

CPU/Peripheral Sharing (SA-CS104)

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Introduction:

The SA-CS104 is a controller for one user to access multiple computers. Before, a costly network was the only solution. Now, this CPU sharing device provides the easiest and most cost-effective way to access multiple computers. (See Figure 1)

With the SA-CS104, anyone is capable of operating or testing lots of computers by a set of one monitor, keyboard and mouse. Switching from one computer to another is done by Hot Keys or button clicks. No more programs to transfer, no incompatibility problems, because the SA-CS104 intercepts the Hot Keys from the keyboard directly.

Up to four computers may be controlled through one SA-CS104. The device may also be daisy-chained to control up to 64 computer setups. A powerful auto-scan feature scans all operational computers one by one and stops upon user requests. This device is ideal for Server, Control Room, Testing, etc.

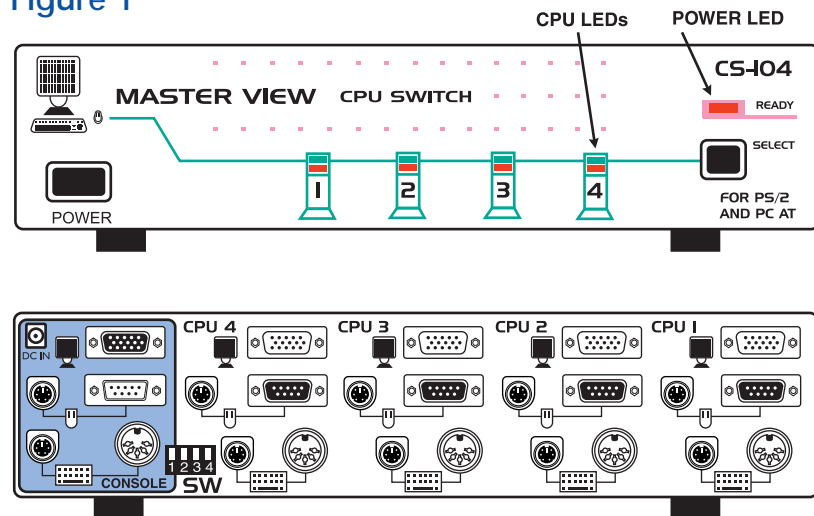
Features:

- Supports PS/2 and AT keyboard, mouse.
- PS/2 mouse and MS mouse simulation.
- Supports SVGA, VGA, and Multisync Monitors.
- Simple keystrokes (Hot Keys) or button clicks make selections.
- Buzzer sound for Switching Confirmation.
- Three stages cascable.
- Auto Scan and Manual Selection.
- Keyboard Caps Lock, Num Lock, Scroll Lock states are automatically saved and restored when switching among computers.
- Scan mode automatically switches through power-on computers, scan rate is DIP switch selectable.

Specifications:

Power Consumption (max.)	DC9V, 160mA
Accessing PC Number	4
PC Selected by	Keyboard/Mouse
LEDs	1 Ready LED, 4 Port Status LEDs
Scan Interval	3, 10, 20, and 40 Seconds
Keyboard Connector	5-pin DIN, 6-pin Mini-Din
Mouse Connector	9-pin D Type Male/Female
PS/2 Mouse Connector	6-pin Mini-DIN Female
Monitor Connector	15-pin D Type Female/Male
Weight	2650 grams
Dimensions	254x180x82 (mm)

Figure 1



Stage 1 Installation:

Note: The SA-CS104 is cascable up to three stages through DIP switch selection.

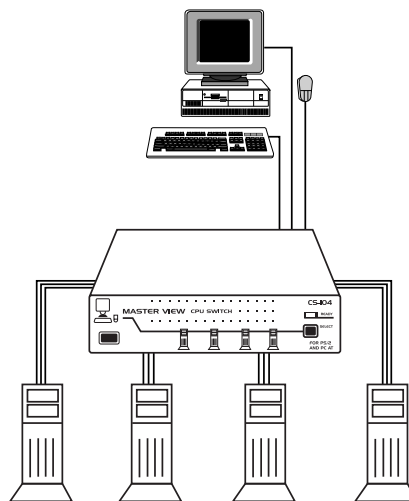
One Stage: See Figure 2

One SA-CS104 controls up to four computers.

Set the DIP Switch 4 to ON. (See Figure 1) Connect the monitor output, mouse port and keyboard port of a computer to one of the SA-CS104's CPU1 ~ CPU4 ports by appropriate cables.* 5-pin DIN is for AT-style PCs, keyboard and 6-pin mini-DINs for PS/2 styles. Use either port per computer.

*For list of appropriate cable parts and descriptions, see [Cables](#), page 2.

Figure 2



Stage 2 Installations:

Two Stages: See Figure 3

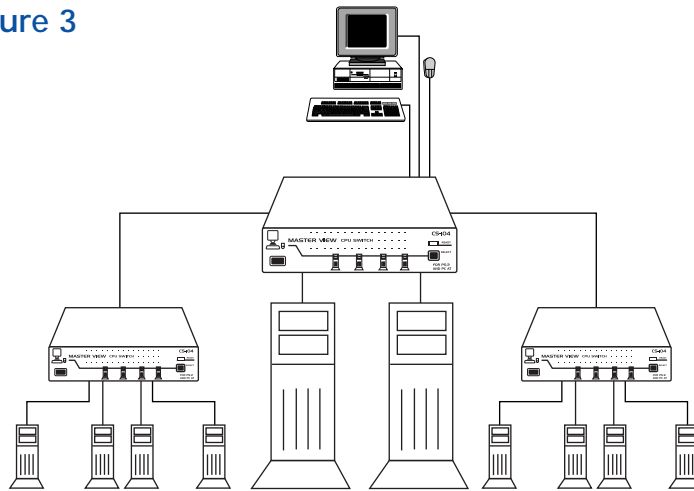
One SA-CS104 (the first stage) controls either computers directly or through cascade connections through other SA-CS104s (the second stage). See Figure 3.

The maximum number of computers under control at this stage is 16.

Set the DIP Switch 4 of the **first stage SA-CS104 to ON** and **all other DIP Switch 4's of the other SA-CS104s to OFF**.

Computers may be connected to the first stage and the second stage SA-CS104s. 5-pin DIN is for AT-style PCs keyboard and 6-pin mini-DINs for PS/2. Use either port per computer.

Figure 3



Note: To connect the keyboard ports of the first and second SA-CS104s, use the 5-pin DIN ports only!

Stage 3 Installations:

Three Stages: See Figure 4

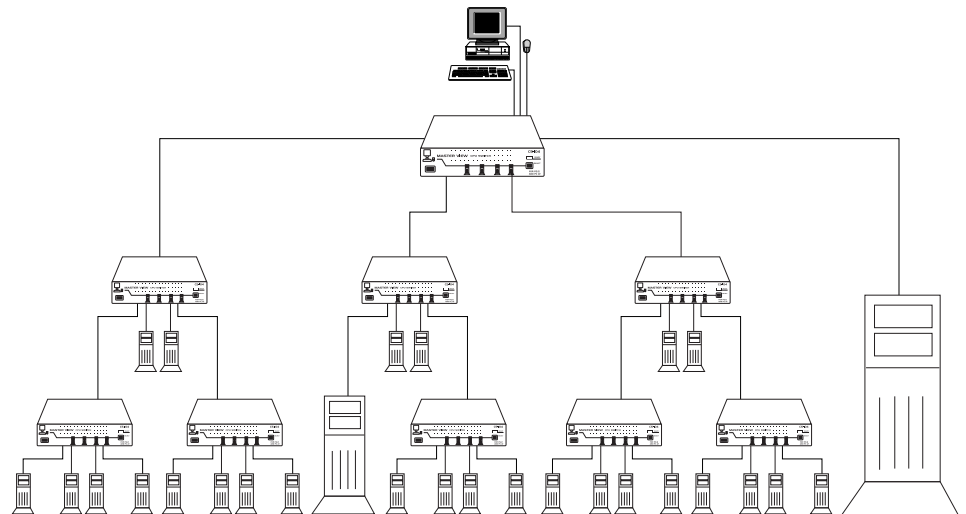
Similar to the Two Stage operation, more computers can be controlled either directly or through other cascaded SA-CS104s. See Figure 4.

The maximum number of computers under control at this stage is 64.

Just like the Second Stage, Set the DIP Switch 4 of the **first stage SA-CS104 to ON** and **all other DIP Switch 4's of the other SA-CS104s to OFF**.


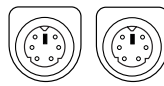


All other cables and connections are the same as Stage Two operation.

Figure 4



Cables Needed

To daisy chain to another SA-CS104 device, or to connect to other CPUs:

Monitor	CIB-047-06	
High-Density DB15 Male/Female Cable		
PS/2 Mouse, Keyboards ..	CIB-048M-06	
Mini-Din 6 Male/Male Cable		
AT keyboards	CIB-011M-06	
Din 5 Male/Male Cable		
AT mouse	CIB-009-06	
DB9 Male to DB9 Female Cable		

Operations and Hot Keys:

You may access any computer by pressing the front panel **SELECT BUTTON** or the keyboard, and the SA-CS104 directs keyboard control, mouse control, and video image of that computer to you as if the computer were right next to you.

1. By the front panel button:

To select a computer connected to a SA-CS104, you simply press the front panel **SELECT BUTTON** of that SA-CS104 several times, until the computer is selected when it's corresponding LED turns on.

2. By the keyboard:

As shown below, Hot Keys are entered by pressing the **[ALT]**, **[CTRL]**, and **[SHIFT]** keys simultaneously, release all keys, followed by the command key(s), and then finish by hitting the **[ENTER]** key.

A. To start Scan Mode:

(Scans power-on computers one by one from the first computer of the first stage, to the last computer of the last stage).

[ALT]-[CTRL]-[SHIFT] - [0] - [ENTER]

To stop the Scan mode:

[SPACE]

B. To start Previous/Next Mode:

(Selects power-on computers one by one from the first computer of the first stage to the last computer of the last stage).

[ALT]-[CTRL]-[SHIFT] - [9] - [ENTER]

To select the previous port:

left **[SHIFT]**

To select the previous port:

right **[SHIFT]**

To stop Previous/Next mode:

[SPACE]

Note: For both the Scan and Previous/Next Hot Keys, performing the Hot Key sequences correctly, the SA-CS104 will beep once and perform the requested action. Incorrectly entered, the computer will simply display the keys you entered.

C. To select a first-stage port directly:

[ALT]-[CTRL]-[SHIFT] - [#] - [ENTER]

D. To select a second-stage port directly:

[ALT]-[CTRL]-[SHIFT] - [#] - [#] - [ENTER]

The first [#] selects a 1st stage port

The second [#] selects a 2nd stage port

E. To select a third-stage port directly:

[ALT]-[CTRL]-[SHIFT] - [#] - [#] - [#] - [ENTER]

The first [#] selects a 1st stage port

The second [#] selects a 2nd stage port

The third [#] selects a 3rd stage port

Note: For the Direct Port Connect Hot Keys, performing the Hot Key sequences correctly, the SA-CS104 will beep once for a ready port, otherwise it will beep twice. Incorrectly entered, the computer will simply display the keys you entered.

LEDs

There is one **MANUAL LED** and four **PORT STATUS LEDs** on the front panel.

MANUAL LED:

Turns on when the SA-CS104 is in Manual Mode.

PORT STATUS LEDs:

Are used to indicate various SA-CS104 status conditions:

1. If a port is not selected, its corresponding LED is **OFF**.
2. If a port is selected which connects to another SA-CS104, its corresponding LED **FLASHES**.
3. If a port is selected which connects to a computer, its corresponding LED light is **ON**.
4. If a port is selected which connects to a computer under the Previous/Next Mode, its corresponding LED **FLASHES**.
5. If a port is selected which connects to a computer under Scan Mode, its corresponding LED **FLASHES**.

Dip Switch Settings

1. For the first stage SA-CS104:

DIP SWITCH #				FUNCTION
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Scan Time</u>
ON	ON	X	ON	3 seconds
OFF	ON	X	ON	10 seconds
ON	OFF	X	ON	20 seconds
OFF	OFF	X	ON	40 seconds

2. For the second and third stage SA-CS104s,
All DIP Switches are OFF.

Troubleshooting:

Problem:

The first stage SA-CS104 does not take Hot Keys.

Cause:

Incorrect DIP Switch Settings.

Solution:

Set the first stage SA-CS104 Dip Switch 4 to ON, all others to OFF.

Problem:

You press Hot Keys but get no response.

Cause #1:

The SA-CS104 is operating in Scan or Previous/Next Mode.

Solution:

Press the [SPACE] bar to exit these modes before giving Hot Key commands.

Cause #2:

The selected port connects to a power-off computer.

Solution:

Change the port selection to a power-on computer.

Cause #3:

Improper keyboard reset.

Solution:

Unplug, then plug the keyboard back to the connector.

Cause #4:

Improper SA-CS104 reset.

Solution:

Turn off all SA-CS104s, wait for at least five (5) seconds, then turn back on.

Problem:

The SA-CS104 does not work properly.

Cause:

The SA-CS104 can not get enough power from the CPUs.

Solution:

Connect the DC 9 Volt (160mA) power adapter to the first stage SA-CS104. (Included in your package)