

Computer Switch

User's Manual

CS2(R)

CS4(R)

CS8(R)

CS16(R)

User's Manual

CS2(R)

CS4(R)

CS8(R)

CS16(R)

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Raritan Computer Inc.

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FCC Information

This equipment has been tested and found to comply with the limits a Class B {for CS2(R), CS4(R)}, and a Class A {for CS8(R), CS16(R)}, 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.

Product names mentioned in this document are trademarks or registered trademarks of their respective companies. PS/2, PC/AT, and IBM are registered trademarks of the International Business Machines Corporation.

Table Of Contents

Introduction	1
Features	1
Installation	1
Operation	4
Troubleshooting	9
Specifications	10
Cables	11
Accessories	11
Appendix	12

Introduction

CompuSwitch enables the efficient control of multiple computers, any combination of PC/ATs, and PS/2s from only one keyboard, monitor, and mouse. The 16-channel model connects and controls up to 16 computers. The 8-channel model connects and controls up to 8 computers. The 4-channel model connects and controls up to 4 computers. The 2-channel model connects and controls 2 computers.

Features

- * Dedicated keyboard and mouse emulators to ensure automatic booting and proper operation of each computer.
- * VGA, SVGA, and XGA video support.
- * 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 and from 1 to 99 seconds by using Hot Key command.
- * SKIP function to automatically bypass channels without a powered computer connected.
- * Simple operation either from the CompuSwitch front panel or from the keyboard using Hot Key commands.
- * One-year warranty.

Installation

Start with one computer. Once proper operation is confirmed, additional computers may be connected.

Procedure

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 back panel (figure 1, 2, 3, 4).

Caution: Make sure that all computers are powered OFF before they are connected to CompuSwitch.

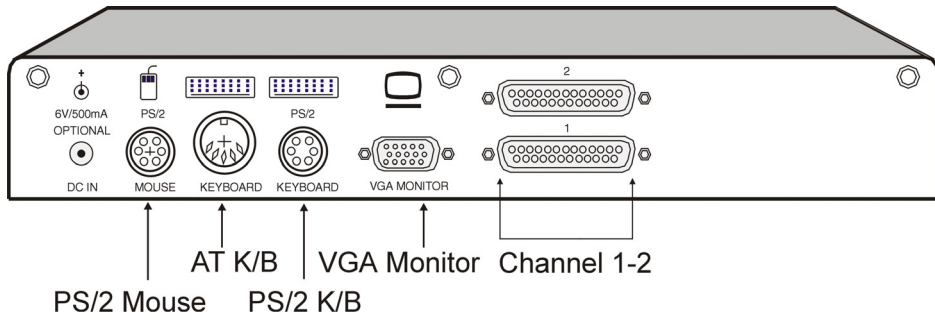


Figure 1. Back panel - CS2

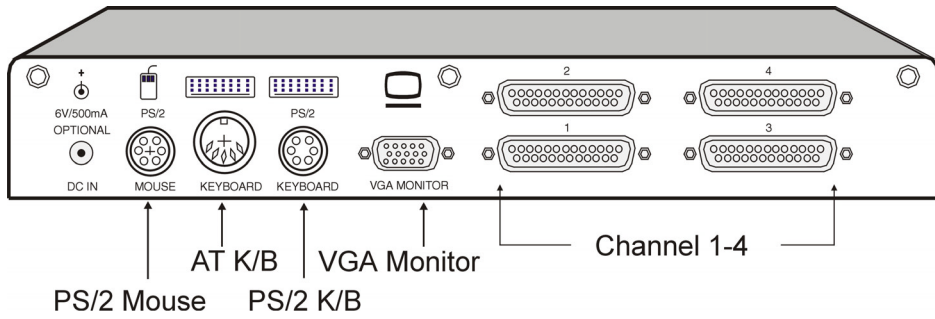


Figure 2. Back panel - CS4

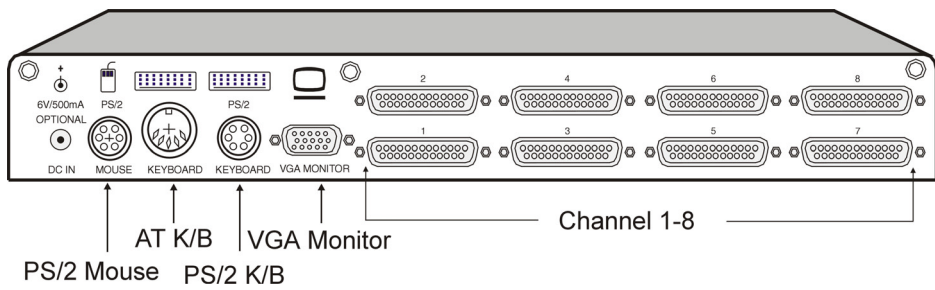


Figure 3. Back panel - CS8

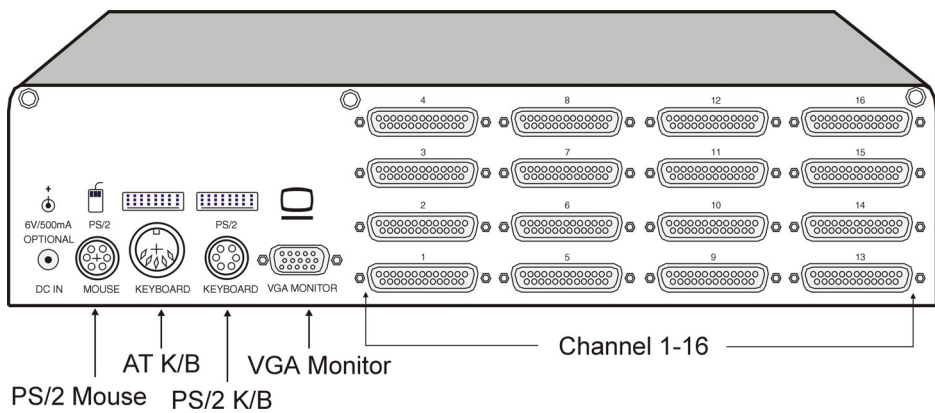


Figure 4. Back panel - CS16

2. Using the appropriate CompuSwitch cable, connect the 25-pin connector to any channel on the CompuSwitch back panel (figure 5).
3. Plug the cable's video, keyboard, and mouse connectors into the computer ports.
 Note: CompuSwitch is automatically powered when at least one connected computer is powered ON.
4. Power ON the computer. On the CompuSwitch front panel, the light above the Skip button will be ON, and the light above the connected channel button will be ON.
5. The video from the connected computer will be displayed on the monitor. 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 computers following steps 2–4. You may now begin using CompuSwitch.

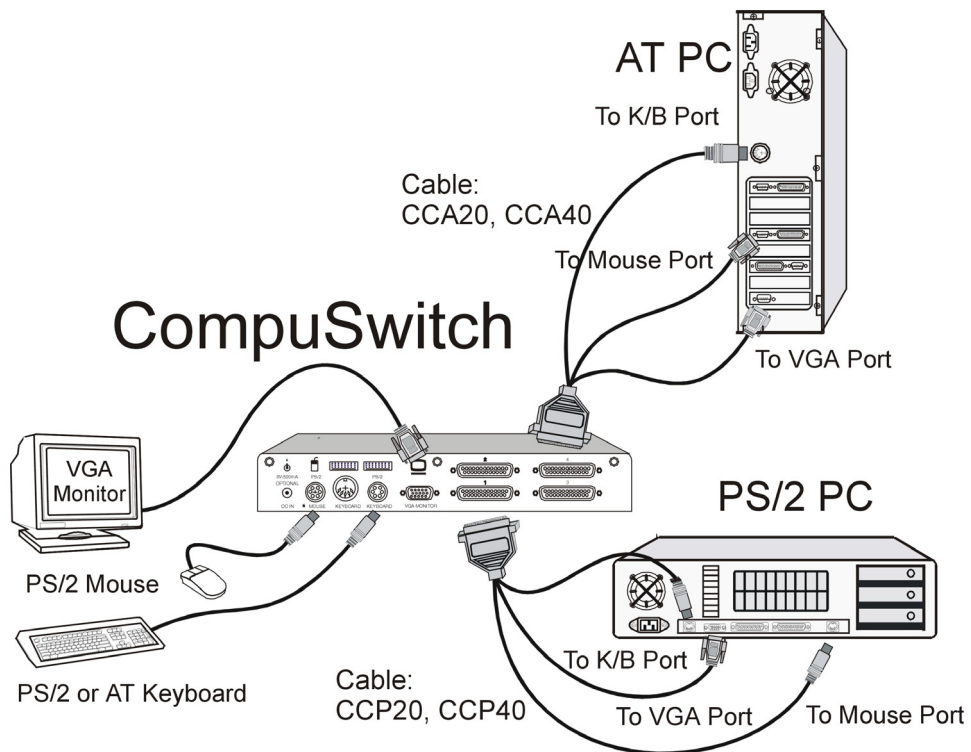


Figure 5. Cabling details

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. Because the Hot Key Mode operation (page 9) requires full PS/2 keyboard functions, a PS/2-style or an Extended AT-style keyboard, which supports these functions, is recommended.
2. You may simultaneously connect PS/2 and AT computers to CompuSwitch with the appropriate cables. However, only a PS/2 mouse can be used with CompuSwitch to operate the computers.

Operation

Operate CompuSwitch from the front panel, or directly from the keyboard using Hot Key commands. Either way, lights on the front panel 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 Panel Operation

The front panel of the CompuSwitch:

2-channel model (Ex: figure 6, 7) has buttons marked 1, 2, and buttons marked Scan.

4-channel model (Ex: figure 8, 9 & 10) has buttons marked 1, 2, 3, 4; and buttons marked Scan and Skip

8-channel model (Ex: figure 11, 12) has buttons marked 1, 2, 3, 4, 5, 6, 7, 8; and buttons marked Scan and Skip.

16-channel model (Ex: figure 13, 14) has buttons marked 1, 2, 3, 4,.....15, 16; and buttons marked Scan and Skip.

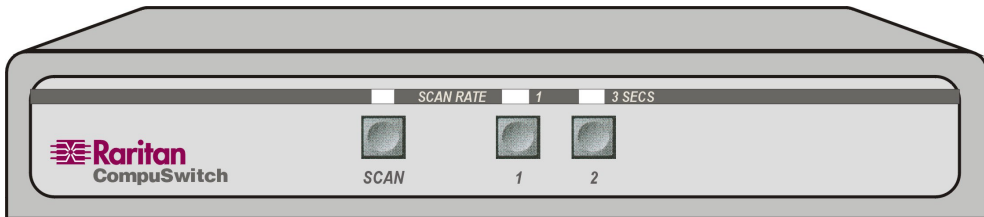


Figure 6. The front panel of CS2

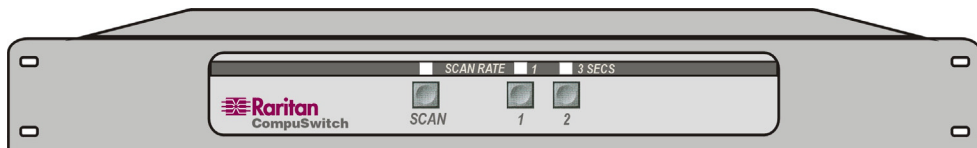


Figure 7 The front panel of CS2R

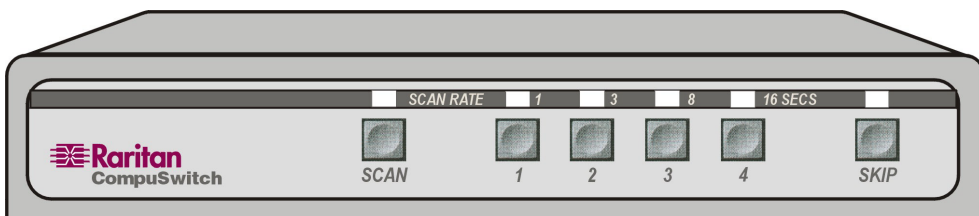


Figure 8 Front panel of CS4

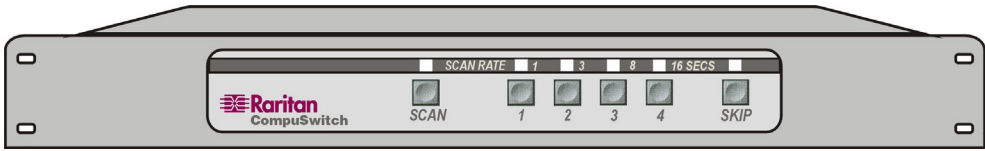


Figure 9. The front panel of CS4R

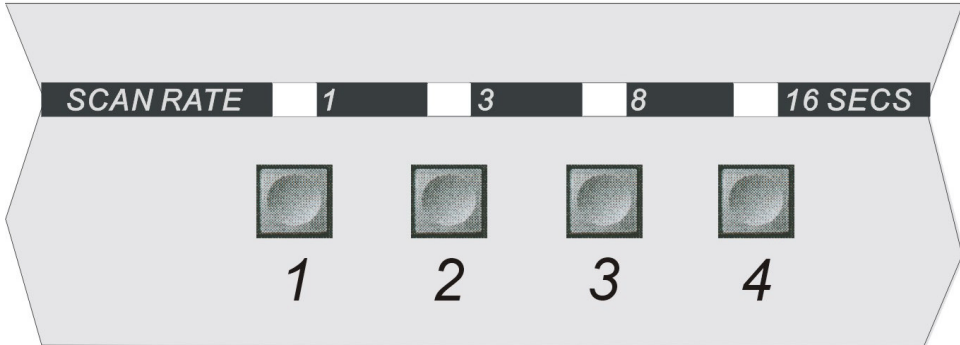


Figure 10. Exploded view of Scan rates from a section of the front panel

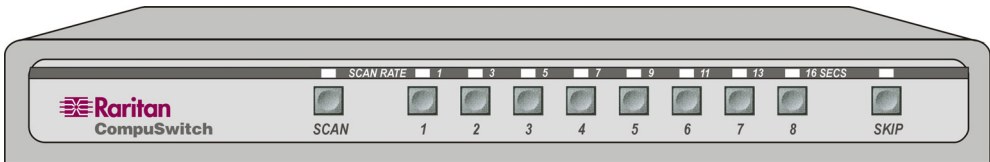


Figure 11. The front panel of CS8

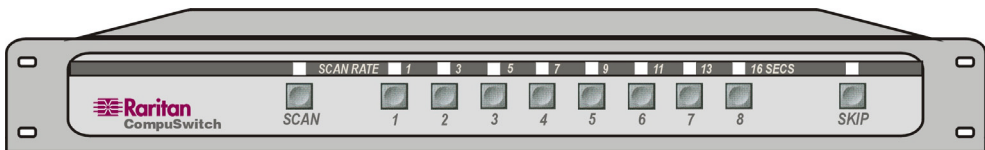


Figure 12. The front panel of CS8R

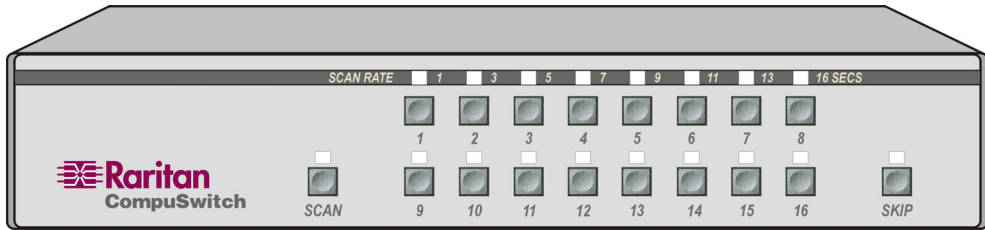


Figure 13. The front panel of CS16

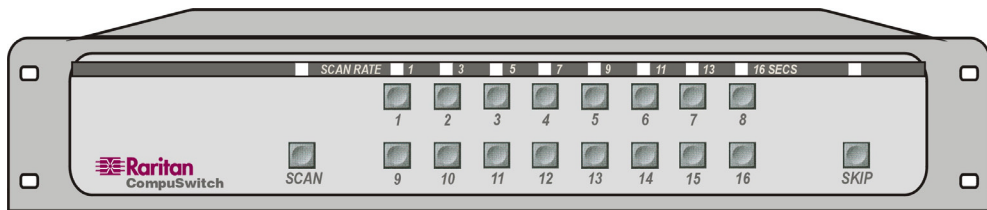


Figure 14. The front panel of CS16R

Select a channel

Selects the specific computer for viewing and operation. Be sure the light above the Scan button is OFF (toggle on/off).

Press the button (1, 2, 3, 4, 5,.....or 16) 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. You may now operate the computer using the keyboard and mouse.

Scan channels

Automatically cycles through the channels at a preselected scan rate, displaying each computer's video. Default scan rate is set at 3 seconds.

To activate, press the Scan button (toggle on/off). The light above the Scan button will be ON, and the unit will begin scanning.

Set scan rate

Adjusts the scan rate interval.

Activate the Scan function. The light above the Scan

button will be on. Press the button with the number that corresponds to the desired Scan rate (Ex.: figure 10 - Model:CS4). The light above the button will blink twice to acknowledge the setting, and scanning will continue at the new interval set.

Skip

Restricts channel selection to only active channels (i.e., channels with powered computers connected).

To activate, press the Skip button (toggle on/off). The light above the button will be ON, and only active channels will be selected.

Hot Key Mode Operation

In Hot Key Mode, CompuSwitch captures and interprets all keystrokes as front panel functions. No keystrokes pass through to the computer(s). Hot Key Mode operation requires either a PS/2-style keyboard or an Extended AT-style keyboard.

Activate Hot Key Mode

To activate Hot Key Mode, press <SCROLL LOCK> twice rapidly. The three LEDs (Num Lock, Caps Lock and Scroll Lock) on the keyboard will blink continuously, twice per second. CompuSwitch is now in Hot Key Mode. To quit Hot Key Mode at any time, press <ESC>.

Select a channel

Press <c> and then press the key with the channel number of the connected computer; press <ENTER>. The light above the corresponding button on the front panel will be ON to indicate the channel selected. For example, select channel 2 by pressing <c> <2> <ENTER>.

You may also step through the channels up or down (increment or decrement). Press the "up" or "right" arrow to increment. Press the "down" or "left" arrow to decrement. The light above the button will indicate the channel selected.

Scan channels

Press <s> (toggle on/off). When Scan is activated, the light above the Scan button will be ON and CompuSwitch will begin scanning.

Set scan rate

Press <s> and then press the key with the number that corresponds to the desired Scan rate (1 to 99 seconds). Press <ENTER>. A light above one of the numbered channel buttons will blink twice to acknowledge the setting, and scanning will start at the new rate.

Skip

Press <k> (toggle on/off). When Skip is activated, the light above the Skip button will be ON and only active channels will be selected.

Change the Hot Key Mode activator

To change the Hot Key Mode activator, first enter Hot Key Mode. Then press either <SCROLL LOCK>, <CAPS LOCK>, or <NUM LOCK>. Press <ENTER>. The selected key will now be the new Hot Key Mode activator (figure 15).

Quit Hot Key Mode

To quit Hot Key Mode at any time, press <ESC>. The LEDs on the keyboard will stop blinking, and the keyboard reverts to normal function. If while in Hot Key Mode you do not operate the keyboard for 30 seconds, CompuSwitch automatically quits Hot Key Mode.

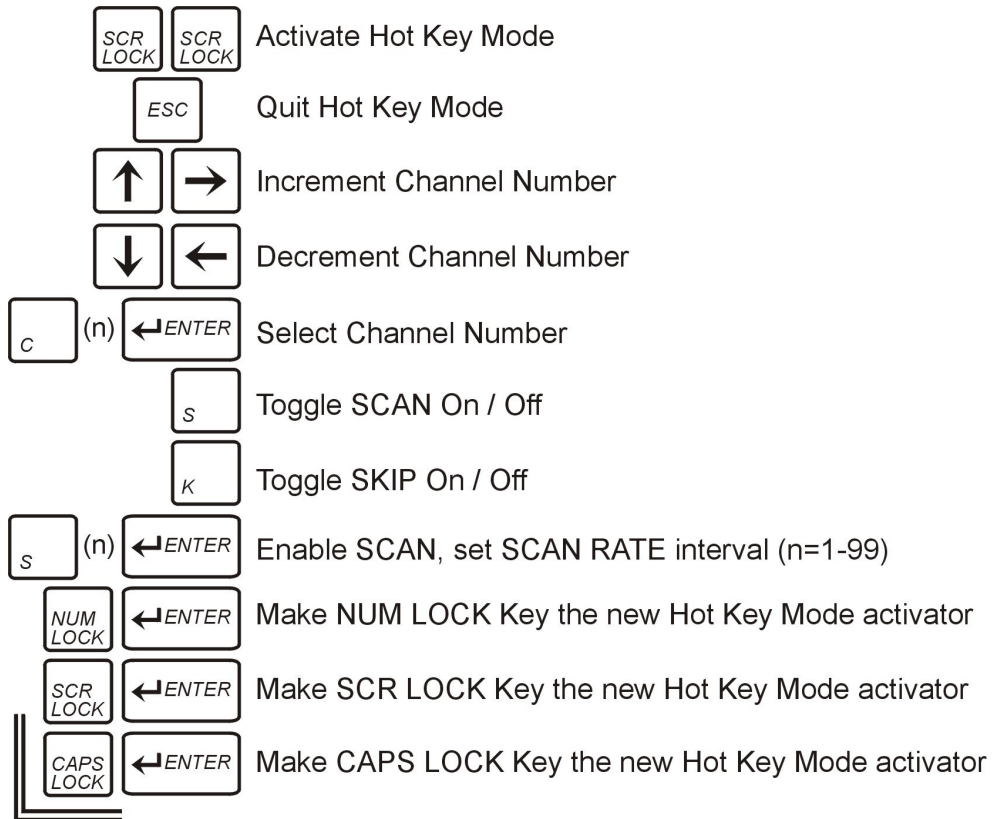


Figure 15. Hot Key Reference Chart

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.
Unit does not activate Hot Key Mode	Keyboard	Hot Key Mode works only with PS/2- or Extended AT-style keyboard.
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.

Specifications

DeskTop Models

2-Channel Model--CS2	268mm(W) x 200mm(D) x 44mm(H)
4-Channel Model--CS4	10.55"(W) x 7.87"(D) x 1.75"(H) 1.62kg (3.6 lbs.)
8-Channel Model--CS8	390mm(W) x 200mm(D) x 44mm(H) 15.40"(W) x 7.87"(D) x 1.75"(H) 2.24kg (4.9 lbs.)
16-Channel Model--CS16	390mm(W) x 200mm(D) x 88mm(H) 15.40"(W) x 7.87"(D) x 3.5"(H) 3.08kg (6.8 lbs.)

Rackmount Models

2-Channel Model--CS2R	483mm(W) x 193mm(D) x 44mm(H)
4-Channel Model--CS4R	19.0"(W) x 7.6"(D) x 1.75"(H) 2.64kg (5.8 lbs.)
8-Channel Model--CS8R	483mm(W) x 193mm(D) x 44mm(H) 19.0"(W) x 7.6"(D) x 1.75"(H) 2.74kg (6.0 lbs.)
16-Channel Model--CS16R	483mm(W) x 193mm(D) x 88mm(H) 19.0"(W) x 7.6"(D) x 3.5"(H) 3.78kg (8.32 lbs.)

Power	Powered by connected computer through the keyboard port.
DC Power Input	6V/1.4 amp. Adapter (optional)
Operating Temp.	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

A10D1-06MP

6V/1.4 amp. Adapter

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

RCS16

19" rack mount kit for 16 channel unit

Appendix

1. Install Cable Support Bracket Kits: RCS24 to CS2/CS4

Refer to the following figure to install RCS24 to CS2/CS4

Where

- | | | |
|---|--------------------------|----------|
| ① | CS4 or CS2 | |
| ② | Side Frame (RCS24) | 2 pieces |
| ③ | Round head screw, M3x8mm | 4 pieces |
| ④ | Cable Support Bracket | 2 pieces |
| ⑤ | Round head screw, M3x6mm | 4 pieces |

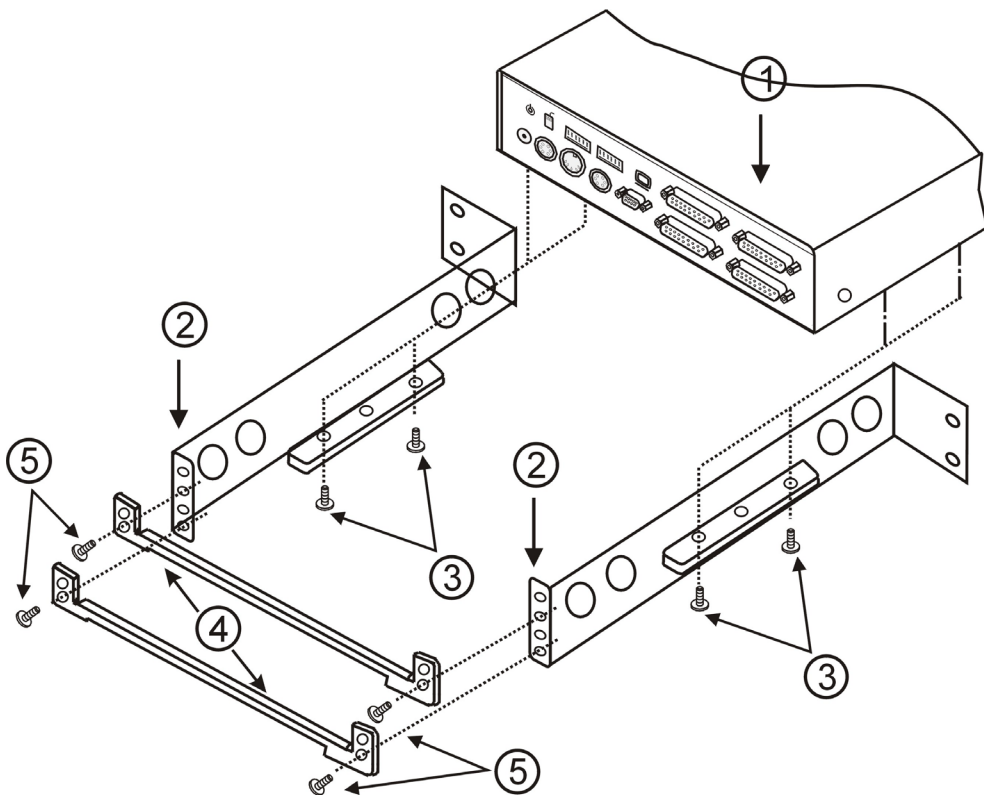


Figure 16. Install RCS24 to CS2/CS4

2. Install Cable Support Bracket Kits: RCS8 to CS8

Refer to the following figure to install RCS8 to CS8

Where

- ① CS8
- ② Side Frame (RCS8) 2 pieces
- ③ Round head screw, M3x8mm 4 pieces
- ④ Cable Support Bracket 2 pieces
- ⑤ Round head screw, M3x6mm 4 pieces

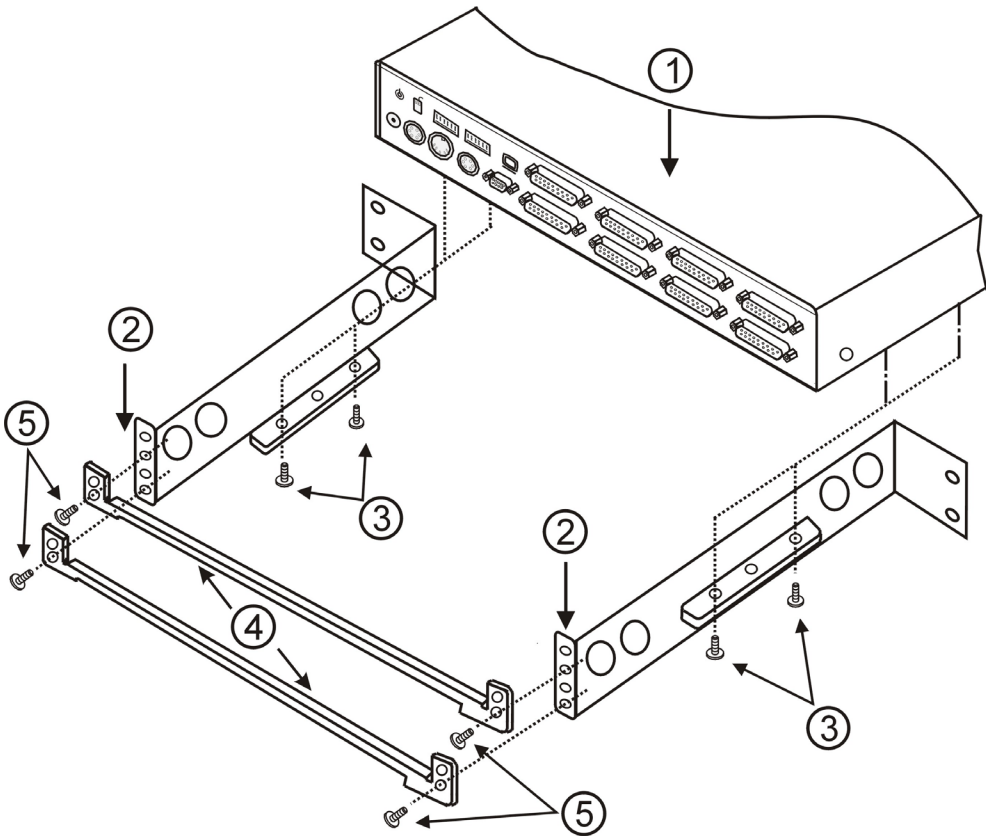


Figure 17. Install RCS8 to CS8

3. Install Cable Support Bracket Kits: RCS16 to CS16

Refer to the following figure to install RCS16 to CS16

Where

- | | | |
|---|--------------------------|----------|
| ① | CS16 | |
| ② | Side Frame (RCS16) | 2 pieces |
| ③ | Round head screw, M3x8mm | 4 pieces |
| ④ | Cable Support Bracket | 2 pieces |
| ⑤ | Round head screw, M3x6mm | 4 pieces |

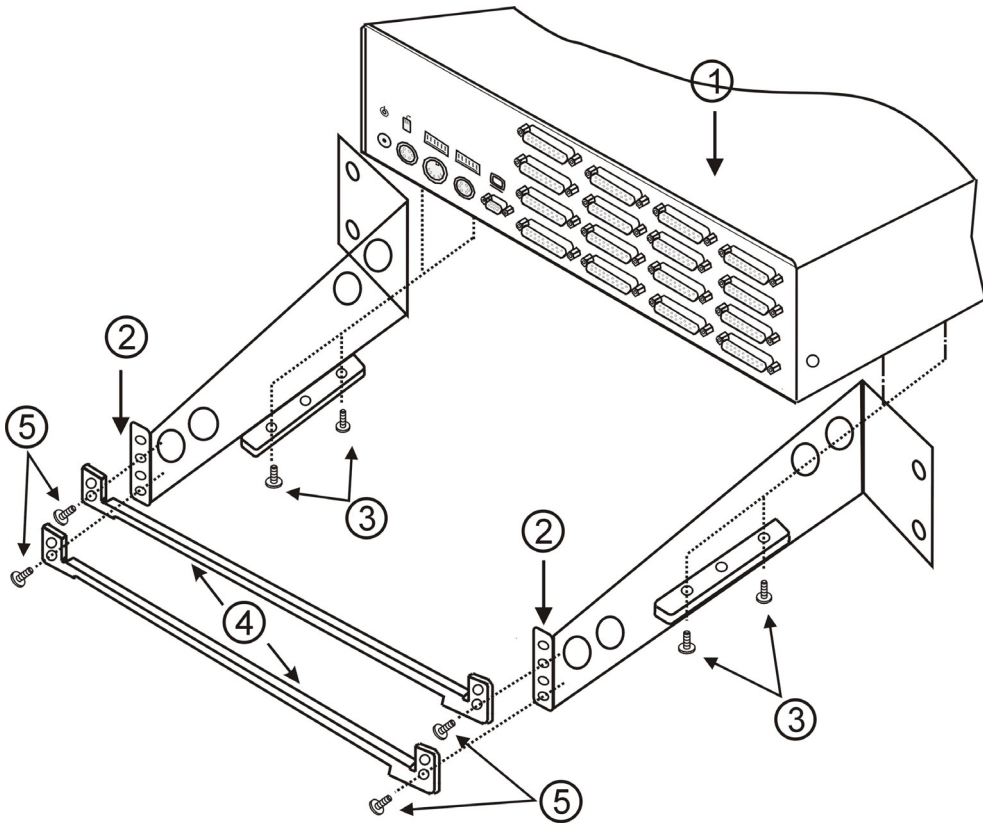


Figure 18. Install RCS16 to CS16

4. Install Cable Support Bracket Kits: in CS2R/CS4R

Refer to the following figure to install cable bracket kits in CS2R/CS4R

Where

- | | | |
|---|--------------------------|----------|
| ① | CS2R/CS4R | |
| ② | Side Frame | 2 pieces |
| ③ | Round head screw, M3x6mm | 2 pieces |
| ④ | Cable Support Bracket | 1 pieces |
| ⑤ | Flat head screw, M3x6mm | 2 pieces |

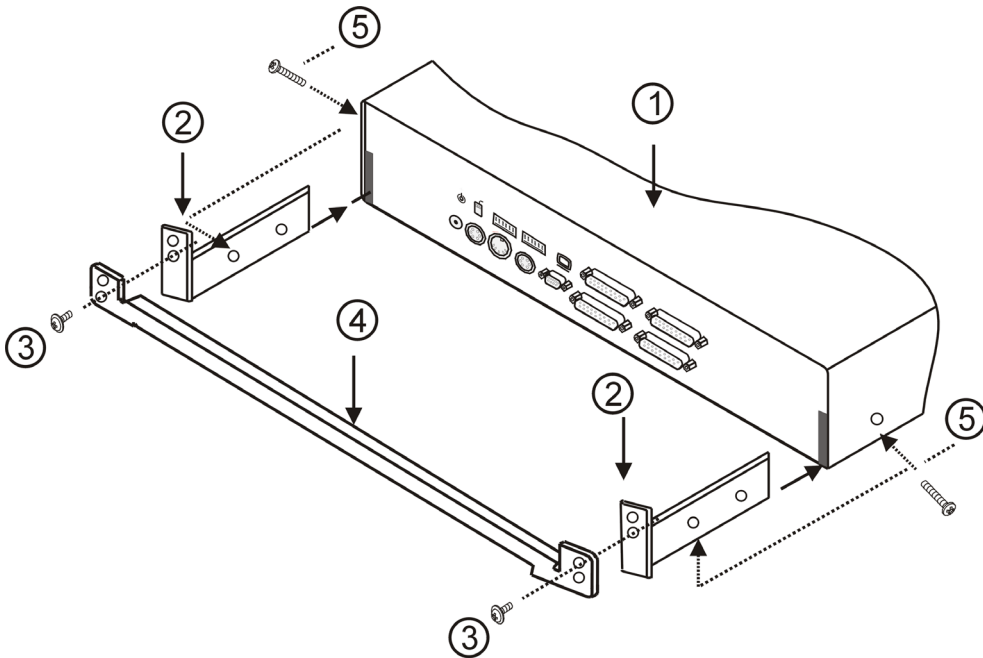


Figure 19. Install cable bracket kits in CS2R/CS4R

5. Install Cable Support Bracket Kits: in CS8R

Refer to the following figure to install cable bracket kits in CS8R

Where

- | | | |
|---|--------------------------|----------|
| ① | CS8R | |
| ② | Side Frame | 2 pieces |
| ③ | Round head screw, M3x6mm | 2 pieces |
| ④ | Cable Support Bracket | 1 pieces |
| ⑤ | Flat head screw, M3x6mm | 2 pieces |

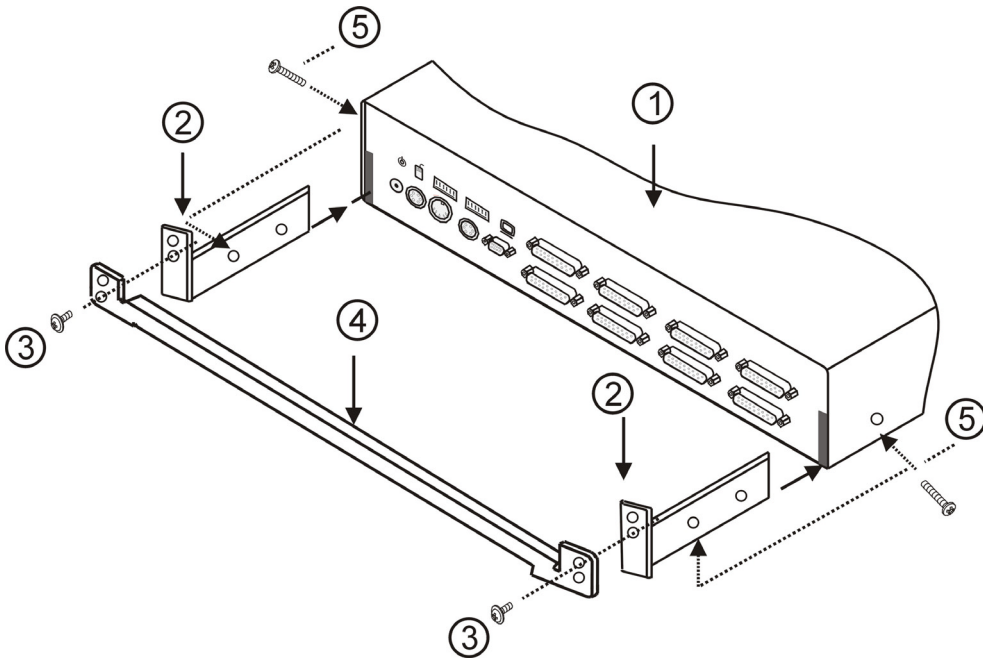


Figure 20. Install cable bracket kits in CS8R

6. Install Cable Support Bracket Kits: in CS16R

Refer to the following figure to install cable bracket kits in CS16R

Where

- | | | |
|---|--------------------------|----------|
| ① | CS16R | |
| ② | Side Frame | 2 pieces |
| ③ | Round head screw, M3x6mm | 4 pieces |
| ④ | Cable Support Bracket | 2 pieces |
| ⑤ | Flat head screw, M3x6mm | 2 pieces |

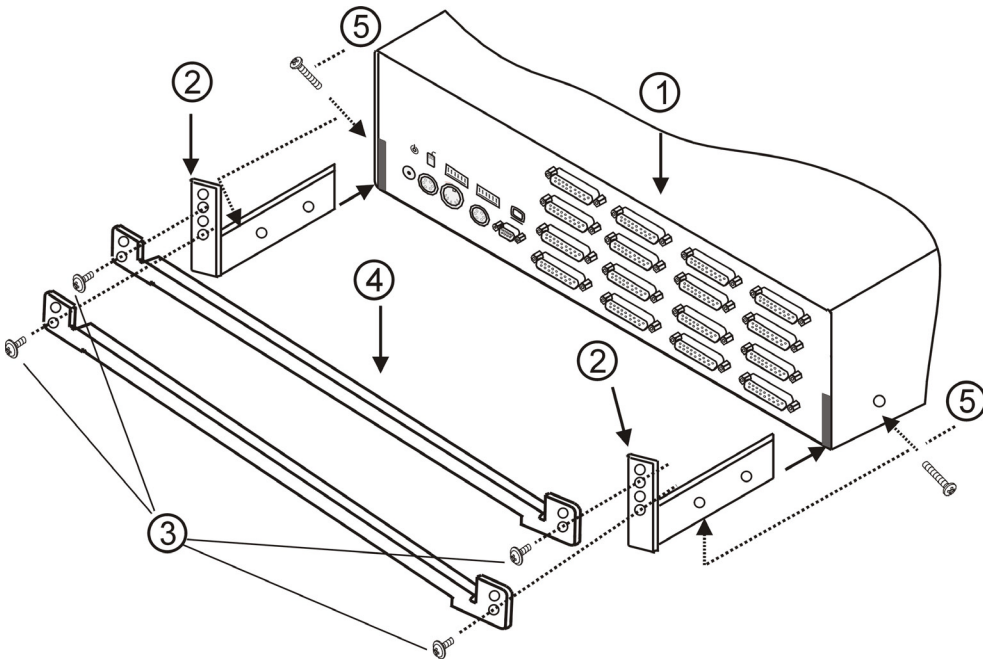


Figure 21. Install cable bracket kits in CS16R