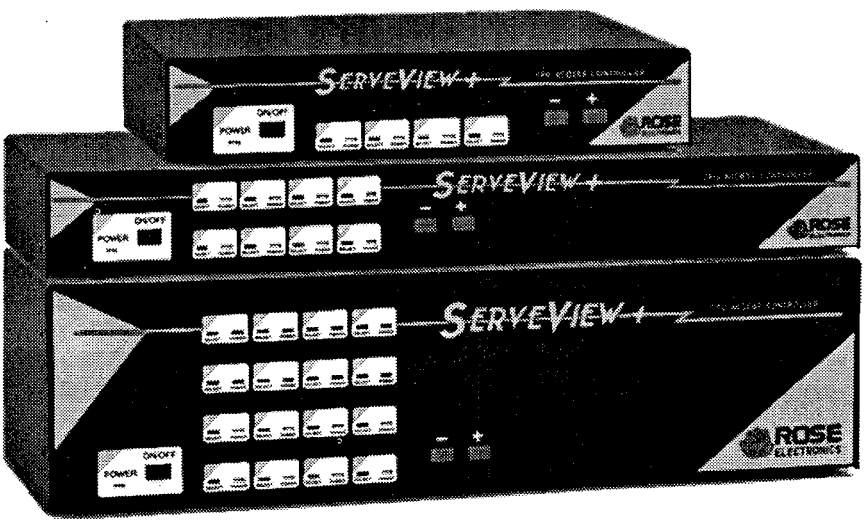
SERVEVIEW+ CPU ACCESS CONTROLLER

INSTALLATION AND OPERATION MANUAL



ROSE ELECTRONICS

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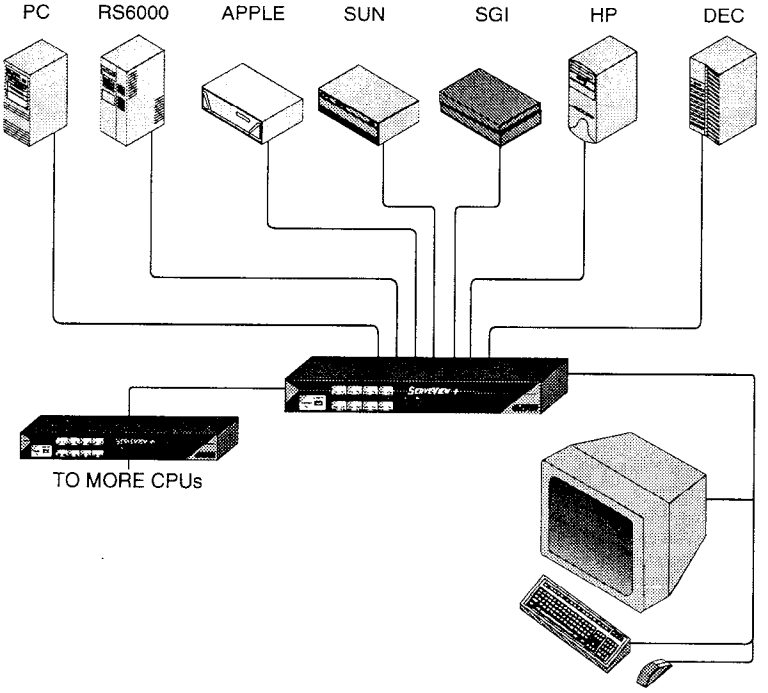
ServeView Plus™
Installation and Operation Manual



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Rose Electronics Part # MAN-SVP11

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TABLE OF CONTENTS

INTRODUCTION

ServeView Plus™ represents the latest state-of-the-art technology in keyboard-monitor-mouse switching. It is available in many different models.

The ServeView Plus part number is Sxy-zU

where x is the platform support either E, P, S, A

E	For PC, Sun, Apple, and Unix computers
P	For PC and Unix computers
S	For Sun computers
A	For Apple computers

where y is the chassis size either M (mini), L (low), or H (high)

M	8.8" wide x 4.85" deep x 1.75" high	2 or 4 ports
L	13.2" wide x 4.85" deep x 1.75" high	8 ports
H	13.2" wide x 4.85" deep x 3.50" high	4, 8, 12, or 16 ports

where z is the number of ports present either 2, 4, 8, 12, or 16

Features

- Access up to 256 ccmputers with one keyboard, monitor, and mouse
- Compatible with PC, Apple, Sun, and Unix computers, keyboards, mice, and monitors
- Unix computers supported include IBM RS/6000, SGI Indy and others, DEC Alpha, HP 9000/700 series, and any other which use a PC style keyboard
- On-screen display option for easy configuration and computer switching
- Microprocessor controlled keyboard and mouse emulation
- Saves energy to assist in latest energy saving programs
- Available in 2, 4, 8, 12, or 16 ports per unit
- Select CPU from keyboard command, optional on-screen display window, front panel, or RS232 port
- Supports all PC, Macintosh, and Sun video types
- Video resolution supports up to 1280X1024 non-interlaced video
- Supports all modes of PC, PS/2, AT, Apple, Sun, and Unix keyboards
- Mouse can be PS/2, Microsoft serial, Mouse Systems serial, Apple ADB, or Sun
- Front panel LEDs show selected CPU and its power-on state
- Remembers and restores Num Lock, Caps Lock, Scroll Lock, and keyboard mode of each CPU when switching
- Screen blank function turns off video after 1–999 seconds of inactivity
- Scan function sequences among CPUs at a rate of 1–999 seconds
- Programmable keyboard typematic rate and delay for PCs
- Save all programmable settings in flash memory
- Flash memory allows updating firmware through serial port
- Available in 117VAC or 230VAC models
- 19", 23", and 24" rack mount kits available
- Made in USA

GETTING STARTED

To acquaint you with your ServeView Plus unit, this manual first describes the ServeView Plus front and rear panels. Installation and operation instructions begin with the *Quick setup system wiring guide* on page 6. and illustrates how to connect ServeView Plus to your CPUs, monitor, keyboard, and mouse. Information for setting up a ServeView Plus expansion system is in the *ServeView Plus expansion* section starting on page 9. Also see the *Keyboard command summary* on page 24.

Package contents

Your ServeView Plus package includes the ServeView Plus unit, a power transformer, your warranty registration card, and this manual.

Cable requirements

ServeView Plus connects to each CPU with a CPU Adapter Cable and to the monitor, keyboard, and mouse with an MKM Adapter Cable. These cables are most commonly purchased with the ServeView Plus and will provide quick and trouble-free operation. *Appendix E* lists the most common cables. Cables and accessories are available from Rose Electronics.

To add more CPUs to a fully populated unit, you must connect slave units to the master ServeView Plus. To do this you need a switch to switch cable for each slave unit. By connecting 16 units each with 16 ports you can expand up to 256 computers.

Most installations use cable no longer than 20 feet in length. Cable length will affect the quality of the video, depending upon which resolution you will be using. You can improve the video resolution and distance by ordering coax cables, see *Appendix E* and *Table 6 Video Distance Capability*.

Locating the unit

The ServeView Plus unit is best located as close to the CPUs as possible. This will reduce the length of the CPU cables and provide a more cost-effective and neater installation. Some installations use a rack in which to mount the CPUs, some use shelves, and others may use a free-standing arrangement. Quite often ServeView Plus will be mounted in a rack with the optional rackmount kit, see page 21 and 32. Many customers will purchase a longer MKM adapter cable and put the monitor, keyboard, and mouse on a desk leaving the ServeView Plus near the CPUs.

Selecting a monitor

Sharing a monitor between dissimilar systems requires a monitor which can sync to every CPU's video. It is recommended to get a 17" or larger high quality multi-sync monitor capable of synching to 1280 by 1024 at 75 Hertz for maximum compatibility. Certain CPUs may also only generate composite sync. If using such a CPU, your monitor should be capable of accepting composite sync to form its video display. Most of the monitors described above accept composite sync.

Selecting a keyboard and mouse

Read this section only if you have a multi-platform model.

Though the ServeView Plus multi-platform model can convert any keyboard and mouse protocol to any other there are certain recommendations due to the difference between the input devices. If the CPUs are all the same, then it is recommended that the keyboard and mouse be the type that is normally used with those CPUs. If the CPUs are different then the there are some limitations that favor using certain keyboard and mice as described below.

If there are Sun workstations being connected it is recommended that the Sun keyboard and mouse be used. The Sun 5 keyboard has 118 keys and key click and beep features. The PC and Apple keyboards have 101 and 105 keys without key click or beep. The keys not present on the PC and Apple keyboards can not be sent to the Sun, so use the Sun keyboard.

If you have mixed PC and Apple CPUs, there are two differences. An Apple mouse only has one button. If you need a second or third button on your PC applications, you will want to use the PC keyboard and mouse. A PC keyboard is missing 4 keys that an Apple keyboard has. They are the left and right Apple keys, the power key, and the numeric pad = key. A provision has been made to map the left and right control and alt keys on a PC keyboard to make up for this loss, so these functions are available. This is described further under miscellaneous operation.

SERVEVIEW PLUS HARDWARE

The front panel

The ServeView Plus front panel has a power switch and a power LED, up to 32 LEDs, and two push-button switches. To familiarize yourself with ServeView Plus's controls and indicators, review the illustration and descriptions given below. The unit shown below is in the L style chassis but is similar for other models.

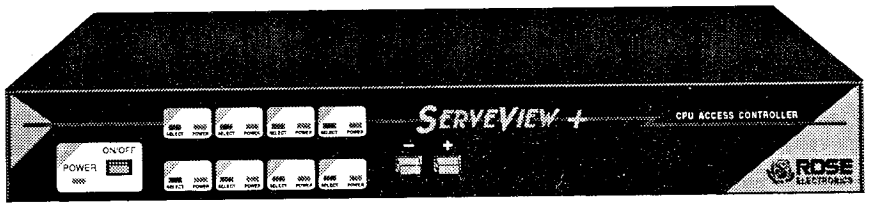


Figure 1. ServeView Plus front panel

Table 1. The front panel		
POWER	**Power LED**: When lit indicates that unit is powered on.	
ON/OFF	**Power Switch**: Pressing the switch turns the unit on/off, provided supplied power adapter is properly connected.	
LEDs	**Indicator LEDs:** Numbered pairs of LEDs indicate status of CPUs connected to corresponding numbered connectors on rear panel.	
	SELECT (RED)	When lit shows which CPU or expansion unit you have selected for access.
	POWER (GREEN)	When lit indicates which CPU is powered on or that expansion unit is attached and powered on.
-/+	**Computer selection switches:** Changes currently selected computer from the front panel. The - switch is used to select a numerically lower computer. The + switch is used to select a numerically higher computer. Also used for reloading flash memory, resetting to factory default, and diagnostics.	

The rear panel

The ServeView Plus rear panel has a power input, an RS232 port, a common monitor-keyboard-mouse port, and up to 16 computer ports. To familiarize yourself with the ServeView Plus interface connectors, review the illustration and descriptions given below. All cables are connected at the ServeView Plus rear panel. The unit shown below is in the L style chassis but is similar for other models.

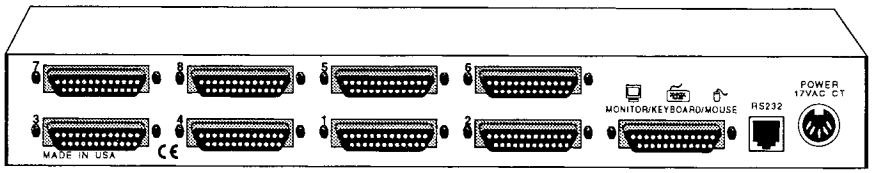


Figure 2. ServeView Plus rear panel

Table 2. The rear panel		
Panel Label	**Connector**	Description
1-8	DB25 Female	Computers are connected at these connectors using CPU adapter cables. The cables have a DB25 male at one end and appropriate connectors at the other end, depending upon your video, keyboard and mouse type. You must have an adapter cable for each CPU you plan to connect.*
MONITOR/ KEYBOARD/ MOUSE	DB25 Female	Keyboard, monitor, and mouse are connected at this connector using a MKM adapter cable. The cable has a DB25 male at one end and appropriate connectors at the other end, depending upon your video, keyboard and mouse type. Only one MKM adapter cable is needed.*
RS232	RJ-12 Jack	RS232 serial port for connecting a computer or terminal from which switching commands can be sent to switch CPUs. ServeView Plus firmware upgrades and diagnostics are also accessed through this port.
POWER	DIN5 Female	Power transformer included in package connects here. This is **not** a keyboard input. Power transformers are available for US. or International use. Both have center tapped output of 17 VAC at 1.4A. **United States:** Standard 117 VAC from regular AC power outlet **International:** 230 VAC input common outside USA
** See Appendix E for further cable information.*		

QUICK SETUP SYSTEM WIRING GUIDE

The following diagram offers a basic example of how to connect your CPUs, keyboard, monitor, and mouse to the ServeView Plus unit. Connectors will vary depending upon the types of equipment being installed.

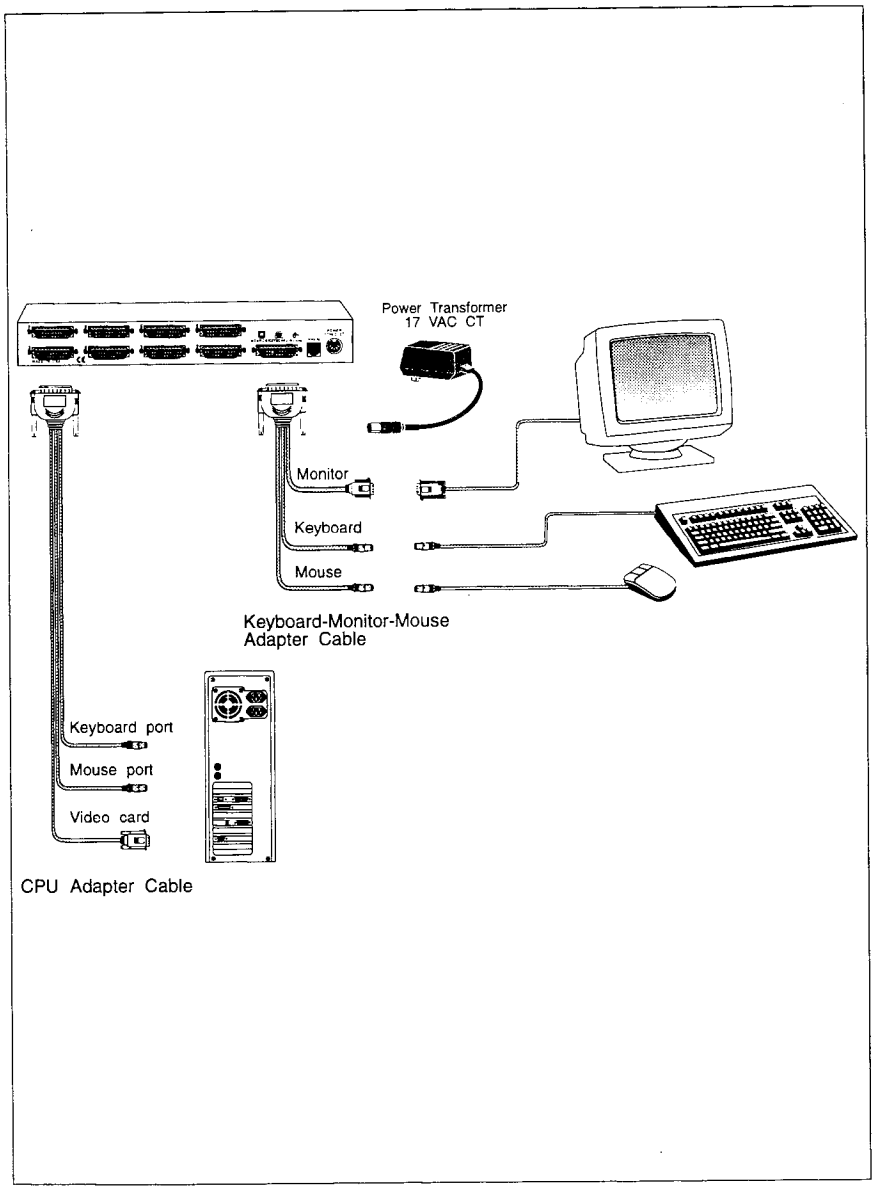


Figure 3. Typical installation diagram

INSTALLATION

This section provides complete, detailed instructions for the setup of your ServeView Plus. For an illustrated example, see the *Quick setup system wiring guide* on the previous page. If you are installing more than one ServeView unit, please refer to the *ServeView Plus expansion* section on page 9 prior to beginning installation.

> **NOTE:** Be sure that **all** computers you are connecting to your ServeView Plus will support the monitor, keyboard, and mouse you plan to use.

Step 1. Connecting the monitor, keyboard, and mouse

The Monitor/Keyboard/Mouse (MKM) adapter cable connects your monitor, keyboard, and mouse equipment to the ServeView Plus. Various styles of electrical connectors are used by different classes of equipment, so you should have the correct cable to match your equipment's connectors. MKM adapter cables are available where you purchased your ServeView Plus. Should you prefer to build your own cables, however, pinout information is shown in *Appendices A and B.*

1.1 Plug the DB-25 male connector of the MKM adapter cable into the port labeled "Monitor/Keyboard/Mouse" on the ServeView Plus rear panel.

1.2. Plug the MKM adapter cable's monitor, keyboard, and mouse connectors into your equipment's corresponding connectors.

Step 2. Connecting the CPUs

CPU adapter cables connect your computers to the ServeView Plus. Each computer requires its own adapter cable, with appropriate connectors for your particular CPU. CPU adapter cables are available where you purchased your ServeView Plus. Should you prefer to build your own cables, pinout information is shown in Appendices A and B .

2.1 Plug the DB-25 male connector of the CPU adapter cable into one of the numbered CPU ports on the ServeView Plus rear panel.

2.2 Plug the CPU adapter cable's monitor, keyboard, and mouse connectors into the CPU's corresponding ports.

> **WARNING:** Avoid routing cable near fluorescent lights, air conditioning compressors, or machines that may create electrical noise. For best quality video, when exceeding 20 feet use coax cable. See *Table 5 Video Distance Capability* and *Appendix F and G* for further cable information.

Step 3. Powering up the system

3.1 Plug the power transformer's power jack into the the power plug located on the back of the ServeView Plus unit, then plug the transformer into a power strip or wall outlet.

3.2 Push the On/Off switch on the front of the ServeView Plus to power it up.

3.3 If you have a Sun or Apple model, all your CPUs are configured, skip to step 3.5. If you have a PC model, and have other than PS/2 mice then use the mode command to configure all your mice. If you have the multi-platform model, then use the mode command to configure the CPU keyboard and mouse types. In the case of the multi-platform unit the keyboard type is automatically detected.

3.4 Boot up each of the connected CPUs. ServeView Plus emulates all keyboard and mouse functions for automatic boot-up. You do not have to boot the CPU, if it is inconvenient. In this case you may need to issue the mode command, see page 13 and 14, to have proper keyboard communication.

Step 4. Switching from the keyboard or the front panel

Your ServeView Plus is now ready for operation using its default settings. To take full advantage of the ServeView Plus features, refer to the *Operation* section beginning on page 11. The *Operation* section gives detailed information about each of the ServeView Plus commands, describing its application and giving the keyboard command sequence. For your convenience, this information is summarized in the *Keyboard command summary* on page 24. To begin switching immediately, however, follow the instructions below.

> **NOTE:** Before entering any ServeView Plus keyboard command, you must press and release the **left** Control Key. This activates ServeView Plus to look for commands from the keyboard. You then have two seconds in which to start entering a valid command.
>
> **NOTE:** When entering numeric commands, use only the numeral keys located at the top of your alpha-numeric keyboard. Numbers entered from the numeric keypad to the right will **not** be recognized as valid commands.

4.1 Press and release your keyboard's **left** Control Key (**<Ctrl>**), then type in the port number. If more than 9 CPUs are connected, refer to the *Keyboard port selection* section on page 11.

4.2 To switch from the front panel, hit the + switch to go forward and the - key to go backwards.

SERVEVIEW PLUS EXPANSION

The ServeView Plus F chassis can be expanded with expansion card model UVK-4U to contain up to 16 ports. The card is installed by opening the chassis and installing the card according to the instructions provided.

ServeView Plus units and other switches (such as the classic ServeView or UltraView) can be chained together to expand your system to connect up to 256 CPUs. When used like this, the unit attached to the Monitor/Keyboard/Mouse connector via the MKM adapter cable becomes the master unit. All other ServeView Plus, ServeView classic, or UltraView units are slave units that provide computer expansion only and perform no control functions. When using an UltraView unit to expand, use it as the master box, so that its on-screen display functions are available.

Slave units can be added to your ServeView Plus system as you need them. For each slave you add to the system, you gain n-1 additional ports, where n is the number of ports on the slave unit. As Figure 4 shows, adding a single 8-port slave to an 8-port master unit gives you 15 ports. Adding a second 8-port slave unit will give you 23 ports, and so forth. Using 8-port units only the maximum number of computer is 64. If you use 16-port units, you can connect up to 256 computers. You can mix 2, 4, 8, 12, and 16 port units together, but the number of ports on each slave unit should be equal.

Two configuration settings – units and width determine exactly how the CPUs are numbered. Please refer to the the units and width on page 15 for more information.

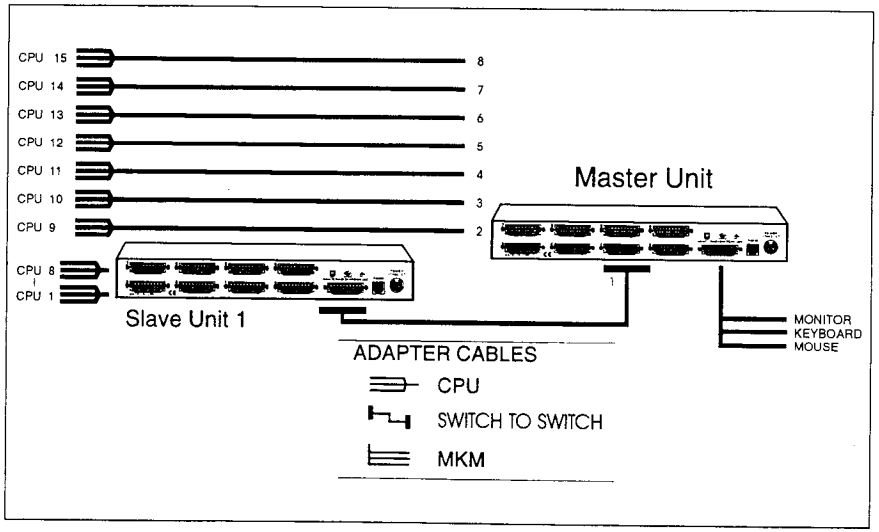


Figure 4. Expansion system layout

Expansion cable requirements

For the slave-to-master installation you will need one switch-to-switch expansion cable for each slave unit. You still need a CPU adapter cable for each CPU you will be connecting to the ServeView Plus CPU ports. As always, one MKM adapter cable is also required for connecting the master unit to your keyboard, monitor, and mouse.

Slave unit installation

Laying out the ServeView Plus system prior to installation will make the installation process go more smoothly. It will also prevent confusion during operation by ensuring that the CPU selection numbers you use in the keyboard commands remain consecutive. Figure 4 illustrates the proper layout and numbering of your slaves and CPUs.

1. Connect the monitor, keyboard, and mouse to the master unit's Monitor/Keyboard/Mouse connector as outlined on page 7.

2. Connect the MKM connector of each slave unit to one of the numbered CPU connectors on ServeView Plus's rear panel using a switch-to-switch expansion cable.

   As illustrated in Figure 4, when connecting slave units, connect the MKM connector of the first slave to the master's CPU 1 connector. Connect the second slave's MKM connector to the master's CPU 2 connector. This ensures the CPU selection numbers you use in keyboard commands remain consecutive.

   Computer number 1 is the connector labeled "1" on the slave connected to the master's CPU 1. For a system with a single 8-port slave and master, Computer number 15 would be the connector labeled "8" on the master.

3. From the keyboard attached to the master unit, use the maximum ports command to configure the maximum number of computers, see page 15. This allows scanning to cycle correctly and allows the master unit to control the slave units.

4. From the keyboard attached to the master unit, use the units command to configure the number of expansion units (a value of one for the example in Figure 4). See page 15 for more information on the units command.

5. From the keyboard attached to the master unit, use the width command to configure the number of computers on the expansion unit (a value of eight for the example in figure 4). See page 15 for more information on the width command.

OPERATION: KEYBOARD COMMANDS

ServeView Plus is simple to operate. CPU selection and function commands are entered from the keyboard. This section details each ServeView Plus function and how to access it from the keyboard. For information on selecting CPUs from a computer or terminal connected to ServeView Plus's RS232 port, please refer to page 20. Also see the *Keyboard command summary* starting on page 24.

> **IMPORTANT OPERATION NOTE:** To send ServeView Plus keyboard commands, you must first press and release the **left** Control Key (**<Ctrl>**). Pressing and releasing **<Ctrl>** activates ServeView Plus to look for commands from the keyboard. You have two seconds between each keystroke to enter a valid command, otherwise ServeView Plus aborts the command.
> **NOTE:** When entering numeric commands, use only the numeric keys located at the top of your keyboard. Numbers entered from the numeric keypad to the right will **not** be recognized as valid commands.
> **NOTE**: ServeView Plus commands ignore case. All command letters are shown capitalized for clarity only. Do not use the shift key during the command.

Keyboard CPU selection

To select a CPU from your keyboard, press and release your keyboard's **left** Control Key (**<Ctrl>**), then type in the CPU number. Remember to use the numbers located at the top of your keyboard. **Do not** use the numeric keypad.

1–9 CPUs: ServeView Plus will immediately switch to the desired CPU when you enter the one-digit number.

10–99 CPUs: ServeView Plus will immediately switch to the desired CPU when you enter the two-digit number. For single-digit CPUs, you can enter the number with a leading zero (such as 01) or enter the single-digit number and press **<Enter>**. If you enter only one digit, and do not follow it with **<Enter>**, ServeView Plus will wait two seconds for you to enter another digit, then, if no additional number is entered, will switch immediately to the single-digit CPU.

100–256 CPUs: ServeView Plus will immediately switch to the desired CPU when you enter the three-digit number. For single- and double-digit CPUs, you can enter the number with one or two leading zeros (such as 027, 001), or enter the single- or double-digit number and press **<Enter>**. As noted above, ServeView Plus will wait two seconds for a second or third number to be entered, then will switch to the CPU number entered.

Going to the next or previous CPU

From the keyboard you can toggle forward or backward through the CPUs by selecting either the Next or Previous CPU. To go to the Next CPU, press and release the **left** Control Key (**<Ctrl>**), then press the "+/=" (plus) key. To go to the Previous CPU, press and release **<Ctrl>**, then press the "-/_" (minus) key. The command is not case-sensitive. Use the keys at the top of your keyboard, **not** those on the numeric pad.

Scan mode commands

To enable scanning from the keyboard, press and release the **left** Control Key (**<Ctrl>**), then type "S". ServeView Plus will begin scanning sequentially from its current CPU through the remaining CPUs, then begin again at CPU 1. The time between switching to the next CPU is the scan time interval (see below) and is programmable from 1-15 seconds. To stop scanning, press and release **<Ctrl>**, then type "X". Scanning is also disabled by entering a CPU selection command.

Scan time interval command

The scan time interval command sets the time, in seconds, that ServeView Plus will pause at each of the CPUs when scanning. The default setting is 5 seconds. To set another interval, press and release the **left** Control Key, type "**T**", enter the new scan time interval (in seconds), and press **<Enter>**. Remember to use the upper numeric keys, **not** the numeric keypad to the right. Follow with the Keep command to save the setting.

Setting CPU keyboard and mouse types

Setting the keyboard and mouse type applies to the PC-only and the multi-platform models. If you have an Apple or Sun unit, these types are fixed and this explanation on setting types should be ignored.

Each type of keyboard and mouse interface used on each CPU must be specified. This is done through the keyboard. Apple and Sun computers are very straightforward, since their keyboard and mouse interfaces are specific and do not vary from model to model. PCs on the other hand can have three keyboard modes and several types of mouse interfaces. Many Unix-style computers, such as the IBM RS/6000, DEC alpha, and certain Silicon Graphics computers use a PC keyboard interface. Each CPU attached to the ServeView Plus can be configured for either Apple, Sun, or any mix of PC keyboard modes and PC mouse interfaces. Mixing an Apple or Sun keyboard or mouse with a PC keyboard or mouse on a single CPU is not supported.

Computers which use PC-style keyboards have 3 keyboard modes. Mode 1 is used primarily by certain models of IBM PS/2s. Mode 2 is the most common mode used by the vast majority of PCs. It is also the power-up state of all 101-type and PS/2 keyboards. Mode 3 is used by the IBM RS/6000, DEC Alpha, certain Silicon Graphics computers, HP 9000, and other UNIX computers.

For computers with PC keyboard interfaces, the keyboard mode is set by commands from the CPU when it boots up, which is detected by ServeView Plus. Therefore the ServeView Plus learns which CPU uses which mode. If the PC has already booted and is then connected, ServeView Plus cannot detect the PC's keyboard mode and uses the setting stored in ServeView Plus's non-volatile memory.

Most PCs which are mode 2 do not send a mode 2 command, since that is the keyboard's power-on mode. If a CPU was previously set to mode 1 or 3 and you connect a mode 2 PC to that CPU, it probably will not communicate correctly and you will need to configure it correctly.

PCs have several types of mouse interfaces as well. There is PS/2, Microsoft serial, 8 bit serial, and Mouse Systems. These must be set for each CPU. The PS/2 mouse interface uses a 6 pin mini-din connector and is similar to the keyboard interface. Its advantage is that when present, it is integrated on to the CPU's mother board and does not require using a serial interface which can be used to connect another device instead. The serial mice all use an RS232 connection with either a 9 or 25 pin D-connector. The Microsoft serial mouse has an RS232 interface with a 3 byte, 1200 baud, 7 bit protocol. The 8 bit serial mouse also has an RS232 interface, but has a 3 byte, 1200 baud, 8 bit protocol. The Mouse Systems mouse is yet another RS232 mouse which has a 5 byte, 1200 baud, 8 bit protocol. The Microsoft interface does not support a third button, the other three do. Many of the lower cost mice have a switch on them to choose between Microsoft and Mouse Systems mice.

Mode command

Setting the keyboard and mouse type applies to the PC-only and the multi-platform models. If you have an Apple or Sun unit, these types are fixed and this explanation on the mode command should be ignored.

The mode command can be issued to change the keyboard mode for each CPU and can be saved in non-volatile memory with the Keep command. The Apple and Sun keyboard and mouse are changed with a single mode command. To change a PC's keyboard and mouse requires entering the mode command twice. Changing from Apple or Sun to a PC keyboard will set the PC mouse interface to PS/2. Changing to a PC mouse when previously set to Apple or Sun will be ignored.

Refer to the table below to use the proper mode value to be used in the mode command. To issue the Mode command first switch to the CPU on which you wish to change the mode. Then press and release the **left** Control Key, type '**M**", and enter the mode number "**1**" – "**9**" followed by **<Enter>**. Remember to use the alpha-numeric keys, **not** the numeric keypad, to enter the mode number. Follow with the Keep command. The mode is changed on your currently selected CPU, even if you are connected through an expansion ServeView Plus. To change the mode on another CPU, you must first switch to that CPU and then issue the mode command.

Table 3. Mode value description

Mode value	Function
1	PC keyboard mode 1 (Certain models IBM PS/2)
2	PC keyboard mode 2 (Most PCs)
3	PC keyboard mode 3 (RS/6000, Alpha, SGI, HP 9000)
4	Apple keyboard and mouse (multi-platform models only)
5	Sun keyboard and mouse (multi-platform models only)
6	PS/2 mouse
7	MicroSoft serial mouse
8	Other 8 bit serial mouse (multi-platform models only)
9	PC mouse serial mouse (multi-platform models only)

Maximum ports command

This command tells the ServeView Plus system the total number of ports connected. This enables expansion and ensures that the scan function will cycle correctly. Although this command is used primarily when chaining slave units to a master, it can also be used to enable less than the full amount of ports in a ServeView Plus unit. To issue the command press and release the **left** Control Key, type "**P**", enter the total number of ports (from 1 to 3 digits), and press **<Enter>**. Follow with the Keep command to save the new setting in the unit's non-volatile memory. This command never needs to be used on a slave unit since the master controls access to its CPUs.

Units command

The units commands is used to configure how many *slave* expansion units are connected to the main *master* ServeView Plus. This determines which CPU number is associated with which physical connector. If no expansion units are used, this number should be set to zero. If one expansion unit is connected the value should be set to one, and so on.

To issue the command press and release the **left** Control Key, type "**U**", enter the units value, and press **<Enter>**.

Width command

The expansion width setting determines how many computers are on an expansion unit. This determines which CPU number is associated with which physical connector. For example, if four computers are attached to one or more expansion units, than the expansion width should be set to four.

This feature allows flexibility in how CPUs are clustered together. To issue the command press and release the **left** Control Key, type "**W**", enter the width value, and press **<Enter>**.

For example, imagine we have a system with 32 computers and it is desired to cluster eight computers together to form four groups. A slave switch is used for each group of eight computers. The four slave switches are attached to a master 8-port switch.

In this example maximum ports should be set to 32, expansion units would be set to four, and expansion width would be set to eight. The four extra ports on the master unit could be connected to four additional computers, but maximum ports should then be set to 36.

Screen blanking command

This feature reduces the wear on your screen and provide security for your system by blanking the screen when there has been no keyboard or mouse activity for a specified length of time. To set the screen blank interval time, press and release the **left** Control Key, type **"V"**, enter the interval time, in seconds (0–999), and press **<Enter>** (an interval time of 0 disables this screen blank feature). Remember to use the upper numeric keys, **not** the numeric keypad to the right. Follow with the Keep command to save the new setting in the unit's non-volatile memory.

When in the Screen Blank state, all ServeView Plus Select LEDs will be off. To restore the video screen, press any key or move the mouse. To disable the screen blank feature, press and release the **left** Control Key, type **"V"**, enter **"0"** as the interval time, and press **<Enter>**. Follow with the Keep command if desired to save it. Keep command

The Keep command saves the current state of the ServeView Plus's custom settings. These settings are scan interval, each CPU's mode and keyboard LED state, maximum ports, the screen blank interval, and the keyboard typematic value. These settings are saved in non-volatile memory and become the power-up settings. To enter the command, press and release the **left** Control Key, then type **"K"**.

Typematic value command

ServeView Plus can be configured to control the keyboard typematic rate and delay. This setting is used to adjust the user preference of the way the keyboard acts when holding a key down to repeat the key, such as when moving a cursor across a line. The rate is the speed at which the keys are sent in keys/second. The delay is the wait time in milliseconds after the key is initially pressed, before additional keystrokes are sent. To issue the command press and release the **left** Control key, then type **"A"**, then enter the 1-3 digit decimal *typematic value* followed by **<Enter>**. The *typematic value* is defined as shown below. Use the keep command to save the value.

The *typematic value* to be used is determined from the following tables using the equation: **Typematic Value = Rate value + Delay Value**. Pick the desired rate in keys/sec. (32 choices) and delay in milliseconds (4 choices) from the tables below. Add the values to the right of the desired settings. For example to use a Rate of 16.0 keys/sec. and a 500 millisecond delay, the typematic value = 7 + 32 = 39, so to set this value, type *<Ctrl> A 39 <Enter>*.

Table 4. Typematic rate

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

Table 5. Typematic delay

Delay in millisec.	Delay value	Delay in millisec.	Delay value	Delay in millisec.	Delay value	Delay in millisec.	Delay value
250	0	500	32	750	64	1000	96

Reset command

This command is used to re-boot the mouse and keyboard without removing power from the ServeView Plus. This is most useful to reset a PS/2 mouse which has been unplugged and plugged back in. This command is also useful to enable mouse data to be sent to a CPU which has not enabled the mouse. This may be the case if the ServeView Plus was not connected or powered off after a CPU was booted up. To issue the command, press and release the **left** Control Key, then type "**R**". This command should not be issued to a CPU which has a PS/2 mouse connected, but no mouse driver is loaded, since many CPUs will crash if you send them unexpected mouse data.

Null command

This command is used to re-synchronize an out-of-sync PS/2 mouse. Such a condition can result due to transients, spurious power-up effects, or plugging and unplugging of cables with live equipment. The command may need to be entered once or twice, depending if the mouse is out-of-sync by one or two bytes. Microsoft mouse driver version 9.01 corrects this inadequacy of previous drivers and renders this command unnecessary. To issue the command, press and release the **left** Control Key, then type "**N**".

ROM Identification command

This command is used to identify the revision level of ServeView Plus firmware currently installed. Before entering this command, your currently selected CPU should be at a command prompt, so that when the ServeView Plus sends the ROM revision level that the result will be displayed. To issue the command, press and release the **left** Control Key, then type "**T**". ServeView Plus will send back its current firmware revision level, in the format *majorlevel.minorlevel*.

Keep command

The Keep command saves the current state of the ServeView Plus's custom settings. These settings are saved in non-volatile memory and become the power-up settings. To enter the command, press and release the **left** Control Key, then type "**K**".

MISCELLANEOUS OPERATION

Video distance capability

The limitation on driving distance is usually due to the quality of the video. The table below shows the distances, resolution, and quality of video that can be expected. The table uses a letter which shows the cable type and a number which refers to the quality of the video, as described below. This table applies to the base unit without chaining. There will be some degradation when ServeView Pluses are chained together. Rose Electronics does not support systems where the video quality is 1 or 2. There are further capabilities not listed here in order to send the higher resolution video longer distances. Please contact Rose Electronics technical support for more details.

N – Normal cabling

C – Coax cabling

4 – Perfect or near-perfect; Unable to easily detect defects in screen

3 – Very acceptable; Images clear, small reflections around lettering depending upon color; if you examine the screen closely you will find defects

2 – Acceptable; Slightly fuzzy images; readable text, acceptable for casual use, but not for prolonged viewing as this will cause eye fatigue

1 – Unusable; images smeared; text not easily readable

Table 6. Video distance capability

	5'	10'	20'	30'	50'	75'	100'	125'	150'	200'
640X480 60Hz refresh	N4 C4	N4 C4	N4 C4	N4 C4	C4	C4	C4	C4	C3	C3
640X480 72-75Hz refresh	N4 C4	N4 C4	N4 C4	N3 C4	C4	C4	C4	C3	C3	C3
800X600 non-interlaced	N4 C4	N4 C4	N3 C4	N3 C4	C4	C4	C4	C3	C3	C3
1024X768 interlaced	N4 C4	N3 C4	N3 C4	N3 C4	C4	C4	C3	C3	C3	C3
1024X768 non-interlaced	N4 C4	N3 C4	N3 C4	N3 C4	C4	C3	C3	C3	C3	
1280X1024 interlaced	N3 C4	C4	C3	C3	C3	C3				
1280X1024 non-interlaced	N3 C4	C4	C3	C3						

Mapping PC keyboards to Macintosh CPUs

A PC keyboard is missing 4 keys that an Apple keyboard has. They are the left and right Apple keys, the power key, and the numeric pad = key. A provision has been made to map the left and right control and alt keys on a PC keyboard to make up for this loss, so these functions are available.

Table 7. PC keyboard to Apple keyboard map

PC keyboard key	Apple function
Left control	Control key
Left alt	Apple/cloverleaf key
Right control	Power key
Right alt	Alt key

It may be awkward though if you are used to using a certain combination of left or right keys.

Power interruption to the ServeView Plus

Certain keyboards are sensitive to rapid cycling of the power. Since power to the keyboard is provided from the ServeView Plus, you should not interrupt power to the ServeView Plus for less than three seconds. The ServeView Plus is immune to such transients, but the keyboard may not reset correctly.

Mouse sensitivity

All three platforms of PC, Apple, and Sun have settings to adjust the mouse sensitivity. To optimize the movement of the mouse between systems, you should adjust the sensitivity according to individual preference. How you adjust the sensitivity is usually done from some type of control panel and varies depending upon the operating system.

Using the RS232 port

For your convenience, a computer or terminal can be connected to the RS232 serial port on the unit's rear panel. This allows you to send switching commands from your computer's serial port or to load new flash firmware. You will need serial cabling with 4-pin or 6-pin RJ jacks, and the appropriate adapter (either DB-25 female to RJ female or DB-9 female to RJ female, depending upon your equipment). These adapters are available from Rose Electronics.

1. Insert the RJ cable between the RS232 serial port on ServeView Plus's rear panel, and the RJ female connector of the appropriate adapter.
2. Connect the adapter to one of the computer's (or terminal's) COM ports.

3. Set your computer at 9600 baud, no parity, 8 bits, 1 stop-bit.
4. To switch ports, enter the 1-3 digit port number followed by enter: ***xxx<Enter>***.

> **WARNING:** Serial cabling in excess of 50 feet should be routed with caution. The maximum cable length depends upon the construction of the cable and its routing. For extended runs, shielded cable should be used. Avoid routing near fluorescent lights, air conditioning compressors, or machines that may create electrical noise. If you experience data error, use shorter cables.

Rackmount kit

The rackmount kit is an optional item that can be ordered at any time. Your ServeView Plus unit is designed to accept rack mount brackets that attach to the sides of the ServeView Plus unit. There are three sizes available 19" by 1.75", 23" by 1.75", and 24" by 1.75". You must order the rack mount kit for the correct chassis. See Appendix E for part numbers.

UPGRADING THE FLASH MEMORY

The ServeView Plus has flash memory, which means its firmware may be reloaded, to support new features or fix any problems in its operation. You have a choice of two baud rates at which to load the flash file, either 9600 baud or 57600 baud. Both require an 8 bit, no parity, and 1 stop bit protocol. You must have the proper serial cable. You can obtain it from Rose Electronics or make if from the specification in Appendix B.

The latest file can be obtained from the Rose Electronics FTP site. The directory name is ftp://rosel.com/pub/uv. The file name is of the form UrrN.HEX where rr is the revision number and N is the platform type: either E for multi-platform, P for PC, S for Sun, or A for Apple. Please make sure to get the right file. The second letter of your model number on the bottom of the unit is the platform type. The unit won't let you load the incorrect file. There are two methods to load the flash file.

Method 1 - Using a communication program

1. Connect the RS232 cable from your computer's serial port to the RS232 port on the unit.

2. Press both the - and + switches on the front panel, at power-on of the ServeView Plus. The ServeView Plus is ready to accept the upgrade file at 9600 baud as shown by LED 1 being lit. To use 57600 baud, press the + switch, LED 4 will light. Before loading the file you can always change between the baud rates by pressing the - switch (9600 baud, LED 1 lit) or the + switch (57600 baud, LED 4 lit). Run your communication program. Set the baud rate to the correct rate and put the program in direct connect mode. When you press the - or + switch, you should see the message:
Waiting for file at 9600 baud or *Waiting for file at 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 file copy progress. Once the file has been sent, you should see the message:
.....
Receive successful
Hit space to program

3. Hit the space bar. The flash is now being programmed and verified. 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

4. Hit the enter key. The new firmware now executes and diagnostic information is sent to your screen. Observe the new revision number matches that of the file. Then you will see:
Hit enter key to continue

5. Hit the enter key. The box is now operational and port 1 is selected. The flash procedure is complete.

You may receive any of the following error messages when receiving the file:
Checksum error or *Record error* or *Data error*
Receive failed
Try again Y/N?

If any of these errors occur, it means either the file is bad, the RS232 cable is bad, the RS232 protocol is not configured correctly, there are bad transmit or receive levels, or there are hardware problems on either the receiver or transmitter end. Only three wires are necessary to the ServeView Plus, transmit, receive, and ground. Enter Y to try again and it takes you back to the beginning *Waiting for file ...* Enter N and the box will prompt you *Hit enter to boot* which brings you to the same point as step 4, with the firmware unchanged.

If verifying fails, the box should be serviced. You can try to program the flash again though by hitting enter.
Verify failed
Hit enter to program

Method 2 - Using the LEDs and front panel switches with a file copy

1. Connect the RS232 cable from your computer's serial port to the RS232 port on the unit.

2. Press both the - and + switches on the front panel, at power-on of the ServeView Plus. The ServeView Plus is ready to accept the upgrade file at 9600 baud as shown by LED 1 being lit. To use 57600 baud, press the + switch, LED 4 will light. Before loading the file you can always change between the baud rates by pressing the - switch (9600 baud, LED 1 lit) or the + switch (57600 baud, LED 4 lit).

3. 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.

4. 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.

5. Press and release the + switch, LED 3 flashes off for a brief instant. The new firmware is now run and diagnostic information is sent to the RS232 port. LED 4 now lights.

6. 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.

KEYBOARD COMMAND SUMMARY

To enter any keyboard command, first press and release the **left** Control Key, represented by **<Ctrl>**. Then enter the command followed by any parameters you wish to specify, for example the CPU number.

Letter commands are not case sensitive, and are shown in upper case for clarity only. **Do not** use the numeric keypad to enter any commands.

All ServeView Plus commands use a two second time-out between characters, to abort the command. This is a feature that restores the keyboard to normal operation, so the keyboard is not put it into a command mode which might lock it up from normal operation. The **<Ctrl>** character is always passed through to the CPU. The command characters and command operands, however, are absorbed by the ServeView Plus and not sent to the CPU.

Table 8. Keyboard command summary

Command	Key Sequence	Description
Go to selected CPU	**<Ctrl>** *xxx* where "*xxx*" is 1–3 digit CPU number	Connects your common keyboard, monitor, and mouse to the selected CPU. Only a single digit is necessary when using less than 9 CPUs.
Go to next CPU	**<Ctrl>** +	Selects the next sequential CPU.
Go to previous port	**<Ctrl>** -	Selects the previous sequential CPU.
Scan On	**<Ctrl>** S	Turns Scan mode on, causing ServeView Plus to start scanning sequentially from the current CPU through the remaining CPUs and beginning again at CPU 1.
Scan Off	**<Ctrl>** X	Turns Scan mode off. **Note:** Scan can also be stopped by entering a CPU selection command.
Scan time interval	**<Ctrl>** T *xx* **<Enter>** where "*xx*" is time in seconds from 1-999 seconds	Sets the time, in seconds, that ServeView Plus will pause at each CPU when scanning. **Note:** Follow with Keep command.
Set keyboard mode	Select CPU, then enter command: **<Ctrl>** M *x* **<Enter>** where "*x*" is 1-9	Sets ServeView Plus CPU's keyboard and mouse mode. **Note:** Follow with Keep command.
Set maximum ports	**<Ctrl>** P *xxx* **<Enter>** where "*xxx*" is a 1–3 digit number from 2 to 256 signifying total number of ports	Sets the total number of ports to be used. Used when chaining slave units to a master, or when not all of the ports in a unit will be used. **Note:** Follow with Keep command.
Configure units setting	**<Ctrl>** *U xx* **<Enter>** where "*xx*" is 1–2 digit number	Configures how many expansion units are attached. Factory default is 0, which means no expansion units are attached.
Configure width setting	**<Ctrl>** *W xx* **<Enter>** where "*xx*" is 1–2 digit number	Configures how many CPUs are on an expansion unit. Factory default is 16.
Set screen blank time interval	**<Ctrl>** V *xxx* **<Enter>** where "xxx" is time in seconds from 0 to 999 seconds	Sets time in seconds with no keyboard or mouse activity after which video will be turned off. Reactivated when any key is pressed or mouse is moved. **Note:** Follow with Keep command.
Set typematic value	**<Ctrl>** A *xxx* **<Enter>** where "*xxx*" is a 1–3 digit number' from 0 to 127 indicating KB typematic value	Sets power-on keyboard typematic action which is controlled by the ServeView Plus. This can be used to adjust the key stroke rate and delay to the user preferred setting. See *Tables 4 and 5* for how the typematic value is determined. **Note**: Follow with Keep command.
Reset command	**<Ctrl>** R	Resets and enables mouse and keyboard, enables PS/2 mouse on currently selected CPU.
Send null to mouse	**<Ctrl>** N	Used to re-synchronize PS/2 mouse which has gotten out-of-sync.
Identify ROM version	**<Ctrl>** I	Identifies ROM version, CPU must be at some sort of command prompt to receive value.
Keep settings	**<Ctrl>** K	Tells ServeView Plus to save custom settings.

TROUBLESHOOTING

1. CPU does not boot, keyboard error received
CPU does not boot, mouse error received

a. Cable is loose, reseat cable and on PC hit F1 to continue or reboot computer.

b. Wrong cable plugged in, keyboard and mouse cables reversed.

c. Cable is defective, try using cable from another CPU. If problem goes away cable is defective.

d. Port on ServeView Plus is defective, try using another port on ServeView Plus. If problem goes away port is defective.

e. Port on CPU is defective, try plugging in keyboard or mouse directly if problem remains CPU port is defective. If CPU power status LED not lit, fuse on motherboard may be blown.

f. CPU keyboard and mouse not configured.

2. Mouse driver does not load.

a. If PS/2 type mouse, CPU must be connected to ServeView Plus or mouse at boot-up time in order for mouse to be recognized by CPU. Reboot computer with ServeView Plus powered on and cable attached.

b. If RS-232 type mouse, make sure right COM port is being used and syntax of mouse driver is correct to search for the correct port.

c. CPU keyboard and mouse not configured.

3. Can't switch CPUs from keyboard

a. CPU keyboard and mouse not configured.

b. Power to ServeView Plus was removed for less than three seconds possibly causing keyboard to lock up. Disconnect keyboard and plug it back in.

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

d. If PS/2 type keyboard and mouse cables may be reversed.

e. Not using left control. Using numeric keypad instead of keys on top row. Not releasing control key before typing in number. Waiting too long to enter CPU number. Using caps lock or shift key.

4. Wrong or missing characters from those typed

a. The keyboard mode is incorrect. See *item 3c* above.

5. Mouse does not move

a. Mouse not configured.

b. ServeView Plus turned off after or not connected when CPU booted or application using mouse run. Exit and re-enter application using mouse or issue reset command.

c. PS/2 mouse was not connected when ServeView Plus powered up or has been disconnected and reconnected. Issue the reset command or reconfigure the mouse.

7. PS/2 mouse gets out of sync

a. Cabling was disturbed during mouse movement. Issue the null command once or twice to re-sync the mouse. Get a later mouse driver which does not exhibit this problem, such as Microsoft rev 9.01.

8. Video fuzzy

a. Cable too long or wrong type. Verify that resolution and distance match . See *Table 6 Video Distance Capability*. Upgrade cable if necessary.

9. Video not synchronized or wrong color

a. Cable is loose, reseat cable.

b. Monitor not capable of synching to video selected, get a higher end monitor.

c. Video source producing composite sync only and monitor doesn't accept composite sync. Change video source or monitor to be compatible with one another.

d. Wrong CPU cable used. If you have a 9515, 9517, 9518, XGA mono or similar monitor you must use special cables or adapters. See previous section, *XGA video, Model 9515, 9517, 9518 monitors.*

e. Cable is defective, try using cable from another CPU if problem goes away cable is defective.

f. Port on ServeView Plus is defective, try using another port on ServeView Plus. If problem goes away port is defective.

10. Lower resolution video OK, but can't enter high resolution mode

a. Driver has not been setup. Windows, OS/2, System 7, Unix or other driver has not been configured for this resolution. Configure the driver.

11. Slave unit does not switch

a. Maximum ports command not issued.

b. Width or units command not configured properly. Reconfigure them to match number of CPUs and how they are connected.

SERVICE INFORMATION

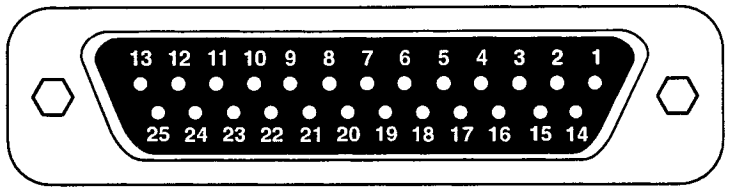
Maintenance and repair

The unit does not contain any user-serviceable parts inside. Any malfunction of the unit should be reported to a factory-authorized repair center for service. Any discrepancies in the operation of the unit according to this manual should be reported to the Rose Electronics Technical Support Department.

Reset to factory default

To reset the ServeView Plus to its factory default settings hold the – switch in at power up. Keep it pressed in until the unit switches to the last port on the unit, port 4 (on a 4-port unit), port 8 (on an 8-port unit), and so on. If the monitor is connected, various diagnostic messages will appear. If you release the switch quickly after turning the power on, the memory will not be reset and you can observe the diagnostic messages. The messages indicate the firmware revision levels and on-board diagnostic test results.

Appendix A. CPU/MKM pinout specification

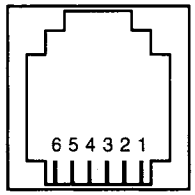


DB-25 Female Connector

Pinouts for ServeView Plus DB-25 Female Connectors

Pins	Numbered CPU Ports	MKM Port	Description
1	Ground	Ground	Analog Ground
2	Ground	Ground	Analog Ground
3	Ground	Ground	Analog Ground
4	Ground	Ground	Digital Ground
5	HSync-in	HSync-out	Video Control
6	VSync-in	VSync-out	Video Control
7	KBClk	KBClk	Keyboard Clock
8	KBData	KBData	Keyboard Data
9	MSClk	MSClk	Mouse Clock
10	MSData	MSData	Mouse Data
11	+5V-in	+5V-out	Power for LEDs, Peripherals
12	RS232-out	RS232-in	Serial Data
13	RS232-in	RS232-out	Serial Data
14	Red-in	Red-out	VGA Color
15	Green-in	Green-out	VGA Color
16	Blue-in	Blue-out	VGA Color
17	Audio in/out	Audio in/out	Audio (Multi-platform only)
18	Audio in/out	Audio in/out	Audio (Multi-platform only)
19	Audio in/out	Audio in/out	Audio (Multi-platform only)
20	Audio in/out	Audio in/out	Audio (Multi-platform only)
21	-V	-V	Unreg -12V
22	Ground	Ground	Digital Ground
23	Ground	Ground	Digital Ground
24	+V	+V	Unreg +12V
25	RS232-in	RS232-out	Serial Data

Appendix B. RS232 pinout specifications



Pin	Signal Name	Acronym	I/O	Description
1	Data Set Ready	DSR	Input	Unused
2	Data Terminal Ready	DTR	Output	Pulled high with 1Kohm resistor
3	Transmit Data	TXD	Output	Serial data from port
4	Signal Ground	GND		DC ground reference
5	Receive Data	RXD	Input	Serial data to port
6	Request to Send	RTS	Output	Pulled high with 1Kohm resistor

Appendix C. General specifications

SIZE Width x Height x Depth	M (mini) 8.8" wide x 4.85" deep x 1.75" high 22.35 cm. x 12.32 cm. x 4.44 cm. L (low) 13.2" wide x 4.85" deep x 1.75" high 33.53 cm. x 12.32 cm. x 4.44 cm. H (full) 13.2" wide x 4.85" deep x 3.50" high 33.53 cm. x 12.32 cm. x 8.89 cm.
WEIGHT Includes transformer, manual, and packaging	M (mini) 2-port and 4-port 4 lb. (1.8 kg.) L (low) 8-port 6 lb. (2.7 kg.) H high) 4-port and 8-port 7 lb. (3.2 kg.) H (high) 12-port and 16-port 8 lb. (3.6 kg.)
ENVIRONMENTAL	0-55 C°, 10-90% relative humidity non-condensing
TRANSFORMER INPUT	117 VAC power adapter supplied 230 VAC optional
TRANSFORMER OUTPUT	M (mini) 17VAC CT, 700ma L (low) 17VAC CT, 700ma H (high) 17VAC CT, 1400ma
CPU/MKM CONNECTORS	DB25 Female
CHASSIS	Fully shielded steel chassis
CONTROLS	Power switch, - switch, + switch
INDICATORS	1 power LED, 4-16 select LEDs, 4-16 CPU power LEDs

Appendix D. Factory default settings

Setting	Default
Keyboard-mouse type and CPU keyboard-mouse type	PC models: PC - PS/2 Apple models: Apple ADB Sun models: Sun 5 - Sun mouse Multi platform models: PC - PS/2
Scan Time Interval	5 seconds
Power on scan	Off
Typematic Rate (PC keyboard)	20 (10.9 chars/sec actual)
Typematic delay (PC keyboard)	Fast (500 milliseconds)
Maximum ports	Same as physical number of ports
Expansion width	16
Expansion units	0
Screen saver timeout	120 seconds
Caps/Numlock/Scroll	Numlock On

Appendix E. Cables and rack mounts

Description	Part Number
Monitor–Keyboard–Mouse Adapter Cables	
VGA–AT keyboard–Serial (9) mouse to DB-25M	CAB-VX0509Mxx*
VGA–PS/2 keyboard–PS/2 mouse to DB-25M	CAB-VX0606Mxx*
Apple video–keyboard–mouse to DB-25M	CAB-AV0400Mxx*
Coax VGA–AT keyboard–Serial (9) mouse to DB-25M	CAB-C1V0509Mxx**
Coax VGA–PS/2 keyboard–PS/2 mouse to DB-25M	CAB-C1V0606Mxx**
Coax Apple video–keyboard–mouse to DB-25M	CAB-C1AV0400Mxx**
Coax Sun video–keyboard–mouse to DB-25M	CAB-SC0800Mxx**
Coax VGA-Sun keyboard-Sun mouse	CAB-C1V0800Mx**
CPU Adapter Cables	
VGA–AT keyboard–Serial (9) mouse to DB-25M	CAB-VX0509Cxx*
VGA–PS/2 keyboard–PS/2 mouse to DB-25M	CAB-VX0606Cxx*
Apple CPU video–keyboard–mouse to DB-25M	CAB-AV0400Cxx*
Coax VGA-AT keyboard–Serial (9) mouse to DB-25M	CAB-C1V0509Cxx**
Coax VGA-PS/2 keyboard–PS/2 mouse to DB-25M	CAB-C1V0606Cxx**
Coax Apple video–keyboard–mouse to DB-25M	CAB-C1AV0400Mxx
Coax Sun CPU video–keyboard–mouse to DB-25M	CAB-SC0800Cxx**
Other cables	
4-conductor RJ11 cable to connect PC to ServeView Plus's RS232 serial port. Used with DB25 or DB9 adapter shown below.	CAB-04RJxx*
25 pin female DB25 adapter for ServeView Plus serial port	ACC-PCRX
9 pin female DB9 adapter for ServeView Plus serial port	ACC-ATRX
ServeView Plus-to-ServeView Plus Expansion Cable for connecting slave units to master units for system expansion	CAB-C1VSMMxx*
*Available in standard lengths of 1, 5, 10, and 20 feet Replace *xx* with desired length.	
**Available in 1, 5, 10, 20, 35, 50, 75, and 100 foot lengths. Replace *xx* with desired length.	

Rackmount kits			
	Width		
Chassis size	19" width	23" width	24" width
Chassis M (mini)	RM-U19M	RM-U23M	RM-U24M
Chassis L (low)	RM-U19L	RM-U23L	RM-U24L
Chassis H (high)	RM-U19H	RM-U23H	RM-U24H
Kit comes with 2 side brackets and 4 switch to bracket mounting screws			

ON SCREEN DISPLAY OPTION

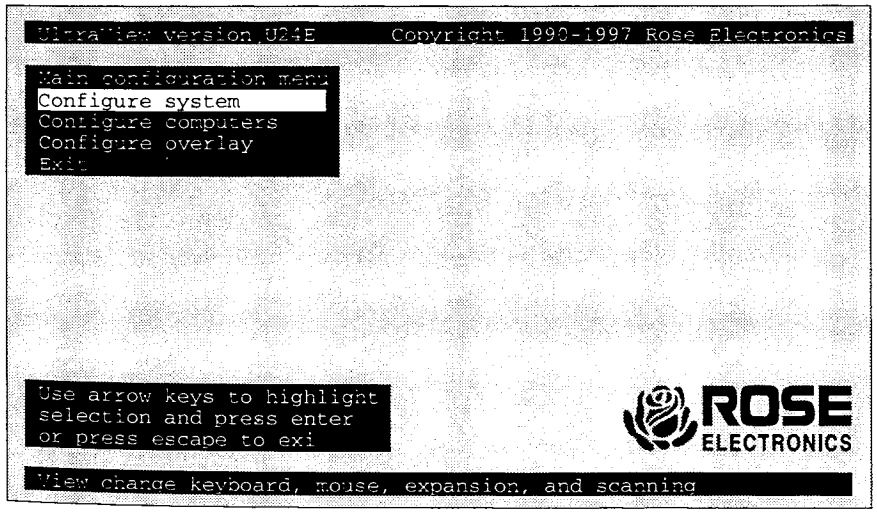
The ServeView Plus is designed to accept an internal on-screen display board (overlay board) that gives enhanced functionality to the ServeView Plus. This option generates its own graphics and text and overlays it with the video from any of the computers attached to the ServeView Plus.

You interact with the overlay board with your keyboard via a highly intuitive interface of using arrow keys and the enter keys. The overlay board is extremely elegant and highly useful. Call today to order your overlay board.

The on-screen display is used to:

1. Configure the ServeView Plus through a series of configuration menus (control F12 command).
2. Switch to different computers from a window which shows a list of computer names (control escape command). You can change the color and position of this window.
3. See the name of the computer you are currently switched to. The font, color, position, and when the text is displayed is all programmable.

- On-screen display pops on top of existing video
- Configure all settings with easy to use menus
- View name of CPU on screen with adjustable color, and position
- Name of CPU fades away after adjustable time interval
- Name of CPU can be shown in six different fonts
- Choose computer from window with adjustable color and position
- Screen saver with four adjustable patterns and timeout
- Colors can be solid or transparent (shows computer video through color)
- Programmable menu color scheme
- Choose resolution of on-screen display if no computer video present
- Display command to show computer label or remove it



Main configuration menu from overlay board

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