



@server

iSeries 270 and 8xx

Upgrading the System Unit from
Operations Console to Twinaxial
Console (5540)

Version 5





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Operations Console to Twinaxial
Console (5540)

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Note

Before using this information and the product it supports, be sure to read the information in "Notices," on page 23.

Fourth Edition (August 2005)

This edition applies to version 5, release 3, modification 0 of IBM Operating System/400® (product number 5722-SS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CISC models.

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Upgrade Operations Console to twinaxial console

Before you begin

Before you begin a replacement or installation task, follow these steps:

- ___ 1. **For an installation and if possible, for a replacement, ensure that you have a current backup of your system (including operating system, licensed programs, and data).** If you have backed up the operating system and licensed programs since the last time you applied PTFs, that backup is acceptable.
- ___ 2. Ensure that you take a few minutes to become familiar with these instructions.
- ___ 3. Ensure that you have access to a medium flat-bladed screwdriver.
- ___ 4. If there are incorrect, missing, or visibly damaged parts, contact one of the following:
 - Your authorized service provider
 - In the United States: IBM[®] Rochester Manufacturing Automated Information Line (R-MAIL) at 1-800-300-8751
 - In countries outside of the United States: Use the following Web site to locate your service and support numbers:
<http://www.ibm.com/planetwide>
- ___ 5. If you are installing new hardware in logical partitions, you need to plan and understand the requirements to be successful. Go to Logical partitions in the *Information Center*. Then return to these instructions.
- ___ 6. If you encounter difficulties during the procedure, contact your authorized service provider or your authorized dealer.
- ___ 7. Determine if there are any existing PTF prerequisites before you install your new feature. Go to the following Web site:
http://www-912.ibm.com/s_dir/slkbase.NSF/slkbase
 - a. Select **All Documents**.
 - b. Select **General Information**.
 - c. Select **Offerings**.
 - d. Select **Feature Prerequisites**.
 - e. Select **Customer Installation Features Prerequisites**.
 - f. Locate your feature number and OS/400[®] release, and check the prerequisites.

Power off the system unit

- ___ 1. If an Integrated xSeries Adapter (IXA) is present on the system, shut it down using OS/400 options.
- ___ 2. Ensure that all jobs are complete.
- ___ 3. When all jobs are complete, type **pwrdfwnsys *immed** on a command line and press Enter.

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

- ___ 4. When the unit is completely powered down, disconnect all PCs from the system unit. Power off all devices, such as printers and displays, that are connected to the system unit.
- ___ 5. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 6. Unplug the system-unit power cord and any attached expansion-unit power cords from the electrical outlet.

Installing the 2746 workstation adapter card

___ 1. 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)

___ 2. If you are using local console on a network (LAN console), remove the console network cable.

___ 3. If you are using local console directly attached, disconnect the Operations Console cable connected to the card in one of the following positions:

- 270, 800, or 810 system unit, position C07. See "Configuration tables" on page 15 for more information.
- 820 system unit, position C06. See "Configuration tables" on page 15 for more information.
- 825 system unit, position C06. See "Configuration tables" on page 15 for more information.
- 830, 840, SB2, SB3 system unit, position C02. See "Configuration tables" on page 15 for more information.
- 870 or 890 system unit, position C02. See "Configuration tables" on page 15 for more information.

___ 4. Is there a 2746 card installed in one of the following positions?

- 270, 800, or 810 system unit: C06
- 820 system unit: C04 or C11
- 825 system unit: C11, C10, C03, C02, C01
- 830, 840, SB2, SB3 system unit: C04, C06, C07, C09, or C10
- 870 or 890 system unit: C04, C06, C07, C08, or C09

___ No: Continue with the next step.

___ Yes: Go to "Connecting the Twinaxial cable attachment and Twinaxial console cable" on page 5.

___ 5. Before you remove the card from the system unit, you need to see if you have an open position to install the card you removed in a different position.

Look at the PCI card area. Are there any open positions?

___ Yes: Go to the Install PCI Card topic in the *Information Center* for instructions on *Moving a card in your iSeries*.

___ No: Use the following to help determine card placement.

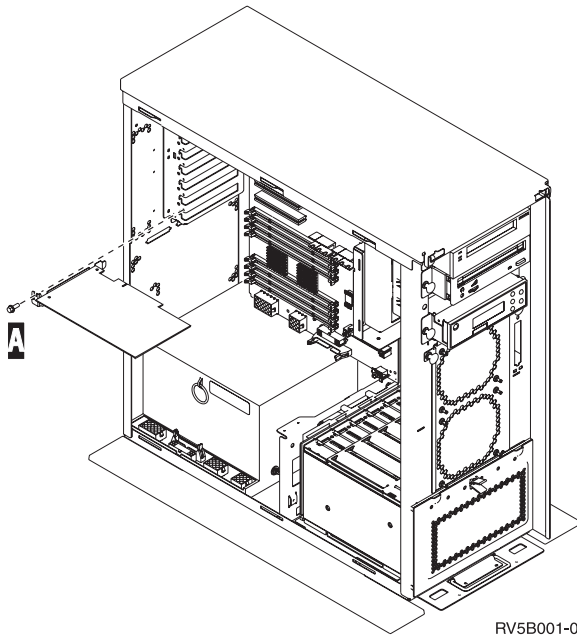
- Go to the Install PCI Card topic in the *Information Center*
- Contact your authorized service provider or your authorized dealer

___ 6. **Attention:** Adapter cards are fragile. Use static strap when handling, handle only by the edges, and keep fingers off printed circuit area.

___ 7. Install the new 2746 adapter card in one of the following positions:

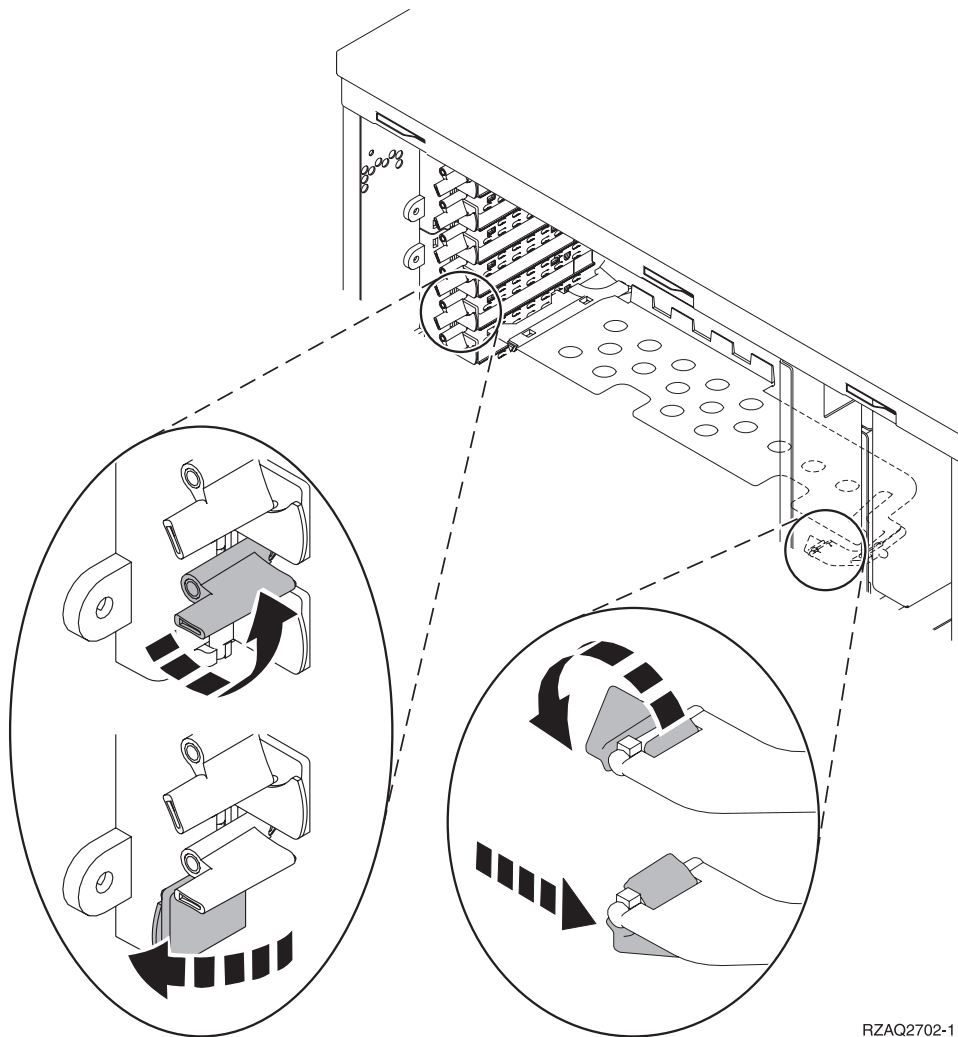
- 270 system unit: C06
- 800 or 810 system unit: C07
- 820 system unit: C03 or C11
- 825 system unit: C06
- 830, 840, SB2, SB3 system unit: C04, C06, C07, C09, or C10
- 870 or 890 system unit: C04, C06, C07, C08, or C09

___ 8. Does your unit have screws to secure the cards?



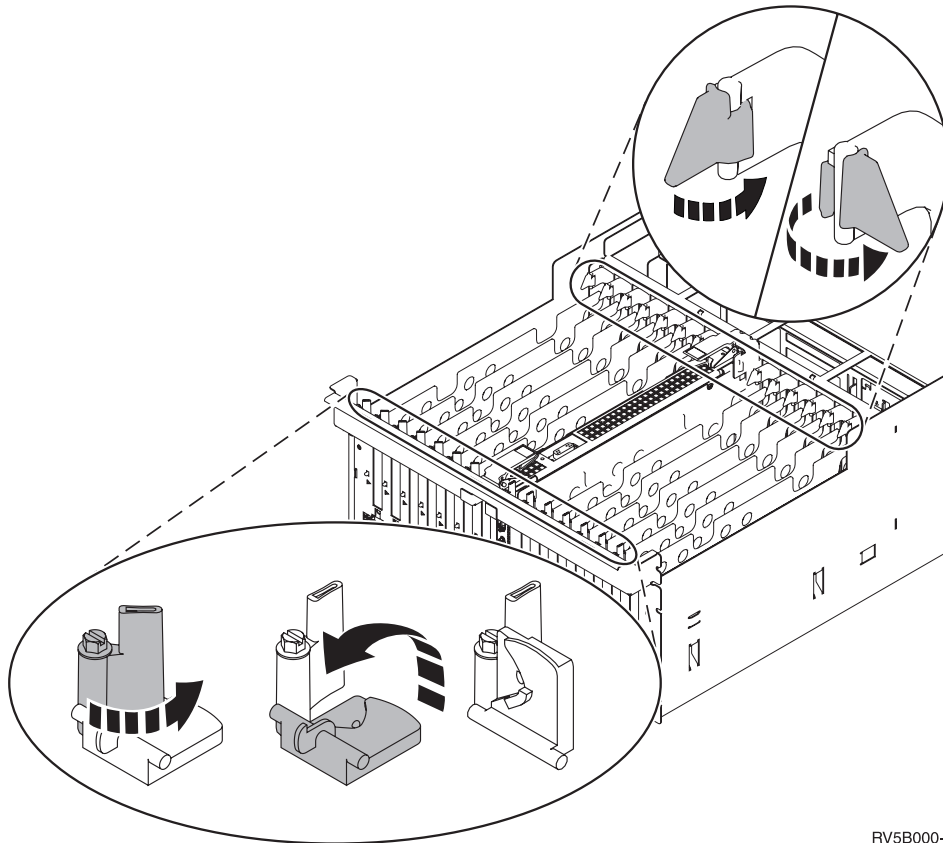
RV5B001-0

- No:** Continue with the next step.
- Yes:** Remove the screw from the card position where you plan to install the card.
 - Go to step 11 on page 5.
- 9. Your unit has card latches to secure the cards.
- 10. Open the latch at the card position where you plan to install the card. Move the latch counterclockwise and then swing the black latch out.



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Figure 1. Example of 270, 800, 810, 820, 825, 5075 Card Latch



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Figure 2. Example of 830, 840, 870, 890, SB2, SB3, 5079 Card Latches

- __ 11. Remove the card filler plate.
- __ 12. **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
- __ 13. Align the new adapter card with the card holders inside the system unit and push until it is connected securely.
- __ 14. Swing the black latch in and move the other latch clockwise, or install the screw to secure the card.
- __ 15. Go to “Connecting the Twinaxial cable attachment and Twinaxial console cable.”

Connecting the Twinaxial cable attachment and Twinaxial console cable

- __ 1. Is there a cable attached to the 2746 card?
 - __ No: Continue with the next step.
 - __ Yes: Go to step 4 on page 6.
- __ 2. Find the 8-port Twinaxial cable attachment (**part number 21F5093**) and label the cable, for example, C06.
- __ 3. Connect the 8-port Twinaxial cable attachment to the connector on the 2746 card.

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

- ___ 4. Set up the workstation or personal computer (PC) that will be connected to the system unit and used as the console.

Notes:

- a. 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.
- b. Follow the instructions that came with the workstation or PC to set it up.

- ___ 5. Find a Twinaxial cable and label it **console cable**.
- ___ 6. Align the key **B** in **port 0** on the 8-port Twinaxial cable connector with the slot **A** on the Twinaxial cable (Figure 3) attachment.

Push in, hold, and turn the outer ring until it is tight.

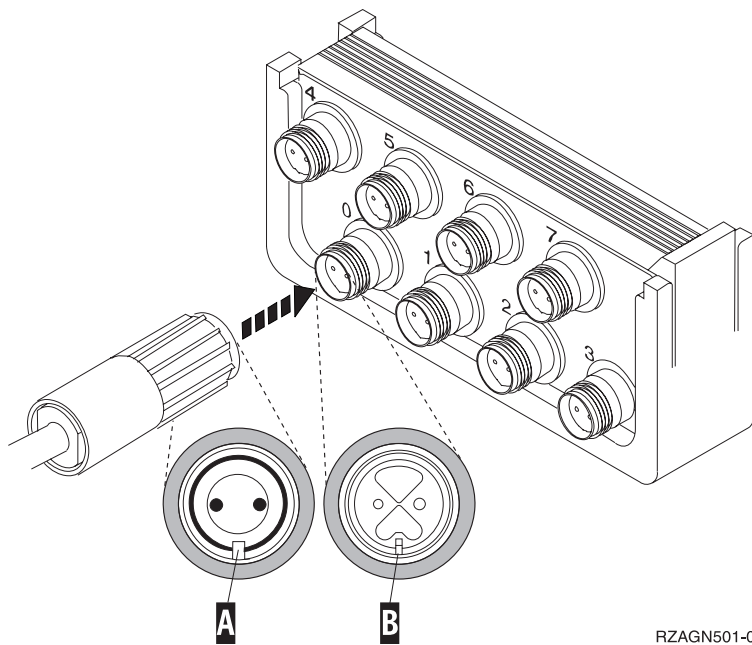


Figure 3. Where to Connect the System Unit Console Cable

- ___ 7. Connect the other end of the Twinaxial console cable to the PC or workstation that is the system unit console.

Note: 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.

- ___ 8. Install the side and back covers.
- ___ 9. **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 system unit at this time.

- System unit console

Completing the Installation

- ___ 1. Power on the PC or workstation that is your system unit console.
- ___ 2. Is your system unit a 270, 800, 810, 820, or 825?
 - ___ 270, 800, or 810: Continue with the next step.
 - ___ 820, 825, 830, 840, SB2, SB3, 870 or 890: Go to step 5.
- ___ 3. Look at the Function/Data display on the control panel.
- ___ 4. Does **01 B M V=S** appear in the Function/Data display?
 - ___ Yes: Go to step 7 on page 8.
 - ___ No: Do the following:
 - ___ a. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ b. Press the Enter push button on the control panel.
 - ___ c. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ d. Press the Enter push button on the control panel.
 - ___ e. Press the Increment/Decrement push button until **M** appears in the Function/Data display.
 - ___ f. Press the Enter push button on the control panel.
 - ___ g. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - ___ h. Press the Enter push button on the control panel.
 - ___ i. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - ___ j. Press the Enter push button on the control panel.
01 B M S should appear in the Function/Data display. If it does not, repeat steps 4a through 4i.
 - ___ k. Go to step 7 on page 8.
- ___ 5. Look at the Function/Data display on the control panel.
- ___ 6. Does **01 B V=S** appear in the Function/Data display and is the manual mode indicator (a small hand) illuminated?
 - ___ Yes: Continue with the next step.
 - ___ No: Do the following:
 - ___ a. Press the Mode Select button until the Manual mode indicator (a small hand) is illuminated.
 - ___ b. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ c. Press the Enter push button on the control panel.
 - ___ d. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ e. Press the Enter push button on the control panel.
 - ___ f. Press the Increment/Decrement push button until **S** appears in the Function/Data display
 - ___ g. Press the Enter push button on the control panel.
 - ___ h. Press the Increment/Decrement push button until **01** appears in the Function/Data display.

- ___ i. Press the Enter push button on the control panel.
01 B S should appear in the Function/Display panel and the manual mode indicator (a small hand) is illuminated. If it does not appear, repeat steps 6a on page 7 through 6h on page 7.
- ___ j. Go to step 7.
- ___ 7. Press the system unit power-on button. The power-on light will appear.
Note: When the power on and IPL is complete, the *IPL or Install the System* display should appear on your system unit console.
- ___ 8. Select **Use Dedicated Service Tools (DST)** from the *IPL or Install the System* display.
Press Enter.
- ___ 9. Type **your service tools user ID and service tools password** on the *Dedicated Service Tools (DST) Sign On* display.
Press Enter.
- ___ 10. Select **Work with DST Environment** from the *Use Dedicated Service Tools (DST)* display.
Press Enter.
- ___ 11. Select **System devices** from the *Work with DST Environment* display.
Press Enter.
- ___ 12. Select **Console mode** from the *Work with System Devices* display.
Press Enter.
- ___ 13. Select **Twinaxial** from the *Select Console Type* display.
Press Enter.
- ___ 14. Press F3 (Exit) once.
- ___ 15. Select **Perform an IPL** from the *Use Dedicated Service Tools (DST)* display.
Press Enter.
- ___ 16. Sign on the system unit. Ensure you have service tools authority.
- ___ 17. Type **strsst** on the command line of the *Main Menu*.
Press Enter.
- ___ 18. Select **Start a service tool** from the *System Service Tools (SST)* display.
Press Enter.
- ___ 19. Select **Hardware service manager** from the *Start a Service Tool* display. Press Enter.
- ___ 20. Select **Packaging hardware resources (system, frames, cards...)** from the *Hardware Service Manager* display. Press Enter.
- ___ 21. Type **9** on the *System Unit* line.
- ___ 22. Press Page Down if needed and look at the *Card Pos* column.
- ___ 23. Verify that the cards you installed or moved appears in the position you installed them.
- ___ 24. Your feature upgrade is complete.
- ___ 25. Press F3 three times and press Enter to get back to the *Main Menu*.

Removing the covers

Locate the diagram of the unit you are working on:

- “270, 800, 810 or 820 system units”
- “830, 840, 870, 890, SB2, SB3, 5074, 5079, and 5094 units” on page 10
- “Accessing units in a rack” on page 11

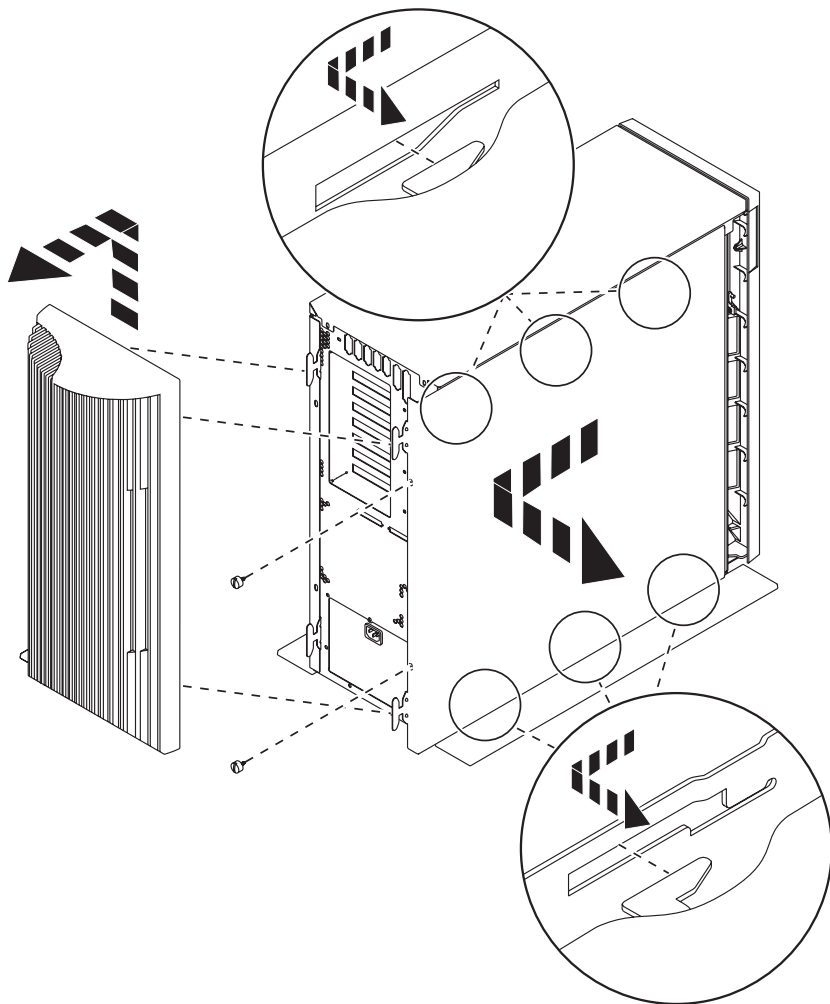
270, 800, 810 or 820 system units

To access the PCI card location, you need to remove the back cover, if you have one, and the side cover:

- 1. Place your hand near the bottom of the back cover and lift up and out.
- 2. **Attention:** If you are removing the side cover while the server is powered on, errors may occur due to electromagnetic interference.

Remove the right side cover (view from back) by loosening the thumbscrews and sliding the cover from front to back until it stops.

- 3. Pull the cover out.

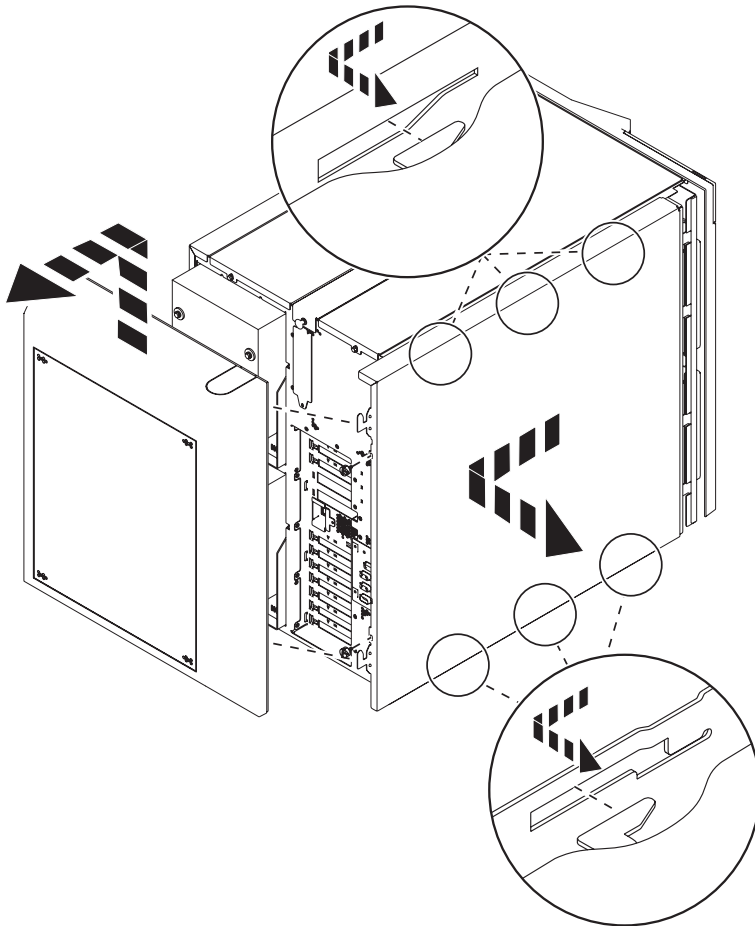


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825 system unit

To access the PCI card location, you need to remove the back cover and the side cover:

- __ 1. Place your hand near the bottom of the back cover and lift up and out.
- __ 2. Remove the right side cover (view from back) by loosening the thumbscrews and sliding the cover from front to back until it stops.
- __ 3. Pull the cover out.

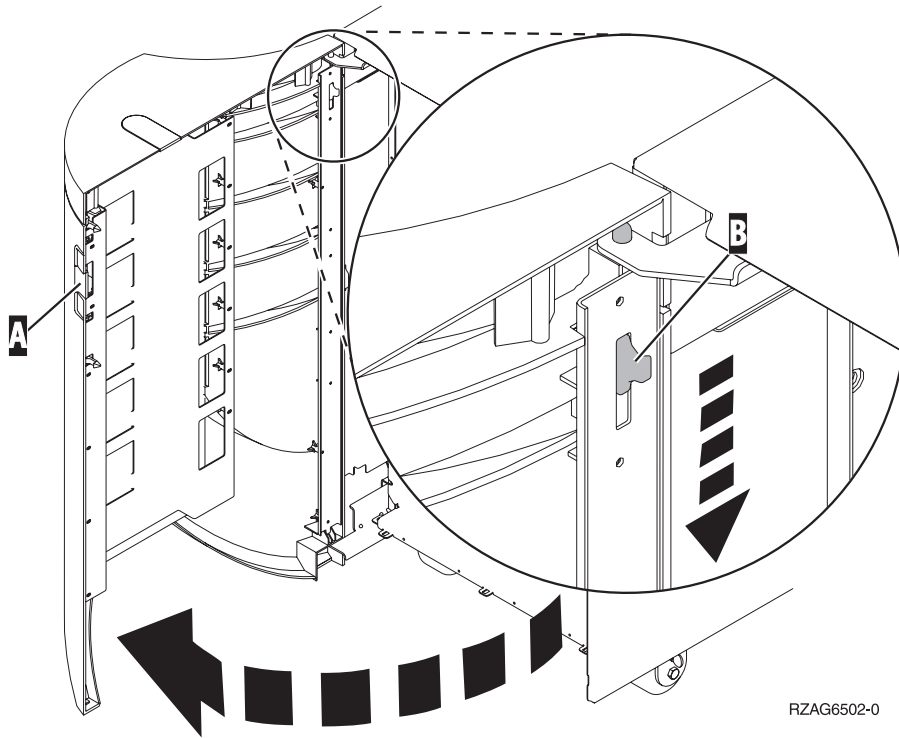


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830, 840, 870, 890, SB2, SB3, 5074, 5079, and 5094 units

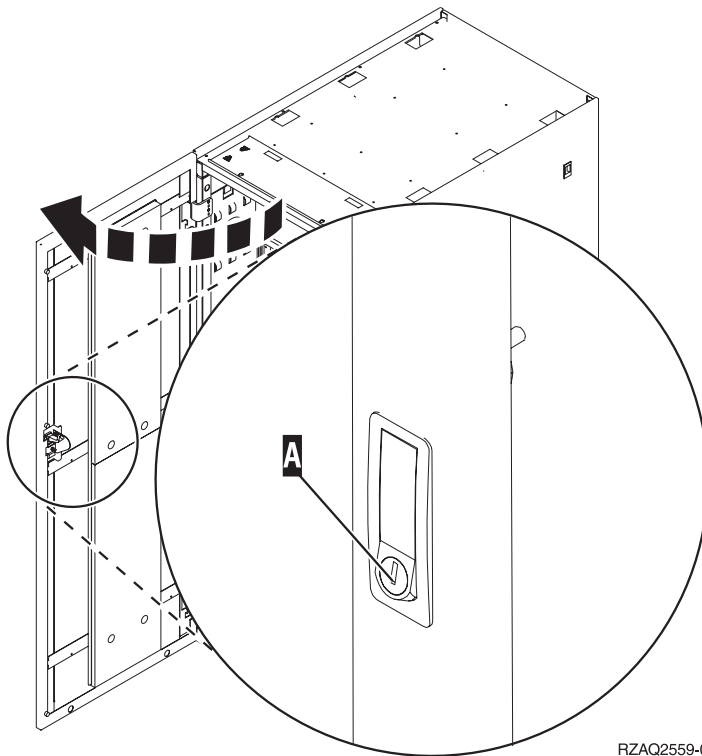
To access the PCI card location, you need to open the back cover:

- **A** Open the back cover.
- **B** Remove the back cover.
- Remove the PCI card access plate.

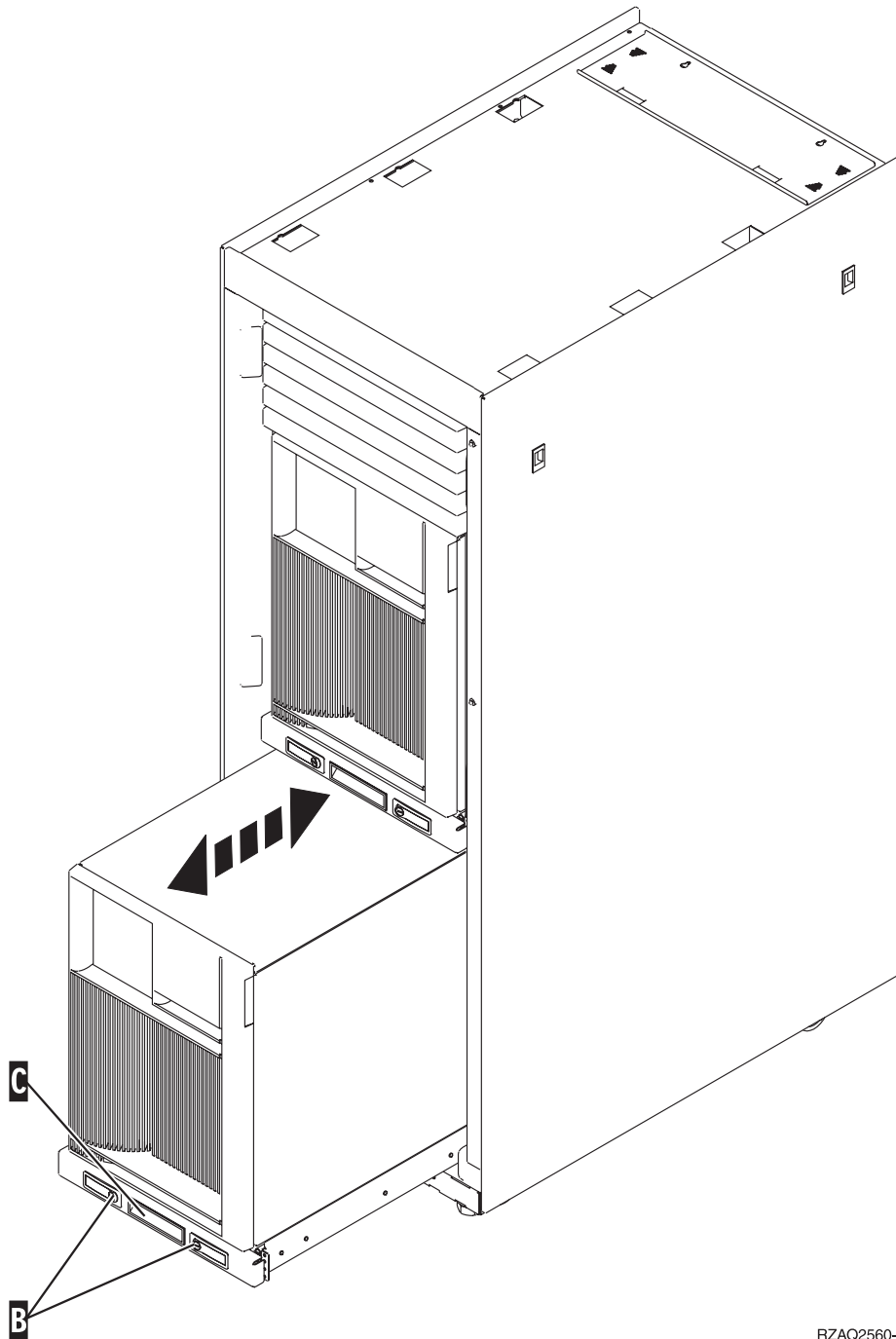


Accessing units in a rack

1. Move to the back of the rack, press latch **A**, and open the back door of the rack.

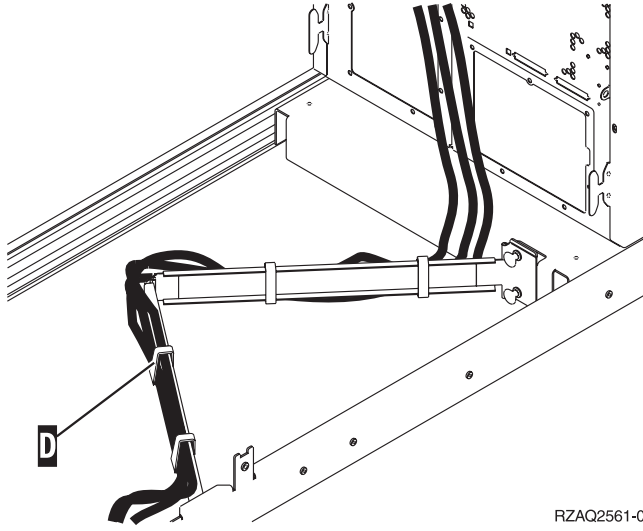


2. Press latches **B** and pull the server out using the handle **C**.



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3. Refer to previous unit diagrams to remove the side cover.
4. If you are cabling the server, feed the excess cabling along the cable management arm **D** and secure the cables with the fasteners.



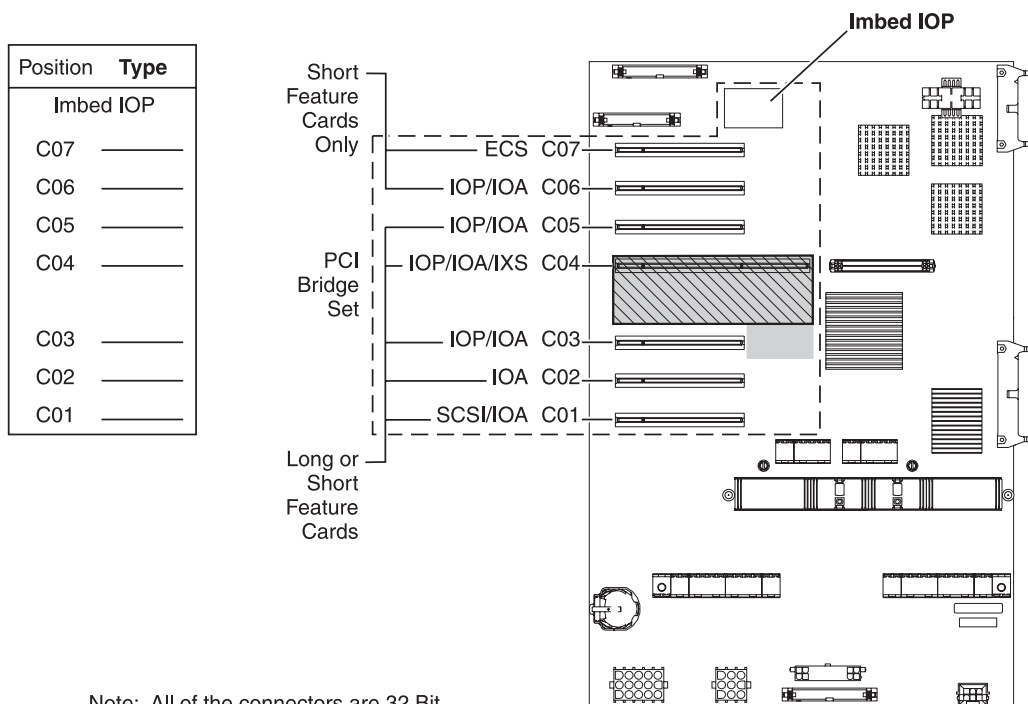
RZAQ2561-0

Configuration tables

Go to your system unit:

- “270, 800, and 810 system unit”
- “820 system unit” on page 17
- “825 system unit” on page 18
- “830, 840, SB2, and SB3 system unit” on page 18
- “870 and 890 system unit” on page 19

270, 800, and 810 system unit



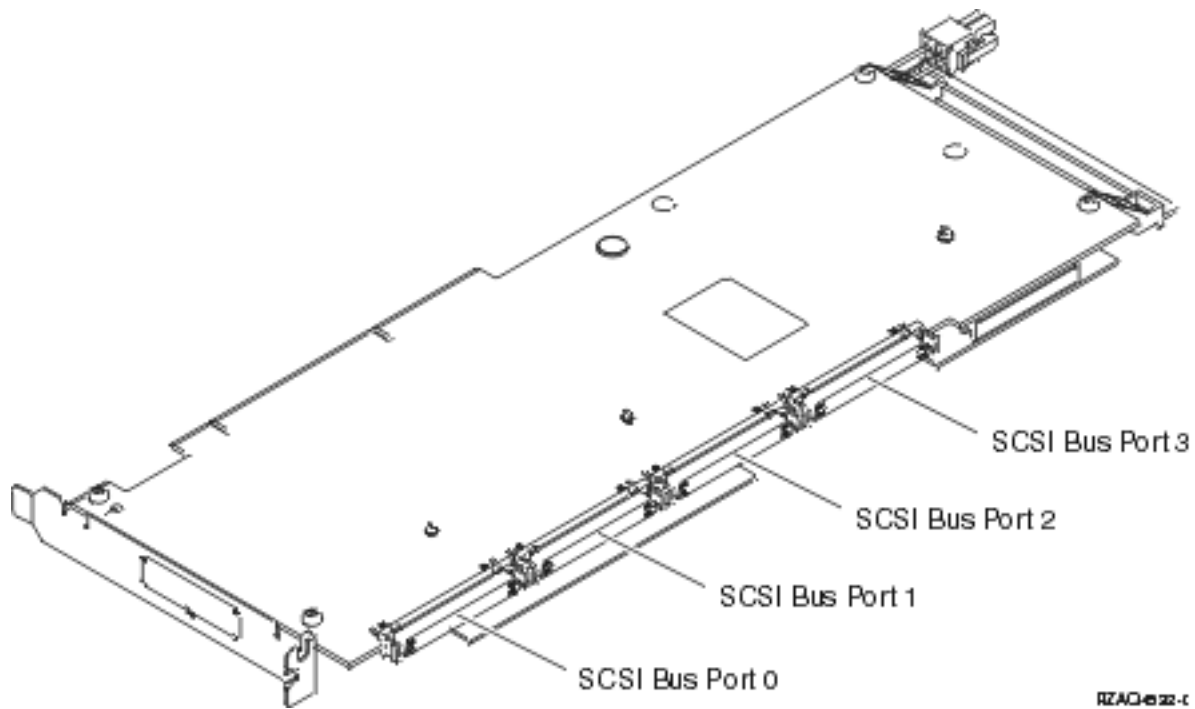
Note: All of the connectors are 32 Bit

■ = positions occupied if 2890, 2891, or 2899 IXS is installed

▨ = positions occupied if 2892 or 4810 IXS is installed

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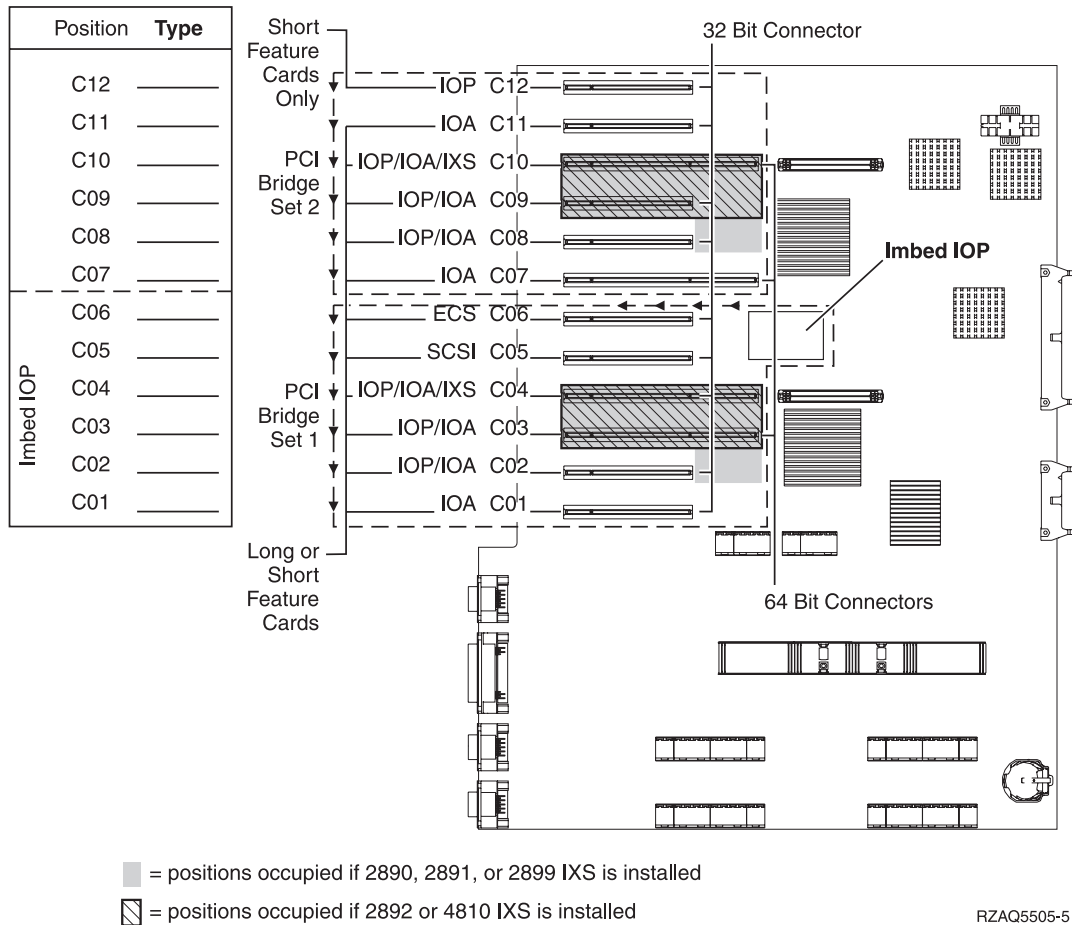
- The Imbed IOP controls positions C07, C01, and possibly C06 and C05.
- IOPs control the IOAs in the positions below the IOP. For example, an IOP in C04 would control IOAs in C03 and C02.
- SCSI in the diagram indicates the first internal disk unit controller position (cards 2757, 2763, 2780, 2782, 4748, 4778, 5703, 5705, or 9767). (9767 is only in 270 units.) The first disk unit controller card must be in C01 and connect the load source disk unit, internal tape, and CD-ROM or DVD device to SCSI Bus Port 0.



Note: The adapter shown has 4 ports. Although other adapters may have 2 or 3 ports, the bus port numbering is the same.

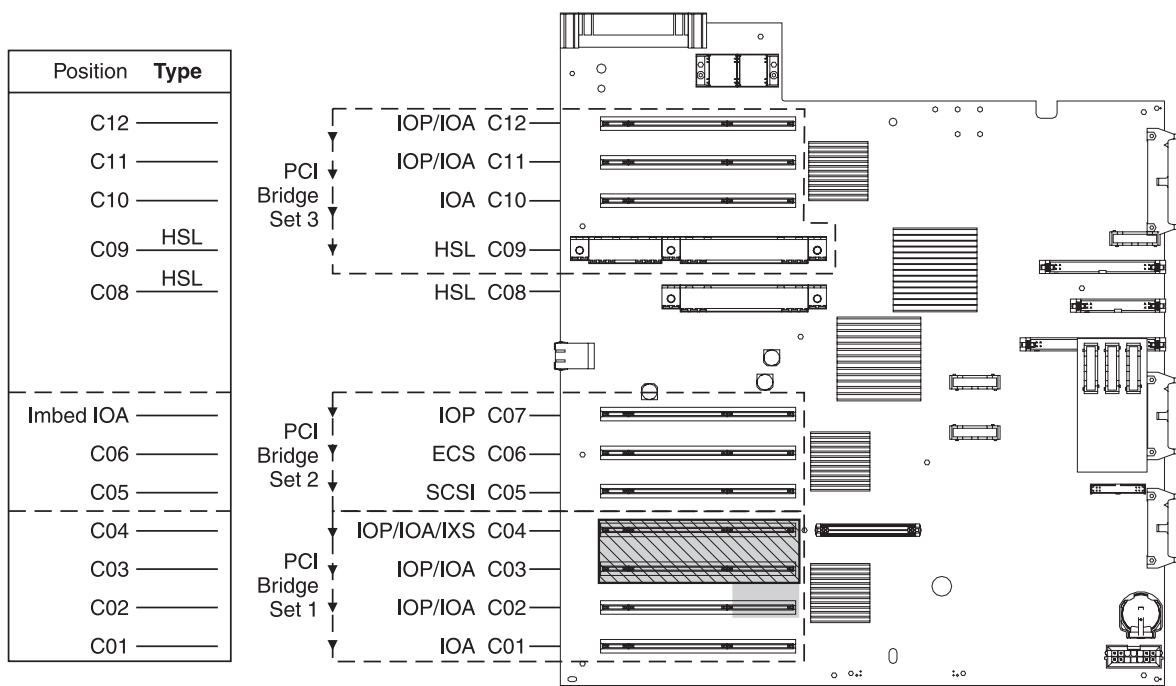
- A second 2757, 2763, 2780, 2782, 4748, 4778, or 5703 is allowed in a 270, 800, and 810 system unit with an attached 7104 or 7116 expansion unit.

820 system unit



- The Imbed IOP controls C06, C05, and possibly C04 and C03.
- IOPs control IOAs in the direction of the arrows in the PCI bridge set.
- SCSI in the diagram indicates the first internal disk unit controller position. Place IOA 2757, 2763, 2780, 2782, 4748, 4778, 5703, or 9767 in position C05. The first disk unit controller card must be in C05 and connect the load source disk unit, internal tape, and CD-ROM or DVD device.
- Two internal disk unit controllers are allowed per 820 system unit.
- A second internal disk unit controller in the system unit is only allowed when removable cable retention mechanisms are installed.
- The second internal disk unit controller cannot be in card position C07 or C08.

825 system unit



■ = positions occupied if 2890, 2891, or 2899 IXS is installed

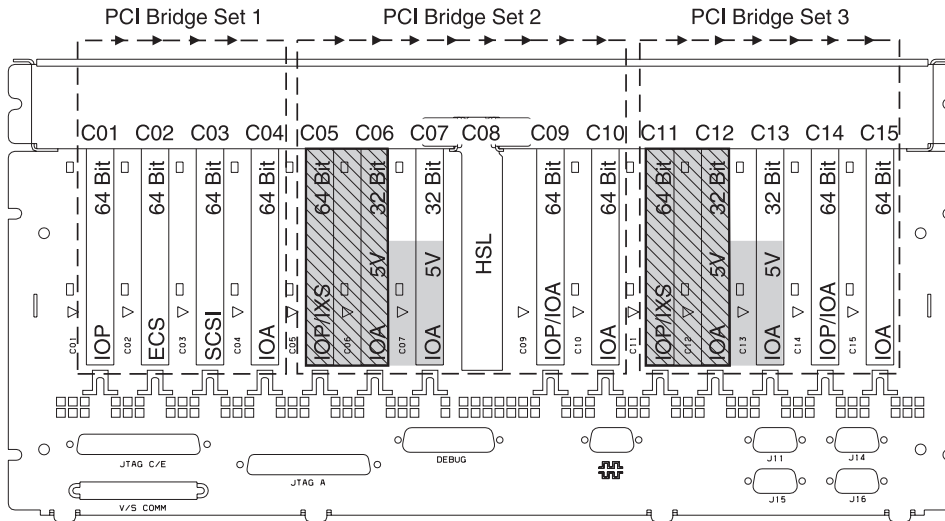
▨ = positions occupied if 2892 or 4810 IXS is installed

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- The IOP controls C06, C05.
- IOPs control IOAs in the direction of the arrows in the PCI bridge set.
- SCSI in the diagram indicates the first internal disk unit controller position (cards 2757, 2763, 2782, 4748, 4778) The first disk unit controller card must be in C05 and connect the load source disk unit internal tape and CD-ROM or DVD device.
- Three internal disk unit controllers are allowed per 825 system unit.

830, 840, SB2, and SB3 system unit

- IOPs control IOAs in the direction of the arrows in the PCI bridge sets.
- SCSI in the diagram indicates the first internal disk unit controller position (cards 2757, 4778, 4748, 9748 or 9778). The first disk unit controller card must be in C03 and connect the load source disk unit internal tape and CD-ROM or DVD.
- In addition, two additional disk unit controllers are allowed in 830 or 840 system units.
- Additional disk unit controllers are not allowed in SB2 and SB3 system units.



■ = positions occupied if CCIN 289x IXS is installed

▨ = positions occupied if 2892 or 4810 IXS is installed

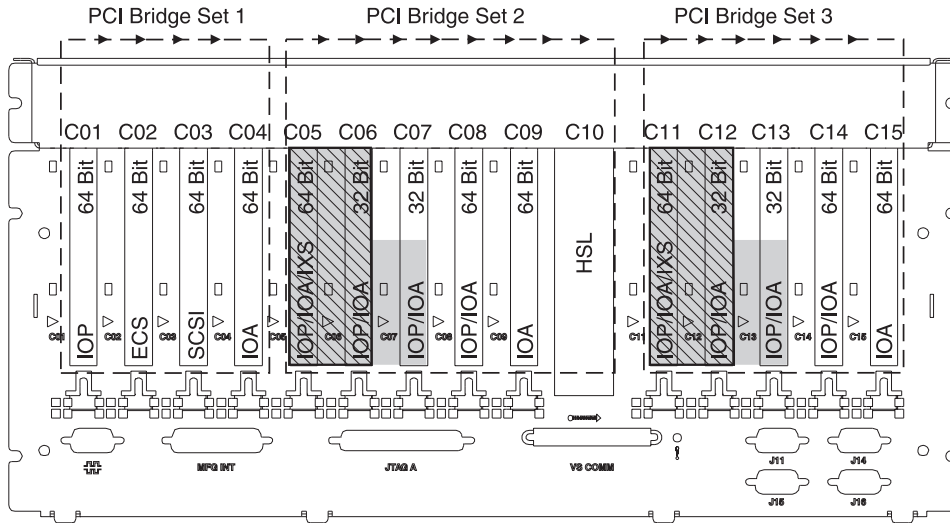
Note: Long or short feature cards can go in any position.

Position	Type
C01	IOP 64 Bit
C02	ECS 64 Bit
C03	SCSI 64 Bit
C04	IOA 64 Bit
C05	IOP/IXS 64 Bit
C06	IOA 32 Bit
C07	IOA 5V
C08	HSL
C09	IOP/IOA 64 Bit
C10	IOA 64 Bit
C11	IOP/IXS 64 Bit
C12	IOA 32 Bit
C13	IOA 5V
C14	IOP/IOA 64 Bit
C15	IOA 64 Bit

RZAQ5506-7

870 and 890 system unit

- IOPs control IOAs in the direction of the arrows in the PCI bridge sets.
- SCSI in the diagram indicates the first internal disk unit controller position (cards 2757, 4778, 4748, 9748 or 9778). The first disk unit controller card must be in C03 and connect the load source disk unit internal tape and CD-ROM or DVD.
- In addition, two disk unit controllers are allowed in 830 or 840 system units.
- Additional disk unit controllers are not allowed in SB2 and SB3 system units.



■ = positions occupied if 2890, 2891, or 2899 IXS is installed

▨ = positions occupied if 2892 or 4810 IXS is installed

Note: Long or short feature cards can go in any position.

Position	Type
C01	—
C02	—
C03	—
C04	—
C05	—
C06	—
C07	—
C08	—
C09	—
C10	HSL
C11	—
C12	—
C13	—
C14	—
C15	—

RZAQ5511-1

System-unit control panel

Go to the front of your iSeries system unit. Open the control panel door.

Your control panel looks like either Figure 4 or Figure 5 on page 22. Refer to the control panel for your unit.

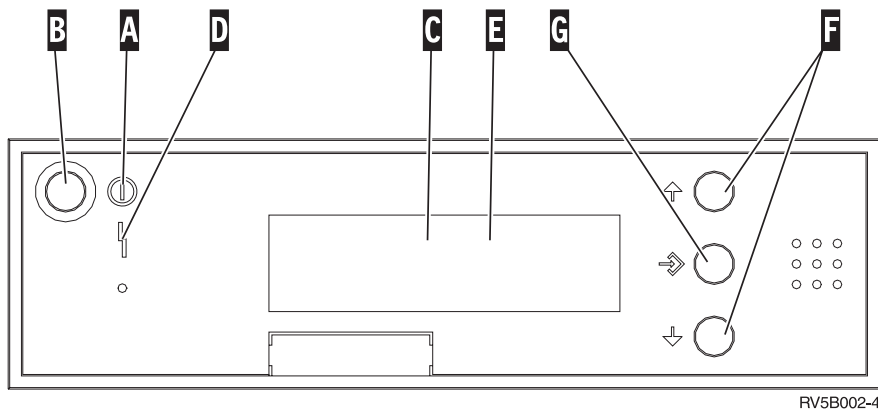
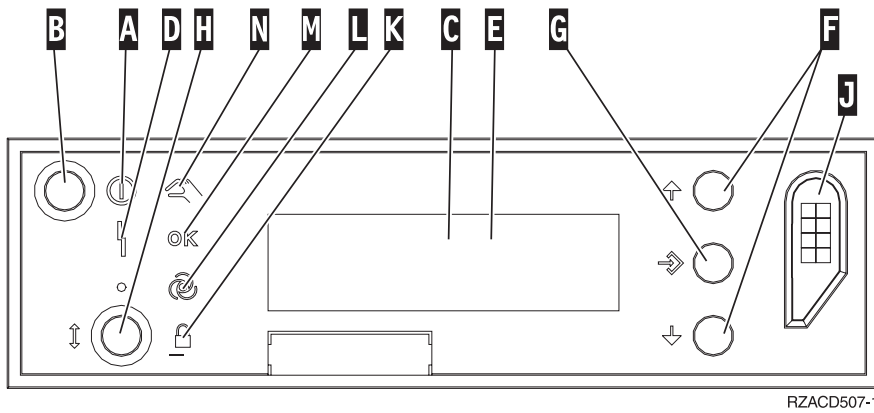


Figure 4. Control panel without Electronic Keystick

Following are the descriptions of the Figure 4 callouts:

- A** Power On Light
 - A blinking light indicates power to the unit.
 - A constant light indicates that the unit is on and working.
- B** Power Push button
- C** Processor Activity
- D** System Attention
- E** Function/Data Display
- F** Increment/Decrement buttons
- G** Enter Push button

If your control panel looks like Figure 5 on page 22, before you can use **F** Increment/Decrement buttons and **G** Enter push button, you need to press **H** Mode Selects to select Manual mode **N**. To use Mode Select, the keystick needs to be inserted.



RZACD507-1

Figure 5. Control panel with Electronic Keystick

- A** Power On Light
 - A blinking light indicates power to the unit.
 - A constant light indicates that the unit is on and working.
- B** Power Push button
- C** Processor Activity
- D** System Attention
- E** Function/Data Display
- F** Increment/Decrement buttons
- G** Enter Push button
- H** Mode Selects
- J** Electronic Keystick Slot
- K** Secure
- L** Auto
- M** Normal
- N** Manual

Appendix. Notices

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Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504

Telephone: 1-919-543-2193

Industry Canada Compliance Statement

This Class A digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

Australia and New Zealand Class A statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

VCCI Statement - Japan

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

The following is a summary of the VCCI Japanese statement in the box above.

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Electromagnetic Interference (EMI) Statement - People's Republic of China

Per GB 9254-1998, the user manual for a Class A product must carry the following warning message (English translation from the Chinese standard) about use in a residential environment in Chinese (*Simplified Chinese*):

声 明
此为 A 级产品,在生活环境
中,该产品可能会造成无线电干
扰。在这种情况下,可能需要用
户对其干扰采取切实可行的措
施。

Declaration: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical action.

Electromagnetic Interference (EMI) Statement - Taiwan

警告使用者：
這是甲類的資訊產品，在
居住的環境中使用時，可
能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策。

The following is a summary of the EMI Taiwan statement above.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user will be required to take adequate measures.

Radio Protection for Germany

Dieses Gerät ist berechtigt in Übereinstimmung mit Dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

Hinweis

Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.

Electronic Emission Notices

The following Statement applies to this IBM product. The statement for other IBM products intended for use with this product will appear in their accompanying manuals.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables or connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interferences, and (2) this device must accept any interferences received, including interference that may cause undesired operation.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504

Telephone: 1-919-543-2193

Industry Canada Compliance Statement

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EC Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Properly shielded and grounded cables and connectors (IBM part number 75G5958 or its equivalent) must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot accept responsibility for an interference caused by using other than recommended cables and connectors.



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