UltraConsole Remote 2™

INSTALLATION AND OPERATIONS
MANUAL

ROSE ELECTRONICS

10707 Stancliff Road
Houston, Texas 77099

Phone (281) 933-7673
www.rose.com

LIMITED WARRANTY

Rose Electronics warrants the UltraConsole™ Remote 2 to be in good working order for one year from the date of purchase from Rose Electronics or an authorized dealer. Should this product fail to be in good working order at any time during this one-year warranty period, Rose Electronics will, at its option, repair or replace the Unit as set forth below. Repair parts and replacement units will be either reconditioned or new. All replaced parts become the property of Rose Electronics. This limited warranty does not include service to repair damage to the Unit resulting from accident, disaster, abuse, or unauthorized modification of the Unit, including static discharge and power surges.

Limited Warranty service may be obtained by delivering this unit during the one-year warranty period to Rose Electronics or an authorized repair center providing a proof of purchase date. If this Unit is delivered by mail, you agree to insure the Unit or assume the risk of loss or damage in transit, to prepay shipping charges to the warranty service location, and to use the original shipping container or its equivalent. You must call for a return authorization number first. Under no circumstances will a unit be accepted without a return authorization number. Contact an authorized repair center or Rose Electronics for further information.

ALL EXPRESS AND IMPLIED WARRANTIES FOR THIS PRODUCT INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF PURCHASE, AND NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THIS PERIOD. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

IF THIS PRODUCT IS NOT IN GOOD WORKING ORDER AS WARRANTED ABOVE, YOUR SOLE REMEDY SHALL BE REPLACEMENT OR REPAIR AS PROVIDED ABOVE. IN NO EVENT WILL ROSE ELECTRONICS BE LIABLE TO YOU FOR ANY DAMAGES INCLUDING ANY LOST PROFITS, LOST SAVINGS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR THE INABILITY TO USE SUCH PRODUCT, EVEN IF ROSE ELECTRONICS OR AN AUTHORIZED DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS, SO THE ABOVE MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

> NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IBM ®, AT, and PS/2 are trademarks of International Business Machines Corp.
Microsoft ® and Microsoft Windows™ are registered trademarks of Microsoft Corp.
Apple, Macintosh, and ADB are trademarks of Apple Computer, Inc.
Sun is a registered trademark of Sun MicroSystems Inc.
Any other trademarks mentioned in this manual are acknowledged to be the property of the trademark owner.

UltraConsole

Ethernet
Switch

Routers

SUN
Server

Windows
Server

Servers
Serial Devices

Working Station

UltraConsole
Remote

TCP/IP

Mobile User
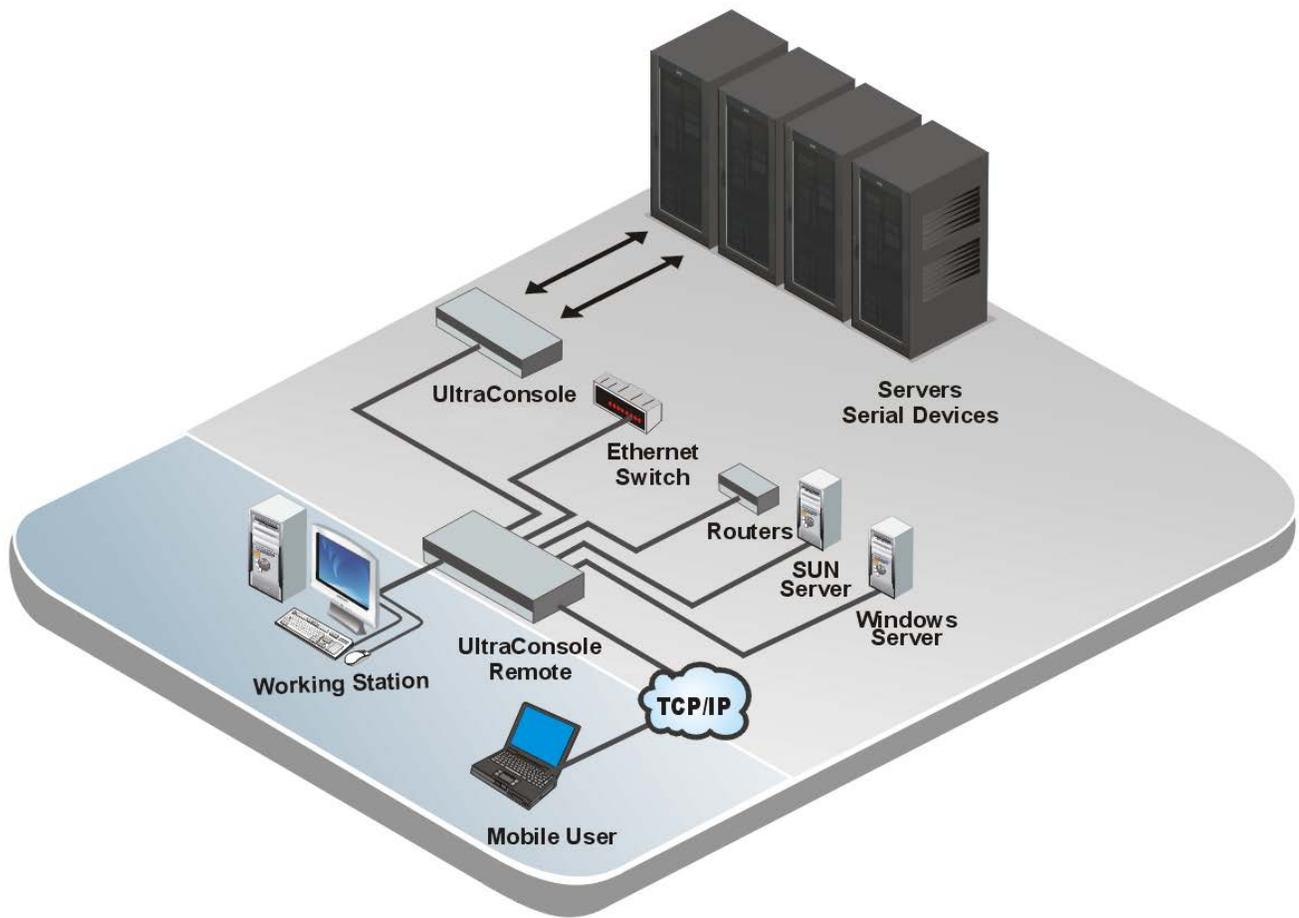
TABLE of CONTENTS

Contents   **Page #**

INTRODUCTION

Disclaimer

While every precaution has been taken in the preparation of this manual, the manufacturer assumes no responsibility for errors or omissions. Neither does the manufacturer assume any liability for damages resulting from the use of the information contained herein. The manufacturer reserves the right to change the specifications, functions, or circuitry of the product at any time without notice.

The manufacturer cannot accept liability for damages due to misuse of the product or other circumstances outside the manufacturer's control. The manufacturer will not be responsible for any loss, damage, or injury arising directly or indirectly from the use of this product.
(See limited warranty)

Introduction

Thank you for choosing Rose Electronics® UltraConsole Remote 2™ KVM/Console over IP switch with remote access capabilities. The UltraConsole Remote 2 is the results of Rose Electronics commitment to providing continued state-of-the-art solutions for today's demanding workplace. The UltraConsole Remote 2 has proven to be a valuable investment for all types of businesses that have the need to access multiple serial devices and monitor, maintain, and access information from multiple computer systems locally, over your network, or from anywhere in the world. Its use in large computer facilities gives the IT professional the added flexibility to remotely monitor and maintain hundreds of systems, running on different platforms, from a centralized KVM station. The UltraConsole Remote 2 is the common sense switching solution that provides the flexibility, integrity, and security required for today's business environment.
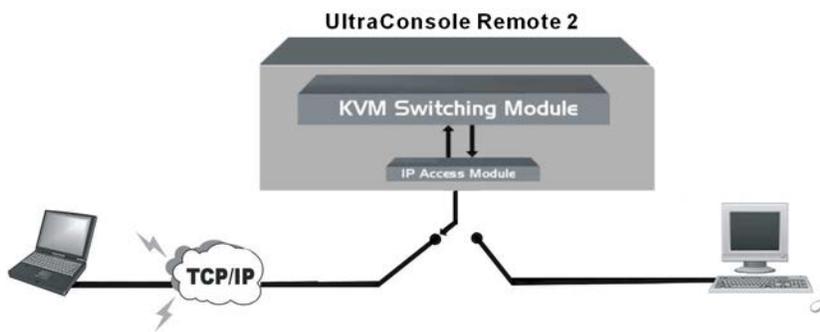
The UltraConsole Remote 2 consists of an IP input module and a KVM switch module. The IP input module controls unit access, locally and remotely, and access security. The KVM switch module controls the port switching and has its own unique OSD that can be configured with appearances, port settings, additional security, and other parameters.

The UltraConsole Remote 2's advanced on-screen display (OSD) menus guide you through the configuration process with on-screen information for each configuration section, making it easy to configure the UltraConsole Remote 2, the KVM station, the computers and serial devices, and security for the system. There are additional configuration parameters that can be used to personalize the look of the menus and dialog boxes. A help line is provided for each menu selection giving a brief explanation of the selected menu item.

Rose Electronics UltraConsole Remote 2 is designed to meet your switching needs, whatever your system demands are, one user and one computer or hundreds. All models offer standard features that allow for easy, secure, and complete access to as many as 1,000 devices from a single KVM stations.

Reliability, security, flash memory technology, state of the art KVM switching technology, and other features ensure the UltraConsole Remote will streamline your data center or server room and simplify the maintenance, access and updating of your systems.

About this manual

This manual covers the installation, configuration, and the operation of the UltraConsole Remote 2 series switches. The installation consists of installing and configuring the unit, connecting serial devices, computers/servers, and configuring the unit with network information.

Features

- Available in different models designed to meet your remote access needs
- Connect to remote devices locally, from any workstation on your network or over the internet using a web browser and the very secure VNC Viewer.
- Local KVM port for configuring the UltraConsole Remote 2 and direct access to the connected devices
- Video resolution up to 1600 x 1200
- Powerful and expandable to 1,000 devices
- Solid state embedded unit has no disk drive for maximum reliability
- Remote application (Real VNC or VNC Java applet) can be installed directly from the unit

Upgradeability

- Free lifetime base firmware upgrades, based on flash memory technology provide new features and improvements. Base firmware upgrades are available from our web site at www.rose.com.

Security

- Security system with login requirements, access control and data encryption
- State of the art security using AES 128 bit encryption and RSA 2048 bit public key authentication (Connection using Real VNC enhances the security by allowing the creation of ciphered user communication)
- Unique configuration password for persons authorized to perform configuration maintenance
- User names and passwords allow controlled access to sensitive information, system data, or restricted applications
- IP lockout feature for incorrect login (IP address shown as "Blacklisted" in log file)
- Computers can be assigned to a unique group, allowing authorized access only
- Four connect modes; View, Share, Control, and Private provide flexibility in configuring the UltraConsole Remote 2 to conform to your security requirements
- Profiles can be defined and assigned to each user that defines which connected devices they have access to and the connect mode

Flexibility

- Modular design makes for easy installation, maintenance, and expandability
- Plug-in expansion boards make the UltraConsole Remote 2 easy to extend to other units
- Pre-configuration of the switch allows for installation without powering most computers/servers down
- Switching can be done by keyboard commands, an on-screen list, or by commands through the RS232 serial port
- Multi-language capabilities
- Integrated auto-switching power supply accepts 90-240 VAC sources

On-screen display technology

- Advanced on-screen display makes configuration and switching easy
- The remote video pops-up over the computer application display or is automatically generated
- Easy to use menus guide you through the configuration process
- The connection status for all computers can be displayed
- Multi-lingual OSD (English, French, German, and Spanish)
- Menus and display windows can be configured with solid or transparent colors
- One of four screen saver options can be selected

Compatibility

- A variety of hardware platforms can be connected simultaneously to the UltraConsole Remote 2 without interference, including PCs, Sun systems, IBM RS/6000, HP, DEC, SGI, serial devices such as routers and hubs, and others
- Full keyboard and mouse emulation and video resolutions up to 1600 x 1200 ensures trouble-free access to most software applications
- Serial support using VT100, VT102, and VT202 terminal emulation
- Standard TTY mode automatically scrolls incoming data

Cable requirements

The cable requirements for your system will vary depending on the types of equipment connected to the UltraConsole Remote 2 and the equipment used for the local KVM station. A KVM cable is needed for the local KVM station, a CPU cable for each device connected to the UltraConsole Remote 2, expansion cables if the system is expanded in a BUS or RING configuration, and a cable to connect the unit your network. Rose Electronics offers a wide variety of cable types to directly connect your PC's, Sun systems, MAC computers and others. See Appendix B for cable part numbers.

Package contents

The shipping package content consists of the following:
■ The UltraConsole Remote 2 unit
■ Rackmount Kit
■ Power cord (North American shipments only)
■ RJ12 serial cable
■ RJ to DB9 adapter
■ Installation and operations manual

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

Rose Electronics web site

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

Register your product for future updates at: www.rose.com/htm/online-registrationform.htm

MODELS

UltraConsole Remote 2 Models

Rear Panel	Model Number
1 x 4 (Model number UCR-1R1X4U/2)	Single user / 4 port model
1 x 8 (Model number UCR-1R1X8U/2)	Single user / 8 port model
1 x 16 (Model number UCR-1R1X16U/2)	Single User / 16 port model
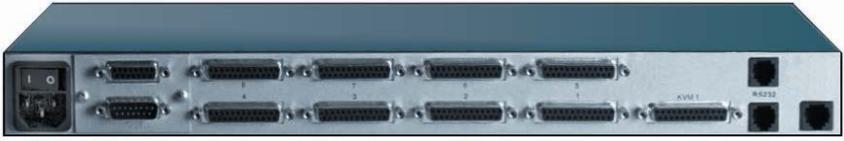
Connector	Description	Connector	Description
	Power Connector IEC320		KVM Connector DB25F
	Expansion card(s) Connectors DB15M (Output) DB15F (Input)		RS232 Serial connector RJ12F
	CPU Connector DB25F		Network connector RJ45F
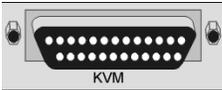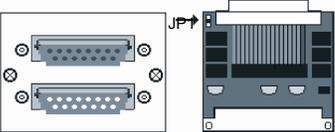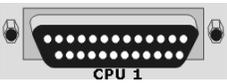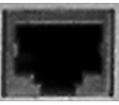
System overview

The UltraConsole Remote 2 is designed with the latest in KVM switching and remote access technology. It provides a comprehensive solution for local and remote server access. Local access is from a KVM station connected directly to the UltraConsole Remote 2. Remote access is from any Windows based workstation on your network. An unlimited number of workstations can be set-up to access the UltraConsole Remote 2, but a maximum of 4 remote users can be connected simultaneously.

Basic installation of the UltraConsole Remote 2 is easy and straightforward. The installation consists of:
1. Install the hardware. (Unit, cables, CPUs/Servers, serial devices, local KVM station)
2. Configuring the UltraConsole Remote 2 from the local KVM station for remote access (assign IP, sub-net, etc)
3. Remotely configure the unit from a Windows based workstation on your network
4. Configure the CPU and KVM ports

The Versatility and flexibility of the UltraConsole Remote 2 gives you the capability of expanding the number of computers/servers that can be accessed to 1,000. The expansion can be done by adding additional UltraConsole units or other Rose Electronics KVM switches
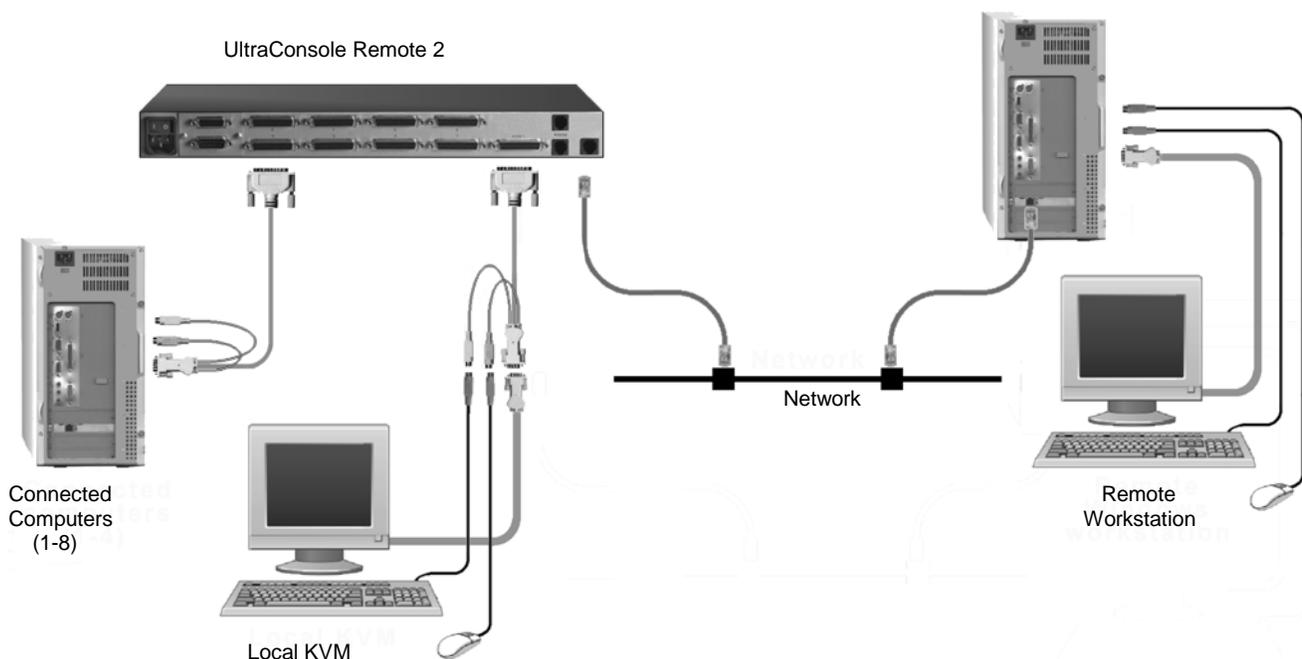
Figure 1. Typical Single Unit Application

INSTALLATION

UltraConsole Remote 2 Installation (Single unit)

Connecting the hardware

UltraConsole Remote 2

Connecting the KVM station

Connect a local KVM station to the UltraConsole Remote 2's KVM connector using a KVM adapter cable that is compatible with the local KVM equipment and cable connectors. The local KVM mouse must be a PS/2 type mouse, the keyboard a PS/2 type keyboard and the monitor should be equal or better in resolution and capability than any connected computers.

KVM adapter cable

Local KVM

UltraConsole Remote 2
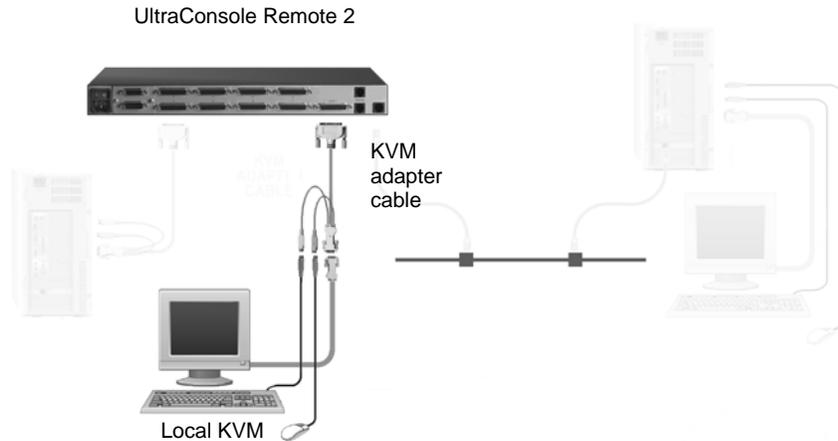
Connecting the computers

Connect the computers, servers, and serial devices to their corresponding CPU port using a CPU adapter cable. If power must remain on a computer/server that will be connected, **DO NOT** connect the computer/server to the UltraConsole Remote 2 at this time. The unit should have the CPU port properly pre-configured for the correct keyboard and mouse type.

CPU adapter cable

Connected Computers 1-4 / 8 / 16

UltraConsole Remote 2
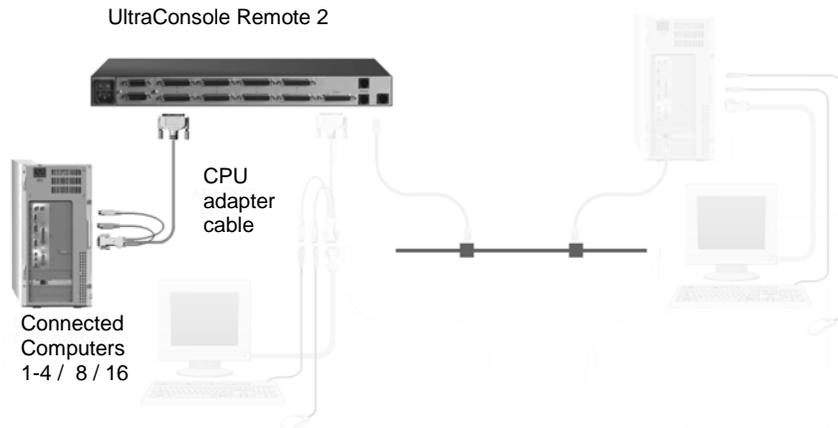
Connecting to the network

Connect the UltraConsole Remote 2 to the network using a standard network cable. Connect the cable from the "LINK" connector to a network connector. It is recommended not to connect to the network at this time.
The default IP address for the UltraConsole Remote 2 may conflict with your network configurations. Connect to the network after the unit is configured with the assigned IP address.
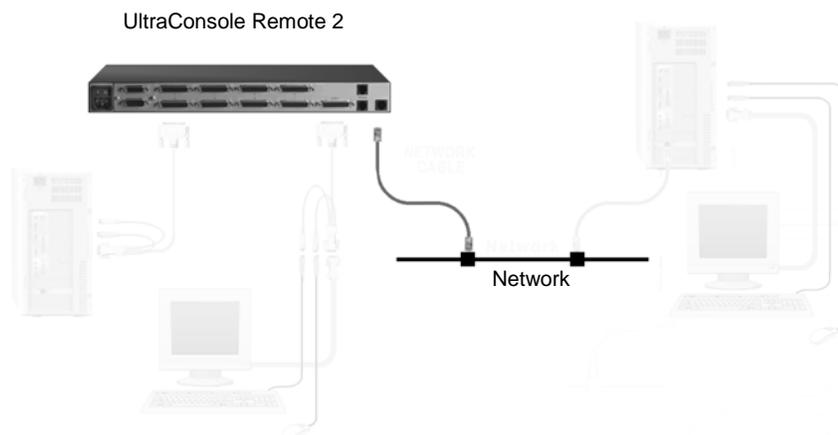
Network

UNIT CONFIGURATION

Configuring the UltraConsole Remote 2 IP Input module

- When you locally connect to the UltraConsole Remote 2 unit for the first time the Unit must be configured to be compatible with your network.
- Follow the recommended procedure below to configure all models
- Make all cable connections to the KVM station and computers, connect to the network after the assigned unit IP address has been entered and saved.
- Make sure power is applied to all devices (Computer, UltraConsole Remote 2, and Monitor)
- Make sure a computer is connected to CPU port #1 and that computer is powered on
  If no computer is connected to port #1, the OSD menu screens may not sync
- With power applied, a standard login screen will display on the KVM monitor
- Login on to the unit using the default user ID, **admin** and no password
- After a successful login, the remote computer's video will display on the KVM monitor
- Press the CTRL + ALT + C keys simultaneously to display the configuration menu options as shown below:
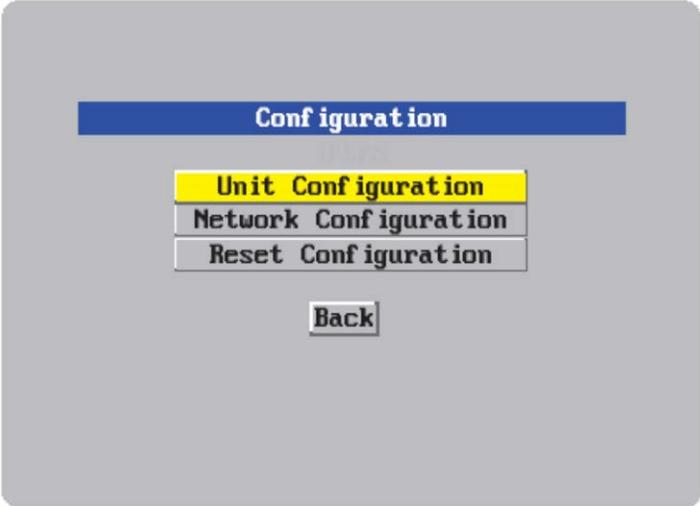
Figure 2. Configuration Menu

Select "Unit Configuration" and the below screen will display
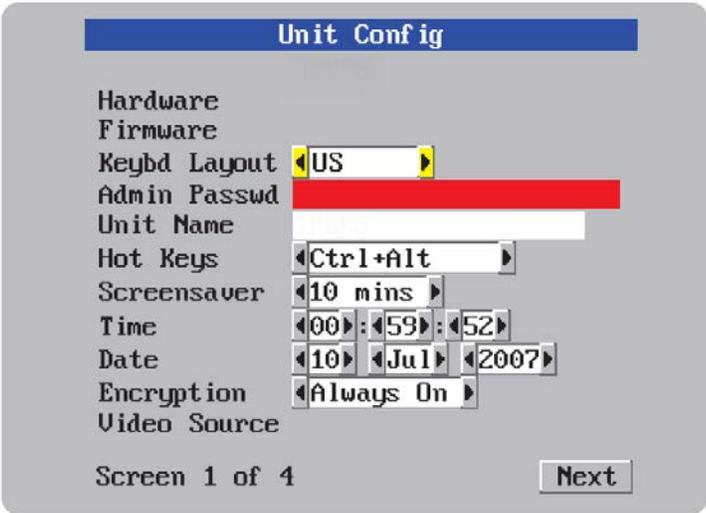
Figure 3. Unit Configuration Menu

Hardware and Firmware
The versions for the unit are displayed in these fields. Data can not be changed.
Keyboard Layout
Using the left and right arrow keys, select the keyboard type expected from the host computers.
Admin password
Enter an administrator password of at least six characters that has a mix of letters and numerals. The background color provides an indication of password suitability. It is initially red to indicate that the password is not sufficient. When a password with reasonable strength has been entered it changes to blue.

Time and Date
Set the time and date to the correct values. Use the 24 hour base inputs. All entries in the activity log are time stamped using this information.

Encryption
Arrange this setting according to your security requirements.

When all items have been updated, click on "Next" to configure the network information. The network information entered (IP Address, Net Mask, and Gateway) must be compatible with the network UltraConsole Remote 2 will be connected to.
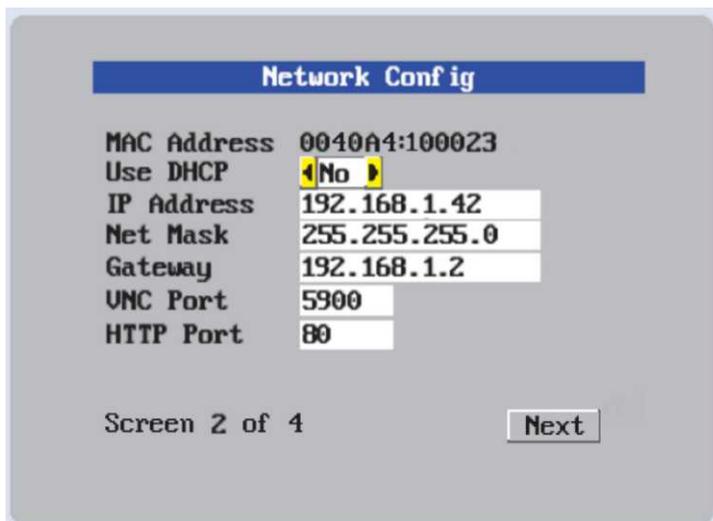
Figure 4. Network Configuration Menu

MAC address
Media Access Control address – this is the unique and unchangeable code that was hard coded within your UltraConsole Remote 2 unit when it was built. It consists of two 6-digit hexadecimal (base 16) numbers separated by colons. A section of the MAC address identifies the manufacturer, while the remainder is effectively the unique electronic serial number of your particular unit

Use DHCP/IP address/Net Mask/Gateway/VNC port/HTTP Port
1. You need to either set the DHCP option to 'Yes' or manually enter a valid IP address, Net mask and Gateway. If you set the option to use DHCP, remote users must be informed of the IP address assigned so they can remotely access the unit.
2. Change the IP Address to the IP address assigned to the unit by your network administrator that is compatible with your network.
3. Change the Net Mask and Gateway addresses if needed.
4. The VNC and HTTP ports should remain set to 5900 and 80, respectively, unless they clash with an existing setup within the network.
5. When all network information has been entered, click on "Next" to calculate a "Secure Key".

Screen #3 is a Secure Keys screen that will display after the network information has been entered.

Figure 5. Secure Keys Encryption

This screen uses mouse movements and keyboard inputs to create random data. This unpredictable information is then combined with several other factors to develop the basis of the encryption keys that are used to establish secure remote links.

With every mouse move and key press the single dash will move across the progression bar (unless the same key is pressed repeatedly). Periodically, a new star character will be added to the bar as the random data are accepted as part of the new encryption key. When the bar is full, the final encryption keys for your UltraConsole Remote 2 will be created – this process takes roughly 30 to 40 seconds.

Once the secure key has been calculated, the UltraConsole Remote 2 will restart and present a standard logon screen as shown below.

Figure 6. Logon screen

At this stage the username is still '**admin**' but the password will be whatever you entered on the Unit Configuration setup screen. Once the username and password has been validated, the screen should now show the host computer video.

To view the menu options press **<CTRL> <ALT> <C>**.
(If the standard hotkeys were altered on the Configure Unit screen, use the new hotkeys plus C)
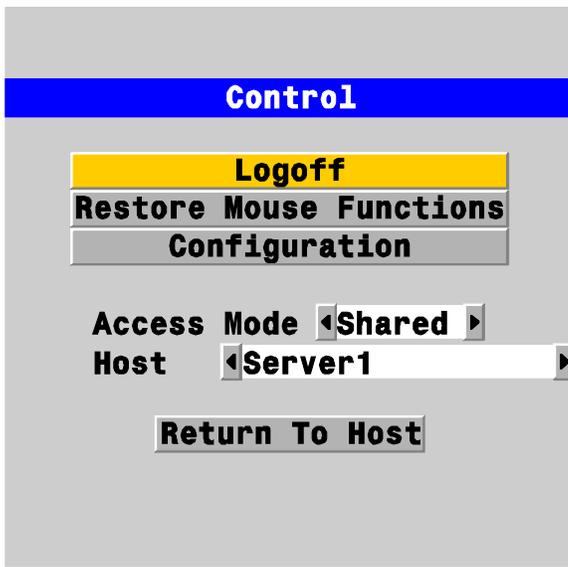
Logoff

Select this option to close your current session and display the screensaver.

Restore mouse functions

Select this tab to revive a mouse that has ceased to function correctly. The UltraConsole Remote 2 provides a feature to reinstate PS/2 mouse communications. (Does not apply if using a USB mouse.)

There are two main types of data formats used by current PC mice; 'PS/2' format and the more recent 'IntelliMouse®' format introduced by Microsoft. These use slightly different data arrangements and it is important to know which type was being used before you hot-plugged the computer to the UltraConsole Remote 2. The previous setting depends both on the type of mouse and the type of driver, as various combinations of PS/2 and IntelliMouse are possible. Using the incorrect restore function may produce unpredictable results and require the computer to be re-booted.

	1. Select the 'Restore mouse functions' option to display: 2. Select one of the following options: 3. *Restore Standard Mouse* – if PS/2 mode is required, or *Restore IntelliMouse* – if IntelliMouse mode is required. 4. Select "Back" to return to the Control menu.

Configuration

Select the "Configuration" tab to gain access to the Unit and Network configuration menus. You can also reset the UltraConsole Remote 2 to its initial state.

Access mode

Allows you to choose between the Shared mode (where all other logged on users can see your operations) and the Private mode (where the screens of all other users are blanked).

Host

Indicates the currently selected host computer and allows you to select others. This item will be blank unless host details have been set-up.

Return to host

Quits the menu and returns to the host screen.

Connecting Remotely

With the Unit and the Network configured properly, connect the unit to the network and start a web browser like IE or Netscape from any workstation connected to the network. Type in the UltraConsole Remote 2's assigned IP address (Example (http://168.192.0.41) in the URL field. The UltraConsole Remote 2 will respond with the below screen.
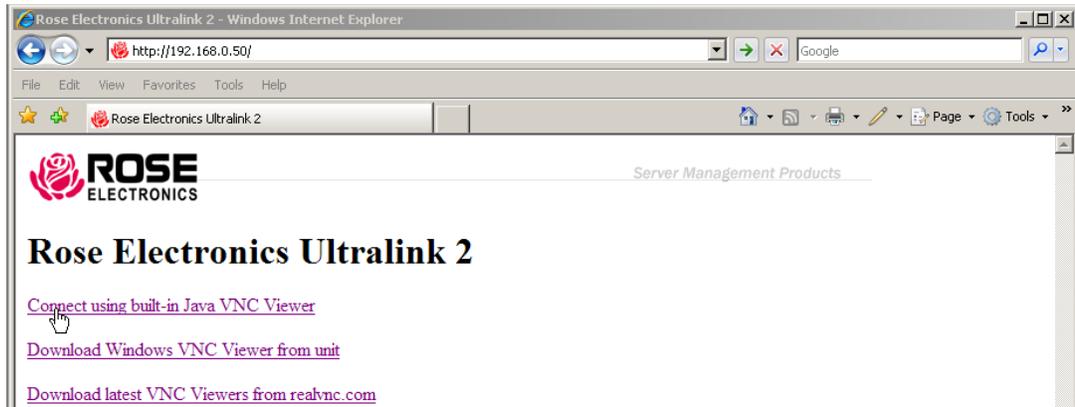
(NOTE: See Appendix D for additional VNC Viewer options)

Click on the "Connect using built-in Java VNC viewer" option and the UltraConsole Remote 2 will install a temporary Java applet on the requesting computer and then display a standard logon screen. Enter the username of "admin" and the admin password. Upon validation, the connected computer's video will display in the browser's VNC viewer window. In the upper right corner of the window is a "Configure" tab. Click on this tab to display the remote configuration option menu as shown below.

Remote Configuration

Connect to the UltraConsole Remote 2 unit remotely from any network workstation. When connected, click on the "Configure" tab in the upper right corner of the display. The below configuration menu will display.
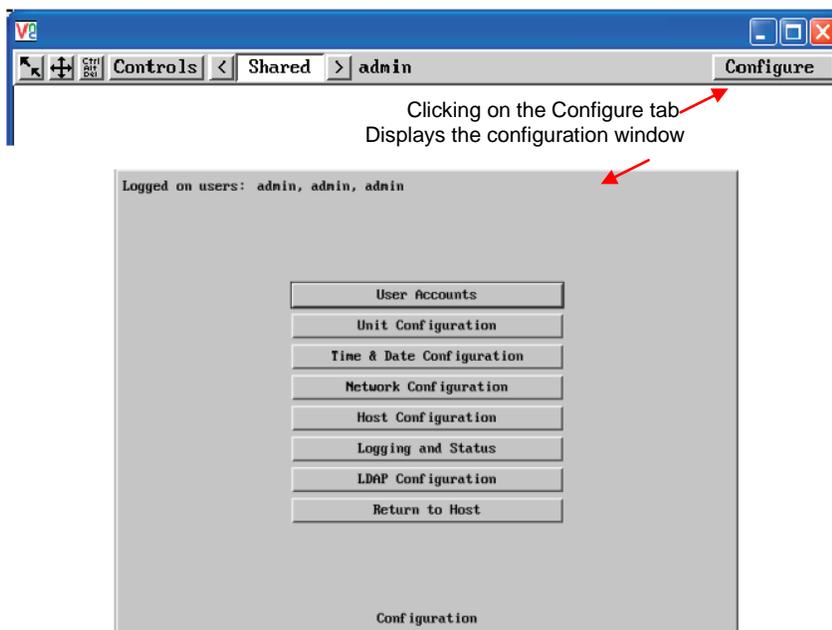
Figure 7. Remote Configuration Menu

Following describes each of the Configuration Tabs.

User Accounts	Allows you to create and manage up to fifteen separate user accounts, each with separate access permissions. Account #1 is the admin account. Enter User name, password. Tick/un-tick the Local and Remote options that are appropriate to the user.
Unit Configuration	Allows you to modify unit settings within the UltraConsole Remote 2. You can define the keyboard, set-up the admin account, assign a name to the unit, screensaver time and encryption options
Time & Date Configuration	Set the time and date, this time stamps the log files
Network Configuration	Configures the network IP, network mask, gateway, VNC port, HTTP port. You can alter any of the existing network settings plus you can set-up the IP access control feature that lets you specifically include or exclude certain addresses or networks
Host Configuration	Allows configuration of various details for each host system connected to UltraConsole Remote 2. 128 entries max, Add host names, Users, Hotkey, and power control sequence.
Logging and Status	Provides various details about the UltraConsole Remote 2 activity
LDAP Configuration	Configures unit for LDAP
Return to Host	Exit the configuration menu system and return to the host computer

Following is an explanation and examples of each of the configuration items:

User Accounts

Selecting user accounts will display the following menu.

The first of the sixteen accounts is the admin account and is the only account with access rights to the configuration menus. The user name and access rights are fixed for the admin account. The only change possible for this account is the password.
There are fifteen user account positions.
To create a new account
1   Enter the required User Name to activate that position (the Password and access tick box positions will become editable).
2   Optionally enter a password for the user account.
3   Tick/un-tick the Local, Remote, and auto logon options that are appropriate to the user.
4   Click the Save button to register your changes.

User Name

All user names must consist of **lower case characters or numbers only**. No symbols or upper case characters are permissible. The user name can be between 1 and 16 characters in length.

Password

Passwords are **case sensitive** and can include certain keyboard symbols. The password can be between 1 and 16 characters in length. The password background remains shaded in amber while the UltraConsole Remote 2 considers your entered password to be too easy to guess. A suitable password is best constructed using a mixture of more than 6 letters, numbers and punctuation characters.

Local

When ticked, the selected user can gain access using the local KVM station directly connected to the UltraConsole Remote 2.

Remote

When ticked, the selected user can gain access via an IP network link, such as a local intranet or the wider Internet (depending on how the UltraConsole Remote 2 is connected and the network access is configured.).

Auto-Logon

When ticked and power is applied to the unit, the user is automatically logged on. When not is use, the user should logoff.

Unit Configuration

The 'Unit Configuration "option tab will display the following menu.

Hardware Version

Indicates the version of the electronic circuitry within the UltraConsole Remote 2 unit.

Firmware Version

Indicates the version of the hardwired software within the UltraConsole Remote 2 flash memory. This may be updated using the flash upgrade procedure.

Host Keyboard Layout

Use the arrow buttons to match the keyboard layout expected by the host system.

Admin Password

Enter the password that will be used to gain administrator access to the UltraConsole Remote 2. There can only be one admin user and only that user is given access to the configuration menus.

Unit Name

The name entered here will be displayed on the local menus and the remote VNC viewer/browser windows.

Local Hot Key Sequence

Use the arrow buttons to select an appropriate hot key sequence for the locally connected keyboard. This sequence is used in combination with other key presses to access the on-screen menus and to change between hosts. The options are: Ctrl+Alt (default), Ctrl+Shift, Alt+Shift, Alt Gr, Left+Right Alt, Left Ctrl+Alt or Right Ctrl+Alt.

Screensaver Timeout
Use the arrow keys to select an appropriate period of inactivity before a screensaver is displayed and the user is logged out. This setting applies to local users only and once the screensaver is displayed, for security purposes the user is required to log in again. The timeout period can be selected between 5 minutes and 1 day (24 hours), it cannot be disabled.

Menu Bar Toggle Hot Key
Use the arrow keys to select the hot key to use to toggle the menu bar on and off. Choices are: None, F5-F7, F9-F12

> Note: **DO NOT** assign a Menu Bar Toggle Hot Key Sequence that is the same as other Hot Key assignments that are used by the IP or Switch module. If you assign a hot key of, for instance F12, that hot key is used to display the switch module's OSD. The IP module will intercept that hot key as an instruction and not pass the key sequence to the KVM switch.

Encryption
Three encryption options are available; Always on, Prefer off, Prefer on. The one to choose depends on the specific details of your installation. The use of encryption imposes a slight performance overhead of roughly 10% but is highly secure against third party intrusion.

Encryption settings
The Unit configuration page offers three encryption settings:
* Always on - This setting will force all viewers to use encryption. *Note: This setting will preclude any VNC viewer versions that do not support encryption.*
* Prefer off - This setting does not enforce encryption unless a viewer specifically requests it. If a viewer has its 'Let server choose' setting, then an un-encrypted link will be set up.
* Prefer on - This setting generally enforces encryption unless an earlier viewer version is unable to support it, in which case the link will be un-encrypted. If a viewer has its 'Let server choose' setting, then the link will be encrypted.

The "**Advanced Configuration**" tab will display advanced options that generally do not need modifying.

```
Logged on users: admin

Force VNC Protocol 3.3                    ☐
Idle Timeout (minutes)           60
Protocol Timeout (seconds)       20
Background Refresh Rate          <        Medium          >
Mouse Latency Allowance
(milliseconds)                   0
Mouse Rate (milliseconds)        20
Single Mouse Mode Mouse Switch   <        Disabled        >
Use Quick Mouse Calibration      ☑
Behaviour for admin connections
when limit reached               <   Replace oldest connection   >
Use VESA GTF                     ☑
Enable Virtual Media             ☑
        Upgrade Firmware                  Reset Unit
   Save          Advanced Unit Configuration        Cancel
```

Force VNC protocol 3.3
IMPORTANT: The use of this option is not recommended. VNC protocol 3.3 is a legacy version that does not offer any encryption.

Idle timeout
Determines the period of inactivity on a remote connection before the user is logged out. The idle timeout period can be set to any time span, expressed in minutes. Note: The Screensaver option serves a similar purpose for local connections. A value of 0 will disable the timeout.

Protocol timeout
Sets the time period by which responses should have been received to outgoing data packets. If the stated period is exceeded, then a connection is considered lost and terminated.

Background refresh rate
Use the arrow keys to alter the refresh rate for screen images via remote links. This allows you to tailor the screen refresh to suit the network connection speeds. The options are: Slow, Medium, Fast or Disabled. When the disabled option is selected, the remote users will need to manually refresh the screen.

Note: When a low connection speed is detected, the background refresh is automatically disabled, regardless of the settings of this option.

Mouse Latency Allowance
This option is used during calibration to account for latency delays (caused as signals pass through a device) introduced by some KVM switches. During calibration, the UltraConsole Remote 2 waits for 40ms after each mouse movement before sampling the next. If a KVM device adds a significant delay to the flow of data, the calibration process can be lengthened or may fail entirely. The value entered here is added to (or subtracted from) the default 40ms sampling time.

Note: You can enter negative values (down to -40) in order to speed up the calibration process when using fast KVM switches. Use this option with caution as it can adversely affect the calibration process.

Mouse rate
Defines the rate at which mouse movement data are transmitted to the system. The default option is 20ms, which equates to 50 mouse events per second. This default rate can prove too fast when passed through certain connected KVM switches. In such cases, data are discarded causing the local and remote mouse pointers to drift apart. If this effect is encountered, increase the mouse rate to around 30ms (data are then sent at a slower rate of 33 times per second).

Single Mouse Mode Mouse Switch
This option allows you to select the mouse button combination that can be used to exit from single mouse mode (when active). Options are: Disabled, Middle+Right Button, Middle+Left Button.

Use Quick Mouse Calibration
When this option is checked, the mouse calibration procedure is performed quickly. If the mouse still does not react or follow, perform the complete "Mouse and Video" calibration.

Behavior for admin connections when limit reached
Use the arrow keys to modify the action taken when the number of admin connections is reached. The options are:
- Replace oldest connection
- Replace newest connection
- Don't replace

Use VESA GTF
When ticked, the VESA Generalized Timing Formula will be used to help determine the correct input video resolution and timing details. See Appendix E for a list of all supported video modes.

Upgrade Firmware
The Upgrade Firmware tab allows you to easily update the firmware when changes and enhancements have been made. Click on this tab and follow the instructions to upgrade the firmware on UltraConsole Remote 2.

Reset Unit
This option allows you to reset the unit to factory defaults using the advanced OSD window.

Time and Date Configuration

Use the left and right arrow keys to select the correct time and date. The time entry uses the 24 hour clock notation. The internal real time clock will continue to run for roughly one week without power to the UltraConsole Remote 2, after that it will be lost and require resetting. Use the up and down arrow keys to move between each of the sections within the time and date entries.

Network Configuration

This page allows you to configure the various aspects of the IP port and its relationship with the local network.

```
Logged on users: admin


    MAC address:                 00:0F:58:01:1F:6E


       Use DHCP              ☐
       IP Address            [                      ]
       IP Network Mask       [                      ]
       IP Gateway            [                      ]


     VNC Port                [5900                  ]
     HTTP Port (0=disabled)  [80                    ]
     IP Access Control        [ Add ][Remove][ Up ][ Down ][ Edit ]
                              [+0.0.0.0/0.0.0.0          ▲]
                              [                          ]
                              [                          ▼]

   [   Save   ]        Network Configuration      [  Cancel  ]
```

MAC address
Media Access Control address – this is the unique and unchangeable code that was hard coded within your UltraConsole Remote 2 unit when it was built. It consists of two 6-digit hexadecimal (base 16) numbers separated by colons. A section of the MAC address identifies the manufacturer, while the remainder is effectively the unique electronic serial number of your particular unit.

Use DHCP
DHCP is an acronym for 'Dynamic Host Configuration Protocol'. Its function is particularly useful when connecting to medium size or larger networks. When this option is selected, your UltraConsole Remote 2 will attempt to locate a DHCP server on the network. If such a server is located, it will supply three things to the UltraConsole Remote 2: an IP address, an IP network mask (also known as a Subnet mask) and a Gateway address. These are not usually granted permanently, but on a 'lease' basis for a fixed amount of time or for as long as the UltraConsole Remote 2 remains connected and switched on. Remote users must be informed of this IP address in order for them to successfully connect to the UltraConsole Remote 2 unit.

IP Address
This is the identity of the UltraConsole Remote 2 within a network. The IP address can be altered to suit the network it is connected on. It can either be entered manually or configured automatically using the DHCP option. When the DHCP option is enabled, this entry is grayed out.

IP Network Mask
Also often called the subnet-mask, this value is used alongside the IP address to help define a smaller collection (or subnet) of devices on a network. In this way a distinction is made between locally connected devices and ones that are reachable elsewhere, such as on the wider Internet. This process helps to reduce overall traffic on the network and hence speed up connections in general.

IP Gateway
This is the address of the device that links the local network the UltraConsole Remote 2 is connected to another network such as the wider Internet. Usually the actual gateway is a network switch or router and it will be used whenever a required address lies outside the current network.

VNC Port
This is the logical link through which communications with a remote VNC viewer will be channeled. The default setting is 5900 which is a widely recognized port number for use by VNC software. However, in certain circumstances it may be advantageous to alter this number.

HTTP Port
This is the logical link that communications with a remote web browser will be channeled. The default setting of 80 is an established standard for web HTTP (Hyper Text Transfer Protocol) traffic. This port value can be changed to suit your local network requirements.

ULTRACONSOLE REMOTE 2 INSTALLATION AND OPERATIONS MANUAL

IP Access Control
This section allows you to optionally specify ranges of addresses which will or will not be granted access to the UltraConsole Remote 2. If this option is left unchanged, then the default entry of '+0.0.0.0/0.0.0.0' ensures that access from all IP addresses will be permitted. If this feature is needed, please see Appendix F for a detailed explanation of IP access control.

Host Configuration

The Host Configuration menu allows you to configure various details for each of the host systems that may be connected to the UltraConsole Remote 2. Each of the 128 entries can be configured with a name, the permitted users, and the hot key combinations to switch to it.
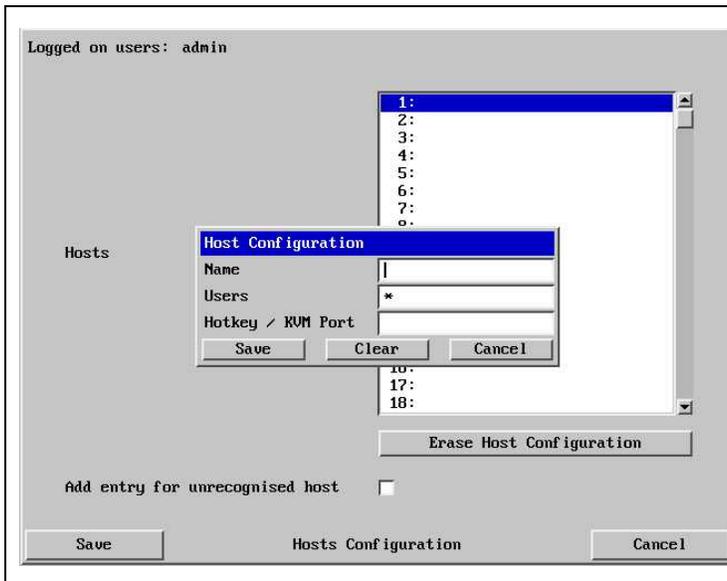
Click on the "Erase Host Configuration" tab to remove all host entries if needed.

Check the box "Add entry for unrecognized host" to add any system connected to that is not specified in the Host list. Verify these added hosts for the correct Hot key sequence and user permission. Connecting to complex cascaded systems should be verified.

It is recommended that the naming and hot key assignments for each Host Configuration entry match the CPU port configuration of the UltraConsole Remote 2.

Entry #1 - Name and hot key defined to switch to CPU port #1, Entry #2 for CPU port #2, etc. Examples of Hot key sequences for switching to a given port are shown below.

To add a new entry to the Host Configuration, click (highlight) one of the host entries to bring up the host configuration dialog box. Select each item (1 – 128) as needed and enter the Name, Users, and Hotkey / KVM port keyboard sequence. Click Save after each item has been entered.

Name
Enter the name that will be displayed in the viewer window when you click the Host button.

Users
Select the users that will be permitted to connect to this host. Either enter * to allow all users or a list of users separated by commas (e.g. sales, admin, eng, david).

Hotkey / KVM Port
Declare the hot key sequence, or Remote Port Direct address that will cause the KVM switch module to link with the required host system. Remote Port Direct addresses must be entered within square brackets. To set-up the hotkey values used to switch to a given CPU port, the following information is used to create the hot key sequence:

- \+   means press down the key that follows

- –   means release the key that follows

- +– means press down and release the key that follows

To switch to CPU port #1, the Hotkey / KVM port sequence would be +-Ctrl+-1+-Enter, to switch to CPU port #8, the sequence would be +-Ctrl+-8+-Enter, the sequence to switch to CPU port #15 would be +-Ctrl+-1+-5+-Enter. A list of the valid hotkey codes are given in Appendix G.

Logging and Status

This screen provides various details about the user activity on the UltraConsole Remote 2 .

Note: The log has a maximum capacity of 1000 event lines. After 1000 entries, the oldest entries are overwritten. If log data are important to your installation, ensure a regular backup procedure or use the Syslog Server IP Address option to send log information automatically to another system.
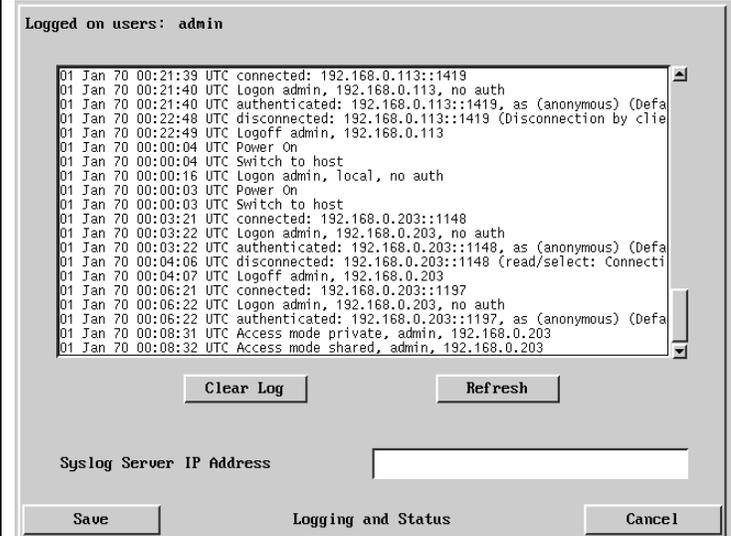
The first three (3) columns show the date the event occurred.

The next column is the time the event occurred.

The last column describes the type of event with the users name and the access method.

The "Clear log" tab will clear all entries in the log

The "Refresh" tab will refresh the log list

The "Syslog Server IP Address field is an optional field where you can enter an IP address to send the status log.

The "Save" tab will save the log file

The "Cancel" tab will exit the log menu and return to the main menu

To copy and paste the log
You can copy the information listed within the log and paste it into another application. While viewing the log screen, press Ctrl and C, to copy the data into the clipboard. Start a text application (i.e. Word, WordPad, Notepad) press Ctrl and V, or right mouse click and 'Paste'.

This basically covers the configuration of the input module and allows user access to the unit. Following is the additional KVM switch module configuration. Some configurations are needed to assure proper functionality and other configurations are optional.

CONFIGURATION – SWITCH MODULE

KVM Switch Module Menu structure

To display the main switch module configuration menu connect to the UltraConsole Remote 2 locally or remotely and once connected and the host computers video displaying, press and release the left control key, then press the F12 key to display the switch modules configuration menu. Pressing the Alt + Ctrl + C key displays the IP input modules configuration menu. To navigate through the KVM switch modules menu system, use the arrow keys to select the configuration menu needed and press [Enter]. When you press [Enter] that menu section will display, an input box will display for a new value, or a list of supported choices will display. Enter or select the information needed and press [Enter]. To return to the previous page or abort an input, press the [Esc] key.

> Use only the numeric keys above the keyboard to enter numbered values.
> The numeric keypad will not work for entering numbers.

Switch Module Menu Structure

Main menu

System

System settings
  Configure switch password
  Starting computer number
  Maximum computers
Keyboard settings
  PC keyboard rate
  PC keyboard delay
  Sun keyboard language
Appearance
  Menu color scheme
  Screen saver
  Screen saver time
  Background color
  Text color
  Position
  Fadeout

Computer

Computer name
Keyboard
Mouse

KVM

KVM name
Resolution
Start
User

User

User name
Password
Profile

Status

System status
Information

Language

Menu language
selection

Group

Configure group /
computer access

Profile

Profile name
Access
Mode
Share
Scan
Logout

Save

Exit

Following explains each menu section and the options for each.

(Pressing the left control key, then F12 displays the main menu)

Figure 8. Main menu

The Main configuration menu is the starting point for the configuration menus. From this menu, you can configure the system, computers, KVMs, users, profiles, groups, and languages. To display the "Main menu" press and release the left control [Ctrl] key, then the F12 key. The main menu will display on top of a currently connected computers video. If no computer is connected to supply the video, the display's background is black.

The text box at the bottom of the menu screen provides a brief explanation of the menu option selected.

The following pages explain the UltraConsole Remote 2 menus and the options available.

Save the changes made to any menu. If not saved, the changes will be lost when power is removed from a Unit. All menu commands must be entered within 2 seconds of each other or the command is aborted.

Configure System menu
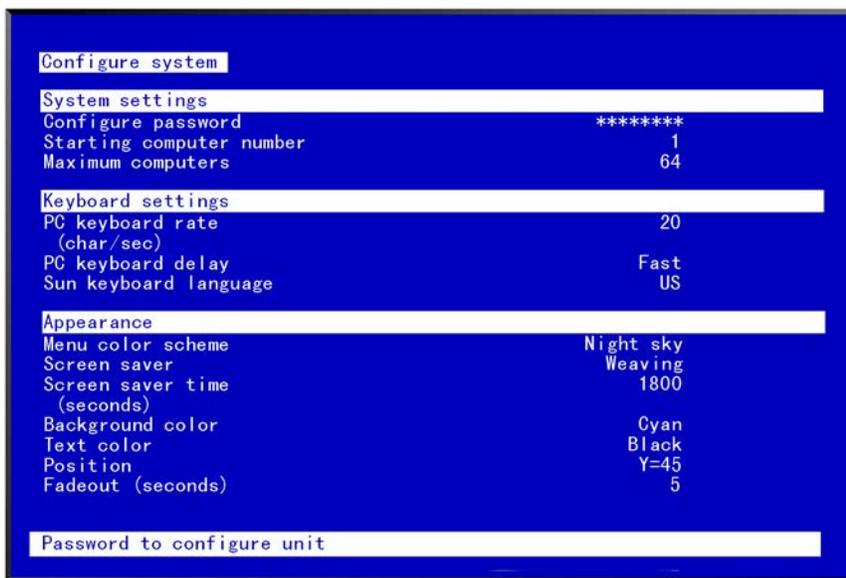
Figure 9. Configure system menu

System settings selections.

Configure password (Default: no password)
The "Configure password" selection is used to add a new or change an existing administration password. This password prevents unauthorized access to the configuration menus. Passwords are case sensitive, 8 characters max.

To create or change a password, select "Configure password" and press [Enter]. An input box will display to enter the password. Type in the password and press [Enter]. Whenever the menu system is called up, this password must be entered to gain access to the configuration menus.

Starting computer number (Default: 1)
The "Starting computer number" defines to the system, the first CPU port number for a particular UltraConsole Remote that is configured in an expanded topology.
Switch #1's starting computer number is always 1.
Switch #2's number is the total RS232 ports on Unit #1 times 4 + 1.
Switch #3's number is the total RS232 ports on Unit #1 and Unit #2 times 4 + 1 and so forth.

To enter the "Starting computer" number use the up/down arrow keys and select "Starting computer number" and press [Enter]. An input box will display for a new starting computer number. Enter the new "Starting computer" number and press [Enter].

Maximum computers (Default: 64)
The "Maximum computers" value is calculated by multiplying the number of RS232 ports on all switches by 4. This value must be entered from KVM station #1 before all Units are connected in an expansion topology. When saved, this value is propagated to all connected Units. To enter the "Maximum computers" value, select it and press [Enter]. An input box will display to enter the maximum computers value. Type in the new value and press [Enter].

"Keyboard settings" selections.

PC keyboard rate (chars/sec) (Default: 20)
This option adjusts the KVM keyboard action when you hold down a key to repeat a single character.
Valid inputs are 1-31.

PC keyboard delay (Default: Fast**)**
This option adjusts the delay between when a key is pressed and held and when it begins to send repeated characters to the selected computer.
The options are:
- Slow
- Medium
- Fast
- Fastest

Sun keyboard language (Default: US)
Determines the response to a Sun computer's query for the keyboard language type used. To change the Sun keyboard language type, select it and press [Enter]. A selection box will display showing the supported Sun language choices. Use the up/down arrow keys to select the desired language and press [Enter]. The Sun keyboard language choices are:

- US
- US-Unix
- Francais
- Dansk
- Deutsch
- Italiano
- Nederlands
- Norsk
- Portugues

- Espanol
- Svenska/Suomea
- Franco-Suisse
- Schw-Deutsch
- United Kingdom
- Hankuko
- Tai-oan
- Nihongo
- Canadienne

Appearance settings selections.

Menu color scheme (Default: Night sky)
Sets the colors for the configuration menus. To change the color scheme, select "Menu color scheme" and press [Enter]. A selection box will display showing the supported color schemes. Use the up/down arrow keys to select the desired scheme and press [Enter].
The menu color schemes choices are:
- Night Sky – cyan, magenta, white, and blue
- Tuxedo – black, red, and white
- Aquarium – yellow, magenta, blue, cyan, and white
- Forest – green, black, cyan, and blue

Screen saver (Default: Weaving)
The screen saver automatically activates when there is no keyboard or mouse activity for an adjustable period. To change the screen saver type, select it from the menu and press [Enter]. A selection box will display showing the supported screen saver choices. Select the desired screen saver and press [Enter]. The screen saver choices are:
- Black screen
- Fireflies
- Weaving
- Bounce

**Screen saver time (seconds)** (Default: 1800 seconds)
Determines the period of keyboard or mouse inactivity before activating the screen saver. To change the screen saver time, select it from the menu and press [Enter]. An input box will display to enter a new screen saver time. Enter a new value from 0 to 9999 seconds and press [Enter].
Entering a value of 0 (zero) disables the screen saver.

Background / Text color (Default: Cyan / Black)
This option sets the background or text colors for the connection status and computer select screens. Colors can be one of eight solid or transparent colors. To change the background or text color, select it from the menu and press [Enter]. The color selections will display showing the solid and transparent color choices. Use the arrow keys to select the desired color and press [Enter].
The color choices are:

■ Black   ■ Red   ■ Green   ■ Yellow
■ Blue   ■ Magenta   ■ Cyan   ■ White   (Solid or transparent)

NOTE: Do not set the background and text colors the same.

Position (Default: x = 25, y = 45)
This option adjusts the screen position of the connection status box. Once set, this position is maintained at all video resolutions. To change the connection status box position, select it from the menu and press [Enter]. Use the arrow keys to position the status box anywhere on the screen and press [Enter] when the desired position is reached.
Do not set the screen position off the visible screen area. This could cause rainbows or bars of shaded video.
Valid position ranges are:
Horizontal: 0 – 64, Vertical: 0 – 99

Fadeout (seconds) (Default: 5 seconds)
Sets the amount of time the connection status box displays.
Valid fadeout times are 0 – 255 seconds. A value of zero disables displaying the connection status box; a value of 255 will cause the connection status box to always be displayed. If the connection status box does not display when switching to a computer, increase the fadeout time. Some monitors will not display the connection status box if the fadeout time is less than the time it takes the monitor to sync to a new video signal. To change the fadeout time, select it from the menu and press [Enter]. Enter a valid new time in seconds and press [Enter].

Configure Computer menu
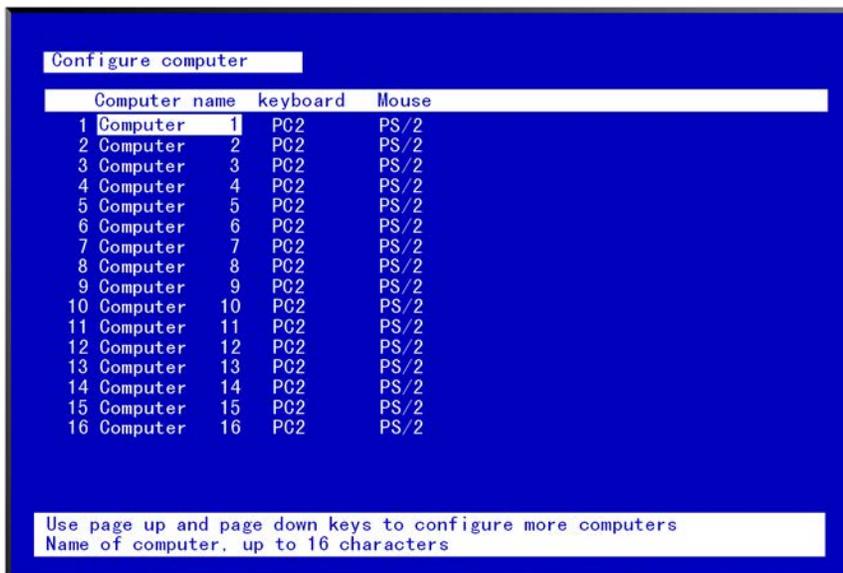
Figure 10. Configure computer menu

The "Configure computer" menu allows you to change each selected computers name, keyboard, and mouse types. The left column is the logical location (port). This value is not user changeable.

Computer name (Default: Computer   x)
To change the computer name, select it from the menu and press [Enter]. An input box will display to enter a new computer name. Type in the new name and press [Enter]. Names can be 16 characters in length, case sensitive. The computer name appears on the configure group menu, the computer select list and the connection status window. A diamond character next to a computer name identifies the computer currently connected to this KVM station. Use the page up/down keys to show more computers. The page up/down functions displays in increments of 16 and will only scroll to the "Maximum computers" setting.

Computer names are also entered into the IP Input module and listed in VNC viewer Host window. Names entered locally are used when accessing the unit from a local KVM station. Names on a network workstation are used when accessing the unit remotely through a network. The names can be different.

Keyboard (Default: PC mode 2)
To change the keyboard type for a selected computer or configure the CPU port for a serial device, use the up/down arrow keys to select the computer whose keyboard needs changing. Use the right arrow key to select the keyboard field and press [Enter]. A selection box will display listing the supported keyboard types and serial support options. Use the up/down arrow keys to select the keyboard type or serial support needed for the selected computer and press [Enter]. The choices are:

- PC1: Supports most IBM compatible PCs, PS/2 models, and PCs that do not use PC mode 2.
- PC2: Supports most PCs.
- PC3: Supports Unix workstations and servers, IBM RS/6000, SGI, HP700 or 9000 series, DEC Alpha®, or other computers.
- USB-PC: USB PC keyboard support.
- USB-Sun: USB Sun keyboard support.
- Sun: Supports Sun systems
- Serial 9600,N,8,1: Serial support @ 9600 Baud rate
- Serial 4800,N,8,1: Serial support @ 4800 Baud rate
- Serial 2400,N,8,1: Serial support @ 2400 Baud rate
- Serial 1200,N,8,1: Serial support @ 1200 Baud rate
- Serial   600,N,8,1: Serial support @ 600 Baud rate
- Serial   300,N,8,1: Serial support @ 300 Baud rate
- Serial   110,N,8,1: Serial support @ 110 Baud rate
- Serial   50,N,8,1: Serial support @ 50 Baud rate

Mouse (Default: PS/2)
To change the mouse type for a selected computer, use the up/down arrow keys to select the computer whose mouse needs changing. Use the right arrow keys to select the mouse field and press [Enter]. A selection box will display listing the supported mouse types. Use the up/down arrow keys to select the correct mouse type for the selected computer and press [Enter]. The supported mouse types are:

- PS/2 - 6-pin mini-Din connector with 2 or 3 buttons
- PS/2 wheel - incorporates a small wheel for special functions.
- Serial 2-button - connects to a computer's COM port.
- Serial 3-button - connects to a computer's COM port.

Note: If you set the mouse to PS/2 and the CPUs operating system is capable of supporting a wheel mouse, the mouse type will automatically be changed to PS/2 wheel.

Configure KVM menu
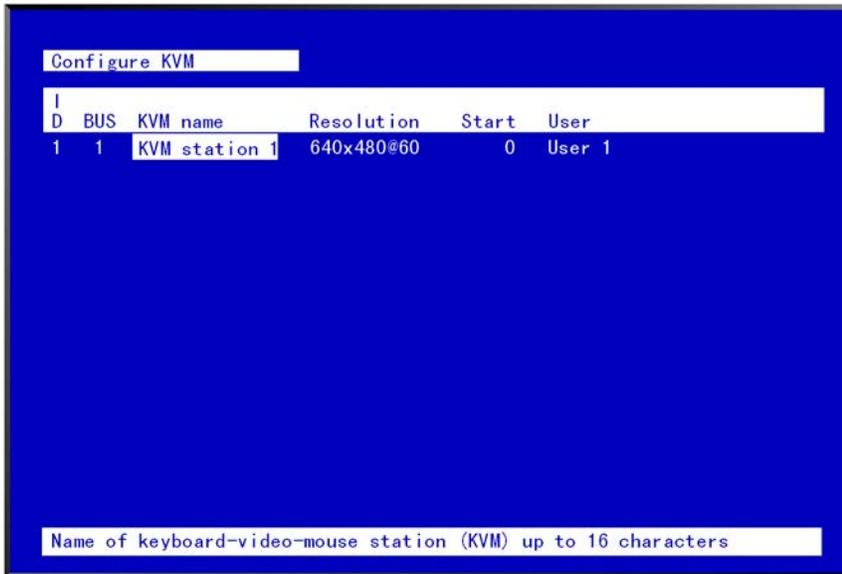
Figure 11. Configure KVM menu

The "Configure KVM" menu allows you to change the KVMs name, resolution, start, and user parameters. The ID column indicates the physical location (port) the KVM is connected to. The BUS column is the KVM video bus number. These values are not user changeable.

KVM name (Default: KVM Station   x)
To change the KVM name, select it from the menu and press [Enter]. An input box will display to enter a new KVM name. Type in a new name and press [Enter]. KVM names can be 16 characters in length, case sensitive.

Resolution (Default: 640x480@60Hz)
Selects the resolution and scan rate of the on-screen display when no attached computer video is present. If a computer video is shown, the detected video resolution from the connected computer is used.

To change the resolution for a selected KVM station, select the KVM station to change the resolution and using the right arrow key, select the resolution field and press [Enter]. A list of supported resolutions will display. Select the new resolution from the list and press [Enter]. The supported resolutions are:
- 640x480@60Hz
- 640x480@72Hz
- 640x480@75Hz
- 640x480@67Hz
- 832x624@75Hz
- 1152x900@66Hz
- 1152x900@76Hz

This resolution setting will be used if no video is detected from the connected CPU port.

Start (Default: 0)
Assigns the CPU port number the KVM station will connect to on start up and login. 0 = no connection. To change the value, select it from the menu and press [Enter]. Type in the CPU port number the selected KVM station will connect to upon start up or login and press [Enter].

User (Default: User 1)
This field is used to assign a specific user to a KVM station. To change the user, first select the KVM station, then select the user field and press [Enter]. A selection box will display a list of user names followed by "Login". Select the user to assign to the selected KVM station and press [Enter]. Use the page up/down keys to display more users. If "Login" is selected, the KVM user must login with their user ID and assigned password to gain access.

The configure user, profile, and group menus all tie together to provide access control to the computers. A group defines which computers in the system can and cannot be accessed. This group is assigned to a profile name. The profile defines how the computers (defined by the group) can be accessed. The profile is assigned to a user or users.

When a user logs on to the KVM Switch module, their assigned profile is validated. This profile defines which group has been assigned (which computers can be accessed), what mode the user can connect to the computers with (view, share, control, private), the share time, scan time, and logout time.

The configure user, profile, and group features provide a flexible and reliable security set-up for the Switch module.

Configure User menu
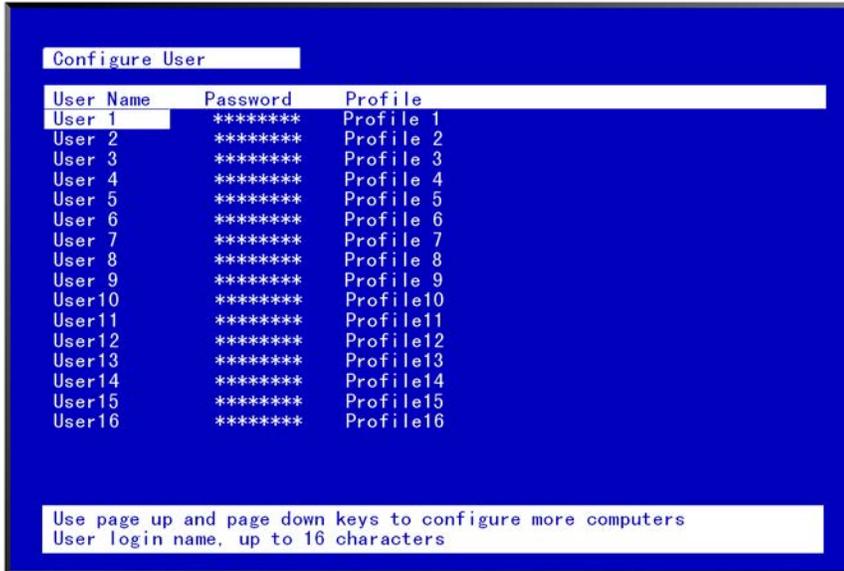
Figure 12. Configure User menu

The configure user menu is used to define a name, assign an access password, and assign a specific profile to the user. Duplicate names are acceptable; however, all persons using the same user name will have the same access rights.

User name (Default: User x, where x = 1 to 80)
To change a user name, select it and press [Enter]. An input box will display. Type in a new user name
(8 characters max. case sensitive) and press [Enter].

Password (Default: no password)
This field assigns a unique password to a selected user. Any KVM station that has "Login" enabled, the user must enter their username and password to gain access to the KVM station. To assign or change a user password, select the user, then the password field and press [Enter]. An input box will display. Type in a password for the selected user and press [Enter]. Passwords can be up to 8 characters in length and are case sensitive.

Profile (Default: Profile x, where x = 1 to 80)
This field is used to assign an access profile to a selected user.
Profiles can be defined to limit the type of access to the computers. To change an assigned profile for a selected user, first select the user, and then select the profile to change and press [Enter]. A selection box will display listing the profiles available. Select the profile to assign to the selected user and press [Enter]. Use the page up/down keys for more profiles. Profiles are defined on the "Configure profile" menu.

ULTRACONSOLE REMOTE 2 INSTALLATION AND OPERATIONS MANUAL

Configure profile menu

Figure 13. Configure Profile menu

Name (Default: Profil x, where x = 1 to 80)
The profile name can be changed to any name up to 8 characters in length. The name can be a specific user, a group of users within a department, a business department, or any name that defines the profile. To change the profile name, select the one to change and press [Enter]. An input box will display. Type in a new profile name and press [Enter].

Access (Default: Group x, where x = 1 to 80)
This field is used to assign each profile to a group. To change the access for a selected profile, select the profile to change then select the group to change and press [Enter]. A list of groups will display. Select the group that has been set-up for the selected profile and press [Enter]. A group is set up on the configure group menu.

Mode (Default: Share)
Assigns 1of 4 modes to a profile. To change the mode, select the profile to change the mode, then select the mode to change and press [Enter]. A selection box will display. Select the mode needed and press [Enter]. The modes are:

- View – Profiles set to the view mode allow users to switch to any computer, but have no keyboard or mouse control, only view privileges.
- Share – Profiles set to the share mode allow users to take keyboard and mouse control of a computer on a first come, first serve basis. Control of the computer is based on the time-out value entered in the share column.
- Control – Profiles set to the control mode allow users to take exclusive control of a computer. No time-out value is invoked. Other users that try to connect to the same computer can only view the video. They have no keyboard or mouse control until the user with the control disconnects from the computer.
- Private – This mode is the same as the control mode except other users cannot view the video or access the computer.

Share (Default: 2 seconds)
This feature allows other users to take keyboard and mouse control of a computer after a specific time of no keyboard or mouse activity by a user. To change the Share time for a given profile, select the profile, then the Share to change and press [Enter]. An input box will display. Type in a new share value in seconds and press [Enter]. Valid share values are 0 to 9999 seconds. The share value is only valid if the profile mode is share.

Scan (Default: 5 seconds)

When a user invokes the scan function, this feature sets the time the video is displayed before switching to the next sequential computers video. To change the scan rate, select the profile, then the scan rate to change and press [Enter]. An input box will display. Type in a new scan time and press [Enter]. Valid scan times are 0 to 9999. If the video is not present during the scan mode, the scan value may be set to low and the monitor cannot synchronize to the video fast enough to display it. This usually happens with a scan value of 4 or lower. If this problem occurs, increase the scan value. 0 (zero) is a valid entry but not recommended.

Logout (Default: 240 minutes)

This setting disconnects and logs out a user after the set period of no keyboard or mouse activity. To change the logout value, select the profile, then the logout time to change and press [Enter]. An input box will display. Type in a new logout time and press [Enter]. Valid times are 0 to 9999 minutes. A value of 0 (zero) disables the automatic logout function. If login is enabled for a KVM station, but the Logout time is set to zero, the user remains logged in until they manually log out using the [Ctrl] L command.

Configure group menu
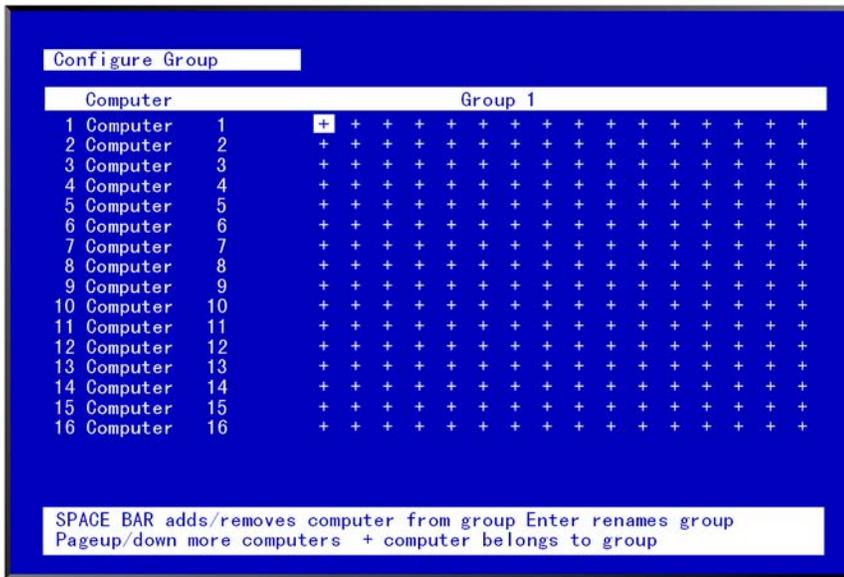
Figure 14. Configure Group menu

The configure group menu allows you to assign a computer to one or more groups. Users that are assigned a profile that contains a specific group name can only access the computers within that group. It they try to access a computer that is not within the assigned group, the error "Not in access group" will display in the connect box. The left computer column displays the computer names. To change a group name, select it and press [Enter].

This menu is an array of groups (x) and computers (y). Moving the arrow key to the right from one plus (+) to another plus (+) for a selected computer name changes to the next group. A plus (+) means the computer belongs to that group, a blank means the computer is not in that group and cannot be accessed by a user assigned to this group. To change the group membership, select the group for a selected computer and press the space bar to toggle between the two states, + or blank. Default: (All computers in all groups)

Figure 15. Configure language menu

Selecting "Language" from the "Main" menu displays a choice box of different language options. Select the language needed and press [Enter]. This changes all the menu and display information to that selected language.

The language options are:
- English
- Francais
- Deutsch
- Espanol
- Italiano*
- Portugues*

* Italiano and Portugues languages are available on request.

System Status display

Figure 16. System Status display

The system status display is a very powerful and useful tool when installing, monitoring, expanding, troubleshooting, or reconfiguring a system. The status screen displays reported information from all CPU cards in the system.

Computers
Indicates the CPU port numbers for a given CPU card.
Highlighted computer numbers are the total computer ports in the system.
Power
Each CPU card represents 4 CPU ports. These ports are represented by the four squares. The CPU ports are (Left square to right square), CPU port 1, port 2, port 3, and port 4. (Green = CPU is on, Red = CPU is off)
Pos (Position)
Displays the slot where a CPU card in the system is installed for a given switch. Slot 1 is the bottom CPU card; slot 2 is the top CPU card for the 2 user model, slot 4 is the top CPU card for the 4 user model.
Ver (Version)
Displays the last three digits of the firmware main program version for the CPU card.
KVM
Indicates the type of keyboard and mouse detected if a KVM station is attached to this CPU card.
CPU
Displays the computer number currently selected by the KVM station.
User
Displays the users name that is currently accessing the system.
Status
Displays the most recent connect or disconnect status for the KVM station on this CPU card.

ULTRACONSOLE REMOTE 2 INSTALLATION AND OPERATIONS MANUAL

Save menu

Figure 17. Save menu

When changes are made to any configuration, they must be saved in flash memory to insure that the changes will be active after a power cycle. It is recommended that all users be logged off from all systems prior to saving any configuration changes. To save the settings, select save and press [Enter]. The UltraConsole will check and display how many CPU cards in the system to update. This is the total number of CPU cards (RS232 ports) in the system not counting the one the KVM station is connected to. (Total boards – 1)

A YES/NO selection box will display. Choose "YES" to save the changes to flash memory on all powered-on UltraConsole switches.

Choose "NO" for temporary or incorrect changes. The temporary settings will only be in effect as long as power is applied to the Unit. Once power is cycled, unsaved changes, other than the starting computer number, are lost and the previously saved configuration settings will be effective.

INSTALLATION

Switch Installation – Single Unit

Please refer to the safety section before installation

The basic installation of a single UltraConsole Remote 2 is an easy and straightforward procedure. Perform the below steps for all computers that will be connected. It is recommended that all computers be powered off. When a computer is connected and then booted, the UltraConsole Remote 2 will automatically determine the keyboard and mouse types used for that computer and no pre-configuration is needed.

The connection to the network can be done at this time but it is not necessary to install a single unit.
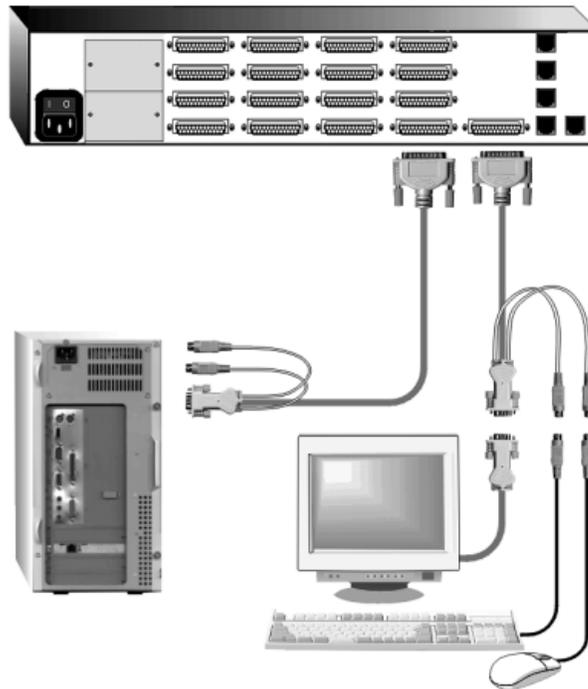
The Unit above can be any UltraConsole Remote 2 model

If removing power from a computer is not practical, pre-configure the UltraConsole Remote 2 to define that CPU port's keyboard and mouse types. This procedure should only be done if the CPUs keyboard and mouse can be disconnected and re-connected without affecting the interface.
The default keyboard type is PC mode 2, and the default mouse type is PS/2. If the computer being connected, with power applied, uses a PC2 keyboard and PS/2 mouse, no pre-configuration is needed. If not, pre-configure the keyboard and mouse types for that CPU port before connecting the computer (steps 6a-6e).

Perform the following installation steps for each computer that will be connected to the UltraConsole Remote 2. Sequentially connect the computers starting with computer #1.

STEPS:
(Refer to the troubleshooting section for help if needed)
1. Connect a KVM station to the UltraConsole Remote 2s DB25F, KVM connector using the appropriate KVM cables.
2. Connect a computer to the UltraConsole Remote 2s DB25F, CPU #1 connector using the appropriate CPU cable.
3. Turn on the KVM stations video monitor, the UltraConsole Remote 2, and boot the computer on CPU port #1. (Wait for the internal diagnostic check to complete and the login screen will display)
4. Enter the admin username and password and press enter. The connected computer's video will display.
5. Switch the KVM station to the CPU port being configured (starting with CPU port #1). This is done by pressing and releasing the left control [Ctrl] key and within 2 seconds, type in the CPU port # being configured (starting with port 1) and press [Enter]. A connection dialog box will display showing the connection status.
6. Pre-configure the CPU port, if needed, as outlined in steps 4a-e if the computer being connected does not use a PC2 type keyboard or a PS/2 mouse (defaults). Pre-configure the CPU port before connecting the computer. If the computer uses a PC2 type keyboard and PS/2 mouse, connect it to the corresponding CPU port. No pre-configuration is needed.

Pre-Configuration procedure
    a. Call up the Configuration menu system by pressing and releasing the left [Ctrl] key, then the [F12] key. Select "Computer" and press [Enter])
    b. Select the computer to change the default keyboard and/or mouse type, and then select the keyboard or mouse field for the selected computer and press [Enter]. A selection box will display, listing the supported keyboard or mouse types.
    c. Select the correct keyboard or mouse type for the selected computer and press [Enter].
    d. Press [ESC] to return to the "Main menu" and save the changes.
    e. Connect the computer to the pre-configured CPU port.
7. Boot the computer the KVM station is connected to if the computer power was off. You should see the boot up sequence on the KVM monitor. If the computer was connected to a pre-configured CPU port with power applied, you should see that computers video.
8. Verify that the keyboard, video, and mouse on the connected computer function properly before proceeding. Verify that other KVM stations operate properly.

Switch the KVM station to the next sequential CPU port as explained in step 5 and perform steps 6-8 for that computer and for the remaining computers.

9. When all computers are connected and operating properly, change the "Maximum computers" value from the default value of 64 to the correct number of computers connected to the single Unit. This will limit the scanning function to the actual number of computers that are connected. Change the "Maximum computers" value as follows:

    a. Call up the main menu ([Ctrl], F12).
    b. Select "System" and press [Enter].
    c. Select "Maximum computers" and press [Enter].
    d. Enter the correct "Maximum computers" value and press [Enter].
    e. Press [ESC] to return to the main menu.
    f. Save the changes and EXIT.

This completes the basic installation for a single Unit. You can switch to any of the attached computers from the local keyboard by pressing and releasing the left control [Ctrl] key, typing in the computer port number to switch to and press [Enter]. You can also switch to a computer by displaying the "Computer select" menu (left control [Ctrl] key, then press the [ESC] key). Select the computer to switch to from the list and press [Enter]. You will be immediately switched to that computer.

To customize the configuration settings for the system, computers, KVM stations, users, profiles, groups, and language see the KVM Switch Module Configuration Menu section for details

Switch Installation – Multiple units – "BUS" topology

A "BUS" configuration is used when access to all computers is from the main unit #1. In a "BUS" configuration, (Figure 18) the video path is from the last Unit in the configuration to the first Unit ("OUT" to "IN"). A KVM user on the first Unit can access all computers on all Units. A user connected to Unit #2 can only access computers on Unit #2 and Unit #3, etc.

The connection to the network can be done at this time but it is not necessary to install multiple units.

Unit #3
UltraConsole

Unit #2
UltraConsole

Unit #1 (Main unit)
UltraConsole Remote 2
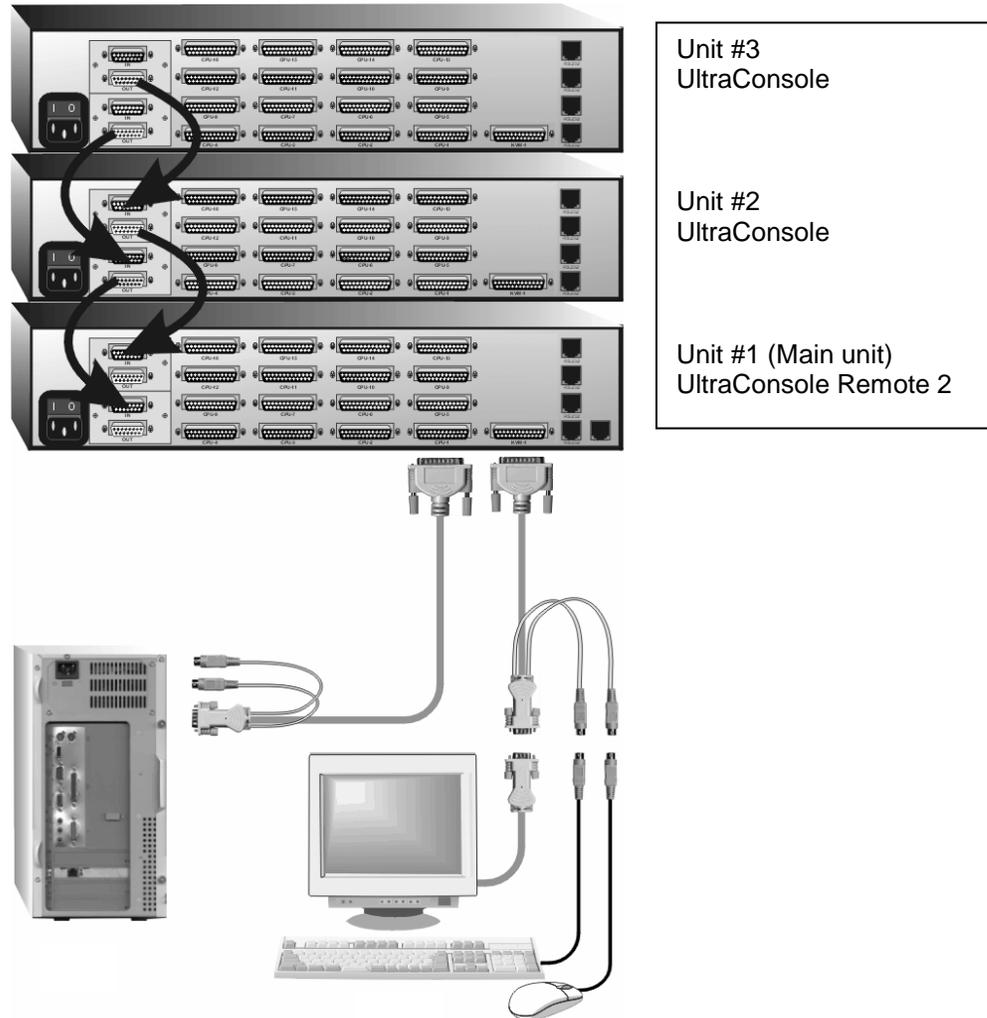
Figure 18. Buss Configuration

The main unit can be any UltraConsole Remote 2 model; other expansion units are UltraConsole units.

The "BUS" installation procedure is very similar to the single Unit installation with the addition of connecting the expansion cables and changing two configuration parameters, the "Starting computer" number and the "Maximum computers" number. All Units in the system must have an expansion card(s) with a jumper installed on JP1. (NOTE: Jumper JP1 is factory installed on all expansion cards)

To start, identify the following prior to installation:
1. Which computers will be connected to the UltraConsole Remote 2 unit.
2. Which computers will be connected to the UltraConsole expansion units.
3. Which computers do not use a PC2 keyboard or a PS/2 mouse.
4. Which Unit and CPU port each computer will be connected to.
5. The "Starting computer" number for each Unit.
6. The number of computers, or "Maximum computers", that the UltraConsole Remote 2 will be managing.

The "Starting computer" and "Maximum computers" values are determined as follows:

Starting computer
The "Starting computer" number will depend on which Unit is being configured. The "Starting computer" number for the first Unit is always one (default). Using Units that have 16 CPU ports, the "Starting computer" number for the second Unit is the total number of RS232 ports on the first Unit time 4 plus (+) one or 17, the third Unit would have a "Starting computer" number of 33 (Total RS232 ports on unit #1 and unit #2 times 4 plus (+) 1, and so on.

Maximum computers
The "Maximum computers" value is calculated by multiplying the total number of RS232 ports on all units by 4. If your system consists of 10 units, each with four (4) RS232 ports, the "Maximum computers" number would be 160 (40 - RS232 ports x 4). The "Maximum computers" value must be entered from a KVM station and when saved, this value is propagated to all connected Units.

Connecting the expansion units

The installation steps below are for all UltraConsole Remote models.

Steps:
(NOTE: Expansion cables should not be connected at this point)
1. Verify that power is "OFF" on all UltraConsole Remote switches.
2. Configure the "Starting computer" number for all the UltraConsole Remote switches, starting with Unit #2 by:
   (Unit #1 default = 1)
   a. Connect a KVM station to Unit #2's KVM #1 connector using the appropriate KVM adapter cable.
   b. Apply power to the KVM monitor and to UltraConsole #2.
   c. When the internal diagnostic completes, press and release the left control [Ctrl] key, then the F12 key to display the "Main menu".
   d. Select "System" and press [Enter].
   e. Next, select "Starting computer number" and press [Enter]. An input box will display for a new starting computer number. Enter the correct "Starting computer" number for this Unit and press [Enter].
   f. Press the "Esc" key to return to the "Main menu".
   g. Select "Save" and press [Enter]. A "YES/NO" choice box will display. Select "YES" and press [Enter] to save the changes.
   h. Turn the power off on the UltraConsole Remote.
   i. Connect the KVM station to the KVM #1 connector on Unit #3.
   j. Configure this Units "Starting computer" number and then all other Units in the system. When the "Starting computer" number has been entered for all Units, proceed to step 3.
3. Connect the KVM station to Unit #1's KVM #1 connector and apply power to the monitor and Unit #1.
4. Enter the "Maximum computers" number
   a. Display the main menu (left control [Ctrl] key, then the F12 key.)
   b. Select "System" and press [Enter].
   c. Select "Maximum computers" and press [Enter]. An input box will display for a new "Maximum computers" number. Enter the correct "Maximum computers" and press [Enter].
   d. Press the "Esc" key to return to the "Main menu", select "Save" and press [Enter]. A "YES/NO" choice box will display. Select "YES" and press [Enter] to save the change.
The next item is to connect the Units in a "BUS" configuration and verify that communication between the Units is established. To do this, call up the System status display by pressing and releasing the left control [Ctrl] key, then the F12 key.

OPERATION

Remote System Operation

Connecting using a web browser / VNC Viewer

Connecting to the UltraConsole Remote 2 from a network location or over the internet can be done two ways; using the Built-in Java VNC Viewer or Downloading Windows VNC Viewer from the unit and installing it on the remote computer. It is recommended that the Windows VNC viewer be downloaded from the unit and installed on the remote computer. The VNC viewer is more robust than the Java applet and has more functionality and features than the Java applet. If you experience problems using the Java applet, switch to the VNC viewer application.

To connect to the UltraConsole Remote 2 from any network workstation, start a web browser and enter the assigned IP address for the unit in the URL field of the browser (Example http://192.168.0.44). The UltraConsole Remote 2 will respond with the below three options displayed in the browser's window.
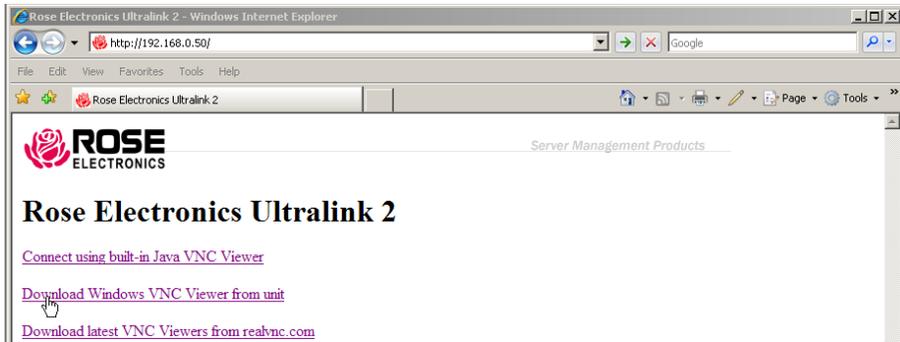
The first time a connection to the UltraConsole Remote 2 is made, it is recommended that you download the Windows VNC viewer from the unit, save it and run the VNC viewer to connect to the unit directly. Some operating systems may request permission to run or save the program. Save the program to the location wanted and create a desktop ICON for the program. The next time the RealVNC viewer is needed, just click on the desktop ICON to connect.

After the installation is complete, run the VNC viewer program and the VNC Viewer Connection Details window will display. Make sure that the Server IP address is correct and the port number is 5900. If the port number was changed during the unit configuration procedure, this number will match that VNC port configuration number.

Click on "OK" to enter your Username and Password
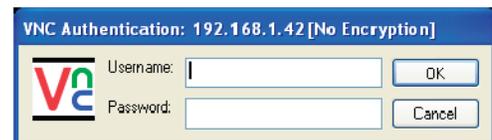
Click on the OK tab and VNC Authentication box will display. Enter the Username and password and click OK. Upon validation, the remote connected computer's video will display.

NOTE: If the username or password is entered incorrectly five consecutive times, the remote user station's IP address is locked out and remote access is denied. The lockout of an IP address will show up in the log as IP address "Blacklisted".
(See the troubleshooting section for the procedure to unlock the IP address)

Viewer encryption settings

The web browser viewers and VNC viewers offer four encryption settings:

- Always on - This setting will ensure that the link is encrypted, regardless of UltraConsole Remote 2 encryption setting.
- Let server choose - This setting will follow the configuration of the UltraConsole Remote 2. If the UltraConsole Remote 2 has 'Always on' or 'Prefer on' set, then the link will be encrypted. If the 'Prefer off' setting is selected at the UltraConsole Remote 2, then the link will not be encrypted.
- Prefer off - This setting will configure an un-encrypted link if the UltraConsole Remote 2 will allow it, otherwise it will be encrypted.
- Prefer on - If the UltraConsole Remote 2 allows it, this setting will configure an encrypted link, otherwise it will be un-encrypted.

ULTRACONSOLE REMOTE 2 INSTALLATION AND OPERATIONS MANUAL

VNC Viewer Toolbar

Figure 19 shows the VNC Viewer toolbar and an explanation of each toolbar tab. The VNC viewer uses a two mouse cursor technique to identify if you are working on the VNC Viewer or the remote PC's desktop. The local cursor is the dot and the arrow cursor is the host computers desktop. When you move the cursor, the arrow cursor will follow the dot cursor. When you move the cursors off of the host computer's desktop onto the remote computer's desktop, a single arrow cursor will be present for local cursor activity.

The first time you connect to the UltraConsole Remote 2 or switch CPU ports the cursors may be out of sync. Click on the Calibration tab on the toolbar ✛ and calibrate the Video + Mouse. After the calibration is complete, the mouse cursors ▨ will follow each other over the viewer window.
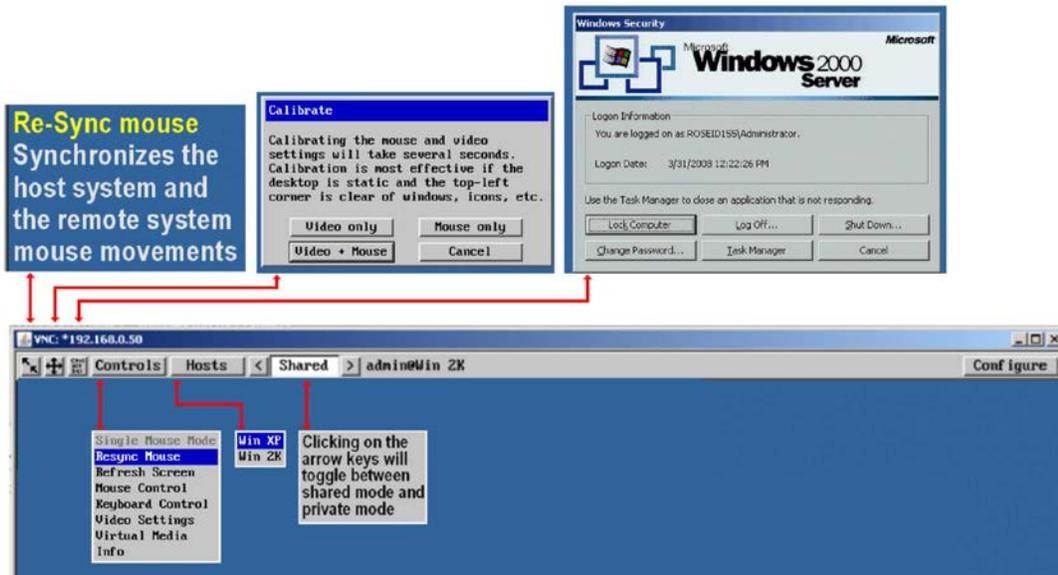
Figure 19. VNC Viewer Toolbar

Controls Tab

When you click on the "Controls" tab, the below dropdown menu will display.
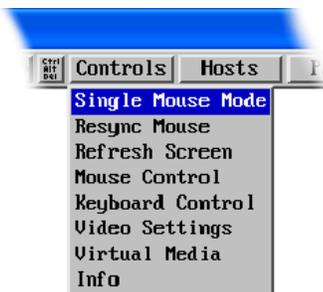
Single Mouse Mode
This mode is for fast network connections where the cursor response is sufficient to provide instant visual feedback on the remote screen. When enabled, the cursor is 'captured' within the viewer window until you use the 'escape' hot keys. To escape from the single mouse mode, press F8 and then P. The single mouse mode does not require calibration and available only when using the VNC viewer.

Resync Mouse
This option has the same effect as the button on the menu bar and resynchronizes the local and remote mouse pointers.

Refresh Screen
This option refreshes the whole screen image to remove any artifacts from moved screen items. This is useful when using very low refresh rates on slow speed communication links.

Mouse Control

This option displays a mouse control dialog box and is useful when the remote cursor is failing to respond correctly to your mouse movements, even after using the Re-sync and calibration mouse option.

The mouse control dialog allows you to control the remote mouse cursor manually using a selection of buttons that you click with your local mouse. Additional options also allow you to restore the settings of a mouse that has failed to operate correctly.

Keyboard Control

This option displays a keyboard control dialog and is useful for sending keyboard combinations (to the host) that are needed regularly.

When entering codes:

- **+** means press down the key that follows
- **–** means release the key that follows
- **+–** means press down and release the key that follows
- ***** means wait 250ms (note: if a number immediately follows the asterisk, then the delay will equal the number, in milliseconds - *300 = 300 ms wait)

It is automatically assumed that all keys specified will be released at the end, so there is no need to specify -Ctrl or -Alt if these keys are to be released together.

See Appendix H for a list of key sequence codes that can be used.

> **Examples:**
> 'Ctrl + F12' to invoke the KVM switch module's OSD would be expressed as: +-Ctrl+-F12
>
> 'Ctrl + Esc' to invoke the KVM switch module's CPU port selection window would be expressed as: +-Ctrl+-Esc

Video Settings

This dialog provides access to all of the key video settings that determine image quality and link performance.

Using automatic configurations

- Every setting can be individually subjected to an automatic configuration (click the appropriate 'Auto' button) and most can also be manually adjusted.

- Use the Calibrate All button to automatically determine the optimum settings for all items.

  > *Note: Before using the 'Calibrate All' option, if possible, remove on-screen display (OSD) elements generated by any connected KVM switches (such as a host name label or menu). These OSD elements use different video rates to those of the host system(s) and can affect the setting of the automatic threshold value. UltraConsole Remote 2 uses an improved calculation procedure to filter out the effect of these elements. However, best results are obtained when the screen contains only host system information.*

  > *Note: To maximize performance, the threshold level is automatically increased by 50% when a slow link is detected.*

  > *Note: If the UltraConsole Remote 2 is used with one or more KVM switches, the threshold needs to be higher than 32 due to the significant amounts of 'noise' that these switches introduce. The UltraConsole Remote 2 configuration should detect such noise and adjust the threshold accordingly.*

Setting the Threshold manually

Occasionally it can be useful to manually adjust the Threshold setting, in order to achieve a setting that best suits your particular requirements.

1   Use the 'Calibrate All' function to ensure that all other settings are optimized.

2   Click the Threshold left arrow button to decrement the setting by one and observe the 'Display Activity' indicator.

3   Repeat step 2 until the Display Activity indicator suddenly rises to a much higher level (i.e. 50%). This will mean that you have reached the noise boundary. At this point, increment the Threshold value by 2 or 3 points to achieve an optimum setting.

Virtual Media

The Remote Virtual Media feature is not implemented on this model

Info

When selected, this option displays an information dialog showing the current logged on users, the current host, its video mode and its mouse motion details.

Host Tab

The "Host" tab on the toolbar allows you to easily switch to any CPU port on the unit or system. Each of the 128 Host locations can be set-up with the appropriate keyboard command to switch to that port. These keyboard commands are set-up from the "Configure, Host" tab. Using the Hosts tab method to switch between host computers assures that the screen calibration details for each host are reused. The alternative is to use KVM switch hotkey combinations (Ctrl + n enter) or the KVM switch on screen display (Ctrl + Esc). You must be logged on as administrator to configure the host parameters.

To configure the Hosts feature, click on the "Configure" tab in the upper right corner of the viewer window. This will display the configuration options. Select "Host" from the option tabs and the Host configuration window will display as shown in Figure 20.
1. Select (highlight) the Host slot to configure and the Host Configuration box will display.
2. Enter the name for this position (Example: Computer 6). Enter the user names that will be given access to this host location. An * allows all users access or a list of users separated by commas (e.g. admin,nigel,andy,steve).
3. Enter the Hotkey / KVM port keyboard command sequence to switch to the CPU port (+-ctrl+-6+enter) for locations 10 or greater like port 15, the command sequence would be +-ctrl+-1+-5+enter).

When all needed host switching commands have been entered. Save the Host Configuration and also save the Host menu information. Once saved, you will return to the configuration menu. From the Configuration menu, return to the Host and click on the Hosts button on the viewer toolbar. The defined hosts will display in the dropdown menu. Click on any Host name and you will be immediately switched to that CPU port. The Host configuration feature can also be used to send any keyboard command sequence to the KVM switch module. It is recommended that only commands to switch to a CPU port are used. You can set-up a host location to display the KVM switch module's OSD menu (+-Ctrl+-F12+Enter) but it is best to use the "Command, Keyboard" function for these types of commands.
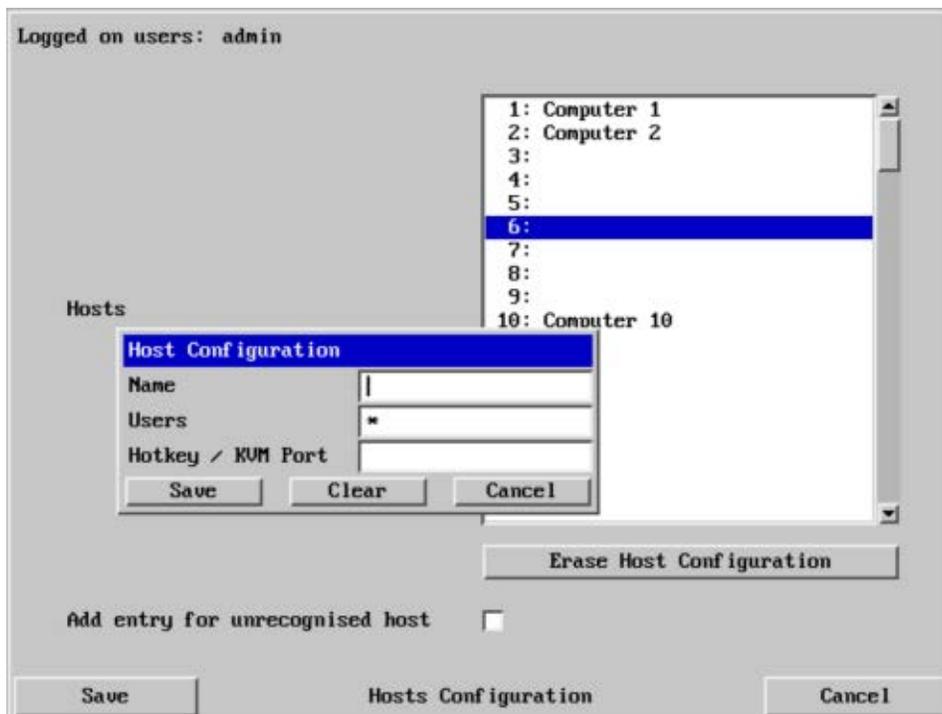

Figure 20. Host Configuration window

Up to five users can be simultaneously logged-on (four remote users plus one local user) and during normal operation, all are able to see the same view of the currently selected host. If you need to perform a sensitive task that should not be viewed by other users, you can change the access mode to Private. This action blanks the viewer window for all other logged on users. Use the left or right arrow keys to switch between the Shared and Private mode.
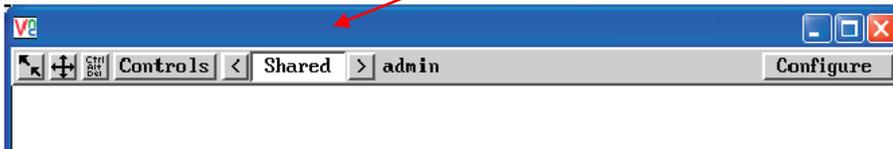
Using the VNC Viewer and not the Java applet, you can directly access the KVM switch module using keyboard commands or the Hosts feature. Using the Java applet, each keyboard command sequence to instruct the KVM Switch module to exercise an option must be configured to either the "Command, Keyboard Control" tab or the Hosts tab and the keyboard input sequence entered.

The easiest way to switch to a CPU port is invoke the Computer select window. To do this using the VNC viewer, press and release the Ctrl key, then within 2 seconds, press the Esc key. The computer select window will display listing all the computers connected to the UltraConsole Remote 2. This list will display the number of computers that was entered in the configure computer menu.
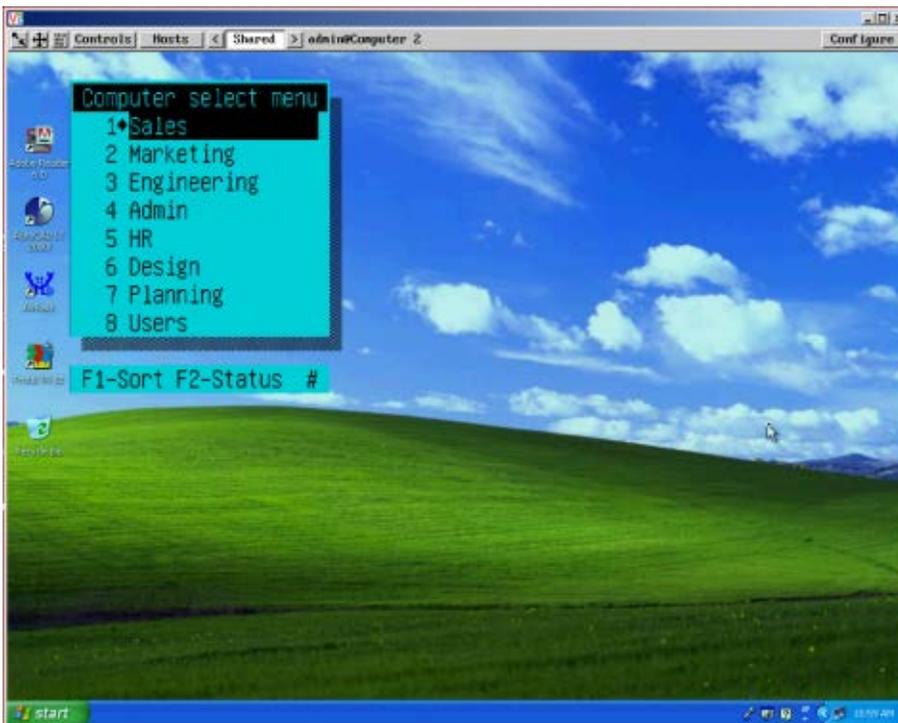
Figure 21. Computer Select Window

Using the up or down arrow keys, select the computer port to switch to and press enter. You will be immediately switched to that CPU port and the connected computer's video will display. You will have complete control (if your security profile permits it) of that computer. All functions can be performed as if you were directly connected to that computer. Files can be opened, edited, and saved, and applications installed on that computer can be executed.

Serial Device Support

The serial feature allows you to connect a KVM station to a serial device such as the serial port on a UNIX or Sun computer, a communication device, or any device with a serial port. The serial device is connected to the DB25F CPU port on the UltraConsole Remote 2 with a serial cable (See Appendix C for serial cable part numbers). Any CPU port can be configured to be a serial port. When you switch to that port, you are connected to the serial device and can access it as you normally would.

To configure a CPU port for a serial application, call up the main menu ([Ctrl] – F12), and then select computer and press [Enter]. From the configure computer menu, use the up/down arrow keys to select the desired computer to configure for serial, then use the left arrow key and select the keyboard field for the selected computer and press [Enter]. A selection box will display listing the supported choices. Use the up/down arrow keys and select the serial baud rate to configure the CPU port for and press [Enter]. Save the changes to flash memory. Once saved, that CPU port is configured for serial support.

```
 Configure Computer


      Computer name      Keyboard     Mouse
   1  Computer     1     PC2          PS/2
   2  Computer     2     Serial 9600,N,8,1
   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


  Use page up and page down keys to configure more computers,
  Type of computer, for PCs this is the computer's keyboard mode
```

With the CPU port configured for serial support and the appropriate serial cable connected, the KVM station can access the connected serial device the same way you would access it using a computer terminal.

When you switch to a CPU port that is configured for serial support, the powerful OSD will emulate a VT220 terminal. You can also use the KVM station in a standard TTY mode which will automatically scroll incoming data. The example below shows a typical screen from a UNIX computer. The data is shown in a standard 24 x 80 area with two status lines. The first line shows the current KVM station name, user name, connect mode, and computer name. The second line shows the command functions available.

```
-r-sr-xr-x   2 uucp      uucp        31258 Aug 14 2000  uusnap
-r-sr-xr-x   2 uucp      uucp        31258 Aug 14 2000  uustat
-r-xr-xr-x   1 uucp      uucp         1759 Feb 09 2000  uuto
-r-sr-xr-x   1 uucp      uucp        50678 Aug 14 2000  uux
-r-xr-xr-x   1 bin       bin          8868 Apr 09 2000  vacation
-r-xr-xr-x   5 bin       bin       224806 Jun 07 2001  vedit
-r-xr-xr-x   5 bin       bin       224806 Jun 07 2001  vi
-r-xr-xr-x   5 bin       bin       224806 Jun 07 2001  view
-r-xr-sr-x   2 root      system      14830 Jun 07 2001  w
-r-xr-xr-x  15 bin       bin          1042 Jun 07 2001  wait
-r-xr-xr-x   1 bin       bin          5050 Jun 07 2001  wc
-r-xr-xr-x   1 bin       bin          3372 Jun 07 2001  what
-r-xr-xr-x   3 bin       bin         96640 Jun 07 2001  whatis
-r-xr-xr-x   1 bin       bin          6840 Jun 07 2001  whereis
-r-xr-xr-x   1 bin       bin           963 Jun 07 2001  which
-r-xr-xr-x   1 bin       bin         10912 Jun 07 2001  who
-r-xr-xr-x   1 bin       bin          1598 Jun 07 2001  whoami
-r-xr-xr-x   1 bin       bin         18624 Jun 07 2001  write
-r-xr-xr-x   1 bin       bin         10694 Jun 07 2001  xargs
-r-xr-xr-x   1 bin       bin         12732 Apr 09 2000  xget
-r-xr-xr-x   1 bin       bin         12272 Apr 09 2000  xsend
-r-xr-xr-x   1 bin       bin          1334 Jun 07 2001  yes
-r-xr-xr-x   3 bin       bin         14552 Jun 07 2001  zcat
# _
```

```
UltraMatrix terminal·NOC station 12  ·Martin  ·Share mode      ·Unix NCC-1701-D
Page ↑↓ = Scroll     ·F12 = Clear screen                      ·Page 0
```

The page up and page down keys allow you to scroll the incoming pages in the four page scroll buffer.
The F12 key clears the screen.

RS232 Port

Serial port usage (RS232)

The following procedure for establishing a connection from your standalone computer or Notebook computer to the UltraConsole Remote 2 switch's serial port uses Windows HyperTerminal™. Refer to your user's manual if a different communication program is being used.

To access an UltraConsole Remote 2 serial port, the following items are required:
- A serial cable (RJ12, 6-wire connector and an appropriate adapter for the computer's serial port). The serial cable and adapter are provided with each unit (Rose part number KIT-ATRX)
- A dedicated computer, Notebook computer with a serial port, or a display terminal. Using a display terminal will allow you to configure the UltraConsole Remote 2 switch; however, you will not be able to upgrade new versions of firmware. Using a computer or Notebook, it must not be attached to any switch in the system being upgraded.
- A communications program such as Windows HyperTerminal.

Connecting the Serial Cable

Attach the serial cable from the RS232 port #1 on the UltraConsole Remote 2 (bottom right RJ12 connector) to the COM port on your computer. This COM port must be the same communication port HyperTerminal or your communication software is configured for.

Setting up Windows HyperTerminal

(The following instructions are using Windows; the instructions may be different for other operating systems)

Start the Windows HyperTerminal program. The "New Connection" dialog box will display requesting a name for this session. Enter a session name like "UCR2 Serial option" and click 'OK". Next, the "Connect To" dialog box will display. Click on the "Connect Using" down arrow to display the connect options. Select the Direct Connect option for the COM port you are using and click "OK". The COMx properties dialog box will display. Using the drop-down selection boxes, select the following values for each setting.

- Bits per second; 9600.
- Data bits; 8
- Parity; None
- Stop bits; 1
- Flow Control; Hardware

Click "OK" when all values have been entered. The HyperTerminal dialog box will display and information can be exchanged with the UltraConsole switch properly. You can save this setup so the next time its needed, you can select the ICON with the name you gave it and these settings will already be established.

Starting a serial communication session

Verify that "Connected" appears in the bottom left corner of the HyperTerminal window. If "Connected" is not present, click on the "Call" icon. "Connected" should display in the bottom left corner.

Power on or cycle power on the UltraConsole Remote 2 switch and press the spacebar when the message, "Hit the spacebar within 5 seconds to get serial options menu" appears on your screen. The serial menu will appear after the diagnostic check completes. If unrecognizable characters appear, the baud rate set on the UltraConsole Remote 2 switches serial port and the baud rate set on your computers COM port are not set to the same value. Disconnect from the UltraConsole by clicking on the "Disconnect" ICON. Change the baud rate on your terminal or computers communication program from 9600 (set previously) to 57,600. Re-connect by clicking on the "Call" ICON. Cycle power on the UltraConsole switch, press the space bar, and the serial option menu will display and should be legible. The serial menu enables you to perform certain configuration settings and perform flash upgrades. Following explains the serial menu options:

Serial options menu

1)   Change starting computer number … 1
2)   Change the serial port baud rate   … 9600
3)   Receive new main program or kernel from serial port (this card only)
4)   Send this unit's main program to other units
5)   Send this unit's kernel to other units
6)   Reset configuration data to factory defaults (this card only)
7)   Save changes made in 1 and 2 (this card only)
8)   Exit (restart the unit)

Enter choice - - >

Serial menu options

Option 3, 4 and 5 are not available when using a display terminal.

Option 1. Change Starting Computer (From card #1 only)
Select this option to change the starting computer number. To change the current value press 1; a prompt will display, as shown below. Type in the new starting computer number and press [Enter].

Enter the starting CPU number

The serial option menu will display again. Select Option 7 to save the new starting computer number to flash memory. Cycle power on the UltraConsole remote 2 switch to distribute the new value to all the other CPU cards in this switch.

Option 2. Change the serial port baud rate
Select this option to change the baud rate on the serial ports of the UltraConsole switch. The serial ports can be set to either 9600 or 57,600 (bps). The option menu shows the current serial port setting. To change this from current setting press 2. The message below will appear.

Baud rate changed to 9600 (or 57,600)
Set baud rate of your terminal to 9600 (or 57.600) and press return.

You must change or verify that the computer's baud rate matches the UltraConsole Remote 2 baud rate. If you are using Windows HyperTerminal on your computer, first disconnect from the UltraConsole Remote 2 switch by clicking on the HyperTerminal disconnect ICON. Change the baud rate to match the UltraConsole remote 2 switch's baud rate, then connect to the UltraConsole Remote 2 switch by clicking on the call ICON. Press [Enter] and the serial menu should display in the HyperTerminal window.

Option 3. Receive new main program or kernel from serial port
(This card only)

When new main or kernel programs are available, they can be obtained from Rose Electronics or downloaded from our web site at www.rose.com. The diagnostic screen that is displayed when the UltraConsole Remote 2 switch is first turned on shows the Kernel and main program version that is presently installed.
You cannot update the flash memory using only a display terminal; you must use a standalone computer or Notebook and the new main or kernel program saved on that computer.

To load a flash upgrade file, type 3 in the Enter choice field of the serial options menu. The following message will appear:

```
Waiting for file.........................
```

Send the program or kernel file from your computer to the UltraConsole Remote 2 using ASCII text file protocol. From HyperTerminal, click on "Transfer" and select "Send Text File". The "Send Text File" dialog box will display. Enter the file name of the updated firmware file into the File Name box and click "Open". The file transfer function will start. While the file is being sent, periods are sent to indicate the copying progress. Once the file has been sent, you will see the message:

```
Receive successful
Flash programming.........................
Flash programming successful
```

After the flash memory is programmed, the serial menu will display.

Updating the firmware or kernel programs does not change any of the custom settings that have been made.

You may receive one of the following errors during the file transfer function: checksum error, record error, or data error. These messages are followed by:

```
Receive failed
Try again Y/N
```

These error messages may be caused by any of the following items:
- Corrupted firmware upgrade file.
- Loose or defective RS232 cable.
- RS232 protocol not configured correctly.
- Bad transmit or receive levels.
Hardware problem on transmit or receive side

```
Boards to update - n
You are about to copy the firmware from this board to all other
boards in the system.
Are you sure? Y/N
```

Identify and correct the transmit problem and press "Y" and then [Enter] to try again and you can resend the file.

Press "N" and then [Enter] and the prompt "Hit enter to boot" appears. Press the [Enter] key to re-start the UltraConsole Remote 2 switches diagnostics with the firmware unchanged.

Option 4. Send this Unit's Main Program to other Units.
Option 5. Send this Unit's Kernel to other Units.
The main program or kernel program updates (Option 3) only have to be done on one port. Make sure power to all UltraConsole Remote 2 switches is "ON" and they are all connected using the appropriate expansion cables.

Press 4 to send the main program to all other units, all other cards.
Press 5 to send the kernel program to all other cards.
The following messages will appear using either option 4 or option 5.

Before responding Y, make sure that the "Boards to update" number in the message above agrees with the total number of boards in the entire system minus 1. If the number does not agree, reply N, turn on the inactive UltraConsole Remote 2 Units, and press 4 or 5 again. When you reply Y, the following message appears:

Sending flash program code to system........................

When complete, the system returns you to the serial options menu. Wait at least 15 seconds before restarting the UltraConsole Remote 2 after choosing option 4 or 5 for the program to propagate to the other cards in the system.

Option 6. Reset to Factory Defaults (This CPU card only)
NOTE: Before resetting any CPU card to factory defaults, note the starting computer number listed on the Serial menu, Option 1. When resetting a CPU card to factory defaults, this number will be set to one (1) and must be changed back to the original value by using option 1 and then saved using option 7. In an expanded system, there cannot be two different UltraConsole Remote 2 switches in the system with the same starting computer number.

Selecting option 6 restores the CPU card to its original factory configuration. The following message appears:

Flash programming . . . .

When the flash memory is updated, the following message is displayed:

Configuration saved successfully

Option 8. Exit (Restart the Unit)
Selecting option 8 exits the serial option menu. The UltraConsole Remote 2 switch will reinitialize and the diagnostic check will run. After the diagnostic check finished, the Unit is ready to use with its new configurations. If there are more configurations needed, hit the space bar within 5 seconds and the serial menu will be brought back up to use.

SERVICE and MAINTENANCE

Service Information

Maintenance and Repair

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

When returning a Unit, it should be double-packed in the original container or equivalent, insured and shipped to:
  Rose Electronics
  Attn: RA_____
  10707 Stancliff Road
  Houston, Texas 77099 USA

Technical Support

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

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

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

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

SAFETY

Safety

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

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

The Unit exhibits a distinct change in performance, indicating a need for service

Safety and EMC Regulatory Statements

Safety Information

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

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

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

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

Grounding

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

Servicing

There are no user-serviceable parts inside these products. Only service-trained personnel must perform any servicing, maintenance, or repair.

The user may adjust only items mentioned in this manual.

Safety and EMC Regulatory Statements

Informations concernant la sécurité

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

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

CAUTION   Un texte de mise en garde intitulé indique un danger suscep-tible de causer des dommages à 'équipement.

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

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

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

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

TROUBLESHOOTING

Troubleshooting

Remote network users are unable to contact the unit

- Check that the correct address is being used by the remote users.
- Check the network settings. Check that the user' network address has not been excluded in the IP access control section.
- If the UltraConsole Remote 2 is situated behind a firewall, check that the relevant ports are being allowed through the firewall and are being correctly routed.
- Check the front panel indicators, the LNK indicator should be on. If the network link is a 100Mbps connection, the 100 indicator should also be on.

Remote IP address is locked out (Blacklisted)

- If the remote user logged on incorrectly five times using the VNC Viewer, try logging on using the Applet. If logging on using the Applet is successful, the IP address will be unlocked.
- If the remote user logged on incorrectly five times using the Applet, try logging on using the VNC Viewer. If logging on using the VNC Viewer is successful, the IP address will be unlocked.
- If both the VNC viewer and Applet login is denied access, remove power from the UltraLink 2 for two to three seconds. This will reset the unit and unlock the IP address. If the UltraLink2 unit is using DHCP, the previously assigned IP address may be changed to a different IP address when power is restored. Remote users will need to be informed of the new IP address. If you still have problems with a Blacklisted IP address, please contact Rose Electronics technical support.

The remote cursor is not correctly responding to my mouse movements

- Recalibrate the mouse. When doing so, ensure that the host system does not have mouse cursor trails enabled and that the top left corner of the screen is clear of application windows.

When logging on using VNC viewer, I cannot enter a username

- Either, the VNC viewer is an old version or only the admin user has been configured on the unit.

Computer does not boot, keyboard or mouse error received
- CPU cable is loose. Re-seat cable and hit F1 to continue or reboot computer.
- Wrong cable plugged in. Keyboard and mouse cables reversed.
- CPU cable is defective. Try using CPU cable from another computer. If problem goes away, cable is defective.
- Port on UltraConsole is defective. Try using another port on the UltraConsole. If problem goes away, port is defective.
- Port on computer is defective. Try plugging in keyboard or mouse directly. If problem remains, computer port is defective. If computer power status LED not lit, fuse on motherboard may be blown.

Mouse driver does not load
- If PS/2 type mouse, computer must be attached to the UltraConsole or mouse at boot-up time in order for mouse to be recognized by the computer. Reboot computer with the UltraConsole powered on and a CPU cable attached.
- Incompatible or old mouse driver being used. Update mouse driver.

Can't switch computer port from keyboard
- Power to the UltraConsole was removed for less than three seconds possibly causing keyboard to lock up. Detach and reattach keyboard.
- The mode of the keyboard does not match that of the computer. Issue the mode command, usually 1 for IBM PS/2s, and 2 for all others. The default setting of the UltraConsole is mode 2. Sometimes an incorrect mode will confuse the computer or keyboard. This requires re-booting the computer or resetting the keyboard by unplugging and plugging it back in.
- If trying to reach a remote port, that port is busy. Try again later.
- If trying to reach a remote port, the expansion cable is detached or the remote Unit is powered off.
- Keyboard port or computer port cable detached.

Wrong or missing characters from those typed
- The keyboard mode is incorrect; configure computer port for correct keyboard mode.

Mouse does not move
- The UltraConsole turned off after or not attached when computer booted or application began using mouse. Exit and re-enter application using mouse or issue reset command.
- PS/2 mouse was not attached when the UltraConsole powered up or has been detached and reattached. Issue the reset command.

PS/2 mouse gets out of sync
- Reset the mouse by pressing and releasing the left Control Key, and then the R key.
- Cabling was disturbed during mouse movement. Issue the null command once or twice to re-sync the mouse. Get a later mouse driver that does not exhibit this problem.

Video fuzzy
- Cable too long or wrong type. Verify that resolution and distance match Appendix I – Video Quality Chart Upgrade cable if necessary.

Video not synchronized or wrong color
- Cable is loose. Re-seat cable.
- Wrong computer (CPU) cable used. If you have a 9515, 9517, 9518, XGA mono or similar monitor you must use special cables or adapters.
- Cable is defective. Try using cable from another computer (CPU). If problem goes away, cable is defective.
- Port on the UltraConsole is defective. Try using another port on the UltraConsole. If problem goes away, port is defective.

Lower resolution video OK, but can't enter high resolution mode
- Wrong CPU cable used. If you have a XGA, XGA 2, or other high-resolution video adapter, you should probably be using the CAB-CX (or C1) cable to attach your computer and KVM station.
- Driver has not been setup. Windows, OS/2, or other driver has not been configured for this resolution. Configure the driver.

APPENDICES

Appendix A – Specifications

Dimensions		Height 2 user/4 user	Depth	Units
	Width			
	16.7	1.75 / 3.50	12.0	Inches
	42.4	4.45 / 8.89	30.5	Centimeters
Weight	1 x 4 = 8 lbs. (3.6 kg) 1 x 8 = 1 x 16 =			
Power	Auto Switching, 110-240 VAC, 50/60 Hz, 750 ma, 100 watts			
Connectors	Power: IEC 320 standard receptacle Local KVM: DB25F CPU: DB25F		Ethernet port: RJ45F Serial RS232 port: RJ12F Expansion; DB15M input / DB15F / output	
Video Resolution	1600 x 1200 @ 60 Hz			
Chassis	Electro galvanized steel, black powder coated			
Controls	Power On / Off Switch			
Environmental	0°-45° C, 32°-113° F, 5%-80% non-condensing rel. humidity			

Appendix B – Part Numbers

Part number	Description
CAB-CX0606Cnnn	DB25 to VGA/PS2 - UCR-2 to CPU
CAB–ZX0606Cnnn	Standard – VGA/PS2 Kbd/Mouse - UCR-2 to CPU
CAB–CXV800Cnnn	Coax – Sun Video/kbd-mouse / HD15/MD8 - UCR-2 to CPU
CAB–SCX0800Cnnn	Coax – Sun Video/kbd-mouse / 13W3/MD8 - UCR-2 to CPU
CAB-C1Y0509Cnnn	DB25M to VGA-AT Kbd / Serial mouse - UCR-2 to CPU
CAB-CXUSBCnnn	DB25M to VGA – USB Kbd / Mouse - UCR-2 to CPU
CAB-R3W30606Cnnn	DB25M to 13W3M-PS/2 Kbd/mouse (UCR-2 to RS6000)
CAB-R1W30606Cnnn	DB25M to 13W3M-PS/2 Kbd/mouse (UCR-2 to RS6000)
CAB-S13W30606Cnnn	DB25M to 13W3M-PS/2 Kbd/mouse (UCR-2 to SGI)
CAB-RGBHV0606Cnnn	DB25M to RGBHV-PS/2 Kbd/mouse – (UCR-2 to CPU)
CAB-CX0606Mnnn	DB25M to VGA-PS/2 Kbd/mouse (UCR-2 to KVM)
CAB-ZX0606Mnnn	DB25M to VGA-PS/2 Kbd/mouse (UCR-2 to KVM)
CAB-CXVUSBMnnn	DB25M to VGA-USB kbd/mouse (UCR-2 to KVM)
CABA-RGBHV0606Mnnn	DB25M to RGBHV-PS/2 Kbd/mouse (UCR-2 to KVM)
CAB–CXUMXnnn	Bus expansion cable (Molded version)
CAB–CXUMHnnn	Bus expansion cable
CAB–USDTD25FCnnn	Serial to DTE equipment w/DB25F
CAB–USDTD9FCnnn	Serial to DTE equipment w/DB9F
CAB–USDCD9MCnnn	Serial to DTE equipment w/DB9M
CAB–USDCD25MCnnn	Serial to DTE equipment w/DB25M
CAB–USSNMD8MCnnn	Serial to Sun serial port w/MD8M
RM-UB19 (Rackmount Kit)	19 in. – (1U, B Chassis)
RM-UC19 (Rackmount Kit)	19 in. – (2U, C Chassis)

Appendix C – Rack mounting

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 UltraConsole Remote 2, 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 UltraConsole Remote 2 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

Appendix D – VNC Viewer Options

When you are connecting to the UltraConsole Remote 2 using the VNC viewer, a number of options are available. Normally, the default settings for all the options are acceptable and provide for a safe, secure connection to the unit. If the color / Encoding / Scaling / Inputs / Identities / Load – Save options / or Misc. items need modifying, start the VNC viewer and click on the Options tab. This will invoke the VNC Viewer Options.

Click the Options button to display the VNC Viewer options.
There are six tabbed pages of options:

Color / Encoding tab
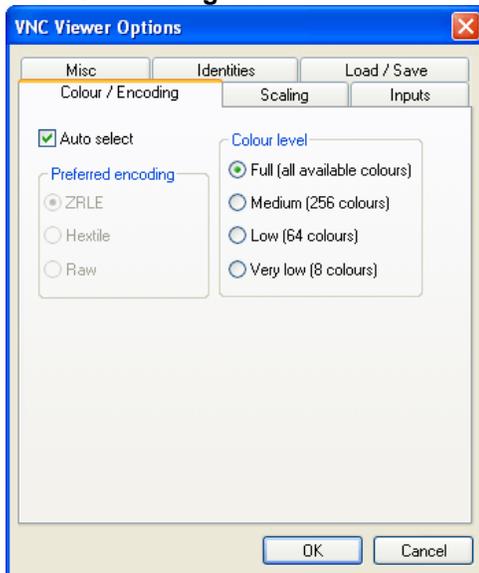
Auto select
When checked, this option will examine the speed of your connection and apply the most suitable encoding method. This option is acceptable for the majority of installations.
Preferred encoding
There are three selectable encoding methods available when the Auto select option is not selected.
- **ZRLE** – This is a highly compressed method
- **Hextile** – This method offers better performance than the ZRLE when used over a high speed network because there is no need for the UltraConsole Remote 2 to spend time highly compressing the data.
- **Raw** – This is a primitive, uncompressed method that is mainly used for technical support issues. You are recommended not to use this method.

Color level
This section allows you to select the most appropriate color level for the connection speed. Where the connection speed is slow or inconsistent there will be a necessary compromise between screen response and color depth.
- **Full** – This mode is suitable only for fast network connections and will pass on the maximum colour depth being used by the host system.
- **Medium (256 colors)** – This mode reduces the host system output to a 256 color mode and is more suitable for ISDN.
- **Low (64 colors)** – This mode reduces the host system output to 64 colors.
- **Very low (8 colors)** – This mode provides very rudimentary picture quality and hardly any speed advantage over the 64 color setting. This mode is not recommended to use.

Scaling tab
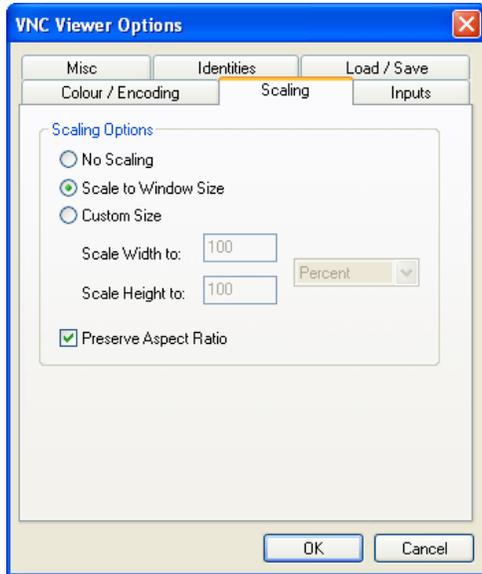
No Scaling
No attempt is made to make the screen image fit the viewer window. You may need to scroll horizontally and/or vertically to view all parts of the screen image.

Scale to Window Size
Adjusts the server screen image to suit the size of the viewer window.

Custom Size
Adjusts the server screen image according to the Width and Height settings in the adjacent fields. A drop box to the right of the fields allows you to define the image size by percentage or by pixels, as required.

Preserve Aspect Ratio
When ticked, maintains a consistent ratio between the horizontal and vertical dimensions of the screen image.

Inputs tab
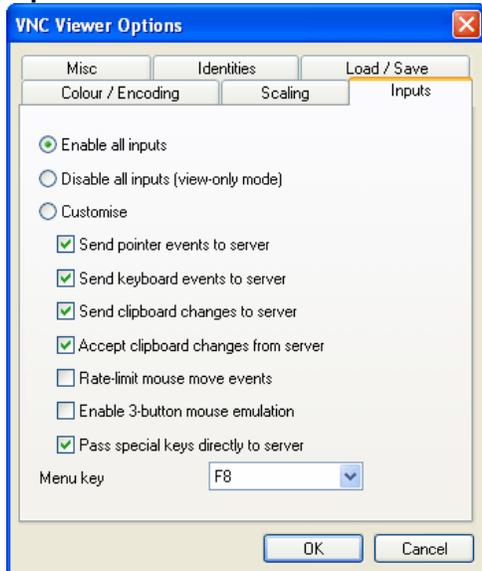
Enable all inputs
When selected, allows keyboard, mouse and clipboard data to be transferred between server and viewer systems.

Disable all inputs (view-only mode)
When selected, prevents control data being passed between server and viewer. Viewer can display the server output, but cannot control it.

Customize
Allows you to select which data can be transferred between server and viewer.

- **Send pointer events to server** - When un-ticked, the VNC viewer will not send mouse movement or click data to the UltraConsole Remote 2 or host system.
- **Send keyboard events to server** - When un-ticked, the VNC viewer will not send keyboard information to the UltraConsole Remote 2 or host system.
- **Send clipboard changes to server** - This feature is restricted to software server versions of VNC and has no effect on UltraConsole Remote 2 installations.
- **Accept clipboard changes from server** - This feature is restricted to software server versions of VNC and has no effect on UltraConsole Remote 2 installations, except for retrieving the activity log as described in the logging and status section.
- **Rate-limit mouse move events** - When ticked, this feature reduces the mouse movement information that is sent to the UltraConsole Remote 2 and host system. This is useful for slow connections and you will notice that the remote cursor will catch up with the local cursor roughly once every second.
- **Enable 3-button mouse emulation** - This feature allows you to use a 2-button mouse to emulate the middle button of a 3-button mouse. When enabled, press the left and right mouse buttons simultaneously to create a middle button action. You are advised to generally use a 3-button mouse.
- **Pass special keys directly to server** - When ticked, 'special' keys (the Windows key, the Print Screen key, Alt+Tab, Alt+Escape and Ctrl+Escape) are passed directly to the UltraConsole Remote 2 rather than being interpreted locally.

Menu key
This feature allows you to select which function key is used to display the VNC viewer options menu. The menu key is only way to exit from the full screen viewer mode.

Misc tab
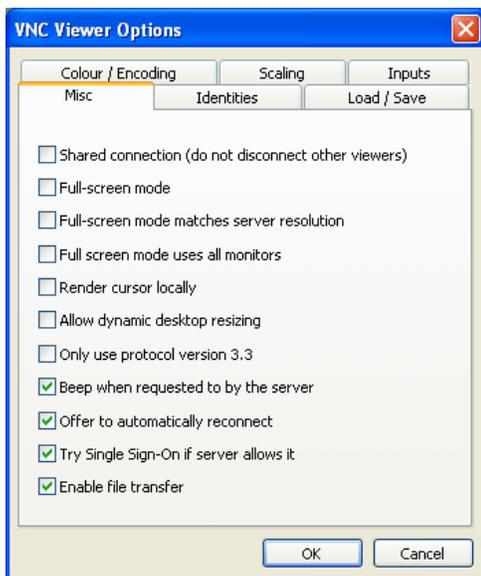
Shared connection (do not disconnect other viewers)
This option does not apply to UltraConsole Remote 2 connections.

Full screen mode
When ticked, the VNC viewer will launch in full screen mode. Use the menu key (usually F8) to exit from full screen mode.

Full-screen mode matches server resolution
This option does not apply to UltraConsole Remote 2 connections.

Full-screen mode uses all monitors
This option does not apply to UltraConsole Remote 2 connections.

Render cursor locally
This option does not currently apply to UltraConsole Remote 2 connections.

Allow dynamic desktop resizing
When ticked, the viewer window will be automatically resized whenever the host system's screen resolution is altered.

Only use protocol version 3.3

This option does not apply to UltraConsole Remote 2 connections.

Beep when requested to by the server
When ticked, your local system will beep in response to any error beeps emitted by the UltraConsole Remote 2.

Offer to automatically reconnect
When ticked, the viewer will offer to restore a lost connection with the server.

Try Single Sign-On if server allows it
This option does not apply to UltraConsole Remote 2 connections.

Identities tab
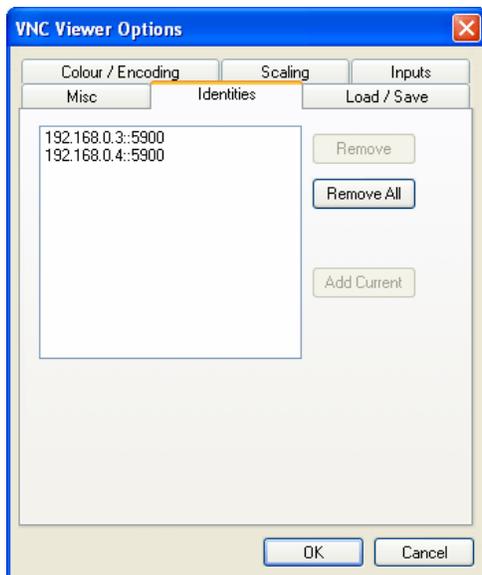
This feature helps your VNC viewer to confirm that a revisited UltraConsole Remote 2 is genuine and not another device masquerading as an UltraConsole Remote 2. The list given will retain the identities of all visited units (that have full security enabled).
When you first make a secure connection to the UltraConsole Remote 2, the security information for that UltraConsole Remote 2 unit is cached within this Identities tab (i.e. the "identity" is known). The next time that you connect to the UltraConsole Remote 2, its identity is checked against the stored version. If a mismatch is found between the current and the stored identities then a warning will be issued to you.
If an existing UltraConsole Remote 2 is fully reconfigured then it will need to issued with a new identity. In this case the previous identity, listed in this tab, should be removed so that a new identity can be created on the next connection

Load / Save
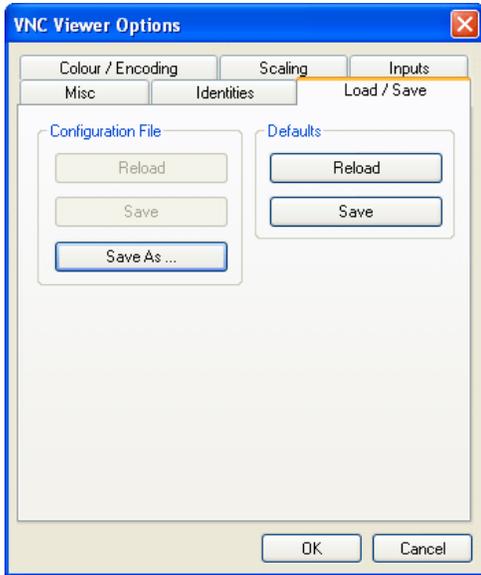
Configuration File – Reload
Allows you to load a configuration file saved from this, or another viewer.

Configuration File – Save
Allows you to save the current settings so that they can be copied from one viewer to another.

Configuration File - Save As.
Allows you to save the current settings under a new name so that they can be copied from one viewer to another.

Defaults – Reload
When clicked, all connection options are returned to the default settings that are currently saved.

Defaults – Save
When clicked, saves the current connection options as the default set that will be used in all subsequent VNC connections.

ULTRACONSOLE REMOTE 2 INSTALLATION AND OPERATIONS MANUAL

Appendix E – Video Modes

The following video modes are supported and can be automatically configured by the UltraConsole Remote 2. If a recognised video mode cannot be found, the UltraConsole Remote 2 will gradually change some of the key parameters to discover whether a video lock can be achieved. Support for VESA GTF (Generalized Timing Formula) is available and can be enabled via the Advanced Unit Configuration screen.

The half width video modes capture every other pixel. These are not generally recommended for normal use but may be used for emergency access to high resolution, high frequency system screens. Half width screens can be expanded to normal width using the scaling features of the viewer.

vesa 720 x 400 @ 85Hz	vesa 1024 x 768 @ 85Hz
vesa 640 x 480 @ 60Hz	vesa 1152 x 864 @ 75Hz
vesa 640 x 480 @ 72Hz	vesa 1280 x 960 @ 60Hz
vesa 640 x 480 @ 75Hz	vesa 1280 x 1024 @ 60Hz
vesa 640 x 480 @ 85Hz	vesa 1280 x 1024 @ 75Hz
vesa 800 x 600 @ 56Hz	vesa 1600 x 1200 @ 60Hz
vesa 800 x 600 @ 60Hz	vesa 720 x 400 @ 70Hz*
vesa 800 x 600 @ 72Hz	sun 1152 x 900 @ 66Hz
vesa 800 x 600 @ 75Hz	sun 1152 x 900 @ 76Hz
vesa 800 x 600 @ 85Hz	sun 1280 x 1024 @ 67Hz
vesa 1024 x 768 @ 60Hz	apple 640 x 480 @ 67Hz
vesa 1024 x 768 @ 70Hz	apple 832 x 624 @ 75Hz
vesa 1024 x 768 @ 75Hz	apple 1152 x 870 @ 75Hz

* Not actually a VESA mode but a common DOS/BIOS mode

Appendix F – IP Access Control

Setting IP access control

IP access control provides a means of limiting access to the UltraConsole Remote 2 unit. This is done by specifying the IP addresses or IP address ranges that are allowed access to the unit and the IP addresses or IP address ranges that are denied access to the unit.

Click on the "Add" tab to enter an IP address to allow or deny. Enter the allowed IP addresses in the list first, then the denied IP addresses. The position of the entries in the IP Access Control list is important. Once a range of IP addresses is denied access, it is not possible to allow access for an IP address that is in the denied range. For example, if the range of IP addresses from A to F are denied access first, IP address C could not be granted access lower down the list. IP address C must be placed in the list before the denied range. Always arrange the allowed IP addresses in the list before the denied IP addresses.

NOTE: This feature should be carefully thought out and configured with extreme caution. If not done properly, it is possible to deny access to everyone. If such an error occurs, see Clear IP access control for details about how to regain access.
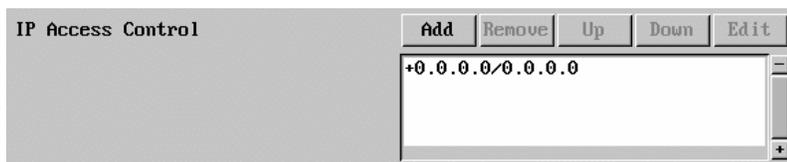
In the list, access control addresses prefixed by '+' are allow entries while those prefixed by '– ' are deny entries.

Appendix G – Allowable HOTKEY Sequences

These codes are used when defining hotkey switching sequences (macros) for host computers and allow you to include almost any of the special keys on the keyboard.

Main control keys
Backspace | Tab | Return | Enter | Ctrl | Alt | Win | Shift | LShift | RShift | LCtrl | RCtrl | LAlt | AltGr | RAlt | LWin | RWin Menu | Escape | Space | CapsLock | NumLock | PrintScreen | Scrolllock

Math operand keys
Add (Plus) | Subtract (Minus) | Multiply

Central control keys
Insert | Delete | Home | End | PageUp | PageDown | Up | Down | Left | Right | Print | Pause

Keypad keys
KP_Insert | KP_Delete | KP_Home | KP_End | KP_PageUp | KP_PageDown | KP_Up | KP_Down | KP_Left KP_Right | KP_Enter | KP_Add | KP_Subtract | KP_Divide | KP_Multiply | KP_0 to KP_9

Function keys
F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12

ASCII characters
All characters can be entered using their ASCII codes, from 32 to 126 (i.e. A,B,C, … 1,2,3 etc.) with the exception of the special characters '+', '-', '+−' and '*' which have special meanings, as explained below.

Codes with special meanings
+   means press down the key that follows
−   means release the key that follows
+−   means press down and release the key that follows
*   means wait 250ms (note: if a number immediately follows the asterisk, then the delay will equal the number, in   milliseconds)
Note: Hotkey sequences are not case sensitive.

Creating macro sequences
Hot key macro sequences can be up to 256 characters long. All keys are assumed to be released at the end of a line, however, you can also determine that a key is pressed and released within a sequence. Any of the following three examples will send a command that emulates a press and release of the Scroll Lock key:

+SCROLL-SCROLL   :   +-SCROLL   :   +SCROLL-

Example:
+-SCROLL+-SCROLL+1+ENTER

Press and release scroll twice, press 1 then enter then release all keys (equivalent definition is +SCROLL-SCROLL+SCROLL-SCROLL+1+ENTER-1-ENTER)

Using abbreviations
To reduce the length of the key definitions, any unique abbreviation for a key can be used. For example: "scroll", "scr" and even "sc" all provide an identifiable match for "ScrollLock" whereas "en" could not be used because it might mean "Enter" or "End" ("ent" would be suitable for "Enter").

Note: Hotkey sequences and abbreviations are not case sensitive.

ROSE ELECTRONICS

Server Management

Solutions