

Setting Up Your 5065 or 5066 Expansion Unit

Version 4



Setting Up Your 5065 or 5066 Expansion Unit

Version 4

Note	 		
Before using this information Notices" on page v and "Noti	be sure to read the inf	formation in "Safety and I	Environmental

Second Edition (March 2000)

This edition applies to version 1, release 1 of the 5065 Expansion Unit and version 1, release 1 of the 5066 Expansion Unit (SA41–5146–01) and to all subsequent releases and modifications until otherwise indicated in new editions. This edition applies only to reduced instruction set computer (RISC) systems.

This edition replaces SA41-5146-00. This edition applies only to reduced instruction set computer (RISC) systems.

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Contents

Safety and Environmental Notices v	Updating Vital Product Data
Danger Notices v	
Caution Notices v	Appendix A. Connecting cables to your
Laser Safety Information vi	AS400e System 620 or S20 27
Product Recycling and Disposal vi	Removing the access cover for the AS/400e system
Battery Return Program vi	620 or server S20
Environmental Design vi	Connecting the SPCN and optical cables to the
About cotting up the EOCE or EOCC	AS/400e system 620 or server S20
About setting up the 5065 or 5066	Replacing the covers on your AS/400e system 620
Expansion Unit (SA41-5146-01) ix	or server S20
Prerequisite and related information ix	Annondin B. Bossible configurations
How to send us your comments x	Appendix B. Possible configurations
Chantan 4 Dramaning to act up your FOCE	with other expansion units 35
Chapter 1. Preparing to set up your 5065	
or 5066	Appendix C. Installing disk units in the
Hardware requirements	5065 or 5066 Expansion Unit 37
Site planning considerations for the 5066 1	Optimizing your new disk unit
Planning your cable layout	Installing a disk unit
Handling optical cables 4 Powering down your AS/400 system unit 5	Concurrent procedure (system-unit powered on) 41
Towering down your A5/400 system unit	Nonconcurrent procedure (system-unit powered
Chapter 2 Setting up your 5065	off)
Chapter 2. Setting up your 5065	A 11 15 1 4 111 1 1 1
Expansion Unit	Appendix D. Installing removable
Connecting your 5065 directly to your AS/400e	media devices in the 5065 Expansion
system unit	Unit
Unit	Installing removable media devices 56
Connecting the cables to your AS/400 system	Concurrent procedure (system-unit powered on) 58
unit	NonConcurrent procedure (system-unit powered
Connecting your 5065 Expansion Unit in a loop 12	off) 61
	Neders
Chapter 3. Setting up your 5066	Notices
Expansion Unit	Electronic Emission Notices
Opening the covers	Federal Communications Commission (FCC)
Locating 5066 connectors	Statement
Connecting your 5066 to your system unit 19	Trademarks
	Readers' Comments — We'd Like to
Chapter 4. Completing your installation 23	
, , , , , , , , , , , , , , , , , , , ,	Hear from You 69
Chapter 5. Verifying Your New	
Configuration 25	

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)

CAUTION:

Your IBM equipment is heavy. Never attempt to lift or move any system equipment without help. (RSFTC202)

Laser Compliance

All Lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with the IEC 825 (first edition 1984) and as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

Laser Safety Information

CAUTION:

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

CAUTION:

All IBM laser modules are designed so that there is never any human access to laser radiation above a class 1 level during normal operation, user maintenance, or prescribed service conditions. Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. Only trained service personnel should perform the inspection or repair of optical fiber cable assemblies and receptacles. (RSFTC243)

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.

CAUTION:

The optical link card contains a laser. To avoid the release of toxic substances into the environment, do not burn. Discard the optical link as instructed by local regulations. (RSFTC236)

About setting up the 5065 or 5066 Expansion Unit (SA41–5146–01)

This book contains information about setting up the 5065 Expansion Unit or 5066 Expansion Unit. You may install new expansion unit yourself. It will take approximately one to three hours to install the hardware.

You also may elect not to install the expansion unit yourself. Contact IBM[®] or an Authorized Dealer to make arrangements for them to install the expansion unit for a fee.

If you would like IBM to plan your installation, you may do one of the following:

- Call 1-800-IBM-4YOU.
- Call the AS/400[®] Direct support line at 1-800-274-0015.
- Request a FAX by dialing 1-800-426-4329. Select document 1866.
- Contact IBM for the *Optimizing Your Business Investment, Installation Planning*, G325-6313, brochure.

The following list is an overview for installing your new expansion unit.

- Preparing for your installation.
- Power down your AS/400 system unit.
- Connecting cables to your expansion unit.
- Connecting cables from your expansion unit to your AS/400 system unit (or AS/400 expansion unit).
- Powering up your AS/400 system unit and your expansion unit.
- Verifying your new configuration.

Prerequisite and related information

You can find AS/400 System information at the following web site:

http://www.as400.ibm.com

From the Technical Studio link, you can find the relevant information such as the *AS/400 Site Preparation Guide*.

Use the AS/400 Information Center as your starting point for looking up AS/400 technical information. You can access the Information Center from the AS/400eTM Information Center CD-ROM (English version: SK3T-2027) or from one of these Web sites:

http://www.as400.ibm.com/infocenter http://publib.boulder.ibm.com/pubs/html/as400/infocenter.htm

The AS/400 Information Center contains important topics such as logical partitioning, clustering, Java[™], TCP/IP, Web serving, and secured networks. It also contains Internet links to Web sites such as the AS/400 Online Library and the AS/400 Technical Studio. Included in the Information Center is a link that describes at a high level the differences in information between the Information Center and the Online Library.

How to send us your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other AS/400 documentation, fill out the readers' comment form at the back of this book.

- If you prefer to send comments by mail, use the readers' comment form with the
 address that is printed on the back. If you are mailing a reader's comment form
 from a country other than the United States, you can give the form to the local
 IBM branch office or IBM representative for postage-paid mailing.
- If you prefer to send comments by FAX, use either of the following numbers:
 - United States and Canada: 1-800-937-3430
 - Other countries: 1-507-253-5192
- If you prefer to send comments electronically, use one of these e-mail addresses:
 - Comments on books:

RCHCLERK@us.ibm.com

IBMMAIL, to IBMMAIL(USIB56RZ)

- Comments on the AS/400 Information Center:

RCHINFOC@us.ibm.com

Be sure to include the following:

- The name of the book.
- The publication number of the book.
- The page number or topic to which your comment applies.

Chapter 1. Preparing to set up your 5065 or 5066

This chapter explains what you need to do before you install your 5065 or 5066 Expansion Unit. This includes the following tasks:

- 1. Unpack your expansion unit (refer to the instructions for unpacking that came with your expansion unit).
- 2. Plan layouts for your cables.
- 3. Power down your system unit.

Before you begin the installation process, you should carefully plan where you will install your new expansion unit. You should consider several factors that include size, weight, security, and environmental factors. IBM provides detailed information for AS/400 planning at the following web site:

http://www.as400.ibm.com

You can find the *AS/400 Site Preparation* Guide and other relevant information by selecting the Technical Studio under Hot Topics at this web site.

Hardware requirements

When you ordered your new expansion unit, the configurator took an inventory of your system. The configurator then determined if you needed to add an optical card or an SPCN card.

If you received these features in your new expansion unit package, contact IBM or an Authorized Dealer to make arrangements to have them installed.

5065 Hardware Requirements

If you are installing your 5065 Expansion Unit directly to your system unit, you need to have these prerequisites:

- An available system power control network (SPCN) connector.
- An available 2688 optical link processor (OLP) card (one OLP card can support two expansion units).

If you are connecting your 5065 Expansion Unit to another expansion unit, your expansion unit needs to have:

- An available SPCN connector.
- An available 2682 OLP card.

5066 Hardware Requirements

You need to have the following prerequisites to install your 5066 Expansion Unit:

- An available system power control network (SPCN) connector.
- An available 2688 optical link processor (OLP) card (one OLP card can support both expansion units in your 5066).

Site planning considerations for the 5066

Weight and Size of the 5066

Table 1 shows the weight and dimensions of the 5066 Expansion Unit.

Table 1. 5066 Weight and Size descriptions

Weight (fully configured)	1600 lb (725 kg)		
Width	25.5 in (650 mm)		
Depth	40 in (1020 mm)		
Height	71 in (1800 mm)		

The 5066 has a floor loading of 86 lb/ft² (420 kg/m²). Because of the size and weight of the 5066, you should do the following:

CAUTION:

Overlapping the clearance defined below with adjacent equipment results in a significant increase in the amount of floor loading.

- Contact your facility or structural engineer to determine a safe site for your 5066.
- Leave 30 in. (762 mm) of clearance to the front and back of the 5066.
- Leave 5 in. (127 mm) of clearance to the left and right of the 5066.

Planning your cable layout

When you decide where to place your cables, follow your site plan and keep the following things in mind:

- Avoid creating a safety hazard.
- Avoid damaging the cable.

Placing power cords for the 5066

You need to provide the appropriate receptacles for the power cords shipped with your 5066. The usable length of the upper power cord is 4 ft. (1.2 m) shorter than the length of the lower power cord.

Redundant links

Your new expansion unit has disk units. Therefore, when you plan your cable layout, you should use a redundant link configuration to protect your disk units. A redundant link is a secondary optical cable link that your system can use if the primary link experiences a failure. You can create a redundant link configuration by connecting an extra optical cable link between the expansion units and the system unit.

Refer to Figure 1 on page 3 to see how to plan your cables with a redundant link configuration with one expansion unit. If you are linking two expansion units refer to Figure 2 on page 3 If you are setting up a 5066, refer to Figure 3 on page 4.

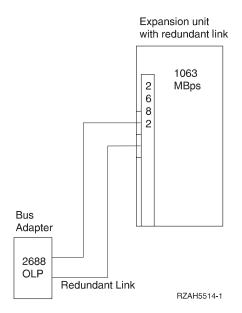


Figure 1. Planning for redundant link one expansion unit

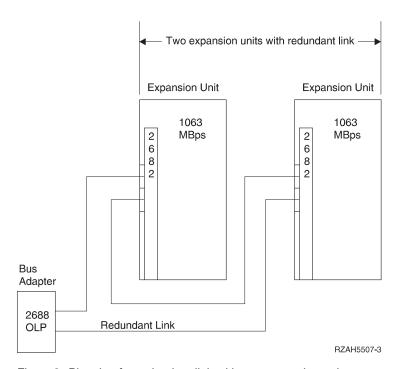


Figure 2. Planning for redundant link with two expansion units

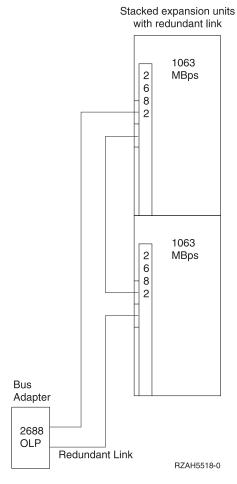


Figure 3. Planning for redundant link with stacked expansion units (5066)

Handling optical cables

When you handle optical cables, remember to observe these guidelines.

Attention:

- Handle the optical cables with care to prevent damage.
- Do not use pliers or similar tools to hold an optical bus cable.
- Do not use the cable to disconnect the cable connector.
- Refer to Figure 4 on page 5 before disconnecting cables.
- Do not place the cables near any sharp edges or points that could cut the outer covering.
- Do not place the cables near any objects that are very hot or very cold.
- Do not coil the cables to a diameter less than 16.0 cm (6.3 inches).
- Do not bend the cables to a radius less than 3.0 cm (1.2 inches).
- Do not grip the optical cables with mechanical tools.
- Do not remove the dust covers from the connectors until you are ready to clean the connectors and attach the cables.
- If the dust caps have been in place, IBM recommends that you clean the connectors before attaching them.

If you need to clean the connectors, follow the instructions in the Fiber Optic Cleaning Kit (IBM part 5453521).

- Use care when you connect the cables to prevent damage to the housing or to the end of the fiber-optical cable.
- Refer to Figure 5 when installing a cable.

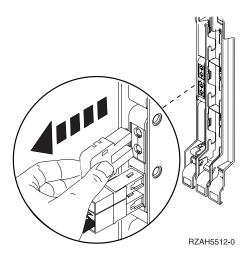


Figure 4. Removing an optical cable

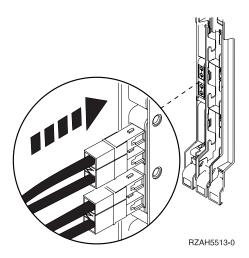


Figure 5. Installing an optical cable

Powering down your AS/400 system unit

You need to power down your AS/400 system unit before you can connect your new expansion unit to it. Follow the steps below to power down your system unit.

- __ 1. 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.
- ___ 2. If you have installed logical partitions on your system unit, refer to the AS/400 Information Center. At the AS/400 Information Center you can find instructions on powering down a system with logical partitions.
- __ 3. Ensure that all jobs are complete.
- ___ 4. When all jobs are complete, type pwrdwnsys *immed on an AS/400 command line and press the Enter key.

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

- __ 5. After your system unit has completely powered down, power off all PCs and devices, such as printers and display stations, that are connected to the system unit.
- __ 6. Unplug any power cords, such as for printers and display stations, that are connected to the system unit.
- __7. Unplug the power cord for the system unit from the electrical outlet.

If you are setting up a 5065 Expansion Unit, go to "Chapter 2. Setting up your 5065 Expansion Unit" on page 7. If you are setting up a 5066 Expansion Unit, go to "Chapter 3. Setting up your 5066 Expansion Unit" on page 17

Chapter 2. Setting up your 5065 Expansion Unit

This chapter explains how to set up your 5065 Expansion Unit. This chapter has two sets of directions:

- "Connecting your 5065 directly to your AS/400e system unit".
- "Connecting your 5065 Expansion Unit in a loop" on page 12.

Follow the direction that best fits your configuration.

Connecting your 5065 directly to your AS/400e system unit

Connecting your 5065 directly to your system unit consists of two major steps:

- 1. Connecting cables to your 5065 Expansion unit.
- 2. Connecting cables to your system unit.

Connecting the cables to your 5065 Expansion Unit

Use the following steps to install the SPCN cables and optical cables to the 5065 Expansion Unit.

- __ 1. Find the sheet of labels for the optical cables in the information shipped with your expansion unit. (Make your own, if labels are not in the information that is shipped with your expansion unit.)
- 2. Find the optical cables and the SPCN cable in the information that is shipped with your expansion unit.
- ___ 3. Attach a label to each end of the optical cables.
- ___ 4. Label one optical cable 0. Label the other optical cable 1.

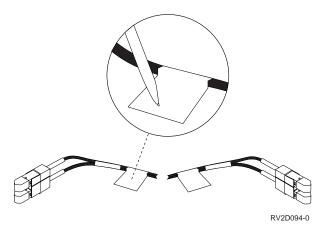


Figure 6. Labeling the optical cables

- ___ 5. Use the latch that is shown at A to open the back cover on your expansion unit.
- ___ 6. If needed, use latch shown at B to remove the back cover.

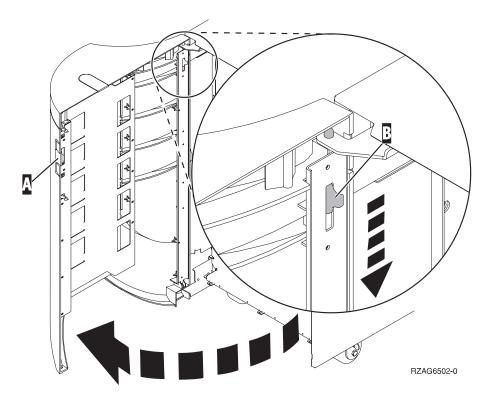


Figure 7. Opening or removing 5065 Expansion Unit back cover

- ___ 7. Refer to Figure 8 on page 9 and install the SPCN cable (PN 21F9469) by performing the following steps:
 - __ a. Plug one end of the SPCN cable into the SPCN connector J15 on the expansion unit.
 - __ b. Tighten the thumbscrews.

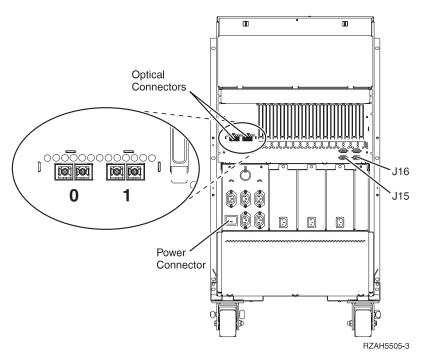


Figure 8. 5065 connector locations

- __ 8. Install the optical cables by performing the following steps:
 - __ a. Locate the optical connector that is labeled 0 on the back of the expansion unit.
 - __ b. Remove the terminating plugs from the optical connector.

Attention: When installing the cable connectors, use extreme care to prevent damaging the housing or scratching the ends of the fiber optic cables.

- __ c. Remove the optical plug dust covers from the optical cable you are installing.
- __ d. Install the optical cable that is labeled 0 into the connector.

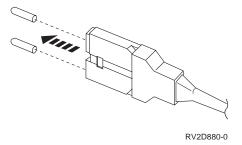


Figure 9. Removing optical plug dust covers

- __e. Repeat steps 8a through 8d to install the optical cable that is labeled 1 into the optical cable connector that is labeled 1.
- ___ 9. Find the power cord that you unpacked with the expansion unit.
- ___ 10. Locate the power connector on the back of the expansion unit.
- __ 11. Remove the label that covers the power plug connector.

CAUTION:

Do not plug the expansion unit into the electrical outlet at this time.

- __ 12. Plug the power cord into the expansion unit.
- __ 13. Close or install the back cover on the expansion unit.

Connecting the cables to your AS/400 system unit

You need to remove the back cover from your AS/400 system unit before you connect the optical cable and the SPCN cable to it.

If your system unit is an AS/400e system 620 or S20, you may also need to remove the side access cover. Go to "Appendix A. Connecting cables to your AS400e System 620 or S20" on page 27 to determine if you need to remove the side cover.

If your system unit is **not** an AS/400e system 620, perform the following steps.

To connect the SPCN cable and the optical cable to the system unit, do the following:

__ 1. Refer to Figure 10 and remove the system unit back cover by gripping the upper corners of the cover and pulling it up and toward you.

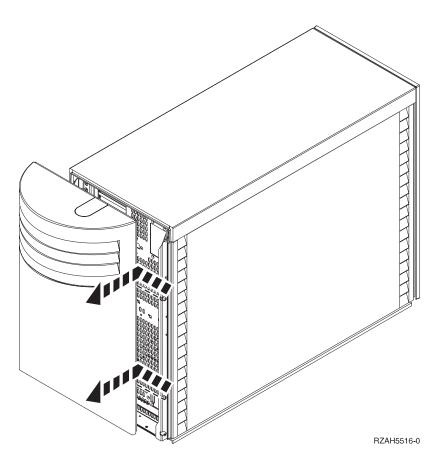


Figure 10. Remove the system unit back cover

- 2. Plug the SPCN cable that comes from your expansion unit into the connector at the rear that is labeled SPCN.
- _ 3. Tighten the thumbscrews.

To connect the optical cables to the system unit, follow these steps:

- ___ 1. If you are installing your optical cables into an AS/400e system 620 or AS/400e server 720 go to step 7. If you are installing your optical cables into any other server, go to step 2.
- ___ 2. Locate the 2688 OLP card (Figure 11) on the back of your system unit.

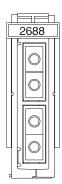


Figure 11. 2688 OLP card

- ___ 3. Remove the terminating plugs from the optical card connectors.
- ___ 4. Push the optical cable that is labeled **0** into the top optical cable connector in the system unit.
- ___ 5. Install the optical cable that is labeled 1(for the redundant link) from the expansion unit into the bottom optical cable card connector.
- __ 6. Go to 7f.
- ___ 7. If you are installing optical cables into an AS/400e system 620 or AS/400e server 720 proceed as follows:
 - a. On the back of your system unit, locate the optical cable connectors that have the following labels:

BUS 06 BUS 05 BUS 04 **BUS 03**

- b. Choose the next available set of optical cable connectors.
- c. Remove the terminating plugs from the optical cable connectors.
- d. Install the optical cable that is labeled 1 into the even numbered optical cable connector (BUS 06 or BUS 04).
- e. Install the optical cable that is labeled 0 into the odd numbered optical cable connector (BUS 05 or BUS 03)

Example: If the optical cable connectors that are available are BUS 06 and

- 1) Install the optical cable that is labeled 1 into BUS 06.
- 2) Install the optical cable that is labeled 0 into BUS 05.
- f. Install the system unit back cover (Figure 12 on page 12) by doing the following:
 - __ 1) Grip the upper corners of the cover.
 - __ 2) Align the pins with the slots.
 - _ 3) Push the cover in and down.
 - ___ 4) Go to "Chapter 5. Verifying Your New Configuration" on page 25.

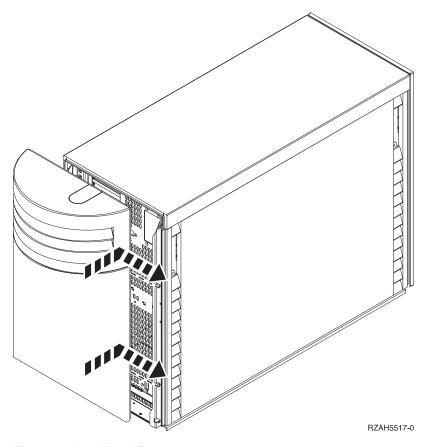


Figure 12. Install Back Cover

Connecting your 5065 Expansion Unit in a loop

Use this procedure to connect your 5065 to an expansion unit which is already connected to your system unit. Your system unit should be powered down before you proceed. If your system unit is not powered down, read "Powering down your AS/400 system unit" on page 5 and power down your system unit.

To make this procedure simpler, refer to the other expansion unit as unit X, as is shown in Figure 13.

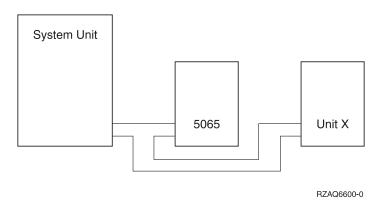


Figure 13. Connecting your 5065 to another expansion unit

- 1. Find the sheet of labels for the optical cables in the information shipped with your expansion unit. Make your own, if labels are not in the information that is shipped with your expansion unit.
 - 2. Find the optical and the SPCN cables in the information that is shipped with your expansion unit.
- 3. Attach a label to each end of the optical cable.
- 4. Label the optical cable 1.

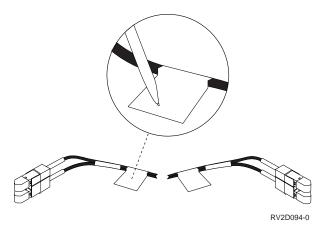


Figure 14. Labeling the optical cables

- 5. Remove the back cover from unit X by gripping the upper corners of the cover and pulling it up and toward you.
- 6. Refer to Figure 15 and locate the 2682 connector on the back of unit X.



Figure 15. 2682 OLP card

7. Remove the top optical cable (the optical cable between your system unit and unit X) from the 2682 connector. Do not disconnect the cable from the system unit.

- 8. Remove the SPCN cable (the SPCN cable between system unit and unit X) from connector J15 on unit X. Do not disconnect the cable from your system unit.
- 9. Use the latch that is shown at A to open the back cover on your expansion unit.
- _ 10. If needed, use latch that is shown at **B** to remove the back cover.

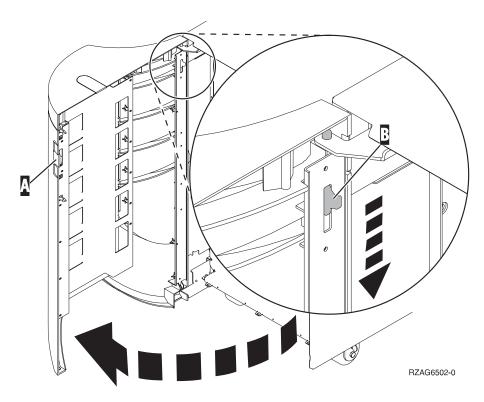


Figure 16. Opening or removing 5065 Expansion Unit back cover

- ___ 11. Refer to Figure 17 on page 15 and install the optical cable that you removed from unit X into the optical connector on your 5065 that is labeled **0**. The optical cable should now run between your system unit and your 5065.
- __ 12. Plug the SPCN cable that you removed from unit X into the SPCN connector J15 on your 5065. The cable should now run between your system unit and your 5065.
- __ 13. Tighten the thumbscrews.

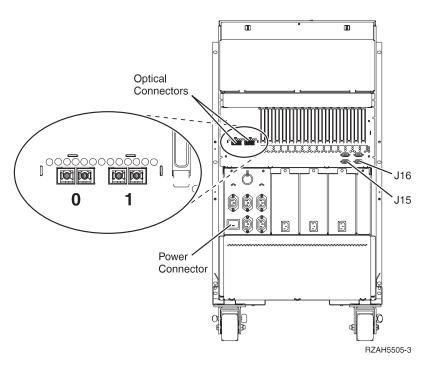


Figure 17. 5065 connector locations

- ___ 14. Remove the terminating plugs from the connector on the optical cable that you labeled 1.
- ___ 15. Install one end of the optical cable that you labeled 1 into the optical connector that is labeled 1 on your 5065.
- __ 16. Install the other end of the cable that you labeled 1 into the lower optical connection of the 2682 connector on unit X (Figure 15 on page 13).
- ___ 17. Connect one end of the SPCN cable that came with your 5065 into connector J16 on your 5065.
- _ 18. Connect the other end of the SPCN cable into connector J15 on unit X.
- ___ 19. Connect the power cable to your 5065.
- ___ 20. Install the back covers to unit X and your 5065.
- ___ 21. Go to "Chapter 4. Completing your installation" on page 23.

Chapter 3. Setting up your 5066 Expansion Unit

Opening the covers

Before you can set up your 5066, you must remove the rear cover from your AS/400 system unit and open the back cover on your 5066. Do these steps to open and remove the covers:

- 1. Remove the rear cover from your system unit by lifting it up and toward you.
- 2. Open the rear cover on your 5066 by pressing the latch at A (Figure 19 on page 18).

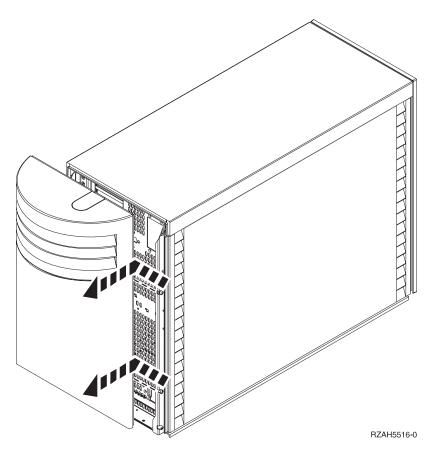


Figure 18. Removing the system unit cover

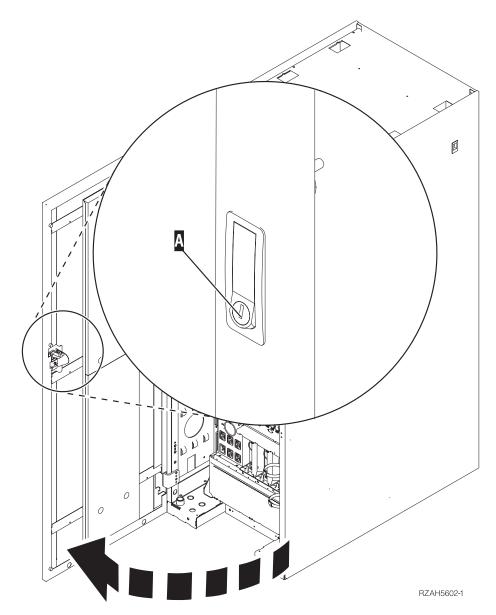


Figure 19. Opening the 5066 rear cover

Locating 5066 connectors

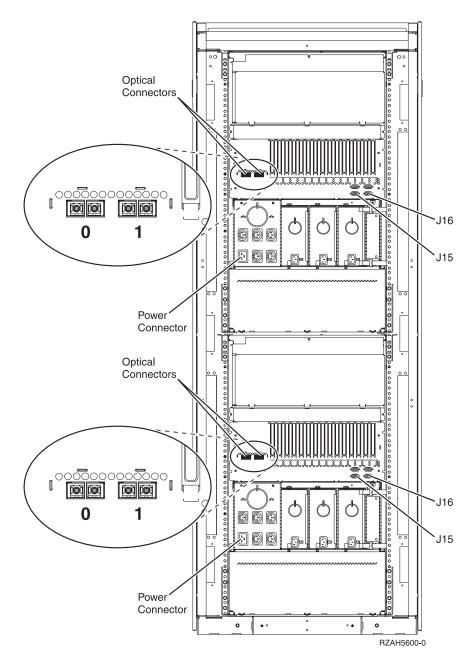


Figure 20. 5066 connector locations

Connecting your 5066 to your system unit

Use the procedure below to connect your 5066 to your system unit.

Your 5066 consists of two independent 5065 Expansion Units in a single frame. This procedure refers to the upper 5065 as 5066-002 and the lower 5065 as 5066-001. Refer to Figure 21 on page 20 and Figure 22 on page 20 before you start.

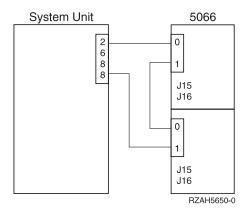


Figure 21. Connecting the optical cables.

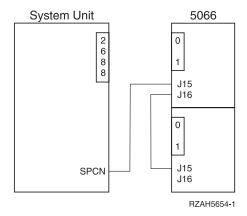


Figure 22. Connecting SPCN cables

- 1. Find the optical cables and the SPCN cable in the information that is shipped with your expansion unit. You will use three optical cables and two SPCN cables to perform this procedure.
- 2. Locate an available 2688 OLP card (Figure 25 on page 21) on your system unit.
- 3. Remove the terminating plugs from the optical connectors on the OLP card.
- 4. Label each end of the optical cables (Figure 23).

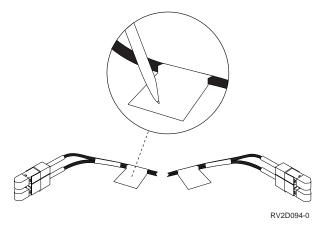


Figure 23. Labeling the optical cables

Attention: When installing the cable connectors, use extreme care to prevent damaging the housing or scratching the ends of the fiber optic cables.

5. Remove the dust covers from the first optical cable.

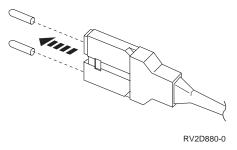


Figure 24. Removing optical plug dust covers

Note: If your system unit is an AS/400e system 620 or server 720 the optical cables connect to an optical cable connector with this label:

BUS 06 BUS 05 BUS 04 BUS 03

Use the next available set of connectors.

6. Install one end of the optical cable into the upper optical connector of the 2688 OLP card on your system unit (BUS 06 or BUS 04 for 620s and 720s).

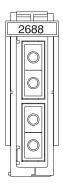


Figure 25. 2688 OLP card

- 7. On unit 5066–002 locate the optical connectors that are labeled **0** and **1**.
- 8. Remove the terminating plug from the optical connectors that are labeled 0 and 1.
- 9. On unit 5066–002, install the other end of the optical cable into the optical connector that is labeled **0**.
- 10. Remove the dust covers from the second optical cable.
- 11. On the unit 5066–002, install one end the second optical cable into the optical connector that is labeled 1.
- **12**. On unit 5066-001, install the other end of the optical cable into the optical connector that is labeled **0**.
- 13. Remove the dust covers from the third optical cable.
- 14. On unit 5066-001, install one end of the optical cable into the optical connector that is labeled 1
- 15. Install the other end of the optical cable into the lower optical connector of the 2688 OLP card on your system unit (BUS 05 or BUS 03 for 620s and 720s).

- 16. On your system unit, install one end of an SPCN cable into an available SPCN connector. The SPCN connector is labeled J15 or J16.
- 17. Tighten the thumbscrews.
- 18. On unit 5066-002, connect the other end of the SPCN cable to the SPCN connector that is labeled J15.
- 19. Tighten the thumbscrews.
- 20. On unit 5066-002, connect another SPCN cable to the SPCN connector that is labeled J16.
- 21. Tighten the thumbscrews.
- 22. On unit 5066-001, connect the other end of the second SPCN cable to the SPCN connector that is labeled J15.
- 23. Tighten the thumbscrews.
- 24. On your 5066 connect a power cable to each power connector.
- 25. Go to "Chapter 4. Completing your installation" on page 23.

Chapter 4. Completing your installation

Perform the following steps to return complete your installation:

- 1. Make sure that you have reinstalled all of the covers on the following system components:
 - a. AS/400 system unit.
 - b. All system expansion units.

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)

- 2. Plug the power cords for the following system components into electrical outlets:
 - __ a. The AS/400 system unit.

Note: If you are setting up a 5066 and the power cords are two different lengths, install the longer power cord into the upper unit.

- __ b. All expansion units attached to the system.
- __ c. The system unit console.
- __ d. The system printer.
- 3. Turn power on to each of the following system components by using the associated power-on button:
 - a. The system printer (if present).
 - b. The system control console.
 - c. Ensure that the system is in normal mode, Figure 26.

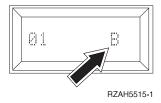


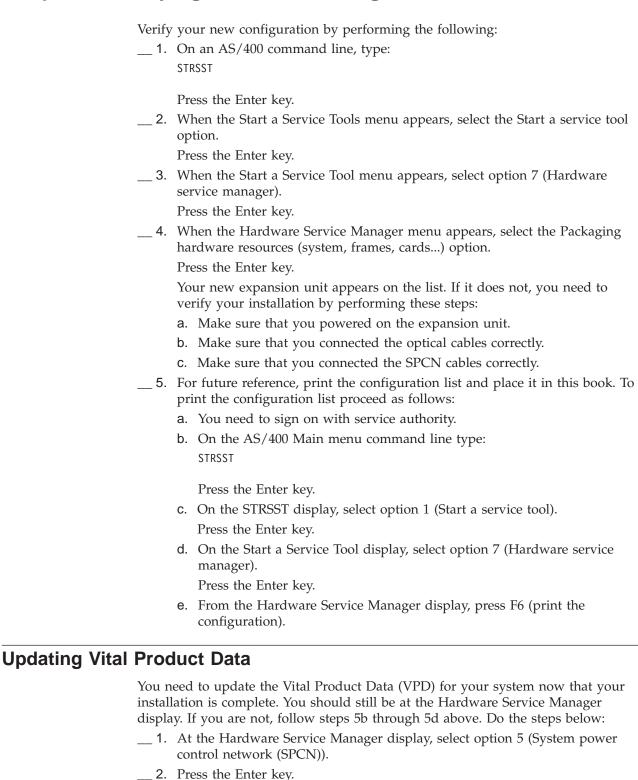
Figure 26. Normal Mode

d. Turn on the AS/400 system unit by pushing the white power-on button.

Note: The time needed to do a complete IPL varies depending on AS/400 model and configuration.

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

Chapter 5. Verifying Your New Configuration



_ 3. Locate your expansion unit on the System Configuration List that you

printed in step 5e.

Notes:

- a. If you installed a 5066, you need to find the Frame ID and Serial Number for both 5066–002 and 5066–001.
- b. You can also find the Frame ID by looking at the display on the expansion unit. For example, if the Frame ID for your 5066–002 (the upper unit) is 4, a *04 will appear on the display.
- __ 4. On the System Configuration List, find the Frame ID and Serial Number for your expansion unit.
- __ 5. At the System Power Control Network display, select option 3 (Write VPD) for your expansion unit. Press Enter.

Example: If the Frame ID for your expansion unit is 2, enter option 3, as is shown in the example below. Use the Frame ID with a 0 in the Unit field.

```
System Power Control Network
Battery capacity test . . . . . : Enabled
Type options, press Enter.
3=Write VPD 5=Display detail 6=Display trace log
  7=Test battery interface
                                             Serial
                    Unit
                                                              Fault
0pt
        Frame
                                Type
                                             Number
                                             00-00000
         0.1
                                                              Nο
         01
                                             00-00000
                                                              No
         03
                                             00-00000
                                                              No
         03
                                             00-00000
                                                              No
         02
                                             00-00000
                                                              No
                                 . . . .
                                             00-00000
```

- __ 6. At the Write Vital Product Data (VPD) display enter the following information:
 - a. At the Type field enter 5065 or 5066.
 - b. At the Model field, enter 001. If you have a 5066 enter 001 for 5066–001 (the lower unit) or 002 for the 5066–002 (the upper unit).
 - c. Enter the Serial Number at the Serial Number field.
- ___ 7. Press the Enter Key
- __ 8. To return to the AS/400 Main menu, press F3 (Exit) three times and press the Enter key.

Keep this book for future use. If you need to install disk units or removable media devices, see "Appendix C. Installing disk units in the 5065 or 5066 Expansion Unit" on page 37 or "Appendix D. Installing removable media devices in the 5065 Expansion Unit" on page 55.

Congratulations, you have completed your expansion unit installation.

Appendix A. Connecting cables to your AS400e System 620 or S20

To connect cables to your 620, you may need to remove the side cover. To determine if you need to remove the side cover do the steps in "Removing the access cover for the AS/400e system 620 or server S20".

Removing the access cover for the AS/400e system 620 or server S20

- __ 1. Refer to Figure 10 on page 10 and remove the back cover for the system unit. Grip the upper corners of the cover and pull it up and toward you.
- __ 2. Look at the back of your system unit. Can you see the optical cable connections on the back of your system unit?

No Yes

- ♦ You do not need to remove the side cover. Go to "Connecting the cables to your AS/400 system unit" on page 10 and start the procedure at step 2 on page 10.
- __ 3. Remove the system unit front cover (Figure 27 on page 28) by doing the following:
 - a. Unlock the front cover that is shown at A, if locked.
 - b. Slide up both latches (louvers) on the side covers as is shown at **B** to unlatch the front cover.
 - c. Grip the upper corner of the front cover.
 - d. Lift the cover up and out.

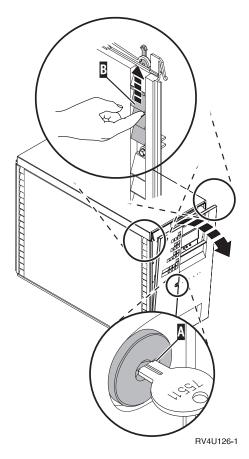


Figure 27. Removing the system unit front cover

- _ 4. Remove the system unit top cover (Figure 28 on page 29) by doing the following:
 - a. Find the top cover lock, shown at **A**, on the back of the system unit.
 - b. Loosen the screw and pivot the top cover lock at **A** out of the way.
 - c. Slide the cover (Figure 29 on page 29) forward toward the front of the system unit.
 - d. Lift the cover up and remove.

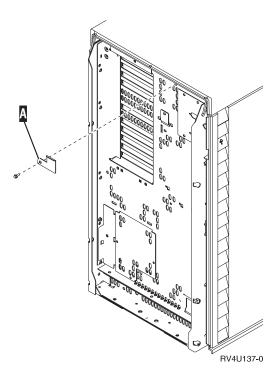


Figure 28. Removing the top cover lock

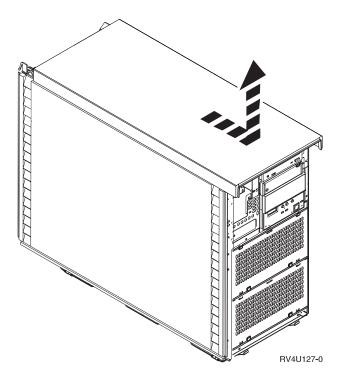


Figure 29. Removing the top cover

- __ 5. Remove the system unit side cover (Figure 30 on page 30) as follows:
 - a. Slide up the cover latches that are shown at A to open the louvers and expose the screws on either side of the cover.
 - b. When you remove the screws, do not lay them top of the system unit.

- c. Remove the two screws (B). The cover may fall if you do not hold on to it.
- d. Lift the cover out and up.

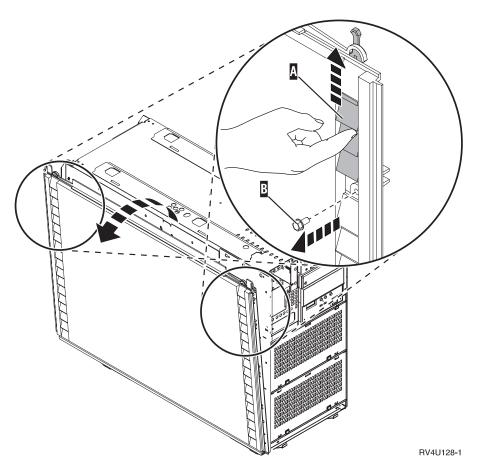


Figure 30. Removing the system unit side cover

__ 6. 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)

Your system unit contains a battery.

Remove the access cover (Figure 31 on page 31) by doing the following:

- a. Remove all slotted-head screws that are labeled \boldsymbol{A} and \boldsymbol{B} on the access cover. As you remove the screws:
 - Keep them in a group (for example, in a small container).
 - Make sure that you note from where you removed the screws.

This will make reinstalling the screws easier.

b. Grip the cover, pull toward you, and lift it out.

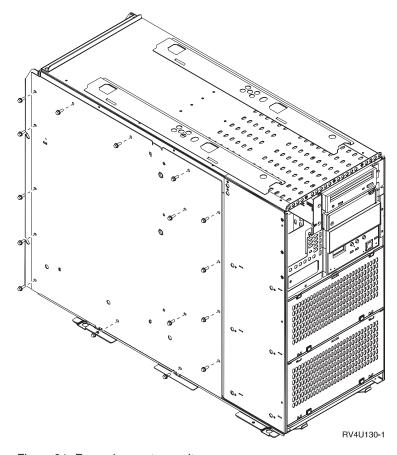


Figure 31. Removing system unit access cover

Connecting the SPCN and optical cables to the AS/400e system 620 or server S20

To connect the SPCN cable and the optical cable to your system unit, follow these steps:

- ___ 1. Plug the SPCN cable into the SPCN connector on your system unit.
- ___ 2. Tighten the thumbscrews.

Refer to Figure 32 on page 32 and install your optical cables:

- ___ 1. Locate the optical card connector inside of your system unit.
- ___ 2. On the back of the system unit, loosen two screws and open the cover plate.
- __ 3. Route the optical cable to the optical connector through the back of your system unit.
- ___ 4. Remove the two protective plugs from the 2688 OLP card.
- __ 5. Push the optical cable that is labeled **0** into the OLP cable connector on the left.
- __ 6. Push the optical cable that is labeled **1** into the OLP cable connector on the right.
- __ 7. Go to "Replacing the covers on your AS/400e system 620 or server S20" on page 32

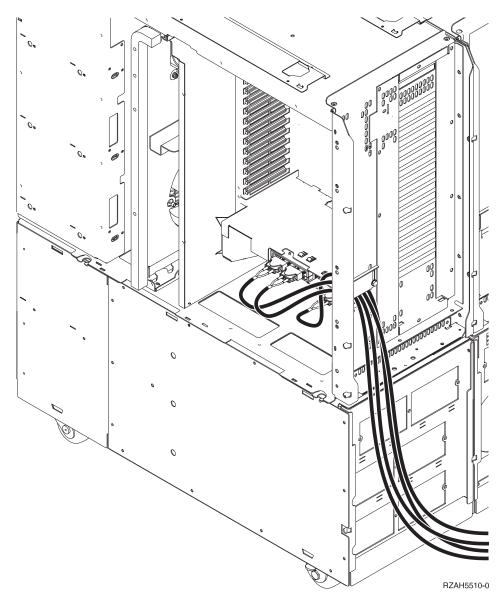


Figure 32. Installing optical cables in a system 620 or server S20

Replacing the covers on your AS/400e system 620 or server S20

- __ 1. Install the access cover and secure with slotted-head screws.
- ___ 2. Install the side cover for the system unit as follows:
 - a. Install the side cover. The cover may fall if you do not hold on to it.
 - b. Secure with the two screws.
 - c. Slide the cover latches down to close the louvers.
- __ 3. Install the top cover by sliding it towards the back of the system.
- __ 4. Secure the screw and pivot the top cover lock.
- __ 5. While gripping its upper corners, install the back cover.
- _ 6. Install the AS/400 front cover by doing the following:
 - a. Install the cover

b. Slide the latches (louvers) on the side covers down to latch the front c. Lock the front cover. ___7. Install the system unit back cover by doing the following: __ a. Grip the upper corners of the cover. __ b. Align the pins with the slots. __ c. Push the cover in and down.

Appendix B. Possible configurations with other expansion units

Your 5065 or 5066 expansion unit is compatible with these expansion units:

- 5044 Expansion Unit
- 5072 Expansion Unit
- 5073 Expansion Unit
- 5082 Storage Expansion Unit
- 5083 Storage Expansion Unit

The number and combination of expansion units you can have depend on the type of other expansion units and server you have. It also depends on whether or not you have a 5044 Expansion Rack. If your expansion unit is a 5066, count it as two 5065s.

AS/400e server S20

The AS/400e server S20 will support any combination of the expansion units that are listed below. You can have a total of four expansion units:

- 5065
- 5072
- 5073
- 5082

AS/400e system 620 and server 720

Table 2. Possible configuration for servers 620 and 720

Number of 5044s allowed	Number of 5065, 5072, 5073, 5082, or 5083s allowed
2	0
1	2
0	4

AS/400e servers S30 and S40

AS/400e servers S30 and S40 support any combination of the expansion units that are listed below. You can have a total of 18 expansion units:

- 5065
- 5072
- 5073
- 5082

AS400e servers 640, 650, 730, and 740

Table 3. Possible configuration for servers 640, 650, 730, and 740

Number of 5044s allowed	Number of 5065, 5072, 5073, 5082, or 5083s allowed
9	0

Table 3. Possible configuration for servers 640, 650, 730, and 740 (continued)

Number of 5044s allowed	Number of 5065, 5072, 5073, 5082, or 5083s allowed
8	2
7	4
6	6
5	8
4	10
3	12
2	14
1	16
0	18

Appendix C. Installing disk units in the 5065 or 5066 Expansion Unit

You may install new disk units into the 5065 or 5066 Expansion Unit or yourself. It takes approximately 1 hour to install the hardware.

You may also elect not to install the feature. Contact IBM or an authorized dealer to make arrangements for them to install the disk unit feature for a fee.

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

When you use these instructions, you will do the following:

- Remove the front cover for the expansion-unit.
- · Install one or more new disk units.
- · Install the cover.
- IPL your operating system.
- · Verify your new hardware configuration.

Note: Your 5066 Expansion Unit consists of two independent 5065 Expansion Units. The installation instructions for each expansion unit in your 5066 are identical.

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.
- If there are incorrect, missing, or visibly damaged parts, contact one of the following:
 - Your authorized dealer
 - IBM Rochester Manufacturing Automated Information Line (R-MAIL)
 - 1-800-300-8751 (United States)
 - 1-507-253-5242 (worldwide)

Optimizing your new disk unit

When you install a disk unit, you should optimize it for maximum performance by evenly distributing the disk units on the disk controllers.

Note: If you are installing feature 4331 1.65 GB Read Cache, solid-state disk units, you can only install them in position one of your disk unit enclosures. You can install three of these features (if you have three disk unit controllers) in the expansion unit.

Refer to the label on the inside of the front cover and install the disk units in this sequence:

1. First fill all the disk unit positions that are controlled by the first high speed disk unit controller.

- a. Fill the slot 1's: D31, D36, D46
- b. Fill the slot 2's D32, D37, D47
- c. Fill the slot 3's: D33, D38, D48
- d. Fill the slot 4's: D34, D39, D49
- e. Fill the slot 5's: D35, D40, D50
- 2. Your expansion unit requires a second high speed disk unit controller before you can install disk units into the following positions. Contact IBM or an Authorized Dealer if your expansion unit does not have a second high speed disk unit controller (IOA Card 2).

Next fill the slots in (IOA Card 2) this sequence:

- a. Fill the slot 1's: D01, D11, D21
- b. Fill the slot 2's: D02, D12, D22
- c. Fill the slot 3's: D03, D13, D23
- d. Fill the slot 4's: D04, D14, D24
- e. Fill the slot 5's: D05, D15, D25
- 3. Your expansion unit requires a third high speed disk unit controller before you can install disk units into the following positions. Contact IBM or an Authorized Dealer if your expansion unit does not have a third high speed disk unit controller (IOA Card 3).

Last fill the slots in (IOA Card 3) this sequence:

- a. Fill the slot 1's: D06, D16, D26
- b. Fill the slot 2's: D07, D17, D26
- c. Fill the slot 3's: D08, D18, D28
- d. Fill the slot 4's: D09, D19, D29
- e. Fill the slot 5's: D10, D20, D30

Installing a disk unit

Follow these steps to install a disk unit. If you encounter difficulties during the installation, contact your authorized dealer or service provider.

4	т.				1	CCO
- 1	19	VOIII	main	system-unit	nowered	Ott /

No Yes

- Go to step 4 on page 48.
- __ 2. Refer to Figure 33 on page 39 (5065) or Figure 34 on page 40 (5066) and use the latch that is shown at A to open the front cover.
- __ 3. If needed, use the latch that is shown at B to remove the front cover.

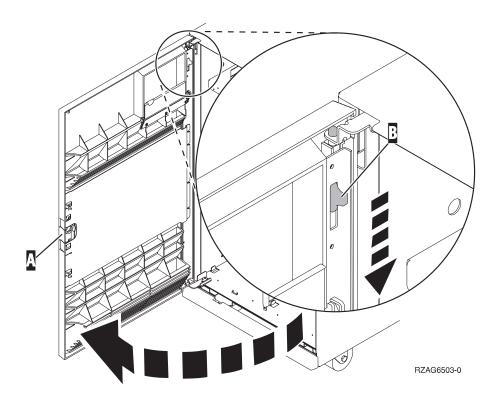


Figure 33. Opening the front cover door (5065)

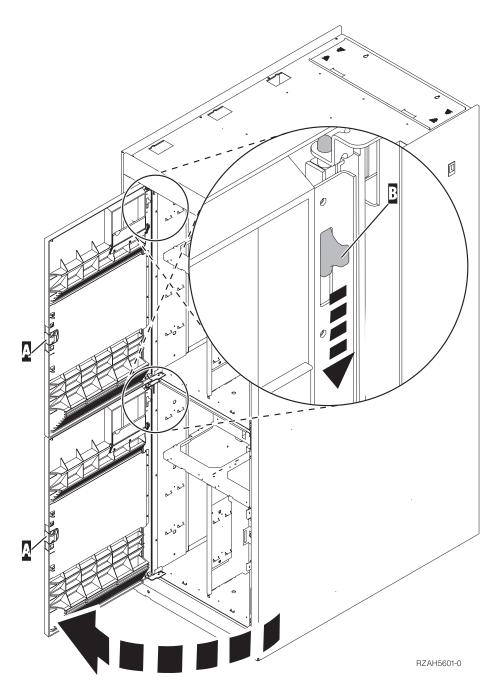


Figure 34. Opening the front cover door (5066)

4. Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device.

Notes:

- a. 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. Follow the same precautions you would use without the wrist strap.
- b. If the disposable wrist strap appears damaged or cut, discard the wrist strap immediately and contact your dealer for a replacement. Do not continue until a new wrist strap is available.

- c. When you unroll the wrist strap, remove the liner from the copper foil at the end.
- d. Attach the copper foil to an exposed, unpainted metal surface on the frame of the expansion unit (electrical ground).
- _ 5. Read "Concurrent procedure (system-unit powered on)" to be sure you understand the concurrent procedure before you begin. If you do not feel comfortable using the concurrent procedure, go to "Nonconcurrent procedure (system-unit powered off)" on page 47.

Concurrent procedure (system-unit powered on)

Before you perform a concurrent install, you must first determine the Direct Select Address for the disk unit you are installing. Read "Finding the Direct Select Address". Once you know the Direct Select Address, go to "Performing the concurrent install" on page 43 to complete the install.

Finding the Direct Select Address

Follow these steps to find the Direct Select Address for the position you will be installing your new disk unit:

- __ 1. Refer to the label on the inside of the front cover for the location of your new disk unit (as directed in "Optimizing your new disk unit" on page 37).
- __ 2. Look at Table 4 to find the **Direct Select Address** for the location of your new disk unit.

Table 4. Disk unit Direct Select Address

Location	Direct Select Address
D01	0X20 0003 00FF
D02	0X20 0004 00FF
D03	0X20 0005 00FF
D04	0X20 0006 00FF
D05	0X20 0007 00FF
D06	0X30 0003 00FF
D07	0X30 0004 00FF
D08	0X30 0005 00FF
D09	0X30 0006 00FF
D10	0X30 0007 00FF
D11	0X20 0103 00FF
D12	0X20 0104 00FF
D13	0X20 0105 00FF
D14	0X20 0106 00FF
D15	0X20 0107 00FF
D16	0X30 0103 00FF
D17	0X30 0104 00FF
D18	0X30 0105 00FF
D19	0X30 0106 00FF
D20	0X30 0107 00FF
D21	0X20 0203 00FF
D22	0X20 0204 00FF

Table 4. Disk unit Direct Select Address (continued)

Location	Direct Select Address
D23	0X20 0205 00FF
D24	0X20 0206 00FF
D25	0X20 0207 00FF
D26	0X30 0203 00FF
D27	0X30 0204 00FF
D28	0X30 0205 00FF
D29	0X30 0206 00FF
D30	0X30 0207 00FF
D31	0X10 0001 00FF
D32	0X10 0002 00FF
D33	0X10 0003 00FF
D34	0X10 0004 00FF
D35	0X10 0005 00FF
D36	0X10 0103 00FF
D37	0X10 0104 00FF
D38	0X10 0105 00FF
D39	0X10 0106 00FF
D40	0X10 0107 00FF
D46	0X10 0203 00FF
D47	0X10 0204 00FF
D48	0X10 0205 00FF
D49	0X10 0206 00FF
D50	0X10 0207 00FF

- __ 3. To determine the value for X (BUS) perform the following steps:
 - a. If you have not already done so, print the System Configuration List:
 - 1) On an AS/400 command line, type: STRSST

Press the Enter key.

2) When the Start a Service Tools menu appears, select the Start a service tool option.

Press the Enter key.

3) When the Start a Service Tool menu appears, select the Hardware service manager option.

Press the Enter key.

- 4) When the Hardware Service Manager menu appears, select the Packaging hardware resources (system, frames, cards...) option. Press the Enter key.
- 5) When Confirm Remove of Packaging Hardware Resources(s) appears, press **F6** to print the configuration list.
- 6) To return to the Main menu, press F3 three times and then press the Enter key.

- b. On the System Configuration List, locate your expansion unit.
- c. Once you locate your expansion unit, look at the Logical Address field. The value for X is the second digit in the field.
- __ 4. Place the configuration list in this book.

Example: The following is an example of how to find the Direct Select Address for location D02. The Direct Select Address from for location D02 is 0X20 0004 00FF. The value for X is under the LOGICAL ADDRESS field in the System Configuration List as is shown in the example below:

LOGICAL ADDRESS

1/4/ /-/ / / /

Under the LOGICAL ADDRESS field, the second digit is 4. Therefore the Direct Select Address for location D02 in this example is 0420 0004 00FF.

- __ 5. Locate the next available slot for the disk unit by reviewing the steps in "Optimizing your new disk unit" on page 37.
- ___ 6. Record the Direct Select Address for your disk unit to use in the concurrent install procedure.

Performing the concurrent install

After you find the Direct Select Address, perform these steps to concurrently install your disk unit:

__ 1. Refer to Figure 35 and remove the enclosure shield for the disk unit.

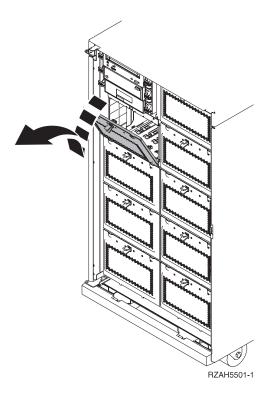


Figure 35. Removing the disk unit enclosure shield

- 2. Remove the long plastic connector cover from the position you will be installing the new disk unit.
- __ 3. Attention: Failure to follow these instructions could result in damage to the new disk unit or the system-unit and could result in loss of data.

	Sign on as QSECOFR.
4.	On the AS/400 Main Menu command line, type:
	STRSST
	Press the Enter key.
5.	When the System Service Tool display appears, select the Start a service tool option. Press the Enter key.
6.	When the Start a Service Tool display appears, select the Hardware service manager option. Press the Enter key.
7.	When the Hardware Service Manager display appears, select the Device Concurrent Maintenance option.
8.	Type the Direct Select Address of the position where you are installing the new disk unit.
9.	Select option 2 (Install device for the action to be performed).
10.	Set the time delay for one minute.
	01
11.	Attention: Disk units are fragile. Handle with care.
	Be sure to use the wrist strap provided. Place one end of the wrist strap around your wrist and connect the opposite end to your system-unit.
12.	Find the package that contains the new disk unit assembly and remove it from the static-protective package. Write the serial number (SN xx-xxxxxxx) of the disk unit here before you install it.
13.	Hold the disk unit with the blue handle up.
14.	Unlock the blue handle by pulling it out toward you as far as possible before you install the disk unit into the expansion unit.
15.	Refer to Figure 36 on page 45 and support the bottom of the disk unit assembly as you slide it half way into the next available position. Do not push it any further.
	Watch the light above the disk unit. When the light comes on and begins to blink rapidly, you have nine seconds to install the disk unit.
16.	On the console, press the Enter key.
17.	Refer to Figure 36 on page 45 and when the light starts blinking, slide the disk unit in and lock it in place by closing the latch.

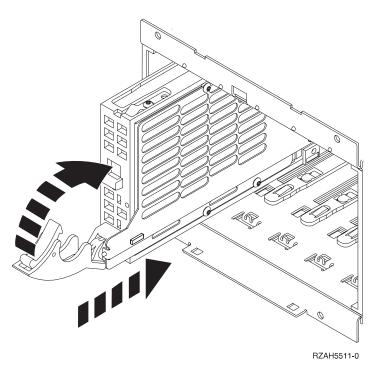


Figure 36. Installing a disk unit

- 18. The green light stops blinking and remains on solid when you installed disk unit properly.
- __ 19. Return to the console and wait until the Concurrent Maintenance Results display appears.

Press the Enter key.

___ 20. Do you have more disk units to install?

No Yes

- Repeat steps 5 on page 44 through 19.
- ___ 21. When the Hardware Service Manager display appears, press F12.
- ___ 22. On the System Service Tool display, select Work with Disk Units. Press the Enter key.
- ___ 23. On the Work with Disk Units display, select Display disk configuration. Press the Enter key.
- ___ 24. On the Display disk configuration display, select Display non-configured units.

Press the Enter key.

___ 25. The display should list the disk unit that you installed. The serial number should match the serial number you wrote in step 12 on page 44.

Note: If the display does not list the disk unit, ensure that you properly installed the disk unit. Repeat steps 1 on page 43 through 19.

- ___ 26. Press F12, twice.
- ___ 27. On the Work with disk units display, select Work with disk configuration. Press the Enter key.
- ___ 28. Are you adding a disk unit to an existing device parity set? If you need more information about device parity, go to the Backup and Recovery, SC41-5304-04.

	Yes	No	
	↓	Go to step 45.	
29.	On the Work with disk configuration display, select Include unit in device parity protection.		
30.		e Include Device Parity Protection Failed display appear?	
	Yes	No	
	↓	Go to step 33.	
_ 31.	You m	ust meet the following conditions before you can start device parity tion. Including the disk unit in device parity protection may fail for more reasons.	
	unit unit oper	ere are enough disk units available to create a new parity set, the s will be eligible for Start Device Parity Protection operation. The s will not be eligible for the Include Device Parity Protection ration. For more information, go to the <i>Backup and Recovery</i> , 1-5304-04.	
	pari	disk units in a parity set must be the same capacity. The resulting ty set must have a minimum number of 4 disk units and imum of 10 units.	
		all disk units attached to an advanced function input/output tessor have reported to the system. Retry the operation.	
		type/model of the disk units is not supported for the requested ration.	
32.		the above conditions have been met, select F12 to return to the Work isk configuration display.	
33.	disk u	e Include Disk Units in Device Parity Protection display, select the nits to be included in Device Parity Protection by typing a 1 in the column.	
	_	he Enter key.	
_ 34.	Press I	Enter to confirm your choice.	
35.	have b	the device parity protection is complete, the message "Selected units been included successfully" appears on the Work with disk buration display.	
_ 36.		e Work with disk configuration display, select Display disk uration.	
37.	On the status.	e Display disk configuration display, select Display disk configuration	
_ 38.	Detern	nine the auxiliary storage pool (ASP) to add the disk unit to.	
_ 39.	Press I	F12, twice.	
40.		e Work with disk configuration display, select Add units to the ASPs llance data.	
	Press t	he Enter key.	
41.		e Specify to Add Units to display, specify the ASP.	
		he Enter key.	
		Enter to confirm.	
_ 43.		the message "Selected units have been added successfully", return to $1/400~\mathrm{Main}$ menu.	
44	Go to	step 48 on page 47.	

__ 45. On the Work with disk configuration display, select Add units to ASPs.

	Press the Enter key.
46.	Add the number of the ASP you want to add the disk unit to. The system ASP is ASP 1 .
	Press the Enter key.
47.	The Confirm Add Units display appears showing the configuration your system will have when the add completes.
	Note: If you have selected the wrong ASP, press F12 to change your options. Press the Enter key to continue. The add process will take several minutes
	to complete.
	Install the disk unit shield cover .
	Install the system unit front cover.
50.	If you have a printer, print the configuration list. A service representative may refer to the configuration list in the future.
	a. On the AS/400 Main menu command line type:
	Note: You need to be signed on with service authority. STRSST
	Press the Enter key.
	b. On the STRSST display, select Start a service tool option.
	Press the Enter key.
	c. On the Start a Service Tool display, select Hardware service manager option.
	Press the Enter key.
	d. From the Hardware Service Manager display, press F6 (print the configuration).
	e. To return to the AS/400 Main menu, press F3 (Exit) twice and then press the Enter key.
	f. Place the configuration list in the <i>Basic System Operation, Administration, and Problem Handling</i> , SC41-5206-04 book.
51.	For information on how to make your disk unit operational, go to the <i>AS/400 Information Center</i> . You can access the Information Center from the <i>AS/400 Information Center</i> , SK3T-2027-03 or from the following web site:
	http//www.as400.ibm.com/infocenter
52.	Keep all miscellaneous parts, such as wrap connectors, with the Service Materials box or in a safe place.
The ins	stallation of the disk unit is complete.
Nonconcur	rent procedure (system-unit powered off)
1.	If you have installed logical partitions on your system-unit, refer to the AS/400 Information Center. At the AS/400 Information Center, you can find instructions on powering down a system with logical partitions.
2.	Ensure that all jobs are complete.
3.	When all jobs are complete, type the following on an AS/400 command line:
	pwrdwnsys *immed

Press the Enter key.

	4.	When you have completely powered down the system-unit, power off all PCs and 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 from the electrical outlet.			
	7.	Refer to Figure 33 on page 39 use the latch that is shown at A to open the front cover.			
	8.	If needed, use the latch that is shown at B to remove the front cover.			
	9.	Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device.			
		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. If the disposable wrist strap appears damaged, discard the wrist strap immediately and contact your dealer for a replacement. Do not continue until a new wrist strap is available.			
		c. When you unroll the strap, remove the liner from the copper foil at the end.			
		d. Attach the copper foil to an exposed, unpainted metal surface on the frame of the expansion unit (electrical ground).			
1	0.	Attention: Disk units are fragile. Handle with care.			
		Be sure to use the wrist strap provided. Place one end of the wrist strap around your wrist and ensure that you connected the opposite end to the expansion unit.			
1	1.	Locate the next available position for the disk unit by reviewing the steps in "Optimizing your new disk unit" on page 37.			
1	2.	Find the package that contains the new disk unit assembly and remove it from the static-protective package.			
1	3.	Write the serial number (SN xx-xxxxxxx) of the disk unit here before you install it.			
1	4.	4. Refer to Figure 37 on page 49 and remove the enclosure shield for the distunit.			

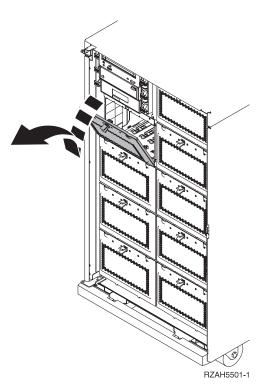


Figure 37. Removing the disk unit enclosure shield

- ___15. Remove the long plastic connector cover from the position you will be installing the new disk unit.
- ___ 16. **Attention:** Failure to follow these instructions could result in damage to the new disk unit or the expansion unit and could result in loss of data. Sign on as **QSECOFR**.
- __ 17. Unlock the blue handle by pulling it out toward you before you install the disk unit into the expansion unit.

Note: Support the disk unit as you install it into the expansion unit. Do not hold the disk unit by the blue handle.

- ___ 18. Refer to Figure 38 on page 50 and slide the disk unit into the expansion unit until it **stops**.
- ___ 19. Lift the disk unit handle until it locks into place.

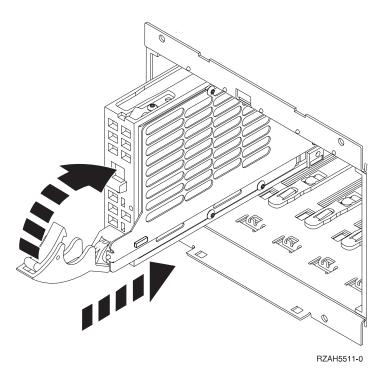


Figure 38. Installing a disk unit

___ 20. Do you have any additional disk units to install?

No Yes

- Repeat steps 12 on page 48 through 19 on page 49.
- ___ 21. Do you have any other devices to install?

No Yes

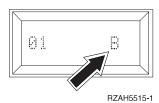
- If you have another device such as a tape unit or CD-ROM drive, go to the instructions that came with that device.
- 22. Install the enclosure shield cover for the disk unit.
- _ 23. Install the front cover of the expansion unit.
- __ 24. DANGER

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
- Console for the system
- __ 25. Plug in and power on all attached devices, such as printers and displays.

__26. Look at the Function/Data display on the control panel. Does a **B** appear in the Function/Data display?



Yes No

- **♦** Do the following:
 - a. Press the Up or Down select push button until **02** appears in the Function/Data display.
 - b. Press the Enter push button on the control panel.
 - **c.** Press the Up or Down select push button until **B** appears in the Function/Data display.
 - d. Press the Enter push button on the control panel.
 - e. Press the Up or Down select push button until **01** appears in the Function/Data display.
 - f. Press the Enter push button on the control panel.
- __ 27. Make sure that the IPL mode is in Manual mode. If it is not press, the Mode button until a light indicates that Manual is the active mode.
- __ 28. Power on the workstation or PC that is your system-unit console
- ___ 29. Press the power button to power on the AS/400 server.
- ___ 30. Do the following to verify your disk unit configuration:
- ___ 31. Do the following to verify your disk unit configuration:
 - a. When the IPL or install the System menu appears, select the Use dedicated service tools option.

Press the Enter key.

b. On the Dedicated Service Tools (DST) Sign-On display, enter your DST Userid and password.

Note: The default DST password is **22222222222**, unless it has been changed.

Press the Enter key.

c. When the Use Dedicated Service Tools menu appears, select the Work with disk units option.

Press the Enter key.

d. When the Work with Disk Units display appears, select the Work with disk configuration option.

Press the Enter key.

e. When the Work with Disk Configuration menu appears, select the Display disk configuration option.

Press the Enter key.

f. When the Display Disk Configuration menu appears, select the Display non-configured units option.

Press the Enter key.

g. The disk unit that you installed should appear in the list. The serial number should match the serial number you wrote in step 13 on page 48. Note: If the disk unit does not appear in the list, ensure that you properly installed the disk unit. h. Return to the Work with Disk Units menu (Press F12 three times). _ 32. On the Work with disk units display, select Work with disk configuration. Press the Enter key. __ 33. Are you adding a disk unit to an existing device parity set? If you need more information about device parity, go to the book, Backup and Recovery, SC41-5304-04. Yes No Go to step 52 on page 53. _ 34. On the Work with Disk Configuration display, select Work with device parity protection. __ 35. On the Work with Device Parity Protection display, select Include unit in device parity protection. __ 36. Did the *Include Device Parity Protection Failed* display appear? Yes No Go to step 39. __ 37. You must meet the following conditions before you can start device parity protection. Including the disk unit in device parity protection may fail for • If there are enough disk units available to create a new parity set, the units will be eligible for Start Device Parity Protection operation. The disk units will not be eligible for the *Include Device Parity Protection* operation. For more information, go to the Backup and Recovery, SC41-5304-04. All disk units in a parity set must be the same capacity. The resulting parity set must have a minimum number of 4 disk units and maximum of 10 units. Not all disk units attached to an advanced function input/output processor have reported to the system. Retry the operation. The type/model of the disk units is not supported for the requested operation. 38. When you have met the above conditions, select F12 to return to the Work with disk configuration display. _ 39. On the Include Disk Units in Device Parity Protection display, select the disk units to be included in Device Parity Protection by typing a 1 in the Option column. Press the Enter key. ___ 40. Press Enter to confirm your choice. __ 41. When the device parity protection is complete, the message "Selected unit(s) have been included successfully" appears on the Work with device parity protection display. Press F12. <u>42.</u> On the *Work with disk configuration* display, select *Display disk configuration*. Press the Enter key.

43.	On the Display disk configuration display, select Display disk configuration status.			
44.	Determine the auxiliary storage pool (ASP) to add the disk unit to.			
	Press F12, twice.			
	On the Work with disk configuration display, select Work with ASP configuration.			
	Press the Enter key.			
47.	On the Work with disk configuration display, select Add units to ASPS and			
	balance data.			
	Press the Enter key.			
48.	On the Specify to Add Units to display, specify the ASP.			
	Press the Enter key.			
49.	Press Enter to confirm.			
50.	When the message "Selected units have been added successfully", return to the $AS/400$ Main menu.			
51.	Go to step 55.			
52.	On the Work with disk configuration display, select Add units to ASPs.			
	Press the Enter key.			
53.	Add the number of the ASP you want to add the disk unit to. The system ASP is ASP 1 .			
	Press the Enter key.			
54.	The <i>Confirm Add Units</i> display appears showing the configuration your system will have when the add completes.			
	Note: If you have selected the wrong ASP, press F12 to change your options. Press the Enter key to continue. The add process will take several minutes			
EE	to complete.			
	Install the disk unit shield cover.			
56. 57.	Install the system unit front cover. Press F12 three times to return to the <i>Use Dedicated Service Tools (DST)</i>			
	display.			
58.	Select Perform an IPL option.			
	Press the Enter key.			
59.	If you have a printer, print the configuration list. A service representative			
	may refer to the configuration list in the future.			
	a. On the AS/400 Main menu command line type:			
	Note: You need to be signed on with service authority. STRSST			
	Press the Enter key.			
	b. On the STRSST display, select Start a service tool option.			
	Press the Enter key.			
	c. On the Start a Service Tool display, select <i>Hardware service manager</i> option.			
	Press the Enter key			

d. From the Hardware Service Manager display, press F6 (print the

configuration).

- e. To return to the AS/400 Main menu, press F3 (Exit) twice and then press the Enter key.
- f. Place the configuration list in the book, Basic System Operation, Administration, and Problem Handling, SC41-5206-04.
- _ 60. For information on how to make your disk unit operational, go to the AS/400 Information Center. You can access the Information Center from the book, AS/400 Information Center, SK3T-2027-03 or from the following Web
 - http//www.as400.ibm.com/infocenter
- ___ 61. Keep all miscellaneous parts, such as wrap connectors, with the Service Materials box or in a safe place.

The installation of the disk unit is complete.

Appendix D. Installing removable media devices in the 5065 Expansion Unit

You may install removable media device features into the 5065 or 5066 Expansion Unit yourself. It takes approximately 1 hour to install the hardware. However, if you elect not to install the feature, contact IBM or an authorized dealer to install the removable media device feature for a fee.

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

When you use these instructions, you will do the following:

- Remove the front cover for the expansion unit.
- Install your new hardware.
- · Install the cover.
- IPL your operating system.
- Verify your new hardware configuration.

Note: Your 5066 Expansion Unit consists of two independent 5065 Expansion Units. The installation instructions for each expansion unit in your 5066 are identical.

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.
- If there are incorrect, missing, or visibly damaged parts, contact one of the following:
 - Your authorized dealer
 - IBM Rochester Manufacturing Automated Information Line (R-MAIL)
 - 1-800-300-8751 (United States)
 - 1-507-253-5242 (worldwide)

Table 5. Possible removable media device configurations

Removable Media Device	Possible Installation Configurations (double for 5066)
CD-ROM Drive (4425)	One per 5065
4 GB Tape Drive (4482)	Install up to 2
12 GB Tape Drive (4483)	Install up to 2
25 GB Tape Drive (4486)	Install up to 2

Installing removable media devices

This procedure gives you the introductory steps you need to install removable media devices in your expansion unit. It will help you to decide between a concurrent removable media device installation and a power down removable media device installation. During a concurrent installation, you do not power down your expansion unit.

If you encounter difficulties during the installation, contact your authorized dealer or service provider.

__ 1. Is your main system-unit powered off?

No

- Go to step 4 on page 61.
- _ 2. Refer to Figure 39 (5065) or Figure 40 on page 57 (5066) and use the latch that is shown at A to open the front cover.
- __ 3. If needed, use the latch that is shown at B to remove the front cover.

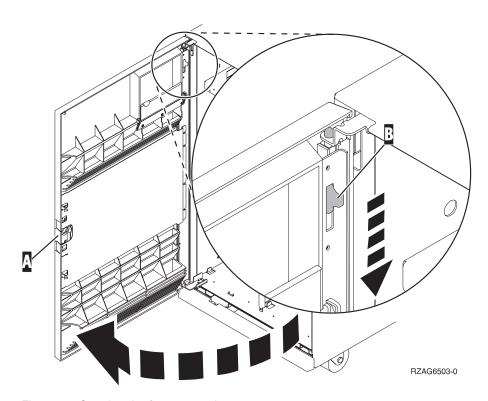


Figure 39. Opening the front cover door

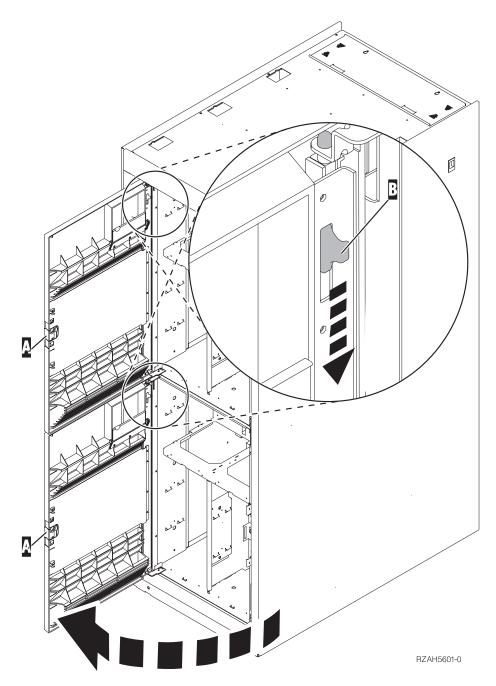


Figure 40. Opening the front cover door (5066)

_4. Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device.

Notes:

- a. 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. Follow the same precautions you would use without the wrist strap.
- b. If the disposable wrist strap appears damaged, discard the wrist strap immediately and contact your dealer for a replacement. Do not continue until a new wrist strap is available.

- c. When you unroll the wrist strap, remove the liner from the copper foil at the end.
- d. Attach the copper foil to an **exposed**, **unpainted** metal surface on the frame of the 5065 expansion unit (electrical ground).
- _ 5. Be sure you understand the complexity of the steps in "Concurrent procedure (system-unit powered on)" before you begin. If you do not feel comfortable using the concurrent procedure, go to "NonConcurrent procedure (system-unit powered off)" on page 61.

Concurrent procedure (system-unit powered on)

Before you perform a concurrent install, you first need to find out the Direct Select Address for the removable media you are installing. Read "Finding the Direct Select Address" to find out how to find the disk unit Direct Select Address. Once you know the Direct Select Address, go to "Performing the concurrent install" on page 59 to complete the install.

Finding the Direct Select Address

Follow these steps to find the Direct Select Address for your new removable media device.

- __ 1. Refer to the label on the inside of the front cover for the location of your new removable media device.
- __ 2. Look at Table 6 to find the Direct Select Address for the location of your new removable media device.

Table 6. Removable media Direct Select Address

Location	Direct Select Address/Unit Address
D41	0X10 0007 00FF
D42	0X10 0006 00FF

- __ 3. The value for X in the Direct Select Address is different for each system. To determine the value for X perform the following steps:
 - a. If you have not already done so, print the System Configuration List:
 - 1) On an AS/400 command line, type: **STRSST**

Press the Enter key.

2) When the Start a Service Tools menu appears, select the Start a service tool option.

Press the Enter key.

3) When the Start a Service Tool menu appears, select the Hardware service manager option.

Press the Enter key.

- 4) When the Hardware Service Manager menu appears, select the Packaging hardware resources (system, frames, cards...) option. Press the Enter key.
- 5) When Confirm Remove of Packaging Hardware Resources(s) appears, press **F6** to the configuration list. Place the configuration list in this
- 6) To return to the Main menu, press F3 three times and then press the Enter key.
- b. On the System Configuration List, locate your expansion unit.

c. Once you locate your expansion unit, look at the Logical Address field. The value for X is the second digit in the field.

Example: The following is an example of how to find the Direct Select Address for location D41. The Direct Select Address from Table 4 on page 41 for location D41 is 0X10 0007 00FF. The value for X is under the LOGICAL ADDRESS field in the System Configuration List as shown in the example below:

LOGICAL ADDRESS

1/4/ /-/ / / /

Under the LOGICAL ADDRESS field, the second digit is 4. Therefore the Direct Select Address for location D02 in this example is 0410 0007 00FF.

___ 4. Record the Direct Select Address for your disk unit to use in the concurrent install procedure.

Performing the concurrent install

lower right for CDs.

Follow these steps to perform the concurrent install:

	on: Failure to follow these instructions could result in damage to the lble media device or the system-unit and could result in loss of data.
	If you have not already, sign on as QSECOFR
	On the AS/400 command line, type:
2.	STRSST
	Press the Enter key.
3.	When the System Service Tools display appears, select the Start a service tool option. Press the Enter key.
4.	When the Start a Service Tool display appears, select the Hardware service manager option. Press the Enter key.
5.	When the Hardware Service Manager display appears, select the Device Concurrent Maintenance option.
6.	You can install the removable media device in one of three possible positions. Refer to label on the inside of the front cover to locate the direct select address of the position you will be installing the removable media.
7.	Type the <i>Direct Select Address</i> of the position where you will be installing the removable media device.
8.	Pull out the removable media filler bezel.
9.	Remove the long plastic connector cover.
10.	Attention: Removable media devices are fragile. Handle with care.
	Be sure to use the wrist strap provided. Place one end of the wrist strap around your wrist and connect the opposite end to your expansion unit.
11.	Find the package that contains the new removable media assembly and remove it from the static-protective package.
12.	Hold the device with the blue button in the upper right for tape units or

Note: Support the bottom of the removable media device as you install it into the expansion unit. Do not hold the removable media device by the blue handle.

__ 13. Pull the blue handle out toward you before you install the disk unit into the expansion unit.

- _ 14. Refer to Figure 41 and support the bottom of the removable media device assembly as you slide it half way into the next available position. Do not push it any further.
- _ 15. Select option 2 (Install device for the action to be performed).
- _ 16. Set the time delay for one minute.

Press the Enter key.

Note: Watch the light on the right side of the removable media devices. If the light comes on and begins to blink rapidly, you have nine seconds to slide the removable media device into place.

_ 17. When the light starts blinking, slide the removable media device in until it seats properly. Push both blue handles in at the same time to lock the removable media device into place.

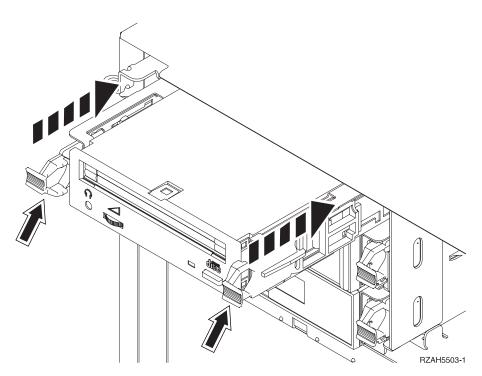


Figure 41. Installing removable media

- 18. The green light will stop blinking and remain on solid when you properly installed the removable media device.
- __ 19. Return to the console and wait until the Concurrent Maintenance Results display appears.
 - Press the Enter key.
- ___ 20. When the Hardware Service Manager display appears, press F6 to print the configuration list if you have a printer. You or a service representative may refer to the configuration list in the future.
- ___ 21. Install the front cover for the expansion unit.
- ___ 22. Press F12 twice and press the Enter key to return to the AS/400 Main menu.

The installation of the removable media device is complete.

NonConcurrent procedure (system-unit powered off)

- 1. If you have installed logical partitions on your system-unit, refer to the AS/400 Information Center. At the AS/400 Information Center you can find instructions on powering down a system with logical partitions.
- 2. Ensure that all jobs are complete.
- 3. When all jobs are complete, type on an AS/400 command line and press the Enter key:
 - pwrdwnsys *immed
- 4. When you have completely powered down the system-unit, power off all PCs and 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
- 6. Unplug the power cord for the expansion unit from the electrical outlet.
- 7. Refer to Figure 42 and use latch that is shown at A to open the front cover.
- 8. If needed, use the latch that is shown at **B** to remove the front cover.

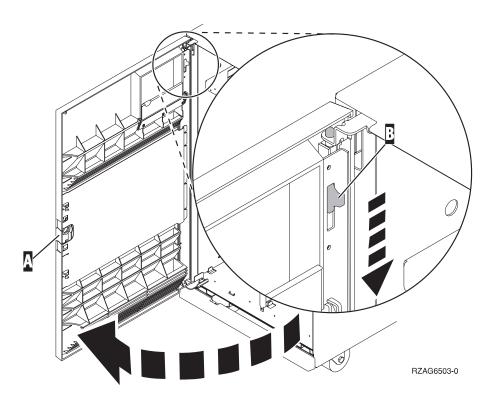


Figure 42. Opening the front cover door

9. Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device.

Notes:

a. 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. Follow the same precautions you would use without the wrist strap.

- b. If the disposable wrist strap appears damaged, discard the wrist strap immediately and contact your dealer for a replacement. Do not continue until a new wrist strap is available.
- c. When you unroll the wrist strap, remove the liner from the copper foil at the end.
- d. Attach the copper foil to an exposed, unpainted metal surface on the frame of the 5065 Expansion Unit (electrical ground).
- ___ 10. Attention: Removable media devices are fragile. Handle with care. Be sure to use the wrist strap provided. Place one end of the wrist strap around your wrist and connect the opposite end to your system-unit.
- __ 11. Pull out the removable media filler bezel.
- _ 12. Remove the long plastic connector cover.
- __ 13. Find the package that contains the new removable media device assembly and remove it from the static-protective package.
- 14. Hold the removable media device upright and pull both blue handles on both sides of the removable media device toward you.
- ___ 15. Refer to Figure 43 and align the removable media device assembly with the next available slot.

Note: Support the bottom of the removable media device assembly as you slide it into place. Do not hold the removable media device by the blue handles.

- __ 16. Slide it into the expansion unit until it **stops**.
- __ 17. Push both blue handles in at the same time to lock the removable media device into place.

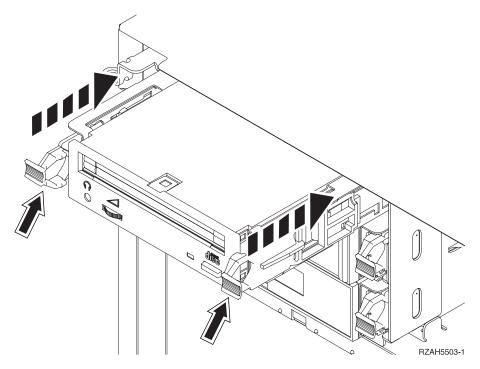


Figure 43. Installing removable media

__ 18. Do you have any other devices to install?

No Yes ↓

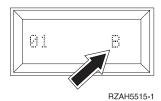
If you have another device such as a tape unit or a CD-ROM drive, refer to the instructions that came with that device.

___ 19. Install the front cover on the expansion unit.

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)

- _ 20. Plug the following power cords into an electrical outlet.
 - Expansion unit
 - System-unit console
- ___21. Plug in and power on all attached devices, such as printers and displays.
- _ 22. Look at the Function/Data display on the system-unit control panel. Does a B appear in the Function/Data display?



Yes No

- **♦** Do the following:
 - a. Press the Up or Down select push button until **02** appears in the Function/Data display.
 - b. Press the Enter push button on the control panel.
 - c. Press the Up or Down select push button until **B** appears in the Function/Data display.
 - d. Press the Enter push button on the control panel.
 - e. Press the Up or Down select push button until **01** appears in the Function/Data display.
 - f. Press the Enter push button on the control panel.
 - g. Is the IPL mode Normal?

Yes No

- Press the mode button until a lit mode light indicates that the action mode is Normal. Go to step 24.
- h. Go to step 24.
- __ 23. Make sure that the IPL mode is in Normal mode. If it is not, press the mode button until a lit mode light indicates that the action mode is Normal.
- **24**. Power on the workstation or PC that is console for your system.
- __ 25. Press the power button to power on your AS/400 system unit.
- __ 26. Sign on the AS/400 system-unit. Ensure that you have service tools authority.
- __ 27. Do the following to verify your removable media device configuration:

a. On an AS/400 command line, type: DSPHDWRSC *AHW

Press the Enter key.

b. When the Display All Hardware Resources display appears, type 7 in the Opt column next to the feature number for the device you just installed.

Press the Enter Key.

If the system does not list the tape unit, ensure that you have properly installed the tape unit.

c. If you have a printer, print the configuration list. Place the configuration list in Basic System Operation, Administration, and Problem Handling, SC41-5206-04.

Note: To print the hardware resources list, press F6 twice.

- d. Return to the AS/400 Main menu by pressing F3.
- __ 28. For information on how to make your removable media device operational, go to the AS/400 Information Center.

The installation of the removable media device is complete.

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