

# MASTER VIEW PLUS CPU SWITCH



**USER'S MANUAL**

**CS-104**

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## Packaging Checklist:

- (1) Master View CPU Switch [CS-104]
- (1) Power Adapter [DC 9V 250mA (minimum)]
- (1) CPU Switch User's Manual [This Book]

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# Introduction

Master View is a controller for that will allow one user to access multiple computers. Before, the costly network was the only solution for this application. Now, the Master View provides the easiest and the most cost-effective way of accessing multiple computers.

With the powerful features of Master View, anyone is capable of operating or testing many computers with one of each, a monitor, a keyboard and a mouse. Switching from one computer to another is accomplished quickly and easily, either by using Hot Keys or pressing a button on the Master View. No additional programs to install and no problems with compatibility, because the Master View intercepts the Hot Keys directly from the keyboard.

One Master View unit will control up to four computers. When used together, or cascaded, the Master View can control up to 64 computers. A powerful auto-scan feature scans all operational computers one at a time and will stop upon the users request. Master View is ideal for Server, Control Room, Testing, etc.

# Features

- Supports PS/2 Keyboard or AT Keyboard.
- Supports PS/2 Mouse or Serial Mouse.
- Supports VGA, SVGA, and Multisync Monitors.
- Simple keystrokes or push button selection of active PC.
- Buzzer Sound for Switching Confirmation.
- Cascade to a depth of three units.
- Auto-Scan and Manual Selection.
- Keyboard Caps Lock, Num Lock and Scroll Lock states automatically saved and restored when switching between computers.
- Scan mode automatically switches through active computers; this scan rate is controlled by DIP switch selections.
- Saves space, equipment, and power costs.
- Easy Hot Key control is compatible with normal keyboard operation.

# Specifications

Function	Specification
Power Consumption	DC 9V 250 mA (max.)
Number of PC's accessed	4
Active PC selected by	Keyboard/Button
LED	1 Ready LED, 4 Port Status LEDs
Scan Interval	3, 10, 20, and 40 Seconds (Selectable)
Keyboard Connector	5-pin DIN (AT) and 6-pin mini-DIN (PS/2)
Serial 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
Enclosure	Metal
Weight	2650g
Dimensions (L x W x H)	254 x 180 x 82 (mm)

# Hardware Requirements

**You will need to have the following:**

**To connect to a Monitor:**

- A VGA, SVGA, or Multisync monitor card installed in each PC.
- One VGA, SVGA or Multisync Monitor

**To connect a Mouse:**

- DB-9 serial port or 6-pin mini-DIN PS/2 bus mouse port in each PC.
- One PS/2 mouse and/or a DB-9 Serial Mouse

**To connect a Keyboard:**

- 5-pin DIN AT keyboard port with +5V DC on pin 5 and ground on pin 4, or a 6-pin mini-DIN PS/2 keyboard port with +5V DC on pin 4 and ground on pin 3.
- One PS/2 style Keyboard or one AT style Keyboard.

# Hardware Installation

The CS-104 is cascadable up to a depth of 3 stages which is selected by DIP switch settings.

**One Stage:**

In a one-stage system, a single CS-104 can control up to four computers. The DIP switch #4 is set to the ON position. Connect the monitor output, mouse port, and the keyboard port of a computer to one of the CS-104's available PC port groups with the appropriate cables. The 5-pin DIN is for an AT style PC keyboard and the 6-pin mini-DIN is for a PS/2 style keyboard. You can use either port for each computer.

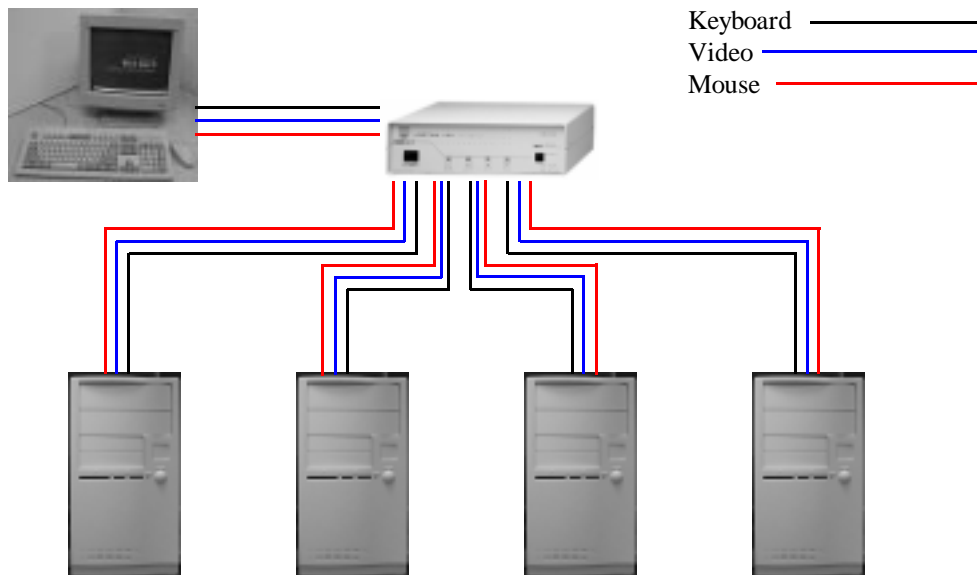


Fig. 1: A One Stage installation of the CS-104

## Two Stage:

In a two stage system the CS-104 can either control PC's directly or it can control other CS-104's (second stage units) or a combination of both. In this configuration the maximum number of computers that can be in the system is 16. The DIP switch #4 on the first stage unit (The CS-104 directly connected to the monitor, mouse, and keyboard) is placed in the ON position. All other CS-104 units have DIP switch #4 in the OFF position. Computers may now be connected either to the first stage CS-104 or the second stage units. The 5-pin DIN is for an AT style PC keyboard and the 6-pin mini-DIN is for a PS/2 style keyboard. You can use either port for each computer.

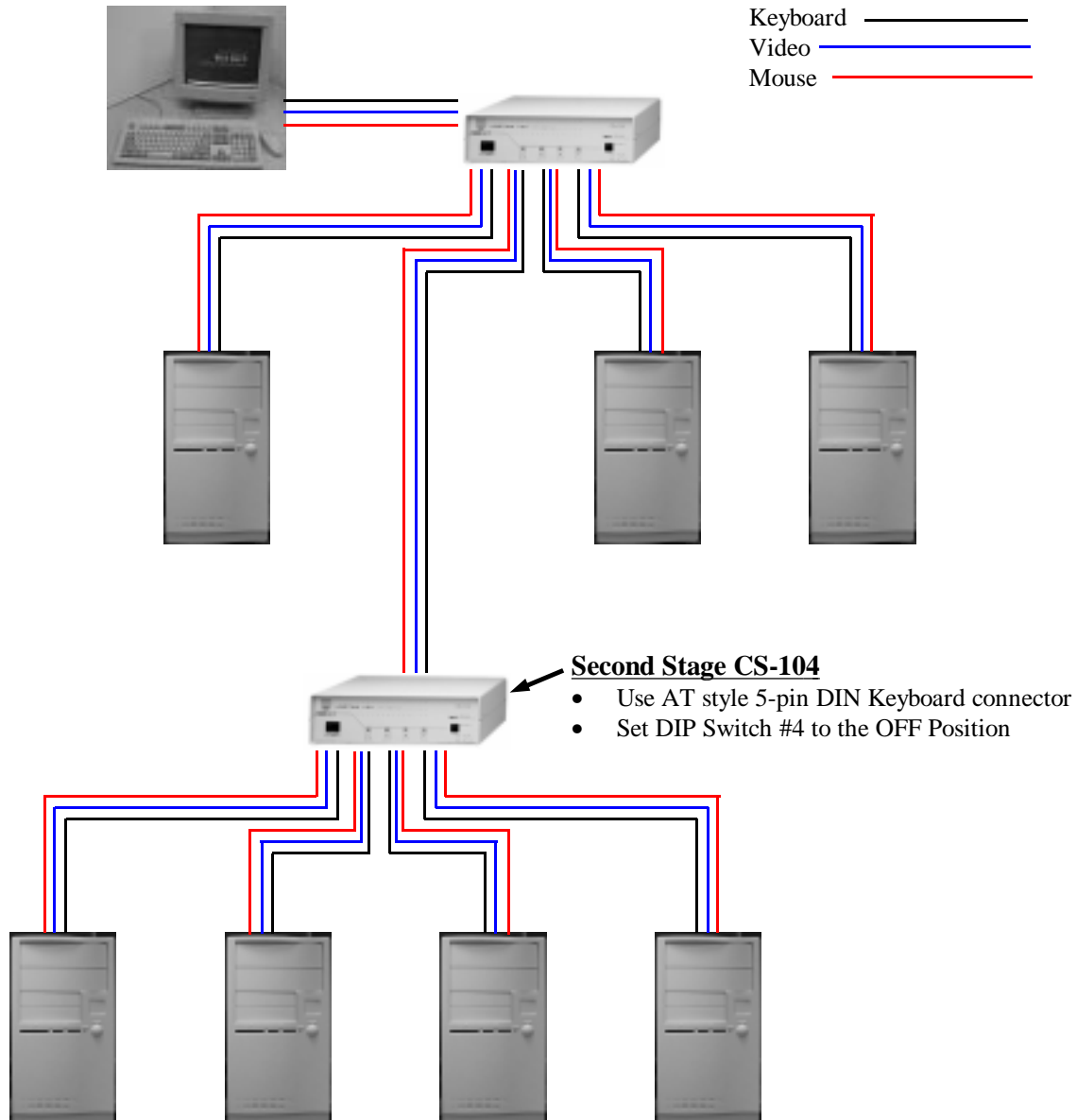


Fig. 2: A Two Stage installation of the CS-104

### Three Stages:

Similar to a **Two-Stage** configuration, more computers can be controlled by adding another layer of CS-104 units. In a three-stage system the maximum number of computers that can be controlled is increased to 64. The DIP switch #4 on the first stage unit (The CS-104 directly connected to the monitor, mouse, and keyboard) is placed in the ON position. All other CS-104 units have DIP switch #4 in the OFF position. Computers may now be connected to the first stage CS-104, the second stage units, or the third stage units. The 5-pin DIN is for an AT style PC keyboard and the 6-pin mini-DIN is for a PS/2 style keyboard. You can use either port for each computer. *NOTE: To connect the keyboard ports of the second or*

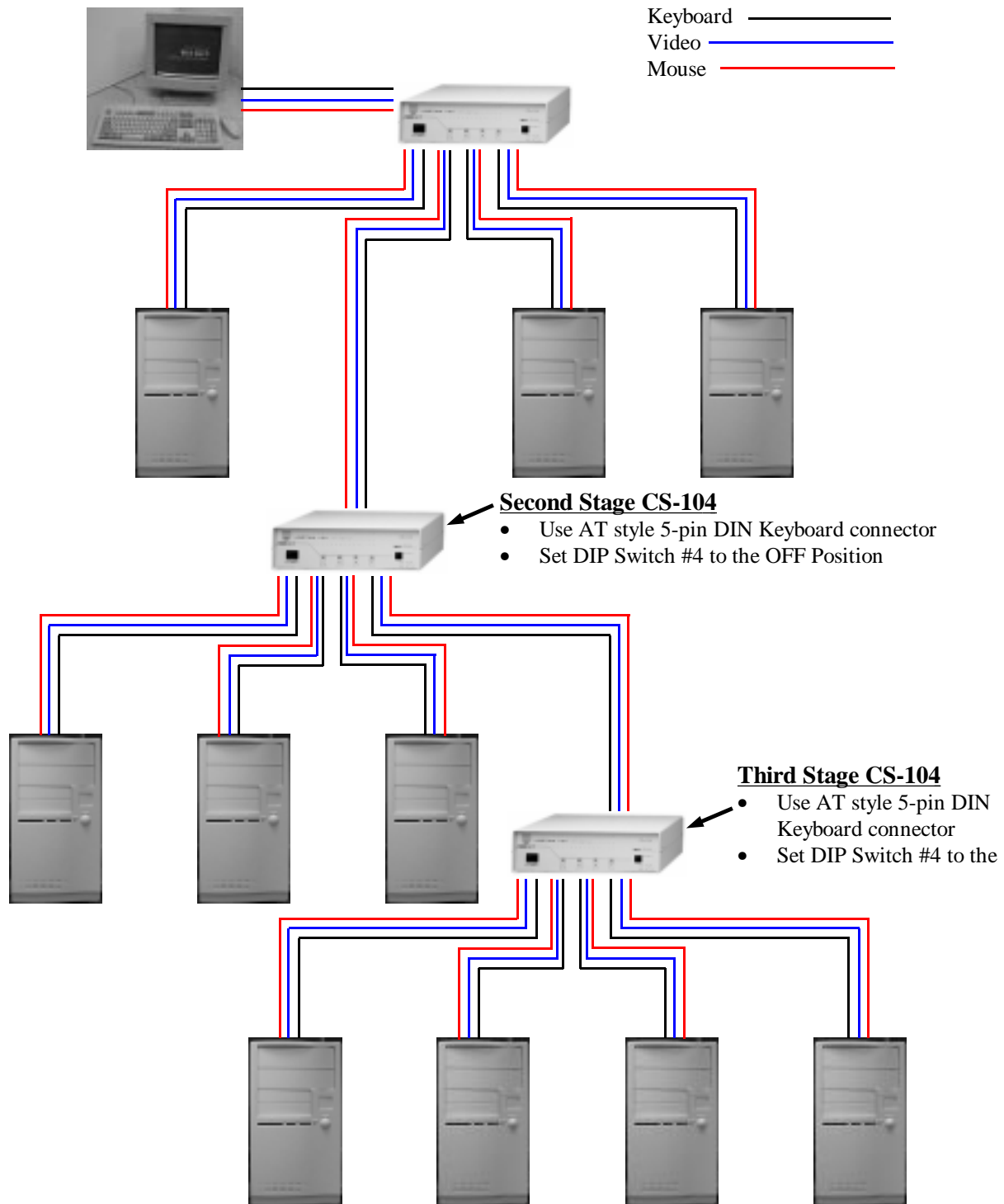


Fig. 3: A Three Stage installation of the CS-104

# Step by Step Hardware Installation

## Setting up one CS-104

The connection of the Keyboard, Video and the Mouse is accomplished by using the same cables that you would use to connect them to a PC.

1. Connecting the mouse:
  - If you are using a PS/2 style mouse connect the 6-pin mini-DIN male plug of the PS/2 mouse to the female PS/2 port located in the CONSOLE section on the back of the CS-104.
  - If you are using a Serial mouse you must connect the DB-9 Serial connector of the mouse to the DB-9 Serial Port of the CS-104.
  - *NOTE:* If the computers attached to the CPU ports have mixed mouse types, ie. Serial and PS/2, you must connect BOTH mice to the console port.
2. Connecting the keyboard:
  - If your keyboard uses a 5-pin DIN (AT style) connector, plug the male 5-pin DIN connector into the female 5-pin DIN socket in the CONSOLE section of the CS-104.  
OR
  - If your keyboard uses a 6-pin mini-DIN (PS/2 style) connector, plug the male 6-pin mini-DIN connector into the 6-pin mini-DIN socket in the CONSOLE section of the CS-104
3. Connecting the monitor:
  - Using the cable attached to your monitor, plug the male high density DB-15 (standard VGA, SVGA, or Multisync) connector into the female high density DB-15 connector in the CONSOLE section of the CS-104.
4. Connecting a computer:
  - Connect a VGA compatible monitor extension cable from the video card of the computer to the video connector in one of the PC sections of the CS-104
  - Connect a straight-through keyboard from the keyboard port of your computer to the keyboard port of the same PC section where you connected the video.
  - Connect a straight-through PS/2 or Serial mouse extension cable from the mouse connection of your PC to

# Operation of the CS-104

You may access any computer by pressing the front panel **SELECT BUTTON** or through keyboard commands. After selecting the computer you wish to control the CS-104 directs the keyboard control, mouse control, and video image of the computer you have selected as if the computer were right next to you.

## Selection from the front panel button:

To select a computer connecting to a CS-104 unit, you simply press the front panel **SELECT BUTTON** of that unit several times, until the computer that you wish to select is indicated by the corresponding indicator LED being turned on.

For a computer in the second stage of a **Two-Stage** system you will have to make your selection on the CS-104 unit directly connected to the PC you wish to use. Similarly in a **Three-Stage** system you will need to make your selection on the CS-104 unit directly connected to the computer in the third stage.

## Selection from the keyboard:

As shown below, first pressing the **[Alt]**, **[Ctrl]**, and **[Shift]** keys to enable the Hot Key commands, You

then enter the command keystrokes and complete the command by hitting the **[Enter]** key.

To start the Auto-Scan mode: (This mode scans all connected computers that are in a power on state, one-by-one, from the first computer in the first stage, to the last computer in the last stage)

**[Alt] [Ctrl] [Shift] + [0] + [Enter]**

To stop Auto-Scan mode:

**[Space]**

To start the Previous/Next mode: (This mode selects from all connected computers that are in a power on state, one-by-one, from the first computer in the first stage, to the last computer in the last stage)

**[Alt] [Ctrl] [Shift] + [9] + [Enter]**

To select the previous port:

*Left* **[Shift]**

To select the next port:

*right* **[Shift]**

To stop the Previous/Next mode:

**[Space]**

To select a first-stage port directly:

**[Alt] [Ctrl] [Shift] + # + [Enter]**

(# is the number of the first-stage port)

To select a second-stage port directly:

**[Alt] [Ctrl] [Shift] + # + # + [Enter]**

( The 1<sup>st</sup> # selects the number of a first-stage port)

( The 2<sup>nd</sup> # selects the number of a second-stage port)

To select a third-stage port directly:

**[Alt] [Ctrl] [Shift] + # + # + # + [Enter]**

( The 1<sup>st</sup> # selects the number of a first-stage port)

( The 2<sup>nd</sup> # selects the number of a second-stage port)

( The 3<sup>rd</sup> # selects the number of a third-stage port)

**NOTE:** # is a numerical digit between **[1]** and **[4]**



Actions Taken by the CS-104		
MODE	Result for correct Hot Key	Incorrect Hot Keys
Scan	<ul style="list-style-type: none"> <li>Filters out Hot Keys and beeps once</li> <li>Scans powered-on computers one-by-one and flashes corresponding LED</li> <li>Scan rate is set by the DIP switches of the first-stage CS-104</li> <li>[Space] stops this mode</li> </ul>	Displays incorrect keystrokes
Previous/Next	<ul style="list-style-type: none"> <li>Filters out Hot Keys and beeps once</li> <li>The <i>right</i> [Shift] key selects the next higher numbered computer</li> <li>The <i>left</i> [Shift] selects the next lower numbered computer</li> <li>[Space] stops this mode</li> </ul>	Displays incorrect keystrokes
Direct	<ul style="list-style-type: none"> <li>Filters out Hot Keys and beeps once for a ready port; otherwise, beeps twice.</li> </ul>	Displays incorrect keystrokes

## LED Display

There is one **MANUAL LED**, and four **PORT STATUS LEDs** on the front panel. The functions of these LEDs are as follows:

**MANUAL LED :** This LED turns on when the CS-104 is in **MANUAL** mode.

**PORT STATUS LED:** These four (4) LEDs are used to indicate the various status conditions for any given port.

- If a port is not selected, its corresponding **PORT STATUS LED** will be off.



- If a port is selected that is connected to another CS-104, its corresponding PORT STATUS LED will flash:



- If a port is selected that is connected to a “power-on” computer, its corresponding PORT STATUS LED will remain lit.



- If a port is selected that is connected to a “power-on” computer while in Previous/Next mode, its corresponding PORT STATUS LED will flash:



- If a port is selected that is connected to a “power-on” computer while in the Auto-Scan mode, its corresponding PORT STATUS LED will flash:



LED On



LED Off



# DIP Switch Settings

The Following DIP Switch settings are for the first-stage CS-104 ONLY

DIP Switch Number				Function
1	2	3	4	Scan Time
ON	ON	X	ON	3 Seconds
OFF	ON	X	ON	10 Seconds
ON	OFF	X	ON	20 Seconds
OFF	OFF	X	ON	40 Seconds

The DIP Switch settings for the second and third-stage CS104s are all switches off.

# Foot Switch (Optional)

## FUNCTION

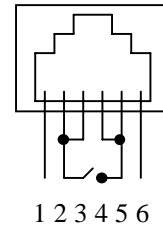
The **Foot Switch** is an extension of the front panel **Push Button**, both have the same function. Each time the **Foot Switch** is stepped on, a different computer is selected.

Foot Switch part #      2X-001 (Large)  
                                  2X-002 (Small)

## CONNECTION

The **Foot Switch** is connected to the CS-104 through a RJ-11 phone jack which is located on one side of the unit.

If you plan to install an ON/OFF switch to work with the **Push Button**, check the diagram to the right to ensure correct switch connection.



# Troubleshooting

Symptom	Possible Causes	What to do
The first-stage CS-104 unit will not take Hot Key commands.	Incorrect DIP switch settings .	Set the first-stage CS-104 DIP switch #4 to ON. Turn all other CS-104s' switches OFF.
Pressing the Hot Keys get no response.	The CS-104 is operating in either Auto-Scan or Previous/Next mode.	Check the <b>PORT STATUS LEDs</b> for a flash pattern. Or Press the space bar to exit these modes before giving Hot Key Commands.
	The selected port connects to a "power-off" computer	Manually change the port selection, using the <b>SELECT BUTTON(S)</b> , to a computer in the "power-on" state.
	Improper keyboard reset	Unplug the keyboard, then reconnect the keyboard.
	Improper CS-104 reset	Turn off all CS-104s, wait for 5 seconds, and turn them on.
	Incorrectly pressing hot keys	Try pressing a single key at a time. CTRL, ALT, SHIFT, (Port Number) then ENTER.
Mouse is not responding or being detected	AT (Serial Mouse) and PS/2 style computers being used with CS-104	Both Serial and PS/2 mice must be used if using AT and PS/2 style computers.
	If using NT system and Serial Number begins with a letter D, C, B or A.	NT System must be selected at startup for NT to detect the mouse (Port light lit while NT loading).
The CS-104 does not work properly.	The CS-104 can not get enough power from the CPUs	Add a DC 9V power adaptor to the first-stage CS-104

## **PREVENTING RADIO & TV INTERFERENCE**

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

## **LIMITED WARRANTY**

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM THE DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK OR ITS DOCUMENTATION.

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