

# SRKA4/ISP4400 Server System Quick Start Guide

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Order Number: A13353-002

- ⇒ **How to do basic set-up, boot from the configuration software CD, install the optional slide rail kit or center-mount kit, and access the product guide from the CD.**

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 **WARNINGS**

**READ WARNINGS:** Before operating this server, read the warnings beginning on page 6.

**AVOID INJURY:** To avoid personal injury when unpacking the server, use only a mechanical assist unit to lift it off the shipping pallet. The minimum server configuration weighs 26 kg (57 lbs); the maximum weighs 40 kg (88 lbs).

**Do not attempt to lift or move the server by the handles on the power supplies.**

**Use only a hand-truck or other mechanical assist unit to move the server from one location to another.**

# Warnings and Cautions

Read and adhere to all warnings, cautions, and notes in this guide and the documents supplied with the chassis, power supply, baseboard, and accessories. If the instructions for the chassis, base board, and power supply are inconsistent with these instructions or the instructions for accessories, contact the supplier to find out how you can ensure that the server meets safety and regulatory requirements.

## WARNINGS

**This guide is intended for qualified technical personnel with experience installing and configuring servers.**

**SYSTEM POWER ON/OFF:** The Power button on the server front panel **DOES NOT** remove AC power to the server system. Some circuitry in the server may continue to operate even though the front panel Power button is off. Always disconnect the power cord from the AC power source or wall outlet before performing any of the procedures in this guide. Failure to do so can result in personal injury or equipment damage.

**HAZARDOUS CONDITIONS, POWER SUPPLY:** Hazardous voltage, current, and energy levels are present inside the power supply. There are no user-serviceable parts inside the power supply; servicing should be done by technically qualified personnel.

**HAZARDOUS CONDITIONS, DEVICES, AND CABLES:** Hazardous electrical conditions may be present on power, telephone, and communication cables. Press the Power button to turn off the server and disconnect the power cord from the AC power source, telecommunications systems, networks, and modems attached to the server before removing the cover. Otherwise, personal injury or equipment damage can result.

## CAUTIONS

### **ELECTROSTATIC DISCHARGE (ESD) AND ESD PROTECTION:**

Perform the procedures in this chapter only at an electrostatic discharge (ESD) workstation since the server components can be extremely sensitive to ESD. If no such station is available, you can reduce the risk of electrostatic discharge ESD damage by doing the following:

- Wear an anti-static wrist strap and attach it to a metal part of the server.
- Touch the metal on the server chassis before touching the server components.
- Keep part of your body in contact with the metal server chassis to dissipate the static charge while handling the components.
- Avoid moving around unnecessarily.
- Hold the server components (especially boards) only by the edges.

- Place the server components on a grounded, static-free surface. Use a conductive foam pad if available but not the component wrapper.
- Do not slide the components over any surface.

**COOLING AND AIRFLOW:** For proper cooling and airflow, always install the chassis access cover before turning on the system. Operating the system without the cover in place can cause overheating and damage to system components.

## Safety and Regulatory Requirements

See the *SRKA4/ISP4400 Server System Product Guide* for all applicable safety standards, electromagnetic compatibility (EMC) regulations, and product certification markings.

**Intended uses:** This product was evaluated for use in computer racks within computer rooms and similar locations. Other uses require further evaluation.

## Unpack and Inspect the Server

Remove the server from the packaging container and check that all the accessories are included. Inspect the packaging container for evidence of mishandling during transit. If the packaging container is damaged, photograph it for reference. After removing the contents, keep the damaged container and the packing materials.

Inspect the server and accessories for damage. If the contents appear damaged, file a damage claim with the carrier immediately.

## Select Site

When selecting the site, make sure that you understand

- Space requirements for the SRKA4 MP server system
- General site criteria

## Space Requirements

The space requirements for the SRKA4 MP server system are specified in the following table.

**Table 1. SRKA4 MP Server Physical Specifications**

| Specification            | Rack Mode Only   |
|--------------------------|--|
| Height                   | 4u (7 inches)  |
| Width                    | 17.5 inch rack   |
| Depth                    | 26.5 inches  |
| Weight                   | 57 pounds, minimum configuration<br>88 pounds, maximum configuration |
| Required front clearance | 3 inches (inlet airflow <35 °C / 95 °F)                              |
| Required rear clearance  | 6 inches (no airflow restriction)                                    |
| Required side clearance  | 1 inch   |



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**Figure 1. SRKA4 MP Server System**



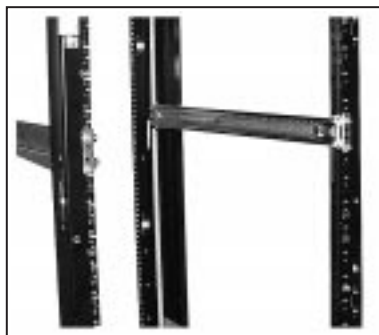
## General Site Criteria

The server operates reliably within normal office environmental limits. Select a site that meets these criteria:

- Near a properly earthed, grounded, three-pronged power outlet
  - In the United States and Canada: a NEMA 6-15R outlet for 100-120 V and for 200-240 V.
  - In other geographic areas: a properly earthed, grounded outlet in accordance with the local electrical authorities and electrical code of the region.
- Clean and relatively free of excess dust.
- Well ventilated and away from sources of heat, with the ventilating openings on the server kept free of obstructions.
- Away from sources of vibration or physical shock.
- Isolated from strong electromagnetic fields and noise caused by electrical devices such as elevators, copy machines, air conditioners, large fans, large electric motors, radio and TV transmitters, and high-frequency security devices.
- Access space provided so the server power cords can be unplugged from the power supply or the wall outlet; this is the only way to remove AC power from the server.
- Clearance provided for cooling and airflow.

## Mounting the SRKA4 Server System in a Rack

The SRKA4 server system is a rack-mounted system, which means that you install it in a rack. You install the system in either a slide rail or center-mount rack configuration.



**Figure 2. Slide Rail Configuration**



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**Figure 2a. Center-mount Configuration**

The slide rail configuration is shown in Figure 2. There are four posts, each with holes spaced at small intervals. Each slide rail in the slide rail assembly is connected to the front and back of the rack. If mounting the server in a slide rail configuration, you only need the slide rail kit. Note the equipment rack precautions below, and follow the instructions in the “Slide Rail Kit” section on page 11.

The center-mount configuration is shown in Figure 2a. There is a center bar with holes on each side. Center-mount brackets are attached to the center bar. If mounting the server in a center-mount configuration, you only need the center-mount kit. Note the equipment rack precautions below, and follow the instructions in the “Center-mount Kit” on page 20.

## Equipment Rack Precautions

### WARNINGS

**MAIN AC POWER DISCONNECT:** You are responsible for installing an AC power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the server(s).

**GROUNDING THE RACK INSTALLATION:** To avoid the potential for an electrical shock hazard, you must include a third wire safety grounding conductor with the rack installation. If a server power cord is plugged into an AC outlet that is part of the rack, then you must provide proper grounding for the rack itself. If server power cords are plugged into wall AC outlets, the safety grounding conductor in each power cord provides proper grounding only for the server. You must provide additional, proper grounding for the rack and other devices installed in it.

### CAUTIONS

**Temperature:** The operating temperature of the server, when installed in an equipment rack, must not go below 5 °C (41 °F) or rise above 35 °C (95 °F). Extreme fluctuations in temperature can cause a variety of problems in your server.

**Ventilation:** The equipment rack must provide sufficient airflow to the front of the server to maintain proper cooling. It must also include ventilation sufficient to exhaust a maximum of 3,000 Btu's per hour for the server. The rack selected and the ventilation provided must be suitable to the environment in which the server will be used.

# Slide Rail Kit

## WARNING

**Avoid injury:** To avoid personal injury when unpacking the server, use only a mechanical assist unit to lift it off the shipping pallet. The minimum server configuration weighs 26 kg (57 lbs); the maximum weighs 40 kg (88 lbs).

**Do not attempt to lift or move the server by the handles on the power supplies.**

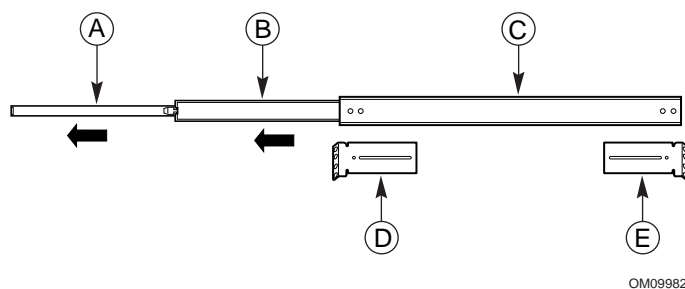
**Use only a hand-truck or other mechanical assist unit to move the server from one location to another.**

To mount the SRKA4 MP server system in a slide rail configuration, install the slide rail kit as directed in this section. The slide rail kit contains slide rail assemblies, EIA brackets, and several screws, nuts, and bolts.

The slide rail kit contains two slide rail assemblies. As shown in Figure 3, the slide rail assembly contains three moving parts: the inner member, the intermediate member, and the outer member.

The slide rail kit contains four EIA brackets. Two brackets are labeled FL/RR. One is connected to the front left (FL) of the slide assembly; the other is connected to the rear right (RR). The remaining two brackets are labeled FR/RL. One is connected to the front right (FR) of the slide assembly; the other is connected to the rear left (RL). Figure 3 shows where the brackets are attached to the slide rail assembly.

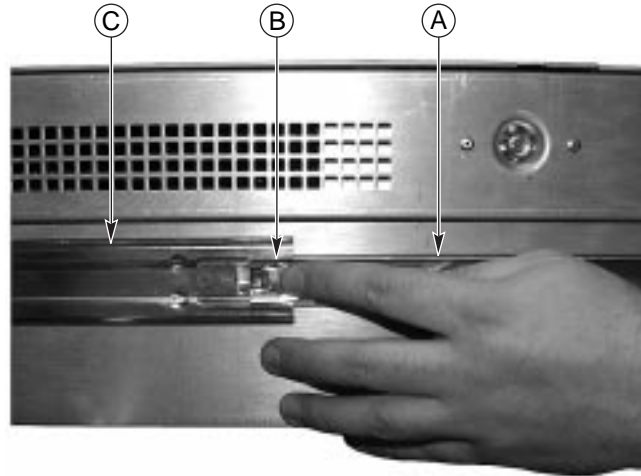
Screws, lock nuts, and washers are provided for the assembly of each slide rail and attaching the slide rail to the server. However, you must supply the screws that secure the slide rail to the rack.



**Figure 3. Slide Assembly Fully Extended**

- |                        |   |
|------------------------|---|
| A. Inner member        | The inner member is the narrowest piece of the slide assembly.      |
| B. Intermediate member | The intermediate member is the middle member of the slide assembly. |
| C. Outer member        | The outer member is the widest piece of the slide assembly.         |
| D. Front left bracket  | The location of the front left bracket labeled FL/RR.               |
| E. Rear left bracket   | The location of the rear left bracket labeled FR/RL.                |

The inner member has a safety latch shown in Figure 4. Without fully extending the slide assembly, you can move the server in and out from the rack. When the slide assembly is fully extended, this latch locks the assembly in the fully extended position. When you depress the latch, you can release the inner member from the rest of the slide assembly.



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**Figure 4. Safety Latch**

- |                        |   |
|------------------------|---|
| A. Inner member        | The inner member is the narrowest piece of the slide assembly. The inner member is attached to the chassis. |
| B. Safety latch        | The safety latch is located on the inner member.  |
| C. Intermediate member | The intermediate member slides into the inner member.   |

**⚠ WARNING**

**ANCHOR THE EQUIPMENT RACK:** You must anchor the equipment rack to an unmovable support to prevent it from falling over when the server is pulled to the front on the slide assembly. The anchors must be able to withstand a force of up to 113 kg (250 lbs). You must also consider the weight of any other device installed in the rack.

**⚠ CAUTION**

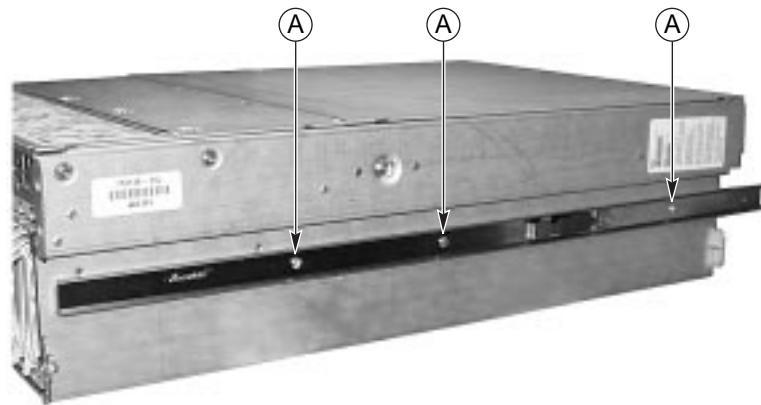
After completing the rack mount installation, do not depress the safety latch unless you are removing the chassis from the rack. The purpose of the safety latch is to prevent the server from unexpectedly sliding out of the rack.

## Prepare the Slide Assemblies

1. Remove the slide assemblies from the kit.
2. Orient the slide assembly so that the inside of the inner member is facing up and the safety latch is visible.
3. Fully extend the telescoping slide assembly until the intermediate member hits the safety latch on the inner member.
4. Depress the safety latch with your thumb. Pull the inner member away from the intermediate member until the inner member separates from the rest of the slide assembly.
5. Set the intermediate and outer members of the slide assembly aside. You will need them in a later on.

## Prepare the Server

1. Remove six #10-32 x 1/4 long pan-head screws from the kit.
2. Orient the first inner member so that the latch points towards the rear of the chassis. The inner member is noted by "A" in Figure 5. Notice that the safety latch is pointed towards the rear of the chassis.



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**Figure 5. Inner Member Attached to Chassis**

3. Align the three holes in the inner member with the three holes in the chassis.
4. Insert and tighten a screw through each hole in the bar and chassis wall.
5. Repeat steps 2 through 4 for the other inner member and other side of the chassis.

## Attach EIA Rail Brackets

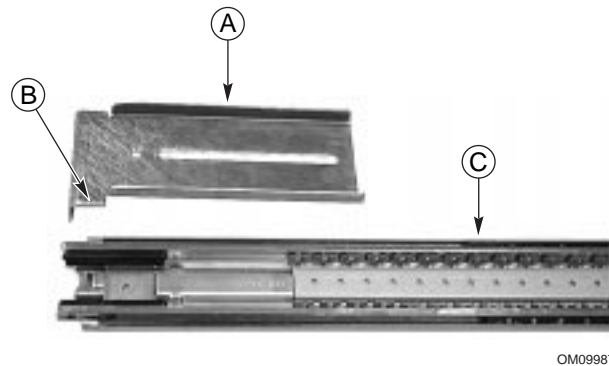
### ⇒ NOTE

Mounting holes in the vertical rails of equipment racks are commonly spaced in a 5/8 x 5/8 x 1/2-inch sequence. Perform the following steps carefully; brackets must be mounted with precision to allow room for the next server you install in a rack.

At this point, you have removed the inner member from the slide assembly. The outer and intermediate members comprise the slide assembly. Note the location of the brackets in Figure 3 on page 11.

### Attach Front Bracket

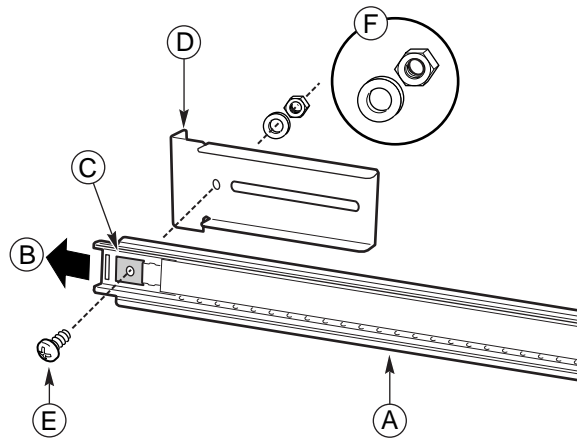
1. Remove two #8-32 x 1/2 long pan-head screws, two washers, and two lock nuts from the kit.
2. Extend the intermediate member out from outer member so that the hole at the front end of the outer member is visible through a rectangular hole in the intermediate member. Item B in Figure 7 on page 15 shows in what direction you must extend the intermediate member. Item C in Figure 6 shows the extension of the slide rail assembly. On the left side of the slide assembly, notice that the screw hole in the outer member is in the center of the rectangular hole in the intermediate member.



**Figure 6. FL/RR Bracket and Extended Slide Rail Assembly**

- |                            |  |
|----------------------------|--|
| A. Front left bracket      | The front left bracket labeled FL/RR.  |
| B. Lower tongue            | The correct orientation of the lower tongue of the bracket safety latch.   |
| C. Extended slide assembly | The intermediate member is extended so that the rectangular hole in the screw hole in the outer member is centered in the rectangular hole of the intermediate member. |
3. Place one of the brackets labeled FL/RR on the outside of the outer member. The lower tongue of the bracket must be oriented correctly. Item B in Figure 6 shows the bracket's correct orientation.

4. Place a screw in the holes from inside the intermediate member and tighten with a washer and lock nut. The correct alignment of the screw, washer, lock nut, bracket, and slide assembly is shown in Figure 7.



**Figure 7. Correct Alignment of Screw, Washer, Nut, Bracket, and Slide Assembly at the Front**

- |                                 |   |
|---------------------------------|---|
| A. Extended slide rail assembly | The slide rail assembly extended so that the screw hole in the outer member is centered in the rectangular hole of the intermediate member. |
| B. Extension direction          | The intermediate member is extended in this direction.  |
| C. Rectangular hole             | Screw hole is centered in the rectangular hole of the intermediate member.  |
| D. Front left bracket           | Front left bracket labeled FL/RR.   |
| E. Screw                        | Screw used to secure the bracket to the slide rail assembly.  |
| F. Washer and lock-nut          | Correct orientation of the washer and lock-nut.   |



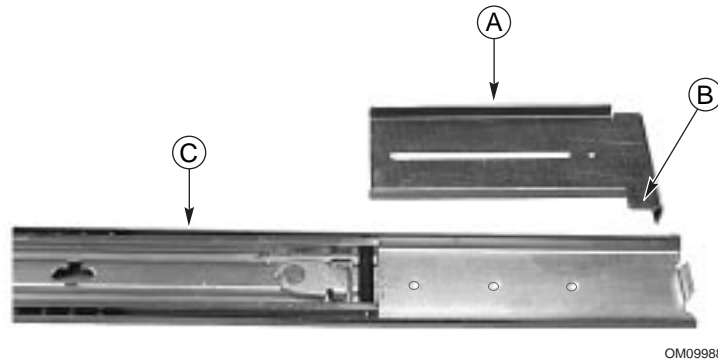
### CAUTION

**Secure the front bracket.** Before continuing, make sure that the screw connecting the front bracket is tightened securely. If it is not, the rack installation may not be able to support the weight of the server.

5. Slide the intermediate member back and forth over the screw you just tightened. If the intermediate member cannot slide over the screw, make sure the screw size is correct.
6. Repeat steps 2 through 5 for the other slide assembly.

## Attach Rear Bracket

1. Remove four #8-32 x 1/2 long pan-head screws, four washers, and four lock nuts from the kit.
2. Extend the intermediate member out from outer member so that you have complete access to the rear part of the outer member. Item B in Figure 9 on page 17 shows in what direction you must extend the intermediate member. Item C in Figure 8 on page 16 shows the extension of the slide rail assembly. On the right side of the slide assembly, notice that the three screw holes in the outer member are accessible.
3. Place one of the brackets labeled FR/RL on the outside of the outer member. The lower tongue of the bracket must be oriented correctly. Item B in Figure 9 on page 17 shows the correct orientation.

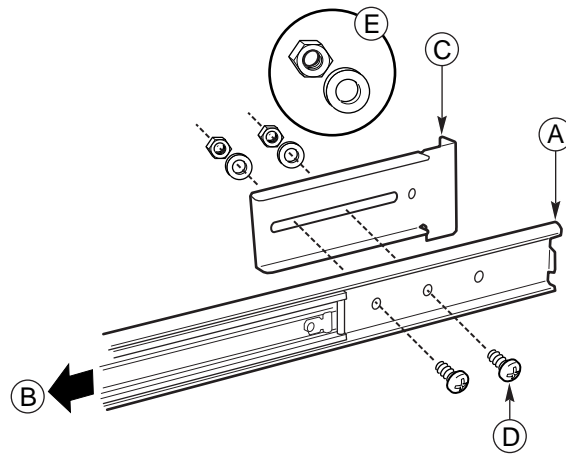


**Figure 8. FR/RL Bracket and Extended Slide Rail Assembly**

- |                            |   |
|----------------------------|---|
| A. Rear left bracket       | The rear left bracket labeled FR/RL.  |
| B. Lower tongue            | The correct orientation of the lower tongue of the bracket safety latch.                              |
| C. Extended slide assembly | The intermediate member is extended so that the three screw holes on the outer member are accessible. |
4. Place one of the brackets labeled FR/RL on the outside of the outer member. The lower tongue of the bracket must be oriented correctly. Item B in Figure 6 on page 14 shows the bracket's correct orientation.
  5. Align the slot in the bracket with the three holes in the outer member so that all three holes in the outer member are visible through the slot in the bracket.



6. Place screws in two of the three holes from inside the intermediate member and loosely tighten with a washer and lock nut. The correct alignment of the screw, washer, lock nut, bracket, and slide assembly is shown in Figure 9.



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**Figure 9. Correct Alignment of the Screw, Washer, Nut, Bracket, and Slide Assembly at the Rear**

- |                                 |   |
|---------------------------------|---|
| A. Extended slide rail assembly | The slide rail assembly extended so that the screw hole in the outer member is centered in the rectangular hole of the intermediate member. |
| B. Extension direction          | The intermediate member is extended in this direction.  |
| C. Rear left bracket            | Rear left bracket labeled FR/RL.  |
| D. Screw                        | One of two screws used to secure the bracket to the slide rail assembly. Notice what screw holes are used on the outer member.              |
| E. Washer and lock-nut          | Correct orientation of the washer and lock-nut for each screw.  |
7. Slide the bracket back and forth. Make sure that the screws are loose enough to allow the bracket to move freely.
  8. Repeat steps 2 through 7 for the other slide assembly.

## Attach the Slide Assembly to the Rack

1. Obtain at least four screws from your own inventory.
2. Select the holes you are going to use on the rack.
3. Align the holes on one of the front brackets with the holes you selected on the rack. The holes are noted by "A" in Figure 10.



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**Figure 10. Slide Assembly Aligned with Holes in the Vertical Rack**

4. As shown in Figure 10, insert two screws in the front bracket and rack holes. Tighten the screws to secure the front of the slide assembly to the rack.
5. Adjust the rear bracket so that it meets the rear vertical rail of the rack.
6. Insert two screws in the rear bracket and rack holes. Tighten the screws to secure the rear of the slide assembly to the rack.
7. Repeat steps 2 through 6 for the other slide assembly.

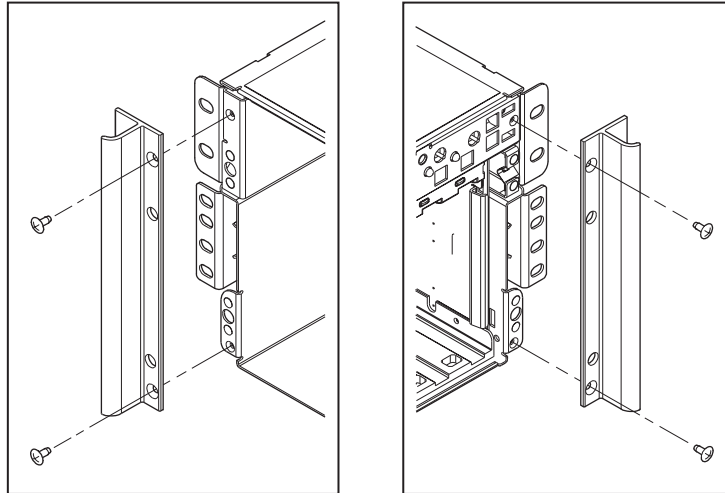
## Place the Chassis in the Rack

Lift the chassis with hand-truck or other mechanical assist unit so that the inner members on the server line up with the slide assembly attached to the rack. Gently push the chassis into the rack. Make sure that the inner member slides smoothly into the slide assembly in the rack.

## Install Handles

The handles attach to the chassis. As an option, you can also attach the handles to the rack.

1. Make sure that you pull the chassis out of the rack until the safety latch snaps into place.
2. As shown in Figure 11, align the inside top and bottom handles with the top and bottom holes of the chassis.



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**Figure 11. Handles Aligned with Chassis**

3. Place screws in the top and bottom holes on the inside edge of the handle. Tighten both screws to secure the handle to the chassis.
4. If you want to secure the handle to the vertical rack, place screws in the top and bottom holes on the outside edge of the handle. Tighten both screws.

## Attach the Front Bezel to the Chassis

The front bezel attaches to and protects the front of the server.

1. Make sure that you pull the chassis out of the rack until the safety latch snaps into place.
2. Place the front bezel over the front of the chassis. The edge of the bezel should line up with the front edges of the chassis. The ball studs on the back of the bezel fit easily into holes on the front of the server.
3. Gently push the front bezel into the chassis. The front bezel snaps into place.

## Removing the Server from the Rack

1. Pull the server out until the safety latches on each side lock into place.
2. Make sure that a hand-truck or other mechanical assist unit is placed directly under the server.
3. Depress the safety latches on both sides and simultaneously pull the chassis out of the slide assembly.
4. Pull the hand-truck or other mechanical assist unit out along with the chassis.

# Center-mount Kit

## WARNING

**AVOID INJURY:** To avoid personal injury when unpacking the server, use only a mechanical assist unit to lift it off the shipping pallet. The minimum server configuration weighs 26 kg (57 lbs); the maximum weighs 40 kg (88 lbs).

**Do not attempt to lift or move the server by the handles on the power supplies.**

**Use only a hand-truck or other mechanical assist unit to move the server from one location to another.**

To mount the SRKA4 server system on a center-mount configuration, install the center-mount kit as directed in this section.

The center-mount kit contains four EIA brackets, and several screws, nuts, and bolts. Screws, nuts, and bolts are provided for securing the brackets to the chassis. However, you must supply the screws that secure the brackets to the rack.

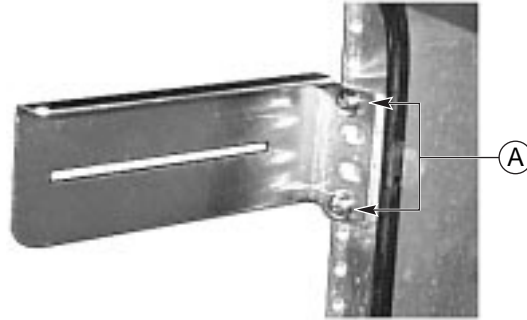
There are two sets of EIA rail brackets. One set is labeled FL/RR. These brackets are attached to the front of the slide assembly. The other set is labeled FR/RL. These brackets are attached to the back of the slide assembly.

## WARNING

**ANCHOR THE EQUIPMENT RACK:** To prevent the equipment rack from falling over, you must anchor the equipment rack to an unmovable support. The anchors must be able to withstand a force of up to 113 kg (250 lbs). You must also consider the weight of any other device installed in the rack.

## Attach EIA Rail Brackets to the Rack

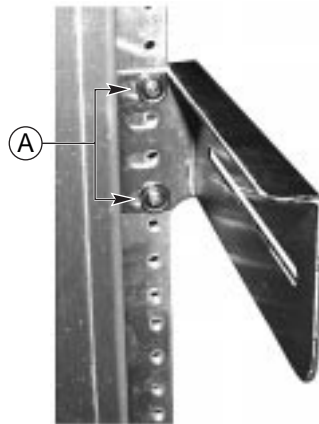
1. Separate the brackets labeled FR/RL from the brackets labeled FL/RR.
2. Decide what side of the rack is the "front" side of the rack.
3. Place one of the brackets labeled FR/RL on the front right side of the rack as shown in Figure 12.
4. Make sure that the holes in the bracket are aligned with the holes in the rack, and that there is at least 4 inches of clearance below the bottom of the bracket. The two screws are noted by "A" in Figure 12.



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**Figure 12. FR/RL Bracket Attached to Right Side of Rack**

5. Secure the bracket to the rack with two screws as shown in Figure 12.
6. Place the other bracket labeled FL/RR on the front left side of the rack.
7. Align the holes in the bracket with the holes in the rack. Make sure that the top of the bracket is level with the other front right bracket already attached to the rack. The two screws are noted by "A" in Figure 13.



OM09994

**Figure 13. FL/RR Bracket Attached to Right Side of Rack**

8. Secure the bracket to the rack with two screws as shown in Figure 13.

9. Place one of the brackets labeled FR/RL on the rear left side of the rack as shown in Figure 14.
10. Make sure that the holes in the bracket are aligned with the holes in the rack, and that the top of the bracket is aligned with the top of the front left bracket already attached to the rack.



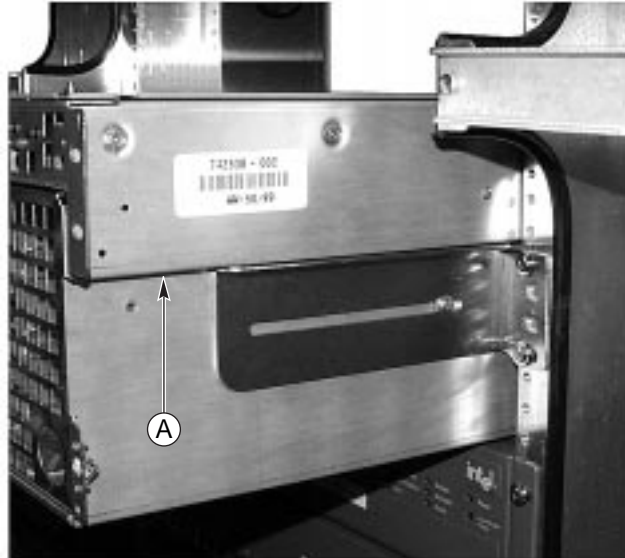
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**Figure 14. FR/RL Bracket Attached to the Rear Left Side of the Rack**

11. The two screws are noted by “A” in Figure 14. Secure the bracket to the rack with two screws.
12. Place the remaining bracket labeled FL/RR on the back left side of the rack.
13. Make sure that the holes in the bracket are aligned with the holes in the rack, and that the top of the bracket is aligned with the top of the front right bracket already attached to the rack.
14. Secure the bracket to the rack with two screws.
15. Loosen the screws for the brackets so that each one can move left and right freely.

## Secure the Chassis to the EIA Brackets

1. Slide the back of the SRKA4 server system into the rack from the front as shown in Figure 15. The lip on the chassis is noted by "A" in Figure 15, rests on the brackets.



OM09992

**Figure 15. Chassis Slides into the Rack**

2. Adjust the chassis so that the slot in each bracket lines up with a hole in the chassis. The chassis should be centered on the rack.
3. Try to make each bracket flush with the chassis. If necessary, slide the brackets left or right.
4. Using the screws provided in the center-mount kit, attach and tighten a screw through the slot in the bracket and into the chassis.



OM09993

**Figure 16. Chassis is Secured to Bracket with One Screw Noted by "A"**

## Attach the Front Bezel to the Chassis

The front bezel attaches to and protects the front of the server.

1. Make sure that you pull the chassis out of the rack until the safety latch snaps into place.
2. Place the front bezel over the front of the chassis. The edge of the bezel should line up with the front edges of the chassis. The ball studs on the back of the bezel fit easily into holes on the front of the server.
3. Gently push the front bezel into the chassis. The front bezel snaps into place.

## Removing the Server from the Rack

1. Remove the screws securing the chassis to the brackets.
2. Slide the SRKA4 MP server system out of the rack from the front. Make sure that the tabs at the rear of the server do not get stuck on the front of the front brackets.

## Check Power Cord



### WARNING

**Do not modify or use a supplied AC power cord if it is not the exact type required in the region where the server will be installed and used. Replace the cord with the correct type. Refer to the cord requirements described below.**

**Do not plug in the server power cord yet if you will be adding internal parts (boards, DIMMs, removable media drives). For these installation procedures, see the *SKA4 Baseboard Product Guide*.**

## Power Cord Requirements

- **Rating:** Cords must be rated for available AC voltage and have a current rating at least 125% of current rating of server.
- **Connector, wall outlet end:** Cords must be terminated in grounding-type male plug designed for use in your region. It must have certification marks showing certification by an agency acceptable in your region.
- **Connector, server end:** The connector that plugs into the AC receptacle on the server must be an IEC 320, sheet C13, type female connector.
- **Cord length and flexibility:** Cords must be less than 4.5 meters (14.76 feet) long, and must be a flexible (harmonized) cord or VDE-certified cordage to comply with server's safety certifications.



### NOTES

**Surge suppressor recommended:** In geographic regions that are susceptible to electrical storms, we highly recommend that you plug the server into a surge suppressor.



**EMI information:** For information about complying with electromagnetic interference regulations, see “Electromagnetic Compatibility” in the *SRKA4/ISP4400 Server System Product Guide*.

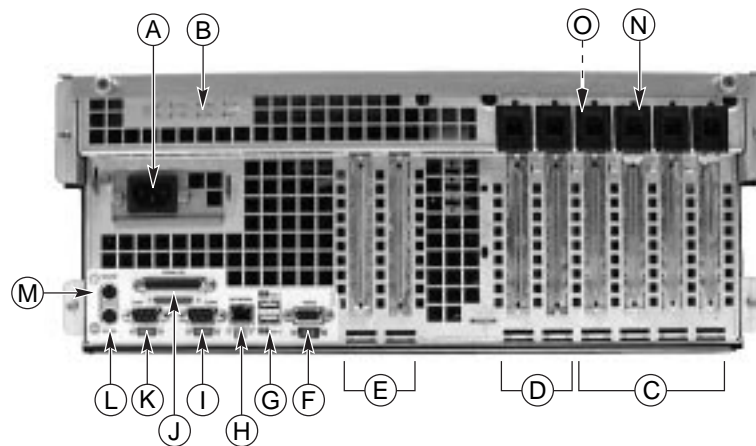
**To view or print a Product Guide:** See "Product Guides" on page 34.

## Connect Monitor, Keyboard, Mouse

### CAUTION

**Unplug the server.** Before connecting external devices, make sure the server is not plugged in, or equipment could be damaged.

## Rear Panel I/O Ports and Features

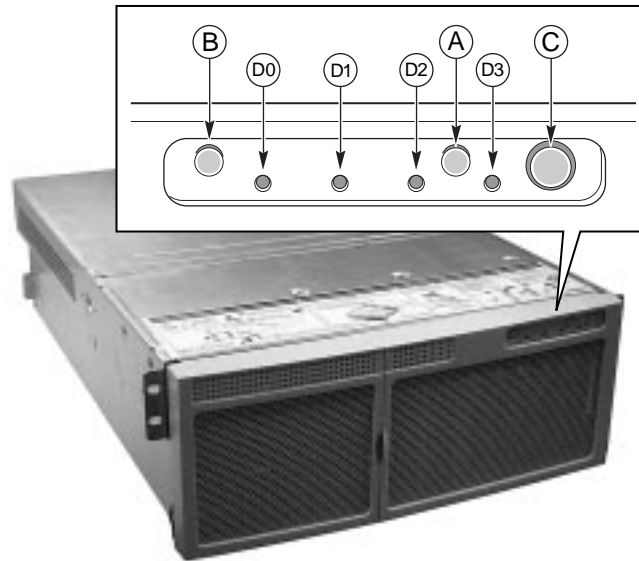


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**Figure 17. Rear Panel I/O Ports and Features**

- A. AC input power connector
- B. Two optional external SCSI connector ports. The figure shows only one connector port, but your system has two
- C. Hot-plug 64-bit, 33 MHz PCI add-in board slots
- D. Hot-plug 64-bit, 66/33 MHz PCI add-in board slots
- E. Non-hot-plug 32-bit, 33 MHz PCI add-in board slots. These slots can also accept an optional Intelligent Chassis Management Bus (ICMB) SEMCONN 6-pin connector in/out connector, port 1
- F. Video connector
- G. USB ports 0 (upper) and 1 (lower), 4-pin connectors
- H. NIC RJ45 connector
- I. Serial port 2 (COM2), 9-pin RS-232 connector
- J. IEEE 1284 compliant, 25-pin bi-directional parallel connector
- K. Serial port 1 (COM1), 9-pin RS-232 connector
- L. PS/2-compatible keyboard connector
- M. PS/2-compatible mouse connector
- N. HW push button
- O. PCI green and amber LEDs on the inside of the chassis

## Chassis Front Controls and Indicators



OM09997

**Figure 18. Front Panel Controls and Indicators**

- A. Power On/Off button: When activated by momentary contact while the system is off, this button turns the power subsystem on. If the system is in sleep state, activating the button by momentary contact brings the system out of sleep state. If you press the button down for more than four seconds, you override ACPI mode and the power is turned off.
- B. Reset button: When activated by momentary contact, this button resets the system. If the reset button is pushed for four seconds or more, the power button is pushed, and then both the reset and power buttons are released within one second of each other, the CMOS is cleared.
- C. Sleep button: When activated by momentary contact, this button puts an operating system supporting ACPI mode to sleep (S1). When activated by momentary contact during sleep state, the operating system becomes active. This system does not have a service mode.
- D. Front panel LEDs from left to right:
  - D0 General System Fault LED: Yellow indicates a system failure
  - D1 NIC activity LED: Green indicates NIC activity
  - D2 HDD activity LED: Green indicates any system hard drive activity
  - D3 Main Power LED: Solid green indicates the presence of DC power in the server  
Flashing green indicates that the system is in ACPI sleep mode

## Turn on Video Monitor and Server

1. Make sure all external devices, such as a monitor, keyboard, and mouse, have been connected.
2. If present, remove drive protection card from the diskette drive.
3. Turn on the video monitor.
4. Plug the female end of the server AC power cord into the input receptacle on the back of the chassis.
5. Plug the male end of the server AC power cord into a wall outlet (a grounded, three-pronged AC power outlet; see page 9 for outlet information).

### ⇒ NOTE

- When you plug the AC power cord into a wall outlet, the server may turn on and boot automatically. In this case, you do not need to turn the push-button on/off power switch on the front panel.
6. If the server does not come on when you plug it into the AC outlet, press the push-button on/off power switch on the front panel. See Figure 18 on page 26.
  7. Verify that the main power LED on the front panel is lit. After a few seconds, the Power-On Self Test (POST) begins. See Figure 18 on page 26.

## Run Power-On Self Test

Each time you turn on the system, the BIOS begins executing the Power-On Self Test (POST). POST discovers, configures, and tests the processors, memory, keyboard, and most installed peripheral devices. The length of time needed to test memory depends on the amount of memory installed. POST is stored in flash memory.

1. Turn on your video monitor and system. After a few seconds, POST begins to run and a splash screen is displayed.
2. While the splash screen is displayed, you can either
  - Press <F2> to enter the BIOS Setup. See "Changing the BIOS Setup" on page 28.OR
  - Press <Esc> to change the boot device priority for this boot only. See "Changing the Boot Device Priority Temporarily" on page 30.
3. After pressing <F2> or <Esc> during POST, you can press <Ctrl+A> to run the *SCSISelect* Utility. See "Running the *SCSISelect* Utility" on page 31.
4. If you do not press <F2> or <Esc> and do NOT have a device with an operating system loaded, the boot process continues and the system beeps once. The following message is displayed:  

```
Operating System not found
```
5. At this time, pressing any key causes the system to attempt a reboot. The system searches all removable devices in the order defined by the boot priority.
6. If you want to boot from a hard drive loaded with an operating system, make sure that the hard drive is installed and push the Reset button on the front panel.

## ⇒ NOTE

The SRKA4 server system is shipped with the diskette drive set as the first boot device. Therefore, the server tries to boot from a diskette rather than from the CD-ROM, regardless of whether there is a CD in the CD-ROM. If you want to set the CD-ROM as the first boot device for this boot only, press <Esc>. If you want to permanently set the CD-ROM as the first boot device, press <F2> to change the boot device priority in the BIOS setup.

7. After POST completes, the system beeps once. If you have an operating system loaded, the operating system takes control of the server system.

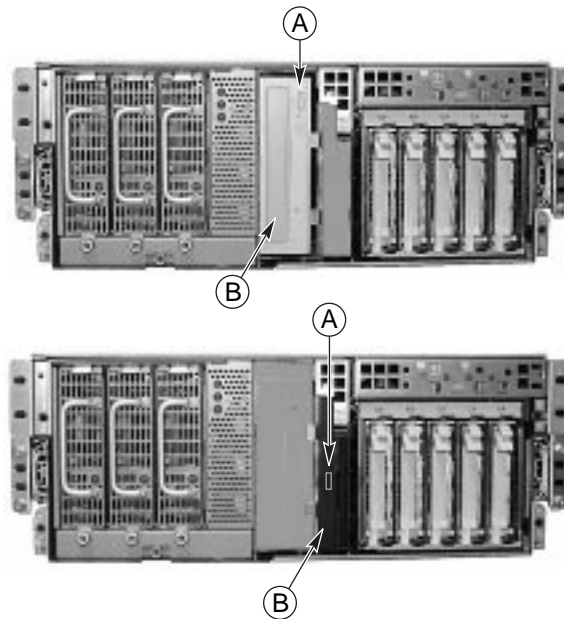
## Changing the BIOS Setup

During POST, you can change BIOS settings. These changes are retained until you change the BIOS settings again.

The instruction set below guides you through the task of changing the boot device priority. This boot device priority is retained for all future boot processes. After you complete the instructions below, the server system boots from the CD-ROM drive first. The second and third boot devices are the diskette drive and hard drive respectively. For more information about changing BIOS settings, see Chapter 2 in the *SKA4 Baseboard Product Guide*.

1. Boot the server. The CD can be in the drive or not.
2. Quickly press the <F2> key. A prompt may or may not appear. After a few bootup tests are completed, the main BIOS Setup screen appears.
3. From the Setup screen, select Boot Menu. Press <Enter>.
4. Select Boot Device Priority, and press <Enter>.
5. In the Boot Device Priority screen, use the up- or down-arrow keys to select "ATAPI CD-ROM Drive", or the appropriate SCSI CD-ROM drive, then press the <+> key to move it to the top of the list.
6. Now set the second boot device to Diskette Drive and the third boot device to Hard Drive.
7. Press the <F10> key to save your changes and exit Setup.
8. When the Exit prompt appears, press <Enter> again.
9. The bootup process continues. When finished, an system prompt is displayed.
10. Make sure the CD is in the drive, and boot the server.

## Booting from CD



OM09998

**Figure 19. 5.25-inch CD-ROM Device (top),  
.5-inch Slim-line CD-ROM Drive (bottom)**

- A. Open/close push-button switch
- B. CD tray, CD with label side up

 **CAUTION, handle CD only by the edges**

Handle the CD by its inner and outer edges. Do not touch the side **without** the label (the data side).

 **CAUTION, CD contains only a limited OS**

The CD contains a limited OS with enough function to let you boot from the CD and copy and use the utility and manual files from the CD.

But this limited operating system is *NOT* intended to be copied onto diskettes or onto your hard disk as a full-function operating system that supports networking or Windows<sup>†</sup>. To run your server and applications, you must buy the operating system of your choice and install it on the server.

## ⇒ NOTE

The server was shipped with the diskette drive set as the first boot device. The server will, therefore, try to boot from diskette rather than from the CD-ROM. Even with the CD in the drive, the server might continue to display “Operating System Not Found”. Follow the steps in “Changing the Boot Device Priority Temporarily”.

1. Open the CD tray by pressing the open/close button on the front panel of the CD-ROM drive. The tray will slide out of the drive.
2. Open the CD case. Press down on the center hub of the case to release the CD.
3. Gently grasp the center hole and outer edge of the CD. Remove it from the case, and place it **label-side showing** in the CD tray.
4. For .5-inch CD-ROMs, slide the CD tray into the drive. For other CD-ROMs, press the open/close button or gently push on the CD tray—it automatically slides into the drive.
5. Push the reset switch on the front panel to restart the server.
6. When POST completes, the server boots from the CD, installs a mouse driver, and displays the CD-ROM menu bar. Use the arrow keys to scroll through the menu bar and to view the tasks in the pop-up menus.

## Changing the Boot Device Priority Temporarily

During POST, you can change the boot device priority for the current boot process. The changes made during this instruction set are not retained for the next boot process.

1. Boot the server. The CD must be in the drive.
2. At any time during POST, press <Esc>. When POST completes, a pop-up Boot menu appears.
3. Use the arrow keys to highlight the device you want the server system to boot from first. For example, if you want the server system to boot from the CD-ROM first, you select "CD-ROM Drive".

## ⇒ NOTE

One of the selections on the pop-up Boot menu is <Enter Setup>. Selecting this option brings you into the BIOS setup. For more information about the BIOS setup, see "Changing the BIOS Setup" on page 28.

4. Press <Enter>.
5. The bootup process continues. When finished, a system prompt is displayed.

## Changing the Boot Device Priority Permanently

You can change the boot device permanently. Until you change the boot device priority again via this instruction set, the boot device priority does not change.

1. Quickly press the <F2> key. A prompt may or may not appear. After a few bootup tests complete, the main BIOS Setup screen appears.
2. From the Setup screen, select Boot Menu. Press <Enter>.
3. Select Boot Device Priority, and press <Enter>.
4. In the Boot Device Priority screen, use the up- or down-arrow keys to select "ATAPI CD-ROM Drive", or the appropriate SCSI CD-ROM drive, then press the <+> key to move it to the top of the list.
5. Now set the second boot device to Diskette Drive and the third boot device to Hard Drive.
6. Press the <F10> key to save your changes and exit Setup.
7. When the Exit prompt appears, press <Enter> again.
8. The bootup process continues. When finished, an OS prompt displays.
9. Make sure the CD is in the drive, and boot the server.

## Running the *SCSISelect* Utility

Each host adapter includes an onboard *SCSISelect* configuration utility that allows you to configure/view the settings of the host adapters and devices in the server.

After pressing <F2> or <Esc> during POST, the splash screen is replaced by text.

The system first finds the Adaptec<sup>†</sup> AIC-7880 SCSI host adapter and displays the message "Adaptec AIC-7880 SCSI BIOS V x.xxx" where x.xxx is the version number of the *SCSISelect* utility. Pressing <Ctrl+A> at this time allows you to configure the Adaptec AIC-7880 SCSI host adapter.

If you do not press <Ctrl+A>, the system finds the Adaptec AIC-7899 SCSI host adapter and displays the message "Adaptec AIC-7899 SCSI BIOS V x.xxx" where x.xxx is the version number of the *SCSISelect* utility. Pressing <Ctrl+A> at this time allows you to configure the Adaptec AIC-7899 SCSI host adapter.

Once you enter the configuration menus for one of the host adapters, you cannot switch to the other adapter. For example, once you press <Ctrl+A> to configure the Adaptec AIC-7899 SCSI host adapter, you have to reboot the system to configure the Adaptec AIC-7880 SCSI host adapter.

## When to Run the *SCSISelect* Utility

Use the *SCSISelect* utility to

- Change default values
- Check and/or change SCSI device settings that may conflict with those of other devices in the server
- Do a low-level format on SCSI devices installed in the server

## Running the SCSISelect Utility

1. When this message appears on the video monitor:  

```
Press <Ctrl><A> for SCSISelect(TM) Utility!
```
2. Press <Ctrl+A> to run the utility. When the main menu for the host adapter appears, choose the adapter that you want to configure—each SCSI bus accepts up to 15 devices.

Use the following keys to navigate through the menus and submenus.

**Table 2. Navigation Keys**

| Press | To                                  |
|-------|-------------------------------------|
| ESC   | Exit the utility                    |
| Enter | Select an option                    |
| ↑     | Return to a previous option         |
| ↓     | Move to the next option             |
| F5    | Switch between color and monochrome |
| F6    | Reset to host adapter defaults      |

## Configuring the Adaptec AIC-7880 SCSI Adapter

The following menu is displayed when you configure the Adaptec AIC-7880 SCSI adapter.

**Table 3. Main Menu**

| Host Adapter                                | Option                               | Comment   |
|---|--------------------------------------|---|
| AIC-7880 Ultra/Ultra W at Bus:Device 00:01h | Configure/View Host Adapter Settings | Press <Enter> to view the Configuration Menu.       |
|   | SCSI Disk Utilities                  | Press <Enter> to view the SCSI Disk Utilities Menu. |

Make a selection and press <Enter>.

When you are finished, press <Esc> and make your selection from the following menu.

**Table 4. Exit Menu**

| Feature       | Option    | Comment  |
|---------------|-----------|--|
| Exit Utility? | Yes<br>No | When you finish configuring your SCSI devices, select Yes and press <Enter>. When this message appears:<br><br><pre>      Please press any key to reboot</pre> Press any key, and your server will reboot. |



## Configuring the Adaptec AIC-7899 SCSI Adapter

The Adaptec AIC-7899 SCSI adapter has two busses. Select the bus from the following menu.

**Table 5. Main Menu**

| Menu Item   | Menu Option                              |
|---|--|
| You have an AIC-7899 adapter in your system. Move the cursor to the bus:device:channel of the one to be configured and press <Enter>. | Bus:Device:Channel<br>01:06:A<br>01:06:B |
| <F5> - Toggle color/monochrome  |  |

After selecting the bus, the following menu is displayed.

**Table 6. Menu for each SCSI Channel**

| Host Adapter  | Option                               | Comment   |
|---|--------------------------------------|---|
| AIC-7899 at<br>Bus:Device:Channel<br>01:06:A (or 01:06:B) | Configure/View Host Adapter Settings | Press <Enter> to view the Configuration Menu.   |
|   | SCSI Disk Utilities                  | Press <Enter> to view the SCSI Disk Utilities Menu. This menu allows you to format hard disks and/or verify disk media. |

When you are finished, press <Esc> and make your selection from the following menu.

**Table 7. Exit Menu**

| Feature       | Option    | Comment   |
|---------------|-----------|---|
| Exit Utility? | Yes<br>No | When you finish configuring your SCSI devices, press <Esc>. Then select Yes and press <Enter>. When this message appears:<br><br>Please press any key to reboot<br>Press any key, and the server reboots. |

## Country Kit Contents

### Server Software Kit

The server software kit includes the server software kit CD. The CD includes

- Product guides
- Device drivers
- SSU and DPC utilities
- Service partition software
- FRU and SDR Load utilities

## Product Guides

The server software kit contains two product guides: the *SKA4 Baseboard Product Guide* and the *SRKA4/ISP4400 Server System Product Guide*. The *SKA4 Baseboard Product Guide* contains information about the baseboard only and does not include any information specific to the SRKA4 MP server system. The *SRKA4/ISP4400 Server System Product Guide* contains information specific to the SRKA4 MP server system and refers to the *SKA4 Baseboard Product Guide* for a detailed description of the baseboard.

For more information about how to read and print these product guides, see "Product Guides" on page 36.

## Device Drivers

The server software kit contains the following drivers.

- SCSI Drivers Adaptec AIC- 7899 SCSI controller
  - Windows NT<sup>†</sup> 4.0, Win9X, MS-DOS<sup>†</sup>, NetWare<sup>†</sup> 4.X/5.X
  - NetWare 4.2/5.0
  - UnixWare<sup>†</sup> 7.1
  - Solaris<sup>†</sup> 7
- SCSI Drivers Adaptec AIC-7880 SCSI controller
  - Windows NT 4.0, Win9X, DOS
  - NetWare 4.2/5.0
  - UnixWare 7.1
  - UnixWare 2.1
  - Solaris 7
- Video Drivers ATI Rage2 PCI video
  - Rage IIC Windows NT 4.0
  - Rage IIC Windows 95
  - Solaris 7
  - UnixWare 7.X
- PCI HP SW Stacks
  - Windows NT 4.0
  - Windows 2000
  - NetWare 4.2/5.0
  - UnixWare 7.x
- 82559 Network Interface Card (NIC)
  - Windows NT 4.0
  - Windows 95
  - NetWare 4.2/5.0
  - UnixWare 7.x
  - Solaris 7

## SSU and DPC Utilities

The server software kit contains many utilities, including System Setup Utility (SSU) and the Direct Platform Control (DPC) console.

The SSU can be run locally and remotely through a network or modem. The SSU provides a graphical user interface (GUI) over an extensible framework for server configuration.

The DPC console is run remotely through a modem or direct connection. This interface allows remote server management.

For more information on both utilities, see the *SKA4 Baseboard Product Guide*.

## Service Partition Software

If purchased, service partition software is included in the server software kit. Software includes Remote Diagnostics and Service Partition Admin utilities.

## FRU and SDR Load Utilities

The Field Replacement Unit (FRU) and Sensor Data Record (SDR) load utility is a DOS-based program used to update the server management subsystem's product level FRU, SDR, and the Desktop Management Interface (DMI) nonvolatile storage components (EEPROMs).

## Quick Start Guide

A printed version of this guide is included in the country kit.

## Chassis Labels

The country kit contains labels for the chassis. Place these labels on the server system so that the label's information is easily viewed by anybody accessing server system components.

## Hardware

The country kit contains several pieces of hardware and license agreements. They include

- A generic license
- A center-mount and peripheral slide rail assembly
- A power cord

## Service Partition (Optional)

When you are setting up your server system, you can install a service partition on your hard drive. The service partition includes utilities, diagnostics, and other software that a person could run locally or remotely to assist in system management. The service partition uses approximately 30 to 40 MB of hard disk space.

It is highly recommended that you install the service partition before installing the operating system. See the Service Partition section in the *Installation Guide for the Intel Server Control* for more information. This document is included in the country kit for your system.

## Product Guides

### Using the Acrobat .PDF Files

Before you can print the *SRKA4/ISP4400 Server System Product Guide* or the *SKA4 Baseboard Product Guide* from Acrobat, you must connect a printer to the parallel port.

1. From the CD-ROM menu bar, select Read/Print Manuals and press <Enter>. The Adobe Acrobat reader will be automatically installed on RAM disk d: (simulated disk drive in RAM memory) and automatically started. The reader lets you view and print out a copy of the product guide.
2. After the reader starts, a pop-up menu displays a list of several manuals. If you are not sure which manual applies to your server, check the title page of this guide for the correct product reference.
3. Use your mouse or the up- and down-arrow keys to select the manual. Double click the left mouse button or press <Enter> to load the .PDF file for the manual.
4. Use your mouse or the tab key to select the .PDF file for the manual. Double click the left mouse button or press an arrow key and <Enter> to view the .PDF file.
5. Follow the program options and prompts. If you need to access the Help menu, double click on Help or press <Alt+h>.

## Copying Configuration Software to Diskettes

When you copy software from the CD onto diskettes, device drivers suitable for several different operating systems are copied onto the diskettes. However, your operating system will read only those drivers it can recognize, so you cannot usually check the directory of a diskette that is not formatted for your operating system. Instead, you might see a message to the effect, “disk not formatted, do you want to format it now?” Don’t worry; the drivers for YOUR operating system are on the diskette and available to load on the system.

1. Before starting, make sure that you have several blank high-density diskettes.
2. From the CD-ROM menu bar, select Create Diskettes and press <Enter>.
3. Follow the prompts to copy the software onto the diskettes.
4. When finished, from the CD-ROM menu bar, select Quit to DOS and press <Enter>.
5. Remove the CD from the CD-ROM drive.