
Installation Guide

**HP J2437A
4-Port Token Ring Interface
for the HP Router 650**

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Product Numbers

This guide provides installation instructions for the following Hewlett-Packard Company product:
J2437A

Warranty

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Ensure that you have the following items.

Introduction

The 4-Port Token Ring Interface provides four 4- or 16-Mbit/s connections for connecting token ring networks to the HP Router 650.

Installation

Ensure that you have the following items.

- 1 LED label strip (J2437-80012)
- 5 Interface card labels (5182-3315)
- 1 Cable tie (5182-1723)
- 1 Grounding wrist strap (9300-1408)
- 1 *Installation Guide* (this manual, 5962-8322)
- 1 *Caution: Static-Sensitive Devices* (5962-8318)

Installation

Install interface card.

Install interface card.

Notes

You can install the interface card without taking the system offline (that is, without switching the router off and taking all networks down)—refer to “Installing the Interface Card (System Online),” page 9. (Installing an interface card without taking the system offline is often called “hot swapping.”)

If you are installing the interface card in a slot that formerly was empty, or if you are installing the interface card in a slot that formerly held a different type of interface card (such as a WAN interface card), you must specify the new card in the configuration. (Refer to “Configure and boot the router” in chapter 1 of the *HP Router 650 Installation Guide*.)

Installing the Interface Card (System Offline)

Note

If you will be installing the new interface card in a slot where another interface card is *not* currently installed, begin with step 2; otherwise, begin with step 1.

1. Disconnect all cables from the interface card you will be removing, and save them for reconnection when you later install that card again.

2. Open the front door of the router by pulling its lock—the round post at the upper right—to the right.

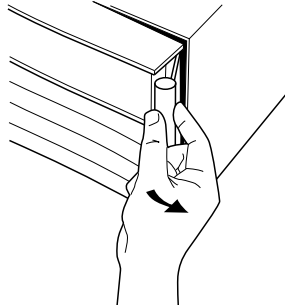


Figure 1. Opening Router Door

3. Switch the power supply off by pressing the bottom of its switch (marked with “○”). If two power supplies are installed, switch both off.
4. Connect a grounding wrist strap (one is provided with the interface card) to your wrist and to the back of the router.

Installation

Install interface card.

5. Press down slightly on the insides of both locks on the old card's bezel (see figure 2), then swing them outward until the bezel disengages (see figure 3).

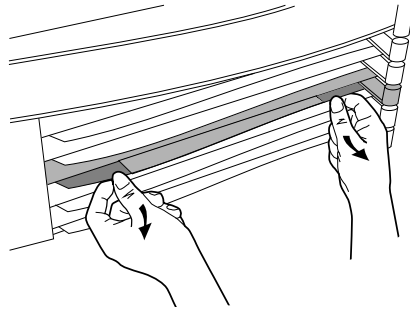


Figure 2. Unlocking Card Bezel

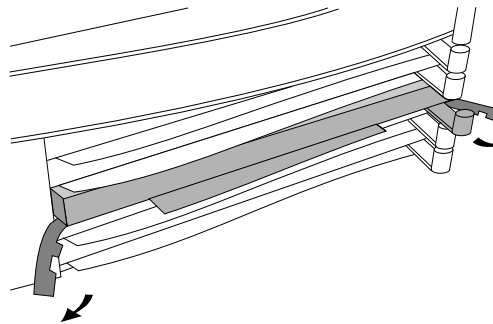


Figure 3. Disengaging Card Bezel

6. Grasping the left and right edges of the bezel, pull out until the tray is about half exposed.
7. Grasping the sides of the tray, remove the card from the router.
8. Holding the new interface card by the sides of its tray, slide the back of the tray about half-way into the router.

9. Pull the locks on the bezel outward, then push evenly on both ends until the card engages fully and the locks swing inward to about 45°.

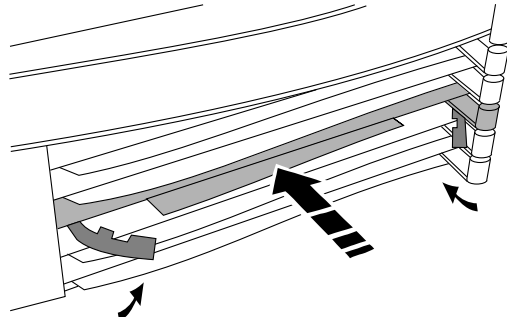


Figure 4. Installing Interface Card

10. Push the two locks evenly to close them, pressing downward slightly to secure them in place.
11. Remove the old card's LED label strip in the router door from the position corresponding to the slot where you have installed the interface card, then insert the LED label strip provided with the new card as far as it will go.
12. Bend the end of the label strip toward the back of the router, creating a 90° fold.
13. Switch on the power supply by pressing the top of the switch (marked with "|").
14. Close the router door.

Installation

Install interface card.

15. To replace the label at the left of the slot that identifies the department or site served by the interface card, slide it out from the right. Position the new label with its shiny side facing the router, and slide it in from the right. (Additional labels are provided in the router's accessories kit and also with each interface card.)

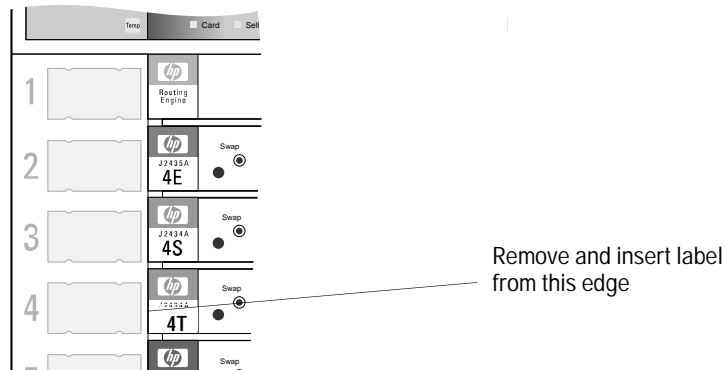


Figure 5. Interface Card Label Location

Installing the Interface Card (System Online)

Note

If you will be installing the new interface card in a slot where another interface card is *not* currently installed, skip steps 1 and 3.

1. Disconnect all cables from the interface card you will be removing, and save them for reconnection when you later install that card again.
2. Connect a grounding wrist strap (one is provided with the interface card) to your wrist and to the back of the router.
3. If the Swap LED on the interface card you will be removing is not on (see figure 6), press the adjacent Swap button, and hold it until the Swap LED turns on (about 1–5 seconds).

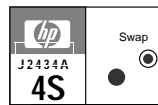


Figure 6. Swap Button and LED

Installation

Install interface card.

4. Press down slightly on the insides of both locks on the old card's bezel (see figure 7), then swing them outward until the bezel disengages (see figure 8).

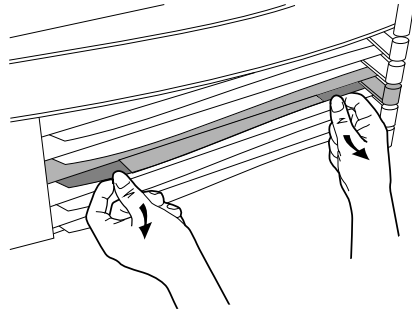


Figure 7. Unlocking Card Bezel

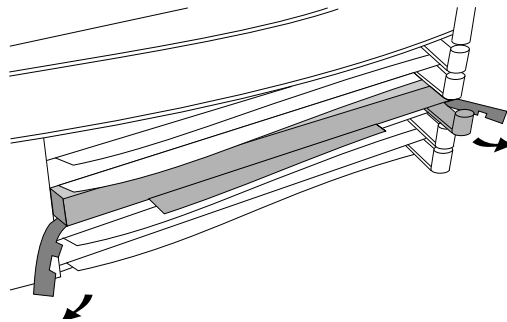


Figure 8. Disengaging Card Bezel

5. Grasping the left and right ends of the bezel, pull out until the tray is about half exposed.
6. Grasping the sides of the tray, remove the card from the router.
7. Holding the new interface card by the sides of its tray, slide the back of the tray about half-way into the router.

8. Pull the locks on the bezel outward, then push evenly on both ends until the card fully engages and the locks swing inward to about 45°.

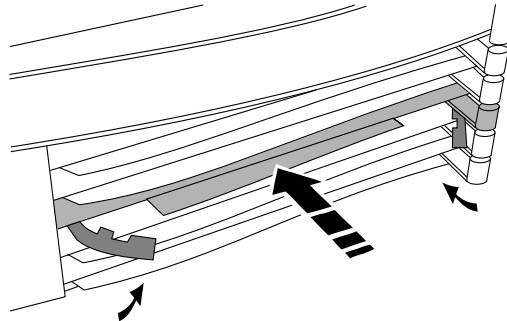


Figure 9. Installing Interface Card

9. Push the two locks evenly to close them, pressing downward slightly to secure them in place. A self-test of the new interface card begins.
10. When the self-test is complete (after about 5 seconds), check that the new interface card's Card LED (the first LED in the row of LEDs in the router door) has turned green, and the Self-test LED (the second LED in the row) has turned off.
 - If these LEDs continue flashing, the card is not seated properly. Adjust the position of the card by pushing evenly on both ends, and adjust the positions of the locks evenly.
 - If the Card LED remains orange and the Self-test LED remains on, the card has failed the self-test. Refer to "Interface Card Self-Test Failure During Hot Swap" in table 3-2, "LED Error Patterns During Router Operation."
 - If the Card LED remains orange but the Self-test LED has turned off, look in the event log (which can be displayed from the Main menu) for the entry "Slot *x* HWID and Line configuration mismatch" (where *x* is the number of the slot). If that entry appears in the event log, specify the new card for that slot in the configuration (refer to "Configure and boot the router" in chapter 1 of the *HP Router 650 Installation Guide*). If that entry does not appear in the event log, call for service from your HP dealer or service provider.

Installation

Install interface card.

11. Open the front door of the router by pulling its lock—the round post at the upper right—to the right.

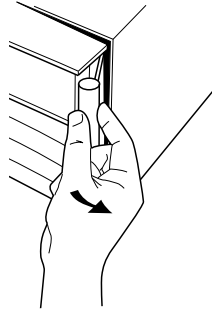


Figure 10. Opening Router Door

12. Remove the old card's LED label strip from the position corresponding to the slot where you have installed the new interface card, then insert the LED label strip provided with the new card as far as it will go.
13. Bend the end of the label strip toward the back of the router, creating a 90° fold.
14. Close the router door.

15. To replace the label at the left of the slot that identifies the department or site served by the interface card, slide it out from the right. Position the new label with its shiny side facing the router, and slide it in from the right. (Additional labels are provided with the interface card, as well as in the router's accessories kit.)

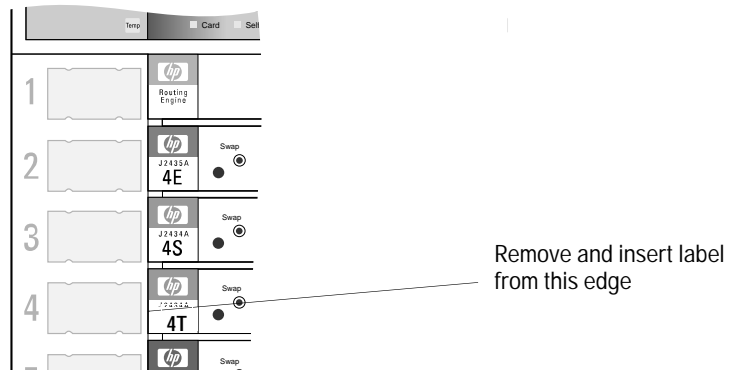


Figure 11. Interface Card Label Location

Installation

Connect network cables.

Connect network cables.

Connect the network cables as described below. You should also make sure that all network equipment and links are ready.

Caution

Static discharge may damage equipment. Do not touch the connector pins on the interface card or on the cable.

1. Secure the D-connector on the token ring cable to the token ring port, using the screws on the connector.

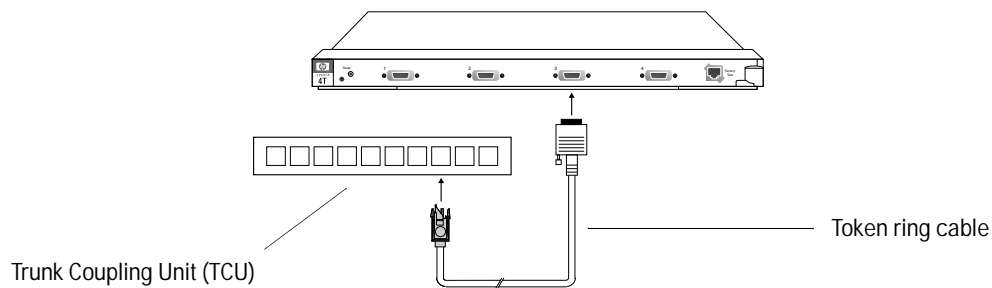


Figure 12. Connecting Token Ring Cable

2. Connect the medium interface connector (MIC; see figure 14, page 18) on the token ring cable to the token ring Trunk Coupling Unit (TCU).

Arrange network cables.

To help keep the network cables orderly—and out of the way when interface cards are being removed or installed—arrange the cables over the bars at the right of the router.

These cable-management bars have slots in them that you can use for tie-wrapping the network cables. Included with each interface card is a tie-wrap that you can use to wrap the cables and then attach the bundle to the cable management bar, as shown in figure 13.

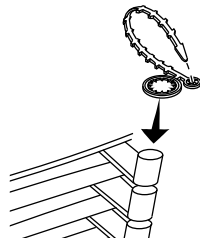


Figure 13. Cable-Management Bar and Tie-Wrap

Some cables (such as WAN cables) will not fit inside the cable management bars. You can use the tie-wraps to bundle the extra cables and hang them on the outside of the bar.

Prepare the router.

Prepare the router.

To prepare the router after installing the new interface card, you should do the following procedures, all of which are described in chapter 1 of the *HP Router 650 Installation Guide*:

- Connect a console.
- Plug in and verify router hardware.
- Configure and boot the router.
- Verify router initialization and configuration.

Note

If you are installing the interface card in place of a different type of interface card (for example, if the slot in which you are installing the interface card formerly held a WAN interface card), or if you are installing the interface card in a slot that formerly was empty, you must specify the new card in the configuration.

If any port has no network attached during router operation, event log messages are generated. To avoid these messages, disable that port when you configure the router.

Troubleshooting

For general information about troubleshooting problems using any interface card in the Router 650, refer to chapter 3 of the *HP Router 650 Installation Guide*. The following troubleshooting information is specific to the token ring interface card.

Note

In the description of the port status LEDs in chapter 2 of the *HP Router 650 Installation Guide*, the label “Tx” is shown for the third port status LED for each port. On the LED label strip used with the token ring interface card, however, the third port status LED for each port is labeled “Ins” instead (“Tx” is used for most other interface cards). The Ins LED is lit green when the corresponding port on the interface card is passing the token.

If the Net Fail LED for any (*but not all*) of the ports on the interface card is lit during router operation, this may mean one of the following:

- The network cable is loose, disconnected, or faulty.
- The TCU is faulty.
- The ring speed is configured incorrectly.

Cables and Connectors

| Cable/Connector | Source |
|--|---|
| Token ring, shielded, twisted-pair cable connecting to the 9-pin female token ring port with a male 9-pin subminiature D-connector | Available from several vendors, such as Black Box and Inmac; not available from HP. |
| Loopback connector (RJ-45 modular to subminiature D-Connector) | HP part number 5061-2550 |

Token Ring Port Definition

Token Ring Port Definition

This port accepts the standard 9-pin male subminiature D-connector for shielded twisted-pair token-ring cable.

| Pin Definition of Token Ring Connector | |
|--|-------------------|
| 9-Pin Connector | Token Ring Signal |
| 1 | Data In B |
| 2 | n/c |
| 3 | n/c |
| 4 | n/c |
| 5 | Data Out A |
| 6 | Data In A |
| 7 | n/c |
| 8 | n/c |
| 9 | Data Out B |

The opposite end of the token-ring cable should be fitted with a medium interface connector (MIC) conforming to the IEEE 802.5 specification.

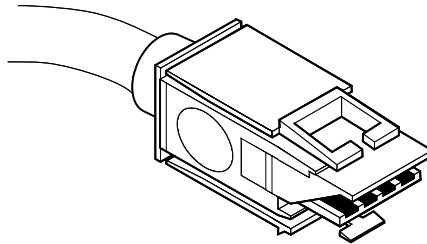
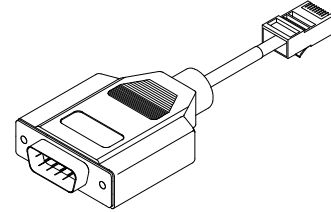


Figure 14. Token Ring (802.5 MIC) Connector

Loopback Connector

- Modular (RJ-45) to subminiature D-connector:
 - pin 3 to pin 1
 - pin 4 to pin 6
 - pin 5 to pin 9
 - pin 6 to pin 5
- Subminiature D-Connector
 - pin 1 to pin 9
 - pin 5 to pin 6



Note

This loopback connector is *not* a modular-to-9-pin adapter; the modular and 9-pin connectors should not both be used at the same time.



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