

**CANON IMAGEPASS-D1/
COLOR NETWORK PRINTER UNIT-D1
SERVICE GUIDE**

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If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

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This Class B digital apparatus complies with Canadian ICES-003.

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Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

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This equipment has been tested concerning compliance with the relevant RFI protection requirements both individually and on system level (to simulate normal operation conditions). However, it is possible that these RFI Requirements are not met under certain unfavorable conditions in other installations. It is the user who is responsible for compliance of his particular installation.

Dieses Gerät wurde sowohl einzeln als auch in einer Anlage, die einen normalen Anwendungsfall nachbildet, auf die Einhaltung der Funkstörbestimmungen geprüft. Es ist jedoch möglich, dass die Funkstörbestimmungen unter ungünstigen Umständen bei anderen Gerätekombinationen nicht eingehalten werden. Für die Einhaltung der Funkstörbestimmungen einer gesamten Anlage, in der dieses Gerät betrieben wird, ist der Betreiber verantwortlich.

Compliance with applicable regulations depends on the use of shielded cables. It is the user who is responsible for procuring the appropriate cables.

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Overview

Overview

The imagePASS-D1 Print Server adds computer connectivity and highly efficient PostScript and PCL printing capacity into print engines and provides support for PCL. Generally, the imagePASS-D1 does not require regular maintenance. The imagePASS-D1 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 imagePASS-D1 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.

Scope of this guide

This service guide describes how to remove or replace major imagePASS-D1 hardware components and how to reinstall system software. It also includes product specifications and troubleshooting information. See the Table of Contents for each topic (in bold type) and each sub topic. Also use the Index to find the location of specific information.

This service guide does not describe in detail how to install the imagePASS-D1 into the print engine or remove it and does not include information on the imagePASS-D1's dedicated power supply, power switch connector, PCC board, or cables that do not connect to the motherboard. For information on these topics, see the documentation from the print engine manufacturer.

This service guide is intended for authorized imagePASS-D1 and print engine service technicians installing or servicing the imagePASS-D1. If you are not an authorized service technician, you should not attempt to install or service the imagePASS-D1.

Electronics for Imaging does not warrant the performance if the imagePASS-D1 is installed or serviced by non-authorized personnel.

NOTE: The term “imagePASS-D1” is used in this manual to refer to either the imagePASS-D1 or the Color Network Printer Unit-D1.

NOTE: imagePASS-D1 customers should not use the technical service documentation. Do not leave your copy of this service guide at the customer site after you make a service call.

About the illustrations in this guide

The illustrations in this guide reflect the current shipping version of the imagePASS-D1 at the time of publication. Components shown in these illustrations are subject to change. To receive information about any imagePASS-D1 components that do not match the illustrations in this guide, contact your authorized service/support center.

Overview

Terminology and conventions

The terms “replace” and “replacing” are typically used throughout this manual to mean reinstallation of existing components. Install new components only when necessary.

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

The term “system software” refers to the software installed on the imagePASS-D1 hard disk drive.

References to other imagePASS-D1 manuals, such as the *Configuration Guide*, are displayed in italics.

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



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

Tools you will need

To install or service the imagePASS-D1, you should bring the following tools and parts to the customer site:

- ESD wrist grounding strap and antistatic mat
- #0 and #1 Phillips head screwdrivers (non-magnetic)

You should also bring this guide, documentation for any optional service kits you may be installing, and any technical notes for the imagePASS-D1.

Precautions

Precautions

Always observe the following general precautions when servicing the imagePASS-D1 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 imagePASS-D1 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 imagePASS-D1 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.

Precautions

Key

1. Lid
2. HDD
3. HDD cable
4. DIMM
5. Battery
6. DIMM sockets (2)
7. CPU cooling assembly
8. BIOS (U4)
9. Option board connector
10. MAC chip set at U29 and U514
11. Battery socket
12. HDD cable connector
13. imagePASS-D1 motherboard
14. Network LEDs (2)
15. RJ-45 network connector
16. Parallel port connector
17. Print Engine interface connectors
18. DIAG (4) and PWR (1) LEDs
19. Download (DL) switches (2)
20. Enclosed fans (2)
21. Power switch/connector
22. Power supply
23. Chassis
24. Slot cover for option board
25. Connector panel
26. PCC board
27. Power cable

NOTE: For details on power cabling, see page 9.

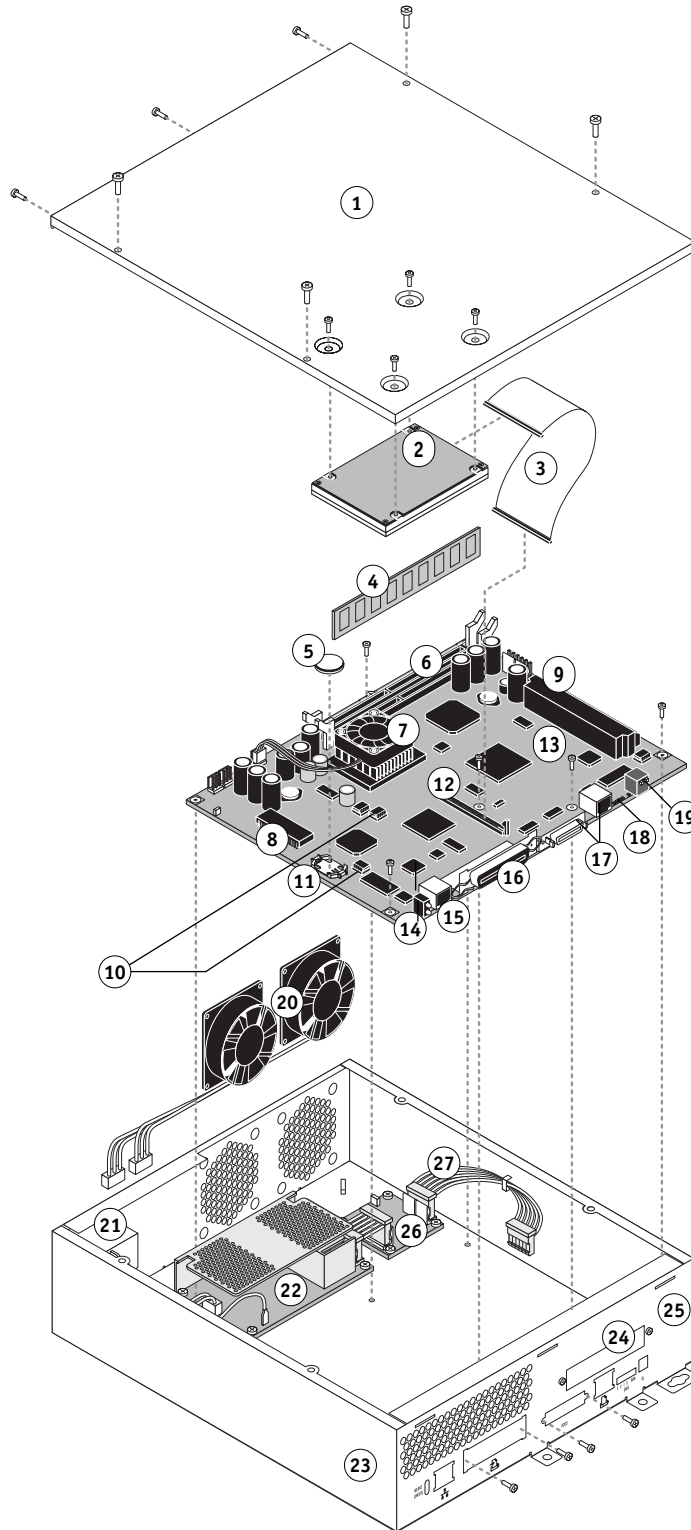


FIGURE A imagePASS-D1 exploded view

Accessing the imagePASS-D1

Accessing the imagePASS-D1

To service the imagePASS-D1, you need to power off and unplug the print engine, remove the imagePASS-D1 from the mounting bracket on the back of the print engine, and open the lid of the imagePASS-D1. You do not need to remove the mounting bracket.

NOTE: Detailed imagePASS-D1 installation instructions are not provided in this guide.

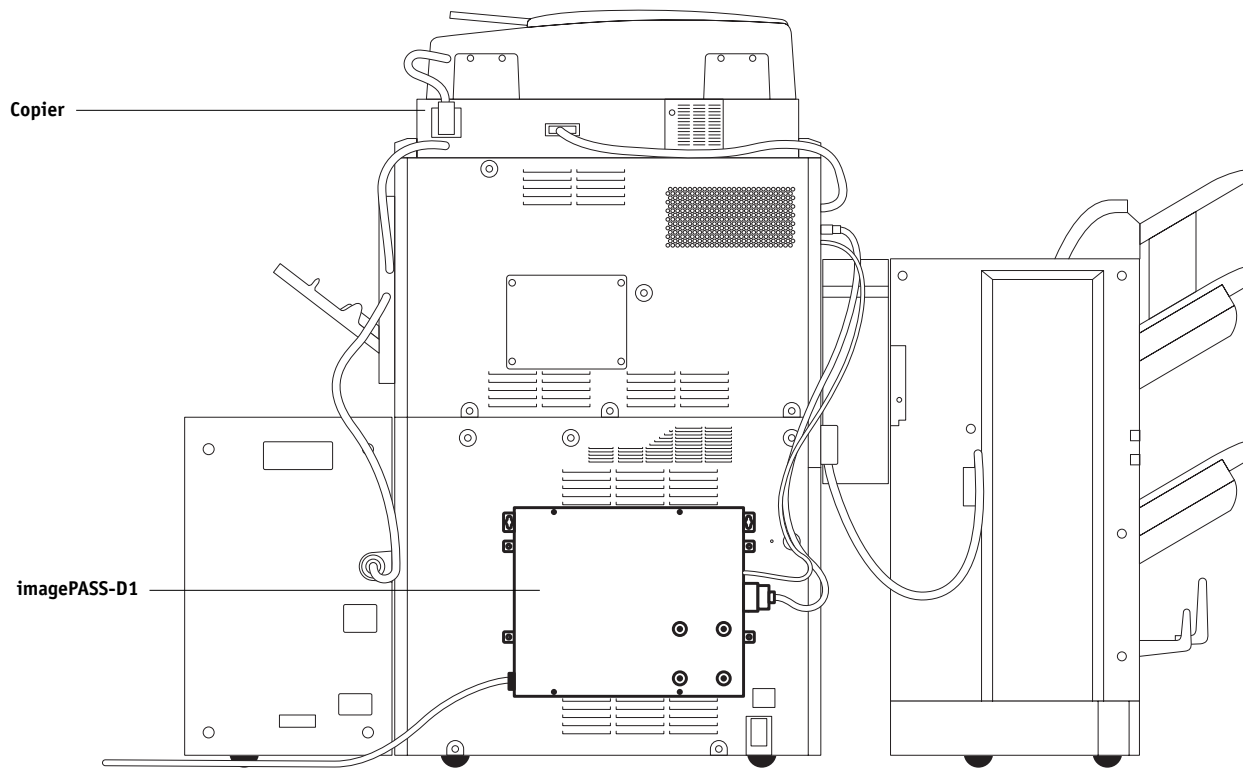


FIGURE B imagePASS-D1 attached to the print engine

Checking connections

The most common causes of hardware problems are faulty or loose connections. Make sure that imagePASS-D1 cables are intact and that both ends of each cable are properly aligned and well seated on the appropriate connectors.

External connections

Connectors for external cables are located on the connector panel and a power cord is located at the back of the imagePASS-D1. Check the imagePASS-D1 power cord and then check all external cables at the imagePASS-D1 connector panel (see the following figure). Also check the positions of the two switches on the connector panel.

Checking connections

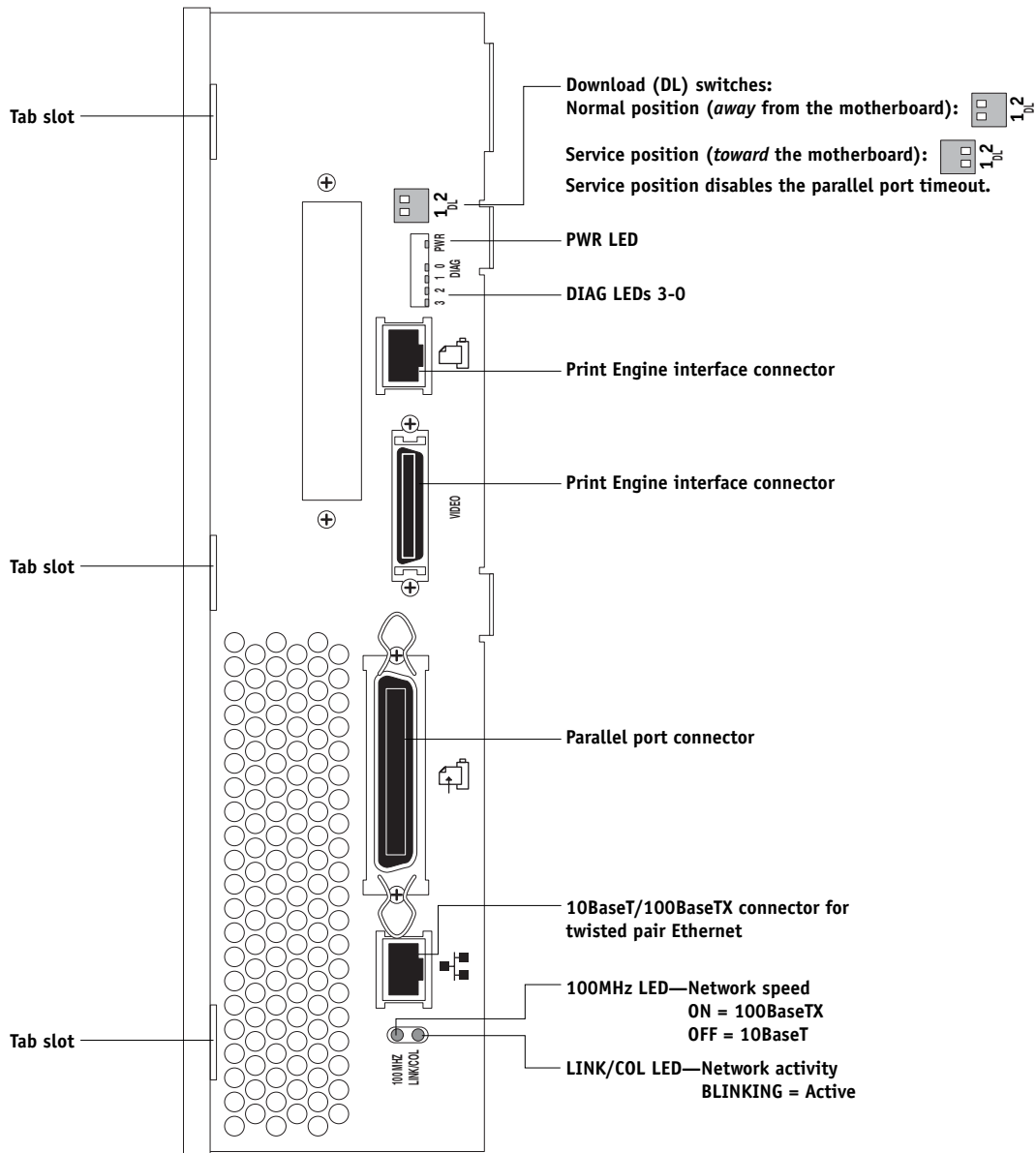


FIGURE C imagePASS-D1 connector panel

After you conclude that all external connections are good, check the internal connections.

Internal connections

Check the internal connections according to the procedure on page 8. See Figure D on page 7 for locations of most internal connections. For the HDD, see Figure G on page 13.

Checking connections

Key

- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Chassis 2. Power switch connector 3. Enclosed fans 4. Power supply 5. DIMM2 socket (for optional upgrade) 6. DIMM1 socket (for standard DIMM) 7. CPU cooling assembly 8. BIOS (U4) 9. MAC chip set: U29 and U514 10. Battery 11. HDD cable connector 12. imagePASS-D1 motherboard 13. Option board (e.g., Token Ring) connector | <ul style="list-style-type: none"> 14. Network LEDs (2) 15. RJ-45 network connector 16. Parallel port connector 17. Print Engine interface connectors 18. DIAG LEDs 19. Download (DL) switches (2) 20. Connector panel 21. PCC board 22. PCC power cable 23. Power cable 24. PCC cable (motherboard J790 to PCC J3) 25. J790 <p>NOTE: For details on power cabling, see page 9.</p> |
|--|---|

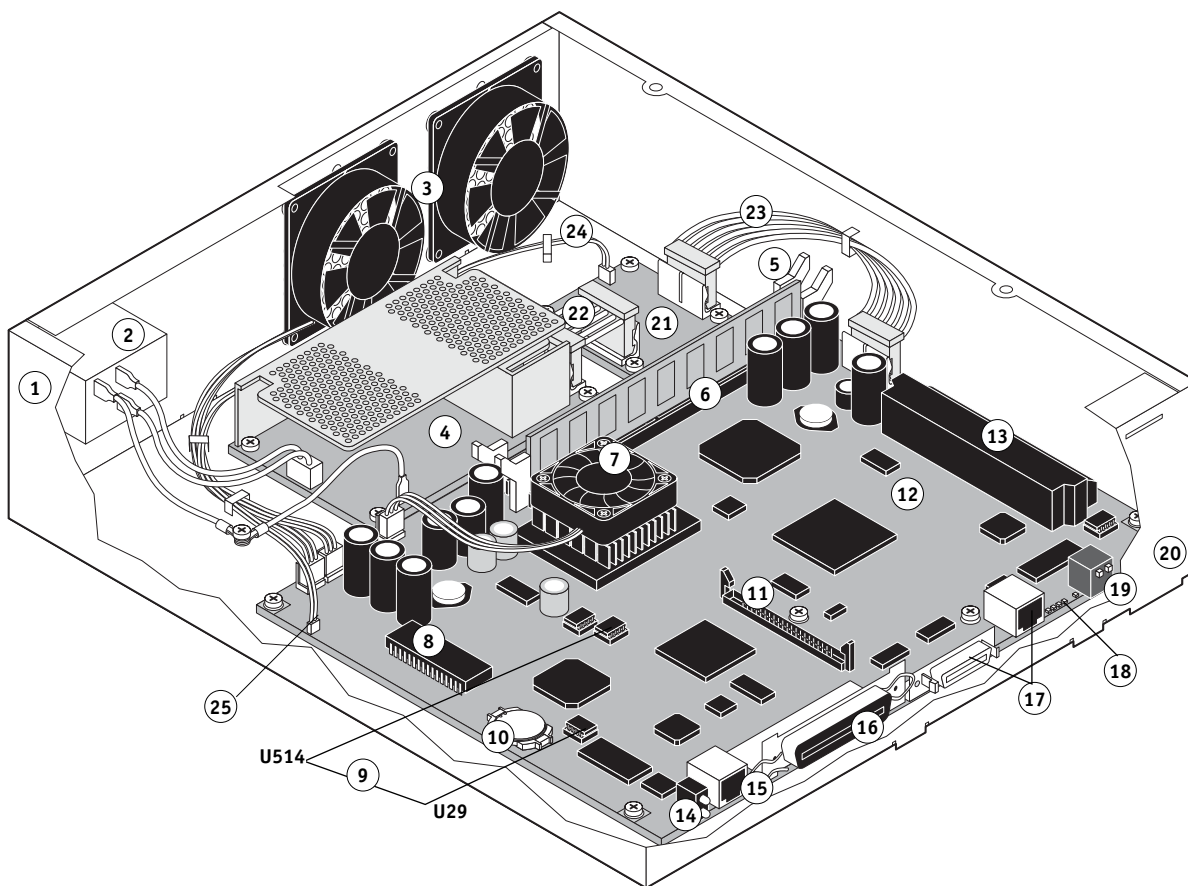


FIGURE D Chassis components

Checking connections

TO CHECK INTERNAL CONNECTIONS



CAUTION: Before you touch any parts inside the print engine, make sure to wear an ESD grounding wrist strap.

1. **Make sure that any imagePASS-D1 cables, boards, and DIMMs are intact, properly aligned, and well seated in their connectors (see Figure D on page 7 and Figure E on page 9).**
 - Hard disk drive (HDD) and cable
 - DIMM
 - Enclosed fans and cables (2)
 - CPU cooling assembly and fan cable
 - Cables connected to the power switch connector, PCC board, and power supply (see Figure E on page 9):
 - Power switch cables (2) to power supply
 - Power switch ground cable: Power switch to Frame GND
 - Power supply ground cable: Power supply FG to Frame GND
 - PCC power cable: power supply CN2 to PCC board J1
 - Power cable: PCC board J2 to motherboard J29 POWER
 - PCC cable: motherboard J790 PCC to PCC board J3
2. **If an option board is present (such as a Token Ring board), check the imagePASS-D1 connector. For more information, see the documentation in the specific option kit.**
3. **After verifying connections, if one or more imagePASS-D1 components are still not getting power, check again the two connections between the imagePASS-D1 and the print engine, and then check the print engine power supply (see print engine documentation).**

Checking connections

Power scheme

If the AC power cord is connected both to a proper power outlet and to the imagePASS-D1, and if the imagePASS-D1 dedicated power switch is the ON position, then power goes from the dedicated power supply to the PCC board and then to the motherboard. The system will not start up until the Print Engine is powered on.

When you power on the Print Engine, it sends a signal through the Print Engine interface cable to the motherboard; the motherboard sends a signal through the PCC cable to the PCC board; the PCC board supplies power to the motherboard through the power cable; the system starts up.

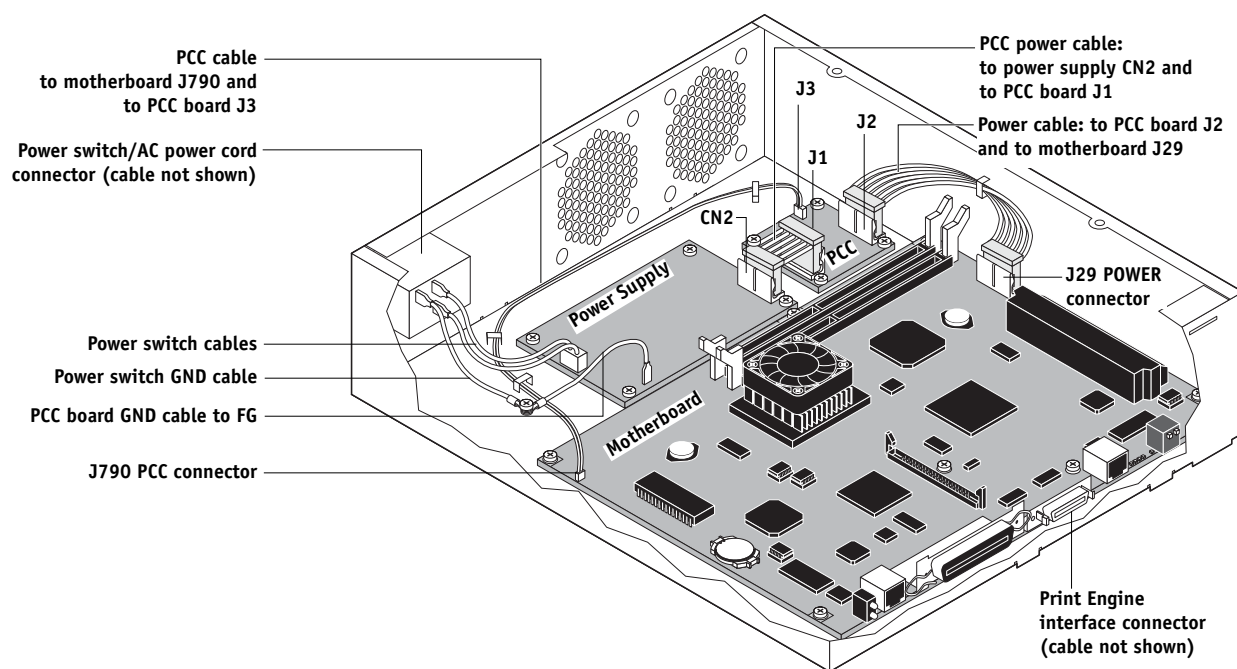


FIGURE E Power cabling

Power on

In normal usage, the customer can leave the imagePASS-D1 plugged in and with the dedicated power switch in the ON position so that the imagePASS-D1 powers off and on by means of the print engine power switch.

Before you perform service on the imagePASS-D1 hardware, however, make sure to power off the imagePASS-D1 using both the imagePASS-D1 power switch and the print engine power switch according to the procedure page 10. After service, remember to return the imagePASS-D1 dedicated power switch to the ON position according to the procedure on page 26.

Replacing the imagePASS-D1 motherboard

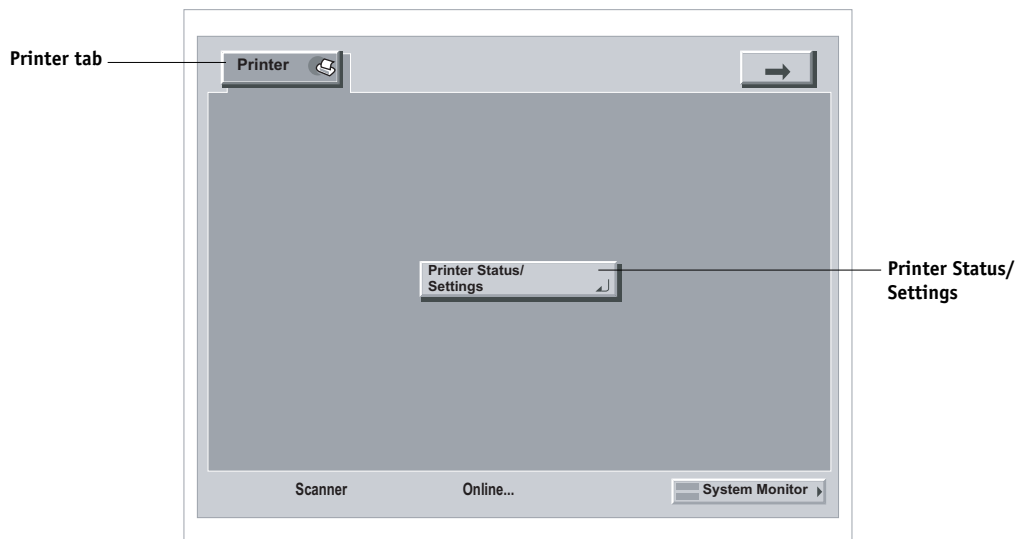
Replacing the imagePASS-D1 motherboard

When the imagePASS-D1 motherboard needs to be replaced, use the following procedures.

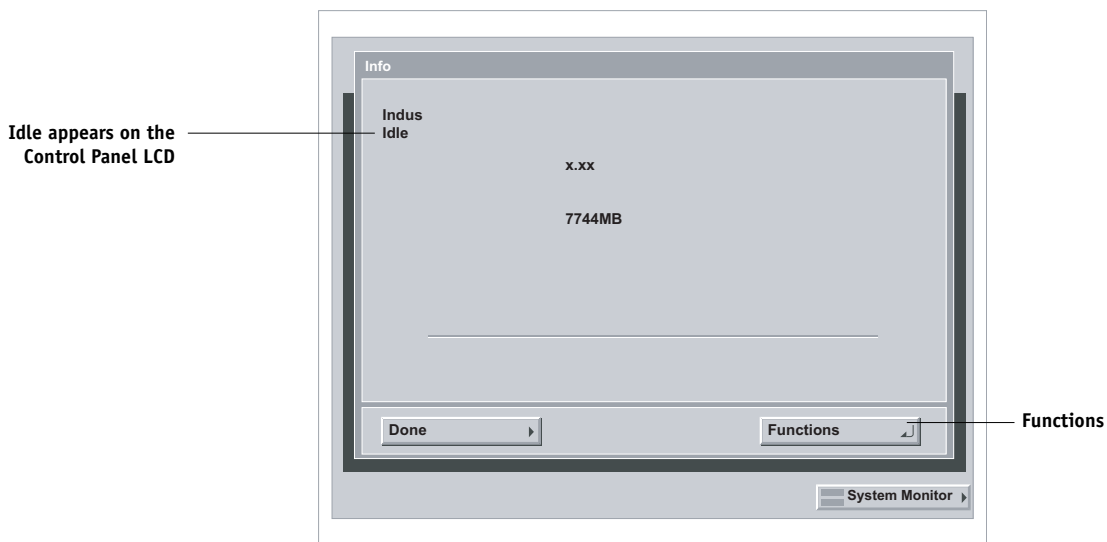
TO SHUT DOWN THE IMAGEPASS-D1 FROM THE CONTROL PANEL LCD

1. If the print engine is in its main mode, select the Printer tab on the Control Panel LCD and then select Printer Status/Setting.

Depending on the number of feature tabs, you may need to press the arrow key to display the screen with the Printer tab.

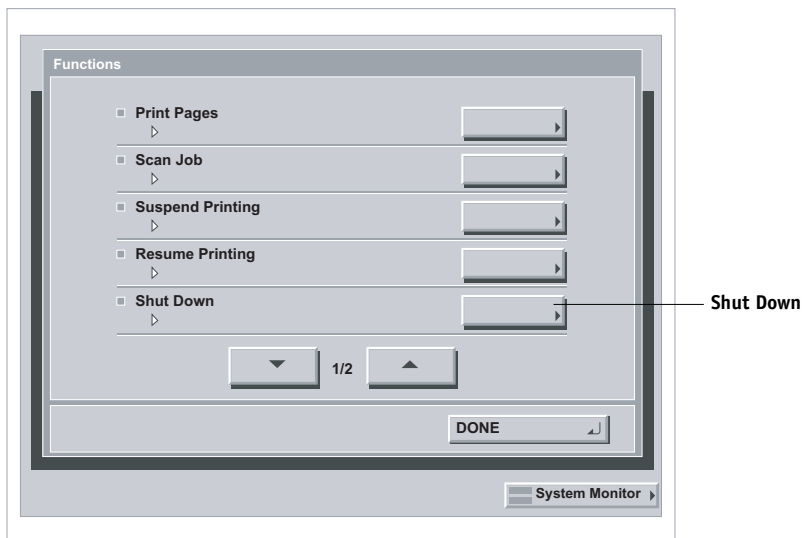


2. Make sure that the imagePASS-D1 is idle (not processing) and select Functions from the info screen.

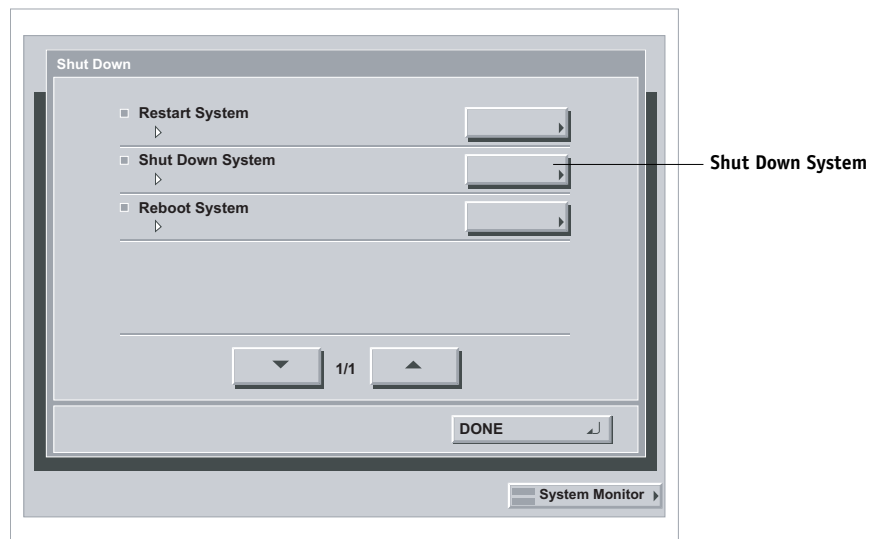


Replacing the imagePASS-D1 motherboard

3. Select Shut Down from the Functions screen.



4. Select Shut Down System from the Shut Down screen.



5. After a message is displayed that it is safe to power off the system, power off the imagePASS-D1 using its dedicated power switch.



NOTE: If you are recycling power, wait at least 10 seconds before powering back on.

6. Power off the print engine using the print engine's main power switch.

Replacing the imagePASS-D1 motherboard

TO OPEN THE IMAGEPASS-D1



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

1. **Shut down the imagePASS-D1 as described on page 10.**
2. **Unplug the print engine and remove the imagePASS-D1.**
For information on removing the imagePASS-D1 from the print engine, see the imagePASS-D1 installation instructions, not provided in this guide.
3. **Position the imagePASS-D1 so that the screw holes in the lid are facing up.**
4. **Remove the screws that secure the lid to the imagePASS-D1 and set them aside.**

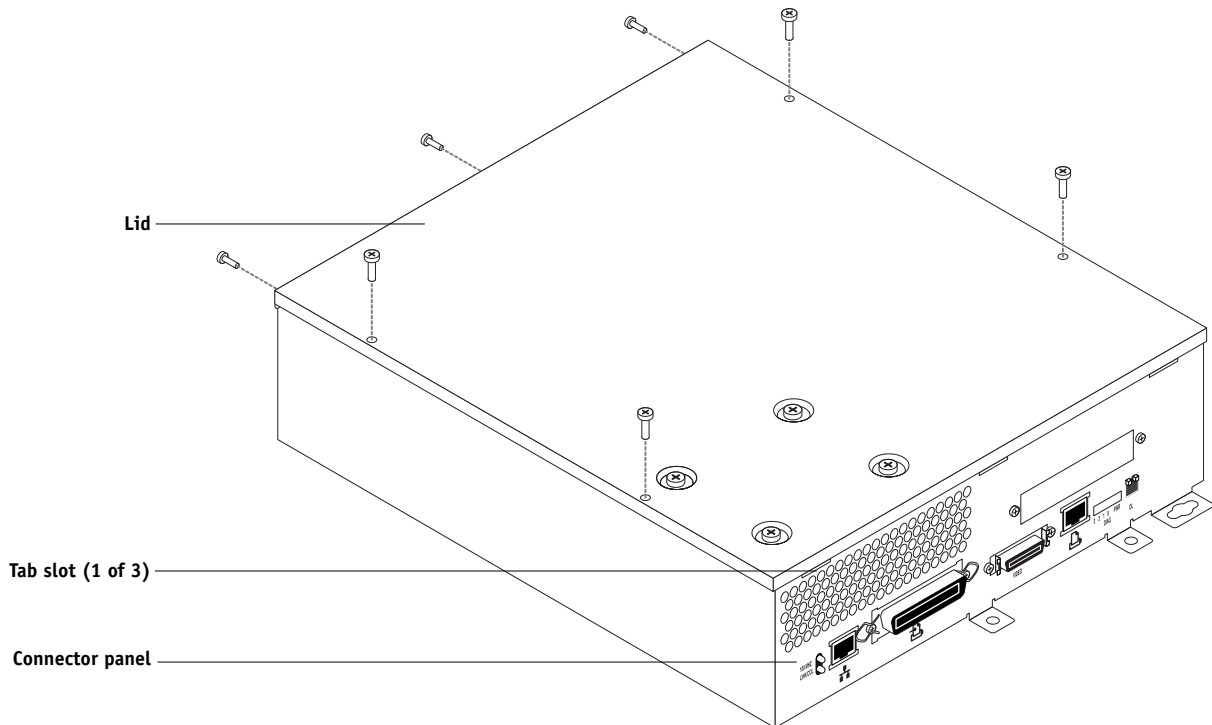


FIGURE F imagePASS-D1 lid screws

5. **Lift up the lid and disconnect the HDD cable from the motherboard.**
The HDD mounted inside the panel is connected to the motherboard by a short cable. Be careful not to damage the cable or the HDD connector. To disconnect the HDD cable, grasp the connector at the end of the cable where it is connected to the motherboard and carefully remove it.
NOTE: The lid hinges on three tabs. To remove the lid from the chassis, unhook the tabs from the slots on the connector panel. Set the lid aside.

Replacing the imagePASS-D1 motherboard

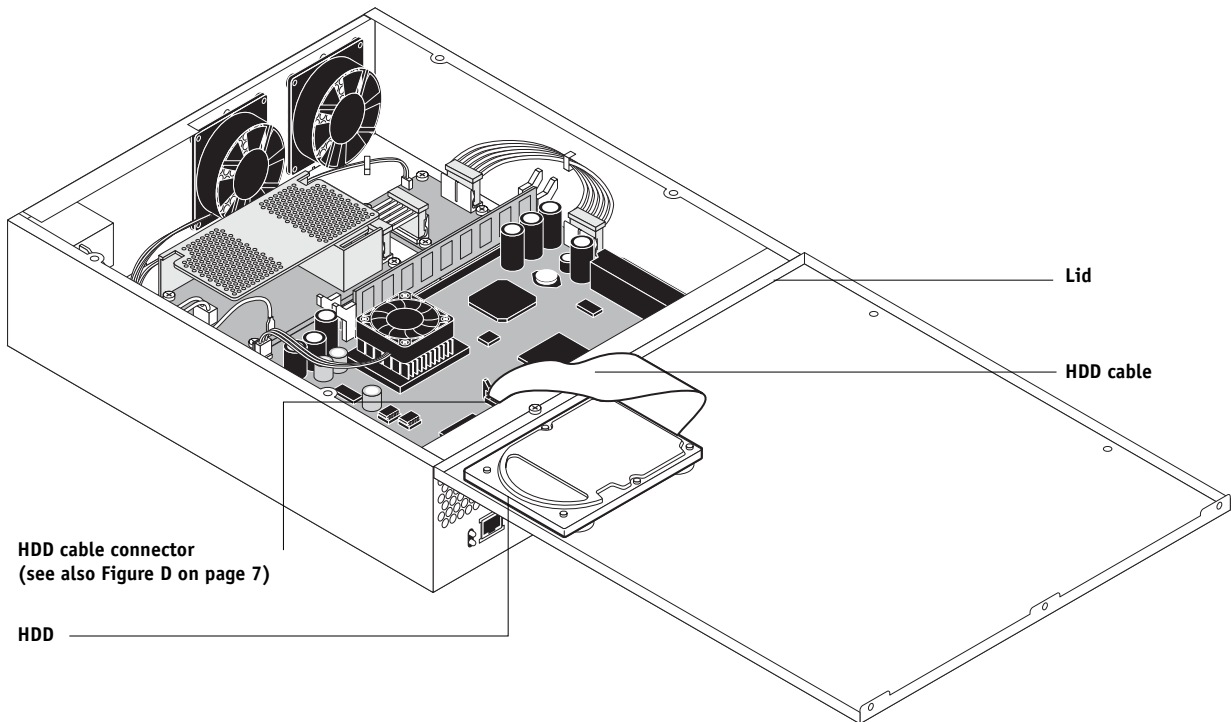


FIGURE G Accessing the imagePASS-D1

TO REMOVE THE IMAGEPASS-D1 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 imagePASS-D1 as described on page 10 and page 12.
2. Disconnect the following cables from the motherboard (see Figure D on page 7).
 - Two enclosed fan cables from motherboard FAN connectors
 - PCC board cable from motherboard PCC connector
 - PCC board power cable from the motherboard POWER connector
3. Remove the screws that secure the imagePASS-D1 motherboard to the chassis (5) and connector panel (4). (See Figure A on page 4 for locations of screws.)

Note which screws are used for each connector and for the motherboard and keep like screws together.
4. Pinch the locks on any locking standoffs to release the board.
5. Remove the motherboard from the connector panel cutouts and lift the motherboard out of the chassis and set it on a flat anti-static surface.

As you remove it, be careful to avoid stressing or flexing the motherboard and avoid scraping any components.

Replacing the imagePASS-D1 motherboard

TO REPLACE THE MOTHERBOARD IN THE CHASSIS

1. If you are replacing an old motherboard with a new motherboard, then unpack the new motherboard and install the following components from the old motherboard:

- DIMM (see page 16)
- BIOS chip: U4 (see page 17)
- MAC chip set: U29 and U514 (see Figure D on page 7)

Note that the MAC address chip from U29 has laser mark CH and the Engine ID Key chip from U514 has laser mark CN. Code in the Engine ID key chip was permanently linked on initial power up to the code in the MAC address chip in U29. Make sure to:

- Install each chip in its correct location
- Orient the chip indicator for pin 1 with the board indicator for pin 1
- Avoid bending or breaking pins when inserting each chip into the socket

2. Insert the edge connectors into the connector panel cutouts and align the motherboard screw holes with the standoffs in the chassis.

As you install it, be careful to avoid stressing or flexing the motherboard and avoid scraping any components.

3. Align the motherboard with any locking standoffs and snap into place.

4. Install the screws that secure the motherboard to the connector panel (4) and to the chassis (5). (See Figure A on page 4 for locations of screws.) Connect the following cables to the motherboard (see Figure D on page 7):

- PCC board cable to the motherboard PCC connector
- PCC board power cable to the motherboard POWER connector
- Two enclosed fan cables to motherboard ENCL FAN connectors

5. Reassemble the unit and verify functionality (see page 26).

Make sure to connect the HDD cable to the motherboard HDD connector. The motherboard connector is keyed so that the cable is inserted in the proper orientation. Use the connector's locking levers to make sure the cable connection is secure.

Replacing imagePASS-D1 components

Replacing imagePASS-D1 components

The CPU on the custom imagePASS-D1 controls the printing image data transferred to and from the print engine. The imagePASS-D1 provides the Ethernet networking interface, controls hard disk drive functions, and handles the communication with external devices. The imagePASS-D1 has two DIMM sockets that each hold 128MB of memory (see Figure D on page 7). The hard disk drive (HDD) is attached to the inside lid and connects to the motherboard by cable (see Figure A on page 4).

When the imagePASS-D1 is installed inside the print engine, the connectors for external devices are easily accessible from the back of the print engine.

The following sections describe how to remove and install replaceable parts on the imagePASS-D1:

- DIMM
- BIOS chip
- Battery
- CPU cooling assembly
- Enclosed fans
- Power supply
- PCC board
- HDD



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

Replacing imagePASS-D1 components

DIMM

The memory capacity for the imagePASS-D1 is 256MB. The standard configuration is one 128MB DIMM installed in the inner socket, DIMM1. To upgrade, install another 128MB DIMM in the outer socket, DIMM2 (see page 7).

A DIMM (dual in-line memory module) is held in place by levers at each end of its socket on the imagePASS-D1.

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).

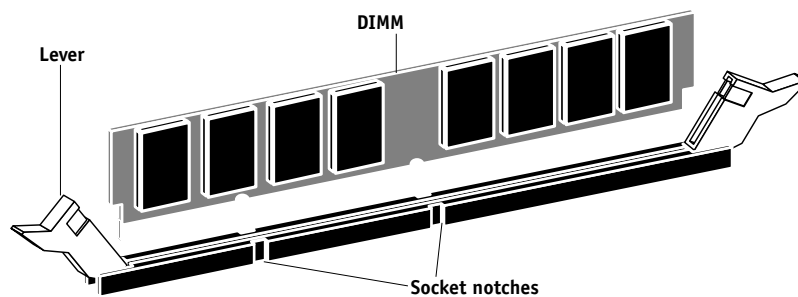


FIGURE H Releasing a DIMM

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 26).

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

Replacing imagePASS-D1 components

BIOS chip

The BIOS chip is located in socket U4 on the motherboard. The BIOS chip contains boot information, such as the startup diagnostics that the imagePASS-D1 uses when you power on the system.

TO REPLACE THE BIOS CHIP

1. **Locate the BIOS chip on the motherboard (socket U4).**
2. **Using a PROM extractor, remove the BIOS chip from its socket on the motherboard.**
3. **To replace the BIOS chip insert it into the socket so that the notch in the chip is aligned with the notch in the socket.**

Make sure to align the pins on the chip with the holes in the socket. If you notice any bent pins, straighten them gently with a pair of needlenose pliers.

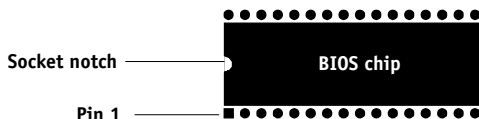


FIGURE I Diagram of BIOS chip socket

4. **Reassemble the imagePASS-D1 and verify its functionality (see “Restoring functionality after service” on page 26).**

Replacing imagePASS-D1 components

Battery

The battery on the imagePASS-D1 is located at BT1. To replace it, see “Specifications” on page 39.



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.

TO REPLACE THE MOTHERBOARD BATTERY

1. Pull the old battery out of its socket (see Figure J).
2. Place the new battery under the top leads and over the bottom leads. Make sure the positive (+) side of the battery is facing up.

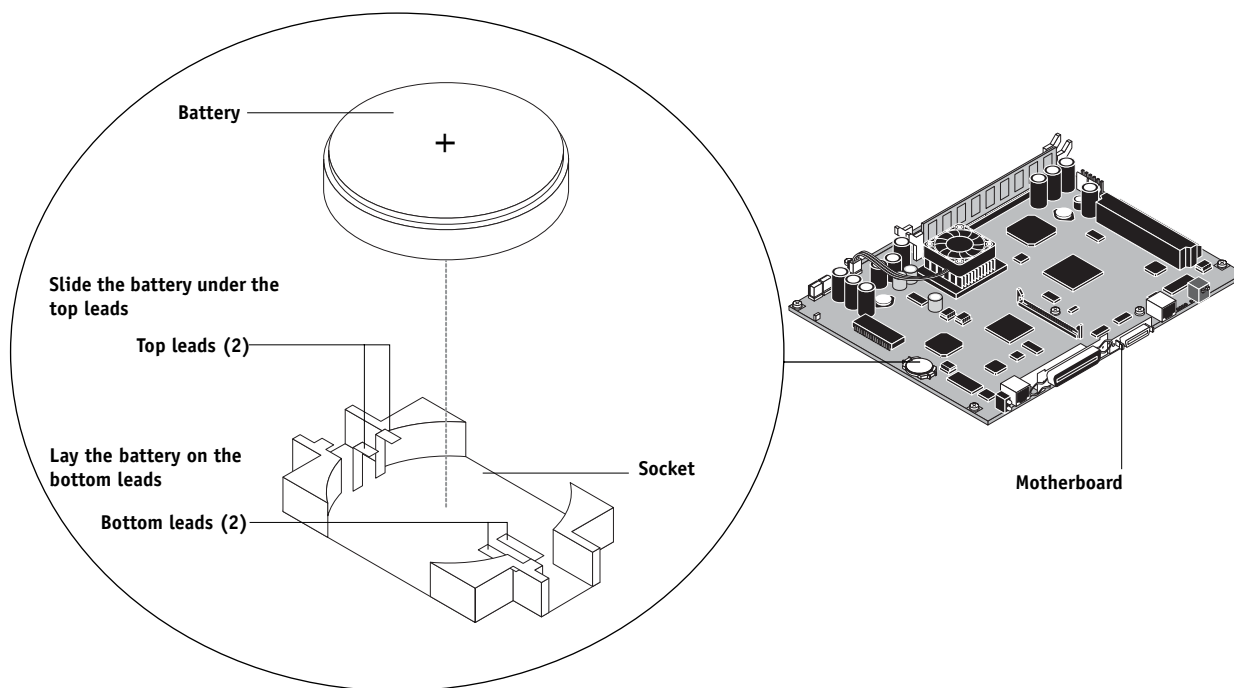


FIGURE J Motherboard battery

3. Reassemble the imagePASS-D1 and verify its functionality as described on page 26.

NOTE: When you power on the imagePASS-D1, let the imagePASS-D1 reach Idle, then power off and on again to reinitialize the realtime clock.

4. Configure the time and date in Setup.

NOTE: If the time and date do not remain configured, then check the battery installation. To make proper electrical contact, the battery must be in contact with the top leads on the top and the bottom leads on the bottom (see Figure J).

Replacing imagePASS-D1 components

CPU cooling assembly

The CPU cooling assembly consists of a heatsink and fan for dissipating heat generated by the CPU. See Figure D on page 7 for the location.

TO REPLACE THE CPU COOLING ASSEMBLY

1. Shut down and open the imagePASS-D1 as described on pages 10 and 12.
2. Remove the motherboard from the chassis as described on page 15.
3. Disconnect the fan cable from the motherboard CPU FAN connector.
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 CPU FAN connector.
The motherboard connector is keyed so that the cable fits only one way.
7. Install the motherboard into the chassis as described on page 14.
8. Reassemble the unit and verify functionality as described on page 26.

Replacing imagePASS-D1 components

Enclosed fans

Two enclosed fans cool the system by blowing air out the back of the chassis.

TO REPLACE AN ENCLOSED FAN

1. Shut down and open the imagePASS-D1 as described on pages 10 and 12.
2. Disconnect the fan cable from the motherboard ENCL FAN connector.
3. Remove the rivets that secure the fan to the back of the chassis and remove the fan.
You can place metal (such as the stem of a screwdriver) between the rivet and your thumb and then press to dislodge the rivet.
4. Secure the new fan inside the back of the chassis using the rivets just removed. Make sure the new fan is in the same orientation as the old fan.
When replacing the fan, make sure to install it such that the air will blow *out* the back of the chassis.
5. Connect the fan cable to a motherboard ENCL FAN connector.
6. Reassemble the unit and verify functionality as described on page 26.

Power supply

The imagePASS-D1 has its own dedicated power supply. To remove and/or replace it, use the following procedures and refer to the following figure.

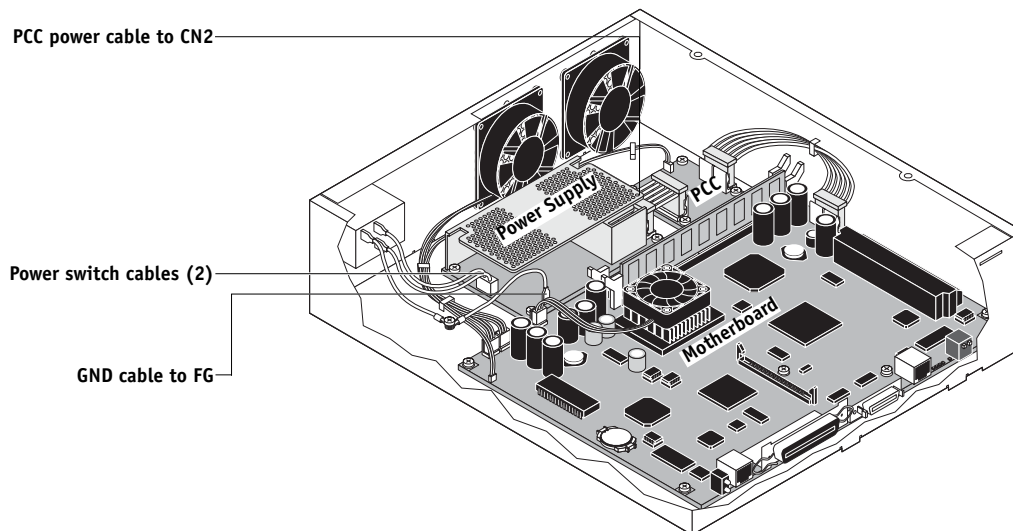


FIGURE K Cables to power supply

Replacing imagePASS-D1 components

TO REMOVE THE POWER SUPPLY



CAUTION: Make sure you wear an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions while handling imagePASS-D1 components.

1. **Shut down and open the imagePASS-D1 as described on pages 10 and 12.**
2. **Remove the following cables from the power supply (see Figure K on page 20):**
 - Power switch cables (2)
 - Frame GND cable from connector FG
 - PCC power cable from connector CN2
3. **Remove the four screws that secure the power supply to the chassis.**
Set the screws aside so you can replace them later.
4. **Remove the power supply from the chassis.**

TO REPLACE THE POWER SUPPLY



CAUTION: Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling imagePASS-D1 components.

1. **Position the power supply in the chassis (see Figure K on page 20) and secure the power supply to the chassis with the four screws you removed earlier.**
2. **Connect the following cables to the power supply:**
 - PCC power cable to connector CN2
 - Frame GND cable to connector FG
 - Power switch cables (2)
3. **Reassemble the unit and verify functionality (see page 26).**

Replacing imagePASS-D1 components

PCC board

The imagePASS-D1 uses a PCC board to control power to the motherboard (for more information, see “Power scheme” on page 9). To remove and/or replace it, use the following procedures and refer to the following figure.

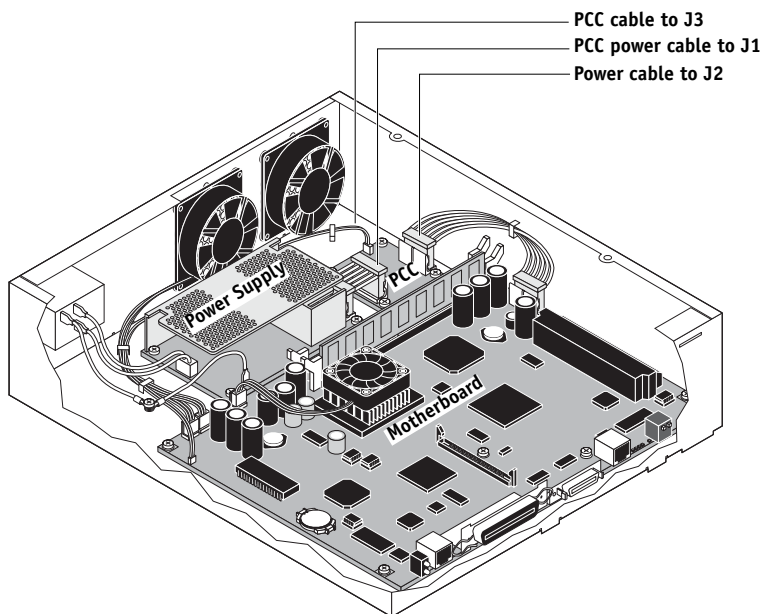


FIGURE L Cables to PCC board

TO REMOVE THE PCC BOARD



CAUTION: Make sure you wear an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions while handling imagePASS-D1 components.

1. Shut down and open the imagePASS-D1 as described on pages 10 and 12.
2. Remove the following cables from the PCC board (see Figure L):
 - PCC power cable from connector J1
 - Power cable from connector J2
 - PCC cable from connector J3
3. Remove the four screws that secure the PCC board to the chassis.
Set the screws aside so you can replace them later.
4. Remove the PCC board from the chassis.

Replacing imagePASS-D1 components

TO REPLACE THE PCC BOARD



CAUTION: Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling imagePASS-D1 components.

1. **Position the PCC board in the chassis (see Figure L on page 22) and secure the PCC board to the chassis with the four screws you removed earlier.**
2. **Connect the following cables to the PCC board:**
 - PCC cable to connector J3
 - Power cable to connector J2
 - PCC power cable to connector J1
3. **Reassemble the unit and verify functionality (see page 26).**

Hard disk drive

The factory-installed hard disk drive (HDD) is formatted and loaded with all imagePASS-D1 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 LCD.

If the hard disk drive needs to be replaced, you will need to install the system software on the new hard disk drive. (Replacement drives are shipped without imagePASS-D1 system software installed.) For more information, see “System software” on page 31.

Proper handling

Handle the hard disk drive with care:

- Use proper ESD practices when grounding yourself and the imagePASS-D1.
- 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 cable is intact and connected properly. See Figure A on page 4 and Figure F on page 12.

Replacing imagePASS-D1 components

To remove and/or replace it, use the following procedures and refer to the following figure.

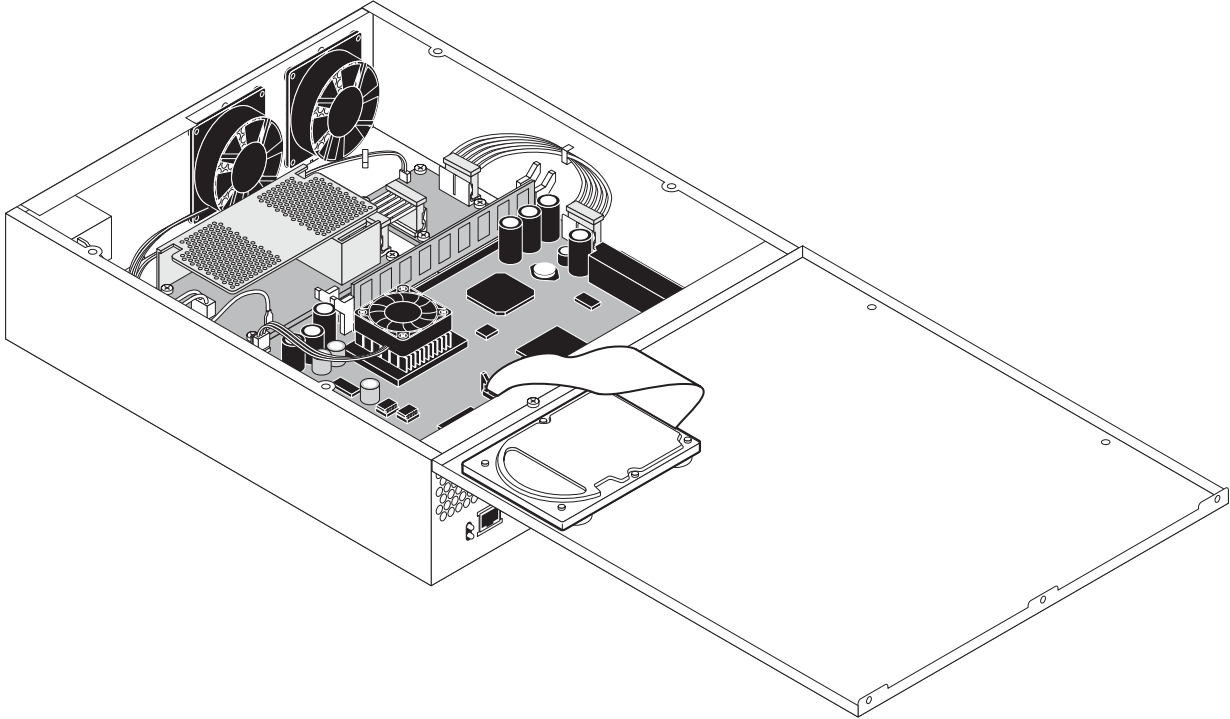


FIGURE M HDD as installed in the imagePASS-D1

TO REMOVE THE HDD



CAUTION: Make sure you wear an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions while handling imagePASS-D1 components.

1. **Shut down and open the imagePASS-D1 as described on pages 10 and 12.**

NOTE: Make sure to disconnect the HDD cable from the motherboard HDD connector.

2. **Remove the four screws on the lid that secure the HDD (see Figure M).**

Set the screws aside so you can replace them later.

3. **Remove the HDD cable from the HDD.**

4. **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 23.

Replacing imagePASS-D1 components

TO REPLACE THE HDD



CAUTION: Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before handling imagePASS-D1 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 23.

2. Insert the HDD cable into the HDD.

3. Secure the HDD to the lid using the four screws you removed earlier (see Figure M on page 24).

4. Reassemble the unit and verify functionality (see page 26).

Make sure to connect the HDD cable to the motherboard HDD connector. The motherboard connector is keyed for proper orientation of the cable and has levers to lock the cable firmly in place.

Restoring functionality after service

Restoring functionality after service

To complete any service procedures performed on the imagePASS-D1, install the imagePASS-D1 inside the print engine as described in the imagePASS-D1 installation instructions (not provided in this guide) and verify that it is working properly. To verify the installation, check the connections of the imagePASS-D1 first to the print engine and then to the network and the parallel port.

TO REASSEMBLE AND VERIFY THE IMAGEPASS-D1

1. Reseat any boards, cables, connectors, and other parts of the imagePASS-D1 that you loosened or removed during inspection or service.
2. Replace the lid: Insert the three tabs in the tab slots on the connector panel, close the lid over the chassis and secure the lid to the chassis with the screws (7) you removed earlier (see Figure F on page 12).
3. Install the imagePASS-D1 in the print engine and reassemble the print engine as described in the imagePASS-D1 installation instructions (not provided in this guide).
Power on the imagePASS-D1 power switch before you power on the print engine.
4. If you installed a new HDD, install system software (see “System software” on page 31.)
A spare HDD is shipped without system software.
5. Before you leave the customer site, verify imagePASS-D1 operation as described in the following flow diagram.

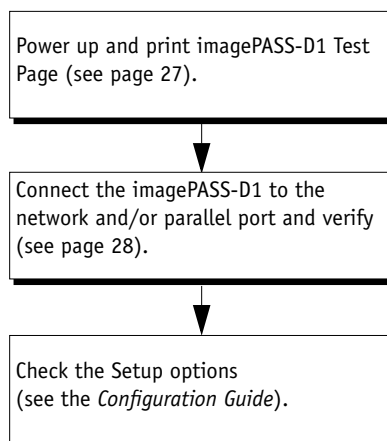


FIGURE N Steps to verify imagePASS-D1 connection

Printing imagePASS-D1 pages

The Control Panel LCD allows you to print special pages from the imagePASS-D1. These pages include the Configuration page and the Test Page.

Printing imagePASS-D1 pages

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 imagePASS-D1 is rebooting, allow the imagePASS-D1 to reboot and return to Idle before printing a Configuration page.

Before you perform any service procedure, you should print the imagePASS-D1 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 imagePASS-D1 to the network, print the Test Page. The Test Page is a file that resides in the imagePASS-D1. Output verifies that the imagePASS-D1 is functional and connected properly to the print engine.

TO PRINT IMAGEPASS-D1 PAGES FROM THE CONTROL PANEL LCD

1. **Select the Printer tab on the Control Panel LCD of the print engine and then select Printer Status/Setting.**
2. **Select Functions from the Control Panel LCD.**
3. **Select Print Pages from the Control Panel LCD.**
4. **Select the Test Page, Configuration page, or other page from the Print Pages menu.**
5. **Examine the Test Page.**

If the Test Page prints, you know that the imagePASS-D1 is functional and that the connection between the imagePASS-D1 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. **Post the current Configuration page near the imagePASS-D1 for quick reference.**
Users may need the information on this page which describes the current Setup configuration.

Verifying connection to the network

Verifying connection to the network

The imagePASS-D1 provides twisted pair connectivity to an Ethernet network. Category 3, category 4, or category 5 unshielded twisted pair (UTP) network cable can be used for 10BaseT. Category 5 UTP cable must be used for 100BaseTX. See the following figure and procedure for where to connect and how to verify the network connection.

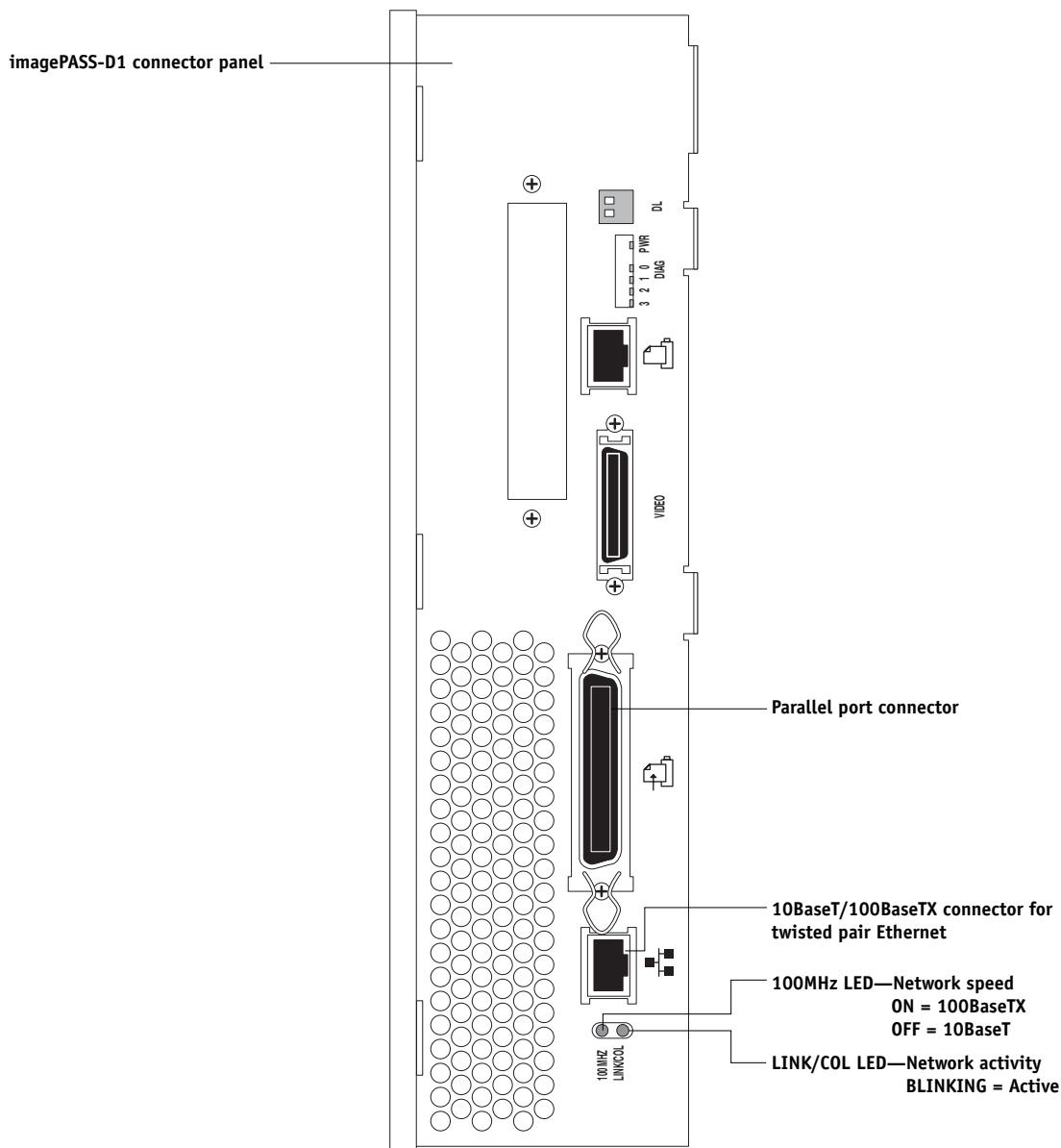


FIGURE 0 imagePASS-D1 network and parallel port connectors

Verifying the parallel port connection

TO CONNECT A TWISTED PAIR CABLE TO THE IMAGEPASS-D1

1. **Shut down and power off the imagePASS-D1 before connecting the imagePASS-D1 to any network device (see “To shut down the imagePASS-D1 from the Control Panel LCD” on page 10).**
2. **Connect the network cable to the RJ-45 network connector on the imagePASS-D1 connector panel (see Figure O on page 28).**
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. For setup information, refer the network administrator to the *Configuration Guide*.

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

Once the network connection has been made and the imagePASS-D1 has the correct Setup configuration and is Idle, the imagePASS-D1 should be available on the network.

The network administrator should perform any additional network Setup, verify the network connection, verify that the imagePASS-D1 appears in the list of printers, and print a few test documents from a networked computer that will use the imagePASS-D1. (For more information, see the *Configuration Guide*.)

Verifying the parallel port connection

The parallel connector (female 36-pin Centronics) on the imagePASS-D1 provides a high-speed interface port for connecting the imagePASS-D1 to the parallel port of a PC. The parallel connector can be used for installing system software (see “System software” on page 31) and for printing documents.

The imagePASS-D1 can be connected to the network and to a parallel port device at the same time (see Figure O on page 28).

An IEEE 1284 cable is required. One end of the cable requires a male IEEE 1284-B (36-pin Centronics) connector for connecting to the imagePASS-D1.

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

Verifying the parallel port connection

TO CONNECT THE IMAGEPASS-D1 TO A PC

NOTE: If the PC is for installing system software, make sure it meets the minimum requirements specified in the *User Software Installation Guide*.

1. **Power off the imagePASS-D1 before connecting it to a PC.**
2. **Power off the PC.**
3. **Connect a parallel (Centronics) cable to the 36-pin Centronics connector on the imagePASS-D1 (see Figure 0 on page 28).**
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 imagePASS-D1.**
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. For Setup information, refer the network administrator to the *Configuration Guide*.

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

Once the parallel port connection has been made and the imagePASS-D1 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. For more information, see the *Configuration Guide*.

System software

System software

The imagePASS-D1 System Software CD includes system software which can be installed over the parallel port of the imagePASS-D1 using a PC/laptop with Windows 98/Me. The imagePASS-D1 system software is installed on the HDD at the factory. You will need to install system software if a more recent version is required, if you replace the HDD, or if you discover problems with the current system.

System software installation reminders

Keep in mind the following when installing system software:

- **Fonts**—Installing system software deletes all fonts that the customer has installed on the imagePASS-D1. 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 imagePASS-D1, 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 imagePASS-D1. Using incompatible versions of the system and user software may result in system problems.

System software

Installing system software over the parallel port

The System Software CD contains two files. The first file is the smaller of the two and contains basic information required for the imagePASS-D1 to boot; the second contains all of the system software.

To install system software using the parallel port on the imagePASS-D1, you need:

- IEEE 1284 parallel cable, short
One end of the parallel cable requires a male IEEE 1284-B (36-pin Centronics) connector for connecting to the imagePASS-D1.
- A PC with Windows 98/Me
- A CD-ROM drive, built in or attached
- At least 400MB of disk space free
- Support for ECP mode on the parallel port

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 98/Me. Before you begin installing system software, follow the procedure for setting up the PC.

TO SET UP THE PC

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

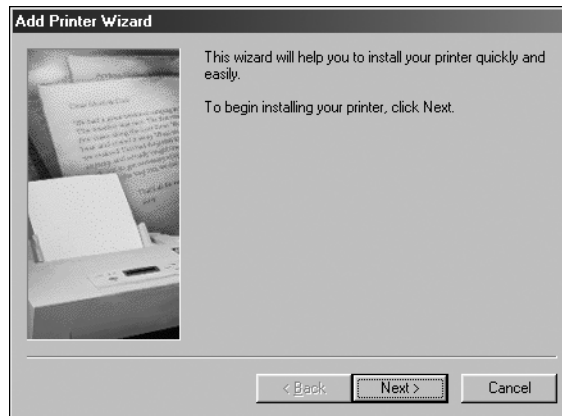
Power on the PC and immediately press the key indicated on your monitor for entering the BIOS (or a likely key if it is not indicated). Pressing a likely key repeatedly (ESC, DEL, F1, or a combination) may interrupt the starting of Windows and access the BIOS or give you directions for accessing the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

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

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

System software

3. Double-click Add Printer.

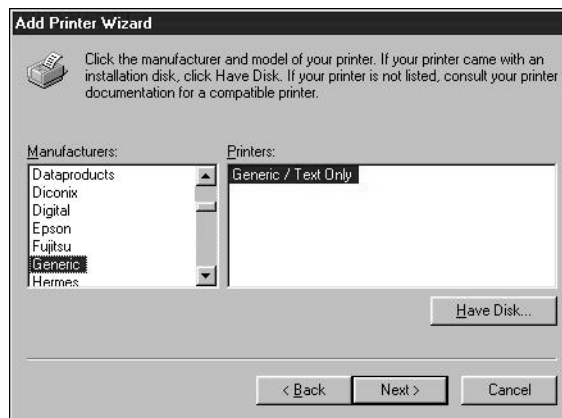


The Add Printer wizard appears. You will use this wizard to add a generic printer to your PC.

4. Click Next.

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

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



7. Select LPT 1: Printer Port from the list of available ports, and click Next.

8. Accept the default printer name. In response to the question "Do you want your Windows-based programs to use this printers as the default printer," select No. Then click Next.

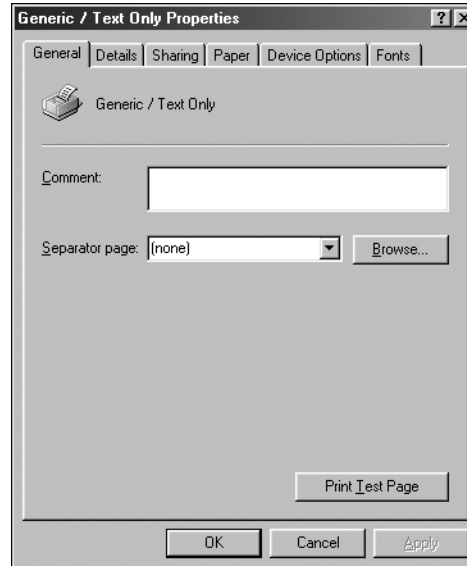
9. In response to the question "Would you like to print a test page," select No. Then click Finish.

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 imagePASS-D1 pages" on page 26).**

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 imagePASS-D1. 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 print engine and the PC before attaching any cables.**
4. **Connect an IEEE 1284 cable to the LPT1 port on your PC (generally, a 25-pin D-type connector) and to the 36-pin parallel port connector on the imagePASS-D1 (see Figure 0 on page 28).**

TO INSTALL SYSTEM SOFTWARE USING THE PARALLEL PORT

1. **Power on the PC and insert the System Software CD into the PC CD-ROM drive.**
2. **In Windows, click 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."

3. **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.

4. **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.

5. **Make sure the imagePASS-D1 is powered off and then flip the DL switches to the service position (toward the motherboard).**

System software

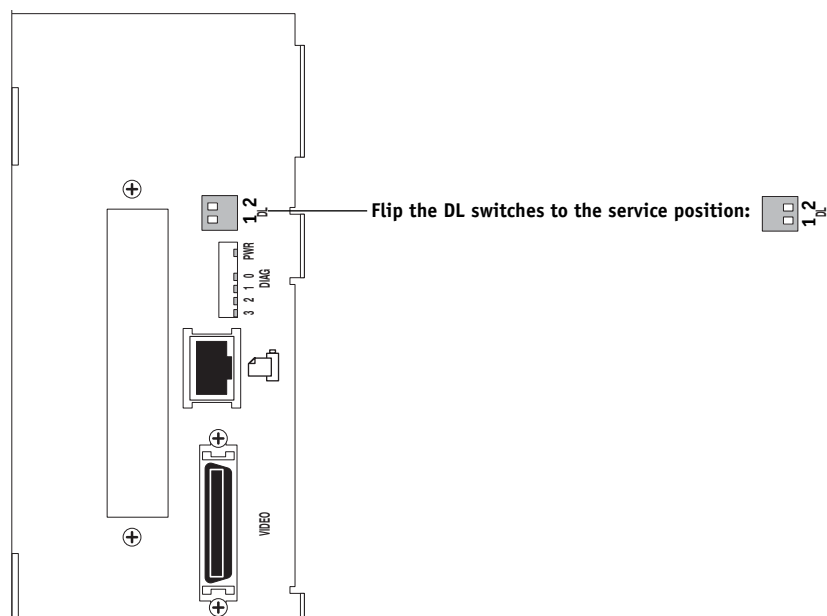


FIGURE P Switches on the connector panel

When the switches are in service position (toward the motherboard), the imagePASS-D1 parallel port timeout is disabled so that you can download the system software without time constraints. Make sure when you are done installing system software that you change the switches back to the normal position (away from the motherboard).

6. Power on the imagePASS-D1 using the imagePASS-D1 dedicated power switch.

7. Press the Enter key on the PC.

The message “Flushing parallel port. Please wait” will appear on the Control Panel LCD. The DOS-type window on the PC will display a message that one file was copied.

8. 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.

9. 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.

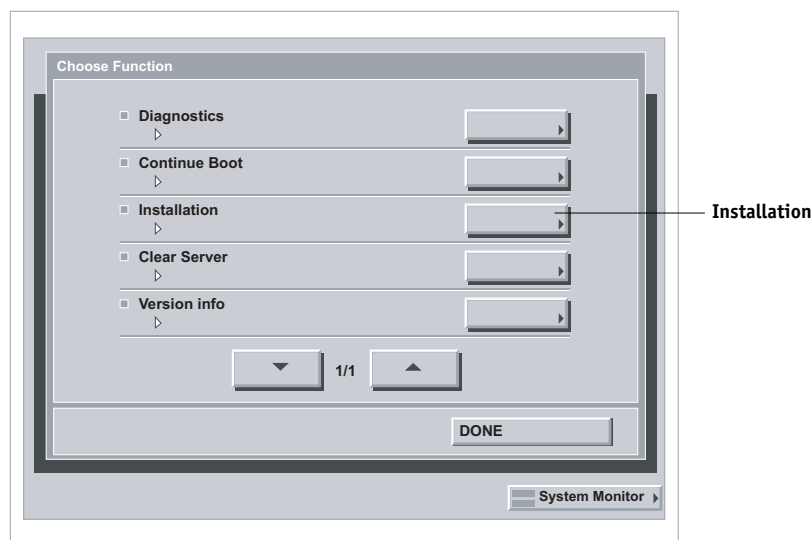
NOTE: Make sure to spell the file name correctly and include the file extension. *Do not* press the Enter key yet.

10. At the Config Mode Settings screen, select Yes.

NOTE: If you do not select Yes at Config Mode Settings when it appears, the imagePASS-D1 will continue booting. If this happens, power off the print engine and try again.

System software

11. At the Choose Function screen, select Installation.



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

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

Wait while the imagePASS-D1 Control Panel LCD displays status messages indicating that the imagePASS-D1 is downloading the file and installing the system software. Do not press any keys during this time. This process takes approximately 15 minutes and can take much longer depending on your PC.

13. At the message “Installation was successful” on the Control Panel LCD, press OK.
14. Power off the imagePASS-D1.
15. Flip the DL switches back to the normal position (away from the motherboard).
16. Power on the imagePASS-D1.

The language screen will appear on the Control Panel LCD when the imagePASS-D1 starts up.

17. Press the name of the language you want to use, and then press OK.
18. If the Select Market Region screen is displayed, press the name of the region for the imagePASS-D1 and then press OK.

This screen is displayed only if English was selected from the language selection screen.

19. At the Setup screen, select Run Setup and press OK. Reenter the customer’s settings from the Configuration page that you printed earlier.

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

System software

20. **After all setup options are configured, select Exit Setup from the Setup screen, and press OK.**

The imagePASS-D1 will reboot with the updated system software and setup options.

21. **When the imagePASS-D1 reaches the Idle screen, exit MS-DOS at the PC and remove the System Software CD from the CD-ROM drive.**
22. **Power off the imagePASS-D1 and PC, and remove the parallel cable.**

Specifications

Specifications

The imagePASS-D1 has the following features.

Hardware features

- 850MHz Intel Pentium III CPU
- 128MB memory, upgradeable to 256MB
- Parallel port for direct connection printing
- 10/100BaseTX network port for network printing
- Battery—3V manganese dioxide lithium coin cell (Panasonic CR2032 or equivalent)
- PCI connector for optional Token Ring connectivity

Networking and connectivity

The imagePASS-D1 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 imagePASS-D1 user software is provided in the *User Software Installation Guide*. The latest user software must be installed onto all computers that print to the imagePASS-D1. Using incompatible versions of the system and user software may result in system problems.

Safety and emissions compliance

The imagePASS-D1 has been certified to meet or surpass the following standards:

Safety approvals

EN60950
IEC60950
UL60950
CAN/CSA-C22.2 60950

EMI/EMC approvals

- FCC Class B
- VCCI Class B
- EN55022 Class B
- EN55024
- AS/NZS 53542 Class B
- AS/NZS 4252.1

Troubleshooting

Troubleshooting

The following sections identify the sources of common problems that may occur with the imagePASS-D1 and suggests ways of correcting them.

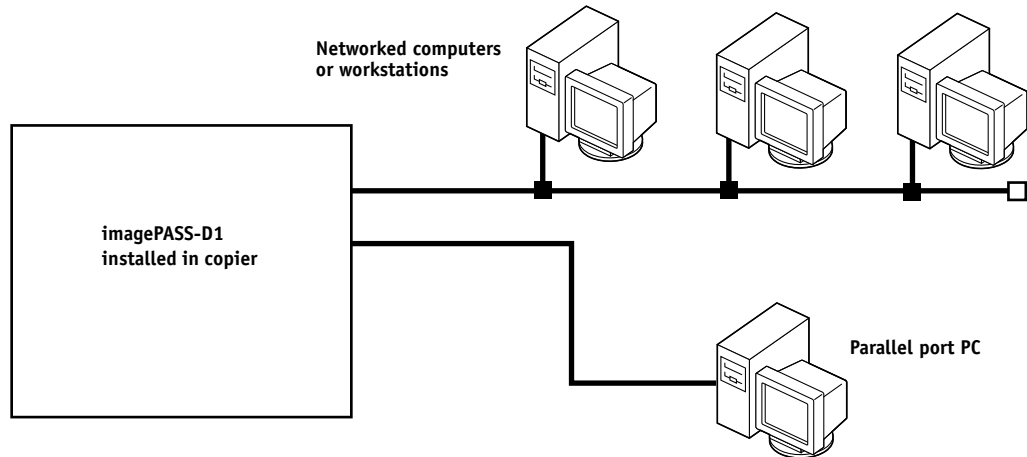


FIGURE Q Printing system

NOTE: These sections do not attempt to provide troubleshooting information for attached computers such as PCs, for print engines, 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 41 gives an overview of the imagePASS-D1 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 42 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 43 takes you through the initial visual checks you should make when you arrive at the customer site.
“Checking the network” on page 44 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.

Troubleshooting

Where problems occur

The imagePASS-D1 is a built-in print server for print engines, and it is generally part of a configuration like the one shown in Figure R. Problems may occur in one of the following areas:

- The imagePASS-D1 or the print engine
- The interface between the imagePASS-D1 and the print engine
- The interface between the imagePASS-D1 and computers that print to it

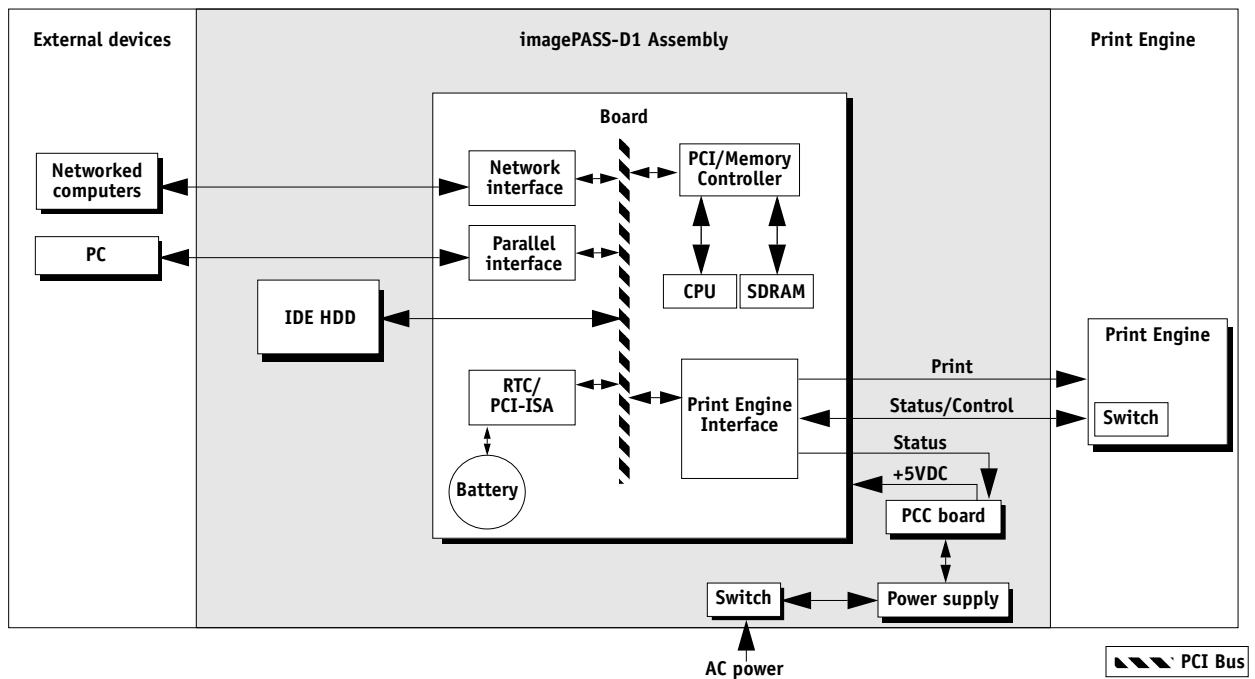


FIGURE R imagePASS-D1 functional diagram

Troubleshooting

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 imagePASS-D1 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 imagePASS-D1 Test Page fail to print?
 - Does the imagePASS-D1 fail to respond to a print command?
 - Does printing seem to take a long time?
 - Is print quality poor?
 - Does the imagePASS-D1 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 imagePASS-D1 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.

Troubleshooting

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

See “Checking connections” on page 5.

See other documentation for guidelines when disassembling, checking, and reassembling the print engine.

If all cables and connections look good and the problem still exists when the print engine is powered on, then proceed to the next phase of troubleshooting.

Troubleshooting

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 imagePASS-D1. 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 imagePASS-D1 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

Error messages and conditions

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

Troubleshooting

TABLE A imagePASS-D1 error messages and conditions

Symptom	Possible cause	Suggested action
Startup diagnostic sequence (if system hangs at one of the following LED patterns)		
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ● ● ● ●</p>	<ul style="list-style-type: none"> Power supply/PCC board cables are loose or missing. Code in BIOS is corrupt. 	<ol style="list-style-type: none"> Check power supply/PCC board cable connections. Replace BIOS (see page 17). If the problem persists, replace the motherboard (see page 10).
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ● ● ● ○</p>	<ul style="list-style-type: none"> DRAM is missing or faulty. Engine ID Key chip (U514) is present but MAC address chip (U29) is missing. 	<ol style="list-style-type: none"> Check DIMMs (see page 16). Replace the MAC chip set. If replacing the motherboard, use the set from the old motherboard or order a spare set (see page 14).
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ● ● ○ ●</p>	<ul style="list-style-type: none"> Motherboard is corrupt. 	<p>Replace the motherboard (see page 10).</p>
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ● ○ ● ●</p>		
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ○ ● ● ●</p>	<ul style="list-style-type: none"> PCI bus on the motherboard is corrupt. 	
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ● ○ ○ ●</p>	<ul style="list-style-type: none"> HDD cable is loose or missing. System software is corrupt. HDD is faulty. 	<ol style="list-style-type: none"> Check HDD cable connections. If the problem persists, reinstall system software (see page 31). Replace the HDD (see page 20). If the problem continues to persist, replace the motherboard (see page 10).
<p style="text-align: center;">3 2 1 0</p> <p>LEDs = ○ ○ ○ ○</p>	<p>This pattern is normal at the end of the startup sequence. If this pattern hangs <i>before</i> the startup sequence ends:</p> <ul style="list-style-type: none"> System software is corrupt. HDD is bad. 	<ol style="list-style-type: none"> Reinstall system software (see page 31). If the problem persists, replace the HDD (see page 20). If the problem persists, replace the motherboard (see page 10).
imagePASS-D1 does not start up.	The imagePASS-D1 is powered off.	Make sure the imagePASS-D1 dedicated power switch is in the on position.
imagePASS-D1 shuts down just before reaching Idle.	Engine ID mismatch: Chip in location U514 is missing or the wrong chip.	Replace the MAC chip set. If replacing the motherboard, use the set from the old motherboard or order a spare set (see page 14).

TABLE A imagePASS-D1 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
No power		
When print engine is turned on, the imagePASS-D1 does not start up: No LEDs light up and there is no fan noise.	<ul style="list-style-type: none"> • The imagePASS-D1 dedicated power switch is in the OFF position. • Faulty or missing connections/cables between the power outlet, power supply, PCC board, and motherboard. 	<ol style="list-style-type: none"> 1. Make sure that the imagePASS-D1 is plugged in and powered on. 2. Make sure all cables are intact and that all connections are firmly in place between the power outlet, power supply, PCC board, and motherboard. 3. If problem persists, replace the PCC board. 4. If problem persists, replace the power supply.
Network		
Two green LEDs are located next to the RJ-45 network connector (100MHZ and LINK/COL). The 100MHZ (speed) LED indicates that the network speed is set to 100BaseTX if on or 10BaseT if off. The LINK/COL (activity) LED indicates network activity; it blinks during data transmission.		
Unable to connect to the network, or LINK/COL (activity) LED is off or not blinking during data transmission.	<p>Possibly one of the following:</p> <ul style="list-style-type: none"> • Network cable or connection is faulty. • Network is faulty. • System software is corrupted. • Ethernet interface on the motherboard is faulty. 	<ol style="list-style-type: none"> 1. Check the cable connection to the imagePASS-D1 connector panel and the network. Make sure the cable is the correct type (see page 28). 2. If the network cable is the correct type and is properly connected to the imagePASS-D1 connector panel, connect a new network cable to the imagePASS-D1 connector panel. 3. If the problem persists, have the network administrator check Network Setup. 4. If the problem persists, make sure that the network administrator has checked other devices on the network. If other devices are not functioning, there could be a problem with the network. 5. If the problem persists, reinstall system software (see page 31). Corrupt system software may cause the system to hang. 6. If the rest of the network is functioning properly and the problem persists, replace the motherboard (see page 10).
Date and Time		
Date and Time is lost on Configuration page (or other print pages)	<ul style="list-style-type: none"> • Battery on the motherboard does not have proper electrical contact with the battery socket. • Battery is dead. 	Check the battery for proper installation and/or replace the battery (see page 18).

Troubleshooting

TABLE A imagePASS-D1 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Printing		
NOTE: Intermittent print quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print the Configuration page to make sure that the print engine itself does not need servicing or adjusting. For instructions on printing the Configuration page, see page 27.		
Configuration page fails to print.	The print engine is not ready to print.	Make sure the print engine is powered on and ready to print.
	There is a problem with the connection between the imagePASS-D1 and the print engine.	<ol style="list-style-type: none"> 1. Check again that the print engine interface cables are present and properly connected to the imagePASS-D1 and the print engine (see page 5). 2. If the problem persists, power off/on the print engine. 3. If the problem persists, replace the print engine interface cables (see page 5). 4. If the problem persists, you may need to service the print engine. 5. If the problem persists, you may need to replace the motherboard.
imagePASS-D1 appears on the list of printers on the customer's workstation, but certain jobs do not print.	A PostScript error.	Make sure Print to PostScript Error in Setup is set to Yes. Check for error messages on the imagePASS-D1 output.
	An application problem.	<ol style="list-style-type: none"> 1. Try printing a job from a different application to determine if the problem is associated with a particular application. 2. Make sure the connection between the imagePASS-D1 and the workstation is working by downloading a Test Page from the workstation, or by printing a simple file such as a text file. 3. Resend the problem file.

Troubleshooting

TABLE A imagePASS-D1 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
A print job stalls or stops after one or a few pages.	Possibly one of the following: <ul style="list-style-type: none"> • A PostScript or application error. • System software is corrupted. 	<ol style="list-style-type: none"> 1. Cancel the imagePASS-D1 print job. 2. If this fails to clear the problem, reboot the imagePASS-D1. 3. If the problem persists, select Clear Server. 4. If the problem persists, reinstall system software (see page 31). <p>Corrupt system software may cause the system to hang at this screen.</p>
Print quality is poor.	Possibly one of the following: <ul style="list-style-type: none"> • A file or application problem. • A missing or outdated printer description file. • The application cannot find the appropriate printer description file. 	<ol style="list-style-type: none"> 1. Print the imagePASS-D1 Configuration page (see page 27). 2. If the quality of the Configuration page is good, the error condition may be caused by a file or an application problem. 3. Make sure the appropriate printer description file is installed. See the <i>Printing Guide</i> for a list of printer files.
<p>If the user can print the imagePASS-D1 Test Page but cannot print a job from a computer on the network, make sure the network administrator has:</p> <ul style="list-style-type: none"> • 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 <i>Printing Guide</i> • 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 <p>NOTE: EPS file generation is not completely standardized among applications. Some users may encounter problems while printing certain EPS files.</p>		

Troubleshooting

Printing to the imagePASS-D1

If the customer can print the imagePASS-D1 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 imagePASS-D1 faceplate 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.

Possible Cause	Solution
Is the power on?	<ul style="list-style-type: none">• Turn on the print engine.
Are the two print engine interface connectors properly connected?	<ul style="list-style-type: none">• Make sure print engine interface connector is properly connected to the print engine.
Is the specified paper loaded?	<ul style="list-style-type: none">• Load the specified paper in any of the input trays.
Can you print a "Test Page" from the printer driver?	<ul style="list-style-type: none">• If you cannot, the print engine may be out of order. Contact your authorized service support center.

Troubleshooting

Other printing problems

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

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

Normal startup sequence

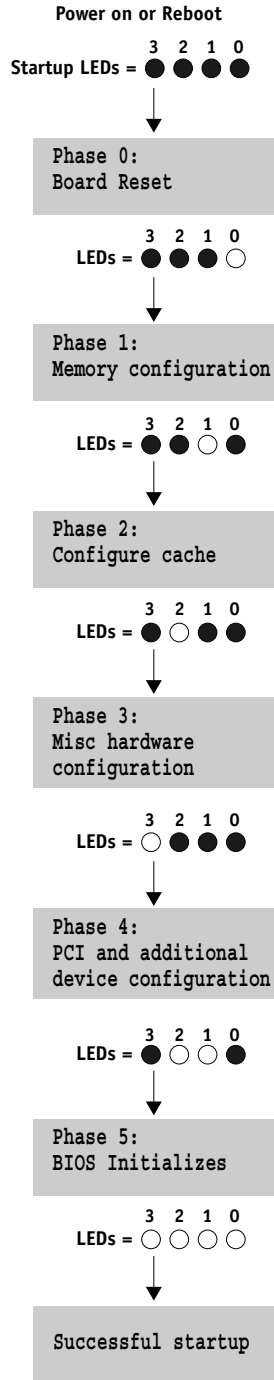
Normal startup sequence

When you power on or reboot the imagePASS-D1, the system runs the startup routine. The red DIAG LEDs 3-0 on the imagePASS-D1 connector panel blink through a startup sequence as the system checks the imagePASS-D1 board (see Figure S on page 52). The routine takes approximately 1 minute before the system reaches Idle. If the system hangs during the startup sequence, check and note the sequence displayed by the four DIAG LEDs, then check the table for the possible problems and suggested actions.

The green power (PWR) LED will be on solid at power up and remains on to indicate that the imagePASS-D1 board is receiving power.

Normal startup sequence

LED On = ●
LED Off = ○



Note: The LEDs in this figure represent the four red DIAG LEDs at the imagePASS-D1 faceplate.

Code in the imagePASS-D1 motherboard BIOS tests, initializes, and configures areas on the imagePASS-D1 motherboard.

System software on the HDD completes startup process.

FIGURE S Normal startup sequence

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