

ULTRAVIEW PRO™

INSTALLATION AND OPERATION MANUAL



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INTRODUCTION

UltraView Pro™ represents the latest state-of-the-art technology in keyboard-monitor-mouse switching. It features an on-screen display for configuration and switching computers.

The UltraView Pro part number is Uxy-zUB

where x is the platform support either E or P

E For PC, Sun, Apple, and Unix computers

P For PC and Unix computers

where y is the chassis size either M (mini), B (low), or C (high)

M 8.9" wide x 4.85" deep x 1.75" high 2 or 4 ports

B 16.7" wide x 4.85" deep x 1.75" high 4 or 8 ports

C 16.7" 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 computers with one keyboard, monitor, and mouse
- Compatible with PC, Apple, Sun, and Unix workstations, keyboards, mice, and monitors
- Unix workstations supported include IBM RS/6000, SGI, HP, DEC and any other which use a PC style keyboard
- On-screen display for easy configuration and computer switching
- View name of computer on screen with adjustable font, color, and position
- Choose computer from window with adjustable color and position
- Microprocessor controlled keyboard and mouse emulation
- Saves energy to assist in latest energy saving programs
- Available in 2, 4, 8, 12, or 16 port models
- Select computer from keyboard command, on-screen display window, front panel, or RS232 port
- Supports all PC, Macintosh, and Sun video types including sync-on-green
- Video resolution supports up to 1600 x 1280 non-interlaced video
- Supports all modes of PC, PS/2, AT, Apple, Sun, and Unix keyboards
- Mouse can be PS/2, Serial, Apple ADB, or Sun
- Front panel LEDs show selected computer and its power-on state
- Remembers and restores Num Lock, Caps Lock, Scroll Lock, and keyboard mode of each computer when switching
- Screen saver function turns on four possible screen savers after 1–999 seconds of inactivity
- Scan function sequences among computers 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
- 19", 23", and 24" rack mount kits available

GETTING STARTED

To acquaint you with your UltraView Pro unit, this manual first describes UltraView Pro's front and rear panels. Installation and operation instructions begin with the *Cable Connection Diagram* on page 6. This easy-to-understand diagram illustrates how to connect UltraView Pro to your computers, monitor, keyboard, and mouse. Information for setting up an UltraView Pro expansion system is given in the *UltraView Pro expansion* section starting on page 10. Also see the *Keyboard command summary* on page 39.

Package contents

Your UltraView Pro package includes the UltraView Pro unit, an RJ to DB9 serial cable for firmware upload and diagnostics, an optional power transformer (with M-chassis 2 and 4 port units only), a line cord, your warranty registration card, and this manual.

Cable requirements

UltraView Pro connects to each computer with a CPU cable and to the **K**eyboard, **V**ideo monitor, and **M**ouse with a KVM cable. These cables are most commonly purchased with the UltraView Pro and will provide quick and trouble-free operation. *Appendix E* lists the most common cables.

To add more computers to a fully populated unit, you must connect slave units to the master UltraView Pro. 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*. Coax cables are available in lengths up to 100 feet. To go longer distance call sales or technical support about twisted pair CAT5 or fiber optic extenders.

Locating the unit

The UltraView Pro unit is best located as close to the computers as possible. This will reduce the length of the computer cables and provide a more cost-effective and neater installation. Some installations use a rack in which to mount the computers, some use shelves, and others may use a free-standing arrangement. Quite often UltraView Pro will be mounted in a rack with the optional rackmount kit, see page 36. Many customers will purchase a longer KVM cable and put the monitor, keyboard, and mouse on a desk leaving the UltraView Pro near the computers.

Selecting a monitor

Sharing a monitor between dissimilar systems requires a monitor which can sync to all of the computer's video. It is recommended to get a high quality multiple scan rate monitor capable of syncing to 1280 by 1024 at 75 Hz. for maximum compatibility. Certain computers, such as Sun computers, may also only generate composite sync. If using such a computer, your monitor should be capable of using composite sync.

The UltraView Pro's on-screen display automatically recognizes when horizontal and vertical sync (PC), composite sync (Sun), sync on green (workstations), or no video is present. It will automatically sync to or generate sync for perfect synchronization among the UltraView Pro, your computer, and display.

Selecting a keyboard and mouse

If the unit you have is the PC model, then you must use a PC keyboard and a PS/2 mouse or a serial mouse. The unit will convert from the PS/2 mouse to a computer configured to use a serial mouse, but it will not convert from a serial mouse to a PS/2 mouse. It is usually recommended to use a PS/2 mouse for best results including smoothness of mouse movement. Really the only case where you should use a serial mouse is when all your computers are serial.

If the unit you have is a multi-platform model, then you should not use a keyboard and mouse which has less capabilities than all the computers require.

If you use Apple computers only, then it is fine to use an Apple keyboard and mouse. It is not recommended to use the Apple keyboard for PC and Sun computer access because the Apple mouse has only one button.

If you use PC computers and Sun computers, then it is usually recommended to use a Sun keyboard. The PC keyboard is missing the 10 keys on the left hand side of the Sun keyboard. If you need to use these keys for Sun computer access, then use a Sun keyboard. The most commonly used of these 10 keys is the stop or L1 key. This key can be generated from a PC keyboard with the control-pause command, so if you need this key only, then it's fine to use a PC keyboard and PS/2 mouse. Also the Sun mouse when used with PCs does not have as good a response as a PS/2 mouse.

ULTRAVIEW PRO HARDWARE

The front panel

The UltraView Pro front panel has a power LED, up to 32 LEDs, two push-button switches, and an on/off switch with the 2 and 4 port M-chassis. To familiarize yourself with UltraView Pro’s controls and indicators, review the illustration and descriptions given below. The units shown below are the M chassis which can have 2 or 4 ports, the B chassis which can have 4 ports or 8 ports, and the C chassis which can have 4, 8, 12, or 16 ports.



Figure 1. The UltraView Pro front panels

Table 1. The front panel		
POWER	Power LED (GREEN): When lit indicates that unit is powered on.	
ON/OFF	ON/OFF Switch: For the M chassis only, this is the power switch for the unit. Press it once to turn the power on. Press it again to turn the power off. On the B and C chassis, the power switch is on the rear panel.	
LEDs	Indicator LEDs: Numbered pairs of LEDs indicate status of computers connected to corresponding numbered connectors on rear panel.	
	Select (red)	When lit shows which computer or expansion unit you have selected for access.
	Power (green)	When lit indicates which computer is powered on or that expansion unit is attached and powered on.
+ and – switches	Computer selection switches: Changes currently selected computer from the front panel. The + switch is used to select a numerically higher computer. The – switch is used to select a numerically lower computer. They wrap around as determined by the maximum port setting, i.e. pushing plus when connected to max port takes you to port 1 and pushing minus when connected to port 1 takes you to max port. Also used for reloading flash memory, resetting to factory default, and diagnostics.	

The rear panel

All cables are connected at the UltraView Pro's rear panel as shown below. The units shown below are the M chassis which can have 2 or 4 ports, the B chassis which can have 4 ports or 8 ports, and the C chassis which can have 4, 8, 12, or 16 ports. The M chassis uses a universal external auto-switching power supply. The B and the C chassis have internal auto-switching power supplies. These supplies work with all international voltages.

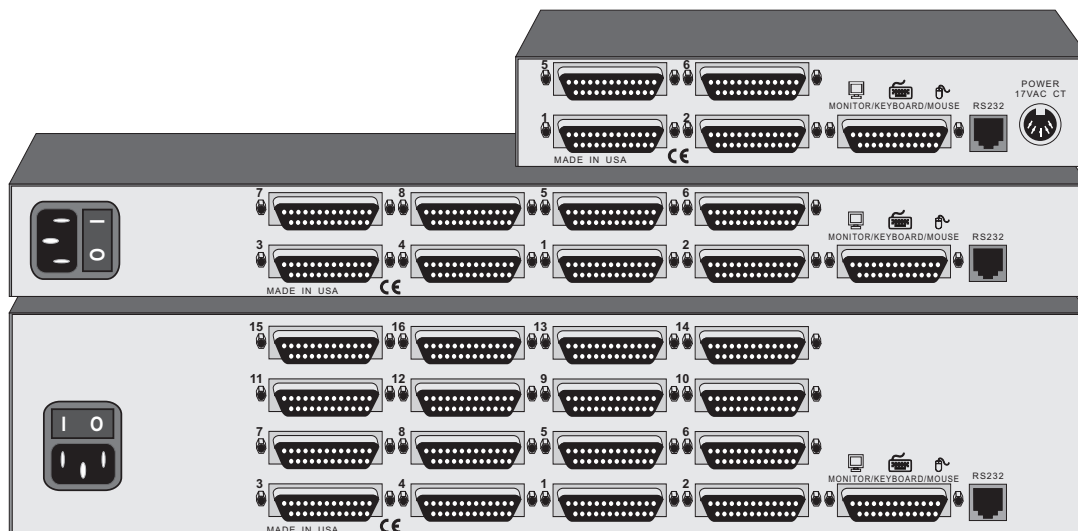


Figure 2. The UltraView Pro rear panels

Table 2. The rear panel

Panel Label	Connector	Description
NONE	IEC320	This is for the B and C chassis only. This is the power receptacle and switch. Connect a standard line cord for your country to this receptacle. A US line cord is included in all US models.
1-16	DB25 Female	Computers are connected at these connectors using CPU 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 a cable for each computer you plan to connect.*
MONITOR/ KEYBOARD/ MOUSE	DB25 Female	The video monitor, keyboard, and mouse are connected at this connector using a KVM 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 KVM cable is needed.*
RS232	RJ-11 Jack	RS232 serial port for connecting a computer or terminal from which switching commands can be sent to switch computers. UltraView Pro firmware upgrades and diagnostics are also accessed through this port.
POWER	DIN 5 female	This is for the M chassis only. A power transformer included in your package connects here. Connect a standard line cord for your country to the power transformer. A US line cord is included in all US models.
* See Appendix E for further cable information.		

CABLE CONNECTION DIAGRAM

The following diagram offers a basic example of how to connect your computers, keyboard, monitor, and mouse to the UltraView Pro unit. If using other than PCs and PS/2 mice, then you must configure the keyboard and mouse type from the configuration menu. There are several types of cables available. The most common are shown below.

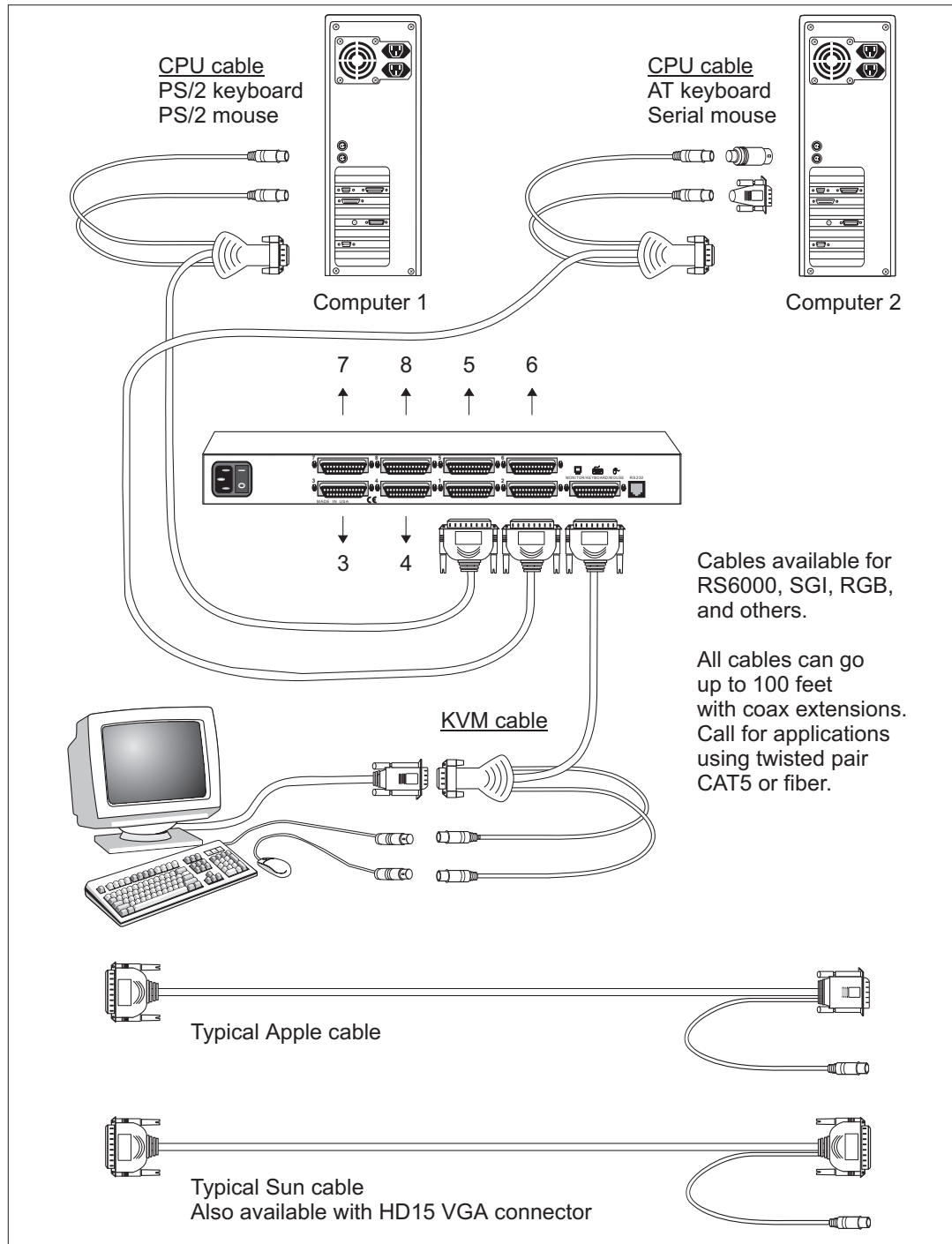


Figure 3. Typical installation diagram

QUICK INSTALL

This section explains how to connect and initially configure the UltraView Pro, also please see the *Cable connection Diagram* on page 6. If you are connecting two UltraView Pro units together, please refer to the *UltraView Pro expansion* section on page 10 prior to beginning installation.

Step 1. Connect the keyboard, monitor, and mouse


The KVM cable connects your **K**eyboard, **V**ideo monitor, and **M**ouse devices to the UltraView Pro. Various styles of connectors are used by these devices, so you should have the correct KVM cable to match your device's connectors.










- 1.1 Plug the KVM cable's monitor, keyboard, and mouse connectors into your device's corresponding connectors.
- 1.2 Plug the DB-25 male connector of the KVM cable into the connector labeled "Monitor/Keyboard/Mouse" on the UltraView Pro rear panel.

Step 2. Connect power to the unit

- 2.1 Plug the line cord and power transformer (if present) into the power plug located on the back of the UltraView Pro unit. Plug the line cord into a power strip or wall outlet.
- 2.2 Turn the UltraView Pro on from its power switch. The green POWER LED should turn on and power on diagnostic messages (see page 43) should be seen on the monitor. You may not see them if your monitor is slow to acquire sync. After a few seconds the red SELECT 1 LED should turn on and you should see a label in the lower left corner showing "Computer 1". It will disappear in 5 seconds.

Step 3. Learn some UltraView Pro keyboard commands

All UltraView Pro keyboard commands begin by pressing and releasing the left CTRL key  then followed by some other keys. It is important to note that you must release the CTRL key before pressing another key. Also the command keys are time guarded, and won't work if you wait more than two seconds between keys. Don't use the numeric keypad for entry of numbers. Please refer to the keyboard command tips on page 40. Some of the most useful commands are:



- | | | | |
|---|---|---|--|
|  |  | Access the configuration menu, see page 12 | |
|  |  | Access the computer select window, see page 28 | |
|  |  | Switch to port 1 (maximum ports = 9 or less), see page 29 | |
|  |  |  | Switch to port 1 (maximum ports = 10 or more), see page 29 |

Step 4. Configure your computers

The UltraView Pro supports pre-configuration of the switch before connecting your computers. As long as this is done you can connect your computers to the switch while they are powered on. This is convenient because you won't have to disrupt service on the computers especially if they are important file servers.

The default computer keyboard and mouse type is PC2 and PS/2. This applies to the majority of PCs. If you have PCs with unknown keyboard modes and you don't want to individually have to configure them, just connect them to the switch, boot the computers, and let the UltraView Pro learn the mode for each one.

If you use a wheel mouse, serial mouse, or Unix workstations such as RS/6000, SGI, HP, DEC, or Sun or Apple computers then you need to configure the computer's keyboard and mouse.

- 4.1 To access the configuration menu, press and release the **left control** key  and press and release the **F12** key . The UltraView Pro configuration main menu should appear as shown on page 12.
- 4.2 To configure the computer's keyboard and mouse type, use the down arrow to highlight **Configure computers**. Hit the enter key. Use the arrow keys to point to the keyboard and mouse fields. Hit enter to bring up a window that shows possible types. Use the arrows to highlight which keyboard or mouse type and hit the enter key to choose the selection. Configure as many computers as desired.
- 4.3 Hit escape to go back to the main configuration page. Hit escape to exit the configuration menu. Use the down arrow to select yes to save the changes in flash memory. This exits you from the configuration menu.

Step 5. Connect your computers

CPU cables connect your computers to the UltraView Pro. Each computer requires its own CPU cable, with appropriate connectors for your particular computer.

- 5.1 Plug the CPU cable's monitor, keyboard, and mouse connectors into the computer's corresponding connectors.
- 5.2 Plug the DB-25 male connector of the CPU cable into the connector labeled 1 on the UltraView Pro rear panel.
- 5.3 If you decided to plug in the computer while it is on, verify that its corresponding power LED on the front of the UltraView Pro is on. Verify that the keyboard and mouse are functional.

If you decided to connect the computer while it is powered off, then boot it and observe that the corresponding power LED on the front panel lights. Verify the keyboard and mouse work normally once it completes its booting process.

5.4 Repeat for all the other computers.

Step 6. Configure other desired functions

The most common functions to also configure are:

COMPUTER NAMES - see page 19

The names are generated by the on-screen display when switching to a port and from the computer select window. They provide a convenient reference for knowing to which computer you are switched.

OVERLAY - see page 22

This is mostly cosmetic for setting up colors and positions of the computer name label and the computer select window. Here though you also configure the screen saver, resolution, font, and fadeout time.

SECURITY - see page 26

If you wish to password protect your configuration settings and access to the computers, you should read this section.

Also review the following:

HOW TO SWITCH - see page 28 and 29

There are five ways to switch. You can switch from the computer select window, numeric keyboard commands, plus/minus keyboard commands, and the front panel. The fifth way is from the RS232 port, see page 36.

KEYBOARD COMMAND SUMMARY - see page 39

Lists all of the keyboard commands that you can enter, their syntax, and what they do.

KEYBOARD COMMAND TIPS - see page 40

Describes the proper way to enter keyboard commands and a few things to watch out for.

ULTRAVIEW PRO EXPANSION

UltraView Pro units and other switches (such as the ServeView, ServeView Pro, and UltraView) can be chained together to expand your system to connect up to 256 computers. When connected like this, the unit attached to the Monitor/Keyboard/Mouse connector via the KVM cable becomes the master unit. All other UltraView Pros or ServeViews are slave units that provide computer expansion only and perform no control functions.

Slave units can be added to your UltraView Pro 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.

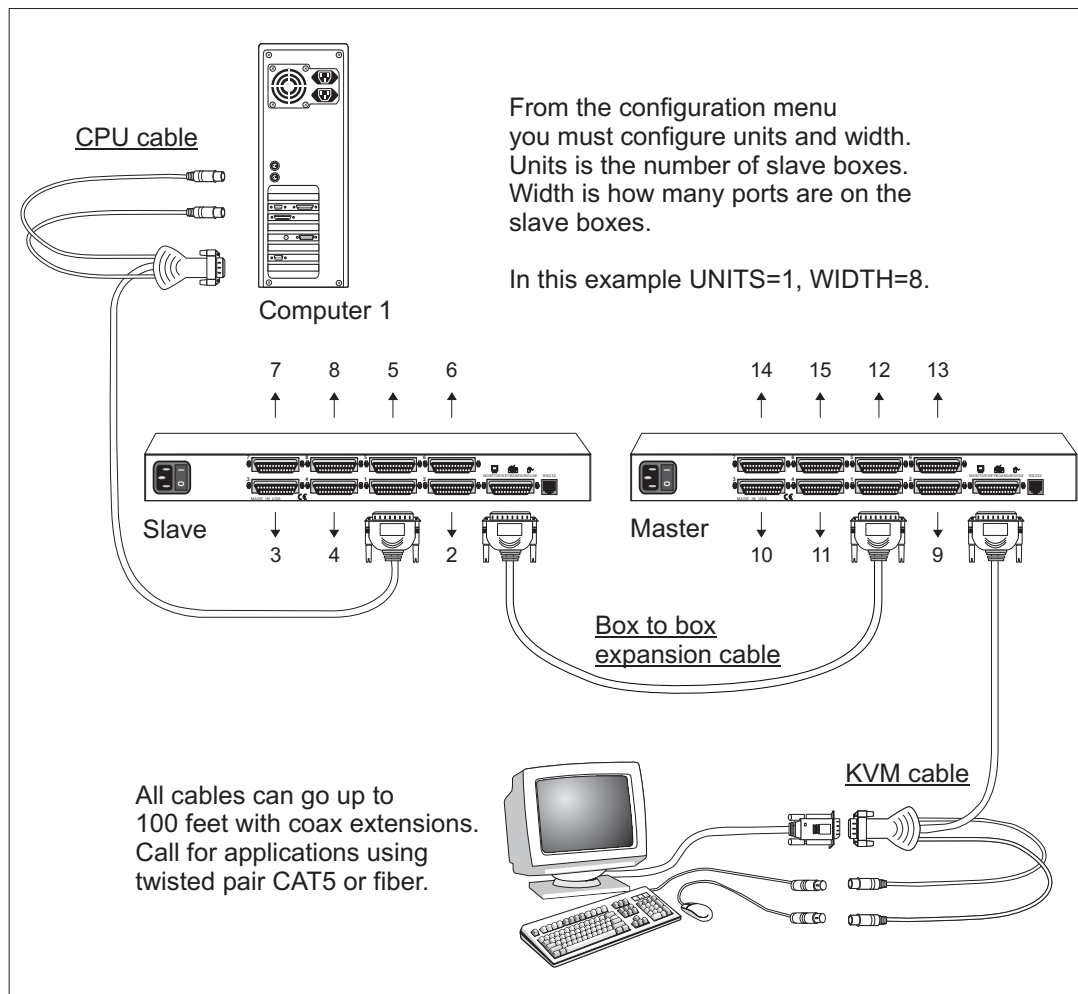


Figure 4. Expansion system layout

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 cable for each computer you will be connecting to the UltraView Pro computer ports. As always, one KVM cable is also required for connecting the master unit to your keyboard, monitor, and mouse.

Slave unit installation

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

1. Connect the monitor, keyboard, and mouse to the master unit's Monitor/Keyboard/Mouse connector as outlined on page .
2. Connect the KVM connector of each slave unit to one of the numbered computer connectors on UltraView Pro's rear panel using a switch-to-switch expansion cable.

When connecting slave units, connect the KVM connector of the first slave to the master's computer 1 connector. Connect the second slave's KVM connector to the master's computer 2 connector. This ensures the computer selection numbers you use in keyboard commands remain consecutive.

As shown in figure 4, for a system with a single 8-port slave and master, computer number 1 is connected to port 1 on the slave connected to the master's computer 1. Computer number 15 would be connected to port 8 on the master.

3. From the keyboard attached to the master unit, use the on-screen display to configure the maximum number of computers, see page 16. This allows scanning to cycle correctly and allows the master unit to control the slave units.

Also configure the units and width. This allows the master to determine where the computer is located. The units is the number of slave units connected. Width is the number of ports on each slave unit. In our example for a system with a single 8-port slave and master, units should be set to 1 and width to 8, see page 15 for more information.

CONFIGURATION VIA ON-SCREEN DISPLAY

The on-screen display is used to:

1. Configure the UltraView Pro 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 currently connected computer. The font, color, position, and when the text is displayed is all programmable.

The main configuration menu is accessed by pressing and releasing the **left control** key and then hitting the **F12** key. The menu in Figure 5 will appear.

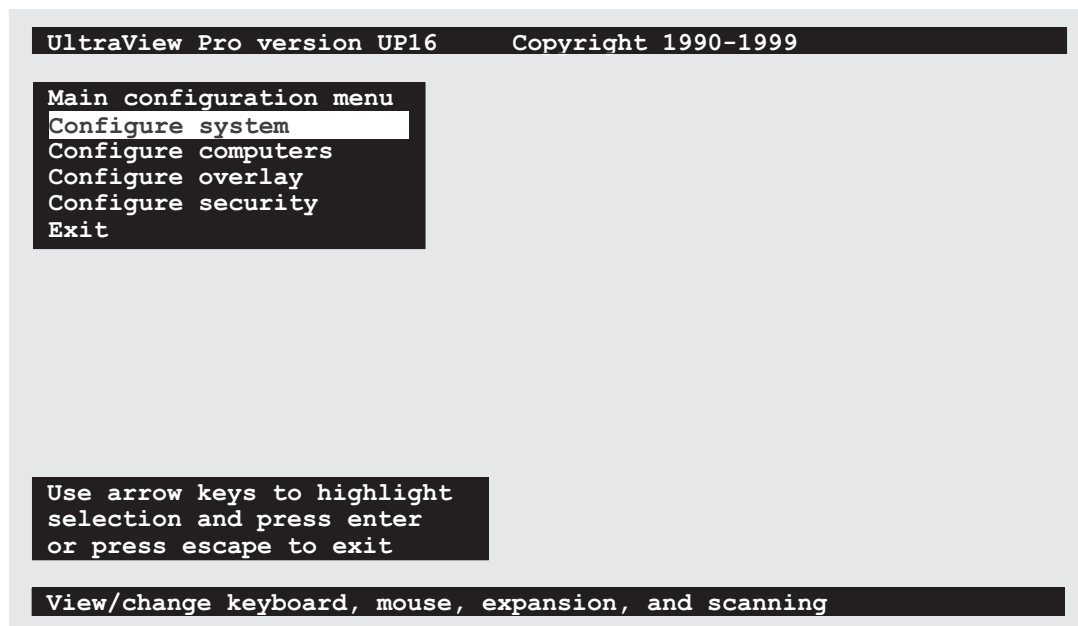


Figure 5 Main configuration menu

The on-screen display shows on top of your computer video, if you are switched to a computer with active video. If no video is present then the background is black. If the display is not synchronized, then you should switch to a computer with active video and configure the *resolution* setting from the *Configure overlay* page or with the Y keyboard command.

Navigating the configuration pages

Using the on-screen display is very easy and intuitive. Use the arrow keys to highlight a selection and hit enter to choose the selection. A help line on the bottom of the screen explains each selection.

From the main configuration page you go to other pages by highlighting a selection with the arrow keys and pressing enter. You can go to the *Configure system*, *Configure computers*, *Configure overlay*, and *Configure Security* pages. From these pages, choosing a selection, by hitting the enter key, will pop-up an input box to enter text, a numeric value, or a list of possible choices. Input the value or text or highlight the fields in the list with the arrow keys. Use the enter key to accept the new input or escape to abort the input. Also use the escape key to return to the previous page.

You can exit from the main configuration page by either hitting the escape key or by highlighting *Exit* and hitting enter.

Saving changes made with on-screen display

If you make any changes to any settings, when you exit the main configuration page, a message box asking if you want to save the changes will pop up. Use the arrow keys to choose yes or no and hit return. If you choose yes the changes are saved in flash memory and if you choose no the changes are not saved. Regardless of yes or no the settings selected are active. If you answered no and then remove power from the box, the settings are lost.

Configure system page

Use this page to configure the keyboard and mouse types, expansion settings, scan settings, and keyboard typematic settings. This page is accessed from the main configuration page by hitting enter when configure system is highlighted. The page is shown below in Figure 6. Each item on the page is individually described further.

The screenshot shows a terminal-style interface for the 'Configure system' page. It contains several sections of settings, each with a title and a list of options. The 'Keyboard and mouse type' section shows 'Keyboard' set to 'PC 104/105' and 'Mouse' set to 'PS/2'. The 'Expansion' section shows 'Maximum computers' at 8, 'Expansion units' at 0, and 'Expansion width' at 16. The 'Scan settings' section shows 'Scan time (seconds)' at 5, 'Scan mode' at 'Off', and 'Power on scan' at 'Off'. The 'Keyboard typematic' section shows 'Rate (keys/sec)' at 20 and 'Delay' at 'Fast'. At the bottom, a message states 'Changes key mapping from PC keyboard to Sun or Apple computer'.

```
Configure system

Keyboard and mouse type
Keyboard  PC 104/105
Mouse     PS/2

Expansion
Maximum computers  8
Expansion units    0
Expansion width    16

Scan settings
Scan time (seconds)  5
Scan mode           Off
Power on scan       Off

Keyboard typematic
Rate (keys/sec)     20
Delay              Fast

Changes key mapping from PC keyboard to Sun or Apple computer
```

Figure 6 Configure system page

Configure system: *Keyboard*

This item only applies to multi-platform units. For such units, the type of keyboard is auto-detected at power-up of the UltraView Pro. If the keyboard is not attached at power-up, it will default to PC. If either a Sun or Apple keyboard is attached after power-up, it will not be recognized and you must power the UltraView Pro off and back on for it to be recognized.

When using a Sun keyboard, the language type of the keyboard is acquired from the keyboard automatically and is displayed here. The language type can be either: US, US/UNIX, French, Danish, German, Italian, Netherlands/Dutch, Norwegian, Portuguese, Spanish, Swedish/Finnish, Swiss-French, Swiss-German, United Kingdom, Korean, Taiwan, Japan, French-Canadian, or unknown. The value recognized is reported to a Sun computer when it requests this information when booting.

If this is a multi-platform unit and you use a PC keyboard then you can change the style of PC keyboard mapping to Sun and Apple computers. This allows you to use either a 101/102 key keyboard or a 104/105 key keyboard. See the keyboard mapping section on page 36 for exact details.

Configure system: *Mouse*

This item is only used when configuring a PC mouse. On PC-only models you have a choice between PS/2 or PS/2 wheel and serial. On multi-platform models you have a choice between PS/2 or PS/2 wheel, serial 2-button, and serial 3-button. To change the mouse type, hit enter while mouse is highlighted. An input selection box pops up as shown in Figure 7.

The screenshot shows a terminal-style interface for configuring system settings. The title is 'Configure system'. There are several sections of settings, each with a title and a list of options. The 'Keyboard and mouse type' section is currently selected, showing 'Keyboard' as 'PC' and 'Mouse' as 'PS/2'. A sub-menu for the mouse is open, showing 'PS/2 or PS/2 wheel', 'Serial 2-button', and 'Serial 3-button'. Other sections include 'Expansion' (Maximum computers: 8, Expansion units: 0, Expansion width: 16), 'Scan settings' (Scan time: 5 seconds, Scan mode: Off, Power on scan: Off), and 'Keyboard typematic' (Rate: 20 keys/sec, Delay: Fast). At the bottom, a note states: 'Type of mouse used, if PS/2 mouse then wheel is auto-detected'.

Configure system	
Keyboard and mouse type	
Keyboard	PC
Mouse	PS/2
Expansion	
Maximum computers	8
Expansion units	0
Expansion width	16
Scan settings	
Scan time (seconds)	5
Scan mode	Off
Power on scan	Off
Keyboard typematic	
Rate (keys/sec)	20
Delay	Fast
Type of mouse used, if PS/2 mouse then wheel is auto-detected	

Figure 7 Configure system page - Configuring the mouse

Use the up and down arrow keys to select the desired mouse and hit enter. Once enter is hit, the input box disappears and the new value appears in the mouse field.

A **PS/2 mouse or PS/2 wheel mouse** refers to those mice that have a 6 pin mini-din connector with either two or three buttons. It uses an interface integrated on to the computer's mother board and is completely different from a serial interface.

A **serial 2-button mouse** refers to those mice which have serial RS232 interfaces, usually with a DB9 connector, and are Microsoft 3 byte, 7-bit, 1200 baud, no parity compliant. Most PC serial mice with 2 buttons are compliant with this specification.

A **serial 3-button mouse** refers to those mice which have serial RS232 interfaces, usually with a DB9 connector, and are Mouse Systems 5-byte, 8-bit, 1200 baud, no parity compliant. Most PC serial mice with 3 buttons are compliant with this specification.

Certain commonly available but older serial mice have the usual three buttons and a switch on the bottom. This switch is usually labeled MS/PC. In the MS position the mouse is compatible with the UltraView Pro 2-button setting, and in the PC position it is compatible with the 3-button setting.

Configure system: *Maximum computers*

This setting configures the total number of computers connected. This also provides a wrap around value for scanning and plus and minus commands. Any switching command is also checked against this value for a valid port number. It also determines the number of digits you have to enter from a numerical keyboard switching command. To change the maximum computers, press enter while maximum computer is highlighted. An *input new value* box appears, see Figure 8. Use the numeric keys to input a new value from 2 to 256 and hit enter. The input box disappears and the new value is then shown in the maximum computers field.

Configure system: *Expansion units*

The expansion units commands is used to configure how many *slave* expansion units are connected to the main *master* UltraView Pro. This determines which computer 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 change the expansion units, press enter while expansion units is highlighted. An *input new value* box appears. Use the numeric keys to input a new value from 0 to 16 and hit enter. The input box disappears and the new value is then shown in the expansion units field.

Configure system

Keyboard and mouse type
Keyboard PC
Mouse PS/2

Expansion
Maximum computers 8
Expansion units 0
Expansion width 16

Scan settings
Scan time (seconds) 5
Scan mode Off
Power on scan Off

Keyboard typematic
Rate (keys/sec) 20
Delay Fast

Input new value

Total number of computers connected to switch (2-256)

Figure 8 Changing the maximum number of computers

Configure system: *Expansion width*

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

To change the expansion width, press enter while expansion width is highlighted. An *input new value* box appears. Use the numeric keys to input a new value from 1 to 16 and hit enter. The input box disappears and the new value is then shown in the expansion width field.

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.

Configure system: *Scan time*

This item sets the time, in seconds, that UltraView Pro will pause at each of the computers when scanning. The default setting is 5 seconds. To change the time, press enter while scan time is highlighted. An *input new value* box appears. Use the numeric keys to input a new value from 1 to 999 seconds

and hit enter. The input box disappears and the new value is then shown in the scan time field.

Configure system: *Scan mode*

This item turns scanning on or off. To change the scan mode, press enter while scan mode is highlighted. An *off/on input* box appears. Use the arrow keys to select on or off and hit enter. The input box disappears and the setting of off or on is shown in the scan mode field. You can also use the control S and control X commands to turn the scan mode on or off, see page 30 for more information.

Configure system: *Power on scan*

This item turns scanning on or off upon power-up of the UltraView Pro. To change the power on scan, press enter while power on scan is highlighted. An *off/on input* box appears. Use the arrow keys to select on or off and hit enter. The input box disappears and the setting of off or on is shown in the power on scan field.

Configure system: *Typematic rate*

This setting is available with PC keyboards only and is used to adjust the user preference of the way the keyboard acts when holding a key down to repeat a key. The rate is the speed at which the keys are sent in keys/second.

To change the typematic rate, press enter while typematic rate is highlighted. An *input new value* box appears. Use the numeric keys to input a new value from 0 to 31 keys/second and hit enter. The input box disappears and the new value is then shown in the typematic rate field. Please note that PC keyboards do not have a linear rate in keys/second. Refer to Table 3 to get the exact rate.

Table 3. Typematic rate							
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

Configure system: *Typematic delay*

This setting is available with PC keyboards only and is used to adjust the user preference of the way the keyboard acts when holding a key down to repeat a key. The delay determines how long after pressing a key will it start to repeat. There are four possible settings: slow (1 second), medium (750 msec.), fast (500 msec.), and fastest (250 msec.).

To change the typematic delay, press enter while typematic delay is highlighted. A *typematic rate input box* appears. Use the arrow keys to select slow, medium, fast, or fastest and hit enter. The input box disappears and the setting selected is now shown in the typematic delay field.

Configure computers page

Use this page to configure the names, keyboard type, and mouse type for each computer. This page is accessed from the main configuration page by hitting enter when configure computers is highlighted. The page is shown below in Figure 9. The arrow in the column after the computer number points to the currently selected computer. Each item on the page is individually described.

Configure computers			
Number	Computer name	Keyboard	Mouse
1	Computer 1	PC2	PS/2
2	Computer 2	PC2	PS/2
3	Computer 3	PC2	PS/2
4	Computer 4	PC2	PS/2
5	Computer 5	PC2	PS/2
6	Computer 6	PC2	PS/2
7	Computer 7	PC2	PS/2
8	Computer 8	PC2	PS/2
9	Computer 9	PC2	PS/2
10	Computer 10	PC2	PS/2
11	Computer 11	PC2	PS/2
12	Computer 12	PC2	PS/2
13	Computer 13	PC2	PS/2
14	Computer 14	PC2	PS/2
15	Computer 15	PC2	PS/2
16	Computer 16	PC2	PS/2

Name of computer up to 16 characters

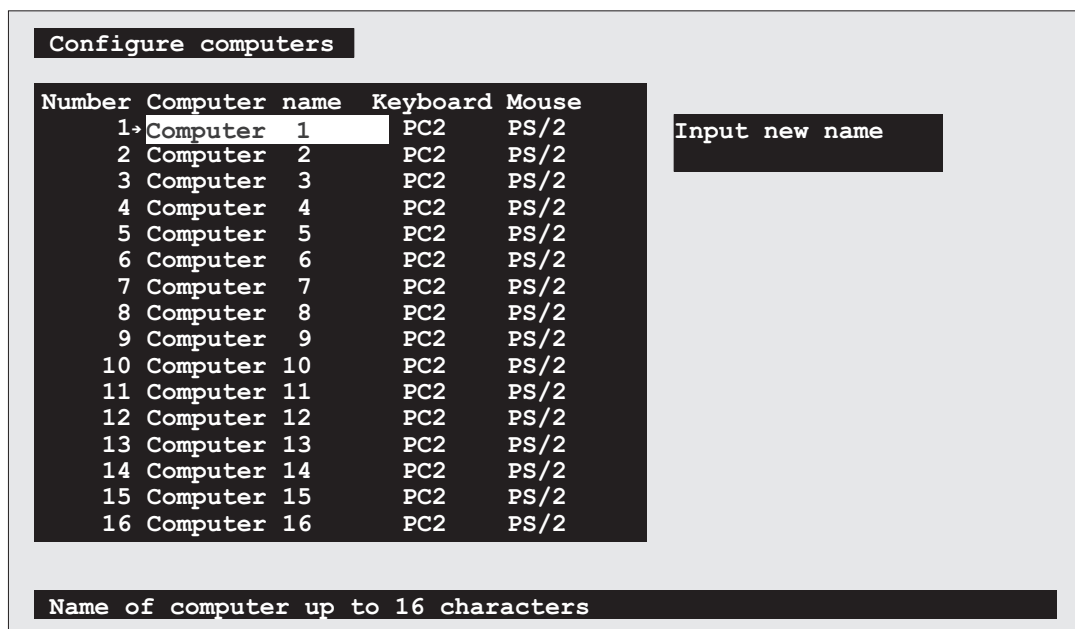
Figure 9 Configure computers page

Navigating the configure computers page

Use the left and right arrow keys to move the highlight for changing the computer name, keyboard, or mouse. Use the up and down arrow keys to move the highlight for which computer is to be changed. Use the page up and down arrows to access computers 17-256.

Configure computers: *Computer name*

Each computer can be given a 16 character name. These names are used on the computer select window and as a label showing the currently selected computer. To change the computer name press enter while a computer name is highlighted. An *input new name* box appears, see Figure 10.



The screenshot shows a terminal window titled "Configure computers". It contains a table with 4 columns: "Number", "Computer name", "Keyboard", and "Mouse". The first column lists numbers 1 through 16. The second column lists "Computer" followed by the number. The third column lists "PC2" and the fourth column lists "PS/2". The first row (1 Computer 1) is highlighted. To the right of the table is a box labeled "Input new name". At the bottom of the screen is a text prompt: "Name of computer up to 16 characters".

Number	Computer name	Keyboard	Mouse
1	Computer 1	PC2	PS/2
2	Computer 2	PC2	PS/2
3	Computer 3	PC2	PS/2
4	Computer 4	PC2	PS/2
5	Computer 5	PC2	PS/2
6	Computer 6	PC2	PS/2
7	Computer 7	PC2	PS/2
8	Computer 8	PC2	PS/2
9	Computer 9	PC2	PS/2
10	Computer 10	PC2	PS/2
11	Computer 11	PC2	PS/2
12	Computer 12	PC2	PS/2
13	Computer 13	PC2	PS/2
14	Computer 14	PC2	PS/2
15	Computer 15	PC2	PS/2
16	Computer 16	PC2	PS/2

Input new name

Name of computer up to 16 characters

Figure 10 Changing a computer's name

Use the keyboard to input a new name. All ASCII characters are valid in the name field. Use the shift key as usual, to input upper and lower case. The backspace key can be used to edit the field. When you have finished with inputting the name, hit enter. The input box disappears and the new name is then shown in the appropriate computer name field.

Configure computers: *Computer keyboard*

Here you can assign which type of keyboard interface is used. To change the computer keyboard type, press enter while a keyboard field is highlighted. A computer keyboard input box appears, see Figure 11.

The screenshot shows a terminal window titled "Configure computers". It contains a table with 4 columns: "Number", "Computer name", "Keyboard", and "Mouse". The first column lists numbers 1 through 16. The second column lists "Computer" followed by the number. The third column lists "PC2" for all entries. The fourth column lists "PS/2" for all entries. To the right of the table is a vertical menu with options: "PC1", "PC2", "PC3", "Apple", and "Sun". The "PC2" option is highlighted. Below the table is a label "Type of computer keyboard used" followed by a text input field.

Number	Computer name	Keyboard	Mouse
1	Computer 1	PC2	PS/2
2	Computer 2	PC2	PS/2
3	Computer 3	PC2	PS/2
4	Computer 4	PC2	PS/2
5	Computer 5	PC2	PS/2
6	Computer 6	PC2	PS/2
7	Computer 7	PC2	PS/2
8	Computer 8	PC2	PS/2
9	Computer 9	PC2	PS/2
10	Computer 10	PC2	PS/2
11	Computer 11	PC2	PS/2
12	Computer 12	PC2	PS/2
13	Computer 13	PC2	PS/2
14	Computer 14	PC2	PS/2
15	Computer 15	PC2	PS/2
16	Computer 16	PC2	PS/2

Type of computer keyboard used

Figure 11 Changing a computer's keyboard type

Use the arrow keys to select the desired keyboard type and hit enter. The input box disappears and the new keyboard type is then shown in the appropriate keyboard field.

For PCs there are three possible keyboard modes: mode 1 (PC1), mode 2 (PC2), or mode 3 (PC3). Most PCs are mode 2 and you need not change the default setting. If the computer is a Unix workstation or server, such as an IBM RS/6000, SGI, HP, DEC, or other, then the computer should be configured as PC mode 3.

Certain IBM brand PCs are either mode 1 or mode 2. There is no way to know for sure except by booting that computer. You can however configure for PC1 or PC2 and test if keyboard communication is correct. If in doubt reboot the computer. Upon completion of booting a computer, the correct mode should be shown in the keyboard field. Make sure to save it with the on-screen display or the keep command.

Configure computers: *Computer mouse*

This field can not be changed if the keyboard field has been changed to Sun or Apple, because Sun and Apple have the mouse and keyboard integrated together. For PCs you can assign which type of mouse is used. To change the computer mouse type, press enter while a mouse field is highlighted. A computer mouse input box appears, see Figure 12.

The screenshot shows a window titled "Configure computers". Inside, there is a table with four columns: "Number", "Computer name", "Keyboard", and "Mouse". The table lists 16 computers, all with "PC2" as the keyboard type and "PS/2" as the mouse type. The "PS/2" in the first row is highlighted. To the right of the table, a dropdown menu is open, showing the following options: "PS/2", "PS/2 wheel", "Serial 2-button", and "Serial 3-button". Below the table, there is a label "Type of computer mouse used" followed by a text input field.

Number	Computer name	Keyboard	Mouse
1	Computer 1	PC2	PS/2
2	Computer 2	PC2	PS/2
3	Computer 3	PC2	PS/2
4	Computer 4	PC2	PS/2
5	Computer 5	PC2	PS/2
6	Computer 6	PC2	PS/2
7	Computer 7	PC2	PS/2
8	Computer 8	PC2	PS/2
9	Computer 9	PC2	PS/2
10	Computer 10	PC2	PS/2
11	Computer 11	PC2	PS/2
12	Computer 12	PC2	PS/2
13	Computer 13	PC2	PS/2
14	Computer 14	PC2	PS/2
15	Computer 15	PC2	PS/2
16	Computer 16	PC2	PS/2

Type of computer mouse used

Figure 12 Changing a computer's keyboard type

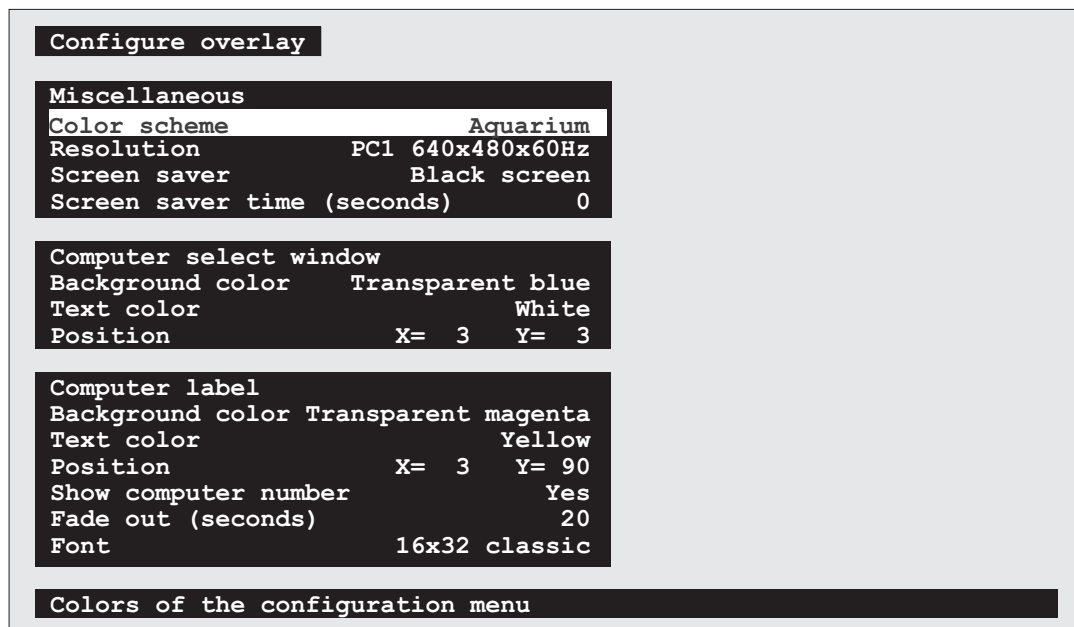
You have a choice between PS/2, PS/2 wheel, serial 2-button, or serial 3-button. If you are using a serial mouse changing this field has no effect, other wise the UltraView Pro will convert the PS2 or PS2/ wheel mouse input to the chosen computer output format.

Use the arrow keys to select the desired mouse type and hit enter. The input box disappears and the new mouse type is then shown in the appropriate mouse field.

In order for the mouse to work properly the computer's mouse driver should have been previously been configured. To learn more about the difference between various mice see the discussion starting on page 14.

Configure overlay page

Use this page to configure the color of the configuration menus, the resolution of video when no computer video is present, the screen saver, the screen saver time, the computer select window appearance, and the computer label appearance. This page is accessed from the main configuration page by hitting enter when configure overlay is highlighted. The page is shown below in Figure 13. Each item on the page is individually described.



```
Configure overlay

Miscellaneous
Color scheme           Aquarium
Resolution             PC1 640x480x60Hz
Screen saver           Black screen
Screen saver time (seconds) 0

Computer select window
Background color       Transparent blue
Text color             White
Position              X= 3   Y= 3

Computer label
Background color       Transparent magenta
Text color             Yellow
Position              X= 3   Y= 90
Show computer number   Yes
Fade out (seconds)     20
Font                  16x32 classic

Colors of the configuration menu
```

Figure 13 Configure overlay page

Miscellaneous: *color scheme*

This item sets the colors of the configuration menus. There are 4 choices:

Aquarium	cyan, magenta, white, and blue
Tuxedo	black, red, and white
Night sky	blue, black, and white
Forest	green, black, cyan, and blue.

To change the color scheme, press enter while color scheme is highlighted. A *color scheme input box* appears. Use the arrow keys to select the desired color scheme and hit enter. The input box disappears and the setting selected is now shown in the color scheme field.

Miscellaneous: *resolution*

This item controls what resolution of video is sent to the monitor when no computer video is present. This gives maximum flexibility as to what type of monitor is used.

There are several possible choices:

PC1	640 x 480 @ 60Hz
PC2	640 x 480 @ 72Hz
PC3	640 x 480 @ 75Hz
MAC1	640 x 480 @ 67Hz
MAC2	832 x 624 @ 75Hz
SUN1	1152 x 900 @ 66Hz
SUN2	1152 x 900 @ 76Hz

All of these choices will only be available if you have the multi-platform model. For the PC model only the PC choices will be allowed.

To change the resolution, press enter while resolution is highlighted. A *resolution input box* appears. Use the arrow keys to select the desired resolution and hit enter. The input box disappears and the setting selected is now shown in the resolution field.

Miscellaneous: Screen saver

The UltraView Pro features a screen saver feature which reduces the wear on your screen and provides security for your system. When there has been no keyboard or mouse activity for a specified length of time (set by the screen saver time command below), the screen saver turns on. You can blank the screen or choose one of three possible display patterns (fireflies, weaving, or bounce).

Normal video is reactivated when any key is pressed or the mouse is moved. If you are not in an on-screen display menu, then the computer name is also displayed as if you had just switched to a new computer. While in the screen saver mode all select LEDs will be turned off.

To change the screen saver, press enter while screen saver is highlighted. A *screen saver input box* appears. Use the arrow keys to select the desired screen saver and hit enter. The input box disappears and the setting selected is now shown in the screen saver field.

Miscellaneous: Screen saver time

This item sets the time in seconds when the screen saver is turned on with no keyboard or mouse activity.

To change the screen saver interval time, press enter while screen saver time is highlighted. An *input new value* box appears. Use the numeric keys to input a new value from 0 to 999 seconds and hit enter. The input box disappears and the new value is then shown in the screen saver time field.

Computer select window: *Background color/Text color*

This item sets the background and text colors of the computer select window. The solid colors available are: black, red, green, yellow, blue, magenta, cyan, and white. The transparent colors available are clear, red, green, yellow, blue, magenta, cyan, and white. With the transparent colors, you can see through the color to the computer video behind it. When using clear the computer video comes through without any color.

To change the color, press enter while computer select window background color or text color is highlighted. A *color selection input* box appears. Use the arrow keys to point to the desired color. The name of the color is also shown with its color changing as you point to each different color, so an example of the color can be seen. Hit enter to select the color pointed to. The input box disappears and the new color is then shown in the appropriate color field.

Computer select window: *Position*

This item set the position of the computer select window when it is popped up. The window can be positioned anywhere on-screen and will maintain the position even as different resolutions of video are input.

To change the position, press enter while computer select window position is highlighted. The overlay page disappears and the computer select window is shown. Use the arrow keys to position the window and hit enter when the desired position is reached. The overlay page returns with the horizontal (X) and vertical (Y) position numbers updated in the position field.

The range of horizontal movement (X) is from 0 and 64. The range of vertical movement (Y) is from 0 to 99. The position will wrap around the edge of the screen as it is positioned at minimum and maximum points.

The computer select window will automatically scale to the resolution of the incoming video and maintain a constant position on screen.

Computer label: *Background color/text color*

This item sets the background and text colors of the computer label. The solid colors available are: black, red, green, yellow, blue, magenta, cyan, and white. The transparent colors available are clear, red, green, yellow, blue, magenta, cyan, and white. With the transparent colors, you can see through the color to the computer video behind it. When using clear the computer video comes through without any color.

To change the color, press enter while computer label background color or text color is highlighted. A *color selection input* box appears. Use the arrow keys to point to the desired color. The name of the color is also shown with its color changing as you point to each different color, so an example of the

color can be seen. Hit enter to select the color pointed to. The input box disappears and the new color is then shown in the appropriate color field.

Computer label: *Position*

This item sets the position of the computer label window when it is displayed. The label can be positioned anywhere on-screen and will maintain the position even as different resolutions of video are input.

To change the position, press enter while computer label position is highlighted. The overlay page disappears and a label box is shown. Use the arrow keys to position the label box and hit enter when the desired position is reached. The overlay page returns with the horizontal (X) and vertical (Y) position numbers updated in the position field.

The range of horizontal movement (X) is from 0 and 64. The range of vertical movement (Y) is from 0 to 99. The position will wrap around the edge of the screen as it is positioned at minimum and maximum points.

The computer select window will automatically scale to the resolution of the incoming video and maintain a constant position on screen.

Computer label: *Show computer number*

This item sets whether the computer number is displayed along with the computer label. To change show computer number, press enter while show computer number is highlighted. A *yes/no input* box appears. Use the arrow keys to select yes or no and hit enter. The input box disappears and the setting of yes or no is shown in the show computer number field.

Computer label: *fadeout*

This item sets the time when the computer label disappears after switching to a computer. With a value of 0, the computer label will not be displayed when switching computers. With a value of 255, the computer label will always be displayed. Also see the display label command on page 30 to make the label display and disappear on command.

To change the computer label fadeout, press enter while computer label fadeout is highlighted. An *input new value* box appears. Use the numeric keys to input a new value from 0 to 255 seconds and hit enter. The input box disappears and the new value is then shown in the computer label fadeout field.

Computer label: *font*

This configures which font is used for the computer label. The choices are:

- 8 x 16 modern
- 8 x 16 classic
- 16 x 24 modern
- 16 x 24 classic
- 16 x 32 modern
- 16 x 32 classic

The 8 x 16 sizes are the same as the size in the configuration menus. The 16 x 24 sizes are 100% larger horizontally and 50% larger vertically than the 8 x 16 fonts. The 16 x 32 sizes are 100% larger horizontally and 100% larger vertically than the 8 x 16 fonts. The modern font is a sans-serif font, similar to Helvetica. The classic font has serifs, similar to Times. The actual size of the font on the screen depends upon the resolution of the video that is input. As the resolution increase the fonts become smaller, therefore larger fonts are more visible with higher resolutions.

To change the font, press enter while font is highlighted. A *font input box* appears. Use the arrow keys to select the desired font and hit enter. The input box disappears and the setting selected is now shown in the font field.

Configure security

The UltraView Pro allows you to password protect access to the configuration menu and the computers. You can also set a time interval after which you will be disconnected from the currently connected computer with further access requiring a password.

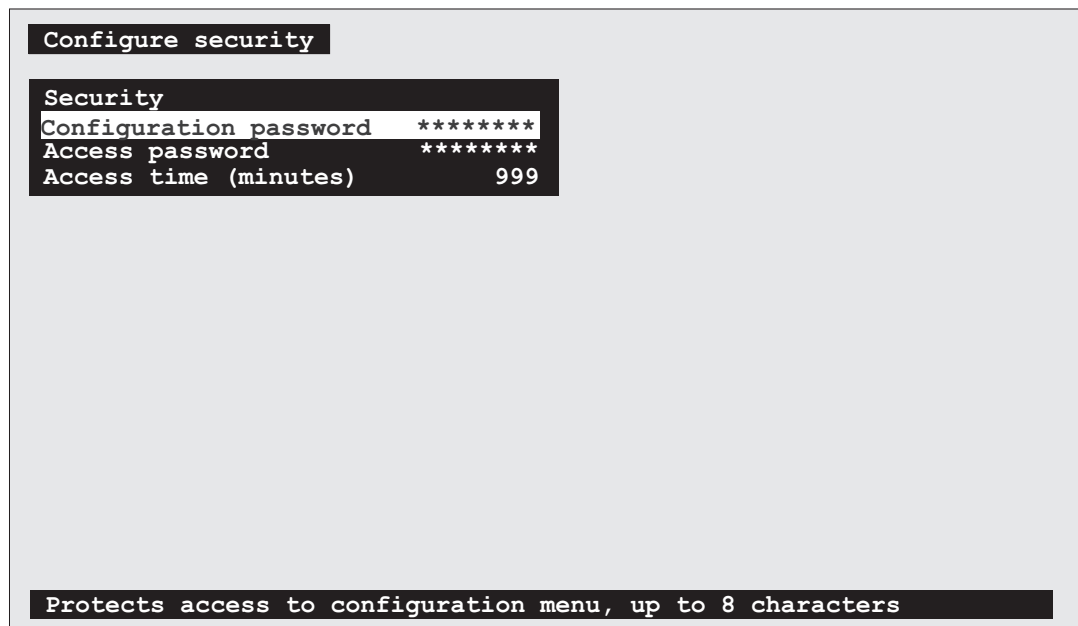


Figure 14 Configure security page

Configuration password

This feature is used to prevent unauthorized access to the configuration of the switch. To change the configuration password, highlight the configuration password field and hit enter. You will be prompted for a new password. Enter up to 8 characters followed by enter. Another input box appears and asks you to confirm the password. The next time you enter the configuration menu you will be prompted for the password.

Access password

This feature is used to prevent unauthorized access to the computers. To change the access password, highlight the configuration password field and hit enter. You will be prompted for a new password. Enter up to 8 characters followed by enter. Another input box appears and asks you to confirm the password. When the switch powers on or you have otherwise been disconnected, you will be asked for the access password from a login box.

Locking the keyboard

You can disconnect from the current computer by entering the control L command. This disconnects the current computer and displays a login box which requires a password to gain access to the previously connected computer.

Access time

This feature is used to automatically log out of the switch after a period of time. The period of time is programable with the access time field. To change the time, highlight the access time field and hit enter. You will be prompted for a value in minutes. Enter up to 999 minutes followed by enter. The access time starts when there is no keyboard or mouse activity. When the timer elapses you will be disconnected and be required to enter the access password from the login box to gain access to the computers.

Resetting the passwords

If you forget your password, you can reset it. You must power off the UltraView Pro, open the box, and put a jumper on the password reset pins on the bottom card. It is marked on the printed circuit board. No jumper has been provided to prevent inadvertent disabling of the password. You must provide the jumper. After powering on the unit again, it will then act as if no passwords are present. Go to the configuration menu and enter new passwords and save them. Power off the unit and remove the jumper. After powering on the unit again, the new passwords will be active.

OPERATION: COMPUTER SELECT WINDOW

You can pop-up a computer select window on top of your computer screen to select a specific computer from a list of computers. The computer select window is accessed by pressing and releasing the **left control** key and then hitting the **Escape** key. The window shown in Figure 15 will appear. The arrow in the column after the computer number points to the currently selected computer.

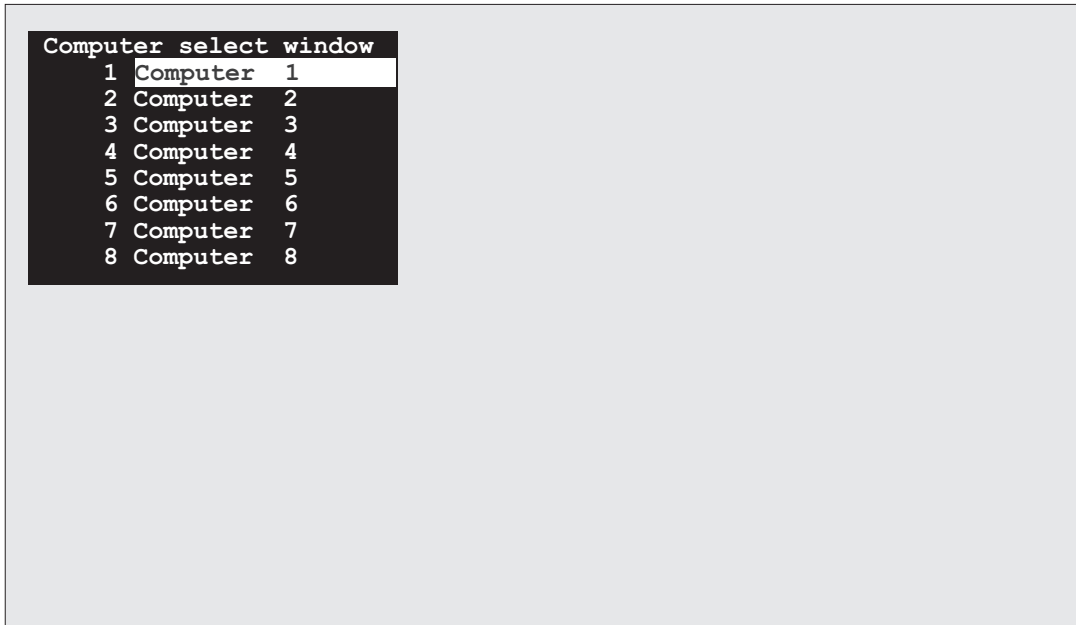


Figure 15 Computer select window

The text is overlaid on top of your current video. Use the up and down arrow keys to select the desired computer. If you have more than 16 computers configured, use the page up and page down keys to access the other computers at up to 16 computers/window. The window height will vary in size depending upon the maximum number of computers configured. For instance if maximum computers is configured to 6, then 6 computer names will show in the window.

Use the configure overlay page described on page 24 to set the position and color of the computer select window. When the desired computer is highlighted, hit enter to immediately switch to that computer or escape the window to abort switching and remove the computer select window from the screen.

When switching to the new computer, the name of the new computer will show in its previously configured position, color, and font.

OPERATION: KEYBOARD COMMANDS

Switching to a computer

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

The value of the maximum port setting controls how many digits you have to enter to select a computer numerically. The number of computers mentioned below refers to the maximum port setting.

1–9 computers: UltraView Pro will immediately switch to the desired computer when you enter the one-digit number.

10–99 computers: UltraView Pro will immediately switch to the desired computer when you enter the two-digit number. For single-digit computers, 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>**, UltraView Pro will wait two seconds for you to enter another digit, then, if no additional number is entered, will switch immediately to the single-digit computer.

100–256 computers: UltraView Pro will immediately switch to the desired computer when you enter the three-digit number. For single- and double-digit computers, 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>**. UltraView Pro will wait two seconds for a second or third number to be entered, then will switch to the computer number entered.

Going to the next or previous computer

From the keyboard you can toggle forward or backward through the computers by selecting either the Next or Previous computer. To go to the Next computer, press and release the **left** Control Key (**<Ctrl>**), then press the **+** (plus). To go to the Previous computer, press and release **<Ctrl>**, then press the **–** (minus) key.

The numbers wrap around as determined by the maximum port setting, i.e. going to next when connected to max port takes you to port 1 and going to previous when connected to port 1 takes you to max port.

There are two sets of plus and minus keys on most keyboards. The legends on the ones in the numeric keypad are consistent from country to country. The legends on the ones to the left of the backspace key vary by country, but you still use these key positions. For non-US keyboards it is best to use the plus and minus keys on the numeric keypad. Please refer to the keyboard command tips on page 40.

Scan mode commands

These commands are shortcuts to the settings available through the on-screen display. To enable scanning from the keyboard, press and release the **left** Control Key (<Ctrl>), then type "S". UltraView Pro will begin scanning sequentially from its current computer through the remaining computers, then begin again at computer 1. The time between switching to The next computer is the scan time interval (see below) and is programmable from 1-999 seconds. To stop scanning, press and release <Ctrl>, then type "X". Scanning is also disabled by changing to a new computer.

Display label command

This command controls the computer label display. If the label is currently on, it turns it off. If the label is off, it turns it on for the fadeout time setting. To issue the command, press and release the **left** Control Key, then type "D". If the fadeout time is set to 0, then the label will show for 3 seconds.

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 and later 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".

Reset computer mouse command

This command sends a mouse reset command to the currently selected computer. Don't confuse this command with the reset command which resets the mouse itself. This command can be used to recover a stuck mouse on NT. To issue the command, press and release the **left** Control Key, then type "O". Please note this is an alphabetic O and not a zero.

Do not use this command on older computers which can not recover the mouse automatically when plugging the PS/2 mouse directly as it will make the mouse go out of sync.

Reset command

This command is used to reset the mouse and keyboard without removing power from the UltraView Pro. This command is useful to enable mouse data to be sent to a computer which has not enabled the mouse. To issue the command, press and release the **left** Control Key, then type "R". This command should not be issued to a computer which has a PS/2 mouse connected, but no mouse driver is loaded, since many computers will crash if you send them unexpected mouse data.

Screen saver time command

This command is a short cut for setting the screen saver time, that can be set from the on-screen display. To set the screen saver interval time, press and release the **left** Control Key, type “**V**”, enter the interval time, in seconds (0–999), and press **<Enter>**. To disable the screen saver feature, press and release the **left** Control Key, type “**V**”, enter “**0**” as the interval time, 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 new setting in the unit’s non-volatile memory. To restore normal video, press any key or move the mouse. If not on an on-screen menu the computer label appears, as if you had just switched to a new computer.

ID command

You can get the same information from this command by popping-up the CTRL-F12 configuration menu. It is shown on the top line. This command is included historically.

This command is used to identify the revision level of UltraView Pro firmware currently installed. Before entering this command, your currently selected computer should be at a command prompt, word processor, or editor, so that when the unit sends the ROM revision level that the result will be displayed. To issue the command, press and release the **left** Control Key, then type “**I**”. UltraView Pro will send back its current firmware revision level, in the format *UP majorlevel minorlevel* and an optional third digit.

Mode command

You can program the same information from this command by popping-up the CTRL-F12 configuration menu and going to the configure computers display. It is most useful to program a box to all Sun or all Apple computers without having to do it repetitively for each port.

Note there are three classes of mode command, for the CPU, for the keyboard, and for the mouse. Don't confuse the setting for a CPU's keyboard/mouse setting with the mouse itself. To change a CPU's keyboard/mouse setting you must first switch to that CPU. Changing the keyboard or mouse itself, you can be switched to any CPU.

Settings that apply to Apple and Sun are ignored on PC-only units. The mode command is inactive if a configuration password has been set.

To enter the mode command, press and release the left control key, then the M key, then the mode value as shown below, and then the enter key. Don't use the numeric keypad for numeric keys or the enter key. To save the setting in non-volatile memory, use the keep command by pressing and releasing the left control key and then the K key.

<i>Table 4. Mode command values</i>	
VALUE	DESCRIPTION
1	CPU keyboard = PC mode 1 (certain IBM computers)
2	CPU keyboard = PC mode 2 (most PCs)
3	CPU keyboard = PC mode 3 (most Unix workstations)
4	CPU keyboard/mouse = Apple
5	CPU keyboard/mouse = Sun
6	CPU mouse = PS/2 mouse
7	CPU mouse = RS232 7 bit mouse (Microsoft)
8	CPU mouse = reserved for future use
9	CPU mouse = RS232 Mouse systems mouse
10	CPU mouse = PS/2 wheel mouse
20	Keyboard = 101/102 PC keyboard
21	Keyboard = 104/105 PC keyboard (Win 95)
30	Mouse = PS/2 mouse or PS/2 wheel mouse (auto-detect)
31	Mouse = RS232 7 bit mouse (Microsoft)
32	Mouse = RS232 Mouse systems mouse
40	Set all computers to Apple
50	Set all computer to Sun
60	Set all computers to PC mode 2 and PS/2 mouse

Set resolution command

This command is used to support older fixed frequency monitors that do not sync up at the default 640 x 480 @ 60Hz rate of the on-screen display.

To enter the resolution command, press and release the left control key, then the Y key, then the resolution value as shown in *Table 5*, and then the enter key. Please note that for German language keyboards you must use the z key instead of the y key.

Don't use the numeric keypad for numeric keys or the enter key. To save the setting in non-volatile memory, use the keep command by pressing and releasing the left control key and then the K key.

Table 5. Resolution command values	
VALUE	RESOLUTION SETTING
1	640x480 @ 60Hz
2	640x480 @ 72Hz
3	640x480 @ 75Hz
4	640x480 @ 67Hz
5	832x624 @ 75Hz
6	1152x900 @ 66Hz
7	1152x900 @ 76Hz

Logout command

You can disconnect from the current computer by entering this command. This disconnects the current computer and displays a login box which requires a password to gain access to the previously connected computer. To issue the command, press and release the **left** Control Key, then type L. UltraView Pro will disconnect from the current computer and show the login box. If nothing is entered after twenty seconds, the screen saver will come on. Typing on the keyboard or moving the mouse will restore the login box to the screen.

PC to Sun stop/L1 Key emulation command

This command applies to multi-platform models only. The PC keyboard is missing the 10 keys on the left hand side of the Sun keyboard. The most commonly used of these 10 keys is the stop or L1 key. This key can be generated from a PC keyboard with the control-pause command. To issue the command, press and release the **left** Control Key, then press the PAUSE key.

The most common usage is to halt a Sun computer and bring it to a boot prompt. For the Sun computer this is usually called the L1-A command. To issue this command when using a PC keyboard and connected to a Sun computer, press and release the **left** Control Key, then press and release the PAUSE key, then press and release the A key.

Keep command

The Keep command saves the current state of the UltraView Pro'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". This does the same function as saving from the on-screen display.

VIDEO DISTANCE CAPABILITIES

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 UltraView Pros are chained together. Dakota 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 Dakota sales or 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

<i>Table 6. Video distance capability</i>										
	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						

MISCELLANEOUS

Keyboard mapping

With multi-platform units, you have a choice on how a PC keyboard is mapped to a Sun or Apple computer. If you have a 104/105 key keyboard you should use it, because it has a more natural mapping to the Sun and Apple keyboards. Configure the keyboard type with *Configure System* on page 13 to 104/105 or 101/102 to alter this mapping.

Table 7 shows the default setting and requires a Windows® keyboard with the Windows® flag symbols on it to allow access to all the Apple keys. The Windows® keyboard is also known as a PC 104-key (US) and PC 105-key (international) keyboard.









<i>Table 7. Apple emulation 104/105 keyboard</i>	
PC key	Apple function
Left control	Left control
Left Windows® 	Left Apple  / cloverleaf 
Left alt	Left option
Right alt/alt graph	Left option
Right Windows® 	Left Apple  / cloverleaf 
Right Windows® (app)	Power key
Right control	Left control

Table 8 shows the settings to use if you only have a 101/102 key keyboard. It is recommended to get a 104/105 key keyboard for maximum usability.

<i>Table 8. Apple emulation 101/102 keyboard</i>	
PC key	Apple function
Left control	Left control
Left alt	Left Apple  / cloverleaf 
Right alt/alt graph	Right option
Right control	Power key

Power interruption to the UltraView Pro

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

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 RJ11/12 female or DB-9 female to RJ11/12 female, depending upon your equipment). This adapter may have been supplied with your package.

1. Insert the RJ cable between the RS232 serial port on UltraView Pro'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 UltraView Pro unit is designed to accept rack mount brackets that attach to the sides of the UltraView Pro 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 M, B, or C chassis. See Appendix E for part numbers.

Adding cards to an UltraView Pro C chassis

The UltraView Pro C chassis can be expanded with expansion card model UEK-4UB (multi-platform) and UPK-4UB to contain up to 16 ports. The card is installed by opening the chassis and installing the card according to the instructions provided.

UPGRADING THE FLASH MEMORY

The UltraView Pro has flash memory, which means its firmware may be re-loaded, to support new features or fix any problems in its operation. The firmware can be obtained from the Dakota Support Website. There are two program files, one a program and one a kernel (usually not upgraded). There is also a read me file, which tells what the firmware upgrade does.

The file names are as follows where xx is the revision number:

uppxx.hex	for the main program
upkxx.hex	for the kernel
upxxread.txt	for the readme file

You have a choice of two baud rates at which to load the flash file, either 9600 or 57600 baud. Both require an 8 bit, no parity, and 1 stop bit protocol. The serial cable must be correct. It may have been provided in your package. Connect the RS232 cable from your computer's serial port to the RS232 port on the unit.

There are two methods to load the flash file.

Method 1 - Using a communication program

1. Press both the - and + switches on the front panel, at power-on of the UltraView Pro. The UltraView Pro 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.

2. 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 as well as the on-screen display. 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 or the login box is waiting for its password. The flash procedure is complete.

You may receive one of the following errors when sending the file:

Checksum error or Record error or Data error

Receive failed

Try again Y/N?

If any of these errors occur, it means 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 UltraView Pro, 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. Press both the - and + switches on the front panel, at power-on of the UltraView Pro. The UltraView Pro 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).

2. 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.

3. 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.

4. 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 on-screen display. Observe the new revision number matches that of the file. LED 4 now lights.

5. Press and release the + switch. LED 1 now lights. The box is now operational and port 1 is selected or the login box is waiting for its password. The flash loading procedure is complete.

KEYBOARD COMMAND SUMMARY

Table 9. Keyboard command summary

Command	Key Sequence	Description
Go to selected computer	<Ctrl> xxx where "xxx" is 1–3 digit computer number	Connects your common keyboard, monitor, and mouse to the selected computer. Only a single digit is necessary when using less than 9 computers.
Go to next computer	<Ctrl> +	Selects the next sequential computer.
Go to previous computer	<Ctrl> -	Selects the previous sequential computer.
Scan On	<Ctrl> S	Turns Scan mode on, causing UltraView Pro to start scanning sequentially from the current computer through the remaining computers and beginning again at computer 1.
Scan Off	<Ctrl> X	Turns Scan mode off. Note: Scan can also be stopped by entering a computer selection command.
Display label	<Ctrl> D	Turns computer label on if it was off, and on for fadeout time if it was off.
Logoff	<Ctrl> L	Disconnects from current computer and shows login box. Requires password to gain access to computers.
Set mode	<Ctrl> Mx <Enter> where x is a value as shown	Alternate way to configure computers, keyboard and mouse instead of from on-screen display.
Set resolution	<Ctrl> Yx <Enter> where x is a value from 1-7 as shown	Alternate way to set resolution instead of from on-screen display. Configures resolution output of on-screen display when no video input is present.
Screen saver wait	<Ctrl> V xxx <Enter> where xxx is time in seconds from 0-999	Sets time in seconds with no keyboard or mouse activity when screen saver is turned on. Video is reactivated when any key is pressed or mouse is moved.
Send null to mouse	<Ctrl> N	Used to re-synchronize PS/2 mouse which has gotten out-of-sync.
Reset computer mouse	<Ctrl> O (alpha not zero)	Used to reset computer's mouse
Reset command	<Ctrl> R	Resets and enables mouse and keyboard, enables PS/2 mouse on currently selected computer.
Keep settings	<Ctrl> K	Tells UltraView Pro to save all current settings in flash memory.

Values used by mode command

1 CPU keyboard = PC1 some IBM PCs	20 Keyboard = 101/102 PC keyboard
2 CPU keyboard = PC2 most PCs	21 Keyboard = 104/105 PC keyboard (Win 95)
3 CPU keyboard = PC3 most Unix workstations	30 Mouse = PS/2 mouse
4 CPU keyboard/mouse = Apple	31 Mouse = RS232 7 bit mouse (Microsoft)
5 CPU keyboard/mouse = Sun	32 Mouse = RS232 Mouse systems mouse
6 CPU mouse = PS/2 mouse	40 Set all computers to Apple
7 CPU mouse = RS232 7 bit mouse (Microsoft)	50 Set all computer to Sun
8 CPU mouse = reserved for future use	60 Set all computers to PC2 and PS2-mouse
9 CPU mouse = RS232 Mouse systems mouse	
10 CPU mouse = PS/2 wheel mouse	

Values used by resolution command

1 640 x 480 @ 60Hz	4 640 x 480 @ 67Hz
2 640 x 480 @ 72Hz	5 832 x 624 @ 75Hz
3 640 x 480 @ 75Hz	6 1152 x 900 @ 66Hz
	7 1152 x 900 @ 76Hz

Keyboard command tips

Please observe the following notes on using keyboard commands:

1. Start all commands by pressing and releasing the left control key.
2. All UltraView Pro commands are time guarded. Do not wait more than two seconds between keys. This is a feature to prevent someone from entering commands by mistake.
3. Do not use the numeric keypad to enter any commands. Use the numeric keys below the function keys.
4. Letter commands are not case sensitive, and are shown in upper case for clarity only. Do not use the shift key.
5. There are two sets of plus and minus keys. The legends on the ones in the numeric keypad are consistent from country to country. The legends on the ones to the left of the backspace key vary by country, but you still use these key positions.

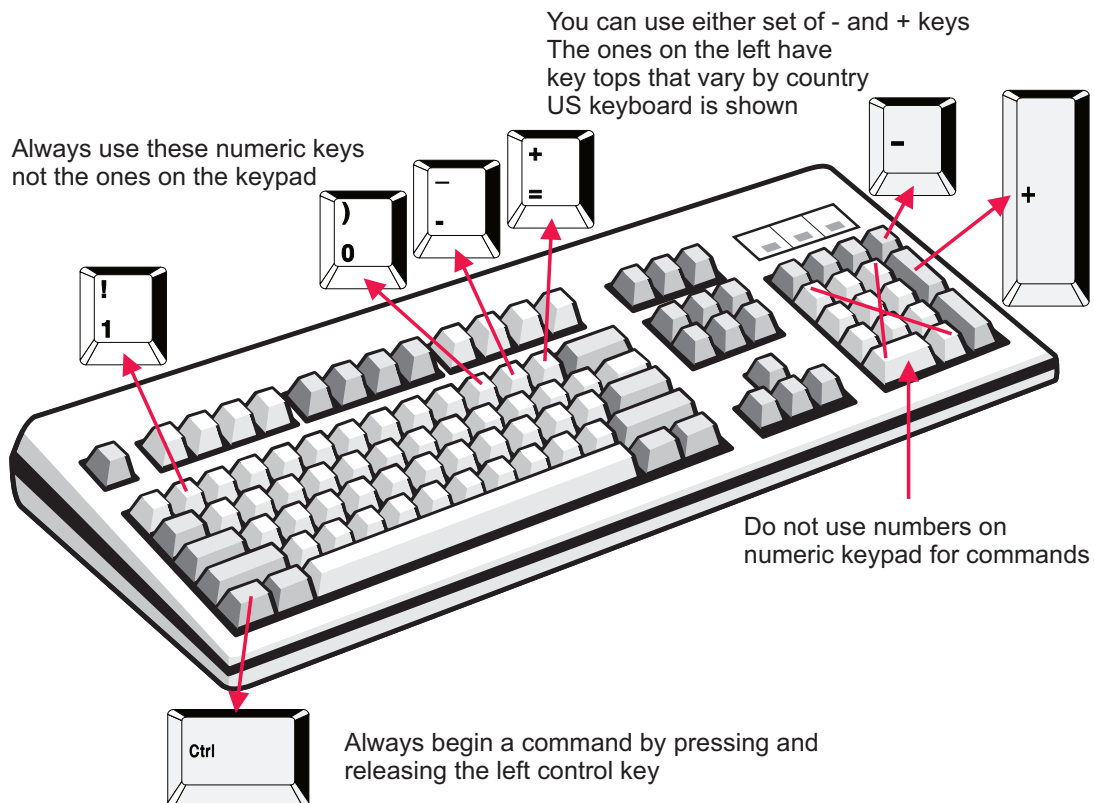


Figure 16 Keyboard command tips

TROUBLESHOOTING

1. Computer does not boot, keyboard error received

Computer does not boot, mouse error received

- a. Cable is loose, reseal 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 computer. If problem goes away cable is defective.
- d. Port on UltraView Pro is defective, try using another port on UltraView Pro. If problem goes away port is defective.
- e. Port on computer is defective, try plugging in keyboard or mouse directly if problem remains computer port is defective. If computer power status LED not lit, fuse on motherboard may be blown.
- f. Computer keyboard and mouse not configured.

2. Mouse driver does not load.

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

3. Can't switch computers from keyboard

- a. Power to UltraView Pro was removed for less than three seconds possibly causing keyboard to lock up. Disconnect keyboard and plug it back in.
- b. If PS/2 type keyboard and mouse cables may be reversed.
- c. 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 computer number. Using caps lock or shift key.

4. Wrong or missing characters from those typed

- a. 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 of the UltraView Pro 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.

5. Mouse does not move

- a. Mouse not configured.
- b. UltraView 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.
- c. PS/2 mouse was not connected when UltraView Pro 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. Try using ctrl O command to recover if O/S is NT.

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, reseal cable.
- b. Monitor not capable of syncing to video selected, get a higher resolution 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. Cable is defective, try using cable from another computer if problem goes away cable is defective.
- e. Port on UltraView Pro is defective, try using another port on UltraView Pro. 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 computers and how they are connected.

11. On-screen display not synchronized

- a. No video from computer and resolution setting not configured correctly.
- b. No TTL composite sync or separate horizontal and vertical sync from computer. Version of OSD 3.1R does not support sync-on-green. Call technical support for details.

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 Dakota Technical Support Department.

Power on diagnostics

When the UltraView Pro is first turned on, it goes through a series of diagnostic tests and reports the results. If all tests pass then the unit will connect to computer one and start normal operation or display the login box and wait for the access password . If there are any failures the unit will stop and show an error message.

```
Welcome to UltraView Pro

Power on diagnostics
-----
Kernel revision ----- P3
Hardware type ----- PC
Kernel checksum ----- GOOD
Static ram ----- GOOD
Com interface ----- GOOD
Program revision ---- UP16
Program checksum ---- GOOD
Total ports found --- 08
Config checksum ---- GOOD
PC keyboard detected
PS/2 mouse detected
```

Figure 17 Main configuration menu

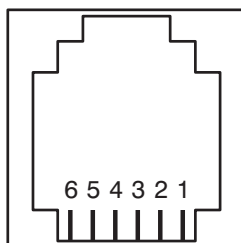
Reset to factory default

To reset the UltraView Pro 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. The configuration password and access passwords are not reset by this procedure.

Appendix A. CPU/KVM pinout specification

Pinouts for UltraView Pro DB-25 Female Connectors			
Pins	Numbered computer Ports	KVM Port	Description
1 2 3 4 5	Ground Ground Ground Ground HSync-in	Ground Ground Ground Ground HSync-out	Analog Ground Analog Ground Analog Ground Digital Ground Video Control
6 7 8 9 10	VSynC-in KBCLK KBData MSClk MSData	VSynC-out KBCLK KBData MSClk MSData	Video Control Keyboard Clock Keyboard Data Mouse Clock Mouse Data
11 12 13	+5V-in RS232-out RS232-in	+5V-out RS232-in RS232-out	Power for LEDs, Peripherals Serial Data Serial Data
14 15 16	Red-in Green-in Blue-in	Red-out Green-out Blue-out	VGA Color VGA Color VGA Color
17 18 19 20	Audio in/out Audio in/out Audio in/out Audio in/out	Audio in/out Audio in/out Audio in/out Audio in/out	Audio (Multi-platform only) Audio (Multi-platform only) Audio (Multi-platform only) Audio (Multi-platform only)
21 22 23 24 25	-V Ground Ground +V RS232-in	-V Ground Ground +V RS232-out	Unreg -12V Digital Ground Digital Ground Unreg +12V 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) 16.7" wide x 4.85" deep x 1.75" high 42.42 cm. x 12.32 cm. x 4.44 cm. H (full) 16.7" wide x 4.85" deep x 3.50" high 42.42 cm. x 12.32 cm. x 8.89 cm.
WEIGHT Includes all packaging and accessories	M (mini) 2-port and 4-port 4 lb. (1.8 kg.) B (low) 8-port 6 lb. (2.7 kg.) C high) 4-port and 8-port 7 lb. (3.2 kg.) C(high) 12-port and 16-port 8 lb. (3.6 kg.)
ENVIRONMENTAL	0-55 C°, 10-90% relative humidity non-condensing
POWER INPUT	117 VAC - 230 VAC 50-60 Hz.
CPU/KVM CONNECTORS	DB25 Female
CHASSIS	Fully shielded, black painted steel
CONTROLS	Power switch, - switch, + switch
INDICATORS	1 power LED, 4-16 select LED, 4-16 computer power LED
APPROVALS	FCC Class A, UL, CUL, TUV

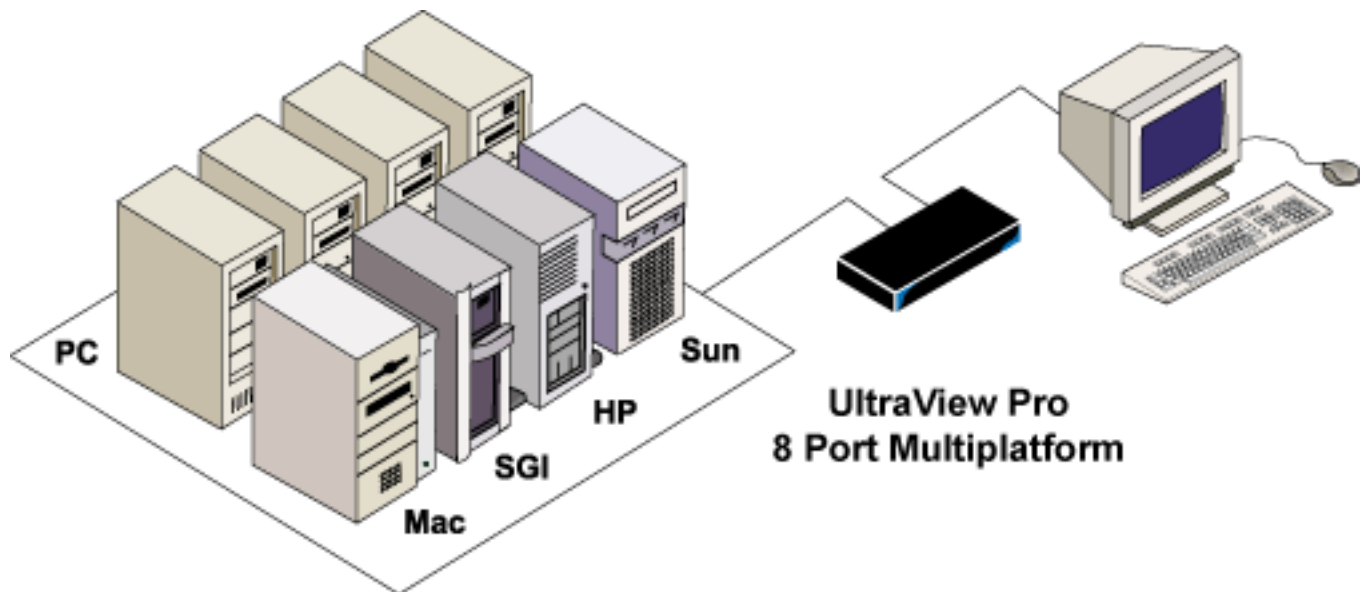
Appendix D. Factory default settings

Setting	Default
Keyboard-Mouse type and Computer keyboard-mouse type	PC-PS/2
Computer names	Computerxxx where xxx is computer number
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
Color scheme	Aquarium
Resolution	640 x 480 @ 60Hz
Screen saver	Fireflies
Screen saver timeout	0 seconds
Computer select window Background color	Transparent blue
Computer select window Text color	White
Computer select window Position	X=3 Y=3
Computer label Background color	Transparent blue
Computer label Text color	White
Computer label Position	X=3 Y=90
Show computer number	Yes
Fade out	5 seconds
Font	16x24 modern
Caps/Numlock/Scroll	Numlock On

Appendix E. Cables and rack mounts

Description	Part Number
Monitor–Keyboard–Mouse 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-CX0509Mxx**
Coax VGA–PS/2 keyboard–PS/2 mouse to DB-25M	CAB-CX0606Mxx**
Coax Apple video–keyboard–mouse to DB-25M	CAB-CXAV0400Mxx**
Coax Sun video–keyboard–mouse to DB-25M	CAB-SC0800Mxx**
Coax VGA–Sun keyboard–Sun mouse	CAB-CXV0800Mxx**
CPU 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-CX0509Cxx**
Coax VGA–PS/2 keyboard–PS/2 mouse to DB-25M	CAB-CX0606Cxx**
Coax Apple video–keyboard–mouse to DB-25M	CAB-CXV0400Mxx
Coax Sun CPU video keyboard–mouse to DB-25M	CAB-SC0800Cxx**
Other cables	
UltraView Pro-to-UltraView Pro Expansion Cable for connecting slave units to master units for system expansion	CAB-CXSMMxx*
*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 B (low)	RM-U19B	RM-U23B	RM-U24B
Chassis C (high)	RM-U19C	RM-U23C	RM-U24C
Kit comes with 2 side brackets and 4 switch to bracket mounting screws			



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