Expandable Storage Plus

2104 Models DU3 and TU3: Service Guide

GY33-0198-07

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2104 Models DU3 and TU3: Service Guide

GY33-0198-07

Eighth Edition (June 2003)

This minor revision supersedes GY33-0198-06. Technical changes are shown by a vertical line to the left of each change.

Contents

Safety Notices

For a translation of the *danger* and *caution* notices contained in this book, see Appendix D, “Translated Safety Notices”, on page 169.

Definitions of Safety Notices

A *danger* notice indicates the presence of a hazard that has the potential of causing death or serious personal injury.

This book contains a *danger* notice on pages 70, and 88.

A *caution* notice indicates the presence of a hazard that has the potential of causing moderate or minor personal injury.

This book contains *caution* notices on pages: 88, 91, 96, 101, 103, 106, 109, 111, and 115.

An *attention* notice indicates an action that could cause damage to a program, device, system, or data.

Safety Notice for Installing, Relocating, or Servicing

Before connecting or removing any cables to or from connectors at the using system, be sure to follow the steps in the installation or relocation checklist specified in the *Installation and Service Guide*, or equivalent, for your using system.

For safety checks when servicing, refer to “Service Inspection Guide” on page 30.

About This Book

This book provides service information for any person who is required to service Expandable Storage Plus: 2104 Models DU3 and TU3 disk subsystems. That person could be a technically-qualified employee of the owner of the subsystem, or a service representative. This information is organized as follows:

- Chapter 1 briefly introduces the 2104, and gives useful reference information.
- Chapter 2 gives problem determination procedures.
- Chapter 3 gives removal and replacement procedures.
- Chapter 4 is the parts catalog.
- Appendix A gives additional information for 2104s that are attached to RISC systems.
- Appendix B shows examples of cable configurations for the 2104.
- Appendix C contains communications statements for the 2104.
- Appendix D gives translations of the safety notices that appear in this book.

An index is provided at the back of the book.

Important: *This book does not include service information for 2104 Models DL1 and TL1.* For those models, see Related Publications in Appendix A, “Additional Information for RISC Systems”.

Numbering Convention

In this book:

- One kilobyte (KB) equals 1 000 bytes.
- One megabyte (MB) equals 1 000 000 bytes.
- One gigabyte (GB) equals 1 000 000 000 bytes.

Trademarks

The following items are trademarks of International Business Machines Corporation in the United States, or other countries, or both.

AIX

IBM

RS/6000

@server

Related Publications

The *Installation and Service Guide*, or equivalent, for your using system

Expandable Storage Plus: 2104 Models DU3 and TU3: Operator’s Guide, SA33-3310

Expandable Storage Plus: 2104 Model DU3 Installation Guide, GA33-3311

Expandable Storage Plus: 2104 Model TU3 Installation Guide, GA33-3312

For other publications, see Appendix A, “Additional Information for RISC Systems”, on page 131 for your using system.

Electrostatic Discharge

When you handle field-replaceable units (FRUs) and other computer parts, take these precautions to avoid static damage:

- Limit your movement. Movement can cause static electricity to build up around you.
- Always touch computer parts carefully. Hold adapters and memory-modules by their edges. Never touch any exposed circuits.
- Prevent people who are not correctly grounded from touching computer parts.
- Before you install a new part, touch the static-protective package that contains the part against an unpainted metal part of the 2104 or using system for at least two seconds. This action reduces static electricity in the package and in your body.
- Remove the part from its package and, if possible, install it directly into the 2104 without putting the part down. If you need to put the part down, first place the static-protective package that contained the part onto a smooth, level surface, then place the part onto the package.
- Do not place the part onto any metal surface.

Safety Note

Ensure that you read “Safety Notices” on page vii before you do any of the actions that are described in this book.

Chapter 1. Reference Information

Are You Using the Correct Book? *Do not use this book if you are servicing a 2104 Model DL1 or TL1.* For the correct book, see Related Publications in Appendix A, “Additional Information for RISC Systems”.

The Expandable Storage Plus: 2104 Models DU3 and TU3 subsystems (see Figure 1) can be attached to any RS/6000™ or IBM ™ @server™ pSeries computer that provides support for Small Computer System Interface (SCSI). The 2104 Model DU3 **1** is a rack-mounted unit that can be installed into a standard Electrical Industries Association (EIA) 19-inch rack, a 7104 Model T00 rack, or a 7104 Model T42 rack. The 2104 Model TU3 **2** is a deskside unit.

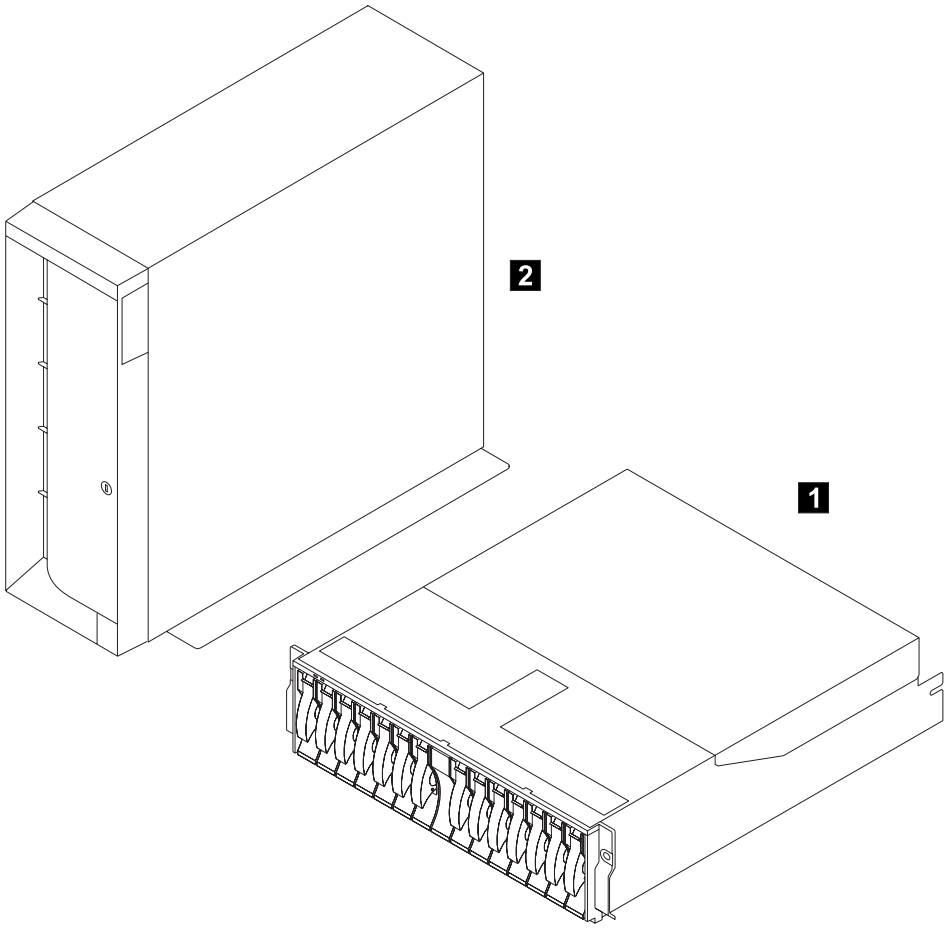


Figure 1. 2104 Models DU3 and TU3 Subsystems

The 2104 Models DU3 and TU3 can contain up to 14 SCSI disk drive modules. These modules can be a mixture of various types, which vary in size (see Chapter 4, “Parts Catalog”, on page 119).

The 2104 can be disconnected from its related SCSI attachments (for example, SCSI adapters) while the using system is running. Also, most of the field-replaceable units (FRUs) of the 2104 can be removed and replaced while the 2104 and the using system are running. For a list of those FRUs, see “Concurrent Maintenance” on page 65.

The 2104 has two fan-and-power-supply assemblies, or one fan-and-power-supply assembly and one fan assembly, to provide all the necessary power and cooling. It also has up to two SCSI interface cards, which monitor and control the various functions of the 2104 (see also “SCSI Interface Cards” on page 3). Each SCSI interface card can be accessed to collect enclosure information only if it is connected to a SCSI attachment. A switch card assembly provides option selection switches (see also “Switch Card Assembly Switches” on page 9).

The 2104 can be configured to the using system as a device if applicable. See “Configuring a 2104 to the Using System” in “Appendix A, “Additional Information for RISC Systems””. When a 2104 is configured as a device:

- Errors that are detected in the 2104 can be collected by the diagnostics.
- Vital product data (VPD) for the 2104 can be accessed.

Most FRUs contain their own vital product data (VPD). A using system can access this VPD while the 2104 is being configured.

Enclosure configuration information is stored in several locations in the 2104 to allow concurrent replacement of FRUs. When a new FRU is installed, any special configuration information that is required by that FRU is read from other locations in the 2104. That information is then used to update the new FRU. To ensure that the configuration is not corrupted or changed, always exchange FRUs one at a time.

SCSI Interface Cards

The SCSI interface card of the 2104:

- Provides SCSI Enclosure Services (SES)
- Reads the VPD from the backplanes and the fan-and-power-supply assemblies
- Controls the Subsystem Check light and the disk drive module Check lights
- Controls the speed of the fan of the fan-and-power-supply assemblies or fan-and-power-supply assembly and fan assembly
- Monitors the 'Emergency Power Off Warning (EPOW)' signal from the power-supply assembly or assemblies. If an 'EPOW' signal occurs, the SCSI interface card sends a 'SCSI Reset' signal to all the disk drive modules.
- Provides support for the hot plugging of the disk drive modules
- Monitors itself. The SCSI interface card detects a self-failure if:
  - The microprocessor fails.
  - An SES function fails.
  - The enclosure temperature is outside the specified limits.
- Provides support for SCSI Ultra 160 MB per second operation, LVD (Low Voltage Differential) mode

  Note: It does not provide support for SE (Single Ended) mode.

If the 2104 has two SCSI interface cards, each SCSI interface card can be accessed to collect enclosure information only if it is connected to a SCSI attachment. If both cards are operational, the SES-active card provides all the functions described here. The other card only detects self-failure and drives the internal SCSI bus.

Error Logging

Errors that the 2104 detects are not automatically logged to the system error log.

To collect error data, run diagnostics. For more details, see "Collecting Errors" in "Appendix A, "Additional Information for RISC Systems"".

Configurations

Each SCSI interface card can be attached to only one using system. A 2104 that has one SCSI interface card can, therefore, be attached to only one using system. A 2104 that has two SCSI interface cards can be attached to two using systems. No SCSI terminators are needed.

−48 Volt Power Supply (Model DU3 Only)

The −48 Volt Power Supply feature provides power supply assemblies that allow a 2104 Model DU3 to be connected to −48 volt power sources. The 2104 must be connected to two separate power sources to ensure that operations are not interrupted if one power source fails. The −48 Volt power distribution panel (PDP) in the rack provides the power sources and the power cables. For details about how to connect a 2104 Model DU3 to a −48 volt power source, see the *2104 Model DU3: Installation Guide*.

Attention: Both power supply assemblies in a 2104 must be of the same voltage rating. ***Do not mix power supply assemblies of different voltage ratings.***

Lights and Switches

The lights and switches of the 2104 consist of:

- Subsystem lights
- SCSI interface card lights
- Fan-and-power-supply assembly lights and switch
- Fan assembly light
- Switch card assembly switches
- Disk drive module lights

Figure 2 shows the lights and switches of the 2104 Model DU3; Figure 3 shows the lights and switches of the 2104 Model TU3.

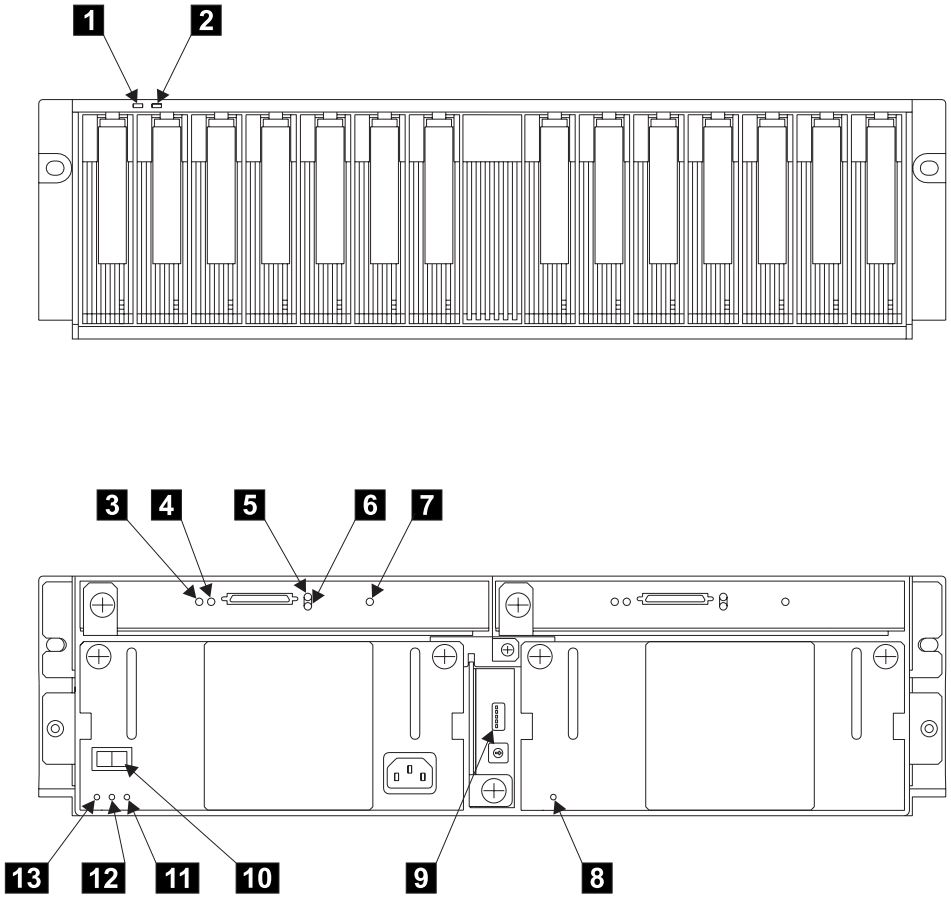


Figure 2. Lights and Switches of the 2104 Model DU3

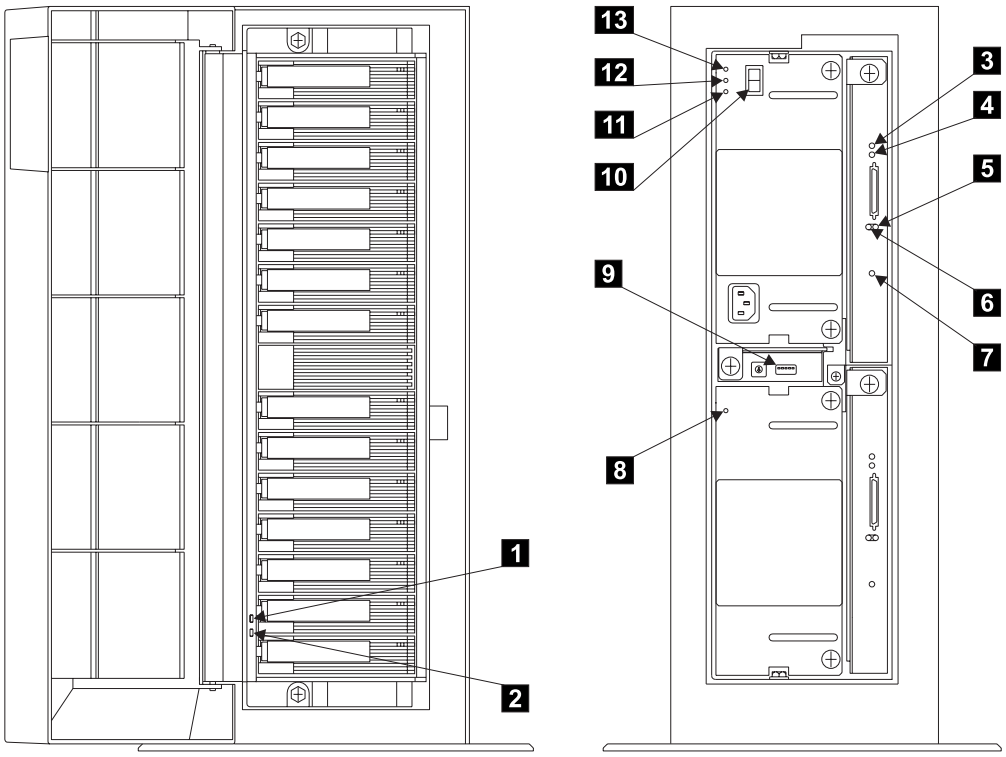


Figure 3. Lights and Switches of the 2104 Model TU3

Subsystem Lights

To identify the lights that are described here, see Figures 2 and 3.

The Subsystem Power light and Subsystem Check light are located on the backplane assembly. The lights are made visible by light pipes that pass through the bezel at the front of the 2104.

Subsystem Power light 1 : This green light is on continuously when dc voltage is present in the 2104.

Subsystem Check light 2 : This amber light comes on continuously if a failure occurs in the 2104. The 2104 might be able to continue operating satisfactorily although the failure of a particular part has been detected. The light flashes when a service aid identifies a disk drive module.

Note: The Subsystem Check light comes on only when dc voltage is present in the 2104.

SCSI Interface Card Lights

To identify the lights that are described here, see Figures 2 and 3.

TERM POWER light 3 : This green light is on when the 'TERMPWR' signal is present on the external SCSI connector, and the voltage is correct.

LVD/SE light 4 : This green light is on for differential SCSI operation, and off for single-ended SCSI operation.

ACTIVE light 5 : This green light is on when a SCSI command is in progress.

SCSI RESET light 6 : This green light comes on when a 'power-on reset' (POR) signal or a 'SCSI bus reset' signal occurs.

CARD FAULT light 7 : This amber light comes on if the SCSI interface card fails.

Fan-and-Power-Supply Assembly Lights and Switch

To identify the lights and switch that are described here, see Figures 2 and 3.

DC On/Standby switch 10 : This switch switches off the dc electrical power to the disk drive modules and other components of the 2104. The switch must be set to On for the power supply and the fan unit to start.

If the DC On/Standby switch is set to On (on either fan-and-power-supply assembly, if two are present), dc power in the 2104 is turned on automatically if all the following conditions exist:

- Mainline power is present at the 2104.
- At least one fan-and-power-supply assembly is correctly installed.
- ***Either*** the Power Control switch on the Switch card assembly is set to On ***or*** terminator power is active in an external SCSI connection.

CHK light 11 : This amber light is on continuously if the fan-and-power-supply assembly fails or goes into Standby mode. When a power supply fails, the CHK light gets its power from the other fan-and-power-supply assembly (if present). The light can, therefore, indicate a critical power supply failure only if the 2104 has two fan-and-power-supply assemblies.

Note: The CHK light is active only when the DC On/Standby switch is set to On.

DC PWR light 12 : This green light is on when the power supply assembly is supplying dc power to the 2104.

AC PWR light 13 : This green light is on when mainline electrical power is present in the power supply assembly.

Fan Assembly Light

To identify the light that is described here, see Figures 2 and 3.

CHK light 8 : This amber light comes on if the fan fails.

Switch Card Assembly Switches

The switch card assembly is item **9** in Figures 2 and 3. To identify the switch card assembly switches, refer to Figure 4.

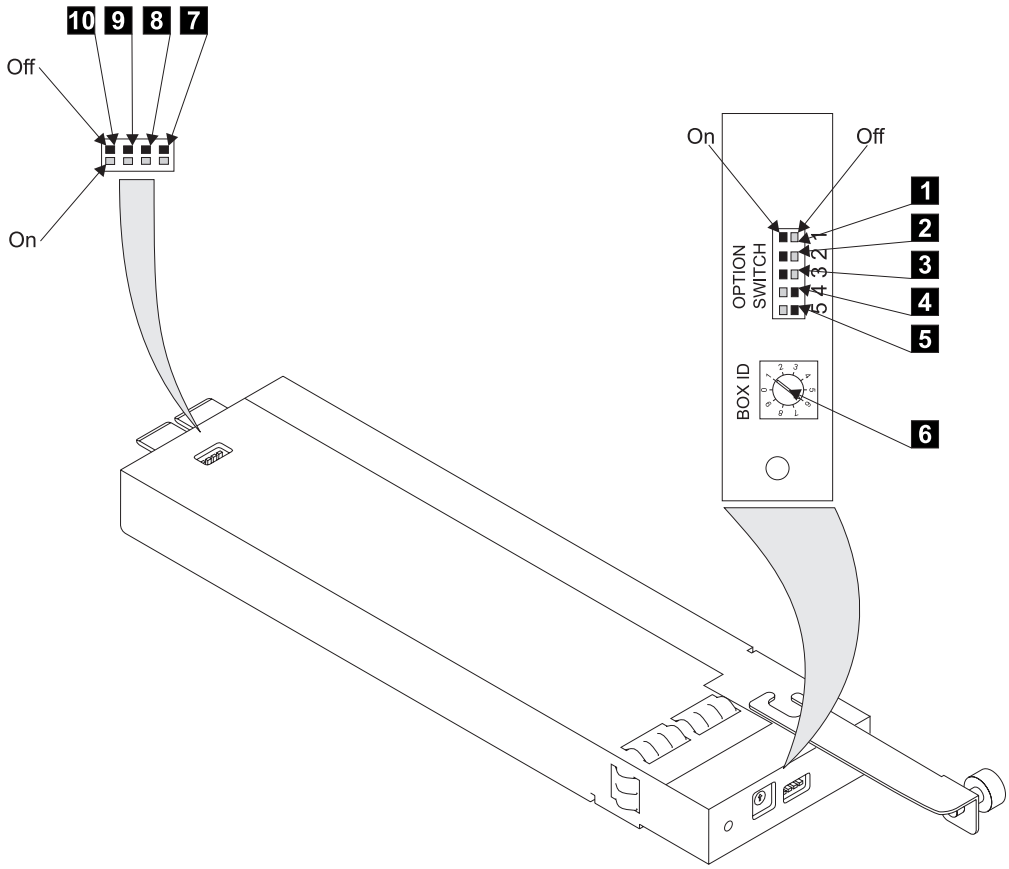


Figure 4. Switch Card Assembly Switches

Notes:

1. In this section, “default logical setting” means the setting that the enclosure uses if the switch card assembly is not present when a power-on or reset operation occurs.
2. Switch **10** is not used, and must always be set to Off.

External Switches

Power Control switch 1 : When this switch is set to Off, the SCSI interface card can enable the 2104 power supplies if both the following conditions exist:

- The 2104 is connected to mainline power and a DC On/Standby (on a fan-and-power-supply assembly) is set to On.
- The 'terminator power (TERMPWR)' signal is active in an external SCSI connection.

Under these conditions, the SCSI interface card provides a remote power on control function. That is, the 2104 switches off automatically when all the connected using systems switch off; it switches on automatically when one using system switches on.

When the Power Control switch is set to On, power is not controlled by the 'TERMPWR' signal. The 2104 does not switch on and off automatically with the using system.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is Off.

Drive Autostart switch 2 : When this switch is set to On, the motors of the disk drive modules do not start until a **Start Motor** command is issued. The timing sequence of startup is under the control of the using-system software. When this switch is set to Off, the disk drive modules are set to Delay Motor Start mode. The delay time before motor startup is specified by the disk drive modules. After power is switched on, the delay time is usually SCSI ID x 12 seconds. For example, the delay for a disk drive module whose SCSI ID is 2 is 2x12 seconds (24 seconds).

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is On.

Enable Enclosure Services switch 3 : When the switch is set to On, the SCSI enclosure services operate. When the switch is set to Off, the 2104 does not respond to requests for enclosure services, and SCSI address 15 (the address of the SCSI enclosure services) is not used.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is On.

Note: Enclosure services are not supported by SuSE Linux Enterprise Server for pSeries, however, it is recommended that this switch be left on to support possible use of AIX stand-alone diagnostics.

Select Enclosure Services switch 4 : When the switch is set to On, the SCSI enclosure services are selected. When the switch is set to Off, the SAF-TE enclosure services are selected.

Note: SAF-TE services are not supported on an RS/6000 or IBM @server pSeries system.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is On.

Note: Enclosure services are not supported by SuSE Linux Enterprise Server for pSeries, however, it is recommended that this switch be left on to support possible use of AIX stand-alone diagnostics.

Delay Motor Start Mode switch 5 : This switch selects either Delay Motor Start Mode or Normal Start Mode when the Drive Autostart switch **2** is set to Off. When the Delay Motor Start Mode switch is set to On, Delay Motor Start mode is selected. The delay time before motor startup is specified for each disk drive module. After power is switched on, the delay time is usually SCSI ID x 12 seconds. For example, the delay for a disk drive module whose SCSI ID is 2 is 2x12 seconds (24 seconds).

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is Off.

Enclosure ID switch 6 : This 10-position rotary switch sets the ID of the 2104. The software uses the setting of this switch to identify the enclosure.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is 0.

Internal Switches

The following switches can be accessed only when the switch card assembly is removed from the 2104. In service operations, these switches need be checked and, if necessary, set only when a replacement switch card assembly is installed.

SCSI Address switch 7 : This switch, when set to On, reverses the SCSI addresses of the disk drive modules. The default setting for this switch is Off.

On a 2104 Model DU3, the leftmost disk drive module slot has the lowest SCSI address; the rightmost slot has the highest SCSI address (see Table 1 on page 24). If the switch is set to On, the SCSI addresses are reversed. The leftmost disk drive module slot has the highest SCSI address; the rightmost slot has the lowest SCSI address. ***Do not use reversed addresses on the 2104 Model DU3.***

Note: On the 2104 Model DU3, the **physical** numbers of the disk drive module slots are always 1 through 14, from left to right.

On a 2104 Model TU3, the topmost disk drive module slot has the highest SCSI address; the bottommost slot has the lowest SCSI address (see Table 1 on page 24). If the switch is set to On, the SCSI addresses are reversed. The topmost disk drive module slot now has the lowest SCSI address; the bottommost slot has the highest SCSI address. ***Do not use reversed addresses on the 2104 Model TU3.***

Note: On the 2104 Model TU3, the **physical** numbers of the disk drive module slots are always 1 through 14, from bottom to top.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is Off.

2104 Orientation switch 8 : This switch must be set to Off for the 2104 Model DU3, and to On for the 2104 Model TU3:

- When the switch is set for the 2104 Model DU3, the two-color LEDs that are related to the 2104 Power light and to the 2104 Check light are set so that the left-hand LED becomes the green Power light, and the right-hand LED becomes the amber Check light.
- When the switch is set for the 2104 Model TU3, the two-color LEDs that are related to the 2104 Power light and to the 2104 Check light are set so that the upper LED becomes the green Power light, and the lower LED becomes the amber Check light.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is Off (that is, for Model DU3).

SCSI Bus Split switch **9** : This switch controls the SCSI bus configuration. When the switch is set to Off, the 2104 is configured in single SCSI bus mode. When the switch is set to On, the 2104 is configured in dual SCSI bus (split bus) mode.

If a 2104 Model DU3 is in dual SCSI bus mode and the SCSI address switch **7** is set to Off , the SCSI addresses of one SCSI bus are 0 through 6 from left to center, and the SCSI addresses of the other SCSI bus are 8 through 14 from center to right. If the SCSI address switch is set to On, the SCSI addresses of one SCSI bus are 14 through 8 from left to center, and the SCSI addresses of the other SCSI bus are 6 through 0 from center to right.

If a 2104 Model TU3 is in dual SCSI bus mode and the SCSI address switch **7** is set to Off , the SCSI addresses of one SCSI bus are 0 through 6 from bottom to center, and the SCSI addresses of the other SCSI bus are 8 through 14 from center to top. If the SCSI address switch is set to On, the SCSI addresses of one SCSI bus are 14 through 8 from bottom to center, and the SCSI addresses of the other SCSI bus are 6 through 0 from center to top.

If the switch card assembly is not present when the 2104 is first switched on, or when the 2104 receives a 'Reset' signal, the default logical setting for this switch is Off.

Reserved **10** **:** This switch must always be set to Off.

Disk Drive Module Lights

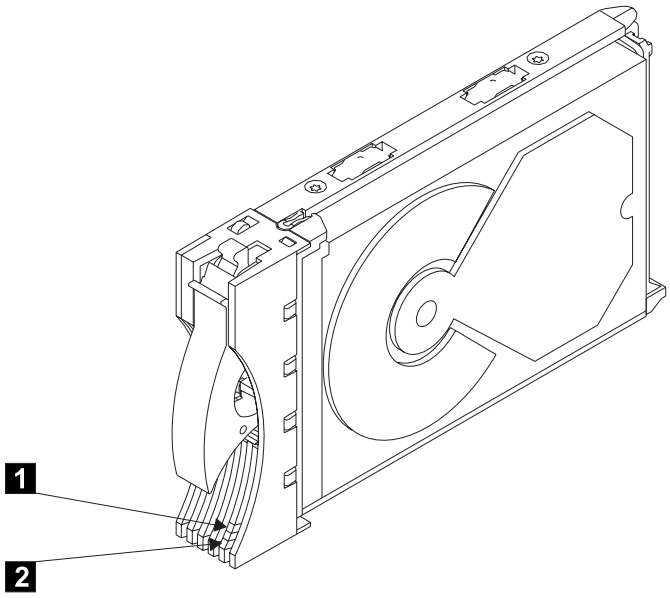


Figure 5. Disk Drive Module Lights

The disk drive module light (LEDs) are located on the backplane of the 2104. They are made visible by light pipes that pass through the disk drive module.

1 Activity light: When on, this green light shows that a SCSI command is in progress.

2 Check light: This amber light shows the following conditions:

Status of Light	**Meaning**
Off	Normal operating condition.
Permanently on	One of the following conditions exists: • If a disk drive module is present, the service aid has set **Remove** (see “SCSI Device Identification and Removal” in “Appendix A, “Additional Information for RISC Systems””). • If a disk drive module is not present, the service aid has set **Insert** (see “SCSI Device Identification and Removal” in “Appendix A, “Additional Information for RISC Systems””). • The disk drive has reported a Predictive Failure Analysis (PFA) error. This error indicates that the disk drive has had an excessive number of internally recovered errors. • The disk drive module is failing.
Slow flash (two seconds on, two seconds off)	The Check light has been set by a service aid to identify the position of this particular disk drive module.
Fast flash (0.25 seconds on, 0.25 seconds off)	The disk drive module is a member of a RAID array, and is being rebuilt. (This action is a SAF-TE function.)

Parts Locations

This section has two subsections; one is for the 2104 Model DU3, the other is for the 2104 Model TU3. Go to the appropriate subsection.

Parts Locations (2104 Model DU3)

1. Frame assembly
2. Disk drive modules
3. SCSI bus bridge card assembly
4. Fan-and-power-supply assembly or fan assembly (position 2)
5. Fan-and-power-supply assembly or fan assembly (position 1)
6. SCSI interface card assembly or dummy card assembly (position 2)
7. Switch card assembly
8. SCSI interface card assembly (position 1)

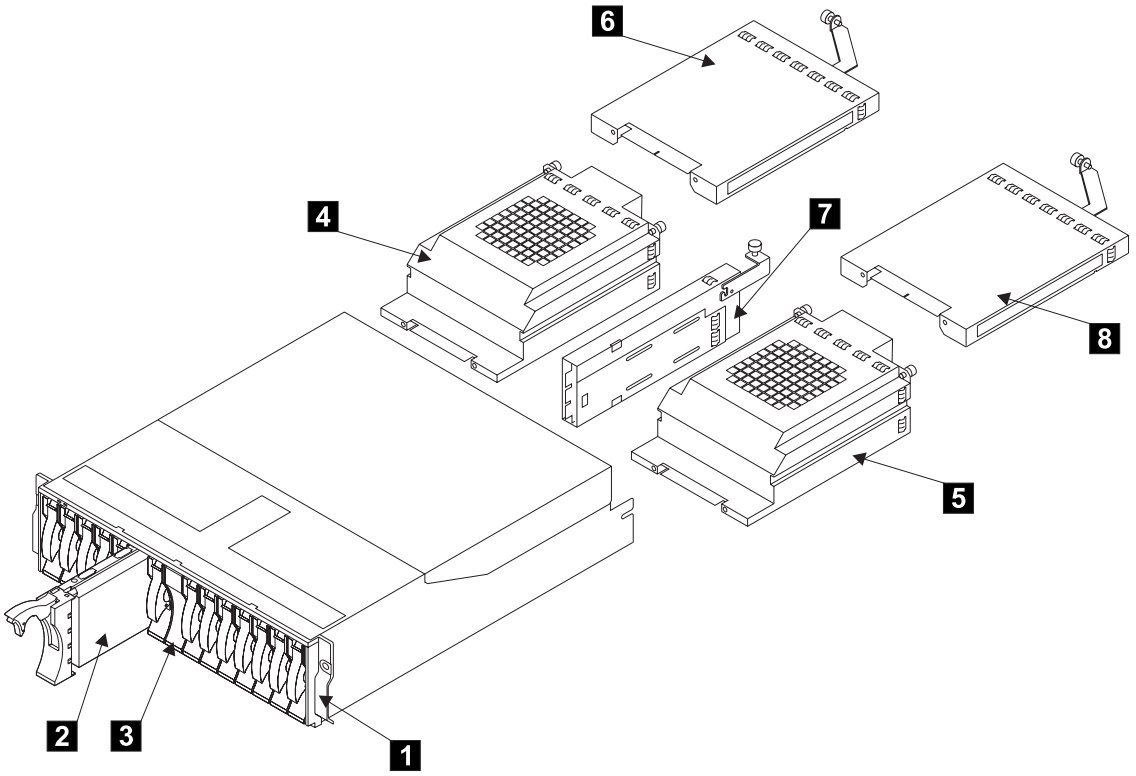


Figure 6. Parts Locations of the 2104 Model DU3

Notes:

1. The disk drive modules are numbered 1 through 14 from left to right.
2. The 2104 can have two fan-and-power-supply assemblies or one fan-and-power-supply assembly and one fan assembly. Either assembly can be installed in either position 1 or position 2.

Parts Locations (2104 Model TU3)

1. Frame assembly
2. Disk drive modules
3. SCSI bus bridge card assembly
4. Fan-and-power-supply assembly or fan assembly (position 2)
5. Fan-and-power-supply assembly or fan assembly (position 1)
6. SCSI interface card assembly or dummy card assembly (position 2)
7. Switch card assembly
8. SCSI interface card assembly (position 1)

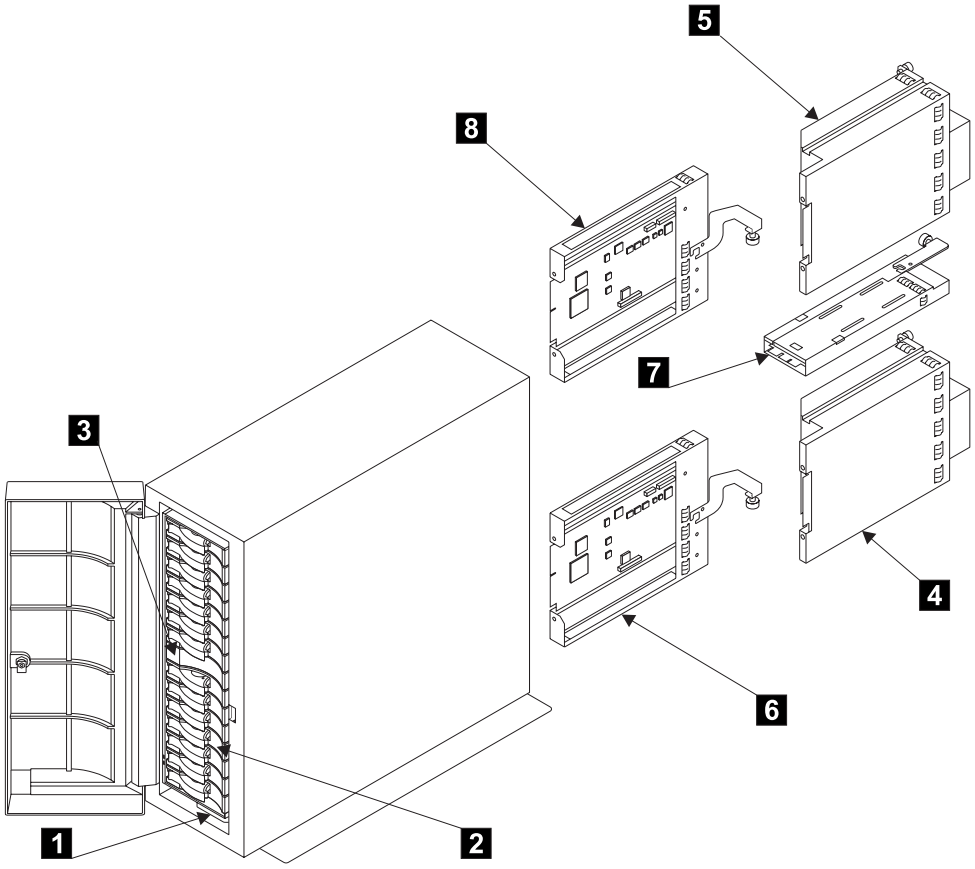


Figure 7. Parts Locations of the 2104 Model TU3

Notes:

1. The disk drive modules are numbered 1 through 14 from bottom to top.
2. The 2104 can have two fan-and-power-supply assemblies or one fan-and-power-supply assembly and one fan assembly. Either assembly can be installed in either position 1 or position 2.

Connectors

This section shows the locations of the external connectors of the 2104.

Back Connectors (2104 Model DU3)

1 SCSI connectors
2 Mainline power connectors

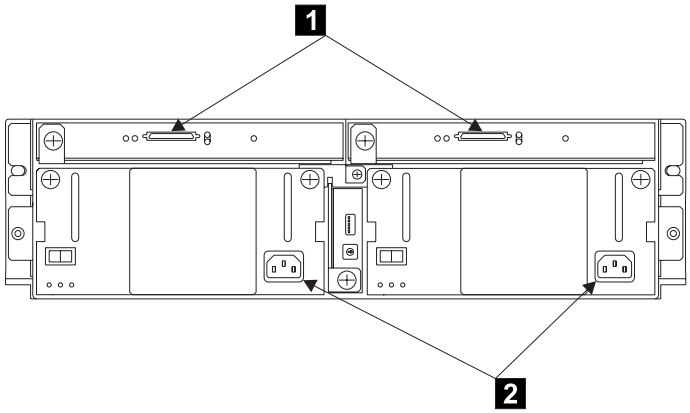


Figure 8. Back Connectors of the 2104 Model DU3

Note: The 2104 Model DU3 that is shown has two SCSI interface cards and two fan-and-power-supply assemblies. A 2104 that has only one SCSI interface card has only one SCSI connector. A 2104 that has one fan-and-power-supply assembly and a fan assembly has only one mainline power connector.

Back Connectors (2104 Model TU3)

1 Mainline power connectors
2 SCSI connectors

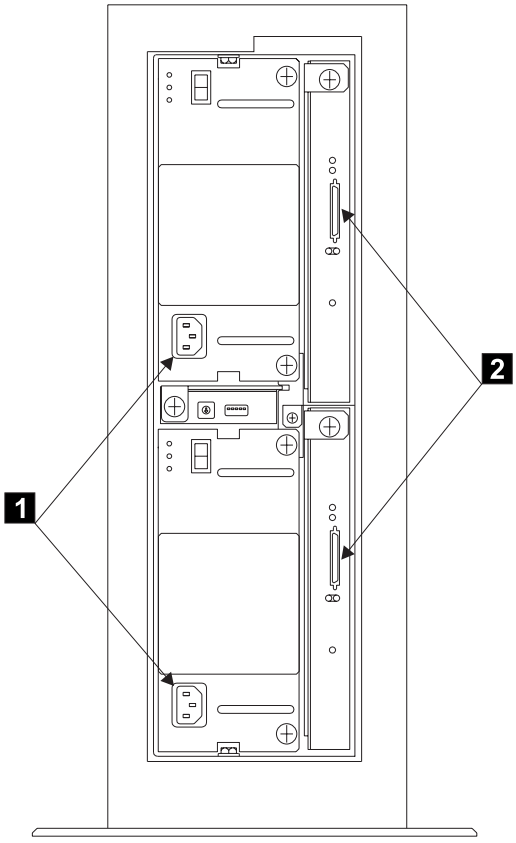


Figure 9. Back Connectors of the 2104 Model TU3

Note: The 2104 Model TU3 that is shown has two SCSI interface cards and two fan-and-power-supply assemblies. A 2104 that has only one SCSI interface card has only one SCSI connector. A 2104 that has one fan-and-power-supply assembly and a fan assembly has only one mainline power connector.

Mainline-Power Connector (220 V ac)

This type of connector is on each fan-and-power-supply assembly. It permits the 2104 to be connected to a mainline power source.

1. Ground
2. Neutral
3. Live

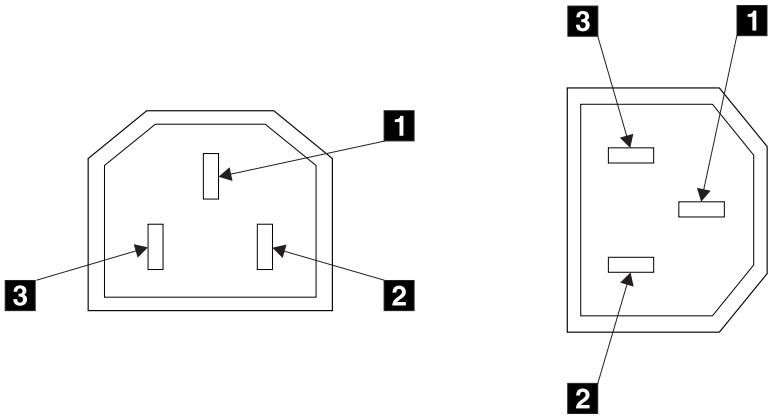


Figure 10. Mainline-Power Connector (220 V ac). The diagram shows the connector for a Model DU3 (left), and for a Model TU3 (right).

Mainline-Power Connector (Model DU3, −48 V dc)

This type of connector is on each −48 V power supply assembly.

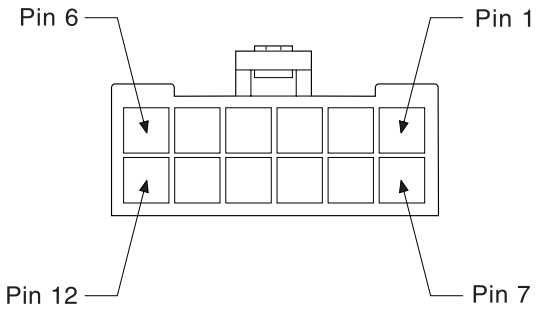


Figure 11. Mainline-Power Connector (−48 V dc)

Pin	Assignment	Pin	Assignment
1	Frame ground	7	Frame ground
2	Not used	8	Not used
3	−48 V return (0 V)	9	−48 V return (0V)
4	−48 V return (0 V)	10	−48 V return (0V)
5	−48 V in	11	−48 V in
6	−48 V in	12	−48 V in

Labels

1. Serial number (2104 Model DU3)
2. Serial number (2104 Model TU3)
3. Serial number and size (disk drive module)

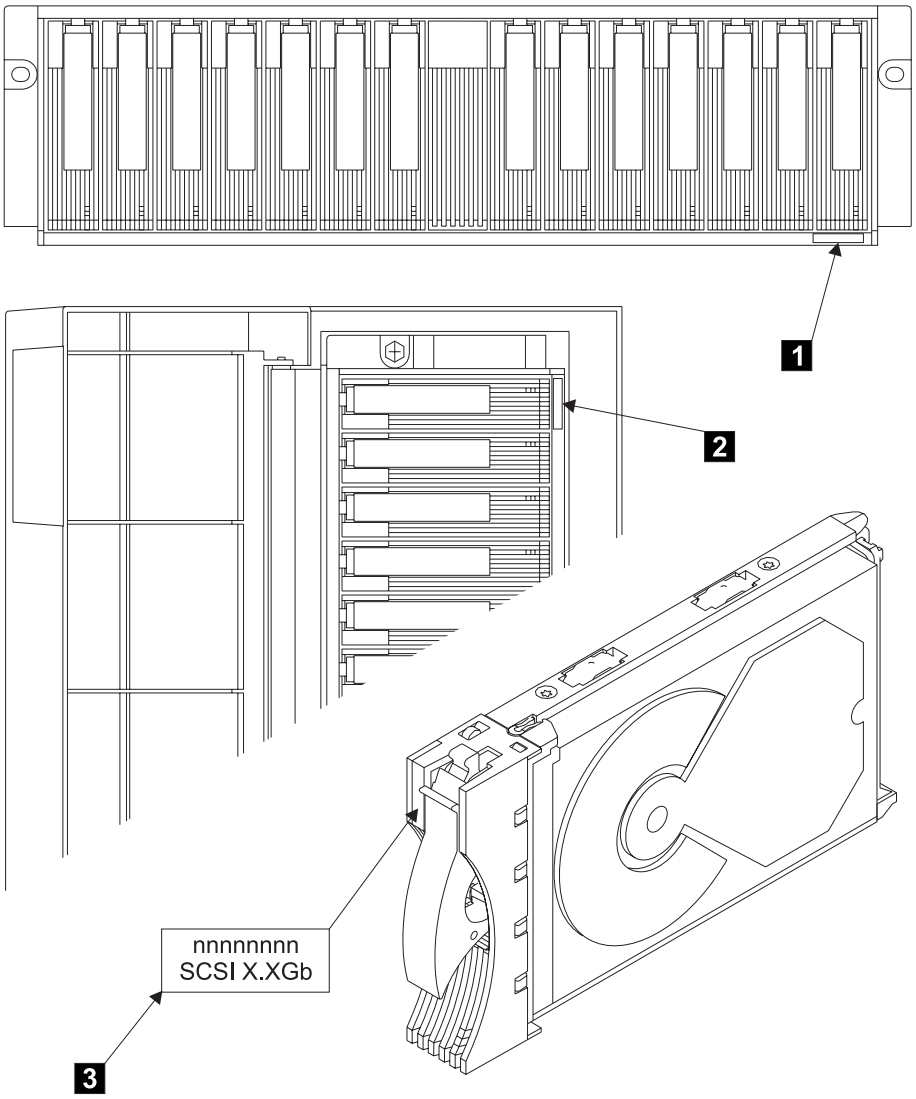


Figure 12. Serial-Number Labels

Product Characteristics

Dimensions and Weight (2104 Model DU3)

Height	Width	Depth	Approximate Minimum Weight	Approximate Maximum Weight
128 mm	445 mm	552 mm	23.0 kg	38.5 kg
(5 in.)	(18 in.)	(22 in.)	(51 lb)	(85 lb)

Dimensions and Weight (2104 Model TU3)

Height	Width at Foot	Depth	Approximate Minimum Weight	Approximate Maximum Weight
529 mm	281 mm	594 mm	39.6 kg	54.5 kg
(21 in.)	(11 in.)	(23.5 in.)	(87 lb)	(120 lb)

AC and DC Input-Voltage Requirements

Power Supply Assembly Type	Voltage	Frequency
220 V	100 to 240 V ac	47 to 63 Hz
−48 V	−40 to −60 V dc	–

Environment

	Operating Environment	Nonoperating Environment	Storing Environment	Shipping Environment
Air temperature	10°C to 40°C (50°F to 104°F)	10°C to 52°C (50°F to 125°F)	1°C to 60°C (34°F to 140°F)	–40°C to 60°C (–40°F to 140°F)
Relative Humidity	8% to 80% noncondensing	8% to 80% noncondensing	5% to 80% noncondensing	5% to 100% condensing but not precipitating
Maximum wet bulb	27°C (80°F)	27°C (80°F)	29°C (84°F)	29°C (84°F)

Notes:

1. Each rack-mounted 2104 Model DU3 requires an airflow of 1.1 m^3 per minute (40 ft^3 per minute). When racks containing many 2104s are to be installed together, the following requirements must be met to ensure that the 2104s are adequately cooled:
   - The airflow enters at the front of the rack and leaves at the back. To prevent the air that is leaving the rack from entering the intake of another piece of equipment, racks should be positioned in alternate rows, back-to-back and front-to-front.
   - The front of racks should be positioned on floor-tile seams, with a full line of perforated tiles immediately in front of the racks.

- Where racks are in rows front-to-front or back-to-back, there should be a gap of at least 1220 mm (48 in) separating the rows.
- To ensure correct air flow within each rack, the rack filler plates must be installed in unused positions. Also, all the gaps in the front of the racks must be sealed, including the gaps between the 2104s.

2. The recommended operating temperature is 22°C (72°F) or lower.

Altitude

	Operating Environment	Nonoperating Environment	Storing Environment	Shipping Environment
Altitude (from sea level)	0 to 2133 m (0 to 7000 ft)	–305 to 12 192 m (–1000 to 40 000 ft)	–305 to 12 192 m (–1000 to 40 000 ft)	–305 to 12 192 m (–1000 to 40 000 ft)

Heat Output (Maximum)

Maximum configuration (10 disk drive modules)	330 watts (1126 Btu per hour)

Disk Drive Acclimation

If you bring a disk drive module into the operating environment from an environment where the temperature is outside the specified operating range (see Environment), allow the disk drive module time to acclimate to the operating environment (approximately 2 hours). Remove the disk drive module from any shipping packaging, but leave it in its sealed plastic bag (if present) to prevent condensation forming.

Power Sequencing

You can configure the power sequencing of the 2104 Models DU3 and TU3. For more information, see “Drive Autostart switch” on page 10.

SCSI Addresses

Each disk drive module is identified to the using system by a SCSI address. This address is related to the slot in which the disk drive module is installed. Although the SCSI address switch (see “Switch Card Assembly Switches” on page 9) allows the addresses of the slots to be reversed, do not use reversed settings; they are not supported on 2104 Models DU3 and TU3.

Table 1 shows the SCSI addresses of the slots.

Note: In the 2104 Model DU3, slot 1 is the leftmost slot (viewed from the front of the 2104). In the 2104 Model TU3, slot 1 is the bottommost slot (viewed from the front of the 2104).

Table 1. SCSI Addresses of Disk Drive Module Slots

Disk drive module slot	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Device SCSI address	0	1	2	3	4	5	6	8	9	10	11	12	13	14

Note: If the 2104 is configured for single SCSI bus mode with two SCSI attachments, SCSI addresses 5 and 6 cannot be used; that is, disk drive module slots 6 and 7 must contain dummy disk drive modules.

SuSE Linux Enterprise Server for pSeries configurations do not support single SCSI bus with two SCSI attachments.

The SCSI enclosure services (SES) use address 15 if the Enable Enclosure Services switch is set to On (see “Switch Card Assembly Switches” on page 9).

Attention: The SCSI address of the SCSI attachment that is connected to the 2104 must be different from the addresses of the installed disk drive modules. When a second SCSI attachment is connected to a 2104, the SCSI address of that SCSI attachment must be different from the address of the first SCSI attachment and different from the addresses of the installed disk drive modules.

SCSI Bus Configurations and Addresses

The SCSI bus bridge card assigns the disk drive modules to a SCSI bus as determined by the setting of the SCSI Bus Split switch that is on the switch card assembly. Three SCSI bus modes are available:

- Single bus, one SCSI attachment (for example, a SCSI adapter in the using system): SCSI address 7 is assigned to the SCSI attachment. The 2104 can have 14 disk drive modules (SCSI addresses 0 through 6, and 8 through 14).
- Single bus, two SCSI attachments: SCSI addresses 5 is assigned to one SCSI attachment (SuSE Linux Enterprise Server for pSeries does not support this): SCSI address 6 is assigned to the other. SCSI address 7 is reserved. The 2104 can have 12 disk drive modules (SCSI addresses 0 through 4, and 8 through 14). The slots whose SCSI addresses are 5 and 6 must contain dummy disk drive modules.
- Dual bus, two SCSI attachments: Each SCSI attachment has SCSI addresses 7. Each SCSI bus can have seven disk drive modules (SCSI addresses 0 through 6, and 8 through 14).

When single bus mode and two SCSI attachments are configured, SCSI addresses 5 and 6 are used by a SCSI attachment. Always install dummy disk drive modules into the slots that have SCSI addresses 5 and 6 (see “SCSI Addresses” on page 24).

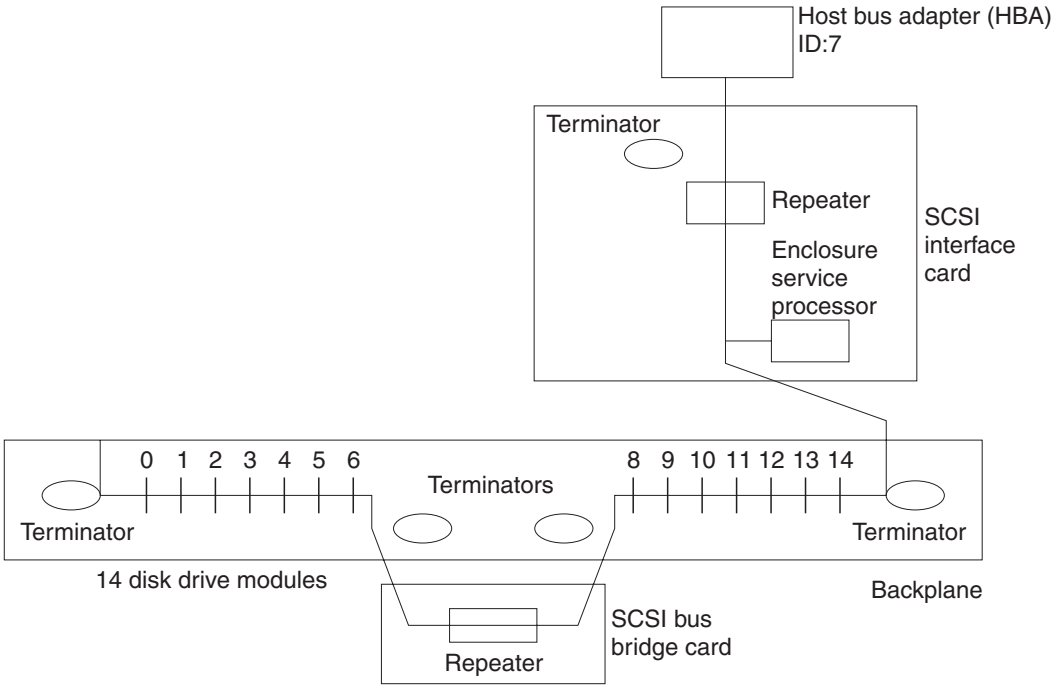


Figure 13. Single Bus, One SCSI Attachment, 14 Disk Drive Modules

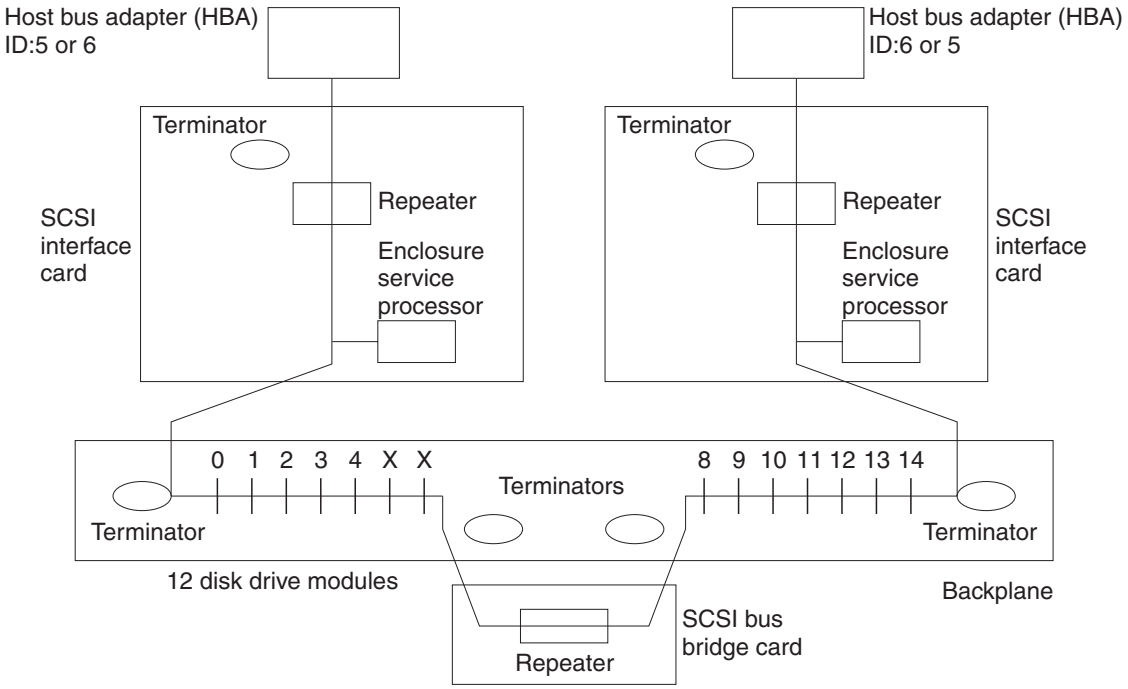


Figure 14. Single Bus, Two SCSI Attachments, 12 Disk Drive Modules

Notes:

1. Disk drive module slots 6 and 7 (SCSI addresses 5 and 6) must contain dummy disk drive modules.
2. The two host bus adapters cannot both have the same SCSI address.
3. This configuration is not supported in SuSE Linux Enterprise Server for pSeries.

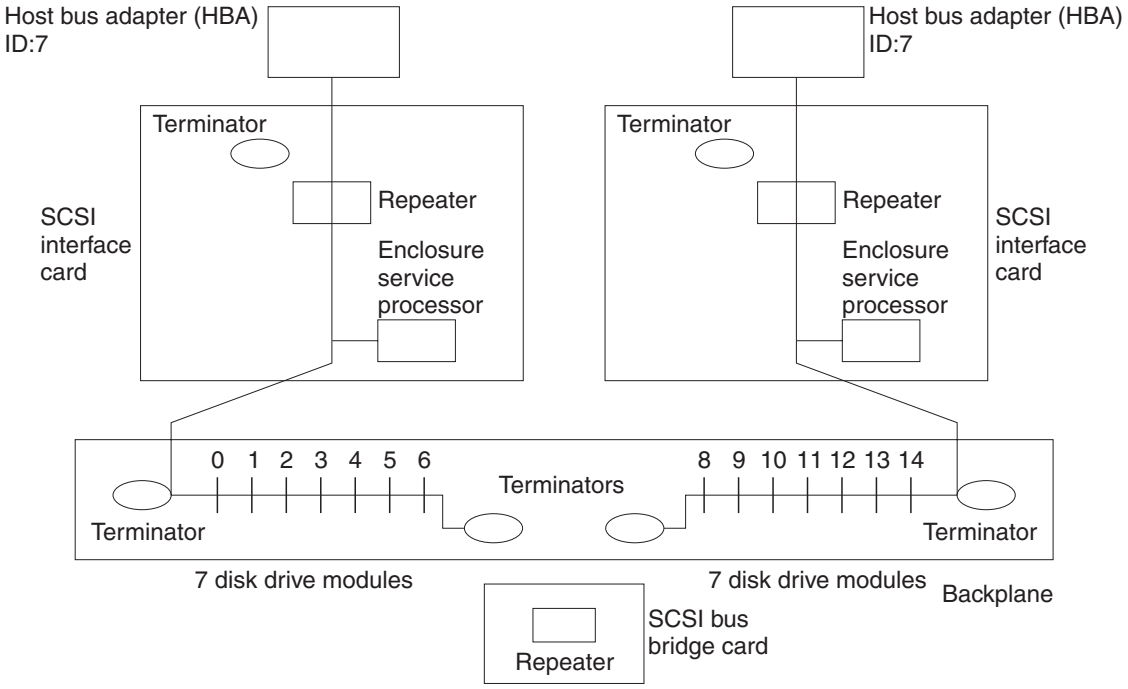


Figure 15. Dual Bus, Two SCSI Attachments, Seven Disk Drive Modules x 2

Microcode Maintenance

When a new level of SCSI interface card microcode or disk drive microcode becomes available, that microcode and the appropriate installation instructions are put onto the web support page (see “Web Support Page” in “Appendix A, “Additional Information for RISC Systems””). The supplied installation instructions ensure that the microcode is downloaded to the correct location.

To update the 2104 vital product data (VPD) that is held in the using system, you might need to reconfigure the 2104 to the using system. For more details, see “Configuring a 2104 to the Using System-AIX systems only” in “Appendix A, “Additional Information for RISC Systems””.

Vital Product Data (VPD)

You can display the vital product data (VPD) for the 2104 by using the AIX service aids or by running the appropriate **list config** command. This section shows the types of information that are contained in the VPD.

Abbreviations used in this section are:

FRU Field-replaceable unit

RAM Random-access memory

ROM Read-only memory

ROS Read-only storage

SCSI Small computer systems interface

SCSI Disk Drives

Manufacturer	Manufacturer and plant code
Machine type and model	Type and model
Part number	Disk drive part number
ROS Level and ID	ROM and RAM code load part number
Serial number	Disk enclosure serial number
EC level	Disk enclosure engineering change level
FRU number	FRU part number
Device Specific Z0	
Device Specific Z1	
Device Specific Z2	
Device Specific Z3	
Device Specific Z5	
Device Specific Z6	

2104

Manufacturer	Manufacturer and plant code
Machine type and model	Type and model
ROS Level and ID	ROM code load part number
Device Specific (Z0)	

2104 Service Aids

Service aids are available for the 2104. For descriptions of those service aids, see “System Service Aids” in “Appendix A, “Additional Information for RISC Systems””.

2104 Enclosure Services

If the using system and the 2104 are both operating, you can use the ANSI SCSI Enclosure Service (SES) to determine the status of the 2104.

Use the **Receive Diagnostic Results** command, and go to the enclosure status page (page 02). That page shows the health status of the 2104, and the status of the components of the 2104.

In the health status byte, the critical fault bit, if set, indicates that a component in the 2104 has failed.

In the fan element, power supply element, and enclosure services element status fields, the fault bit, if set, indicates that a ***particular*** component has failed.

Note: SCSI Enclosuer Services (SES) are not supported by SuSE Linux Enterprise Server for pSeries.

Service Inspection Guide

This inspection guide helps you to identify possible unsafe conditions on 2104s. Each 2104 has the necessary safety items installed to protect users and service personnel from injury. This guide addresses only those items. You should use your good judgment, however, to identify possible safety hazards that are not covered by this guide.

If any unsafe conditions are present, you must determine how serious the possible hazard could be, and whether you should continue without first correcting the problem.

Consider the following conditions and the safety hazards they present:

- **Electrical hazards (especially primary power):** Primary voltage on the frame can cause serious or lethal electrical shock.
- **Mechanical hazards:** Loose or missing items (for example, nuts and screws) can cause serious injury.

Using the following inspection checklist as a guide, inspect the 2104 for unsafe conditions. See, if necessary, any suitable safety publications.

Inspection Checklist

1. Remove all power from the 2104 (see “All Power” on page 69).
2. Check the frame for damage (loose, broken, or sharp edges).
3. Check the power cables and ensure that:
   a. The third-wire ground connector is in good condition. Use a meter to check that the third-wire ground continuity is 0.1 ohm or less between the external ground pin and the frame ground.
   b. The insulation is not worn or damaged.
4. Check for any obvious nonstandard changes. Use good judgment about the safety of any such changes.
5. Check inside the 2104 for any obvious unsafe conditions, such as metal particles, water or other fluids, or marks of overheating, fire, or smoke damage.
6. Check for worn, damaged, or pinched cables.
7. Ensure that the voltage specified on the product-information label matches the specified voltage of the electrical power outlet. If necessary, verify the voltage.
8. Inspect the fan-and-power-supply assemblies, and check that the fasteners in the cover of the power-supply unit (screws or rivets) have not been removed or disturbed.
9. Before connecting the 2104 to the using system, check the grounding as described in “Checking the Grounding of the 2104” on page 31.

Checking the Grounding of the 2104

Go to the appropriate subsection for the 2104 that you are servicing.

Grounding Check (2104 Model DU3)

1. Refer to Figure 16.

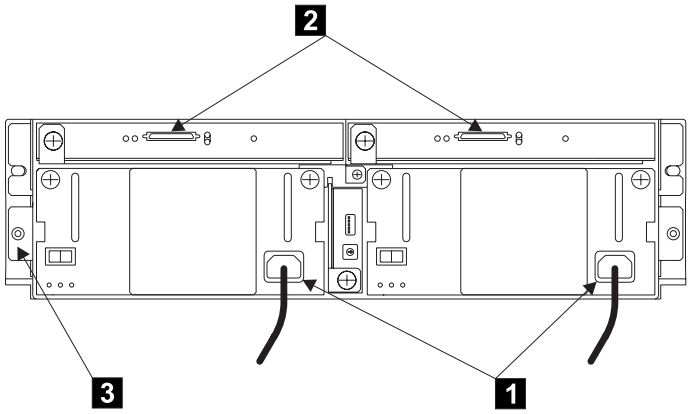


Figure 16. Power Cables and SCSI Connectors (2104 Model DU3)

2. Ensure that all power is removed from the rack (see the *Installation and Service Guide*, or equivalent, for the rack or using system).
3. Ensure that the power cables **1** are plugged into each fan-and-power-supply assembly. Ensure also that the other ends of the power cables are plugged into the power distribution unit or battery-backup unit in the rack (see the *Installation and Service Guide*, or equivalent, for the rack or using system).
4. **Attention:** Some electrical circuits could be damaged if the external SCSI cables are present at the 2104 while the grounding check is being done.

   Ensure that no external SCSI cables are present at the connectors **2**.

5. Follow your local procedures and check the grounding of the 2104. Any test equipment must be connected to the ***frame of the 2104*** **3** .
   - If the grounding is correct (see step 3a on page 30), go no further with these instructions.
   - If the grounding is not correct, unplug the power cables from the fan-and-power-supply assemblies in the 2104.

     If you are servicing a 220-volt 2104, go to step 6.

     If you are servicing a −48 volt 2104, go to step 9.
6. Refer to Figure 17.

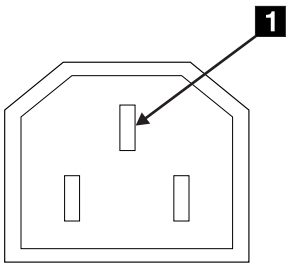


Figure 17. Ground Pin (2104 Model DU3; 220 V)

7. Check for continuity between the ***frame of the 2104*** and the ***ground pin*** **1** of the power connector on each fan-and-power-supply assembly.
8. Go to step 12.
9. Refer to Figure 18.

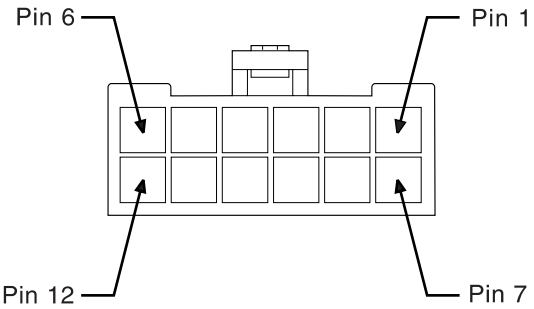


Figure 18. Ground Pins (2104 Model DU3: −48 V)

10. Check for continuity between the ***frame of the 2104*** and the ***ground pins*** 1 and 7 of each mainline-power connector.
11. Go to step 12.
12. If any fan-and-power-supply assembly has no continuity, exchange that assembly for a new one (see “Fan-and-Power-Supply Assemblies” on page 85), then do the complete grounding check again.

    If each fan-and-power-supply assembly has continuity, you might have a problem with the power cable or with the grounding of the using system.

    If you are servicing a 220-volt 2104, go to step 13.

    If you are servicing a −48 volt 2104, see the rack, or using-system, *Installation and Service Guide*, or equivalent, to isolate the fault, then do the complete grounding check again.
13. Check the power cable for continuity.

If the power cable does not have continuity, exchange it for a new one, then do the complete grounding check again.

If the power cable does have continuity, see the rack, or using-system, *Installation and Service Guide*, or equivalent, to isolate the fault.

Grounding Check (2104 Model TU3)

1. Refer to Figure 19.

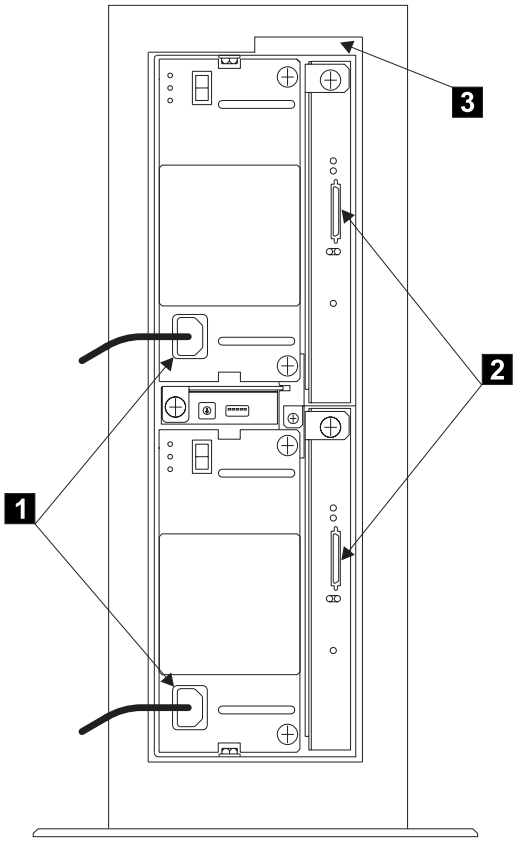


Figure 19. Power Cables and SCSI Connectors (2104 Model TU3)

2. Ensure that a power cable is plugged into each power socket **1** .
3. Ensure that the other ends of the power cables are *not* plugged into electrical power outlets. Unplug the cables if necessary.
4. **Attention:** Some electrical circuits could be damaged if the external SCSI cables are present at the 2104 while the grounding check is being done.

   Ensure that no external SCSI cables are present at the SCSI connectors **2** .
5. Check for continuity between the ***frame of the 2104*** **3** and the ***ground pin*** of each power cable.
6. If the continuity is good (see step 3a on page 30), the grounding of the 2104 is correct. Go no further with these instructions.
7. If the grounding is not correct, unplug the power cables from the mainline power connectors. Then continue with step 8.
8. Check each power cable, for continuity.
9. If either power cable is failing, exchange it for a new one, then go to step 10.
10. Refer to Figure 20 on page 35.

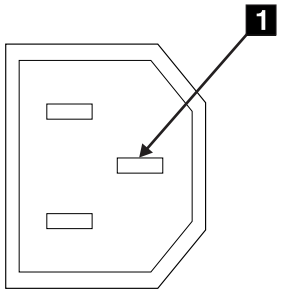


Figure 20. Ground Pin (2104 Model TU3)

11. Check for continuity between the ***frame of the 2104*** and the ***ground pin*** **1** of the power connector on each fan-and-power-supply assembly.
12. If either fan-and-power-supply assembly does not have continuity, exchange that assembly for a new one (see “Fan-and-Power-Supply Assemblies” on page 85), then do the complete grounding check again.

Chapter 2. Problem Determination Procedures

Are You Using the Correct Book? *Do not use this book if you are servicing a 2104 Model DL1 or TL1.* For the correct book, see Related Publications in Appendix A, “Additional Information for RISC Systems”.

Problem determination procedures are provided by power-on self-tests (POSTs), service request numbers, and maintenance analysis procedures (MAPs). Some of these procedures use the service aids that are described in the user or maintenance information for your using-system SCSI attachment.

Disk Drive Module Power-On Self-Tests (POSTs)

The disk drive module POSTs start each time the module is switched on, or when a Send Diagnostic command is received. They check whether the disk drive module is working correctly. The POSTs also help verify a repair after a Field Replaceable Unit (FRU) has been exchanged.

The tests are POST-1 and POST-2.

POST-1 runs immediately after the ‘power-on reset’ line goes inactive, and before the disk drive module motor starts. POST-1 includes tests of:

- Microprocessor
- ROM
- Checking circuits.

If POST-1 completes successfully, POST-2 is enabled.

If POST-1 fails, the disk drive module is not configured into the system.

POST-2 runs after the disk drive module motor has started. POST-2 includes tests of:

- Motor control
- Servo control
- Read and write on the diagnostic cylinder (repeated for all heads)
- Error checking and correction (ECC).

If POST-2 completes successfully, the disk drive module is ready for use with the system.

If POST-2 fails, the disk drive module is not configured into the system.

SCSI Interface Card Power-On Self-Tests (POSTs)

The SCSI interface card POSTs start each time power is switched on, or when a Reset command is sent from the using-system SCSI attachment. They check only the internal components of the SCSI interface card; they do not check any interfaces to other FRUs.

If the POSTs complete successfully, control passes to the functional microcode of the SCSI interface card. This microcode checks all the internal interfaces of the 2104, and reports failures to the using system.

If the POSTs fail:

- The SCSI interface card Check light and the 2104 Check light come on.
- The functional operation of the 2104 is not affected. For example, the customer still has access to all the disk drive modules.
- If a second SCSI interface card is present, it becomes the SES active card.
- The failure is reported:
  - If the failure occurs at system bringup time, the using system might detect that the 2104 is missing, and reports an error.
  - If the failure occurs at any time other than system bringup time, the hourly health check reports the failure.

Service Request Numbers (SRNs)

Service request numbers (SRNs) are generated for the 2104 by diagnostics and the SES healthcheck (see “Error Logging” on page 3). SRNs help you to identify the cause of a problem, the FRUs, and the service actions that might be needed to solve the problem.

The SRN Table

The table in this section lists the SRNs and describes the actions you should do. The table columns are:

SRN	The service request number.
FRU list	The FRU or FRUs that might be causing the problem (see also “FRU Names Used in the SRN Table” on page 39), and how likely it is (by percentage) that the FRU is causing the problem.
Problem	A description of the problem and the action you must take.

Using the SRN Table

Important: You should have been sent here from MAP 2010: 2104 – START. Do not start problem determination from the SRN table; always go to "MAP 2010: 2104 – START" on page 43 first.

1. Locate the SRN in the table. ***If you cannot find a particular SRN in the table***, go to the SRN list that is in the user or maintenance information for your using-system SCSI attachment. If you still cannot find the SRN, you have a problem with the diagnostics, the microcode, or the documentation. Call your support center for assistance.
2. Read carefully the "Action" you must do for the problem. ***Do not exchange FRUs unless you are instructed to do so***.
3. Unless instructed otherwise, ***exchange only one FRU at a time***, starting from the top of the FRU list for that SRN. Always use instructions given in "Chapter 3, "Removal and Replacement Procedures"" when exchanging FRUs; a page reference is given with each FRU in the FRU list. After each FRU is exchanged, go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

FRU Names Used in the SRN Table

This section provides a glossary of the FRU names used.

FRU Name in Table	Definition
Frame assembly	*The frame of the 2104 and the backplanes and cables that it contains.*
Disk drive module	*A disk drive attached to a carrier that plugs into one of the backplanes of the 2104.*
External SCSI cable	*A cable that connects the 2104 to a SCSI attachment or to another device (for example, another 2104).*
Fan-and-power-supply assembly	*An assembly that consists of a power supply unit and a fan.* The 2104 can have two fan-and-power-supply assemblies, or one fan-and-power-supply assembly and one fan assembly, whichever is suitable for the required configuration.
Fan assembly	*An assembly that contains a dc cooling fan*. The 2104 can have two fan-and-power-supply assemblies, or one fan-and-power-supply assembly and one fan assembly, whichever is suitable for the required configuration.
SCSI interface card assembly	*The card that monitors and controls the various functions of the 2104.*
SCSI attachment	*The means by which the 2104 is connected to the using system (for example, a SCSI adapter card).* The SCSI attachment is located in the using system.
Switch card assembly	*The assembly that contains all the option switches for the 2104.*

The SRNs

SRN	FRU List	Problem
807-12X	**Fan-and-power-supply assembly (90%)** (“Fan-and-Power-Supply Assemblies” on page 85) **SCSI interface card assembly (5%)** (“SCSI Interface Card Assembly” on page 93) **Frame assembly (5%)** (“Frame Assembly” on page 102)	Description: A power supply has failed. The diagnostic message indicates the specific position of the failing FRU (for example, Power Supply (n)). Action: Exchange the FRU for a new FRU.
807-13X	**Fan assembly (90%)** (“Fan Assembly” on page 90) **SCSI interface card assembly (5%)** (“SCSI Interface Card Assembly” on page 93) **Frame assembly (5%)** (“Frame Assembly” on page 102)	Description: The fan assembly has failed. The diagnostic message indicates the specific position of the failing FRU (for example, Fan (n)). Action: Exchange the FRU for a new FRU.
807-148	**None**	Description: Temperature warning. Action: Take action to bring the ambient temperature inside the specified limits (see “Environment” on page 22). If the problem remains, exchange the SCSI interface card for a new one (see “SCSI Interface Card Assembly” on page 93).
807-149	**None**	Description: Critical temperature warning. Action: Take action to bring the ambient temperature inside the specified limits (see “Environment” on page 22). If the problem remains, exchange the SCSI interface card for a new one (see “SCSI Interface Card Assembly” on page 93).
807-17X	**SCSI interface card assembly (100%)** (“SCSI Interface Card Assembly” on page 93)	Description: A SCSI interface card has failed. The diagnostic message indicates the specific position of the failing FRU (for example, Enclosure Services (n)). Action: Exchange the FRU for a new FRU.
807-180	**Switch card assembly (90%)** (“Switch Card Assembly” on page 98) **SCSI interface card assembly (5%)** (“SCSI Interface Card Assembly” on page 93) **Frame assembly (5%)** (“Frame Assembly” on page 102)	Description: Switch card assembly failure. Action: Exchange the FRUs for new FRUs.
807-201	**SCSI interface card assembly (60%)** (“SCSI Interface Card Assembly” on page 93) **SCSI attachment (40%)** (using-system service information)	Description: A device configuration error has occurred. Action: Exchange the FRUs for new FRUs.

SRN	FRU List	Problem
807-202	**SCSI interface card assembly (60%)** ("SCSI Interface Card Assembly" on page 93) **SCSI attachment (40%)** (using-system service information)	Description: The 2104 enclosure failed to open. Action: Exchange the FRUs for new FRUs.
807-203	**SCSI interface card assembly (60%)** ("SCSI Interface Card Assembly" on page 93) **SCSI attachment (40%)** (using-system service information)	Description: The 2104 enclosure failed to return inquiry data. Action: 1. Observe the switch card assembly. Ensure that: • Switch 3 (Enable Enclosure Services) is set to On. • Switch 4 (Select Enclosure Services) is set to On. 2. Go to "MAP 2010: 2104 – START" on page 43. 3. If the problem remains, exchange the FRUs for new FRUs.
807-204	**Fan-and-power-supply assembly (45%)** ("Fan-and-Power-Supply Assemblies" on page 85) **Fan assembly (45%)** ("Fan Assembly" on page 90) **SCSI interface card assembly (4%)** ("SCSI Interface Card Assembly" on page 93) **Switch card assembly (3%)** ("Switch Card Assembly" on page 98) **Frame assembly (3%)** ("Frame Assembly" on page 102)	Description: A 2104 has detected a noncritical enclosure failure. Action: Go to "MAP 2010: 2104 – START" on page 43. If the problem remains, exchange the FRUs for new FRUs.
807-205	**Fan-and-power-supply assembly (45%)** ("Fan-and-Power-Supply Assemblies" on page 85) **Fan assembly (45%)** ("Fan Assembly" on page 90) **SCSI interface card assembly (4%)** ("SCSI Interface Card Assembly" on page 93) **Switch card assembly (3%)** ("Switch Card Assembly" on page 98) **Frame assembly (3%)** ("Frame Assembly" on page 102)	Description: A 2104 has detected a critical enclosure failure. Action: Go to "MAP 2010: 2104 – START" on page 43. If the problem remains, exchange the FRUs for new FRUs.

Maintenance Analysis Procedures (MAPs)

Are You Using the Correct Book? *Do not use this book if you are servicing a 2104 Model DL1 or TL1.* For the correct book, see Related Publications in Appendix A, “Additional Information for RISC Systems”.

These maintenance analysis procedures (MAPs) describe how to analyze a continuous failure that has occurred in a 2104 that contains one or more SCSI disk drive modules. Failing field-replaceable units (FRUs) of the 2104 can be isolated with these MAPs.

For more information on additional tools to identify missing resources on Linux, go to “Linux Tools” on page 134.

How to Use these MAPs

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

.

- To isolate the FRUs in the failing 2104, do the actions and answer the questions given in these MAPs.
- When instructed to exchange two or more FRUs in sequence:
  1. Exchange the first FRU in the list for a new one.
  2. Verify that the problem is solved. For some problems, verification means running the diagnostic programs (see the using-system service procedures).
  3. If the problem remains:
     a. Reinstall the original FRU.
     b. Exchange the next FRU in the list for a new one.
  4. Repeat steps 2 and 3 until either the problem is solved, or all the related FRUs have been exchanged.
  5. Do the next action indicated by the MAP.
- See “Lights and Switches” on page 5 for locations and descriptions of the lights and switches.

Attention: Disk drive modules are fragile. Handle them with care, and keep them well away from strong magnetic fields.

MAP 2010: 2104 – START

This MAP is the entry point to the MAPs for the 2104. If you are not familiar with these MAPs, read “How to Use these MAPs” on page 42 first.

You might have been directed here because:

- The system problem determination procedures sent you here.
- Action from an SRN list sent you here.
- A problem occurred during the installation of an 2104 or a disk drive module.
- Another MAP sent you here.
- A customer observed a problem that was not detected by the system problem determination procedures.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1.

Does the 2104 emit smoke or a smell of burning?

NO Go to step 2.

YES Go to “MAP 2022: 2104 – Power-On” on page 51.

Step 2. (from steps 1 and 9 on page 44)

Are you at this MAP because power is not removed completely from the 2104 when the using systems are switched off?

NO Go to step 3.

YES Go to “MAP 2030: 2104 – Power Control” on page 56.

Step 3. (from step 2)

Have you been sent to this MAP from an SRN?

NO Go to step 4 on page 44.

YES Go to step 7 on page 44.

Step 4. (from step 3)

Have the system diagnostics or problem determination procedures given you an SRN for the 2104 (sesn)?

NO

- If the system diagnostics for the 2104 are available, go to step 5.
- If the system diagnostics for the 2104 are not available, but the stand-alone diagnostics for the 2104 are available:
  a. Run the stand-alone diagnostics.
  b. Go to step 6.
- If neither the system diagnostics nor the stand-alone diagnostics are available, go to step 7.

YES Go to “Service Request Numbers (SRNs)” on page 38.

Step 5. (from step 4)

a. Run the concurrent diagnostics to the 2104. For information about how to run concurrent diagnostics, see “Concurrent Diagnostics” in “Appendix A, “Additional Information for RISC Systems””.
b. When the concurrent diagnostics have completed, go to step 6.

Step 6. (from steps 4 and 5)

Did the diagnostics give you an SRN for the 2104?

NO Go to step 7.

YES Go to “Service Request Numbers (SRNs)” on page 38.

Step 7. (from steps 3, 4, and 6)

Is the Subsystem Check light flashing?

NO Go to step 8.

YES A device is in Identify mode.

Step 8. (from step 7)

Is the Subsystem Check light on continuously?

NO Go to step 12 on page 46.

YES Go to step 9.

Step 9. (from step 8)

Does a fan-and-power-supply assembly have its CHK light on because its DC On/Standby switch is set to Standby?

NO Go to step 10 on page 45.

YES

a. Set the DC On/Standby switch to On.
b. If you still have a problem, return to step 2 on page 43. Otherwise, go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Step 10. (from step 9)

Does any FRU have its Check light on?

Note: The Check light might be on any of the following:

- A SCSI interface card assembly (CARD FAULT light)
- A fan-and-power-supply assembly (CHK light)
- A fan assembly (CHK light)
- A disk drive module (Check light)

NO In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

a. SCSI interface card assembly (see "SCSI Interface Card Assembly" on page 93)
b. Fan-and-power-supply assembly (see "Fan-and-Power-Supply Assemblies" on page 85)
c. Fan assembly (see "Fan Assembly" on page 90)
d. Switch card assembly (see "Switch Card Assembly" on page 98)
e. Frame assembly (see "Frame Assembly" on page 102)

YES

a. If the FRU is a fan-and-power-supply assembly, go to step 11 on page 46. Otherwise, exchange, for a new FRU, the FRU whose Check light is on.
b. Go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

Step 11. (from step 10)

Is the enclosure set up for remote power control (that is, is the Power Control switch of the switch card assembly set to Off)?

NO

a. Exchange, for a new one, the fan-and-power-supply whose CHK light is on (see “Fan-and-Power-Supply Assemblies” on page 85).

b. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

YES

a. Ensure that:
   - The DC On/Standby switch is set to On.
   - Both ends of the SCSI cable are correctly connected.
   - The Power Control switch of the switch card assembly is set to Off (see “Switch Card Assembly Switches” on page 9).
   - The using system is switched on.

b. If the CHK light of the fan-and-power-supply assembly is still on, pull out the fan-and-power-supply to disconnect it from the 2104, then push it back to reseat its connectors (see “Fan-and-Power-Supply Assemblies” on page 85).

c. If the CHK light is still on, exchange, in the sequence shown, the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.
   1) Fan-and-power-supply assembly whose CHK light is on (see “Fan-and-Power-Supply Assemblies” on page 85)
   2) SCSI interface card (see “SCSI Interface Card Assembly” on page 93)
   3) Switch card assembly (see “Switch Card Assembly” on page 98)
   4) Frame assembly (see “Frame Assembly” on page 102)

Step 12. (from step 8)

Is the Subsystem Power light on?

NO Go to “MAP 2020: 2104 – Power” on page 48.

YES Go to step 13 on page 47.

Step 13. (from step 12)

Does either fan-and-power-supply assembly have its DC PWR light off when it should be on?

NO Go to step 14.

YES

a. Exchange, for a new assembly, the fan-and-power-supply assembly whose light is off.

b. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Step 14. (from step 13)

Are you here because access to all the SCSI devices that are in the 2104 has been lost?

NO No problem has been found on the 2104. For a final check, go to “MAP 2410: 2104 – Repair Verification” on page 64.

YES Go to “MAP 2340: 2104 – SCSI Bus” on page 58.

MAP 2020: 2104 – Power

This MAP helps you to isolate FRUs that are causing a power problem on a 2104.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1. (from step 12 in MAP 2010: 2104 – START)

You are here because the Subsystem Power light is off.

Are any lights on at the front of the 2104?

NO Go to step 2.

YES The Subsystem Power light has failed. In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

a. SCSI interface card (see "SCSI Interface Card Assembly" on page 93)

b. Frame assembly (see "Frame Assembly" on page 102)

Step 2. (from step 1)

Observe the fan-and-power-supply assembly (or assemblies, if two are present).

Does at least one fan-and-power-supply assembly have its AC PWR light on?

NO Check the mainline power source and the power cable.

YES Go to step 3.

Step 3. (from step 2)

Observe the fan-and-power-supply assembly whose AC PWR light is on.

Is this fan-and-power-supply assembly switched on?

NO

a. Set the DC On/Standby switch to On.

b. If the problem is still not solved, go to "MAP 2010: 2104 – START" on page 43.

YES Go to step 4 on page 49.

Step 4. (from step 3)

Does the fan-and-power-supply assembly have its DC PWR light on?

NO

a. Set the DC On/Standby switch to Standby, then to On again.

b. Go to step 5.

YES In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

a. Fan-and-power-supply assembly (see "Fan-and-Power-Supply Assemblies" on page 85).

b. Frame assembly (see "Frame Assembly" on page 102).

Step 5. (from step 4)

Does the fan-and-power-supply assembly have its DC PWR light on now?

NO Go to step 6.

YES If the problem is still not solved, go to "MAP 2010: 2104 – START" on page 43.

Step 6. (from step 5)

Observe the switch card assembly (see "Switch Card Assembly Switches" on page 9).

Is the power control switch set to OFF?

NO In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

a. Fan-and-power-supply assembly (see "Fan-and-Power-Supply Assemblies" on page 85)

b. SCSI interface card assembly (see "SCSI Interface Card Assembly" on page 93)

c. Switch card assembly (see "Switch Card Assembly" on page 98)

YES Go to step 7 on page 50.

Step 7. (from step 6)

Observe the SCSI interface card assemblies.

Does either SCSI interface card have its TERM POWER light on?

NO Go to step 8.

YES In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

a. Fan-and-power-supply assembly (see "Fan-and-Power-Supply Assemblies" on page 85)

b. SCSI interface card (see "SCSI Interface Card Assembly" on page 93)

c. Switch card assembly (see "Switch Card Assembly" on page 98)

Step 8. (from step 7)

Is the using system switched on?

NO Switch on the using system (see the using system-service information). The 2104 should switch on when the using system switches on.

If the problem is still not solved, go to "MAP 2010: 2104 – START" on page 43.

YES In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

a. External SCSI cables

b. SCSI interface card assembly (see "SCSI Interface Card Assembly" on page 93)

Note: If the TERM POWER light is still off, you might have a problem with the SCSI attachment that is in the using system (see the using-system service information).

MAP 2022: 2104 – Power-On

This MAP helps you to isolate FRUs that are causing a power problem on a 2104.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1. (from step 1 in “MAP 2010: 2104 – START” on page 43)

a. Remove both fan-and-power-supply assemblies, if two are present. If your 2104 has only one fan-and-power supply assembly, remove also the fan assembly (see “Fan-and-Power-Supply Assemblies” on page 85 and “Fan Assembly” on page 90).

b. Remove the SCSI interface card assemblies (see “SCSI Interface Card Assembly” on page 93). If your 2104 has only one SCSI interface card assembly, you do not need to remove the dummy assembly.

c. Remove the switch card assembly (see “Switch Card Assembly” on page 98).

d. Disconnect all the disk drive modules from the backplane. To do this action, open the handle on each module (see “Disk Drive Modules and Dummy Disk Drive Modules” on page 72). You do not need to completely remove the disk drive modules.

e. Go to step 2 on page 52.

Step 2. (from step 1)

a. Reinstall a fan-and-power-supply assembly into position 1.

b. Connect a power cable to the fan-and-power-supply assembly.

c. Set the DC On/Standby switch of the fan-and-power-supply assembly to On.

Note: Unless a procedure needs you to switch off the 2104, leave the 2104 switched on for the remainder of this MAP.

Does the 2104 emit smoke or a smell of burning?

NO Go to step 3 on page 53.

YES

a. In the sequence shown, exchange the following FRUs for new FRUs:

1) The fan-and-power-supply assembly that you have just reinstalled

2) The frame assembly (see “Frame Assembly” on page 102)

b. Go to step 3 on page 53.

Step 3. (from step 2)

a. Reinstall the other fan-and-power-supply assembly, or the fan assembly, into position 2.

b. If you have just reinstalled a fan-and-power-supply assembly into position 2:

   1) Connect a power cable to that assembly.

   2) Set the DC On/Standby switch of the fan-and-power-supply assembly to On.

Note: Unless a procedure needs you to switch off the 2104, leave the 2104 switched on for the remainder of this MAP.

Does the 2104 emit smoke or a smell of burning?

NO Go to step 4.

YES

a. In the sequence shown, exchange the following FRUs for new FRUs:

   1) The fan-and-power-supply assembly, or fan assembly, that you have just reinstalled

   2) The frame assembly (see “Frame Assembly” on page 102)

b. Go to step 4.

Step 4. (from step 3)

Reinstall a SCSI interface card assembly into position 1.

Does the 2104 emit smoke or a smell of burning?

NO If the 2104 has two SCSI interface cards, go to step 5 on page 54. Otherwise, go to step 6 on page 54.

YES

a. Exchange, for a new one, the SCSI interface card assembly that you have just reinstalled.

b. If the 2104 has two SCSI interface cards, go to step 5 on page 54. Otherwise, go to step 6 on page 54.

Step 5. (from step 4)

Reinstall the other SCSI interface card assembly into position 2.

Does the 2104 emit smoke or a smell of burning?

NO Go to step 6.

YES

a. Exchange, for a new one, the SCSI interface card assembly that you have just reinstalled.

b. Go to step 6.

Step 6. (from steps 4 and 5)

Reinstall the switch card assembly.

Does the 2104 emit smoke or a smell of burning?

NO Go to step 7.

YES

a. Exchange the switch card assembly for a new one.

b. Go to step 7.

Step 7. (from step 6)

Reconnect a disk drive module by closing its handle (see “Installing a Module” on page 76).

Does the 2104 emit smoke or a smell of burning?

NO Go to step 8.

YES

a. Exchange, for a new one, the disk drive module that you have just reconnected.

b. Go to step 8.

Step 8. (from steps 7 and 9)

Reconnect the next disk drive module.

Does the 2104 emit smoke or a smell of burning?

NO Go to step 9.

YES

a. Exchange, for a new one, the disk drive module that you have just reconnected.

b. Go to step 9.

Step 9. (from step 8)

Have you reconnected all the disk drive modules?

NO Return to step 8.

YES Go to step 10 on page 55.

Step 10. (from steps 4 and 9)

Have you solved the problem?

NO Remove all power from the 2104, and call for assistance.

YES Go to step “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

MAP 2030: 2104 – Power Control

This MAP helps you to isolate FRUs that are causing a power problem when power control is active.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1. (from step 2 in "MAP 2010: 2104 – START" on page 43, and from step 5 in MAP 2020: 2104 – Power)

You are here because power is still present at the 2104 although the using system is switched off.

Observe the switch card assembly (see "Switch Card Assembly" on page 98).

Is the power control switch set to Off?

NO If you want the 2104 to switch to Standby when the using system is switched off or to Standby, set the 2104 power control switch to Off. Alternatively, you can manually set the DC On/Standby switch to Standby on each fan-and-power-supply assembly in the 2104.

YES Go to step 2.

Step 2. (from step 1)

Observe a SCSI interface card.

Is the TERM POWER light on?

NO Go to step 4 on page 57.

YES

a. Disconnect the SCSI cable from the SCSI interface card.

b. Go to step 3.

Step 3. (from step 2)

Does the TERM POWER light remain on?

NO The using system to which the SCSI cable is attached is supplying terminator voltage. Check the using system to isolate the problem.

YES

a. Exchange the SCSI interface card assembly for a new one (see "SCSI Interface Card Assembly" on page 93).

b. Go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

Step 4. (from step 2)

Does the 2104 have two fan-and-power-supply assemblies?

NO

a. In the sequence shown, exchange the following FRUs for new FRUs:
   1) Fan-and-power-supply assembly (see “Fan-and-Power-Supply Assemblies” on page 85)
   2) SCSI interface card assembly (see “SCSI Interface Card Assembly” on page 93)
b. Go to step 7.

YES Go to step 5.

Step 5. (from step 4)

Do both fan-and-power-supply assemblies have their DC PWR lights on?

NO Go to step 6.

YES In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

a. SCSI interface card assembly (see “SCSI Interface Card Assembly” on page 93)
b. Frame assembly (see “Frame Assembly” on page 102)

Step 6. (from step 5)

Does only one fan-and-power-supply assembly have its DC PWR light on?

NO Go to step 7.

YES

a. Exchange, for a new one, the fan-and-power-supply assembly whose DC PWR light remains on (see “Fan-and-Power-Supply Assemblies” on page 85).
b. Go to step 7.

Step 7. (from steps 4 and 6)

Is the 2104 still powered on?

NO The problem is solved.

YES Call for assistance.

MAP 2340: 2104 – SCSI Bus

You are here because the using system cannot get access to any SCSI device (disk drive module or enclosure services).

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1. (from step 14 in "MAP 2010: 2104 – START" on page 43)

Observe the SCSI Bus Split switch on the switch card assembly (see "Switch Card Assembly Switches" on page 9).

Is the SCSI Bus Split switch set to Off?

NO Go to step 12.

YES The 2104 is configured in single SCSI bus mode. Go to step 2.

Step 2. (from step 1)

Is the 2104 attached to a second SCSI attachment?

NO

a. Ensure that the SCSI address of the SCSI attachment is set to 7.
b. Go to step 3.

YES

a. Ensure that the SCSI address of one SCSI attachment is set to 7.
b. Ensure that the SCSI address of the second SCSI attachment is set to 6.
c. Go to step 3.

Step 3. (from step 2)

Does the 2104 have two SCSI interface card assemblies?

NO Go to step 4.

YES

a. Remove one of the SCSI interface card assemblies (see "SCSI Interface Card Assembly" on page 93).
b. Go to step 4.

Step 4. (from step 3)

a. Note the positions of all the disk drive modules and dummy disk drive modules so that you can reinstall the modules into their correct slots later.
b. Go to step 5.

Step 5. (from step 4)

a. Remove all the disk drive modules, except for one (see "Disk Drive Modules and Dummy Disk Drive Modules" on page 72).
b. Go to step 6 on page 59.

Step 6. (from steps 5 and 8)

Can the using system access this disk drive module?

NO Go to step 7.

YES Go to step 8 on page 60.

Step 7. (from step 6)

Remove the disk drive module that you have just tested, and install a ***different*** disk drive module into a ***different*** slot.

Note: Because this disk drive module is not in the same slot, its SCSI address is different (see "SCSI Addresses" on page 24).

Can the using system access this disk drive module?

NO

a. In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you check whether you can access the disk drive module, to verify the repair.
   1) External SCSI cable
   2) SCSI interface card assembly (see "SCSI Interface Card Assembly" on page 93)
   3) SCSI attachment (see the using-system service information)
   4) Frame assembly (see "Frame Assembly" on page 102)

b. If the repair is successful, reinstall all the disk drive modules and, if removed in step 3 on page 58, the SCSI interface card assembly.

c. Go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

YES

a. In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you check whether you can access the disk drive module.
   1) The disk drive module that you tested ***immediately before this one*** (see "Disk Drive Modules and Dummy Disk Drive Modules" on page 72). Install the replacement disk drive module into the ***original*** slot.
   2) Frame assembly (see "Frame Assembly" on page 102)

b. Reinstall all the other disk drive modules and, if removed in step 3 on page 58, the SCSI interface card assembly.

c. Go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

Step 8. (from steps 6 and 9)

Have you reinstalled all the disk drive modules?

NO

a. Install another disk drive module.
b. Go to step 9.

YES Go to step 10.

Step 9. (from step 8)

Can the using system get access to this disk drive module?

NO

a. Exchange the disk drive module for a new one (see “Disk Drive Modules and Dummy Disk Drive Modules” on page 72).
b. Return to step 8.

YES Return to step 8.

Step 10. (from step 8)

a. If you removed a SCSI interface card assembly in step 3 on page 58, reinstall that assembly.
b. Go to step 11.

Step 11. (from step 10)

Can the using system access any disk drive module?

NO

a. Exchange, for a new one, the SCSI interface card assembly that you have just reinstalled (see “SCSI Interface Card Assembly” on page 93).
b. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

YES Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Step 12. (from step 1)

The 2104 is configured in dual SCSI bus mode.

Are the SCSI addresses of the two SCSI attachments both set to 7?

NO

a. Set the SCSI addresses to 7 (see the using-system service information).
b. Go to step 13 on page 61.

YES Go to step 13 on page 61.

Step 13. (from step 12)

Have the using systems lost access both to the disk drive modules that are in the SCSI address range 0 through 6, and to the disk drive modules that are in the SCSI address range 8 through 14?

NO Go to step 14.

YES In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for ***each*** FRU exchange, you go to "MAP 2410: 2104 – Repair Verification" on page 64.

a. SCSI bus bridge card assembly (see "SCSI Bus Bridge Card Assembly" on page 81)

b. Switch card assembly (see "Switch Card Assembly" on page 98)

c. Frame assembly (see "Frame Assembly" on page 102)

Step 14. (from step 13)

Do the disk drive modules that the using system cannot access have SCSI addresses in the range 0 through 6?

NO Go to step 15.

YES Go to step 16.

Step 15. (from step 14)

Observe the SCSI Address switch on the switch card assembly (see "Switch Card Assembly Switches" on page 9).

Is the SCSI Address switch set to On?

NO The switch is set for normal SCSI addresses.

a. Remove all devices, except for one, from slots 8 through 14.

b. Go to step 17 on page 62.

YES The switch is set for reversed SCSI addresses.

a. Remove all the disk drive modules, except for one, from slots 1 through 7.

b. Go to step 17 on page 62.

Step 16. (from step 14)

Observe the SCSI Address switch on the switch card assembly (see "Switch Card Assembly Switches" on page 9).

Is the SCSI Address switch set to On?

NO The switch is set for normal SCSI addresses.

a. Remove all the disk drive modules, except for one, from slots 1 through 7.

b. Go to step 17 on page 62.

YES The switch is set for reversed SCSI addresses.

a. Remove all the disk drive modules, except for one, from slots 8 through 14.

b. Go to step 17 on page 62.

Step 17. (from steps 15 and 16)

Can the using system access this disk drive module?

NO Go to step 18.

YES Go to step 19 on page 63.

Step 18. (from step 17)

Remove the disk drive module that you have just tested, and install a ***different*** disk drive module into a ***different*** slot.

Note: Because this disk drive module is not in the same slot, its SCSI address is different (see "SCSI Addresses" on page 24).

Can the using system access this disk drive module?

NO

a. In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you check whether you can access the disk drive module, to verify the repair.
   1) External SCSI cable
   2) SCSI interface card assembly (see "SCSI Interface Card Assembly" on page 93)
   3) SCSI attachment (see the using-system service information)
   4) Frame assembly (see "Frame Assembly" on page 102)
b. If the repair is successful, reinstall all the disk drive modules, go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

YES

a. In the sequence shown, exchange the following FRUs for new FRUs. Ensure that for *each* FRU exchange, you check whether you can access the disk drive module.
   1) The disk drive module that you tested ***immediately before this one*** (see "Disk Drive Modules and Dummy Disk Drive Modules" on page 72). Install the replacement disk drive module into the ***original*** slot.
   2) Frame assembly (see "Frame Assembly" on page 102)
b. Reinstall all the other disk drive modules.
c. Go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

Step 19. (from step 17)

Have you reinstalled all the disk drive modules?

NO

a. Install another disk drive module.

b. Go to step 17 on page 62.

YES No fault has been found. You have probably solved the problem by reconnecting the disk drive modules.

MAP 2410: 2104 – Repair Verification

This MAP helps you to verify a repair after a FRU has been exchanged for a new one.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104 or any of its SCSI devices. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1.

Ensure that the DC On/Standby switch of each fan-and-power-supply assembly is set to On.

Are all Check lights off?

NO Go to “MAP 2010: 2104 – START” on page 43.

YES Go to step 2.

Step 2. (from step 1)

Can the using system get access to all SCSI devices?

NO Go to “MAP 2010: 2104 – START” on page 43.

YES The repair is complete. If the MAP of the using system tells you to go to the 2104 Service Guide, go to Diagnostic Information for Multiple Bus Systems (SA38-0509) MAP 0410. Repair checkout for system level repair verification.

Chapter 3. Removal and Replacement Procedures

Are You Using the Correct Book? *Do not use this book if you are servicing a 2104 Model DL1 or TL1.* For the correct book, see Related Publications in Appendix A, “Additional Information for RISC Systems”.

These instructions describe how to remove field-replaceable units (FRUs) from the 2104.

Each FRU has its own removal procedure, for example, “Fan-and-Power-Supply Assembly”. Where a *step* in a specific procedure represents a complete *procedure* that is described separately, a reference to that procedure is given. For example:

1. Remove the front cover (see “Cover” on page 66).
2. Remove all the disk drive modules (see “Removing a Module” on page 72).

The references show you where to find more detail, if you need it.

Note: Although these instructions relate to the 2104 Model DU3 and to the 2104 Model TU3, some diagrams might not specifically show the model that you are servicing.

Concurrent Maintenance

Subject to the configuration of the 2104, most FRUs can be removed, replaced, and tested while the subsystem and using system are powered on and doing productive work. This ability is called “concurrent maintenance”. Unless you have a particular reason to do so, do not remove the power unless these instructions tell you to do so.

The following FRUs ***can*** be maintained concurrently in a 2104 subsystem:

- Fan assembly
- Fan-and-power-supply assembly (if two are present)
- Disk drive module
- Dummy disk drive module
- SCSI Interface card assembly (if the subsystem configuration allows)
- Dummy SCSI Interface card assembly
- Switch card assembly
- External SCSI cables (if the subsystem configuration allows)

The following FRUs ***cannot*** be maintained concurrently:

- SCSI bus bridge card assembly
- Frame assembly

Cover

Note: Unless you have a particular reason to do so, do not switch off the using system or the 2104 when removing, opening or closing the cover of the 2104.

The 2104 Model DU3 has no covers. The 2104 Model TU3 has only a front cover.

To open and, if required, remove the cover:

Step 1. Ask the customer for the key to the cover.

Step 2. Refer to Figure 21.

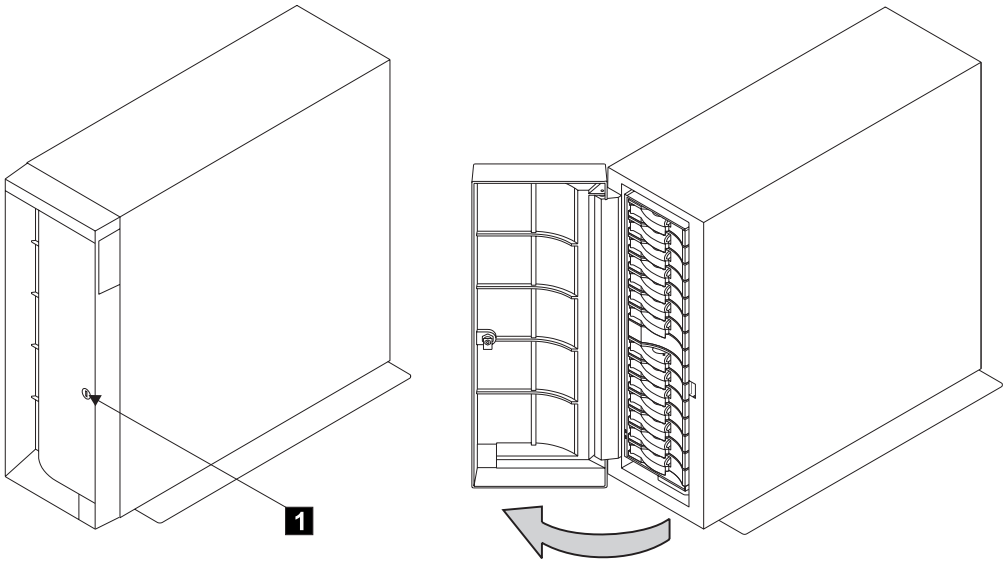


Figure 21. Opening the Front Cover of a 2104 Model TU3

Step 3. Insert the key into the lock **1**, and turn the key counterclockwise.

Step 4. The cover is pivoted on its left-hand side, and is held closed by clips. Pull strongly on the right-hand side of the cover to release it from the clips.

Step 5. If you want to remove the cover, refer to Figure 22 on page 67.

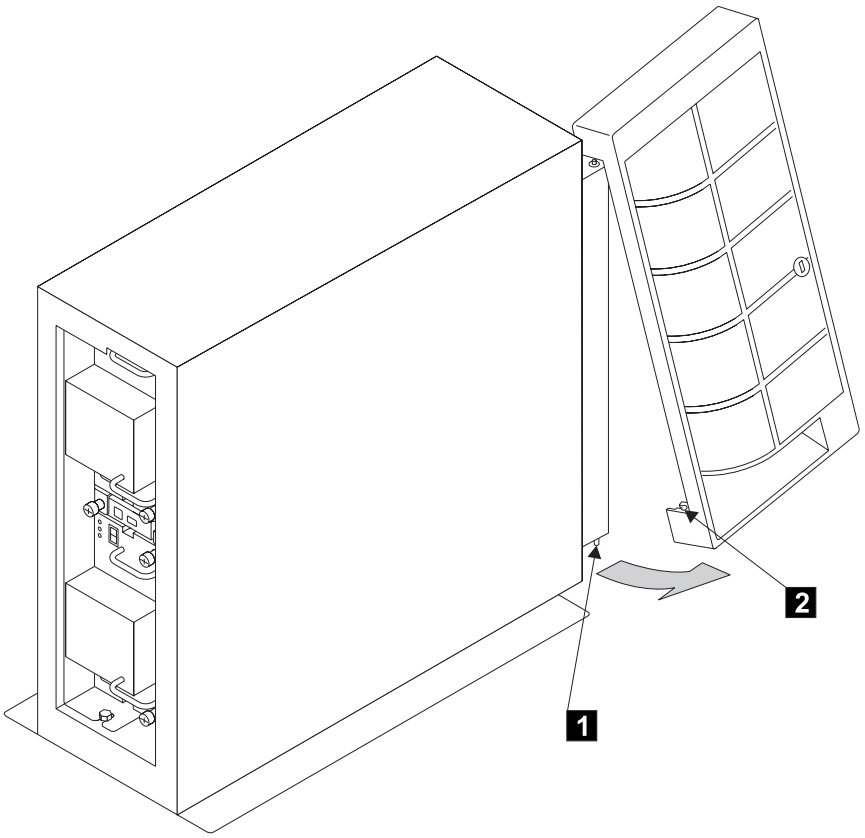


Figure 22. Removing the Front Cover of a 2104 Model TU3 (1)

Step 6. Ensure that the cover is unlocked and open.

Step 7. Grasp the bottom of the cover and pull it outward to release the lower cover hinge **2** from the hinge pin **1**.

Step 8. Refer to Figure 23.

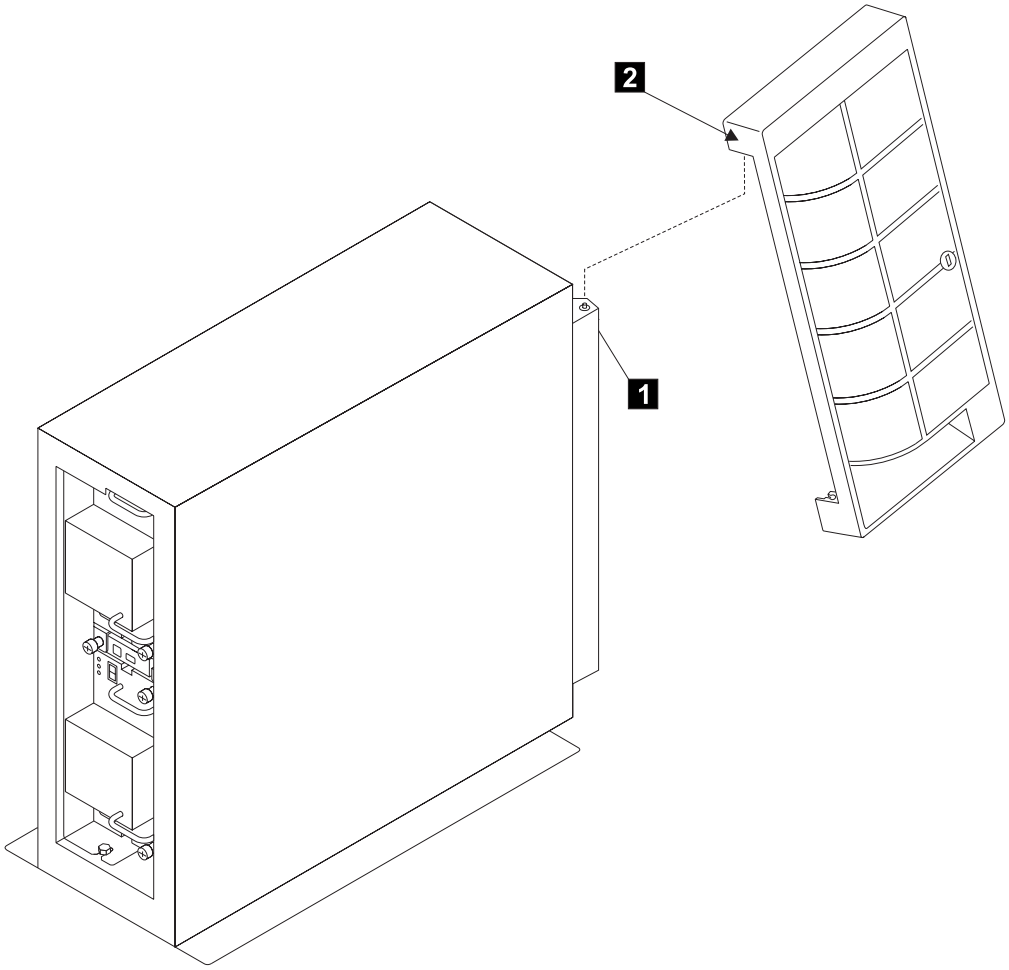


Figure 23. Removing the Front Cover of a 2104 Model TU3 (2)

Step 9. Lift the cover to disengage the pivot hole **2** from the upper hinge pin **1** .

Step 10. Replace parts in the reverse sequence.

Note: Before you install the cover, ensure that the lock is in the unlocked position. Otherwise, the front cover might become damaged.

All Power

Note: Unless you have a particular reason to do so, do not remove power from the using system or from the 2104 unless the instructions that you are following tell you to.

This section has two parts:

- "Power (2104 Model DU3)"
- "Power (2104 Model TU3)" on page 71.

Go to the part that is relevant to the Model of 2104 that you are servicing.

Power (2104 Model DU3)

Step 1. Verify with the customer that all operations between the 2104 and the using system have been stopped.

Step 2. Refer to Figure 24.

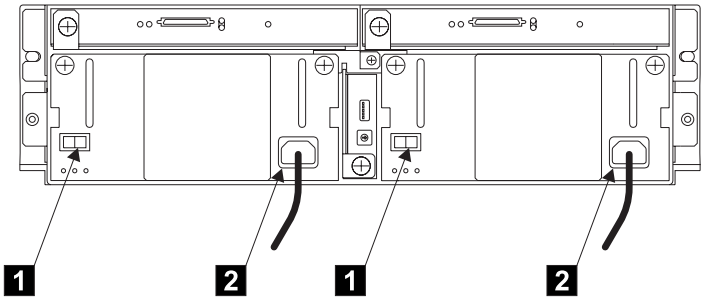


Figure 24. Removing the Power from a 2104 Model DU3

Step 3. Set the DC On/Standby switch **1** of each fan-and-power-supply assembly to Standby.

Notes:

a. Some 2104s have a fan-and-power-supply assembly and a fan assembly. The fan assembly has no DC On/Standby switch.

b. A fan-and-power-supply assembly might have its CHK light on although its DC On/Standby switch is set to On.

Note: For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

DANGER

In the following step you are going to remove the power cables. These cables are live if the rack power distribution unit or uninterruptible power supply (UPS) unit is still switched on.

Step 4. Remove the power cables **2** from the back of the 2104.

Step 5. To return power to the 2104:

a. Reinstall the power cables **2** .

b. Set the DC On/Standby switch **1** of each fan-and-power-supply assembly to On.

Note: You can configure the motor-start sequencing of the 2104 Models DU3 and TU3. For more information, see “Drive Autostart switch” on page 10 and “Delay Motor Start Mode switch” on page 11.

Power (2104 Model TU3)

Step 1. Verify with the customer that all operations between the 2104 and the using system have been stopped.

Step 2. Refer to Figure 25.

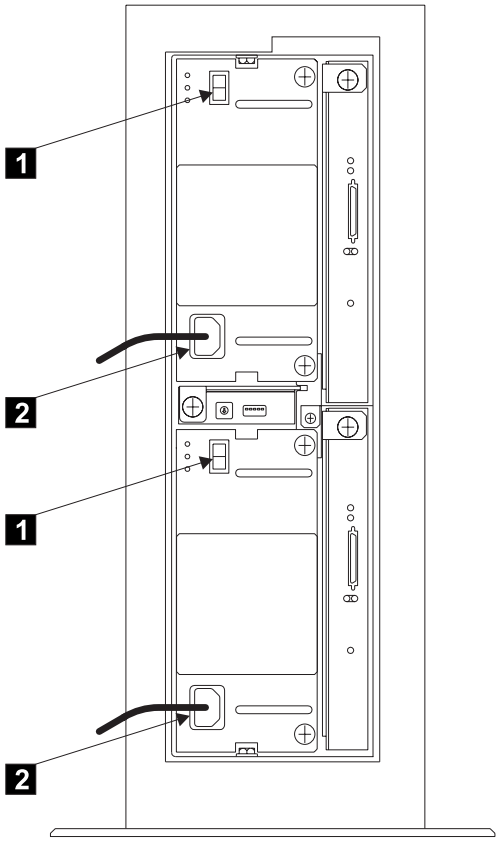


Figure 25. Removing Power from a 2104 Model TU3

Step 3. At the back of the 2104, set the DC On/Standby switch **1** of each fan-and-power-supply assembly to Standby.

Notes:

a. Some 2104s have a fan-and-power-supply assembly and a fan assembly. The fan assembly has no DC On/Standby switch.

b. A fan-and-power-supply assembly might have its CHK light on although its DC On/Standby switch is set to On.

Step 4. Remove the power cables **2** from the electrical power outlet and from the back of the 2104.

Step 5. To return power to the 2104:

a. Reinstall the power cables **2** .

b. Set the DC On/Standby switch **1** of each fan-and-power-supply assembly to On.

Note: You can configure the motor-start sequencing of the 2104 Models DU3 and TU3. For more information, see “Drive Autostart switch” on page 10 and “Delay Motor Start Mode switch” on page 11.

Disk Drive Modules and Dummy Disk Drive Modules

Note: A disk drive module is one FRU. Always exchange it as a complete FRU.

Removing a Module

Attention:

- Disk drive modules are electrostatic-discharge (ESD) sensitive. Use the tools and procedures defined by your organization to protect such parts. See also “Electrostatic Discharge” on page x.
- Disk drive modules are fragile. Handle them with care, and keep them well away from strong magnetic fields.
- Any slot that has no disk drive module installed ***must*** contain a dummy disk drive module. The dummy module ensures that the correct airflow is maintained around the disk drive modules in the other slots. If a slot remains empty, overheating might occur.

Notes:

1. Unless you have a particular reason to do so, do not switch off the using system or the 2104 when removing disk drive modules or dummy disk drive modules.
2. The diagrams in these instructions show a 2104 Model DU3. The procedure for a 2104 Model TU3 is the same, except that everything is turned through 90 degrees.

Step 1. If you are removing a module from a 2104 Model TU3, open the front cover (see “Cover” on page 66), if not already done.

Step 2. If you are removing a ***dummy*** disk drive module, go to step 3 on page 73. Otherwise, go to step 7 on page 74.

Step 3. Refer to Figure 26.

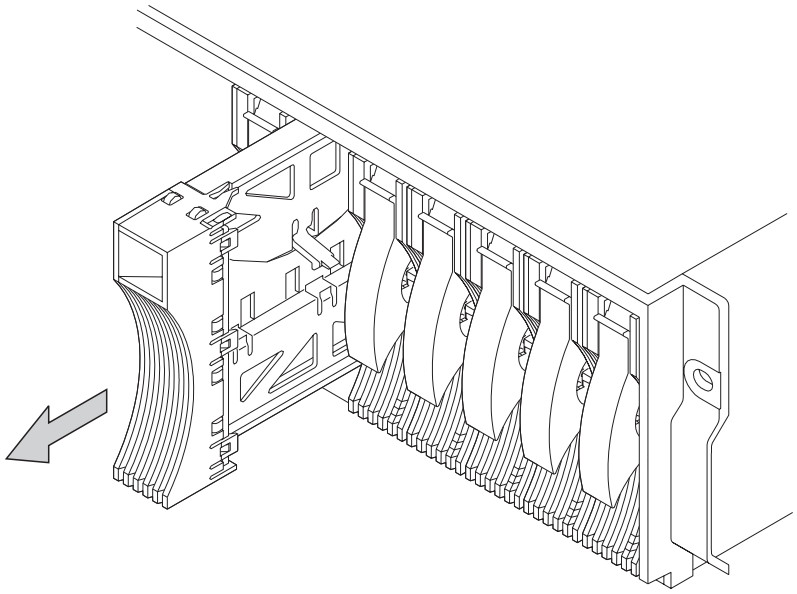


Figure 26. Removing a Dummy Disk Drive Module

Step 4. Using the finger slot that is provided at the top of the module, remove the dummy disk drive module.

Step 5. Lay the dummy disk drive module on its side in a safe place.

Step 6. Go to “Installing a Module” on page 76, and install a disk drive module.

Step 7. Ensure that the using system is not using the disk drive module that you are going to remove.

Step 8. Find the disk drive module that you are going to remove (see “SCSI Addresses” on page 24.)

Step 9. If the 2104 is powered on, use the SCSI Device Identification and Removal service aid to set the disk drive module to **Remove** (see “System Service Aids” in “Appendix A, “Additional Information for RISC Systems””). The Check light of the disk drive module that you are going to remove comes on and remains on.

Note: If the failing disk drive module is affecting the SCSI bus operation, the service aid might not work correctly.

Step 10. Refer to Figure 27.

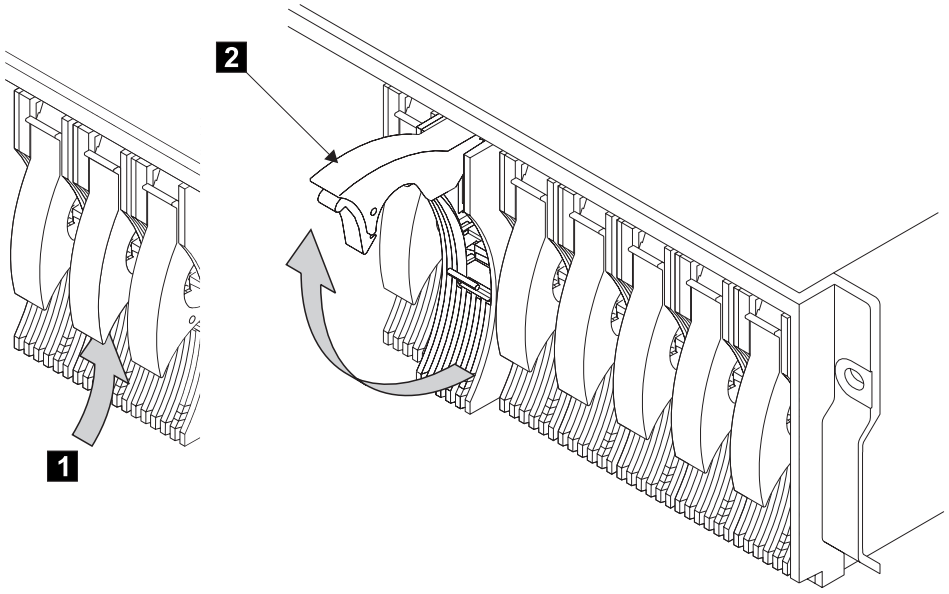


Figure 27. Opening the Handle of a Disk Drive Module

Step 11. On the disk drive module whose Check light is on (see step 9), press the blue latch **1** , and lift the handle **2** fully. This action pulls the module partially out of its slot.

Step 12. Wait for approximately 20 seconds to allow the disk drive module to stop.

Step 13. Refer to Figure 28.

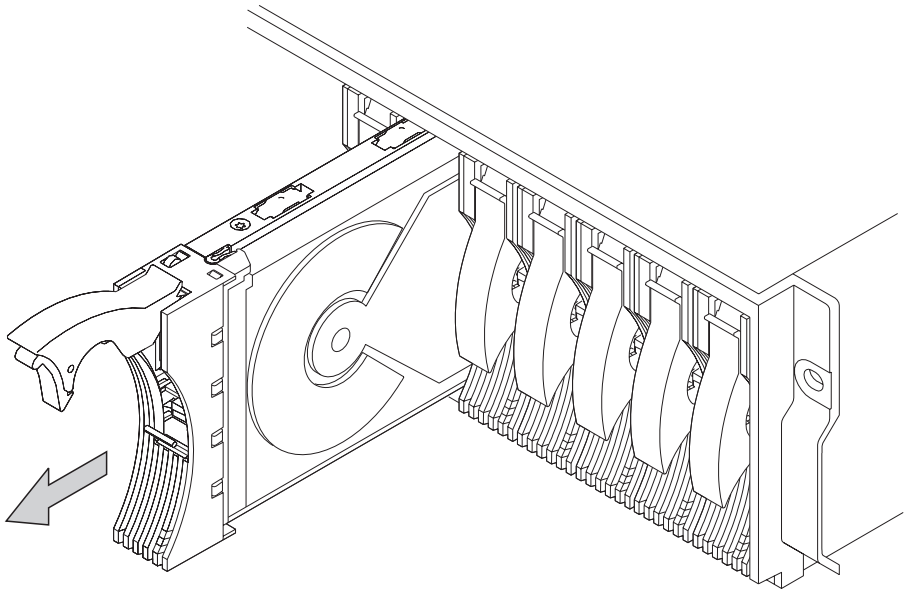


Figure 28. Removing a Disk Drive Module

Step 14. Grip the handle, and carefully pull out the disk drive module. As the module comes out, put one hand under its base to prevent it from falling.

Step 15. Refer to Figure 29.

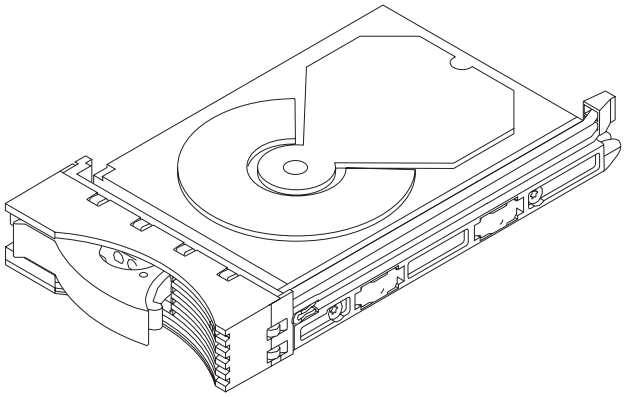


Figure 29. Placing a Disk Drive Module into a Safe Position

Step 16. Lay down the module as shown. In this position, the module rests on four supports (not visible in Figure 29).

Step 17. **Attention:** Any slot that has no disk drive module installed ***must*** contain a dummy disk drive module. The dummy module ensures that the correct airflow is maintained around the disk drive modules in the other slots. If a slot remains empty, overheating might occur.

Go to “Installing a Module” on page 76, and install a disk drive module or a dummy disk drive module, as required.

Installing a Module

Attention:

- Disk drive modules are electrostatic-discharge (ESD) sensitive. Use the tools and procedures defined by your organization to protect such parts. See also “Electrostatic Discharge” on page x.
- Disk drive modules are fragile. Handle them with care, and keep them well away from strong magnetic fields.
- Any slot that has no disk drive module installed ***must*** contain a dummy disk drive module. The dummy module ensures that the correct airflow is maintained around the disk drive modules in the other slots. If a slot remains empty, overheating might occur.

Notes:

1. Unless you have a particular reason to do so, do not switch off the using system or the 2104 when installing disk drive modules or dummy disk drive modules.
2. The diagrams in these instructions show a 2104 Model DU3. The procedure for a 2104 Model TU3 is the same, except that everything is turned through 90 degrees.

Step 1. If you are installing a module into a 2104 Model TU3, open the front cover (see “Cover” on page 66), if not already done.

Step 2. If you are installing a ***dummy*** disk drive module into an empty slot, go to step 3.

If you are installing a disk drive module into an empty slot, go to step 7 on page 78.

If you are installing a disk drive module into a slot that already contains a disk drive module or a dummy disk drive module, remove that module (see “Removing a Module” on page 72), then go to step 7 on page 78.

Step 3. Refer to Figure 30.

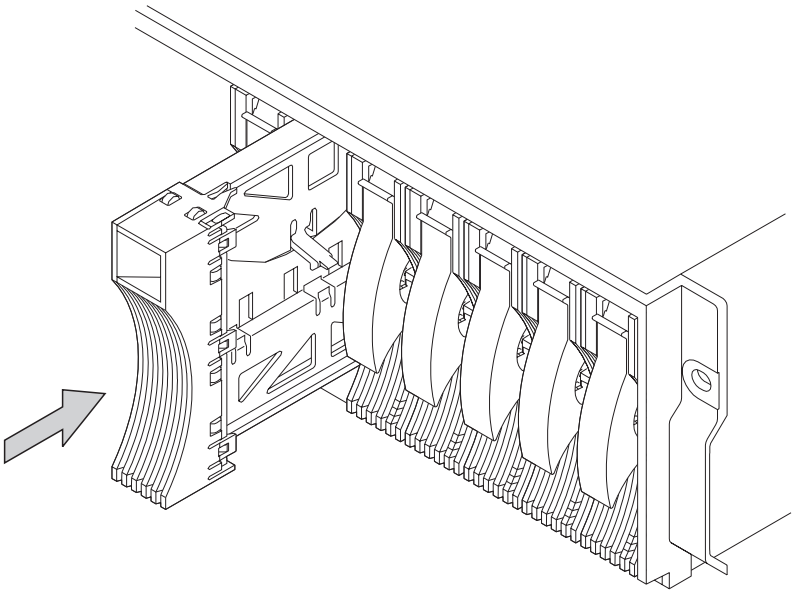


Figure 30. Installing a Dummy Disk Drive Module

Step 4. Insert the dummy disk drive module into the slot and push it fully home.

Step 5. Verify that the dummy disk drive module that you have just installed is aligned with the sides of the 2104, and that no gap exists between this module and the modules that are next to it. Verify also that the front edge of this module aligns with the front edges of the modules that are next to it. If the dummy disk drive module is not correctly aligned, remove it then reinstall it.

Step 6. Repeat this procedure for other dummy disk drive modules, or go to step 7 on page 78 to install disk drive modules.

Step 7. If the 2104 is powered on, use the SCSI Device Identification and Removal service aid to set the slot to **Insert** (see “System Service Aids” in “Appendix A, “Additional Information for RISC Systems””). The Check light that is at the back of the slot (on the backplane) comes on.

Step 8. Refer to Figure 31.

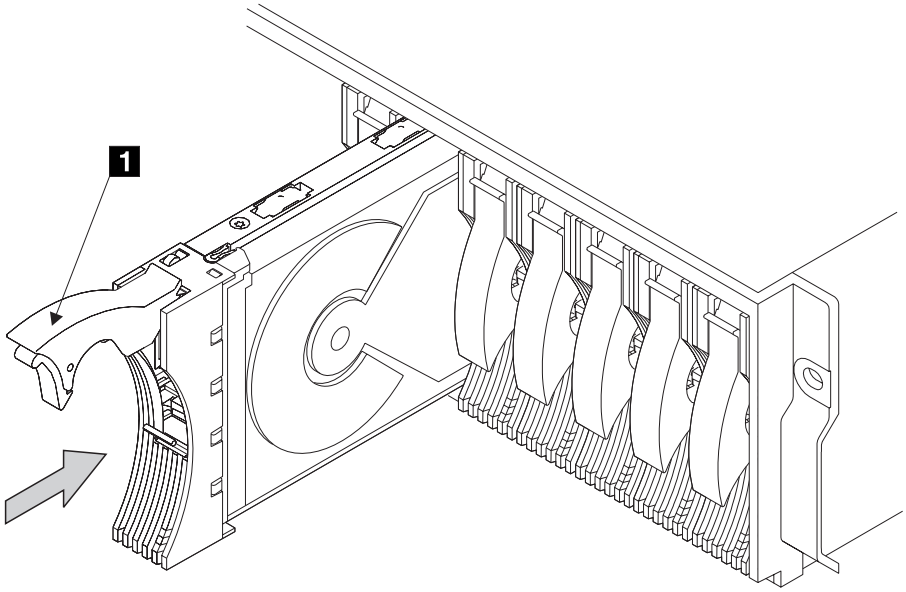


Figure 31. Installing a Disk Drive Module

Step 9. Ensure that the handle **1** is fully open on the module that you are going to install.

Step 10. With one hand giving support to the base of the module and the other hand holding the handle, insert the module, and push it into the slot whose Check light is on (see step 7). When the handle touches the front of the 2104, the module stops. Note that the module is not yet fully home.

Step 11. Refer to Figure 32

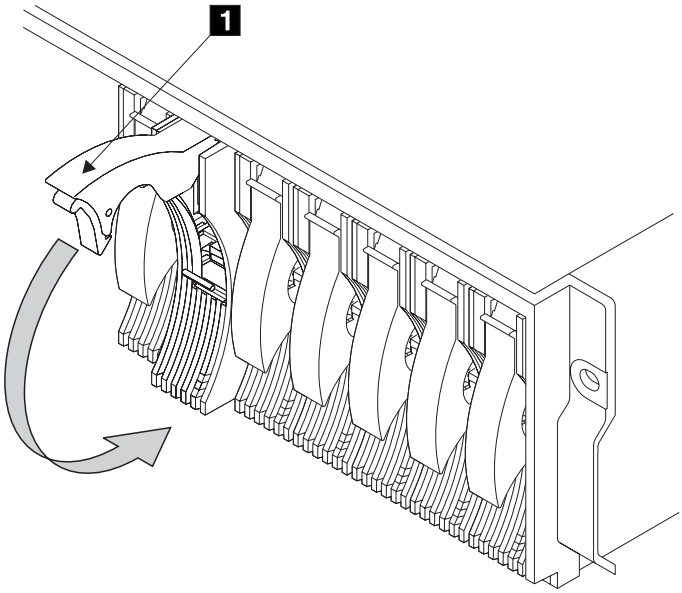


Figure 32. Closing the Handle of a Disk Drive Module

Step 12. While continuing to push the disk drive module into the slot, slowly close the handle **1** until it stops with a click. This action pushes the module fully home.

Step 13. Verify that the disk drive module that you have just installed is aligned with the sides of the 2104, and that no gap exists between this module and the modules that are next to it. Verify also that the front edge of this disk drive module aligns with the front edges of the modules that are next to it. If the disk drive module is not correctly aligned, remove it then reinstall it.

Step 14. Replace other parts in the reverse sequence.

Step 15. If you installed the disk drive module under concurrent maintenance (see “Concurrent Maintenance” on page 65), configure the new disk drive module to your using system. For more information, see “Appendix A, “Additional Information for RISC Systems””.

If you installed the disk drive module while the using system was switched off, switch on the using system when you are ready to do so. When you switch on the using system, the disk drive module is automatically configured.

Step 16. Using the method that is provided on your using system, check the level of microcode that is present on the disk drive module that you have just installed. Additional information about the latest levels of disk drive microcode is given on the web support page (see “Web Support Page” in “Appendix A, “Additional Information for RISC Systems””). If you need to download the latest microcode, see “Disk Drive Microcode Maintenance” in “Appendix A, “Additional Information for RISC Systems””.

Step 17. If the 2104 is attached to a RISC system, go to step 18. Otherwise, go to step 19.

Step 18. The disk drive that you have just installed has been configured with new hdisk numbers. If you want to change those numbers, go to “Configuring

a Disk Drive Module to the Using System-AIX systems only" in "Appendix A, "Additional Information for RISC Systems"". Otherwise, go to step 19.

Step 19. If you came to this section from a step in MAP, return to that step, and continue with the MAP. Otherwise, go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

SCSI Bus Bridge Card Assembly

Attention: Before you remove the SCSI bus bridge card assembly, switch off the using systems.

Removing the SCSI Bus Bridge Card Assembly

Step 1. Ensure that the using systems have been switched off.

Step 2. Remove the two modules that are directly on each side of the SCSI bus bridge card assembly (see “Removing a Module” on page 72).

Step 3. Refer to Figure 33.

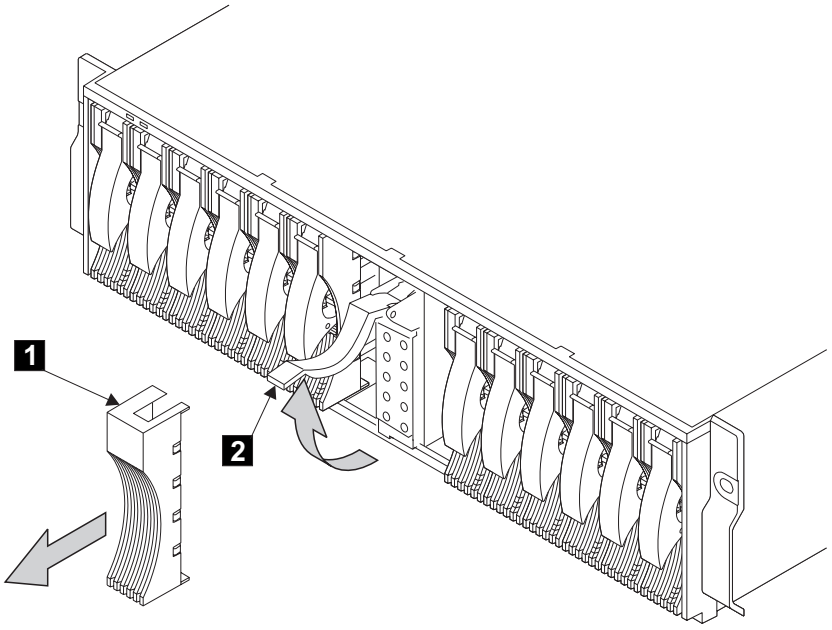


Figure 33. Removing the SCSI Bridge Card Assembly Cover

Step 4. Squeeze each of the four lugs on the cover **1**, then remove the cover.

Step 5. Lift the handle **2** of the SCSI bridge card assembly fully.

Step 6. Refer to Figure 34.

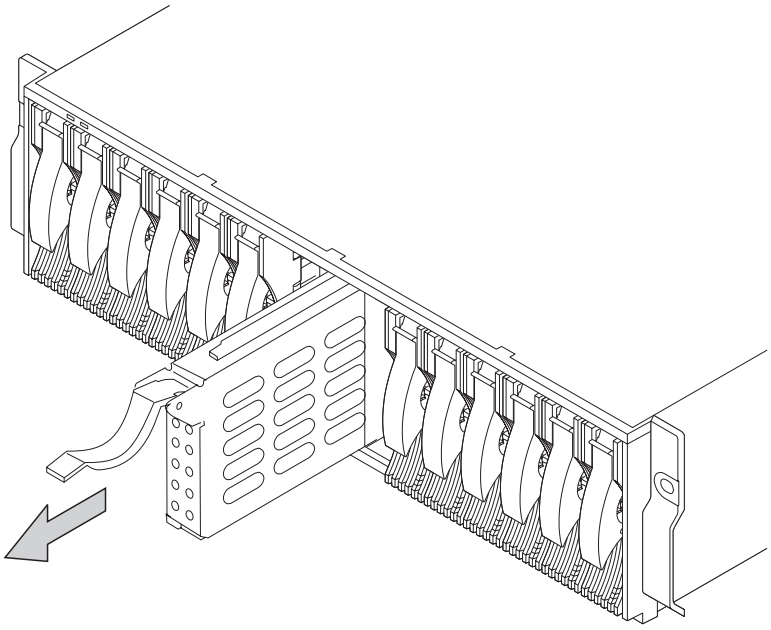


Figure 34. Removing the SCSI Bridge Card Assembly

Step 7. Grasp the assembly, and pull it out from the 2104.

Installing the SCSI Bus Bridge Card Assembly

Step 1. Refer to Figure 35.

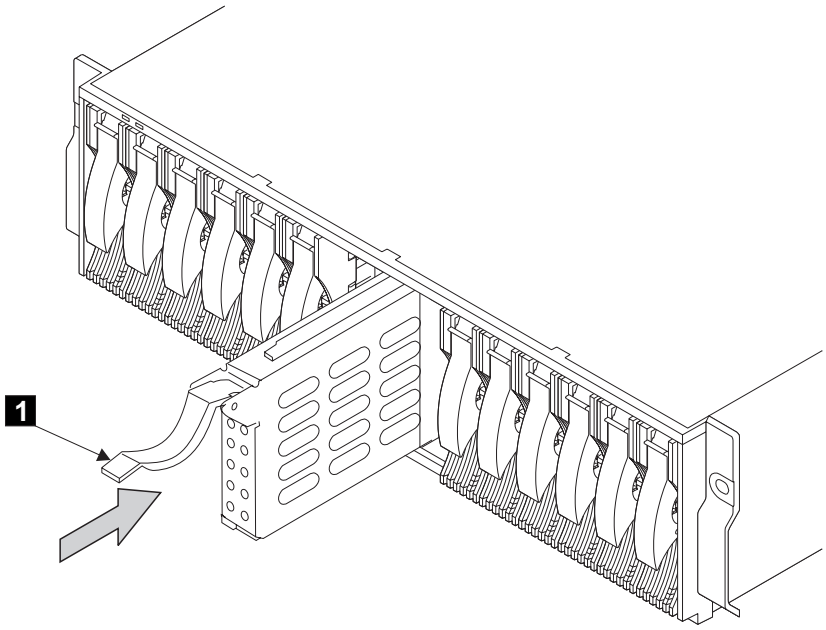


Figure 35. Installing the SCSI Bridge Card Assembly

Step 2. Ensure that the handle **1** of the SCSI bus bridge card assembly is fully open.

Step 3. Insert the SCSI bus bridge card assembly, and push it into the slot. When the handle touches the front of the 2104, the assembly stops. Note that the assembly is not yet fully home.

Step 4. Refer to Figure 36.

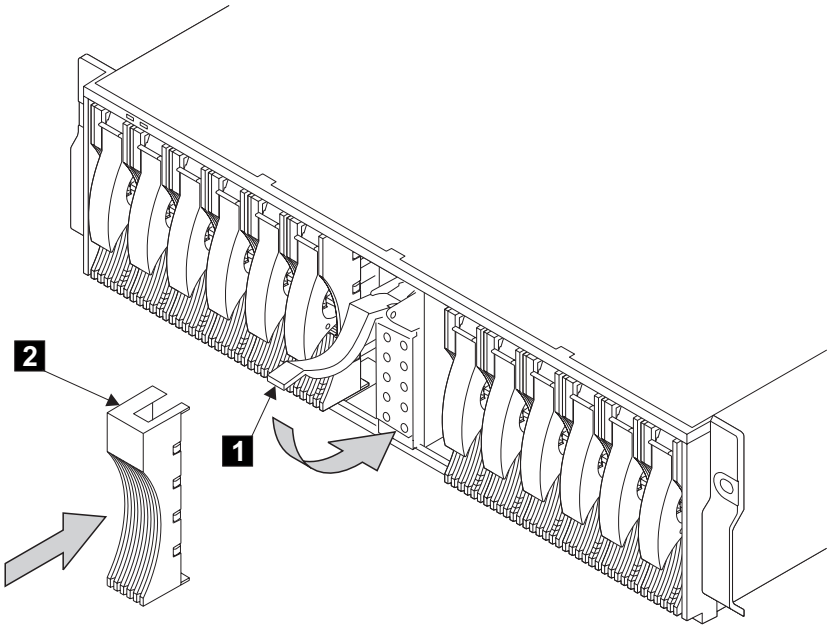


Figure 36. Closing the Handle and Installing the Cover

Step 5. Close the handle **1** until it stops with a click. This action pushes the SCSI bus bridge card assembly fully home.

Step 6. Install the cover **2** . Squeeze each of the four lugs to lock the cover in position.

Step 7. Reinstall the disk drive modules that you removed earlier (see “Installing a Module” on page 76).

Fan-and-Power-Supply Assemblies

Notes:

1. Unless you have a particular reason to do so, do not switch off the using system or the 2104 when removing or installing power supply assemblies.
2. The diagrams in these instructions show a 2104 Model DU3. The procedure for a 2104 Model TU3 is the same, except that everything is turned through 90 degrees.
3. A fan-and-power-supply assembly can be installed in either position at the back of the 2104. You can easily distinguish it from a fan assembly, because it has a DC On/Standby switch and a power connector.
4. The CHK light is valid only when the DC On/Standby switch is set to On. The light is always on when the DC On/Standby switch is set to Standby.
5. If you are exchanging the fan-and-power-supply assembly of a unit that has one fan-and-power-supply assembly and a fan assembly, do the following:
   a. Remove the ***fan assembly*** (see “Fan Assembly” on page 90).
   b. Install the replacement fan-and-power-supply assembly into the slot that contained the fan assembly.
   c. Remove the failing fan-and-power-supply assembly.
   d. Install the fan assembly into the slot that contained the failing fan-and-power-supply assembly.

Step 1. Refer to Figure 37.

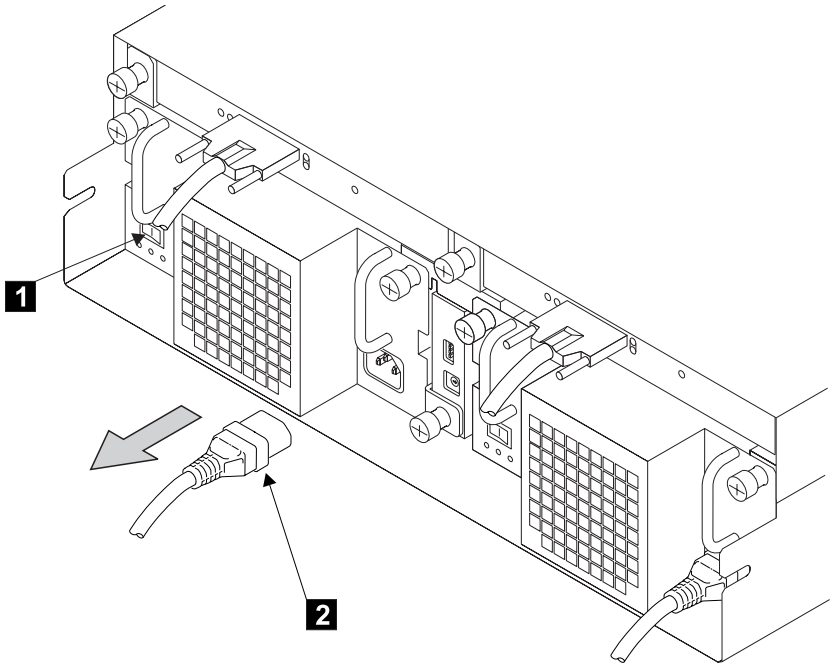


Figure 37. Switching Off and Disconnecting a Fan-and-Power-Supply Assembly

Step 2. At the back of the 2104, set the DC On/Standby switch **1** to Standby on the fan-and-power-supply assembly that you are removing.

Notes:

a. You might hear the speed of the other fan increase.

b. Although you have set the DC On/Standby switch to Standby, the amber CHK light on the fan-and-power-supply assembly might come on or flash. This condition is not a problem. Continue with the next step.

Step 3. Unplug the power cable **2** from the fan-and-power-supply assembly that you are removing.

Note: The fan-and-power-supply lights might stay on for a short time. Wait until they are all off before you go to the next step.

Step 4. Refer to Figure 38.

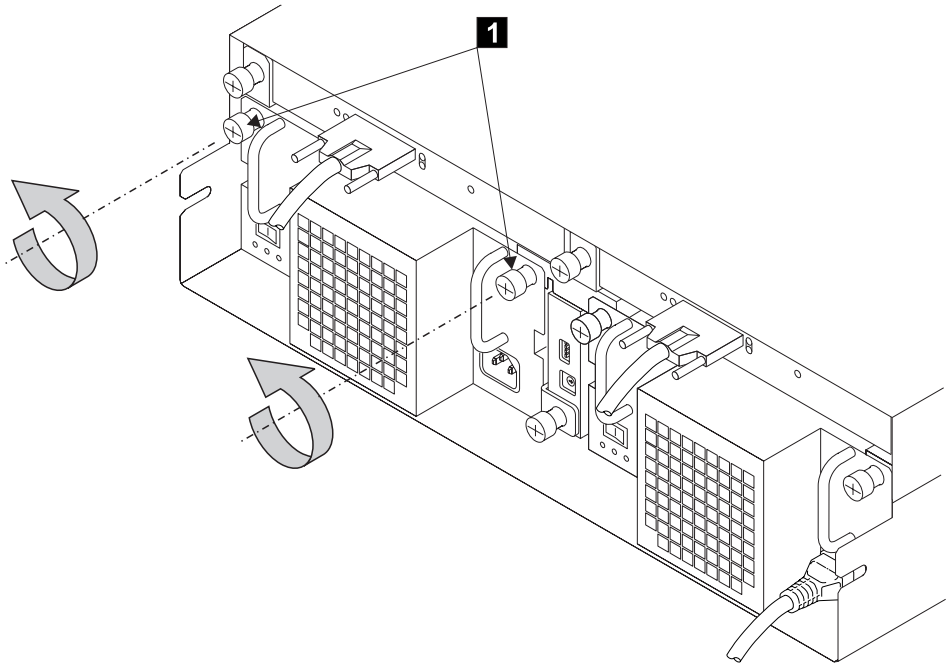


Figure 38. Unscrewing the Thumbscrews

Step 5. Unscrew the two thumbscrews **1** on the fan-and-power-supply assembly.

Step 6. Refer to Figure 39.

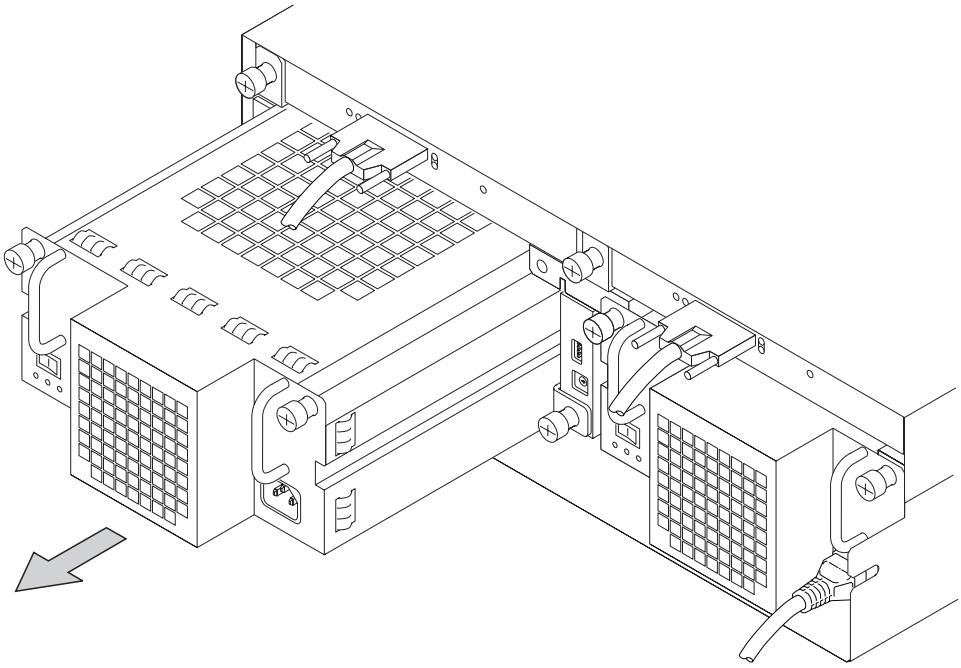


Figure 39. Removing a Fan-and-Power-Supply Assembly

Step 7. Remove the fan-and-power-supply assembly.

The fan-and-power-supply assembly is a complete FRU. Do not try to repair or exchange any part of it.

Note: For a translation of the following notices, see Appendix D, "Translated Safety Notices", on page 169.

DANGER

Do not try to open the covers of the fan-and-power-supply assembly.

Do not plug a power cable into the fan-and-power-supply assembly until the assembly is fully home and its thumbscrews are fully tightened.

CAUTION:
Do not insert hands or tools into the space that contained the fan-and-power-supply assembly.

Step 8. Replace parts in the reverse sequence.

Notes:

a. When you insert the fan-and-power-supply assembly, you might hear the speed of the other fan decrease.

Note: Remember to set the DC On/Standby switch to On after you have reinstalled the fan-and-power-supply assembly. If the DC On/Standby switch is already set to On when you reinstall the fan-and-power-supply assembly, the CHK light might come on. If it does, set the DC On/Standby switch to Standby, then to On.

Step 9. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Fan Assembly

Notes:

1. Unless you have a particular reason to do so, do not switch off the using system or the 2104 when removing or installing a fan assembly.
2. The diagrams in these instructions show a 2104 Model DU3. The procedure for a 2104 Model TU3 is the same, except that everything is turned through 90 degrees.
3. A fan assembly can be installed in either position at the back of the 2104. You can easily distinguish it from the fan-and-power-supply assembly, because it has no DC On/Standby switch or power connector.

Step 1. Refer to Figure 40.

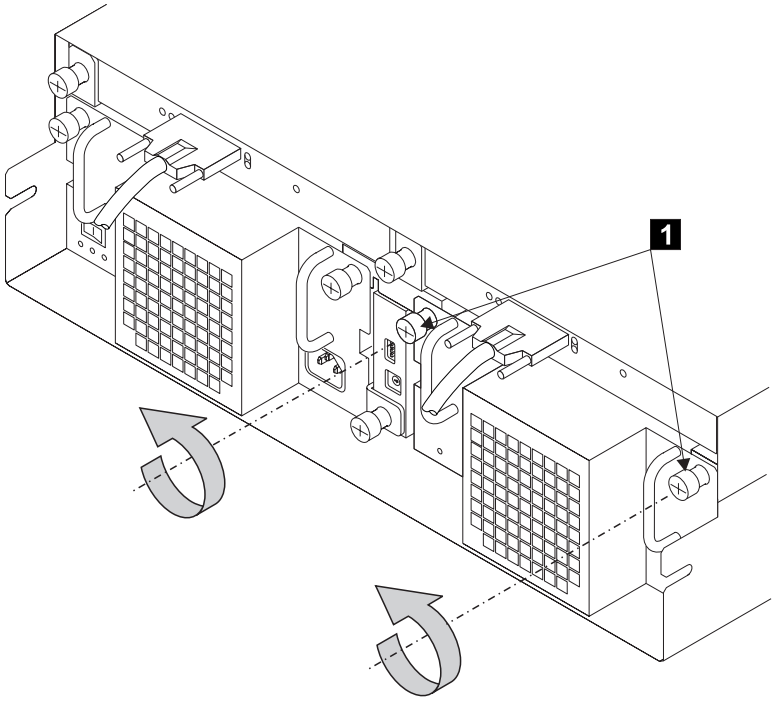


Figure 40. Unscrewing the Thumbscrews

Step 2. At the back of the 2104, unscrew the thumbscrews **1** of the fan assembly.

Step 3. Refer to Figure 41.

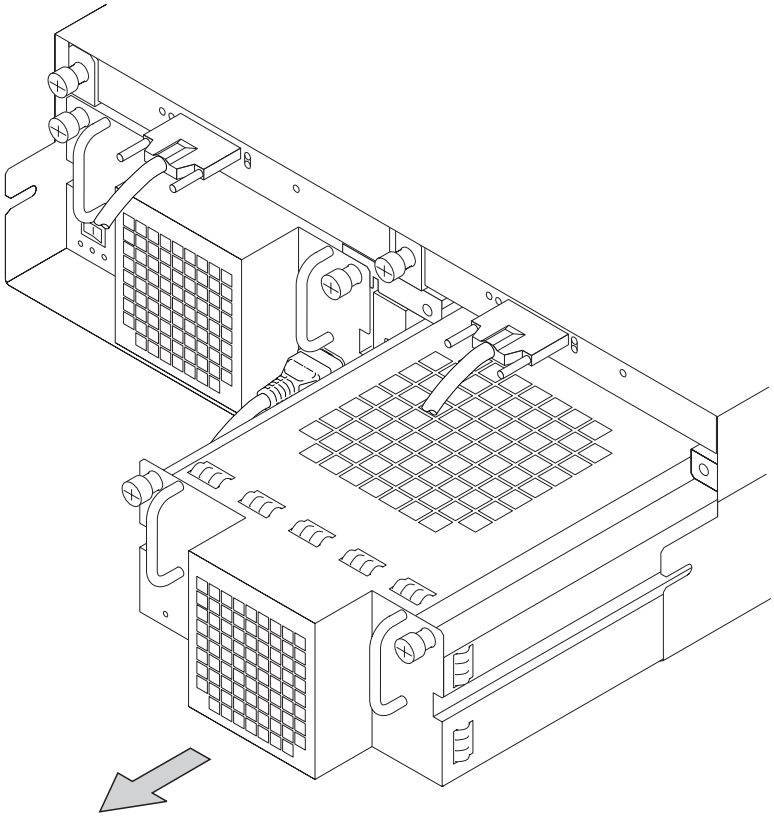


Figure 41. Removing a Fan Assembly

Step 4. Pull out the assembly.

Notes:

a. You might hear the speed of the other fan increase.

b. For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:
Do not insert hands or tools into the space that contained the fan assembly.

Note:

The fan assembly is a complete FRU. Do not try to repair or exchange any part of it.

Step 5. Replace parts in the reverse sequence.

Note: When you insert the fan assembly, you might hear the speed of the other fan decrease.

Step 6. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

SCSI Interface Card Assembly

Attention: The SCSI interface card is electrostatic-discharge (ESD) sensitive. Use the tools and procedures defined by your organization to protect such parts. See also “Electrostatic Discharge” on page x.

Notes:

1. Unless you have a particular reason to do so, do not switch off the using system or the 2104 when removing or installing the SCSI interface card assembly.
2. The diagrams in these instructions show a 2104 Model DU3. The procedure for a 2104 Model TU3 is the same, except that everything is turned through 90 degrees.

Step 1. Refer to Figure 42

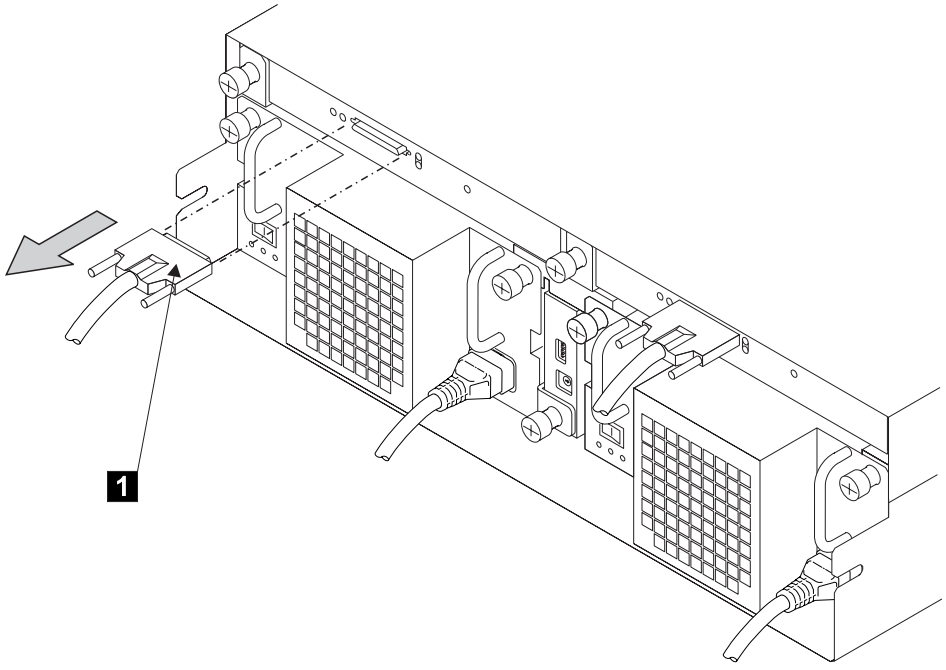


Figure 42. Disconnecting the SCSI Cable

Step 2. Disconnect the SCSI cable **1** (if present).

Note: If the 2104 is switched on, it might switch off when you do this action (see “Power Control switch” on page 10).

Step 3. Refer to Figure 43.

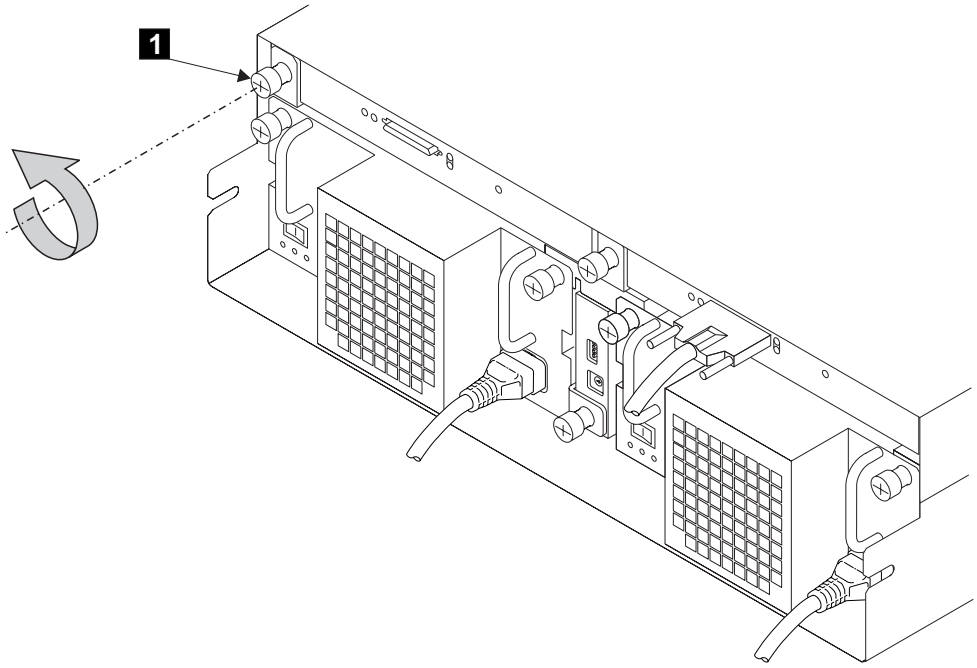


Figure 43. Unscrewing the Thumbscrew

Step 4. Unscrew the thumbscrew **1**.

Step 5. Refer to Figure 44.

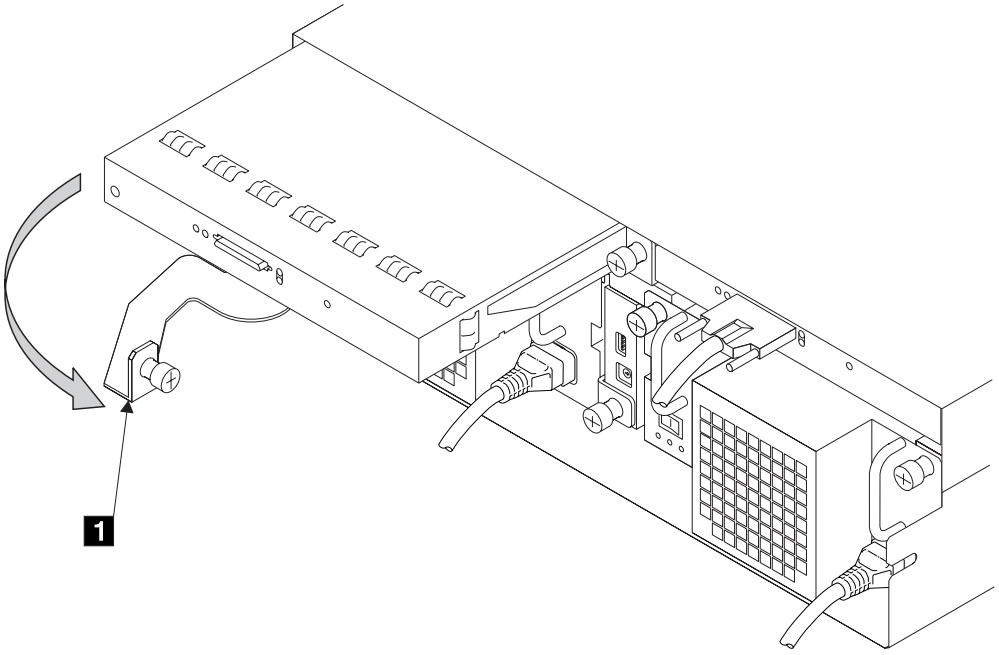


Figure 44. Opening the Lever

Step 6. Open the lever **1** fully. This action unplugs the card assembly from the backplane.

Step 7. Refer to Figure 45.

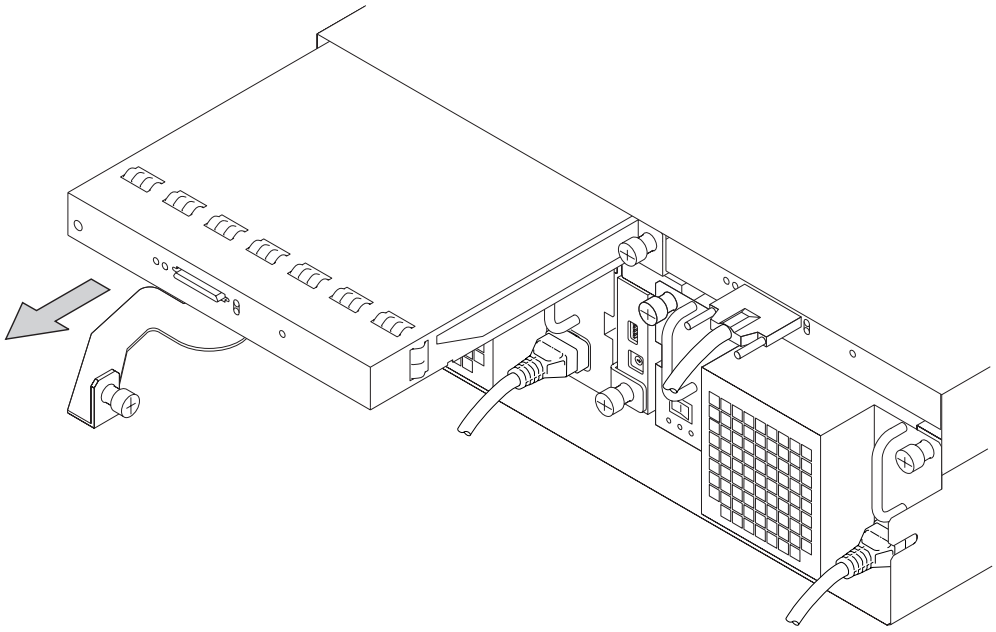


Figure 45. Removing the SCSI Interface Card Assembly

Step 8. Pull the SCSI interface card assembly out from the 2104.

Note: For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:
Do not insert hands or tools into the space that contained the SCSI interface card assembly.

Step 9. Replace parts in the reverse sequence.

CAUTION:
As you push the assembly fully home, the lever automatically moves toward its closed position. Ensure that your fingers do not become pinched between the lever and the assembly.

Note: When you reconnect the SCSI cable, ensure that its connector is correctly aligned with the connector of the SCSI interface card assembly. Otherwise, you might bend the pins. Engage the connectors carefully.

Step 10. Using the method that is provided on your using system, check the level of microcode that is present on the SCSI interface card that you have just installed. Additional information about the latest levels of SCSI interface card microcode is given on the web support page (see “Web Support Page” in “Appendix A, “Additional Information for RISC Systems””). If you need to download the latest microcode, see “Microcode Maintenance” on page 27.

Step 11. Replace parts in the reverse sequence.

Note: If the 2104 is switched off, it might switch on when you reinstall the SCSI cable (see “Power Control switch” on page 10).

Step 12. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Switch Card Assembly

Attention:

- The switch card assembly is electrostatic-discharge (ESD) sensitive. Use the tools and procedures defined by your organization to protect such parts. See also “Electrostatic Discharge” on page x.
- If the switch card assembly has been removed, and the 2104 receives a ‘Reset’ signal, or is switch off then on, the 2104 uses the default logical switch settings (see “Switch Card Assembly Switches” on page 9).

Notes:

1. Unless you have a particular reason to do so, do not switch off the using system or the 2104 when removing or installing the switch card assembly.
2. The diagrams in these instructions show a 2104 Model DU3. The procedure for a 2104 Model TU3 is the same, except that everything is turned through 90 degrees.

Step 1. Refer to Figure 46.

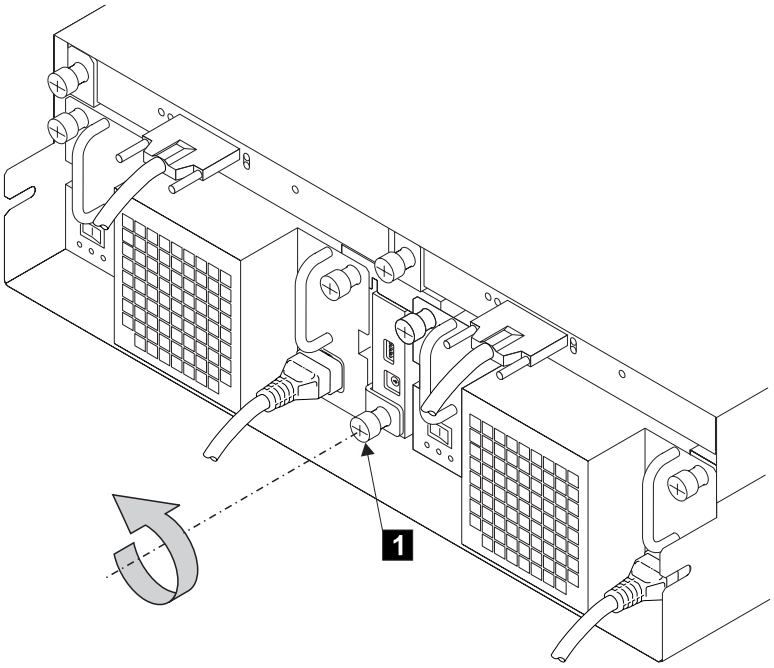


Figure 46. Unscrewing the Thumbscrew on the Switch Card Assembly

Step 2. Unscrew the thumbscrew **1** .

Step 3. Refer to Figure 47.

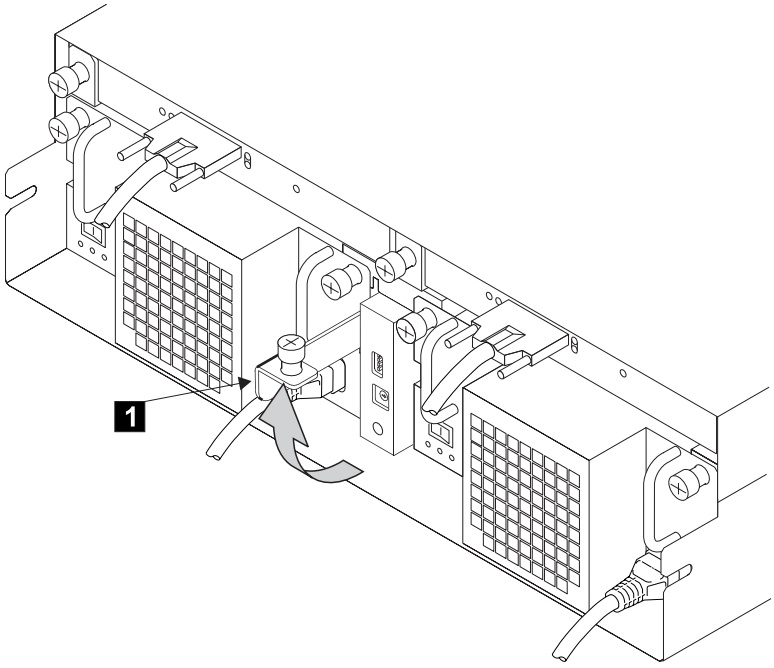


Figure 47. Opening the Lever on the Switch Card Assembly

Step 4. Pull the lever **1** upward. This action unplugs the switch card assembly from the backplane.

Note: If the 2104 is switched on and the TERM POWER light of each SCSI interface card assembly is off, the 2104 might switch off when you do this action.

Step 5. Refer to Figure 48.

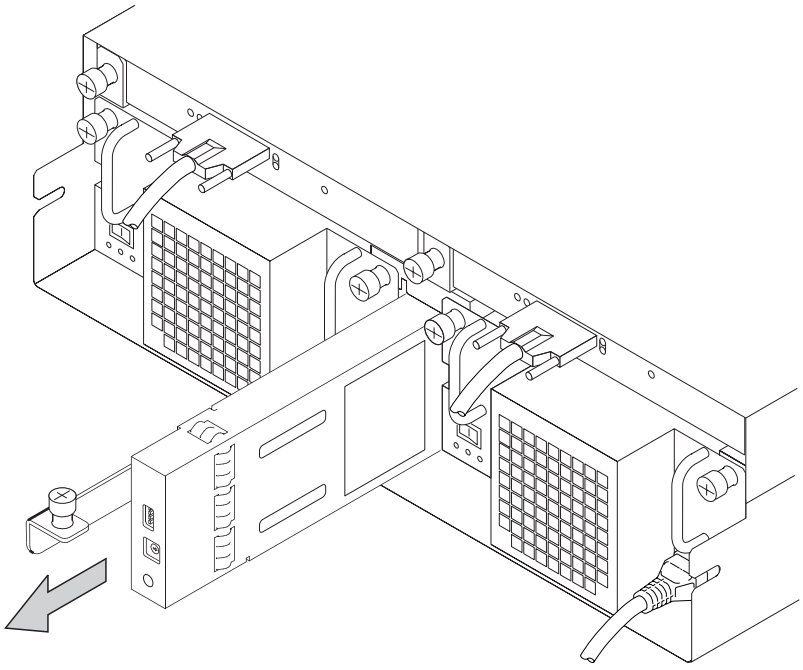


Figure 48. Removing the Switch Card Assembly

Step 6. Pull the switch card assembly out from the 2104.

Note: For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:
Do not insert hands or tools into the space that contained the switch card assembly.

Step 7. If you are installing a different switch card assembly, ensure that its switch settings match those of the original switch card assembly. (See also “Switch Card Assembly Switches” on page 9, if necessary.)

Step 8. Replace parts in the reverse sequence.

CAUTION:
As you push the assembly fully home, the lever automatically moves toward its closed position. Ensure that your fingers do not become pinched between the lever and the assembly.

Note: If the 2104 is switched off, it might switch on when you reinstall the switch card assembly.

Step 9. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Frame Assembly

Notes:

1. ***Use this procedure only if you are exchanging the frame of the 2104***. If you are removing a complete 2104 Model DU3 from the rack (for example, to locate it elsewhere), go to “Removing a 2104 Model DU3 from a Rack” on page 111.
2. You will need another person to help you remove the frame from the rack.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1. Verify with the customer that all operations between the 2104 and the using system have been stopped.

Step 2. Remove power from the 2104 (see “All Power” on page 69).

Step 3. For the 2104 Model TU3, open the front cover (see “Cover” on page 66).

Step 4. Carefully make a note of the locations of the disk drive modules and (if present) dummy disk drive modules that are in the 2104. This action ensures that you reinstall the modules into their original slots. It is recommended that you attach identifying labels to the modules.

Step 5. Remove all the disk drive modules and dummy disk drive modules (see “Removing a Module” on page 72).

Step 6. Remove the SCSI bus bridge card assembly (see “SCSI Bus Bridge Card Assembly” on page 81).

Step 7. Remove the fan-and-power-supply assemblies, or fan assembly and fan-and-power-supply assembly, from the back of the 2104 (see “Fan-and-Power-Supply Assemblies” on page 85 and, if required, “Fan Assembly” on page 90).

Step 8. Remove the switch card assembly (see “Switch Card Assembly” on page 98).

Step 9. Make a note of which SCSI cable (if present) is connected to each particular SCSI interface card.

Step 10. Disconnect the external SCSI cables (if present) from the SCSI interface cards.

Step 11. **Attention:** In the new frame assembly, each SCSI interface card assembly must occupy the position that it occupied in the original frame assembly.

Make a note of the positions of the SCSI interface card assemblies before you remove them. Attach labels if necessary.

Step 12. Remove the SCSI interface card assemblies (see “SCSI Interface Card Assembly” on page 93).

Step 13. If you are removing the frame assembly of a 2104 Model DU3, go to “2104 Model DU3” on page 103.

If you are removing the frame assembly of a 2104 Model TU3, go to “2104 Model TU3” on page 108.

2104 Model DU3

Note: For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:

- **The stabilizer must be correctly attached to the bottom front of the rack to prevent the rack from tipping forward while the units are being removed from the rack. Do not pull out or install any unit if the stabilizer is not attached to the rack.**
- **If the 2104 is installed in a Model T00 or T42 rack, you must also observe the safety notices for those racks before you start to remove the frame assembly. You can find the safety notices in the System Installation chapter of the** *7014 Model T00 and T42 Rack Installation and Service Guide,* **SA38-0577, or at the following Web site:**

  http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380577.pdf

Step 1. Refer to Figure 49

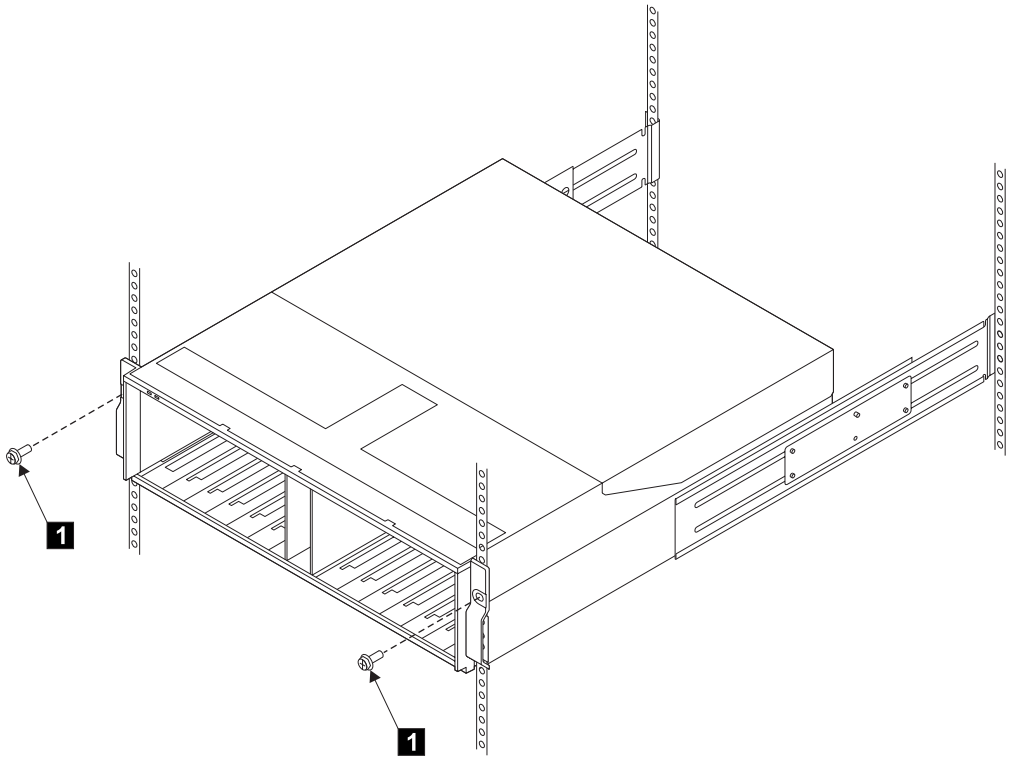


Figure 49. Removing the Front Mounting Screws

Step 2. Remove the two front mounting screws **1** .

Step 3. Refer to Figure 50

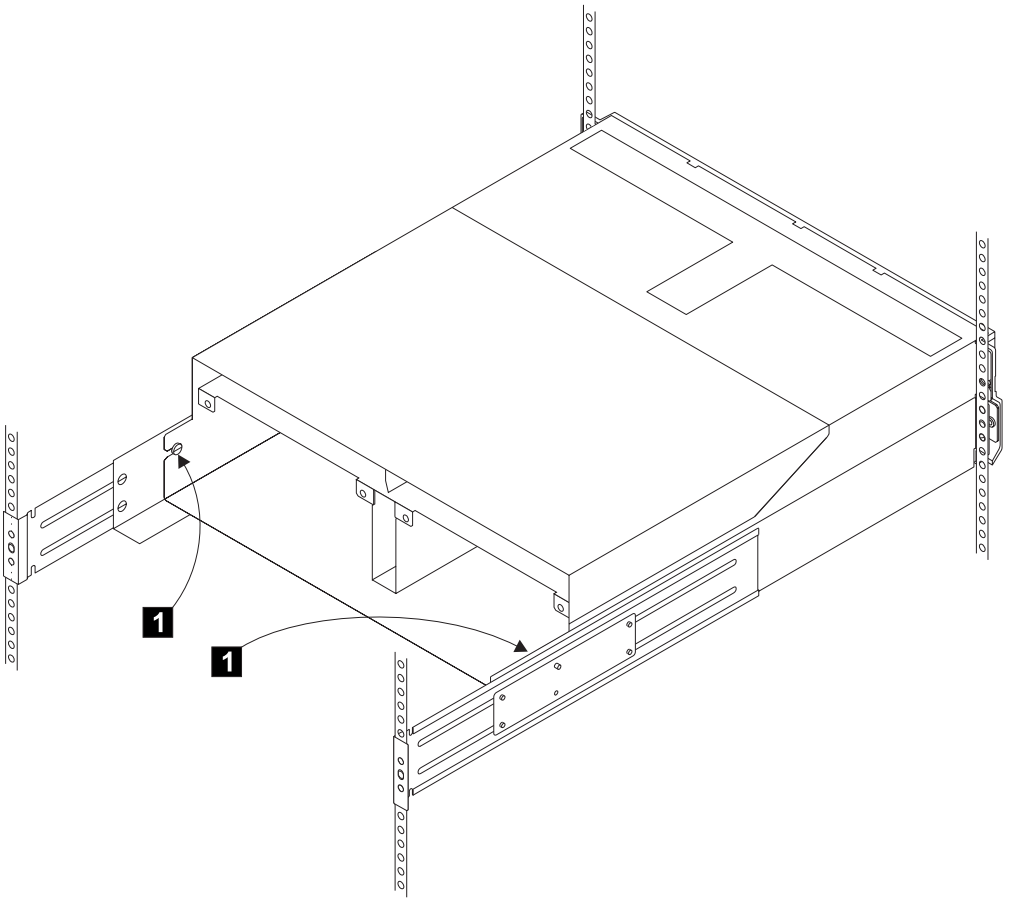


Figure 50. Loosening the Back Mounting Screws

Step 4. At the back of the 2104, loosen the two back mounting screws **1**.

Step 5. Refer to Figure 51.

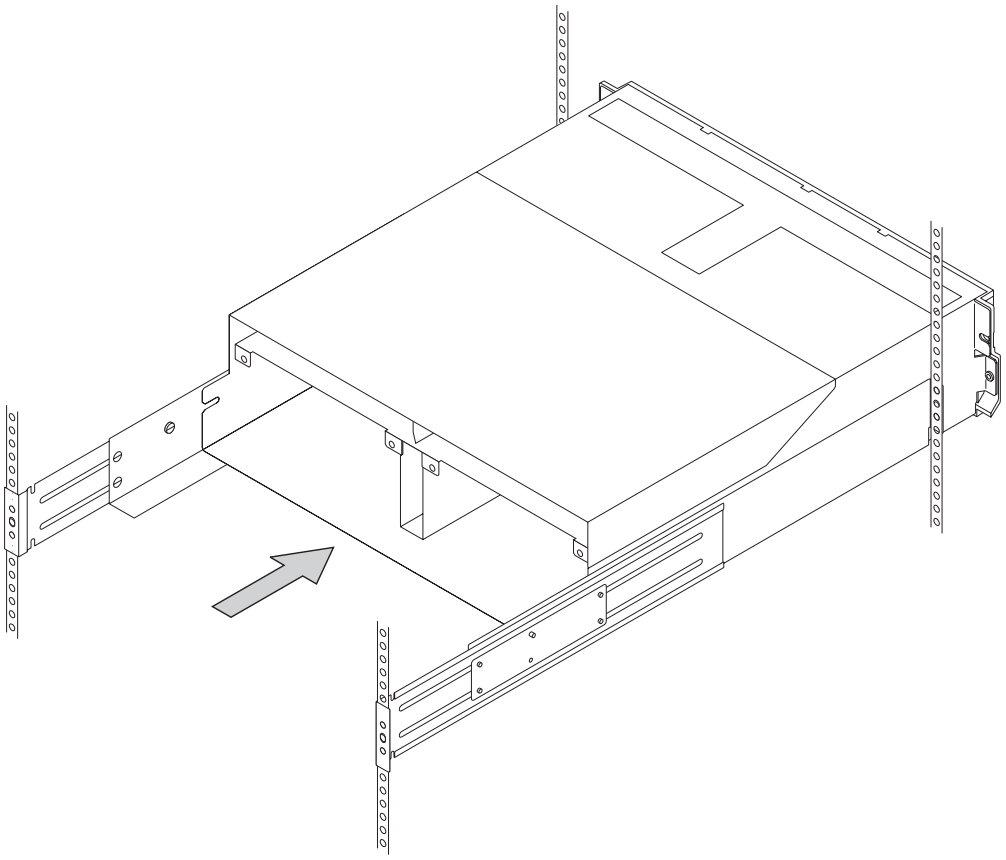


Figure 51. Pushing the Frame Assembly Forward

Step 6. **Attention:** Do not push the frame assembly too far forward.
Push the frame assembly forward approximately 5 cm (2 in.).

Step 7. Refer to Figure 52.

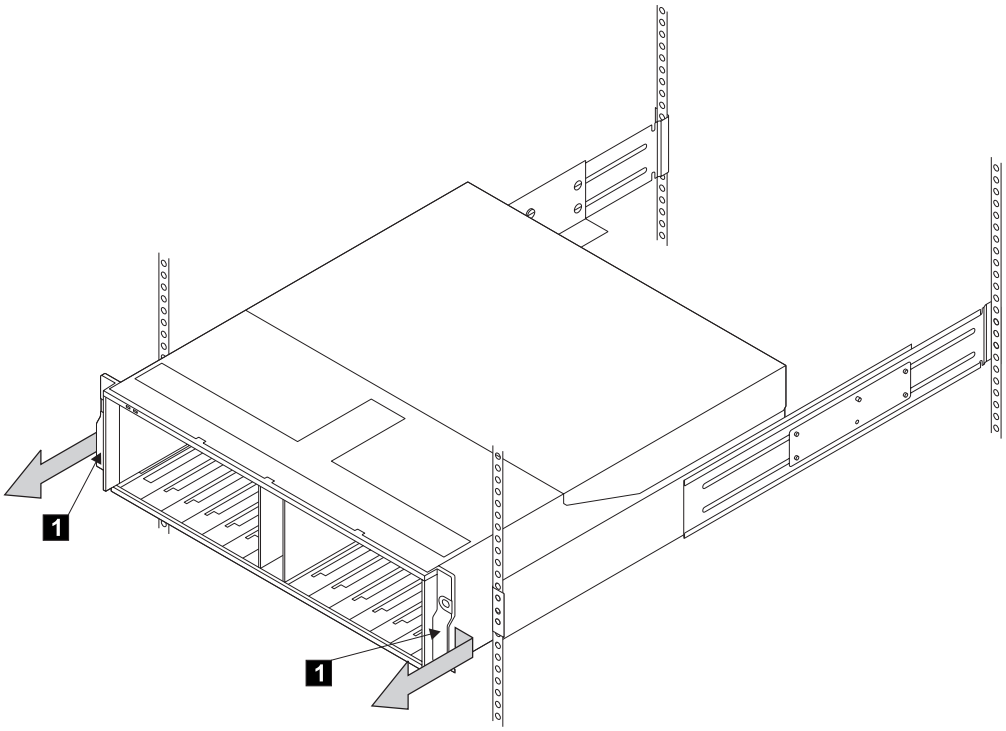


Figure 52. Removing the Frame Assembly from the Rack

Step 8. Go to the front of the rack.

Step 9. **Note:** For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:
Do not attempt to lift the 2104 by yourself. Ask another person for aid.

Attention: When you remove the frame assembly from the rack, ensure that you pull the ***metal*** brackets **1** that are behind the plastic bezel. ***Do not pull the bezel***: it will break.

With aid from another person, pull the frame assembly forward and remove it from the rack.

Step 10. Replace parts in the reverse sequence.

Notes:

a. Ensure that, in the replacement frame assembly, each SCSI interface card assembly occupies the position that it occupied in the original frame assembly.

b. If you have installed a replacement frame assembly, attach the blank self-adhesive serial-number label that is supplied with the frame assembly. The new label must cover the original label (see “Labels” on page 21).

c. Write the serial number of the original frame assembly onto the blank label.

d. Destroy the serial number on the original frame assembly.

Step 11. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

2104 Model TU3

Step 1. Refer to Figure 53.

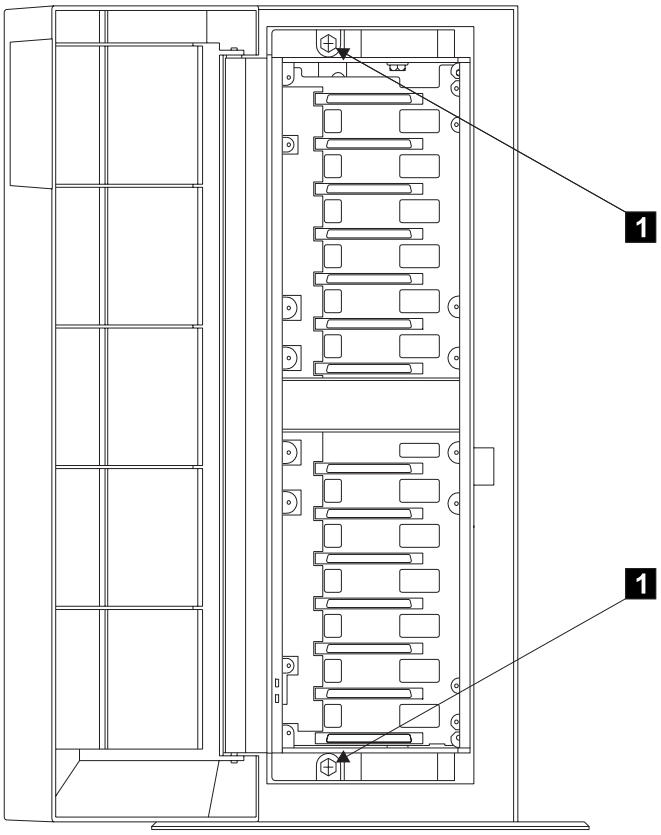


Figure 53. Removing the Frame from a 2104 Model TU3 (1)

Step 2. Remove the two front mounting screws **1** from the frame assembly.

Step 3. Refer to Figure 54.

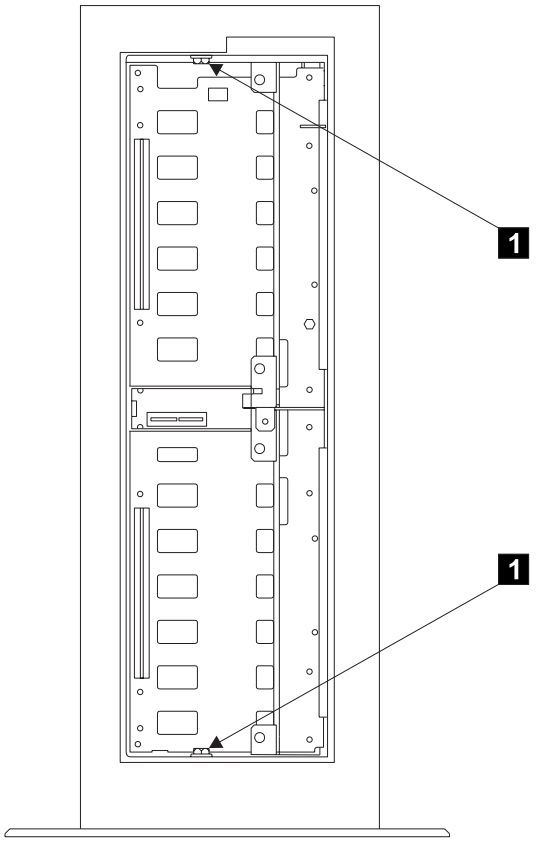


Figure 54. Removing the Frame from a 2104 Model TU3 (2)

Step 4. At the back of the 2104, loosen the two back mounting screws **1** .

Step 5. **Attention:** Do not push the frame assembly too far forward.

Push the frame assembly forward approximately 5 cm (2 in.).

Step 6. Go to the front of the 2104.

Step 7. **Note:** For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:
Do not attempt to lift the 2104 by yourself. Ask another person for aid.

Attention: When you remove the frame assembly from the deskside unit, ensure that you pull the ***metal*** brackets that are behind the plastic bezel (see Figure 52 on page 106). ***Do not pull the bezel***: it will break.

With aid from another person, pull the frame assembly forward and remove it from the deskside unit.

Step 8. Replace parts in the reverse sequence.

Notes:

a. Ensure that, in the replacement frame assembly, each SCSI interface card assembly occupies the position that it occupied in the original frame assembly.

b. If you have installed a replacement frame assembly, attach the blank self-adhesive serial-number label that is supplied with the frame assembly. The new label must cover the original label (see “Labels” on page 21).

c. Write the serial number of the original frame assembly onto the blank label.

d. Destroy the serial number on the original frame assembly.

Step 9. Go to “MAP 2410: 2104 – Repair Verification” on page 64 to verify the repair.

Removing a 2104 Model DU3 from a Rack

Notes:

1. ***Use this procedure only if you are removing a complete 2104 Model DU3 from the rack (for example, to locate it elsewhere)***. If you are exchanging the frame of the 2104, go to “Frame Assembly” on page 102.
2. You will need another person to help you remove the 2104 from the rack.

Attention: Unless the using system needs to be switched off for some other reason, do not switch off the using system when servicing the 2104. Power cables and external SCSI cables that connect the 2104 to the using system can be disconnected while that system is running.

Step 1. If not already done:

a. Verify with the customer that all operations between the 2104 and the using system have been stopped.

b. If applicable, unconfigure the 2104 from the using system. For more information, see “Unconfiguring a 2104 from the Using System-AIX systems only” in “Appendix A, “Additional Information for RISC Systems””.

c. Make a note of the positions of the external SCSI cables that are connected at the back of the 2104.

d. Disconnect the external SCSI cables from the back of the 2104.

e. Remove all power from the 2104 (see “All Power” on page 69).

Step 2. **Note:** For a translation of the following notice, see Appendix D, “Translated Safety Notices”, on page 169.

CAUTION:

- **The stabilizer must be correctly attached to the bottom front of the rack to prevent the rack from tipping forward while the units are being removed from the rack. Do not pull out or install any unit if the stabilizer is not attached to the rack.**
- **If the 2104 is installed in a Model T00 or T42 rack, you must also observe the safety notices for those racks before you start to remove the 2104. You can find the safety notices in the System Installation chapter of the** *7014 Model T00 and T42 Rack Installation and Service Guide,* **SA38-0577, or at the following Web site:**

  http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380577.pdf
- **A 2104 Model DU3 weighs up to 38.5 kg (85 lb) with disk drive modules installed. Do not attempt to remove the 2104 from the rack unless all the disk drive modules have been removed.**

You are now going to remove all the disk drive modules and (if present) dummy disk drive modules from the 2104. If the 2104 is to be used later with its disk drive modules configured as they are now, carefully make a note of the locations of the disk drive modules and dummy disk drive modules before you start to remove them. This action ensures that you reinstall the modules into their original slots. It is recommended that you attach identifying labels to the modules.

Step 3. Remove the all the disk drive modules (see “Disk Drive Modules and Dummy Disk Drive Modules” on page 72).

Step 4. Refer to Figure 55 on page 112

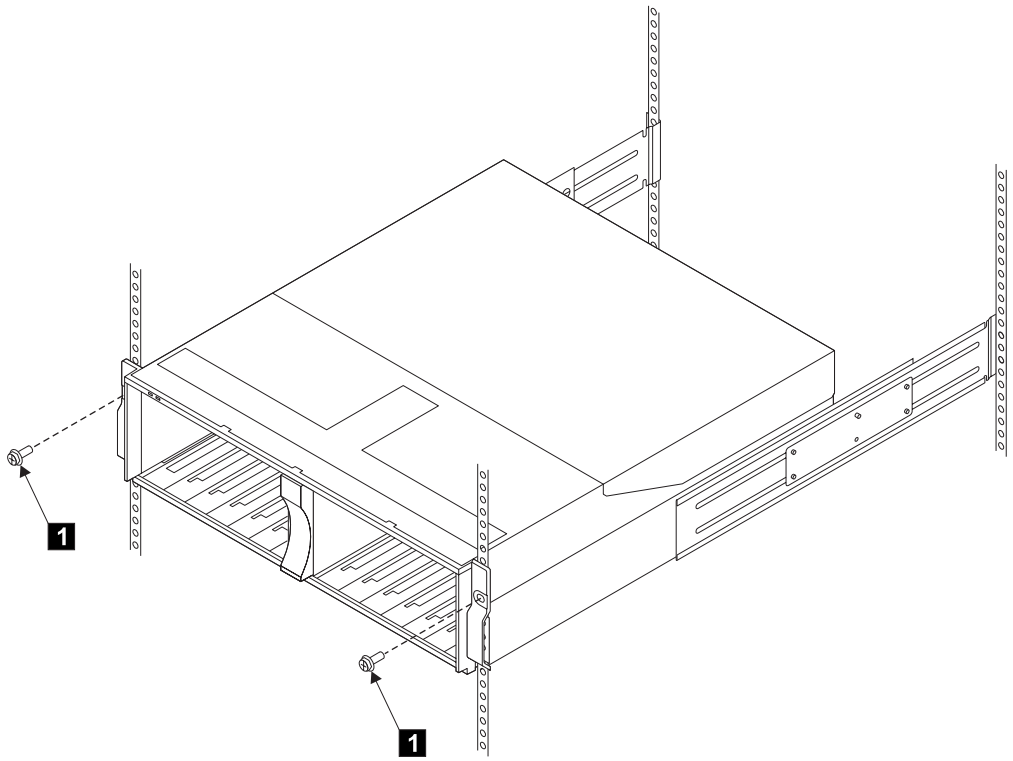


Figure 55. Removing the Front Mounting Screws

Step 5. Remove the two front mounting screws **1**.

Step 6. Refer to Figure 56

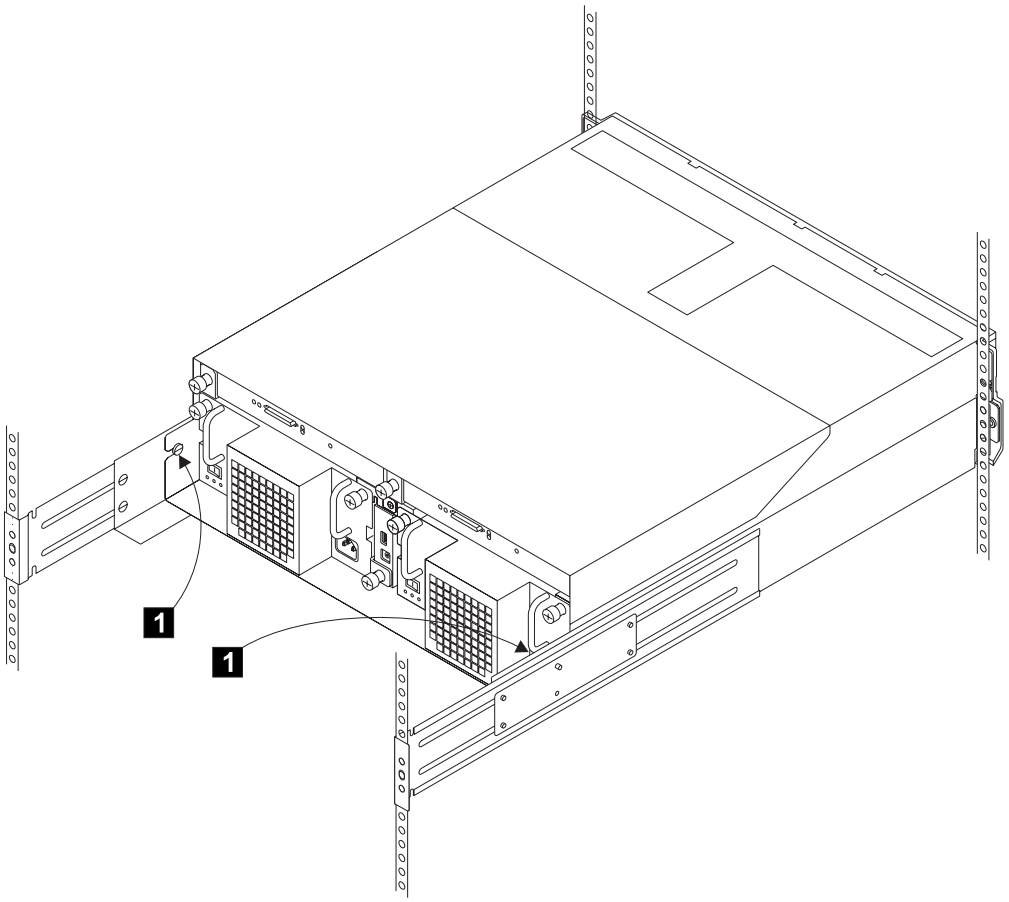


Figure 56. Loosening the Back Mounting Screws

Step 7. At the back of the 2104, loosen the two back mounting screws **1**.

Step 8. Refer to Figure 57.

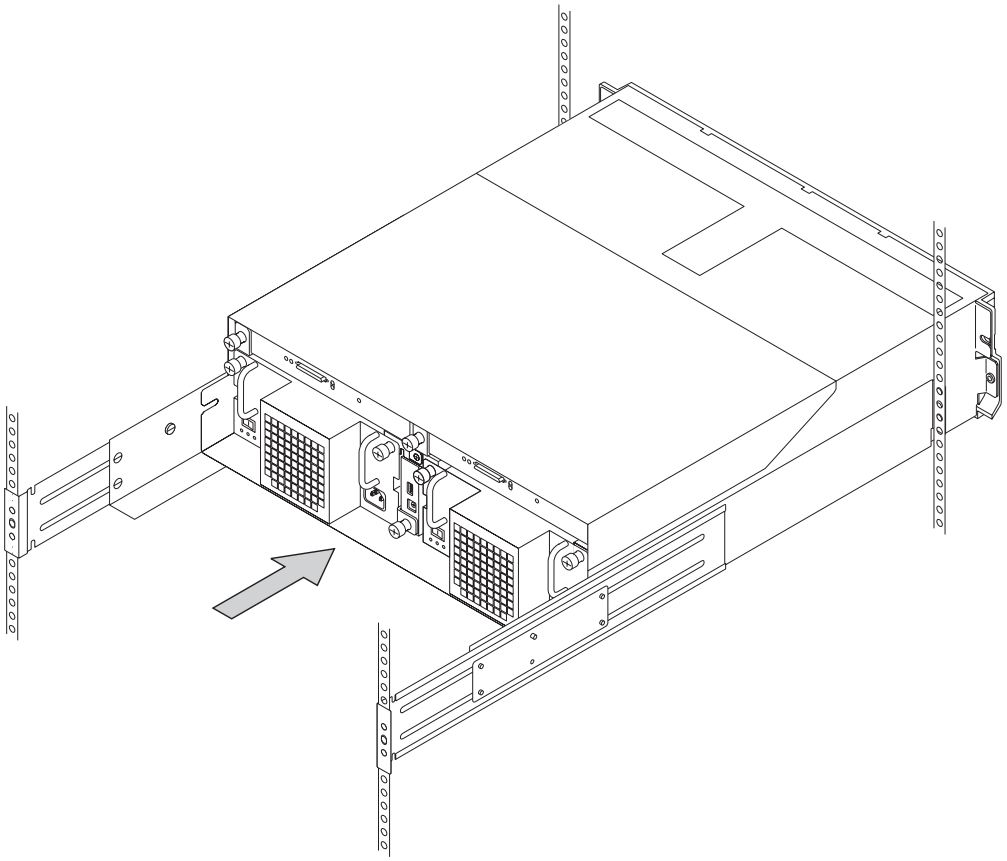


Figure 57. Pushing the 2104 Model DU3 Forward

Step 9. **Attention:** Do not push the 2104 too far forward.
Push the 2104 forward approximately 5 cm (2 in.).

Step 10. Refer to Figure 58.

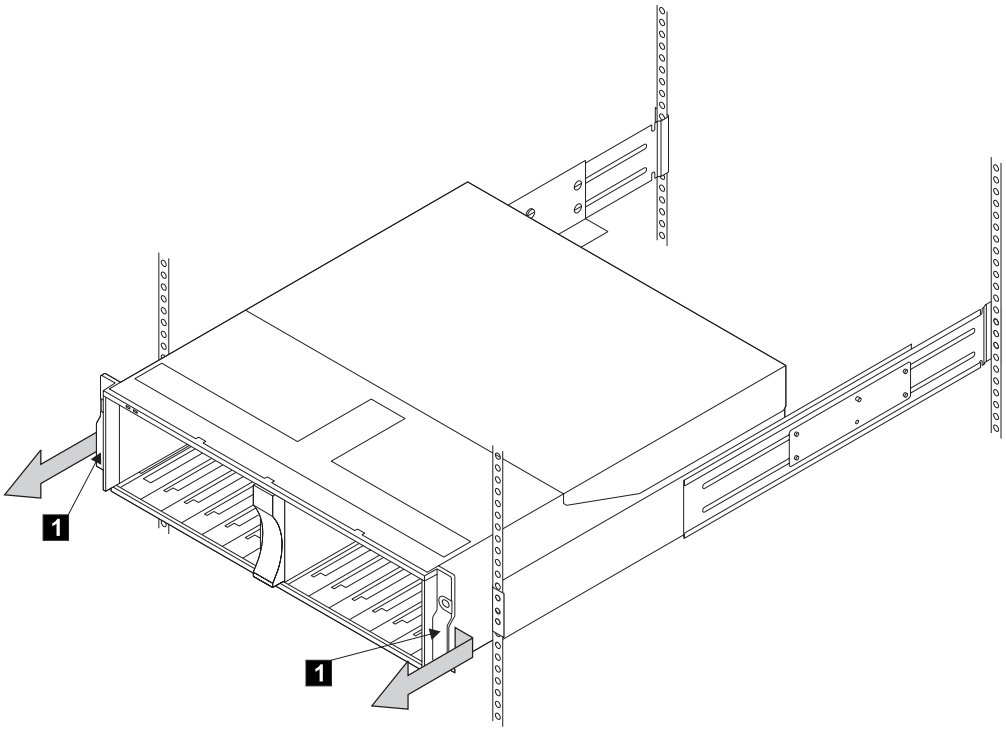


Figure 58. Removing the 2104 Model DU3 from the Rack

Step 11. Go to the front of the rack.

Step 12. **Note:** For a translation of the following notice, see Appendix D, "Translated Safety Notices", on page 169.

CAUTION:

- **Do not attempt to lift the 2104 by yourself. Ask another person for aid.**
- **Do not use the handles of the fan or fan-and-power-supply assemblies to carry the 2104. These handles are not intended to support the weight of the unit.**

Attention: When you remove the 2104 from the rack, ensure that you pull the ***metal*** brackets **1** that are behind the plastic bezel. ***Do not pull the bezel***: it will break.

With aid from another person, pull the 2104 forward and remove it from the rack.

Step 13. Reinstall the 2104 in the reverse sequence.

Step 14. Go to "MAP 2410: 2104 – Repair Verification" on page 64 to verify the repair.

Support Rails

Step 1. Refer to Figure 59.

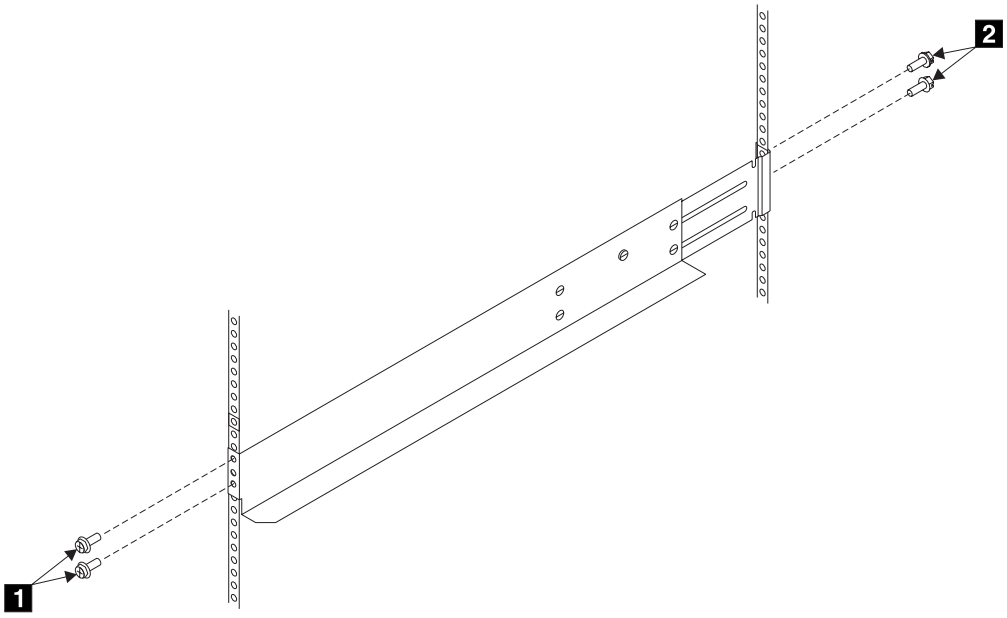


Figure 59. Removing the Support Rails from the Rack

Step 2. To remove the support rails, remove the screws **1** and **2**, then remove the rails.

Step 3. If you need to reinstall the support rails (for example, because you are relocating the 2104), or you need to install replacement rails, go to step 4.

Step 4. The 2104 Model DU3 is three EIA[1] units high. Using the preinstallation planning information, or other information supplied by the customer, determine where you are going to locate the 2104 in the rack.

Step 5. Refer to the EIA markings on the rack and decide where you are going to install the support rails. If appropriate, allow for possible future installation of other subsystems.

Step 6. For each support rail:

a. Refer to Figure 60.

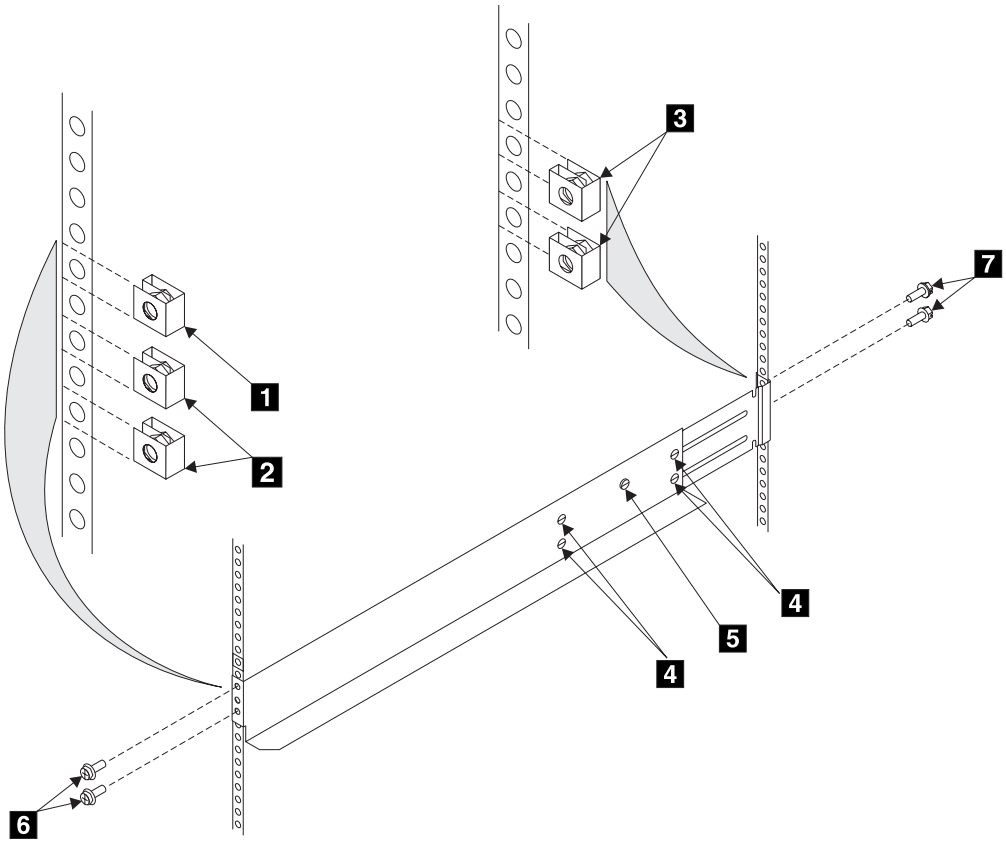


Figure 60. Installing the Support Rails into a Rack

b. Attach nut clips **2** at the selected holes in the front of the rack. These nut clips must align with the upper and lower holes in the support rail.

c. Count two holes upward from the upper nut clip and attach a nut clip **1** .

d. At the back of the rack, install two nut clips **3** at the selected holes.

e. If necessary, loosen the four adjustment screws **4** and the back mounting screw **5** so that you can adjust the length of the support rail.

1. Electronics Industries Association.

f. At the front of the rack, locate the support rail so that its mounting lug is ***outside*** the nut clips **2** .

g. Insert the rail screws **6** through the holes in the lug and into the nut clips.

h. Partially tighten the screws.

i. At the back of the rack, locate the support rail so that its mounting lug is ***outside*** the nut clips **3** .

j. Insert the rail screws **7** through the holes in the lug and into the nut clips.

k. Partially tighten the screws.

l. Check whether the support rail is horizontal (a spirit level might be useful here). If the rail is not horizontal, relocate it as necessary.

m. Fully tighten the front and back rail screws.

n. Fully tighten the four adjustment screws **4** . Do not tighten the back mounting screw **5** . The screw must be loose to allow the installation of the 2104.

Chapter 4. Parts Catalog

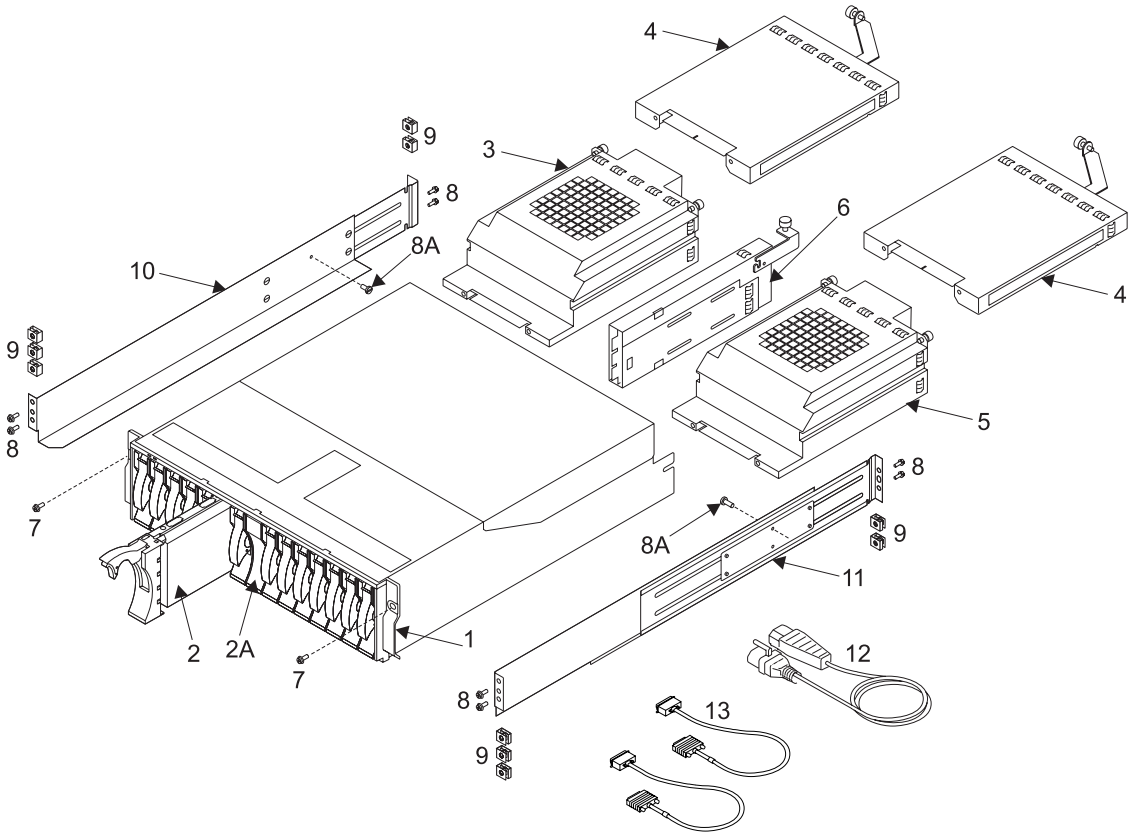
Are You Using the Correct Book? *Do not use this book if you are servicing a 2104 Model DL1 or TL1.* For the correct book, see Related Publications in Appendix A, “Additional Information for RISC Systems”.

This parts catalog gives part numbers for the parts and FRUs of the 2104 Model DU3 and 2104 Model TU3.

Conventions

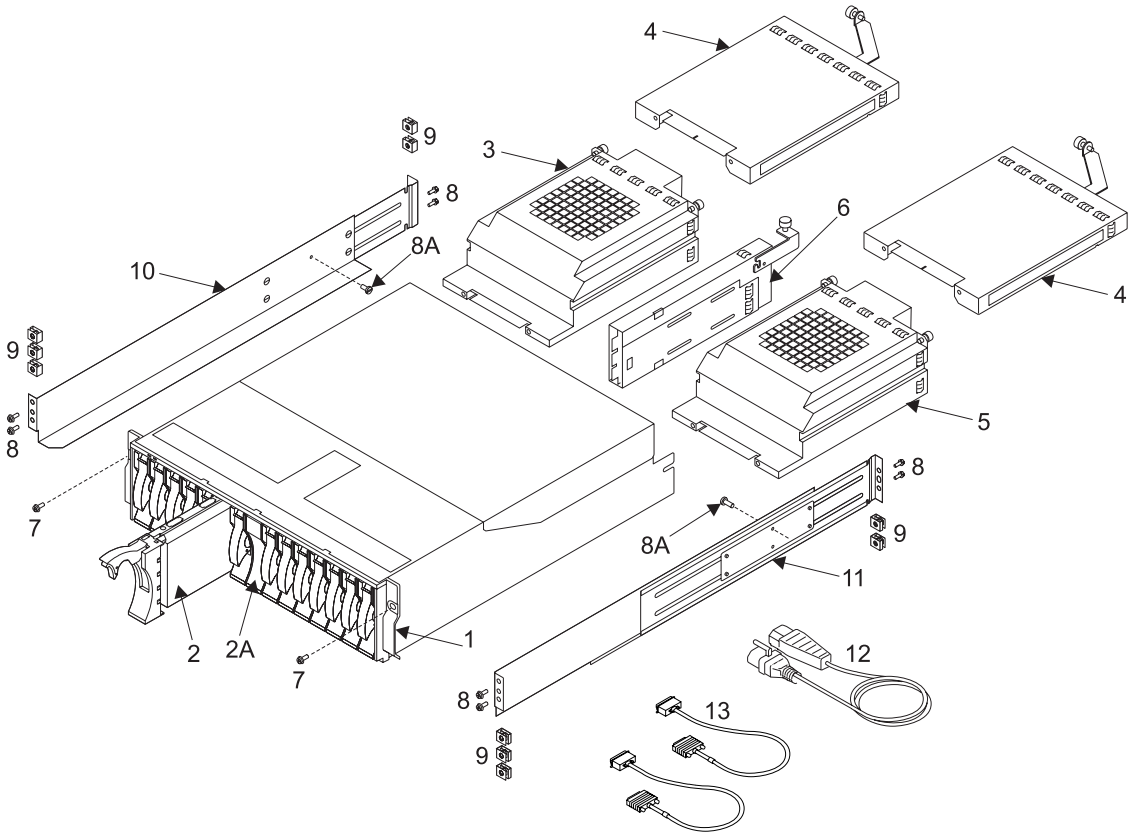
AR in the units column of the parts list denotes that the quantity used is as required.

Assembly 1: 2104 Model DU3



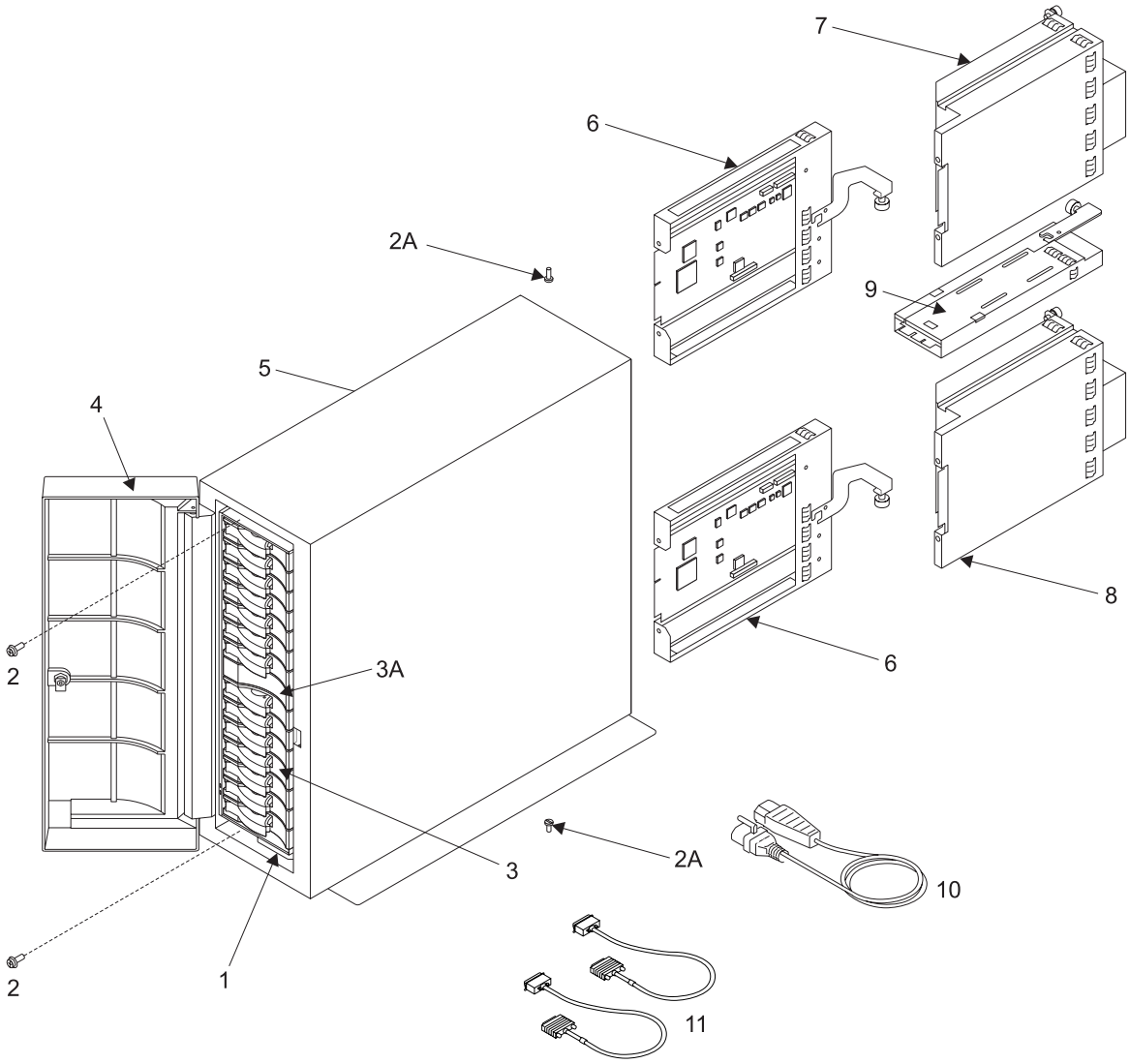
Asm–Index	Part Number	Units	Description
1–1	07K9480	1	Frame assembly (FRU kit, including foam baffle and labels)
–2	55P4063	AR	9.1 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	07K8180	AR	9.1 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4112	AR	9.1 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4068	AR	18.2 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	07K8181	AR	18.2 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4114	AR	18.2 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4073	AR	36.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	07K8182	AR	36.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4118	AR	36.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4098	AR	36.4 GB, 3.5-inch, SCSI disk drive module (15 000 rpm)
–2	07K8183	AR	73.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4122	AR	73.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4078	AR	73.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4103	AR	73.4 GB, 3.5-inch, SCSI disk drive module (15 000 rpm)
–2	55P4126	AR	146.8 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	55P4083	AR	146.8 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–2	00N7257	AR	Dummy disk drive module
–2A	07K8088	1	SCSI bus bridge card assembly
–3	07K8051	AR	Fan-and-power-supply assembly, 220 V ac/dc (for 2104s that have two fan-and-power-supply assemblies)
–3	07K7078	AR	Fan-and-power-supply assembly, −48 V dc (for 2104s that have two fan-and-power-supply assemblies)
–3	07K8085	AR	Fan assembly (for 2104s that have one fan-and-power-supply assembly)
–4	07K9398	AR	SCSI interface card assembly
–4	07K8050	AR	Dummy SCSI interface card assembly
–5	07K8051	1	Fan-and-power-supply assembly, 220 V ac/dc
–5	07K7078	1	Fan-and-power-supply assembly, −48V dc
–6	07K8087	1	Switch card assembly
–7	12J5289	2	Front mounting screw
–8	12J5289	8	Rail mounting screw
–8A	54G2882	2	Back mounting screw
–9	00N8709	10	Nut clip
–10	37L0042	1	Support rail, left, for full-height rack
–11	37L0043	1	Support rail, right, for full-height rack
–12	36L8886	2	Power cable

Assembly 1: (continued)



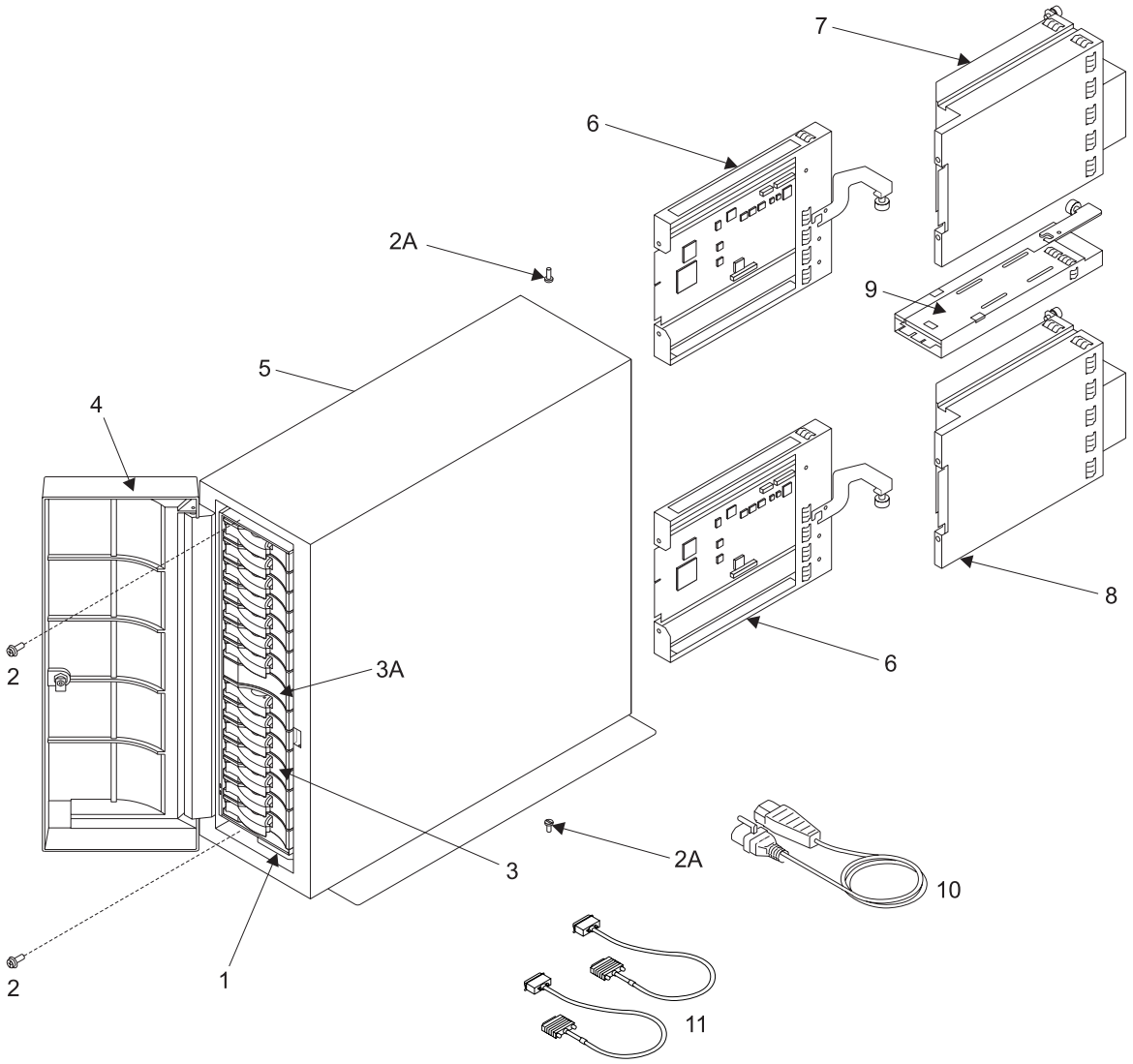
Asm–Index	Part Number	Units	Description
1–13	09L3299	AR	External SCSI copper cable, 1.0 m (3.3 ft), for 2104s attached to: •PCI Dual Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–13	09L3301	AR	External SCSI copper cable, 3.0 m (9.8 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–13	09L3303	AR	External SCSI copper cable, 5.0 m (16.4 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–13	09L3305	AR	External SCSI copper cable, 10.0 m (32.8 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, 2494)
–13	09L3307	AR	External SCSI copper cable, 20.0 m (65.6 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–13	09L3309	AR	External SCSI copper cable, 3.0 m (9.8 ft), for 2104s attached to: •PCI Single–Ended Ultra SCSI Adapter (type 4-K, feature 6206) •PCI SCSI–2 Single–Ended Fast/Wide Adapter (type 4_A, feature 6208)

Assembly 2: 2104 Model TU3



Asm–Index	Part Number	Units	Description
2–1	07K9480	1	Frame assembly (FRU kit, including foam baffle and labels)
–2	12J5289	2	Front mounting screw
–2A	54G2882	2	Back mounting screw
–3	55P4063	AR	9.1 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	07K8180	AR	9.1 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4112	AR	9.1 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4068	AR	18.2 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	07K8181	AR	18.2 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4114	AR	18.2 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4073	AR	36.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	07K8182	AR	36.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4118	AR	36.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4098	AR	36.4 GB, 3.5-inch, SCSI disk drive module (15 000 rpm)
–3	07K8183	AR	73.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4122	AR	73.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4078	AR	73.4 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4103	AR	73.4 GB, 3.5-inch, SCSI disk drive module (15 000 rpm)
–3	55P4126	AR	146.8 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	55P4083	AR	146.8 GB, 3.5-inch, SCSI disk drive module (10 000 rpm)
–3	00N7257	AR	Dummy disk drive module
–3A	07K8088	1	SCSI bus bridge card assembly
–4	09L3374	1	Front cover assembly
–5	09L3378	1	Complete set of covers **Note:** Covers are available only as a complete set, which consists of: •Top cover •Left-hand side cover •Right-hand side cover •Frame assembly •Foot
–6	07K9398	AR	SCSI interface card assembly
–6	07K8050	AR	Dummy SCSI interface card assembly
–7	07K8051	1	Fan-and-power-supply assembly, 220 V ac/dc
–8	07K8051	AR	Fan-and-power-supply assembly, 220 V ac/dc (for 2104s that have two fan-and-power-supply assemblies)
–8	07K8085	1	Fan assembly (for 2104s that have one fan-and-power-supply assembly)
–9	07K8087	1	Switch card assembly
–10	VARIOUS	2	Power cable. See “Country or Region Power Cables” on page 128.

Assembly 2: (continued)



Asm–Index	Part Number	Units	Description
2–11	09L3299	AR	External SCSI copper cable, 1.0 m (3.3 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–11	09L3301	AR	External SCSI copper cable, 3.0 m (9.8 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–11	09L3303	AR	External SCSI copper cable, 5.0 m (16.4 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–11	09L3305	AR	External SCSI copper cable, 10.0 m (32.8 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, 2494)
–11	09L3307	AR	External SCSI copper cable, 20.0 m (65.6 ft), for 2104s attached to: •PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) •PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203) •PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
–11	09L3309	AR	External SCSI copper cable, 3.0 m (9.8 ft), for 2104s attached to: •PCI Single–Ended Ultra SCSI Adapter (type 4-K, feature 6206) •PCI SCSI–2 Single–Ended Fast/Wide Adapter (type 4_A, feature 6208)

Country or Region Power Cables

Part	Description	Country or Region
6952301	Power Cord 125V, 10A, 1.8 m (6 ft)	U.S./Chicago
13F9997	Power Cord 250V, 10A, 2.8 m (9 ft)	Denmark
14F0087	Power Cord 250V, 10A, 2.8 m (9 ft)	Israel
14F0051	Power Cord 250V, 10A, 2.8 m (9 ft)	Switzerland
13F9940	Power Cord 250V, 10A, 2.8 m (9 ft)	Australia, New Zealand
36L8880	Power Cord 250V, 10A, 2.8 m (9 ft)	Uruguay, Argentina, Paraguay
6952300	Power Cord 125V, 10A, 2.8 m (9 ft) (Group 1)	United States, Canada, Celestica, Antigua, St. Lucia, St. Vincent, Dominica, Grenadines, Grenada, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Cayman Islands, Colombia, Costa Rica, Dominican Republic, El Salvador, Ecuador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, Peru, Suriname, Trinidad, Venezuela, Brazil, Japan, Korea, Nicaragua, Philippines, Taiwan, Vietnam, Albania, Eritrea, Saudi Arabia
13F9979	Power Cord 250V, 10A, 2.8 m (9 ft) (Group 2)	Afghanistan, Netherlands Antilles, China, French Polynesia, Guinea, Indonesia, Armenia, Latvia, Angola, Austria, Belgium, Luxembourg, Belarus, Bosnia, Botswana, Bulgaria, Camaroon, Central Africa Republic, Czech Republic, Congo, Egypt, Finland, France, Germany, Greece, Hungary, Iceland, Kazakhstan, Kyrgyzstan, Lebanon, Liberia, Macedonia, Mali, Mauritania, Moldavia, Morocco, Mozambique, Netherlands, Norway, Poland, Portugal, Romania, Rwanda, Sao Tome and Principe, Senegal, Serbia, Slovenia, Slovakia, Spain, Sudan, Swaziland, Sweden, Syria, Arab Republic, Tunisia, Turkey, Ukraine, Russia, Uzbekistan, Zaire, Zimbabwe, Burundi, Cape Verde Islands, Estonia, Lesotho, Liechtenstein, Republic of Djibouti

Part	Description	Country or Region
14F0033	Power Cord 250V, 10A, 2.8 m (9 ft) (Group 3)	Abu Dhabi, Brunei, Fiji, Hong Kong S.A.R.of China, Macao S.A.R. of China, Malaysia, Singapore, Bahrain, Cyprus, Gambia, Ghana, Iraq, Ireland, Jordan, Kenya, Kuwait, Malawi, Nepal, North Yemen, Nigeria, Oman, Qatar, Sierra Leone, Tanzania, Uganda, United Arab Emirates, United Kingdom, Zambia.
14F0015	Power Cord 250V, 10A, 2.8 m (9 ft) (Group 4)	Bangladesh, Myanmar, Sri Lanka, Pakistan, South Africa, India
14F0069	Power Cord 250V, 10A, 2.8 m (9 ft) (Group 5)	Chile, Ethiopia, Italy, Libya, Malta, Somalia.
1838574	Power Cord 250V, 10A, 2.8 m (9 ft) (Group 6)	Thailand
02K0546	Power Cord 250V, 6A, 2.8 m (9 ft)	Taiwan

Appendix A. Additional Information for RISC Systems

This appendix provides information that is specific to 2104s that are attached to RISC systems.

Related Publications

- *Diagnostic Information for Micro Channel Bus Systems,* SA38-0532
- *Diagnostic Information for Multiple Bus Systems,* SA38-0509
- *Site and Hardware Planning Information,* SA38-0508
- *Adapters, Devices, and Cable Information for Micro Channel Bus Systems,* SA38-0533
- *Adapters, Devices, and Cable Information for Multiple Bus Systems,* SA38-0516

Are You Using the Correct Book? *Do not use this book if you are servicing a 2104 Model DL1 or TL1.* For those models, use the *2104 Models DL1 and TL1: Service Guide,* GY33-0194.

Web Support Page

You can find the web support page at:

http://www.storage.ibm.com/disk/expplus

SCSI Adapters

The 2104 running AIX can be attached to any of these types of SCSI adapters:

- PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205)
- PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203)
- PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494)
- PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206)
- PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208)
- PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498)

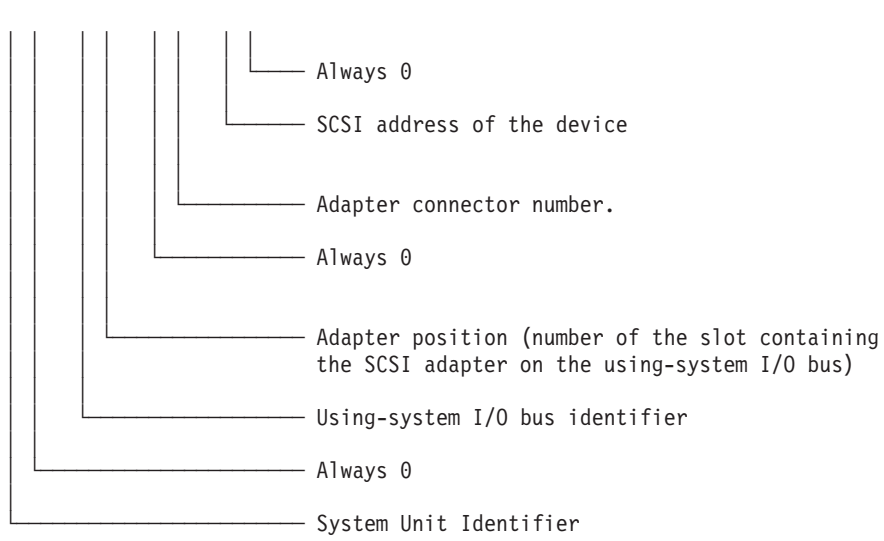
See also Appendix B, “Cable Configurations”, on page 143 for information about configurations with these adapters.

The 2104 running SuSE Linux Enterprise Server for pSeries can be attached to a PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203)

Location Code Format

Location codes identify the locations of adapters and devices in the using system and its attached subsystems and devices. These codes are displayed by the service aids, and when the diagnostic programs isolate a problem. For information about the location codes that are used by the using system, see the *Operator Guide* for the using system.

This section shows the location codes for the 2104.



Note: When the operating system is SuSE Linux Enterprise Server for pSeries, there are no SuSE Linux Enterprise Server for pSeries location codes but physical location codes might appear in the SuSE Linux Enterprise Server for pSeries error logs.

Linux Tools

Use the **lscfg** command to list all the resources that are available at start up. This information is also saved at each start up and you can use it to identify any missing resources.

To determine if any devices or adapters are missing, compare the list of found resources and partition assignments to the customer's known configuration. Record the location of any missing devices. You can also compare this list of found resources to a prior version of the device tree as the following example shows.

Every time that the partition is restarted, the update device tree command is run and the device tree is stored in the /var/lib/lsvpd/ directory in a file with the file name device tree YYYY-MM-DDHH:MM:SS, where YYYY is the year, MM is the month, DD is the day, and HH, MM, and SS are the hour, minute and second, respectively of the date of creation.

Enter the following command at the command line:

```
cd /var/lib/lsvpd/
```

then enter the following command:

```
lscfg -vpd device-tree-2003-03-31-12:26:31
```

This command displays the device tree that was created on 03/31/2003 at 12:26:31.

System Service Aids

If the 2104 is configured to the using system that is running AIX or a stand-alone AIX diagnostics from a CD, service aids are available on that using system to help you service the 2104. This section briefly describes some of those aids, and tells you how to use them. More details are given in the service information for the using system.

The service aids that are described here are:

- Format Media
- Certify Media
- SCSI Device Identification and Removal
- Download Microcode

For SuSE Linux Enterprise Server for pSeries operating systems, service aids are available only for stand-alone diagnostics.

Format Media

Attention: The Format Media service aid destroys all data on the disk.

To run this service aid:

1. Install the disk drive module (if not already installed) into the 2104.
2. Ensure that power is present in the 2104.
3. Go to the using system, select **Diagnostic Operating Instructions**, and follow the instructions to select the Function Selection menu.
4. Select **Task Selection**.
5. Select **Format Media**, and follow the instructions given.

   Note: You cannot start the Format Media service aid if I/O operations are running on the disk drive.

   Attention: Formatting the wrong disk drive might destroy valuable data.

   If you are not sure about the location code for the disk-drive module that you want to format, see “Location Code Format” on page 133 for an explanation of the codes.

The Format Media service aid can take up to 15 minutes to run. If it completes successfully, run the Certify Media service aid before the disk drive module is used.

Certify Media

The Certify Media service aid checks the disk for defective sectors. Before running Certify Media, ensure that the diagnostics can run in System Verification mode without errors to the disk drive module.

To run this service aid:

1. Go to the using system, select **Diagnostic Operating Instructions**, and follow the instructions to select the Function Selection menu.
2. Select **Task Selection**.
3. Select **Certify Media**, and follow the instructions given.

The Certify service aid takes approximately 10 minutes to run.

SCSI Device Identification and Removal

This section gives information on how to run the service aid for System Diagnostics for level 4.3.3.10 and above and level 4.3.3.10 and below.

System Diagnostics level 4.3.3.10 and above (filesets bos.diag.com, bos.diag.rte, and bos.diag.util)

To run this service aid if your System Diagnostics level is 4.3.3.10 and above, perform the following steps:

1. At the command line of the using system, type diag and press enter. Follow the instructions to go to the Functions Selection menu.
2. Select **Task Selection**.
3. Select **Hot Plug Task**.
4. Select the items from the list that displays.

   If a 2104 is connected to a RAID adapter, select **RAID Hot Plug Devices**. If it is connected to a non-RAID adapter, select **SCSI Hot Swap Manager**.

   In case of a RAID adapter:

   a. Select the resource from the list that displays in **RAID Hot Plug Devices**.
   b. From the menu that displays, select the state physical disk that it should be set to:
      - Normal
      - Identify
      - Remove

   In case of a non-RAID adapter:

   a. From the menu that displays, you can perform the following operations on devices that are attached to SCSI Hot Swap Enclosure devices. Make your selection and press Enter to continue.
      - List Hot Swap Enclosure Devices.

        This selection lists all SCSI hot swap slots and their contents.
      - Identify a Device Attached to a SCSI Hot Swap Enclosure Device.

        This selection sets the Identify indication.
      - Attach a Device to a SCSI Hot Swap Enclosure Device.

        This selection sets the Add indication and prepares the slot for the insertion of a device.
      - Replace/Remove a Device Attached to a SCSI Hot Swap Enclosure Device.

        This selection sets the Remove indication and prepares the device for removal.
      - Configure Added/Replaced Devices.

        This selection runs the configuration manager on the parent adapter where devices have been added or replaced.

System Diagnostics level earlier than 4.3.3.10 (filesets bos.diag.com, bos.diag.rte, and bos.diag.util)

To run this service aid if your System Diagnostics level is earlier than 4.3.3.10, perform the following steps:

1. At the command line of the using system, type diag and press enter. Follow the instructions to go to the Functions Selection menu.
2. Select **Task Selection**.
3. Select **Identify and Remove Resource**.
4. Select the device (enclosure or disk drive) from the list that displays.
5. Select the slot from the list that displays.
6. From the menu that displays, you can choose the following options:
   a. Set a disk drive module to **Identify**.

      The Check light of the selected disk drive module flashes so that you can physically identify that module. The Identify function does not affect the operation of the disk drive module.

   b. Set a disk drive module to **Remove**

      The Check light of the selected disk drive module comes on and remains on continuously so that you can physically identify the module that you are going to remove. The light goes off when the disk drive module is removed. The Remove function does not affect the operation of the disk drive module until that module is removed.

   c. Set a disk drive slot to **Insert**.

      The Check light at the back of the slot (on the backplane) comes on and remains on continuously so that you can physically identify the slot into which you are going to install a disk drive module.

   d. Set a disk drive module or slot to Normal.

      The Check light of the disk drive module, or slot, goes off.

Download Microcode to a Disk Drive or to a SCSI Interface Card

The procedure for downloading microcode is similar for disk drives and for SCSI interface cards. For some configurations, additional actions are needed for SCSI interface cards (see also “Microcode Maintenance” on page 27).

Downloading to Disk Drives

1. Go to the using system, select **Diagnostic Operating Instructions**, and follow the instructions to select the Function Selection menu.
2. Select **Task Selection**.
3. Select the **Download Microcode**.
4. Select **Device**, and follow the instructions given.

Downloading to SCSI Interface Cards

Do the actions given in Table 2.

Table 2. How to Download Microcode to a SCSI Interface Card

Configuration	Action
One SCSI interface card.	Download as described in Downloading to Disk Drives.

Table 2. How to Download Microcode to a SCSI Interface Card (continued)

Configuration	Action
Two SCSI interface cards, but only one is connected to a SCSI attachment.	1. Download as described in Downloading to Disk Drives. 2. Stop all I/O to the disk drive modules that are in this enclosure. 3. Swap the SCSI cable to the other SCSI interface card 4. Download as described in Downloading to Disk Drives.
Two SCSI interface cards. Both are connected to SCSI attachments (AIX ™version 4.3.3).	1. Download to one SCSI interface card as described in Downloading to Disk Drives. 2. Download to the other SCSI interface card as described in Downloading to Disk Drives.
Two SCSI interface cards. Both are connected to SCSI attachments (AIX version above 4.3.3).	Download as described in Downloading to Disk Drives.

If you want to check whether the microcode has downloaded successfully select, from the AIX Diagnostics Functions, **Display Hardware Vital Product Data** to display the existing microcode level (ROS Level and ID).

Software and Microcode Errors

Some failures might be caused by software errors or by microcode errors. If you think you have a software or microcode error:

1. Ensure that your system software, adapter microcode, disk drive microcode, and enclosure microcode are all at the latest levels. Information about the latest levels of software and microcode is given on the web support page (see “Web Support Page” on page 131).
2. Make a note of all failure indicators: for example, the contents of error logs, or physical symptoms.
3. For AIX Versions 4.2 and above, run the **snap -g** command to collect system configuration data, and to dump data.

   For AIX versions below 4.2, go to the using-system service aids and select **Display Vital Product Data** to display the VPD of the failing system. Make a note of the VPD for all the SCSI adapters and disk drives.
4. Report the problem to your support center. The center can tell you whether you have a known problem, and can, if necessary, provide you with a correction for the software or microcode.

Diagnostics Information

Diagnostics are only available on systems that are running AIX or stand-alone AIX diagnostics from a CD. SuSE Linux Enterprise Server for pSeries users must use AIX stand-alone diagnostics.

Note: If you were sent here from other instructions, return to those instructions when you have finished running the diagnostics.

Concurrent Diagnostics

When the instructions tell you to run concurrent diagnostics, run diagnostics (***not Advanced Diagnostics***) in System Verification mode (see the using-system *Installation and Service Guide*).

Nonconcurrent diagnostics

When the instructions tell you to run nonconcurrent diagnostics, run Advanced Diagnostics in System Verification mode (see the using-system *Installation and Service Guide*).

Problems Corrected

Run Advanced Diagnostics in System Verification mode ***only to the device that you have just repaired.*** You can then enter information to prevent the generation of another SRN for the problem that you have just solved. If you do not enter that information, the errors that were previously logged for your problem might generate another SRN.

Collecting Errors

Note: Collecting of errors through the cron job is only available on systems that are running AIX.

To collect enclosure errors, add this cron job SES Healthcheck to the system cron table.

Note: You must have root permissions to complete this procedure.

Edit the system crons with the **crontab -e** command. At the bottom of the file, enter:

```
15 * * * * /usr/lpp/diagnostics/bin/run_ses_healthcheck 1> /dev/null 2> /dev/null
```

For more information about the **crontab** command, see the Web site at:

http://publib16.boulder.ibm.com/pseries/en_US/cmds/aixcmds1/crontab.htm

This cron runs at 15 minutes after each hour, and sends mail to the “root user” with details of any errors that are present in the enclosure. It also presents a console message that indicates which enclosure has a problem.

The cron requires a script. To create this script, generate a file named run_ses_healthcheck in directory /usr/lpp/diagnostics/bin. The contents of the file must be:

```
#!/bin/ksh
#Name: run_ses_healthcheck
#Location: /usr/lpp/diagnostics/bin
#Function: SCSI SES hourly healthcheck
for i in `lsdev -Cc container -t ses -s scsi -F name -S available`

do
  diag -cd $i > /dev/null
  if [ $? -ne 0 ]
  then
   /usr/lpp/diagnostics/bin/diagrpt -o > /tmp/ses.health.output
   # you may want to process the output prior to placing it in
   # a file.
   # somehow notify the user of the error. A sample is shown
   # below.
   mail -s '2104 Health Check' root < /tmp/ses.health.output
       rm /tmp/ses.health.output
         fi
 done
```

Give the following command so that the script can be run:

```
chmod 544 /usr/lpp/diagnostics/bin/run_ses_healthcheck
```

Configuring a Disk Drive Module to the Using System-AIX systems only

If you have just installed a new disk drive module, and want to change the hdisk number, perform the following steps:

1. Remove the new hdisk number by giving the command:

   ```
   rmdev -l [hdisknumber] -d
   ```

   where [hdisknumber] is the hdisk number that you want to remove (for example, hdisk12).
2. Remove the definition of the *original* hdisk by giving the command:

   ```
   rmdev -l [hdisknumber] -d
   ```

   where [hdisknumber] is the hdisk number of the original disk drive module (for example, hdisk7).
3. Run the **cfgmgr** command.

Configuring a 2104 to the Using System-AIX systems only

Use the **cfgmgr** command to configure or reconfigure a 2104 to the using system.

Unconfiguring a 2104 from the Using System-AIX systems only

To remove a 2104 from the using system, give the following command:

```
rmdev -l [enclosurenumber] -d
```

where [enclosurenumber] is the enclosure device that was generated by the **cfgmgr** command (for example, [ses0], [ses1], [ses2]).

Configuring a 2104 in a SuSE Linux Enterprise Server for pSeries environment

In general, SuSE Linux Enterprise Server for pSeries systems are automatically configured during initial start up or restart up. See the SuSE Linux Enterprise Server for pSeries documentation for more information.

Appendix B. Cable Configurations

This appendix shows examples of cable configurations for the 2104 Model DU3 or TU3. Some of the configurations are valid for all the adapters that the 2104 Model DU3 or TU3 supports; others are valid only for particular types of adapters or operating systems. Also shown are configurations that are not valid. Do not use any configuration that is shown as not valid; unexpected results might occur.

AIX Versions

These configurations support AIX versions 4.2.1 and 4.3.3. These versions of AIX require PTFs, which are available on the support Web site:

http://techsupport.services.ibm.com/server/support?view=pSeries

Adapter Microcode

Adapter microcode is available on this webpage:

http://techsupport.services.ibm.com/server/mdownload/download.html

Versions of SuSE Linux Enterprise Server for pSeries

SuSE Linux Enterprise Server 8 is presently the only supported version of SuSE Linux Enterprise Server for pSeries.

Configurations That Are Valid for 2104 Models DU3 and TU3

Only point-to-point connections are allowed between the SCSI interface card assemblies of a 2104 and either a SCSI adapter, or an integrated SCSI port that is in the using system.

A 2104 Model DU3 or TU3 that has only one SCSI interface card assembly can be attached to only one SCSI adapter or integrated SCSI port. A 2104 Model DU3 or TU3 that has two SCSI interface card assemblies can be attached to two SCSI adapters or integrated SCSI ports.

Some SCSI adapters have internal connectors and external connectors. If an internal connector and an external connector share a particular SCSI channel, and the internal connector is in use, the external connector must not be used to connect to a 2104 Model DU3 or TU3.

A 2104 Model DU3 or TU3 can be configured to support either a single SCSI bus or a dual SCSI bus. The setting of the SCSI Bus Split switch on the switch card assembly of the 2104 defines which configuration is to be used.

Adapters

An RS/6000 or IBM @server pSeries computer that is running AIX uses one of the following SCSI adapters to connect to the 2104:

- PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208): This adapter has one external SCSI connector and one internal SCSI connector. Both connectors are connected to the same shared SCSI channel.

- PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206): This adapter has one external SCSI connector and one internal SCSI connector. The two connectors are connected to the same shared SCSI channel.
- PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205): This dual-channel adapter has two external SCSI connectors and two internal SCSI connectors. Each pair, which consists of one external and one internal connector, is connected to a separate SCSI channel.
- PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203): This dual-channel adapter has two external SCSI connectors and two internal SCSI connectors. Each pair, which consists of one external and one internal connector, is connected to a separate SCSI channel.
- PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T feature 2494): This 3-Channel adapter has two external SCSI connectors and one internal SCSI connector. Each connector is connected to a separate SCSI channel.
- PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498): This 4-Channel RAID adapter has four external connectors and two internal connectors. The Channel 1 and Channel 2 external connectors share the SCSI bus with the corresponding Channel 1 and Channel 2 internal connectors. The Channel 3 and Channel 4 external connectors have their own non-shared SCSI bus.

An RS/6000 or IBM @server pSeries computer that is running SuSE Linux Enterprise Server for pSeries uses the following SCSI adapter to connect to the 2104:

- PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203): This dual-channel adapter has two external SCSI connectors and two internal SCSI connectors. Each pair, which consists of one external and one internal connector, is connected to a separate SCSI channel.

Summary of SCSI Bus Configurations

Table 3 summarizes the various configurations that are valid for the 2104 Models DU3 and TU3.

Table 3. Summary of SCSI Bus Configurations

SCSI Bus Mode	Number of Connected Adapters	SCSI ID of Adapter	Maximum Number of Disk Drive Modules	SCSI IDs of Disk Drive Modules	SCSI ID of Enclosure Service Processor	Adapters Supported
Single Bus	1	7	14	0,1,2,3,4,5,6 8,9,20,11,12,13,14 (See Note 3.)	15	All the adapters that are listed in "Adapters" on page 143.
Single Bus (See Note 4His ill.)	2	5,6	12	0,1,2,3,4 8,9,10,11,12,13,14 (See Note 3.)	15	For HACMP configurations, see Note 1. For non-HACMP configurations, see Note 2.
Dual Bus: • SCSI Bus 1 • SCSI Bus 2	 1 1	 7 7	 7 7	 0,1,2,3,4,5,6 8,9,10,11,12,13,14 (See Note 3.)	 15 15	All the adapters that are listed in "Adapters" on page 143.

Notes:

1. For HACMP configurations, PCI Dual-Channel Ultra2 Adapter (type 4-R) or PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y). The two adapters must be in two different using systems. Applies to AIX systems only.
2. For non-HACMP configurations, PCI Dual-Channel Ultra2 Adapter (type 4-R), PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y), or Ultra2 Integrated port. The two adapters or integrated ports can be in the same using system, or in two different using systems. The adapters or integrated ports must ***not*** share access to the disk drive modules. Applies to AIX systems only.
3. On a 2104 Model DU3, the disk drive module SCSI IDs are 0 through 7, then 8 through 14, from left to right.

   On a 2104 Model TU3, the disk drive module SCSI IDs are 0 through 7, then 8 through 14, from bottom to top.

   SCSI ID 7 is for the adapter.
4. Dual adapters on a single bus are not supported for SuSE Linux Enterprise Server for pSeries applications.

For more information about SCSI bus configurations and addresses, see "SCSI Bus Configurations and Addresses" on page 25.

For examples of valid and non-valid configurations, see the remainder of this appendix.

Examples of Single-Bus Mode Configurations

For a single-bus mode configuration, the SCSI Bus Split switch on the switch card assembly of a 2104 Model DU3 or TU3 must be set to Off.

Each 2104 can be connected either to one external SCSI connector of a SCSI adapter, or to an integrated SCSI port that is in the using system. If the adapter has four external SCSI connectors, up to four 2104s can be connected to it.

For High Availability Cluster Multi-Processing (HACMP) configurations, the SCSI interface card assemblies of the 2104 must be connected each to a separate adapter via an external SCSI connector of the appropriate adapter. Each adapter must be a PCI Dual-Channel Ultra2 SCSI Adapter (Type 4-R, feature 6205) or a PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203). Each adapter must be in a separate using system.

For non-HACMP configurations, the SCSI interface card assemblies of the 2104 must be connected each to a separate adapter via an external SCSI connector of the appropriate adapter, or to an Ultra2 SCSI integrated port that is in the using system. Each adapter must be a PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature code 6205) or a PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203). The adapters can be in the same using system or in separate using systems. They must not, however, share access to the disk drive modules that are in the 2104.

One Adapter in One Using System Connected to One 2104 (Model DU3 or TU3)

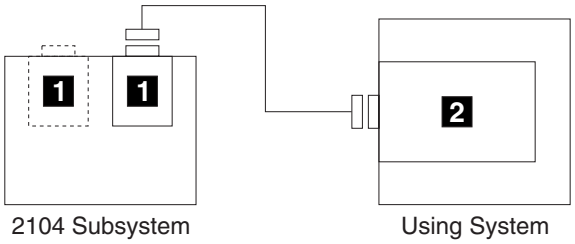


Figure 61. One Adapter in One Using System Connected to One 2104 (Single-Bus Mode)

1	SCSI interface card assembly **Note:** The second SCSI interface card assembly that is in the 2104 is optional.
2	SCSI adapter of one of these types: • PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208) • PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206) • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) * • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498) **Note:** The 2104 can be connected to an integrated SCSI port instead of to one of these adapters.

Attention: The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules.

*This adapter is the only adapter that the SuSE Linux Enterprise Server for pSeries system supports.

Two Adapters in One Using System Connected to Two 2104s (Model DU3 or TU3)

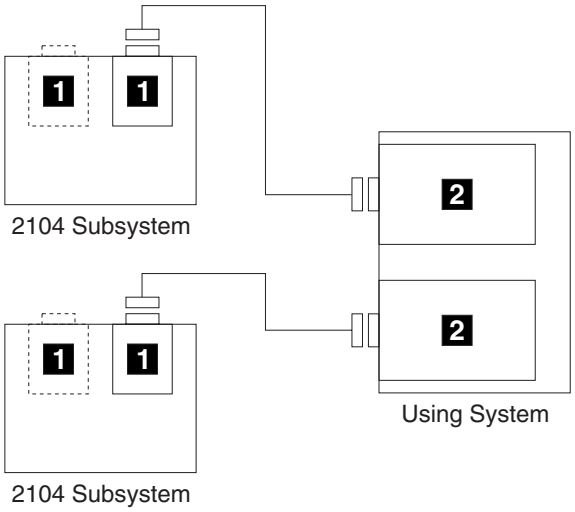


Figure 62. Two Adapters in One Using System Connected to Two 2104s (Single-Bus Mode)

1	SCSI interface card assembly **Note:** The second SCSI interface card assembly that is in the 2104 is optional.
2	SCSI adapter of one of these types: • PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208) • PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206) • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) * • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498) **Note:** The 2104 can be connected to an integrated SCSI port instead of to one of these adapters.

Attention: The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules.

*This adapter is the only adapter that the SuSE Linux Enterprise Server for pSeries system supports.

One Adapter in Each of Two Using Systems Connected to Two 2104s (Model DU3 or TU3)

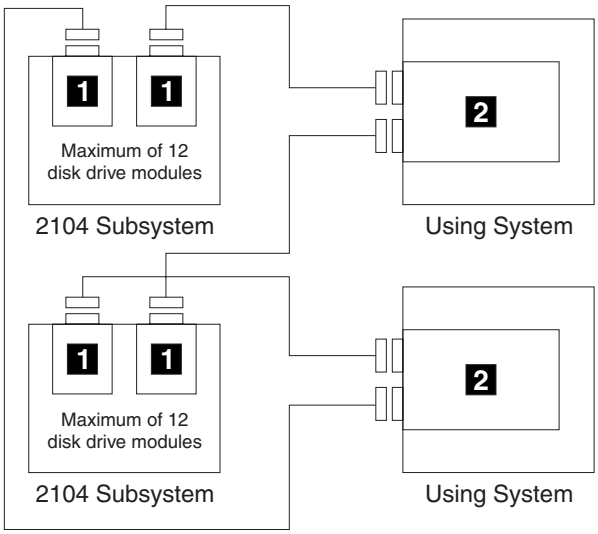


Figure 63. One Adapter in Each of Two Using Systems Connected to Two 2104s (Single-Bus Mode) SuSE Linux Enterprise Server for pSeries does not support this configuration.

1	SCSI interface card assembly
2	For HACMP configurations in standby and mutual takeover mode: • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) The adapters must be in two separate using systems. • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) The adapters must be in two separate using systems. For non-HACMP configurations: • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) • Ultra2 SCSI Integrated Port **Note:** In non-HACMP configurations, the connections can be made to two separate using systems, or to the same using system, but the disk drive modules that are in the 2104s must not be shared.

Attention:

- The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules. When a second adapter is connected to a 2104, the SCSI address of that adapter must be different from the address of the first adapter and the addresses of the installed disk drive modules.
- In each 2104, slots 6 and 7 (SCSI addresses 5 and 6) must contain **dummy** disk drive modules.
- Each 2104 can contain no more than 12 disk drive modules.

One Adapter in One Using System Connected to Two 2104s (Model DU3 or TU3)

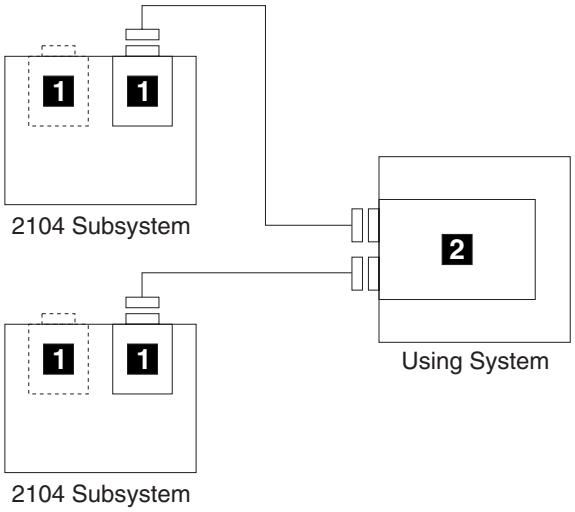


Figure 64. One Adapter in One Using System Connected to Two 2104s (Single-Bus Mode) SuSE Linux Enterprise Server for pSeries does not support this configuration.

1	SCSI interface card assembly **Note:** The second SCSI interface card assembly that is in the 2104 is optional.
2	SCSI adapter of one of these types: • PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208) • PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206) • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) * • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498) **Note:** The 2104 can be connected to an integrated SCSI port instead of to one of these adapters.

Attention: The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules.

*This adapter is the only adapter that the SuSE Linux Enterprise Server for pSeries system supports.

One Adapter in One Using System Connected to Two 2104s (Model DU3 or TU3) and an Internal RAID Array

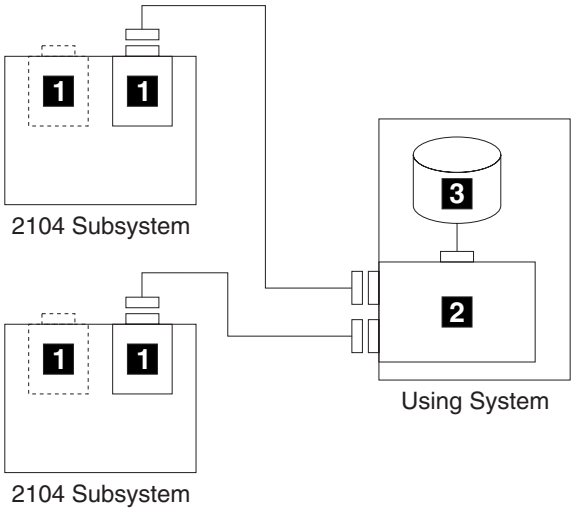


Figure 65. One Adapter, One Using System with Internal RAID Array, and Two 2104s (Single-Bus Mode) (AIX systems only)

1	SCSI interface card assembly **Note:** The second SCSI interface card assembly that is in the 2104 is optional.
2	SCSI adapter of one of these types: • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498)
3	Internal RAID array

Attention:

- The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules.
- The external connectors of the SCSI RAID adapter must not share a SCSI bus with the internal RAID array.

One Adapter in Each of Two Using Systems Connected to One 2104 (Model DU3 or TU3)

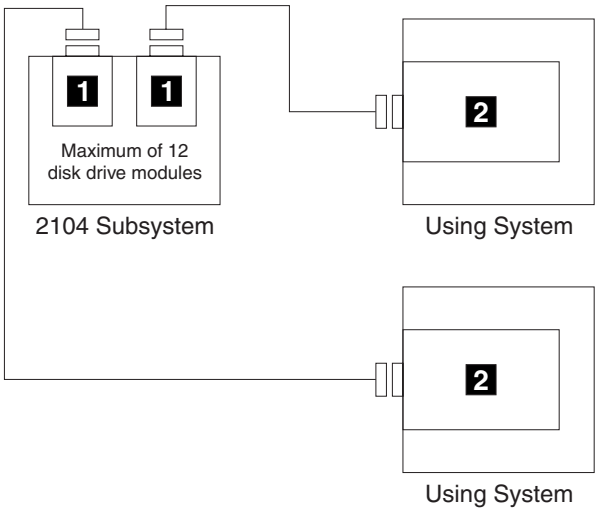


Figure 66. One Adapter in Each of Two Using Systems Connected to One (Single-Bus Mode). SuSE Linux Enterprise Server for pSeries does not support this configuration.

1	SCSI interface card assembly
2	For HACMP configurations in standby or mutual takeover mode: • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) The two adapters must be in separate using systems. • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) The two adapters must be in separate using systems. For non-HACMP configurations: • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) • Ultra2 SCSI Integrated Port **Note:** In non-HACMP configurations, the connections can be made to two separate using systems, or to the same using system, but the disk drive modules that are in the 2104 must not be shared.

Attention:

- The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules. When a second adapter is connected to a 2104, the SCSI address of that adapter must be different from the address of the first adapter and the addresses of the installed disk drive modules.
- In the 2104, slots 6 and 7 (SCSI addresses 5 and 6) must contain **dummy** disk drive modules.
- The 2104 can contain no more than 12 disk drive modules.

Examples of Dual-Bus Mode Configurations

For a dual-bus mode configuration, the SCSI Bus Split switch on the switch card assembly of a 2104 Model DU3 or TU3 must be set to On.

Each 2104 in the configuration is connected either to one external SCSI connector on an adapter, or to an integrated SCSI port that is in the using system. If an adapter has four external SCSI connectors, up to four 2104s can be connected to it.

The external SCSI connectors can be either on the same adapter, or on two separate adapters. If the connectors are on two separate adapters, these two adapters can be either in the same using system, or in two separate using systems.

Two Adapters in One Non-HACMP Using System Connected to One 2104 (Model DU3 or TU3)

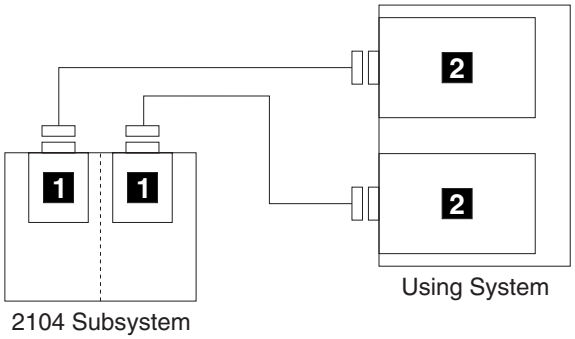


Figure 67. Two Adapters in One Non-HACMP Using System Connected to One 2104 (Dual-Bus Mode)

1	SCSI interface card assembly
2	SCSI adapter of one of these types: • PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208) • PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206) • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) * • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498) **Note:** The 2104 can be connected to an integrated SCSI port instead of to one of these adapters.

Attention: The SCSI addresses of the adapters that are connected to the 2104 must be different from each other and from the addresses of the installed disk drive modules.

Note: For a similar, valid configuration, one adapter that has two external SCSI connectors can be used instead of the two single-connector adapters.

*This adapter is the only adapter that the SuSE Linux Enterprise Server for pSeries system supports.

Three Adapters in Two Non-HACMP Using Systems Connected to Two 2104s (Model DU3 or TU3)

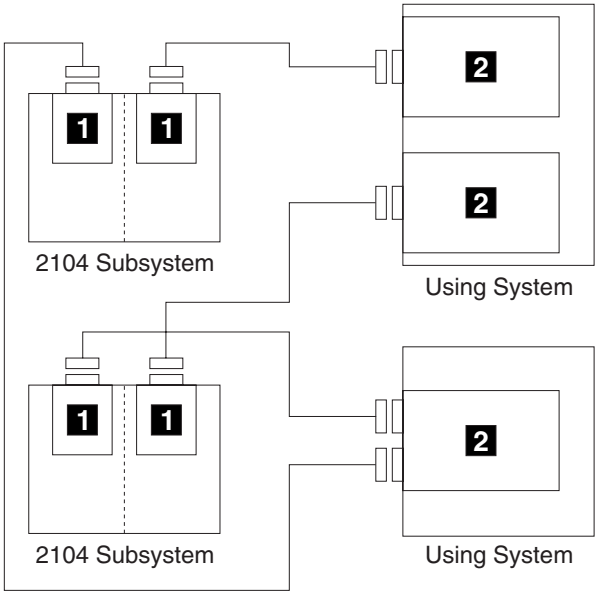


Figure 68. Three Adapters in Two Non-HACMP Using Systems Connected to Two 2104s (Dual-Bus Mode)

1	SCSI interface card assembly
2	SCSI adapter of one of these types: • PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208) • PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206) • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) * • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498) **Note:** The 2104 can be connected to an integrated SCSI port instead of to one of these adapters.

Attention: The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules. When a second adapter is connected to a 2104, the SCSI address of that adapter must be different from the address of the first adapter and the addresses of the installed disk drive modules.

Note: For a similar, valid configuration, two SCSI adapters, each with one external connector, can be used instead of the adapter that has two external connectors.

*This adapter is the only adapter that the SuSE Linux Enterprise Server for pSeries system supports.

One Adapter in One Non-HACMP Using System Connected to One 2104 (Model DU3 or TU3) and an Internal RAID Array

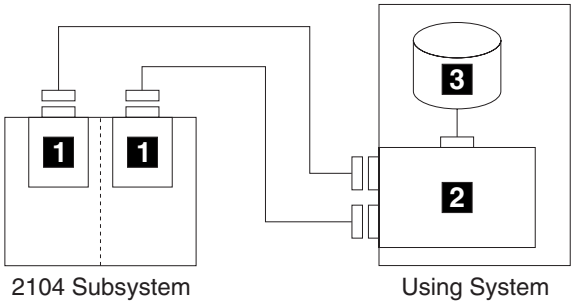


Figure 69. One Adapter in One Non-HACMP Using System Connected to One 2104 and an Internal RAID Array (Dual-Bus Mode). For AIX systems only

1	SCSI interface card assembly
2	SCSI adapter of one of these types: • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498)
3	Internal RAID array

Attention: The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules.

One Adapter in Each of Two Non-HACMP Using Systems Connected to One 2104 (Model DU3 or TU3)

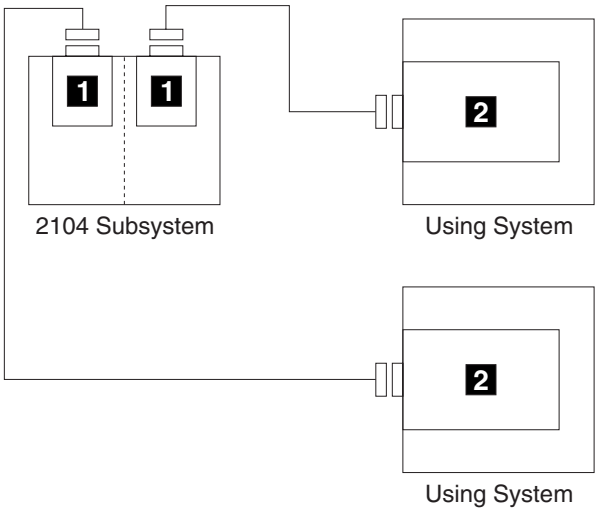


Figure 70. One Adapter in Each of Two Non-HACMP Using Systems Connected to One 2104 (Dual-Bus Mode)

1	SCSI interface card assembly
2	SCSI adapter of one of these types: • PCI SCSI-2 Single-Ended Fast/Wide Adapter (type 4_A, feature 6208) • PCI Single-Ended Ultra SCSI Adapter (type 4-K, feature 6206) • PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) • PCI Dual-Channel Ultra3 SCSI Adapter (Type 4-Y, feature 6203) * • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498) **Note:** The 2104 can be connected to an integrated SCSI port instead of to one of these adapters.

Attention: The SCSI address of the adapter that is connected to the 2104 must be different from the addresses of the installed disk drive modules. When a second adapter is connected to a 2104, the SCSI address of that adapter must be different from the address of the first adapter and the addresses of the installed disk drive modules.

*This adapter is the only adapter that the SuSE Linux Enterprise Server for pSeries system supports.

One RAID Adapter in Each of Two Non-HACMP Using Systems Connected to Two 2104s (Model DU3 or TU3) and an Internal RAID Array

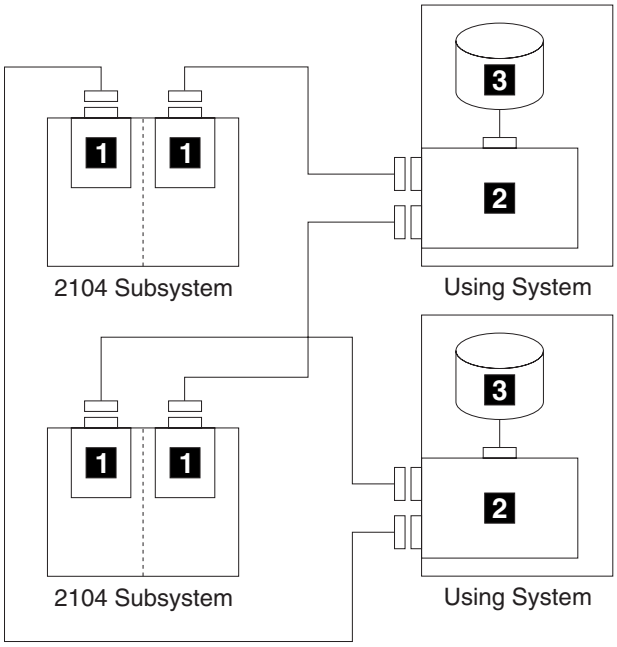


Figure 71. One RAID Adapter in Each of Two Non-HACMP Using Systems Connected to Two 2104s and an Internal RAID Array (Dual-Bus Mode). For AIX systems only

1	SCSI interface card assembly
2	SCSI adapter of one of these types: • PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) • PCI 4-Channel Ultra3 SCSI RAID Adapter (type 4-X, feature 2498)
3	Internal RAID array

Attention:

- The SCSI address of the adapters that are connected to the 2104s must be different from the addresses of the installed disk drive modules.
- The external connectors of the SCSI RAID adapters must not share a SCSI bus with the internal RAID arrays.

Configurations That Are Not Valid for 2104 Models DU3 and TU3

This section gives some examples of configurations that are not valid.

Two Adapters in One Using System Connected to One 2104

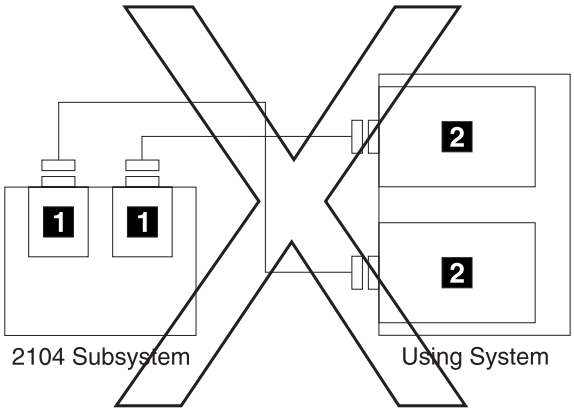


Figure 72. Two Adapters in One Using System Connected to One 2104 (Single-Bus Mode). ***This configuration is not valid.***

1	SCSI interface card assembly
2	SCSI adapter. This configuration is not valid for any type of adapter.

Note: This configuration is not valid only when the 2104 is configured in single-bus mode. It is, however, valid when the 2104 is configured in dual-bus mode (see “Two Adapters in One Non-HACMP Using System Connected to One 2104 (Model DU3 or TU3)” on page 154).

One Adapter in One Using System Connected to Two 2104s via the SCSI Interface Card Assemblies

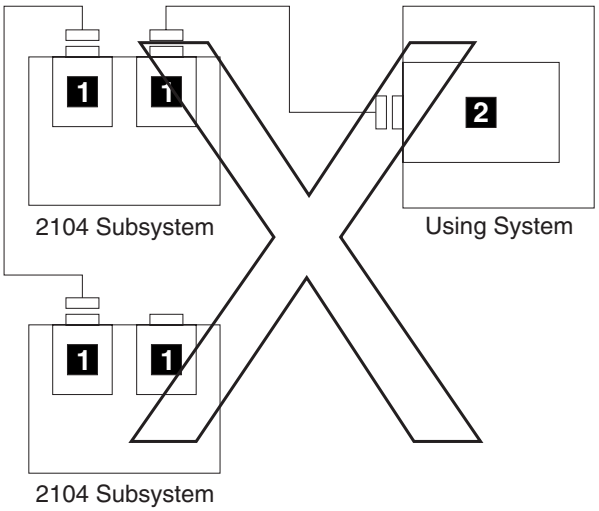


Figure 73. One Adapter in One Using System Connected to Two 2104s via the SCSI Interface Card Assemblies. ***This configuration is not valid.***

1	SCSI interface card assembly
2	SCSI adapter. This configuration is not valid for any type of adapter.

One Adapter in One Using System Connected to 2104s through a Y-Cable (1)

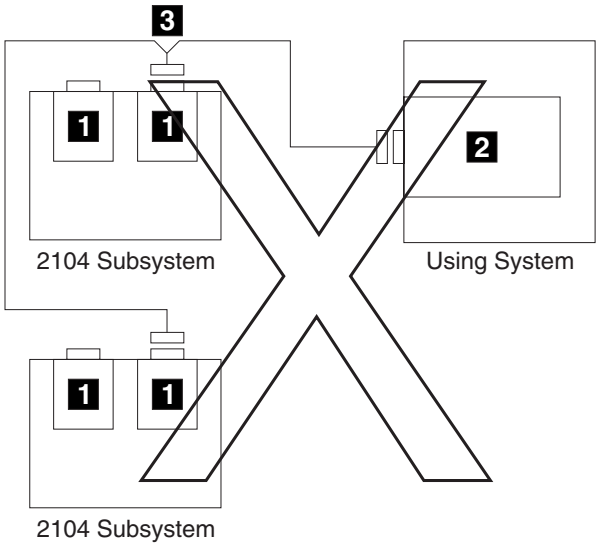


Figure 74. One Adapter in One Using System Connected to 2104s via a Y-Cable (1). ***This configuration is not valid.***

1	SCSI interface card assembly
2	SCSI adapter. This configuration is not valid for any type of adapter.
3	Y-cable. Not supported for any type of adapter that is used with the 2104.

One Adapter in One Using System Connected to 2104s via a Y-Cable (2)

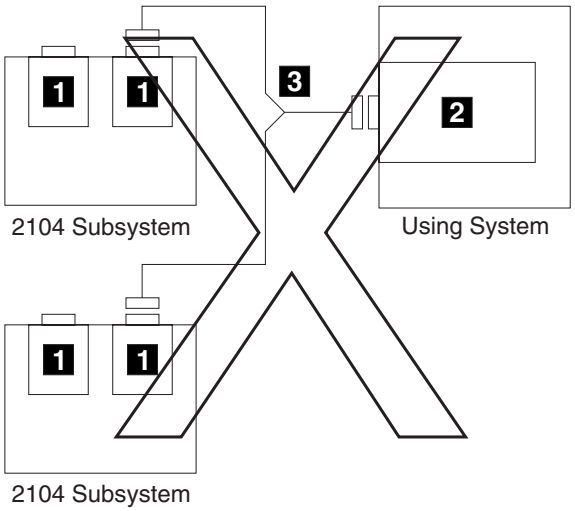


Figure 75. One Adapter in One Using System Connected to 2104s via a Y-Cable (2). ***This configuration is not valid.***

1	SCSI interface card assembly
2	SCSI adapter. This configuration is not valid for any type of adapter.
3	Y-cable. Not supported for any type of adapter that is used with the 2104.

One Dual-Channel Non-RAID Adapter in One Using System Connected to Two 2104s and Internal Disk Drives

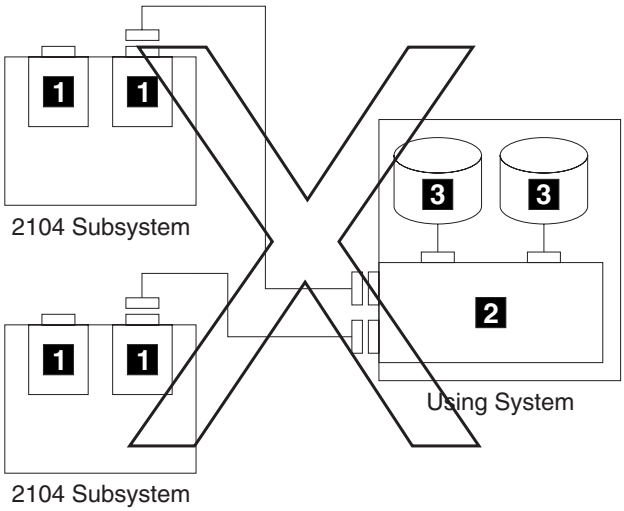


Figure 76. One Dual-Channel Non-RAID Adapter in One Using System Connected to Two 2104s and Internal Disk Drives. ***This configuration is not valid.***

1	SCSI interface card assembly
2	PCI Dual-Channel Ultra2 SCSI Adapter (type 4-R, feature 6205) or PCI Dual-Channel Ultra3 SCSI Adapter (type 4-Y, feature 6203). This configuration is not valid on this adapter because two internal and two external attachments that are on the same SCSI bus exceed the capacity of the adapter.
3	Internal disk drives.

One RAID Adapter in Each of Two Using Systems Connected to Two 2104s

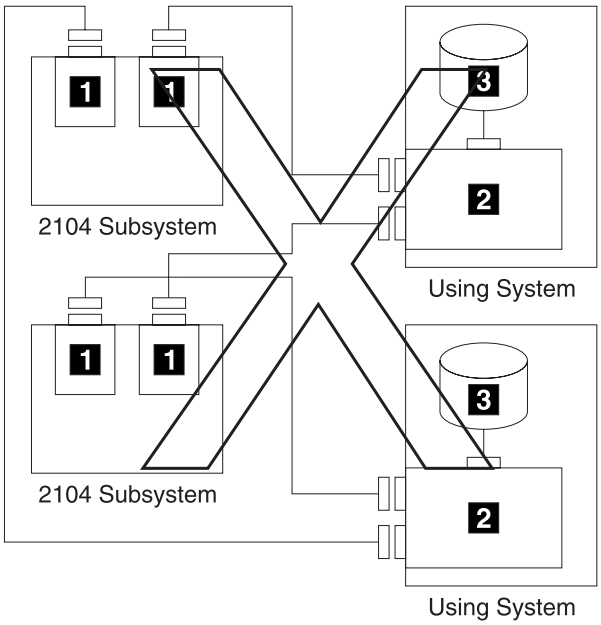


Figure 77. One RAID Adapter in Each of Two Using Systems Connected to Two 2104s. ***This configuration is not valid.***

1	SCSI interface card assembly
2	This configuration is not valid for RAID adapters, including the PCI 3-Channel Ultra2 SCSI RAID Adapter (type 4-T, feature 2494) because it cannot use HACMP.
3	Internal RAID disk drive array

Appendix C. Communications Statements

The following statements apply to this product. The statements for other products intended for use with this product appear in their accompanying manuals.

Federal Communications Commission (FCC) Statement

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

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Neither the provider nor the manufacturer is responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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

Japanese Voluntary Control Council for Interference (VCCI) Statement

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). In a domestic environment, this product might cause radio interference, in which event the user might be required to take adequate measures.

Korean Government Ministry of Communication (MOC) Statement

Please note that this device has been approved for business purposes with regard to electromagnetic interference. If you find that this device is not suitable for your use, you can exchange it for one that is approved for non-business purposes.

New Zealand Compliance Statement

This is a Class A product. In a domestic environment this product might cause radio interference, in which event the user might be required to take adequate measures.

International Electrotechnical Commission (IEC) Statement

This product has been designed and built to comply with Standard IEC 60950.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Industry Canada Compliance Statement

This Class A digital apparatus complies with IECS-003.

United Kingdom Telecommunications Requirements

This apparatus is manufactured to the International Safety Standard EN60950 and as such is approved in the U.K. under approval number NS/G/1234/J/100003 for indirect connection to public telecommunications systems in the United Kingdom.

European Union (EU) Statement

This product is in conformity with the protection requirements of EU council directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Neither the provider nor the manufacturer can accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of option cards not supplied by the manufacturer.

This product is in conformity with the EU council directive 73/23/EEC on the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits. This conformity is based on compliance with the following harmonized standard: EN60950.

Radio Protection for Germany

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336):

Dieses Gerät ist berechtigt in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die:
IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.
Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) :

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse A.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden:
"Warnung: dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Massnahmen durchzuführen und dafür aufzukommen."

EN 50082-1 Hinweis:
"Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrössern."

Anmerkung:
Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den Handbüchern angegeben, zu installieren und zu betreiben.

Taiwan Class A Compliance Statement

警告使用者:

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

Appendix D. Translated Safety Notices

This appendix contains the danger and caution notices that are used in the various books relating to the Expandable Storage Plus: 2104 Models DU3 and TU3.

The notices are shown in English and in various other languages.

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

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

Always use safe working procedures whenever you work on machines. Use your own judgment to identify safety conditions that these notices do not describe.

Danger Notices

DANGER

In the following step you are going to remove the power cables. These cables are live if the rack power distribution unit or uninterruptable power supply (UPS) unit is still switched on.

DANGER

Do not try to open the covers of the fan-and-power-supply assembly.

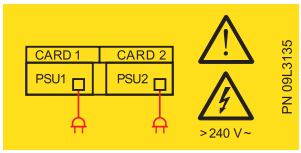
DANGER

Do not plug a power cable into the fan-and-power-supply assembly until the assembly is fully home and its thumbscrews are fully tightened.

DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the devices that attach to that system.
It is the customers's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.
During an electrical storm, do not disconnect cables for display stations, printers, telephones, or station protectors for communication lines.

Caution Notices

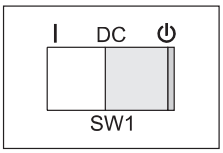


CAUTION:
This unit may have two linecords. To remove all power, disconnect both linecords.

CAUTION:
This unit weighs 38.5 kg.

CAUTION:
Do not remove cover, do not service, no serviceable parts.

CAUTION:
Double pole/neutral fusing



CAUTION:
A ″Standby″ condition is indicated by the symbol to the right of ″DC″ directly above the switch, SW1. When SW1 is toggled to the right position directly under the ″Standby″ symbol, the unit's AC-power is not shut off.

CAUTION:
The stabilizer must be correctly attached to the bottom front of the rack to prevent the rack from tipping forward while the 2104 Model DU3 is being removed from the rack.
Do not pull out or install any unit if a stabilizer is not attached to the rack.

CAUTION:
The stabilizer must be correctly attached to the bottom front of the rack to prevent the rack from tipping forward while the 2104 Model DU3 is being installed into the rack.
Do not remove or install any unit if a stabilizer is not attached to the rack.

CAUTION:
A 2104 Model DU3 weighs up to 38.5 kg (85 lb) with the maximum number of disk drive modules installed. Do not attempt to lift the 2104 into the rack unless all the disk drive modules have been removed.

CAUTION:
A 2104 Model DU3 weighs up to 38.5 kg (85 lb) with the maximum number of disk drive modules installed. Do not attempt to remove the 2104 from the rack unless all the disk drive modules have been removed.

CAUTION:
Do not attempt to lift the 2104 by yourself. Ask another person for aid.

CAUTION:
Do not insert hands or tools into the empty space that contained the fan assembly.

CAUTION:
Do not insert hands or tools into the empty space that contained the fan-and-power-supply assembly.

CAUTION:
Do not insert hands or tools into the empty space that contained the switch card assembly.

CAUTION:
Do not insert hands or tools into the empty space that contained the SCSI interface card assembly.

CAUTION:
This product is equipped with a 3-wire power cable and plug for the user's safety. Use this power cable in conjunction with a correctly grounded electrical outlet to avoid an electrical shock.

CAUTION:
Do not touch the power outlet or the power outlet face plate with anything other than test probes before you have completed this safety check.

CAUTION:
If the reading is not infinity, do not proceed. Make the necessary corrections to the wiring before you continue. Do not switch on the branch circuit CB until all the above steps are satisfactorily completed.

CAUTION:
A 2104 Model TU3 can weigh up to 54.5 kg (120 lb) with the maximum number of disk drive modules installed. Do not attempt to lift one without help from a second person.

CAUTION:
Do not use the handles of the fan or fan-and-power-supply assemblies to carry the 2104. These handles are not intended to support the weight of the unit.

CAUTION:
As you push the assembly fully home, the lever automatically moves toward its closed position. Ensure that your fingers do not become pinched between the lever and the assembly.

Consignes de sécurité

Cette annexe contient les consignes de sécurité Danger et Attention qui sont utilisées dans les différents manuels relatifs à l'unité de stockage Expandable Storage Plus: 2104 modèles DU3 et TU3.

Ces consignes apparaissent en anglais et dans diverses autres langues.

Consigne Danger Indique la présence d'un risque de blessures graves, voire mortelles.

Consigne Attention Indique la présence d'un risque de blessures légères.

Respectez toujours les consignes de sécurité lorsque vous travaillez sur des machines. Mettez vous-même en place les conditions de sécurité nécessaires dans les cas non prévus par ces consignes.

Consignes Danger

DANGER

Dans l'étape qui suit, vous allez débrancher les cordons d'alimentation. Ces cordons sont toujours alimentés si le cordon d'alimentation de l'armoire ou l'unité d'alimentation de secours sont en fonction.

DANGER

N'essayez pas d'ouvrir le bloc ventilateur-alimentation.

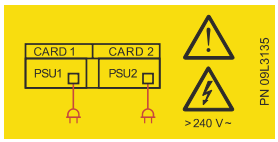
DANGER

Ne connectez pas le câble d'alimentation dans le bloc ventilateur-alimentation avant d'avoir complètement enfoncé ce dernier dans son logement et serré ses vis à fond.

DANGER

Un mauvais câblage électrique peut provoquer une mise sous tension dangereuse des parties métalliques du système ou des unités qui lui sont raccordées.
Il appartient au client de s'assurer que le socle de prise de courant est correctement câblé et mis à la terre afin d'éviter tout risque de choc électrique.
Ne déconnectez pas les cordons téléphoniques, d'interface ou d'alimentation, ni les dispositifs de protection électrique des lignes de transmission pendant un orage.

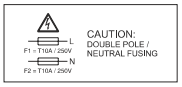
Consignes Attention



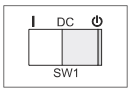
ATTENTION :
Cette unité peut posséder deux cordons d'alimentation. Pour supprimer toutes les tensions dans l'unité, débranchez les deux cordons.

ATTENTION :
Cette unité pèse 38.5 kg.

ATTENTION :
Ne pas ouvrir. Ne tenter aucune réparation. Aucune pièce n'est réparable en clientèle.



ATTENTION :
L'un des deux fusibles est sur le neutre.



ATTENTION :
Un état "Attente" est indiqué par le symbole droite de "DC" au-dessus de l'interrupteur SW1. Lorsque SW1 bascule dans la bonne position sous le symbole "Attente", l'alimentation (courant alternatif) de l'unité n'est pas coupée.

ATTENTION :
Le stabilisateur doit être solidement fixé au bas de la face avant de l'armoire pour empêcher cette dernière de basculer lorsqu'on en retire le 2104 modèle DU3.
Ne retirez pas ou n'installez pas d'unité avant d'avoir vérifié que le stabilisateur est bien fixé à l'armoire.

ATTENTION :
Le stabilisateur doit être solidement fixé au bas de la face avant de l'armoire pour empêcher cette dernière de basculer lorsqu'on y installe le 2104 modèle DU3.
Ne retirez pas ou n'installez pas d'unité avant d'avoir vérifié que le stabilisateur est bien fixé à l'armoire.

ATTENTION :
Un 2104 modèle DU3 pèse au moins 38.5 Kg lorsque le nombre maximal de modules de disque est installé. N'essayez pas de soulever le modèle 2104 dans l'armoire avant d'avoir retiré tous les modules de disque.

ATTENTION :
Un 2104 modèle DU3 pèse au moins 38.5 Kg lorsque le nombre maximal de modules de disque est installé. N'essayez pas de retirer le modèle 2104 avant d'avoir retiré tous les modules de disque.

ATTENTION :
N'essayez pas de soulever seul le modèle 2104. Faites-vous aider pour la déplacer en toute sécurité.

ATTENTION :
N'insérez pas vos mains ou des outils dans l'emplacement qu'occupait le bloc de ventilation.

ATTENTION :
N'insérez pas vos mains ou des outils dans l'emplacement qu'occupait le bloc ventilateur-alimentation.

ATTENTION :
N'insérez pas vos mains ou des outils dans l'emplacement qu'occupait le bloc de la carte à commutateurs.

ATTENTION :
N'insérez pas vos mains ou des outils dans l'emplacement qu'occupait la carte d'interface SCSI.

ATTENTION :
Pour votre sécurité, ce produit est équipé d'un cordon d'alimentation à trois fils et d'une fiche de prise de courant à trois broches. Pour éviter tout risque de choc électrique, branchez ce cordon sur un socle de prise de courant correctement mis à la terre.

ATTENTION :
Tant que vous n'avez pas terminé le contrôle de sécurité, ne touchez le socle et la plaque de prise de courant qu'avec des sondes de test.

ATTENTION :
Si vous obtenez un résultat autre que l'infini, arrêtez-vous. Révisez l'installation électrique. Ne remettez pas le disjoncteur du circuit de dérivation sous tension avant d'avoir passé toutes les étapes ci-dessus.

ATTENTION :
Un 2104 modèle TU3 pèse au moins 54.5 Kg lorsque le nombre maximal de modules de disque est installé. Ne tentez pas de la soulever seul. Faites-vous aider pour la déplacer en toute sécurité.

ATTENTION :
N'utilisez pas les poignées fixées sur le ventilateur ou le bloc ventilateur-alimentation pour porter le modèle 2104. Ces poignées ne sont pas prévues pour supporter le poids de l'unité.

ATTENTION :
Lorsque vous enfoncez complètement le bloc dans son logement, le levier se place automatiquement en position fermée. Veillez à ne pas vous coincer les doigts entre le levier et le bloc.

Sicherheitshinweise

Dieser Anhang enthält die Hinweise VORSICHT und ACHTUNG, die in den verschiedenen zu Expandable Storage Plus: 2104 Modelle DU3 und TU3 gehörenden Büchern vorkommen.

Die Hinweise werden in Englisch und in weiteren Sprachen gezeigt.

Hinweis VORSICHT Der Hinweis VORSICHT macht auf eine Gefahr aufmerksam, die tödliche oder schwere Verletzungen zur Folge haben kann.

Hinweis ACHTUNG Der Hinweis ACHTUNG macht auf mögliche Probleme aufmerksam, die zu einer Personengefährdung führen können.

Achten Sie beim Arbeiten mit Maschinen immer auf sichere Arbeitsbedingungen. Es liegt in der Verantwortung jedes einzelnen, mögliche Sicherheitsrisiken zu erkennen, die in diesen Hinweisen nicht aufgeführt sind.

Hinweise VORSICHT

Vorsicht

Im folgenden Schritt werden die Netzkabel entfernt. Ist die Stromversorgungseinheit des Gehäuses oder die unterbrechungsfreie Stromversorgung noch eingeschaltet, führen diese Kabel Strom.

Vorsicht

Die Abdeckungen der aus Ventilator und Netzteil bestehenden Baugruppe nicht öffnen.

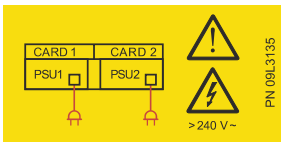
Vorsicht

Kein Netzkabel in die aus Ventilator und Netzteil bestehende Baugruppe einstecken, bis die Baugruppe vollständig eingeschoben ist und die Rändelschrauben fest angezogen sind.

Vorsicht

Bei nicht ordnungsgemäß angeschlossener Netzsteckdose können an offenliegenden Metallteilen dieses Systems oder an angeschlossenen Einheiten gefährliche Berührungsspannungen auftreten.
Für den ordnungsgemäßen Zustand der Steckdose ist der Betreiber verantwortlich.
Während eines Gewitters keine Kabel von Bildschirmeinheiten, Druckern, Telefonapparaten oder Blitzschutzeinheiten lösen.

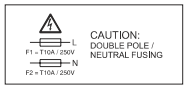
Hinweise ACHTUNG



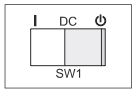
Achtung:
Diese Einheit könnte zwei Stromversorgungskabel haben. Um die Einheit ganz von der Netzspannung zu trennen, beide Stromversorgungskabel lösen.

Achtung:
Diese Einheit wiegt 38.5 **kg.**

Achtung:
Abdeckung nicht entfernen. Nicht reparieren. Keine wartungsbedürftigen Teile.



Achtung:
Zweipolige bzw. Neutralleiter-Sicherung



Achtung:
Durch das Symbol rechts von "DC", direkt über dem Schalter SW1, wird eine Bereitschaftsbedingung angegeben. Wird der Schalter SW1 nach rechts, direkt unter das Bereitschaftssymbol, gelegt, ist die Wechselstromversorgung der Einheit nicht ausgeschaltet.

Achtung:
Der Stabilisator muss ordnungsgemäß unten an der Vorderseite des Gehäuses angebracht werden, um ein Vorkippen des Gehäuses beim Entfernen des 2104 Modells DU3 zu verhindern. Keine Einheiten herausziehen oder installieren, wenn kein Stabilisator am Gehäuse montiert ist.

Achtung:
Der Stabilisator muss ordnungsgemäß unten an der Vorderseite des Gehäuses angebracht werden, um ein Vorkippen des Gehäuses beim Installieren des 2104 Modells DU3 zu verhindern. Keine Einheiten entfernen oder installieren, wenn kein Stabilisator am Gehäuse montiert ist.

Achtung:
Ein 2104 Modell DU3 wiegt bis zu 38.5 **kg, wenn die maximale Anzahl von Plattenlaufwerkmodulen installiert ist. Die Einheit 2104 nicht in das Gehäuse heben, bevor alle Plattenlaufwerkmodule entfernt wurden.**

Achtung:
Ein 2104 Modell DU3 wiegt bis zu 38.5 **kg, wenn die maximale Anzahl von Plattenlaufwerkmodulen installiert ist. Die Einheit 2104 nicht aus dem Gehäuse entfernen, bevor alle Plattenlaufwerkmodule entfernt wurden.**

Achtung:
Nicht versuchen, die Einheit 2104 alleine anzuheben. Zum Transport sind zwei Personen erforderlich.

Achtung:
Keine Hand oder Werkzeuge in den leeren Bereich einführen, in dem sich die Ventilatorbaugruppe befand.

Achtung:
Keine Hand oder Werkzeuge in den leeren Bereich einführen, in dem sich die aus Ventilator und Netzteil bestehende Baugruppe befand.

Achtung:
Keine Hand oder Werkzeuge in den leeren Bereich einführen, in dem sich die Schalterkartenbaugruppe befand.

Achtung:
Keine Hand oder Werkzeuge in den leeren Bereich einführen, in dem sich die SCSI-Schnittstellenkarte befand.

Achtung:
Netzkabel und Netzstecker dieses Gerätes entsprechen den einschlägigen Sicherheitsbestimmungen. Dieses Gerät nur an eine Schutzkontaktsteckdose mit ordnungsgemäßer Schutzleiterverbindung anschließen.

Achtung:
Die Netzsteckdose und die Abdeckplatte der Netzsteckdose nicht mit etwas anderem als den Prüfspitzen berühren, bevor diese Sicherheitsüberprüfung beendet ist.

Achtung:
Wird nicht 'Unendlich' gemessen, nicht weiterarbeiten.
Die entsprechenden Korrekturen an der Verkabelung vornehmen, bevor weitergearbeitet wird. Netzstromkreis erst einschalten, wenn alle genannten Schritte richtig ausgeführt wurden.

Achtung:
Ein 2104 Modell TU3 wiegt bis zu 54.5 kg, wenn die maximale Anzahl von Plattenlaufwerkmodulen installiert ist. Zum Anheben der Einheit sind zwei Personen erforderlich.

Achtung:
Nicht die Griffe des Ventilators oder der aus Ventilator und Netzteil bestehenden Baugruppe benutzen, um die Einheit 2104 zu tragen. Diese Griffe sind nicht zum Tragen der Einheit vorgesehen.

Achtung:
Wird die Baugruppe in Grundstellung gebracht, bewegt sich der Hebel automatisch in die geschlossene Position. Darauf achten, dass die Finger nicht zwischen dem Hebel und der Baugruppe gequetscht werden.

Προειδοποιήσεις ασφάλειας

Το παράρτημα αυτό περιέχει τις σημειώσεις κινδύνου και προσοχής που χρησιμοποιούνται στα διάφορα εγχειρίδια που σχετίζονται με το προϊόν Expandable Storage Plus: 2104 Μοντέλα DU3 και TU3.

Οι σημειώσεις εμφανίζονται στα αγγλικά και σε διάφορες άλλες γλώσσες.

Σημείωση κινδύνου Μια σημείωση κινδύνου επισημαίνει μια κατάσταση που μπορεί να είναι πολύ επικίνδυνη ή και θανατηφόρος για τους ανθρώπους.

Σημείωση προσοχής Μια σημείωση προσοχής επισημαίνει μια κατάσταση που μπορεί να είναι επικίνδυνη για τους ανθρώπους λόγω ορισμένων συνθηκών.

Ακολουθείτε πάντα ασφαλείς διαδικασίες εργασίας όταν εργάζεστε με μηχανές. Χρησιμοποιείτε τη δική σας κρίση για να αναγνωρίζετε άλλες συνθήκες που τυχόν επηρεάζουν την ασφάλεια και δεν περιγράφονται σε αυτές τις σημειώσεις.

Σημειώσεις κινδύνου

ΚΙΝΔΥΝΟΣ

Στο ακόλουθο βήμα θα αφαιρέσετε τα καλώδια ρεύματος. Στα καλώδια αυτά υπάρχει ηλεκτρικό ρεύμα αν η μονάδα διανομής ρεύματος του ικριώματος (rack) ή η μονάδα αδιάλειπτης παροχής ρεύματος (UPS) είναι ακόμα σε λειτουργία.

ΚΙΝΔΥΝΟΣ

Μην επιχειρήσετε να ανοίξετε τα καλύμματα της συσκευής που περικλείει την πηγή ρεύματος και τον ανεμιστήρα.

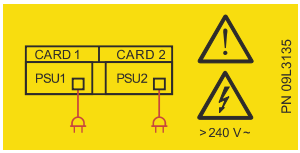
ΚΙΝΔΥΝΟΣ

Μην συνδέσετε καλώδιο ρεύματος στη συσκευή που περικλείει την πηγή ρεύματος και τον ανεμιστήρα πριν η συσκευή τοποθετηθεί στη θέση της και σφίξετε τις βίδες στήριξης.

ΚΙΝΔΥΝΟΣ

Μια ηλεκτρική πρίζα που δεν είναι καλωδιωμένη σωστά θα μπορούσε να προκαλέσει την παρουσία επικίνδυνης τάσης σε μεταλλικά εξαρτήματα του συστήματος ή στις συσκευές που προσαρτώνται στο σύστημα.
Είναι ευθύνη του πελάτη να βεβαιωθεί ότι η πρίζα παροχής ρεύματος είναι σωστά καλωδιωμένη και γειωμένη ώστε να μην υπάρχει κίνδυνος ηλεκτροπληξίας.
Κατά τη διάρκεια καταιγίδας, μην αποσυνδέετε καλώδια σταθμών εμφάνισης, εκτυπωτών, τηλεφώνων ή προστατευτικά σταθμών για γραμμές επικοινωνίας.

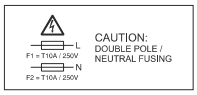
Σημειώσεις προσοχής



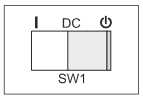
ΠΡΟΣΟΧΗ:
Αυτή η μονάδα μπορεί να έχει δύο καλώδια γραμμής. Για να διακόψετε πλήρως την παροχή ρεύματος, αποσυνδέστε και τα δύο καλώδια γραμμής.

ΠΡΟΣΟΧΗ:
Το βάρος αυτής της μονάδας είναι 38.5 Kg.

ΠΡΟΣΟΧΗ:
Μην αφαιρέσετε το κάλυμμα, μην επιχειρήσετε να κάνετε συντήρηση της μονάδας, δεν υπάρχουν εξαρτήματα των οποίων μπορεί να γίνει συντήρηση.



ΠΡΟΣΟΧΗ:
Ασφάλεια δύο πόλων/ουδέτερου



ΠΡΟΣΟΧΗ:
Η κατάσταση "Standby" σημειώνεται με το σύμβολο που βρίσκεται στα δεξιά της σήμανσης "DC" πάνω από το διακόπτη SW1. Αν ο διακόπτης SW1 είναι στη δεξιά θέση, κάτω ακριβώς από το σύμβολο "Standby", η παροχή εναλλασσόμενου ρεύματος της μονάδας δεν έχει διακοπεί.

ΠΡΟΣΟΧΗ:
Ο σταθεροποιητής πρέπει να προσαρτηθεί σωστά στο κάτω εμπρόσθιο μέρος του ικριώματος ώστε να μην γείρει προς τα εμπρός το ικρίωμα κατά την αφαίρεση της μονάδας 2104 Μοντέλο DU3 από το ικρίωμα.
Μην αφαιρέσετε ή εγκαταστήσετε καμία μονάδα αν δεν έχει προσαρτηθεί σταθεροποιητής στο ικρίωμα.

ΠΡΟΣΟΧΗ:
Ο σταθεροποιητής πρέπει να προσαρτηθεί σωστά στο κάτω εμπρόσθιο μέρος του ικριώματος ώστε να μην γείρει προς τα εμπρός το ικρίωμα κατά την εγκατάσταση της μονάδας 2104 Μοντέλο DU3 στο ικρίωμα.
Μην αφαιρέσετε ή εγκαταστήσετε καμία μονάδα αν δεν έχει προσαρτηθεί σταθεροποιητής στο ικρίωμα.

ΠΡΟΣΟΧΗ:
Μια μονάδα 2104 Μοντέλο DU3 έχει βάρος τουλάχιστον 38.5 Kg όταν είναι εγκατεστημένος ο μέγιστος αριθμός μονάδων δίσκων. Μην επιχειρήσετε να ανυψώσετε τη μονάδα 2104 για να την εγκαταστήσετε στο ικρίωμα αν δεν έχουν αφαιρεθεί όλες οι μονάδες δίσκων.

ΠΡΟΣΟΧΗ:
Μια μονάδα 2104 Μοντέλο DU3 έχει βάρος τουλάχιστον 38.5 Kg όταν είναι εγκατεστημένος ο μέγιστος αριθμός μονάδων δίσκων. Μην επιχειρήσετε να αφαιρέσετε τη μονάδα 2104 από το ικρίωμα αν δεν έχουν αφαιρεθεί όλες οι μονάδες δίσκων.

ΠΡΟΣΟΧΗ:
Μην επιχειρήσετε να ανυψώσετε τη μονάδα 2104 μόνος σας. Ζητήστε τη βοήθεια ενός ακόμα ατόμου.

ΠΡΟΣΟΧΗ:
Μην εισάγετε χέρια ή εργαλεία στον κενό χώρο όπου βρισκόταν η συσκευή που περικλείει τον ανεμιστήρα.

ΠΡΟΣΟΧΗ:
Μην εισάγετε χέρια ή εργαλεία στον κενό χώρο όπου βρισκόταν η συσκευή που περικλείει την πηγή ρεύματος και τον ανεμιστήρα.

ΠΡΟΣΟΧΗ:
Μην εισάγετε χέρια ή εργαλεία στον κενό χώρο όπου βρισκόταν η συσκευή που περικλείει την κάρτα διακοπτών (switch card).

ΠΡΟΣΟΧΗ:
Μην εισάγετε χέρια ή εργαλεία στον κενό χώρο όπου βρισκόταν η συσκευή που περικλείει την κάρτα διεπαφής SCSI.

ΠΡΟΣΟΧΗ:
Για την ασφάλεια του χρήστη, το προϊόν αυτό είναι εξοπλισμένο με καλώδιο 3 αγωγών και φις. Χρησιμοποιείτε το καλώδιο ρεύματος μαζί με σωστά γειωμένη ηλεκτρική πρίζα για να αποφύγετε τον κίνδυνο ηλεκτροπληξίας.

ΠΡΟΣΟΧΗ:
Μην αγγίξετε την πρίζα ρεύματος ή το κάλυμμα της πρίζας με οτιδήποτε άλλο πλην των ηλεκτροδίων δοκιμών έως ότου ολοκληρώσετε αυτό τον έλεγχο ασφάλειας.

ΠΡΟΣΟΧΗ:
Αν η ένδειξη δεν είναι άπειρο, μην προχωρήσετε. Πριν συνεχίσετε, κάντε τις απαραίτητες διορθώσεις στην καλωδίωση. Μην ανάψετε το κύκλωμα διακλάδωσης CB πριν ολοκληρωθούν ικανοποιητικά όλα τα παραπάνω βήματα.

ΠΡΟΣΟΧΗ:
Μια μονάδα 2104 Μοντέλο TU3 μπορεί να έχει βάρος έως και 38.5 Kg όταν είναι εγκατεστημένος ο μέγιστος αριθμός μονάδων δίσκων. Μην επιχειρήσετε να την ανυψώσετε χωρίς τη βοήθεια ενός ακόμα ατόμου.

ΠΡΟΣΟΧΗ:
Μη χρησιμοποιείτε τις λαβές του ανεμιστήρα ή της συσκευής που περικλείει την πηγή ρεύματος και τον ανεμιστήρα για να μεταφέρετε τη μονάδα 2104. Οι λαβές αυτές δεν είναι σχεδιασμένες να υποστηρίζουν το βάρος της μονάδας.

ΠΡΟΣΟΧΗ:
Καθώς ωθείτε τη συσκευή στη θέση της, ο μοχλός επαναφέρεται αυτόματα στην κλειστή θέση. Προσέξτε να μη χτυπηθούν τα δάκτυλά σας ανάμεσα στο μοχλό και τη συσκευή.

הודעות בטיחות

נספח זה מכיל את הודעות הסכנה ואזהרות הבטיחות המופיעות בספרים השונים המתייחסים אל Expandable Storage Plus, דגם DU3 ודגם TU3.
.

הודעות אלה מופיעות הן באנגלית והן בשפות אחרות.

הודעות סכנה הודעת סכנה מזהירה מפני מצב העלול לגרום מוות או להיות מסוכן ביותר לבני אדם.

הודעת זהירות הודעת זהירות מפנה את תשומת הלב למצב העלול להיות מסוכן לבני אדם בגלל תנאים קיימים מסוימים.

השתמשו תמיד בנוהלי עבודה בטוחים כאשר אתם מטפלים במכונות. השתמשו בשיקול דעת כדי לזהות מצבים מסוכנים שאינם מתוארים בהודעות אלה.

הודעות סכנה

סכנה

בצעדים הבאים אתם עומדים לנתק את כבלי החשמל. בכבלים אלה עובר זרם חשמלי אם יחידת מפצל הכוח של מסד המכשירים או יחידת האל-פסק (UPS) עדיין דולקים.

סכנה

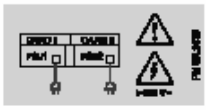
אל תנסו לפתוח את מכסי מכלול ספק הכוח והמאוורר.

סכנה

אל תחברו כבל חשמל למכלול ספק הכוח והמאוורר עד שהתקנת היחידה תושלם וכל ברגי החיזוק יהיו מהודקים.

סכנה

שקע חשמלי שאינו מחווט כהלכה יכול לגרום למתח חשמלי מסוכן בחלקי מתכת של המערכת או ההתקנים המחוברים למערכת.
הלקוח אחראי להבטיח כי השקע מחווט ומוארק כראוי, כדי למנוע סכנת התחשמלות.
בזמן סערת ברקים, אין לחבר כבלים של צגים, מדפסות, טלפונים או מגיני ברקים של קווי תקשורת.

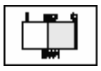


זהירות:
ליחידה זו יכולים להיות שני כבלי חשמל. לניתוק הזרם, יש לנתק את שני הכבלים.

זהירות:
יחידה זו שוקלת 38.5 ק"ג.

זהירות:
אל תסירו את המכסה, אל תבצעו טיפול שירות, אין חלקים שאפשר לטפל בהם

זהירות:
הגנת נתיך כפולה (פאזה/אפס).



זהירות:
חיווי מצב "כוננות" (standby) מופיע מימין לציון DC בדיוק מעל המתג SW1. כאשר המתג SW1 מוסט ימינה, בדיוק מתחת לחיווי הכוונות, מתח הרשת של היחידה אינו מנותק.

זהירות:

המייצב חייב להיות מחובר כראוי בתחתית מסד המכשירים כדי למנוע מהמסד ליפול קדימה בזמן הוצאת היחידות מהמסד. אל תמשכו החוצה או תתקינו יחידות אם המייצב אינו מחובר אל מסד המכשירים.

זהירות:

יחידת 2104 מדגם DU3 שוקלת 38.5 ק"ג כאשר המספר המרבי של כונני דיסקים מותקן בתוכה. אל תנסו להרים את היחידה לתוך המסד לפני שתנתקו את כל המודולים של כונני הדיסקים.

זהירות:

יחידת 2104 מדגם DU3 שוקלת 38.5 ק"ג כאשר המספר המרבי של כונני דיסקים מותקן בתוכה. אל תנסו להוציא את היחידה מהמסד לפני שתנתקו את כל המודולים של כונני הדיסקים.

זהירות:

אל תנסו להרים לבדכם את היחידה. בקשו עזרה מאדם נוסף.

זהירות:

אל תכניסו ידיים או מכשירים לחלל הריק שבו היה קודם מכלול המאוורר.

זהירות:

אל תכניסו ידיים או מכשירים לחלל הריק שבו היה קודם לכן מכלול ספק הכוח והמאוורר.

זהירות:

אל תכניסו ידיים או מכשירים לחלל הריק שבו היה קודם לכן מכלול כרטיסי המיתוג.

זהירות:

אל תכניסו ידיים או מכשירים לחלל הריק שבו היה קודם לכן מכלול כרטיסי SCSI.

זהירות:

מוצר זה מצויד בכבל חשמל ובתקע עם שלושה חוטים, לבטיחות המשתמש. חברו כבל חשמל זה לשקע חשמל מוארק כהלכה כדי למנוע סכנת התחשמלות.

זהירות:

אל תגעו בשקעים או במכסי השקעים אלא באמצעות מכשירי הבדיקה, לפני שבדיקת בטיחות זו תושלם.

זהירות:

אם הקריאה שונה מאינסוף, אל תמשיכו. בצעו את התיקונים הדרושים בחיווט לפני שתמשיכו. אל תפעילו את הנתיך של קו ההזנה CB עד שכל הצעדים שלעיל יבוצעו.

זהירות:

משקלה של יחידת 2104 מדגם TU3 יכול להגיע עד 54.5 ק"ג כאשר המספר המרבי של כונני דיסקים מותקן בתוכה. אל תנסו להרים אותה ללא עזרה של אדם נוסף.

זהירות:

אל תשתמשו בידיות של המאוורר או של מכלולי המאוורר וספק הכוח כאמצעי לנשיאת היחידה. ידיות אלה אינן מיועדות לתמוך במשקל היחידה.

זהירות:

כשדוחפים את המכלול למקומו עד הסוף, ידית המנוף מוסטת למצב סגור באופן אוטומטי. היזהרו שאצבעותיכם לא ייתפסו בין המנוף למכלול.

Biztonsági figyelmeztetések

Ez a függelék azokat a veszélyjelző és figyelmeztető megjegyzéseket tartalmazza, amelyek a Expandable Storage Plus: 2104 DU3-as és TU3-as modellekhez tartozó könyvekben szerepelnek.

Ezek a figyelmeztetések angolul és más nyelveken olvashatóak.

Veszély! A veszélyt jelző megjegyzés az emberekre halálos, vagy különösen veszélyes helyzetekre hívja fel a figyelmet.

Figyelmeztetés! A figyelmeztető megjegyzés olyan helyzetekre hívja fel a figyelmet, ahol a fennálló körülmények az emberekre veszélyes helyzetet teremtenek.

Mindig tartsa be az előírt biztonsági eljárásokat a gépek szerelésénél! Hagyatkozzon a saját értékítéletére azon biztonsági feltételek esetén, amelyeket ezek a figyelmeztetések nem ismertetnek!

Veszély!

Vigyázat, veszély!

A következő lépésben a tápkábelt távolítja el. Ezek a kábelek feszültség alatt állnak, ha a tápelosztó vagy a szünetmentes tápegység (UPS) be van kapcsolva.

Vigyázat, veszély!

Ne próbálja kinyitni a tápegység borítóját!

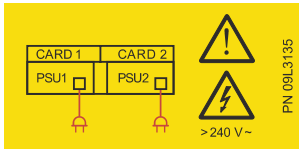
Vigyázat, veszély!

Ne csatlakoztasson hálózati kábelt a tápegységhez, amíg az nincs a helyén és a rögzítőcsavarjai nem tartják szorosan!

Vigyázat, veszély!

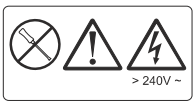
A nem megfelelően kábelezett elektromos foglalat veszélyes feszültséget vezethet a rendszer fém részeire és a csatlakoztatott eszközökbe.
A vásárló felelőssége, hogy biztosítsa a foglalat helyes bekötését és földelését az áramütés megelőzése érdekében.
Zivatar alatt ne húzza szét a monitorok, nyomtatók, telefonok és állomásvédő eszközök kommunikációs kábeleit!

Figyelmeztetések

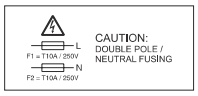


Figyelem:
Előfordulhat, hogy az egységnek két tápkábele van. A teljes áramtalanítás érdekében húzza ki mindkét tápkábelt!

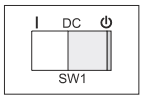
Figyelem:
Az egység súlya 38.5 kg.



Figyelem:
Ne távolítsa el a fedelet és ne próbálkozzon az egység szerelésével, nincs benne javítható elem!



Figyelem:
Dupla pólusú/semleges biztosítékok



Figyelem:
A ″Készenléti″ állapotot a DC-től jobbra, az SW1 kapcsoló feletti szimbólum jelzi. Ha az SW1 kapcsolót jobb oldali pozícióba állítja a ″Készenléti″ szimbólum alá, az egység tápellátása nem szűnik meg.

Figyelem:
A stabilizátort megfelelően kell a tartókeret aljára szerelni úgy, hogy a tartókeret a 2104 DU3-as modell kiszerelésekor ne dőljön előre.
Ne húzzon ki és ne szereljen be egységet, ha a tartókeretre nincs stabilizátor erősítve!

Figyelem:
A stabilizátort megfelelően kell a tartókeret aljára szerelni úgy, hogy a tartókeret a 2104 DU3-as modell beszerelésekor ne dőljön előre.
Ne távolítson el és ne szereljen be egységet, ha a tartókeretre nincs stabilizátor erősítve!

Figyelem:
Ha minden lemezmeghajtó telepítve van, a 2104 DU3-as modell súlya 38.5 kg is lehet. Ne próbálja meg beemelni a 2104-as modellt a tartókeretbe, amíg nincs eltávolítva az összes lemezmeghajtó modul!

Figyelem:
Ha minden lemezmeghajtó telepítve van, a 2104 DU3-as modell súlya 38.5 kg is lehet. Ne próbálja meg kiszerelni a 2104-as modellt a tartókeretből, amíg nincs eltávolítva az összes lemezmeghajtó modul!

Figyelem:
Ne próbálja egymaga felemelni a 2104-as modellt! Kérje más személy segítségét!

Figyelem:
Ne tegye a kezét vagy az eszközeit a ventilátor üres helyére!

Figyelem:
Ne tegye a kezét vagy az eszközeit a ventilátoros tápegység üres helyére!

Figyelem:
Ne tegye a kezét vagy az eszközeit a kapcsolókártya-egység üres helyére!

Figyelem:
Ne tegye a kezét vagy az eszközeit a SCSI illesztőkártya egységének üres helyére!

Figyelem:
E terméket a felhasználó biztonsága érdekében háromeres kábellel és dugasszal szerelték fel. Az áramütés elkerülése érdekében megfelelően földelt aljzatot használjon!

Figyelem:
Csak mérőműszerekkel érintse az aljzatot és az aljzat fedőlemezét, mielőtt ezt a biztonsági ellenőrzést befejezné!

Figyelem:
Abban az esetben, ha a kijelzőn nem végtelen látható, ne lépjen tovább! Folytatás előtt javítsa ki a vezetékek kapcsolásait! Ne kapcsoljon át a CB áramkörre, amíg a fenti műveleteket be nem fejezte!

Figyelem:
Ha minden lemezmeghajtó telepítve van, a 2104 TU3-as modell súlya 54.5 kg is lehet. Ne próbálja felemelni mások segítsége nélkül!

Figyelem:
A 2104-as egység szállításához ne használja a ventilátor vagy a szellőztető- és tápegység fogantyúját! Ezeket a fogantyúkat nem az egység súlyának megtartására tervezték.

Figyelem:
Ahogy az összeszerelt egységet a helyére tolja, úgy záródik fokozatosan a retesz. Vigyázzon, hogy az ujja ne csípődjön be a retesz és az egység közé!

安全上の注意

この付録は、Exp Plus: 2104 モデル DU3 および TU3 に関連する各種マニュアルで使用されている危険と注意の注記を収録しています。

危険の注記　危険の注記は、人が死亡または重傷を負う可能性がある状態について注意を喚起しています。

注意の注記　注意の注記は、ある条件によっては人が重傷を負う可能性があることについて注意を喚起しています。

機器を作動させるときは常に、安全についての作業手順に従ってください。そこに記述されていないケースであっても、ユーザー自身の判断で安全な状態で作業するようにしてください。

危険の注記

⚠ 危険

次のステップで電源ケーブルを取り外します。ラックの配電盤や UPS (無停電電源装置) の電源がオンになっている場合、このケーブルには電流が通っています。

⚠ 危険

ファン付き電源装置のカバーを開けないでください。

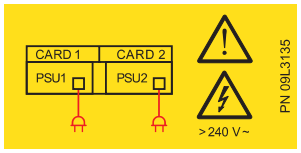
⚠ 危険

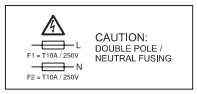
装置が完全に設置され、装置の取り付けねじを締め付けるまで、電源コードをファン付き電源装置につながないでください。

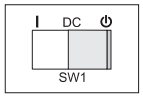
⚠ 危険

電源の配線が正しくないと、システムの金属部分やこのシステムに接続された他の装置に危険な電圧が発生することがあります。
電源コンセントの配線や、接地工事を正しく行い、感電を防止するのはお客様の責任です。
雷の発生している間は、モニター (表示装置)、プリンター、電話線、通信線の保護装置などの装置に接続されているケーブルを取り扱う作業は避けてください。

注意の注記







⚠ 注意

この装置には、電源コードが 2 本付いています。電源を完全に遮断するためには、2 本とも外してください。

⚠ 注意

この装置の重量は 38.5 kg です。

⚠ 注意

カバーを外さないでください。保守作業をしないでください。保守可能な部品はありません。

⚠ 注意

2 極 / 中性線ヒューズ使用

⚠ 注意

「スタンバイ」状態は、SW1 スイッチの上の DC の右にある記号で示されます。SW1 が「スタンバイ」記号の下で右側にセットされている場合、装置の AC 電源は完全に遮断されていません。

⚠ 注意

2104 モデル DU3 をラックから取り外す際、ラックが前に倒れることを防ぐために、安定板をラック底面前部に正しく取り付けてください。
安定板がラックに取り付けられていない場合は、装置の取り外しや取り付けをしないでください。

⚠ 注意

2104 モデル DU3 をラックに取り付ける際、ラックが前に倒れることを防ぐために、安定板をラック底面前部に正しく取り付けてください。
安定板がラックに取り付けられていない場合は、装置の取り外しや取り付けをしないでください。

⚠ 注意

2104 モデル DU3 の重量は、ディスク・ドライブ・モジュールを取り付けた最大構成で 38.5kg 以上です。すべてのディスク・ドライブ・モジュールが取り外されるまでは、ラックに 2104 を取り付けないでください。

⚠ 注意

2104 モデル DU3 の重量は、ディスク・ドライブ・モジュールを取り付けた最大構成で 38.5kg 以上です。すべてのディスク・ドライブ・モジュールが取り外されるまでは、ラックから2104 を取り外さないでください。

⚠ 注意

2104を一人で持ち上げないでください。 他の人の助けを借りてください。

⚠ 注意

ファンを取り出したあとの空間に手やツールを差し込まないでください。

⚠ 注意

ファン付き電源装置を取り出したあとの空間に手やツールを差し込まないでください。

⚠ 注意

スィッチ・カード・アセンブリーを取り出したあとの空間に手やツールを差し込まないでください。

⚠ 注意

SCSI インターフェース・カード・アセンブリーを取り出したあとの空間に手やツールを差し込まないでください。

⚠ 注意

この製品には、使用者保護のために 3 線式の電源ケーブルとプラグが付けられています。感電事故防止のために、この電源ケーブルと適切に接地された電源コンセントを使用してください。

⚠ 注意

安全チェックが完了するまでは、テスト・プローブ以外のもので電源コンセントや電源コンセントの表面プレートにさわることがないようにしてください。

⚠ 注意

電源ピンが絶縁されていることを確認するまでは作業を進めないでください。必要があれば、配線の修正を行ってください。上記のすべてのステップが正しく完了するまでは、サーキットブレーカーのスイッチを入れないでください。

⚠ 注意

2104 モデル TU3 の重量は、ディスク・ドライブ・モジュールを取り付けた最大構成で 54.5 kg 以上です。他の人の助けなしで装置を持ち上げないでください。

⚠ 注意

2104 を運ぶ場合に、ファン付き電源装置やファンに取り付けてあるハンドルを使用しないでください。 これらのハンドルは装置の重量を支えるようには作られていません。

⚠ 注意

アセンブリーを一杯に押し込むと、レバーは閉じられた方に自動的に移動します。 レバーとアセンブリーの間に指がはさまれることのないように 注意してください。

안전 경고

이 부록에는 Expandable Storage Plus: 2104 모델 DU3 및 TU3와 관련된 여러 책에서 사용되는 위험 및 경고 주의사항이 들어 있습니다.

주의사항은 영어와 그외 다양한 언어로 표시됩니다.

위험 주의사항 사용자에게 치명적일 수 있거나 매우 위험한 상황에 대해 주의를 환기시킵니다.

경고 주의사항 기존 조건때문에 사용자에게 위험할 수 있는 상황에 대해 주의를 환기시킵니다.

기계 작업을 할 때는 항상 안전 작업 절차를 따르십시오. 이 주의사항에 나와있지 않은 안전에 관한 상황은 스스로 판단해서 조치를 취하십시오.

위험 주의사항

위험

다음 단계에서 전원 케이블을 제거하는 경우, 랙 분산 장치 또는 무정전 전원 장치(UPS)의 전원이 켜져 있으면 이 케이블에는 전류가 흐르고 있는 상태입니다.

위험

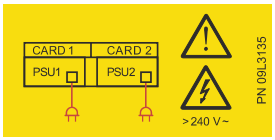
송풍기 및 전원 공급 장치의 덮개를 열지 마십시오.

위험

송풍기 및 전원 공급 장치가 완전히 장착되고 나사를 완전히 조이기 전에는 송풍기 및 전원 공급 장치에 전원 케이블 플러그를 꽂지 마십시오.

위험

제대로 배선되지 않은 전기 콘센트는 시스템이나 해당 시스템에 부착된 장치의 금속 부분에 위험한 감전을 일으킬 수 있습니다.
감전을 방지하기 위해 콘센트가 제대로 배선되고 접지되었는지 확인하는 것은 고객의 책임입니다.
뇌우 중에는 표시장치, 프린터, 전화 또는 통신 회선용 장치 보호기의 케이블을 뽑지 마십시오.



주의:

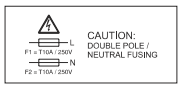
이 장치에 두 개의 라인 코드가 있습니다. 모든 전원을 차단하려면 두 개의 라인 코드를 모두 연결 해제하십시오.

주의:

이 장치의 무게는 **38.5 kg**입니다.

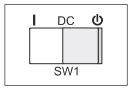
주의:

덮개를 제거하지 마십시오. 서비스 가능 부품이 아니오니 서비스하지 마십시오.



주의:

이중 중성극 휴즈



주의:

"**Standby**" 상태는 **SW1** 스위치 바로 위쪽의 "**DC**" 오른쪽에 기호로 표시됩니다. **SW1**이 "**Standby**" 기호 아래의 오른쪽 위치로 설정되면 장치의 **AC** 전원은 차단되지 않습니다.

주의:
2104 모델 **DU3**가 랙에서 제거되는 동안 앞쪽으로 넘어지는 것을 방지하기 위해서는 스테블라이저가 랙의 앞쪽 아래 부분에 제대로 설치되어 있어야 합니다. 스테블라이저가 랙에 접속되어 있지 않다면 어떤 장치도 꺼내거나 설치하지 마십시오.

주의:
2104 모델 **DU3**가 랙에 설치되는 동안 앞쪽으로 넘어지는 것을 방지하기 위해서는 스테블라이저가 랙의 앞쪽 아래 부분에 제대로 설치되어 있어야 합니다. 스테블라이저가 랙에 접속되어 있지 않다면 어떤 장치도 제거하거나 설치하지 마십시오.

주의:
디스크 드라이브 모듈이 설치되어 있는 **2104** 모델 **DU3**는 **38.5 kg(85lb)**까지 무게가 나갑니다. 모든 디스크 드라이브 모듈이 제거되지 않은 경우, **2104**를 랙으로 들어올리지 마십시오.

주의:
디스크 드라이브 모듈이 설치되어 있는 **2104** 모델 **DU3**는 **38.5 kg(85lb)**까지 무게가 나갑니다. 모든 디스크 드라이브 모듈이 제거되지 않은 경우, **2104**를 랙에서 제거하지 마십시오

주의:
2104를 혼자 들어올리려고 하지 마십시오. 다른 서비스 직원에게 도움을 요청하십시오.

주의:
송풍기 장치가 있는 빈 공간에 손이나 툴을 넣지 마십시오.

주의:
송풍기 및 전원 공급 장치가 있는 빈 공간에 손이나 툴을 넣지 마십시오.

주의:
스위치 카드 장치가 있는 빈 공간에 손이나 툴을 넣지 마십시오.

주의:
SCSI 인터페이스 카드 장치가 있는 빈 공간에 손이나 툴을 넣지 마십시오.

주의:
이 제품은 사용자 안전을 위해 **3**회선 전원 케이블 및 플러그가 장착되어 있습니다. 감전을 피하려면 제대로 접지된 전기 콘센트에 이 전원 케이블을 사용하십시오.

주의:
해당 안전 점검을 완료하기 전에 테스트 탐침 이외의 다른 도구로 전원 콘센트나 전원 콘센트 보호용 덮개를 만지지 마십시오.

주의:
충분히 숙지하지 않은 경우 계속하지 마십시오. 계속하기 전에 배선에 필요한 보정을 하십시오. 위의 모든 단계를 완료할 때까지 분기 회로 **CB**의 전원을 켜지 마십시오.

주의:
디스크 드라이브 모듈이 설치되어 있는 **2104** 모델 **TU3**는 **54.5kg(120lb)**까지 무게가 나갑니다. 다른 사람의 도움 없이 들어 올리려고 하지 마십시오.

주의:
2104 운반시에 송풍기 또는 송풍기 및 전원 공급 장치의 핸들을 사용하지 마십시오. 이 핸들은 장치의 무게를 지탱하지 못합니다.

주의:
장치를 완전히 제자리로 밀어넣으면, 레버가 자동으로 닫힘 위치로 이동합니다. 레버와 장치 간에 손가락이 끼이지 않도록 주의하십시오.

Avisos de Segurança

Este apêndice contém avisos de perigo e cuidado utilizados nos diversos manuais relativos a Expandable Storage Plus: 2104 Modelos DU3 e TU3.

Os avisos encontram-se em língua inglesa e noutros idiomas.

Aviso de perigo Um aviso de perigo chama a atenção para uma situação que seja potencialmente letal ou extremamente perigosa para as pessoas.

Aviso de cuidado Um aviso de cuidado chama a atenção para uma situação que seja potencialmente perigosa para as pessoas devido a alguma condição existente.

Utilize sempre procedimentos seguros ao trabalhar com máquinas. Recorra ao senso comum para identificar condições de segurança que estes avisos não incluam.

Avisos de Perigo

PERIGO

A etapa seguinte consiste em remover os cabos de alimentação. Estes cabos estão sob tensão se a unidade de distribuição de alimentação do bastidor ou se a unidade de fonte de alimentação ininterruptível (UPS) ainda estiver ligada.

PERIGO

Não abra as tampas do conjunto fonte-de-alimentação-e-ventilador.

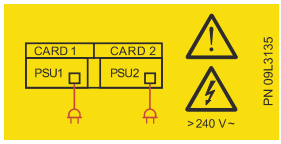
PERIGO

Não ligue nenhum cabo ao conjunto de fonte-de-alimentação-e-ventilador enquanto o conjunto não estiver totalmente montado e os respectivos parafusos de orelhas devidamente enroscados.

PERIGO

Uma tomada eléctrica indevidamente instalada poderá provocar uma voltagem perigosa nas partes metálicas do sistema ou em dispositivos a ele ligados.
É da responsabilidade do cliente assegurar que a tomada esteja devidamente instalada e ligada à terra para evitar um choque eléctrico.
Durante uma trovoada, não desligue cabos de estações de visualização, impressoras, telefones ou protecções de estação para linhas de comunicação.

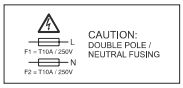
Avisos de Cuidado



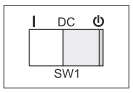
CUIDADO:
Esta unidade pode ter dois cabos eléctricos. Para remover toda a alimentação, desligue ambos os cabos eléctricos.

CUIDADO:
Esta unidade pesa 38.5 kg.

CUIDADO:
Não remova a tampa, não tente efectuar a manutenção, as peças não precisam de assistência.



CUIDADO:
Fusível de dupla polaridade/neutro



CUIDADO:
O símbolo que se encontra à direita de "CC" logo acima do interruptor, SW1, indica uma condição "Standby". Ao comutar o SW1 para a posição da direita logo abaixo do símbolo "Standby", a alimentação de CA da unidade não é desligada.

CUIDADO:
O estabilizador deve estar correctamente ligado à frente de baixo do bastidor por forma a evitar que este se incline para a frente enquanto o 2104 Modelo DU3 está a ser retirado do bastidor. Não retire nem instale unidade alguma se não tiver um estabilizador ligado ao bastidor.

CUIDADO:
O estabilizador deve estar correctamente ligado à frente de baixo do bastidor por forma a evitar que este se incline para a frente enquanto o 2104 Modelo DU3 está a ser instalado no bastidor. Não remova nem instale unidade alguma se não tiver um estabilizador ligado ao bastidor.

CUIDADO:
Um 2104 Modelo DU3 pesa cerca de 38.5 kg com o número máximo de módulos de unidades de disco instalados. Não tente levantar o 2104 para o bastidor, a menos que tenham sido removidos todos os módulos de unidades de disco.

CUIDADO:
Um 2104 Modelo DU3 pesa cerca de 38.5 kg com o número máximo de módulos de unidades de disco instalados. Não tente remover o 2104 do bastidor, a menos que tenham sido removidos todos os módulos de unidades de disco.

CUIDADO:
Não tente levantar o 2104 sozinho. Peça ajuda para o efeito.

CUIDADO:
Não introduza as mãos ou ferramentas no espaço vazio que continha o conjunto do ventilador.

CUIDADO:
Não introduza as mãos ou ferramentas no espaço vazio que continha o conjunto de fonte-de-alimentação-e-ventilador.

CUIDADO:
Não introduza as mãos ou ferramentas no espaço vazio que continha o conjunto da placa de interruptor.

CUIDADO:
Não introduza as mãos ou ferramentas no espaço vazio que continha o conjunto da placa de interface SCSI.

CUIDADO:
Este produto está equipado com cabo de alimentação e ficha de 3 condutores para segurança do utilizador. Utilize este cabo em conjunto com uma tomada devidamente ligada à terra para evitar choques eléctricos.

CUIDADO:
Não toque na tomada de corrente, nem no respectivo painel frontal, com objectos que não sejam pontas de prova até ter concluído esta verificação de segurança.

CUIDADO:
Se a leitura não for infinito, não continue a verificação. Efectue as correcções necessárias ao sistema de ligações antes de prosseguir. Não ligue o CB do circuito de derivação enquanto não concluir satisfatoriamente os passos descritos acima.

CUIDADO:
Um 2104 Modelo TU3 pode pesar até 54.5 kg com o número máximo de módulos de unidades de disco instalados. Não tente levantar sem ajuda.

CUIDADO:
Não utilize os manípulos dos conjuntos de ventilador ou de fonte-de-alimentação-e-ventilador para transportar o 2104. Estes manípulos não foram concebidos para suportar o peso da unidade.

CUIDADO:
Ao empurrar o conjunto totalmente para dentro, a alavanca move-se automaticamente para a posição fechada. Tenha cuidado para não entalar os dedos.

Avisos de seguridad

Este apéndice contiene los avisos de peligro y precaución que se utilizan en los diversos manuales que hacen referencia a Expandable Storage Plus: 2104 Modelos DU3 y TU3.

Los avisos se muestran en inglés y en otros idiomas diferentes.

Aviso de peligro Un aviso de peligro llama la atención sobre una situación que, potencialmente, podría causar la muerte o un daño muy grave a las personas.

Aviso de precaución Un aviso de precaución llama la atención sobre una situación que, potencialmente, puede resultar peligrosa para las personas a causa de una condición existente.

Siga procedimientos de trabajo seguros siempre que trabaje con máquinas. Utilice su propio juicio para identificar condiciones de seguridad que no se describen en estos avisos.

Avisos de peligro

PELIGRO

En el siguiente paso va a extraer los cables de alimentación. Estos cables están cargados si la unidad de distribución de alimentación del bastidor o la unidad de suministro de alimentación ininterrumpido todavía están conectadas.

PELIGRO

No intente abrir las cubiertas del conjunto ventilador-y-suministro-de-alimentación.

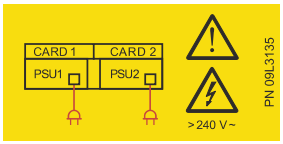
PELIGRO

No enchufe un cable de alimentación en el conjunto ventilador-y-suministro-de-alimentación hasta que el conjunto esté bien colocado en su sitio y los tornillos de mariposa estén apretados completamente.

PELIGRO

Una toma eléctrica que no tenga un cableado correcto puede hacer que las partes metálicas del sistema o los dispositivos conectados al sistema tengan un voltaje peligroso.
Es la responsabilidad del usuario asegurarse de que la toma esté cableada y conectada a tierra correctamente para prevenir una descarga eléctrica.
Durante una tormenta eléctrica, no desconecte los cables de las estaciones de pantalla, impresoras, teléfonos o protectores de estaciones para líneas de comunicación.

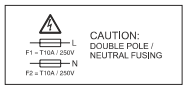
Avisos de precaución



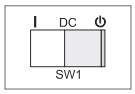
PRECAUCIÓN:
Esta unidad tiene dos cables. Para eliminar toda la alimentación, desconecte los dos.

PRECAUCIÓN:
Esta unidad pesa 38.5 kg.

PRECAUCIÓN:
No extraiga la cubierta, no lo repare, no hay ningún componente que se pueda reparar.



PRECAUCIÓN:
Fusible de doble polo/neutro



PRECAUCIÓN:
Una condición de "espera" se indica con el símbolo que se encuentra a la derecha de "DC" directamente encima del conmutador, SW1. Cuando SW1 se coloca en la posición correcta directamente debajo del símbolo "En espera", la alimentación de CA de la unidad no está desconectada.

PRECAUCIÓN:
El estabilizador debe estar conectado de manera correcta a la parte frontal inferior del bastidor para evitar que el bastidor se incline hacia adelante mientras se extrae el 2104 Modelo DU3 del bastidor.
No extraiga ni instale ninguna unidad si no está conectado un estabilizador al bastidor.

PRECAUCIÓN:
El estabilizador debe estar conectado de manera correcta a la parte frontal inferior del bastidor para evitar que el bastidor se incline hacia adelante mientras se instala en el bastidor el 2104 Modelo DU3.
No extraiga ni instale ninguna unidad si no está conectado un estabilizador al bastidor.

PRECAUCIÓN:
Un 2104 Modelo DU3 pesa hasta 38.5 kg (85 lb) con el número máximo de módulos de unidades de disco instalados. No intente alzar el 2104 hacia el bastidor a menos que se hayan extraído todos los módulos de unidades de disco.

PRECAUCIÓN:
Un 2104 Modelo DU3 pesa hasta 38.5 kg (85 lb) con el número máximo de módulos de unidades de disco instalados. No intente extraer el 2104 del bastidor a menos que se hayan extraído todos los módulos de unidades de disco.

PRECAUCIÓN:
No intente levantar el 2104 sólo. Pida ayuda a otra persona.

PRECAUCIÓN:
No introduzca las manos ni herramientas en el espacio vacío que ocupaba el conjunto del ventilador.

PRECAUCIÓN:
No introduzca las manos ni herramientas en el espacio vacío que ocupaba el conjunto ventilador-y-suministro-de-alimentación.

PRECAUCIÓN:
No introduzca las manos ni herramientas en el espacio vacío que ocupaba el conjunto de la tarjeta conmutadora.

PRECAUCIÓN:
No introduzca las manos ni herramientas en el espacio vacío que ocupaba el conjunto de la tarjeta de la interfaz SCSI.

PRECAUCIÓN:
Este producto está equipado con un cable de alimentación de tres alambres y enchufe para más seguridad para el usuario. Utilice este cable de alimentación junto con una toma eléctrica conectada a tierra correctamente para evitar una descarga eléctrica.

PRECAUCIÓN:
No toque la toma de alimentación o la placa frontal de la misma excepto con las sondas de comprobación antes de haber completado esta comprobación de seguridad.

PRECAUCIÓN:
Si la lectura no es infinita, no continúe. Realice las correcciones necesarias en la instalación alámbrica antes de continuar. Hasta que no se hayan completado de manera satisfactoria todos los pasos anteriores no se debe encender el CB del circuito de derivación.

PRECAUCIÓN:
Un 2104 Modelo TU3 puede pesar hasta 54.5 kg (120 lb) con el número máximo de módulos de unidades de disco instalados. No intente levantar uno sin la ayuda de una segunda persona.

PRECAUCIÓN:
No utilice las asas del conjunto del ventilador ni las del conjunto ventilador-y-suministro-de-alimentación para llevar el 2104. Estas asas no están hechas para soportar el peso de la unidad.

PRECAUCIÓN:
Mientras empuja el conjunto hacia su sitio, la palanca se mueve de manera automática hacia la posición de cerrado. Asegúrese de que los dedos no se queden comprimidos entre la palanca y el conjunto.

安全警告

本附錄包含危險及注意事項，適用在與 Expandable Storage Plus: 2104 DU3 及 TU3 機型相關的不同書籍中。

注意事項以英文及其他不同語言顯示。

危險注意事項 「危險注意事項」是要提醒人們注意潛在致命或極度危險的狀況。

警告注意事項 「警告注意事項」是要提醒人們注意因現存條件而產生潛在危險的狀況。

不論何時使用機器，務必採用安全的工作程序。注意事項未說明的安全狀況，請運用自我判斷力加以識別。

危險注意事項

危險

下一步您需要拔掉電源線。如果框架式電源分送裝置或不斷電系統（UPS）仍舊開著，則這些電源線仍處於通電狀態。

危險

請勿嘗試開啓風扇與電源供應組的蓋子。

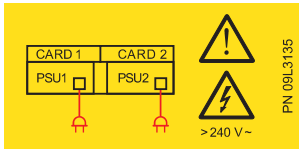
危險

除非供應組已確實歸位，且螺絲已完全鎖緊，否則請勿將電源線插頭插入風扇與電源供應組。

危險

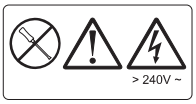
未正確接線的電源插座，可能會使系統或與系統相連之裝置的金屬部分，帶有危險的電壓。
客戶有責任確定插座已正確接線及接地，以避免電擊。
雷電交加時，請勿切斷顯示站、印表機、電話，或通訊線路工作站防護設備的電源線。

警告注意事項

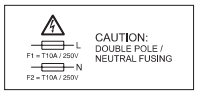


注意:
此裝置可能有兩條電線。要除去所有電力，請一併切斷這兩條電線。

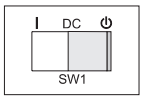
注意:
此裝置重量為 **38.5** 公斤。



注意:
請勿將蓋子移除，沒有可用的零件時，請勿自行修理。



注意:
雙極/無熔絲保險



注意:
指示「待機」狀態的符號，位於 **SW1** 開關正上方的 **DC** 右側。當 **SW1** 切換到右側，即「待機」符號的正下方時，該裝置的交流電源尚未關閉。

注意:
穩壓器必須正確地連接在框架的下方前緣，以避免從框架移除 **2104 DU3** 機型的時候，框架的尖端遭到磨平。
如果穩壓器尚未連接到框架，請勿拉出或安裝任何裝置。

注意:
穩壓器必須正確地連接在框架的下方前緣，以避免將 **2104 DU3** 機型安裝到框架上的時候，框架的尖端遭到磨平。
如果穩壓器尚未連接到框架，請勿移除或安裝任何裝置。

注意:
2104 DU3 機型如安裝最大數量的硬碟模組時，重量可達 **38.5** 公斤（**85** 磅）。除非已移除所有的硬碟模組，否則請勿嘗試將 **2104** 搬上框架。

注意:
2104 DU3 機型如安裝最大數量的硬碟模組時，重量可達 **38.5** 公斤（**85** 磅）。除非已移除所有的硬碟模組，否則請勿嘗試將 **2104** 搬下框架。

注意:
請勿嘗試獨自搬動 **2104**。請尋求他人的協助。

注意:
請勿將手或工具插入裝有風扇組的空間。

注意:
請勿將手或工具插入裝有風扇與電源供應組的空間。

注意:
請勿將手或工具插入裝有切換卡組的空間。

注意:
請勿將手或工具插入裝有 **SCSI** 介面卡組的空間。

注意:
本產品配有三線電源線及插頭，以保護使用者的安全。使用電源線連接正確接地的電源插座，以避免電擊。

注意:
在完成安全檢查之前，請勿用探針以外的東西，碰觸電源插座或電源插座面板。

注意:
如果表上的讀數不是無窮大，請勿繼續。在繼續動作之前，請對線路進行必要的更正。請勿打開分支電路 **CB** 的電源，直到上述所有步驟均照要求完成為止。

注意:
2104 TU3 機型如安裝最大數量的硬碟模組時，重量可達 **54.5**公斤（**120** 磅）。 沒有他人協助時，請勿嘗試獨自搬動。

注意:
請勿使用風扇或風扇與電源供應組的把手來搬運 **2104**。這些把手無法承受裝置的重量。

注意:
當您將供應組確實歸位時，開關桿會自動移至開關的位置。請確保您的手指沒有放在開關桿及供應組之間。

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