

AS/400e 170 or 250



2722 or 2746 Twinaxial Workstation Card Instruction

Version 4

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Note

Before using this information and the product it supports, be sure to read the "Safety and Environmental Notices" on page iii and the "Notices" on page 25.

Fifth Edition (July 2000)

This edition applies only to reduced instructions set computer (RISC) systems.

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Safety and Environmental Notices

Danger Notices

A danger notice calls attention to a situation that is potentially lethal or extremely hazardous to people.

DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

DANGER

To prevent a possible electrical shock when installing the system, ensure that the power cords for all devices are unplugged before installing signal cables. (RSFTD202)

DANGER

To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device. (RSFTD203)

DANGER

To prevent a possible electrical shock during an electrical storm, do not connect or disconnect cables or station protectors for communications lines, display stations, printers, or telephones. (RSFTD003)

DANGER

To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables. (RSFTD004)

Caution Notices

A caution notice calls attention to a situation that is potentially hazardous to people because of some existing condition.

CAUTION:

Telecommunications Statement: This unit contains over-voltage circuits between the ac power outlet and the unit. These circuits meet the standard limits described in International Electrical Commission (IEC) 664, installation category II. It is the customer's responsibility to ensure that the power outlet meets the standards of IEC 664, installation category II. (RSFTC214)

Laser Safety Information

CAUTION:

This product may contain a CD-ROM which is a class 1 laser product.
(RSFTC240)

Product Recycling and Disposal

Components of the system, such as structural parts and circuit cards, can be recycled where recycling facilities exist. IBM does not currently collect and recycle used IBM products from customers in the United States other than those products that are involved in trade-in programs. Companies are available to disassemble, reutilize, recycle, or dispose of electronic products. Contact an IBM account representative for more information.

The system unit contains batteries and circuit boards with lead solder. Before you dispose of this unit, these batteries and circuit boards must be removed and discarded according to local regulations or recycled where facilities exist. This book contains specific information on each battery type where applicable.

Battery Return Program

In the United States, IBM has established a collection process for reuse, recycling, or proper disposal of used IBM batteries and battery packs. For information on proper disposal of the batteries in this unit, please contact IBM at 1-800-426-4333. Please have the IBM part number that is listed on the battery available when you make your call. For information on battery disposal outside the United States, contact your local waste disposal facility.

Environmental Design

The environmental efforts that have gone into the design of the system signify IBM's commitment to improve the quality of its products and processes. Some of these accomplishments include the elimination of the use of Class I ozone-depleting chemicals in the manufacturing process, reductions in manufacturing wastes, and increased product energy efficiency. For more information, contact an IBM account representative.

Installation Instructions

There are two ways to determine where to install the new adapter card.

- Using the Web site located on the AS/400 home page.
- Using these instructions
- Web site located on the AS/400 home page at URL **WWW.AS400.IBM.COM**. Select **Configuration Station** and **Installable Feature Tool**. When the feature tool is complete, return here and continue with these instructions.
- Card placement tables in these instructions. Go to step 2 on page 3.

This feature is customer installed. It will take approximately 1 hour to install the hardware. However, you may elect not to perform this feature installation yourself. You may contact IBM or an Authorized Dealer to make arrangements for them to perform the feature installation for a fee.

You need to allow additional time to complete your jobs, back up your system, IPL your system, and verify your hardware configuration.

- ___ 1. When you use these instructions, you will do the following:
 - Remove the system unit covers.
 - Install your new hardware.
 - Install covers.
 - IPL your operating system.
 - Verify your new hardware configuration.
- ___ 2. Some of the steps in these instructions may require a tool to remove the screws. Use a medium-sized standard screwdriver or a 5.5 mm socket wrench.
- ___ 3. Some of the pictures in these instructions may not look exactly like the system unit that you have. However, the steps to perform the task are the same.
- ___ 4. Before you begin:
 - Ensure that you have a current backup of your operating system and licensed programs. If you have backed up the operating system and licensed programs since the last time you applied PTFs, that backup is acceptable.
 - Ensure that you take a few minutes to become familiar with these instructions.
- ___ 5. If there are incorrect, missing or visibly damaged parts, contact one of the following:
 - Your authorized dealer
 - Point of purchase (For example, IBM Direct)
 - IBM Rochester Manufacturing Automated Information Line (R-MAIL)
 - 1-800-300-8751 (United States)
 - 1-507-253-5242 (worldwide)
- ___ 6. Determine if there are any existing prerequisites before you install your new feature. Go to this Web site and locate your feature number and OS/400 release and check the prerequisites.
http://as400service.ibm.com/s_dir/slkbases.NSF/

Then do the following to get to the Customer Install Features Prerequisites:

- a. Select **All Documents**
- b. Select **Collapse**
- c. Select **General Information**
- d. Select **Offerings**
- e. Select **Feature Prerequisites**
- f. Select **Customer Install Features Prerequisites**

When you have the following cards, install them in the sequence listed below.

- The 2809 or 2824 LAN/WAN workstation card
- The 285x or 2866 Integrated NetFinity cards
- All other adapter cards

Getting Ready

- ___ 1. Ensure that all jobs are complete.
- ___ 2. When all jobs are complete, type
`pwrdownsys *immed`

on an AS/400 command line and press the Enter key.

Note: Should you encounter difficulties during the installation, contact your authorized dealer or service provider.

- ___ 3. When the AS/400 is completely powered down, power off all PCs and devices, such as printers and displays, that are connected to the system unit.
- ___ 4. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 5. Unplug the system unit power cord from the electrical outlet.
- ___ 6. Remove the system unit back cover by placing your hand near the bottom of the cover and lifting up and out, (Figure 1 on page 3).

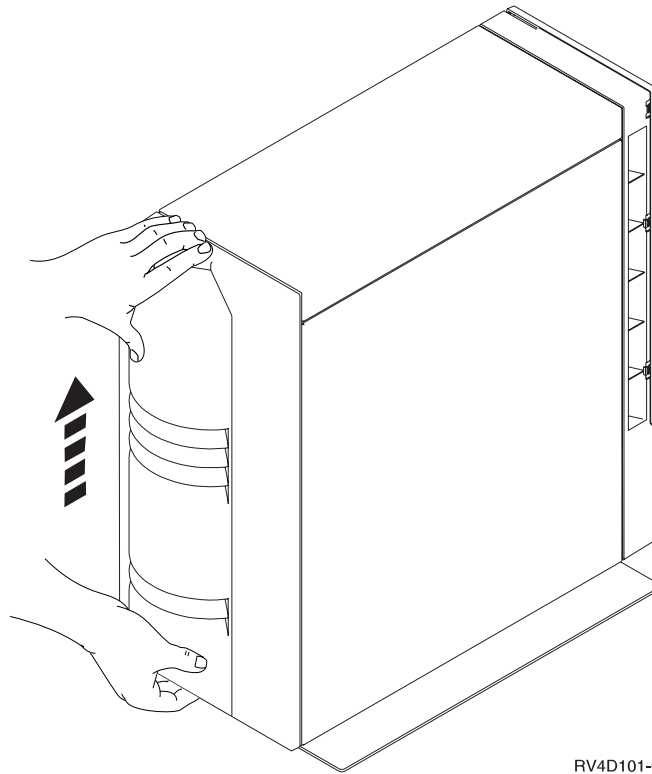


Figure 1. Remove System Unit Back Cover

Deciding How the 2746 Twinaxial Card is Going to be Used

Are you installing the 2746 card for the system unit console?

No Yes

↓ Go to “Installing the 2746 Twinaxial Card for the System Unit Console” on page 15.

Determining Where to Install Your New Card

___ 1. There are two ways to determine your card placement:

- A card placement tool is available on the Internet. You can access it at: www.ibm.com/as400/cif.

After you have used the tool to determine the card placement, return to these instructions to install the card. Go to step 2

or

- Continue with these instructions.

___ 2. The adapter card slots are labeled C03 through C09 in the base unit and E02 through E14 in the expansion unit (Figure 2 on page 4).

Notes:

- a. Slots C01 or E01 are not available positions.
- b. Slot C02 is not visible on the back of the system unit.
- c. Fill the adapter card slots in the base unit first.
- d. Slot C09 is easier to access when the plastic airflow baffle above it is removed. Reinstall the airflow baffle to ensure proper disk unit operation and cooling.

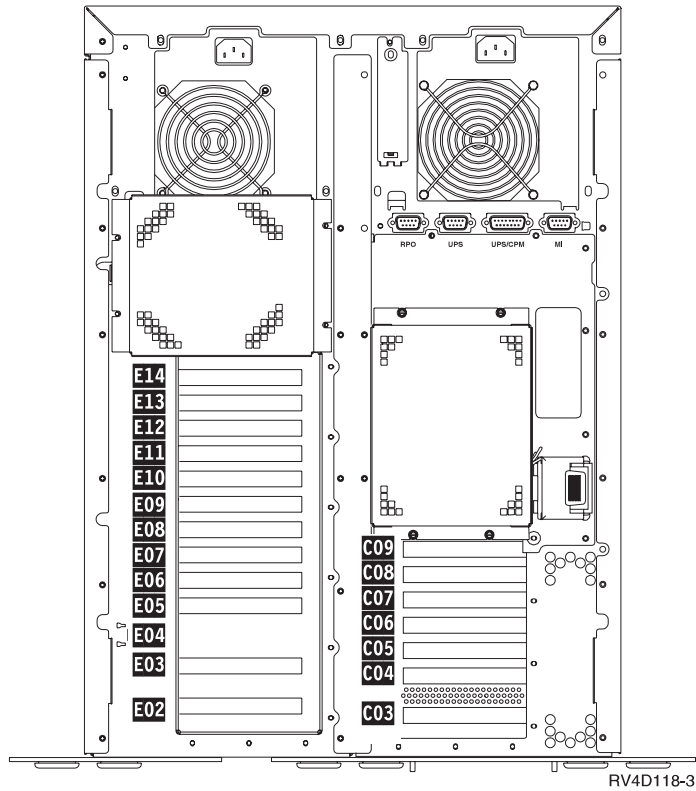


Figure 2. Adapter Card Positions

___ 3. Do you have card placement rules from step 1 on page 3?

No Yes

↓ Go to "Installing the 2722 or 2746 Twinaxial Card for Additional Workstations" on page 8.

___ 4. It is very important for you to determine in which slot to install your adapter card. Look at the back of your system unit to see which card slots are available. Find the adapter card number in the Card Number column in one of the following tables. If the position is not available in the first table, then continue through the tables until you find an available slot.

- Go to Table 1 if card slot C04 is empty.
- Go to Table 2 on page 5 if cards are installed in slots C02 and C04.
- Go to Table 3 on page 5 if you have an expansion unit installed and cards are not installed in slots E02 and E04.
- Go to Table 4 on page 7 if you have an expansion unit and cards are installed in slots E02 and E04 or are going to be installed.

Remember:

If a slot position is not available in Table 1, go to Table 2, then Table 3, and so on, until you find an available slot.

Table 1. No card is installed in C04

Name	Card Number	Card Slot
Wide area network (WAN)/Twinaxial input/output adapter (IOA)	2720	C08, C09 (maximum = 1)
Twinaxial Workstation IOA	2722	C09

Table 1. No card is installed in C04 (continued)

Name	Card Number	Card Slot
Two-Line WAN IOP	2721	C09, C08
Two-Line WAN IOP	2745	C09, C08, C03
Twinaxial Workstation IOA	2746	C09, C03
100/10Mbps Ethernet IOA	2838 ¹ , ³	C03
Integrated Services Digital Network (2750 BRI U, 2751 BRI S/T), Integrated Analog Modem (2761)	2750, 2751, 2761	C03 (Maximum of 1 per IOP)
Ethernet IOA (2723), 16/4Mbps Token-Ring IOA (2724)	2723 ¹ , 2724 ¹	C09 ² , C03 (maximum = 1)
Disk Unit Controller	2728	C07
Redundant Array of Independent Disks (RAID) Disk Unit Controller	2740, 2748, 2763	C07
¹ Use Table 2 or Table 4 if specify code 0220, 0221, or 0222 is on the order. ² Not allowed in C09 if 2838 or ATM card is installed in C03. ³ No 2723 or 2724 allowed in C09.		

If a slot position is not available, use the next table.

Table 2. A card is installed in C04

Name	Card Number	Card Slot
Integrated NetFinity Server (This feature consists of two cards)	285x or 2866	C02
Note: Slot C03 is inactive when the Integrated NetFinity Server cards are installed in slots C02 and C04. The card in C03 has to be moved.	285A	C04
WAN/Twinaxial IOA	2720	C08, C09 (maximum = 1)
Twinaxial Workstation IOA	2722, 2746	C09
Two-Line WAN IOP	2721	C09, C08
Two-Line WAN IOP	2745	C09, C08,
100/10Mbps Ethernet IOA	2838 ¹	C05, C06 (Maximum = 1)
Ethernet IOA (2723), 16/4Mbps Token-Ring IOA (2724)	2723 ¹ , 2724 ¹	C05, C06, C09
Disk Unit controller	2728	C07
RAID Disk Unit Controller	2740, 2748, 2763	C07
¹ When specify code 0220, 0221, or 0222 is on the order, install the card in C05 or C06. The specify codes 0220, 0221, or 0222 indicate that the cards are driven by the Integrated NetFinity (285x or 2866) card.		

If a slot position is not available, use the next table.

Table 3. No card is installed in E02

Name	Card Number	Card Slot
Magnetic Media Controller	2718, 2729	E09
Ethernet IOA (2723), 16/4Mbps Token-Ring IOA (2724)	2723 ⁸ , 2724 ⁸	E13 ² ; E14 ² ; E08 (Maximum = 2)

Table 3. No card is installed in E02 (continued)

Name	Card Number	Card Slot
155Mbps UTP0C3 ATM	2815 ^{1, 4}	E08
155Mbps MMF ATM	2816 ^{1, 4}	E08
155Mbps SMF OC3 ATM	2818 ^{1, 4}	E08
100/10Mbps Ethernet IOA	2838 ^{1, 4, 8}	E08
Two-Line WAN IOP	2721	E13 ¹ , E14
Two-Line WAN IOP	2745	E13 ¹ , E14, E09 ² , E08
Twinaxial Workstation IOA	2722	E14, E13 ¹
Twinaxial Workstation IOA	2746	E13 ¹ , E14, E09 ² , E08
Integrated Services Digital Network, (2750 BRI U, 2751 BRI S/T), Integrated Analog Modem (2761)	2750 ² , 2751 ² , 2761 ²	E03, E09 or E08 (Maximum of 1 per IOP)
PCI Cryptographic Coprocessor	4758 ²	E09 or E08 (Maximum = 1)
Combined Function IOP	2809, 2824	E07
2824 or 2809 is required in E07 to install any of the following cards:		
Magnetic Media Controller	2718, 2729	E03
100/10Mbps Ethernet IOA	2838 ^{7, 8}	E03
Ethernet IOA (2723), 16/4Mbps Token-Ring IOA (2724)	2723 ^{5, 8} , 2724 ^{5, 8}	E11, E12, E03 (Maximum = 2)
Integrated Services Digital Network (2750 BRI U, 2751 BRI S/T), Integrated Analog Modem (2761)	2750, 2751, 2761	E03 ³ , E08, E09 (Maximum 1 per IOP)
155Mbps UTPOC3 ATM	2815 ⁷	E03
155Mbps MMF ATM	2816 ⁷	E03
155Mbps SMF OC3 ATM	2818 ⁷	E03
Two-Line WAN IOP	2721	E11, E12
Two-Line WAN IOP	2745	E11, E12, E03
Twinaxial Workstation IOA	2722	E11, E12
Twinaxial Workstation IOA	2746	E11, E12, E03
PCI Cryptographic Coprocessor	4758	E03 ³
25MBPS UTP ATM	2811 ³	C03
45MBPS Coax T3/DS3 ATM	2812 ³	C03
34Mbps Coax E3 ATM	2819 ³	C03
25MBPS UTP ATM	2811 ³	C03
45MBPS Coax T3/DS3 ATM	2812 ³	C03
34Mbps Coax E3 ATM	2819 ³	C03

Table 3. No card is installed in E02 (continued)

Name	Card Number	Card Slot
¹ If you have a 2824 installed in E10 and a 2838 or ATM card installed in E03 or E08, slot positions E13 and E14 must remain open. ² 2824 required in E10. ³ 2824 required in E07. ⁴ No 2723 or 2724 allowed in E13 or E14. ⁵ Not allowed if 2838 or ATM card is installed in E03. ⁶ Not allowed if 2838 or ATM card is installed in E08. ⁷ No 2723 or 2724 allowed in E11 or E12. ⁸ Use Table 5 if specify code 0220, 0221, 0222 is on the order.		

If a slot position is not available, use the next table.

Table 4. A card is installed in E02

Name	Card Number	Card Slot
Magnetic Media Controller	2718, 2729	E09
100/10Mbps Ethernet IOA	2838 ¹ , ³ , ⁴	E08
Ethernet IOA (2723), 16/4Mbps Token-Ring IOA (2724)	2723 ³ , 2724 ³	E13 ² ; E14 ² ; E08 (Maximum = 2)
155Mbps UTP0C3 ATM	2815 ¹ , ⁴	E08
155Mbps MMF ATM	2816 ¹ , ⁴	E08
155Mbps SMF OC3 ATM	2818 ¹ , ⁴	E08
100/10Mbps Ethernet IOA	2838 ¹ , ⁴	E08
Two-Line WAN IOP	2721	E13 ¹ , E14
Two-Line WAN IOP	2745	E13 ¹ , E14, E09 ² , E08
Twinaxial Workstation IOA	2722	E14, E13 ¹
Twinaxial Workstation IOA	2746	E13 ¹ , E14, E09 ² , E08
Integrated Services Digital Network, (2750 BRI U, 2751 BRI S/T), Integrated Analog Modem (2761)	2750 ² , 2751 ² , 2761 ²	E03, E09 or E08 (Maximum of 1 per IOP)
PCI Cryptographic Coprocessor	4758 ²	E09 or E08 (Maximum = 1)
Combined Function IOP	2809, 2824	E07
2824 or 2809 is required in E07 to install any of the following cards:		
100/10Mbps Ethernet IOA	2838	E05 ³ , E06 ³ (Maximum = 1)
Ethernet IOA (2723), 16/4Mbps Token-Ring IOA (2724)	2723, 2724	E05 ³ , E06 ³ , E11 ⁶ , E12 ⁶ Note: When an INS is in E02/E04, then you can have a LAN card in either E11 or E12, but not in both.
Two-Line WAN IOP	2721	E11, E12
Two-Line WAN IOP	2745	E11, E12
Twinaxial Workstation IOA	2722	E11, E12
Twinaxial Workstation IOA	2746	E11, E12

Table 4. A card is installed in E02 (continued)

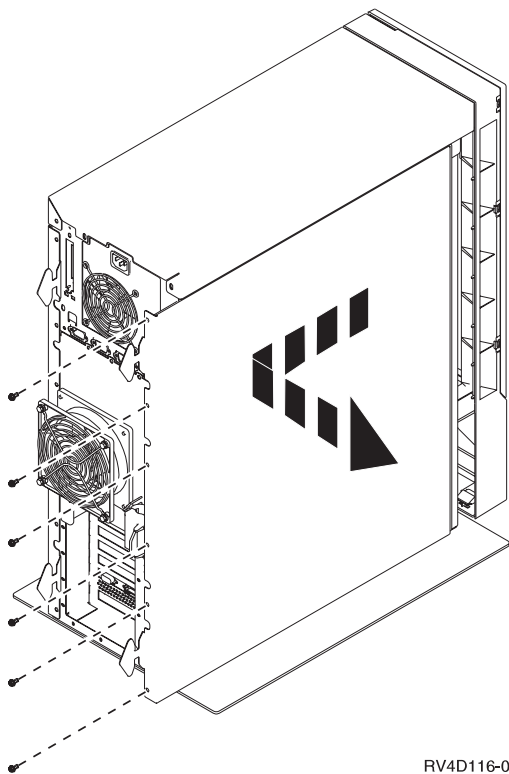
Name	Card Number	Card Slot
¹ If you have a 2824 is installed in E10 and a 2838 or ATM card installed in E03 or E08, slot positions E13 and E14 must remain open.		
² 2824 required in E10.		
³ When specify code 0220, 0221, 0222 is on the order, install the card in E05 or E06.		
⁴ No 2723 or 2724 allowed in E13 or E14.		
⁵ Not allowed if 2838 or ATM is installed in E08.		

Installing the 2722 or 2746 Twinaxial Card for Additional Workstations

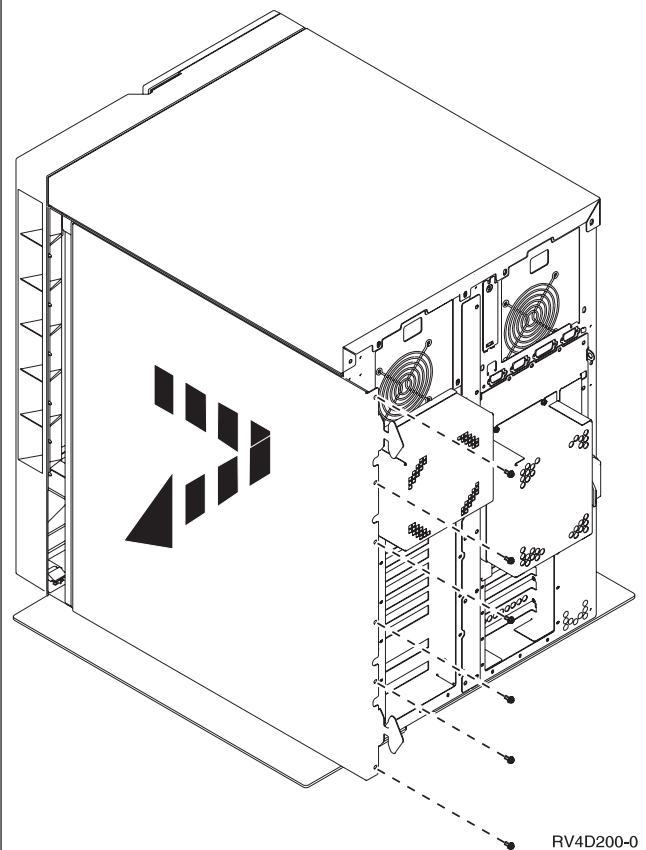
1. Remove the side cover by removing the screws and sliding the cover from front to back until it stops. Pull the cover out (Table 5).
 - Remove only the right side cover (looking at the back of the system unit), when installing a device in the base unit.
 - Remove the left side cover, when you have an expansion unit, and when you have a device to install in the expansion unit.
 - Remove both side covers, when you have an expansion unit, and when you have devices to install in both the base and expansion unit.

Table 5. Remove Side Cover

Right Side Cover



Left Side Cover

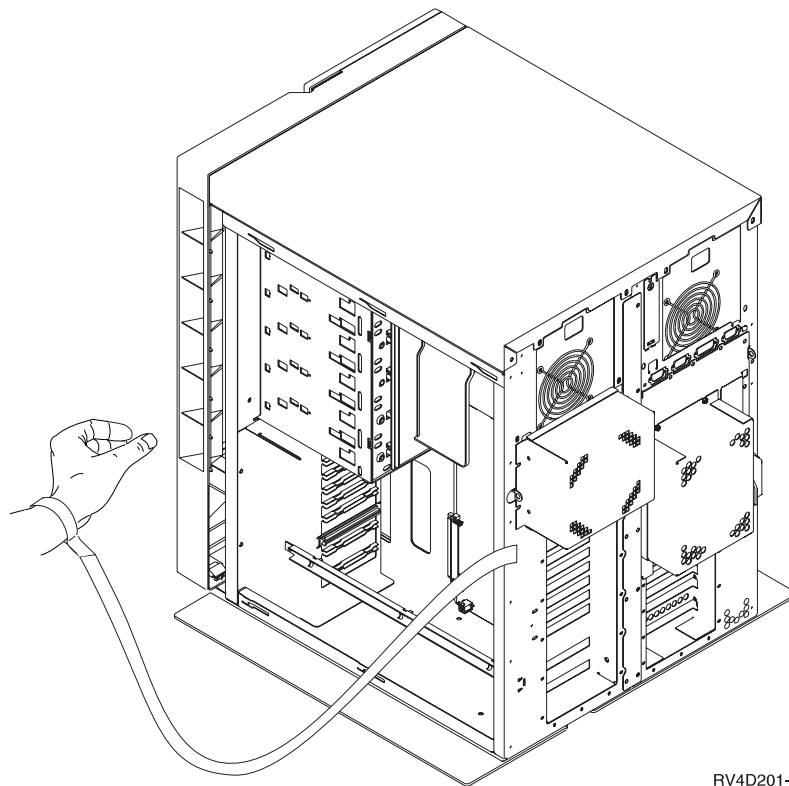


Your system unit contains a battery that only trained service personnel can replace.

- 2. **CAUTION:**
The battery is a lithium battery. Only trained service personnel may replace this battery using the instructions in the Problem Analysis, Repair, and Parts service manual. To avoid possible explosion, do not burn or charge the battery. Exchange only with the IBM-approved part. Discard the battery as instructed by local regulations. (RSFTC241)
- 3. Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device. Figure 3 shows an example of where to attach the adhesive part of the foil to an unpainted surface.

Notes:

- a. Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase nor decrease your risk of receiving electric shock when using or working on electrical equipment.
- b. Discard the wrist strap immediately and contact your dealer for a replacement, if the disposable wrist strap appears damaged or cut off. Do not continue until new wrist strap is available.
- c. Remove the liner from the copper foil at the end, when you unroll the wrist strap.
- d. Attach the copper foil to an **exposed, unpainted** metal surface on the frame of the system unit (electrical ground).



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Figure 3. Attach Wrist Strap

- 4. Do you need to move an adapter card?

Yes No

↓ Go to step 12 on page 11.

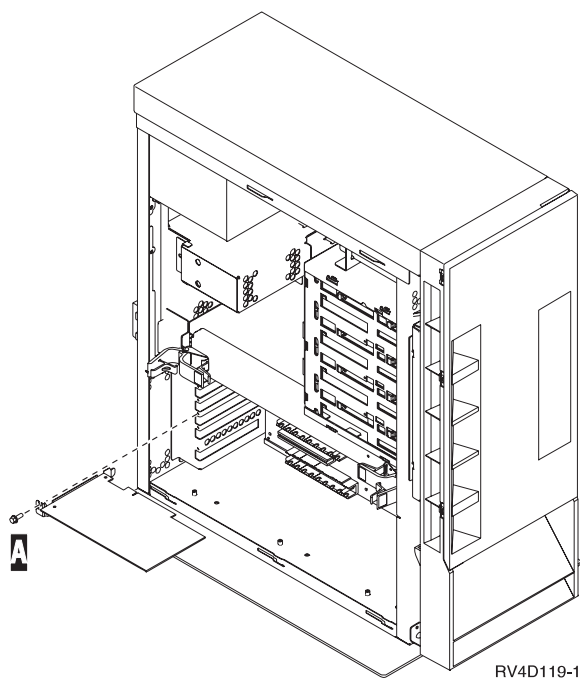
5. DANGER

To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device. (RSFTD203)

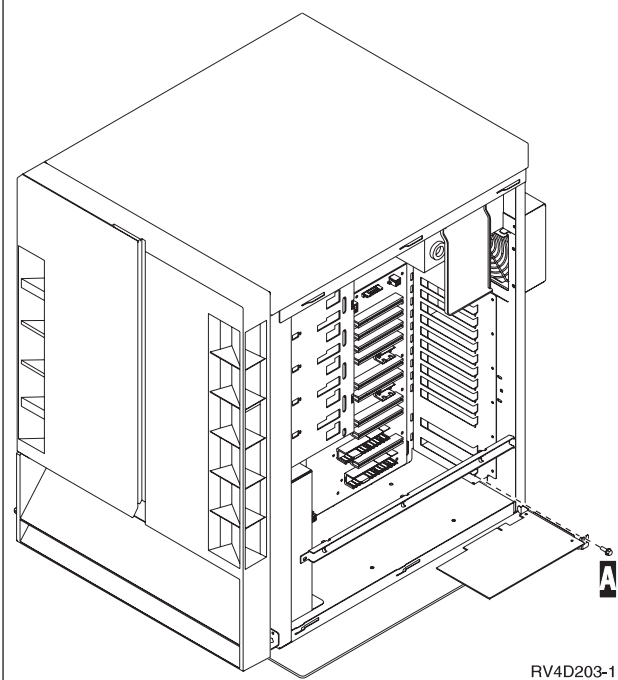
- a. Disconnect the cable from the adapter card.
- b. Remove the screw **A** from the card tab, (Table 6).

Table 6. Remove or Install Adapter Card

Base Side



Expansion Side



c. **Attention:** Adapter cards are fragile:

- Handle only by the edges
- Keep fingers off printed circuit area
- Use static strap when handling
- Leave in protective packaging until ready to install

Remove the adapter card from the system unit by pulling straight out from the connector.

6. Turn the card over and look for the label with the feature number; for example, 2724, 2723, and so on.
7. Use the tables, beginning with Table 1 on page 4, to determine where to install the card.
8. After determining where to install the card, find the card slot position inside the system unit.

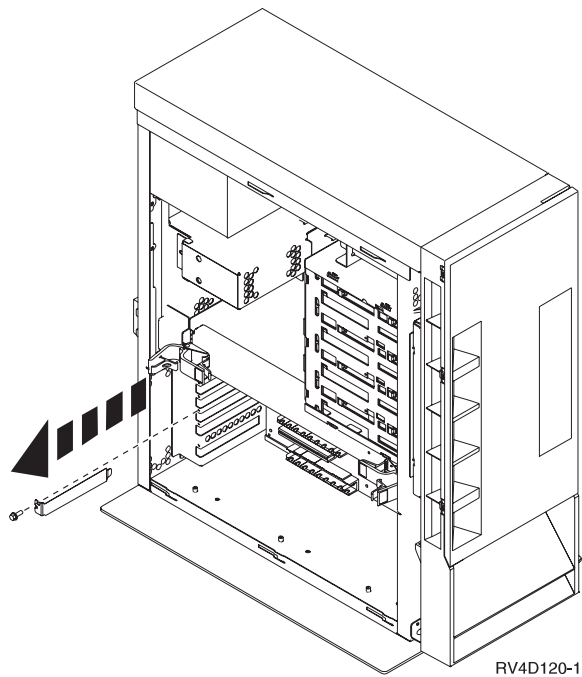
- ___ 9. Before you install the adapter card, you may need to remove the adapter card slot cover inside the system unit by doing the following:

Note:

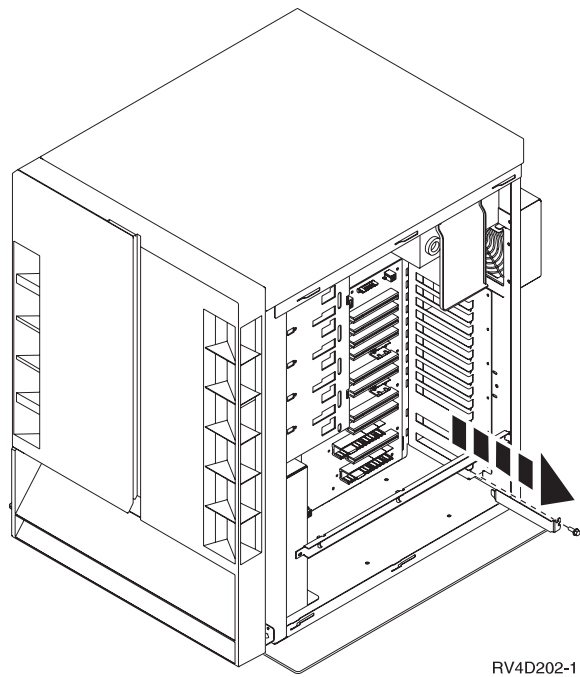
- a. Remove the screw, (Table 7).
- b. Slide the slot cover out.

Table 7. Remove Adapter Card Slot Cover

Base Side



Expansion Side



- ___ 10. Install the adapter card by doing the following:
 - a. Align the adapter card with the card slot.

Note: If installing the adapter card in slot C09, the slot is easier to access when the plastic airflow baffle above it is removed. You must reinstall the airflow baffle to ensure proper disk unit operation and cooling.

- b. Slide the card into the system unit and push on both sides of the card until the card is all the way into the slot and the connector (Table 6 on page 10).

Note: The screw tab on the adapter card should be even with the frame on the system unit and aligned with the screw hole when completely installed.

- c. Install the screw **A** that holds the adapter card in place, (Table 6 on page 10).
- ___ 11. Reconnect the cable to the card. Be sure to label the cable with the new card slot.
- ___ 12. Before you install the new adapter card, remove the adapter card slot cover inside the system unit by doing the following:
 - a. Remove the screw, (Table 7).

- b. Slide the slot cover out.
- ___ 13. **Attention:** Adapter cards are fragile:
 - Handle only by the edges
 - Keep fingers off printed circuit area
 - Use static strap when handling
 - Leave in protective packaging until ready to install

Find the package that contains the new adapter card and remove it from the electrostatic package.

- ___ 14. Install the adapter card by doing the following:
 - a. Align the adapter card with the card slot (Table 6 on page 10).

Note: If installing the adapter card in slot **C09**, the slot is easier to access when the plastic airflow baffle above it is removed. You must reinstall the airflow baffle to ensure proper disk unit operation and cooling.

- b. Slide the card into the system unit and push on both sides of the card until the card is all the way into the slot and the connector.

Note: The screw tab on the adapter card should be even with the frame on the system unit and aligned with the screw hole when completely installed.

- c. Install the screw **A** that holds the adapter card in place, (Table 6 on page 10).
- ___ 15. **DANGER**

To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device. (RSFTD203)

Connect the 8-port Twinaxial cable attachment, **part number 21F5093**, to the 2722 or 2746 adapter card.

Note: Each port on the 8-port attachment cable supports 7 devices allowing for 56 attached devices, of which only 40 can be **active**.

- ___ 16. Do you have any other adapter cards or devices to install?

No Yes

↓ If you know where to install the adapter card, follow the steps you just performed to install the card.

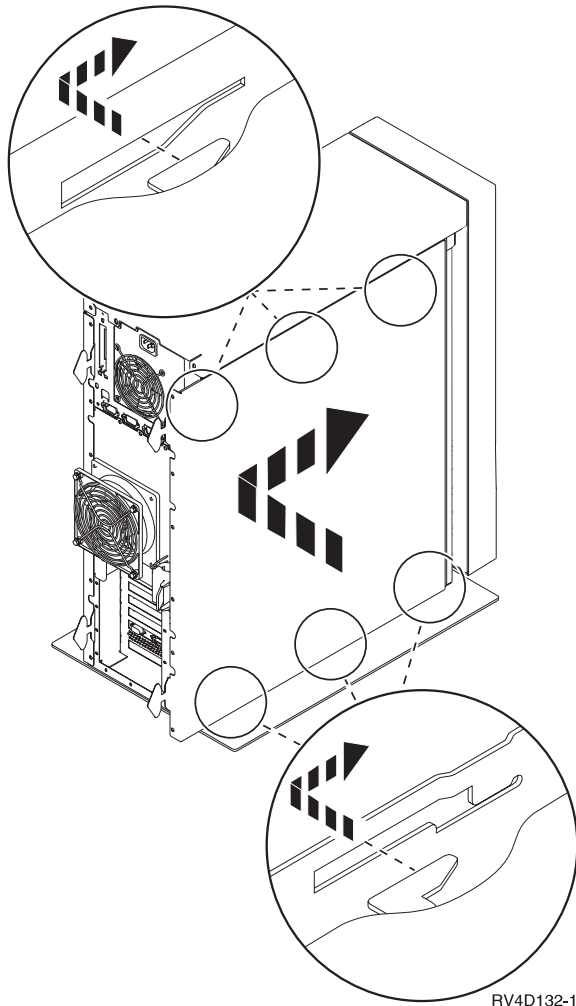
If you do not know where to install the adapter card, go to the placement tables in these instructions or go to the instructions that came with the adapter card. Look for the step that tells you where to install the adapter card and complete the installation.

If you have another device such as a disk unit, a tape unit, or a memory card to install, go to the instructions that came with that device.

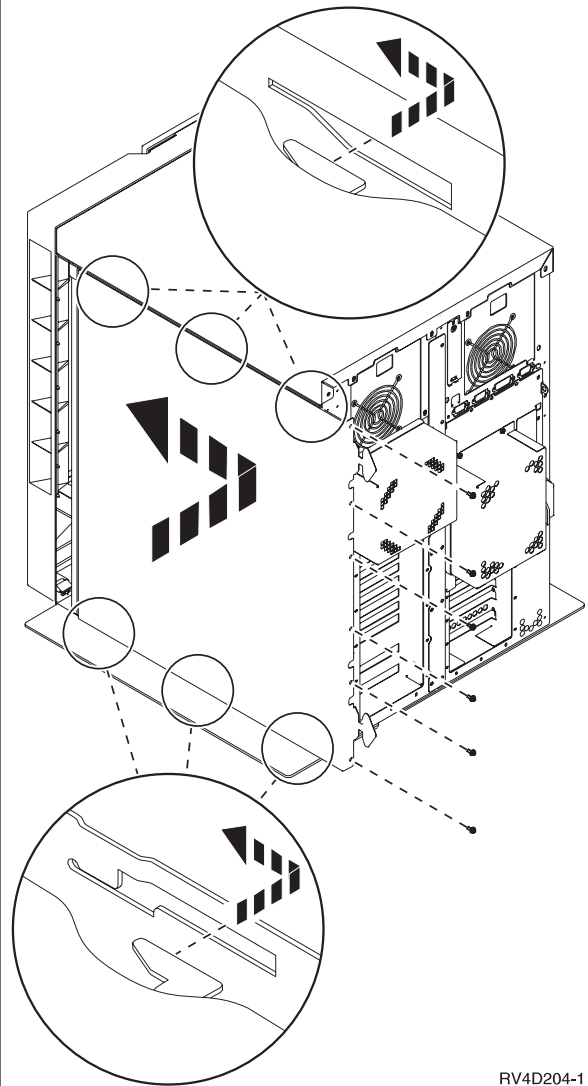
- ___ 17. Install the system unit side cover by aligning the tabs on the top and bottom edge and press forward to make sure that all tabs enter the slots. Slide the cover toward the front of the system unit until it stops and install the screws (Table 8).

Table 8. Install Side Cover

Base Side



Expansion Side



Completing the Installation

- ___ 1. Install the system unit back cover.

___ 2. DANGER

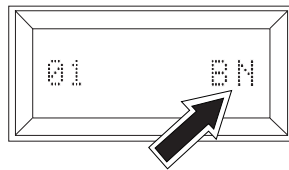
An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

Plug the following power cords into an electrical outlet.

- System unit
- System unit console

___ 3. Plug in and power on all attached devices, such as printers and displays.

___ 4. Look at the Function/Data display on the control panel. Does a **B N** appear in the Function/Data display?



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Yes **No**

↓ Do the following:

- Press the Up or Down select push button until **02** appears in the Function/Data display.
- Press the Enter push button on the control panel.
- Press the Up or Down select push button until **B N** appears in the Function/Data display.
- Press the Enter push button on the control panel.
- Press the Up or Down select push button until **01** appears in the Function/Data display.
- Press the Enter push button on the control panel.
- Go to step 5.

___ 5. Power on the workstation or PC that is your console.

___ 6. Press the system unit power-on button. The power-on light will appear.

Note: The system takes approximately 6 to 10 minutes to power on and complete an IPL.

___ 7. Sign on the system unit. Ensure that you have service tools authority.

___ 8. Do the following to verify your adapter card configuration:

- On an AS/400 command line, type:
STRSST

Press the Enter key.

- When the Start a Service Tools menu appears, select the *Start a service tool* option.

Press the Enter key.

- When the Start a Service Tool menu appears, select the *Hardware service manager* option.

Press the Enter key.

- d. When the Hardware Service Manger menu appears, select the *Packaging hardware resources (system, frames, cards...)* option.
Press the Enter key.
- e. When the Packaging Hardware Resources menu appears, type a 9 in front of the *System Unit*.
Press the Enter key.
Verify the adapter card you just installed appears in the card position it was installed.
If the adapter card is not listed, ensure that the card is properly installed.
- f. Did you move an adapter card?

No Yes

↓ Verify that the card you moved is listed on the *Packaging Hardware Resources* menu.

If a resource is missing (look for a ?) because an adapter card was moved, do the following:

- 1) On the line that has the question mark, type a 4 in the *Opt* column to remove the resource from the configuration.
- 2) Press the Enter key.
- 3) When Confirm Remove of Packaging Hardware Resources(s) appears, press the Enter key.
- 4) If you move an adapter card, or replace an adapter card with another adapter card, you need to change the *Resource Name*. For information on changing resource names, go to AS/400 online information, or the *Basic System Operation, Administration, and Problem Handling, SC41-5206-04*.
- 5) Go to step 9.

- ___ 9. Print the configuration list, if you have a printer.

Note: To print the configuration list, press **F6** on the Packaging Hardware Resources menu.

Place the configuration list in the *Basic System Operation, Administration, and Problem Handling, SC41-5206-04* book.

- ___ 10. To return to the AS/400 Main menu, press **F3** three times and then press the Enter key.
- ___ 11. For information on how to make your card operational, go to the *AS/400 Information Center*. You can access the Information Center from the *AS/400 Information Center, SK3T-2027-03* or from the following Web site:
<http://www.as400.ibm.com/infocenter>
- ___ 12. Your feature upgrade is complete. Keep all miscellaneous parts, such as wrap connectors, in a safe place.

Installing the 2746 Twinaxial Card for the System Unit Console

- ___ 1. Remove the right side cover by removing the screws and sliding the cover from front to back until it stops. Pull the cover out (Figure 4 on page 16).

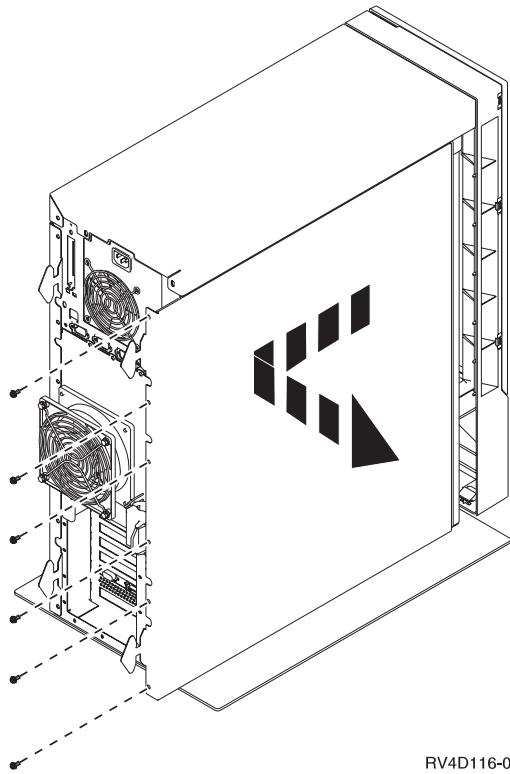


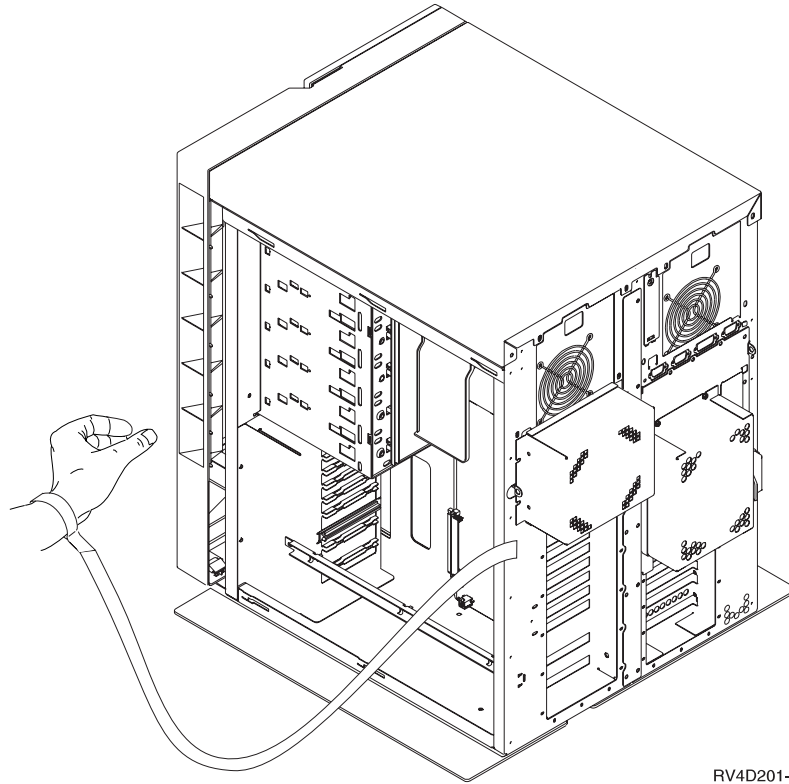
Figure 4. Remove Right Side Cover

Your system unit contains a battery that only trained service personnel can replace.

- 2. **CAUTION:**
The battery is a lithium battery. Only trained service personnel may replace this battery using the instructions in the Problem Analysis, Repair, and Parts service manual. To avoid possible explosion, do not burn or charge the battery. Exchange only with the IBM-approved part. Discard the battery as instructed by local regulations. (RSFTC241)
- 3. Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device. Figure 5 on page 17 shows an example of where to attach the adhesive part of the foil to an unpainted surface.

Notes:

- a. Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase nor decrease your risk of receiving electric shock when using or working on electrical equipment.
- b. Discard the wrist strap immediately and contact your dealer for a replacement, if the disposable wrist strap appears damaged or cut off. Do not continue until new wrist strap is available.
- c. Remove the liner from the copper foil at the end, when you unroll the wrist strap.
- d. Attach the copper foil to an **exposed, unpainted** metal surface on the frame of the system unit (electrical ground).



RV4D201-0

Figure 5. Attach Wrist Strap

- ___ 4. Your system may be a base unit (single unit) or a base unit with an expansion unit (double unit). The adapter card slots are labeled **C03** through **C09** in the base unit and **E02** through **E14** in the expansion unit (Figure 2 on page 4).
- ___ 5. The 2746 card will be installed in position **C09** in the base unit.

Note: Slot **C09** is easier to access when the plastic airflow baffle above it is removed. Reinstall the airflow baffle to ensure proper disk unit operation and cooling.

- ___ 6. Do you need to remove an adapter card from position **C09**?

Yes No

↓ Go to step 8 on page 19.

- ___ 7. **DANGER**

To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device. (RSFTD203)

- a. Disconnect the cable from the adapter card.
- b. Remove the screw **A** from the card tab, (Figure 6 on page 18).

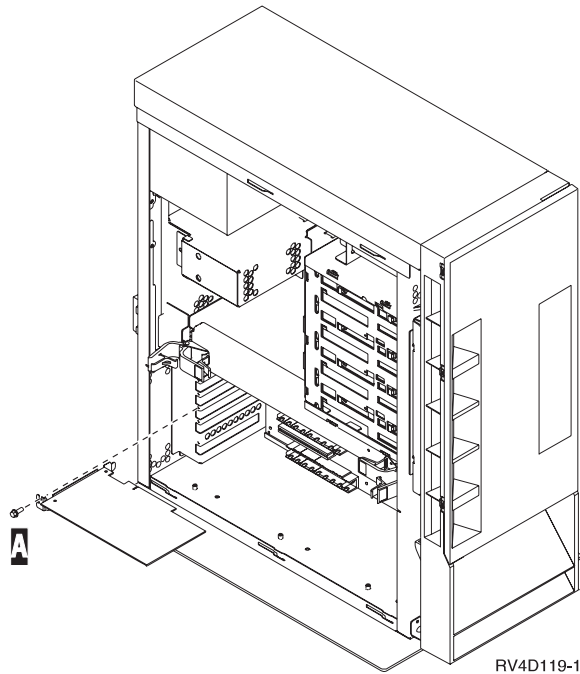


Figure 6. Remove or Install Adapter Card

- c. Remove the adapter card from the system unit by pulling straight out from the connector. Adapter cards are fragile:
 - Handle only by the edges
 - Keep fingers off printed circuit area
 - Use static strap when handling
 - Leave in protective packaging until ready to install
- d. Turn the card over and look for the label with the feature number; for example, 2724, 2723, and so on.
- e. Go to the tables in “Determining Where to Install Your New Card” on page 3 to determine where to place the card that you removed.
- f. Find the card slot position inside the system unit where the card is going to be installed.
- g. Before you reinstall the adapter card, you may need to remove the adapter card slot cover inside the system unit by doing the following:
 - 1) Remove the screw, (Figure 7 on page 19).
 - 2) Slide the slot cover out.

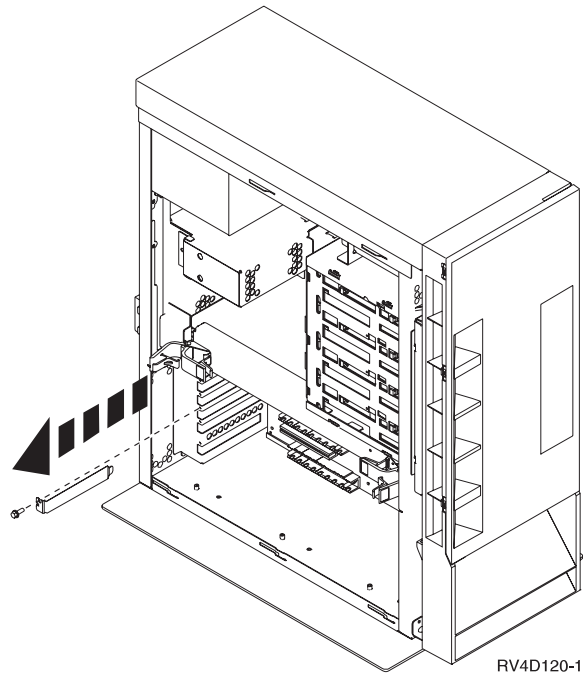


Figure 7. Remove Adapter Card slot Cover

h. Install the adapter card by doing the following:

1) Align the adapter card with the card slot.

Note: If installing the adapter card in slot C09, the slot is easier to access when the plastic airflow baffle above it is removed. You must reinstall the airflow baffle to ensure proper disk unit operation and cooling.

2) Slide the card into the system unit and push on both sides of the card until the card is all the way into the slot and the connector (Table 6 on page 10).

Note: The screw tab on the adapter card should be even with the frame on the system unit and aligned with the screw hole when completely installed.

3) Install the screw **A** that holds the adapter card in place, (Table 6 on page 10).

i. Reconnect the cable to the card. Be sure to label the cable with the new card slot.

___ 8. Find the package that contains the new adapter card and remove it from the electrostatic package. Adapter cards are fragile:

- Handle only by the edges
- Keep fingers off printed circuit area
- Use static strap when handling
- Leave in protective packaging until ready to install

___ 9. Install the adapter card by doing the following:

a. Align the adapter card with the card slot (Figure 6 on page 18).

b. Slide the card into the system unit and push on both sides of the card until the card is all the way into the slot and the connector.

Note: The screw tab on the adapter card should be even with the frame on the system unit and aligned with the screw hole when completely installed.

- c. Install the screw **A** that holds the adapter card in place, (Figure 6 on page 18).

10. **DANGER**

To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device. (RSFTD203)

Connect the 8-port cable, part number 21F5093, **A** to the adapter card in position **C09** (Figure 8). Push in the cable connector and tighten the thumbscrews.

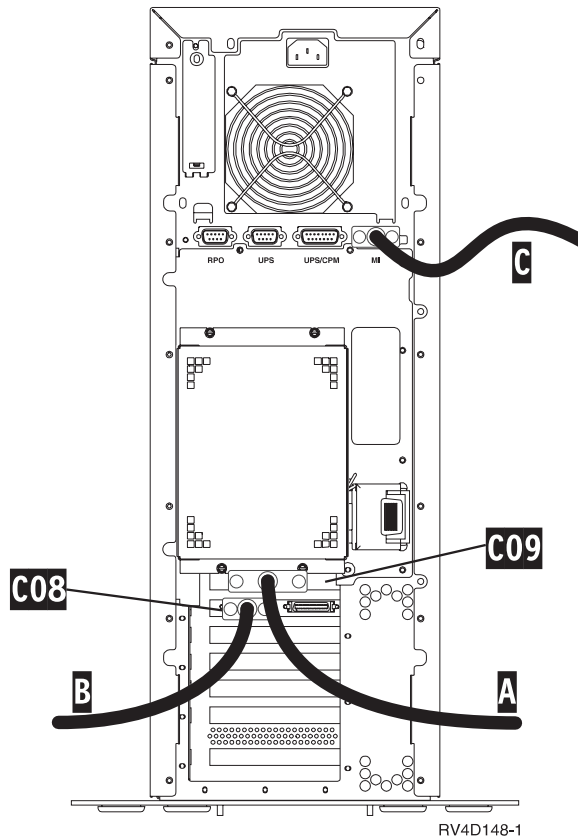


Figure 8. How to Connect the 8-Port Attachment to System Unit

Note: Each port on the 8-port attachment cable supports 7 devices allowing for 56 attached devices, of which only 40 can be active.

__ 11. **Attention:**

If you **have set up** any workstations or personal computers (PCs) that will be connected to the system unit:

- a. Power off all workstations or PCs.
- b. Unplug all workstation or PC power cords from the electrical outlets.
- c. Place the workstation or PC that will be used as the system unit console not more than 6 meters (20 feet) from the system unit.

If you **have not set up** the workstation or PC that will be used as your system unit console:

- a. Place the workstation or PC not more than 6 meters (20 feet) from the system unit.
 - b. Follow the instructions that came with the workstation or PC to set it up.
 - c. Power off all workstations or PCs.
 - d. Unplug all workstation or PC power cords from the electrical outlets.
- __ 12. Find the Twinaxial cable, that you will use to connect the system unit console (workstation or PC) to the 8-port attachment.
- __ 13. Label the cable, **console cable, port 0**.
- __ 14. Fit a Twinaxial cable connector shield **D** (Figure 9), over the cable connector **C** , if one is not already there.

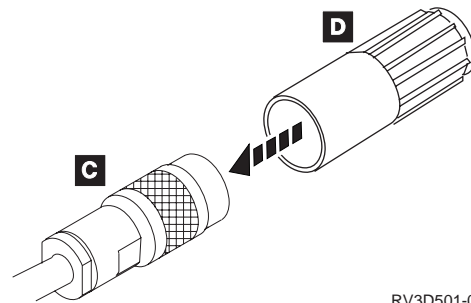
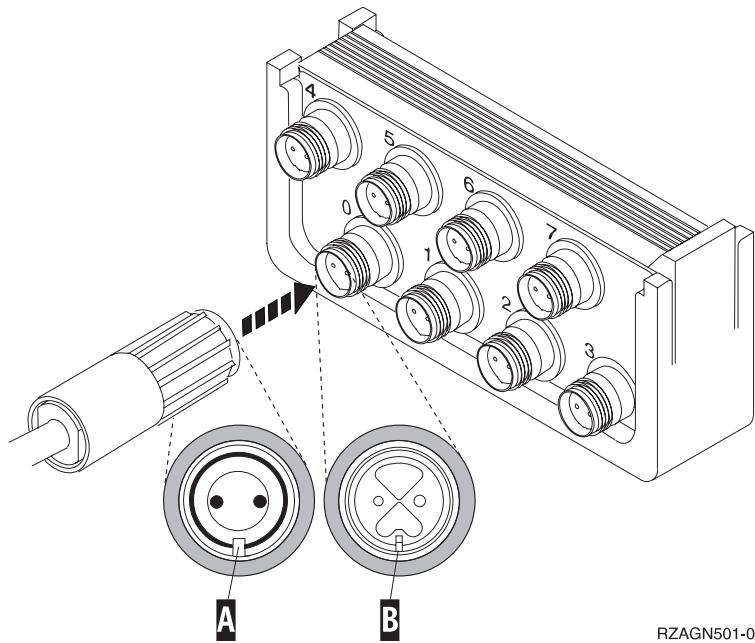


Figure 9. Twinaxial Cable Connector Shield

Note: The shield helps protect against electrical shock, if the electrical receptacle is not properly wired.

- __ 15. Align the key **B** in **port 0** on the 8-port Twinaxial cable connector with the slot **A** on the Twinaxial cable (Figure 10 on page 22). Push in, hold, and turn the outer ring until it is tight.



RZAGN501-0

Figure 10. Where to Connect the System Unit Console Cable

- ___ 16. To connect your system unit console:
 - a. Place the console (workstation or PC) not more than 6 meters (20 feet) from the system unit.
 - b. Connect the other end of the cable to your system unit console.

Note: Port 0, if the ports are labeled. The workstation address of your console **must be set to 0**. To set the address, refer to the book that was shipped with your device.

- ___ 17. Install the system unit back cover.

- ___ 18. **DANGER**

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

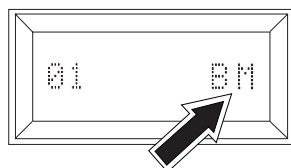
Plug the following power cords into an electrical outlet.

- System unit

Note: Do **not** power on your AS/400 system unit at this time.

- System unit console

- ___ 19. Power on your PC or workstation that is your system unit console.
- ___ 20. Does a **BM** appear in the Function/Data display?



RV4D186-0

No Yes

↓ Go to step 25.

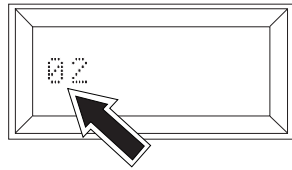
___ 21. Is the Function/Data display lit?

Yes No

↓ Before calling your hardware service representative, do the following:

- Confirm that the electrical outlet is functioning by plugging in a lamp or other simple device.
- Ensure that the power cord is securely plugged into the system unit and electrical outlet.

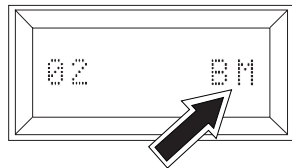
___ 22. Press the Up or Down select push button until **02** appears in the Function/Data display.



RV4D110-0

___ 23. Press the Enter push button located on the AS/400 system unit control panel.

___ 24. Press the Up or Down select push button until **B M** appears in the Function/Data display.



RV4D187-0

___ 25. Press the Up or Down select push button until **02** appears in the Function/Data display.

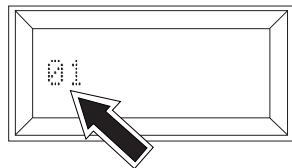
___ 26. Press the Enter push button twice. **02** and **V** appear in the Function/Data display.

___ 27. Press the Up or Down select push button until the display is changed to **02** and **S**.

___ 28. Press the Enter push button.

Note: This changes the IPL to *slow*, which will run all diagnostics on your system (for this IPL only).

___ 29. Press the Up or Down select push button until **01** appears in the Function/Data display.



RV4D112-0

___ 30. Verify the IPL type, mode, and speed by doing the following:

- a. Press the Enter push button. **01** and **B M** appear in the Function/Data display.
 - b. Press the Enter push button again. **01** and **S** appear in the Function/Data display.
- ___ 31. Press the Power push button that is located on the AS/400 control panel. The power-on light comes on, and data appears in the Function/Data display.

Note: The system takes approximately 5 to 10 minutes to power on and complete an IPL. When the IPL is complete, the *IPL or Install the System* display should appear on your system unit console.

- ___ 32. When the *IPL or Install the System* display appears, select Use Dedicated Service Tools (DST).
Press the Enter key.
- ___ 33. When the *Dedicated Service Tools (DST) Sign On* display appears, sign on with QSECOFR authority.
DST user QSECOFR
DST password QSECOFR

Press the Enter key.
- ___ 34. When the *Use Dedicated Service Tools (DST)* display appears, select Work with DST Environment.
Press the Enter key.
- ___ 35. When the *Work with DST Environment* display appears, select System devices.
Press the Enter key.
- ___ 36. When the *Work with System Devices* display appears, select Console mode.
Press the Enter key.
- ___ 37. When the *Select Console Type* display appears, select Local console.
Press the Enter key.
- ___ 38. Press F3 (Exit) once.
- ___ 39. When *Use Dedicated Service Tools (DST)* display appears, select Perform an IPL.
Press the Enter key.
- ___ 40. You have completed the card installation and IPL procedures.

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