The SYSTIMAX® iPatch® System
Panel Manager Guide

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Contents

Important Safety Instructions v

Overview 1–1
  iPatch System Components 1–1
    iPatch Panel 1–2
    iPatch Manager 1–2
    System Manager Software 1–2
  iPatch Manager Display and Menu 1–2
    The Display, Buttons, and LEDs 1–2
    The Sounds 1–3
    The Ready Screen 1–3
    The Menu 1–5
  How the iPatch System Tracks Patch Connections 1–5
    Good Practices 1–5
  Items Provided with the Panel Manager 1–6
  Items Provided with the Network Manager Module 1–7
  How To Contact Us 1–8
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installing the iPatch Equipment</td>
<td>2–1</td>
</tr>
<tr>
<td>System Configurations</td>
<td>2–1</td>
</tr>
<tr>
<td>The Standard Configuration</td>
<td>2–1</td>
</tr>
<tr>
<td>An Alternate Configuration</td>
<td>2–2</td>
</tr>
<tr>
<td>A Stand-Alone System Configuration</td>
<td>2–2</td>
</tr>
<tr>
<td>Task Overview</td>
<td>2–3</td>
</tr>
<tr>
<td>Installing the Equipment in the Racks</td>
<td>2–3</td>
</tr>
<tr>
<td>Task A. Mount the Panel Bus</td>
<td>2–3</td>
</tr>
<tr>
<td>Task B. Install the Network Manager Module</td>
<td>2–5</td>
</tr>
<tr>
<td>Task C. Mount the Panel Manager</td>
<td>2–7</td>
</tr>
<tr>
<td>Task D. Connect Each iPatch Manager to the Rack Manager LAN</td>
<td>2–10</td>
</tr>
<tr>
<td>Task E. For Each Rack with iPatch Panels, Install the Panels</td>
<td>2–11</td>
</tr>
<tr>
<td>Task F. Install the Other Equipment in the Racks</td>
<td>2–14</td>
</tr>
<tr>
<td>Task G. Cable the iPatch Panels and Other Equipment in the Equipment Room</td>
<td>2–14</td>
</tr>
<tr>
<td>Setting Up the Network Connections for the Equipment Room</td>
<td>2–15</td>
</tr>
<tr>
<td>Task H. Finish Connecting the Selected Panel Manager</td>
<td>2–15</td>
</tr>
<tr>
<td>Task I. Configure the Network Settings</td>
<td>2–16</td>
</tr>
<tr>
<td>Setting the Patching Mode for the iPatch Manager</td>
<td>2–22</td>
</tr>
<tr>
<td>Adding Patch Connections</td>
<td>2–22</td>
</tr>
</tbody>
</table>
Performing Patching Activities 3–1
Performing Guided Jobs 3–2
Selecting a Job 3–3
Performing Add Connection Jobs 3–4
Adding a Connection Between iPatch Panel Ports 3–4
Adding a Connection Between an iPatch Panel and Other Equipment 3–5
Performing Remove Connection Jobs 3–6
Removing a Patch Connection Between iPatch Panel Ports 3–6
Removing a Patch Connection Between an iPatch Panel Port and Other Equipment 3–7
Performing Unguided Patching Activities 3–8
Adding Patch Connections Not in the Job Queue 3–9
Adding a Connection Between iPatch Panel Ports 3–9
Adding a Connection Between an iPatch Panel and Other Equipment 3–10
Removing Patch Connections Not in the Job Queue 3–10
Removing a Connection Between iPatch Panel Ports 3–11
Removing a Patch Connection Between an iPatch Panel Port and Other Equipment 3–11
Responding to Messages 3–12
How the System Deals with Patching Errors 3–13
Tracing a Patch Connection 3–13
Tracing a Patch Connection Between iPatch Panel Ports 3–14
Tracing a Patch Connection Between an iPatch Panel Port and Equipment 3–15
Tracing and Changing a Patch Connection 3–15
Tracing and Changing an Unknown Patch Connection 3–16
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirming Patch Connections, Responding to Alarms, and Troubleshooting Problems</td>
<td>4–1</td>
</tr>
<tr>
<td>Confirming Patch Connections</td>
<td>4–3</td>
</tr>
<tr>
<td>Viewing Alarms</td>
<td>4–5</td>
</tr>
<tr>
<td>Responding to Alarms</td>
<td>4–6</td>
</tr>
<tr>
<td>Troubleshooting Common Problems</td>
<td>4–9</td>
</tr>
<tr>
<td>Testing Panels</td>
<td>4–14</td>
</tr>
<tr>
<td>Viewing Rack Information</td>
<td>4–15</td>
</tr>
<tr>
<td>Maintaining the System</td>
<td>5–1</td>
</tr>
<tr>
<td>Changing the Language Displayed by iPatch Manager Units</td>
<td>5–2</td>
</tr>
<tr>
<td>Adding an iPatch Panel, Fiber Shelf, or Fiber Module to a Rack</td>
<td>5–3</td>
</tr>
<tr>
<td>Removing an iPatch Panel, Fiber Shelf, or Fiber Module from a Rack</td>
<td>5–3</td>
</tr>
<tr>
<td>Replacing an iPatch Panel, Fiber Faceplate, or Fiber Module</td>
<td>5–5</td>
</tr>
<tr>
<td>Replacing an iPatch Manager</td>
<td>5–8</td>
</tr>
<tr>
<td>Technical Specifications and Standards</td>
<td>A–1</td>
</tr>
<tr>
<td>Technical Specifications for the Panel Manager and Network Manager Module</td>
<td>A–1</td>
</tr>
<tr>
<td>Standards</td>
<td>A–2</td>
</tr>
<tr>
<td>iPatch System Product Warranty</td>
<td>B–1</td>
</tr>
<tr>
<td>Index</td>
<td>C–1</td>
</tr>
</tbody>
</table>
Important Safety Instructions

Read and understand all instructions.

⚠️ The exclamation point within an equilateral triangle is intended to alert the user to potential personal injury hazards.

When installing, operating, or maintaining the SYSTIMAX® iPatch® equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Follow all warnings and instructions marked on this product.
2. This product should be operated using only the power supply provided by SYSTIMAX® Solutions with the product. Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
3. For proper mounting instructions, see Chapter 2, "Installing the iPatch Equipment" in this manual.
4. Never install this product in wet locations or during lightning storms. There is a remote risk of electric shock.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. When installing iPatch equipment not described in this guide, follow the instructions provided with that equipment. Care should be taken not to compromise the stability of the rack by installation of equipment.
7. Never push objects of any kind into this product through slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquids of any kind on the product.
8. To reduce the risk of an electrical shock, do not disassemble this product. Service should be performed by trained personnel only. Opening or removing covers and/or circuit boards may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electrical shock when the unit is subsequently used.
9. If this product is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the product’s maximum ambient temperature (104°F or 40°C).
10. Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Note: All wiring that connects to the iPatch equipment must meet applicable local and national building codes and network wiring standards for communication cable.

Save these instructions.
The SYSTIMAX iPatch System is designed to help customers provide and maintain building patch connections used to deliver telecommunications and data services. In a standard configuration, the system includes System Manager software, one iPatch Manager on each rack that has iPatch Panels, and iPatch Panels and Fiber Shelves on each rack.

The features of the iPatch System include the ability to:
- trace, indicate, and monitor existing patch connections at iPatch equipment
- guide technicians performing patch connections at iPatch equipment
- track patching changes at iPatch equipment
- provide detailed information to technicians about a job or patch connection when requested
- alert technicians and the voice and data network administrator to conditions that might require attention.

iPatch System Components

There are three main components in the iPatch System, described in the subsections below:
- iPatch Panel
- iPatch Manager
- iPatch System Manager Software.

There are now two types of iPatch Managers—a Rack Manager Plus and a Panel Manager. In addition to supervising the rack, the Rack Manager Plus or Panel Manager with a Network Manager module installed can be configured to supervise the equipment room and communicate directly with System Manager. Both the Rack Manager Plus and Panel Manager can be integrated into an existing iPatch System with Network Managers and Rack Managers.

To use a Rack Manager Plus or Panel Manager in an existing iPatch System with Network Managers or Rack Managers, these older units must be running a software version dated April 2003 or later. The System Manager software, used to manage the system, must be Version 4.3 or later for Rack Manager Plus, Version 6.1 or later for Panel Manager, and Version 6.3 or later for the Network Manager module. We recommend that you upgrade the System Manager software to the latest version before you install the iPatch Manager. System Manager will automatically upgrade the software for Rack Manager Plus units and Panel Manager units. A special utility is required to update the software for Network Manager modules. To obtain the latest version of software, contact your SYSTIMAX Solutions local account representative.

Note: The term “iPatch Panels” is used throughout this guide to refer to iPatch Panels with RJ-45 connectors and to iPatch Fiber Shelves with faceplates or modules containing fiber connectors. The term “iPatch Manager” is used to refer collectively to both Panel Manager and Rack Manager Plus units.
iPatch Panel

The iPatch Panel is the heart of the iPatch System. It monitors the patch connections made at the panel by sensing the insertion of the patch cord connectors. When the system detects a patch cord being added to the network, it records the connection in a database. This record lets you trace the connection by pressing the button above one of the ports containing the patch cord. An LED above each port turns on to indicate where the connection is made.

iPatch Manager

Each rack in the iPatch System has an iPatch Manager (Rack Manager Plus or Panel Manager), which communicates with and manages the iPatch Panels in its rack. The Rack Manager Plus and Panel Manager can support up to 40 1U iPatch Panels.

The iPatch Manager maintains a database of the patch connections at the rack. It responds to button presses and sensor changes at the iPatch Panels. By monitoring button presses and sensor changes at its iPatch Panels, the iPatch Manager can logically infer when patch connections are added or deleted, and update the database accordingly.

Each iPatch Manager has a display that lets you interact with the iPatch System. Information provided on the display:

- assists the technicians performing guided patching
- alerts technicians to problems with the equipment
- shows the results when a patch connection is traced
- provides detailed information about a job or patch connection when requested.

The iPatch Manager units in an equipment room are connected by a Rack Manager LAN. This connection lets each iPatch Manager be aware of events throughout the equipment room.

A Rack Manager Plus unit or a Panel Manager with a Network Manager module installed also can provide the functionality formerly provided by the Network Manager. These units can be configured to connect a group of up to 99 iPatch Manager units to an Ethernet network. This connection lets the iPatch System Manager Software communicate with the iPatch Manager units. Therefore, at least one Rack Manager Plus or one Panel Manager with a Network Manager module must be installed in each equipment room.

System Manager Software

The iPatch System Manager Software lets the voice and data network administrator manage the patch connections for a voice and data network from a personal computer. The software documents the voice and data network between faceplates, consolidation points, panels, and network equipment. Through the software, the administrator can schedule change orders for people needing additional services or moving offices, and track the fulfillment of the change orders. The software also alerts the administrator to conditions such as unauthorized changes to the voice and data network, the need to acquire additional equipment, and work that was not performed as scheduled.

iPatch Manager Display and Menu

The Display, Buttons, and LEDs

Each iPatch Manager has a display, buttons, and LEDs that let you interact with the iPatch System. There are two arrow buttons and four softkeys. The arrow buttons let you navigate through the screens and increment numbers when entering data.
The softkeys let you select options that vary based on the screen shown. To select an option, you press the button below that option. The LEDs turn on to indicate special conditions at the rack.

The iPatch Manager display has lighting, which turns on when any button is pressed on the iPatch Manager or on an iPatch Panel connected to the iPatch Manager. The display lighting times out after a period of inactivity, which can be configured using the System Manager Software. While jobs are being performed, all of the iPatch Manager units in the equipment room show the information on their displays. The lighting turns on only at the iPatch Manager units associated with a particular job. This feature helps guide you and is especially useful in a crowded equipment room.

Note: When you press a button on the iPatch Manager to turn on the lighting, the iPatch Manager does not perform the associated action.

The Sounds

The following table lists the sounds that the iPatch Manager produces. These sounds give you additional feedback as you are performing activities using the iPatch System.

<table>
<thead>
<tr>
<th>Type</th>
<th>Tones</th>
<th>Action or Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key beep or sensor beep</td>
<td>1 short beep</td>
<td>Pressed an iPatch Manager key.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inserted or removed a patch cord at an iPatch Panel.</td>
</tr>
<tr>
<td>Completion tone</td>
<td>3 short tones — low, medium, high</td>
<td>Added or removed a patch connection at an iPatch Panel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indicated the position of a row of iPatch Panel ports.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Saved a network setting.</td>
</tr>
<tr>
<td>Confirmation tone</td>
<td>2 short tones</td>
<td>Programmed the order of the panels and modules in the rack.</td>
</tr>
<tr>
<td>Attention tone</td>
<td>1 long, low tone</td>
<td>Technician is requested to confirm an action.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Error occurred.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diagnostic tests detected a problem.</td>
</tr>
</tbody>
</table>
The Ready Screen

When no activities are being performed at the rack, the iPatch Manager display shows the Ready screen. From this screen you can view the menu, job queue, alarms list, and any critical alarms.

The first line of the display shows the number of the rack where the iPatch Manager is mounted, as shown in Figure 1–2.

If the iPatch equipment in the equipment room is able to communicate with the System Manager Software, ⚫ appears on the Ready screen. See Figure 1–2.

The Menu softkey always appears on the Ready screen. For more information about the Menu structure, see “The Menu” on page 1–5.

The other softkey options appear only if there are related activities waiting to be performed at the rack. For example, if there are jobs in the job queue, the Jobs softkey is available and the Jobs LED is turned on. For more information about jobs, see Chapter 3 “Performing Patching Activities”.

The system generates alarms, which indicate problems with the equipment. If an alarm has been generated by equipment on a rack, the Alarms softkey appears on that rack’s iPatch Manager display and the Alarms LED is turned on. If the alarm indicates that patching activities cannot be properly monitored at the rack, the alarm text also appears on the Ready screen. The following alarms appear on the Ready screen:

- Panels Need To Be Ordered
- No Panels Found
- iPatch Manager Needs To Be Replaced.

Figure 1–2 The Ready Screen
The Menu

When you press the Menu softkey, the following menu options appear:

- **Run Diagnostics.** This option launches a series of internal tests that check whether the equipment on the rack is operating properly. See page 6.
- **Rack Information.** This option lets you obtain information about the rack, such as its ID, from the System Manager Software. See page 15.
- **Test Panels.** This option lets you check whether the sensors and LEDs on each panel on the rack are working properly. See page 14.
- **Reset Panels.** This option lets you reprogram the order of the panels at the rack when you have removed a panel or added a panel to the rack. See page 7 and page 8.
- **Reset Racks.** This option automatically reprograms the order of the iPatch Manager units on the Rack Manager LAN in the equipment room when you have removed or added an iPatch Manager to the Rack Manager LAN. See page 8 and page 11.
- **Clear Memory.** This option lets you clear the iPatch Manager database when you are moving an iPatch Manager to another rack.
- **Change Network Settings.** This option lets you set up communication options for a Panel Manager that will communicate with the System Manager software. See page 16.
- **Trace and Change.** This option lets you trace the patch connection for a port and update the connection information if necessary. See page 15.
- **Select Language.** This option lets you change the language displayed at all of the iPatch Manager units in the equipment room. See page 2.

Note: The Select Language feature is available only if each unit connected to the Rack Manager LAN for the equipment room is a Rack Manager Plus or Panel Manager. If there are Rack Managers or Network Managers connected to the Rack Manager LAN, you can change the display language by using the System Manager Software to update the iPatch equipment with the firmware version for the desired language. See the SYSTIMAX® iPatch® System Manager Getting Started Guide.

You can press the up or down arrow buttons to the right of the display to highlight the option you want. Then, you can press the Select softkey to select the highlighted option.

How the iPatch System Tracks Patch Connections

A patch connection is made when two ends of a patch cord are inserted into an iPatch Panel (or pair of panels). The panel senses the insertion of each plug and the patch connection is recorded in the system’s database. This record lets you trace the connection. You must complete one patch connection before starting the next patch connection. You also must respond to any prompts that appear on the display.

Good Practices

Guided patching jobs are scheduled using the System Manager Software and are sent to the iPatch equipment in the equipment room. When you perform guided patching jobs, follow the instructions provided on the iPatch Manager display. If you perform unguided patching activities, complete one patch connection at a time and respond to any prompts that appear on the iPatch Manager displays. When you add or remove a connection between an iPatch Panel and other equipment, be sure to press and hold the iPatch Panel port button for 2 seconds (until you hear a completion tone).
Items Provided with the Panel Manager

Before beginning installation, we recommend that you familiarize yourself with the items in the figure below. These items are provided with the Panel Manager.

![Diagram of items provided with the Panel Manager]

- Mounting screws
- Panel Manager (with the panel bus jumper and strain relief strap attached)
- Power adapter with interchangeable AC plugs
- Star washers
- Patch cord
- Panel bus
Items Provided with the Network Manager Module

If you plan to install a Network Manager module to allow the Panel Manager to supervise the equipment room and communicate directly with System Manager, we recommend that you familiarize yourself with the items in the figure below before beginning installation. These items are provided with the Network Manager module.

Figure 1–4  Items Provided with the Network Manager Module

- Mounting screws
- Power jumper
- Strain relief strap
- 6-inch patch cord
How To Contact Us

To find out more about SYSTIMAX® Solutions, visit us on the web at www.commscope.com/systimax

For technical assistance regarding SYSTIMAX products:

- Within the United States, contact your local account representative or CommScope Technical Support at 1-800-344-0223.
- From outside the United States, contact your local account representative or Authorized BusinessPartner.
2 Installing the iPatch Equipment

This chapter provides instructions for installing and setting up the iPatch equipment in an equipment room. Before you install the equipment, you need to understand how the system is to be configured so you make the proper connections and perform the appropriate set-up tasks.

System Configurations

The Standard Configuration

The most common SYSTIMAX iPatch System configuration consists of:

- iPatch System Manager Software running on a PC connected to an Ethernet network.
- an iPatch Manager on each rack with iPatch Panels. All of the iPatch Manager units in each equipment room are connected to each other using a Rack Manager LAN. One iPatch Manager (Rack Manager Plus or Panel Manager with Network Manager module installed) in each equipment room is configured to communicate with System Manager over the Ethernet network.
- iPatch Panels on each rack, which are connected to the rack’s iPatch Manager using the panel bus.

In this configuration, the System Manager Software can be used to send scheduled jobs to the iPatch equipment in each equipment room. The equipment in the equipment room alerts System Manager to any patching changes and to any problem conditions in the room.

The iPatch Manager units in each equipment room communicate with each other using the Rack Manager LAN. The iPatch equipment in each equipment room communicates with System Manager via the iPatch Manager connected to the Ethernet network.
An Alternate Configuration

An alternate iPatch System configuration consists of the components listed below. This system configuration allows the voice and data network administrator to manage equipment rooms in areas where access to the Ethernet network is not available or is restricted because of data security considerations.

- iPatch System Manager Software running on a PC connected to an Ethernet network.
- a Rack Manager Plus in each building or on each floor that is connected to the same Ethernet network as the PC.
- a Rack Manager Plus in each equipment room that is connected using the Network Manager LAN to the one Rack Manager Plus connected to the Ethernet network.
- a Rack Manager Plus on each rack with iPatch Panels. All of the Rack Manager Plus units in each equipment room are connected to each other (including the Rack Manager Plus connected to the Network Manager LAN) using a Rack Manager LAN.
- iPatch Panels on each rack, which are connected to the rack's Rack Manager Plus using the panel bus.

In this configuration, the System Manager Software can be used to send scheduled jobs to the iPatch equipment in each equipment room. The equipment in the equipment room alerts System Manager to any patching changes and to any problem conditions in the room.

Communications from the iPatch equipment in each equipment room are routed:
- over the Rack Manager LAN for the equipment room to the Rack Manager Plus connected to the Network Manager LAN
- via that Rack Manager Plus to the Network Manager LAN
- over the Network Manager LAN for the floor or building to the one Rack Manager Plus connected to the Ethernet network
- via that Rack Manager Plus to the Ethernet network
- over the Ethernet network to the System Manager Software.

A patching job scheduled at System Manager is routed to the iPatch equipment in the equipment room where the job is to be performed, reversing the path described above.

A Stand-Alone System Configuration

The simplest iPatch System configuration consists of:
- an iPatch Manager on each rack with iPatch Panels. All of the iPatch Manager units in each equipment room are connected to each other using a Rack Manager LAN.
- iPatch Panels on each rack, which are connected to the rack's iPatch Manager using the panel bus.

This “stand-alone” configuration does not require any connections to the Ethernet network and does not include the System Manager Software. This system provides tracing information to assist technicians and alerts technicians to problem conditions in the equipment room. However, this configuration does not provide the system's guided patching features, and cannot alert the voice and data network administrator to problem conditions in the equipment room.
Task Overview

To install the iPatch equipment in an equipment room, perform the following tasks, which are described in “Installing the Equipment in the Racks” and “Setting Up the Network Connections for the Room” in this chapter:

- **Task A.** For each rack with iPatch equipment, mount the panel bus.
- **Task B.** If a Panel Manager has been selected to communicate with System Manager, install the Network Manager module (optional).
- **Task C.** For each rack with iPatch equipment, mount the iPatch Manager.
- **Task D.** Connect each iPatch Manager to the Rack Manager LAN.
- **Task E.** For each rack with iPatch Panels, install the panels.
- **Task F.** Install the other equipment in the racks.
- **Task G.** Cable the iPatch Panels and other equipment in the equipment room.
- **Task H.** Finish connecting the iPatch Manager selected to communicate with System Manager.

For instructions for connecting a Rack Manager Plus, see the SYSTIMAX® iPatch® System Rack Manager Plus Guide.

- **Task I.** Configure the Network Settings for the iPatch Manager selected to communicate with System Manager.

For instructions for configuring a Rack Manager Plus, see the SYSTIMAX® iPatch® System Rack Manager Plus Guide.

After you have finished installing the equipment and setting up your network connections, see Chapter 3, “Performing Patching Activities”.

Installing the Equipment in the Racks

**Task A. Mount the Panel Bus**

The panel bus allows the iPatch Manager and iPatch Panels to communicate. Also, the iPatch Manager supplies power to the iPatch Panels through the panel bus. To install the panel bus for each rack with iPatch Panels, perform the steps below.

**Note:** To mount the panel bus on a rack other than a 7-foot rack or on a rack with a hole pattern other than the universal hole pattern, contact your SYSTIMAX Solutions local account representative.

1. Check the back corner of the rack’s left rail (viewed from the front), where the panel bus will be mounted. Make sure that it is free of protrusions, such as threaded inserts, nuts, and bolts.

2. Unfold the panel bus, which is shipped folded in sections, each approximately 19 inches long.

3. Orient the panel bus with the “Top” label at the top of the rack (Figure 2–1).

4. One section at a time, remove the adhesive backing and press the panel bus firmly against the back corner of the left rail of the rack (viewed from the front). Make sure that the red guide line is aligned with the center of a hole in the rack.

**Note:** If you plan to install multiple iPatch Fiber Shelves in the rack, SYSTIMAX Solutions recommends that you leave a 1U space between the shelves. If you need to stack the iPatch Fiber Shelves one directly on top of the other, an alternate location for the panel bus might be more suitable. Contact your SYSTIMAX Solutions local account representative for information.

5. Remove the protective film strips from the panel bus.
6 Repeat Step 1 through Step 5 to install the panel bus for each rack.

Figure 2–1 Mounting the Panel Bus (Viewed from the Front of the Rack)
Task B. Install the Network Manager Module

To use a Panel Manager to communicate with System Manager, you must install a Network Manager module and connect it to the Panel Manager. We recommend performing this installation before mounting the Panel Manager on the rack. The Network Manager module provides the Ethernet functionality previously provided by the Network Manager and Rack Manager Plus.

The Panel Manager with Network Manager module must be installed on the first rack on the Rack Manager LAN. The Network Manager module is connected to the Panel Manager, and the Panel Manager is connected to the rack’s panel bus.

To install the Network Manager module, perform the steps below.

1. On the back of the Panel Manager mounting bracket, place the Network Manager module to the left of the Panel Manager, as shown in Figure 2–2. Using the three (3) screws provided, attach the module to the mounting bracket.

![Attaching the Network Manager Module to the Mounting Bracket](image-url)
2 Connect the 6-inch patch cord provided with the Network Manager to the RACK MGR OUTPUT jack on the back of the Network Manager (Figure 2–3).

3 Connect the other end of the patch cord to the RACK MGR INPUT jack on the back of the Panel Manager (Figure 2–3).

4 On the back of the Network Manager, connect one end of the power jumper (provided with the Network Manager) to the PWR OUT jack (Figure 2–4).

5 On the back of the Panel Manager, connect the other end of the power jumper to the PWR1 jack. Use the strain relief strap provided with the Network Manager module to secure the power jumper to the patch cord connected to the Panel Manager (Figure 2–4).
Task C. Mount the Panel Manager

Each rack with iPatch Panels is managed by an iPatch Manager. The iPatch Manager and each iPatch Panel must be connected to the rack’s panel bus. To install the Panel Manager for each rack with iPatch Panels, perform the steps below.

1. Make sure that the panel bus jumper is connected firmly to the PANEL BUS jack on the back of the Panel Manager (Figure 2–5).

2. Make sure the display patch cord is securely connected to the back of the Panel Manager housing and the side of the attached display.

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**Figure 2–5 Checking the Panel Bus Jumper**

**Figure 2–6 Checking the Display Patch Cord**
3 Using the four (4) screws and four (4) star washers provided, install the Panel Manager on the rack. When possible, we recommend using the 34th 1U slot up from the bottom of the rack so that the top of the unit is about 65 inches above the floor. Be careful not to pinch the panel bus jumper between the Panel Manager and the rack.

**Important:** To improve static protection, install each star washer between the rack and the Panel Manager. If the rack is painted, the star washers must be installed.

4 Remove the protective film from the display.

5 Remove the adhesive backing from the loose cable retainer on the panel bus jumper.
6 Connect the panel bus jumper to a nearby panel bus connector, folding the jumper as shown (Figure 2–8). Press the cable retainer against the rack.

Note: The connector is keyed. The polarized tab on the connector fits into the opening in the header on the panel bus.

7 Repeat Step 1 through Step 7 to install the Panel Manager for each rack.
Task D. Connect Each iPatch Manager to the Rack Manager LAN

The iPatch Manager units in an equipment room communicate with each other using the Rack Manager LAN. Modular patch cords can be used to make the Rack Manager LAN connections. A 7-foot patch cord is provided with each iPatch Manager for this purpose. You can use a longer modular patch cord if necessary. The iPatch Manager units are connected to each other in series using the RACK MGR INPUT and OUTPUT jacks on the back of the iPatch Manager units.

**Important:** If you are using a Panel Manager with a Network Manager module to communicate with System Manager, this Panel Manager must be the first unit connected to the Rack Manager LAN.

**Tip:** Looking at the back of the racks, work from the right-most rack to the left-most rack when connecting the iPatch Manager units to the Rack Manager LAN.

1. Connect a modular patch cord to the RACK MGR OUTPUT jack on the back of the iPatch Manager in the first rack.
2. Run the patch cord to the next iPatch Manager. Connect the patch cord to the RACK MGR INPUT jack on the back of that iPatch Manager.
3. Connect another patch cord to the RACK MGR OUTPUT jack on the back of the second iPatch Manager.
4. Run the patch cord to the next iPatch Manager. Connect the patch cord to the RACK MGR INPUT jack on the back of that iPatch Manager.
5. Repeat Step 3 and Step 4 until all of the iPatch Manager units are connected.

**Note:** The first iPatch Manager on the Rack Manager LAN uses only its OUTPUT jack (unless it is a Panel Manager with Network Manager module installed). The last iPatch Manager on the LAN uses only its INPUT jack.
Task E. For Each Rack with iPatch Panels, Install the Panels

Important: To use iPatch Fiber Shelves in an existing iPatch System, the iPatch Manager units (and any Network Managers) must be running a compatible software version. To determine which software versions are compatible with your iPatch Fiber Shelves, refer to the installation instructions provided with the shelves. To obtain the latest version of software, contact your SYSTIMAX Solutions local account representative.

1. Install the iPatch Panels on the rack. For instructions, see the installation instructions provided with the panel.
   Important: Make sure that each iPatch Panel is securely connected to the panel bus. The most common problems that occur with equipment installation are due to improper panel bus jumper connections at the panel or at the panel bus.

2. For a Panel Manager, connect the power adapter plug to the PWR1 jack on the back of the Panel Manager. Route the power adapter cord along the display patch cord. Use the strain relief strap to secure the power adapter cord to the display patch cord.

   For a Panel Manager with a Network Manager module installed, connect the power adapter plug to the PWR IN1 jack on the back of the Network Manager. Route the power adapter cord along the patch cord connected to the Panel Manager.

   Note: Remove the strain relief strap from the Panel Manager display patch cord. It will be used in Task H to provide strain relief for the power adapter cord.

Figure 2–10 Connecting the Power Adapter
3 Modify the power adapter for use with the local configuration for electrical service outlets:
   a Select the appropriate AC plug.
   b Holding the power adapter in one hand, use your thumb to press the spring-loaded latch on the back of the adapter to the open position.
   c Use your forefinger and thumb on your other hand to grasp the bottom edge of the plastic protector. Then remove the plastic protector, exposing the mating prongs. Release the spring-loaded latch.
   d Insert the tabbed edge of the AC plug into the top of the opening in the power adapter. Then press on the plug until it snaps into place.

4 Plug the power adapter into an electrical service outlet.
   Note: A redundant power supply can be attached to the PWR2 jack on the back of the Panel Manager (or the NET MGR PWR2 jack on the back of the Network Manager module installed on the Panel Manager mounting bracket). When using a redundant power supply, use the strain relief strap to secure both power adapter cords to the display patch cord (or the patch cord connecting the Network Manager module and the Panel Manager).
5 Wait until the iPatch Manager display shows:

```
Initializing
Please Wait
```

Then:

```
Rack 1
Program Order of
iPatch Equipment in Rack
Press Continue to order panels and
 modules.
[Continue] [Cancel]
```

6 Press Continue to program the order of panels and modules on the rack. The iPatch Manager sounds a key beep and the display shows:

```
Looking for 1 of 60
Program Order of
iPatch Equipment in Rack
Working from top to bottom and left to
right, press the first port button on
each row and module.
[Cancel]
```

7 Press a button on the top-most row of iPatch Panel ports on the rack. The iPatch Manager sounds a completion tone, the associated LED turns on, and the display shows:

```
Looking for 2 of 60
Program Order of
iPatch Equipment in Rack
Working from top to bottom and left to
right, press the first port button on
each row and module.
[Start Over] [Cancel]
```

**Important:** For 48-port panels, you must first press a button on the top row of the panel and then press a button on the bottom row. For modular shelves, you must press a button on each module, working from left to right. If you are programming the order of a series of modular shelves and there is no module in the right-most position of a shelf, press Next after you program the order of the last module in the shelf before moving to the next shelf.

8 Press a button on the next lower row of iPatch Panel ports on the rack. The iPatch Manager sounds a completion tone, the associated LED turns on, the LED on the previous panel turns off, and the display shows:

```
Looking for 3 of 60
Program Order of
iPatch Equipment in Rack
Working from top to bottom and left to
right, press the first port button on
each row and module.
[Start Over] [Cancel]
```
9 Repeat Step 8 until you have indicated the relative position of each row of iPatch Panel ports on the rack.

The iPatch Manager sounds a confirmation tone and the LED on the last panel or module turns off.

**Note:** If you make a mistake ordering the rows, press Start Over to begin the process again. Resume with Step 6.

If the iPatch Manager does not sound a confirmation tone to indicate that the panels have been ordered, see the troubleshooting instructions for “You attempt to program the order of the panels and modules on a rack and the iPatch Manager does not sound a confirmation tone.” on page 4–13.

If the iPatch Manager shows the Ready screen with the Alarms softkey before you have finished ordering the rows, review the alarms list and respond to any alarms. If you have exceeded the number of panel connections allowed, the Too Many Panels alarm appears. See the troubleshooting instructions for “Too Many Panels” on page 4–8.

**Task F. Install the Other Equipment in the Racks**

Install any other equipment on the racks, such as non-iPatch panels, network equipment, and patch cord organizers. Follow the instructions provided with the equipment.

**Task G. Cable the iPatch Panels and Other Equipment in the Equipment Room**

Make the cable connections to the back of the iPatch Panels and other equipment in the equipment room. For instructions for cabling iPatch Panels, see the installation instructions provided with the panel.

**Note:** To make it easier to cable the equipment, you can disconnect the power adapter plug from the PWR jacks on the back of the iPatch Manager (or Network Manager module). When you have finished cabling the equipment, be sure to restore power and to secure the power adapter cord to the display patch cord (or the patch cord inserted in the Network Manager's 10/100 Base T jack) using the strain relief strap.
Setting Up the Network Connections for the Equipment Room

If the iPatch System is to be administered from a PC running the System Manager Software, you must configure one iPatch Manager (Rack Manager Plus or Panel Manager with Network Manager module installed) in each equipment room to communicate with System Manager. The selected iPatch Manager can communicate with System Manager either:

- directly using a 100 Base T Ethernet network, which is a TCP/IP-based data network
- indirectly using a Network Manager LAN (Rack Manager Plus only). The selected Rack Manager Plus units in each equipment room are connected to each other in series using the NETWORK MANAGER IN and OUT jacks on the back of the Rack Manager Plus units. One of the Rack Manager Plus units also is connected to an Ethernet network (to which the PC running System Manager is connected).

The following sections describe how to configure a Panel Manager with Network Manager module installed for communication with System Manager. For instructions on how to configure a Rack Manager Plus unit, see the SYSTIMAX® iPatch® System Rack Manager Plus Guide.

Note: If you are installing a stand-alone system configuration, skip Task H and Task I. Go to “Adding Patch Connections” on page 2–21.

Task H. Finish Connecting the Selected Panel Manager

Perform the steps below to connect the Panel Manager with Network Manager module installed to the data network to be used for communication with System Manager.

1. Connect a modular patch cord to the 10/100 BaseT jack, on the back of the Network Manager module.

2. Connect the other end of the patch cord to the port providing the data network service.

3. Use the strain relief strap from the Panel Manager display patch cord to secure the power adapter cord to the patch cord inserted in the 10/100 BaseT jack.
Task I. Configure the Network Settings

Before you configure the network settings for a Panel Manager with Network Manager module installed to be connected to the Ethernet network, contact your data network administrator to obtain the following information:

- the unique, static IP address to be used to identify the Panel Manager
- the subnet mask for your location
- the gateway required for communication with System Manager.

Perform the steps below to configure the network settings for a Panel Manager with Network Manager module installed.

1. At the Panel Manager display, press any button to turn on the lighting. From the Ready screen, press Menu.

2. Press ❯ until the Panel Manager display shows:

   Test Panels
   Reset Panels
   Reset Racks
   Clear Memory
   * Change Network Settings

   Highlight a command. Then press Select.

   Select  Exit


   The display shows:

   Network: Off

   Select  Exit

4. Set the Network setting to Ethernet:

   a. With Network highlighted, press Select.

      The display shows:

      Network: Off
      Ethernet

      Highlight a setting. Then press Save.

      Save  Cancel

   b. Press ❯ to highlight Ethernet.

   c. With Ethernet highlighted, press Save.

      The Panel Manager sounds a confirmation tone.
5 Program the IP address assigned to the Panel Manager:
   a Press \( \uparrow \) until the display shows:

   ![Network: Ethernet
   Network Manager LAN: Disabled
   IP Address: 000.000.000.000
   Subnet Mask: 255.255.255.000
   Gateway: 000.000.000.000
   * Socket: 08510](image)

   b With IP Address highlighted, press Select.
   The display shows:

   ![Network: Ethernet
   Network Manager LAN: Disabled
   IP Address: 135.005.126.237
   Subnet Mask: 255.255.255.000
   Gateway: 000.000.000.000
   * Socket: 08510](image)

   c Enter the IP address provided by your data network administrator.
   To change a digit, press \( \downarrow \) or \( \uparrow \) until the desired digit is highlighted. Then press \( \leftarrow \) and \( \rightarrow \) until the desired number appears.

   d Press Save.
   The Panel Manager sounds a confirmation tone.

6 Program the subnet mask:
   a Press \( \uparrow \) until the display shows:

   ![Network: Ethernet
   Network Manager LAN: Disabled
   IP Address: 135.005.126.237
   Subnet Mask: 255.255.255.000
   Gateway: 000.000.000.000
   * Socket: 08510](image)

   b With Subnet Mask highlighted, press Select.
   The display shows:

   ![Network: Ethernet
   Network Manager LAN: Disabled
   IP Address: 135.005.126.237
   Subnet Mask: 255.255.255.000
   Gateway: 000.000.000.000
   * Socket: 08510](image)

   c Enter the subnet mask provided by your data network administrator.
   To change a digit, press \( \downarrow \) or \( \uparrow \) until the desired digit is highlighted. Then press \( \leftarrow \) and \( \rightarrow \) until the desired number appears.

   d Press Save.
   The Panel Manager sounds a confirmation tone.
7 Program the gateway:
   a  Press ñ until the display shows:

   Network: Ethernet
   Network Manager LAN: Disabled
   IP Address: 135.005.126.237
   Subnet Mask: 255.255.255.000
   Gateway: 000.000.000.000
   * Socket: 08510

   b  With Gateway highlighted, press Select.
   The display shows:

   Network: Ethernet
   Network Manager LAN: Disabled
   IP Address: 135.005.126.237
   Subnet Mask: 255.255.255.000
   Gateway: 000.000.000.000
   * Socket: 08510

   Enter each digit. Then press Save.
   Save                  Cancel

   c  Enter the gateway provided by your data network administrator.
   To change a digit, press ô or ç until the desired digit is highlighted. Then
   press ô and ç until the desired number appears.

   d  Press Save.
   The Panel Manager sounds a completion tone.

   Note: The Socket setting is the address the Panel Manager uses to communicate
   with System Manager. Do not change this address unless your computer network
   administrator instructs you to do so.

8 Confirm the Ethernet speed setting matches the setting provided by your
network administrator by pressing ñ until the display shows:

* Network Manager LAN: Disabled
IP Address: 135.005.126.237
Subnet Mask: 255.255.255.000
Gateway: 000.000.000.000
Socket: 08510
Speed: 100 MB/sec

To change the Ethernet speed setting:
   a  With Speed highlighted, press Select.
   The display shows:

   Speed: 10 MB/sec
   100 MB/sec

   Highlight a setting. Then press Save.
   Save                  Cancel

   b  Press ô or ç to highlight the desired setting.
   c  Press Save.
   The Panel Manager sounds a completion tone.
9 Confirm the data transmission mode setting matches the setting provided by your network administrator by pressing until the display shows:

```
+ IP Address: 135.005.126.237
Subnet Mask: 255.255.255.000
Gateway: 000.000.000.000
Socket: 08510
Speed: 100 MB/sec
  Duplex: Half
```

To change the data transmission mode setting:

a With Duplex highlighted, press Select.
   The display shows:

```
Duplex: Half
Full
```

b Press or to highlight the desired setting.

c Press Save.
   The Panel Manager sounds a completion tone.

10 Confirm the ping response setting matches the setting provided by your network administrator by pressing until the display shows:

```
+ Subnet Mask: 255.255.255.000
Gateway: 000.000.000.000
Socket: 08510
Speed: 100 MB/sec
  Duplex: Auto-negotiate
+ Ping Response: On
```

To change the ping response setting:

a With Ping Response highlighted, press Select.
   The display shows:

```
Ping Response: On
OFF
```

b Press or to highlight the desired setting.

c Press Save.
   The Panel Manager sounds a completion tone.
11 Press Exit.
The Panel Manager display shows:

```
Initializing
Please Wait
```

Then:

```
Ready   Rack 1
```

Menu
Setting the Patching Mode for the iPatch Manager

The following patching modes can be programmed for the rack:

- **Normal.** The iPatch equipment assumes only one patch connection can be made at a time at the racks on the Rack Manager LAN.
- **Local.** The iPatch equipment assumes each patch cord connection is within the rack so that patch connections can be made at the same time at multiple racks on the Rack Manager LAN.
- **Equipment.** The iPatch equipment assumes each patch cord connection to an iPatch Panel in the rack is an equipment connection.

**Note:** The Set Patching Mode feature is available only for Rack Manager Plus and Panel Manager units.

The patching mode at the rack is set to Normal by default. To change the patching mode at the rack, use System Manager to select the desired patching mode and synchronize System Manager with the iPatch equipment. See the SYSTIMAX® iPatch® System Manager User’s Guide. The iPatch Manager shows the patching mode on the Ready screen.

Adding Patch Connections

Now you are ready to start adding patch connections. For more information on performing guided jobs and unguided patching activities, see Chapter 3, “Performing Patching Activities”.

This chapter describes how to perform guided patching jobs and unguided patching activities using the SYSTIMAX iPatch System. Guided jobs are electronic work orders scheduled using the System Manager Software and are sent to the iPatch equipment in the equipment room.

Although one of the most useful features of the iPatch System is the ability to perform guided patching jobs, the system also lets you add and remove patch connections without guidance. However, for the system to work properly, it is important to follow the instructions provided in “Performing Unguided Patching Activities” on page 3–8.
Performing Guided Jobs

The System Manager Software lets the voice and data network administrator schedule patching changes to be made at panels and send those changes to the appropriate iPatch Manager units. At the iPatch Manager units, you can view and perform jobs in the job queue by following the instructions provided on the iPatch Manager displays.

Two main types of jobs appear in the queue:
- Add Connection
- Remove Connection.

The job queue is dynamic. Some jobs do not appear in the queue until after you have performed other jobs.

**Example:** A Remove Connection job and an Add Connection job are scheduled for a port that currently is in use. Since the Add Connection job cannot be performed until the Remove Connection job has been completed, the Add Connection job does not appear in the queue until the Remove Connection job has been performed.

**Note:** If you do not follow instructions two times in a row while performing guided jobs, the iPatch Manager removes you from the jobs mode. By following the instructions provided on the iPatch Manager displays, patching jobs can be completed quickly and accurately.

For fiber connections, the iPatch Manager display uses the following icons:
- 🔴 represents both positions of a duplex fiber port
- ○ represents position B of a duplex fiber port
- ⬃ represents position A of a duplex fiber port.

If you are performing a job to add a fiber connection, the iPatch Manager display shows icons to indicate the ports where you have made connections. For example,
- Rack 9
- Panel 7
- Module 2
- Port 3 🔴

indicates that you have made a connection at Port 3.

Similarly,
- Rack 9
- Panel 7
- Port 3 B ○

indicates that you have made a connection at position B of Port 3.

During a job to remove a fiber connection, the icons flash to indicate the ports where you should remove connections. For example,
- Rack 5
- Panel 4
- Module 2
- Port 9 🔴 (icon flashing)

indicates that you should remove the connection at Port 9.

Similarly,
- Rack 5
- Panel 4
- Port 9 A ⬃ (icon flashing)

indicates that you should remove the connection at position A of Port 9.

System Manager can send simplex fiber patch connection jobs to the equipment. If a job involves a simplex connection, the information on the display indicates whether to use position B or position A for each connection. Follow the instructions that appear on the iPatch Manager display.
Selecting a Job

To select a job from the job queue, perform the steps below.

1. At the iPatch Manager display, press any button to turn on the lighting. The iPatch Manager display lights up. If there are jobs in the job queue, Jobs appears on the display and the Jobs LED is turned on.

2. From the Ready screen, press Jobs. The iPatch Manager sounds a key beep and the LEDs for the ports to be used in the first job in the queue turn on at the panels. The display lights up on the iPatch Manager units where the panels to be used in the first job are located. The display shows the first job in the queue. For example:

   ![iPatch Manager display](image)

   **Note:** You can press Details to view more information about the job, such as the location of the jack receiving the service or the type of service that is being provided. Press to scroll through the information. Then, press Back to return to the Jobs screen.

3. Press until you see the job that you want to perform.

   The iPatch Manager sounds a key beep and the associated LEDs for the ports to be used in this job turn on at the panels. The display lights up on the iPatch Manager units where the panels to be used in this job are located.

   To perform an Add Connection job, see the next page. To perform a Remove Connection job, see page 3–6.
Performing Add Connection Jobs

There are two main types of Add Connection jobs:
- A patch connection to be added between two ports on iPatch Panels
- A patch connection to be added between a port on an iPatch Panel and a port on a non-iPatch panel or network equipment.

Instructions are provided below for performing each type of Add Connection job.

Adding a Connection Between iPatch Panel Ports

If the iPatch Manager display shows a screen like the screen below, perform the steps below to add a patch connection between two iPatch Panel ports.

**Note:** The LEDs on the iPatch Panel ports to be used in the job turn on. The iPatch Manager display lights up on the iPatch Manager units where the panels to be used in the job are located.

1. Locate one of the indicated iPatch Panel ports. Look for an iPatch Manager display that is lighted and a port LED that is on.

2. Connect one end of the patch cord to the indicated iPatch Panel port. The iPatch Manager sounds a sensor beep and the display shows:

   Add Connection | Rack 1
   Rack 1  | Rack 3
   Panel 2 | Panel 12
   Port 4  | Port 9
   00-224 Provide service
   Press w to view the next job.

3. Locate the other indicated iPatch Panel port.

4. Connect the other end of the patch cord to the indicated iPatch Panel port. The iPatch Manager where the last connection was made sounds a completion tone. The associated LEDs turn off.

   If there is another job in the job queue, the next job appears.
Adding a Connection Between an iPatch Panel and Other Equipment

If the iPatch Manager display shows a screen like one of the screens below, perform the steps below to add a patch connection between an iPatch Panel and other equipment.

Non-iPatch equipment is identified using the first 20 characters of its user-defined System Manager ID. For example, a port on expandable network equipment is identified as follows:

- Rack ID
- Switch ID
- Card ID
- Port ID

Note: The LED on the iPatch Panel port to be used in the job turns on. The iPatch Manager display lights up on the iPatch Manager where the iPatch Panel to be used in the job is located.

1. Locate the non-iPatch equipment that is shown on the display.
2. Connect one end of the patch cord to the indicated equipment.
3. Locate the indicated iPatch Panel port. Look for an iPatch Manager display that is lighted and a port LED that is on.
4. Connect the other end of the patch cord to the indicated iPatch Panel port. The iPatch Manager sounds a sensor beep, the associated LED turns on, and the display shows:

5. Press and hold for 2 seconds the button corresponding to the port used in Step 4.
   The iPatch Manager sounds a completion tone.
   If there is another job in the job queue, the next job appears.
Performing Remove Connection Jobs

There are two main types of Remove Connection jobs:

- a patch connection to be removed from two ports on iPatch Panels
- a patch connection to be removed from a port on an iPatch Panel and a port on a non-iPatch panel or network equipment.

Instructions are provided below for performing each type of Remove Connection job.

Removing a Patch Connection Between iPatch Panel Ports

If the iPatch Manager display shows a screen like the screen below, perform the steps below to remove a patch connection between two iPatch Panel ports.

**Note:** The LEDs on the iPatch Panel ports where the connection is to be removed blink. The iPatch Manager display lights up on the iPatch Manager units where the panels to be used in the job are located.

1. Locate one of the indicated iPatch Panel ports. Look for an iPatch Manager display that is lighted and a port LED that is on.

2. Disconnect the patch cord from the indicated iPatch Panel port. The iPatch Manager sounds a sensor beep and the display shows:

   Remove Connection
   Rack 1
   Rack 1 | Rack 3
   Panel 2 | Panel 12
   Port 4 | Port 9
   00-224 Remove service
   Press \( \wedge \) to view the next job.
   Details Exit

   Or

   Remove Connection
   Rack 1
   Rack 1 | Rack 3
   Panel 2 | Panel 12
   Port 4 | Port 9
   00-224 Remove duplex fiber service
   Press \( \wedge \) to view the next job.
   Details Exit

   (icons flashing)

   3. Locate the other indicated iPatch Panel port. Look for the iPatch Manager display that is lighted and a port LED that is blinking.

   4. Disconnect the patch cord from the other indicated iPatch Panel port. The iPatch Manager where the last connection was removed sounds a completion tone and the associated LEDs turn off.

   If there is another job in the job queue, the next job appears.
Removing a Patch Connection Between an iPatch Panel Port and Other Equipment

If the iPatch Manager display shows a screen like one of the screens below, perform the steps below to remove a patch connection between an iPatch Panel port and other equipment.

**Note:** The LED on the iPatch Panel port where the connection is to be removed blinks. The iPatch Manager display lights up on the iPatch Manager where the iPatch Panel to be used in the job is located.

1. Locate the non-iPatch equipment that is shown on the display.
2. Disconnect the patch cord from the indicated equipment port.
3. Locate the indicated iPatch Panel port. Look for an iPatch Manager display that is lighted and a port LED that is blinking.
4. Disconnect the patch cord from the indicated iPatch Panel port.
   The iPatch Manager sounds a sensor beep and the display shows:
   - Press and hold the port button.
   - The iPatch Manager sounds a completion tone.
   - If there is another job in the job queue, the next job appears.

5. Press and hold for 2 seconds the button corresponding to the port used in Step 4.
   The iPatch Manager sounds a completion tone.
   If there is another job in the job queue, the next job appears.
Performing Unguided Patching Activities

Although most of the work you perform will be guided by the iPatch System, the system also lets you perform unguided patching activities. The subsections below provide instructions for performing unguided patching activities. For the system to work properly, it is important to follow these instructions.

For fiber connections, the iPatch Manager display uses the following icons:
- \( \text{\textbullet} \) represents both positions of a duplex fiber port
- \( \text{\textbullet}_A \) represents position A of a duplex fiber port
- \( \text{\textbullet}_B \) represents position B of a duplex fiber port.

If you are performing unscheduled work to add a fiber connection, the iPatch Manager display shows icons to indicate the ports where you have made connections.

For example,
- Rack 9
- Panel 7
- Module 2
- Port 3 (with icon)
indicates that you have made a connection at Port 3.

Similarly,
- Rack 9
- Panel 7
- Port 3 B (with icon)
indicates that you have made a connection at position B of Port 3.

During unscheduled work to remove a fiber connection, the icons flash to indicate the ports where you should remove connections.

For example,
- Rack 5
- Panel 4
- Module 2
- Port 9 (with icon flashing)
indicates that you should remove the connection at Port 9.

Similarly,
- Rack 5
- Panel 4
- Port 9 A (with icon flashing)
indicates that you should remove the connection at position A of Port 9.
Adding Patch Connections Not in the Job Queue

Instructions are provided below for:

- adding a patch connection not in the job queue between two ports on iPatch Panels
- adding a patch connection not in the job queue between a port on an iPatch Panel and a port on a non-iPatch panel or network equipment.

Adding a Connection Between iPatch Panel Ports

1. Connect one end of the patch cord to the appropriate iPatch Panel port. The associated LED turns on, the iPatch Manager sounds a sensor beep, and the display lights up and shows:

   ![Adding Connection](image)

2. Connect the other end of the patch cord to the appropriate iPatch Panel port. The associated LEDs turn off, the iPatch Manager sounds a completion tone, and the display lights up and shows:

   ![Adding Duplex Connection](image)

Note: If you are making a simplex fiber connection between two iPatch duplex fiber ports, connect both ends of the patch cord. The display shows:

   ![Adding Duplex Connection](image)

Press Simplex.

The associated LEDs turn off, the iPatch Manager sounds a completion tone, and the display lights up and shows:

   ![Adding Duplex Connection](image)
Adding a Connection Between an iPatch Panel and Other Equipment

1. Connect one end of the patch cord to the appropriate equipment port.
2. Connect the other end of the patch cord to the appropriate iPatch Panel port. The associated LED turns on, the iPatch Manager sounds a sensor beep, and the display lights up and shows:

3. Press and hold for 2 seconds the button corresponding to the port used in Step 2. The associated LED blinks then turns off. The iPatch Manager sounds a completion tone and the display shows:

Removing Patch Connections Not in the Job Queue

Instructions are provided below for:
- removing a patch connection not in the job queue between two ports on iPatch Panels
- removing a patch connection not in the job queue between a port on an iPatch Panel and a port on a non-iPatch panel or network equipment.
Removing a Connection Between iPatch Panel Ports

1. Disconnect the patch cord from one of the iPatch Panel ports.
   The associated LEDs blink, the iPatch Manager sounds a sensor beep, and the display lights up and shows:

   ![Removing Connection](image)

2. Locate the other iPatch Panel port. Look for the iPatch Manager display that is lighted and the port LED that is blinking.

3. Disconnect the patch cord from the appropriate iPatch Panel port.
   The associated LEDs turn off, the iPatch Manager sounds a completion tone, and the display lights up and shows:

   ![Removing Duplex Connection](image)

Removing a Patch Connection Between an iPatch Panel Port and Other Equipment

1. Disconnect the patch cord from the appropriate equipment port.
2. Disconnect the patch cord from the appropriate iPatch Panel port.
   The iPatch Manager sounds a sensor beep, the associated LED blinks, and the display lights up and shows:

   ![Confirm Removal](image)

3. Press and hold for 2 seconds the button corresponding to the port used in Step 2.
   The associated LED turns off, the iPatch Manager sounds a completion tone, and the display shows:

   ![Confirm Removal](image)
Responding to Messages

The following table describes the two messages that the iPatch Manager display may show while you are performing unguided patching activities. It includes instructions for responding to each message.

**Important:** When using the following table, make sure that the connection information shown on the iPatch Manager display is correct before pressing Yes. If the information is not correct, press Cancel. Then, press Confirm on the Ready screen and confirm the patch connection. See “Confirming Patch Connections” on page 4–3.

<table>
<thead>
<tr>
<th>If you see...</th>
<th>And you are...</th>
<th>You should...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you restore the connection?</td>
<td>a. Removing a connection. You removed one end of a patch cord and realized it was the wrong cord. Then, you inserted that cord back into the same port.</td>
<td>a. If the connection information shown is correct, press Yes. The iPatch Manager recognizes that the patch connection still exists.</td>
</tr>
<tr>
<td></td>
<td>b. Adding a connection. A port that you want to use is occupied. You removed one end of the patch cord to free the port and inserted the patch cord for the new connection.</td>
<td>b. Press No. The iPatch Manager recognizes that you are adding a connection and asks you to connect the other end of the patch cord. The iPatch Manager also recognizes that one end of the original patch connection is unknown and needs to be confirmed. Note: It is a good practice to completely remove a patch cord that is no longer needed.</td>
</tr>
<tr>
<td>Did you move one end of the connection?</td>
<td>a. Moving one end of a patch cord.</td>
<td>a. If the connection information shown is correct, press Yes. The iPatch Manager recognizes that you moved a connection.</td>
</tr>
<tr>
<td></td>
<td>b. Adding a connection. However, the display shows a connection that is different from the one you are adding.</td>
<td>b. If you are starting a new connection, press No. The iPatch Manager recognizes that you are adding a new connection. After you have finished adding the connection, press Confirm on the Ready screen and confirm the patch connection. (See page 4–3.) If you are not starting a new connection, press Cancel. Press Confirm on the Ready screen and confirm the patch connection. (See page 4–3.)</td>
</tr>
</tbody>
</table>
How the System Deals with Patching Errors

If you discover that a patch cord is connected to the wrong port or that the database has recorded a connection that does not exist between two ports, you can correct the database using the Trace and Change feature. For instructions, see "Tracing and Changing a Patch Connection" on page 3–15.

Tracing a Patch Connection

When you connect a patch cord to an iPatch Panel (or pair of panels), the panel senses the insertion of each plug and records the connection in the system's database. This record lets you trace the connection by pressing the button above one of the ports used for the connection. The panel indicates each end of the connection by lighting a LED above each of the ports. The iPatch Manager display lights up on the iPatch Manager unit(s) associated with the trace and shows the ports used in the connection. To end the trace, press the button above one of the ports.

If only one of the ports in a patch connection is on an iPatch Panel, you still can trace the connection. The LED turns on above the iPatch Panel port. The iPatch Manager display lights up and shows as much information as is known about the connection. If the connection was made as a guided job, both the iPatch Panel port and the equipment port are identified.
The following table lists examples of displays that the iPatch Manager shows depending on the type of connection you trace.

Table 3–2 Displays Shown During Tracing

<table>
<thead>
<tr>
<th>The Display Shows…</th>
<th>For This Type of Connection…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack 9</td>
<td>Rack 9</td>
</tr>
<tr>
<td>Panel 7</td>
<td>Panel 6</td>
</tr>
<tr>
<td>Port 3</td>
<td>Port 2</td>
</tr>
</tbody>
</table>

| Rack 9            | Rack 8                       | iPatch Panel to non-iPatch equipment that has been identified at System Manager |
| Panel 6           | J357                         |                               |
| Port 8            | Card 1                       |                               |
| Port 6            |                               |                               |

| Rack 9            | Equipment                    | iPatch Panel to equipment that has not been identified at System Manager |
| Panel 6           |                               |                               |
| Port 8            |                               |                               |

| Rack 9            | Unknown                      | Port is in use, but the other end of the connection is not known |
| Panel 6           |                               |                               |
| Port 8            |                               |                               |

| Rack 9            | Rack 8                       | Port is in use, but the other end of the connection is not known (the system has a record of the previous connection) |
| Panel 7           | Panel 6                      |                               |
| Port 3            | Port 2                       |                               |
| The connection for this port is unknown. |

| Rack 9            | Nothing                      | No connection—the port is not in use |
| Panel 7           |                               |                               |
| Port 3            |                               |                               |

| Rack 9            | Rack 9                       | No connection—the port is not in use, but the system has a record of the previous connection |
| Panel 7           | Panel 6                      |                               |
| Port 3            | Port 2                       |                               |
| This port has no recorded connection. |

Tracing a Patch Connection Between iPatch Panel Ports

Press the button associated with one of the iPatch Panel ports used in the connection.

The LEDs associated with both iPatch Panel ports turn on and the display shows:

To trace a simplex connection for position A, press Port A.

You can press Details to view more information about the connection, such as the location of the jack where the service is provided or the type of service provided. Press $ to scroll through the information. Then, press Back to return to the Trace screen.

Note: When a trace is active, the Trace LED turns on at the iPatch Manager units for the patch connection.
Tracing a Patch Connection Between an iPatch Panel Port and Equipment

Press the button associated with the iPatch Panel port used in the connection.

The LED associated with the iPatch Panel port turns on and the display shows:

![Diagram]

You can press Details to view more information about the connection, such as the location of the jack where the service is provided or the type of service provided. Press  on the display to scroll through the information. Then, press Back to return to the Trace screen.

Note: When a trace is active, the Trace LED turns on at the iPatch Manager units for the patch connection.

Tracing and Changing a Patch Connection

An incorrect connection might have been recorded if a technician did not follow the instructions on the display or if two technicians were adding patch connections at the same time. The Trace and Change feature lets you trace the connection recorded for a port and identify the correct connection if the information shown for the trace is incorrect.

1. At the iPatch Manager display, press any button to turn on the lighting. From the Ready screen, press Menu.

2. Press  until the iPatch Manager display shows:

   ![Menu Screen]

3. With Trace and Change highlighted, press Select.

   The display shows:

   ![Display Screen]
4. Press the button corresponding to the iPatch Panel whose connection information you want to change.

The LEDs associated with both iPatch Panel ports turn on and the display shows:

```
Tracing Connection        Rack 1
Rack 1                   | Rack 1
Panel 5                  | Panel 2
Port 7                   | Port 9
```

5. To change the connection information, press Change.

The display shows:

```
Confirm Patch Connection  Rack 1
Rack 1                   |
Panel 5                  |
Port 7                   |
Press \n to view the next port.
```

6. Press and hold the correct port’s button for 2 seconds.

   **Note:** If the iPatch Panel port that you traced is actually connected to a non-iPatch panel or network equipment, press and hold the iPatch Panel port’s button for 2 seconds.

**Tracing and Changing an Unknown Patch Connection**

If one of the following events happens, the system no longer knows both ends of a patch connection:

- a patch cord pops out of the panel port
- someone does not follow the instructions on the display or presses Cancel while performing a patching activity
- someone does not finish a patching activity before the iPatch Manager times out.

If you attempt to perform a trace for a port where one of these conditions exists, the iPatch Manager display shows:

```
Tracing Connection        Rack 1
Rack 1                   | Unknown
Panel 5                  |
Port 8                   |
```

Or

```
Tracing Connection        Rack 1
Rack 1                   | Rack 1
Panel 5                  | Panel 6
Port 8                   | Port 23
```

The connection for this port is unknown.

To correct the condition, press Change and confirm the patch connection. For more information, see “Confirming Patch Connections” on page 4–3.
This chapter describes how to confirm patch connections (see page 4–3). It also provides instructions for responding to alarms and problems that could occur at the iPatch Manager.

<table>
<thead>
<tr>
<th>For this alarm</th>
<th>See page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Manager Not Communicating</td>
<td>4–6</td>
</tr>
<tr>
<td>Network Manager Not Found</td>
<td>4–6</td>
</tr>
<tr>
<td>No Panels Found</td>
<td>4–6</td>
</tr>
<tr>
<td>Panel X (Row X) Not Communicating</td>
<td>4–7</td>
</tr>
<tr>
<td>Panels Need To Be Ordered</td>
<td>4–7</td>
</tr>
<tr>
<td>iPatch Managers Are Connected Incorrectly</td>
<td>4–7</td>
</tr>
<tr>
<td>iPatch Manager Needs To Be Replaced</td>
<td>4–8</td>
</tr>
<tr>
<td>iPatch Manager X Not Communicating</td>
<td>4–8</td>
</tr>
<tr>
<td>Too Many Panels</td>
<td>4–8</td>
</tr>
<tr>
<td>Too Many Racks</td>
<td>4–8</td>
</tr>
<tr>
<td>For this problem</td>
<td>See page</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>You attempt to trace a patch connection and the coordinates do not appear on the</td>
<td>4–9</td>
</tr>
<tr>
<td>iPatch Manager display.</td>
<td></td>
</tr>
<tr>
<td>You trace a patch connection and a port in the connection is identified on the</td>
<td>4–9</td>
</tr>
<tr>
<td>wrong modular shelf.</td>
<td></td>
</tr>
<tr>
<td>You attempt to trace a patch connection and the LEDs do not turn on.</td>
<td>4–9</td>
</tr>
<tr>
<td>Your voice and data network administrator just used the System Manager Software</td>
<td>4–10</td>
</tr>
<tr>
<td>to schedule a job, but the job does not appear on the iPatch Manager display.</td>
<td></td>
</tr>
<tr>
<td>You are viewing a job and press the Details button, and the Details information</td>
<td>4–10</td>
</tr>
<tr>
<td>does not appear on the iPatch Manager display.</td>
<td></td>
</tr>
<tr>
<td>You attempt to add or remove a patch connection and the iPatch Manager display</td>
<td>4–10</td>
</tr>
<tr>
<td>does not change.</td>
<td></td>
</tr>
<tr>
<td>You attempt to add a patch connection across two racks and neither iPatch</td>
<td>4–11</td>
</tr>
<tr>
<td>Manager acknowledges the completed connection.</td>
<td></td>
</tr>
<tr>
<td>No characters appear on the iPatch Manager display.</td>
<td>4–11</td>
</tr>
<tr>
<td>An iPatch Manager display is not lighted.</td>
<td>4–12</td>
</tr>
<tr>
<td>⚠ does not appear on the Ready screen.</td>
<td>4–12</td>
</tr>
<tr>
<td>Or you are viewing a job or tracing a patch connection and the Details button</td>
<td></td>
</tr>
<tr>
<td>does not appear on the display.</td>
<td></td>
</tr>
<tr>
<td>Or your voice and data network administrator sees the &quot;iPatch Manager X Not</td>
<td></td>
</tr>
<tr>
<td>Communicating“ event at System Manager.</td>
<td></td>
</tr>
<tr>
<td>“Initializing, Please Wait“ appears regularly on the iPatch Manager display.</td>
<td>4–13</td>
</tr>
<tr>
<td>You attempt to program the order of the panels in a rack and the iPatch Manager</td>
<td>4–13</td>
</tr>
<tr>
<td>does not sound a confirmation tone.</td>
<td></td>
</tr>
</tbody>
</table>
Confirming Patch Connections

If one of the following events happens, the system no longer knows both ends of a connection:
- a patch cord pops out of the panel port
- someone does not follow the instructions on the display or presses Cancel while performing a patching activity
- someone does not finish a patching activity before the iPatch Manager times out.

When the system no longer knows a patch connection, it requires confirmation of the connection. The Confirm softkey appears on the Ready screen.

To confirm a connection, perform the steps below.

1. At the iPatch Manager display, press any button to turn on the lighting. The iPatch Manager display lights up. If there are any patch connections to confirm, Confirm appears on the display.

2. From the Ready screen, press Confirm. The first patch connection requiring confirmation appears.

3. Press \( \text{的竞争} \) until you see the patch connection that you want to confirm. The iPatch Manager display shows:

4. Use the following table to select the appropriate action to perform.

<table>
<thead>
<tr>
<th>If you need to...</th>
<th>Then you should...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm the other end of a connection between two iPatch Panel ports</td>
<td>Locate the unknown end of the patch cord. Then press and hold the unknown port's button for 2 seconds.</td>
</tr>
<tr>
<td>Complete the connection to an iPatch Panel port</td>
<td>Insert the other end of the patch cord. The display shows: Did you complete the connection?</td>
</tr>
<tr>
<td></td>
<td>Rack 3</td>
</tr>
<tr>
<td></td>
<td>Panel 10</td>
</tr>
<tr>
<td></td>
<td>Port 17</td>
</tr>
<tr>
<td></td>
<td>Press ( \text{的竞争} ) to view the next port.</td>
</tr>
<tr>
<td></td>
<td>Details</td>
</tr>
</tbody>
</table>

If the connection information is correct, press Yes.
<table>
<thead>
<tr>
<th><strong>If you need to...</strong></th>
<th><strong>Then you should...</strong></th>
</tr>
</thead>
</table>
| Confirm the other end of a simplex fiber connection between two iPatch Panel ports for position B of a known port (and both positions for the port to be confirmed are in use) | Locate the unknown end of the patch cord. Press Simplex (the softkey) so the display shows: Confirm Patch Connection | | | Rack 3 | Unknown  
Panel 10 |  
Port 7 B |  
Then press and hold the unknown port's button for 2 seconds. The display shows: Did you complete the connection? | | Rack 3 | Rack 4  
Panel 10 | Panel 6  
Port 7 B | Port 8 B  
If the connection information is correct, press Yes. If the connection uses position A, press Port A (the softkey). The display shows: | Did you complete the connection? | Rack 3 | Rack 4  
Panel 10 | Panel 6  
Port 7 A | Port 8 A  
If the connection information is correct, press Yes. | | |
| Confirm the other end of a simplex fiber connection between two iPatch Panel ports for position A of a known port (and both positions for the port to be confirmed are in use) | Locate the unknown end of the patch cord. Press so the display shows: Confirm Patch Connection | | | Rack 3 | Last Known:  
Panel 10 |  
Port 7 A |  
Then press and hold the unknown port's button for 2 seconds. The display shows: Did you complete the connection? | | Rack 3 | Rack 4  
Panel 10 | Panel 6  
Port 7 A | Port 8 B  
If the connection information is correct, press Yes. If the connection uses position A, press Port A (the softkey). The display shows: | Did you complete the connection? | Rack 3 | Rack 4  
Panel 10 | Panel 6  
Port 7 A | Port 8 A  
If the connection information is correct, press Yes. | | |
| Complete the connection to equipment | Press and hold the iPatch Panel port’s button for 2 seconds. |
| Remove the connection | Remove both ends of the patch cord. |
Viewing Alarms

The system generates alarms, which indicate problems with the equipment. If an alarm has been generated by equipment on a rack, the Alarms softkey appears on that rack’s iPatch Manager display and the Alarms LED turns on. If the alarm indicates that patching activities cannot be properly monitored at the rack, the alarm text also appears on the Ready screen. The following alarms appear on the Ready screen:

- Panels Need To Be Ordered
- No Panels Found
- iPatch Manager Needs To Be Replaced.

To view the alarms list, press Alarms on the Ready screen. You can use the up and down arrows to the right of the display to view each alarm. Respond appropriately to any prompts that appear on the display. When the problem condition that caused an alarm no longer exists, the alarm is automatically cleared from the alarms list.
## Responding to Alarms

This section describes the alarms that can be generated by the iPatch Manager, the possible causes, and how to respond to them.

For each alarm, the possible causes and associated solutions are listed in the order of likelihood. After you perform the first action in the “You should…” column, press Menu and, with Run Diagnostics highlighted, press Select. Check to see whether the alarm is still in the list. If the alarm still exists, perform the next action in the “You should…” column and run the diagnostic tests again. Continue until the alarm no longer appears in the list.

<table>
<thead>
<tr>
<th>You notice this alarm…</th>
<th>Possible causes include…</th>
<th>You should…</th>
</tr>
</thead>
</table>
| Network Manager Not Communicating | a. iPatch Manager selected to communicate with System Manager (Rack Manager Plus or Panel Manager with Network Manager module installed) is not configured properly. 
  b. iPatch Manager has failed. | a. At the iPatch Manager display, make sure that the iPatch Manager selected to communicate with System Manager is configured properly. The Network setting should be set to Off. (For the Panel Manager with Network Manager module installed, see page 2–16. For the Rack Manager Plus, see the SYSTIMAX® iPatch® System Rack Manager Plus Guide.) 
  b. Replace the iPatch Manager. (See page 5–8.) |
| Network Manager Not Found | a. Patch cord connecting the Network Manager module to the Panel Manager is loose. 
  b. Patch cord connecting the Network Manager module to the Panel Manager has failed. 
  c. Power adapter is not securely connected from the Panel Manager with Network Manager module to the electrical service outlet. 
  d. Power is not working at one or more of the electrical service outlets. 
  e. The Network Manager module has failed. | a. Check the patch cord. If it is loose, secure both ends of the patch cord. 
  b. Disconnect the patch cord and connect a working patch cord. If the problem is fixed, replace the failed patch cord. 
  c. Check to see whether the power adapter is properly connected to a PWR IN jack on the back of the Network Manager module and to the electrical service outlet. If it is not connected, connect it. 
  d. Check to see whether power is working at the electrical service outlet. If it is not, restore power to the electrical service outlet. 
  e. Replace the Network Manager module. (See page 5–8.) |
| No Panels Found | a. No iPatch Panels are connected to the panel bus. 
  b. Panel bus jumper connecting the iPatch Manager to the panel bus is loose, upside down, or not connected. 
  c. A connector on the panel bus was momentarily shorted during installation. | a. If iPatch Panels are installed, connect the panels and modules to the panel bus. 
  If no iPatch Panels are installed, no response is necessary. 
  b. Check the panel bus jumper. If the jumper is loose, secure both ends of the jumper. Make sure the polarized tab on the connector is inserted into the opening in the header on the panel bus. 
  c. Remove power from the iPatch Manager and then restore power. |

continued
### Chapter: Confirming Patch Connections, Responding to Alarms, and Troubleshooting Problems

<table>
<thead>
<tr>
<th>You notice this alarm…</th>
<th>Possible causes include…</th>
<th>You should…</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. Panel bus jumper connecting the iPatch Manager or one of the panels or modules to the panel bus has failed.</td>
<td>d. Disconnect all of the panel bus jumpers connected to the rack’s panel bus except for the jumper connecting the iPatch Manager and the first panel. e. If “Initializing” and then “Panels Need To Be Ordered” appear on the display, these jumpers are working. f. Connect the panel bus jumper for the next panel to the panel bus. g. If “Initializing” and then “Panels Need To Be Ordered” appear on the display, this jumper is working. h. Repeat this process for each panel. If “Initializing” and then “Panels Need To Be Ordered” do not appear on the display, the jumper that you just connected has failed. Replace that jumper.</td>
<td></td>
</tr>
<tr>
<td>e. Pins have shorted on one of the empty panel bus connectors.</td>
<td>i. Check each panel bus connector by attempting to connect a spare panel bus jumper to it. If the jumper connects easily, the pins are fine. If the jumper does not connect easily, the pins are probably shorted. Use a screwdriver to fix the shorted pins or replace the panel bus.</td>
<td></td>
</tr>
<tr>
<td>f. Panel bus jumper connecting the iPatch Manager to the panel bus has failed.</td>
<td>j. Disconnect the panel bus jumper and connect a known working panel bus jumper. If the problem is fixed, permanently replace the failed panel bus jumper.</td>
<td></td>
</tr>
<tr>
<td>g. Panel bus connector on the iPatch Manager has failed.</td>
<td>k. Disconnect the panel bus jumper from the PANEL BUS connector on the iPatch Manager. Connect a known working unit to the panel bus jumper. If “Initializing” and then “Panels Need To Be Ordered” appear on the display, permanently replace the failed unit. (See page 5–8.)</td>
<td></td>
</tr>
<tr>
<td><strong>Panel X (Row X) Not Communicating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Panel bus jumper connecting the panel or module to the panel bus is loose.</td>
<td>a. Check the panel bus jumper. If it is loose, secure both ends of the panel bus jumper.</td>
<td></td>
</tr>
<tr>
<td>b. Panel bus jumper connecting the panel or module to the panel bus has failed.</td>
<td>b. Disconnect the panel bus jumper and connect a known working panel bus jumper. If the problem is fixed, permanently replace the failed panel bus jumper.</td>
<td></td>
</tr>
<tr>
<td>c. Panel’s or module’s circuit board has failed.</td>
<td>c. Disconnect the power adapter from the iPatch Manager, then reconnect it. If the alarm still exists, the panel’s or module’s circuit board has failed. Replace the panel or module.</td>
<td></td>
</tr>
<tr>
<td><strong>Panels Need To Be Ordered</strong></td>
<td>One or more panels or modules have been added or removed from the rack.</td>
<td>At the iPatch Manager display, press Menu, then highlight Reset Panels and press Select. Then press Continue and program the order of the panels and modules in the rack.</td>
</tr>
<tr>
<td><strong>iPatch Managers Are Connected Incorrectly</strong></td>
<td>iPatch Manager units are connected incorrectly to the Rack Manager LAN through the RACK MGR OUTPUT and INPUT jacks.</td>
<td>Check the alarms list to see whether the iPatch Manager Not Communicating alarm also was generated. If so, fix that alarm first. Remove the patch cords connecting the iPatch Manager units to the Rack Manager LAN. Properly connect the patch cords from OUTPUT jack to INPUT jack until all iPatch Manager units are connected. (See page 2–10.)</td>
</tr>
<tr>
<td>You notice this alarm…</td>
<td>Possible causes include…</td>
<td>You should…</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>iPatch Manager Needs To Be Replaced</td>
<td>The system has detected one or more problems with the iPatch Manager, indicating that it should be replaced.</td>
<td>Replace the iPatch Manager. (See page 5–8.)</td>
</tr>
<tr>
<td>iPatch Manager X Not Communicating</td>
<td>a. Power adapter is not securely connected from an iPatch Manager to the electrical service outlet.</td>
<td>a. For each iPatch Manager, check to see whether the power adapter is properly connected to the iPatch Manager and to the electrical service outlet. If it is not connected, connect it.</td>
</tr>
<tr>
<td></td>
<td>b. Power is not working at one or more of the electrical service outlets.</td>
<td>b. For each iPatch Manager, check to see whether power is working at the electrical service outlet. If it is not, restore power to the electrical service outlet.</td>
</tr>
<tr>
<td></td>
<td>c. One or more patch cords connecting the iPatch Manager units are loose.</td>
<td>c. Check each end of each patch cord connected to the RACK MGR INPUT and OUTPUT jacks. If a connection is loose, secure the connection.</td>
</tr>
<tr>
<td></td>
<td>d. An iPatch Manager in the installation has been moved from one rack to another.</td>
<td>d. Delete the alarm.</td>
</tr>
<tr>
<td>Too Many Panels</td>
<td>There are more panels or modules connected to an iPatch Manager than allowed.</td>
<td>Disconnect the appropriate number of panels. At the iPatch Manager display, press Menu, then highlight Reset Panels and press Select. Then press Continue and program the order of the panels in the rack.</td>
</tr>
<tr>
<td>Too Many Racks</td>
<td>There are more than 99 iPatch Manager units connected to a Rack Manager LAN.</td>
<td>Disconnect the appropriate number of iPatch Manager units. At the iPatch Manager display, press Menu, then highlight Reset Racks and press Select. Then press Continue to reprogram the order of the iPatch Manager units on the Rack Manager LAN.</td>
</tr>
</tbody>
</table>
Troubleshooting Common Problems

This section covers problems that could occur at the iPatch Manager. Before you troubleshoot a problem, first respond to any alarms that have been generated at the iPatch Manager. See page 4–6. If the problem still exists, use the tables in this section to determine the solution.

For each problem, the possible causes and associated solutions are listed in the order of likelihood.

<table>
<thead>
<tr>
<th>You notice...</th>
<th>Possible causes include...</th>
<th>You should...</th>
</tr>
</thead>
<tbody>
<tr>
<td>You attempt to trace a patch connection and the rack/panel/port information does not appear on the iPatch Manager display.</td>
<td>a. Panel bus jumper connecting the panel or module to the panel bus is loose or upside down.</td>
<td>a. Check the panel bus jumper. If it is loose, secure both ends of the panel bus jumper. Make sure the polarized tab on the connector is inserted into the opening in the header on the panel bus.</td>
</tr>
<tr>
<td></td>
<td>b. Panel bus jumper connecting the panel or module to the panel bus has failed.</td>
<td>b. Disconnect the panel bus jumper and connect a known working panel bus jumper. If the problem is fixed, permanently replace the failed panel bus jumper.</td>
</tr>
<tr>
<td></td>
<td>c. Panel or module is not communicating.</td>
<td>c. Press a button on the iPatch Manager. If the iPatch Manager responds, see the troubleshooting information for the “Panel X (Row X) Not Communicating” alarm. (See page 4–7.)</td>
</tr>
<tr>
<td></td>
<td>d. Port’s button has failed.</td>
<td>d. Press the port’s button. If the iPatch Manager display does not change, the port’s button has failed. You can use System Manager to mark the port “broken”. See the SYSTIMAX® iPatch® System Manager User’s Guide.</td>
</tr>
<tr>
<td>You trace a patch connection and a port in the connection is identified on the wrong modular shelf.</td>
<td>The order of iPatch equipment in the rack was not programmed correctly.</td>
<td>Use the Reset Panels feature to reprogram the order of iPatch equipment in the rack. If there is no module in the right-most position of a shelf, be sure to press Next after you program the order of the last module in the shelf before moving to the next shelf.</td>
</tr>
<tr>
<td>You attempt to trace a patch connection and the LEDs do not turn on where you expect.</td>
<td>a. Port’s LED has failed.</td>
<td>a. At the iPatch Manager display, press Menu, then highlight Test Panels and press Select. If the LED does not turn on, the LED has failed. You can use System Manager to mark the port “broken”. See the SYSTIMAX® iPatch® System Manager User’s Guide.</td>
</tr>
<tr>
<td></td>
<td>b. Patch cord is not connected where it is supposed to be.</td>
<td>b. Manually trace the patch connection to determine the other end of the connection. Remove the patch cord and reconnect the patch cord to the proper ports.</td>
</tr>
<tr>
<td></td>
<td>c. Wrong connection has been recorded in the database.</td>
<td>c. Use the Trace and Change feature to update the connection. (See page 3–15.)</td>
</tr>
</tbody>
</table>

continued
<table>
<thead>
<tr>
<th>You notice…</th>
<th>Possible causes include…</th>
<th>You should…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your voice and data network administrator just used the System Manager</td>
<td>a. The iPatch Manager is not communicating with the System Manager Software.</td>
<td>a. Check whether 🔄 appears on the Ready screen. If not, see the troubleshooting information for this problem. (See page 4–12.) b. Contact your System Manager administrator to edit the job and make it “immediate”.</td>
</tr>
<tr>
<td>Software to schedule a job, but the job does not appear on the iPatch</td>
<td>b. The job was not scheduled as an “immediate” job.</td>
<td>b. Return to the Ready screen at the iPatch Manager display. Do not perform any activities until you see “Communicating, Please Wait” and then the Ready screen.</td>
</tr>
<tr>
<td>Manager display.</td>
<td>c. iPatch equipment in the equipment room is in use.</td>
<td>c. Wait for System Manager to complete the synchronization. Upon completion, it will automatically send the job.</td>
</tr>
<tr>
<td></td>
<td>d. System Manager was synchronizing its database with an equipment room when the job was</td>
<td>d. The job is not displayed because it cannot be performed until another job in the job queue is performed.</td>
</tr>
<tr>
<td></td>
<td>scheduled.</td>
<td>e. Perform any other jobs in the job queue. The job you are waiting for should appear.</td>
</tr>
<tr>
<td></td>
<td>e. The job is not displayed because it cannot be performed until another job in the job queue is performed.</td>
<td>f. Contact your System Manager administrator to check why the job is on hold. Then respond to the problem causing the job to be kept on hold. See the SYSTIMAX® iPatch® System Manager User’s Guide.</td>
</tr>
<tr>
<td></td>
<td>f. System Manager has placed the job on hold because a port to be used in the job is unavailable or there is a problem at the equipment.</td>
<td></td>
</tr>
<tr>
<td>You are viewing a job and press the Details button, and the Details</td>
<td>a. iPatch Manager is communicating with the System Manager Software.</td>
<td>a. If “Communicating” appears on the display, the iPatch Manager is in the process of communicating with System Manager. The information should appear after a few seconds.</td>
</tr>
<tr>
<td>information does not appear.</td>
<td>b. System Manager is unable to communicate with the iPatch Manager.</td>
<td>b. If “Information not available at this time” appears on the display, System Manager is unable to communicate with the iPatch Manager. Contact your voice and data network administrator.</td>
</tr>
<tr>
<td></td>
<td>c. Button on the iPatch Manager has failed.</td>
<td>c. Exit the job screen. From the Ready screen, press Menu. If the Menu does not appear, the button on the iPatch Manager has failed. Replace the iPatch Manager.</td>
</tr>
<tr>
<td>You attempt to add or remove a patch connection and the iPatch Manager</td>
<td>a. Alarm conditions exist, such as iPatch Manager X Not Communicating or iPatch Managers</td>
<td>a. At the iPatch Manager display, press Menu. With Run Diagnostics highlighted, press Select. If there are alarms, respond to them.</td>
</tr>
<tr>
<td>display does not change.</td>
<td>Are Connected Incorrectly.</td>
<td>b. Check the panel bus jumper. If it is loose, secure both ends of the panel bus jumper. Make sure the polarized tab on the connector is inserted into the opening in the header on the panel bus.</td>
</tr>
<tr>
<td></td>
<td>b. Panel bus jumper connecting the panel or module to the panel bus is loose or upside down.</td>
<td>c. Disconnect the panel bus jumper and connect a known working panel bus jumper. If the problem is fixed, permanently replace the failed panel bus jumper.</td>
</tr>
<tr>
<td></td>
<td>c. Panel bus jumper connecting the panel or module to the panel bus has failed.</td>
<td>d. Check each port. If one of the shutters is stuck out of position, gently move it back into position.</td>
</tr>
<tr>
<td></td>
<td>d. Port’s plastic shutter is stuck.</td>
<td>e. The System Manager Software can be used to temporarily mark the port “broken” in the database. See the SYSTIMAX® iPatch® System Manager User’s Guide.</td>
</tr>
<tr>
<td></td>
<td>e. Panel’s or module’s sensor is bad.</td>
<td>To replace the sensor, contact your local account representative.</td>
</tr>
</tbody>
</table>
## Chapter: Confirming Patch Connections, Responding to Alarms, and Troubleshooting Problems

### You notice...

<table>
<thead>
<tr>
<th>Possible causes include...</th>
<th>You should...</th>
</tr>
</thead>
</table>
| You attempt to add a patch connection across two racks and neither IPatch Manager acknowledges the completed connection. | a. Patch cord connecting an IPatch Manager to the Rack Manager LAN has failed.  
   b. IPatch Manager is not connected to the Rack Manager LAN.  
   c. IPatch Manager has failed.  
   d. IPatch Manager is not responding.  
   e. Panel or module is not communicating with the IPatch Manager. |
|                          | a. At the IPatch Manager display, press Menu, then highlight Reset Racks and press Select. Check the IPatch Manager units to see whether all of the displays show “Initializing, Please Wait”. If an IPatch Manager display does not show the message, one of the patch cords connecting the IPatch Manager to the Rack Manager LAN may have failed.  
   Disconnect one of the patch cords and connect a working patch cord. If the problem is fixed, replace the failed patch cord. Otherwise, repeat for the other patch cord.  
   b. At the IPatch Manager display, press Menu, then highlight Reset Racks and press Select. Check the IPatch Manager units to see whether all of the displays show “Initializing, Please Wait”. If an IPatch Manager display does not show the message, the IPatch Manager is not connected to the LAN. Connect the IPatch Manager to the Rack Manager LAN. (See page 2–10.)  
   c. Attempt to add a patch connection to a different panel in the rack. If the IPatch Manager does not respond, the IPatch Manager has failed. Replace the IPatch Manager. (See page 5–8.)  
   d. See the troubleshooting information for the “IPatch Manager X Not Communicating” alarm. (See page 4–8.)  
   e. See the troubleshooting information for the “Panel X (Row X) Not Communicating” alarm. (See page 4–7.) |
| No characters appear on the IPatch Manager display. | a. Power adapter is not properly connected from the IPatch Manager to the electrical service outlet.  
   b. Power is not working at the electrical service outlet.  
   c. The patch cord connecting the display to the Panel Manager is not properly connected.  
   d. The patch cord connecting the display to the Panel Manager has failed.  
   e. Power jumper connecting the Network Manager module to the Panel Manager is not properly connected.  
   f. IPatch Manager has failed. |
|                          | a. Check to see whether the power adapter is properly connected to the IPatch Manager and to the electrical service outlet. If it is not connected, connect it.  
   b. Check to see whether power is working at the electrical service outlet. If it is not, restore power to the electrical service outlet.  
   c. Check the display patch cord. Make sure it is securely connected to the display and the back of the Panel Manager housing.  
   d. Disconnect the display patch cord and connect a known working display patch cord. If the problem is fixed, permanently replace the patch cord.  
   e. Check the power jumper. Make sure it is securely connected to the PWR OUT jack on the back of the Network Manager module and a PWR jack on the back of the Panel Manager.  
   f. Check to see whether power is working at the electrical service outlet. If it is, the IPatch Manager has failed. Replace the IPatch Manager. (See page 5–8.) |

*continued*
### You notice...

Display lighting is not turned on at an iPatch Manager.

**Possible causes include...**

- Display lighting has timed out.
- The iPatch Manager button that you pressed has failed.
- Display lighting has failed.

**You should...**

- At the iPatch Manager display, press a button. If the lighting turns on, the lighting had timed out. The lighting turns out after 30 minutes of inactivity. (This setting can be changed using System Manager.)
- At a panel on the rack, press a button. If the display lighting turns on, the button on the iPatch Manager has failed. Replace the iPatch Manager. (See page 5–8.)
- At a panel on the rack, press a button. If the display lighting does not turn on, the lighting has failed. Replace the iPatch Manager. (See page 5–8.)

### does not appear on the Ready screen.

*Or, you are viewing a job or tracing a patch connection and the Details button does not appear on the display.

*Or, your voice and data network administrator sees the “iPatch Manager X Not Communicating” event at System Manager.

**a.** The iPatch Manager (Rack Manager Plus or Panel Manager with Network Manager module installed) configured to communicate with System Manager is not configured properly.

**b.** The IP address recorded for the iPatch Manager configured to communicate with System Manager in the System Manager database is incorrect.

**c.** Patch cord connecting the iPatch Manager configured to communicate with System Manager to the network equipment is loose.

**d.** Patch cord connecting the iPatch Manager configured to communicate with System Manager to the network equipment has failed.

**e.** Patch cord connecting the Network Manager module to the Panel Manager is loose.

**f.** Patch cord connecting the Network Manager module to the Panel Manager has failed.

**g.** Computer LAN is not working properly.

**h.** The iPatch Manager configured to communicate with System Manager has failed.

**i.** The System Manager Communications Server program is not running.

**a.** At the iPatch Manager display, make sure that the iPatch Manager is configured properly.

- The Network setting should be set to Ethernet.
- The IP Address should be set to the address that your computer network administrator specified, and should be unique.
- The Subnet Mask and Gateway should be set to the settings that your computer network administrator specified.

For the Panel Manager with Network Manager module, the Speed and Duplex settings should be consistent with the settings of the network equipment port to which the Network Manager module is connected.

For more information, see page 2–16 or the SYSTIMAX® iPatch® System Rack Manager Plus Guide.

**b.** Contact your System Manager administrator to fix the problem.

**c.** Check the patch cord. If it is loose, secure both ends of the patch cord.

**d.** Disconnect the patch cord and connect a working patch cord. If the problem is fixed, replace the failed patch cord.

**e.** Check the patch cord. If it is loose, secure both ends of the patch cord.

**f.** Disconnect the patch cord and connect a working patch cord. If the problem is fixed, replace the failed patch cord.

**g.** Call your computer network administrator to fix the problem.

**h.** Replace the iPatch Manager configured to communicate with System Manager.

**i.** Contact your System Manager administrator to fix the problem.

### continued
### You notice…

* "Initializing, Please Wait" appears regularly on the iPatch Manager display.

- A panel bus jumper connecting a panel, a module or the iPatch Manager to the panel bus is loose or upside down.
- Power adapter is not properly connected from the iPatch Manager to the electrical service outlet.
- A panel or module is not working properly.
- One of the iPatch Manager units on the Rack Manager LAN has a power problem.
- A panel bus jumper connecting a panel, a module, or the iPatch Manager to the panel bus has failed.

### Possible causes include…

- a. Check all panel bus jumpers. If a jumper is loose, secure both ends of the panel bus jumper. Make sure the polarized tab on each connector is inserted into the opening in the top of the header on the panel bus.
- b. If the message appears only on this iPatch Manager, check to see whether the power adapter is properly connected to the iPatch Manager and to the electrical service outlet. If it is not connected, connect it.
- c. Ask your voice and data network administrator to check the events at System Manager to determine which panel or module is not working properly.
- d. If you hear the error tone repeatedly and the message appears on all iPatch Manager units on the LAN, one of the iPatch Manager units has a loose power connection or a power problem. Disconnect the power adapter from all of the racks and reconnect the power adapter to one iPatch Manager at a time to find the malfunction.
- e. One at a time, replace each panel bus jumper with a known working jumper. If the problem is fixed, permanently replace the failed jumper.

### You should…

- Press Start Over. Make sure that you press a button on every row and every module of iPatch ports on the rack.
Testing Panels

To test that the LEDs, port sensors, and buttons work on an iPatch Panel, iPatch Fiber Shelf, or iPatch Fiber Module, perform the steps below.

1. At the iPatch Manager display, press any button to turn on the lighting. From the Ready screen, press Menu.

2. Press until the iPatch Manager display shows:

3. With Test Panels highlighted, press Select.
   The iPatch Manager sounds a key beep and the display shows:

   Note: If a patch cord is inserted in any iPatch Panel port in the equipment room, the iPatch Manager automatically exits the test mode.

4. Press any button on the panel or module that you want to test.
   The iPatch Manager sounds a key beep.
   Each LED on the panel or module sequentially turns on and off. The LED test pattern repeats until you press a button on the panel or module, you press a button on another panel or module, you press Exit, or until the test mode times out. The display shows:

   Note: You can repeat this step to test each panel and module in the rack.

5. To test a port sensor and button on the panel or module, press the button corresponding to the port that you want to test.
   If the button is working, the iPatch Manager sounds a key beep.
   If no patch cord is connected to the port, the LED blinks. If a patch cord is connected to the port, the LED turns on.
   Note: You can repeat this step to test each of the port sensors or buttons on the panel or module.
Viewing Rack Information

To check how a rack is identified in the System Manager Software database, perform the steps below.

1. At the iPatch Manager display, press any button to turn on the lighting. From the Ready screen, press Menu.

2. Press \(\text{Ê}\) until the iPatch Manager display shows:

   ![Run Diagnostics Menu]

   - Run Diagnostics
   - Rack Information
   - Reset Panels
   - Reset Racks

Highlight a command. Then press Select.

   ![Selected Rack Information]

   - Service 1
   - in Building A
   - Floor 4
   - Room E407
   - System Manager IP: 135.005.126.237


   The iPatch Manager sounds a key beep and, after communicating with the System Manager Software, the display shows:

   ![Selected Rack Information]

   - Rack 4 (3)
   - Service 1
   - in Building A
   - Floor 4
   - Room E407
   - System Manager IP: 135.005.126.237

4. When you have finished viewing the information for the rack, press Back.

Note: The number next to the word “Rack” generally indicates the position of the rack in the System Manager Software database. The number in parentheses indicates the position of the rack on the Rack Manager LAN in the equipment room. If there are racks without iPatch equipment in the database, the rack position number in parentheses might be a lower number than the rack number.

The information for the rack includes the rack’s ID in the System Manager Software database, the location of the rack (building ID, floor ID, and room ID), and the System Manager IP address.

4. When you have finished viewing the information for the rack, press Back.
This chapter describes common tasks that you might perform when maintaining your SYSTIMAX iPatch System. These tasks include:

- changing the language displayed by the iPatch Manager units in the equipment room
- adding an iPatch Panel, iPatch Fiber Shelf, or iPatch Fiber Module
- removing an iPatch Panel, iPatch Fiber Shelf, or iPatch Fiber Module
- replacing an iPatch Panel, iPatch Fiber Faceplate, or iPatch Fiber Module
- replacing an iPatch Manager.
Changing the Language Displayed by iPatch Manager Units

To change the language displayed by the iPatch Manager units in a selected equipment room, perform the steps below.

Note: The Select Language feature is available only if each unit connected to the Rack Manager LAN for the equipment room is a Rack Manager Plus or a Panel Manager. If there are Rack Managers or Network Managers connected to the Rack Manager LAN, you can change the display language by using the System Manager Software to update the iPatch equipment with the firmware version for the desired language. See the SYSTIMAX® iPatch® System Manager Getting Started Guide.

1. At the iPatch Manager display, press any button to turn on the lighting.
   From the Ready screen, press Menu.

2. Press ◼ until the iPatch Manager display shows:

   ![Menu Screen]

3. With Select Language highlighted, press Select.
   The display shows:

   ![Select Language Menu]

4. Press ▼ or ◼ until the desired language is highlighted.

5. With the desired language highlighted, press Save.
   The iPatch Manager sounds a confirmation tone.

6. Press Exit.
   The iPatch Manager display shows:

   ![Exit Screen]
Adding an iPatch Panel, Fiber Shelf, or Fiber Module to a Rack

Important: To use iPatch Fiber Shelves in an existing iPatch System, the iPatch Manager units (and any Network Managers) must be running a compatible software version. To determine which software versions are compatible with your iPatch Fiber Shelves, refer to the installation instructions provided with the shelves. To obtain the latest version of software, contact your SYSTIMAX Solutions local account representative.

To add an iPatch Panel, iPatch Fiber Shelf, or iPatch Fiber Module to a rack, perform the steps below.

1. Install the panel, shelf, or module. Follow the instructions provided with the unit.
2. Connect the panel bus jumper to the panel bus. The iPatch Manager display shows:

```
Initializing
Please Wait
```

Then:

```
Rack 1
Program Order of iPatch Equipment in Rack
Press Continue to order panels and modules.
Continue  Cancel
```

3. Press Continue to program the order of panels and modules on the rack. Follow the instructions on the display.

Removing an iPatch Panel, Fiber Shelf, or Fiber Module from a Rack

To remove an iPatch Panel, iPatch Fiber Shelf, or iPatch Fiber Module from a rack, perform the steps below.

1. Remove the patch cords from the ports on the panel, shelf, or module.
2. Disconnect the cables from the back of the unit.
3. Disconnect the unit's panel bus jumper from the rack's panel bus.
4. Remove the mounting screws and remove the unit from the rack.
5. At the iPatch Manager, press Menu. With Run Diagnostics highlighted, press Select.

Note: This action lets the system immediately detect that the panel, shelf, or module has been removed.

6. From the Ready screen, press Alarms.
7. Press  until the iPatch Manager display shows the “Panel Not Communicating” alarm for the panel, shelf, or module that you removed.
8 Press Delete.

The iPatch Manager display shows:

```
Panels Need To Be Ordered
Press w to view the next alarm.
```

Note: If you press Delete, the iPatch Manager database marks the panel, shelf, or module as no longer in service. It does not delete the patch connections associated with the unit. If the unit comes back into service, the iPatch Manager database restores the patch connections associated with the unit, if they are still valid.

9 Press Reset Panels.

The iPatch Manager display shows:

```
Reset Panels
Press Continue to reset the panels.
```

10 Press Continue.

The iPatch Manager display shows:

```
Initializing
Please Wait
```

Then:

```
Program Order of iPatch Equipment in Rack
Press Continue to order panels and modules.
```

11 Press Continue to program the order of panels and modules on the rack. Follow the instructions on the display.
Replacing an iPatch Panel, Fiber Faceplate, or Fiber Module

If you have a panel, faceplate, or module that is malfunctioning and need to replace it, perform the steps below.

1. Disconnect the panel bus jumper for the panel, faceplate, or module from the rack’s panel bus.
2. Mark each patch cord connector connected to the panel, faceplate, or module to indicate the port where it should be reconnected. Then disconnect each patch cord from the unit.
3. Disconnect the cables from the back of the panel, faceplate, or module.
4. If removing a panel with RJ-45 ports, remove the mounting screws and remove the panel from the rack.
   If removing a faceplate or module from a fiber shelf, refer to the instructions provided with the faceplate or module and remove the faceplate or module from the shelf.
5. At the iPatch Manager, press Menu. With Run Diagnostics highlighted, press Select.
   Note: This action lets the system immediately detect that the panel, shelf, or module has been removed.
6. Install the new panel, faceplate, or module. Refer to the instructions provided with the unit.
7. Connect the patch cords to the corresponding ports on the new panel, faceplate, or module.
8. Restore the cabling connections to the back of the new panel, faceplate, or module.
9. Connect the panel bus jumper to the panel bus.

The iPatch Manager display shows:

Initializing
Please Wait

Then:

Program Order of iPatch Equipment in Rack

Press Continue to order panels and modules.

[Continue] [Cancel]

Note: If the display does not show this message, press Menu, then highlight Reset Panels and press Select.
10 Press Continue to program the order of panels and modules on the rack. Follow the instructions on the display.
When you have finished programming the order of panels and modules, the iPatch Manager display shows:

![Image]

11 From the Ready screen, press Alarms.

12 Press Ê until the iPatch Manager display shows the “Panel X Not Communicating” alarm for the panel, faceplate, or module that you replaced.

**Note:** Do not confirm any patch connections.
For example, the iPatch Manager display shows:

![Image]

13 Press Replace Panel.
The iPatch Manager display shows:

![Image]

14 Press Reset Panels.
The iPatch Manager display shows:

![Image]
15 Press Continue.
The iPatch Manager display shows:

```
Initializing
Please Wait
```

Then:

```
Rack 1
Program Order of
iPatch Equipment in Rack
Press Continue to order panels and
modules
Continue Cancel
```

16 Press Continue to program the order of panels and modules on the rack. Follow the instructions on the display.
Notice that the system now recognizes the restored patch connections.
Replacing an iPatch Manager

To replace an iPatch Manager, perform the steps below.

1  Remove the unit that you want to replace from the rack:
   a  On the back of the unit, disconnect the power cord and any patch cords from the LAN ports.
   b  Disconnect the panel bus jumper for the unit from the rack's panel bus.
   c  Remove the mounting screws and remove the unit from the rack.

2  Install the new unit:
   a  Mount the unit in the rack. See “Task B. Install the Network Manager Module” on page 2–5 (if applicable) and “Task C. Mount the Panel Manager” on page 2–7.
      Note: Make sure that the unit is connected to the panel bus.
   b  Connect the unit to the Rack Manager LAN. See “Task D. Connect Each iPatch Manager to the Rack Manager LAN” on page 2–10.
   c  Connect the power adapter plug to a PWR jack on the back of the unit. Plug the power adapter into an electrical service outlet. See Step 2 of “Task E. For Each Rack with iPatch Panels, Install the Panels” on page 2–11.
      Note: Interchangeable AC plugs are provided to modify the power adapter for use with the local configuration for electrical service outlets.
   d  *If you are replacing an iPatch Manager that was connected to the Ethernet network, connect the new iPatch Manager to the Ethernet network and configure the network settings.*
      For the Panel Manager with Network Manager module installed, see “Task I. Configure the Network Settings” on page 2–16. For the Rack Manager Plus, see the *SYSTIMAX® iPatch® System Rack Manager Plus Guide*.

3  Use the Confirm feature to restore the patch connection database:
   a  From the Ready screen, press Confirm.
   b  Confirm the patch connections. See “Confirming Patch Connections” on page 4–3.
### Technical Specifications for the Panel Manager and Network Manager Module

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microprocessor (base)</td>
<td>16-bit, 16 MHz 18LF8722 processor</td>
</tr>
<tr>
<td>Microprocessor (display)</td>
<td>16-bit, 16 MHz 18F45J10 processor</td>
</tr>
<tr>
<td>Power requirements</td>
<td>12 VDC at 450 mA (Panel Manager), 12 V DC at 100 mA (Network Manager module)</td>
</tr>
<tr>
<td>Downloadable software</td>
<td>From host software</td>
</tr>
<tr>
<td>Program storage</td>
<td>Flash memory</td>
</tr>
<tr>
<td>Data storage</td>
<td>EEPROM</td>
</tr>
<tr>
<td>Program data retention without</td>
<td>Minimum 10 years</td>
</tr>
<tr>
<td>power</td>
<td></td>
</tr>
<tr>
<td>Number of panel connections per</td>
<td>Maximum 40</td>
</tr>
<tr>
<td>rack</td>
<td></td>
</tr>
<tr>
<td>Number of iPatch Manager units per</td>
<td>Maximum 99</td>
</tr>
<tr>
<td>Rack Manager LAN</td>
<td></td>
</tr>
<tr>
<td>Recommended mounting height</td>
<td>Approximately 65 inches (165 cm) above the floor, measured from the top edge of the Panel Manager (the 34th 1U slot up from the bottom of a rack)</td>
</tr>
<tr>
<td>Display type</td>
<td>LCD graphics display</td>
</tr>
<tr>
<td>Display size</td>
<td>3.25 inches (8.25 cm) measured diagonally; 240 x 64 pixels</td>
</tr>
<tr>
<td>Display backlighting</td>
<td>White LED</td>
</tr>
<tr>
<td>Operational environment</td>
<td>14°F to 104°F (–10°C to 40°C); 75% noncondensing humidity</td>
</tr>
<tr>
<td>Ethernet interface</td>
<td>IEEE 802.3 10BASE-T</td>
</tr>
<tr>
<td></td>
<td>IEEE 802.3u 100BASE-TX</td>
</tr>
<tr>
<td>Ethernet speed</td>
<td>10 MB/sec or 100 MB/sec (half duplex or full duplex)</td>
</tr>
<tr>
<td>Ethernet status indicators</td>
<td>Green LED for link up</td>
</tr>
<tr>
<td></td>
<td>Yellow LED for data transmit and receive</td>
</tr>
</tbody>
</table>
Standards

The SYSTIMAX iPatch System components meet the standards listed below.

Safety

- CAN/CSA-C22.2 No 60950-1-03
- UL 60950-1
- IEC/EN 60950-1, First Edition
- AS/NZ 60950-1:2003

Emissions

- FCC Part 15, Subpart B, Sections 15.107b & 15.109b for Class A Information Technology Equipment (USA)
- EN 55022:1944 (C.I.S.P.R. 22, 1993) for Class A Information Technology Equipment (EU)

Immunity

- EN 55024:1998 Information Technology Equipment (EU)
Refer to the next page for the COMMSCOPE SYSTIMAX iPatch System Active Hardware Components 3-Year Product Warranty.
COMMSCOPE SYSTIMAX iPatch System Active Hardware Components 3-Year Product Warranty

CommScope Inc. of North Carolina (“CommScope”) proudly offers the following limited SYSTIMAX Patch System Active Hardware Components 3-Year Product Warranty. This warranty applies exclusively to SYSTIMAX Patch System active hardware components purchased from and installed by an authorized SYSTIMAX BusinessPartner, used at the original site of installation, and which forms part of an installation that is registered and receives a SYSTIMAX 20-Year Extended Product Warranty certificate, and is registered with CommScope in accordance with CommScope’s then current registration documents and procedures (such registered SYSTIMAX Patch System active hardware components are hereinafter referred to as “Registered SYSTIMAX Active Components”), CommScope offers to the customer of Registered SYSTIMAX Active Components the following 3-Year Product Warranty.

WHAT IS COVERED? THE PRODUCT WARRANTY

The Product Warranty covers all Registered SYSTIMAX Active Components (i.e., Rack Manager Plus, power supplies, and Patch Panel Tracing Interface Modules). CommScope warrants, provided a registration certificate is issued by CommScope to the customer, and provided that proof of purchase from an authorized SYSTIMAX BusinessPartner can be produced for the Registered SYSTIMAX Active Component, that each Registered SYSTIMAX Active Component will be substantially free from defects in material or workmanship under proper and normal use, and will materially conform to such Registered SYSTIMAX Active Component’s specifications.

FOR HOW LONG?

For three (3) years from the date of installation or three (3) years from the date of initial synchronization with Patch System Manager software (provided that the date of initial synchronization is no later than six months from the date of purchase of the Registered SYSTIMAX Active Component from the authorized SYSTIMAX BusinessPartner). CommScope will: (i) repair or replace the defective Registered SYSTIMAX Active Component at CommScope’s cost or (ii) credit or refund the purchase price of the defective Registered SYSTIMAX Active Component, in each case provided:

1. The Registered SYSTIMAX Active Component is returned to CommScope at CommScope’s expense.
2. Customer notices CommScope in writing of the claimed defect within thirty (30) days after customer knows or reasonably should know of the claimed defect and
3. CommScope’s examination of the Registered SYSTIMAX Active Component discloses that the claimed defect actually exists.

WHAT COMMSCOPE WILL DO

If this Product Warranty is breached with respect to any Registered SYSTIMAX Active Component (each such breach, a “defect”), CommScope will (or will authorize a SYSTIMAX BusinessPartner to), at its option, either (i) repair or replace the defective Registered SYSTIMAX Active Component at CommScope’s cost or (ii) credit or refund the purchase price of the defective Registered SYSTIMAX Active Component, in each case provided:

1. The defect appears within the above described warranty period,
2. Customer notifies CommScope in writing of the claimed defect within thirty (30) days after customer knows or reasonably should know of the claimed defect and
3. CommScope’s examination of the Registered SYSTIMAX Active Component discloses that the claimed defect actually exists.

Customer will follow CommScope’s instructions regarding return of defective Registered SYSTIMAX Active Components, and no Registered SYSTIMAX Active Component will be accepted for repair, replacement, credit or refund without the written authorization of and in accordance with CommScope’s instructions. Replaced products shall become CommScope’s property. If CommScope determines that the returned Registered SYSTIMAX Active Components are not defective, customer shall pay CommScope all costs of handling, inspection, repairs and transportation at CommScope’s then prevailing rates.

If CommScope chooses to repair any defective Registered SYSTIMAX Active Component, CommScope may use new or reconditioned replacement parts. If CommScope chooses to replace any defective Registered SYSTIMAX Active Component, CommScope may replace such products with new or reconditioned products of the same or similar design. Any such repair or replacement will be warranted for either (a) 90 days or (b) the remainder of the original three-year warranty period, whichever is longer.

WHO IS COVERED?

This warranty is for the sole benefit of the person or entity to whom CommScope’s registration certificate is issued and any successor in interest to the site in which such Registered SYSTIMAX Active Component was originally installed.

DISCLAIMER; LIMITATIONS; EXCLUSIVE REMEDIES

This is the only warranty for Registered SYSTIMAX Active Components and it sets forth all of CommScope’s responsibilities regarding Registered SYSTIMAX Active Components. Except as specifically set forth herein, CommScope and its Affiliates, Suppliers, and Authorized SYSTIMAX BusinessPartners make no warranties, express or implied, and specifically disclaim any and all warranties of merchantability, fitness for a particular purpose, or otherwise and specifically excludes all warranties, conditions, representations, statements, terms, and provisions, express or implied by statute, common law or otherwise, to the greatest extent permitted by law. CommScope will not pay for loss of time, inconvenience, loss of use of the Registered SYSTIMAX Active Components, or property damage caused by the Registered SYSTIMAX Active Components or its failure to work, and in no event shall CommScope be liable for any indirect, incidental, special, consequential, or punitive damages, including damages or costs incurred as a result of loss of time, loss of savings, loss of data, or loss of profits. The remedies stated herein shall constitute your sole and exclusive remedies provided for the registered SYSTIMAX active components.

WHAT THIS WARRANTY DOES NOT COVER

This warranty does not cover any defects in the design or improper installation of the Registered SYSTIMAX Active Components, which results from failure to comply with CommScope’s design guidelines and/or is caused by anything outside of the scope of CommScope’s control. Except as explicitly provided otherwise in this warranty, CommScope shall not be responsible hereunder for either the de-installation, removal and/or disposal of defective Registered SYSTIMAX Active Components, or the installation of repaired or replacement Registered SYSTIMAX Active Components. Furthermore, in no event shall CommScope be responsible for the alteration, removal, replacement, repair, or relocation of Registered SYSTIMAX Active Components not purchased from CommScope or a SYSTIMAX BusinessPartner, nor any non-Registered SYSTIMAX Active Components. This warranty does not cover defects resulting from (including without limitation) any of the following events or causes: neglect, accidents, improper installation or storage, mishandling, misuse or abuse, use with a power adapter other than the power adapter provided with the Registered SYSTIMAX Active Component, damage while in transit, unauthorized alteration, unauthorized repair, failure to follow instructions, fire, flood, acts of God, explosion, war or the engagement of hostilities, strike, embargo, labor dispute, government requirement, counterfeit, civil disturbances, acts of civil or military authority, acts of terrorism, or events outside CommScope’s control. This warranty shall be automatically terminated and null and void if any Registered SYSTIMAX Active Component is repaired or disassembled by anyone other than CommScope or any SYSTIMAX BusinessPartner.

This warranty gives you specific legal rights. To the fullest extent, this warranty shall be governed by the laws of the state of North Carolina, United States, without regard to the conflict of law rules thereof. The Parties hereto acknowledge that in order to receive the warranty, to the extent required by CommScope, any dispute must be governed by the laws of the state of North Carolina and the parties unconditionally submit to the jurisdiction of the North Carolina state and federal courts. If any portion of this warranty is not enforceable, due to local legal requirements, then such specific language shall be modified to meet local legal requirements consistent with CommScope’s intent.

1. The 3-Year Product Warranty applies only in respect of SYSTIMAX Patch System active hardware components ordered from CommScope on or after 1 February 2008. For all SYSTIMAX Patch System active hardware components ordered from CommScope before 1 February 2008, a 1-Year Product Warranty will apply.

2. Authorized SYSTIMAX BusinessPartners are part of the approved SYSTIMAX supply channel and have been certified to SYSTIMAX design and installation requirements. In order for Products to be registered, the Products must be installed by Authorized BusinessPartner’s personnel who have successfully completed the Engineering/Design Training Module [SP3321] and the Installation/Maintenance Training Module [ND3341] and the SYSTIMAX SC3 (Patch Design & Engineering Training Module [SP5500] Contact CommScope for a complete list.

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Index

Numerics
10/100 Base T jack, 2–15

A
AC plug, 2–12
Add Connection jobs, 3–4
adding an iPatch Panel, 5–3
alarms
  on Ready screen, 1–4
  responding to, 4–6
  viewing, 4–5
Alarms softkey, 1–4
arrow buttons, 1–2
attention tone, 1–3

B
buttons, 1–2

C
cable retainers, 2–7
cabling, 2–14
Change Network Settings command, 1–5, 2–16
Clear Memory command, 1–5
completion tone, 1–3
confirmation tone, 1–3
confirming patch connections, 4–3

data transmission mode, 2–19
details
  obtaining for a job, 3–3
  obtaining for a trace, 3–14
  problems obtaining, 4–12

display
  changing the language for, 5–2
  features, 1–2
  problems with, 4–11, 4–12

E
electronic work orders
  see guided jobs
emissions standards, A–2
Equipment Mode, 2–21
Ethernet network, 2–15
Ethernet speed, 2–18

F
full-duplex, 2–19

G
gateway, 2–18
guided jobs
  errors when performing, 3–13
  overview, 3–2
  performing Add Connection jobs, 3–4
  performing Remove Connection jobs, 3–6
  problems viewing details for, 4–10
  selecting a job in the job queue, 3–3

H
half-duplex, 2–19

I
immunity standards, A–2
installation
equipment in racks, 2–3
iPatch Manager, 2–7
iPatch Panels, 2–11
network equipment, 2–14
Network Manager module, 2–5
non-iPatch panels, 2–14
overview, 2–3
panel bus, 2–3
panel bus jumper, 2–7
patch cord organizers, 2–14
Rack Manager LAN, 2–10
setting the patching mode, 2–21
setting up the network connections, 2–15
IP address, 2–17
iPatch Fiber Shelves and Modules
see iPatch Panels
iPatch Manager
buttons, 1–2
changing the language displayed at, 5–2
connecting to Rack Manager LAN, 2–10
display, 1–2
features, 1–2
LEDs, 1–2
mounting, 2–7
powering up, 2–11
recommended mounting height, 2–8
replacing, 5–8
setting the patching mode, 2–21
sounds, 1–3
viewing alarms at, 4–5
iPatch Manager Needs To Be Replaced alarm, 1–4, 4–8
iPatch Manager Not Communicating alarm, 4–8
iPatch Manager, items provided with, 1–6
iPatch Managers Are Connected Incorrectly alarm, 4–7
iPatch Panels
adding patch connections (unguided) using, 3–9
adding to a rack, 5–3
cabling, 2–14
features, 1–2
installing, 2–11
performing Add Connection jobs using, 3–4
performing Remove Connection jobs using, 3–6
programming the order of, 2–13, 4–13, 5–3, 5–4, 5–7
removing from a rack, 5–3
removing patch connections (unguided) using, 3–10
replacing, 5–5
testing, 4–14
tracing a patch connection for, 3–13
tracing and changing a patch connection for, 3–15

iPatch System
alternate configuration, 2–2
components, 1–1
features, 1–1
installation overview, 2–3
maintaining, 5–1
powering up, 2–11
stand-alone configuration, 2–2
standard configuration, 2–1

J
job queue
overview, 3–2
selecting a job in, 3–3
jobs
see guided jobs
Jobs softkey, 1–4

K
key beep, 1–3

L
LAN
see Rack Manager LAN
language, changing for displays, 5–2
LEDs, 1–2
Local Mode, 2–21

M
Menu options, 1–5
Menu softkey, 1–4
mounting screws, 1–6, 1–7, 2–8

N
NET MGR PWR IN1 and PWR IN2 jacks, 2–11
network equipment
adding patch connections (unguided) using, 3–10
performing Add Connection jobs using, 3–5
performing Remove Connection jobs using, 3–7
removing patch connections (unguided) using, 3–11
tracing a patch connection for, 3–15
network equipment, installing, 2–14
Network Manager LAN, 2–17
Network Manager module
installing, 2–5
items provided with, 1–7
Network Manager Not Communicating alarm, 4–6
Network Manager Not Found alarm, 4–6
No Panels Found alarm, 1–4, 4–6
P
panel bus
  mounting, 2–3
  overview, 1–6, 1–7
PANEL BUS jack, 2–7
panel bus jumper, 2–7
Panel Manager
  configuring network settings for, 2–16
  connecting to Ethernet network, 2–15
  see iPatch Manager
Panel Not Communicating alarm, 5–3
Panel X (Row X) Not Communicating alarm, 4–7
Panels Need To Be Ordered alarm, 1–4, 4–7
panels, non-iPatch
  adding patch connections (unguided) using, 3–10
  installing, 2–14
  performing Add Connection jobs using, 3–5
  performing Remove Connection jobs using, 3–7
  removing patch connections (unguided) using, 3–11
  tracing a patch connection for, 3–15
patch connections needing confirmation, 3–16, 4–3
patch cord organizers, 2–14
patching
  adding patch connections (unguided), 3–9
  confirming patch connections, 4–3
  errors during, 3–13
  good practices, 1–5
  overview, 1–5, 3–2
  performing Add Connection jobs, 3–4
  performing Remove Connection jobs, 3–6
  problems performing, 4–10, 4–11
  removing patch connections (unguided), 3–10
  responding to messages when performing unguided patching, 3–12
  tracing a patch connection, 3–13
  tracing and changing a patch connection, 3–15
patching mode, 2–21
ping response, 2–19
power adapter
  installing, 2–11
  modifying, 2–12
  overview, 1–6, 1–7
power jumper, installing, 2–6
problems, troubleshooting, 4–9
programming the order of panels
  at installation, 2–13
programming the order of panels and modules
  problems during, 4–13
  when adding a panel, 5–3
  when removing a panel, 5–4
  when replacing a panel, 5–7
PWR OUT jack, 2–6
PWR1 and PWR2 jacks, 2–6, 2–11
R
Rack Information command, 1–5, 4–15
Rack Manager LAN, 2–10
RACK MGR INPUT jack, 2–6, 2–10
RACK MGR OUTPUT jack, 2–6, 2–10
Ready screen, 1–4
Remove Connection jobs, 3–6
removing an iPatch Panel, 5–3
replacing
  an iPatch Fiber Faceplate or Module, 5–5
  an iPatch Manager or Network Manager, 5–8
  an iPatch Panel, 5–5
Reset Panels command, 1–5
Reset Racks command, 1–5
responding to alarms, 4–6
Run Diagnostics command, 1–5, 5–3, 5–5
S
safety instructions, v
safety standards, A–2
Select Language command, 1–5, 5–2
sensor beep, 1–3
socket, 2–18
softkeys, 1–2
sounds, 1–3
standards, A–2
star washers, 1–6, 1–7, 2–8
strain relief strap, 2–6, 2–11
subnet mask, 2–17
system configurations, 2–1
System Manager, 1–2, 2–1, 2–2
T
technical specifications, A–1
Test Panels command, 1–5, 4–14
testing iPatch Panels, 4–14
Too Many Panels alarm, 4–8
Too Many Racks alarm, 4–8
Trace and Change command, 1–5, 3–15
tracing a patch connection
  overview, 3–13
  problems with, 4–9
  tracing and changing a patch connection, 3–15
troubleshooting common problems, 4–9

U
unguided patching
  adding patch connections, 3–9
  errors during, 3–13
  overview, 3–8
  problems performing, 4–10, 4–11
  removing patch connections, 3–10
  responding to messages during, 3–12

V
viewing
  alarms, 4–5
  the job queue, 3–3
  viewing rack information, 4–15

W
work orders, electronic
  see guided jobs