CS-PENT

CompuSwitch® PENT

User Guide

Release 1.0

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FCC Information

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 in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential environment may cause harmful interference.

Japanese Approvals

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Raritan is not responsible for damage to this product resulting from accident, disaster, misuse, abuse, non-Raritan modification of the product, or other events outside of Raritan's reasonable control or not arising under normal operating conditions.

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For assistance in the North or South America, please contact the Raritan Technical Support Team by telephone (732) 764-8886, by fax (732) 764-8887, or by e-mail tech@raritan.com

Ask for Technical Support – Monday through Friday, 8:00 a.m. to 8:00 p.m., Eastern.

For assistance around the world, please see the back cover of this guide for regional Raritan contact information.

Safety Guidelines

To avoid potentially fatal shock hazard and possible damage to Raritan equipment:

- Do not use a 2-wire power cord in any product configuration.
- Test AC outlets at your computer and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the computer and monitor. When using a backup UPS, power the computer, monitor and appliance off the supply.

Rack Mount Safety Guidelines

In Raritan products which require Rack Mounting, please follow these precautions:

- Operation temperature in a closed rack environment may be greater than room temperature. Do not exceed the rated maximum ambient temperature of the appliances (see **Appendix A: Specifications**).
- Ensure sufficient airflow through the rack environment.
- Mount equipment in the rack carefully to avoid uneven mechanical loading.
- Connect equipment to the supply circuit carefully to avoid overloading circuits.
- Ground all equipment properly, especially supply connections, such as power strips (other than direct connections), to the branch circuit.

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Chapter 1: Introduction

Product Overview

Congratulations on your purchase of Raritan's CompuSwitch-PENT, which enables efficient control of multiple computers, any combination of PC/ATs, and PS/2s, from only one keyboard, monitor, and mouse. The 8-channel model connects and controls up to 8 computers, the 4-channel model connects and controls up to 4 computers, and the 2-channel model connects and controls 2 computers.

CompuSwitch-PENT is built with Raritan's unique intelligent emulation technology, which dedicates and individual processor to each connected computer so that each computer always sees its own keyboard and mouse. This prevents keyboard and mouse lockups and ensures flawless bootup and operation of any mix of computers running any operating system.

Product Photos

Figure 1 CS-PENT 2 Unit

Figure 2 CS-PENT 4 Unit

Figure 3 CS-PENT 8 Unit

Product Features

- Dedicated keyboard and mouse emulators to ensure automatic booting and proper operation of each computer
- VGA, SVGA, and XGA high resolution video support
- Simple operation either from the CompuSwitch-PENT front panel
- SCAN function to automatically cycle through all channels at a selectable scan rate from 1 to 16 seconds by using push buttons on the front panel
- SKIP function to automatically bypass channels without a powered computer connected
- Easy-to-manage, tangle-proof, high-resolution PC cables

Package Contents

(1) CompuSwitch-PENT unit

Chapter 2: Installation

Initial Configuration

Begin by connecting one computer, and once proper operation is confirmed, proceed to connecting any additional computers.

Important: Make certain all computers are powered OFF before starting installation.

1. Plug the monitor, keyboard, and PS/2 mouse into the ports marked **VGA MONITOR**, **PS/2** or **AT KEYBOARD**, and **PS/2 MOUSE** on the CompuSwitch-PENT rear panel.

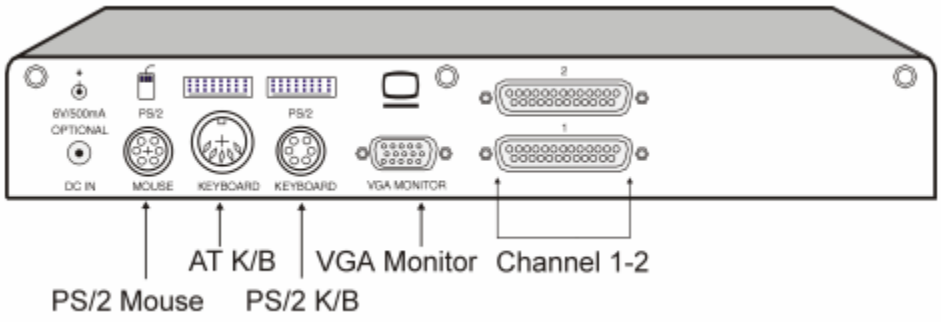

Figure 4 Rear Panel of CS-PENT 2 Unit

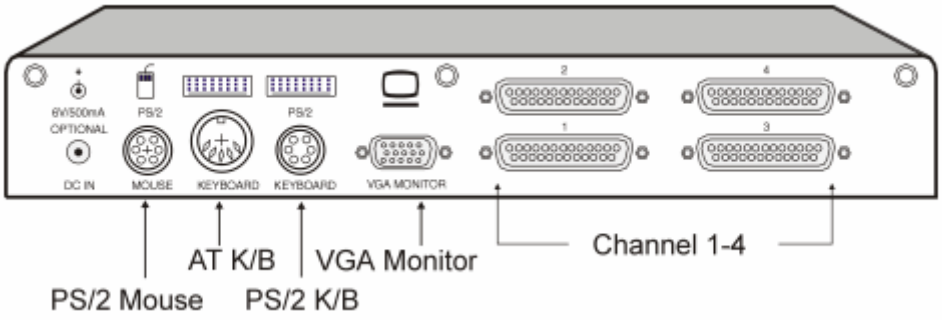

Figure 5 Rear Panel of CS-PENT 4 Unit

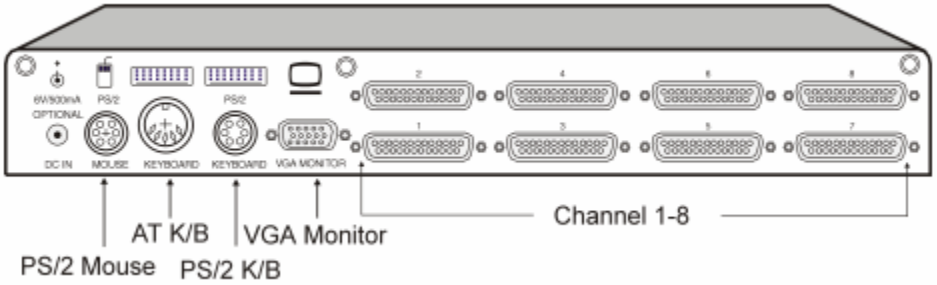

Figure 6 Rear Panel of CS-PENT 8 Unit

2. Using the appropriate CompuSwitch cable, connect one PC's 25-pin connector to any channel on the CompuSwitch rear panel.
3. Plug the cable's video, keyboard, and mouse connectors into the computer ports.

4. Power ON the connected computer. On the CS-PENT front panel, the light above the [**SKIP**] button will be ON, and the light above the connected channel button number will also be ON, indicating that CS-PENT is powered ON.

Note: CS-PENT is automatically powered ON as soon as at least one connected computer is manually powered ON.

5. The video from the connected computer will be displayed on the monitor. When boot-up is complete, check keyboard and mouse operation. Operate the keyboard and mouse as if they were connected directly to the computer.
6. After you have verified operation of one computer, connect the remaining PCs following steps 2–4. You may now begin using the CS-PENT unit.

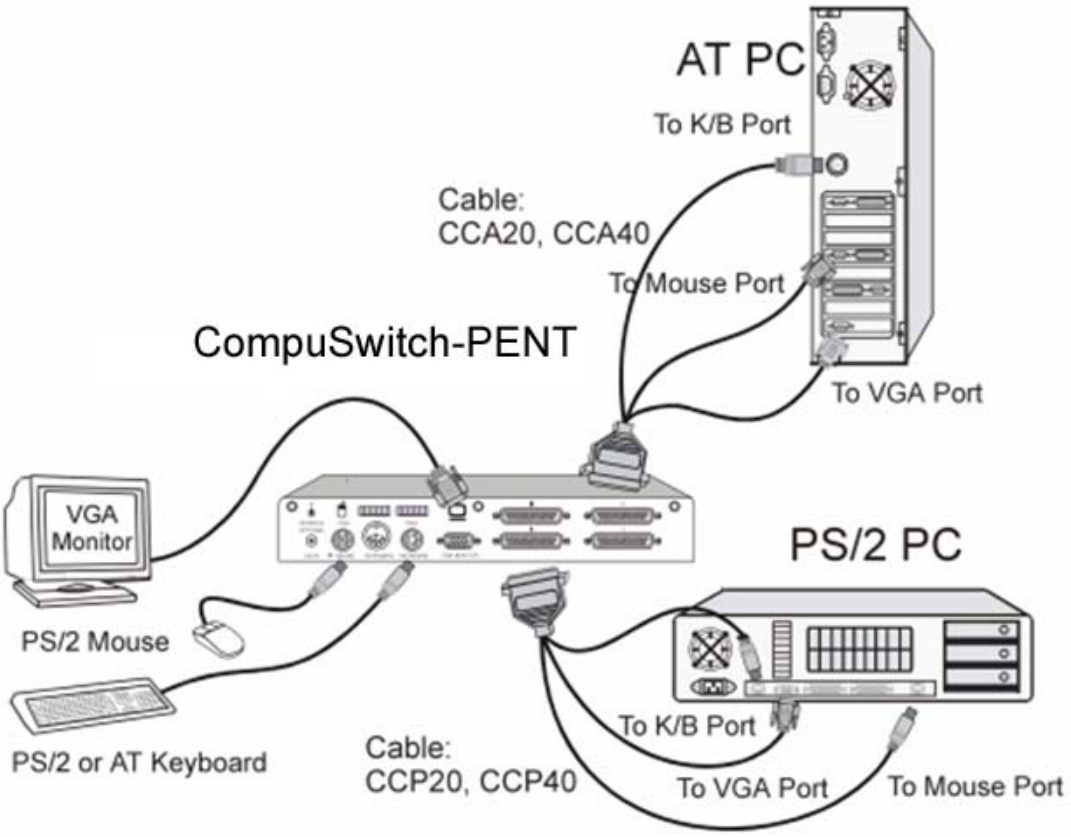

Figure 7 Cabling Details

Installation Notes

1. Connections are provided for either a 6-pin PS/2-style or a 5-pin Extended AT-style keyboard. Do not connect both keyboards simultaneously.
2. You may simultaneously connect PS/2 and AT computers to CS-PENT with the appropriate cables. However, only a PS/2 mouse can be used with CS-PENT to operate the computers.

Chapter 3: Operation

Overview

You can operate CS-PENT using the buttons on its front panel. The lights on the front panel of the unit indicate the status of operation.

***Note**: Numbered channel buttons have two functions.When the Scan light is OFF, the buttons are used to select channels. When the Scan light is ON, the buttons are used to set scan rate.*

Front Panels

On the front panels of the different CS-PENT units, you will find that CS-PENT 2 has buttons marked 1 and 2, and a button marked [**SCAN**]. CS-PENT 4 has buttons marked 1 through 4, and buttons marked [**SCAN**] and [**SKIP**]. CS-PENT 8 has buttons marked 1 through 8, and buttons marked [**SCAN**] and [**SKIP**].

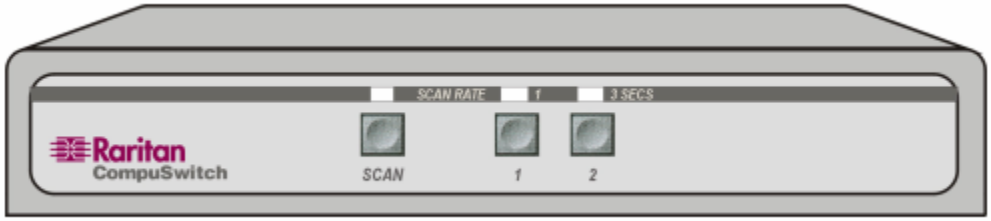

Figure 8 Front panel of CS-PENT 2 Unit

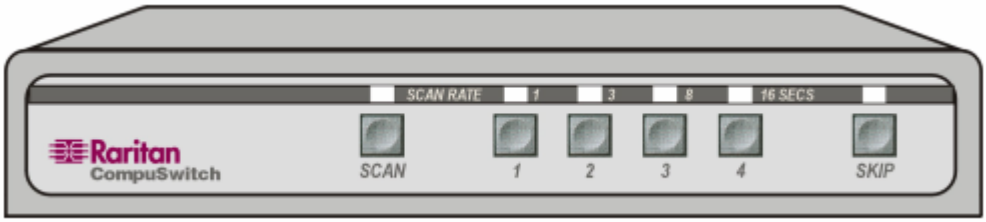

Figure 9 Front Panel of CS-PENT 4 Unit

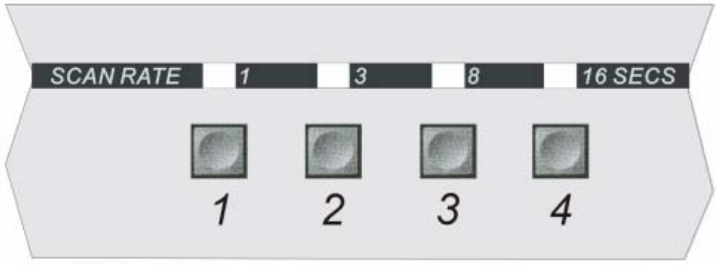

Figure 10 Exploded View of Scan Rates from the CS-PENT 4 Front Panel

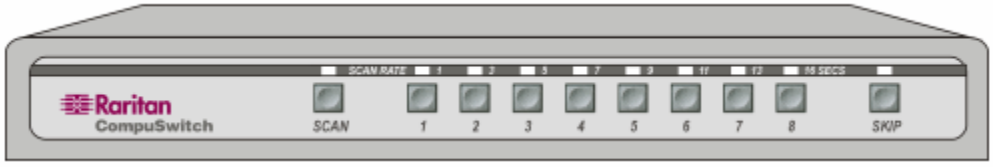

Figure 11 Front Panel of CS-PENT 8 Unit

Front Panel Operation

Select a Channel

To select a specific computer for viewing and operation:

1. Be sure the light above the [**SCAN**] button is OFF (toggle on/off).
2. Press the button (1, 2, …8) corresponding to the desired channel. The light above the button will be ON, and the video from the computer connected to that channel will be displayed.
3. Operate the selected computer using the keyboard and mouse.

Scan Channels

CompuSwitch automatically cycles through the channels at a preset scan rate. The default scan rate is three seconds per channel. To display each computer's video:

1. Activate the scan function by pressing the [**SCAN**] button (toggle on/off).
2. The light above the [**SCAN**] button will illuminate, and the unit will begin scanning.

Set Scan Rate

To adjust the scan rate interval:

1. Activate the Scan function by pressing the [**SCAN**] button (the light above [**SCAN**] will illuminate).
2. Press the channel button that corresponds to the number for your Scan rate. The light above the button will blink twice to acknowledge the setting, and scanning will continue at the new interval.

Skip

To restrict scanning to display only active channels, that is, channels connected to computers powered ON:

1. Press the [**SKIP**] button (toggle on/off).
2. The light above the button will be ON, and only active channels will be selected.

Appendix A: Specifications

Desktop Models

CS-PENT 2

2-Channel Model	10.55”(W) x 7.87”(D) x 1.75”(H) 268mm(W) x 200mm(D) x 44mm(H) 3.6 lbs. (1.62kg)

CS-PENT 4

4-Channel Model	10.55”(W) x 7.87”(D) x 1.75”(H) 268mm(W) x 200mm(D) x 44mm(H) 3.6 lbs. (1.62kg)

CS-PENT 8

8-Channel Model	15.40”(W) x 7.87”(D) x 1.75”(H) 390mm(W) x 200mm(D) x 44mm(H) 4.9 lbs. (2.24kg)

Power

Powered by connected computer through the keyboard port:
DC Power Input = 6V/1.4 amp. Adapter (optional)
Operating Temperature = 0–50°C (32–122°F)

Cables

For each PS/2 Computer (VGA Video, PS/2 K/B, PS/2 Mouse)

PART NO.	LENGTH	CONNECTORS
CCP20	2M/6.5ft	DB25(M) to HD15(M), 2 x mini-DIN6(M)
CCP40	4M/13ft	DB25(M) to HD15(M), 2 x mini-DIN6(M)
CCP60	6M/20ft	DB25(M) to HD15(M), 2 x mini-DIN6(M)
CCP90	9M/30ft	DB25(M) to HD15(M), 2 x mini-DIN6(M)

For each AT Computer (VGA Video, AT K/B, Serial Mouse)

PART NO.	LENGTH	CONNECTORS
CCA20	2M/6.5ft	DB25(M) to HD15(M), DIN5(M), DB9(F)
CCA40	4M/13ft	DB25(M) to HD15(M), DIN5(M), DB9(F)
CCA60	6M/20ft	DB25(M) to HD15(M), DIN5(M), DB9(F)
CCA90	9M/30ft	DB25(M) to HD15(M), DIN5(M), DB9(F)

Accessories

DC Adapter 6V/1.4 amp. Adapter
A10D1-06MP X= U(USA), K(United Kingdom),
G(Germany, France & Netherlands),
A(Australia), J(Japan)

Rack Mount Kits
RCS24 19” rack mount kit for 2/4-channel unit
RCS8 19” rack mount kit for 8-channel unit

Important Information for CompuSwitch Installation

You will operate all computers connected to CompuSwitch using one keyboard and mouse plugged into CompuSwitch. There are many brands of keyboards and mice on the market, and there can be slight variations in their manufacture and operation. While most of these devices will operated satisfactorily, if you do experience any problem with either the keyboard or mouse operation, please replace it with one of the devices listed below and test again. If necessary, please contact Raritan Technical Support (732) 764-8886, M-F, 8:00-8:00 EST. We maintain a list of devices and their operational characteristics with CompuSwitch, and can make recommendations.

The following devices have been tested and operate with CompuSwitch:
Keyboard – Compaq, Gateway 2000, IBM
Mini Keyboard with Trackball – IBM Trackpoint, IBM M5-1, Microsoft IntelliMouse
Mouse – Compaq, IBM PS/2, Logitech, Microsoft V2.0A and V2.1A

Appendix B: Troubleshooting

SYMPTOM	PROBABLE CAUSE	SOLUTION
No front panel lights	Bad connection.	Check cable connection.
	Computer not powered ON	Power ON the computer.
	Notebook computer or Guardian device	Use an external 6V 6V/1.4 amp. power adapter to power CompuSwitch. Refer to Page 11.
Channel light flashes continuously	Computer not powered ON for that channel	Power ON the computer. Activate Skip function.
No video display for one or all computers	Loose video connection(s)	Check and reconnect cables.
	Monitor problems	Turn off power to the computers. Connect the suspect monitor directly to the computer, and check for proper display. If no display, the problem is with the computer or the monitor. If display is correct, contact dealer for service.
Keyboard error on one machine	Keyboard connection	Check K/B cable connection of the computer not operating properly.
Unable to select Channel	Scan function is active	Toggle the Scan button so that the light above the button is OFF.
Keyboard does not function, or mouse locks up	Keyboard or mouse connection loose	Check keyboard or mouse connection. Power down the problem computer first. Connect the keyboard or mouse directly to the computer to determine if the problem is with the computer keyboard or mouse port. Then connect the problem computer to a different channel, and restart the computers. If problems persist, contact dealer.

Appendix C: Cable Support Bracket Kits

RCS24 to CS-PENT 2/CS-PENT 4

CS-PENT 2 or CS-PENT 4

Side Frame (RCS24)	2 pieces
Round head screw, M3x8mm	4 pieces
Cable Support Bracket	2 pieces
Round head screw, M3x6mm	4 pieces

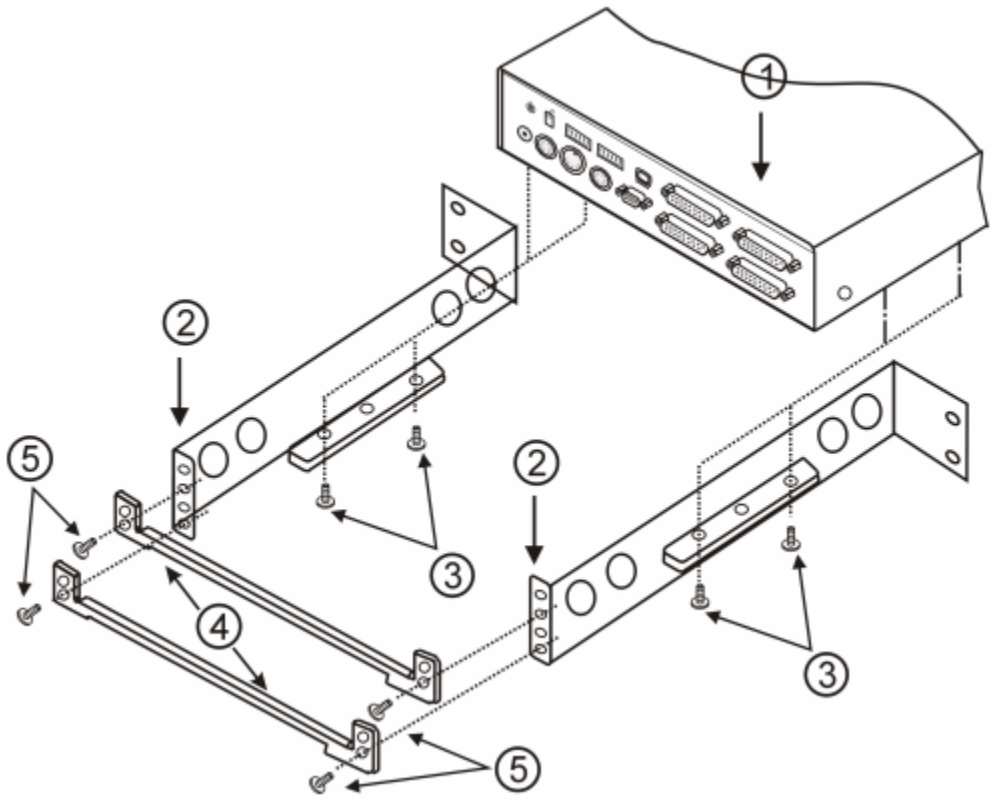

Figure 12. RCS24 to CS-PENT 2/CS-PENT 4 Installation

RCS8 to CS-PENT 8

CS-PENT 8

Side Frame (RCS8)	2 pieces
Round head screw, M3x8mm	4 pieces
Cable Support Bracket	2 pieces
Round head screw, M3x6mm	4 pieces

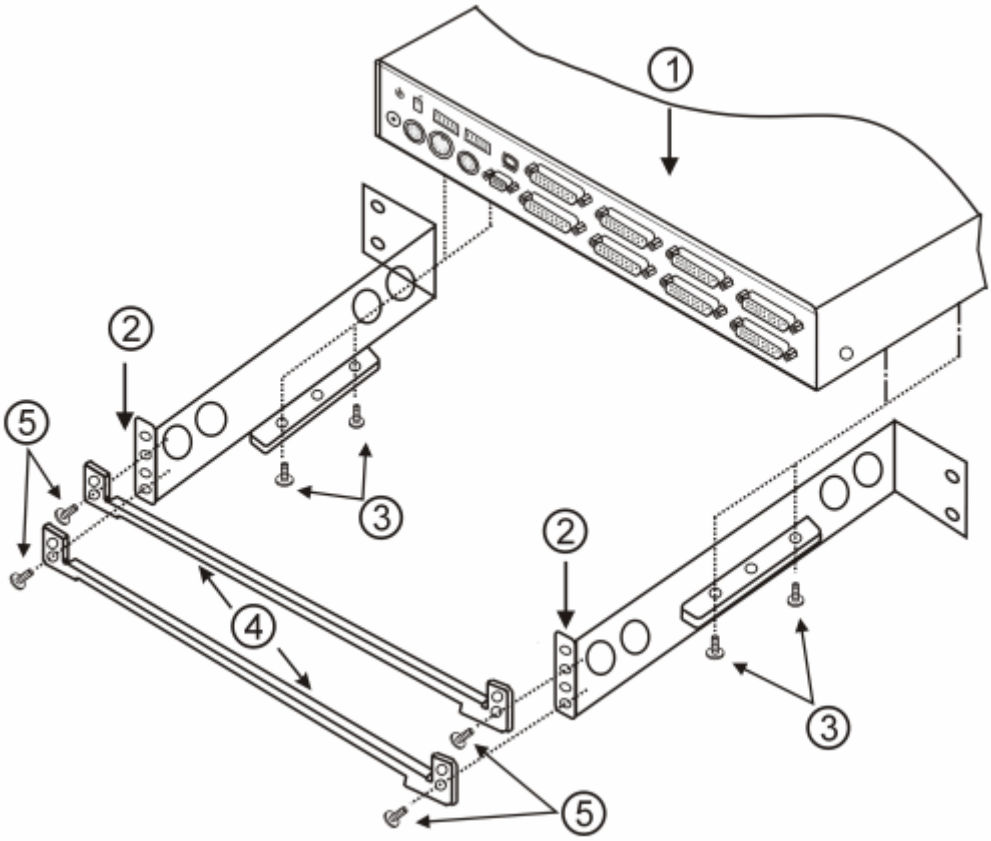

Figure 13. RCS8 to CS-PENT 8 Installation

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