Network Multi-PDL Printer Unit-M2/ imagePASS-M2 SERVICE MANUAL

REVISION 0

Canon

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 NM-PDL REV.0 JULY 2002 PRINTED IN JAPAN (IMPRIME AU JAPON)

IMPORTANT

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CAUTION

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

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The Service Manual is intended for certified imagePASS-M2/Network Multi-PDL Printer Unit-M2 and copier service technicians installing or servicing the imagePASS-M2/Network Multi-PDL Printer Unit-M2.

About this guide


Memo

The term "iR-M2" is used in this manual to refer to the imagePASS-M2/Network Multi-PDL Printer Unit-M2.

This guide is divided into the following topics:

- "Preface"
  General information about this guide and about installing the iR-M2
- Chapter 1, "Introduction"
  General information about the iR-M2.
- Chapter 2, "Preparing for Installation"
  Unpacking and the steps you need to take before you install the unit
- Chapter 3, "Connecting the iR-M2"
  How to connect the iR-M2 to the copier and the network and verify that the system is working correctly; overview of the Control Panel
- Chapter 4, "Service Procedures"
  Removal and replacement procedures for iR-M2 components; system software installation
- Chapter 5, "Troubleshooting"
  Common problems and ways of correcting them; startup error codes; diagnostic tools


Memo

iR-M2 customers should not use the technical service documentation. Do not leave your copy of the Service Manual 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 iR-M2 at the time of publication. Components shown in these illustrations are subject to change.

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 "Control Panel" refers to the area on the front of the iR-M2, including the green/red activity light, the display window (LCD-liquid crystal display), and the buttons to the right of and below the display window.

The term "system software" refers to the software installed on the iR-M2 hard disk drive.

The term "10BaseT" is used throughout this manual to refer to 10BaseTX.

The term "100BaseT" is used throughout this manual to refer to 100BaseTX.

The note format highlights important messages and additional information.

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

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CHAPTER 2 PREPARING FOR INSTALLATION

CHAPTER 3 CONNECTING THE iR-M2

CHAPTER 4 SERVICE PROCEDURE

CHAPTER 5 TROUBLESHOOTING

CHAPTER 6 PARTS CATALOG

APPENDIX

Precautions

Always observe the following general precautions when installing and servicing the iR-M2:

1. Report any shipping damage.
   If there is any evidence of shipping or handling damage to the 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 iR-M2 will probably be 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 system or network administrator or the shop supervisor.
3. Never assign an IP address in iR-M2 Network Setup.
   Only the network administrator should assign an IP address to a network device. Assigning the iR-M2 an incorrect IP address may cause unpredictable errors on any or all devices connected to the network.
4. Always disconnect power before opening the iR-M2.
5. Use care when handling parts of the iR-M2, as some edges on the unit may be sharp. For example, be careful when:
   - Accessing the CD-ROM drive (keep the drive door closed when not in use)
   - Plugging in cables at the back of the unit
   - Using the power switch to power on/off the unit

6. Follow standard electrostatic discharge (ESD) precautions while working on the internal components.
   Static is always a concern when servicing electronic devices. It is highly unlikely that the area around the copier and the iR-M2 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 grounding strap, 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 unpack the iR-M2 from the carton for the first time, touch a metal area of the copier to discharge the static on your body.
   - Before you remove the access panel and handle internal components, touch a metal part of the iR-M2.
   - Leave new electronic components inside their antistatic bags until you are ready to install them. When you remove components from an antistatic bag, place them on a grounded antistatic surface, component-side up.
   - 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.
7. Handle printed circuit boards by their opposing edges only, and avoid touching the contacts on the edge of the board.
8. Never set any liquid on or near the iR-M2 or the copier.

CHAPTER 1

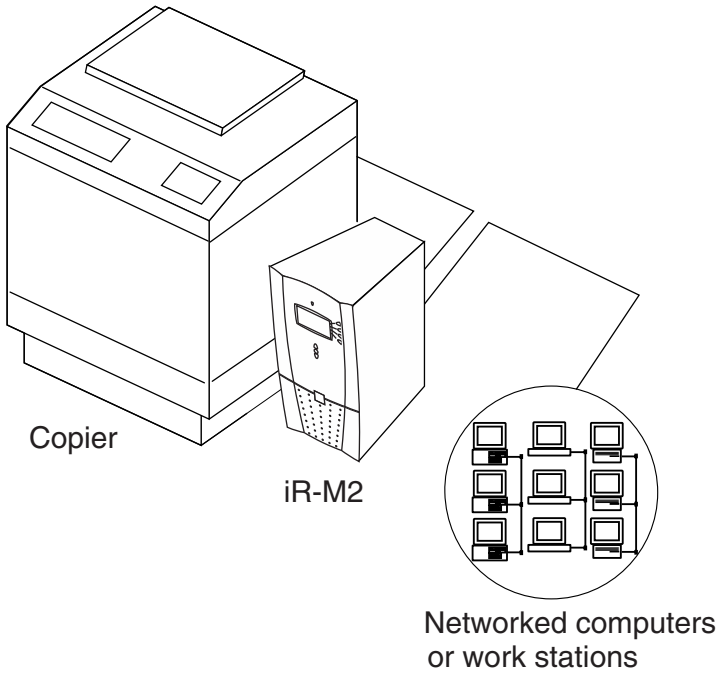
INTRODUCTION

1 Features

The iR-M2 adds computer connectivity and highly efficient Adobe PostScript 3 and PCL printing capability to copiers. It is optimized for high-speed network communications, processing, rasterization, and printing.

The iR-M2, as an integral part of your organization's printing system, enables users to:

- Send images over AppleTalk, TCP/IP, and IPX networks to print on iR-M2-supported devices.
- Spool print jobs and select a printing priority for each job. Users can control spooled print jobs sent to the iR-M2 with remote user software running on networked PC and Mac OS computers.
- Print files in gray-scale and black and white.
- Use 136 resident fonts (126 Adobe Type 1 PostScript and 10 TrueType), plus two Adobe Multiple Master fonts used for font substitution when printing PDF files. Fiery Downloader™ or any third-party LaserWriter downloader, such as the Adobe Font Downloader, can be used to download additional fonts.



F01-100-01 iR-M2 printing system

2 How the iR-M2 Operates

The iR-M2 enables users to print to the copier from networked PCs running Microsoft Windows, from networked Mac OS computers, and from networked UNIX workstations running TCP/IP.

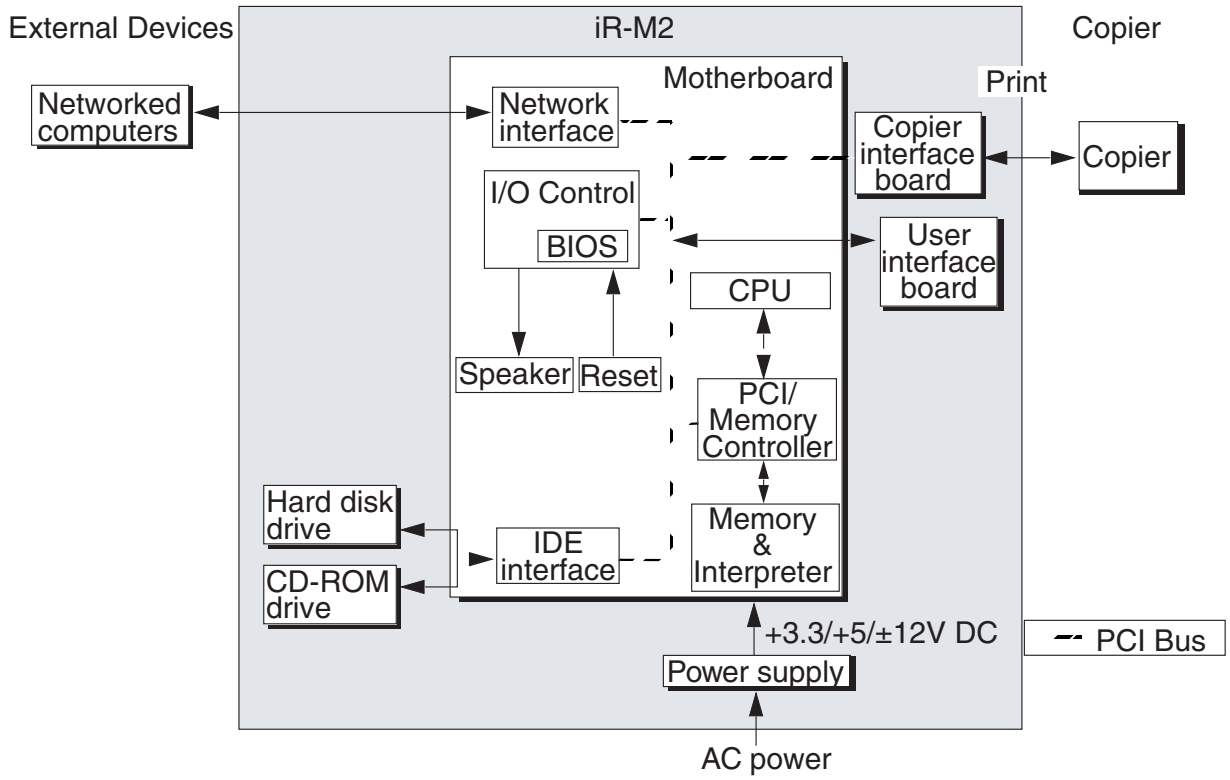
The iR-M2 custom-designed boards and system software are responsible for efficient image processing and printing controls. The main functions of components and software are described below.

The iR-M2 uses specialized circuit boards, the motherboard, and the copier interface board to process image data for printing and scanning images.

The motherboard includes a 866MHz CPU that controls the image data transfer to and from the copier interface board and runs the interpreter. The interpreter rasterizes the page description file and then compresses the image pattern into memory using compression technology.

The interpreter sends compressed raster data through the image frame buffer memory to the copier interface board. The copier interface board decompresses the image data and sends it to the copier through the copier interface cable. The raster data supplied to the laser in the copier charges the drum and renders the final image on paper at full copier engine speed.

High-speed dual in-line memory modules (DIMMs) on the motherboard hold the image data during printing. The iR-M2 is configured with one 128MB DIMM for a total of 128MB of memory.



F01-200-01 iR-M2 functional diagram

3 Print Options

The iR-M2's efficient capabilities allow users to use a variety of applications to create and print pages of text and/or images. The iR-M2 operates over a network.

Printing over a network allows users to print documents directly from applications in which they were created. In addition, the iR-M2 offers an efficient way to print files that have been saved as PostScript, Encapsulated PostScript (EPS), Portable Document Format (PDF), or Tagged Image File Format (TIFF). These files can be downloaded directly to the iR-M2 using Fiery Downloader, one of the remote utilities for use with the iR-M2.

4 User Software

The following user software is provided on the User Software CD.

Adobe PS Printer Driver	Enables users to print to the iR-M2 from Windows 9x/Me, Windows NT 4.0, Windows 2000, Windows XP and Mac OS computers; also supports special iR-M2 and PostScript 3 features.
PostScript Printer Description files (PPDs)	Files for use with the PostScript printer driver that allow the iR-M2 to appear in popular applications' Print and Page Setup dialog boxes. The PPD provides information about the iR-M2 and the particular copier model to the application and printer driver.
PostScript Screen Fonts (for Mac OS only)	PostScript screen fonts for the 136 PostScript printer fonts installed on the iR-M2 (126 Adobe Type 1 and 10 TrueType).
Fiery Downloader	Enables the user to print PostScript, EPS, PDF, and TIFF files directly to the iR-M2 without opening the application in which they were created. Fiery Downloader also enables the user to manage the printer fonts installed on the iR-M2.
Fiery Spooler™ (Mac OS only)	Enables the user to view the order and priority of print jobs, customize printer settings for jobs, delete jobs, move jobs between queues, and view job accounting information.
Fiery Scan	Plug-in modules for Photoshop that enable the user to scan images from the copier directly into the application.
Command WorkStation software	Enables the operator to control the iR-M2 functions from Windows 9x/Me/2000/XP and Windows NT 4.0 workstations. For more information on Command WorkStation, see the Job Management Guide.
Fiery Link™	Enables the customer to monitor the status of connected.

5 Fiery WebTools

The iR-M2 can support Internet or intranet access with Fiery WebTools™, which include Status, WebSpooler, WebLink, and WebSetup. For more information on Fiery WebTools, see the user documentation.

Fiery WebSetup is supported on Windows computers only.

CHAPTER 2

PREPARING FOR INSTALLATION

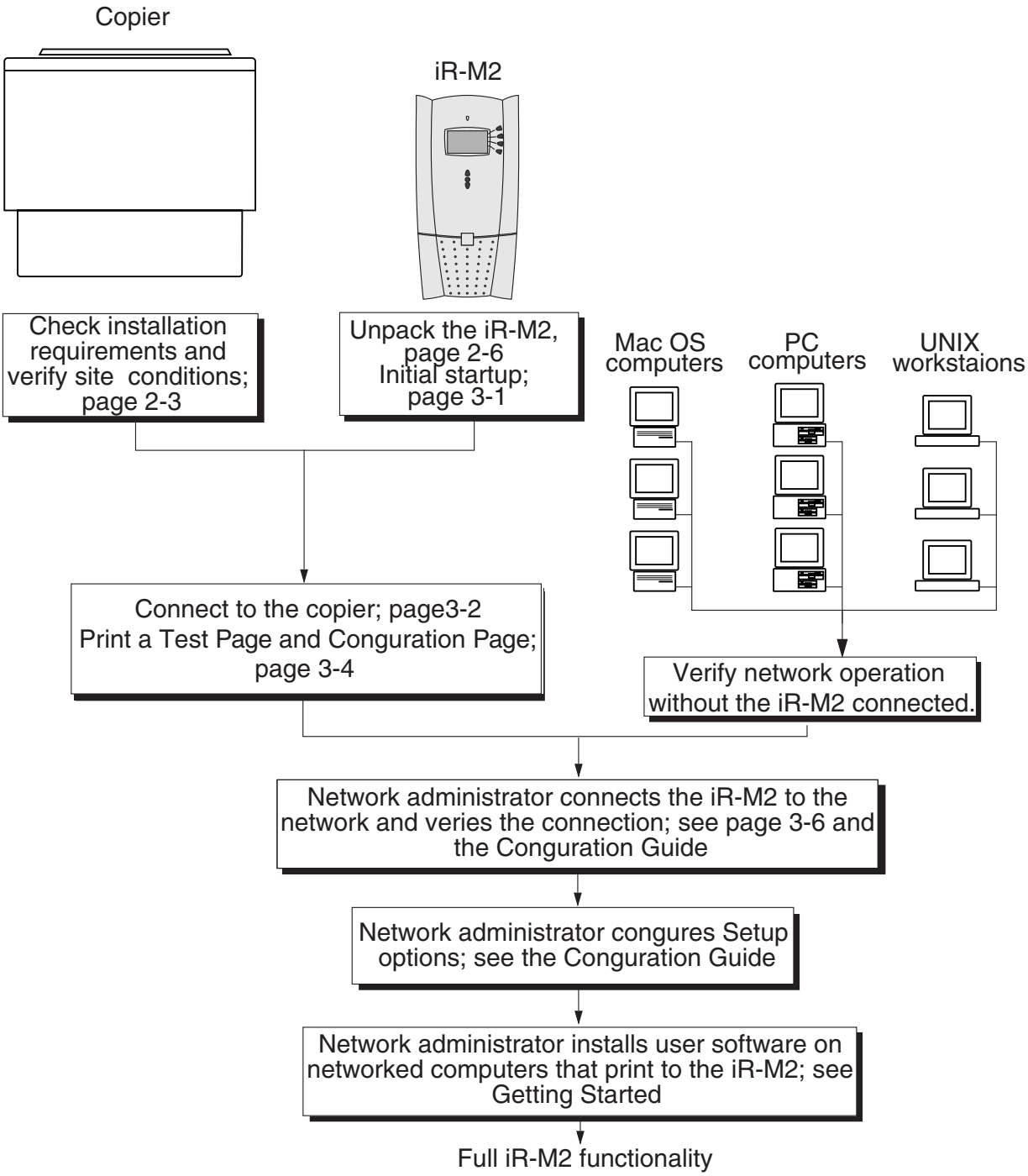
1 Installation sequence

This chapter includes the following information:
- Summary of the installation sequence
- Checking the customer site
- Unpacking the iR-M2
- iR-M2 front and back overview

Familiarize yourself with this chapter and Chapter 3 of this Service Manual before you attempt an installation. The installation sequence described in this chapter is designed to make your job as easy as possible. Installation problems are easier to avoid and diagnose if you proceed from the component to the system level and verify functionality at each stage.

F02-100-01 on page 2-2 outlines the recommended installation procedure for connecting the iR-M2 to the copier.

Because the iR-M2 is a node on the customer's computer network, make sure you coordinate your scheduled installation with the network administrator at the customer site. Refer the network administrator to the Configuration Guide for network setup information.



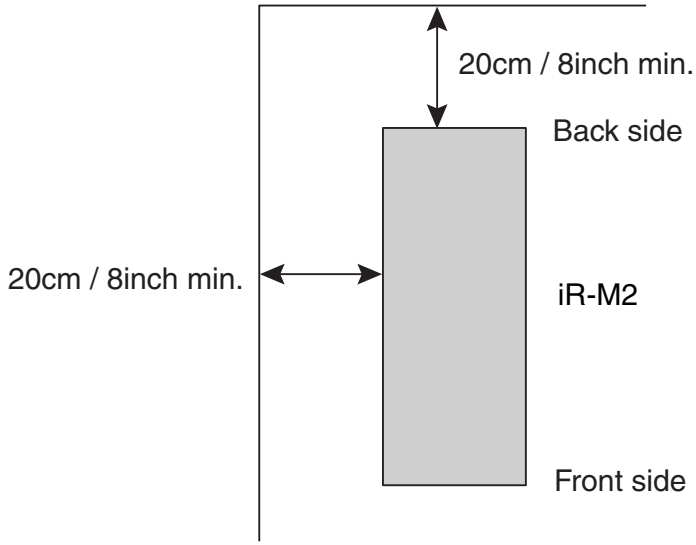
F02-100-01 Recommended installation steps and references

2 Checking the customer site

Before you install the iR-M2, check site conditions and inform the customer of any installation requirements.

2.1 Copier Model

- What copier model is installed?
- Is the service mode COPIER>OPTION>INT-FACE>IMG-CONT set to 4?
- Has the INTERFACE BOARD been installed on the copier?
- Is there space near the copier for the iR-M2?
  Make sure that there is space for the iR-M2. Allow enough space at the back panel for the cables to route easily and at the side panel so that the iR-M2 does not interfere with use of or service to the copier (such as clearing a paper jam). You may need to move the copier out from the wall so that its interface connectors are accessible.



F02-201-01

- Does the copier require service or adjustments?
  Copy the copier test page before you install the iR-M2.
  After getting approval, complete the copier service needed.

2.2 Power

■ Is there a dedicated, grounded electrical outlet near the copier for the iR-M2?
Locate the grounded electrical outlet that will supply power to the iR-M2. You should not run the iR-M2 and the copier on the same circuit. Make sure to use a surge suppressor for the iR-M2 if the customer has provided one.

- Do not use a 3-prong adapter in a 2-hole ungrounded outlet.
- Do not use an extension cord.
- Do not plug the iR-M2 into a circuit with heating or refrigeration equipment (including water coolers).
- Do not plug the iR-M2 into a switchable wall outlet. This can result in the iR-M2 being turned off accidentally.

2.3 Network

■ What is the network cable and connection type?

- Unshielded twisted pair (10BaseT/100BaseT)
- Optional Token Ring (shielded twisted pair or unshielded twisted pair?)

■ Is the network connection ready and tested for iR-M2 installation?
To verify that the network is functioning before you attach the iR-M2:

- Ask the network administrator to print a document on a shared printer over the network.
- Ask the network administrator to verify the computer and network requirements as specified in Getting Started.

2.4 Parallel Port

■ Is there space for both the iR-M2 and the PC that will be connected to the iR-M2?

2.5 System Contact Person

■ Will the person responsible for the computers and the network be available at the time set for installation? Get a name as a contact.

2.6 Setting customer expectations

If the site is ready, installation takes about one hour. The customer should be informed of the following:

- Some nodes on the network may be unavailable for up to one hour.
- The copier may be unavailable for up to one hour.
- The network administrator needs to be available during the installation for network connectivity.
  Equipment downtime and impact on the network can be minimized if the network administrator installs a network connector for the iR-M2 and confirms network functionality with the connector in place before the date scheduled for the iR-M2 installation.
- The network administrator should have a networked computer available during the installation. The appropriate software should already be installed. Documentation for the networked computer and the network operating software should be available.
- The network administrator should install the user software shipped with the iR-M2 (user documentation is also included) onto networked PC and Mac OS computers that will print to the iR-M2.


Memo

This guide covers hardware installation and service. It provides general information on connecting the iR-M2 to the customer's network. Network setup and configuration information goes beyond the scope of this guide. For network setup and configuration information, refer the network administrator to the Configuration Guide.

3 Unpacking the iR-M2

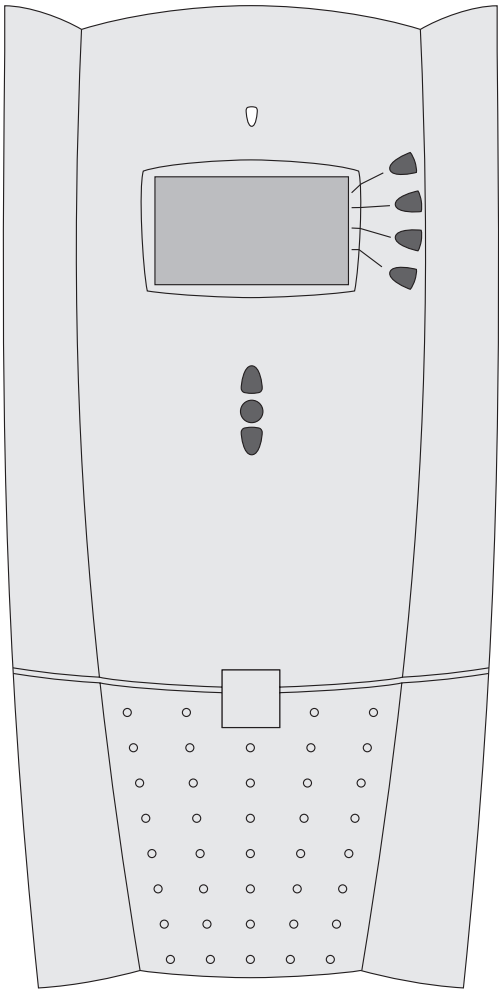
The iR-M2 is assembled and shipped from the factory in a box that includes all necessary cables and documentation, as shown in F02-301-01 on page 2-7.

3.1 To Unpack the iR-M2

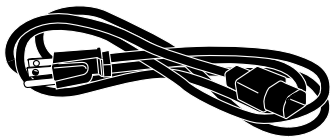
1. Open the box and remove the packing material.
   You may want to save the original boxes and packing materials if you need to transport the iR-M2 at a later date.
2. Remove the contents from the top container. Inspect the contents for visible damage.
   The top container should include the following items:
   - Bags containing one copier interface cable and one AC power cable
   - Network Interface Adapter
   - Media package (includes CDs for user software, user documentation and system software CD)

System software is for service use only.

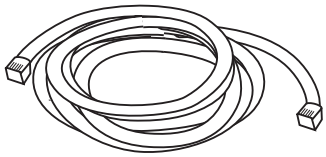
3. Give the media package to the customer or the network administrator.
   Let the customer or network administrator know that in order to take full advantage of the iR-M2, the user software must be installed on computers that will print to the iR-M2.
4. Set aside the remaining components from the top container.
5. Remove the top container and any packing materials.
   Set aside the packing material and note the orientation of the iR-M2 inside the shipping container, in case you need to repack it later.
6. Carefully lift the iR-M2 out of the box.
   If you notice shipping damage to any component, be sure to save the shipping container in case the carrier needs to see it. Call the carrier immediately to report the damage and file a claim, then call your authorized service/support center. Be ready to furnish the serial number printed on the back of the iR-M2.



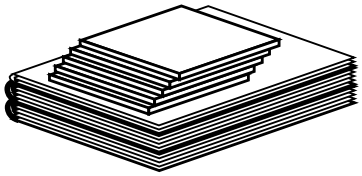
iR-M2



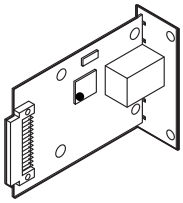
Power cable



Copier interface cable



Media pack

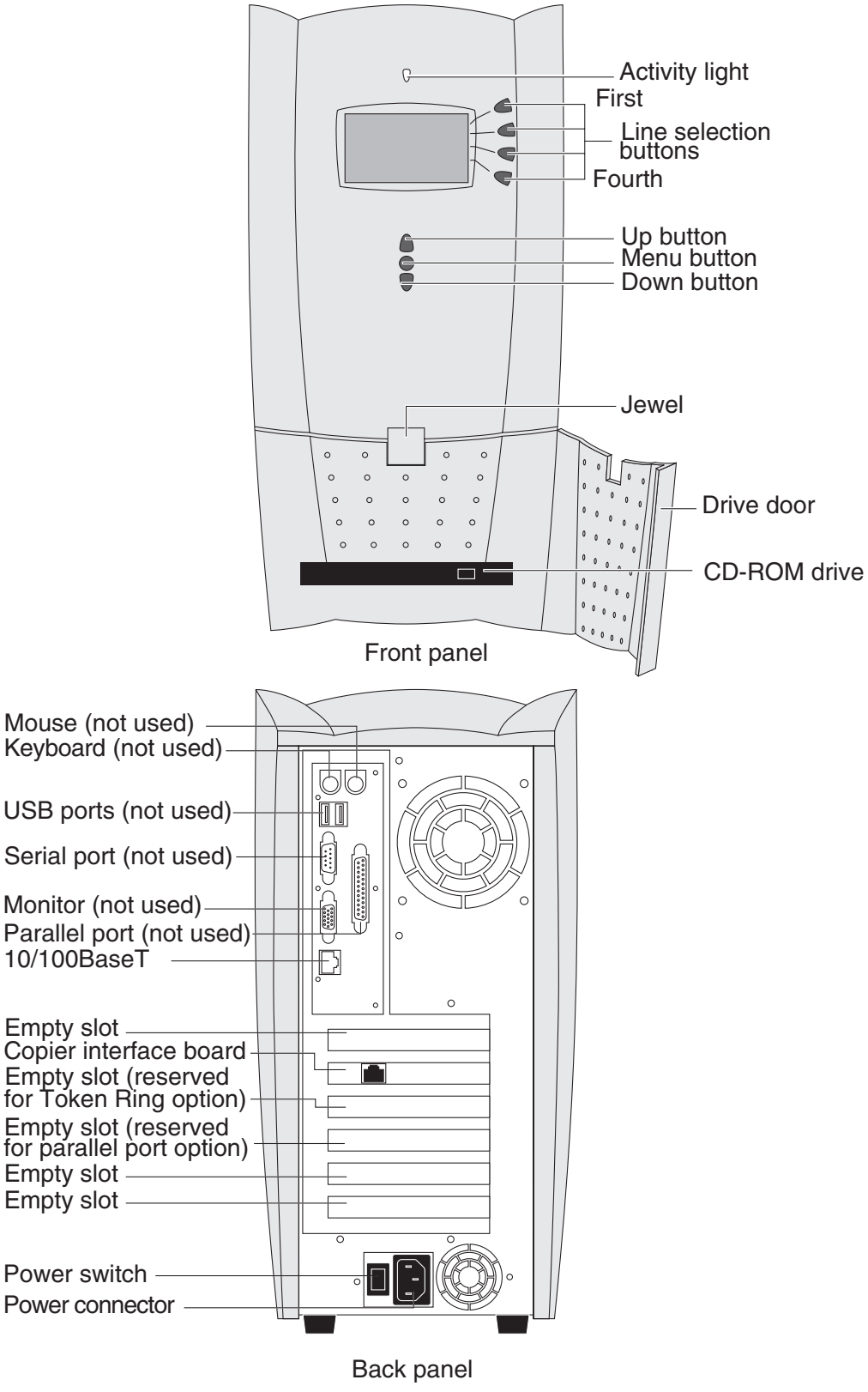


Network Interface Adapter

-301-01 Contents of iR-M2 shipping box

3.2 Front and back panels

After unpacking the iR-M2, familiarize yourself with the front and back panels before you connect it to the copier.



F02-302-01 Front and back panels

CHAPTER 3

CONNECTING THE iR-M2

1 Installation

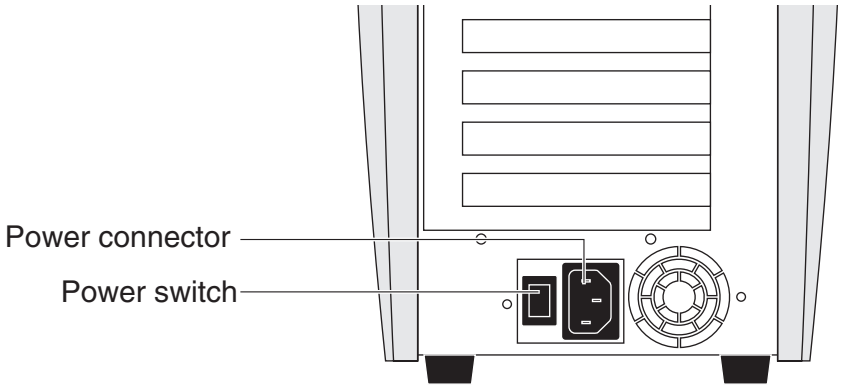
After you unpack or service the iR-M2, power on the system and allow diagnostics to run before you connect the iR-M2 to the copier and the network. Diagnostics run automatically during startup to check the iR-M2 for internal problems.

1.1 Preliminary Checkout

The following procedure describes how to connect power and start the iR-M2.

1.1.1 TO CONNECT POWER AND START THE iR-M2

1. Connect the power cable to the power connector at the back of the iR-M2 (see F03-101-01 below).
2. Make sure the power switch is in the off position (press 0), and then connect the other end of the power cable to a wall outlet.



F03-101-01 iR-M2 power

3. Power on the iR-M2 using the power switch on the back panel. The power supply automatically senses the correct voltage.
4. Allow startup to proceed without interruption while you watch the iR-M2 Control Panel. Do not press any buttons on the Control Panel.
5. Wait for the iR-M2 to reach the Idle screen to confirm that the iR-M2 is operating properly.
   When the iR-M2 reaches the Idle screen, you are ready shut down and connect the network and copier interface cables. Setup options should be configured after making these connections. The network administrator is responsible for configuring Setup according to the network and user environment. Refer the network administrator to the Configuration Guide for Setup information.

Memo

The message Copier connection failure. Reboot may appear on the Control Panel the startup process is complete. After you shut down the iR-M2, connect the it to the copier, and then power back on, the message will no longer appear.

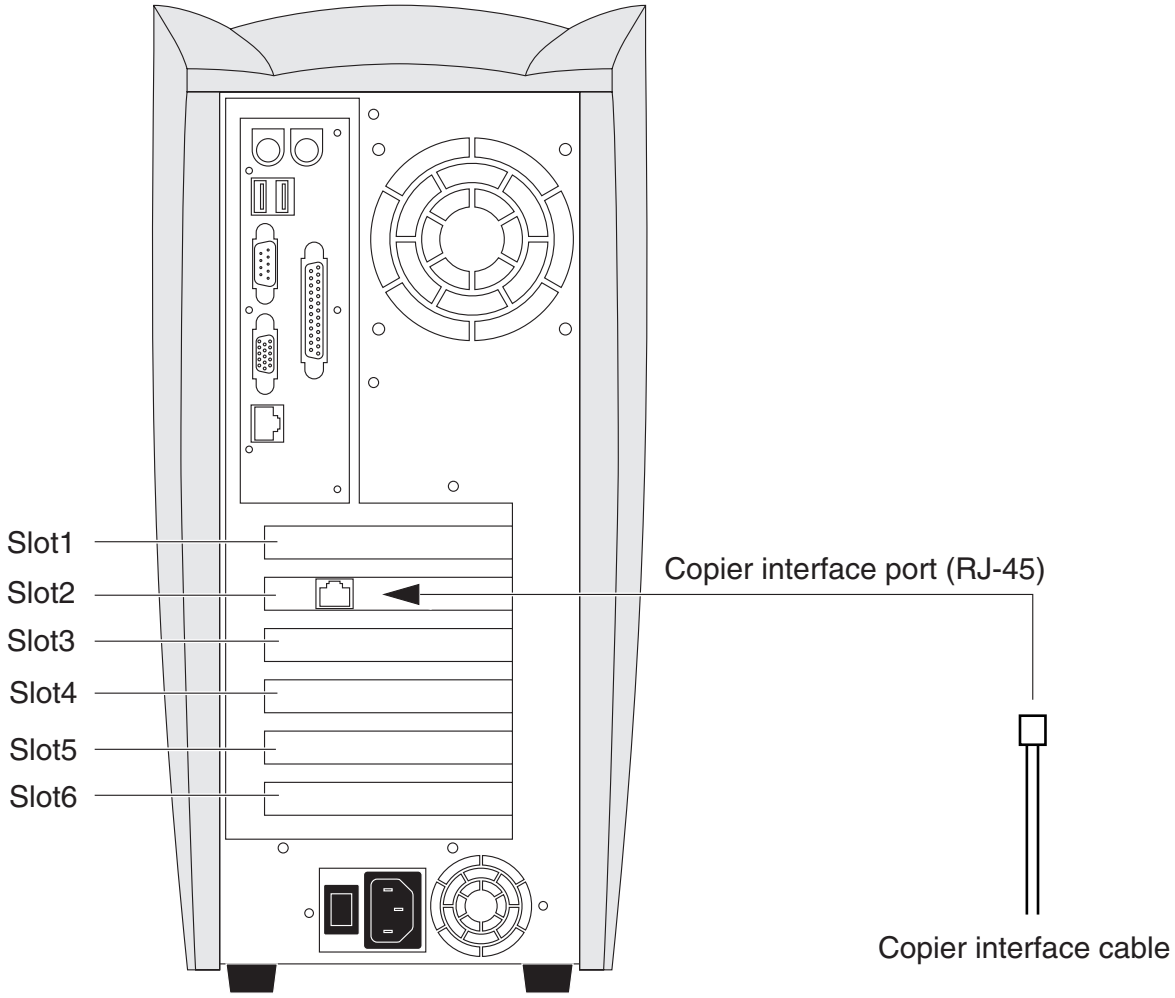
6. Following a successful startup, shut down the iR-M2 (see page 3-15).

1.2 Connecting to the Copier

After completing the preliminary checkout, connect the iR-M2 to the copier. The iR-M2 communicates with the copier through a cable from the copier interface board to the interface port on the copier.

1.2.1 TO CONNECT TO THE COPIER

1. Power off the copier.
   Check with the network administrator or supervisor before powering off the copier.
2. Connect one end of the copier interface cable to the interface connector on the copier and the other end of the cable to the iR-M2 copier interface connector (see F03-102-01 below).



F03-102-01 Copier interface connection

1.3 Verifying the Connection

After you connect the iR-M2 to the copier, print the PS and PCL Test Pages and the Configuration page to verify that the connection between the iR-M2 and the copier is good.

1.3.1 Printing the Test Pages and Configuration page

Before connecting the iR-M2 to the network, print the PS and PCL Test Pages and the Configuration page.

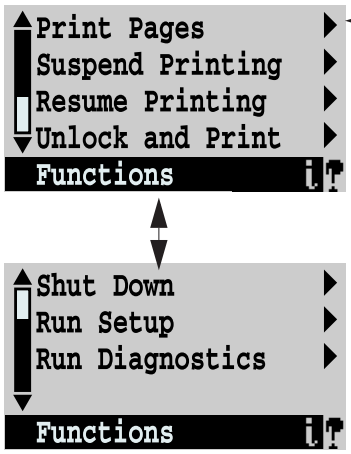
- PS and PCL Test Pages-printing the PS and PCL Test Pages verifies that all the components of the iR-M2-to-copier interface are working. The Test Page are files that reside on the HDD (hard disk drive).
- Configuration page-printing the Configuration page can be helpful during installation, setup, and service. After you install the iR-M2 and before any default settings are changed, you can obtain a record of the defaults by printing the Configuration page. After you make the physical connection to the network, 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.
  Before you perform any service procedure, you should print the Configuration page, if possible, so that you can return the settings to their former configuration, if necessary.


Memo

The iR-M2 supports the iR8500/iR7200/iR105/iR85. In the meantime, be sure to execute Factory Default before you connect the iR-M2 which is once connected to a certain copier or printer to another type of copier or printer. Executing Factory Default enables the iR-M2 to be connected to another type of or printer.

a. TO PRINT THE TEST PAGES

1. Power on the copier and allow it to warm up.
   The iR-M2 starts automatically when you power on the copier. Wait as the iR-M2 runs through its startup diagnostics.
2. At the Idle screen, press the Menu button once (see "Using the Control Panel" on page 3-8). The Functions menu appears.



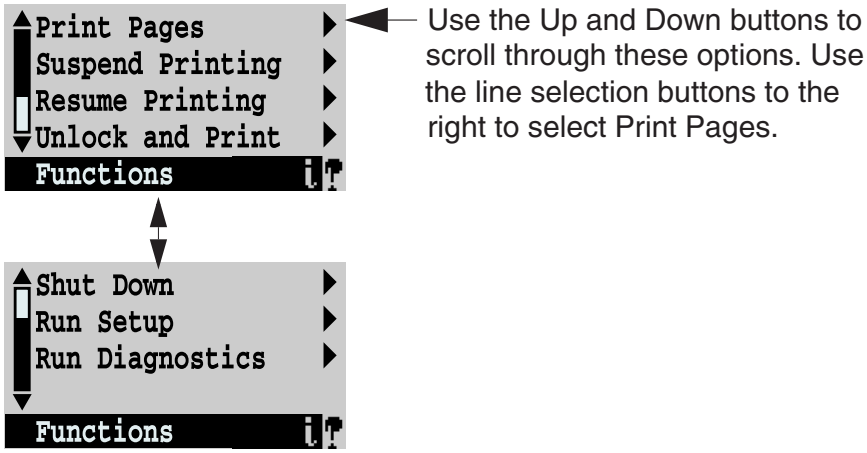
Use the Up and Down buttons to scroll through these options. Use the line selection buttons to the right to select Print Pages.

3. Press the line selection button to the right of Print Pages. and then select PS Test Page.
   The iR-M2 sends the PS Test Page to the copier.
4. Press the line selection button to the right of Print Pages. and then select PCL Test Page.
   The iR-M2 sends the PCL Test Page to the copier.
5. Examine the quality of the Test Pages.
   The Test Pages confirm that the iR-M2 is functional and that the connection between the iR-M2 and the copier is good. When you examine the Test Pages, 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 shade lightens from 100% to 0%.

   Poor image quality may indicate a need to service the copier. For more information, see the documentation provided with the copier.

b. TO PRINT A CONFIGURATION PAGE

1. If you have not done so already, power on the copier and allow it to warm up. Power on the iR-M2 using the power switch on the back panel.
   Messages appear on the Control Panel as the iR-M2 runs through its startup diagnostics.
2. Make sure that the copier is not in use and that the Info screen on the iR-M2 Control Panel reads Idle.
3. At the Idle screen, press the Menu button once (see "Using the Control Panel" on page 3-8). The Functions menu appears.



4. Press the line selection button to the right of Print Pages, and then select Configuration page.
   The iR-M2 sends the Configuration page to the copier and displays the RIP and Print status screens so you can monitor the job.

1.4 Installing additional options

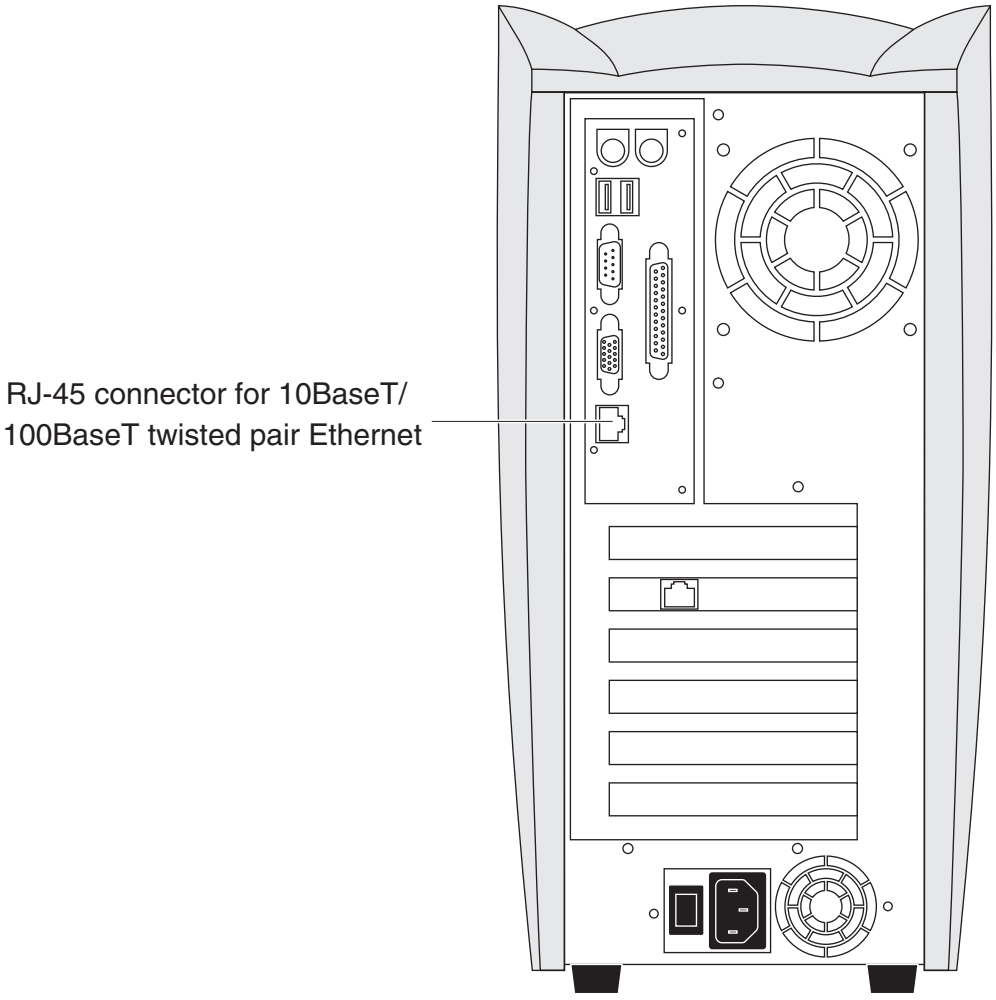
If the customer has purchased additional options (such as Token Ring connectivity), install those before connecting the iR-M2 to the network. For installation instructions, see the documentation included in each option kit.

After installing options, print the Test Page to verify that the system is operating properly.

Checking the installation at each stage makes it easier to pinpoint the cause of problems should they occur.

1.5 Connecting to the network

The iR-M2 has an external 10BaseT/100BaseT Ethernet network connector for a twisted pair cable (see F03-105-01). For additional network information, see the Configuration Guide.



F03-105-01 iR-M2 network connector

Token Ring compatibility is available with the optional Token Ring kit (see the documentation included with that kit for more information).

1.5.1 TO CONNECT A TWISTED PAIR CABLE

Twisted pair (unshielded twisted pair cable for 10BaseT/100BaseT) uses an RJ-45 connector that connects to the back of the iR-M2 (see F03-105-01 on page 3-6).

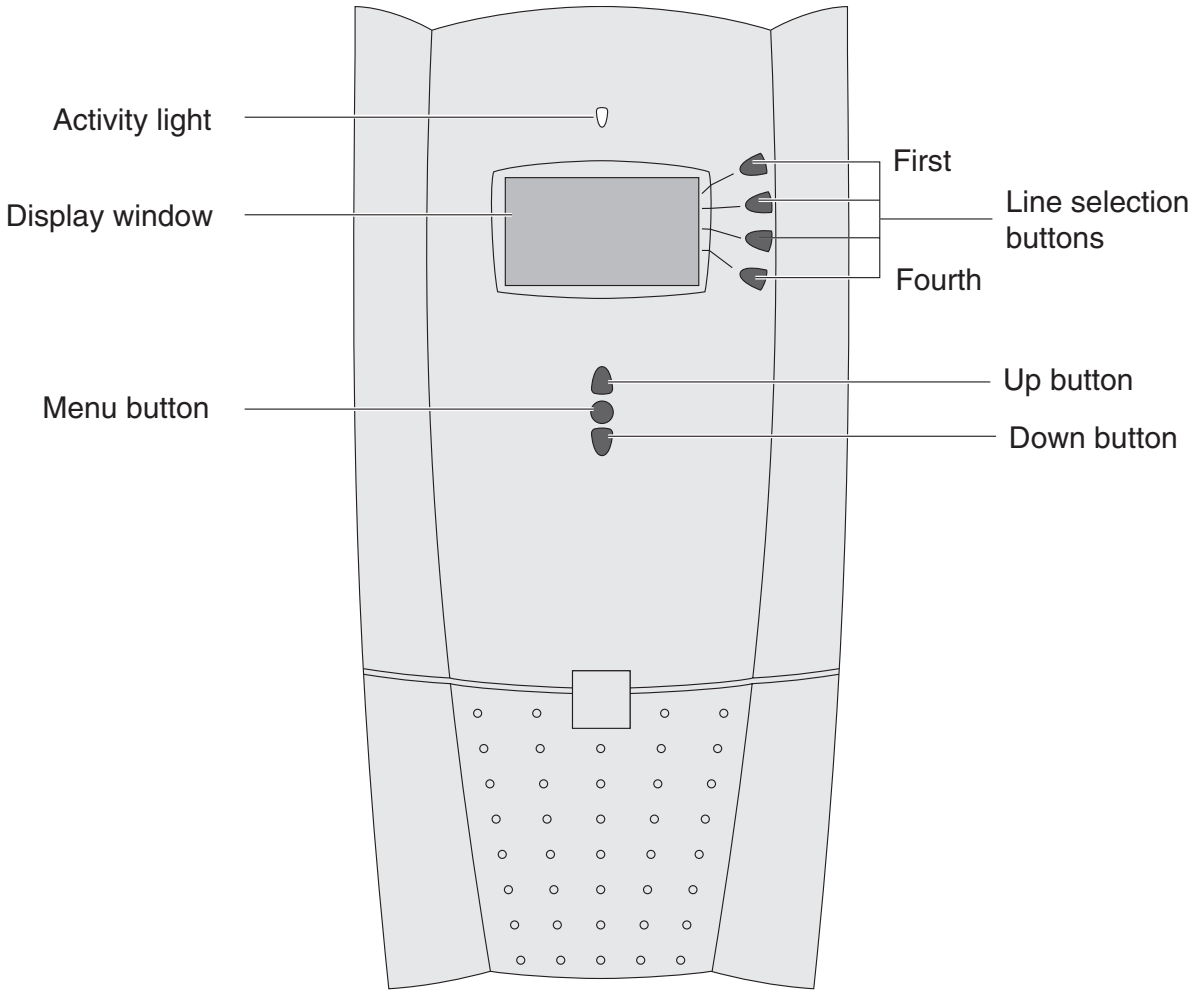
1. Shut down and power off the iR-M2 before connecting it to any network device (see page 3-15).
2. Connect the network cable to the RJ-45 connector on the back of the iR-M2.
   A Category 5 unshielded twisted pair (UTP) network cable must be used for 100BaseT.
3. Configure Setup options.
   It is the network administrator's responsibility to configure Setup according to the network and user 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 iR-M2 has the correct Setup configuration, the iR-M2 should be available on the network.
   The network administrator should perform any additional network setup, verify the network connection, verify that the iR-M2 appears in the list of printers, and print a few test documents from a networked computer that will use the iR-M2. (For more information, see the Configuration Guide.)

2 Control Panel

2.1 Using the Control Panel

This section describes the Control Panel. Once you install the iR-M2 and verify that it powers up correctly, you can use the Control Panel to access and monitor different functions.

The current status of the iR-M2 and Setup information are displayed in the iR-M2 display window. Activity can be monitored in the display window, and functions of the iR-M2 (such as printing a Test Page and installing or updating system software) can be controlled using the buttons on the Control Panel.



F03-201-01 The iR-M2 Control Panel

2.1.1 Activity Light

The activity light indicates current activity. If the light is:

Flashing or solid red	An error has caused printing to be disabled. The activity light also flashes red briefly during startup.
Flashing red	There is an error causing printing to be disabled, but the iR-M2 is still processing. When the error is cleared, the light changes to green.
Solid green	The iR-M2 is idle or starting up.
Flashing green	The iR-M2 is processing or printing a job.
No light	The iR-M2 is powered off.

2.1.2 Buttons

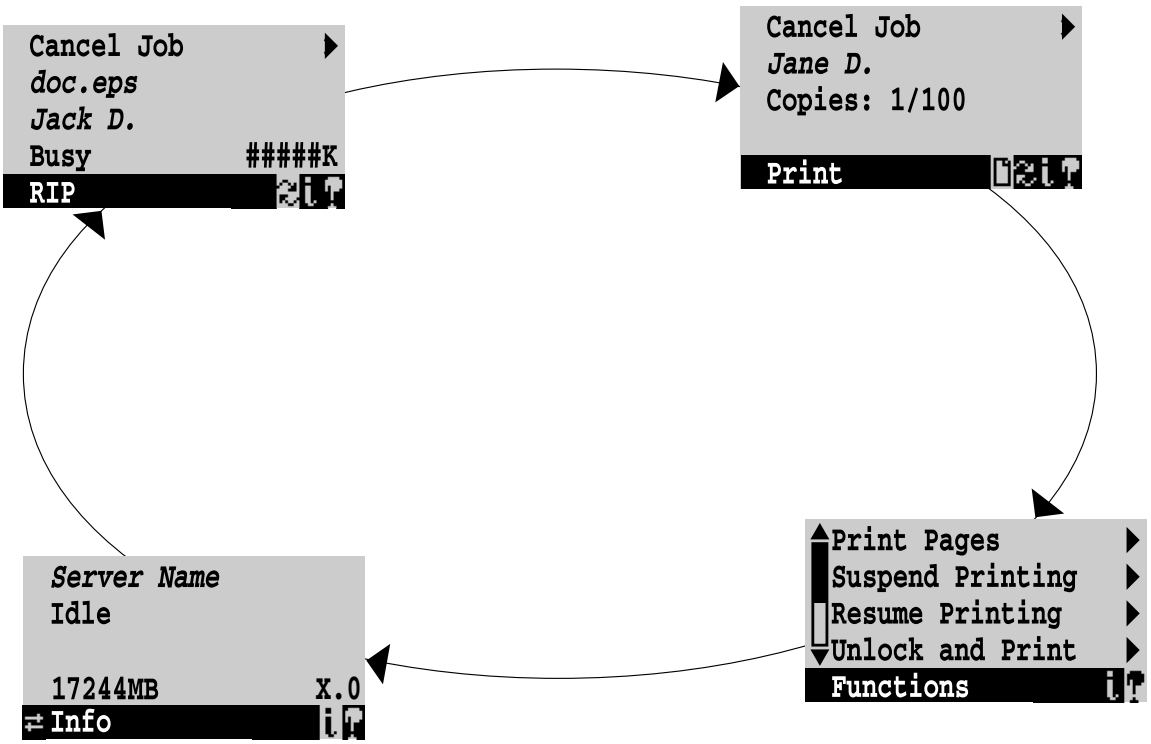
Line selection buttons	Use the four line selection buttons on the right side of the Control Panel to select the command displayed on the corresponding line of the display window. A special character (▶) appears in the display window next to a button when it is available.
Up and down button	Use these buttons to scroll to different screens in multi-screen lists, to select Setup options from a list, and to select alphanumeric characters.
Menu button	Press this button to view other display screens. Several different display screens show different types of information about the iR-M2.

2.1.3 Control Panel screens and icons

When the iR-M2 is in Print mode, pressing the Menu button cycles through four screens: three status screens (Info, RIP, and Print) and the Functions menu. When the iR-M2 is idle, pressing the Menu button cycles between the Info screen and the Functions menu.

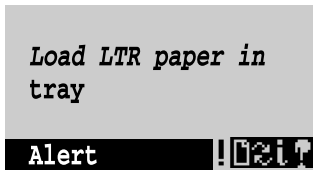
The bottom line of the screen displays the name of the current screen with the icon for that screen highlighted. Icons for other active screens are also displayed but are not highlighted.

The screens display the following information:



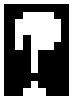
F03-201-02 Control Panel screens during printing

If an error occurs, the Alert screen is displayed with a message describing the error.



The display window screens and icons are:

Icon	Window screen	Description
	Alert Status	If there is a problem during printing or processing, the Alert Status screen is activated, displaying an error message. For information on user error messages, see the Printing Guide.
	Print Status	When the iR-M2 is printing, the Print Status screen is activated. This screen displays the following: Cancel Job—Press the top line selection button to cancel the job currently printing. User name—The name of the user who sent the job that is currently being processed. Copies/Total—The number of copies of the current page that have been printed so far, and the total number of copies of this page that were requested.
	RIP Status	When the iR-M2 is processing a job, the RIP Status screen is activated. This screen displays the following: Cancel Job—Press the top line selection button to cancel the job currently processing. The iR-M2 cancels the job before printing begins. Document name—The name of the document currently processing. User name—The name of the user who sent the job that is currently being processed. Kilobytes—The amount in kilobytes of the job that has been processed so far.

Icon	Window screen	Description
	Info Status	The Info Status screen displays information about the server's current activity, and software version. This screen is always active, and it appears in the display window when no other screen is selected. It displays the following information: Server Name—The iR-M2 name as it is configured in Setup. Status—The current status of the iR-M2. Status messages include: Idle, Initializing, Busy, Processing, or Printing. Number of MB—The space in megabytes available on the HDD. Version—The system software version running on the iR-M2.
	Functions Menu	The Functions screen is also always active, but it appears in the display window only when the user has pressed the Menu button to select it. Use the Up and Down buttons to scroll through the list of menu command options. Press the line selection button to the right of a command to select it.
	Network icon	The Network icon appears in the lower left corner of the display window when the iR-M2 is communicating over the network. The Network icon can appear while any screen is displayed.

2.2 Functions Menu

The Functions menu allows you to perform a variety of administrative functions that do not affect the print jobs of other users. Use the Up and Down buttons to scroll through the list of functions. Press the line selection button next to the function you want to select.

The following functions are available from the Functions menu:

Print Pages—Enables you to print special pa ges from the iR-M2. You can print the following pages from the submenu that appears:

- PS Test Page — Enables you to confirm that the iR-M2-to-copier interface is functioning properly. The Test Page provides black and white and grayscale samples to troubleshoot problems with the copier or the iR-M2. The following information is also listed: server name (defined in Setup), date and time printed, and compression information.
- PCL Test Page — Enables you to confirm that the iR-M2-to-copier PCL interface is functioning properly. The PCL Test Page provides black and white and grayscale samples to troubleshoot problems with the copier or the iR-M2. The following information is also listed: server name, date and time printed, and compression information.
- Configuration — Prints the current server and device configuration. This includes information about all current Setup settings, and the Ethernet address of the iR-M2. The Configuration page also provides version information for the BIOS chip and information on any options installed in the iR-M2.
- Job Log — Prints the log of the last 55 jobs by default. For more information about the Job Log, see the Printing Guide.
- PS Font List — A list of all PostScript fonts resident on the HDD.
- PCL Font List — A list of all PCL fonts resident on the HDD.

Shut Down—Provides three ways to shut down the iR-M2:

- Restart Server (soft reset) — Resets the server software but does not reboot the entire system. Network access to the iR-M2 is temporarily interrupted and all currently processing jobs are aborted and might be lost.
- Shut Down System — Shuts down all iR-M2 activity properly so that you can power off the system using the power switch on the back panel. You should always select this option before powering off the system (see the procedure “To shut down the iR-M2” on page 3-15).
- Reboot System (hard reset) — Allows you to shut down and then reboot the iR-M2 entirely through the Control Panel without having to power off the system from the power switch on the back panel.

Run Setup–Allows you to access the Setup options in order to configure the network and printing environment. Typically it is the network administrator's responsibility to configure Setup according to the network and user environment. Setup is required the first time the iR-M2 is powered on and after system software is installed. For a list of options and detailed descriptions of each Setup option, see the Configuration Guide.

3 Shutting down and restarting

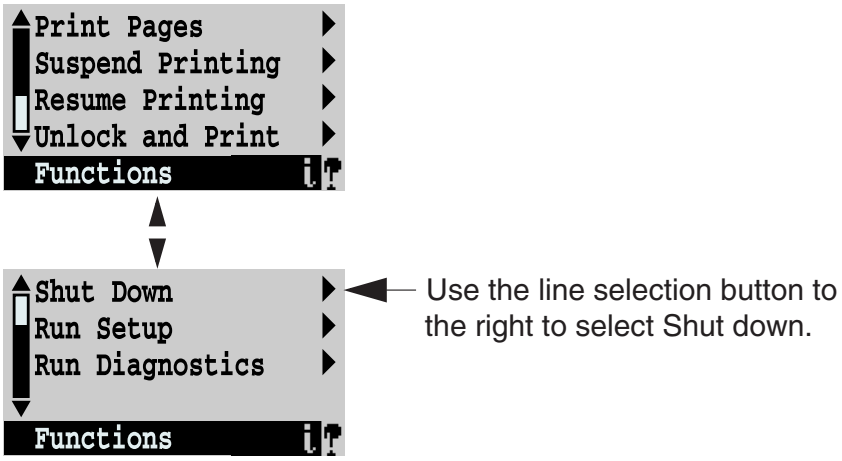
The iR-M2 will probably be left on all the time at the customer site. Remember that when the iR-M2 is powered off, network access to the copier is interrupted.

You should shut down the iR-M2 when you need to service it or the copier, and before you remove or attach any cables to the iR-M2. Shut down the iR-M2 before changing the copier's toner cartridge in order to prevent the fan from drawing toner into the iR-M2.

3.1 TO SHUT DOWN THE iR-M2

Always verify that the iR-M2 is not being used before you begin the following procedure to power off the iR-M2.

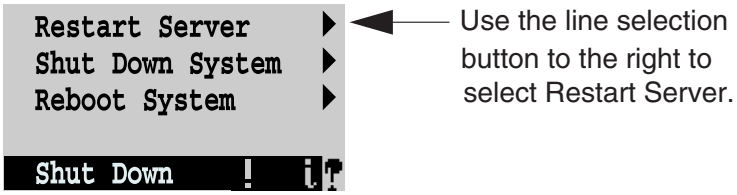
1. Make sure that the iR-M2 Info screen reads Idle.
   When Printing or Ripping appears on the Control Panel, the iR-M2 is currently processing a job. Idle appears in the Info screen when the iR-M2 is finished processing the job.
2. At the Idle screen, press the Menu button once to display the Functions menu.
3. Scroll to select Shut Down from the Functions menu.



4. At the next screen, select Shut Down System.
   The message It is now safe to power off the system.... is displayed.
5. Power off the iR-M2 using the power switch on the back panel (press 0).

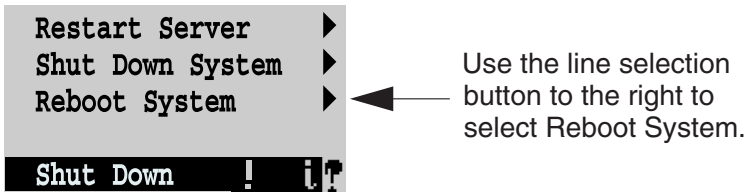
3.2 TO RESTART THE iR-M2

1. If the iR-M2 is already on, make sure it is not receiving, processing, or printing a document.
   When Printing or Ripping appears on the iR-M2 Control Panel, the iR-M2 is currently processing a print job. Wait until the job is complete and Idle appears in the Info screen.
2. Press the Menu button once, select Shut Down from the Functions menu, and then select Restart Server.



3.3 TO REBOOT THE IR-M2

1. If the iR-M2 is already on, make sure it is not receiving, processing, or printing a document.
   When Printing or Ripping appears on the iR-M2 Control Panel, the iR-M2 is currently processing a print job. Wait until the job is complete and Idle appears in the Info screen.
2. Press the Menu button once, select Shut Down from the Functions menu, and then select Reboot System.
   Allow the system to shut down and reboot. Do not push any buttons during this time and ignore the message It is now safe to power off the system.... that appears on the Control Panel while the system reboots.



CHAPTER 4

SERVICE PROCEDURE

1 Before Disassembling the Unit

Generally, the iR-M2 requires no regular service or maintenance. Use the procedures in this chapter to inspect, remove, reseat, and replace major hardware components, as well as to install system software.

1.1 Overview

This chapter includes information on servicing the following components:

- Boards and Cables
- Motherboard components (DIMM, CPU, battery)
- Fans (front and back panel)
- Power supply
- HDD (hard disk drive)
- CD-ROM drive
- Front panel components

See F04-102-01 on page 4-2 for an overview of components. Replacement parts are available from your authorized service representative. The terms "replace" and "replacing" are typically used throughout this chapter to mean reinstallation of existing components. Install new components only when necessary. If you determine that a component you have removed is not faulty, make sure to reinstall it back in the system.

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

Memo

The tools required to service the system are listed in "Appendix" on page A-2.

1.2 System software

System software is installed on the HDD at the factory. System software is also provided on a CD containing system software and fonts. Use the System Software CD when:

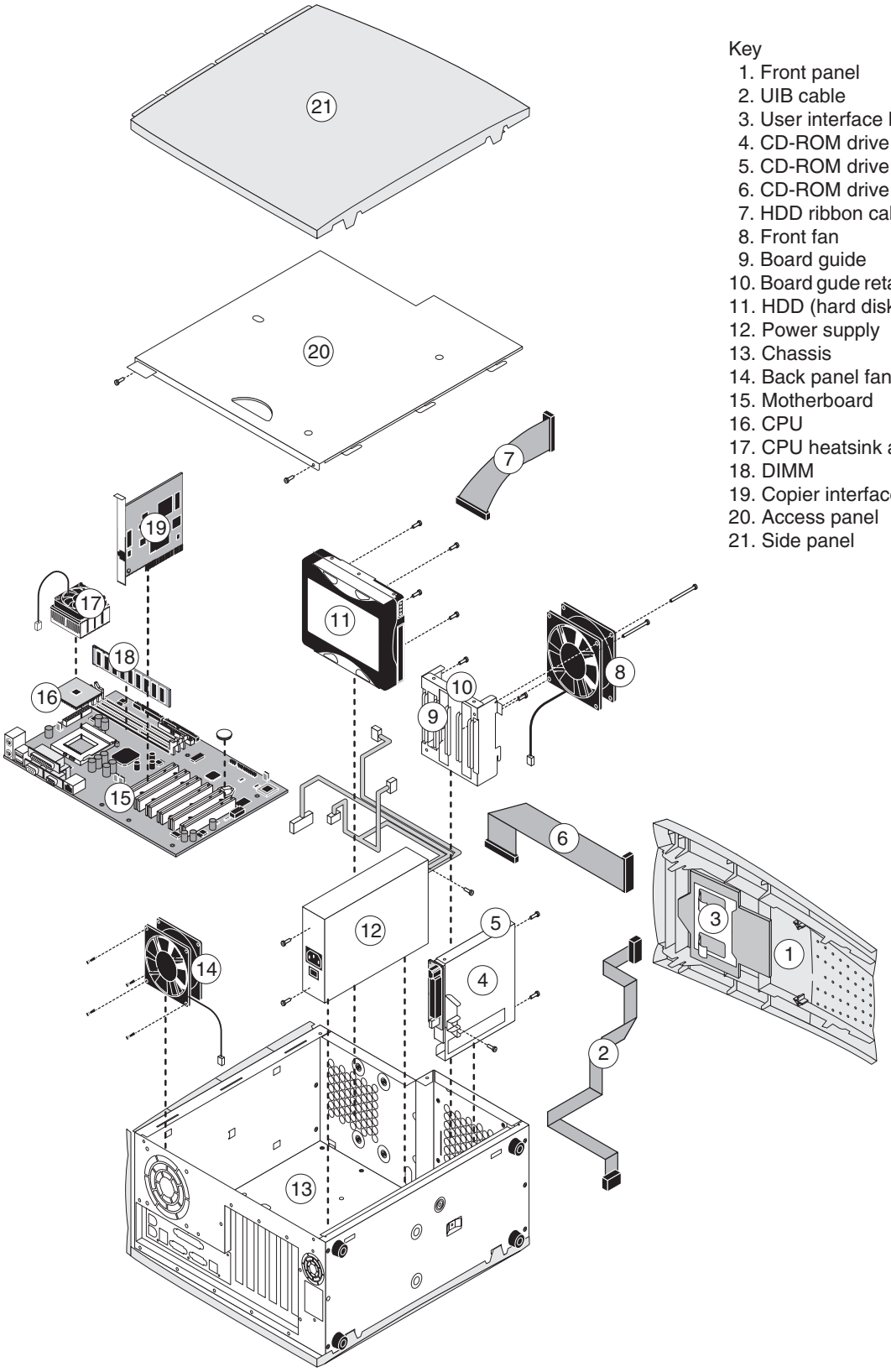
- You upgrade to a more recent version of the system software
- You replace the HDD

If you change language, perform the "Factory Default" in set up menu.

Memo

System software installation takes approximately 20 minutes.

For information on how to install system software, see 'System software service" on page 4-54.



Key
1. Front panel
2. UIB cable
3. User interface board
4. CD-ROM drive
5. CD-ROM drive bracket
6. CD-ROM drive ribbon cable
7. HDD ribbon cable
8. Front fan
9. Board guide
10. Board gude retainer
11. HDD (hard disk drive)
12. Power supply
13. Chassis
14. Back panel fan
15. Motherboard
16. CPU
17. CPU heatsink and fan
18. DIMM
19. Copier interface board
20. Access panel
21. Side panel

F04-102-01 Exploded view of iR-M2 components

1.3 Accessing Internal Components

If the iR-M2 is powered on, make sure to shut down the system before you access the internal components. Always use the following procedures when opening the iR-M2 for inspection or service.

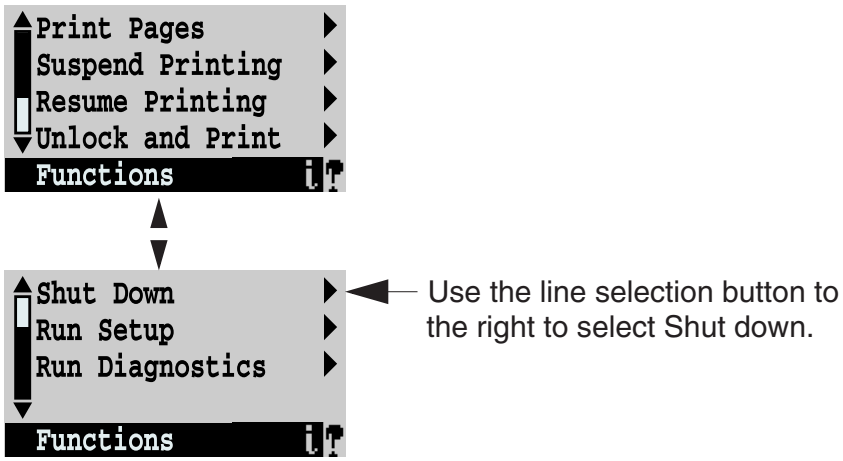
Memo

Remember that when the iR-M2 is powered off, network access to the copier is interrupted. Always get permission from the network administrator before you take the iR-M2 off the network.

1.3.1 TO SHUT DOWN THE iR-M2

Always verify that the iR-M2 is not being used before you shut it down.

1. Make sure that the Info screen reads Idle.
   When Printing or Ripping appears on the Control Panel, the iR-M2 is currently processing a job. Idle appears in the Info screen when the iR-M2 is finished processing the job.
2. At the Idle screen, press the Menu button once to display the Functions menu.
3. Scroll to select Shut Down from the Functions menu.

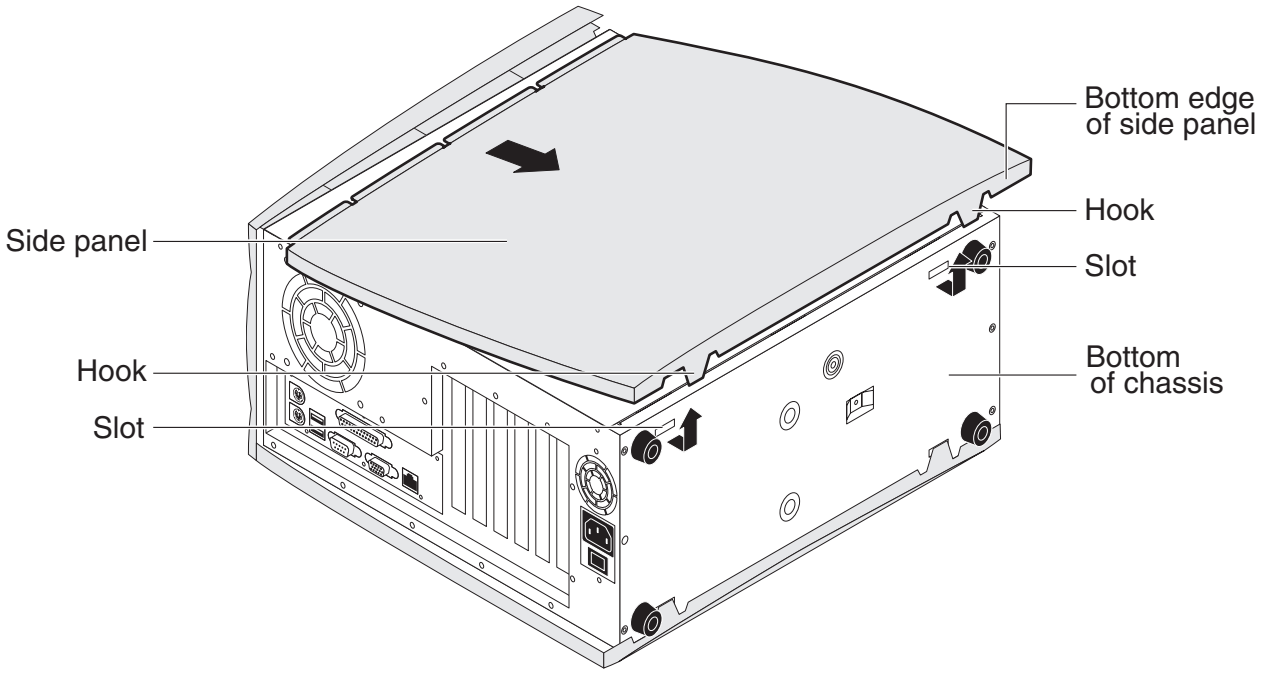


4. At the next screen, select Shut Down System.
   The message It is now safe to power off the system.... appears.
5. Power off the iR-M2 using the power switch on the back panel (press 0).
6. Disconnect all cables from the back panel.

2 Externals

2.1 TO OPEN THE iR-M2

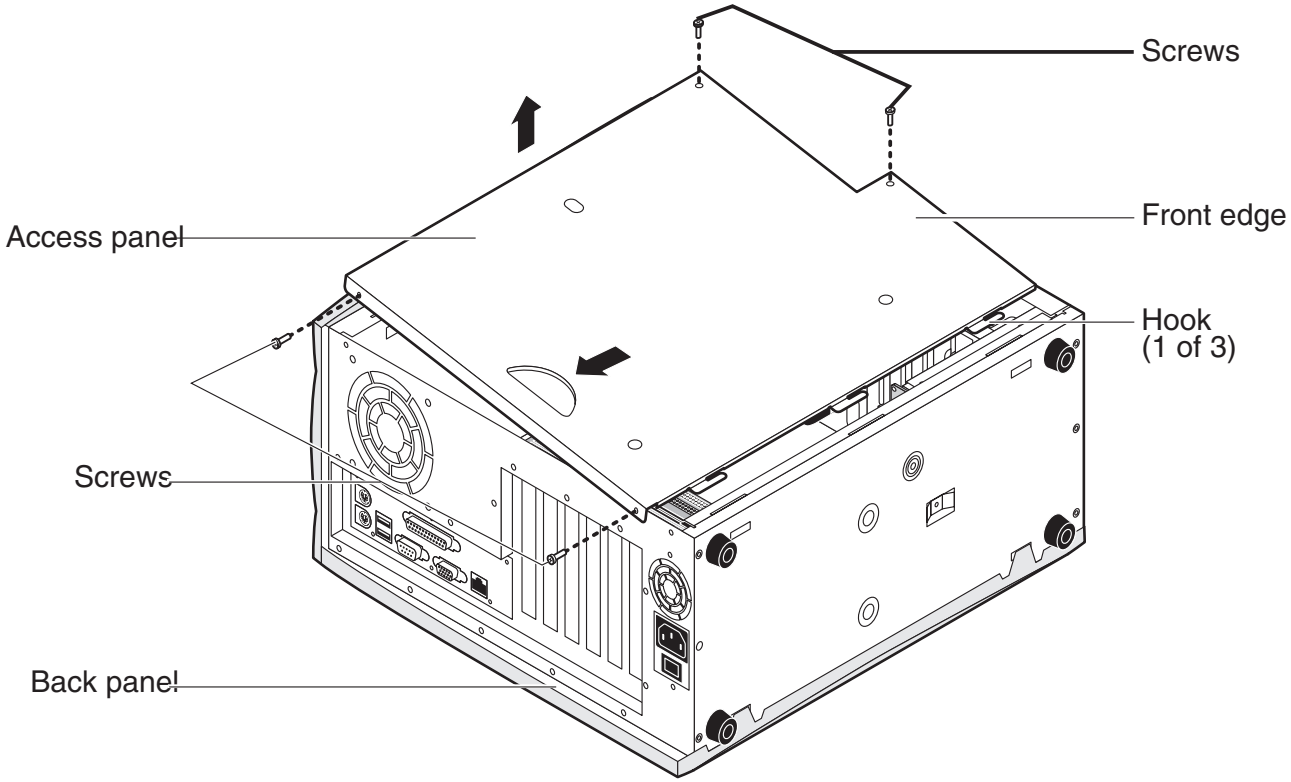
1. Make sure you have powered off the iR-M2 (see page 4-3) and removed all the cables from the back panel.
2. Position the iR-M2 so that it is resting on its side on a flat, anti-static surface (see F04-201-01).
3. Bend the hooks out from the slots on the bottom of the chassis to release the side panel from the chassis.



F04-201-01 Removing the side panel

4. Lift up the bottom edge of the side panel and then slide it away from the chassis.

5. Remove the four screws that secure the access panel to the chassis.
6. Slide the access panel toward the back panel to disengage the hooks from the chassis, and then lift the access panel off of the chassis. (see F04-201-02).
   Press on the front edge of the access panel as you slide the panel.



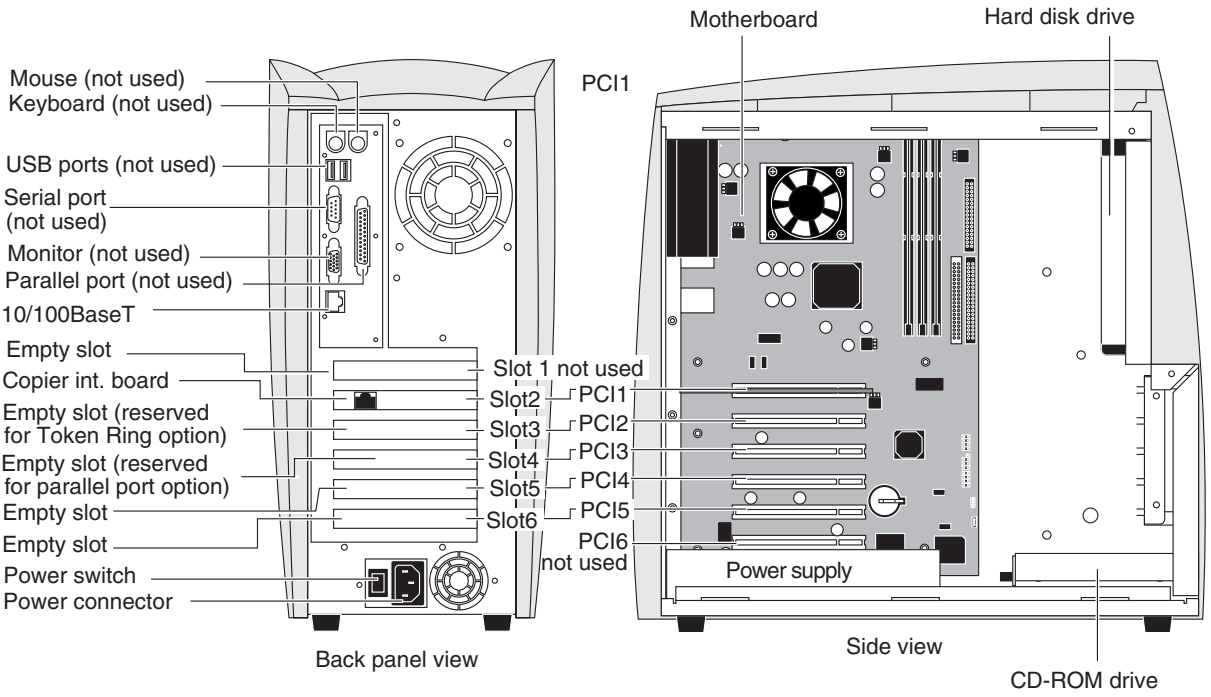
F04-201-02 Removing the access panel

The internal components are now accessible.

The iR-M2 is shipped from the factory with a standard board configuration, as shown in F04-201-03. If optional components have been installed, see the documentation that came with the specific option kit.

Memo

To service components inside the chassis, position the iR-M2 so that it is resting on its side and the components inside the chassis are facing up.



Motherboard connectors:
PCI1-Copier interface board
PCI2-Empty (reserved for Token Ring option)
PCI3-Empty (reserved for parallel-in option)
PCI4-Empty
PCI5-Empty
PCI6-Not used

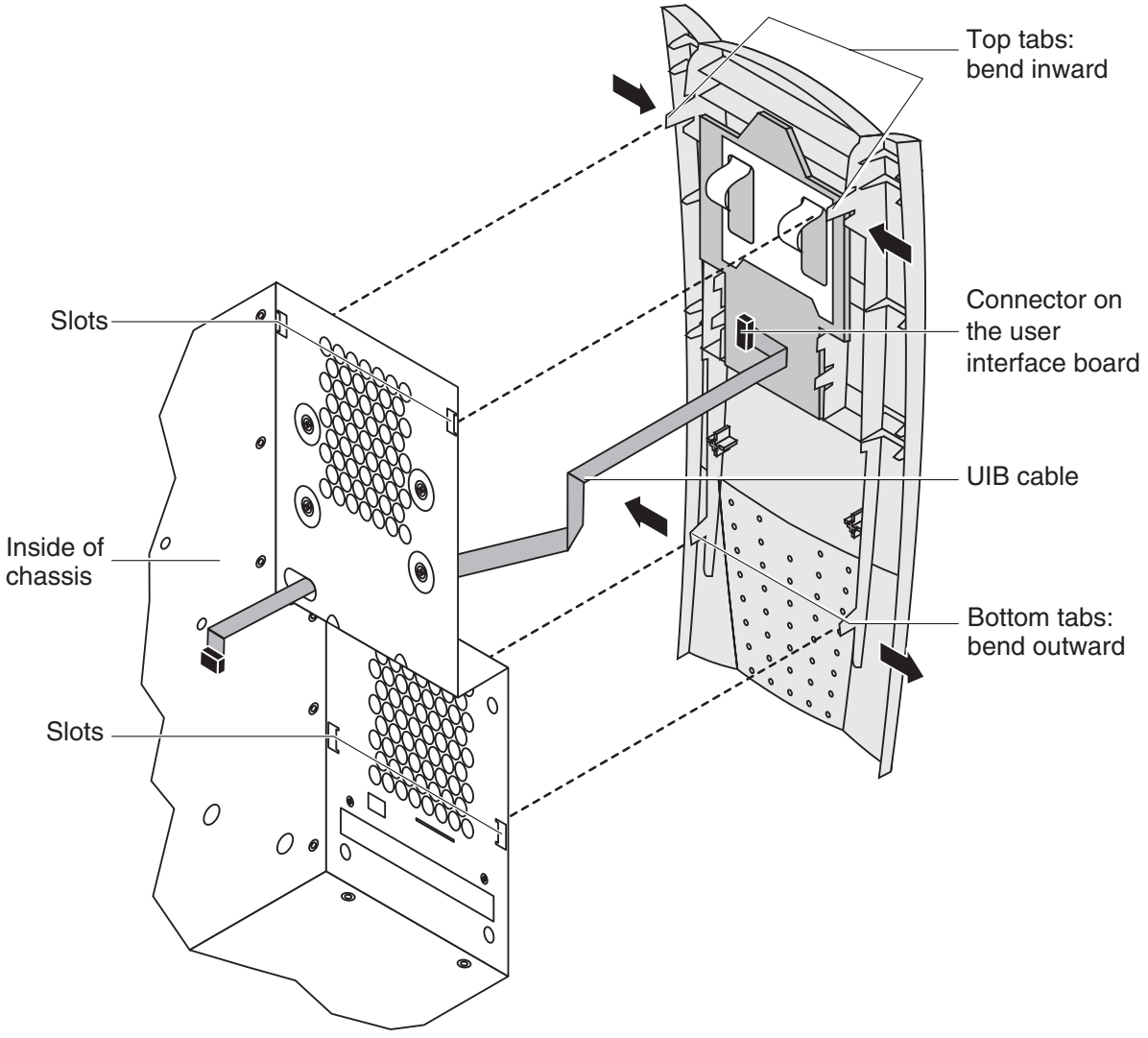
F04-201-03 iR-M2 side view and back panel view

2.2 Accessing Front Panel Components

The following procedure describes how to remove the front panel in order to access the user interface board, the Control Panel buttons, the HDD, the CD-ROM drive, the front fan, and the front panel jewel. You do not need to remove the front panel in order to access other components inside the chassis.

2.2.1 TO REMOVE THE FRONT PANEL

1. Shut down the iR-M2 (see page 4-3).
2. Open the iR-M2 (see page 4-4).
3. Stand the iR-M2 up in its normal operating position.
4. Inside the chassis, bend the top tabs inward to release them from the chassis.
5. nside the chassis, bend the bottom tabs outward to release them from the chassis.
6. Pull the front panel away from the chassis.
   Take care when pulling the front panel away from the chassis as the UIB cable is still connected to the user interface board on the front panel.
7. Disconnect the UIB cable from the connector on the user interface board, and then place the front panel on a clean, padded surface.
   The front panel components are now accessible.



F04-202-01 Removing the front panel

2.2.2 TO REPLACE THE FRONT PANEL

1. Make sure all front panel components are installed correctly.
2. Connect the UIB cable to the connector on the user interface board.
   When you connect the cable, make sure to snap the levers together to ensure that the connector is securely fastened.
3. Position the front panel so that the tabs enter the slots in the front of the chassis, and then press the front panel against the chassis until it snaps into place.


Memo

If you replaced the front panel, make sure you transfer the jewel from the original front panel onto the new one (see page 4-53).

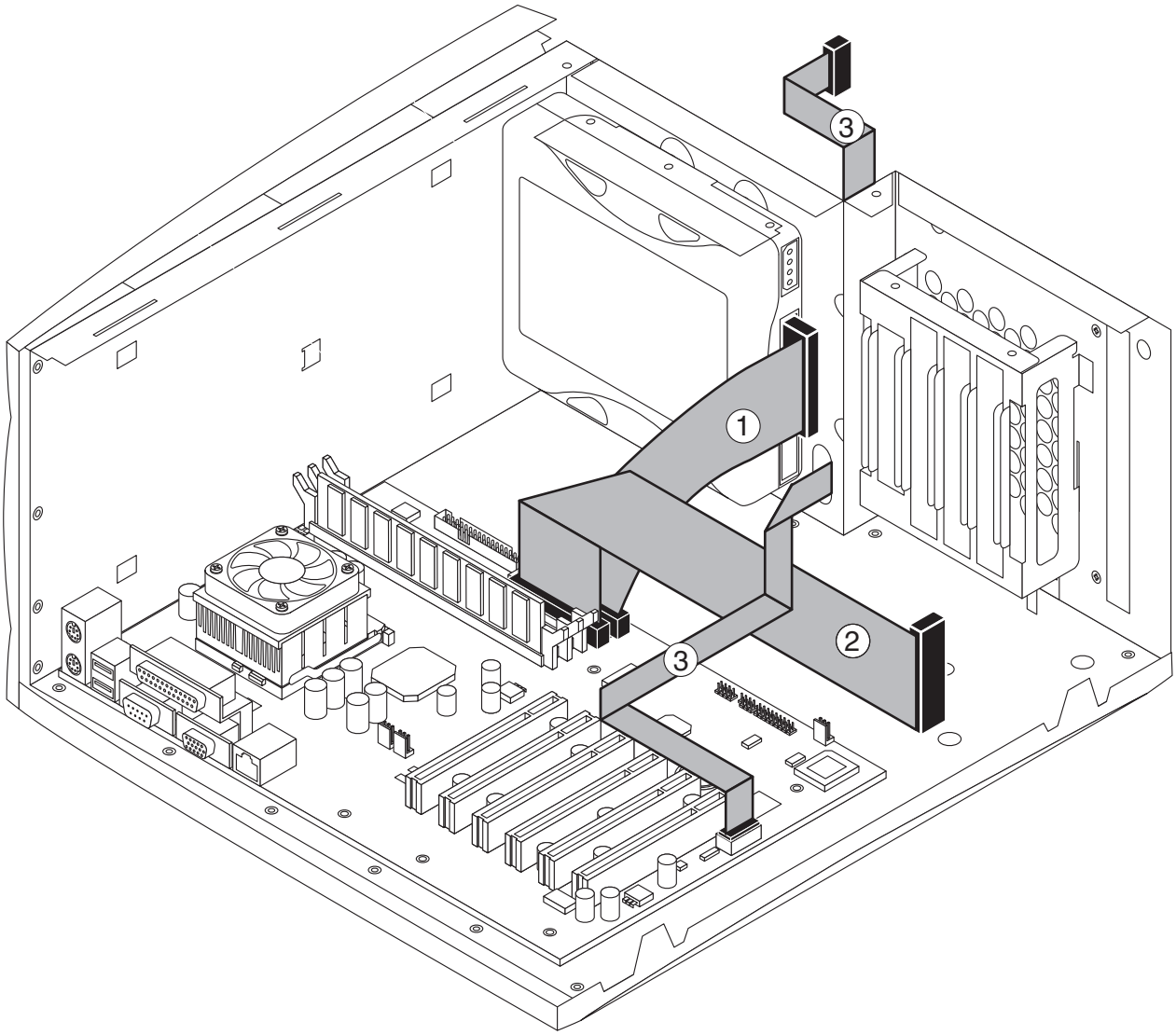
3 Checking internal connections

The most common causes of hardware problems are faulty and loose connections. Before you conclude that any board or component has failed, remove, inspect, and reseat all appropriate connections, and then check whether the problem still occurs.

3.1 TO CHECK BOARD AND CABLE CONNECTIONS

Follow standard ESD precautions while working on internal components.

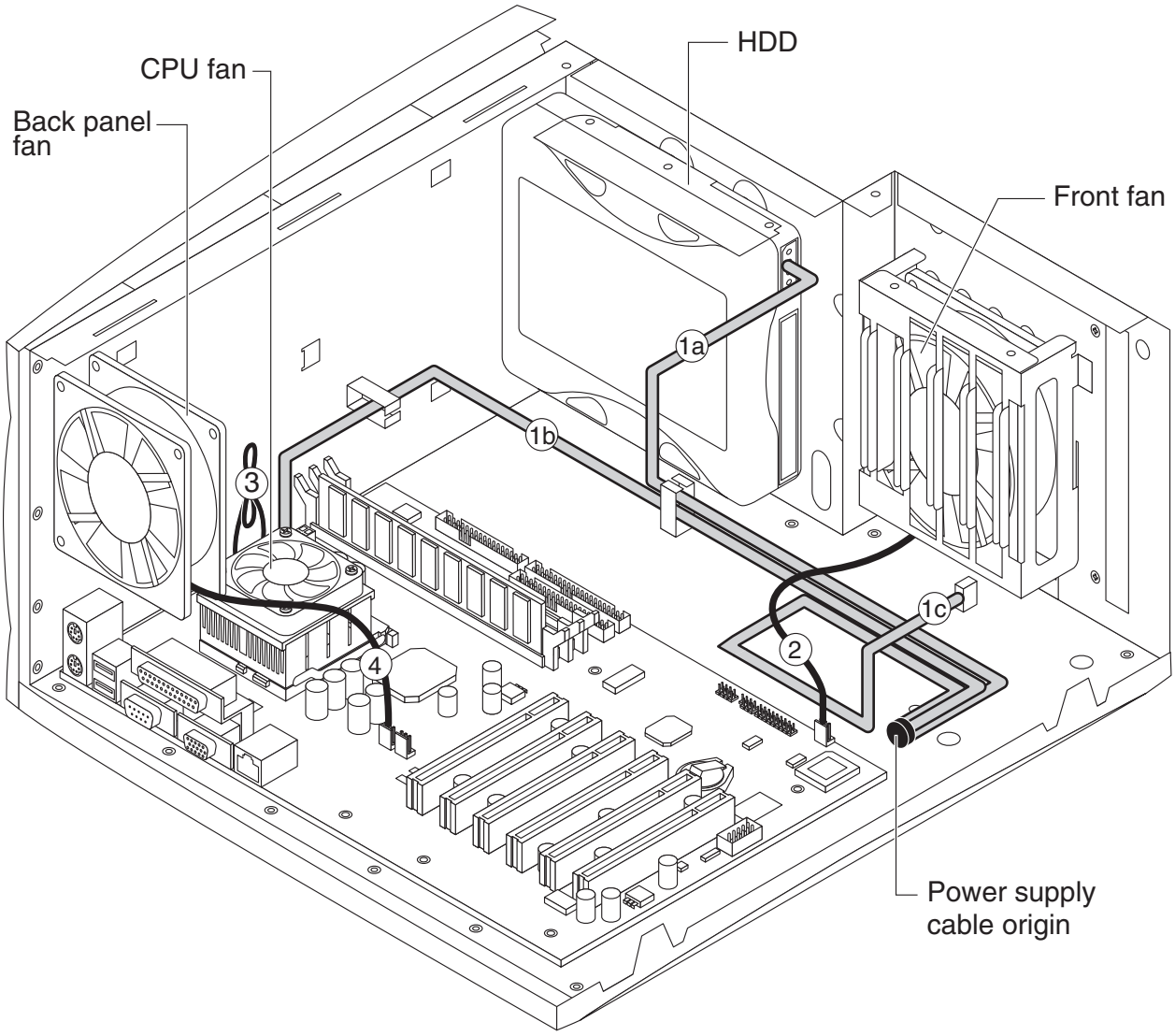
1. Make sure you have powered off the iR-M2 (see page 4-3), removed all the cables from the back panel, and removed the side panel and access panels (see page 4-4).
2. Position the iR-M2 so it is resting on its side and the internal components are facing up.
3. Inspect the boards to make sure they are firmly seated in their motherboard connectors. Press down firmly on the boards to make sure each one is securely installed.
   The standard board configuration includes the following (from top to bottom):
   Connector PCI1–Copier interface board
   Connector PCI2–Empty (reserved for Token Ring option)
   Connector PCI3–Empty (reserved for parallel–in option)
   Connector PCI4–Empty
   Connector PCI5–Empty
   Connector PCI6–Not used
4. Inspect ribbon cables to see if they are intact.
5. Make sure that all ribbon cables and power cables are seated properly on connectors (see F04-301-01 on page 4-10 and F04-301-02 on page 4-11).
   Cable connectors are keyed to fit only when properly oriented.
6. Check the front and back panel fan cables and the CPU fan cable connections to the motherboard.
   Gently straighten any bent pins with a pair of needlenose pliers. If, after tightening the connections, you are still experiencing problems, it may be that one or more components are still not getting power. If this is the case, see ‘Checking voltages”on page 4-39.



Power supply and CD-ROM drive are not shown

Cable key	From	To
1. HDD ribbon cable	Motherboard PIDE (Primary IDE connector)	HDD
2. CD-ROM drive ribbon cable	Motherboard SIDE (Secondary IDE connector)	CD-ROM drive
3. UIB ribbon cable	UIB connector on the motherboard (JP20)	User interface bord in front panel

F04-301-01 Ribbon cable connections



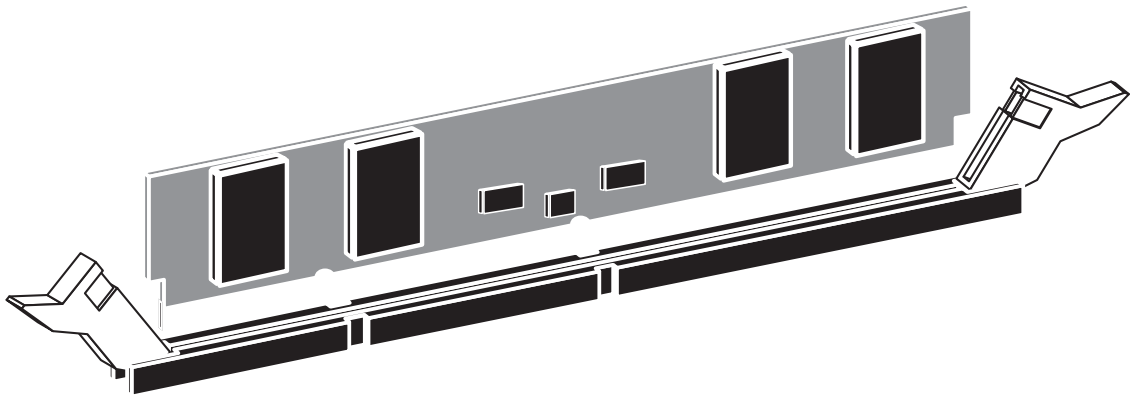
Power supply and CD-ROM drive are not shown

Cable key	From	To
1. Power supply cable	Power supply	a. 4-pin connector-~~H~~HDD (hard disk drive) b. 20-pin connector-~~M~~otherboard c. 4-pin connector-~~C~~D-ROM drive
2. Front fan cable	Front fan	Fan connnector on motherboard (FAN3)
3. CPU fan cable	CPU fan	Fan connector on the motherboard (FAN1)
4. Back panel fan cable	Fan (back panel)	Fan connector on the motherboard (FAN2)

F04-301-02 Power cable connections

3.2 TO CHECK MOTHERBOARD DIMM CONNECTIONS

1. Check that all DIMMs are locked. If any DIMMs have come loose, release and reseat them.
   The DIMMs (dual in-line memory modules) on the motherboard are held in place by levers at each end. Sockets 1-4 on the motherboard hold the DIMMs.
2. To release a DIMM, push outward on the levers on each side of the DIMM.



F04-302-01 Releasing the DIMM levers

3. Slide the DIMM straight out of the socket.
4. To replace a DIMM, gently slide the DIMM straight into the socket and close the levers at each side to lock it into place.
   Make sure that the levers close securely around the ends of the DIMM and that each DIMM is fully seated in its socket.
   If you removed the DIMMs completely, note that DIMMs fit the socket only one way. The notches on the bottom of the DIMM should line up with the notches in the socket.

3.3 Restoring and verifying functionality after service

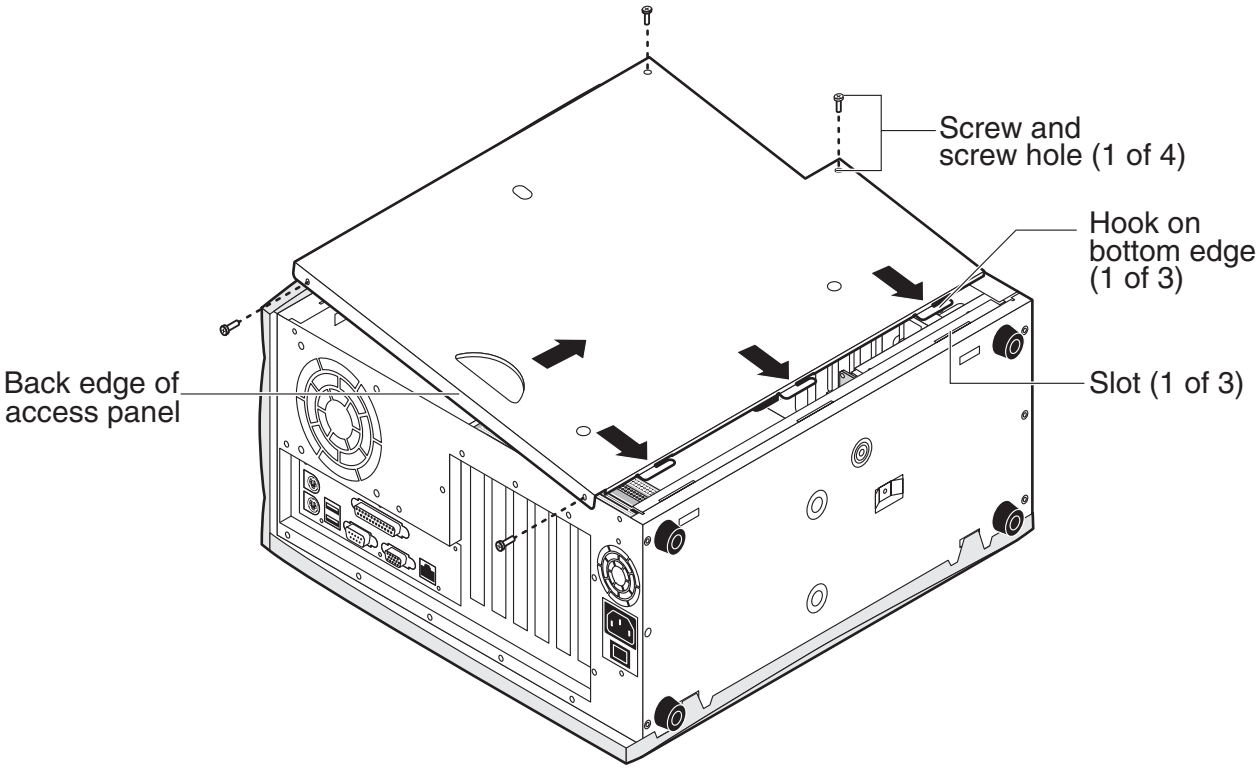
Conclude your inspection and service by reassembling and verifying the iR-M2.

a.Reassembling the system

Use the following procedure to reassemble the iR-M2 after inspection or service.

3.3.1 TO REASSEMBLE THE iR-M2

1. If you removed the front panel, replace it (see page 4-8).
2. Position the iR-M2 so that it is resting on its side on a flat, anti-static surface.
3. Reseat all boards, cables, connectors, and other parts loosened or removed during inspection or service.
4. Insert the hooks on the bottom edge of the access panel into the slots in the chassis, and then lower the access panel onto the chassis (see F04-303-01).
   Be careful not to damage any ribbon cables; fold the ribbon cables inside the chassis before replacing the access panel.
5. Press on the back edge of the access panel and slide it until the mounting holes are aligned with the holes on the chassis.
   The two tabs near the bottom of the inside front panel snap into the chassis cover. Push the chassis cover and the front panel together to achieve a snug fit. See F04-202-01 on page 4-7 for tab locations.
6. Replace the four screws that attach the access panel to the chassis.

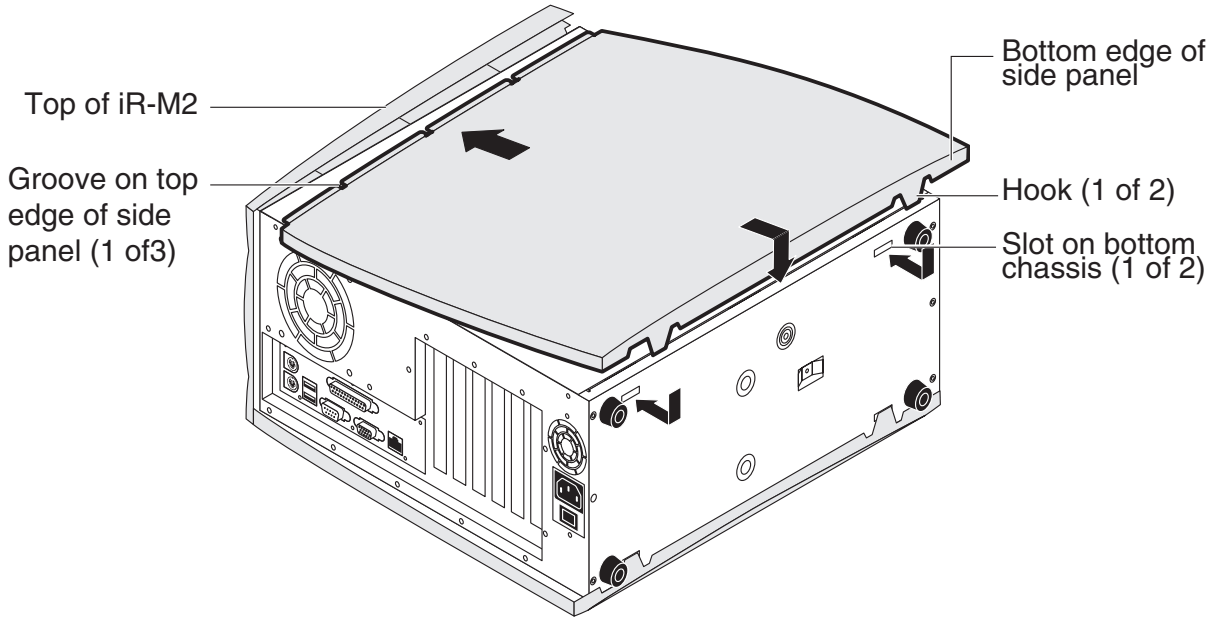


F04-303-01 Replacing the access panel

7. Match the grooves on the top edge of the side panel with the top of the iR-M2 and then lower the side panel onto the chassis.
8. Press down on the bottom edge of the side panel until the hooks click into the slots on the bottom of the chassis.

Memo

Do not leave the access panel off after servicing. An airflow channel is created by the panel and the fans. Leaving the iR-M2 open could reduce the operational life expectancy of internal components.

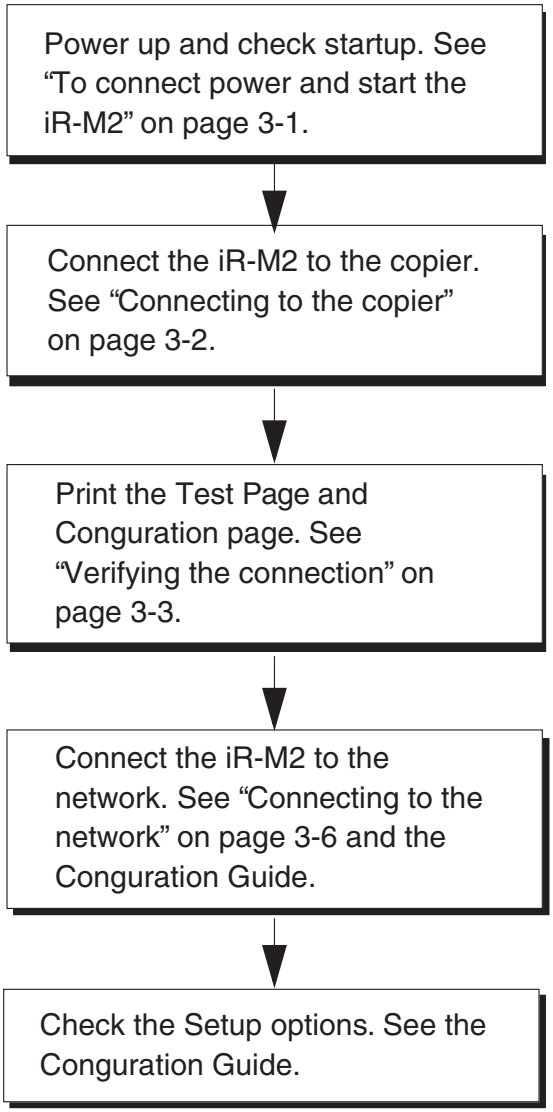


F04-303-02 Replacing the side panel

9. Connect any cables removed during service to the back of the iR-M2.

3.3.2 Verifying functionality

Before you leave the customer site, make sure you have completed the steps outlined in F04-303-03. If you are unable to complete a step, determine the reason and rectify the problem before continuing. See Chapter 5 “Tr oubleshooting.” for more information.



F04-303-03 iR-M2 connection verification steps

3.4 Removing and replacing boards

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

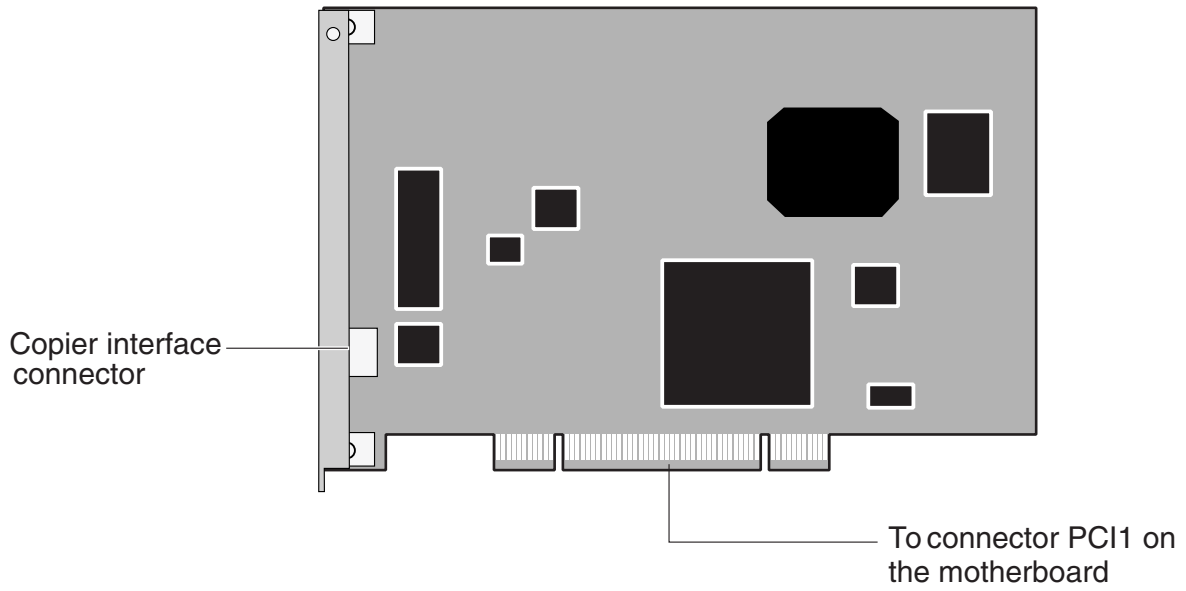
- Copier interface board
- User interface board
- Motherboard

For information on installing option boards, see the separate installation instructions provided with those boards.

3.5 Copier interface board

The copier interface board (see F04-305-01) provides the print interface between the iR-M2 and the copier.

The copier interface board is installed in connector PCI1 on the motherboard and occupies one back panel slot. The board's interface connector at slot 2 on the back panel connects to a cable that attaches to the copier.



F04-305-01Copier interface board

3.5.1 TO REMOVE THE COPIER INTERFACE BOARD

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Make sure the copier interface cable connected to the back of the iR-M2 is removed.
3. Remove the board mounting bracket screw from back panel slot 2.
4. Remove the copier interface board from motherboard connector PCI1.
   Grasp the board at the front and back edge and gently pull the board straight out of its motherboard connector.
5. Place the board in an antistatic bag.

3.5.2 TO REPLACE THE COPIER INTERFACE BOARD

1. Reseat the copier interface board in connector PCI1 on the motherboard. The component side of the board should be facing down toward the power supply.
   The copier interface board connector is keyed to fit only one way when properly oriented.
2. Attach the board mounting bracket screw to the bracket in back panel slot 2.
3. Reassemble the iR-M2 and verify its functionality (see page 4-15).

4 User interface board

4.1 User interface board

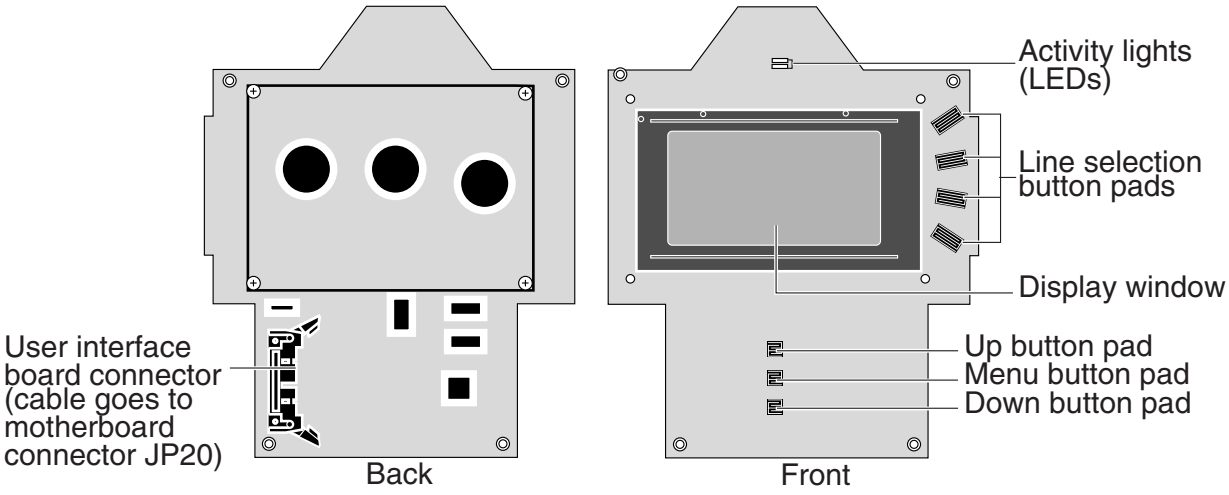
The user interface board installed in the front panel (see F04-401-01) provides the interface between the iR-M2 and the user. The front of the user interface board contains circuitry for the following:

- Activity lights (1 green and 1 red LED)
- Display window (LCD)
- Four line selection buttons
- Up and Down buttons
- Menu button

The UIB cable routes from a connector on the back of the user interface board to a connector on the motherboard.

Memo

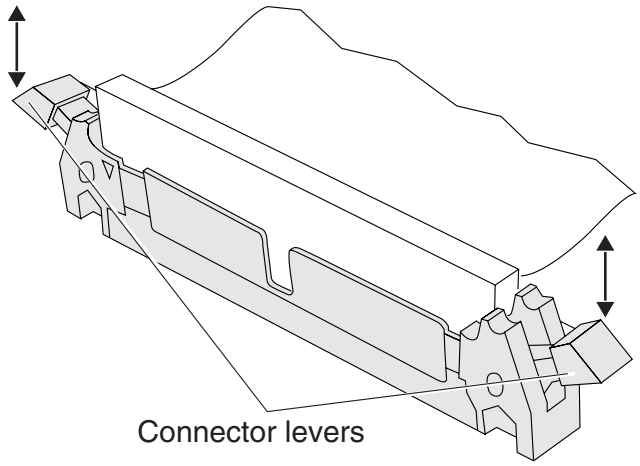
Spare user interface boards are shipped as part of the complete front panel assembly. See page 4-8 for how to replace the complete front panel assembly.



F04-401-01 Diagram of the user interface board (back and front)

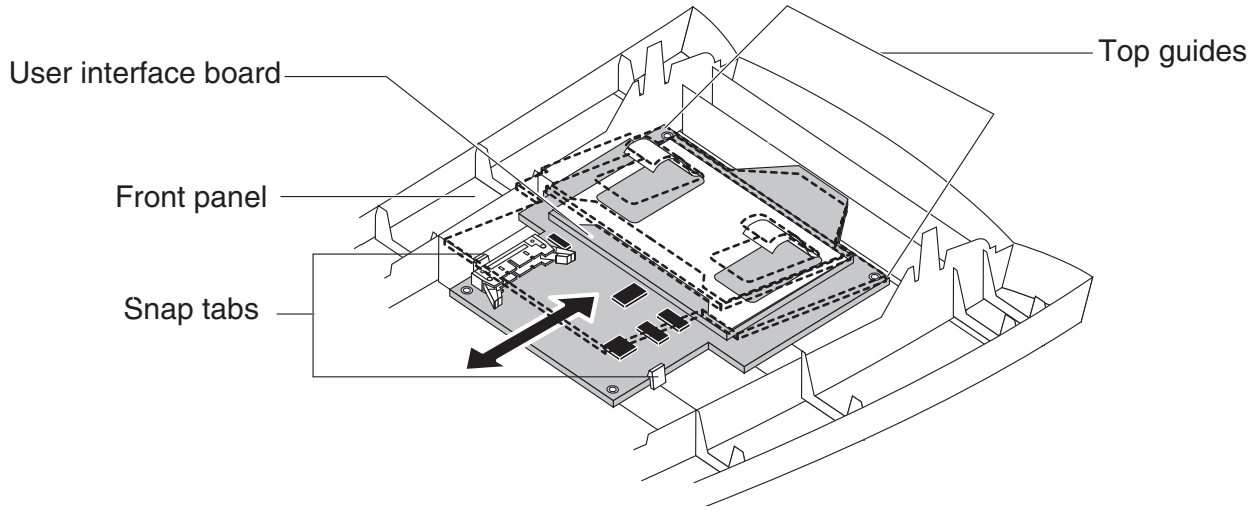
4.1.1 TO REMOVE THE USER INTERFACE BOARD FROM THE FRONT PANEL

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Remove the front panel from the chassis (see page 4-7).
3. Disconnect the UIB cable from connector J3 on the user interface board.
   Press outward on the connector levers on each side of the connector (see F04-401-02), and then pull the connector free. Avoid pulling on the cable itself.



F04-401-02 Detail of ribbon cable connector

4. Push gently outward on the snap tabs that secure the user interface board to the inside of the front panel until the edges of the board are released from the tabs.
5. Lift up slightly on the bottom edge of the board and slide the board out from under the top guides on the front panel (see F04-401-03).
   Be careful not to damage the top tabs when lifting up on the user interface board.



F04-401-03 Removing the user interface board

6. Place the board in an antistatic bag.

4.1.2 TO REPLACE THE USER INTERFACE BOARD IN THE FRONT PANEL

1. Position the user interface board in the front panel at an angle so that the top edge of the board fits under the top guides (see F04-401-03).
   The board should be positioned so that the button pads on the front of the board line up with the buttons installed in the front panel.
2. Push the board down into the front panel until the snap tabs hook over the edges of the board.
3. Attach the UIB cable to connector J3 on the user interface board.
   Make sure the connector levers close securely around the cable connector.
4. Replace the front panel (see F04-202-01 on page 4-7).
5. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described in F04-303-03 on page 4-15).

4.2 Motherboard

The motherboard has one Intel Pentium III 866MHz CPU that controls the image data transferred to and from the copier interface board. The motherboard also controls HDD functions and the communication between the iR-M2 and external devices. The motherboard has 3 DIMM sockets. One of the sockets contains a 128MB DIMM, for a total of 128MB of memory (see F04-403-01 on page 4-28). The motherboard also includes six 32-bit PCI (Peripheral Component Interconnect) connectors.

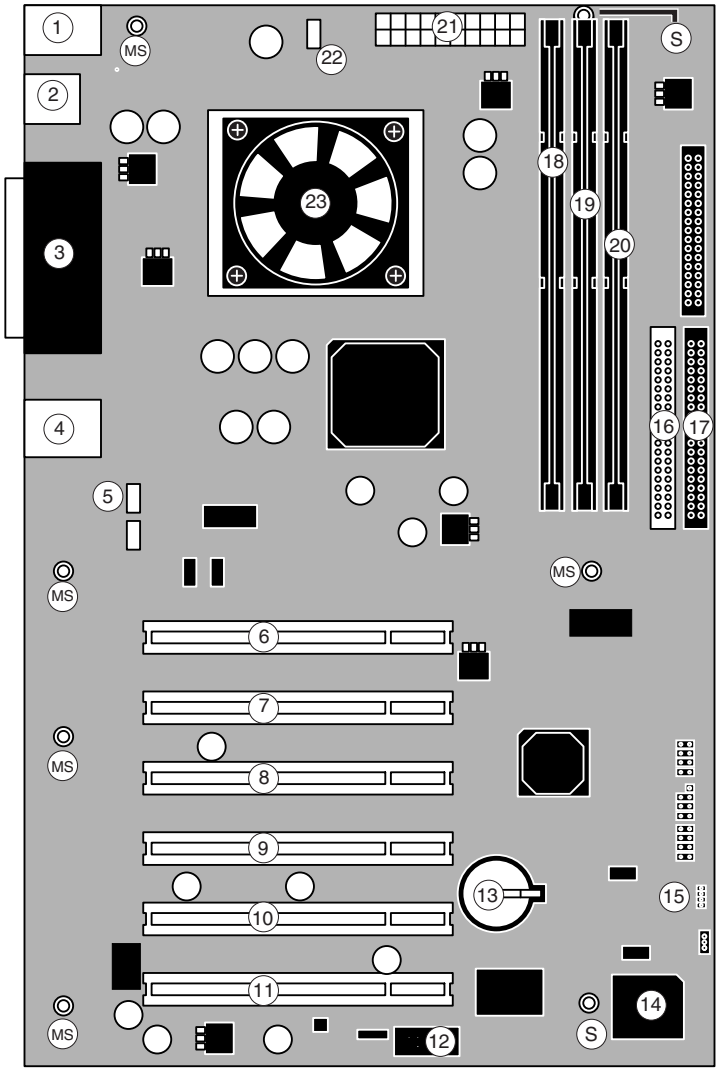
4.2.1 Removing the motherboard

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

- All boards installed on the motherboard
- Power supply
- All cables connected to the motherboard (these include the power cable, front fan cable, back panel fan cable, HDD ribbon cable, CD-ROM drive ribbon cable, and UIB cable) This section also includes information on the following:
- Replacing or adding the DIMM
- Replacing the CPU
- Replacing the battery
- Jumper configuration
- Replacing the BIOS chip

1. Power off and open the iR-M1 as described on page 4-3 and page 4-4. For stability during service, remove the front panel as described on page 4-7.
2. Remove the screw on the side of the port bracket that secures the copier interface board to the port bracket.
3. Remove the copier interface board from motherboard connector J17.
   Grasp the board at the sides. Gently pull the board straight up, until it releases from the connector.
4. Place the copier interface board in an antistatic bag.

Follow precautions when handling components (see page vi).



Key

1. Keyboard/mouse connectors (not used)
2. USB connectors (not used)
3. Parallel port (not used); COM ports (not used)
4. 10/100BaseT Ethernet port
5. Back panel fan cable connector (FAN2)
6. Copier interface board connector (PCI1)
7. Empty (PCI2; reserved for Token Ring option)
8. Empty (PCI3; reserved for parallel port option)
9. Empty (PCI4)
10. Empty (PCI5)
11. Empty (PCI6)
12. UIB cable connector (JP20)
13. Battery (BT1)
14. BIOS chip (U13)
15. Front fan cable connector (FAN3)
16. SIDE cable connector (CD-ROM drive)
17. PIDE cable connector (HDD)
18. DIMM socket (J2)
19. DIMM socket (J1)
20. DIMM socket (J3)
21. 20-pin power supply connector (J14)
22. CPU fan cable connector (CPU FAN/FAN1)
23. CPU, heatsink, and CPU fan

MS–Mounting holes (5 holes)

S–Snap-top standoffs (2)

NOTE :

Connectors not listed above are not used.

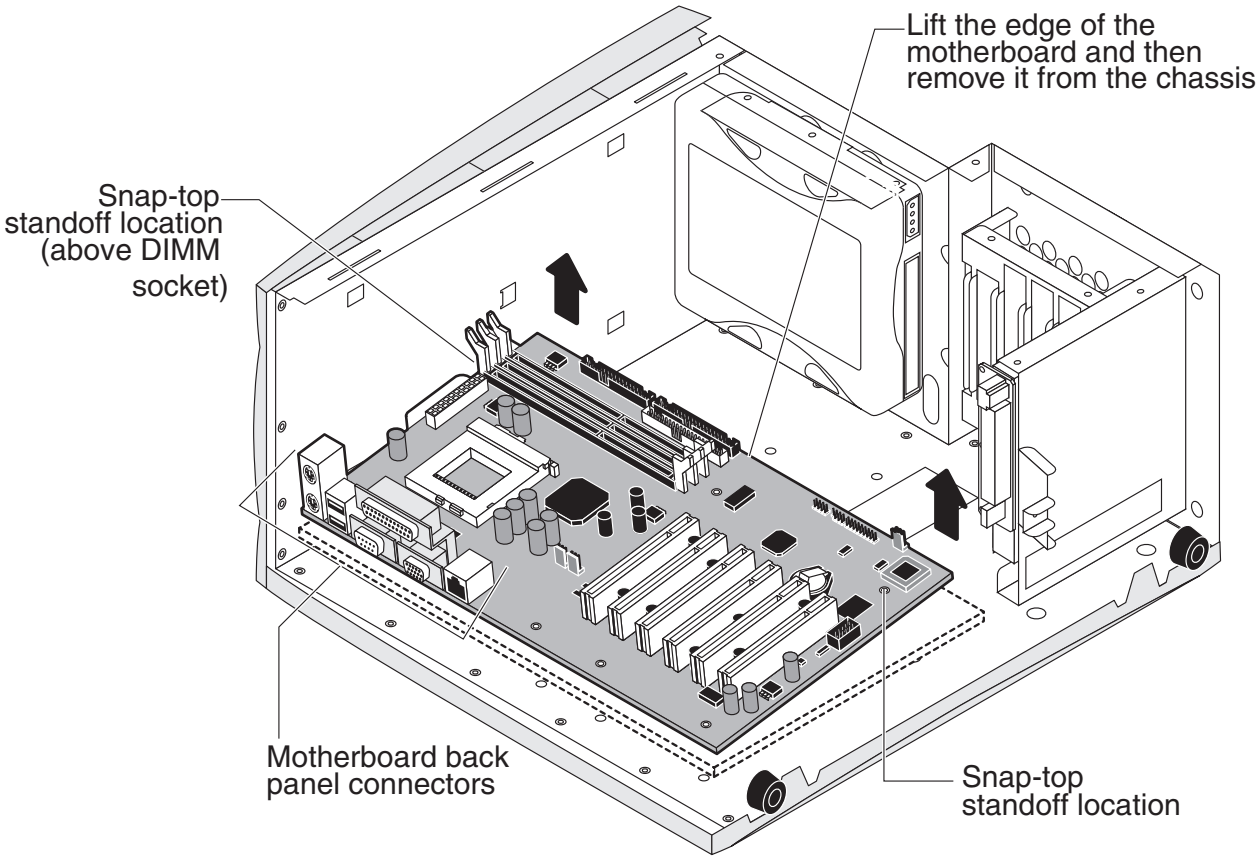
F04-402-01 Diagram of the iR-M2 motherboard

4.2.2 TO REMOVE BOARDS AND CABLES FROM THE MOTHERBOARD

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Remove the following boards from the motherboard:
   To remove a board, remove its mounting bracket screw, grasp the board at the front and back edge and gently pull it straight out of its connector on the motherboard. Place each board on an antistatic surface
   - Copier interface board in motherboard connector PCI1 (see page 4-17)
   - Optional Token Ring board and parallel I/F adapter in motherboard connector PCI2/ PCI3 (if this option is present)
     Remove any other option boards that may be installed in remaining connectors on the motherboard.
3. Remove the following cables as described below:
   - Front fan cable from motherboard connector FAN3
   - Back panel fan cable from motherboard connector FAN2
   - Power cable from the 20-pin motherboard connector J14
   - HDD ribbon cable from motherboard connector PIDE (Primary IDE)
   - CD-ROM drive ribbon cable from the CD-ROM drive
     Leave the CD-ROM drive ribbon cable attached to the SIDE (Secondary IDE) connector on the motherboard, unless you are installing a new motherboard.
   - 4-pin power cable from the CD-ROM drive
4. Remove the power supply (see page 4-41).
   You need to first remove the power supply in order to remove the UIB cable from the motherboard.
5. Remove the UIB cable from motherboard connector JP20.

a. TO REMOVE THE MOTHERBOARD

1. If you are replacing the motherboard with a new motherboard, remove the following from the motherboard:
   - DIMM (page 4-29)
   - CPU (page 4-30)
   - BIOS chip
   - CD-ROM drive ribbon cable (see F04-301-01 on page 4-10)
2. Remove the 5 mounting screws on the motherboard (see F04-402-01 on page 4-23 for screw locations).
3. Lift the edge of the motherboard opposite the back panel connectors to remove the motherboard from the chassis (see F04-402-02 on page 4-25).
   Two snap-top standoffs on the base of the chassis also help to hold the motherboard in place. Gently pull up on the motherboard to release it from the standoffs.
   Make sure the back panel connectors on the motherboard clear the chassis as you remove the board. Avoid handling contacts and using excessive force.



F04-402-02 Removing the motherboard

4.3 Replacing the motherboard

Follow the procedures in this section to replace the motherboard.

If you are installing a new motherboard:

- Transfer the DIMM and CPU from the old motherboard onto the new motherboard.

4.3.1 TO REPLACE THE MOTHERBOARD

1. Angle the motherboard so the back panel connectors on the motherboard fit into the cut-outs in the back of the chassis (see F04-402-02 on page 4-25).
2. Align the mounting holes on the motherboard with the snap-top standoffs located in the base of the chassis (see F04-402-02 on page 4-25) and then gently push the motherboard down to secure it to the chassis.
3. Insert the five motherboard mounting screws that attach the motherboard to the chassis.
4. If you are installing a new motherboard, install the DIMM, CPU and BIOS chip from the old motherboard. For the DIMM, see page 4-28; for the CPU, see page 4-30; for the BIOS chip, see page 4-35.

Now you are ready to complete motherboard installation.

4.3.2 TO REPLACE BOARDS AND CABLES

1. Connect the UIB cable to motherboard connector JP20.
2. Replace the power supply (see page 4-42).
3. Replace the following cables as described:
   - Connect the 4-pin power cable to the CD-ROM drive.
   - Connect the CD-ROM drive ribbon cable from the CD-ROM drive to the SIDE (Secondary IDE) connector on the motherboard.
   - Connect the HDD ribbon cable from the HDD to motherboard connector PIDE (Primary IDE).

Make sure to connect the longer end of the HDD ribbon cable (with the blue connector) to the HDD. Also, make sure not to switch the CD-ROM and HDD ribbon cables. The CD-ROM ribbon cable has 40 wires; the HDD ribbon cable has 80 wires.

   - Connect the 20-pin power cable to motherboard connector J14.
   - Connect the back panel fan cable to motherboard connector FAN2.
   - Connect the front fan cable to motherboard connector FAN3.
4. Replace the following boards in their motherboard connectors:
   - Copier interface board in motherboard connector PCI1 (see page 4-18)
   - Optional Token Ring board in motherboard connector PCI2 (if this option is present).
   - Optional parallel I/F adapter in motherboard connector PCI3 (if this option is presert).

When installing boards, make sure that the board connectors are properly aligned with their connectors on the motherboard.

5. Make sure all board mounting bracket screws for boards occupying back panel slots are secured. Press down firmly on the top of the board as you insert each screw.

Make sure unused slots have slot covers installed. Uncovered slots reduce the air flow and could cause the iR-M2 to overheat.

6. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).

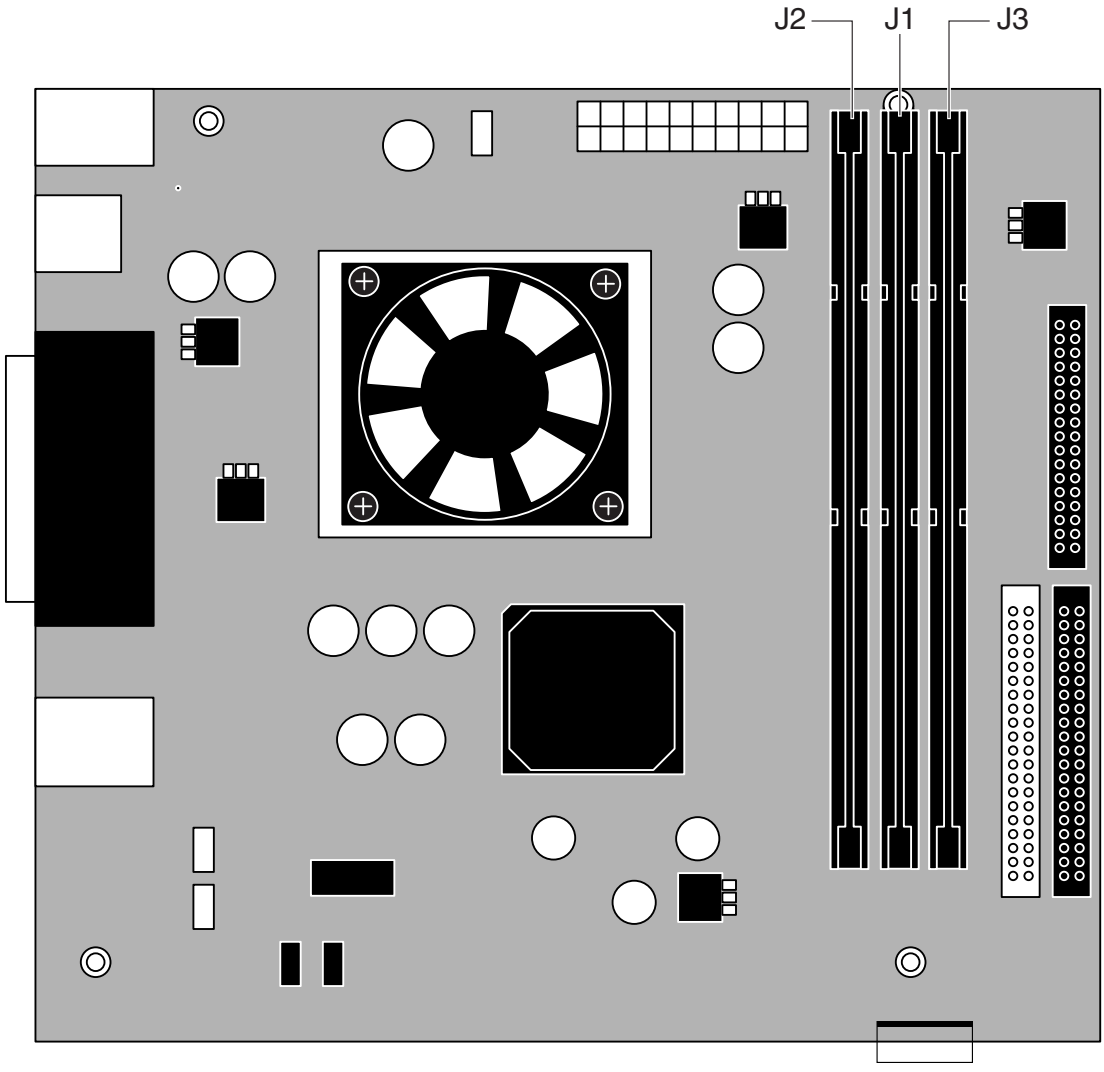
4.3.3 Replacing parts on the motherboard

This section describes how to remove and replace the DIMM, CPU, and battery on the motherboard. Before performing any of these procedures, shut down and open the iR-M2 (see page 4-3 and page 4-4).

4.3.4 DIMM

The motherboard has thee DIMM sockets (J1, J2, J3). The iR-M2 ships with 128MB of memory installed as follows:

- J1 –Empty
- J2 –128MB DIMM
- J3 –Empty

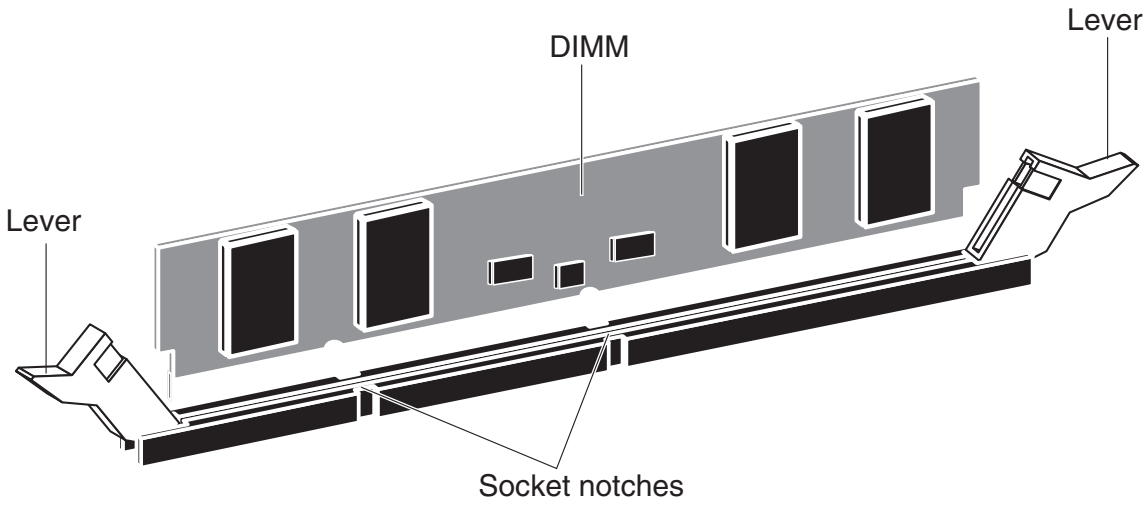


F04-403-01 Motherboard DIMM sockets

Approved DIMMs are available from your service representative.

4.4 To Replace a DIMM

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



F04-404-01 Releasing a DIMM

2. Slide the DIMM straight out of the socket.
3. To replace a DIMM, position the DIMM in the socket and press the DIMM straight down into the socket so that the levers lock the DIMM into place.

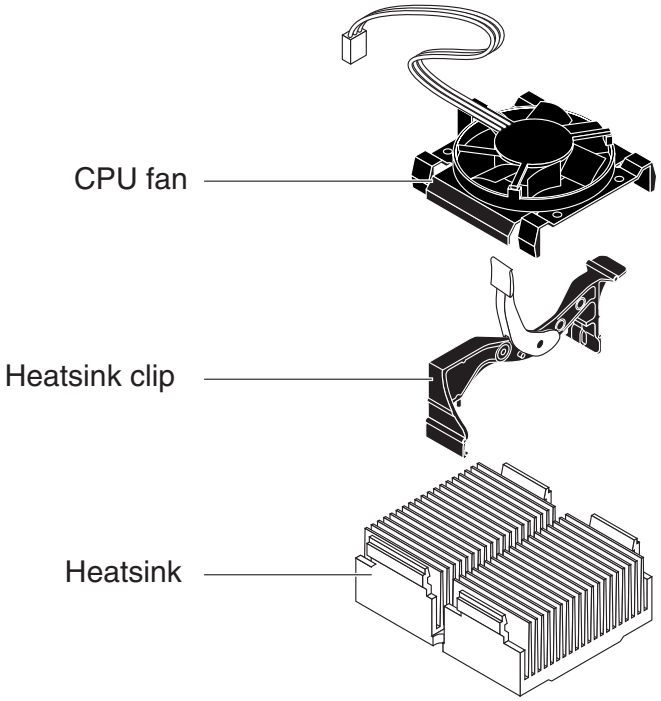
The DIMM fit in the socket only one way. The two notches on the bottom of the DIMM should line up with the notches in the socket.

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

4. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).

4.4.1 Motherboard CPU

The CPU is installed in a Zero Insertion Force (ZIF) socket on the motherboard. Before removing the CPU from its socket, disconnect the CPU fan cable from the motherboard and detach the CPU cooling assembly from the CPU socket. The CPU cooling assembly consists of a fan, a heatsink, and a heatsink clip.



F04-404-02 CPU cooling assembly

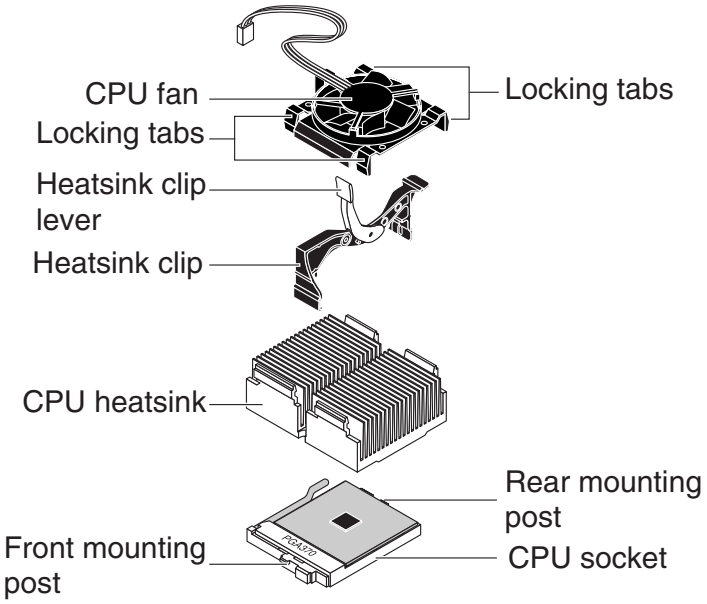
Follow standard ESD precautions while handling the motherboard and all components.

4.4.2 TO REMOVE A CPU

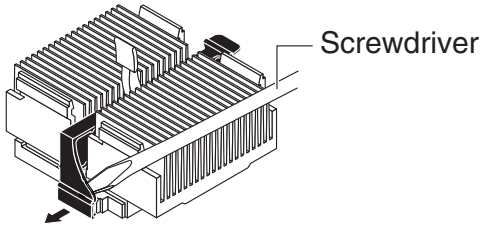
1. Position the iR-M2 so that it is laying on its side and the components inside the chassis are facing up.
2. Remove the CPU fan cable from motherboard connector FAN1.
3. Remove the CPU cooling assembly (see F04-404-03).

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

- Remove the CPU fan from the heatsink by pressing in on the locking tabs and lifting up on the fan.
- Lift the lever on the heatsink clip to relieve tension on the clip.
- Remove the clip from the rear mounting post on the CPU socket, and then remove the clip from the front mounting post.
  You may need to use a flathead screwdriver to carefully bend the clip until it is free from the rear mounting post. Be careful not to damage the clip, the motherboard, the CPU, or the CPU socket when removing the heatsink clip.
- Remove the CPU cooling assembly from the CPU socket.



- Remove the CPU fan from the heatsink by pressing in on the locking tabs and lifting up on the fan.
- Lift the lever on the heatsink clip to relieve tension on the clip.
- Remove the clip from the rear mounting post on the CPU socket, and then remove the clip from the front mounting post.
  You may need to use a flathead screwdriver to carefully bend the clip until it is free from the rear mounting post. Be careful not to damage the clip, the motherboard, the CPU, or the CPU socket when removing the heatsink clip.



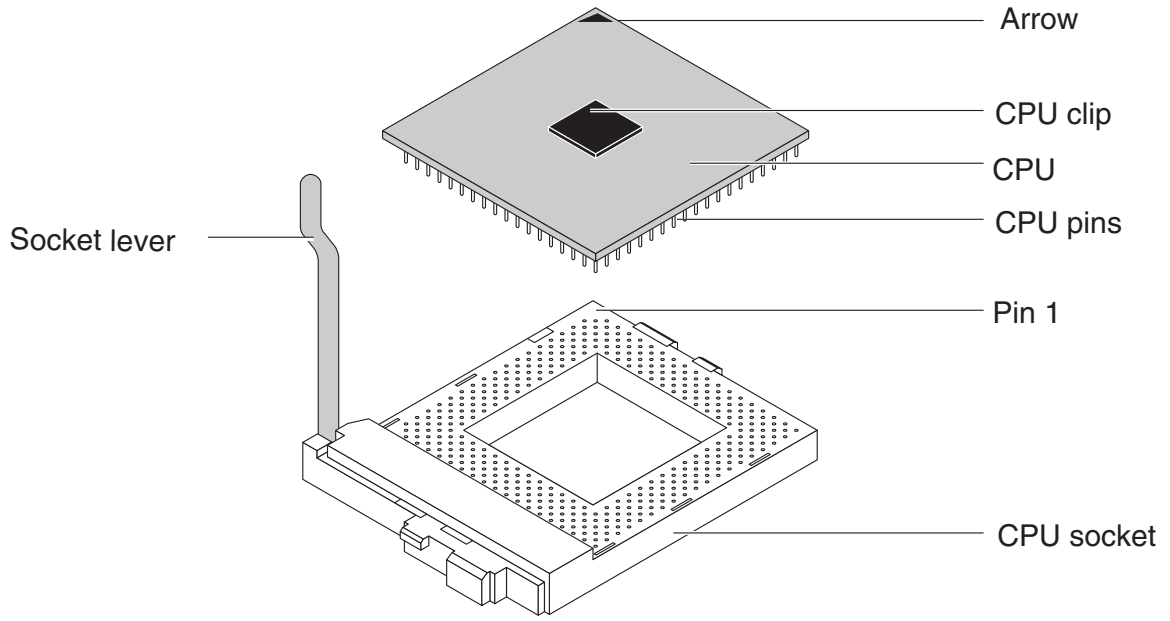
- Remove the CPU cooling assembly from the CPU socket.

F04-404-03 Removing the CPU cooling assembly

4. Lift the CPU socket lever to release the CPU from the socket (see F04-404-04 on page 4-32).
5. Grasp the CPU by its edges and gently lift it from the socket.

4.4.3 TO REPLACE A CPU

1. Wipe the contact surface of the CPU with a clean, lint-free cloth to assure good contact with the new heatsink.
   If you removed the CPU from the motherboard in order to install it on a new motherboard, make sure you completely remove any thermal compound residue on the surface of the CPU and at the base of the heatsink.
2. Insert the CPU into the socket. Make sure you align the arrow indicating pin 1 on the CPU with pin 1 in the CPU socket (see F04-404-04).
3. Lower the socket lever to secure the CPU.

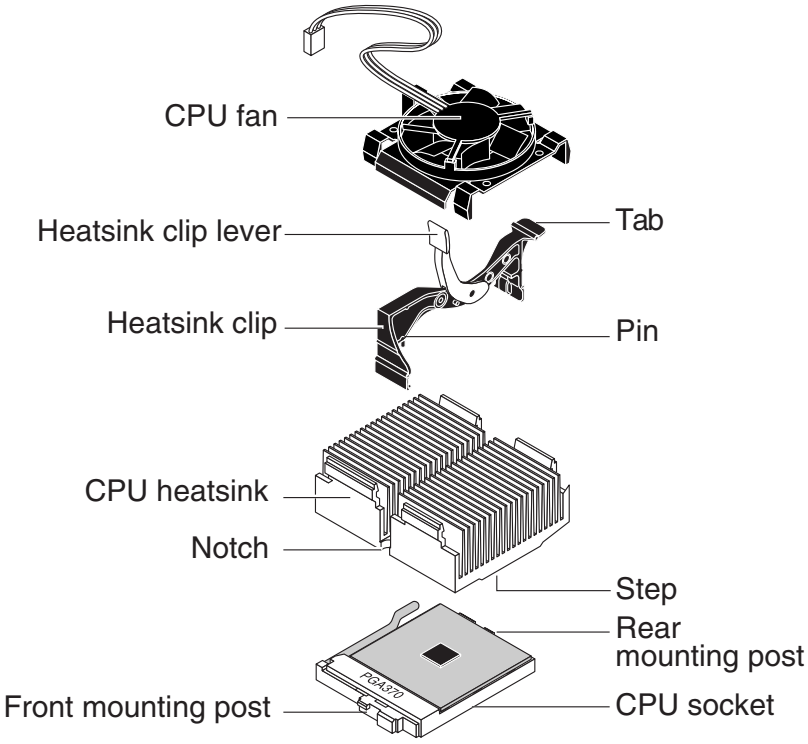


F04-404-04 Replacing a CPU

4. At the base of the heatsink, remove the protective backing (if any) covering the thermal compound.

If you are moving the original CPU and heatsink to a new motherboard, first completely remove any thermal compound residue on the surface of the CPU and at the base of the heatsink, and then apply a fresh thermal compound square to the base of the heatsink.When installing the thermal compound, make sure you squeeze out any air bubbles or wrinkles. Bubbles and wrinkles reduce the heat-transfer efficiency of the cooling assembly.

5. Replace the CPU cooling assembly.
   Make sure the thermal compound on the base of the heatsink completely covers the CPU chip. Incorrect installation could cause the CPU to overheat.



F04-404-05 Replacing the CPU cooling assembly

- Align the notch on the bottom of the heatsink so that it is directly over the rear mounting post on the CPU socket.
- Place the heatsink on the CPU so that the thermal compound on the heatsink step completely covers the CPU chip.
- Align the pin on the heatsink clip with the notch on the bottom of the heatsink.
- First secure the clip over the rear mounting post on the CPU socket, then secure the clip over the front mounting post by pressing down on the tab until the clip snaps into place.
- Lower the heatsink clip lever.
- Place the CPU fan on top of the heatsink and snap it into place.

6. Connect the CPU fan cable to the motherboard connector FAN1.
   If you are installing a new CPU, secure the fan cable using a tie-wrap. The tie-wrap will prevent the fan cable from interfering with the CPU fan. Also, make sure the connector on the cable is securely connected to the motherboard.
7. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).

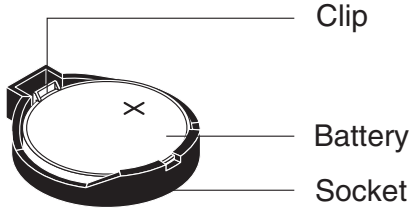
4.4.4 Motherboard battery

The battery on the motherboard is located at BT1. 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 ähnlic hen Typs verwendet werden. Verbrauchte Batterien müssen entsprechend den Anweisungen des Herstellers entsorgt werden.
ATTENTION: Il y a risque d'explosion si la pile est remplacée par un modèle qui ne convient pas. Remplacez-la uniquement par le modèle recommandé par le constructeur. Débarrassez-vous des piles usées conformément aux instructions du constructeur.
ADVARSEL!: Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering Udskiftning må kun ske med bat-teri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.
VAROITUS: Paristo voi räjähtää, los se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä Käytetty paristo valmistajan ohjeiden mukaisesti.
ADVARSEL: Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.
VARNING: Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

a. TO REPLACE THE MOTHERBOARD BATTERY

1. Locate the battery on the motherboard (see F04-402-01 on page 4-23.)
2. Carefully push the clip away from the battery until the socket ejects the battery.



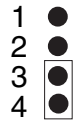
F04-404-06 Motherboard battery

3. Slide the battery out of its socket.
4. To insert a new battery, slide it into the socket so that the positive (+) side of the battery faces up.
5. Press the battery down into the socket until it snaps into place.
   Make sure the battery is securely installed in the socket.

6. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).
7. Configure the time and date in Setup.

4.4.5 Motherboard jumpers

The table below shows the factory default jumper configuration. The jumper configuration should not be changed.

Jumper	Jumper area (shipping configuration)	Description
JP1		• Clear CMOS and reset password Jumper is installed on pins 1 and 2 during normal operation.
JP2		• Flash/BIOS write protect Jumper is installed on pins 1 and 2. This setting should not be changed.
JP3		• LAN Enable/Disable Jumper is installed on pins 1 and 2. This setting should not be changed.
JP13		• Speaker connector Jumper installed on pins 3 and 4. This setting should not be changed.
JP38		• LAN Double EEPROM Jumper installed on pins 1 and 2. This setting should not be changed.

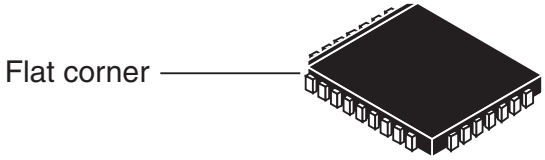
T04-404-01

4.4.6 BIOS Chip

The BIOS chip is located in socket U13 on the motherboard. The BIOS chip contains boot information, such as the startup diagnostics that the iR-M2 uses when you power on the system.

a. To Replace the BIOS Chip

1. Locate the BIOS chip on the motherboard.
2. Using a IC-removing tool remove the BIOS chip and socket mount from the motherboard.
3. To replace the BIOS chip, insert it into the socket so that the flat corner of the chip lines up with the flat corner of the socket.
   Note: The BIOS chip is keyed to fit the socket only one way.



F04-404-07 Diagram of BIOS chip socket

4. Reassemble the iR-M2 and verify its functionality (see ‘the connection verification steps described”on page 4-15).

4.5 Fans

Inside the iR-M2 a front fan and back panel fan run continuously when the system is running. You should hear the fans start as soon as you power on the iR-M2. If you do not hear the fans, the most likely problem is a faulty power connection (see "To check board and cable connections" on page 4-9).

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

4.5.1 Front fan

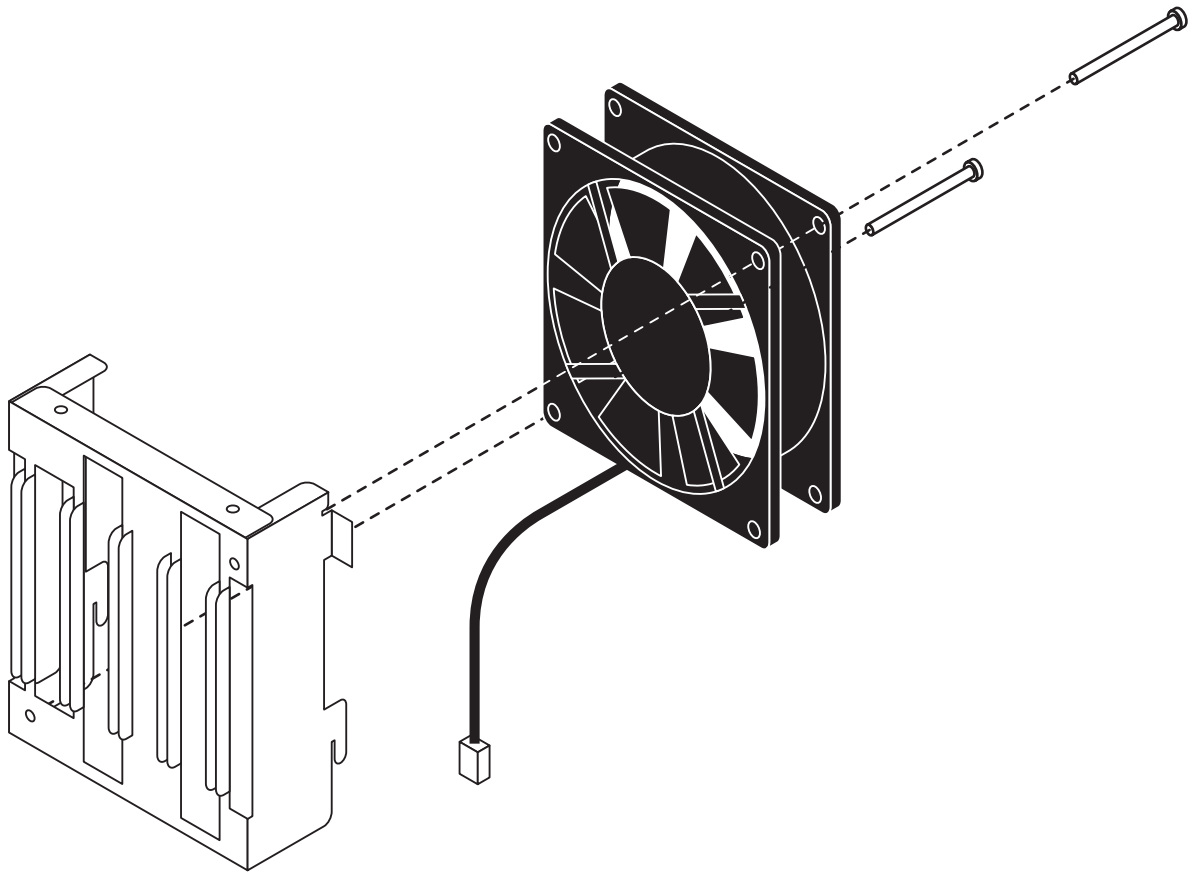
The front fan circulates air inside the iR-M2 in order to cool integrated circuits within the system.

a. TO REMOVE THE FRONT FAN

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Remove the front Panel (see page 4-7).
3. Remove the fan cable from motherboard connector FAN3.
4. Remove and set aside the two screws that attach the board guide to the chassis (see F04-102-01 on page 4-2 for the location of the board guide).
5. Unhook and remove the board guide (with front fan attached) from the chassis (see F04-405-01 on page 4-37).
6. Remove and set aside the two screws (and washers, if present) that attach the front fan to the board guide.

b. TO REPLACE THE FRONT FAN

1. Position the fan on the board guide.
   An arrow on the side of the fan indicates the airflow direction. Make sure the fan is positioned so that the arrow points inside the iR-M2 and the fan cable can reach motherboard connector FAN3.



F04-405-01 Replacing the front fan

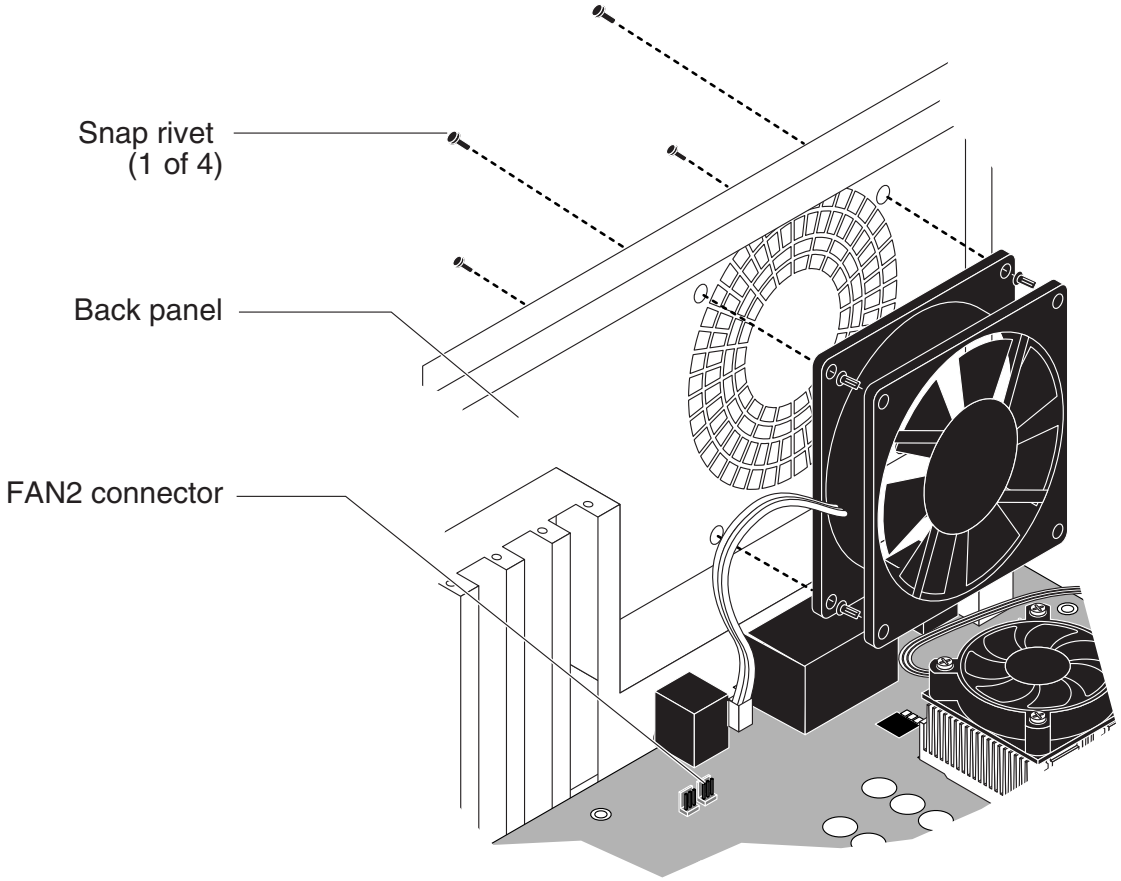
2. Install the fan on the board guide using the two screws (and washers, if present) you removed earlier.
3. Hook the board guide (with front fan attached) into the chassis.
4. Attach the board guide to the chassis using the two screws you removed earlier.
5. Connect the fan cable to motherboard connector FAN3.
6. Replace the front panel (see page 4-8).
7. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).

4.5.2 Back panel fan

The back panel fan cools the system by blowing air from inside the system out of the back of the iR-M2.

a. TO REMOVE THE BACK PANEL FAN

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Remove the fan cable from motherboard connector FAN2.
3. Remove and set aside the four snap rivets that attach the fan to the chassis.



F04-405-02 Removing the back panel fan

4. Remove the fan from the chassis.

b. TO REPLACE THE BACK PANEL FAN

1. Position the fan on the inside of the back panel so that the mounting holes line up with the four holes on the chassis (see F04-405-02 on page 4-38).
   An arrow on the side of the fan indicates the airflow direction. Make sure the fan is positioned so that the arrow faces the bottom of the chassis and points toward the back panel. The fan should blow air out of the back of the chassis when the system is reassembled and powered on.
2. Attach the fan to the chassis using the snap rivets you removed earlier.
3. Connect the fan cable to the motherboard connector FAN2 (see F04-405-02 on page 4-38).
4. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).
5. Make sure the fan vent on the back panel is emitting air. If the fan vent is not emitting air, the fan is oriented incorrectly.

4.5.3 Power Supply

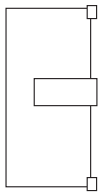
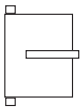
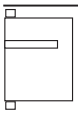
The fan-cooled 200-watt power supply has an automatic input voltage selection circuit. The input voltages are 90-135VAC and 180-265VAC.

a. Checking voltages

You can check power supply functionality using a multimeter at the following locations on the power supply:

- Connector that supplies power to the motherboard
- Connector that supplies power to the HDD
- Connector that supplies power to the CD-ROM drive

Test voltages on the connectors of the power supply cables, not on the board or component connectors. The following table describes the power connectors.

Connector	Pins	Color	Voltage
 20-pin Motherboard	1,2,11	Green	3.3V
	3,5,7,13,15,16,17	Black	GND
	18	White	-5V
	4,6,19,20	Red	+5V
	10	Yellow	+12V
	12	Blue	-12V
	14	-	not connected
	8	--	Supply Power ok (Input pin; no voltage to check)
	9	Red	+5VSB
 4-pin HDD	1	Yellow	+12V
	2	Black	Common
	3	Black	Common
	4	Red	+5V
 4-pin CD-ROM drive	1	Yellow	+12V
	2	Black	Common
	3	Black	Common
	4	Red	+5V

T04-405-01 iR-M2 power connectors

4.5.4 Removing and replacing the power supply

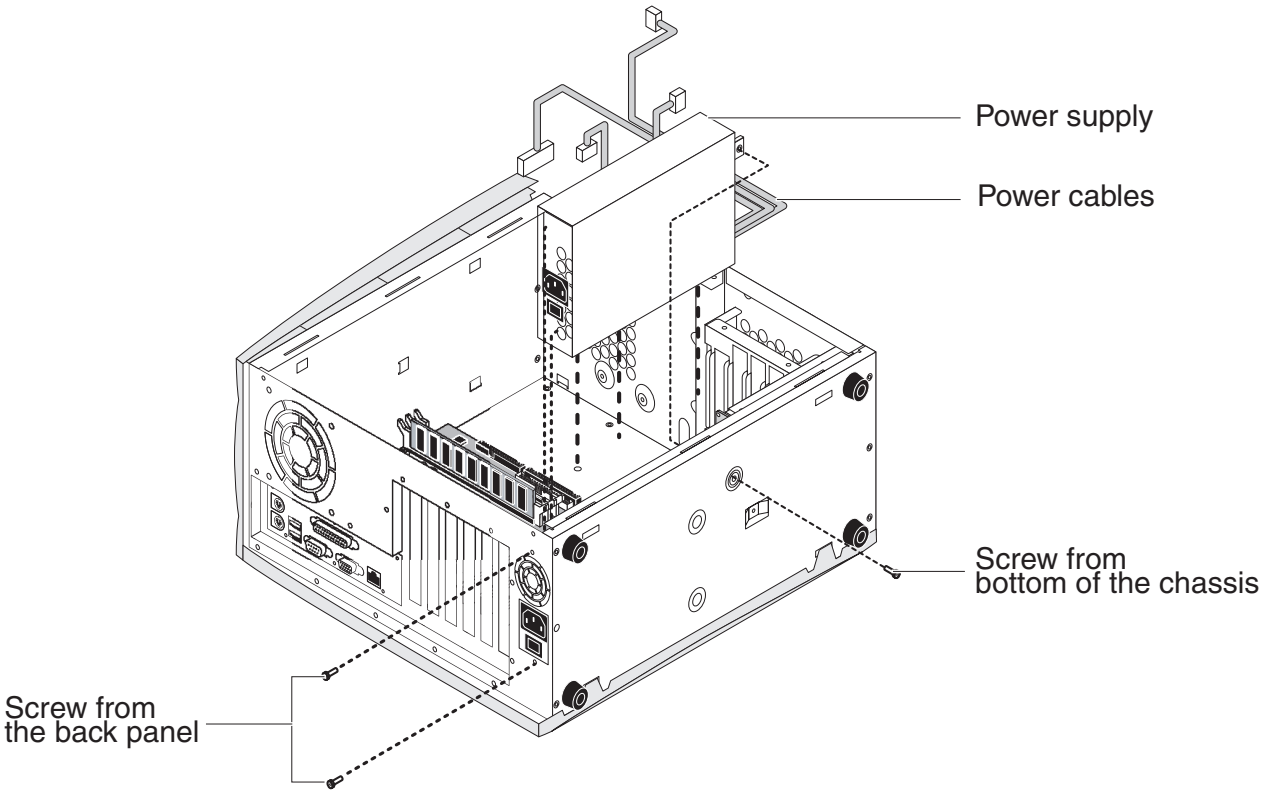
This section describes how to remove and replace the power supply.

a. TO REMOVE THE POWER SUPPLY

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Remove the 20-pin power cable from motherboard connector J14.
3. Remove the 4-pin power cable from the HDD.
4. Remove the ribbon cable from the CD-ROM drive.
5. Remove the 4-pin power cable from the CD-ROM drive.

If cables are routed through the cable clamps, make sure to carefully remove them.

6. While supporting the power supply, remove the screw from the bottom of the chassis and the two screws from the back panel that attach the power supply to the chassis. Set the screws aside so you can replace them later.



F04-405-03 Removing the power supply

7. Lift the power supply out of the chassis.

b. TO REPLACE THE POWER SUPPLY

1. Position the power supply inside the lower-left corner of the chassis and align the mounting holes with the two holes on the back of the chassis and the hole on the bottom of the chassis.

2. While supporting the power supply, attach the power supply from the outside with two screws (larger) on the back panel and one screw (smaller) on the bottom of the chassis. If you are installing a new power supply, make sure to use the screws that came with the new one to attach the power supply to the chassis.
3. Place the power cables in the cable clamps that are attached to the inside of the chassis (see F04-301-02 on page 4-11).
4. Connect the 4-pin power cable to the CD-ROM drive.
5. Connect the ribbon cable to the CD-ROM drive.
6. Connect the 4-pin power cable to the HDD.
7. Connect the 20-pin power cable to motherboard connector J14.
8. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).
   If you cut any tie wraps, make sure to replace them.

4.6 Hard disk drive

The factory-installed HDD (hard disk drive) is formatted and loaded with system software, network drivers, and printer fonts. The HDD is also used to store spooled print jobs. Available space on the HDD is displayed on the Control Panel.

If you replace the HDD with a new one, you will need to install system software on the new HDD. (Spare HDDs are shipped without system software installed.)

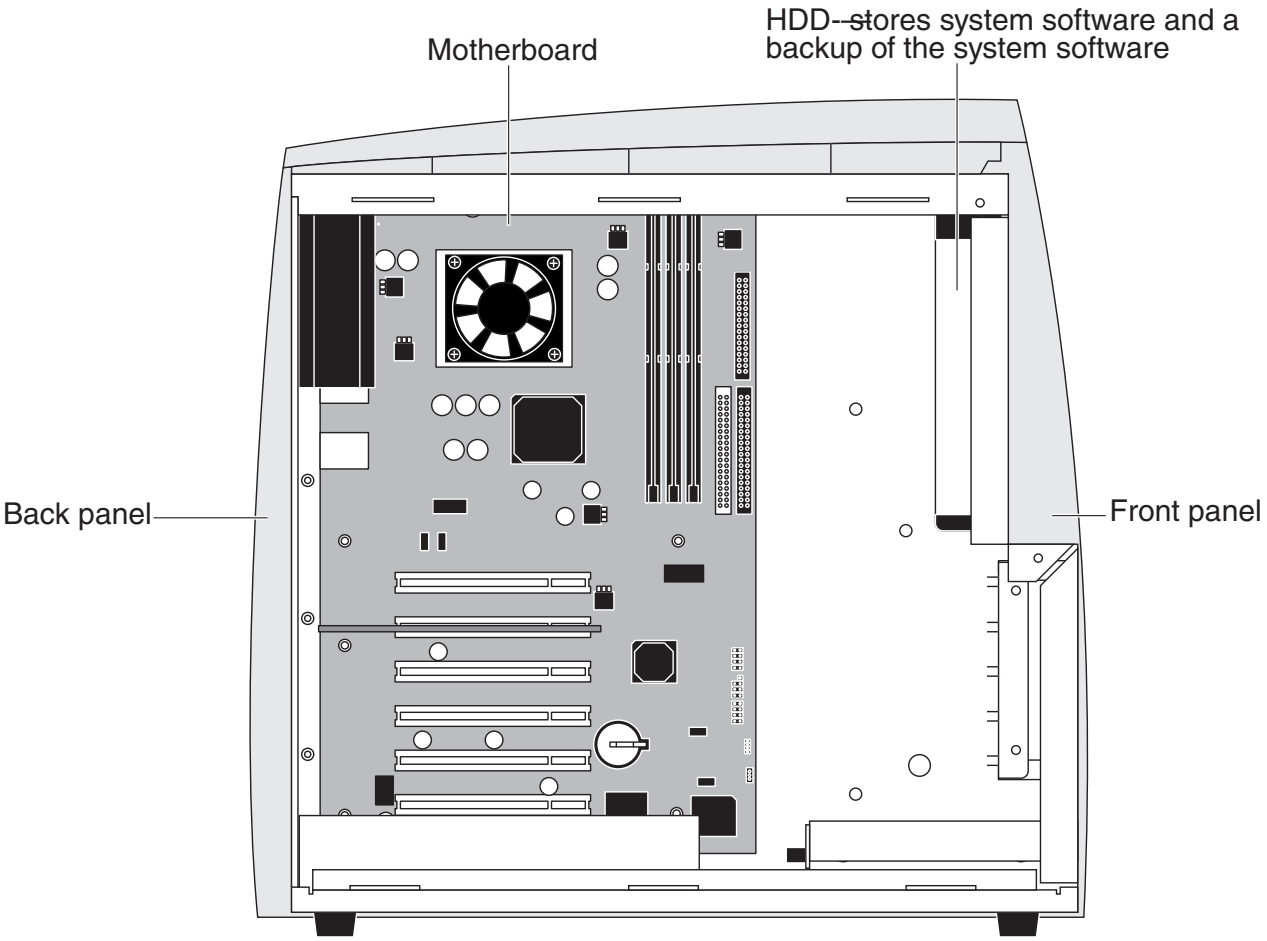
4.6.1 Proper handling

Improper handling can damage the HDD. Handle the HDD with extreme care:

- Use proper ESD practices when grounding yourself and the iR-M2.
- 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, bump, or put pressure on 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 caused by the following:

- Loose or faulty connection
- Faulty ribbon cable
- Faulty hard disk drive



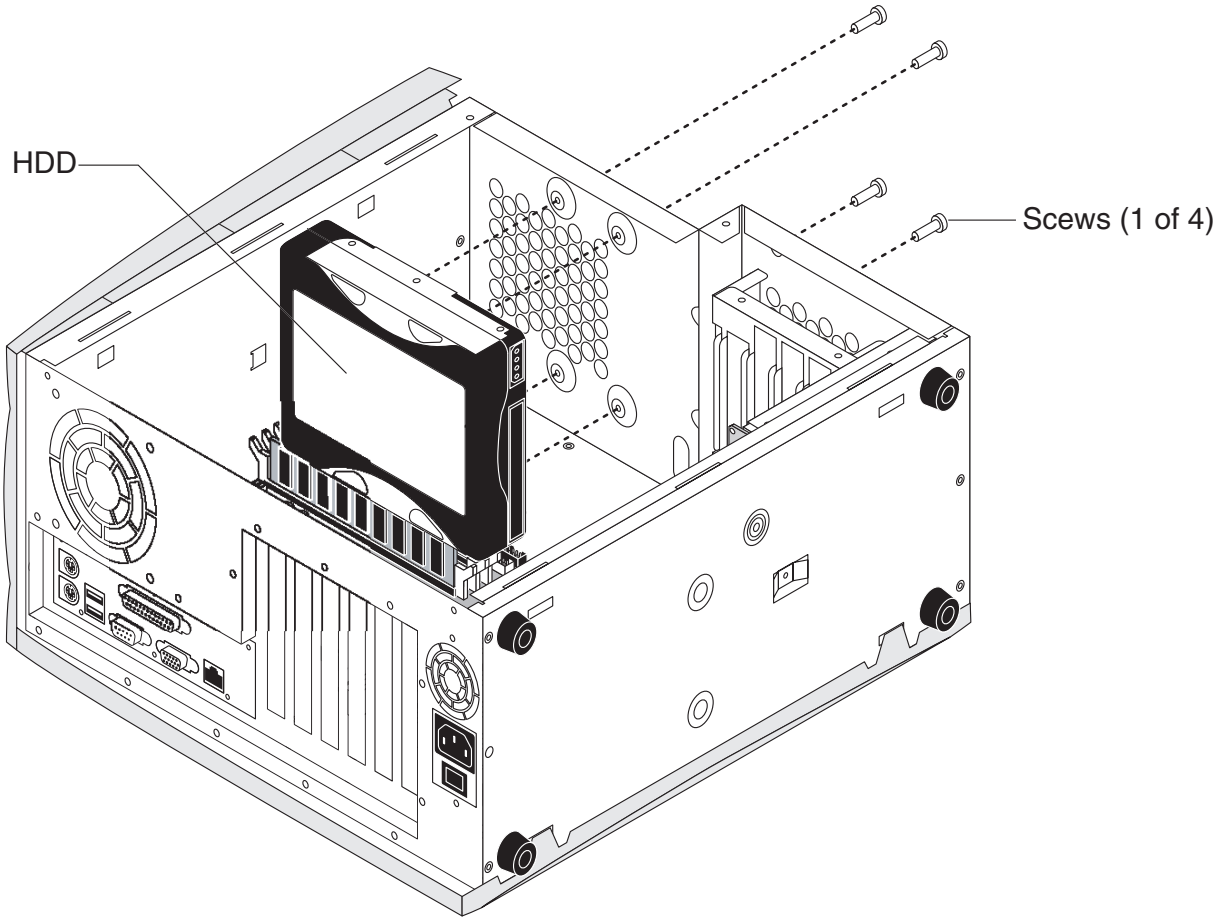
F04-406-01 iR-M2 HDD (hard disk drive)

If you are replacing the HDD with a new one, you will need:

- The appropriate system software and documentation for the iR-M2 you are servicing.
- A compatible version of the user software for the networked computers that will be printing to the iR-M2.

a. TO REMOVE THE HDD

1. If you are removing the HDD in order to install a new drive, first give the network administrator the opportunity to print the Job Log and to save any custom simulations. Also, print the Configuration Page and the Font List from the Functions menu (if possible; see page 4-55 for a detailed description).
2. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
3. Remove the front panel (see page 4-7).
4. Remove the 4-pin power supply cable from the HDD.
5. Remove the HDD ribbon cable from the HDD by pulling the connector (not the cable) straight out from the HDD.
6. Remove three of the four screws that attach the HDD to the chassis (see F04-406-02).
7. While supporting the HDD, remove the fourth screw.



F04-406-02 Removing the HDD

8. Remove the HDD from the chassis and place it in an antistatic bag.

Do not unscrew the screws on the HDD cover. Loosening these HDD screws will break the seal and void the HDD warranty.
Do not touch the drive with magnetic objects (such as magnetic screwdrivers), and avoid placing items such as credit cards and employee ID cards that are sensitive to magnets near the HDD.

Replacement HDDs are not shipped with any system software pre-installed. After installing the drive, you need to install the appropriate system software.

b. TO REPLACE THE HDD

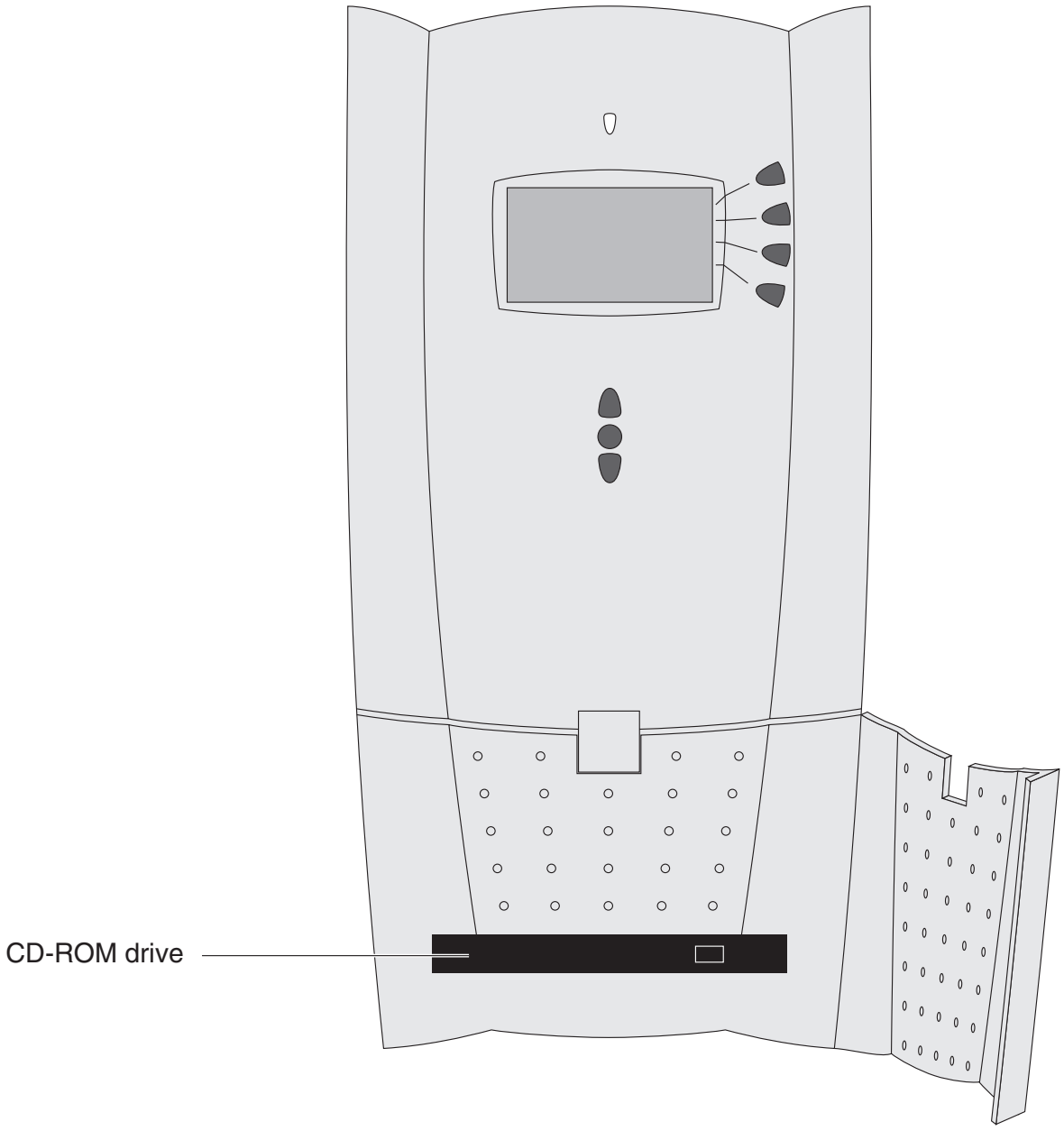
1. If you are installing a new HDD, unpack the drive.
   Do not drop, jar, or bump the HDD. Do not touch the HDD with magnetic objects or place objects sensitive to magnets near the HDD.
2. Position the HDD inside the chassis and align the mounting holes with the four holes in the chassis.
   The HDD should be positioned as shown in F04-406-02 on page 4-46.
3. Once the HDD is properly aligned in the chassis, replace the screws on each side of the HDD and tighten them. (Make sure you use the same screws you removed earlier.)
4. Connect the HDD ribbon cable to the HDD.

Make sure to connect the longer end (with the blue connector) of the HDD ribbon cable to the HDD. Also, make sure not to switch the CD-ROM and HDD ribbon cables. The CD-ROM ribbon cable has 40 wires; the HDD ribbon cable has 80 wires.

5. Connect the 4-pin power supply cable to the HDD.
   The connectors are keyed to fit only one way.
6. Replace the front panel (see page 4-8).
7. Reassemble the iR-M2 (see page 4-13).
8. Connect the cables you removed from the back panel.
9. If you replaced the HDD with a new HDD, install system software (see page 4-56).
   If a startup error appears on the Control Panel when you power on the iR-M2, check the connections.
10. Verify iR-M2 functionality (see the connection verification steps described on page 4-15).

4.7 CD-ROM drive

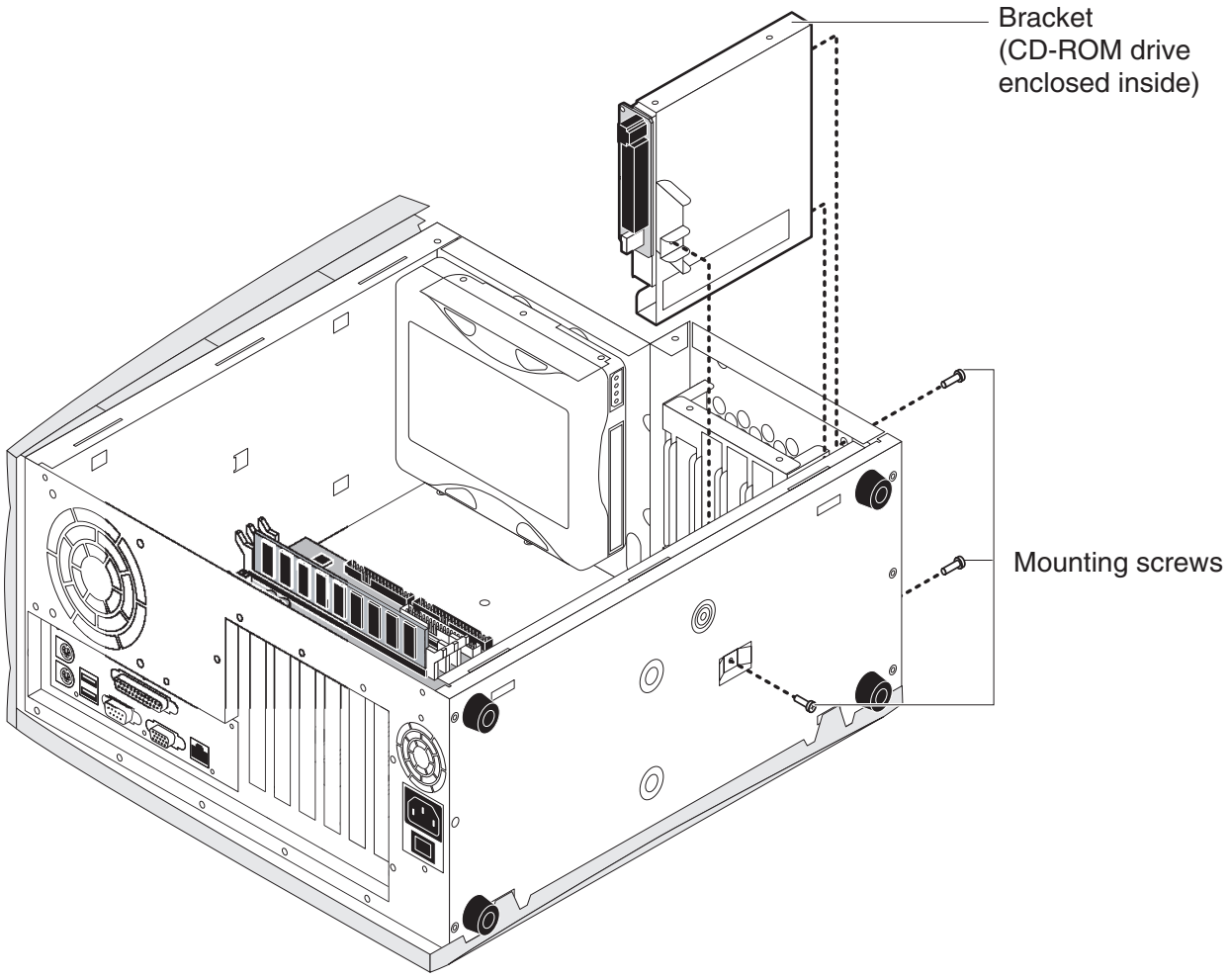
The CD-ROM drive is mounted in a bracket that attaches to the inside of the chassis. The CD-ROM drive is used to install system software onto the HDD.



F04-407-01 iR-M2 CD-ROM drive

4.7.1 TO REMOVE THE CD-ROM DRIVE

1. Shut down and open the iR-M2 (see page 4-3 and page 4-4).
2. Remove the front panel (see page 4-7).
3. Remove the CD-ROM drive ribbon cable from the CD-ROM drive by pulling the connector (not the cable) straight out from the CD-ROM drive.
4. Remove the 4-pin power supply cable from the CD-ROM drive.
5. While supporting the CD-ROM drive and bracket assembly, remove the screw on the bottom of the chassis and the two screws on the front of the chassis that attach the bracket to the chassis (see F04-407-02).
   Set the screws aside so you can replace them later.



F04-407-02 Removing/replacing the CD-ROM drive and bracket

6. Lift the bracket out of the chassis.
   Make sure not to damage any components when you remove the bracket from the chassis.

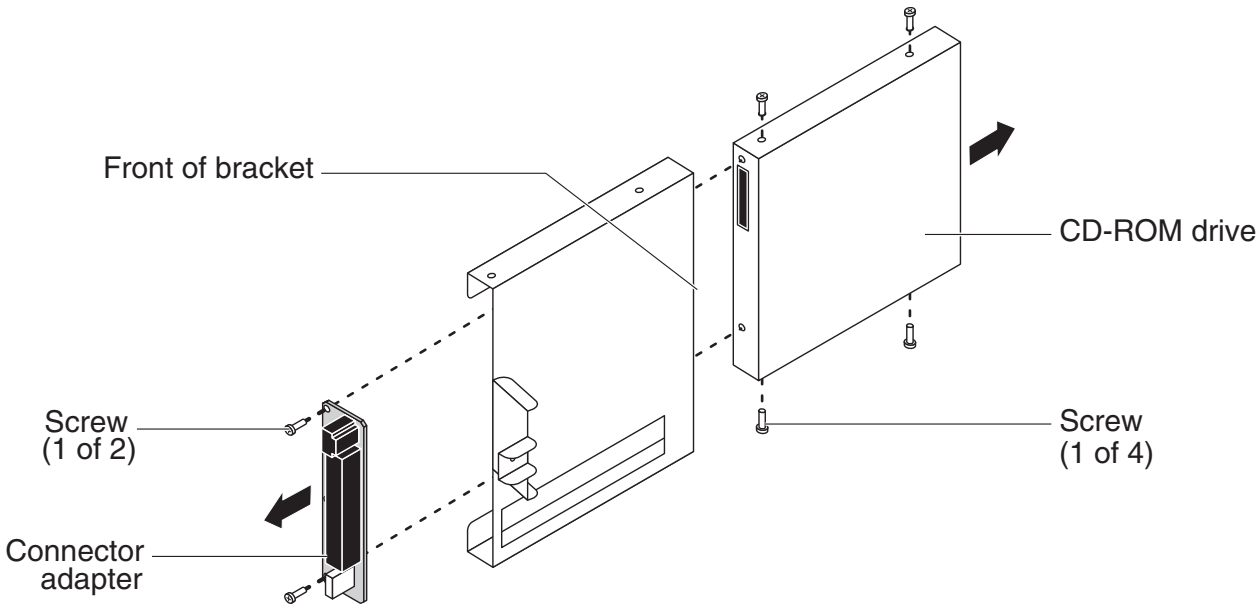
4.7.2 TO REPLACE THE CD-ROM DRIVE

1. Position the bracket inside the chassis and align the mounting holes with the three holes in the chassis (two in front, one on the bottom; see F04-407-02 on page 4-49).
2. Replace the three screws that attach the bracket to the chassis.
3. Connect the 4-pin power supply cable to the CD-ROM drive.
4. Connect the CD-ROM drive ribbon cable to the CD-ROM drive.
   The connectors are keyed to fit only one way.
5. Replace the front panel (see page 4-8).
6. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).

4.7.3 TO REMOVE THE CD-ROM DRIVE FROM THE BRACKET

Spare CD-ROM drives are shipped as a complete assembly that includes the CD-ROM drive, bracket, and connector adapter and are not spared separately. The following procedures are provided as reference only.

1. Remove the two screws that attach the connector adapter to the CD-ROM drive, and then remove the connector adapter from the CD-ROM drive (see F04-407-03).
   Make sure to pull the connector adapter straight out from the CD-ROM drive. Do not twist the connector adapter while removing it.
2. Remove the four screws that attach the CD-ROM drive to the bracket and slide the drive out the front of the bracket.
   Make sure not to damage the EMI gasketing around the edge of the bracket as you remove the drive.



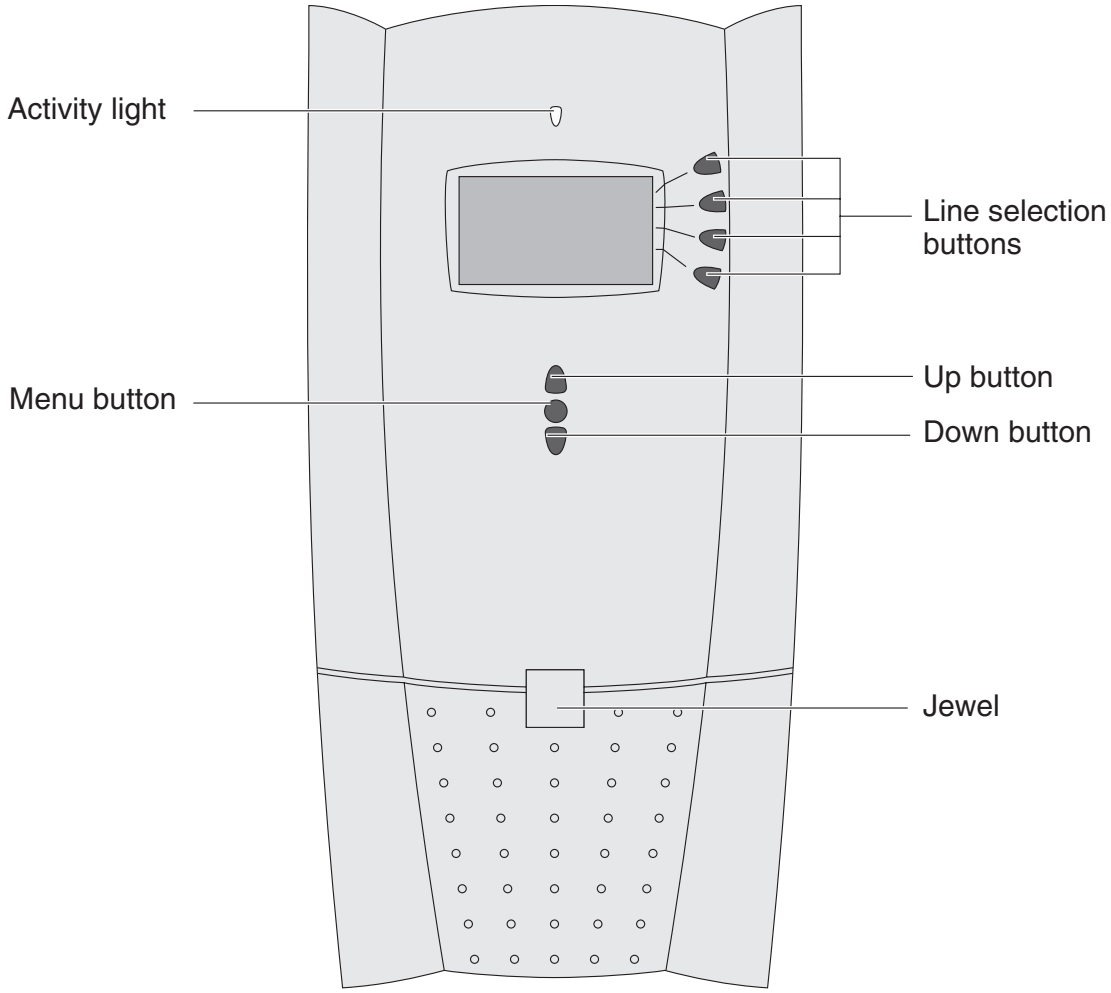
F04-407-03 Removing the CD-ROM drive from the bracket

4.7.4 TO REPLACE THE CD-ROM DRIVE IN THE BRACKET

1. With the bracket outside the chassis, slide the replacement CD-ROM drive into the bracket (see F04-407-03 on page 4-51).
   Make sure not to damage the EMI gasketing around the edge of the bracket as you slide the CD-ROM drive into place.
2. Replace the four screws that attach the CD-ROM drive to the bracket (see F04-407-03).
3. Position the connector adapter over the back of the CD-ROM drive and press it into place.
   The connector on the adapter is keyed to fit on the CD-ROM drive only one way.
4. Replace the two screws that attach the connector adapter to the CD-ROM drive (see F04-407-03).

4.8 Front panel components

The front panel holds a jewel, the user interface board, and buttons. This section describes replacing the jewel and buttons on the front panel. For information on replacing the user interface board, see page 4-19.



F04-408-01 Front panel jewel and buttons

4.8.1 Jewels

Some upgrades or product modifications may require you to replace the jewel on the front panel. The following procedure describes how to replace the jewel.

a. TO REPLACE FRONT PANEL JEWEL

1. Remove the front panel (see page 4-7).
   Now you have access to the tabs on the back side of the jewel.
2. Remove the jewel from the front panel.
   Squeeze the tabs on the back side of the jewel while pushing it out of its slot.
3. Insert the tabs of the new jewel into the empty slots in the front panel and press down until it snaps into place.
   The jewel's lower tabs are larger than the upper tabs. The lower tabs fit into the lower slots.
4. Replace the front panel (see page 4-8).
5. Reassemble the iR-M2 (see page 4-13).

4.8.2 Buttons

The Control Panel buttons are located in cutouts in the front panel and are designed to fit only one way. When correctly positioned, the buttons make contact with the button pads on the front of the user interface board and provide users with manual status/control capability from the Control Panel.

a. TO REPLACE FRONT PANEL BUTTONS

1. Remove the front panel (see page 4-7).
2. Remove the user interface board (see page 4-20).
3. Place the front panel buttons in the appropriate cutouts.
   Notice that the buttons fit only one way in the cutouts.
4. Replace the front panel (see page 4-8).
5. Reassemble the iR-M2 (see page 4-13) and verify its functionality (see the connection verification steps described on page 4-15).

5 System software service

The iR-M2 ships with system software installed on the HDD. System software is also provided on a CD that can be used to update the system software to a newer version or to reinstall the current version of the system software.

This section describes how to install system software from the system software CD (see page 4-56).

Keep in mind the following when installing system software:

- Job Log
  The list of jobs in the Job Log and any jobs in the queues are deleted. The network administrator can use Fiery Spooler to save a current list of jobs (not the actual jobs) from the Job Log.
- Fonts
  All fonts on the HDD are deleted when you install system software. Resident fonts are reinstalled when you reinstall system software. Any customer-supplied fonts will need to be reinstalled by the network administrator using Fiery Downloader.
  To determine which additional fonts were downloaded to the iR-M2, print the Font List before you install the system software and again after you complete the system software installation. Any fonts not listed after installation will need to be reinstalled.
  For more information, see the Job Management Guide.
- Configuration
  Make sure to print a Configuration page before installing any system software (see page 3-5 for instructions). The Setup configuration will be lost when you install system software.
- Custom simulations
  Custom simulations and custom outputs saved on the DD are deleted when you install system software. Save a copy of any custom simulations before installing software so they can be restored later.
- Compatibility
  When upgrading the system software, make sure the latest user software is installed onto all computers that print to the iR-M2. Using incompatible versions of the system and user software may result in system problems.

5.1 Installing system software

The System Software CD includes the system software and fonts. Use the System Software CD when:

- You replace the HDD
- You update to a more recent version of the system software

If you change langnage, perform the "Factory Default" in setup menu.


Memo

System software installation takes approximately 20 minutes.

5.1.1 TO INSTALL SYSTEM SOFTWARE

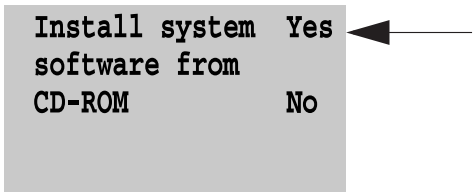
1. If you have not done so already, first give the network administrator the opportunity to print the Job Log and to save any custom simulations. Also, print the following from the Functions menu (if possible):
   - Configuration page ~~re~~cords the customer's current Setup configuration. The Setup configuration will be reset to the default configuration when system software is installed.
   - Font Lists ~~th~~e PS and PCL Font lists detail the fonts currently installed on the HDD. These include the original fonts that came installed on the iR-M2 plus any additional fonts that the customer may have installed. All fonts are deleted when you install system software. The network administrator can use Fiery Downloader to reinstall customer-supplied fonts after system software reinstalls the original fonts. To determine which customer-supplied fonts need to be reinstalled, print the Font List before you install system software and again after you install system software. Any fonts not listed after installation need to be reinstalled.
2. Insert the system software CD in the CD-ROM drive.


Memo

If you installed a new HDD, power on the system using the power switch on the back panel, insert the system software CD in the CD-ROM drive, allow the system to boot, and then proceed to step 5 on page 4-57.

3. Select Shut Down from the Functions menu (see page 4-3).
4. At the next screen, select Reboot System.
   Allow the system to shut down and reboot. Routine startup diagnostics appear on the Control Panel while the system reboots.

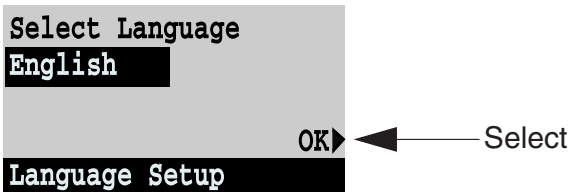
5. When the following screen is displayed, select "Yes".



Memo

If you select "NO", system CD-ROM gets out of the CD-ROM drive automatically. Also when the installation of the system software is finished, system CD-ROM gets out of the CD-ROM drive automatically.
Therefore, open a CD-ROM drive door when you install system software.

6. Following the startup diagnostics, the system software installation process begins immediately. The Control Panel displays the following screens:
   1. Disk Format
   2. Base Install
   3. Platform Install
   4. Diablo Install
   5. Kernel Install
   6. Memory config update
   7. LCD Install
   8. System Install
   9. System Install, Extracting
   10. Installation is in progress
   11. Installation was successful
7. At the message "Please remove CD," remove the system software CD, and then close the CD-ROM drive drawer.
   The system shuts down and reboots automatically. Wait as messages appear indicating that the system is rebooting. Do not push any buttons during this time and ignore the message Press any button to enter config mode that appears on the Control Panel while the system reboots.
8. When the Select Language screen appears, scroll to the appropriate language, and then select OK.



9. When the Select Market Region screen appears, scroll to the appropriate language, and then select OK.
   The system restarts and the Control Panel displays the messages System booting. Please wait . . . and Restarting server.
10. When the Setup Menu displays, configure Setup using the Configuration page you printed earlier.
    Bypass any settings that are 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.
11. Reinstall fonts, user software, or custom simulations that may have been deleted when you installed system software.

CHAPTER 5

TROUBLESHOOTING

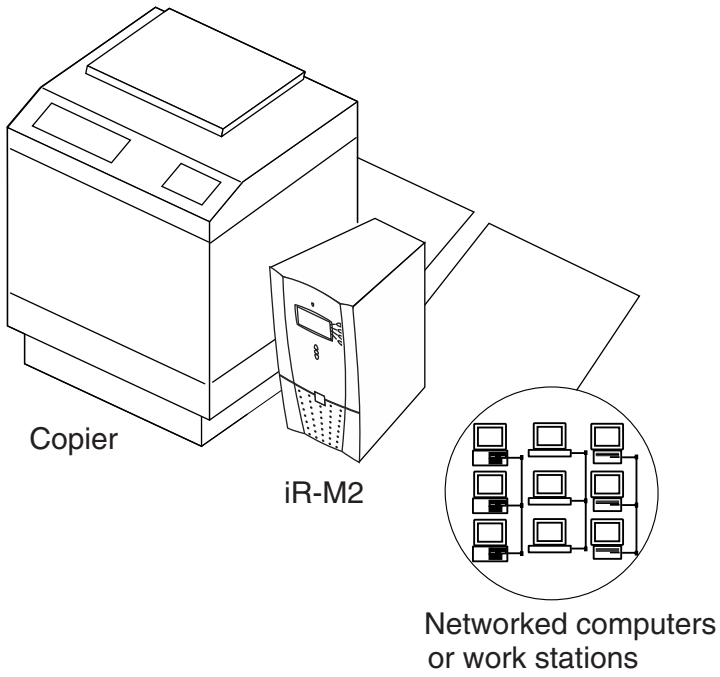
1 Preliminary On-site Checkout

This chapter identifies the source of common problems that may occur with the iR-M2 and suggests ways of correcting them.

1.1 The Troubleshooting process

The iR-M2 is a server for copiers, and is generally part of a configuration like the one shown below. Problems may occur in one of three areas:

- Inside the iR-M2
- In the interface between the iR-M2 and the copier
- In the interface between the iR-M2 and the workstations or computers to which it is connected



F05-101-01 Troubleshooting the system

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

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

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

1.2 Preliminary on-site checkout

Most problems with the iR-M2 are caused by loose board or cable connections; therefore, this section describes the quick checks you can do to locate and fix obvious problems.

This section first describes how to eliminate any problems with external connections to the back of the iR-M2, and then addresses checking internal board and cable connections. It is a good idea to check external and internal connections before replacing any components.

Your should first verify that the network is functioning, no unauthorized software or hardware is installed on the iR-M2, and there are no problems with a particular print job or application. The on-site administrator can help you verify these issues.

For problems that persist after you have done the quick checks of the external and internal connections, this section goes on to provide a comprehensive list of internal and external checks that may help you fix the problem.

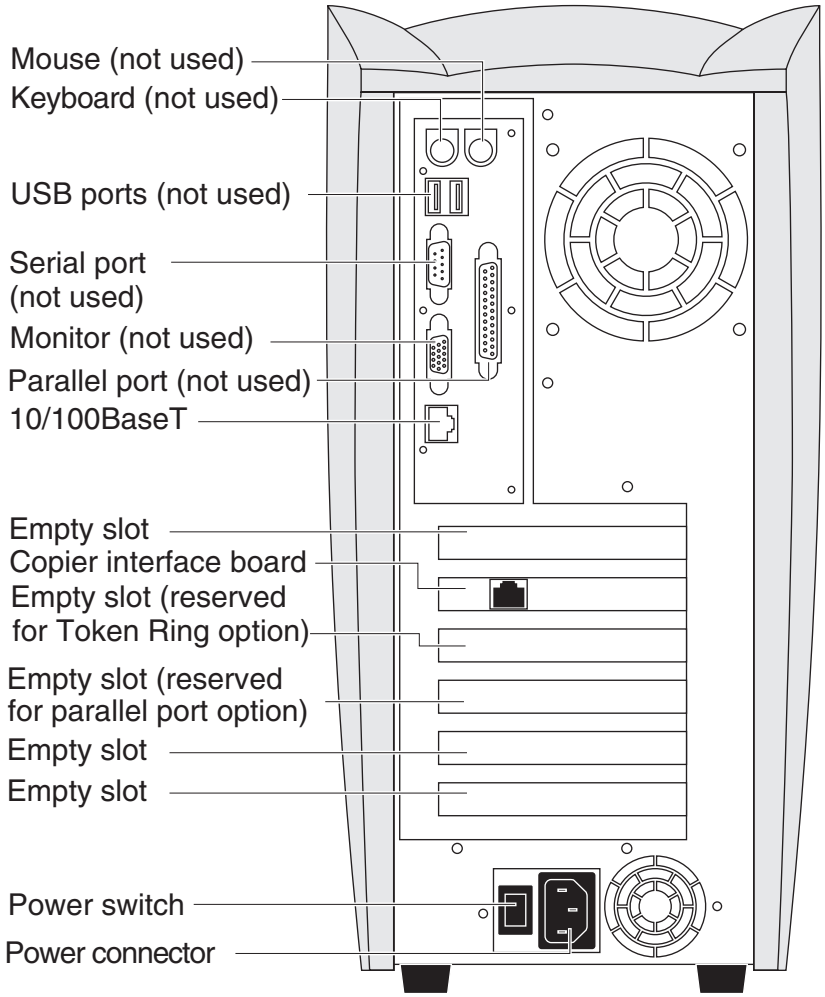
- "Checking external connections" on page 5-3
  This section describes the quick checks you can do to make sure the problem is not caused by a loose connection at the back of the iR-M2.
- "Checking internal components" on page 5-4
  This section describes the quick checks you can do to make sure the problem is not caused by a loose board or cable connection inside the iR-M2.
- "Inspecting the system" on page 5-5
  This section provides a more comprehensive checklist for checking the iR-M2 internally and externally. If your initial checks fail, you may want to go through this checklist before concluding that you need to replace a cable or component.

To troubleshoot problems according to specific symptoms, refer to T05-103-01 on page 5-12. Locate symptoms listed in the table to help you determine possible causes and steps to remedy them.

1.2.1 Checking external connections

Before removing the side and front panel of the iR-M2 to check internal components, first eliminate the most obvious sources of problems. Make sure that:

- All interface cables to the system are plugged into the proper connectors on the back panel of the iR-M2 (see F05-102-01).
- The power cable is plugged into the wall power outlet.
- The power switch on the back panel of the iR-M2 is in the on position.
- The LED on the network connector is blinking to indicate network activity.



F05-102-01 Back panel of the iR-M2

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

1.2.2 Checking internal components

To check the internal components you must remove the side and front panel of the iR-M2.

Before you remove the iR-M2's panels, be aware of the safety precautions you should take when handling the iR-M2. Use ESD precautions when handling printed circuit boards and electronic components. To review the safety precautions, see "Precautions" on page vi.

Use the guidelines in Chapter 4, "Service Procedures." when disassembling, checking, and reassembling the iR-M2.

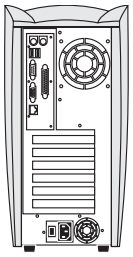
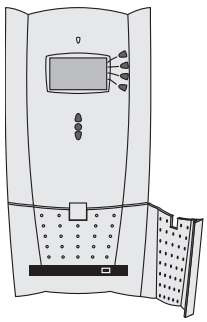
a. TO CHECK INTERNAL COMPONENTS

1. Shut down and open the iR-M2 (page 4-3 and page 4-4).
2. Before you touch any components inside the iR-M2, attach a grounding strap to your wrist and discharge any static electricity on your body by touching a metal part of the iR-M2.
3. Inspect the inside of the iR-M2 (see page 4-9).
   Make sure no foreign materials have been dropped into the chassis.
   - Look for obviously loose boards and reseat each board securely in its connector on the motherboard.
   - Look for cables that are obviously loose. Reseat each connector firmly.
   - Make sure each connector is properly aligned with its mating connector. If the pins are offset from each other, the board affected will not function properly.
4. Reassemble the iR-M2 and verify functionality (see page 4-13 and page 4-15).

1.2.3 Inspecting the system

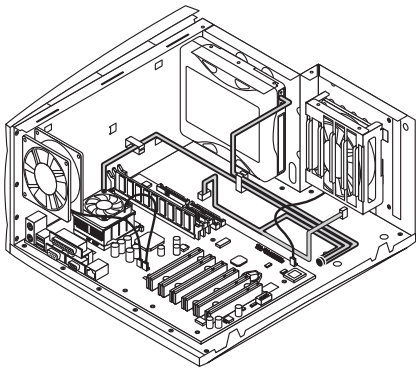
If your initial checks of the cable and board connections do not fix the problem, it may be necessary to inspect the system on a component-by-component basis, as described in T05-102-01. A comprehensive inspection allows you to verify that each hardware component is properly installed and configured, and helps you avoid replacing expensive components unnecessarily.

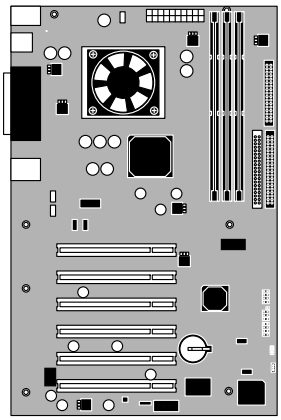
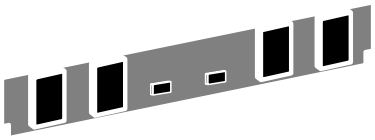
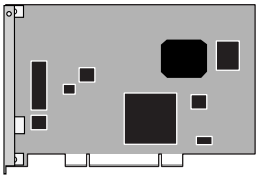
If the system you are servicing does not meet a condition listed in T05-102-01 below and it is not obvious what action(s) you should take to fix the problem (for example, if the system hangs before reaching Idle), locate the behavior in T05-103-01 on page 5-12 and perform the suggested action(s) given for the condition.

Conditions to verify	Part and additional page references
When problem occurs, verify that: • Power switch is on • Power cable is connected properly into the power outlet • Chassis fans are operating • Network link activity LED on RJ-45 connector is blinking • All external cables required are present, in correct connectors,well-seated • Cables, cable connectors, and mating connectors appear undamaged	Back panel external connectors, chassis fans, and power switch, page 5-3 
If problem occurs at power up or reboot, verify that: • System LED on the Control Panel lights • Display window lights up and boot up messages display • No error messages or system hangs occur before reaching Idle • CD-ROM drive is present and no disk is in the drive • CD-ROM LED blinks briefly • CD-ROM tray can be opened and closed • After the system reaches Idle, the Control Panel buttons work	Front panel, page 4-7; CD-ROM drive, page 4-48 

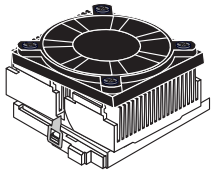
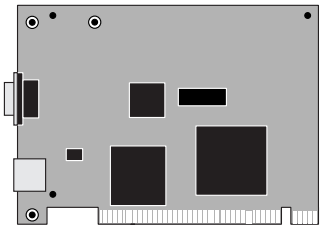
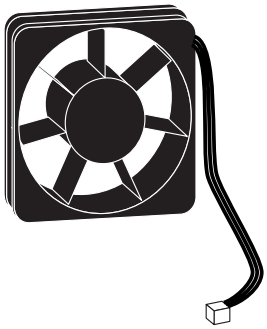
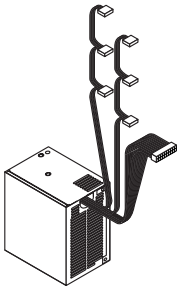
T05-102-01 Verifying the system

Conditions to verify	Part and additional page references

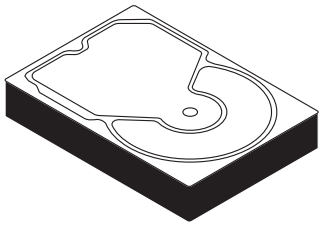
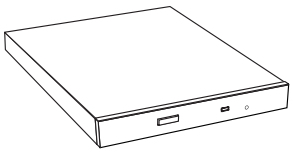
• All replaceable parts are:
  • Present
  • Properly aligned
  • Installed securely
  • The correct part for the system
  • Properly configured, if configurable (such as HDD jumper)
  • Appear undamaged
• Chassis and contents have not been tampered with (no unauthorized additions or changes have been made)
• Chassis does not contain any foreign objects
	Chassis
	 

• Motherboard, including components and traces, appears undamaged and no foreign objects are evident • CPU is present, well-seated, and appears undamaged • CPU cooling unit is well-aligned and firmly attached • Each fan required (including fan cable) is well-positioned (not upside down), installed in the correct connector, and appears undamaged • Boards required on the motherboard are present, well-seated, and in the correct slots • Each DIMM is well-seated • Battery is installed	Motherboard, page 4-23 
• DIMM is well-seated • DIMM connector is not oxidized	DIMM for iR-M2, page 4-29 
Each board required is: • Present • Installed in the correct slot • Well-seated • Appears undamaged Required cables (if applicable) are: • Present • Firmly connected in the correct connectors • Appear undamaged	Copier interface board, page 4-17 

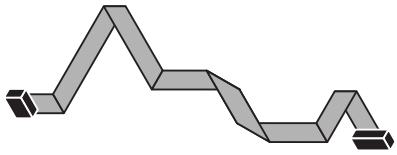
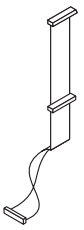
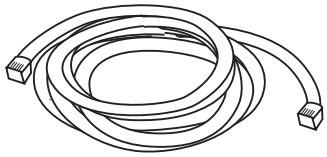
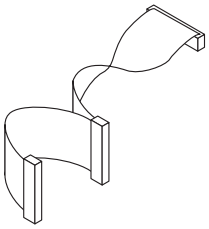
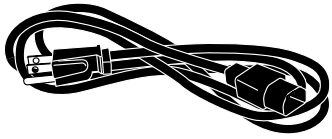
T05-102-02 Verifying the system

Conditions to verify	Part and additional page references
CPU is: • Present • Well-seated • Appears undamaged The CPU cooling unit is: • Well-aligned • Firmly attached	CPU with cooling assembly, page 4-30 
If included in the system, the required board is: • Present • Installed in the correct slot • Well-seated • Appears undamaged The network administrator can verify that the system is: • Installed on a working network • Configured appropriately in Network Setup	Token Ring; see document included with optional kit 
Each fan is: • Properly positioned (not backwards) • Installed in the correct connector • Fan, fan cable, cable connector, and mating connector appear undamaged	Front fan, page 4-37; Back panel fan, page 4-39 
The power supply required is: • Present • Correctly installed • Appears undamaged Cable connectors are: • Firmly connected • Appear undamaged • Installed in the correct devices	Power supply, page 4-40 

T05-102-03 Verifying the system

Conditions to verify	Part and additional page references
The HDD required is: • Present • Correctly installed • Appears undamaged • Jumpered as the primary master according to label HDD ribbon cable is: • Present • Firmly connected in the motherboard's PIDE (Primary IDE) connector • Appears undamaged	Hard disk drive (HDD), page 4-44 
The CD-ROM drive required is: • Present • Correctly installed • Well-seated • Appears undamaged • CD-ROM drive ribbon cable is connected to motherboard SIDE (Secondary IDE connector) • Activity LED lights on power up	CD-ROM drive, page 4-48 

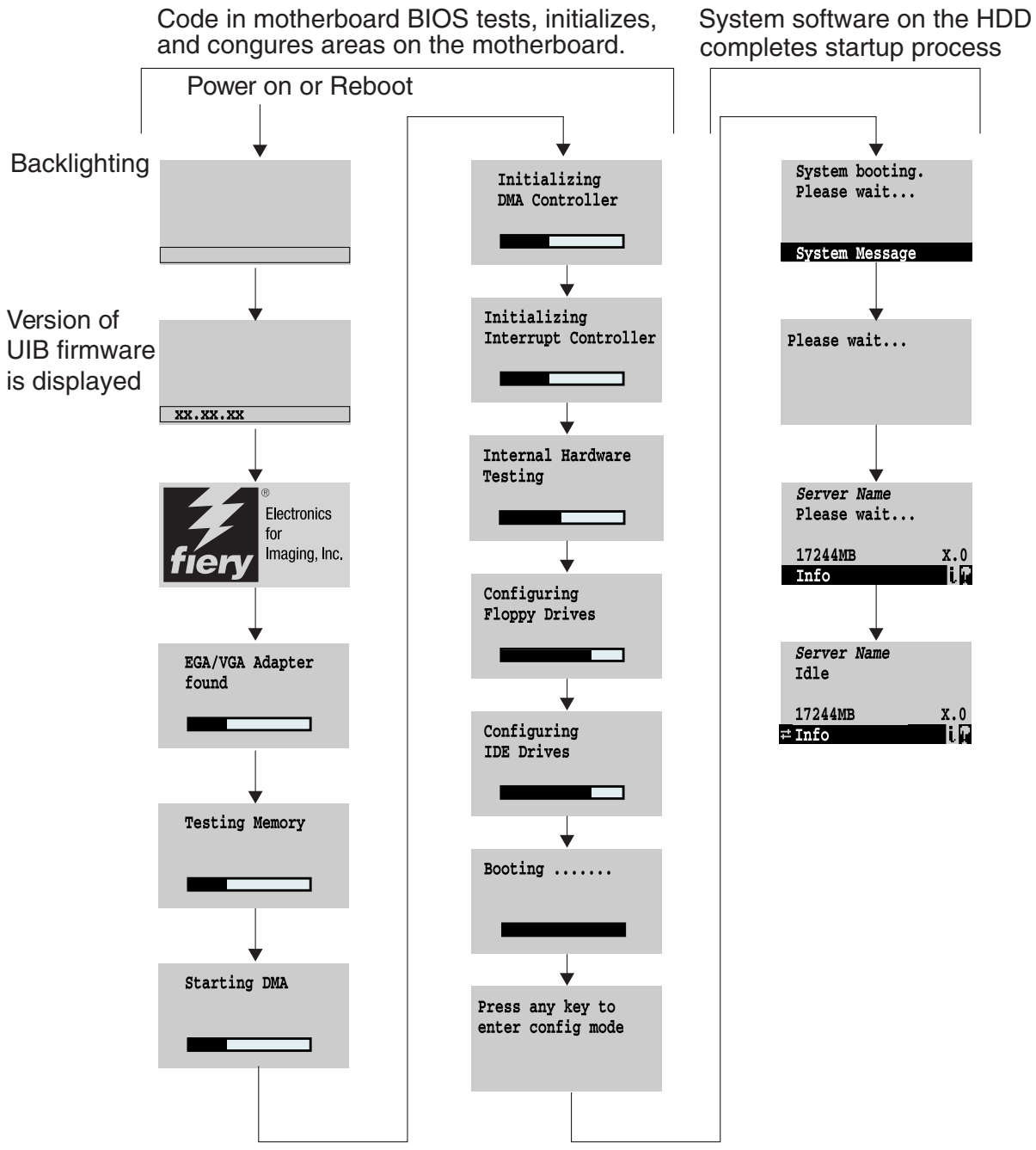
T05-102-04 Verifying the system

Conditions to verify	Part and additional page references
Each cable required: • Is present • Is installed in the correct connector • Is well-seated • Appears undamaged (including connectors) HDD ribbon cable is: • Present • Firmly connected in the motherboard's PIDE (Primary IDE) connector • Appears undamaged	UIB cable, page 4-10  HDD ribbon cable, page 4-10  Copier interface cable, page 3-2  CD-ROM drive ribbon cable, page 4-10  Power cable, page 2-7 

T05-102-05 Verifying the system

1.3 Normal startup sequence

When you power on or reboot the iR-M2, the system runs the following startup routine on the Control Panel. The routine takes approximately 2-5 minutes to reach the Idle screen. If the system hangs or data is missing during the startup sequence, note the screen displayed and then check F05-103-02 on page 5-10 for the possible problems and suggested actions.



F05-103-01 Normal startup sequence

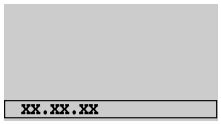
1.4 Error messages and conditions

To address specific error messages or conditions, refer to T05-103-01 to 09 on page 5-12. 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.

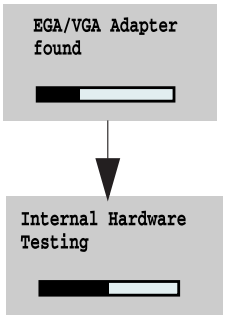
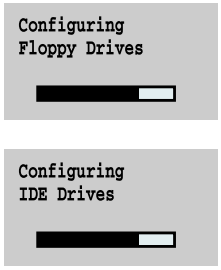
If replacing a component does not correct the problem, make sure you install the old component back in the iR-M2.

Symptom	Possible cause	Suggested action
Beep codes		
5 beeps at startup (2 beeps followed a few seconds later by 3 more beeps)	The first two beeps indicate that the CMOS settings were lost due to a dead battery. The three beeps that follow indicate that the system has restored the settings during startup.	You may have to replace the motherboard battery.
	Any other multi-beep pattern may indicate a hardware failure on the motherboard. Before replacing any components, first check the items in T05-102-01 to 5, "Verifying the system," on page 5-5 to 5-9.	
Startup		
iR-M2 does not start up, or the Control Panel is not backlit.	The iR-M2 is powered off.	Make sure the power switch on the back of the iR-M2 is in the on position.
	Possibly one of the following: • Faulty power supply (power supply may not be supplying power to the motherboard) • Faulty motherboard (motherboard power plane may not be supplying power to components) • Faulty user interface board	1. Check again all cables and connections. 2. Check power to the CD-ROM drive. If the LEDs are lit during startup and you are able to eject the CD-ROM drive tray, then the drives are receiving power from the power supply. 3. Listen for the power supply fan and feel for air at the back of the unit where the power supply is located. If you do not feel air from the power supply fan and the drives are not receiving power, you may have a faulty power supply which you will need to replace (see page 4-41). 4. Check the fan vent on the back panel to make sure air is coming out the back of the system. If the air is not coming out the back and the drives are not receiving power, the motherboard is faulty and the motherboard will need to be replaced (see page 4-26). 5. If you have verified that the power supply and the motherboard are functioning properly, you may need to replace the front panel containing the user interface board (see page 4-7).

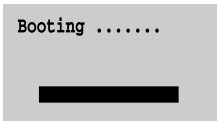
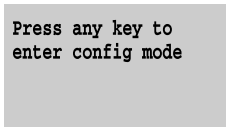
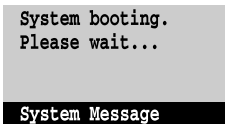
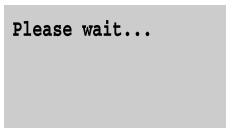
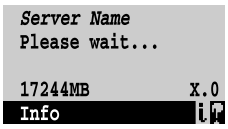
T05-104-01 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Startup (con't)		
Control Panel is lit but discolored.	Possibly one of the following: • User interface board cable or connections are faulty • User interface board is faulty • CPU connection is loose • CPU is faulty • Motherboard is faulty	1. Check again the user interface board cable and connections. If the cable and connections are good and the problem persists, replace the front panel assembly containing the user interface board (see page 4-7). 2. If the problem persists, verify CPU and CPU fan connection. If the problem persists, you may need to replace the CPU (see page 4-32). 3. If the problem persists, you may need to replace the motherboard (see page 4-26).
Control Panel is lit but no text appears.	User interface board is faulty.	Replace the front panel assembly containing the user interface board (see page 4-7).
 System hangs at screen (the version string at the base of the screen is not displayed).	If the system hangs with the version string not displayed, the code resident on the user interface board has most likely been corrupted.	Replace the front panel assembly containing the user interface board (see page 4-7).
 System hangs at screen, and/or the system beeps multiple times (more than two short beeps).	Possibly one of the following: • Missing or faulty DIMM • Faulty BIOS	1.Check again all cables and connections. 2.If the problem persists, check for missing or faulty DIMM and reseat the DIMM to remove any oxidation on the connector (see page 4-28). 3.If the problem persists, you may need to replace the BIOS chip on the motherboard (see page 4-35).

T05-104-02 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Startup (con't)		
 System hangs at screen. Includes the following screens: • Testing Memory • Starting DMA • Initializing DMA Controller • Initializing Interrupt Controller	Master/slave mode setting conflict	1. Check that the HDD is set to master mode. A label located on the HDD provides configuration information for setting the mode. If the HDD does not have a label you may need to contact your service support center for more information. Each HDD is configured correctly at the factory and should not be changed. 2. Check that the HDD ribbon cable is connected to the motherboard PIDE (Primary IDE) connector. 3. Check that the CD-ROM ribbon cable is connected to the motherboard SIDE (Secondary IDE) connector. 4. If the problem persists, replace the motherboard (see page 4-26).
 System hangs at screen	Possibly one of the following: • Cable connections to the CD-ROM drive are loose or ribbon cable is faulty • CD-ROM is faulty	1. Check again all cables and connections. 2. Check for a faulty CD-ROM drive. If the drive is faulty, replace it (see page 4-50). If the LED is lit during startup and you are able to eject the CD-ROM drive tray, then the drive is functioning.

T05-104-03 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Startup (con't)		
 System hangs at screen	Possibly one of the following: • Corrupt system software • Faulty HDD	1. Check again all cables and connections. 2. If the problem persists, reinstall system software (see page 4-56). Corrupt system software may cause the system to hang at this screen. 3. If the problem still persists, replace the HDD (see page 4-47). If replacing the HDD does not correct the problem, make sure you install the old HDD back in the iR-M2.
    System hangs at any of these screens	Possibly one of the following: • Corrupt system software • Faulty HDD • Faulty motherboard	4. Check again all cables and connections. 5. If the problem persists, reinstall system software (see page 4-56). Corrupt system software may cause the system to hang at this screen. 6. If the problem still persists, replace the HDD (see page 4-47). If replacing the HDD does not correct the problem, install the old HDD back in the system. 7. If the problem persists, verify CPU and CPU fan connection. If the problem persists, you may need to replace the CPU (see page 4-32). 8. If the problem still persists, you may need to replace the motherboard (see page 4-26). If replacing the motherboard does not correct the problem, make sure you install the old motherboard back in the iR-M2.

T05-104-04 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Control Panel Messages		
Check power & cable appears on the Control Panel	Possibly one of the following: • The copier is not ready to print. • Problem with the connection between the iR-M2 and the copier.	1. Make sure the copier is powered on and ready to print. 2. Check again that the copier interface cable is present and properly connected to the iR-M2 and the copier (see page 3-2). 3. If the problem persists, power off/on the copier and the iR-M2, waiting 1 minute after the iR-M2 reaches Idle before you power on the copier. 4. If the problem persists, replace the copier interface cable (see page 3-2). 5. If the problem persists, replace the copier interface board (see page 4-18). 6. If the problem persists, you may need to service the copier.
CD-ROM		
CD-ROM is not responding, cannot be located, or the busy LED on the drive remains lit.	Possibly one of the following: • A CD is stuck in the CD-ROM drive • Cable connections to the CD-ROM drive are loose or ribbon cable is faulty • CD-ROM is faulty • Motherboard is faulty	1. Insert a paper clip into the mechanical pin hole on the CD-ROM drive to force the drive tray to open. 2. If the problem persists, check the cable connections to the CD-ROM (see page 4-9). 3. Check CD-ROM ribbon cable connections to the motherboard. 4. If the problem persists, you may need to replace the CD-ROM (see page 4-48) 5. If the problem persists, you may need to replace the motherboard (see page 4-26).
System performance		
System performs slowly and/or hangs periodically.	Possibly one of the following: • Board or cable connections are loose or faulty • System software is corrupted • CPU is overheated or faulty • Motherboard is faulty	1. Check again all cables and connections. 2. Make sure CPU is firmly seated in its socket and that the fan cable is connected to the motherboard. 3. If the problem persists, reinstall system software (see page 4-56). 4. If the problem persists, you may need to replace the motherboard (see page 4-26).

T05-104-05 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Network		
Keep in mind the following if you suspect a network problem: • If the iR-M2 does not appear in the list of printers on the network, there may be another device on the network with the same Ethernet hardware address. • There may be conflicting network settings in Setup and on the customer's workstation • Printing problems may be caused by inappropriate Setup options • Application-specific printing errors may be caused by missing or incorrectly placed printer description files • System software may be corrupted Also see the Configuration Guide for additional information.		
Unable to connect to the network, or the green LED on the 10/100BaseT connector is not lit.	Possibly one of the following: • Network cable or connection is faulty • Network is faulty • System software is corrupted • Ethernet interface on the iR-M2 motherboard is faulty	1. If the green LED on the 10/100BaseT connector is not lit on the iR-M2 back panel, check the cable connection to the back panel and the network. Make sure the cable is the correct type. 2. If the network cable is the correct type and is properly connected to the back of the iR-M2, connect a new network cable to the back of the iR-M2. 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 4-56). 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 4-26).

T05-104-06 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Network (con't)		
System starts up slowly then displays one or more DHCP error messages on the Control Panel.	Possibly one of the following: • Network cable or connection is faulty • Network is faulty • System searches for a non-existent DHCP server because DHCP is enabled by default on the iR-M2, but the customer's network is not using DHCP. • Ethernet interface on the iR-M2 motherboard is faulty • System software is corrupted	1. If the green LED on the 10/100BaseT connector is not lit on the iR-M2 back panel, check the cable connection to the back panel and the network. Make sure the cable is the correct type. 2. If the network cable is the correct type and is properly connected to the back of the iR-M2, connect a new network cable to the back of the iR-M2. 3. If the problem persists, have the network administrator change the default in iR-M2 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 4-56). 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 4-26).

T05-104-07 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Printing		
	Intermittent print quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print a test page to make sure that the copier itself does not need servicing or adjusting.	
Test Page fails to print.	The copier is not ready to print. There is a problem with the connection between the iR-M2 and the copier.	1. Check again that the copier interface cable is present and properly connected to the iR-M2 and the copier (see page 3-2). 2. If the problem persists, power off/on the copier and the iR-M2, waiting 1 minute after the iR-M2 reaches Idle before you power on the copier. 3. If the problem persists, replace the copier interface cable (see page 3-2). 4. If the problem persists, replace the copier interface board (see page 4-18). 5. If the problem persists, you may need to service the copier.
iR-M2 appears on the list of printers on the customer's workstation, but certain jobs do not print.	A PostScript error. An application problem.	Make sure Print to PostScript Error in Setup is set to Yes. Check for error messages on the iR-M2 output. 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 iR-M2 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.

T05-104-08 iR-M2 error messages and conditions (Continued)

Symptom	Possible cause	Suggested action
Printing (con't)		
A print job stalls or stops after one or a few pages.	Possibly one of the following: • A PostScript or application error • System software is corrupted	1. Cancel the iR-M2 print job. 2. If this fails to clear the problem, reboot the iR-M2. 3. If the problem persists, select Clear Server from the Run Setup menu on the Control Panel. 4. Set Print Cover Page to Yes and resend the problem job; The Cover Page will indicate PS Error. You can also double click the problem job in the Command WorkStation window to get more information on the postscript error. 5. If the problem persists, reinstall system software (see page 4-56). Corrupt system software may cause the system to hang at this screen.
	Incorrect or faulty DIMM or faulty DIMM connection.	1. Power off the iR-M2; reseat the DIMM to remove any oxidation on the connector (see page 4-28). 2. Verify memory amount on the Configuration Page. 3. If the problem persists after replacing the DIMM, you may need to replace the motherboard (see page 4-26).
Print quality is poor.	Possibly one of the following: • A file or application problem. • A missing or outdated printer description file. • The application cannot find the appropriate printer description file.	1. Print a iR-M2 Test Page (see page 5-22). 2. If the quality of the iR-M2 Test 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 Printing Guide for a list of printer files.

T05-104-09 iR-M2 error messages and conditions (Continued)

If the user can print the iR-M2 Test Page but cannot print a job from a computer on the network, make sure the network administrator has:

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

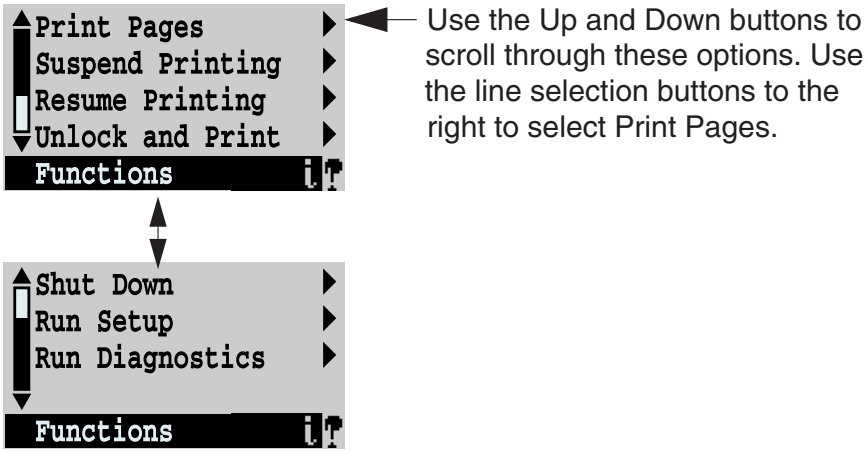
EPS file generation is not completely standardized among applications. Some users may encounter problems while printing certain EPS files.

1.5 Printing the Test Pages

Once you have connected the iR-M2 to the copier, you should print the PS and PCL Test Pages to verify that the interface between the copier and the iR-M2 is working properly. The PS and PCL Test Pages are files that reside on the HDD and are printed to the copier using the settings configured in Setup.

a. TO PRINT THE TEST PAGES

1. Power on the copier and allow it to warm up.
   The iR-M2 starts automatically when you power on the copier. Wait as the iR-M2 runs through its startup diagnostics.
2. At the Idle screen, press the Menu button once (see "Using the Control Panel" on page 3-8). The Functions menu appears.



3. Press the line selection button to the right of Print Pages. and then select PS Test Page.
   The iR-M2 sends the PS Test Page to the copier.
4. Press the line selection button to the right of Print Pages. and then select PCL Test Page.
   The iR-M2 sends the PCL Test Page to the copier.
5. Examine the quality of the Test Pages.
   The Test Pages confirm that the iR-M2 is functional and that the connection between the iR-M2 and the copier is good. When you examine the Test Pages, 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 shade lightens from 100% to 0%.

Poor image quality may indicate a need to service the copier. For more information, see the documentation provided with the copier.

CHAPTER 6

PARTS CATALOG

FIGURE 100

imagePASS-M2
Network Multi-PDL Printer Unit-M2

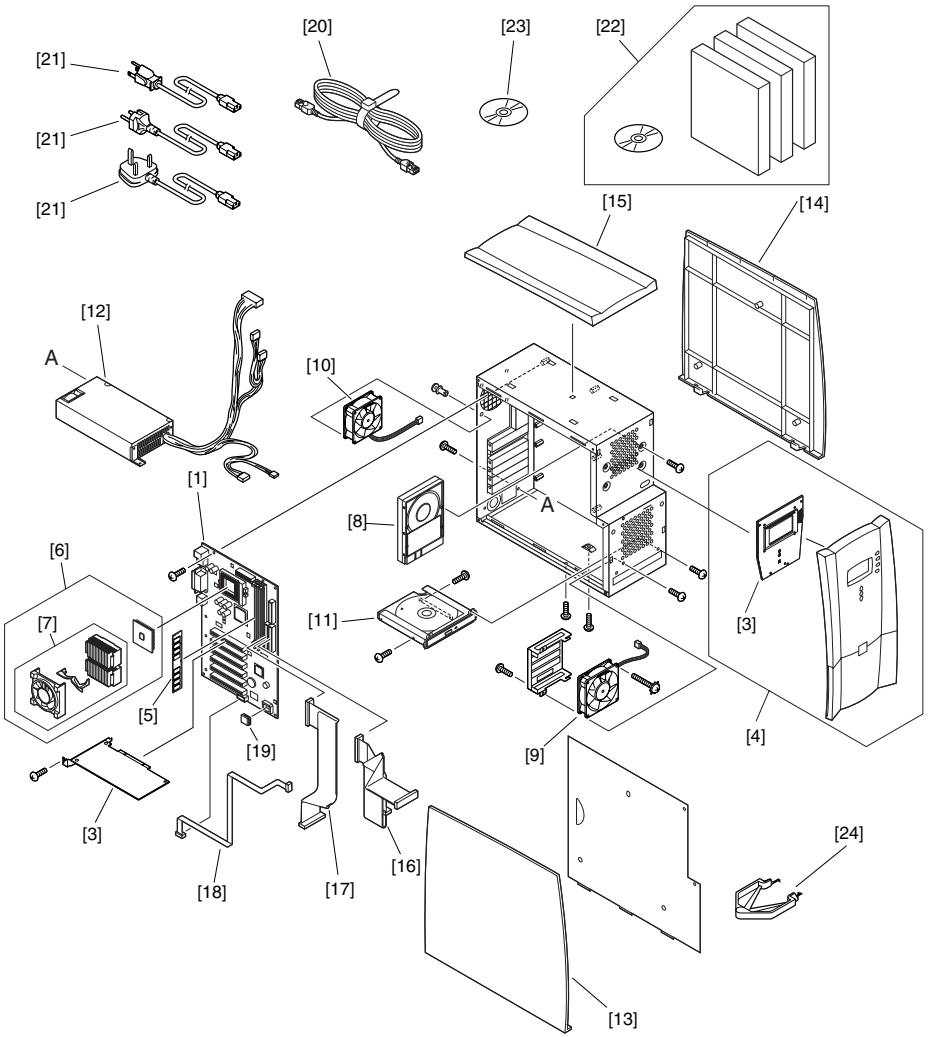


FIGURE & KEY NO.	PART NUMBER	RANK	Q'TY	DESCRIPTION	EFI PARTS NUMBER / REMARKS
100 -	NPN		RF	imagePASS-M2 Network Multi PDL Printer Unit-M2	
1	FE1-5654-000		1	MOTHERBOARD PCB ASSEMBLY	45026791
2	FE1-5553-000		1	VIDEO BOARD PCB ASSEMBLY	45023600
3	FE1-5739-000		1	UIB PCB ASSEMBLY	45029656
4	FE1-5742-000		1	PANEL ASS'Y, FRONT, EUR	45029659
	FE1-5743-000		1	PANEL ASS'Y, FRONT, US	45029660
5	FE1-5759-000		1	DIMM, 128MB	45029852
6	FE1-5494-000		1	CPU UNIT, 1GHz	45022024
7	FE1-5754-000		1	COOLING KIT	45022143
8	FE1-5481-000		1	HDD 20GB	45019796
9	FE1-5755-000		1	FAN, FRONT	45029702
10	FE1-5741-000		1	FAN, BACK PANEL	45029654
11	FE1-5748-000		1	CD-ROM DRIVE UNIT	45029653
12	FE1-5740-000		1	POWER SUPPLY	45029651
13	FE1-5745-000		1	COVER, LEFT	45029667
14	FE1-5746-000		1	COVER, RIGHT	45029668
15	FE1-5744-000		1	COVER, TOP	45029666
16	FE1-5756-000		1	CABLE, HDD	45029664
17	FE1-5757-000		1	CABLE, CD-ROM	45029700
18	FE1-5758-000		1	CABLE, UIB	45029701
19	FE1-5747-000		1	BIOS CHIP	45029665
20	FE1-5566-000		1	CABLE, INTERFACE, COPIER	45023611
21	FE1-5563-000		1	POWER CORD, 120V	45023607
	FE1-5564-000		1	POWER CORD, 230V	45023608
	FE1-5565-000		1	POWER CORD, 230V	45023609

FIGURE & KEY NO.	PART NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER / REMARKS
22	FE1-5826-000		1	CD-ROM, MEDIAPACK, US	45033205
	FE1-5827-000		1	CD-ROM, MEDIAPACK, EUR	45033216
23	FE1-5832-000		1	CD-ROM, SYSTEM S/W	45033210
24	FY9-2039-000			IC-REMOVING TOOL	

FIGURE 101 TOKEN RING KIT

TOKEN RING KIT

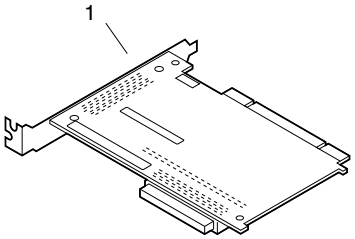


FIGURE & KEY NO.	PART NUMBER	RANK	Q'TY	DESCRIPTION	EFI PARTS NUMBER / REMARKS
101 -	NPN		RF	TOKEN RING Board TB84	
1	FE1-5625-020		1	TOKEN RING PCB ASS'Y	45022862

APPENDIX

1 Specifications

This appendix provides an overview of iR-M2 features.

1.1 Hardware Features

- Single Pentium III CPU-866MHz
- Memory-128MB
- An RJ-45 connector for 10Mbps or 100Mbps connectivity over twisted pair cable
- Optional PCI Token Ring board connectivity
- 20GB hard disk drive standard
- Built-in CD-ROM drive

1.2 Networking and connectivity

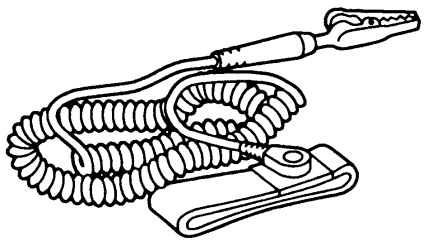
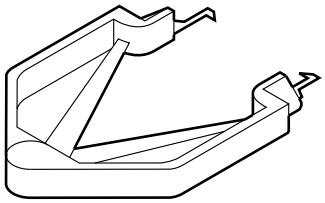
- Supports AppleTalk, TCP/IP, and IPX protocols simultaneously
- Supports EtherTalk Phase 2
- RJ-45 connector that supports 10/100BaseT twisted pair network connectivity
- Supports Token Ring

1.3 User software

A complete description of user software is provided in Getting Started. For optimal performance, current versions of the user software should be maintained on every network computer that might print to the iR-M2.

2 Special Tools

You will need the following tool in addition to the special tools set.

No.	Special tool	Tool No.	Shape	Rank*	Remarks
1	Wrist strap	CK-0534-000		A	
2	IC-removing tool	FY9-2039-000		B	

T0A-200-01

*See Memo.

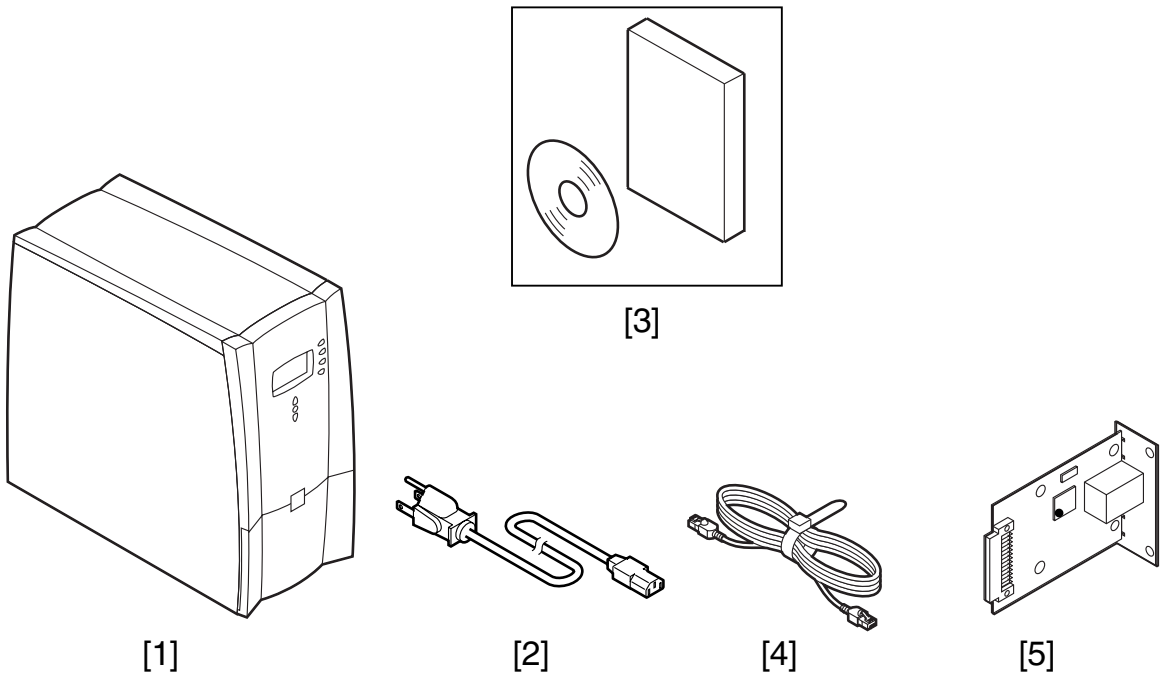
Memo

A: Each service person is expected to carry one.
B: Each group of five service persons is expected to carry one.
C: Each workshop is expected to carry one.

3 Installation Procedure

3.1 Unpacking and Check of Included Items

Unpack the shipping box, and check to make sure that none of the following is missing:

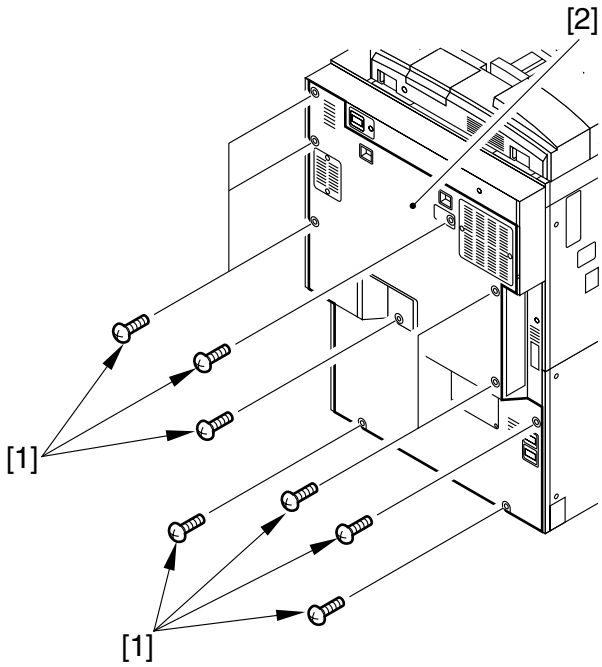


F0A-301-01

[1] Main unit
[2] Power cable
[3] Media Pack
[4] Cross Ethernet cable
[5] Network Interface Adapter

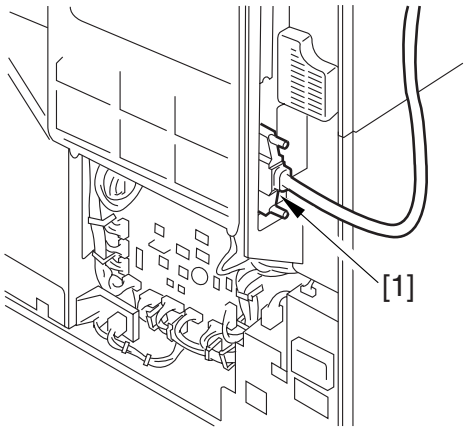
3.2 Install the Network Interface Adapter

1) Turn off the main power switch.
2) Remove the screws [1] (10), and remove the rear cover [2].



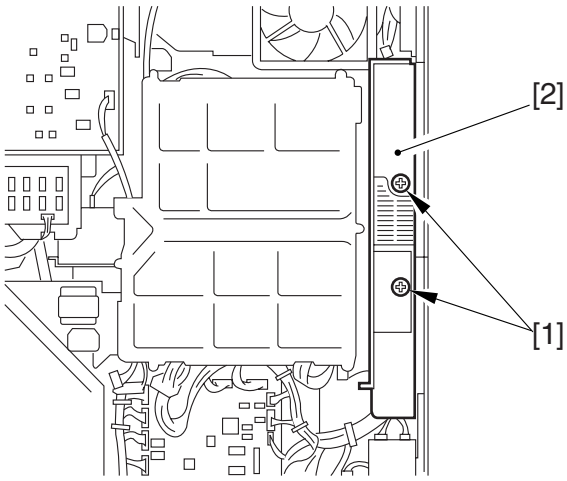
F0A-302-01

3) Remove the interface cable [1].



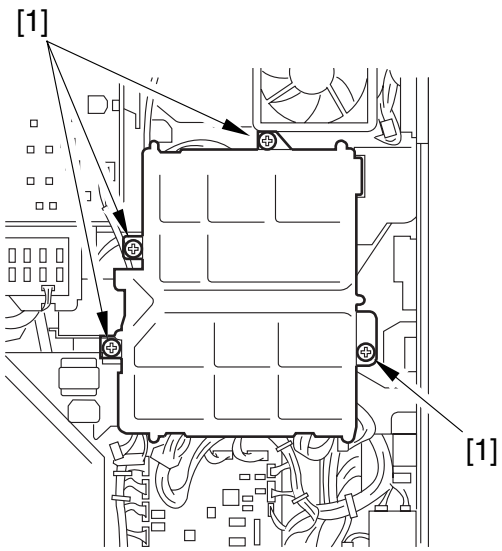
F0A-302-02

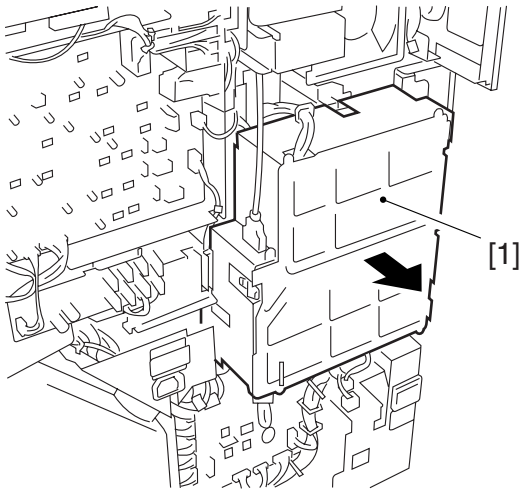
4) Remove the screws [1] (2), and remove the rear right cover [2].



F0A-302-03

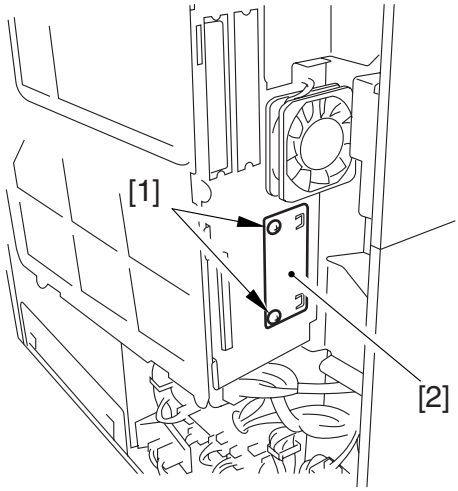
5) Remove the screws [1] (4), and pull the main controller box [2] out.





F0A-302-04

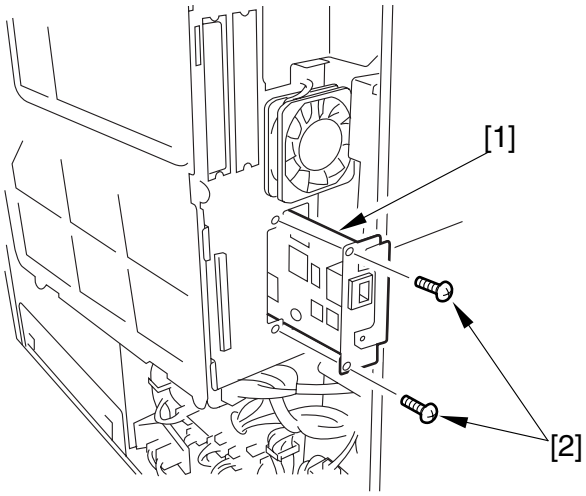
6) Remove the screws [1] (2), and remove the blanking plate 1 [2].



F0A-302-05

7) Fix the network PCB [1] with the screws for attaching the blanking plate 1 [2] (2).

Make sure that the connector is inserted properly.



F0A-302-06

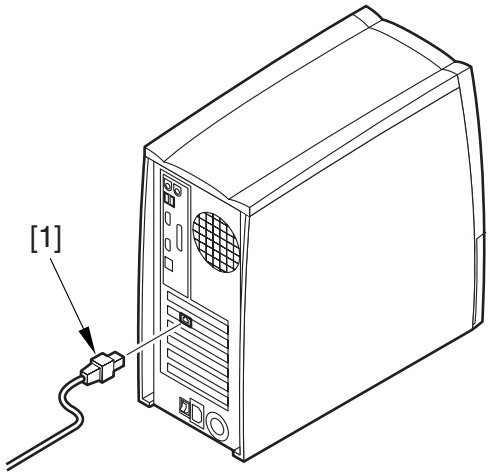
8) Push the main controller box (pulled out in Procedure 5)) in, and fix it with screws (4).
9) Attach the rear right cover removed in Procedure 3).
10) Attach the interface cable removed in Procedure 2).
11) Attach the rear cover removed in Procedure 1).

3.3 Preliminary Adjustment

1) Turn a connected device ON.
2) Check to make sure that the version of COPIER> DISPLAY> VERSION> MN-CONT in Service Mode is 62.04 or later. If the version is earlier than 62.04, upgrade MN-CONT using Service Support Tool.
3) Set '4' to COPIER> OPTION> INTFACE> IMG-CONT in Service mode.

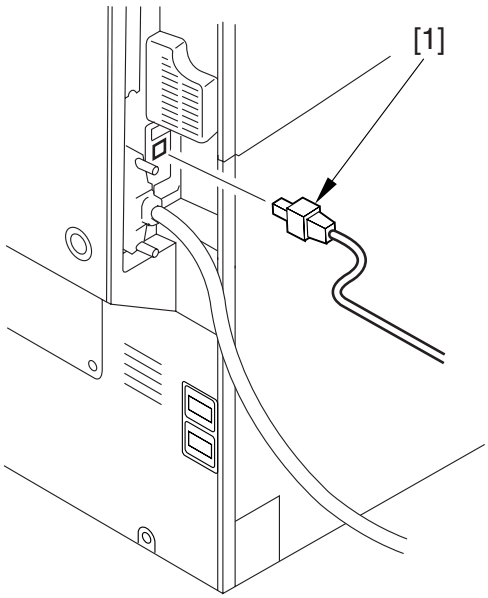
3.4 Installation

1) Connect the cross Ethernet cable [1] to the RJ45 connector on which a copier mark is engraved at the back of the main unit.



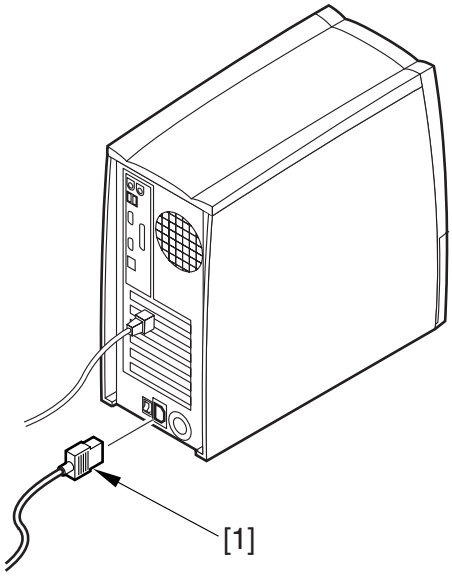
F0A-304-01

2) Connect the other side of the cross Ethernet cable [1] which is connected to the main unit in the procedure 1) to the RJ45 connector of the connected device.



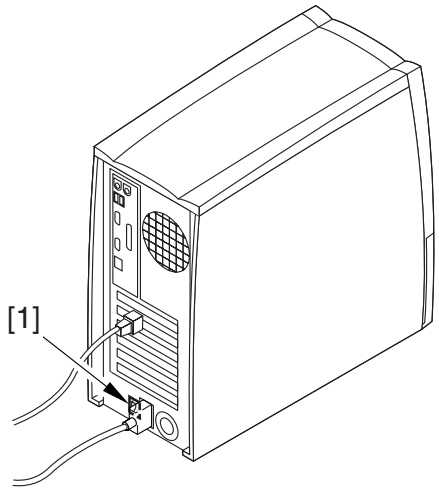
F0A-304-02

3) Turn the connected device ON.
4) Connect the power cable [1] to the main unit.



F0A-304-03

5) Turn the main unit [1] ON.



F0A-304-04

6) When 'Select Language' has appeared, select the appropriate language.
7) When 'Select Market Region' has appeared, select the appropriate region.
8) See that the setup menu starts automatically. At least, select the following in sequence to store data: 'Server Setup', 'Network Setup, 'Printer Setup' For instance, when you select settings for 'Server Setup' the screen will appear at the end asking you whether you want to store the changes. Selecting 'Yes' will store the settings in question.
9) Select 'Exit Setup' from the 'Setup' menu. (The machine will re-start automatically.)
10) If you set up the DNS setup in Network Setup, turn Off and On a copier after main unit indicates "Idle".
11) Generate a PS Test page and a Configuration page as follows, and check to see that the output is normal.
    Function>Print Pages>PS Test Page/Configuration.

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