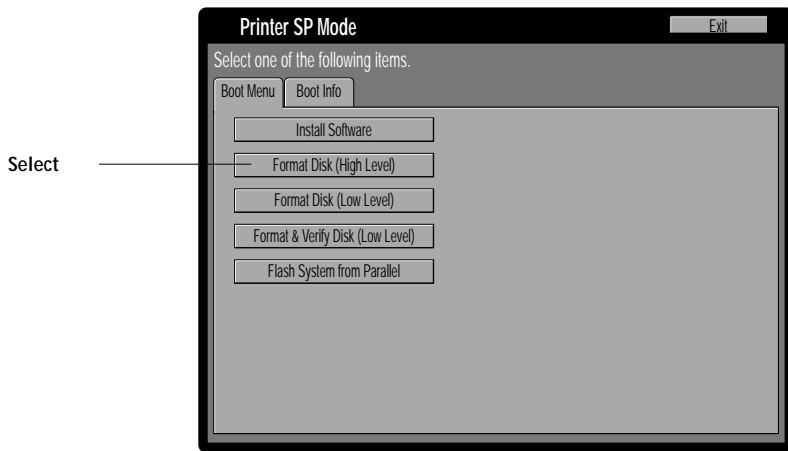
7. Enter SP Mode:
 - Press the Clear modes key on the Operation Panel.
 - Enter the numeric password on the numeric keypad.
This password is not provided in this document.

System Software

- 8. Select Printer SP from the SP Mode screen.



- 9. At the Printer SP Mode screen, press the Format Disk (High Level) option, then at "Are you sure you want to format the disk?" press Yes to confirm.



Wait while status messages appear.

NOTE: The format options Format Disk (Low Level) and Format Disk & Verify (Low Level) are normally not required. If you suspect a problem with the HDD, you can select the Format Disk (Low Level) method to correct any bad sectors on the disk (30 to 60 minutes). If problems persist, you can select the Format Disk & Verify (Low Level) method as a diagnostic (60 minutes or longer).

- 10. At the message, "The disk was formatted successfully", press OK to return to the Printer SP Mode screen.

Now you are ready to do the software installation procedure.

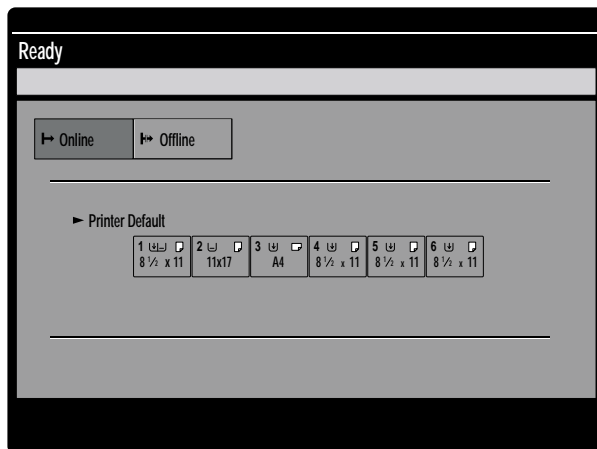
TO INSTALL SYSTEM SOFTWARE

NOTE: This procedure assumes you have performed the procedure “To prepare for installation using the parallel port” on page 31 which includes formatting the HDD.

1. Power on the PC and then insert the System Software CD into the CD-ROM drive.
2. In the Windows Start menu, point to Programs, and click MS-DOS Prompt to bring up an MS-DOS window.
Do not use the option to “Shut down and Restart Windows in DOS mode”.
3. At the MS-DOS prompt, change from the C:\ drive to the CD-ROM directory and do a dir command to display the filename of the software.
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.
4. The filename including the extension is displayed at the end of the MS-DOS line of text providing information about the file. If more than one file is in the directory, choose the filename most likely to be the system software installation file. The extension will be either .mm or .ssw.
5. At the Printer SP Mode screen on the Operation Panel, press the Install Software option but do not press Yes to confirm yet.
6. At the MS-DOS prompt, type the following command but *do not* press the enter (or return) key yet:
copy *filename* lpt1 /b
filename refers to the file on the System Software CD that contains the system software and /b specifies the binary option (not ASCII).
NOTE: Do *not* press the enter (or return) key yet.
7. At the Panel Display message “Are you sure you want to download new System Software?” press Yes.
8. When the Panel Display shows the message “Copying...”, press the enter (or return) key on the PC and then wait.
The status message “Downloading new System Software” shows progress from 0% to 100% in increments of 10%.
NOTE: Progress from 90% to 100% takes much longer than the previous increments. Make sure to wait until 100% is reached.
9. When the Panel Display shows the message “Software installation successful”, press OK then press Exit on the Printer SP Mode screen.
10. At the SP Mode screen, power off the copier and remove the parallel cable.
11. With the copier powered off, switch OFF the dual switch at the Fiery EB-105 faceplate in order to resume normal operation (see page 11).

System Software

12. On the PC, exit MS-DOS and remove the System Software CD from the CD-ROM drive.
13. Power on the copier and allow the Fiery EB-105 to reach Ready.
You may need to press the Printer key on the Operation Panel to view the Printer screen.



14. If you need to select the alternate language, press the Language key on the Operation Panel.
15. Reenter the customer's settings from the Configuration Page that you printed earlier.
Bypass settings not included on the Configuration Page if it is more appropriate for the site administrator to set them. Some settings you must do from the Operation Panel and some you must do from Web Setup. See the *Configuration Guide* for information.

Flash Upgrade

Flash Upgrade

NOTE: Perform a Flash upgrade *only* if you have been informed that a Flash upgrade is necessary and you have received a Flash upgrade file.

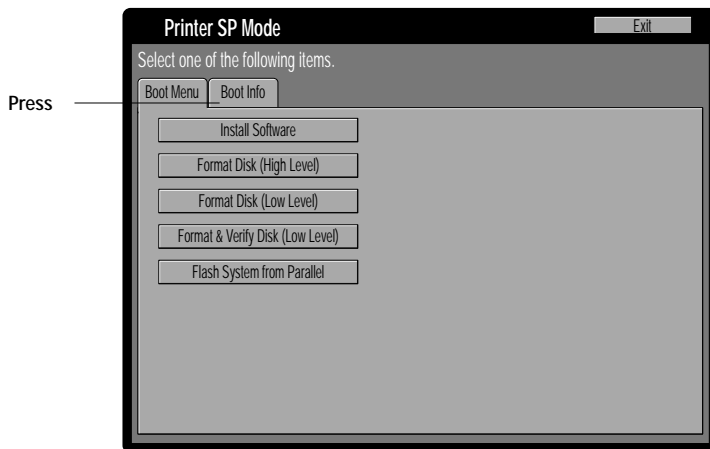
The following procedures describe how to check the Flash version and how to upgrade if required.

Flash Upgrade

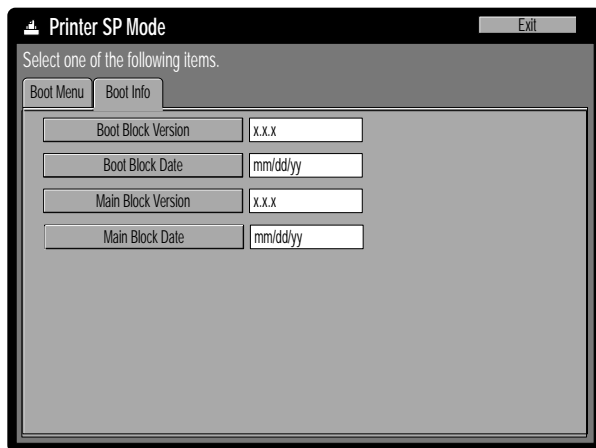
TO CHECK THE FLASH VERSION

1. At the Printer SP Mode screen, press the Boot Info tab.

NOTE: To access the Printer SP Mode screen, see the procedure on page 31.



2. Verify the version of the Boot Block and the Main Block. If the version displayed is earlier than the version of the Flash upgrade file provided, you will need to perform the procedure "To install the Flash upgrade" on page 37.



3. If no more service functions are required, press Exit on the Printer SP Mode screen then power off the copier and switch OFF the service switch at the Fiery EB-105 faceplate to resume normal operation (see page 11).

Flash Upgrade

If necessary, install the Flash upgrade.

Before performing the procedure “To install the Flash upgrade”:

- Obtain a PC that meets the requirements described on page 29.
- Configure the PC for installing a file over the parallel port as described on page 30.
- Attach the PC to the parallel port of the Fiery EB-105 as described on page 26 and page 27.

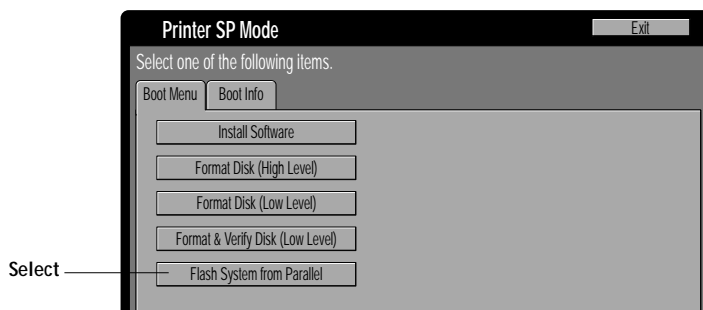
NOTE: If the Setup configuration has been changed from the default or additional fonts have been installed, print the Configuration Page and the Font List before beginning the following procedure. After performing the Flash upgrade use these pages to reconfigure the system if necessary.

This procedure assumes that you have the Flash upgrade file available for installation.

TO INSTALL THE FLASH UPGRADE

1. After connecting the PC to the Fiery EB-105 parallel port, power on the copier and PC.
2. If the Flash upgrade file is on CD or floppy disk, insert the media into the PC. In the Windows Start menu, point to Programs, click MS-DOS Prompt, and then change to the directory with the Flash upgrade file.
3. At the MS-DOS prompt, type the following command but *do not* press the enter key yet:
`copy filename lpt1 /b`
filename refers to the Flash upgrade file and /b specifies the binary option (not ASCII).
4. At the Printer SP Mode screen, press the option “Flash System from Parallel” and press Yes to confirm.

NOTE: To access the Printer SP Mode screen, see the procedure on page 31.



5. Press the enter (or return) key on the PC and then wait while the copier displays the messages “Please wait” and “Copying...”

Flash Upgrade



6. Wait during the copier screen message "Upgrading Flash."
Do not turn off the copier during this message. Otherwise, the Fiery EB-105 will be damaged.
7. At the message "System Flash Download successful. Power machine off and then on to restart." press OK to return to the Printer SP Mode screen.
8. Power off the copier, wait a few moments, then power on the copier.
9. Let the system continue its startup sequence until it reaches Ready.
10. On the PC, exit MS-DOS and shutdown Windows.
11. Power off the Fiery EB-105 and the PC before removing the parallel cable.
If the Flash upgrade file was on a CD or floppy disk make sure you remove it before powering off the PC.
12. Check the Flash version to make sure the upgrade was successful (see page 36).
13. With the copier powered off, switch OFF the dual switch at the Fiery EB-105 faceplate in order to resume normal operation (see page 11).

The troubleshooting process

This following sections identify the source of common problems that may occur with the Fiery EB-105 and suggests ways of correcting them.

The troubleshooting process

The troubleshooting process is designed to eliminate the most obvious causes of failure before progressing to more complex issues. “Where problems occur” on page 40 gives an overview of the Fiery EB-105 components and indicates areas most likely to require troubleshooting.

In normal operation, the following screen is displayed once the Fiery EB-105 completes its startup sequence. You may need to press the Printer key on the Operation Panel to view the Printer screen.

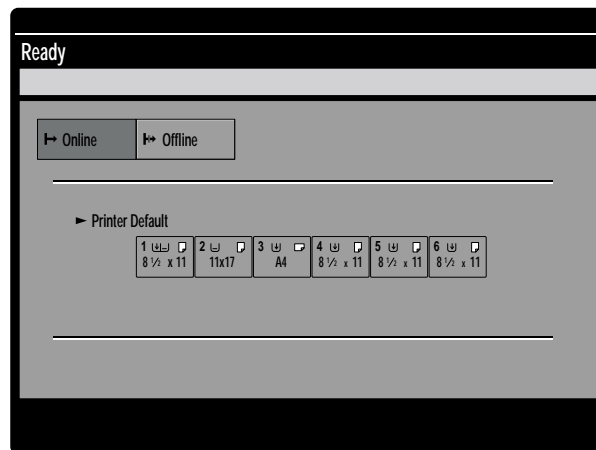


FIGURE L Printer screen

If the Fiery EB-105 fails to complete its startup sequence and does not reach Ready, the most likely cause is a loose cable or board connection. See “Checking connections” on page 42 for descriptions of Fiery EB-105 parts and connections.

- Try a phone check before you go to the customer site.
“Before you go to the customer site” on page 41 suggests areas you should check out 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 copier and loose connections at a power strip or outlet.
- Check for obvious causes of problems.
“Preliminary on-site checkout” on page 42 takes you through the initial visual checkouts you should make when you arrive at the customer site. You can check the touch panel display for an error message and inspect the copier externally and internally for the most common problems, such as loose cables, connectors, or boards.

The troubleshooting process

- Check network connections.
“Checking the network” on page 47 provides guidelines for checking the network connections between the copier and the computers to which it is connected as well as information on several printing problems.

Where problems occur

The Fiery EB-105 is a built-in print server for copiers, 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 EB-105 or the copier
- The interface between the Fiery EB-105 and the copier
- The interface between the Fiery EB-105 and computers that print to it

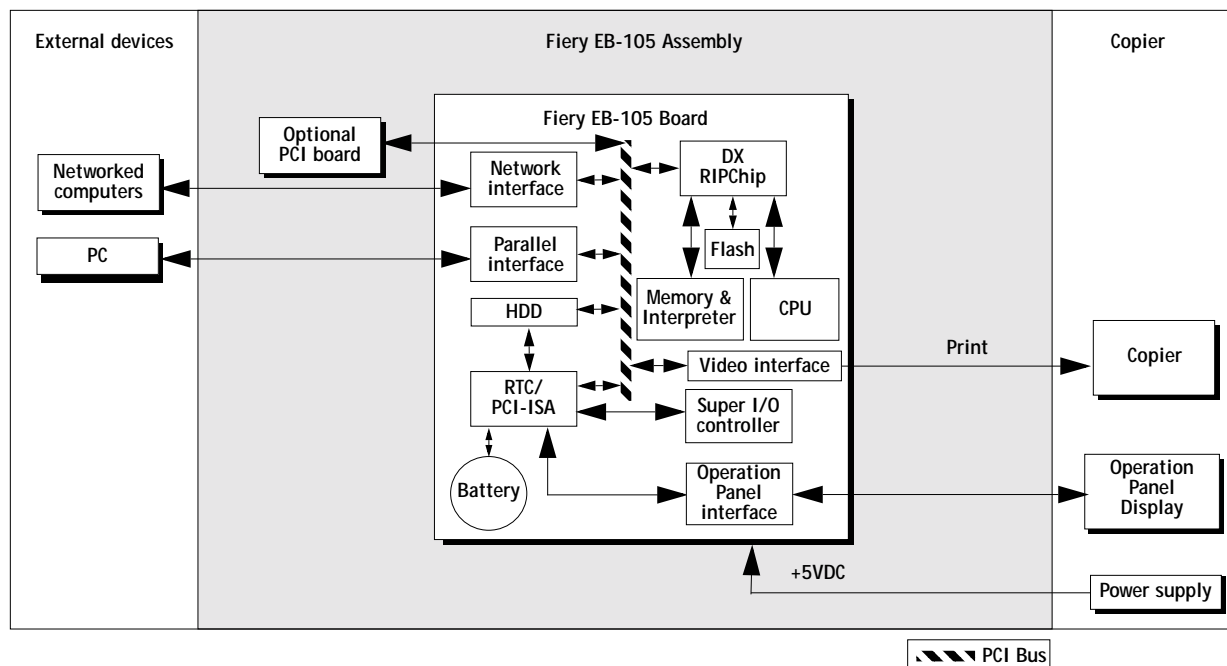


FIGURE M Fiery EB-105 functional diagram

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

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 out the following items:

1. Does the copier work?

If the copier works, but the user cannot print the Fiery EB-105 Demo Page, have the customer check for any error messages displayed on the touch panel display. If an error has occurred on the Fiery EB-105 that probably requires a service call.

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

- Is there a printing problem?

- Does the Fiery EB-105 Demo Page fail to print?
- Does the Fiery EB-105 fail to respond to a print command?
- Does printing seem to take a long time?
- Is print quality poor?
- Does the Fiery EB-105 fail to appear in the list of printers?

- Has the customer noted any error messages on the touch panel display?

If the answer to any of these questions is yes, refer the customer to the Troubleshooting chapters in the *Job Management Guide* and the *Printing Guide*.

If the customer has followed the corrective actions in the *Job Management Guide* and *Printing Guide* and has failed to solve the problem, be prepared to make a service call. Keep a log of the failures and messages 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 EB-105 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 copier cover:

- Check that external interface cables are plugged into the proper connectors at the back of the copier.

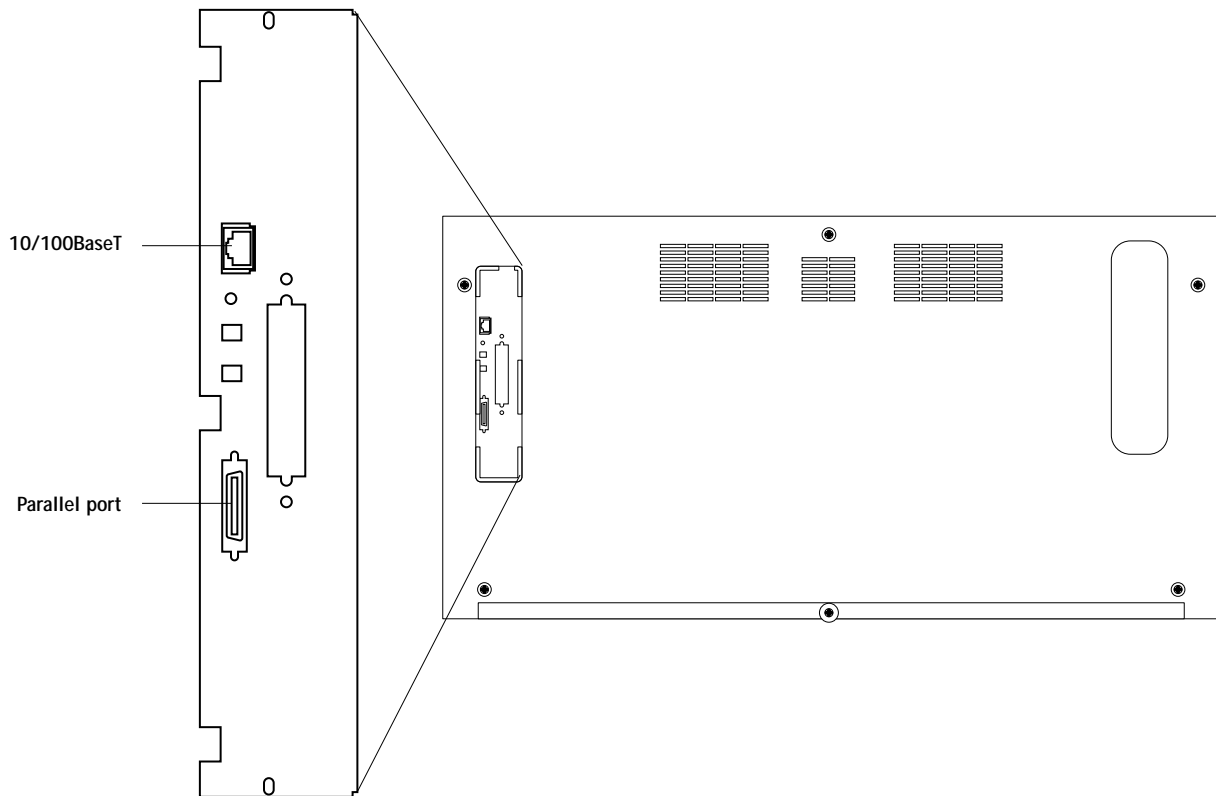


FIGURE N External connectors

- Make sure the power cable is plugged into the wall outlet and that the copier is powered on.

Also, see “Checking connections” on page 10. See other documentation for guidelines when disassembling, checking, and reassembling the copier. If all the connectors are in place and the problem still exists when the copier is powered on, then proceed to the next stage of troubleshooting.

LED patterns

TO CHECK INTERNAL CONNECTIONS

1. Before you touch any parts inside the copier, attach an ESD grounding wrist strap.
2. Inspect internal ribbon cables to see if they are intact.
Faulty ribbon cables are easily overlooked. Check the contact point between the cable and the connector to ensure that they have not separated. If a ribbon cable is suspect, substitute it with a tested cable.
3. Make sure that all Fiery EB-105 cables, boards, and DIMMs are properly aligned and well seated on their connectors.
 - PCI connection to copier. This connection is for the video interface and the Operation Panel interface and for receiving power from the copier power supply.
 - HDD ribbon cable from the HDD to the Fiery EB-105 connector J1. See Figure G on page 17.
 - Socketed DIMMs at J24 and/or J23. See Figure D on page 13.
 - If an option board is present, check Fiery EB-105 connector J9. See the documentation in the specific option kit for information.
4. After tightening connections, if one or more Fiery EB-105 components are still not getting power, you may need to check the copier power supply.

LED patterns

The dual LEDs visible from the faceplate provide Fiery EB-105 status and troubleshooting information.

- Green LED is ON when the copier is powered on. Failure to turn on means the Fiery EB-105 or the connection of the Fiery EB-105 to the copier is faulty.
- If DIMMs fail or are missing, a few minutes after the copier is powered on, the red LED blinks 5 times, pauses, and repeats
- During startup diagnostics, the red LED is ON. It remains ON if a test fails.

Startup diagnostics

Startup diagnostics

Startup diagnostics are completed within a few seconds. They are performed in the background every time you power on the copier. If an error occurs, startup diagnostics are interrupted and the Functional Problems screen is displayed, presenting the error code of the test that failed (see Figure O).

If the error still occurs after powering off and on the machine, look up the error code in Table A on page 45 and perform the suggested actions to resolve the error.



The error must be resolved before the Fiery EB-105 can be used for printing.

Error code (see Table A)

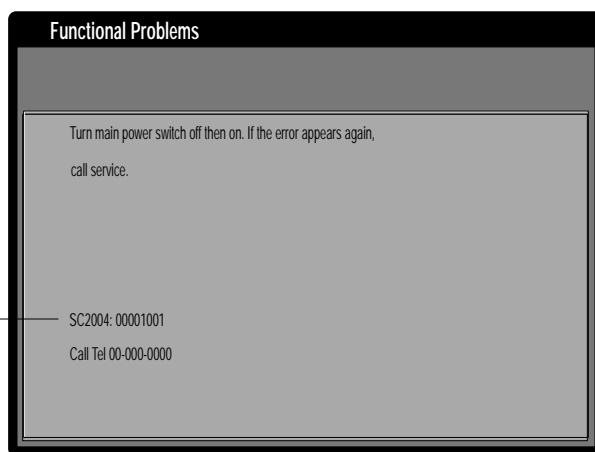


FIGURE O Sample Functional Problems screen

The following table lists the codes for each of the Startup diagnostics and the suggested actions for resolving the error.

Startup diagnostics

TABLE A Possible errors during Startup diagnostics

Service code	Test name	Area tested on Fiery EB-105	Suggested action
SC2000 Functional Problem: RTC Error			
00000700	RTC Self	Realtime Clock chip	<ul style="list-style-type: none"> • Replace the battery on the Fiery EB-105 (see “Battery” on page 15). • If the problem persists, replace the Fiery EB-105.
00000710	RTC R/W Reg		
00000720	RTC Stop		
00000730	RTC Start		
00000740	RTC Set		
SC2001 Functional Problem: I2C Error			
00001100	I2C EEPROM	I2C EEPROM	<ul style="list-style-type: none"> • Replace the Fiery EB-105.
SC2002 Functional Problem: Ethernet Slave Register			
00000401	ENET SLV REG	Ethernet controller chip DIMMs	<ul style="list-style-type: none"> • Check DIMMs. • Have network administrator verify network. • If the problem persists, you may need to replace the Fiery EB-105.
SC2003 Functional Problem: Ethernet INIT			
SC2004 Functional Problem: IDE Error			
00001001	IDE Chip	HDD chip	<ul style="list-style-type: none"> • Replace the Fiery EB-105.
00001002	IDE Drive/ Cable	HDD drive or cable	<ul style="list-style-type: none"> • Check connections. • Replace the cable. • Replace the HDD.
00001003	IDE Internal	HDD	<ul style="list-style-type: none"> • Replace the HDD.
SC2005 Functional Problem: Memory DIMM Error			
00000300	DIMM Init	DIMM	<ul style="list-style-type: none"> • See suggested actions for SC2006 below.
SC2006 Functional Problem: Memory Address Error			
00000301	Error memory	DIMM	<ul style="list-style-type: none"> • Reseat the DIMM in its socket. • If the problem persists, insert the DIMM into the other socket. If the DIMM fails in that location, replace it. • Replace the Fiery EB-105.
00000302	Error Memory Ground		
00000310	DRAM SIMM		
00000320	DRAM Slot		
00000330	DRAM Config		
00000340	DRAM Write		
00000350	DRAM 2OMB		
00000360	DRAM Size		

Startup diagnostics

TABLE A Possible errors during Startup diagnostics (Continued)

Service code	Test name	Area tested on Fiery EB-105	Suggested action
SC2007 Functional Problem BootROM Error			
00001811	BOOTROM Internal	boot ROM (Flash)	<ul style="list-style-type: none"> • Reinstall system software. • Upgrade the Flash (if provided with a special boot ROM file). • If the problem persists, you may have to replace the Fiery EB-105.
00001812	BOOTROM Unknown		
00001813	BOOTROM Chip		
00001814	BOOTROM Read		
00001815	BOOTROM Checksum		
00001816	BOOTROM Erase		
00001817	BOOTROM Write		
00001818	BOOTROM Parameter not empty		

Errors during installation of system software

When you install system software or start up the Fiery EB-105, you may encounter the following error condition:

- The LCD display hangs at less than 100% of the file

If this occurs:

First, make sure to give the system enough time to complete the installation, especially during the long time between 90% and 100%. Then, check the amount of disk space free on the PC connected to the parallel port. If less than 400MB is free, then delete unnecessary files on the C:\ drive and prepare to start the installation procedure over from the beginning. Delete the DOS file from the Windows print queue and wait for the Fiery EB-105 parallel port time out which will occur after about two minutes.

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 EB-105. 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 EB-105 malfunction. The customer's network administrator can eliminate many printing problems without requiring you to make a service call. The network administrator deals with:

- Copier error conditions
- Network connection problems that result in the copier not appearing in list of printers on the customer's computers

NOTE: If the copier 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

Printing to the Fiery EB-105

If the customer can print a Fiery EB-105 Demo 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.
- Checked the corrective actions listed in the Troubleshooting chapters of the *Job Management Guide* and the *Printing Guide*.
- 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 EB-105 faceplate at the back of the copier 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 Demo Page to make sure that the copier does not need servicing or adjusting. Also, make sure the correct paper is being used in the copier.

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

Specifications

Specifications

The Fiery EB-105 has the following features.

Hardware features

- 266MHz R7000 MIPS CPU
- 64MB memory, upgradable to 128MB
- Parallel port for direct connection printing
- Battery—3V manganese dioxide lithium coin cell (Panasonic CR2032 or equivalent)

Networking and connectivity

The Fiery EB-105 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 EB-105 user software is provided in *Getting Started*. For optimal Fiery EB-105 performance, current versions of the user software should be maintained on every network computer that might print to the Fiery EB-105.

Safety and emissions compliance

The Fiery EB-105 has been certified to meet or surpass the following standards:

Safety approvals

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

EMI approvals

- FCC Class B
- VCCI Class B
- EN 55022 Class B
- EN55024
- AS/NZS 3548 Class B
- AS/NZS 4252.1

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