

INSTALLATION AND OPERATIONS MANUAL



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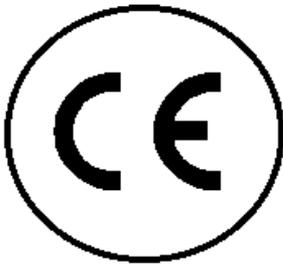
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EUROPEAN UNION DECLARATION OF CONFORMITY ACCORDING TO COUNCIL DIRECTIVE 89/336EEC



This equipment is in conformity with the requirements of the European EMC directive 89/336/EEC
72/21/EEC
EN55022: (Class A, 1998)
EN55024 (1998)
CISPR22 (1995)

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Disclaimer

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Introduction

Thank you for choosing the Rose Electronics® ServeView Pro™ professional KVM switch. The ServeView Pro represents the latest technology in single user, keyboard-monitor-mouse switching. The ServeView Pro is the result of Rose Electronics commitment to providing state-of-the-art switching solutions for today's demanding workplace. The ServeView Pro has proven to be a valuable and dependable investment for users that have the need to access multiple computer systems from a single KVM station.

A **K**eyboard, **V**ideo monitor, and **M**ouse are referred to throughout this manual as a **KVM** station.

Each model can support either PC/Unix or multi-platform (PC, Apple, Sun, USB, and Unix) systems. Switching to a connected computer can be done by simple keyboard commands, selecting the computer from the front panel, or through the RS/232 port.

All ServeView Pro models can easily be expanded by chaining the units together and configuring the system. Using 4 port units ("M"-chassis), you can expand the system to 16 computers. The 8 port unit ("B"-chassis) can expand to 64 computers, and the 16 port unit ("C"-chassis) can expand to 256 computers.

Before performing any installation or configuration, please refer to the safety section of this manual.

Features

- Access up to 256 computers from one KVM station
- Available in three different chassis sizes:
 - 2 or 4 ports (M chassis)
 - 4 or 8 ports (B chassis)
 - 4, 8, 12, or 16 ports (C chassis)
- Superior cable management using UltraCable for lengths up to 100 feet
- Video resolution up to 1600 x 1280
- Switch to a computer from the keyboard, the front panel switches, or the RS/232 port
- Multi-platform models convert PC, Unix, Apple, or Sun keyboard and mouse data to any platform
- Pre-configuration feature allows for the installation of a computer or server without removing power
- Full keyboard and mouse emulation for automatic and simultaneous booting
- Flash memory with free base firmware upgrades available from our web site

Compatibility

KVM compatibility	
Keyboards	PC, Unix, and most US and foreign QWERTY keyboards, Japanese and Korean keyboards with or without Windows keys, 101, 102, 104, 105, 106, 109, Sun. Some older XT/AT auto-sensing or single mode keyboards may not be compatible
Monitors	VGA, SVGA, XGA, Composite
Mice	Standard PS/2, PS/2 wheel, Sun
CPU compatibility	
Computers	Industry standard PCs, Unix systems, Sun, IBM RS/6000, DEC, HP, SGI, Apple, and others
Keyboards	Standard PC mode 1, 2, or 3 in PS/2 or AT, USB, Sun, Apple ADB*. Some older XT/AT auto-sensing or single mode keyboards may not be compatible
Monitors	VGA, SVGA, XGA, Composite, Sync-of-green
Mice	Standard PS/2, PS/2 wheel, Serial (2 or 3 button), USB, Sun, Apple ADB*

* Requires use of Rose translator: CNV-MACPS and Rose cable.

Package contents

The package contents consist of the following:

- The ServeView Pro unit
- Power adapter (provided with the M-chassis)
- Serial cable and RJ to DB9 adapter
- Installation and operations manual

CPU, KVM, and expansion cables are usually ordered separately. If the package contents are not correct, contact Rose Electronics or your reseller, so the problem can be quickly resolved.

Rose Electronics web site

Visit our web site at www.rose.com for additional information on the ServeView Pro and other products offered by Rose Electronics that are designed for data center applications, classroom environments, and many other switching applications.

System overview

The ServeView Pro is designed to provide seamless, trouble-free switching from a single KVM station to any connected computer or server. You can switch to any of the connected computers by simple keyboard commands, the front panel – or + buttons, or from a computer terminal or standalone PC connected to the RS/232 serial port (not connected to a CPU port).

If your system demands are greater than a single unit can provide, the ServeView Pro can be easily expanded to connect up to 256 computers by chaining units together with expansion cables.

KVM station

A KVM station consisting of a keyboard, monitor, and mouse connects to the ServeView Pro's DB25F connector labeled KVM-1 or "MONITOR/KEYBOARD/MOUSE".

CPU connection

All CPU connectors on the ServeView Pro are DB25F. The CPUs are connected using a CPU cable designed to interface with the CPU keyboard, monitor, and mouse ports. A CPU cable is needed for each connected computer.

ServeView Pro models



“M” Chassis



“B” Chassis



“C” Chassis

Figure 1. ServeView Pro models

Label		Description
Power		Power LED - Green when unit is on
ON/OFF		“M” chassis only – In = ON Out = OFF
LEDs		Indicator LEDs; Numbered pairs of LEDs shows status and power of connected computers
- and + Switches*		- Connects to the previous CPU + Connects to the next CPU

* The - and + switches are used when:

- upgrading the firmware
- resetting the unit to factory defaults
- running diagnostics.

Table 1. Front panel

ServeView Pro models (rear)

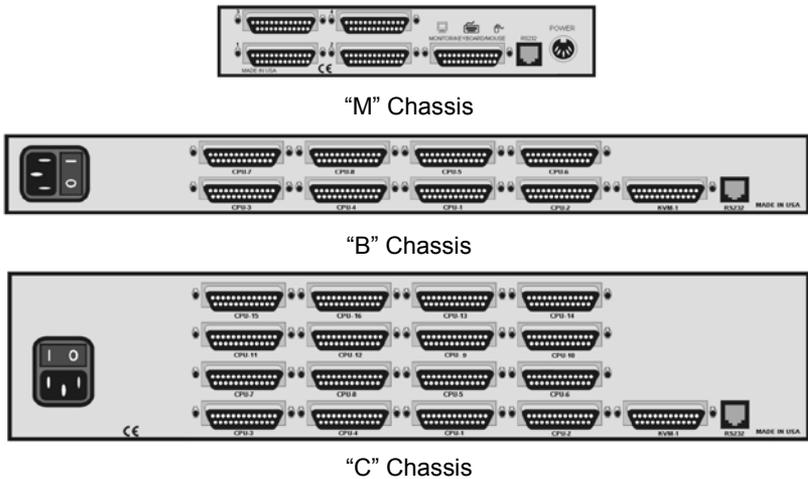


Figure 2. Rear panel

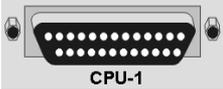
Label	Connector	Description
Power		“M” Chassis only DIN 5F Power adapter connector
None		“B” and “C” Chassis only IEC320 Power receptacle w/switch
CPU-x “M” 1-4 “B” 1-8 “C” 1-16	 CPU-1	DB25F CPU adapter cable connectors
KVM-1	 KVM-1	DB25F KVM cable connector.
RS232	 RS232	RJ12 6-conductor jack

Table 2. Rear panel connectors

Cables

(See Appendix B for cable part numbers)

ServeView Pro to KVM station cables

The KVM cable connects a keyboard, video monitor, and mouse to the ServeView Pro. The KVM cable is configured with a DB25M connector on one end and a connector for the keyboard, video, and mouse cables on the other end. These KVM cable connectors should be compatible with the types of connectors that are on your KVM stations keyboard, monitor, and mouse cables.

ServeView Pro to CPU cables

A CPU cable is used to connect each computer to the ServeView Pro. The CPU cable connects from the DB25F CPU ports on the ServeView Pro to the keyboard, video, and mouse ports on each CPU. This cable is configured with a DB25M connector on one end and a connector for the keyboard, video, and mouse on the other end. These CPU cable connectors should be compatible with each CPUs keyboard, video, and mouse port.

ServeView Pro Master to Slave unit cables

In systems needing access to additional CPUs, the ServeView Pro can be cascaded to other ServeView Pros. To cascade an ServeView Pro to other "Slave" units, you will need one DB25M to DB25M, switch-to-switch cable for each expansion unit.

(Rose Electronics switch-to-switch cable part number CAB-CXVSMnnn.)

KEYBOARD COMMANDS

Table 3 shows the keyboard commands that are available for the ServeView Pro. To issue a keyboard command, first press and release the left control [Ctrl] key, then, within 2 seconds, issue the command. <Ctrl> in the key sequence column is a press and release of the left control key.

Command	Key sequence	Description
Select computer	<Ctrl> nnn where nnn = computer number	Connects the KVM station to the selected computer
Next computer	<Ctrl> +	Selects next sequential CPU
Previous computer	<Ctrl> -	Selects previous sequential CPU
Scan ON	<Ctrl> S	Turns scan mode on
Scan OFF	<Ctrl> X	Turns scan mode off
Scan rate	<Ctrl> Tnnn where nnn=1 – 999	Sets pause time, in seconds, before switching to next CPU port in scan mode
Set mode	<Ctrl> Mnn <Enter> where nn = mode value from Table 4	Alternate way to configure keyboard and mouse
Null mouse command	<Ctrl> N	Used to re-sync a PS/2 mouse
Reset mouse	<Ctrl> O (alpha O)	Resets computer's mouse (Win NT / 2000 only)
Reset command	<Ctrl> R	Resets and enables mouse and keyboard on currently selected computer
Max computers	<Ctrl> Pnnn	Total ports used (all units)
Units	<Ctrl> Unn	Number of Slave units
Width	<Ctrl> Wnn	Number of ports on Slave units
Set typematic rate value	<Ctrl> Ann <Enter> where nn=value from Table 5	Sets keyboard typematic rate and delay. Default = 20
Identify Rom Rev	<Ctrl> I	Identify Rom revision-Issue from command prompt or editor
Screen blanking	<Ctrl> Vnnn <Enter> where nnn=0-999	Blanks screen after no keyboard or mouse activity 0-disables blanking
MAC Opt swap	<Ctrl> B <Enter>	Swaps Mac Opt and Alt keys
Keep	<Ctrl> K	Saves to flash memory

Table 3. Keyboard commands

Table 4 shows the available mode values for the keyboards and mice that are supported. To change the default keyboard or mouse types from a PC mode 2 keyboard and PS/2 mouse, first connect to the CPU port that the computer keyboard or mouse needs changing, ([Ctrl],[CPU port #],[Enter]) then issue the mode command [Ctrl],[Mnn],[Enter], where nn is the mode value from Table 4.

Mode value	Description
1	CPU keyboard = PC mode 1 (Some IBMs & PS/1's)
2	CPU keyboard = PC mode 2 (Most PCs)
3	CPU keyboard = PC mode 3 most (RISC) Unix w/stations
4	CPU keyboard/mouse = Apple ADB
5	CPU keyboard/mouse = Sun
6	CPU mouse = PS/2 mouse – any brand
7	CPU mouse = 2-button serial (Microsoft - 7 bit)
8	CPU mouse (Reserved for future use)
9	CPU mouse/= 3- button serial (Mouse systems)
10	CPU mouse = PS/2 wheel
11	CPU Keyboard/mouse = USB-PC/MAC
12	CPU Keyboard/mouse = USB-Sun
20	Keyboard = PC – 101/102- PC
21	Keyboard = PC – 104/105-PC Win95
30	Mouse = PS/2 or PS/2 wheel
31	Mouse= Serial 2-button (7 bit-Microsoft)
32	Mouse = Serial 3-button (8-bit – not used)
33	Mouse = Serial 3-button (Mouse systems)
40	Keyboard & mouse - Set all ports to Apple ADB
50	Keyboard & mouse - Set all ports to Sun
60	Keyboard & mouse - Set all ports to PC2 kbd/PS/2 mouse

Table 4. Mode commands

Rate Keys/ Sec.	Rate Value	Rate Keys/ Sec.	Rate Value	Rate Keys/ Sec.	Rate Value	Rate Keys/ Sec	Rate Value
30.0	31	15.0	23	7.5	15	3.7	7
26.7	30	13.3	22	6.7	14	3.3	6
24.0	29	12.0	21	6.0	13	3.0	5
21.8	28	10.9	20	5.5	12	2.7	4
20.0	27	10.0	19	5.0	11	2.5	3
18.5	26	9.2	18	4.6	10	2.3	2
17.1	25	8.6	17	4.3	9	2.1	1
16.0	24	8.0	16	4.0	8	2.0	0

Table 5. Typematic value

Keyboard command usage

When using keyboard commands to enter information to the ServeView Pro, please observe the following guidelines to avoid entering incorrect values or no values.

1. All commands start with a press and release of the left control key.
2. Commands following the press and release of the left control key must be entered within 2 seconds or the command is aborted and the additional keystrokes will be sent to the selected computer and not the ServeView Pro.
3. Use only the numeric keys above the keyboard and not the numeric keypad.
4. Letter commands such as <Ctrl> M are not case sensitive and are only shown in uppercase for clarity. Do not use the shift key to enter letter commands.
5. To connect to the previous or next computer, the keyboard command is <Ctrl> - or <Ctrl> +. The plus and minus keys on the keypad will connect to the next or previous computer. The - and + keys on the keyboard, next to the backspace key vary from country to country as to their usage. These keys can still be used to connect to the next or previous computer.

Organizing the system

It is recommended that before any ServeView Pro configuration or cable connections be made, plan how the system will be laid out, the placement of the CPUs and the placement of the ServeView Pro. Take into consideration the cable lengths needed to connect to the KVM station and each CPU. Identify which computer will be connected to each CPU connector and if that computer uses a PC mode 2 keyboard and PS/2 mouse. If not, the CPU port should be pre-configured to change the default keyboard and mouse types to the correct settings.

If you are adding Slave units to expand your system, it is important that you understand the width command, especially if your system consists of different models (4-CPU ports, 8-CPU ports, and 16-CPU ports). For example, if your system consists of an 8-port master, two 8-port Slave units and one 4-port Slave unit, and you program the expansion width to 8, there will be 4 blind ports on the 4-port unit. In other words, the 4-port unit will appear to the system as having 8 CPU ports. CPU ports 5-8 are blind ports. If you program the expansion width to 4, then only CPU ports 1-4 on the 8-port Slave units can be accessed. In systems that have a mixture of models, it is recommended that the width value be set to the number of CPU ports on the Slave unit with the most CPU ports.

Installation – Single unit

This section explains how to connect and initially configure the ServeView Pro. If you are cascading two or more ServeView Pro units together, please refer to the Cascade installation section.

Connecting the KVM station

Connect the KVM station's keyboard, video monitor, and mouse cables to the corresponding connectors on a KVM cable as shown in Figure 3. The KVM cable should have the correct connector types for the equipment used. Connect the DB25M connector into the connector labeled "Monitor/Keyboard/Mouse" on the ServeView Pro "M" chassis rear panel or the KVM-1 connector on the "B" and "C" chassis. If a serial mouse is used on a KVM station, all mice in the system (on every computer) must be a serial mouse.

Apply power

For the "M" chassis, connect the power transformer to a 110/220-volt source and to the DIN 5F power adapter connector on the rear panel. Press the ON/OFF button in the front panel once to turn on the unit.

For the "B" and "C" chassis, connect a power cord to 110-220-volt source and to the IEC320 connector on the rear panel. Press the rocker switch to the ON position.

The green POWER LED will turn on and the power-on diagnostic will run. Wait until the SELECT 1 LED on the front panel lights before entering any configuration or switching commands. This assures that the internal diagnostics have completed. If, for any reason, you need to cycle power on a unit, turn the power off and wait 10 seconds before re-applying power.

On initial power-up, computer 1 is automatically connected. The SELECT 1 LED on the front panel will light indicating that the KVM station is connected to the CPU-1 port.

Connecting the computers

Each computer that is connected to the ServeView Pro is connected using a CPU cable. This cable connects from the DB25M CPU port on the rear panel to the keyboard, monitor, and mouse ports on a CPU (See Figure 3). The keyboard, monitor, and mouse connectors on the CPU cable should be compatible with the corresponding ports on the computer being connected. For ease of installation and configuration, it is recommended that the computers' power be off at this time. When a computer is booted, the ServeView Pro can automatically determine the keyboard and mouse types of the connected CPUs.

If removing power to a computer is not feasible, the ServeView Pro should be pre-configured, if needed, before the CPU is connected. The default keyboard and mouse types set for each CPU port is a PC mode 2 keyboard and a PS/2 mouse. If the computer being connected does not use a PC mode 2 type keyboard and a PS/2 mouse, pre-configure the CPU port for the correct keyboard and mouse type. Once the CPU port has been configured, the computer can be connected to the ServeView Pro. This procedure should only be done if the computer's keyboard and mouse can be disconnected and re-connected with power applied to the computer without affecting the interface.

To pre-configure a CPU port, perform the following:

(Note: the computer should not be connected to the CPU port at this time.)

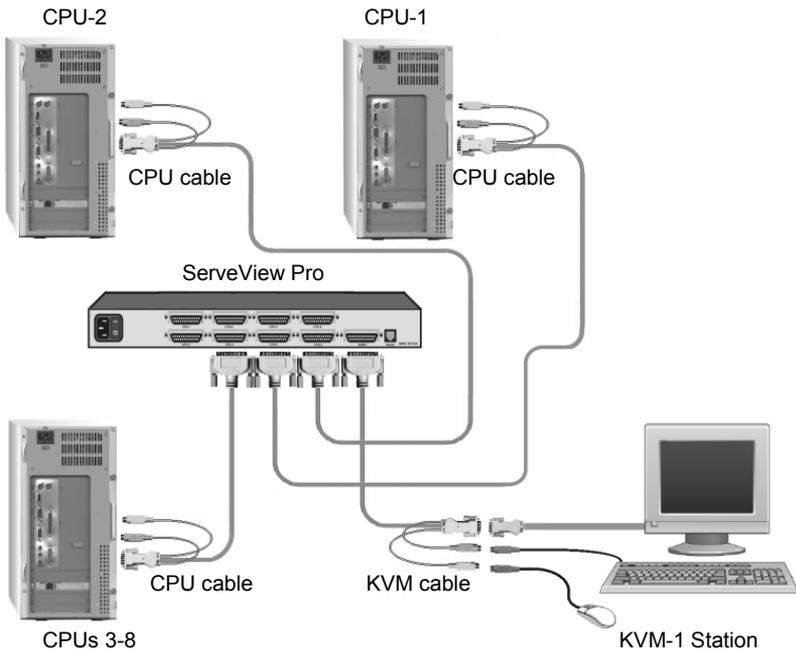
1. Apply power to the ServeView Pro and the KVM station monitor.
2. Switch to the CPU port to pre-configure by pressing and releasing the left control [Ctrl] key, type in the CPU port number, and press [Enter].
3. Select the correct keyboard type from Table 4.
4. Issue the "Set mode" command. (Ctrl,Mnn,[Enter])
Example : If the keyboard is a PC mode 3 keyboard, the command would be Ctrl,M3,[Enter]
5. Select the correct mouse type from Table 4.
6. Issue the "Set mode" command (Ctrl,Mnn,[Enter])
Example: if the mouse type is a serial 2 button mouse, the command would be Ctrl,M7,[Enter]
7. Issue the "Keep" command to save the new values (Ctrl,K,[Enter])
8. Perform steps 2 through 7 for each CPU port that needs the default keyboard and mouse changed to a different type.

When all needed CPU ports have been pre-configured, the computers can be connected. Perform the following for each computer to be connected:

(Refer to the Troubleshooting section if needed and Figure 3 for a example of a single unit installation)

Steps

1. Turn on the KVM stations monitor and apply power to the ServeView Pro.
2. Wait until the “SELECT 1” LED on the front panel lights.
3. Switch the ServeView Pro to CPU port x. (Ctrl,port #,[Enter]) (Starting with x = 1)
4. Connect the computer that has been pre-determined to be connected to the CPU port being configured using the appropriate CPU cable.
5. Boot the computer, if needed. You should see the boot-up sequence on the KVM monitor. If the computer was connected to a pre-configured CPU port with power applied, you should see that computers video.
6. Switch to the next CPU port to connect a computer to as defined in step 3 and perform steps 4 and 5 for this computer and for then for the remaining CPU ports.



4 CPUs can connect to a 4-port model,
8 CPUs to an 8-port model,
16 CPUs to a 16-port model)

Figure 3. Single Unit installation

Installation – Cascading units

The ServeView Pro units can be cascaded together to expand the number of computers that can be accessed from the KVM station. When cascading units, one unit becomes the “Master” unit and all others are “Slave” units. Each computer port on the master unit can be connected to a Slave units’ KVM connector. Figure 4 illustrates the addition of two 8-port Slave units. Using 16 port units, the master unit can connect to 16 Slave units.

The ServeView Pro “Master” must be configured to properly manage the cascaded units. The maximum number of computers, the number of Slave units connected, and the number of ports (width) on the Slave units must be entered and saved. In the example in Figure 4, the maximum computer entry would be 22, the number of Slave units is 2, and the number of ports, or width, on each Slave unit would be 8. It is recommended that all Slave units have the same number of computer ports but it is possible to chain different models and versions of ServeView and UltraView products.

The “Maximum computers” value is figured as follows:
If all Units in the system have the same number of CPU ports, (no mixed models) then you can count the CPU ports used to connect to the computers. The ports on the master unit used for expansion should not be counted.

If there is a mixture of ServeView Pro models in the system, the “Maximum computers” value is the “Width” value times the number of Slave units plus the CPU ports on the master unit that are not used for expansion. Valid entries are 2 to 256.

In the example in Figure 4, the width value is 8, the number of Slave units is 2, and the CPU ports on the master unit that are not used for expansion is 6. The Maximum computers value would be $8 \times 2 + 6$ or 22.

To configure the “Maximum computer”, “Units”, and “Width” values, connect a KVM station to the Master unit. Power on the KVM monitor and the Master unit. Wait until the SELECT 1 LED lights.

To enter the “Maximum computer” value, press and release the left control [Ctrl] key, P, nnn, [Enter], nnn=Maximum computers value.

The “Units” value is the total number of Slave units in the system. To enter the “Units” value press and release the left control [Ctrl] key, U, nn, [Enter], nn=number of Slave units. Valid entries are 1-16.

The “Width” value is the number of CPU ports on a single Slave unit. To enter the “Width” value press and release the left control [Ctrl] key, W, nn, [Enter], nn=number of ports on an Slave unit. Refer to “Organizing the system” for further information.

Save changes by pressing and releasing the left control [Ctrl] key, K, [Enter]

Connecting “Slave” units

To properly install the Slave units, follow the below steps.

Step: (Refer to Figure 4)

1. Connect the KVM stations keyboard, monitor, and mouse to the master units KVM connector using the appropriate KVM cable.
2. Connect CPU port #1 on the master unit to the KVM connector on Slave unit #1 using a DB25 to DB25 expansion cable.
(Rose Electronics part number CAB-CXVSMMnnn)
3. Connect the next sequential CPU port on the master unit to the KVM connector on the next sequential Slave unit.
4. Connect the remaining Slave units to the master unit.

Connecting the computers

When all “Slave” units have been connected, the computers can be connected. The following installation steps use the example in Figure 4. The computers are installed on the 4-port and 16-port model in a similar manor.

It is recommended that the computers being connected be powered off. If removing power is not feasible, perform the pre-configuration procedure, if needed, before connecting a computer with power applied.

Steps:

1. Apply power to all ServeView Pros and the KVM monitor.
2. Switch to the CPU port the computer is being connected to by pressing and releasing the left control [Ctrl] key, type in the CPU port number (starting with port #1), and press [Enter].
3. Connect the computer to the CPU port using the appropriate CPU cable. If the computer being connected does not use a PC mode 2 keyboard and a PS/2 mouse, or is being connected with power applied, pre-configure the CPU port, if needed, before connecting the computer. Change the default keyboard and mouse from a PC mode 2 keyboard and a PS/2 mouse to the correct ones the computer uses. If the computer being connected uses a PC mode 2 keyboard and a PS/2 mouse, skip the pre-configuration procedure and connect the computer to the assigned CPU port.

NOTE: Connecting a computer's keyboard and mouse to the ServeView Pro with power applied to the computer should only be done if the keyboard and mouse can be disconnected and re-connected without affecting the interface.

Pre-configuration procedure

Issue the mode command to change the keyboard and issue the command again to change the mouse type or issue a global mode command to change all. Make sure the ServeView Pro is connected to the correct CPU port before entering the mode command.

- a. Select the correct keyboard type, if needed, from Table 4.
 - b. Issue the “Set mode” command. (Ctrl,Mnn,[Enter])
Example : If the keyboard is a PC mode 3 keyboard, the command would be Ctrl,M3,[Enter]
 - c. Select the correct mouse type, if needed, from Table 4.
 - d. Issue the “Set mode” command (Ctrl,Mnn,[Enter])
Example: if the mouse type is a serial 2 button mouse, the command would be Ctrl,M31,[Enter]
 - e. Issue the “Keep” command to save the new values (Ctrl,K,[Enter])
 - f. Perform steps a through e for each CPU port that needs the default keyboard and mouse changed to a different type.
4. Boot the computer if power was not applied. You should see the boot-up sequence on the KVM monitor. If the computer was connected with power applied, you should see that computer’s video.
 5. Verify that the keyboard, video, and mouse function properly before proceeding.
 6. Switch to the next sequential CPU port as explained in step 2 and perform steps 3-5 for this computer and for the remaining computers.

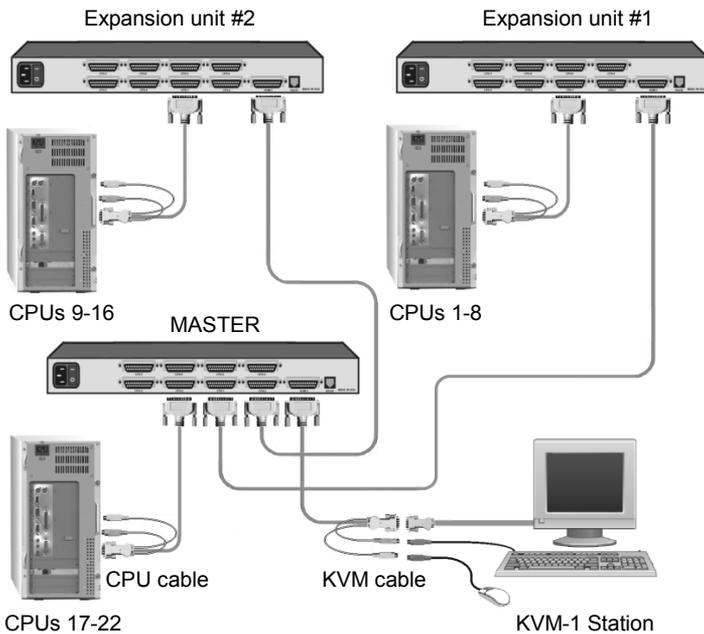


Figure 4. Cascading units

Selecting a computer

To connect to a computer, you can select it from the ServeView Pro's front panel, select it by keyboard commands, or select it through the RS232 serial port.

Selecting a computer from the front panel

Using the - and + buttons on the front panel will switch to the previous (-) computer port or advance (+) to the next computer.

Selecting a computer using keyboard commands

Press and release the left control <Ctrl> key, then enter the computer port number. Pressing and releasing the left control <Ctrl> key then the + or - key will advance forward or backwards one sequential port.

Selecting a computer through the RS232 port

Selecting a computer can be done through the RS232 port if needed. Contact Rose Electronics Technical support for details.

Reset to factory defaults

To reset the ServeView Pro to the original factory default settings, first, power down the unit, press and hold the – (minus) switch in and turn the unit's power on. Keep the – (minus) switch held in until the unit switches to the last port on the unit (port 4, 8, or 16). If you release the – (minus) switch before the last port is switched to, the defaults will not be restored.

Rack mounting

The ServeView Pro can be rack mounted using a Rose Electronics Rackmount kit. See Appendix D and E for instructions and Appendix B for part numbers.

Serial Port (RS232)

The RS232 serial port on the ServeView Pro's rear panel is used for sending switching commands from a stand-alone computer or terminal or to load flash firmware upgrades to the unit. A serial cable and an RJ to DB9 adapter are included with the unit. Perform steps 1-3 below to use the serial port.

1. Connect the serial cable to the RS232 serial port on the rear panel of the ServeView Pro and to the RJ12 connector on the adapter.
2. Connect the DB9 connector on the adapter to the stand-alone computer or terminals DB9 COM port.
3. Set the computers communication program for:
 - a. 9600 baud
 - b. no parity
 - c. 8 bits
 - d. 1 stop-bit

Firmware update

The ServeView Pro's flash memory can be updated with the latest firmware using the RS232 serial port. Updates can be obtained from Rose Electronics web site at www.rose.com. Verify the unit's program and kernel versions against the current versions on our web site. To verify the program version, start a text editor application like notepad, press and release the left control (Ctrl) key, then press the "!" key and the program version will display.

The latest firmware file names on Rose Electronics web site are:
UPPxx.hex – main program and UPKxx.hex – kernel program.
(xx = the revision number)

To update the ServeView Pro's firmware, first download the latest revision from Rose Electronics web site and save it to a stand-alone computer that is not connected to the ServeView Pro. Connect the serial cable from the ServeView Pro to the serial port of the stand-alone computer as described in steps 1-3. There are two methods of loading the downloaded programs to flash memory.

Method 1 – Using a communication program

1. Press both the - and + switches on the front panel and power on the ServeView Pro. LED 1 will light indicating the unit is ready to accept the upgrade file at 9600 baud. To use 57600 baud rate, press the + switch and LED 1 will turn off and LED 4 will light.
2. Run your communication program. Set the baud rate to the correct rate and put the program in direct connect mode. When the - or + switch is pressed, you should see the message:
"Waiting for file at 9600 or 57600 baud."

3. Send the file to the unit using a simple ASCII text file protocol. While the file is being sent, periods are sent to indicate the file copy progress. Once the file has been sent, you should see the following message:

```
"Receive successful"  
"Hit space to program"
```

4. Hit the space bar to start programming the flash memory. The programming and verifying progress is indicated by sending periods. You should see the following message:
"Programming flash"
.....
"Verifying flash"
.....
"Verify successful"
"Hit enter to boot"
5. Hit enter and the ServeView Pro will re-start with the new firmware.
6. Hit the enter key to continue. The ServeView Pro is now operational with the new firmware update.

If the upgrade is not successful, you will see one of the following error messages:

- Checksum error or Record error or Data error
- Receive failed
Try again Y/N?

If any of these errors occur, check the RS232 cable, the connectors, and the adapter. Make sure they are in good working order. Verify the communication program is configured correctly. Enter "Y" to try upgrading the flash again. If programming is unsuccessful, the unit should be serviced.

Method 2 – Using the front panel switches with a file copy.

1. Press both the - and + switches on the front panel and power up the ServeView Pro. The ServeView Pro is ready to accept the upgrade file. LED 1 will light indicating the unit is set at 9600 baud. To use 57600 baud, press the + switch, LED 4 will light. Copy the file to the unit. While the file is being copied, LED 1 or 4 will flash. Once the file is copied, LED 2 will light.
2. Press and release the + switch, LED 2 flashes off for a brief instant. The flash is now being programmed and verified. LED 3 now lights.
3. Press and release the + switch, LED 3 flashes off for a brief instant. LED 4 now lights.
4. Press and release the + switch. LED 1 now lights. The box is now operational and port 1 is selected. The flash loading procedure is complete.

TROUBLESHOOTING

Computer does not boot, keyboard or mouse error received.

- Cable is loose, reseal cable and on PC hit F1 to continue or reboot computer.
- Wrong cable or keyboard and mouse cables reversed.
- Cable is defective; try using cable from another computer.
- Port on the ServeView Pro is defective; try using another port on ServeView Pro. If the problem goes away port is defective.
- Port on computer is defective, try plugging in keyboard or mouse directly if problem remains computer port is defective. If power status LED not lit, fuse on motherboard may be blown.
- Computer keyboard and mouse not configured.

Mouse driver does not load.

- If PS/2 type mouse, computer must be connected to ServeView Pro at boot-up time in order for the mouse to be recognized by the computer. Reboot computer with ServeView Pro powered on and cable attached.
- Computer keyboard and mouse not configured.

Can't switch computers from keyboard

- Power to the ServeView Pro was removed for less than three seconds possibly causing keyboard to lock up. Disconnect and re-connect the keyboard.
- If PS/2 type keyboard and mouse, cables may be reversed.
- Not using left control key. Using numeric keypad instead of keys on top row. Not releasing control key before typing in number. Waiting more than 2 seconds to enter computer number. Using caps lock or shift key.

Wrong or missing characters from those typed

- For PCs, the mode of the keyboard does not match that of the computer. Issue the mode command, usually 1 for IBM PS/2s, 3 for Unix computers, and 2 for all others. The default setting is mode 2. Sometimes an incorrect mode will confuse the computer or keyboard and require re-booting the computer or resetting the keyboard by unplugging and plugging it back in.

Switch to Switch failure

- Verify the firmware in all like switches is the same revision.

Mouse does not move

- Mouse not configured.
- ServeView Pro turned off after or not connected when computer booted or application using mouse run. Exit and re-enter application using mouse or issue reset command.
- PS/2 mouse was not connected when ServeView Pro powered up or disconnected and reconnected. Issue the reset command or reconfigure the mouse.

PS/2 mouse gets out of sync

- Cabling was disturbed during mouse movement. Issue the null command once or twice to re-sync the mouse. Update mouse driver. Try using ctrl O command to recover if O/S is NT.
- Sun keyboard needs to be reset, with unit power on, disconnect and re-connect the sun keyboard.

Video fuzzy

- Cable too long or wrong type. Verify that resolution and distance match. See Appendix G. Upgrade cable if necessary.

Video not synchronized or wrong color

- Cable is loose, reseal cable.
- Monitor not capable of syncing to video selected, upgrade monitor.
- Cable is defective; try using cable from another computer if problem goes away cable is defective.
- Port on ServeView Pro is defective; try using another port on ServeView Pro. If problem goes away port is defective.

Lower resolution OK, but can't enter high resolution mode

- Video driver has not been setup for this resolution. Configure the driver.

Slave unit does not switch

- Maximum ports command not issued.
- Width or units command not configured properly. Reconfigure them to match number of computers and how they are connected.

Service Information

Maintenance and Repair

This Unit does not contain any internal user-serviceable parts. In the event a Unit needs repair or maintenance, you must first obtain a Return Authorization (RA) number from Rose Electronics or an authorized repair center. This Return Authorization number must appear on the outside of the shipping container. See Limited Warranty for more information.

When returning a Unit, it should be double-packed in the original container or equivalent, insured and shipped to:

Rose Electronics
Attn: RA _____
10707 Stancliff Road
Houston, Texas 77099 USA

Technical Support

If you are experiencing problems, or need assistance in setting up, configuring or operating your switch, consult the appropriate sections of this manual. If, however, you require additional information or assistance, please contact the Rose Electronics Technical Support Department at:

Phone: (281) 933-7673
E-Mail: TechSupport@rose.com
Web: www.rose.com

Technical Support hours are from: 8:00 am to 6:00 pm CST (USA), Monday through Friday.

Please report any malfunctions in the operation of this Unit or any discrepancies in this manual to the Rose Electronics Technical Support Department.

Safety

This ServeView Pro KVM switch has been tested for conformance to safety regulations and requirements, and has been certified for international use. Like all electronic equipment, the ServeView Pro should be used with care. To protect yourself from possible injury and to minimize the risk of damage to this Unit, read and follow these safety instructions.

- Follow all instructions and warnings marked on this Unit.
- Except where explained in this manual, do not attempt to service this Unit yourself.
- Do not use this Unit near water.
- Assure that the placement of this Unit is on a stable surface or rack mounted.
- Provide proper ventilation and air circulation.
- Keep power cord and connection cables clear of obstructions that might cause damage to them.
- Use only power cords, power transformer and connection cables designed for this Unit.
- Use only a grounded (three-wire) electrical outlet.
- Keep objects that might damage this Unit and liquids that may spill, clear from this Unit. Liquids and foreign objects might come in contact with voltage points that could create a risk of fire or electrical shock.
- Operate this unit only when the cover is in place.
- Do not use liquid or aerosol cleaners to clean this Unit. Always unplug this Unit from its electrical outlet before cleaning.
- Unplug this Unit from the electrical outlet and refer servicing to a qualified service center if any of the following conditions occur:
 - The power cord or connection cables is damaged or frayed.
 - The Unit has been exposed to any liquids.
 - The Unit does not operate normally when all operating instructions have been followed.
 - The Unit has been dropped or the case has been damaged.
 - The Unit exhibits a distinct change in performance, indicating a need for service.

Safety and EMC Regulatory Statements

Safety Information



Documentation reference symbol. If the product is marked with this symbol, refer to the product documentation to get more information about the product.

WARNING

A WARNING in the manual denotes a hazard that can cause injury or death.

CAUTION

A CAUTION in the manual denotes a hazard that can damage equipment.

Do not proceed beyond a WARNING or CAUTION notice until you have understood the hazardous conditions and have taken appropriate steps.

Grounding

These are Safety Class I products and have protective earthing terminals. There must be an un-interruptible safety earth ground from the main power source to the product's input wiring terminals, power cord, or supplied power cord set. Whenever it is likely that the protection has been impaired, disconnect the power cord until the ground has been restored.

Servicing

There are no user-serviceable parts inside these products. Only service-trained personnel must perform any servicing, maintenance, or repair. Only items mentioned in this manual may be adjusted by the user.

Informations concernant la sécurité



Symbole de référence à la documentation. Si le produit est marqué de ce symbole, reportez-vous à la documentation du produit afin d'obtenir des informations plus détaillées.

WARNING

Dans la documentation, un WARNING indique un danger susceptible d'entraîner des dommages corporels ou la mort.

CAUTION

Un texte de mise en garde intitulé indique un danger susceptible de causer des dommages à l'équipement.

Ne continuez pas au-delà d'une rubrique WARNING ou CAUTION avant d'avoir bien compris les conditions présentant un danger et pris les mesures appropriées.

Cet appareil est un produit de classe I et possède une borne de mise à la terre. La source d'alimentation principale doit être munie d'une prise de terre de sécurité installée aux bornes du câblage d'entrée, sur le cordon d'alimentation ou le cordon de raccordement fourni avec le produit. Lorsque cette protection semble avoir été endommagée, débrancher le cordon d'alimentation jusqu'à ce que la mise à la terre ait été réparée.

Aucune pièce contenue à l'intérieur de ce produit ne peut être réparée par l'utilisateur.

Tout dépannage, réglage, entretien ou réparation devra être confié exclusivement à un personnel qualifié.

Appendix A. Initial factory settings

Setting	Default value
KVM keyboard/mouse type	PC mode 2 – PS/2
CPU keyboard/mouse type	PC mode 2 – PS/2
Scan time interval	5 seconds
Power on scan	Off
Maximum ports	Same as physical number of ports
Expansion width	16
Slave units	0
Caps/Numlock/Scroll	Numlock On

Appendix B. Parts and cables

Part number	Description
CAB-CX0606Mnnn*	Coax VGA-PS/2 Kbd-PS/2 mouse to DB25M
CAB-ZX0606Mnnn*	VGA-PS/2 Kbd-PS/2 mouse to DB25M
CAB-CX0509Mnnn*	Coax VGA-AT Kbd-Serial mouse to DB25
CAB-VX0509Mnnn*	VGA-AT Kbd-Serial mouse to DB25M
CAB-CXV0800Mnnn*	Coax VGA-Sun Kbd-Sun mouse
CAB-SBX0800Mnnn*	Coax Sun video-Kbd-mouse to DB25M
CAB-C1V0400Mnnn*	Coax Apple video-Kbd-mouse to DB25M
CAB-AV0400Mnnn*	Apple video-ABD Kbd-mouse to DB25M
CAB-CX0606Cnnn**	Coax VGA-PS/2 Kbd-PS/2 mouse to DB25M
CAB-WX0606Cnnn**	VGA-PS/2 Kbd-PS/2 mouse to DB25M
CAB-CX0606Cnnn/AT**	Coax VGA-AT Kbd-Serial mouse to DB25
CAB-VX0509Cnnn/AT**	VGA-AT Kbd-Serial (9) mouse to DB25M
CAB-CXV0800Cnnn**	SUN w/ VGA (HD15) Monitor, SUN Kbd & Mouse
CAB-SCX0800Cnnn**	Coax Sun CPU video Kbd-mouse to DB25M
CAB-C1V0400Cnnn**	Coax Apple video-Kbd-mouse to DB25M
CAB-AV0400Cnnn**	Apple CPU video-Kbd-mouse to DB25M
CAB-CXVSMMnnn*	Cascading Cable
KIT-ATRX	RJ11 Cable & DB9 to RJ11 adapter
TFR-08D150FSUD	110/220 VAC - Power transformer for "M" chassis

* Cable lengths in 1, 5, 10, 20 /(Hi Res.) 35, 50, 75, 100 feet

** Cable lengths in 5, 10, 20, /(Hi Res.) 35, 50, 75, 100 feet

Rackmount Kit

Chassis size	19 inch	23 inch	24 inch
"M" (mini)	RM-UM19	RM-UM23	RM-UM24
"B" (low)	RM-UB19	RM-UB23	RM-UB24
"C" (high)	RM-UC19	RM-UC23	RM-UC24

The Multi-platform ServeView model support Audio or Serial devices such as graphic tablets, touchscreens and smart boards. Contact Rose sales department for more information on cable part numbers.

Appendix C. General Specifications

The ServeView Pro part number is Sxy-zUB

Where x = platform, E = PC, SUN, Apple, Unix (Multi-platform)

P = PC and Unix computers (PC)

Where y = chassis size, M (mini), B (low), C (high)

Where z = number of ports (2, 4, 8, 12, or 16)

Dimensions	M chassis	8.8 x 4.85 x 1.75 in 22.3x 12.3 x 4.4 cm
	B chassis	16.7x 4.85 x 1.75 in 42.4x 12.3 x 4.4 cm
	C chassis	16.7x 4.85 x 3.50 in 42.4x 12.3 x 8.9 cm
Weight	2/4 port, M chassis	4lb / 1.8kg
	4/8 port, B chassis	6lb / 2.7kg
	4/8 port, C chassis	7lb / 3.2 kg
	12/16 port, C chassis	8lb / 3.6 kg
Environment	0 – 55° C / 32 – 131° F, 5%-80% non-cond. RH	
Power	Auto-switching 90 – 240 VAC, 60 watts	
Connectors	Power – IEC 320 standard receptacle CPU/KVM connector – DB25F RS232 connector – RJ12, 6 conductor	
Video bandwidth	250 Mhz	
Video sync	HV, composite, and sync-on-green	
Chassis	Electro galvanized steel, black powder coated	
Controls	Power switch, - / + switch	
Indicators	1 Power LED 4-16 Select LEDs 4-16 Computer power LEDs	
Approvals "M" chassis	TUV, CE, VCCI-A, CB	
Approvals "B/C" chassis	UL, cUL, TUV, CE, VCCI-A, CB	

Appendix D. Rack mount instructions

The ServeView Pro can be mounted in a rack using the Rackmount kits from Rose Electronics.

The optional rack mount kit includes the following items:

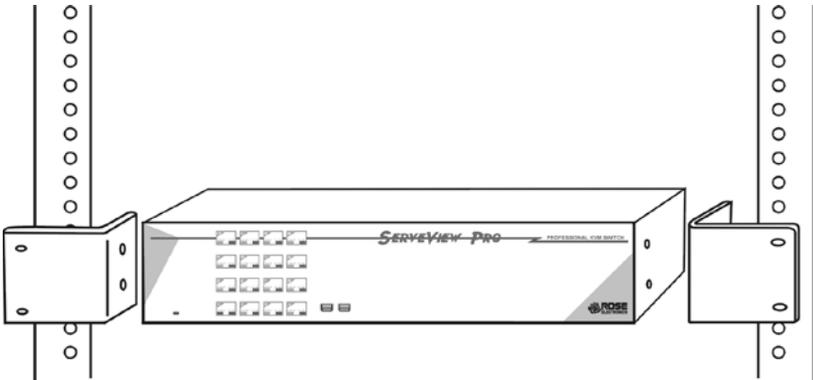
- Two black anodized mounting brackets.
- Four 6-32 x 3/8" flat head mounting screws.

To rack mount your ServeView Pro, attach the two rack mounting brackets to your unit with the short flange against the unit using the four screws provided. Secure the mounting brackets to the rack using the appropriate size bolts, nuts and lock washers. Using hardware other than that provided could cause damage to the electronics and/or result in loss of mounting integrity. Do not over tighten the screws used to mount the unit to the mounting brackets.

The following general guidelines should be observed when installing your unit into a rack.

1. The ServeView Pro is designed to work in an ambient temperature of 0° C to 55° C (32° F – 131° F).
2. Do not block power supply vents or otherwise restrict airflow when rack-mounting this unit.
3. Mechanical loading of the rack should be considered to prevent instability and possible tipping over.
4. Tighten all connectors securely and provide adequate strain relief for all cables.
5. Provide a grounded power source to all units. Pay special attention to overall branch circuit load ratings before connecting equipment to this source. Overloaded circuits are potential fire hazards and can cause equipment failures or poor performance.

Appendix E. Rack mount illustration



Appendix F. Keyboard mapping

KEYBOARD MAPPING FROM PC TO APPLE AND SUN COMPUTERS		
PC 101/102	APPLE	SUN
Left Control	Left Control	Left Control
Left Alt	Left Cloverleaf	Left Diamond
Right Alt/Alt Graph	Right Option	Alt Graph
Right Control	Power Key	Power Key
Left Control, then Pause, then A	Left Control, then Pause, then A	Stop + A

PC 104/105 (WIN95)	APPLE	SUN
Left Control	Left Control	Left Control
Left Win95 (Start)	Left Cloverleaf	Left Diamond
Left Alt	Left Option	Left Alt
Right Alt/Alt Graph	Right Option	Alt Graph
Right Win95 (Start)	Right Cloverleaf	Right Diamond
Right Win95 (App)	Power Key	Power Key Right
Right Control	Right Control	Compose
Left Control, then Pause, then A	Left Control, then Pause, then A	Stop + A
Pause or Keypad /		Stop
Keypad *		Again
Keypad 8		Props
Keypad 9		Undo
Keypad 5		Front
Keypad 6		Copy
Keypad 2		Open
Keypad 3		Paste
Keypad 0		Find
Keypad.		Cut
Home		Help
End		Mute
Page Up		Volume Up
Page Down		Volume Down
Delete		Power

Appendix G. Video distance capability

The table below shows the distances, resolution, and quality of video that can be expected with normal or coax cabling. This table applies to the MASTER unit only. There will be some degradation when units are chained together.

Resolution	Video distance capability									
	@ 75Hz	5'	10'	20'	35'	50'	75'	100'	150'	200'
640x480	W4 Z4 C4	W4 Z4 C4	W3 Z4 C4	Z3 C4						
800X600	W4 Z4 C4	W4 Z4 C4	W3 Z4 C4	Z3 C4						
1024x768	W3 Z4 C4	W3 Z4 C4	W3 Z4 C4	Z3 C4						
1280x1024	W2 Z4 C4	W2 Z3 C4	Z3 C4	Z3 C3						
1600x1200	Z3 C4	Z3 C3	Z2 C3	C3						

Legend

N – Normal cabling
C – Coax cabling

- 4- Perfect or near-perfect video; Unable to easily detect defects.
- 3- Very acceptable; Images clear, small reflections around colored letters
- 2- Acceptable: Slightly fuzzy images, readable text, acceptable usage for short periods of time, can cause eye fatigue.
- 1- Unusable; images smeared, text not easily readable.



Server Management



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