



UltraLink

KVM REMOTE ACCESS

User Manual

With Installation Instructions



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89/336/EEC in respect of:
EN55022: (Class B)
EN50082-1 / EN60555-2, and
The Low Voltage Directive.

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Introduction

KVM Remote Access

Access your servers anywhere in the world from the UltraLink Viewer program

Features and Benefits

UltraLink is a powerful product that extends the range of access to your computers to anywhere in the world. Its advanced design makes it compatible with industry standard KVM switches and computers. It is most commonly used to extend a KVM switch's user port to be accessed by either a LAN, WAN, or dial-up connection.

Connect the unit to a standalone computer or KVM switch and your Ethernet network. Assign an IP address to the UltraLink and run the remote access client from any workstation.

You can access the server just like you were standing in front of it, but you can be at home, work, or half way around the world. Easy to configure security features, prevent unauthorized access.

The UltraLink has a sophisticated scaling feature allowing you to position any size image of your server anywhere on your screen. Now you can monitor servers while you work on other tasks. It is also ideal for fast updates over slow links because less data is sent.

Because the unit is a fully embedded product with no hard drive or complicated operating system, you are ensured of the highest reliability and availability.

A maximum resolution of 1280 x 1024 is supported for access to not only PCs, but also Sun and other high-resolution computers. You can also access the UltraLink through its serial port for dial-up modem access. The UltraLink also features a local KVM port for access directly at the unit.

- Connect to remote computer over Ethernet or dial-up
- Up to 1280x1024 resolution
- 1U high chassis
- Easy to install, just give it an IP address and run the remote client application
- Compatible with all Rose KVM products and other KVM devices
- Local KVM port to access computers at UltraLink location
- Scaling of computer image reduces amount of data sent and permits fast screen updates over slow links
- Quad screen mode allows you to see four servers from one screen

Introduction

- Front panel shows power and currently connected input port either net, serial, or local KVM
- Solid-state embedded unit has no disk drive for maximum reliability
- Remote client application is simple to use, installs very easily, and requires no licensing
- Password security prevents unauthorized configuration
- Made in USA
- One-year warranty

Installation

UltraLink is easy to install. Just connect the UltraLink to your standard 10/100 Ethernet network, a keyboard, monitor, and mouse, and a KVM switch or standalone computer. You can also connect a modem if you like for dial-up access. An IP address is assigned from a simple menu at the local KVM port on the UltraLink. That completes the basic UltraLink installation. Now go to a PC on the network and run the UltraLink Viewer provided. Enter the IP address of the UltraLink and hit the connect icon. You are now prompted for a password. Enter the correct password and you will be connected to the switch or standalone computer as if you were directly connected.

Operation

The UltraLink has three access points to the switch or standalone computer: Ethernet, serial, and a local KVM port. The local KVM port is an integrated switched analog port. When you connect the UltraLink to a KVM switch, the integrated local KVM port allows you to have direct analog access to the switch, so you do not lose the KVM port on the switch. From the local KVM port, you are able to configure the basic network and password information. All access to the attached computers is through a menu. The menu prompts you to enter the password. Once the correct password is entered, if no one else is connected you are granted access. Otherwise, you are informed that another connection is in progress and you are denied access. If you use the Administrator password, you can override the connection in progress for immediate connection.

Server Windowing

You can choose the size of the window that you work with. This allows you to either park a scaled image of your server in the corner of your screen or work with it at full resolution. By resizing the UltraLink window, you automatically communicate to the UltraLink unit, which then sends scaled video to fit your resized window. When using a reduced window, less data is sent improving performance and reducing network bandwidth. If you wish, you can run in - scaled, scrolled, or full-screen modes.

Security

The UltraLink is designed with the highest thoughts about security. For maximum security, the connection is encrypted with Blowfish or triple DES. You can also program a timeout that automatically will disconnect the session when no keyboard or mouse activity is detected.

Quad-Screen Mode

You can view four servers at one time with the quad-screen mode. This integrated high performance feature is easy to setup and use. Simply select the servers that you want to be viewed and enter quad-screen mode. All servers are viewed in real time and are automatically scaled to fit their quadrant of the screen.

Color Modes and Resolution

The UltraLink hardware supports full 16-bit color. It can be programmed to use black and white, gray scale, or color. This feature is excellent for slow links or to reduce network bandwidth.

Mouse Cursors

Competing products suffer from an annoying presence of two mouse cursors and the requirement to synchronize the two cursors. The UltraLink uses one mouse cursor in a very intuitive style to access the remote connection. Switching between the remote servers and the applications on your own PC is smooth and effortless.

Video Resolution

Competing products would have you adjust complicated controls to get the optimum video quality. The UltraLink does it all automatically. It also supports up to 1280x1024@76Hz to allow you to access the standard Sun computer resolution.

Flash Memory

To support the latest devices and provide continuing features and support, UltraLink contains flash memory. We provide free lifetime firmware upgrades, available from our FTP site. Load new firmware into the UltraLink to add new features or support new equipment.

Introduction

Specifications

<i>UL-V3</i>	UltraLink remote access unit
<i>Dimensions</i>	16.7" W x 7.00" D x 1.75" H (1U) 42.4 W x 12.3 D x 4.4 cm
<i>Weight</i>	8 lbs. (3.6 kg)
<i>Power</i>	Auto Switching, 115-230 VAC, 100 watts
<i>Connectors</i>	Power: IEC 320 standard receptacle Local KVM: Video - HD15F, Keyboard - MD6F, Mouse - MD6F Switch or computer: DB25 female Ethernet port: RJ45 Serial port: DB9 male
<i>Video bandwidth</i>	150Mhz
<i>Chassis</i>	Electro galvanized steel, black powder coated
<i>Controls</i>	Power On / Off Switch
<i>Indicators</i>	LEDs: Power, Net, Serial, Local, Ethernet link, 10/100MB Ethernet speed
<i>Environmental</i>	0°-45° C, 5%-80% non-condensing rel. humidity
<i>Approvals</i>	UL, cUL, TUV, CE, VCCI

Front Panel



Figure 1 Front panel lamps indicate state of the UltraLink

Lamp	Indication
POWER	AC Power is applied
NET	TCP/IP user logged in
SERIAL	Serial device user logged in
LOCAL	Local user is logged in

Table 1 Front panel indicators

Back Panel



Figure 2 External connections on the back panel

Connector	Usage
USB	USB ports reserved for future use
COM1/COM2	Serial ports used for modem and reserved for future use
KEYBOARD	Connects to PS/2 keyboard
MOUSE	Connects to PS/2 mouse
MONITOR	Connects to monitor (local port used)
VGA-IN	Connects to loop cable (local port used)
VGA-OUT	Connects to loop cable (local port used) or monitor (local port not used)
SWITCH/CPU	Connects to user side of KVM switch or standalone computer
NETWORK	Connects to 10MB / 100MB Ethernet interface
POWER	115 / 230 VAC, 50-60 Hz Auto switching

Table 2 Back panel connectors

Getting Started

In the Box

The following items are included with your UltraLink:

- ✓ UltraLink unit
- ✓ Power cord
- ✓ Cable from UltraLink to Rose switch (DB25 male to DB25 male)
- ✓ Cable from UltraLink to standalone computer or other KVM switch (DB25 male to VGA-PS2-PS2 male)
- ✓ Video loop cable used when local port is connected (VGA to VGA)
- ✓ UltraLink Viewer software (two diskettes)
- ✓ 19" rack-mount brackets
- ✓ UltraLink manual
- ✓ Quick start guide

You Will Need

You will need the following items to connect and use your UltraLink:

- Active Ethernet TCP/IP network
- RJ-45 network cable
- Standalone computer or KVM switch to be viewed and accessed
- PC on network to have Viewer software loaded and act as Viewer
- PC keyboard with PS/2 connector
- PS/2 mouse (optional)
- VGA monitor

Connections

There are two ways to connect the UltraLink

The local KVM is a KVM station connected directly to the UltraLink. It can access the Switch/CPU device attached to the UltraLink with the connect login described later. If you don't need the local KVM (example in the Quick Start Guide) then connect the cables as shown in Figure 3. This simplifies the cabling and allows you to view the power up progress of the UltraLink. The keyboard, monitor, and mouse can be removed after using them to configure the UltraLink's IP address.

If you require the local KVM, connect the cables as shown in Figure 4. When connected in this way, you will not see anything on the local monitor until the UltraLink completes its power-on process (about 25 seconds).

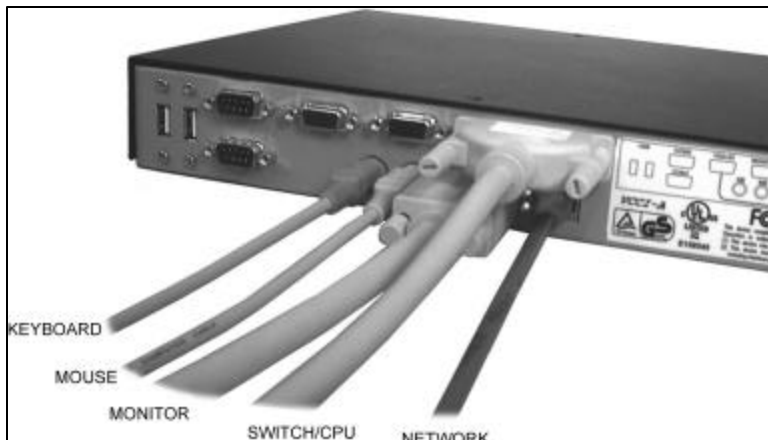


Figure 3 Cable connections, local KVM not used

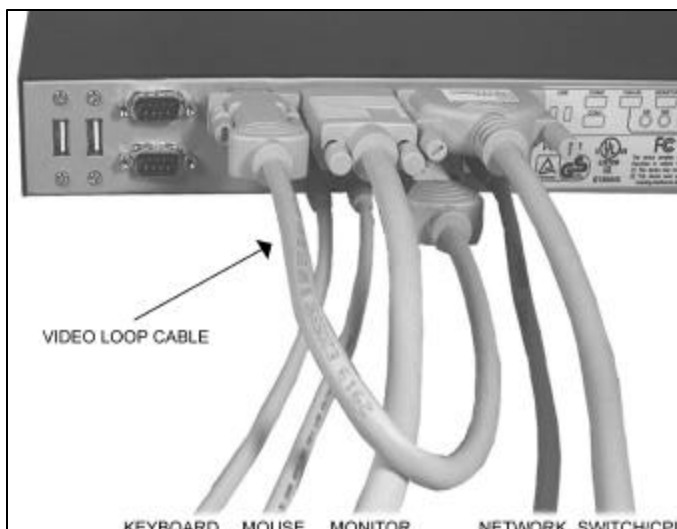


Figure 4 Cable connections, local KVM used

Start Up

Power On

Connect the UltraLink to a power source and turn the power switch on. If the green power led on the front panel does not illuminate, turn the power off, check your power source, and wait at least 15 seconds before turning power on again.

After the UltraLink completes a self-test and start-up, it displays the connect login screen. If you have connected the video loop cable, your monitor may remain blank for up to 25 seconds before a login screen appears.

If no login screen appears, check the connections as shown in Figure 3.

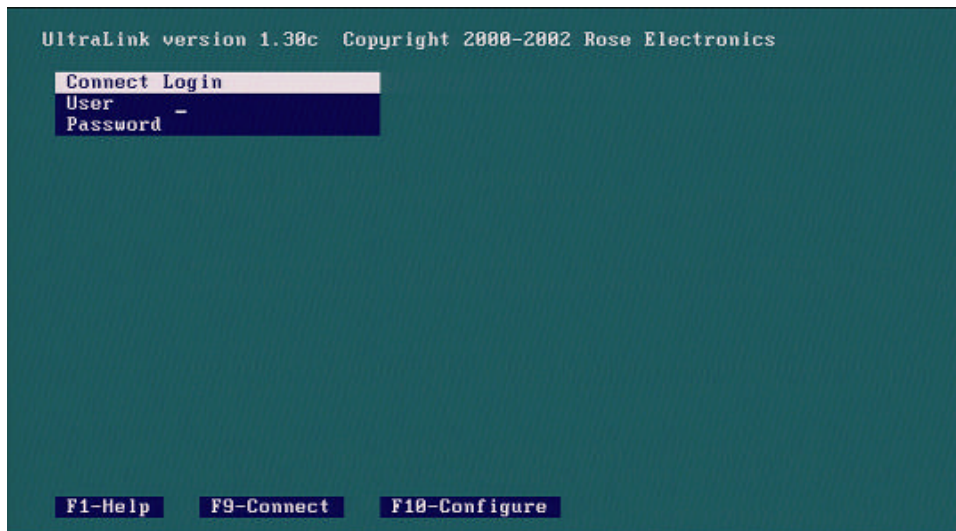


Figure 5 The connect login screen

About Logins

A default administrator account exists for initial configuration when the UltraLink first starts up. The user ID is *Rose* and there is no password.

IMPORTANT One of the first steps an administrator should perform is to secure the user ID and password for the default administrator account. Change them with the UltraLink Viewer using the default account and the Security Settings dialog. If you forget the administrator user ID or password, override the user ID and password check as described in Password Defeat.

There are two types of logins:

- Connect login — connects the local KVM to the Switch/CPU device attached to the UltraLink
- Configure login — configures the IP address

Press the F9 key to display the connect login screen or the F10 key to display the configure login screen. Each screen is a different color. You must use the administrator user ID for the configure login.

You may press the F1 key to view help text on a login screen. Press F1 again to remove the help text from the screen.

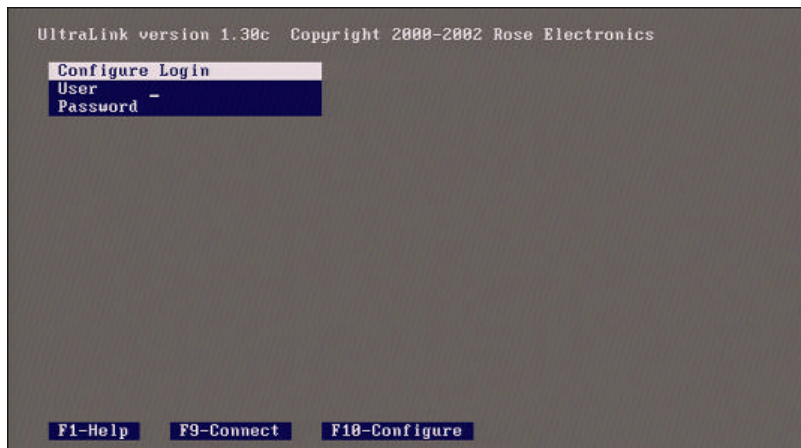


Figure 6 The configure login screen

Using Configure Login for the First Time

Only basic communication settings are required on the UltraLink to make it accessible to a Viewer. An administrator performs other settings, such as user management, security, and switch configuration from the UltraLink Viewer program.

To configure the UltraLink for remote login by the UltraLink Viewer program, enter a TCP/IP address as follows:

- Press F10 to display the gray configure login screen.
- Login at the configure login screen using *Rose* as user name and no password.
- Enter IP address, subnet mask, and gateway address.
- Press F10 to save the configuration data and to return to connect login screen. The changes are effective immediately.

Using Connect Login for the First Time

Perform the following steps to verify cable installation and to access the device connected to the Switch/CPU port from the UltraLink local KVM.

- Press F9 to display the green connect login screen.
- Login at the connect login screen using *Rose* as user ID and no password.
- Verify that the keyboard, mouse, and video perform properly.
- Press Ctrl, Alt, and the L key simultaneously to exit the connect login.

If you do not see the video of the connected device or see an invalid mode screen, check the cable connections as shown in Figure 4.

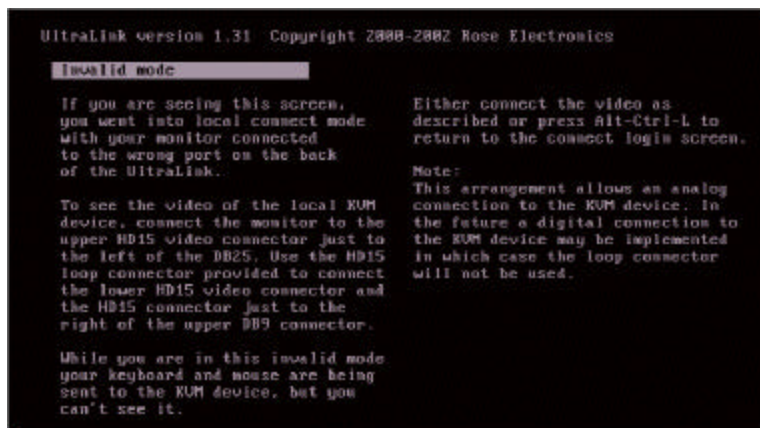


Figure 7 Invalid mode screen

IMPORTANT To exit the connect login screen, press Ctrl, Alt, and the L key simultaneously.

The Configure Screen

Move between fields on the configure screen by pressing the up and down arrow keys. As you move from one field to another, values are validated. If you enter an invalid value, the arrow keys do not function until you either correct the value or press the Esc key. If you press the Esc key, the original value is restored in the field. Edit within a field by using left and right arrow keys, and the delete and backspace keys.

IP Address

The UltraLink uses a fixed IP address. Change the default address to permit remote access by the UltraLink Viewer program. Enter a valid IP address in the standard dotted-decimal format, e.g. 192.168.1.71.

Subnet Mask

Enter a valid subnet mask in the subnet mask field, e.g. 255.255.255.0. The UltraLink does not apply an invalid subnet mask and reverts to the last known good subnet mask.

Gateway

Gateway is an optional field. Enter a gateway address to allow access to the UltraLink from networks other than the one defined by IP address and subnet mask. Enter a valid IP address in the standard dotted-decimal format, e.g. 192.168.1.1.

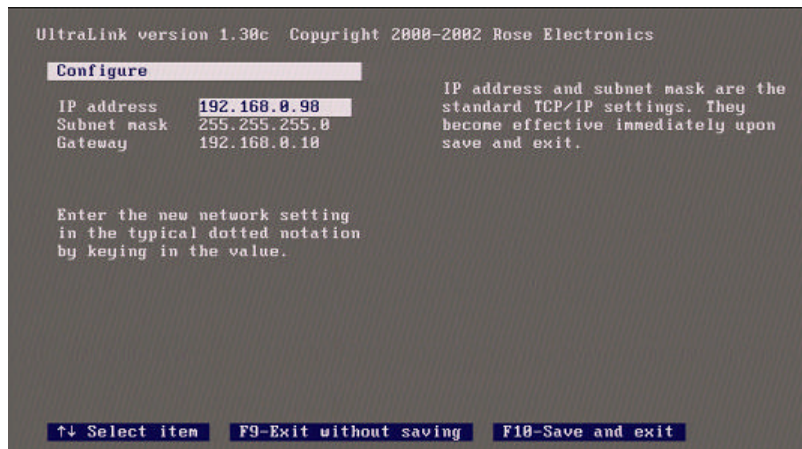


Figure 8 The configure screen

Start Up

Saving or Abandoning Changes

Press the F10 key to apply network settings immediately and to make the UltraLink available to Viewers on the network. Press F9 to cancel the changes. After saving or canceling your changes, the connect login screen is displayed. To change the settings, login again at the configure login screen.

Connect Contention

The UltraLink disallows a connection to the local KVM and a Viewer at the same time. If you login as an administrator, and a Viewer is connected, you send a message to the Viewer indicating that an administrator has logged in and you disconnect the Viewer.

As a security precaution, you must login again after disconnecting the Viewer. This protects against the possibility that you are using the Viewer to login to the local KVM port (connected to a KVM switch) of the UltraLink that connects to your Viewer. Instead of logging in and disconnecting yourself, leaving the UltraLink logged in, you must login again.

If you login with a non-administrator account, the connect login fails and the remote connection is unaffected.

Password Defeat

If you forget the administrator's user ID or password, remove the cover of the UltraLink and place a jumper on the pins labeled, PASSWORD DEFEAT. When this jumper is in place, a connect login or configure login succeeds with any user ID and password and the login will be as an administrator. Once logged in, set a new administrator user ID and password. A reminder that the PASSWORD DEFEAT jumper is place displays on the UltraLink login screens and when a Viewer logs in.

Installing the UltraLink Viewer

Requirements

The UltraLink Viewer runs on most Windows PC installations.

Minimum Hardware

- 133 megahertz PC with 32 Mb of system memory and 4 Mb of free disk space
- VGA display adapter and monitor, capable of 640 x 480 resolution
- Keyboard and mouse

Microsoft Windows

- Microsoft Windows 95 or above
- Network connection with TCP/IP protocol

The Setup Wizard

The Setup Wizard guides you through installation of the UltraLink Viewer.

Look for the setup file to install the UltraLink Viewer:

- On setup media included with the UltraLink unit
- From the UltraLink web page at www.rosel.com/ultralink

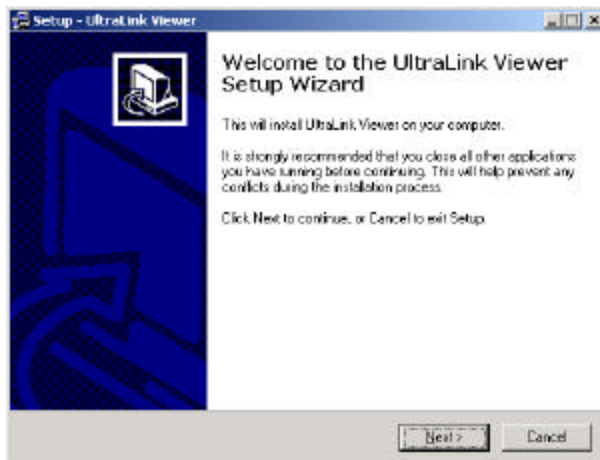


Figure 9 The Setup Wizard

Installing the UltraLink Viewer

You may choose the folder in which you install the Viewer. Start the Viewer using one of the items optionally created by the Setup Wizard: Desktop icon, Quick Launch icon, or Windows Start Menu entry.

Using the Viewer for the First Time

IMPORTANT *Pass-through* mode takes control of your keyboard and mouse away from your computer and passes it to a remote computer attached to the UltraLink. To regain control of your computer's keyboard and mouse: hold down the Ctrl, Alt and P keys simultaneously. You may also use mouse escape movements defined in the Settings menu to exit *pass-through* mode.

Full-screen mode takes control of your monitor and uses the whole screen to display a remote computer's screen. To regain control of your monitor, hold down the Ctrl, Alt and F keys simultaneously. Exiting *pass-through* mode also returns control from *full-screen* mode.

Connect

Click the *Connect* icon in toolbar of the UltraLink Viewer and wait for the login box to appear.

Login

Login with the default administrator account: *Rose* user name and no password. After a moment, you should see the video attached to the UltraLink. When the pass-through warning message appears, click the OK button to forward your local keyboard and mouse to the remote computer. If you are prompted with the full-screen warning message, click the Cancel button.

Administrator Tasks

If you are an administrator, you may also change the default administrator account user ID and password at this time. Other administration tasks are:

- Add user IDs and passwords
- Specify the type of encryption between the UltraLink and a Viewer
- Add an inactivity disconnect timer for Viewers
- Enable KVM switch features in the Viewer

The Viewer Screen

The Viewer screen contains the following functional areas:

- [Title bar](#)
- [Menu commands](#)
- [Display area](#)
- [Toolbar](#)
- [Status bar](#)
- [Windows buttons](#)
- [What's this help](#)
- [Message dialogs](#)

The Title Bar

When the Viewer is not connected to an UltraLink, the title bar displays the name of the program, UltraLink Viewer. When a connection is active, the Viewer also displays the name of the connection defined in the Connections dialog in the title bar.



Figure 10 This title bar displays an UltraLink location

Menu Commands

[Menus](#), positioned below the title bar, describe commands and options to operate the Viewer.

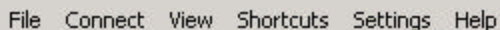


Figure 11 Menu commands

The Toolbar



Figure 12 The toolbar icons and a remote computer select list

The Viewer Screen

Toolbar Icons

The toolbar provides quick access to the following functions:









	Save bitmap
	Connect
	Disconnect
	Full-screen
	Auto size
	Quad-screen
	Ctrl + Alt + Delete
	Refresh

Table 3 Toolbar icons

UltraLink Location List

When the Viewer is not connected, an UltraLink location list box is visible. When you select an UltraLink name in the list box, you may connect by selecting the connect toolbar icon. After connection, the list box disappears.

Remote Computer Select List

When you connect to an UltraLink with a KVM switch, a remote computer select list replaces the UltraLink location list. Select a computer in the remote computer select list to switch your keyboard, monitor, and mouse to that computer.

The Display Area

The display area contains a real-time image of one or more remote computers. In [quad-screen view](#), the display area contains images of up to four remote computers.

The Viewer may scale images to fit into the display area or display images at the same resolution as the remote computer. View menu commands control the appearance of images in the display area.

The Status Bar

The status bar, at the bottom of the Viewer window, provides the following items:

- Pass-through led indicator to indicate whether your video, keyboard and mouse are connected to a remote computer
- Text describing a current menu selection or pass-through mode exit method
- A connection timer
- Description of the video resolution displayed in the display area



Figure 13 Status bar

Windows Buttons



The minimize button brings the Viewer screen to the size of an icon in the Windows taskbar. If you are logged in, the UltraLink continues to refresh the display area's view, even though it is not visible.



The maximize button allows the Viewer to cover the complete screen. This differs from full-screen mode in that the title bar, menus, toolbar, and status bar are all visible.



The exit button disconnects the Viewer from an UltraLink and terminates the Viewer application.

Question Mark Help

On some dialogs, there will be a small question mark in the upper right hand corner. Click on the question mark, and then click on a field in the dialog to get help on that specific item.



Figure 14 Question mark help

Menu Commands

File

The File menu contains the following commands as shown in the figure below:

- Flash Update
- Save Bitmap
- Exit

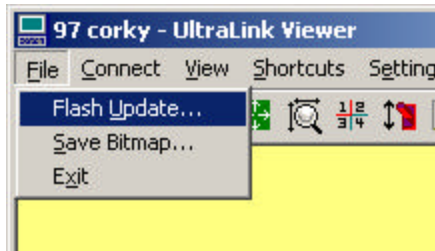


Figure 15 File menu commands

Flash Update

The Flash Update command, available to administrators, allows the Viewer to update an UltraLink with new firmware. The command prompts for the name of a flash update file. Flash update file names take the form `ulpxxx.bin`, where `xxx` is an update version. When an upload completes, the UltraLink breaks the connection with the Viewer and restarts to activate the new firmware. Wait at least one minute before reconnecting to the UltraLink.

Save Bitmap

This command saves the image in the Viewer display area to a bitmap file. In [quad-screen](#) view, all the quadrants are saved to the bitmap file. The Viewer saves the display area only and not the title bar, menus, toolbar or status bar. This operation is available only when you are logged in to an UltraLink.

Exit

The Exit command causes the Viewer application to terminate execution. If the Viewer is logged in, the Viewer exits pass-through mode and disconnects before closing.

Menu Commands

Connect

The Connect menu contains the Connect and Disconnect commands. See also [Connecting and Logging In](#).

Connect

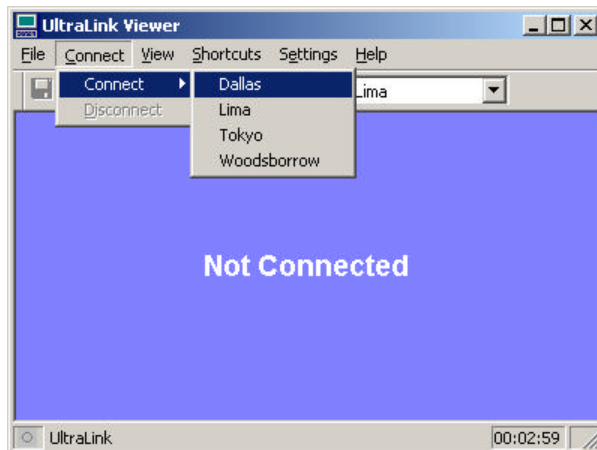


Figure 16 Connect command

The connect command displays all UltraLink units configured by the Viewer. You may select any UltraLink on the menu to initiate a connection.

Disconnect

Selecting the Disconnect command disconnects the Viewer from the UltraLink. The Disconnect command is enabled when the Viewer is connected and is disabled when not connected.

View

View menu commands control the remote computer's image in the display area. See also [View Modes](#).

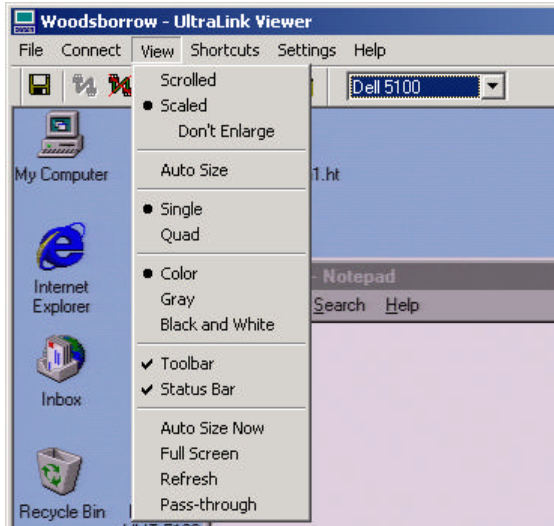


Figure 17 View commands

Scrolled

In scrolled view, the remote computer's video image displays in its native resolution, providing the sharpest image. If the Viewer display area is not large enough to display the image horizontally or vertically, scroll bars appear to allow viewing any part of the image.

Scaled

In scaled view, the remote computer's video image is squeezed or stretched to fit in the display area. When you change the size of the display area, the image changes to fit into the new size.

Don't enlarge

At times, you may prefer to keep your window size constant and inhibit the Viewer from enlarging the display area. This is particularly true when switching between remote computers on a KVM switch. If you check the Don't Enlarge sub-option, images larger than the display area are scaled and images smaller than the display area are centered.

Auto Size

The Auto Size sub-option performs an Auto Size Now command when the Viewer displays a new video resolution in the display area. See the Auto Size Now command below for more information.

Single

Single screen view, as opposed to quad-screen view, is the default display view. The Viewer enters single screen view on logging into the UltraLink. In single screen view, the video image from only one remote computer shows in the display area. If the UltraLink is not connected to a switch, the display area shows the image of the remote computer connected to the UltraLink.

Quad-screen

[Quad-screen](#) view is not available unless the UltraLink connects to a KVM switch. The Viewer displays video from up to four remote computers at the same time by controlling the KVM switch. In quad-screen view, mouse and keyboard input does not connect to any of the four remote computers, and pass-through mode is disabled. The Viewer divides the display area into four quadrants and a computer select box for each quadrant of the screen appears on the toolbar.

Color

The image displays in color. See also [Color Modes](#).

Gray

The image displays in 256 shades of gray.

Black and White

The image displays in black and white only.

Toolbar and Status Bar

You may select the toolbar and status bar to not display, providing more viewing space at the cost of convenience.

Auto Size Now

Auto Size Now attempts to size a remote computer's image in the display area using the best possible resolution. If the remote image is smaller than the display area, the image appears centered in the display area. If the image is larger than the display area, the Viewer increases the window size to display the image at the remote computer's resolution. However, if the image is larger than what may be viewed on your computer, the Viewer maximizes to fill your screen. If the remote computer's resolution is the same as your computer, Auto Size maximizes the window to fill your screen.

You may also select the Auto Size Now command using the toolbar icon.

Full Screen

In [full-screen mode](#), the display area takes over the entire screen area of your computer. The title bar, menus, toolbars, and status bar of the Viewer are not displayed – only the video image of the remote computer is visible on the screen.

A [message dialog](#) displays a warning on entering full-screen view. The message gives a brief description of full-screen view and the means of exiting it. A checkbox at the bottom of the message dialog allows you to suppress the display of the dialog.

Refresh

The Refresh command, also invoked with a button on the toolbar, causes the UltraLink to resend the current screen image.

Pass-through

The Pass-through command causes the Viewer to enter pass-through mode.

Shortcuts

As a convenience, the Shortcuts menu provides methods to:

- Issue the Windows operating system keyboard functions, Alt+Tab and Ctrl+Alt+Delete to the remote computer immediately
- Direct certain *system keys* to your computer or to the remote computer while you are in pass-through mode
- Turn hotkeys and mouse escape movements on or off

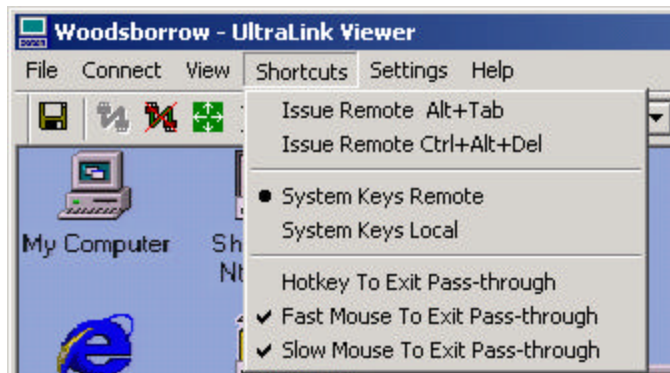


Figure 18 Selecting shortcuts

Menu Commands

Issue Remote Alt+Tab

Send the Alt and Tab keys to the remote computer as if they were pressed simultaneously.

Issue Remote Ctrl+Alt+Del

Send the Ctrl, Alt and Delete keys to the remote computer as if they were pressed simultaneously.

System Keys Remote and System Keys Local

Send *system keys* to the remote computer or to your computer. See the section, Pass-through Mode on page 40, for information about *system keys*.

Exiting Pass-through Shortcuts

See the section, Pass-through Mode on page 40, for information about *pass-through mode*. See the section Keyboard and Mouse on page 30 for information about [hotkeys](#) and [mouse escape movements](#).

At least one of the following shortcuts must be active or it would be impossible to escape *pass-through mode*. If you attempt to deactivate all methods, the Viewer automatically enables keystrokes.

- Hotkey To Exit Pass-through
- Fast Mouse To Exit Pass-through
- Slow Mouse To Exit Pass-through

Settings

The Settings menu contains tabbed dialogs to configure both the UltraLink and the UltraLink Viewer. Except for basic communications settings, the UltraLink is configured from the Viewer using the KVM Switch and Security tabs. The Viewer is configured using the Connections and Keyboard and Mouse tabs. See the [Configuration Settings](#) section for a full description of each tab of the Settings dialog.

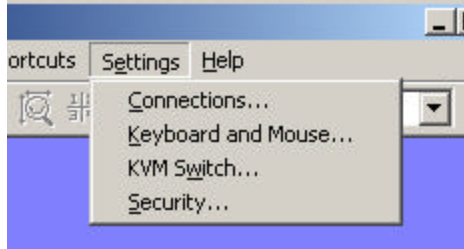


Figure 19 Settings commands display a tabbed dialog

Connections

The Connections tab allows you to maintain a list of UltraLink locations to which the Viewer may connect.

Keyboard and Mouse

The Keyboard and Mouse tab defines special key sequences and mouse escape movements to exit pass-through mode on the Viewer.

KVM Switch

The KVM Switch tab maintains names associated with KVM ports and keyboard events used to switch to a KVM port. UltraLink KVM switch settings are managed from the Viewer by an administrator. If the Viewer is not logged in to an administrator account, the KVM Switch tab is unavailable.

Security

UltraLink security settings are managed from the Viewer by an administrator. If the Viewer is not logged in to an administrator account, the Security tab is unavailable.

Help

Help is available in various forms.

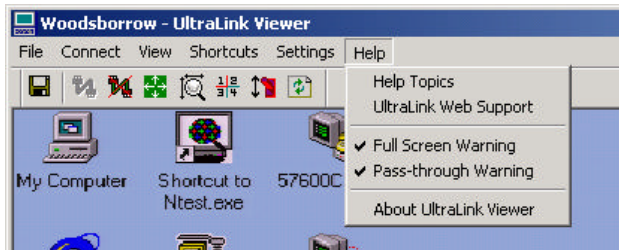


Figure 20 Help menu

Help Topics

The Help Topics command invokes full online help.

UltraLink Web Support

The UltraLink Web Support menu option opens a browser and links to the support web site.

Full Screen Warning

Enable or disable the warning dialog that appears before a switch to [full-screen mode](#).

Pass-through Warning

Enable or disable the warning dialog that appears before a switch to [pass-through mode](#).

About UltraLink Viewer

About UltraLink Client gives information about the current version of the Viewer and the last UltraLink that was connected.

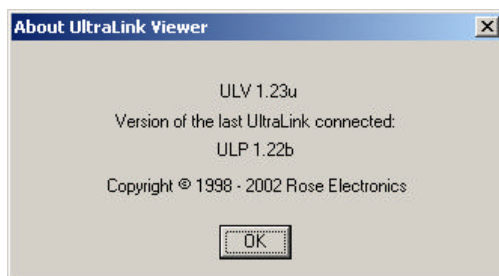


Figure 21 The About Box

Configuration Settings

The Settings menu item contains a tabbed dialog to configure the UltraLink and the UltraLink Viewer. Configure the Viewer with the [Connections](#) and [Keyboard and Mouse](#) tabs. Settings are stored on your computer. If you are an administrator, you may configure the UltraLink using the [KVM Switch](#) and [Security](#) tabs. These settings are stored on the UltraLink.

The following buttons appear at the bottom of the tabbed dialog and remove the Settings menu from view.

OK

The OK button applies changes made in all tabs to the Viewer immediately. If an administrator changes items in the KVM Switch or Security tabs, the changes are saved on the UltraLink and the changes are effective at the next login. KVM switch settings are active immediately.

The Viewer disables the OK button if another configuration dialog, such as the User Details dialog of the Security tab is open. Close the dialog to enable the OK button at the bottom of the Settings tabbed dialog.

Cancel

The Cancel button discard changes you make in all tabs.

Connections

The Connections tab displays and maintains a list of UltraLink locations to which a Viewer may connect. A location is a name of your choosing to identify the UltraLink.

UltraLink Locations

Three items describe each UltraLink location in the list: location name, connection type, and address. When you select a location in the list, the Viewer displays corresponding parameters in the Connect Using and IP Address fields. You may add, rename, or remove a location using the Add Location, Edit Location and Delete Location buttons. Changes made in the Connection Settings dialog reflect in the Connect menu and in the Connect Selection box on the toolbar.

The buttons bring up a dialog. On entering the dialog, the currently selected location in the UltraLink select list box on the toolbar displays. The location may not be edited or deleted if the Viewer is connected to that location. On leaving the dialog, the location selected in the list is also selected in the UltraLink select list box on the toolbar.

Add Location

The Add Location button define a new location to be added to the list of UltraLink locations. A dialog is provided where the name of the new location can be specified. After adding the location, it is selected so that its parameters can be defined.

Edit Location

The Edit Location button brings up a dialog to change the name of the location. Because the UltraLink locations list is sorted, renaming the location may change its position in the list.

Delete Location

The Delete Location button removes the selected location from the list.

Connect Using

The only valid choice is TCP/IP at this time.

IP Address or Domain Name

This field specifies a TCP/IP address or domain name of an UltraLink to which the Viewer may connect. A TCP/IP address takes the form: `nnn.nnn.nnn.nnn`. A domain name: `ultralink.mycompany.com`.

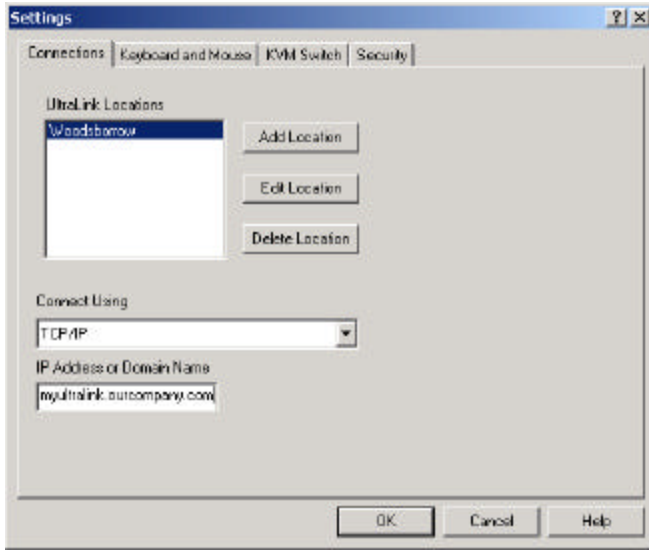


Figure 22 An UltraLink address

Keyboard and Mouse

The Keyboard and Mouse tab defines hotkeys and mouse escape movements.

Hot Keys

Hotkeys use keystrokes to perform the following actions:

- Enable or disable [pass-through mode](#)
- Enable or disable [full-screen view](#)
- Send Ctrl+Alt+Del to a remote computer
- Send Alt+Tab to a remote computer

Activate hot keys in one of two ways: simultaneously press the Ctrl and Alt keys and hotkey, or press and lift the Ctrl key and then press a hot key within 2 seconds. The second option provides an alternative in case the first option conflicts with an application on the remote computer. For example, Ctrl+Alt+P is also a command in Microsoft Word. Note that the second option may conflict with function keys on a KVM switch.

You may choose any letter in the alphabet to represent a hotkey, as long as it is not used as another hotkey.

Active

The Active checkbox enables the hotkey fields in the dialog. If you clear Fast Mouse Movement and Slow Mouse Movement in the check boxes on the same dialog, the Viewer automatically checks the Active checkbox to prevent you from disabling all methods of exiting pass-through mode.

Trigger

The Trigger list defines key sequences to activate a hotkey. The options are Ctrl + Alt, Ctrl-down Ctrl-up, and Both. The Ctrl + Alt key enables the hotkey if you hold down the Ctrl, Alt and the hotkey at the same time. The Ctrl-down Ctrl-up key sequence enables the hotkey if you press and release the left Ctrl key and then press and release the hotkey. Both indicates that both the Ctrl + Alt and the Ctrl-down Ctrl-up key sequences may be used.

Alt+Tab

The Alt + Tab hotkey sends an Alt + Tab key sequence to the remote computer and does not depend on whether the Viewer is in pass-through mode or not.

Ctrl+Alt+Del

The Ctrl + Alt + Del hotkey sends a Ctrl + Alt + Delete key sequence to the remote computer and does not depend on whether the Viewer is in pass-through mode or not.

Toggle Pass-through Mode

The Toggle Pass-through Mode hotkey puts the Viewer into [pass-through mode](#) if the Viewer is not already in pass-through mode and takes the Viewer out of pass-through mode if the Viewer was in pass-through mode.

Toggle Full Screen Mode

The Toggle Full Screen hotkey puts the Viewer into [full-screen view](#) if the Viewer is not already in Full Screen mode and takes the Viewer out of full-screen view if the Viewer was in full-screen view.

Mouse Escape Movements

In addition to hotkeys, you may also use two types of mouse escape movements to exit [pass-through mode](#). Mouse escape movements only takes the Viewer out of pass-through mode and do not put the Viewer into pass-through mode.

- Fast mouse movement is moving the mouse using continuous rapid zigzag motions for several seconds
- Slow mouse movement is a continuous long mouse movement in a single direction.

Fast Mouse Movement

This checkbox, if enabled, allows you to escape pass-through mode using continuous rapid mouse movement.

Activating the check box also enables a slider control to the right of the checkbox. The slider controls mouse sensitivity for Fast Mouse movement. Moving the slider to the left reduces mouse sensitivity and makes it easier to escape pass-through mode. Moving the slider right increases the mouse sensitivity and requires greater mouse movement to escape pass-through mode.

Slow Mouse Movement

This checkbox, if enabled, allows you to escape pass-through mode using a long mouse move in one direction.

Configuration Settings

Activating the check box also enables a slider control to the right of the checkbox. The slider controls mouse sensitivity for Slow Mouse movement. Moving the slider to the left reduces mouse sensitivity and requires moving the mouse a smaller distance. Moving the slider to the right increases mouse sensitivity and requires longer mouse movement.

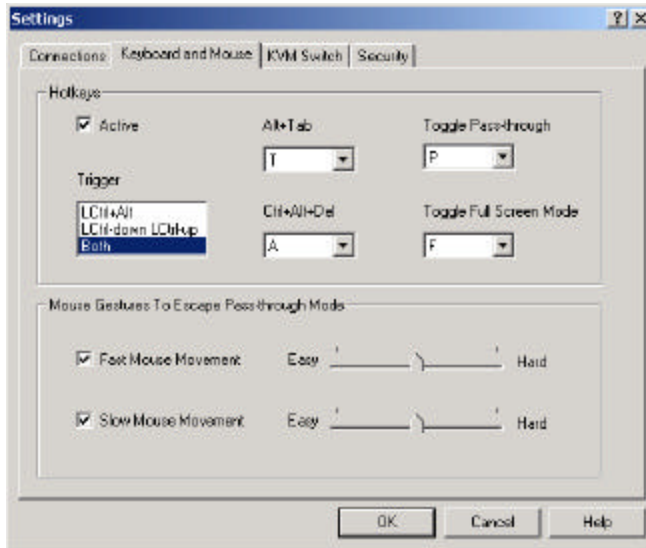


Figure 23 Configure hot keys and mouse escape movements

KVM Switch

An administrator may use the Switch Settings tab to perform the following functions. See the section [Using a KVM Switch](#).

- Activate UltraLink KVM features of any Viewer that logs in to this UltraLink
- Name KVM switch ports to allow the names to appear in the remote computer select list on the toolbar after a login

Device

The Device list box specifies the device type attached to an UltraLink – remote computer or KVM switch. The device may be: standalone PC, one of the KVM switches in the list, or custom. Use standalone PC if the UltraLink connects to a PC. If you select standalone PC, all KVM switch features of the Viewer are disabled. If you select a KVM switch from the list, you do not need to define keystrokes for port switching, but you may assign symbolic names to the ports. If you select custom, you must define the keyboard events that cause a KVM switch to switch from one port to another.

Ports

The Ports field specifies how many ports on the KVM switch are used. A standalone PC device uses only one port, but you may specify the number of ports for other devices. Change the number in the Ports field by typing a different number. Smaller numbers remove existing entries at the end of the list; larger ones add blank entries.

When you press Enter or Tab in the control or another control in the dialog gets the focus, the value in the Ports field is validated. The number of ports must be a positive number between 1 and 9999. If the number is valid, the switch settings table updates with the new number of ports.

Import

The Import button allows importing a switch file into the switch settings table. The imported file is a text file with `.txt` extension. The Viewer validates the file before importing it into the table. If the file is invalid, the operation is cancelled. See [Using a KVM Switch](#) for the format of a switch text file.

Export

When you select the Export button, the Viewer saves switch settings in a text file after you provide a file name and location.

Configuration Settings

Switch Settings Table

The switch settings table displays the port assignments of the attached device and contains three columns – Port, Name and Key Code.

Port

The *Port* column displays the port numbers for each port on the device and is not editable.

Name

The *Name* column displays the name of the computer on the port. By default, the name assigned to the port is “Computer” followed by the port number. You may change this name and use up to a maximum 32 characters.

Key Code

The *Key Code* column describes keyboard events used to switch a KVM switch from one port to another. Key code is in a specified format. The Key Code column may be edited only for custom KVM switches. After editing, a validation of the entered key codes is performed. If a key code is invalid, but may be converted to the correct format, the Viewer modifies the key code and displays the change made. If the entered key code cannot be converted to the required format, the entry is rejected.

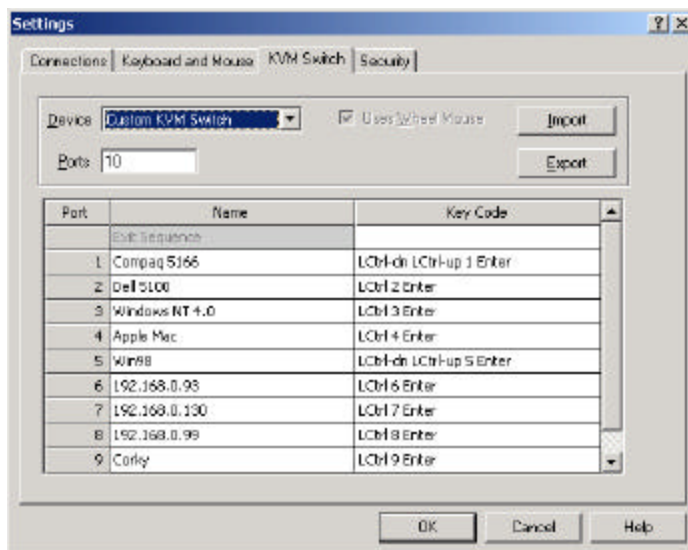


Figure 24 Assigning names to port numbers

Security

Manage UltraLink security settings from the Viewer using an administrator account. If the Viewer is not logged in to an administrator account, the Security tab is unavailable.

The Security tab displays a list of user accounts on the UltraLink. The administrator account is the first account, on the top row of the user account list. Also displayed are inactivity timeout and encryption type fields.

The Add User and Edit User buttons bring up a User Details dialog. Adding a new user account is similar to editing an existing user account, the only difference is that the user ID field is empty. Delete a user account by selecting an account from the user account list and selecting the Remove User button.

Select OK at the bottom of the Security dialog to update user accounts, inactivity timeout and encryption type on the UltraLink. New settings become active at the next login. Abandon changes by selecting the Cancel button.

User Settings Table

The user settings table displays a list of users who can log on to the UltraLink and some of the attributes of the user account, such as user ID, IP mask and Admin. The Admin field indicates whether the account is an administrator account. There may only be one administrator account on an UltraLink and is defined when the UltraLink first starts.

Changes to the user settings table are made using a User Details dialog.

Add User

The Add User button creates a new user account using the User Details dialog. The new user account is selected in the table. New users are not administrators.

Remove User

The Remove User button deletes a selected user from the user settings table.

Edit User

The Edit User button allows you to change attributes of a selected user using the User Details dialog. A changed user is selected in the table.

Inactivity Timeout

The UltraLink may disconnect an inactive Viewer to prevent unauthorized access to the UltraLink and to become available to other Viewers. Inactivity timeout defines

Configuration Settings

the period of time the UltraLink will monitor a Viewer for keyboard and mouse events in pass-through mode.

Inactivity timeout is specified in minutes. A value of zero minutes prevents the session from being disconnected. Any other value disconnects the user if the Viewer detects no keyboard activity and no mouse movement during the period. The default period is 30 minutes.

Encryption Type

The Encryption Type field determines whether the data sent between the Viewer and the UltraLink are encrypted, and if so, which encryption algorithm is used. The Encryption Type can be one of the following values:

- None
- Triple DES
- Blowfish

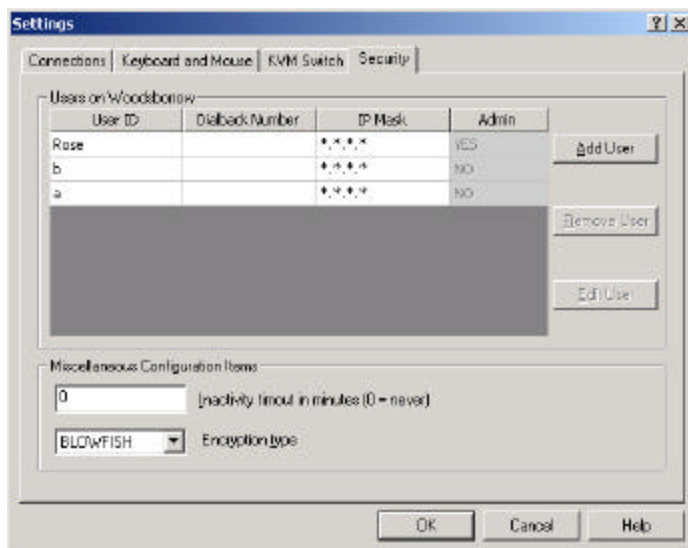


Figure 25 Settings dialog

User Details Dialog

User ID

Enter a User ID not already been assigned to another user. The User ID is case-sensitive and may not be more than 16 characters long. If you are editing a user account, the User ID field contains the selected User ID. It is empty if you are creating a new user account. The Viewer disables the OK button until you enter a unique User ID and displays a message below the field if the User ID is invalid.

Password and Confirm Password

As a security measure, these fields do not display what you type. Enter a password for this account twice, once in the Password field and once in the Confirm field. This verifies that you entered the password correctly. The password is case-sensitive and may not be more than 16 characters long. The Viewer disables the OK button and displays a warning if the password fields do not match.

Dialback Number

Dialback number is reserved for future use.

IP Mask

The IP Mask field is an optional field that specifies a TCP/IP address or address range from which the UltraLink may accept connections. When a user logs in, the UltraLink verifies that the IP address falls within the range defined in the mask. If it does not, the UltraLink breaks the connection, preventing unauthorized logins – even with stolen usernames and passwords.

The mask has a fixed dotted-quad format. A fixed address mask is composed entirely of numbers, for example, 192.168.1.123. A range is specified when any quad has an asterisk. For example, a mask of 192.168.0.* allows the user to login from any IP address in the range 192.168.0.1 through 192.168.0.254.

To change the mask, enter mask quads in the IP Mask field. A quad may have a value in the range of 0 to 255, or may be an asterisk. Enter the IP range of addresses to which the Viewer may connect in the form nnn.nnn.nnn.nnn. By default, IP Mask has a value of *.*.*.*, indicating that this account can log in over TCP/IP connections from any IP address.

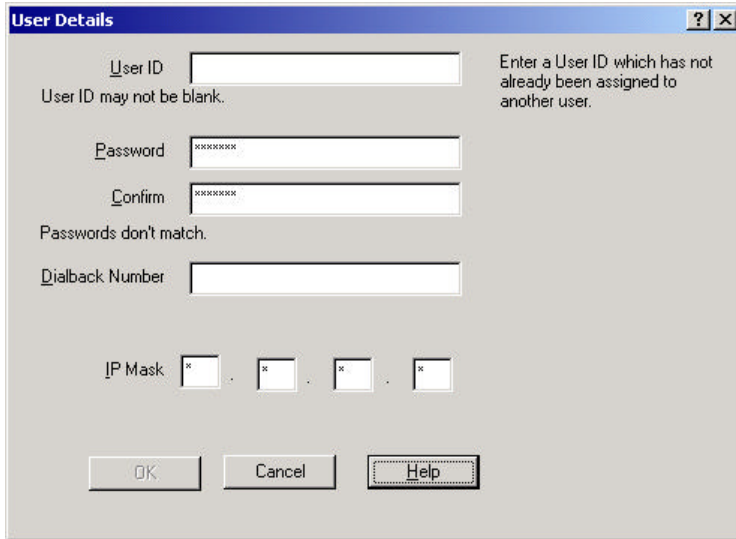
OK

When you edit a user account, the Viewer disables the OK button on the Security tab until you select OK or Cancel on the User Details dialog. Selecting OK on the User Details button does not save your changes to the UltraLink until you select the OK button on the Security tab.

Cancel

Abandon changes to User Details by selecting the Cancel button on the User Details dialog.

Configuration Settings



The image shows a dialog box titled "User Details" with a blue header bar containing a question mark icon and a close button. The dialog has a light gray background and contains the following fields and text:

- User ID:** A text input field. Below it, the text "User ID may not be blank." is displayed. To the right, a note reads: "Enter a User ID which has not already been assigned to another user."
- Password:** A text input field with masked characters (xxxxxxx).
- Confirm:** A text input field with masked characters (xxxxxxx). Below it, the text "Passwords don't match." is displayed.
- Dialback Number:** A text input field.
- IP Mask:** Four small input boxes, each containing an asterisk (*), separated by dots.
- Buttons:** Three buttons are located at the bottom: "OK", "Cancel", and "Help". The "Help" button is highlighted with a dashed border.

Figure 26 User Details

Connecting and Logging In

Connecting

There are two methods of connecting to an UltraLink, the connect menu and the toolbar. The toolbar button connects to the UltraLink selected in the select list on the toolbar with a single click.

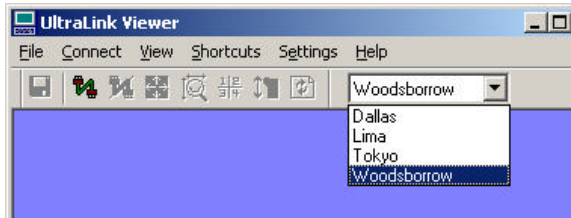


Figure 27 Choosing an UltraLink to connect

The connection may not complete for one of the following reasons:

- UltraLink is busy with a local user or another Viewer
- UltraLink address is incorrect
- UltraLink is powered off
- Network is not available
- Another login occurs at the same time

In these cases, the Viewer presents the user with an appropriate message.

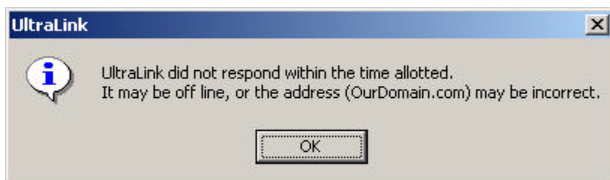


Figure 28 Cannot find UltraLink

Login

Once connected, the Viewer prompts for a valid user ID and password. If the time to respond to a login exceeds a limit, the UltraLink displays a message and disconnects.

An UltraLink allows three login attempts before disconnecting. If a valid user ID and password are not entered in three attempts, the UltraLink terminates the connection and the Viewer displays a message.

Connecting and Logging In

After a successful login:

- The Connect menu changes to Disconnect
- The Connect button on the toolbar is disabled
- The Viewer display area, which previously displayed the message “Not Connected”, displays video from the remote computer
- The status bar reflect the connection status and the time the Viewer has been connected to the UltraLink
- The Viewer enters pass-through mode.

Pass-through Mode

After login, the Viewer switches to pass-through mode. Your mouse is restricted to the display area of the Viewer. Your keyboard and mouse control the remote computer, but have no effect on your computer. However, by default, pass-through mode passes all [system keys](#) to your computer.

The [status bar](#) displays the current pass-through status. A green indicator on the lower left turns on in pass-through mode and turns off when pass-through mode is exited.

Exiting Pass-through Mode

Since the Viewer’s menus and toolbar are unavailable in pass-through mode, a series of reserved keystrokes and mouse escape movements regain control of your computer. The escape method is configurable:

- [Hotkey](#) shortcut
- [Fast mouse escape movement](#)
- [Slow mouse escape movement](#)

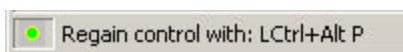


Figure 29 The green pass-through indicator

When you enter pass-through mode, the escape method appears on the status bar. This message on the status bar is not permanent, and subsequent messages may erase it.

Pass-through Warning Dialog

The Viewer displays a warning dialog before switching into pass-through mode to remind you of the escape methods. You may disable the warning dialog by checking the suppress checkbox. With the warning dialog disabled, the Viewer enters pass-through mode after login. Reinststate the warning dialog by checking Pass-through Warning on the Help menu.

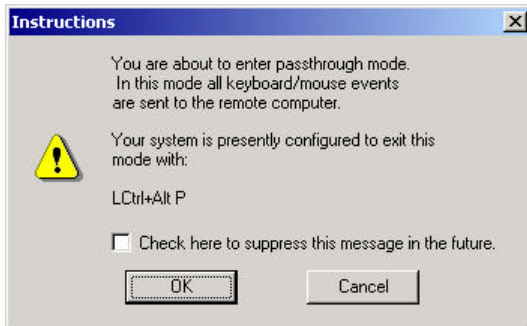


Figure 30 Remember your exit

Reentering Pass-through Mode

After you exit pass-through mode, reenter pass-through by:

- Clicking anywhere in the display area
- Clicking the Pass-through menu option in the View menu
- Use a the key sequence (Ctrl+Alt+P by default) defined in the Keyboard and Mouse tab of the Settings menu

System Keys

The system keys are as:

- Alt + Tab
- Alt + Esc
- Ctrl + Esc
- The Windows keys

When system keys are local, it is still possible to send Alt + Tab and Ctrl + Alt + Del to the remote computer without exiting pass-through mode, by using special keystrokes.

Connecting and Logging In

Ctrl + Alt + Del and Ctrl + Tab

To send Ctrl + Alt + Del and Alt + Tab to a remote computer without entering pass-through mode use the reboot toolbar button or key combinations. The default key combinations Ctrl + Alt + T and Ctrl + Alt + A may be modified.

Disconnecting

Either the Viewer or the UltraLink may break a connection. Normally, the Viewer disconnects when you:

- Select the Disconnect toolbar button
- Select Disconnect on the Connect menu
- Exit the Viewer

The Viewer performs the following functions after a disconnection:

- Displays a message explaining the reason for the disconnect
- Exits pass-through and/or full-screen modes
- Shows the Not Connected blue screen in the display area
- Removes the remote computer select box from the toolbar
- Reverts the Status bar to its unconnected state
- Disables the Disconnect button and menu

The UltraLink disconnects when a local operator performs a Connect or Configure login or an administrator updates UltraLink firmware.

View Modes

The viewer has modes to show each computer at its clearest possible size, or to lock the viewer's size and fit each new image within a selected view size. Select View modes on the [View](#) menu.

- If you want to focus on a remote computer, full-screen mode uses 100% of the monitor to give a feel like being at the remote computer.
- Your computer may have a monitor set to 1280 x 1024 pixels and a remote computer set to 640 x 480 pixels. In this case, a windowed mode displays the remote computer, leaving other programs on the desktop visible.
- To monitor a computer's actions using the minimum possible screen real-estate, use one of two methods: scale the image down to fit in a small window, or use scroll bars to view an area of interest, leaving the image at its native resolution and easier to read.
- Monitor several computers continuously using quad screen mode.
- To monitor several computers sequentially, have a KVM switch scan through its ports continuously.

Scaled and Scrolled

View remote computers in either scaled or scrolled view mode using the [View](#) menu.

In scaled view, the Viewer sizes the video image sizes to fit within the display area. To scale an image, adjust the size of the Viewer window by dragging one or both edges. Scaling may improve response time on a slow connection, by scaling the image smaller than the original size.

It may be preferable to scale images to a smaller size but not to a larger size. This is particularly true when switching between computers using a KVM switch. Enable the Don't Enlarge sub-option of Scaled in the View menu. The Viewer displays scaled-down images when the image is larger than the display area but centers an image at its native size when the image is smaller than the display area.

In scrolled view, the image from the remote computer is in its native size, providing the sharpest possible image. If the display area is not large enough to display an image in either the horizontal or the vertical direction, the Viewer adds scroll bars. Use the scroll bars to view any part of the image. If the view area is larger than the remote computer image, the Viewer centers the image in the display area. You may select scrolled view using the Scrolled menu option of the View menu.

View Modes

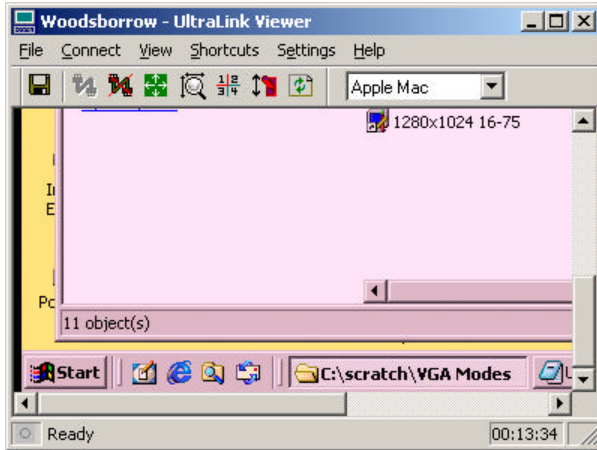


Figure 31 Scroll bars allow native resolution in a small window

Auto Size

This setting determines what happens when there is a change in a remote computer's resolution. This change may occur when switching between ports on a KVM or it may change several times when a remote computer reboots.

With Auto size off, the Viewer never changes its window size in response to changes in the incoming resolution. In scaled mode, the Viewer scales the new image to fit the display area; otherwise, it displays the image with scroll bars or is centered.

With Auto size on, the Viewer resizes after each change in image size. When possible it sets the image to its native size and fits the Viewer to match the image. Invoke this command with a button on the toolbar, or select the Auto Size item on the View menu. The Auto Size command is not available when the Viewer is in quad-screen or full-screen view. The image below shows how the Viewer looks after being Auto Sized to fit a 640 x 480 image.

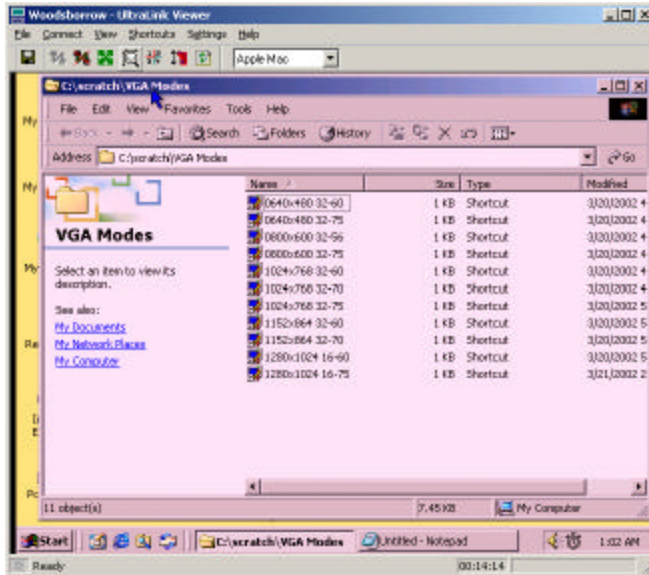


Figure 32 Auto Size fits image exactly into the display area

Full-screen

In full-screen view, the display area takes over the entire screen of your monitor. The title bar, menus, toolbar and status bar of the Viewer do not display – only the video image of the remote computer is visible on the screen.

To enter full-screen view, select the full-screen toolbar button or the full-screen menu option on the View menu. The Viewer disables full-screen view until you login to an UltraLink.

A warning dialog displays on entering full-screen view. The dialog gives a brief description of full-screen view and a means of exiting. The checkbox at the bottom of the full-screen warning dialog allows suppressing the display of the dialog. If it is checked, the dialog will not display thereafter when you select full-screen view. If you suppress the dialog, you may re-enable it by checking the Full Screen Warning command on the Help menu.

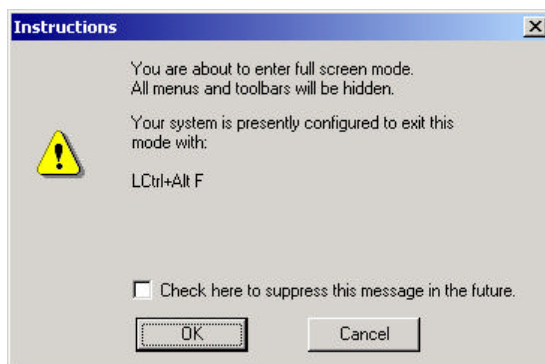


Figure 33 Full-screen warning may be suppressed or reinstated

View Modes

The Viewer automatically enters pass-through mode when going to full-screen view, unless the Viewer is in quad-screen view.

In the absence of menus and toolbars in full-screen view, the only way to exit full-screen view is to use hotkeys or mouse escape movements. Exiting pass-through mode causes the Viewer to exit full-screen view and return to windowed view. If the UltraLink disconnects while the Viewer is in full-screen mode, the Viewer returns to windowed view.

Color Modes

Color modes define how the UltraLink transmits video data to the Viewer. These modes balance color resolution against transmission speed. Color Modes are set on the [View](#) menu. The currently active color mode appears as a dot to the left on the View menu.

The following figure shows typical examples of how each mode looks and the table gives an approximation of the tradeoffs.

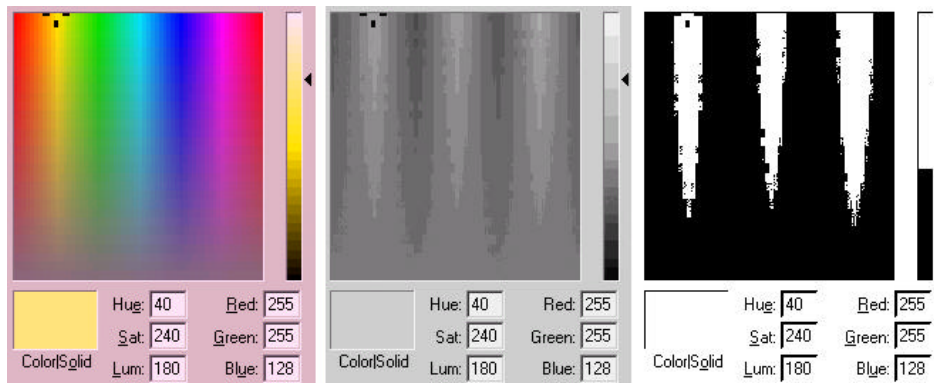


Figure 34 Color affects image quality

These characterizations are approximate; actual results depend on the nature of the screens. If the images are mostly solid colors, reducing the color quality will have little effect on the transmission speed. If the images contain gradients or complex graphics, the speed increase may be dramatic.

Mode	Image Quality	Speed
Color	High	Low
Grey	Medium	Medium
Black and White	Low	High

Table 4 Color mode affects image quality and speed

Using a KVM Switch

KVM Switch Features

Enable KVM switch features by selecting a KVM switch type in the device list of the [KVM Switch](#) tab of the Settings menu. Then save the switch settings to the UltraLink by selecting OK at the bottom of the Settings dialog.

Using an UltraLink with a KVM switch enables the following features:

- [Remote computer select](#)
- [Quad-screen](#)
- [Switch file import and export](#)

Remote Computer Select

When you enable KVM switch features, a remote computer select box appears on the toolbar after login. Selecting a name in the remote computer select box immediately connects your keyboard, mouse, and video to that computer's port on the switch. The Viewer saves the name you select in the remote computer select list and displays it the next time you login.

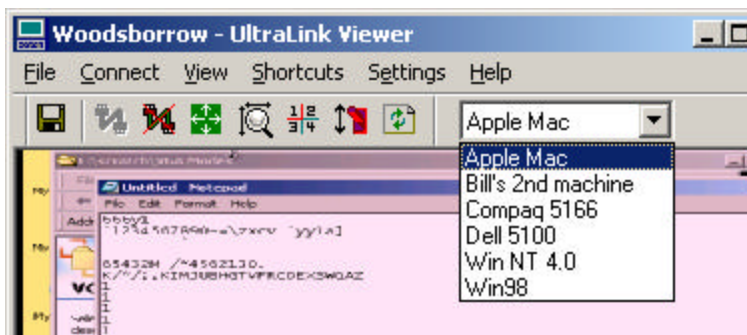


Figure 35 Switch to a remote computer by name

If you select a remote computer at a different screen resolution than one you are viewing, the screen resolution description on the status bar updates.

Quad Screen

In quad-screen view, the Viewer displays video from up to four remote computers by controlling the KVM switch to change ports. Keystroke events to cause the KVM switch to select a computer port are defined using the [KVM Switch tab](#) of the Settings menu.

You may toggle between single-screen view and quad-screen view by clicking the:

- Single or Quad commands of the View menu
- Quad Screen toggle button on the toolbar

When you select quad-screen view for the first time, your screen remains the same, except that the toolbar shows four remote computer select lists, one for each quadrant. The position of the select box corresponds to a quadrant. Once you select more than one computer in the select boxes, the Viewer divides its display area into four quadrants. All the quadrants are always the same size and each video image scales to fit into a quadrant. The Viewer save the names you select in the remote computers select boxes and displays them the next time you select quad-screen view.

Quad-screen view is a view only mode – mouse and keyboard do not control any of the four remote computers and the Viewer does not enable pass-through mode.

You may select full-screen view while in quad-screen view; however, you may not switch remote computers in the quadrants because the toolbar and the remote computer select lists are not visible.

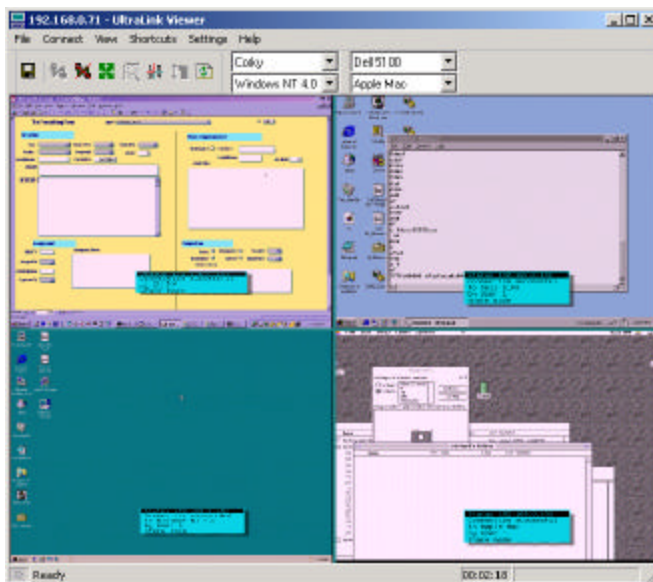


Figure 36 Select a quadrant's image using the corresponding computer select list

Switch File Import and Export

The Key Code column on the [KVM Switch](#) tab of the Settings menu defines keyboard events to make a KVM switch select a port. Key Code is automatically defined in for KVM devices defined in the Device list box.

A custom KVM switch requires you to specify the key codes. To enter key codes, enter the text on the keyboard's key tops with the following exceptions:

- Remove spaces from keys that use two words, e.g. *PrintScreen*
- Tab is *Tab*
- Ctrl, Shift, and Alt are designated left or right by a preceding L or R, e.g. *L Ctrl* or *R Shift*
- Keys normally represent a down and an up stroke. Designate down and up strokes separately by adding *-up* or *-dn*, e.g. *L Ctrl-dn H L Ctrl-up*
- Precede keypad keys with KP, e.g. *KP8*
- Arrow keys are spelled: *Larrow*, *Rarrow*, *Uarrow*, *DArrow*
- The ← key is spelled: *BackSpace*

The Viewer validates keystrokes. If there are invalid keystrokes, a message dialog indicates the problem found and summarize the rules for entering keystrokes.

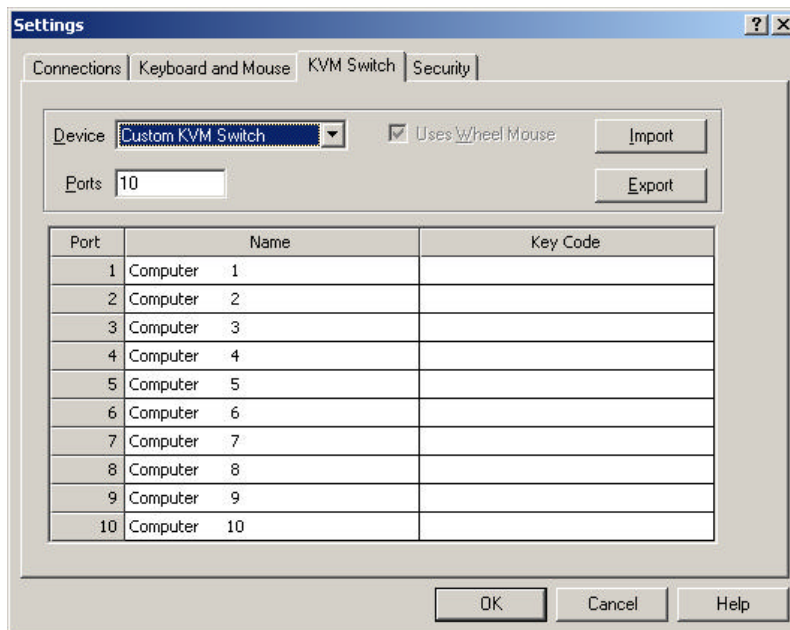


Figure 37 Key codes are editable for custom switches

Using a KVM Switch

Switch File Content Rules

Use the Import and Export buttons to save and retrieve switch settings to text files, which you may edit with any text editor. To create a switch file use the example below.

Line	Content	Notes
1		Blank, reserved for future use
2	custom	Switch type
3		Blank, reserved for future use
4		Blank, reserved for future use
5		Blank, reserved for future use
6	` `Exit Sequence`LCtrl L	Specifies an exit sequence
7	`1`Computer 1`LCtrl 1 Enter	Port #, name, keystrokes
8	`2`Computer 2`LCtrl 2 Enter	Port #, name, keystrokes
9	`3`Computer 3`LCtrl 3 Enter	Port #, name, keystrokes

Table 5 Switch file contents

Switch type must be present and may be on any of the first five lines. The switch should be custom. Starting with line 6, each line must have three grave accent “`” delimiters with the data arranged as follows:

- Delimiter
- Port number
- Delimiter
- Computer name
- Delimiter
- Key code

Safety

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

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

Appendix A. Rack mount

The rack mount kit includes the following items:

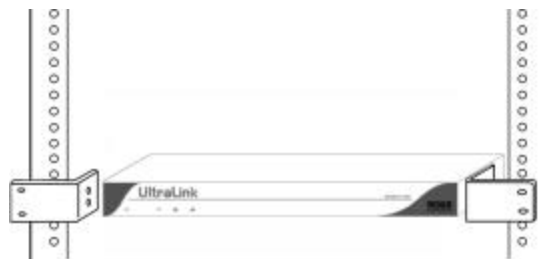
- Two black anodized mounting brackets.
- Four 6 - 32 x 3/8" flat head mounting screws.

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

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

- a). The UltraLink is designed to work in an ambient temperature of 0° C to 45° C (32° F – 113° F).
- b). Do not block power supply vents or otherwise restrict airflow when rack-mounting this Unit.
- c). Mechanical loading of the rack should be considered to prevent instability and possible tipping over.
- d). Tighten all connectors securely and provide adequate strain relief for all cables.
- e). Provide a grounded power source to all Units. Pay special attention to overall branch circuit load ratings before connecting equipment to this source. Overloaded circuits are potential fire hazards and can cause equipment failures or poor performance.

Rack mount illustration



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