Raritan Multi-Platform Client

Raritan Remote Client

User Guide

MPC version 5.0.0.5

RRC version 4.6.3.5

For Use with Raritan's Dominion® and IP-Reach® Products

This page intentionally left blank.

Copyright and Trademark Information

For assistance in the North or South America, please contact the Raritan Technical Support Team by telephone (732) 764-8886, by fax (732) 764-8887, or by e-mail tech@raritan.com

Ask for Technical Support – Monday through Friday, 8:00am to 8:00pm, Eastern.

For assistance around the world, please see the last page of this guide for regional Raritan office contact information.

This page intentionally left blank.

Contents

Figures

Chapter 1: Introduction and Installation

Raritan Multi-Platform Client (MPC) and Raritan Remote Client (RRC) are graphical user interfaces for the Raritan Dominion KX and IP-Reach product lines, providing remote access to target servers connected to Raritan KVM over IP devices. Non-Windows users must use Raritan Multi-Platform Client, and Windows® users running Internet Explorer must use Raritan Remote Client.

Use with Raritan Products

Raritan Multi-Platform Client (MPC) and Raritan Remote Client (RRC) are intended for use with the following products:

PRODUCT	MPC	RRC
Dominion KX II (G2)	✓	
Dominion KX I (G1)	✓	✓
Dominion KX101 (G1)	✓	✓
Dominion KSX (G1)	✓	✓
IP-Reach	✓	✓
UST-IP (G1)	✓	✓

Legend:

G1	Generation 1
G2	Generation 2

There are some differences between MPC when used with the Dominion KX I and Dominion KX II devices; these differences are noted in the user manual.

*Note: RRC **cannot** be used with Dominion KX II devices.*

Minimum System Requirements

The minimum system requirements for the Raritan Multi-Platform Client and Raritan Remote Client are:

- CPU Speed: 1.0 GHz
- RAM: 512 Mbytes

Note: Running the client software on system configurations below either of these specifications may impact performance and result in errors.

Note to CC-SG Users

If you are using Dominion KX II in a CC-SG configuration, do not use the CC-SG proxy mode if you are also planning to use the Multi-Platform Client (MPC).

Java Runtime Environment (JRE) Requirements

Raritan recommends using Java® Runtime Environment (JRE) version 1.5 for optimum performance, but MPC will function with JRE version **1.4.2_05** or greater (with the exception of JRE 1.5.0_02). JRE 1.6 is also supported, but has not been fully tested.

Determine your version of the JRE on the Java webpage:
http://www.java.com/en/download/help/testvm.xml

You may need some configuration depending on your OS and browser; configuration instructions are provided with the JRE download. Please note that modem use is not supported with Raritan's Dominion KX101.

Important: When launching MPC from a browser, it is highly recommended to disable the Java Applet caching.

Although no actual problems have occurred when Java caching is turned on, some non-impacting Java exceptions have occurred with the caching turned on. Generation of these Java-exceptions can appear in the Java Applet Console window, and may degrade performance.

For Linux/UNIX environments, the Java Control Panel is located in the JRE's bin directory; the location varies based on where JRE was installed by your Linux/UNIX administrator.

Tip: It is also recommended that you clear the Java cache.

To disable Java caching and clear the cache (these steps use Microsoft Windows XP and JRE 1.5.0):

1. From the **Start** menu, click **Control Panel.**

2. Double-click on the **Java** icon to launch it. The Java Control Panel opens:

Figure 1: Java Control Panel

3. To disable Java caching:

    A. From the General tab, click the **Settings** button in Temporary Internet Files. The Temporary Files Settings dialog opens:
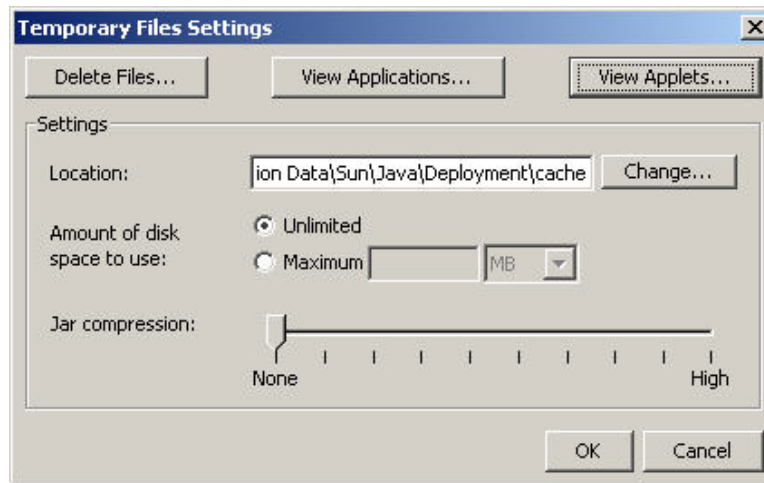
Figure 2: Temporary Files Settings

    B. Click the **View Applets** button. The Java Applet Cache Viewer opens:
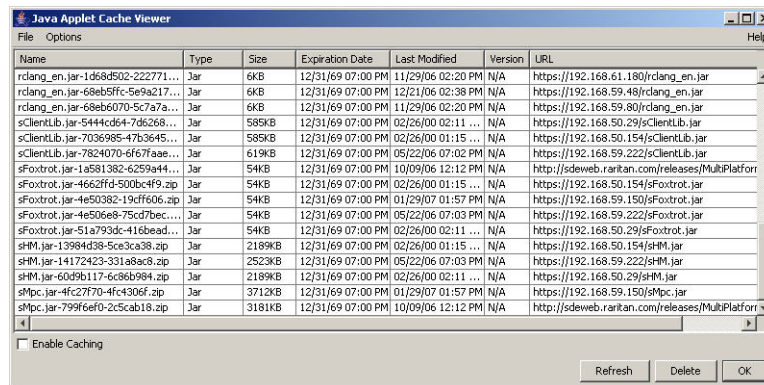
Figure 3: Java Applet Cache Viewer

    C. Clear the **Enable Caching** checkbox**.**
    D. Click **OK.**

4. To clear the Java cache:

    A. From the Temporary Files Settings dialog, click the **Delete Files** button. The Delete Temporary Files dialog opens:
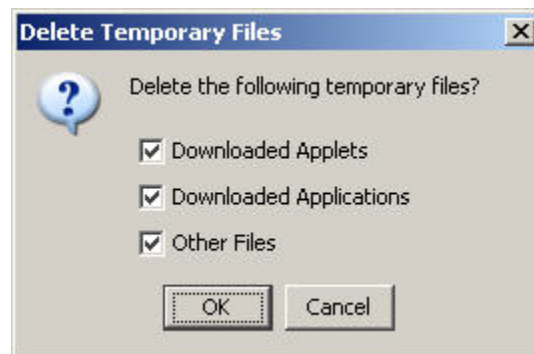
Figure 4: Delete Temporary Files

    B. Click **OK**.

MPC Supported Browsers

MPC supports the following browsers:

- Internet Explorer 6 and 7
- Firefox® 1.5 and 2.0
- Mozilla® 1.7
- Safari 2.0

Raritan Multi-Platform Client (MPC) Supported Operating Systems

When launched as web applet or as a standalone application, MPC allows you to reach target servers via different Raritan Dominion KX and IP Reach models.

Raritan MPC is compatible with the following platforms:

- Windows XP
- Windows 2000 SP4
- Windows Vista
- Red Hat Linux® 9.0
- Red Hat Enterprise Workstation 3.0 and 4.0
- SUSE Linux Professional 9.2 and 10
- Fedora Core 5 and above
- Mac®
- Solaris™

Launching MPC from a Web Browser

Important: Regardless of the browser you use, you must allow pop-ups from the Dominion device's IP address in order to launch MPC.

1. To launch MPC from a client running any supported browser, type **http://IP-ADDESS/mpc** into the address line, where **IP-ADDESS** is the IP address of your Raritan device. MPC will launch in a new window that **does not** contain a menu bar, tool bar, scroll bar, or address bar. Work in this window and toggle to other open windows using the **ALT+TAB** command**.**

2. When MPC launches, a device tree of all automatically detected Raritan devices found on your subnet is displayed on the left side of the screen. If you do not find your unit listed by name, create an icon manually by selecting **Connection > New Profile**. The Add Connection window opens.

3. Type a device **Description**, specify a **Connection Type**, add the device **IP Address**, and click **OK.** These specifications can be edited later.

4. In the Navigator panel on the left of the screen, double-click on the icon that corresponds to your Raritan device.

If you prefer, install MPC as a standalone applet (see next section).

Note: Depending on your browser and browser security settings, you may see various security and certificate check and warning dialog boxes. It is necessary to accept the options in order to launch MPC.

Installing and Launching Standalone MPC

Please see **Appendix A: Installing and Launching Standalone MPC** for instructions on installing the standalone version of MPC on various operating systems.

Direct Dial Modem applies to devices running on Windows, Linux, and Sun Solaris, but not on Macintosh®. If you are using Microsoft® Windows with MPC, you **must** use the Standalone version.

Raritan Remote Client (RRC)

Important: RRC works only with MS Internet Explorer. If you are using a different Web browser, MPC will load automatically.

Most users access RRC via Internet Explorer, while other users, particularly those operating over a modem connection, invoke RRC standalone. Both options are detailed below. Modem use is not supported with Raritan's Dominion KX101.

Launching RRC from a Web Browser

Your IP-Reach and Dominion units feature Web browser-access capabilities and can provide a connection from any Windows-based Remote PC running Microsoft Internet Explorer 6.0.

Security Settings

To access IP-Reach or Dominion KX via Web browser, your Web browser must be configured appropriately under the Internet Explorer security settings tab:

- **Download Signed ActiveX controls** should be set to either "Enable" or "Prompt"
- **Run ActiveX controls and plug-ins** should be set to either "Enable" or "Prompt"

Please consult your Microsoft Internet Explorer documentation for additional information.

Note: Microsoft Windows 2000, Microsoft Windows XP, and Microsoft Windows 2003 restrict certain types of users from downloading and running ActiveX controls and plug-ins, regardless of the above settings in Internet Explorer. Please consult your Microsoft Windows documentation for more information.

Launching RRC

1. Ensure that your browser security settings are configured appropriately and type the IP address assigned to your IP-Reach or Dominion unit (please see the *Initial Configuration* section in the appropriate product user guide for additional information) in the URL field of your Web browser.
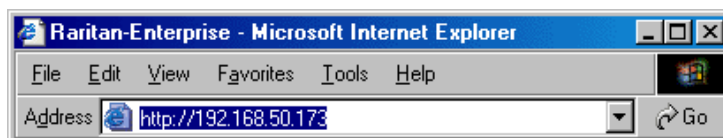
Figure 5: Launching RRC in IE

Note: IP-Reach and Dominion units ship with the default IP address of 192.168.0.192. Please note that an IP address must be used. Hostnames are not currently supported.

2. You will be redirected to an HTTPS (128-bit) secure Web page so you can launch RRC.
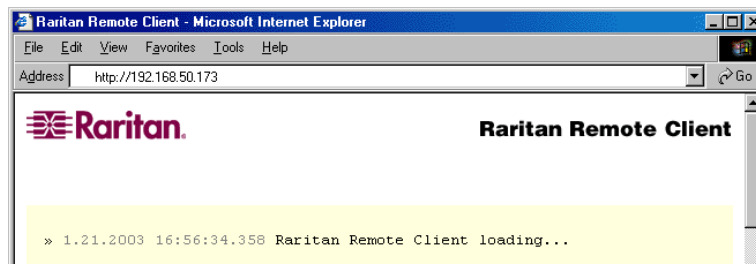
Figure 6: RRC Loading Screen

3. Depending on your browser and its security configuration, you may see any or all of the following dialog boxes, confirming access and launch of an externally-provided program. Click **Yes** to advance through any of these prompts.
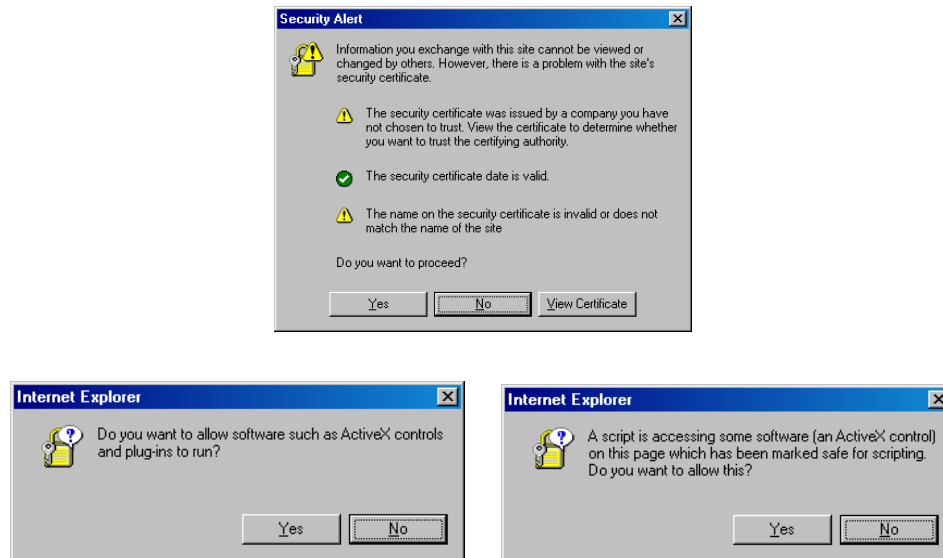
Figure 7: Possible Security Alert Screens

Removing RRC from the Browser Cache

To remove RRC from your browser cache for any reason, follow the standard procedure for your Web browser software.

Directions for Internet Explorer v6.0:

1. If you have used RRC recently, exit all instances of Internet Explorer, and restart Internet Explorer.

2. On the Internet Explorer **Tools** menu, click **Internet Options**.

3. When the **Internet Options** dialog box appears, click on the **General Settings** tab, and click **Delete Files**.

4. Click on the **Settings** tab, and then click **View Objects**.

5. Internet Explorer will display a list of cached program objects. Select any entries named "TeleControl Class," "Raritan Console," or "Power Board" and delete them.

Installing and Launching Standalone RRC

Note: This step is optional. IP-Reach or Dominion can be accessed from a Remote PC either by installing RRC software or by launching RRC via Web browser. Accessing IP-Reach or Dominion via Web browser does not require any software installation on the Remote PC. This section lists the steps required to invoke RRC using standalone software, which may be useful for accessing IP-Reach or Dominion via modem or if you wish to close firewall access to ports 80 and/or 443.

1. Launch your Web browser and go to Raritan's Web site (http://www.raritan.com/). Click **Support** in the top navigation bar, and then click **Firmware Upgrades** in the left navigation bar (or type the URL http://www.raritan.com/support/firmwareupgrades).

2. Scroll down the page until you see the appropriate product name and click on it.

3. Locate the appropriate version of the standalone RRC client for the Release you are using.

4. The entry for the standalone RRC client is a .zip file which contains the release notes and the Installer for Standalone RRC. Check the release notes for the latest information.

5. You can download the .zip file to your client machine or simply click on the .zip file entry.

6. Double-click on the Installer executable in the .zip file and follow the on-screen instructions in the InstallShield Wizard to complete RRC installation on your Remote PC. Be sure to check the release notes for the latest information and any release specific instructions.

7. Depending upon the configuration of your PC, the RRC installation program may also automatically install DirectX and Microsoft Foundation Class libraries, if they are required. If so, you will be asked to restart your PC after installation.

8. A Raritan Remote Client icon will appear on your desktop. Click on this icon to launch the standalone RRC client.

9. The standalone client can be uninstalled in the **Add or Remove Programs** applet in the Windows **Control Panel.** You must uninstall before installing a new version of Standalone RRC.

Chapter 2: Operation

Window Layout

MPC Interface

MPC functions are grouped into six general sections on the screen. As a standalone product, or as a Web applet, the MPC window contains these main sections:

Menu Bar – offers drop-down menus of commands and preferences.

Navigator– displays all known Raritan networked devices. Connect to a device to control the server or KVM switch attached to that port.

Toolbar – shortcut buttons to launch frequently-used features and commands.

Remote KVM Console – target device display.

Status Bar – provides real-time information on connection parameters.

Figure 8: MPC Window Layout

RRC Interface

The RRC window is almost identical to the MPC window.

Menu Bar – offers drop-down menus of commands and preferences.

Toolbar – shortcut buttons to launch frequently-used features and commands.

Navigator– displays all known Raritan networked devices. Connect to a device to control the server or KVM switch attached to that port.

Remote KVM Console – target device display.

Status Bar – provides real-time information on connection parameters.

Figure 9: RRC Window Layout

Connection Profiles

Connection profiles store important information about your Raritan device, such as IP address, custom TCP ports, preferred compression settings, and custom security keys. A profile is required to access devices outside your subnet and to access devices using dial-up connection.

Through profiles, you can set up personalized connections; these profiles are *not* shared among other users.

Tip: If your Raritan device is configured to use a custom TCP port or a group security key, first create a connection profile so that you can access the device.

Creating Profiles

To create a profile:

1. There are two ways to create a profile:

   - For automatically discovered devices, right-click on the device name in the Navigator and select **Add Profile** from the shortcut menu.

   - For other devices, select **Connection** > **New Profile**.

   The **Add Connection** window opens. Options are organized into three tabs.

2. Update the **Connect** tab:

Only the Connect Tab is available for Generation 2 (G2) Raritan devices

Figure 10: Add Connection – Connect Tab

- **Description**: Type a meaningful description (up to 32 characters, alphanumeric, special characters allowed). This description identifies the Raritan device in the Navigator.

- **Product**: Select the Raritan product you are using from the drop-down list: Dominion KX G2 (Dominion KX II), Dominion KX G1, Dominion KSX G1, IP-Reach, UST-IP G1, and KX101 G1.

– **Connection Type**: Use the drop-down list box to select the type of connection. *Please note that only TCP/IP is available for Generation 2 (G2) Raritan devices.*

- Select **TCP/IP Connection** for a LAN/WAN connection.
  - ♦ **Find Raritan device by** (select one of these options):
    - ✓ **IP Address**: Type the IP Address assigned to your Raritan device.
    - ✓ **Name**: Type the name assigned to your Raritan device during initial setup.
    - ✓ **DNS**: Type the Domain Name Server (DNS) name. Use this option if you have a DNS server to resolve a DNS name to the IP Address assigned to your Raritan device. Please note that you *cannot* use this option for Raritan Generation 2 (G2) devices.
- Select **Dial Up Connection** for a direct analog modem connection to the Raritan device. Type the parameters that MPC or RRC should use to establish a connection. *Dial up connection does not apply to Generation 2 (G2) or KX101.*
    - ✓ **Phone Number**. Include any additional codes that MPC or RRC should dial to establish a connection, such as country codes, area codes, or outside line access codes.
    - ✓ **Modem**. Select the modem (as configured in Windows) from the drop-down list that MPC or RRC should use to dial and connect to your Raritan device.

Important: MPC modem connectivity is supported on Windows, Linux, and Sun Solaris, but not Macintosh.

Note: For security reasons, you must use the MPC standalone client if you require modem access. In addition, one modem on a client PC can be used for only one device connection.

Screen variation

MPC Release 5.0+   MPC (Pre-5.0 Release)
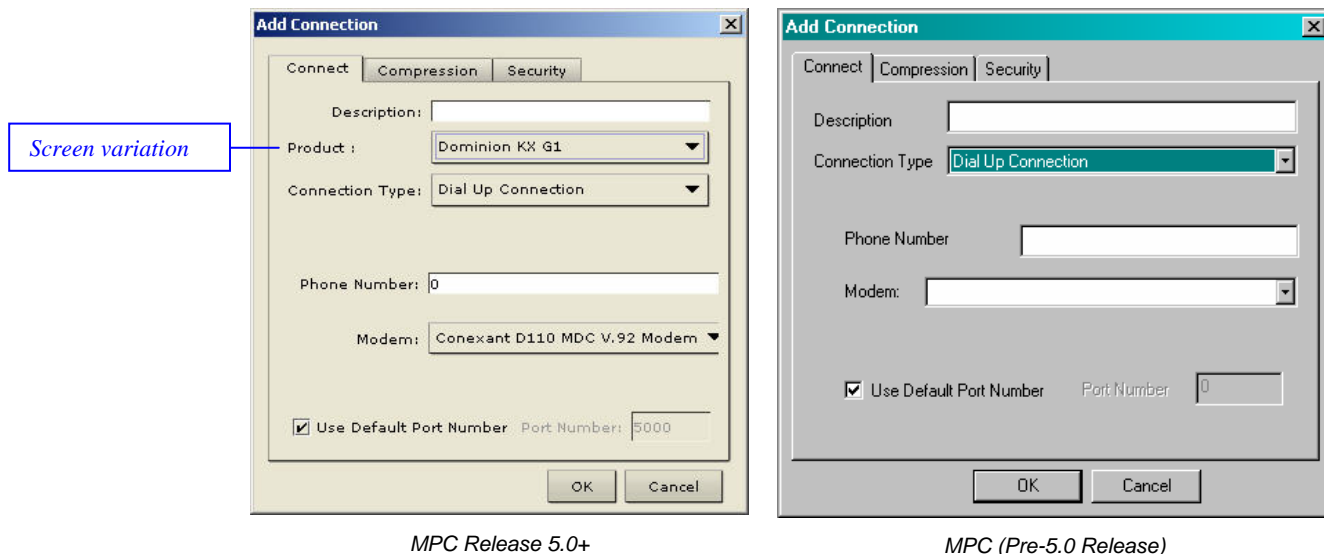
Figure 11: Add Connection – Dial Up Connection Type Detail

– **Use Default Port Number**: For TCP Ports, Dominion KX and IP-Reach are automatically configured to use TCP Port 5000 when communicating with MPC/RRC. If you do not want to use the Default Port Number:

- ✓ Clear the **Use Default Port Number** check box.
- ✓ Type the configured TCP Port to be used in the **Port Number** field.

3. Update the **Compression** tab (not available for Generation 2 (G2) Raritan devices):
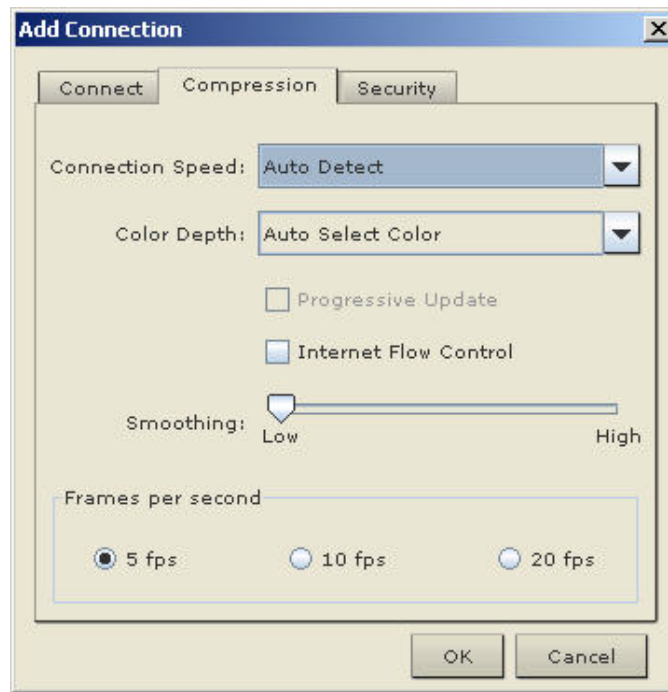
Figure 12: Add Connection – Compression Tab
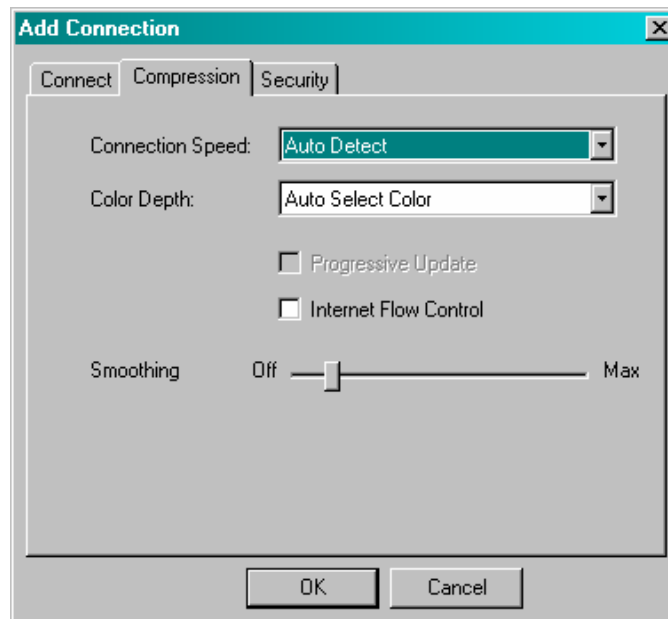
Figure 13: Add Connection Window in RRC

− **Connection Speed**: Select the **Connection Speed** from the drop-down list. IP Reach and Dominion can automatically detect available bandwidth and not limit bandwidth use; but you can also adjust this usage according to bandwidth limitations. *Depending on the Raritan device in use, different options may be available.*

Auto Detect
100mb Ethernet
10mb Ethernet
1.5mb (Max DSL/T1)
1mb (Fast DSL/T1)
512 kb (Medium DSL/T1)
384 kb (Slow DSL/T1)
256 kb (Cable)
128 kb (Dual ISDN)
56 kb (ISP Modem)
33 kb (Fast Modem)
24 kb (Slow Modem)

− **Color Depth**: Select the **Color Depth** from the drop-down list. IP-Reach and Dominion can dynamically adapt the color depth transmitted to remote users in order to maximize usability in all bandwidth constraints. *Depending on the Raritan device in use, different options may be available*.

Important: For most administrative tasks (server monitoring, reconfiguring, etc.), administrators do not require the full 24-bit or 32-bit color spectrum made available by most video graphics cards. Attempting to transmit such high color depths wastes network bandwidth.

Auto Select Color
15-bit RGB Color
12-bit RGB Color
8-bit RGB Color
5-bit Color
4-bit Color
4-bit Gray
3-bit Gray
2-bit Gray
Black and White

▪ **Progressive Update** increases the usability in constrained bandwidth environments. When **Progressive Update** is enabled, IP-Reach or Dominion initially sends an image of the remote desktop at lower color depths, and then provides higher color depth images as bandwidth allows.

---

*Note: When Color Depth is set to **Auto Select Color** (default), **Progressive Update** is automatic. IP-Reach or Dominion will enable/disable Progressive Update as required, disabling it for fast connections and enabling it for slow connections.*

▪ **Internet Flow Control**: When using IP-Reach or Dominion over an unpredictable public WAN (particularly in international scenarios), checking the **Internet Flow Control** check box ensures that packets transmitted by IP-Reach or Dominion are received and reconstructed by MPC/RRC in the correct order.

▪ **Smoothing** (15-bit mode only): Use the slider to select the desired level of video **Smoothing**. The level determines how aggressively to blend screen regions with small color variation into a single smooth color. Smoothing improves the appearance of target video by reducing displayed video noise.

− **(MPC Only) Frames Per Second**: This setting instructs MPC how often to redraw the video display of the target. This only affects the client display behavior and has no bearing on the data rate of the video being sent to the client. Setting this option higher makes the video appear smoother but also requires more processing power.

4. Update the **Security** tab (not available for Generation 2 (G2) Raritan devices):

Please note that the Security tab is disabled for Generation 2 Raritan devices. If your Dominion or IP-Reach unit is configured to use a private security key, input that key to gain the authorization required to initiate a connection to that IP-Reach or Dominion unit.
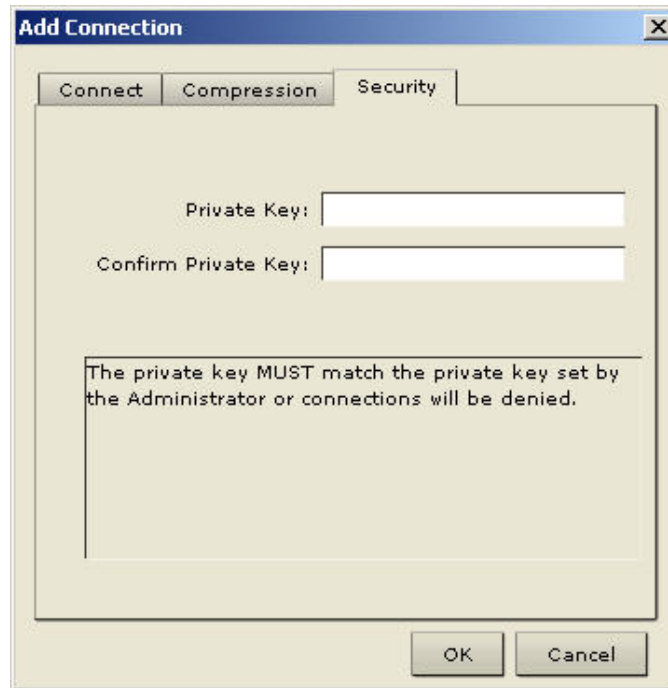
Figure 14: Add Connection – Security Tab

− Type the private security key in the **Private Key** field.

− Re-type the private security key in the **Confirm Private Key** field to ensure no typographical errors were made.

5. Click **OK** to create the connection profile.

Modifying Profiles

To modify a profile in MPC or RRC:

1. Select the device in the Navigator panel and right-click on it.

2. Select **Modify Profile**. The Modify Connection window opens:
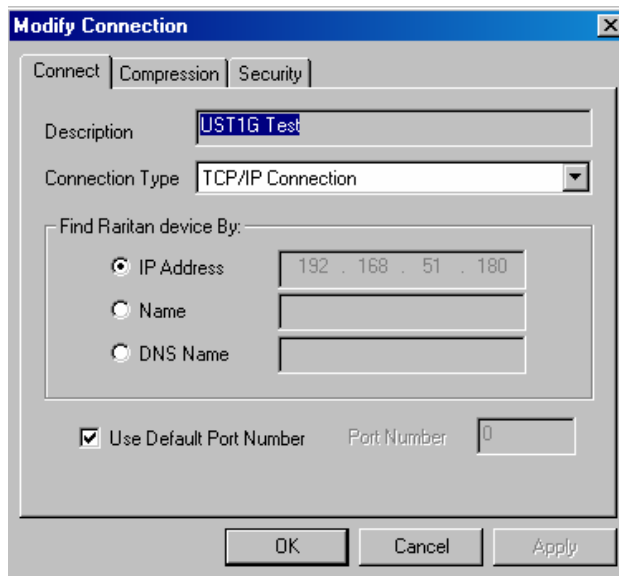
Figure 15: Modify Connection Screen

3. Update the fields as appropriate.

4. Click **OK**.

Deleting Profiles

To delete a profile in MPC or RRC:

1. Select the device with a profile in the Navigator and right-click on it.

2. Select **Delete Profile**.

3. When prompted to confirm the deletion, click **Yes** to delete the profile for this device, or click **No** to return to MPC or RRC without deleting.

Establishing a New Connection

Note: Depending on your version of the JRE, you might receive a certificate message when using the MPC standalone application to access a Dominion KX II device. You have to accept the certificate in order to establish the connection.

Double-click the icon of a Raritan networked device in the Navigator, then type your user name and password to connect. You can also right-click on the device name and select **New Connection** from the shortcut menu.

*Note: The default IP-Reach or Dominion login user name is **admin**, with the password **raritan**. This user has administrative privileges. Passwords are case sensitive and must be entered in the exact case combination in which they were created. The default password **raritan** must be entered entirely in lowercase letters. To ensure security, change the default username password as soon as possible.*

If you do not see an icon for your IP-Reach or Dominion in the Navigator, please follow the instructions in the **Creating Profiles** section in this chapter to create a new connection profile for your IP-Reach or Dominion.

If you are having problems connecting to a Raritan device, be sure to check the following:

- **Username:** Raritan usernames are not case-sensitive.
- **Password:** Raritan passwords are case-sensitive.
- **TCP Port:** If you have configured your Raritan Device to use a non-default TCP Port, this information must be entered into its connection profile.
- **Firewall Settings:** If you are accessing a Raritan Device through a firewall, that firewall must be configured to allow two-way communication on TCP Port 5000 (or the custom TCP Port to which your Raritan Device has been configured).
- **Security Key:** If you have configured your Raritan Device to require a group security key, that key must be entered into the device's connection profile.

*Note: If you are running **MPC** on Internet Explorer with both a Microsoft Firewall and a non-Microsoft Firewall utility installed, when you launch MPC – even if MPC is not open – IE will launch a message telling you that MPC is already running. To avoid this, deactivate one of your Firewalls, or use a browser such as Mozilla or Firefox.*

Closing a Remote Connection

To close the IP-Reach or Dominion connection, select the device in the Navigator and right-click on it. Select **Disconnect** from the shortcut menu.
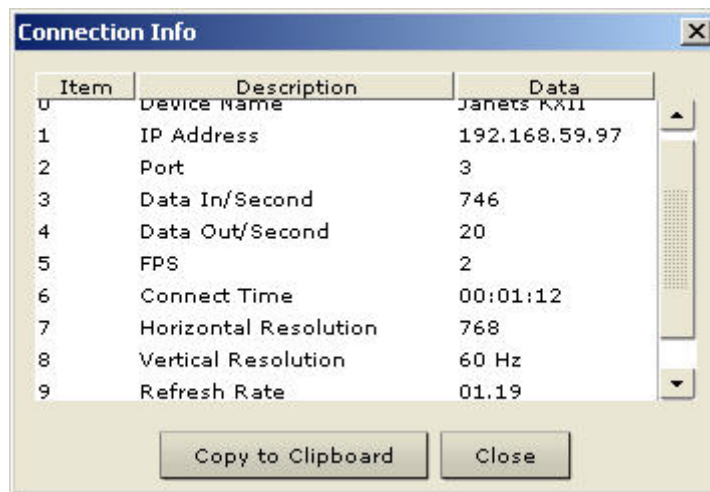
To exit MPC or RRC completely, on the **Connection** menu, click **Exit**.

Note: RRC client PC can support only one modem connection at one time.

Connection Info

To obtain information about your MPC connection:

Select **Connection > Connection Info**. The Connection Info window opens:

Figure 16: Connection Info

The following information is displayed about the current connection:

- **Device Name**. The name of your Dominion or IP-Reach device.
- **IP Address**. The IP Address of your Dominion or IP-Reach device.
- **Port**. The KVM Communication TCP/IP Port used to access the target device.
- **Data In/Second**. Data rate in.
- **Data Out/Second**. Data rate out.
- **FPS**. The frames per second transmitted for video.
- **Connect Time**. The duration of the connect time.
- **Horizontal Resolution.** The screen resolution horizontally.
- **Vertical Resolution.** The screen resolution vertically.
- **Refresh Rate.** How often the screen is refreshed.
- **Protocol Version**. The RFB Protocol version.

To copy this information:

Click **Copy to Clipboard**. The information is now available to be pasted into the program of your choice.

Navigator

The MPC and RRC Navigator panels provide a tree view of every known Raritan device so you can access all Raritan networked appliances for which a connection profile exists and/or all Raritan devices automatically identified on the network.

*Note: Automatic Raritan device identification uses the UDP protocol, and will typically identify all Raritan devices on your subnet. Network administrators rarely allow UDP broadcasts to function outside of a subnet. Automatic Raritan device identification will find only those Raritan devices that are configured to use the default TCP Port (5000) or another "broadcast" port as set in the **Options** panel on the **Tools** menu.*
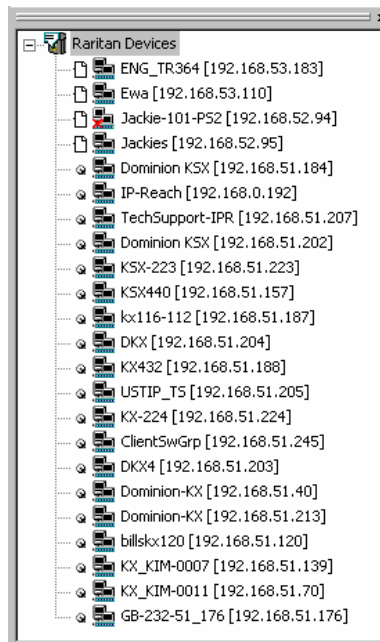
Figure 17: Expanded Navigation Tree

Each device entry in the Navigator provides two icons to communicate network status and connection profile information. A connection profile is generally created by an MPC or RRC user in order to store personalized information about specific devices (please see the section **Creating Profiles** in this chapter for additional information).

In MPC, devices are named according to the **Manager Name** field in KX Manager's **Network Configuration** screen. Dominion KX II devices are named according to the **Device Name** field in Dominion KX II Console **Network Settings** screen.

In RRC, profiled devices are listed in the Navigator according to the data in the **Description** field of the device's profile. Automatically-identified devices will be identified according to the name assigned to them in that device's network configuration setting.

Left Icon (Connection Profile Icon)

▯	Profiled – A network connection profile exists for this device.
▣	Modem Profile – A modem connection profile exists for this device.
◔	Not Profiled – MPC/RRC found this device on the network, but a connection profile does not exist for it.

Right Icon (Network Status Icon)

	Connected (green) – You are currently authenticated and connected to this device.
	Available (black) – This device is currently available on the network, but you are not currently connected to it.
	Unavailable – A profile exists for this device, but it is not currently available on the network. (Note that all devices with modem profiles to which you are not currently connected will display this icon.)

For each Raritan device to which you are connected, the Navigator expands its display tree to show each port for which you have access.

- Ports displayed with a green icon indicate that you are connected to that port.
- Bold type indicates which port is currently displayed (active) in the remote desktop area of the client.

For each server port entry, the Navigator displays the following icons:

	Connected (green)
	Available for connection
	Unavailable (no device connected, or access is blocked)
	In use by another (may be unavailable depending on permissions)

Note: Blank port names are displayed as 'Unnamed.' If you make a port name blank, it will revert to this default when you reconnect to the device.

Navigator Customization

Use specific tools in the Toolbar to customize some Navigator attributes:

	Display / Hide Navigator – Toggle Navigator visibility. You can also use **View → Navigator** in the Menu Bar to toggle Navigator visibility.
	Refresh Navigator – Update the device status information displayed in the Navigator.
	Show Browsed Devices – Toggle whether the Navigator should display "Not Profiled" devices found on the network, or should show only devices for which profiles exist. This option can also be reached using **View → Show → All** in the Menu Bar.

Note: The Browse connection method is the only method of connecting to a Raritan Device configured to use DHCP IP addressing.

Display and Sorting Options

To better organize your view of all ports, use the Show and Sort options. **Please note** that you do not need an open connection to a target to Show and Sort targets in the Navigation panel.

Showing Ports

In MPC and RRC, you can select which ports to view in the Navigation panel by selecting **Show** options on the **View** menu.

- **Discovered Devices:** shows or hides discovered devices from the navigator view; you will not see broadcast messages when this option is disabled.
- **Unassigned Channels:** shows or hides channels with no attached targets. Please note that the default for generation 1 (G1) devices is to *show* unassigned channels (option is enabled), whereas, the default is to *hide* unassigned channels (option is disabled) for generation 2 (G2) devices.
- **Tools:** shows or hides the Admin and Diagnostic ports
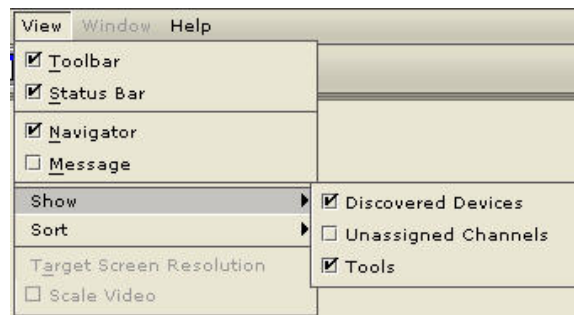
Figure 18: View, Show Menu Options

Note: These settings are saved from session to session.

Sorting Ports

Use the **Sort** options on the **View** menu to organize KX port information; sort ports by channel number, channel name, or channel status.

Sort by Channel Number

When sorted by channel, ports are listed numerically.
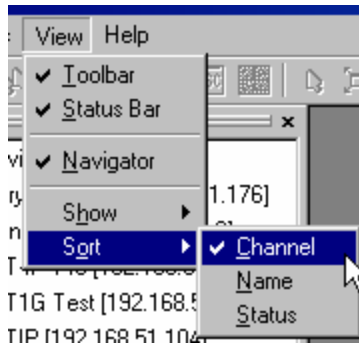
Figure 19: Sort Ports by Channel
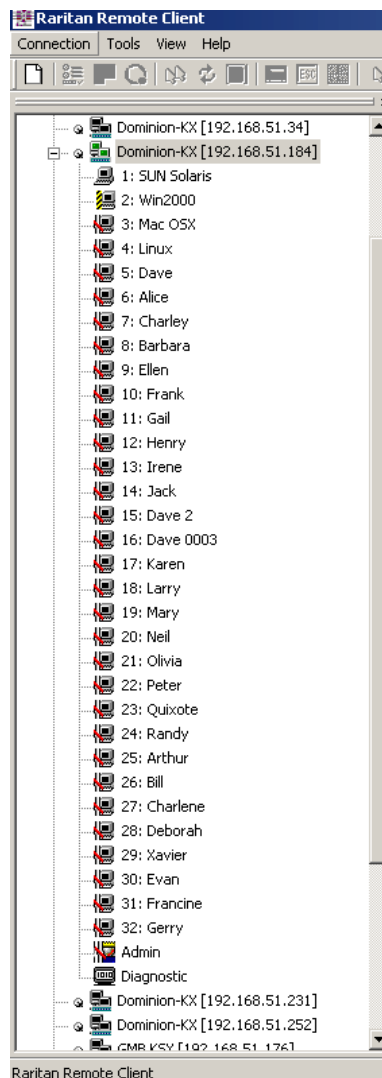
Figure 20: Navigator in Channel Order

Sort by Name

When sorted by name, port names are sorted alphanumerically within each group.
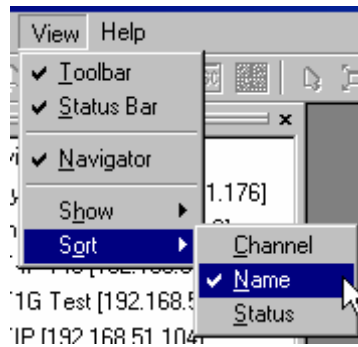
Figure 21: Sort Ports by Name
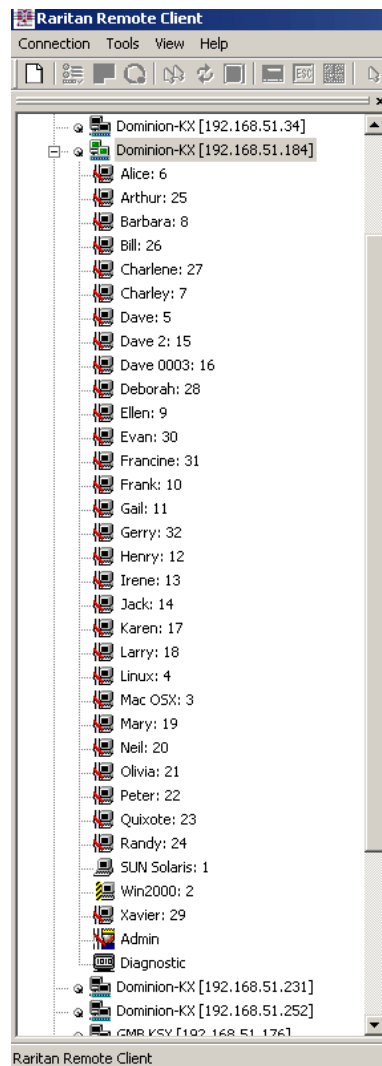
Figure 22: Navigator in Name Order

Sort by Status

Ports are sorted in the following order:

- Active Channels
- Busy Channels
- Available Devices
- Unavailable Devices
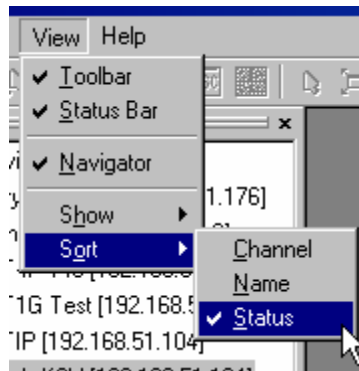
Figure 23: Sort Ports by Status
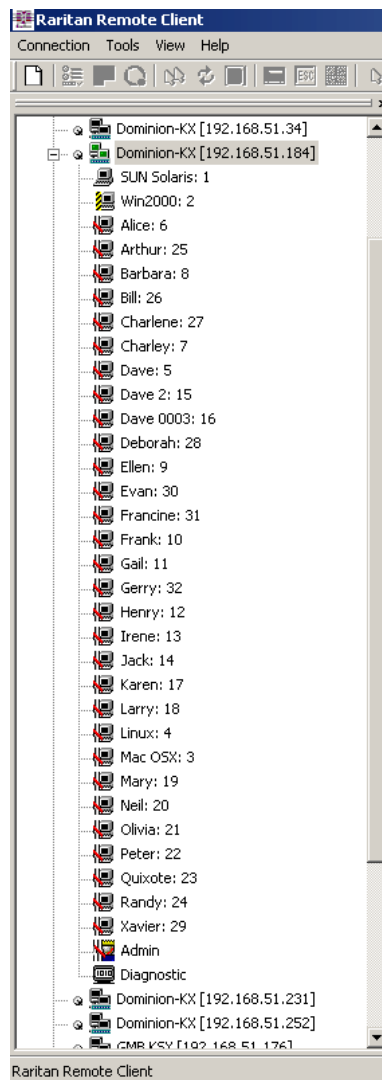
Figure 24: Navigator in Status Order

MPC Navigator Tabs

MPC tabs at the base of its Navigator pane. These tabs allow you to change how you display devices.

Click the **View By Name** tab to sort the list alphabetically by name, or click the **View By IP** tab to sort the list numerically by IP address.

Figure 25: MPC Navigator Tabs

Please note that these tabs are available only in the MPC interface.

In both MPC and RRC, if all ports of the device to which you are connecting are already occupied, an alert message appears and you must try to connect when one or the ports is available.

Toolbar and Shortcuts

The Toolbar provides one-click access to the most frequently-used commands.

Figure 26: MPC / RRC Toolbar

BUTTON	BUTTON NAME	FUNCTION
	New Profile	Creates a new Navigator entry for a Raritan device; same results as selecting **Connection → New Profile** in the menu bar.
	Connection Properties	Opens Modify Connection Properties dialog box to manually adjust bandwidth-correlated options (Connection Speed, Color Depth, etc.).
	Video Settings	Opens the Video Settings dialog box to manually adjust video conversion parameters.
	Color Calibration	Adjusts color settings to reduce excess color noise.
	Synchronize Mouse	In dual-mouse mode, forces realignment of target server mouse pointer with Raritan Remote Client mouse pointer.
	Refresh Screen	Forces refresh of video screen.
	Auto-sense Video Settings	Forces refresh of video settings (resolution, refresh rate).
	Enter On-Screen Menu	Not applicable for IP-Reach or Dominion. Used by MPC/RRC with other Raritan products.
	Exit On-Screen Menu	Not applicable for IP-Reach or Dominion. Used by MPC/RRC with other Raritan products (on keyboard, press **ESC**)
	Send CTRL+ALT+DEL	Sends a CTRL+ALT+DEL key sequence to the target server.
	Single Cursor Mode	Enters Single Cursor Mode, in which the local PC's mouse pointer no longer appears on-screen. Press **CTRL+ALT+X** to exit this mode.
	Full Screen Mode	Maximizes the screen real estate to view the target server desktop.
	Scaling	Increases or reduces target video size so you can view the entire contents of the target server window without using the scroll bar.
	Show / Hide Navigator	Toggles Navigator panel from visible to hidden.
	Refresh Navigator	Forces a refresh of the data displayed by the RRC Navigator.
	Show / Hide "Browsed" Devices	Toggles whether or not the RRC Navigator displays Raritan Devices automatically identified on the network (that do not have pre-configured profiles associated with them).
	About	Displays version information about MPC and RRC.

Status Bar

The Status Bar displays session information about your connection to a Raritan IP-Reach or Dominion unit.
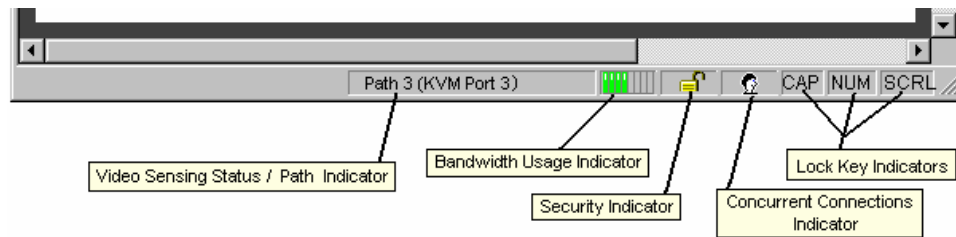
Figure 27: Status Bar

- **Video Sensing Status / Path Indicator:** indicates the occurrence of video sensing, during connections to target KVM Server ports.
- **Bandwidth Usage Indicator:** indicates how much of your total available bandwidth is currently being used. The Connection Speed setting, found under the Compression tab of the Connection Properties screen, determines total available bandwidth.
- **Security Indicator:** indicates whether the current remote connection is protected by encryption. Encryption requirements are set during IP-Reach or Dominion configuration of your Raritan KVM over IP device. When a Raritan IP-Reach or Dominion device is configured for **No encryption** or SSL Authentication, NO data encryption, the Security Indicator is represented on the Status Bar as an open lock. When SSL authentication, data encryption or SSL authentication, SSL encryption is selected, the Security Indicator is represented on the Status Bar as a closed lock.
- **Concurrent Connections Indicator:** indicates if multiple remote users are currently connected to the same IP-Reach or Dominion target server on the device, showing one icon for a single connected user, and two icons if two or more users are connected.
  Concurrent connection ability can be set globally under **PC share mode** on the KX Manager Security Settings screen, or set per individual user in the **Concurrent Access Mode** setting on the KX Manager User Account Settings screen. For Dominion KX II, concurrent connection ability can be set using the **PC Share Mode** option in the Dominion KX II Security Settings page: **PC-Share** permits concurrent access; **Private** limits server access to one user at a time.
- **Lock Key Indicators:** indicates the status of the current target KVM Server, with respect to the activation of the Caps-Lock, Num-Lock, and Scroll-Lock keys. If these keys are enabled on the target server being viewed, this affirmative status will be reflected on the Status Bar as indicated.

Note: The Lock Key (Scroll Lock, Num Lock, Caps Lock) LEDs on your keyboard that indicate whether the Lock Key is active may or may not be in sync with the Lock Key Indicators on the RRC Status Bar. Please use the Status Bar as your guide.

Remote KVM Console Control

Once you establish a connection with a Raritan IP-Reach or Dominion KX device, that unit's icon in the Navigator expands to display all ports enabled for remote
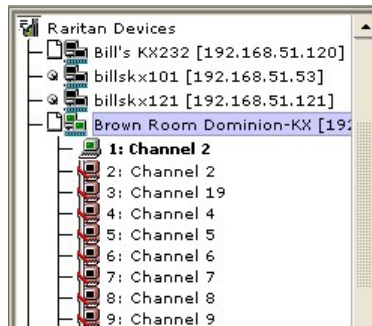
Figure 28: Navigation Tree

Choose one of the following options to establish a remote KVM console connection:

- Double-click on the KVM port you want to control – this method closes any previous connection before connecting to the new port
- Right-click on the port and select **Switch** from the shortcut menu – this method closes any previous connection before connecting to the new port
- Right-click on the port and select **New Connection** from the shortcut menu – this method allows you to connect to the selected port without closing any previous connections, creating a new connection if the device supports multiple concurrent connections

Once connected, Raritan KVM over IP devices display real-time video output of the target server (this video is compressed and encrypted according to the configuration settings specified by the Administrator). You now have complete, low-level control of the KVM console as if you were physically located next to the server.

To close a connection, right-click on the connected device and click **Disconnect.**

To exit MPC or RRC completely, on the **Connection** menu, click **Exit**.

Keyboard Shortcut Menu

To access the MPC or RRC keyboard shortcut menu, use either the default keyboard combination of **CTRL+LEFT ALT+M** or the keyboard combination you assign (please see next section for directions on changing the default keyboard combination)**.** Execute any of the commands on the shortcut menu either by pressing (on your keyboard) the underscored letter on the button face, or by clicking the button in the menu with your mouse cursor.

Note: You must use the LEFT ALT *key on your keyboard.*
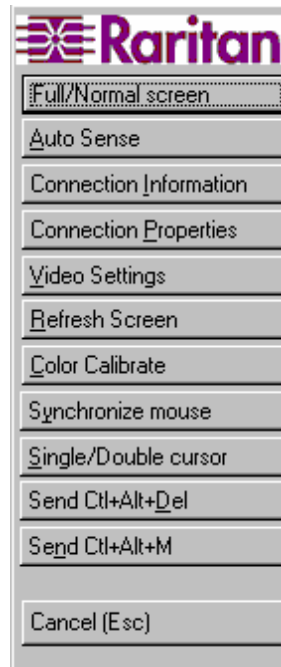
Figure 29: Hot Key Shortcut Menu

TO:	PRESS CTRL+LEFT ALT+M, AND THEN PRESS:
Toggle to/from Full/Normal Screen Mode*	F
Perform video Auto Sensing**	A
Display connection information*	I
Display or Set connection properties*	P
Display or Set Video Settings*	V
Refresh screen	R
Color Calibrate**	C
Synchronize mouse	Y
Change to/from Single/Double cursor mode	S
Send CTRL+ALT+DEL to the target system	D
Send CTRL+ALT+M to the target system	N
Exit the Dialog/Menu without altering the keyboard state	Esc

* If Full Screen Mode is active, executing this command will automatically end Full Screen Mode.

** If Full Screen Mode is active, executing this command will automatically end Full Screen Mode *only in RRC*.

Windows Key and Keyboard Shortcuts in MPC

Windows Key and the Start Menu

When running MPC on a Windows JRE 1.4.2_x platform, if you press the Windows Key 🪟 to display the **Start Menu**, the Start Menu will only appear on the Client machine, the key is not sent to the Target device.

When running MPC on a Windows JRE 1.5.0_x platform, if you press the Windows Key, the Start Menu appears both on the Client and the Target devices. Use your mouse to manually close the Start Menu you do not want to use.

Please note that if you do not close the Target device Start Menu properly, any key that you touch on your keyboard (that has a Windows Key combination function) will send that command to the Target device; for example, if you press **E,** the Target device will launch a new Explorer window; if you press **D,** all Target windows will be minimized so you can view the Desktop. To close the Start Menu on the Target device, click on the **Start** button or click away from the Start Menu.

Changing the Keyboard Menu Shortcut Hotkey Combination

Tools – Options

New section: Keyboard Menu Shortcut Hotkey – drop down with CTRL+LEFT ALT + [A-Z]

The menu will change, the onscreen message will change; both take on the newly assigned combo.

If you forget the combo, press CTRL+LEFT ALT together and the Keyboard Menu Shortcut Hotkey appears across the bottom of the screen for five seconds. Press to toggle.

In Full screen mode, need the KMSH to get back to regular view.

Single Mouse Mode / Dual Mouse Mode

When remotely viewing a target server that uses a pointing device, you will see two mouse pointers in the Remote Desktop. When your mouse pointer lies within the Remote Desktop area of MPC or RRC, mouse movements and clicks are directly transmitted to the target server connected. The MPC/RRC mouse pointer, generated by the operating system on which MPC/RRC is running, slightly leads the target server's mouse pointer during movement, a necessary result of digital delay.

On fast LAN connections, you may want to disable the MPC/RRC mouse pointer and view only the target server's pointer. To toggle between these two modes, use the **CTRL+LEFT ALT+M** Hot Key combination to activate the Hot Key menu, then press the letter **S** on your keyboard to select **Single/Double Cursor** (or press the **Single Mouse Pointer** mode icon in the Toolbar).
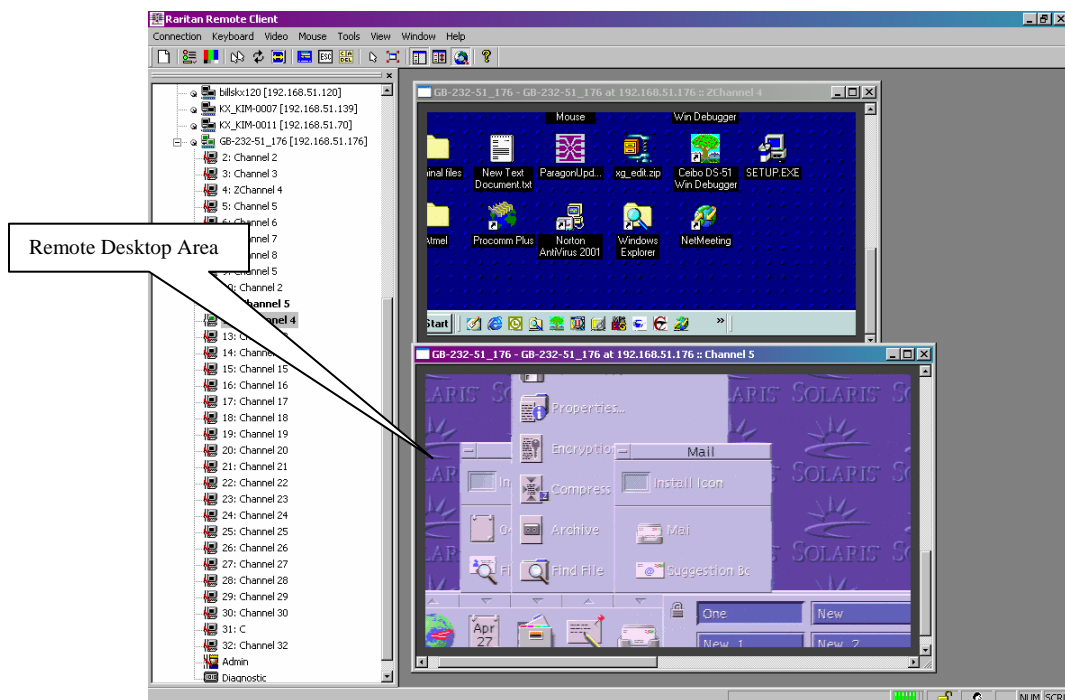
Figure 30: RRC Remote Desktop
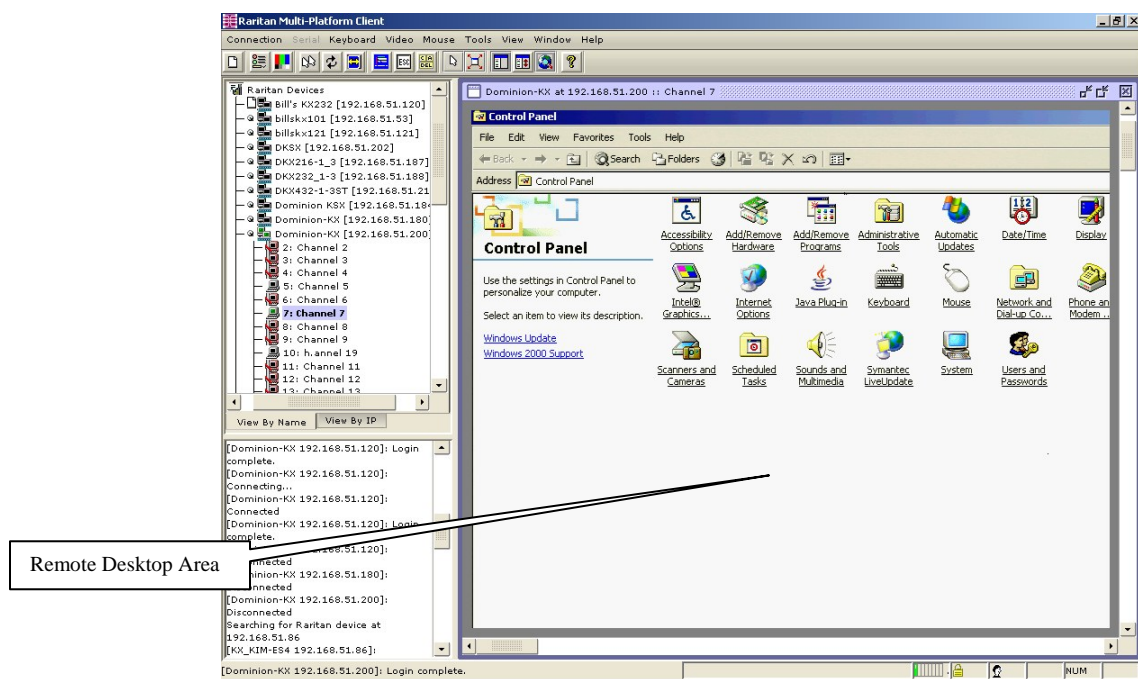
Figure 31: MPC Remote Desktop
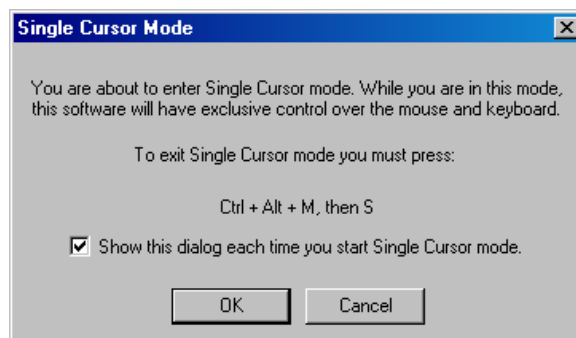
Figure 32: Single Cursor Mode Window

When in Dual Cursor mode, press **CTRL+LEFT ALT+M** and execute the **Synchronize Mouse** shortcut to force realignment of the mouse pointers. If the mouse pointers still remain out of sync, click on the **Auto-Sense Video Settings** button on the Toolbar.

	Auto-Sense Video Settings button

*Note: When in Dual Cursor mode, if the dual mouse pointers are synchronized, but left idle for five minutes or longer, the target mouse pointer will automatically align itself with the upper left corner of the target window. Execute the **Synchronize Mouse** command to ensure local and target mouse pointer alignment.*

Automatic Mouse Synchronization

When in **Dual Cursor** mode, the system will automatically align the mouse pointers when the cursor is inactive for 15 seconds. Enable this feature by selecting **Options** from the **Tools** menu and clicking on the checkbox before **Auto-Sync mouse in two-cursor mode**.

Mouse Synchronization Options

In addition to synchronizing mouse pointers or toggling **Single Cursor** Mode, RRC's **Mouse** menus provide three options for syncing pointers when in **Dual Cursor** mode:

- **Absolute:** When connected to selected Dominion KX units and targets with USB ports, MPC will use absolute coordinates to keep the pointers in sync.
- **Intelligent:** Under certain conditions, MPC can detect the target mouse settings and synchronize the mouse pointers accordingly, allowing the user to have mouse acceleration on the target device. See **Appendix B: Conditions for Intelligent Mouse Synchronization** for more details.
- **Standard:** This is the standard mouse synchronization algorithm. For the proper target mouse settings, see the User Guide of your Raritan KVM over IP device.

Please note that only **Intelligent** and **Standard** mouse are available to MPC and RRC users working on Dominion KX units.

Screen Modes

Full Screen / Target Screen Resolution

Besides a standard view, MPC and RRC provide a Full Screen view and a Scaling option, which increase the Remote Desktop Area, making viewing the target video easier. In MPC, this option is called **Target Screen Resolution** mode and in RRC, it is called **Full Screen** mode.

Use the **Full Screen Mode** shortcut on the Toolbar to activate Full Screen mode, or use the menu commands as described.
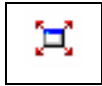
*Note: Full Screen Mode is not available **in MPC only** on a Dominion KX unit when the KX unit is under CommandCenter Secure Gateway (CC-SG) control.*

MPC - Target Screen Resolution Mode

Target Screen Resolution mode removes the surrounding MPC graphical interface (except for scrollbars) and your local desktop area, completely filling your monitor with the target server video. Your monitor's resolution may be adjusted to match the resolution of the target server.

To view which video resolutions your system supports, access your computer's **Control Panel** from the Windows **Start** menu, double-click on **Display**, and click on the **Settings** tab.

Activate **Target Screen Resolution** mode, once connected to a target, from the **View** menu. On the **View** menu, click **Target Screen Resolution.** If you prefer to use the Hot Key menu, press **CTRL+LEFT ALT+M** and then the letter **F** on your keyboard to select **Full/Normal Screen**.

If your graphic system does not support the resolution of the target system, you will be unable to activate **Full Screen** mode and a message will appear, requesting that you change your video resolutions first.
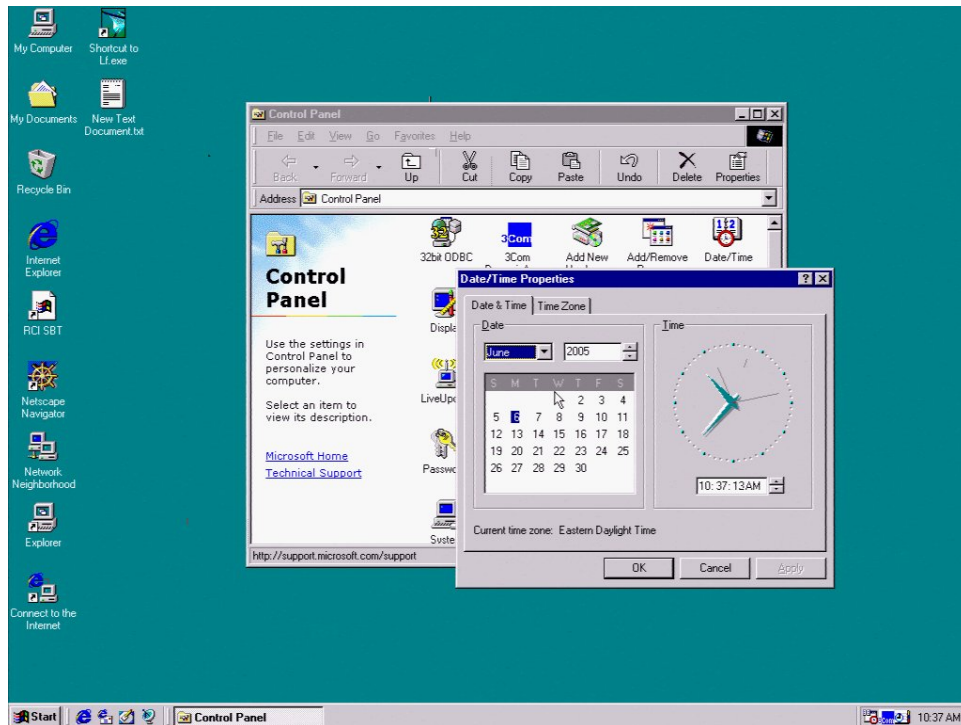
Figure 33: Target Screen Resolution Mode in MPC

*Note: The **CTRL+LEFT ALT+M** key combination does not work for certain target servers if you are running JRE 1.5.0_01. To return from full screen mode, use **Alt+Tab** and select MPC.*

RRC – Full Screen Mode

Full Screen mode removes the surrounding RRC graphical interface and your local desktop area, filling your monitor with the video from the target server. Your monitor's resolution will be adjusted to match the resolution of the target server, if your graphics system supports it.

To view which video resolutions your system supports, access your computer's **Control Panel** from the Windows **Start** menu, double-click on **Display**, and click on the **Settings** tab.

Activate **Full Screen** mode, once connected to a target, from the **View** menu. On the **View** menu, click **Full Screen.** If you prefer to use the Hot Key menu, press **CTRL**+**LEFT ALT**+**M** and then the letter **F** on your keyboard to select **Full/Normal Screen**.

If your graphic system does not support the resolution of the target system, you will be unable to activate **Full Screen** mode and a message will appear, requesting that you change your video resolutions first.
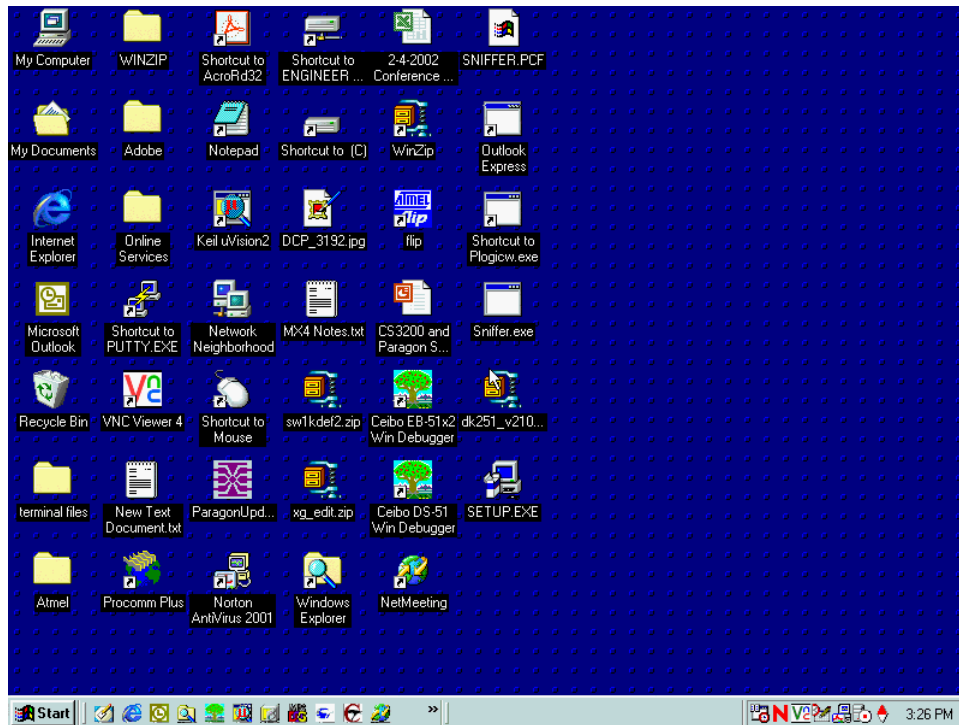
Figure 34: Full Screen Mode in RRC

Scaling

Scaling your target window size allows you to view the entire contents of the target server window. This feature increases or reduces the size of the target video to fit the MPC/RRC window size and maintains aspect ratio, so that you see the entire target server desktop while in the full standard MPC/RRC view.

To activate **Scale Video** mode and increase the size of the target video window, on the **View** menu, click **Scale,** or use the **Scaling** shortcut on the Toolbar. To exit this mode and return the target window to its previous size, on the **View** menu, click **Scale,** or click the **Scaling** shortcut once again.

Figure 35: Scale Video Mode

Auto-Scroll

The auto-scroll feature automatically scrolls the video display in the direction of the cursor as the cursor approaches the edge of the display. A thin border appears around the perimeter of the **Remote Desktop Area** (this border can be activated using the **Tools** menu). If you see scroll bars, when you move the mouse cursor onto the border, the screen will automatically scroll in the appropriate direction.
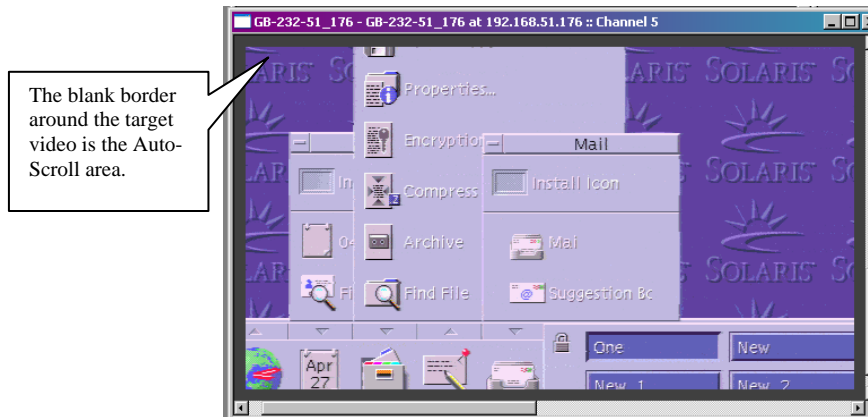
Figure 36: Auto-Scroll View with Border Indicated

*Note: Enabling Scale Video will scale the complete target video image to fit the Remote Desktop Area as it grows or shrinks. You can combine this setting with **Target Screen Resolution** for a full screen affect on targets with a higher resolution than your desktop.*

Keyboard Handler

RRC sends all keystroke combinations to the target system with the following exceptions:

- **CTRL+ALT+DEL** – Reboots the computer; the sequence is sent to the local system and the Windows Security (Task Manager, Shutdown, etc.) dialog is displayed.
- **CTRL+Num Lock** – This toggles the state of the Num Lock LED if the Num Lock state of the local system disagrees with that on the target system.
- **CTRL+Caps Lock** – This toggles the state of the Caps Lock LED if Caps Lock state of the local system disagrees with that on the target system.
- **CTRL+Scroll Lock** – This toggles the state of the Scroll Lock LED if Scroll Lock state of the local system disagrees with that on the target system.
- **CTRL+LEFT ALT+M** – Brings up a dialog/menu providing normal RRC shortcuts (described below).
- Keystrokes used to generate user-defined keyboard macros.
- **Print Scrn** – Treated locally and copies the screen to the clipboard.

There are no other exceptions. For example, **ALT+F4** closes the current program on the target system.

Keyboard Macros

IP-Reach or Dominion's Keyboard Macro feature ensures that keystroke combinations intended for the target server are sent to, and interpreted only by, the target server. Otherwise, they might be interpreted by the computer on which MPC or RRC is running.

CTRL+ALT+Delete Macro

Due to its frequent use, a **CTRL+ALT+Delete** macro, used to reboot the target computer, has been pre-programmed into MPC and RRC.

	Send CTRL+ALT+DEL	Sends a CTRL+ALT+DEL macro to the target server.

Clicking on the **CTRL+ALT+Delete** shortcut in the Toolbar sends this key sequence to the server or KVM switch to which you are currently connected. In contrast, if you were to physically press the CTRL+ALT+Delete keys while using MPC or RRC, the command would first be intercepted by your own PC due to the structure of the Windows operating system, instead of sending the key sequence to the target server as intended.

Building a Keyboard Macro

These directions describe how to create a keyboard macro for the Windows command **Minimize All Windows/Show Desktop**. Follow these steps, substituting the appropriate key combination for the command you want, to create your own macro.

For example: In Windows, pressing a keyboard macro is a shortcut that sends a command to your PC. When connected to a target server with MPC or RRC, a keyboard macro is one means to accomplish this task on the target server – because pressing the key combination results in your own client PC intercepting the command and performing it – instead of sending the command to the target server as intended.

1. On the Keyboard menu, click **Keyboard Macros.**

2. When the **Keyboard Macros** window appears, click **Add** to add a new macro. The **Add Keyboard Macro** window appears.
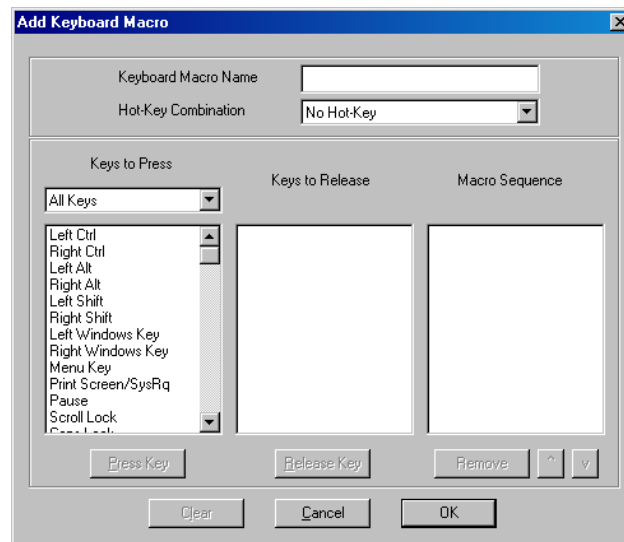
Figure 37: Add Keyboard Macro Window

3. Build the Keyboard Macro by editing the fields in the **Add Keyboard Macro** window:

   A. Type a name in the **Keyboard Macro Name** field. This name will appear on the MPC or RRC Menu Bar after the macro is created. In this example, type **Minimize All Windows**.

   B. **Optional:** In the **Hot-Key Combination** field, select a keyboard combination from the drop-down list. This allows you to execute the macro with a predefined keystroke when MPC is running. *In this example*, select the **CTRL+ALT+1** keystroke from the drop-down list.

   C. In the **Keys to Press** drop-down list, scroll through and select each key for which you would like to emulate key presses – in the order by which they are to be pressed. Click **Press Key** after each selection. As each key is selected, it will appear in the **Keys to Release** field. *In this example*, select two keys: the **Windows** key and the letter **D** key.

   D. In the **Keys to Release** field, select each key for which you would like to emulate key releases – in the order by which they are to be released. Click **Release Key** after each selection. *In this example*, both keys pressed must also be released.

E. Review the **Macro Sequence** field – the contents are automatically generated depending on the **Keys to Press** and **Keys to Release** selections. Ensure that the contents list the exact key sequence you want. To remove a step in the sequence, select it, and click **Remove**. To change the order of steps in the sequence, select the step and click ↑ and ↓ to re-order the steps.
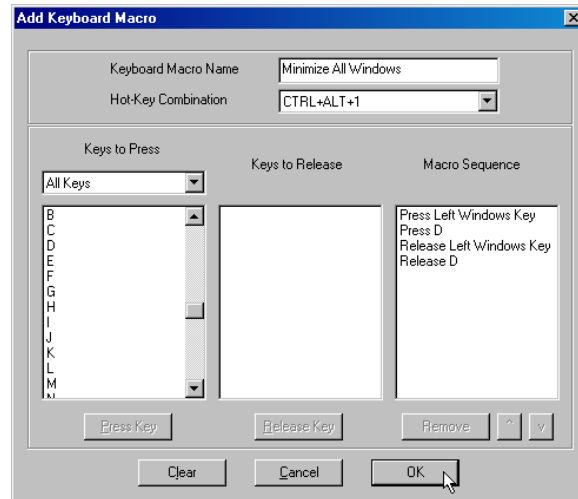
Figure 38: Add Keyboard Macro Window

4. Click **OK** to save the macro, or **Cancel** to close the window without saving. Click **Clear** to clear all field and start over. When you click **OK**, the **Keyboard Macros** window appears, listing the new keyboard macro.
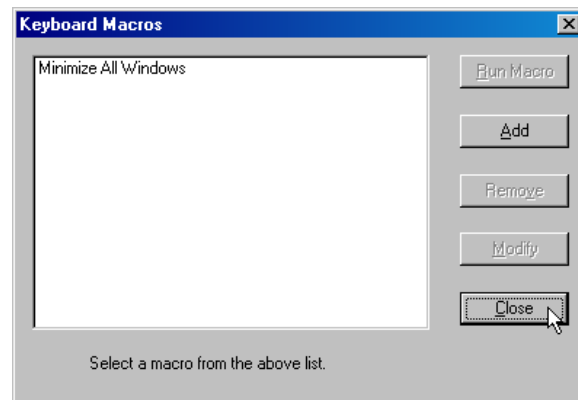
Figure 39: Keyboard Macros Window

5. Click **Close** to close the window.

Running a Keyboard Macro

Once you have created a keyboard macro, execute it from the **Keyboard** menu or by using the Hot Key (keyboard) combination if you assigned one while creating the macro.

Menu Bar Activation

When you create a macro, it appears under the **Keyboard** menu. Execute the keyboard macro by clicking on its name on the **Keyboard** menu.
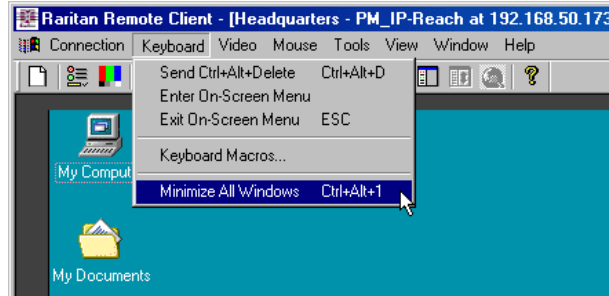
Figure 40: Macro Listed on the Keyboard Menu

Hot Key Activation

If you assigned a Hot Key combination to a macro when building it, you can execute the macro by pressing its assigned keystroke. *In this example*, press the keys **CTRL+ALT+1** simultaneously to minimize all windows on a Windows target server.

Connection and Video Properties

The IP-Reach and Dominion dynamic video compression algorithms maintain KVM console usability under varying bandwidth constraints. The IP-Reach and Dominion units optimize KVM output not only for LAN use, but also for WAN and dialup use. These units can also control color depth and limit video output, offering an optimal balance between video quality and system responsiveness for any bandwidth constraint.

The following parameters in the **Connection Properties** and **Video Settings** windows can be optimized to suit your requirements for different operating environments.

Connection Properties

	Connection Properties	Manually adjust bandwidth-related options (connection speed, color depth, smoothing, etc.).

To set the connection properties:

1. Select **Connection** > **Properties**. In MPC, the **Properties Dialog** opens. In RRC, the **Modify Connection** window opens.
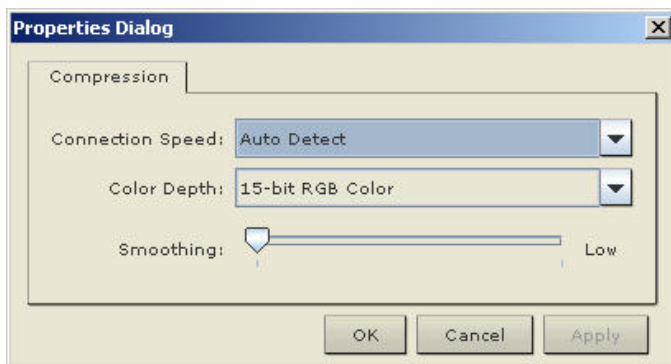
Generation 2 (G2)
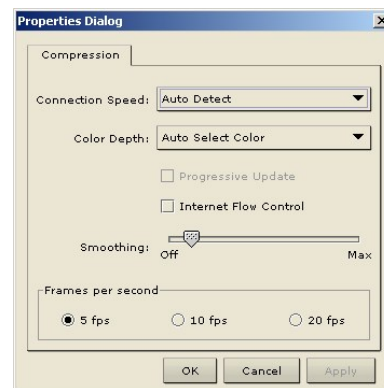
Generation 1 (G1)

Figure 41: Properties Dialog in MPC
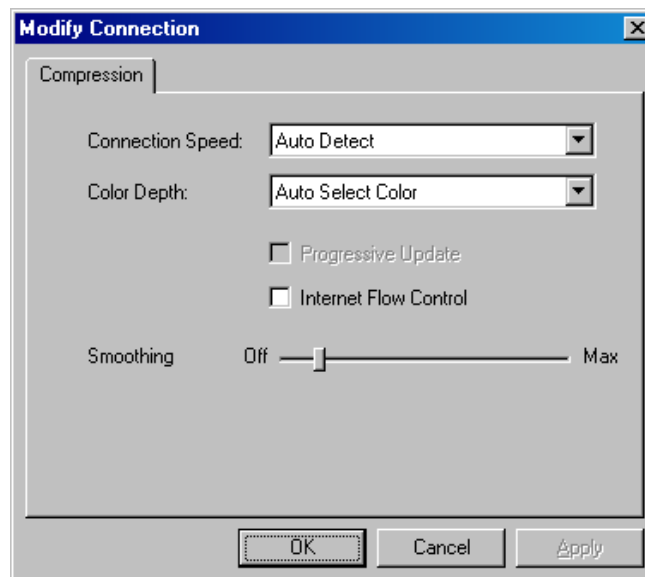
Figure 42: Modify Connection in RRC

2. Update the settings in the **Compression** tab.

- **Connection Speed:** Use this setting to manually adjust the connection speed to accommodate bandwidth constraints. IP-Reach and Dominion can automatically detect available bandwidth and not limit bandwidth use; but you can also adjust this usage according to your needs. *Depending on the Raritan device in use, different options may be available.*

Auto Detect
1G Ethernet
100mb Ethernet
10mb Ethernet
1.5mb (Max DSL/T1)
1mb (Fast DSL/T1)
512 kb (Medium DSL/T1)
384 kb (Slow DSL/T1)
256 kb (Cable)
128 kb (Dual ISDN)
56 kb (ISP Modem)
33 kb (Fast Modem)
24 kb (Slow Modem)

- **Color Depth:** IP-Reach and Dominion can dynamically adapt the color depth transmitted to remote users in order to maximize usability in all bandwidths. Select from among the options in the drop-down list (*depending on the Raritan device in use, different options may be available*):

15-bit RGB Color
8-bit RGB Color
4-bit Color
4-bit Gray
3-bit Gray
2-bit Gray
Black and White

- Please refer to Connection Profiles for information about the **Progressive Update**, **Internet Flow Control**, **Smoothing** (15-bit mode only), and **Frames per second** (MPC only) options.

Important: For most administrative tasks (server monitoring, reconfiguring, etc.), administrators do not require the full 24-bit or 32-bit color spectrum made available by most video graphics cards. Attempting to transmit such high color depths wastes network bandwidth.

---

3. Click **OK** to change the Connection Properties or **Cancel** to close the window without saving changes.

Video Settings

Video settings can be refreshed in several ways:

- Using **Video > Refresh Screen**

- Directing IP-Reach or Dominion to automatically detect the video settings (**Video > Auto-sense Video Settings**)

- Using the <u>Color Calibration</u> command to calibrate the video, enhancing the colors displayed

- Changing the settings from the Video Settings screen

🎨	Video Settings	Opens Video Settings for manual adjustment of video parameters.

To change the video settings:

1. Select **Video** > **Video Settings**. The **Settings** window opens:
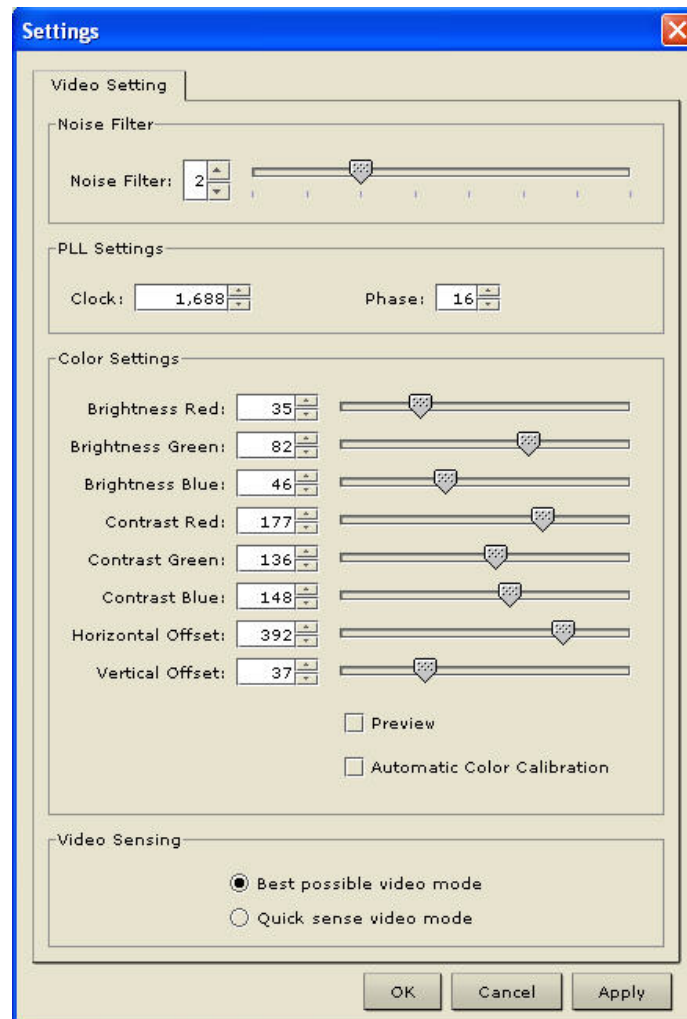
Figure 43: Settings (Video)

2. Update the desired settings:

   − **Noise Filter**: IP Reach and Dominion can filter out the electrical interference of video output from graphics cards. This feature optimizes picture quality and reduces bandwidth. Higher settings transmit variant pixels only if a large color variation exists in comparison to the neighboring pixels. However, setting the threshold too high can result in the unintentional filtering of desired screen changes. Lower settings transmit most pixel changes. Setting this threshold too low can result in higher bandwidth use.

Note: Lower Noise Filter settings (approximately 1 to 4) are recommended. Although higher settings will stop the needless transmission of false color variations, true and intentional small changes to a video image may not be transmitted.

− **PLL Settings**: If the video image looks extremely blurry or unfocused, the PLL Settings for clock and phase can be adjusted until a better image appears on the active target server.

Warning: Please exercise caution when changing the Clock and Phase settings; doing so may result in lost or distorted video and you may not be able to return to the previous state. Contact Raritan Technical Support before making any changes.

- **Clock**: Controls how quickly video pixels are displayed across the video screen. Changes made to clock settings cause the video image to stretch or shrink horizontally; odd number settings are recommended. Under most circumstances this setting should not be changed because the auto-detect is usually quite accurate.
- **Phase**: Phase values range from 0 to 31 and will wrap around. Stop at the phase value that produces the best video image for the active target server.

− **Color Settings**: These settings control the brightness, contrast, and positioning of the target server display.

- **Brightness Red.** Controls the brightness of the red signal; range is 0 – 127.
- **Brightness Green.** Controls the brightness of the green signal; range is 0 – 127.
- **Brightness Blue.** Controls the brightness of the blue signal; range is 0 – 127.
- **Contrast Red**: Controls the red signal contrast; range is 0 – 255.
- **Contrast Green**: Controls the green signal contrast; range is 0 – 255.
- **Contrast Blue**: Controls the blue signal contrast; range is 0 – 255.
- **Horizontal Offset**: Controls the horizontal positioning of the target server display on your monitor; range is 0 – 512.
- **Vertical Offset**: Controls the vertical positioning of the target server display on your monitor; range is 0 – 128.

3. To preview the change prior to making the selection, check the **Preview** checkbox.
4. Check the **Automatic Color Calibration** checkbox to enable this feature.
5. **Video Sensing**: Select the video sensing mode:

− **Best possible video mode**: IP-Reach or Dominion will perform the full Auto Sense process when switching targets or target resolutions. Selecting this option calibrates the video for the best image quality.

− **Quick sense video mode**: Selecting this option will cause IP-Reach or Dominion to use a quick video Auto Sense in order to show the target's video sooner. This option is especially useful for entering a target server's BIOS configuration right after a reboot.

6. After you change a value, click **Apply**.
7. Click **OK** to change the Video Settings or **Cancel** to close the window without saving changes.

Note: Some Sun background screens, such as screens with very dark borders, may not center precisely on certain Sun servers. Use a different background or place a lighter colored icon in the upper left corner of the screen.

Video Settings (Generation 1 Only)

▮▮	Video Settings	Opens the Video Settings dialog box to manually adjust video conversion parameters.

1. On the **Video** menu, click **Video Settings**. The **Settings** window appears.
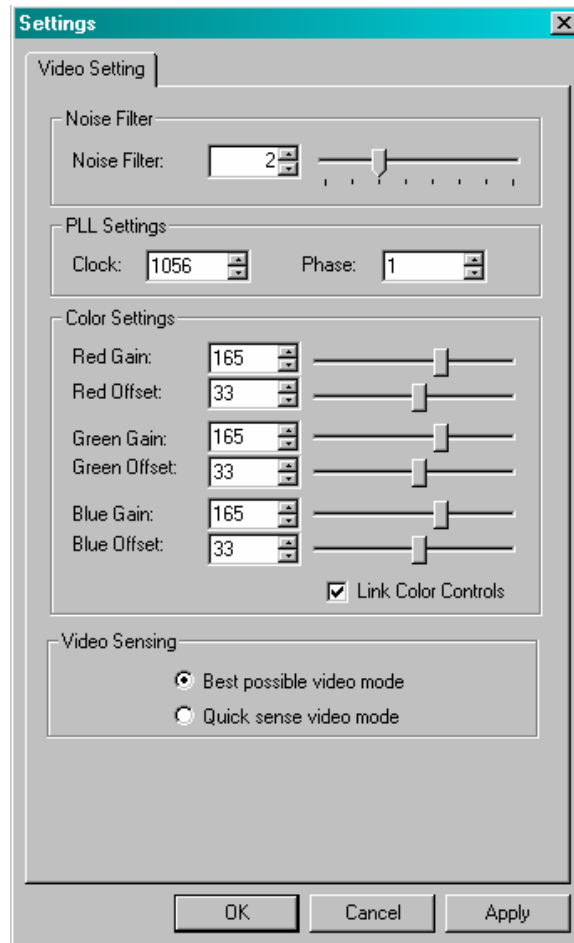
Figure 44: Video Settings (Generation 1)

These settings can be refreshed using the Color Calibration command, described in the next section, by manually forcing IP-Reach or Dominion to auto-detect the video settings (on the **Video** menu, click **Auto-sense Video Settings**), or by changing the settings in this screen. After you change a value, click **Apply** to test the setting.

 − **Noise Filter:** IP-Reach or Dominion can filter out electrical interference of video output from graphics cards. This feature optimizes picture quality and reduced used bandwidth.

*Note: The default Noise Filter is 4; Raritan recommends that you lower this value to **0** (zero).*

   ▪ *Higher:* Noise Filter settings instruct IP-Reach or Dominion to transmit a variant pixel of video only if a large color variation exists in comparison to its neighbors. However, setting the threshold too high can result in the unintentional filtering of desired screen changes.
   ▪ *Lower:* Noise Filter settings instruct IP-Reach or Dominion to transmit most pixel changes. Setting this threshold too low can result in higher bandwidth use.

Note: Lower Noise Filter settings (approximately 1 to 4) are recommended. Although higher settings will stop the needless transmission of false color variations, true and intentional small changes to a video image may not be transmitted.

- **Analog-to-Digital Settings:** The following parameters are best left to IP-Reach or Dominion to automatically detect (on the RRC Menu Bar, select **Video > Auto-sense Video Settings**), but a brief description of each is included here.
- **PLL Settings:** If the video image looks extremely blurry or unfocused, the PLL Settings for clock and phase can be adjusted until a better image appears on the active target server.
  - **Clock:** Horizontal sync divider to produce pixel clock. Controls how quickly video pixels are displayed across the video screen. Changes made to clock settings cause the video image to stretch or shrink horizontally. Odd number settings are recommended.
  - **Phase:** Phase values range from 0 to 31 and will wrap around. Stop at the phase value that results in the best video image for the active target server.
- **Color Settings:** Gain control can be thought of as contrast adjustment. Offset control can be thought of as brightness adjustment.
  - **Red Gain:** Controls the amplification of the red signal.
  - **Red Offset:** Controls the bias of the red signal.
  - **Green Gain:** Controls the amplification of the green signal.
  - **Green Offset:** Controls the bias of the green signal.
  - **Blue Gain:** Controls the amplification of the blue signal.
  - **Blue Offset:** Controls the bias of the blue signal.
  - **Link Color Controls:** Makes all the gain slide adjusters move in unison when any one color's gain slide is moved and all the offset slide adjusters move in unison when any one color's offset slide is moved.
- **Best possible video mode:** IP-Reach or Dominion will perform the full Auto Sense process when switching targets or target resolutions. Selecting this radio button will cause IP-Reach or Dominion to calibrate the video for the best image quality.
- **Quick sense video mode:** Selecting this radio button will cause IP-Reach or Dominion to use a quick video Auto Sense in order to show the target's video sooner. This option is especially useful for entering a target server's BIOS configuration right after a reboot.

2. Click **OK** to set Video Settings or **Cancel** to close the window without saving changes.

Note: Some SUN background screens, such as screens with very dark borders, may not center precisely on certain SUN servers. Use a different background or place a lighter colored icon in the upper left corner of the screen.

Video Settings (KX101)
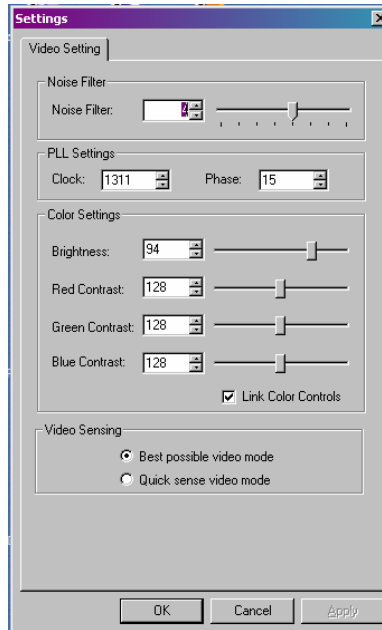
Figure 45: Video Settings for Dominion KX101

Raritan's Dominion KX101 Color Settings window varies from those of other Dominion KX units.

1. In the **Color Settings** panel, adjust the following options**:**

   - **Brightness:** Controls the backlight on your screen.
   - **Red Contrast:** Controls the level of red tone on your screen.
   - **Green Contrast:** Controls the level green tone on your screen.
   - **Blue Contrast:** Controls the level of blue tone on your screen.
   - Click on the **Link Color Controls** check box to make all above slide adjusters move in unison when any one option is moved.

2. Click **OK** when finished.

Color Calibration

	Color Calibration	Adjusts color settings to reduce excess color noise.

Use the Color Calibration command if the color levels (hue, brightness, saturation) of transmitted video images do not seem accurate. IP-Reach or Dominion color settings remain the same when switching from one target KVM Server to another, so you can perform Color Calibration once to affect all connected target servers.

1. Open a remote KVM connection to any server running a graphical user interface.

2. Ensure that a solid white color covers approximately 15% or more of the target server's desktop (suggestion: open Microsoft Notepad and maximize the window).
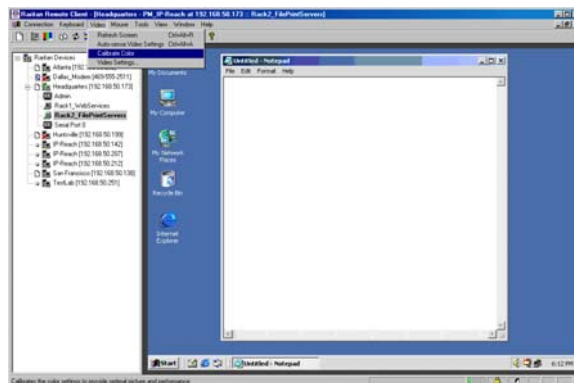
Figure 46: Example of Sizing the Notepad Window

3. On the **Video** menu, click **Calibrate Color**. The target device screen will update its calibration.

*Tip: You can also specify automatic color calibration using **Tools > Options**. Refer to General Options for more information.*

Keyboard Type (MPC Only)

MPC will not auto-detect the type of keyboard you use, so you must specify your keyboard type to ensure accurate keyboard mapping. Options include US/International, French, German, Japanese and UK English.

1. On the **Video** menu, click **Options.**

2. Click on the **Keyboard Type** drop-down arrow and select your keyboard type from the list.

| Generation 2 (G2) | Generation 1 (G1) |
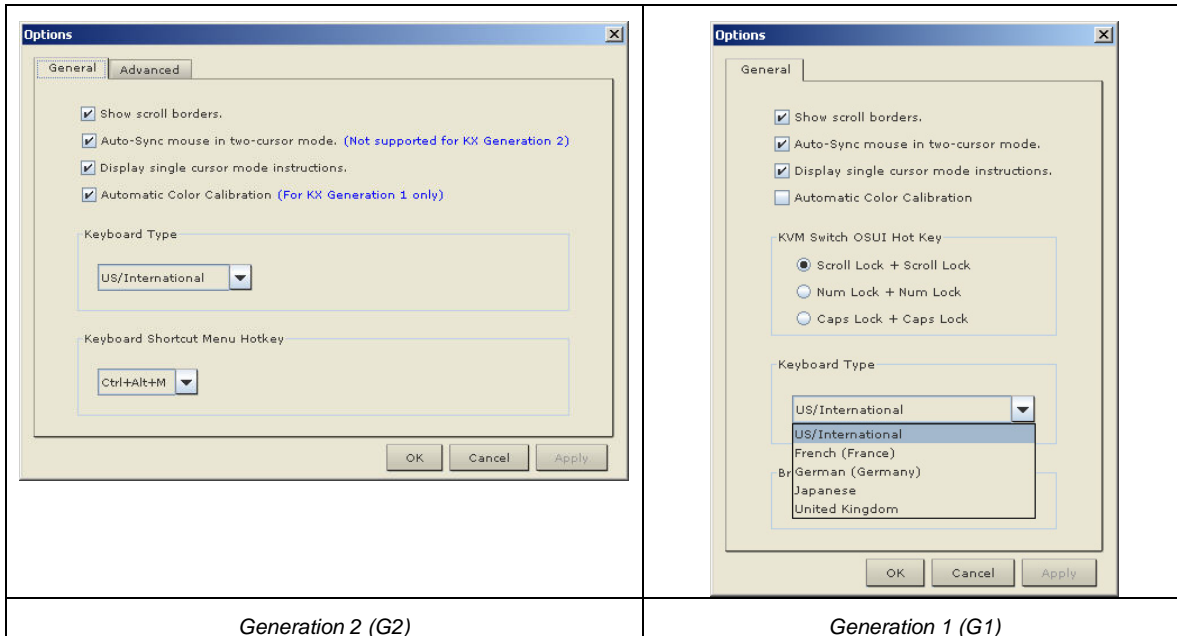
Figure 47: Keyboard Type Selection (MPC Only)

3. Click **OK.**

*Note: Because of a limitation in the Java Runtime Environment (JRE), Fedora, Linux, and Solaris clients receive an invalid response from **Alt Gr** on United Kingdom and US International language keyboards. Fedora, Linux, and Solaris do not pick up events for the **Alt Gr** key combination for Java 1.4.2 or 1.5. Java 1.6 appears to improve on this, although the keyPressed and keyReleased events for **Alt Gr** still identify it as an "unknown key code".*

*Also, a key pressed in combination with **Alt Gr** (such as on the UK keyboard **Alt Gr-4**), which is the Euro symbol), will only generate a keyTyped followed by a keyReleased event for that value, without a keyPressed event. Java 1.6 improves upon this by filling in the keyPressed event as well.*

Chapter 3: Virtual Media

Overview

Important: Virtual Media is available for Dominion KX II only.

Virtual media extends KVM capabilities by enabling target servers to remotely access media from the client PC and network file servers. With this feature, media mounted on the client PC and network file servers is essentially *mounted virtually* by the target server. The target server can then read from and write to that media as if it were physically connected to the target server itself. Virtual media can include internal and USB-mounted CD and DVD drives, USB mass storage devices, PC hard drives, and ISO images (disk images).

Virtual media provides the ability to perform additional tasks remotely, such as:

- transferring files
- running diagnostics
- installing or patching applications
- complete installation of the operating system

This expanded KVM control eliminates most trips to the data center, saving time and money, thereby making virtual media very powerful.
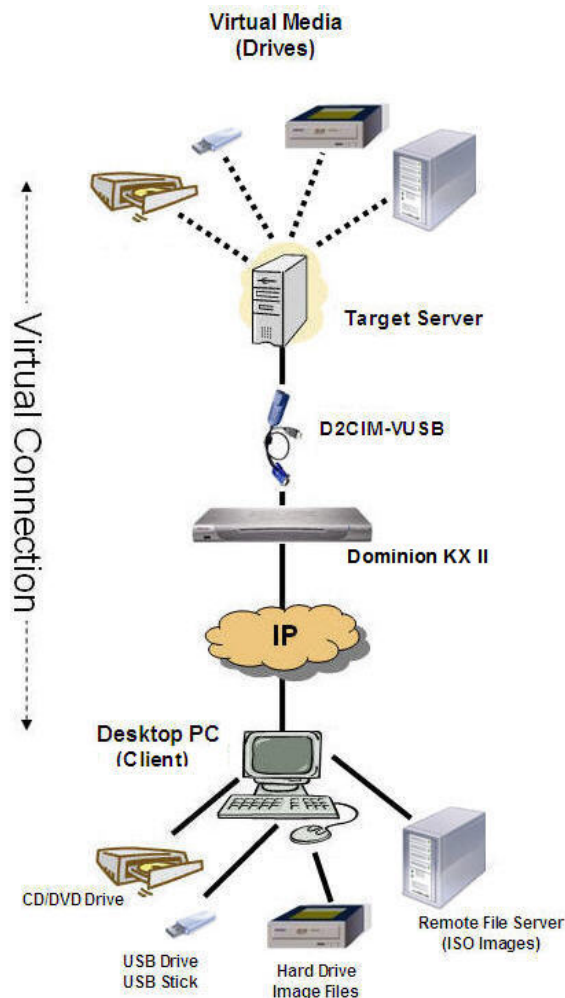
Figure 48: Virtual Media

Prerequisites for Using Virtual Media

The following conditions must be met in order to use virtual media:

Device Permissions

- For user (s) requiring access to the virtual media, port permissions must be set to allow virtual media access.

Client PC

- Certain virtual media options require administrative privileges on the client PC (e.g., drive redirection of complete drives).

*Note: With Microsoft Vista, you must turn User Account Control **off**: Control Panel > User Accounts > User Account Control > turn off.*

- USB 2.0 ports are both faster and preferred.

Target Server

- Target servers must support USB connected drives.
- Target servers running Windows 2000 must have all of the recent patches installed.

Using Virtual Media

With the Dominion KX II virtual media feature, you can mount up to two drives (of different types). These drives are accessible for the *duration* of the KVM session.

For example, you can mount a specific CD-ROM, use it, and then disconnect it when you are done. The CD-ROM virtual media "channel" will remain open, however, so that you can virtually mount another CD-ROM. These virtual media "channels" remain open until the KVM session is closed.

Note: Target servers running Windows will not accept any new medium after making a virtual media connection to an NTFS partition, until the device is disconnected.

To use virtual media:

1. Connect/attach the media to the client or network file server that you want to access from the target server. This need not be the first step, but it must be done *prior to* attempting to access this media.

2. Verify that the appropriate prerequisites are met.

3. (*File server ISO images only*) If you plan to access file server ISO images, identify those file servers and images through the Dominion KX II Remote Console File Server Setup page.

4. Open a KVM session with the appropriate target server.

5. Connect to the virtual media.

FOR:	SELECT THIS VM OPTION:
Local drives	Connect Drive
Local CD/DVD Drives	Connect CD-ROM/ISO Image
ISO Images	Connect CD-ROM/ISO Image
File Server ISO Images	Connect CD-ROM/ISO Image

6. Upon completion of your tasks, disconnect the virtual media.

Connecting to Virtual Media

For Local Drives

This option mounts an *entire* drive; the entire drive is *mounted virtually* onto the target server. Use this option for hard drives and external drives only; it does not include network drives, CD-ROM, or DVD-ROM drives. This is the only option for which **Read-Write** is available.

Note: Target servers running certain version of the Windows operating system may not accept new mass storage connections after an NTFS-formatted partition (e.g., the local C drive) has been redirected to them. If this occurs, close the KX II Remote Console and reconnect before redirecting another virtual media device. If other users are connected to the same target server, they must also close their connections to the target server.

To access a drive on the client computer:

1. From MPC, select **Virtual Media > Connect Drive**. The Map Virtual Media Drive dialog opens:
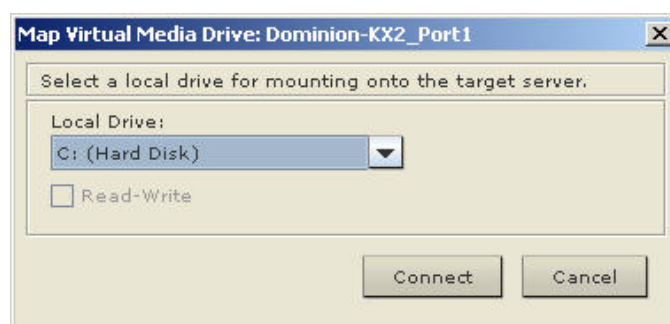
Figure 49: Map Virtual Media Drive

2. Select the drive from the **Local Drive** drop-down list.

3. If you want read and write capabilities, check the **Read-Write** option checkbox. This option is disabled for non-removable drives. Please refer to the conditions when read-write is not available for more information. When checked, you will be able to read or write the connected USB disk.

> **WARNING: Enabling Read-Write access can be dangerous! Simultaneous access to the same drive from more than one entity can result in data corruption. If you do <u>not</u> require write access, leave this option unchecked.**

4. Click **Connect**. The media will be mounted on the target server virtually. You can access the media just like any other drive

Conditions when Read-Write is not Available

Virtual media read-write is <u>not</u> available in the following situations:

- For all hard drives.
- When the drive is write-protected.
- When user does not have read-write port permission.

For CD-ROM/DVD-ROM/ISO Images

This option mounts CD-ROM, DVD-ROM, and ISO images.

To access a CD-ROM, DVD-ROM, or ISO image:

1. From MPC, select **Virtual Media > Connect CD-ROM/ISO Image**. The Map Virtual Media CD/ISO Image dialog opens:
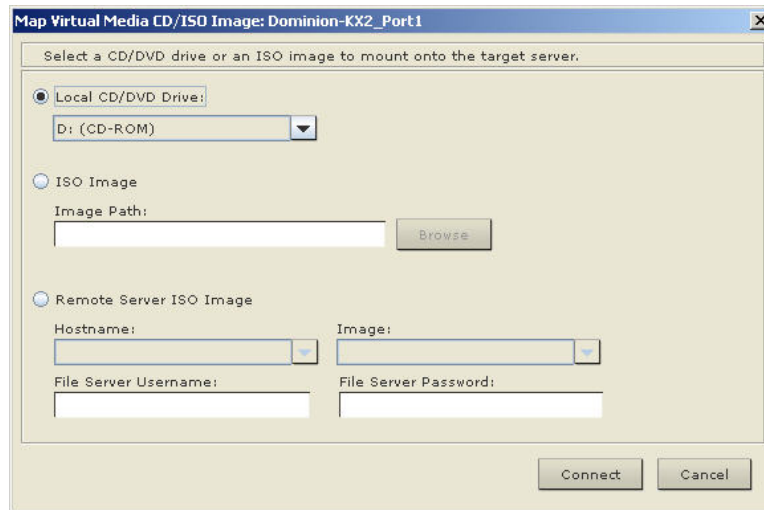
Figure 50: Map Virtual Media CD/ISO Image

2. For internal and external CD-ROM or DVD-ROM drives:

   A. Select the **Local CD/DVD Drive** option.
   B. Select the drive from the **Local CD/DVD Drive** drop-down list. All available internal and external CD and DVD drive names will be populated in the drop-down list.
   C. Click **Connect**.

3. For ISO images:

   A. Select the **ISO Image** option. Use this option when you want to access a disk image of a CD, DVD, or hard drive. ISO format is the only format supported.
   B. Click the **Browse** button.
   C. Navigate to the path containing the disk image you want to use and click **Open**. The path is populated in the **Image Path** field.
   D. Click **Connect**.

4. For remote ISO images on a file server:

   A. Select the **Remote Server ISO Images** option.
   B. Select **Hostname** and **Image** from the drop-down lists. The file servers and image paths available are those that you configured using the Dominion KX II Remote Console File Server Setup page. Only items you configured using the Dominion KX II File Server Setup page will be in the drop-down list.
   C. **File Server Username**. Username required for access to the file server.
   D. **File Server Password**. Password required for access to the file server (field is masked as you type).
   E. Click **Connect**.

The media will be mounted on the target server virtually. You can access the media just like any other drive.

Disconnecting Virtual Media

To disconnect the Virtual Media drives:

- For local drives, select **Virtual Media > Disconnect Drive**
- For CD-ROM, DVD-ROM, and ISO images, select **Virtual Media > Disconnect CD-ROM/ISO Image**

*Note: In addition to disconnecting the Virtual Media using the **Disconnect** option, simply closing the KVM connection disconnects the Virtual Media as well.*

File Server Setup (File Server ISO Images Only)

Important: These steps are completed using the Dominion KX II Remote Console.

Note: This feature is only required when using virtual media to access file server ISO images.

Use the Dominion KX II Remote Console File Server Setup page to designate the files server(s) and image paths that you want to access using Dominion KX II Virtual Media. File server ISO image(s) specified here will become available for selection in the **Remote Server ISO Image Hostname** and **Image** drop-down lists (in the [Map Virtual Media CD/ISO Image dialog]).

To designate file server ISO images for virtual media access:

1. Select **Virtual Media** from the Dominion KX II Remote Console. The File Server Setup page opens:
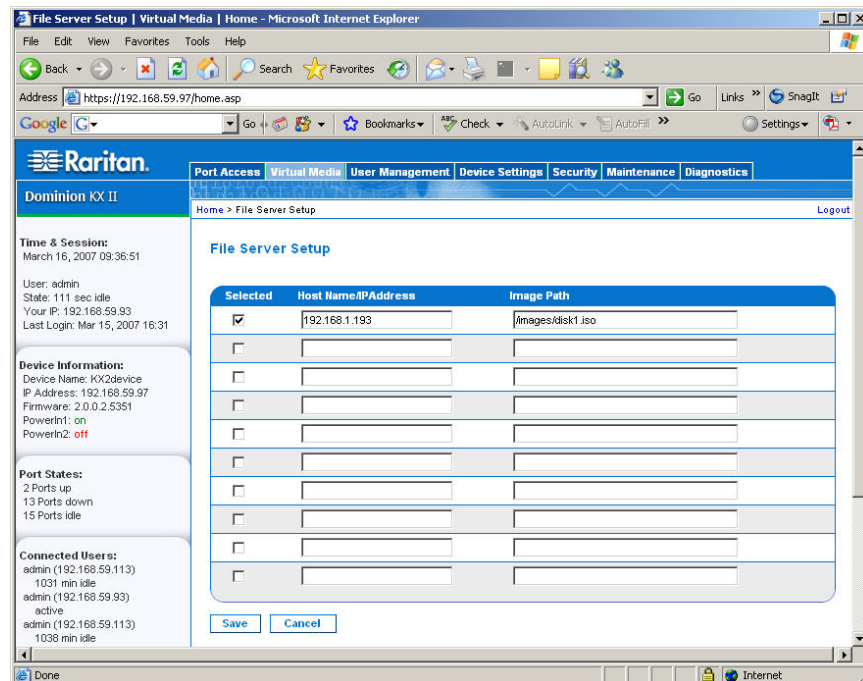
Figure 51: File Server Setup

2. Input information about the file server ISO images that you want to access:

   - **Host Name/IP Address**. Host name or IP Address of the file server.
   - **Image Path**. Full path name of the location of the ISO image.

3. Check the **Selected** checkbox for all media that you want accessible as virtual media.

4. Click **Save**. All media specified here will now be available for selection in the Map Virtual Media CD/ISO Image dialog.

To cancel without saving:

   Click **Cancel**.

Chapter 4: Administrative Functions

Note: MPC users must belong to the administrator group in order to receive administrative permissions. MPC uses one permission: administrator or normal user. It is only when the user belongs to the ADMIN group that they have access to the backup/restore/restart type functions (regardless of any device user group settings).

Although your IP-Reach or Dominion unit provides a remote interface to administrative functions through IP-Reach or Dominion Manager, MPC and RRC provide an interface to frequently-used administrative functions directly from its own interface. When logged into an IP-Reach or Dominion unit as an Administrator, you can perform the following administrative tasks.

*Note: Most of the commands below are available both in the **Tools** drop-down menu and in the shortcut menu that appears when you right-click on the device in the Navigator panel*

Upgrading Device Firmware

To update a device's firmware, first connect to the device. Highlight the device's icon in the MPC Navigator, and click on the **Tools** menu, click **Update** and then click **Update Device** to perform firmware upgrades.

MPC / RRC will prompt you to locate a Raritan firmware distribution file (*.RFP format), found on the Raritan Website **Firmware Upgrades** page when available: http://www.raritan.com/support/firmwareupgrades. Please ensure that you read all instructions included in firmware ZIP files carefully before upgrading a device.

Note: Copy the firmware update file on the Raritan Website to a local PC before uploading. Do not load the file from a network drive.

Changing a Password

To update your password, first connect to an IP-Reach or Dominion target. Highlight the target's icon in the Navigator, and on the **Tools** menu, click **Update** and then click **User Password.** The Change Password window appears.

Figure 52: Change Password Window

1. Type your current password in the **Old Password.**
2. Type the new password in the **New Password** field.
3. Retype the password in the **Confirm New Password** field.
4. When finished, click **OK**.

Restarting Device

Select the device in the MPC Navigator. On the **Tools** menu, click **Restart Device**.

Backing Up Device Configuration

To download the IP-Reach or Dominion KX device configuration to your local computer, first select the device in the MPCRRC Navigator. On the **Tools** menu, click **Save Device Configuration.**

Restoring Device Configuration

To upload the archived IP-Reach or Dominion KX device configuration, first select the device in the MPCRRC Navigator. On the **Tools** menu, click **Restore Device Configuration**.

Please note that device configuration is specific to a particular device and should not be restored to another device.

Backing Up User Configuration

To back up a unit's user configuration, first select the device in the MPCRRC Navigator. On the **Tools** menu, click **Save User Configuration.**

Restoring User Configuration

To upload a device's archived user configuration, first select the device in the MPCRRC Navigator. On the **Tools** menu, click **Restore User Configuration**

Note: Use these commands to easily transfer user and group information from one IP-Reach or Dominion KX unit to another.

Backup and Restore (Dominion KX II only)

In addition to using backup and restore for business continuity purposes, you can use this feature as a time-saving mechanism. For instance, you can quickly provide access to your team from another Dominion KX II, by backing up the user configuration settings from the KX II device in use and restoring those configurations to the new Dominion KX II.

Note: Backups are always complete system backups. Restores can be complete or partial depending on your selection.

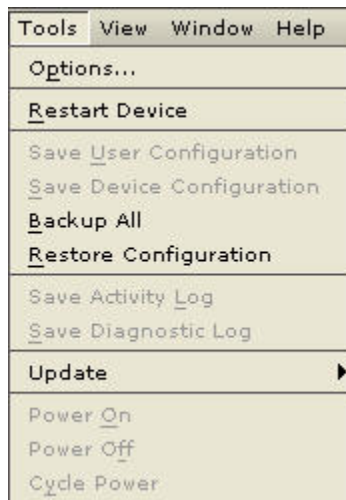*Figure 53: Backup and Restore Menu Options*

To backup the entire system (both user and device configuration):

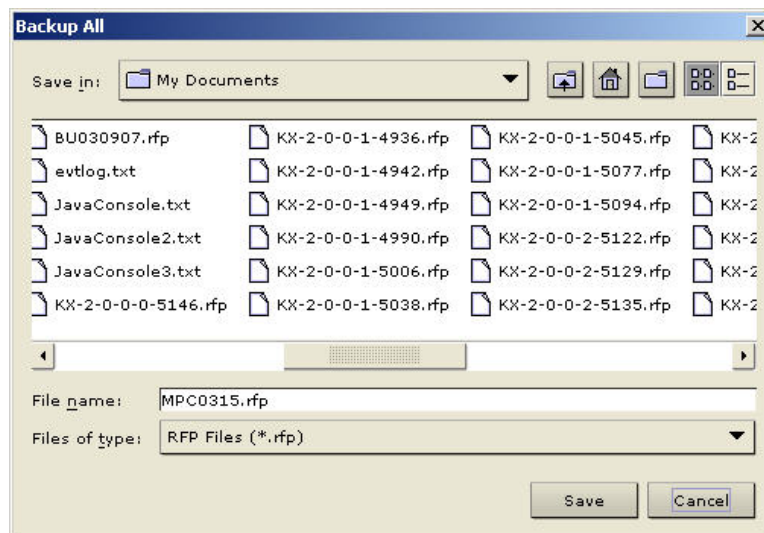1. Select **Tools > Backup All**. The Backup All dialog opens:

Figure 54: Backup All

2. Navigate to the desired directory and give the backup file a name. (Backup files have an extension of .rfp).

3. Click **Save**. A message is displayed confirming the successful backup.

4. Click **OK**.

To restore:

1. Select **Tools > Restore Configuration**. The Restore Device Configuration dialog opens.
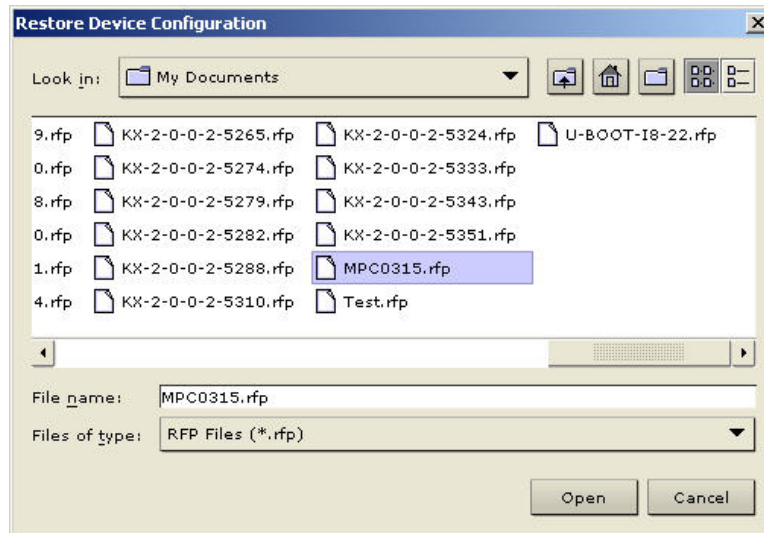
Figure 55: Restore Device Configuration

2. Navigate to the appropriate directory and select the backup file.

3. Click **Open**. The Restore Packages dialog opens:

Figure 56:Restore Packages

4. Select the type of restore you want to run:

-   **Full Restore**. A complete restore of the entire system; generally used for traditional backup and restore purposes.

-   **Protected Restore**. Everything is restored *except* device-specific information such as serial number, MAC Address, IP Address, name, port names, etc. With this option, you can setup one Dominion KX II and copy the configuration to multiple KX II devices.

-   **Custom Restore**. With this option, the following options are available. Check the appropriate checkboxes:

    -   **User and Group Restore**. This option includes only user and group information. Use this option to quickly setup users on a different Dominion KX II.

    -   **Device Settings Restore**. This option includes only device settings. Use this option to quickly copy the device information.

5. Click **OK**.

Log Files

Activity Log

To download a detailed activity log for review or troubleshooting, first select the device in the Navigator. On the **Tools** menu, click **Save Activity Log.**

Diagnostic Log (excluding Dominion KX II)

To download a detailed diagnostic log for reporting or analysis, first select the device in the Navigator. On the **Tools** menu, click **Save Diagnostic Log.**

Broadcast Port

By default, all Raritan devices send data through Port 5000. This network traffic includes MPC's and RRC's auto-discovery broadcast. In the case of conflicts, or to deal with firewall issues, you may want to use a different broadcast port.

To change the auto-discovery port from the default broadcast port of 5000, select the device in the RRC Navigator. On the **Tools** menu, click **Options**. The **Options** window appears.
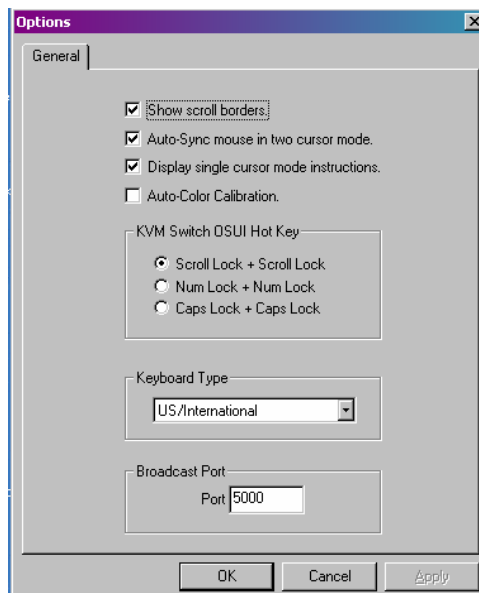
Figure 57: Options Window

In the **Broadcast Port** panel at the bottom of the window, type the new port number in the **Port** field, and then click **OK**.

Note: If you want MPC / RRC to auto-discover Raritan devices on the new broadcast port you entered in the Options window, you must configure all Raritan devices to use the new port number.

Remote Power Management

MPC and RRC can manage AC Power to associated targets when used with a properly configured Raritan Remote Power Control Strip (RPC Strip). RRC provides three options for the remote power management of targets: **Power On**, **Power Off**, and **Cycle Power**.

To change the power status of a target, first select the device in the RRC Navigator. On the **Tools** menu, click **Power On**, **Power Off**, or **Cycle Power.**

Launching Administrator and Diagnostic Interfaces

Administrator Interface

For further control of a selected device, scroll down the Navigator list of all the targets associated to a specific device (you may have to expand your view of the device by clicking on the + sign before its name) and double-click on the **Admin** icon at the bottom of the target list.

The Administrator login screen for the selected device appears. Please refer to the specific Raritan device User Guide for additional information and managing the device using the Raritan User Manuals & Quick Setup Guides CD included with the device shipment, or by downloading the user documentation from Raritan's Product Documentation page:
http://www.raritan.com/support/productdocumentation.

Diagnostic Interface (excluding Dominion KX II)

To access the device's diagnostic console by double clicking on the **Diagnostic** icon at the bottom of the target list. Scroll down the Navigator list of all the targets associated to a specific device (you may have to expand your view of the device by clicking on the + sign before its name) and double-click on the **Diagnostic** icon at the bottom of the target list.
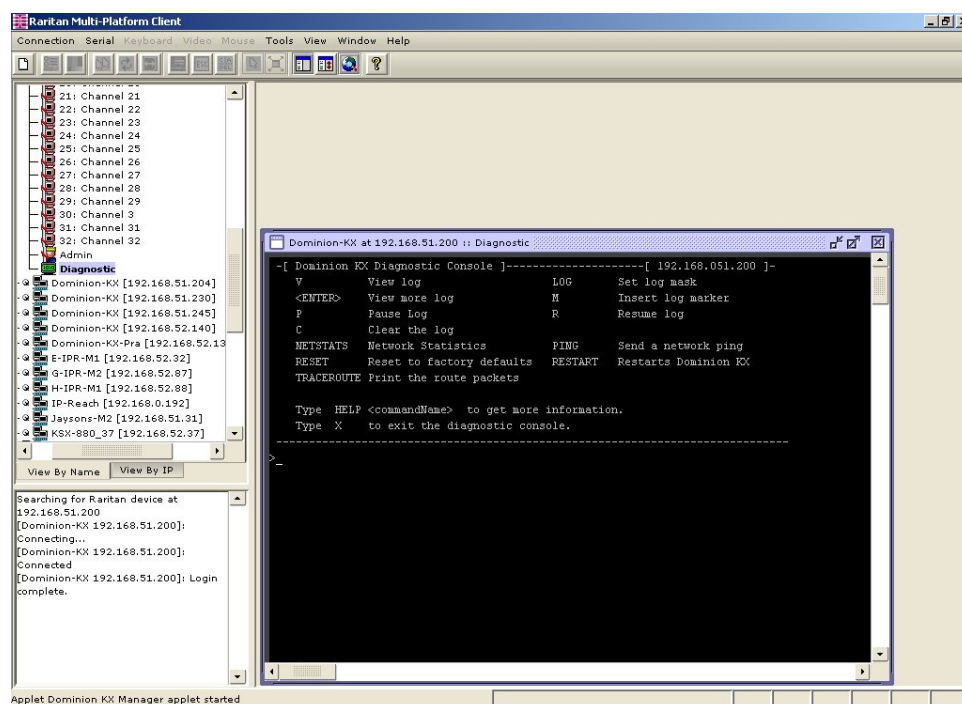

Figure 58: Launching Diagnostic Console for KX Manager

Tools Options

The Options available in the Tools menu provide settings for customization of scroll borders, mouse mode settings, hotkey configuration, keyboard type, broadcast port, and logging.

To configure the general options:

1. Select **Tools** > **Options.** The Options screen opens to the General tab:
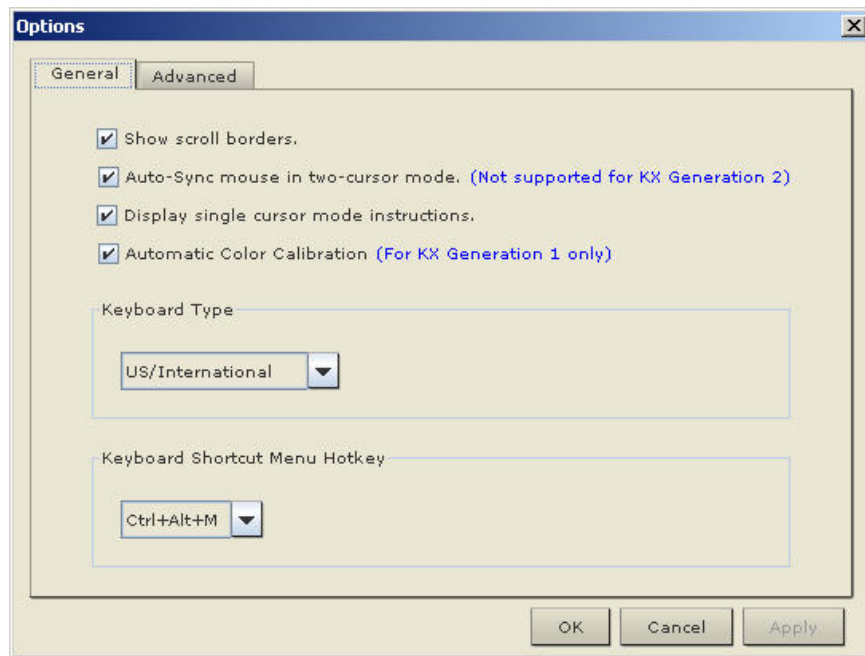
Figure 59: Options – General Tab

2. Check the **Show scroll borders** check box to view the thin scroll borders designating the auto-scroll area.

3. Check the **Auto-Sync mouse in two-cursor mode** check box to enable automatic mouse synchronization.

4. Check the **Display single cursor mode instructions** check box if you wish to see the following instructions when entering single cursor mode:
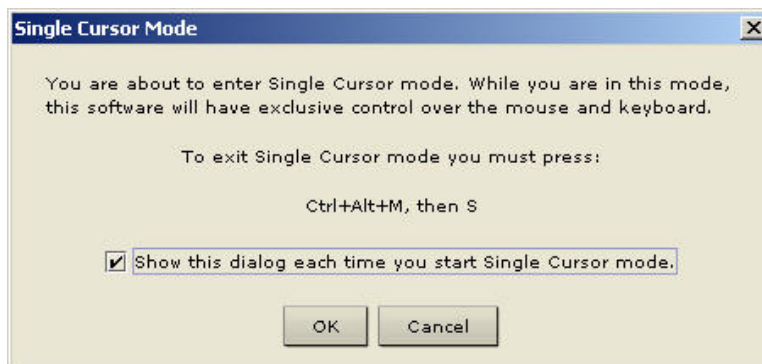
Figure 60: Single Cursor Mode

5. Check the **Automatic Color Calibration** check box to enable automatic color calibration. *This option is available for KX generation 1 (G1) only.*

6. Select the **Keyboard Type** from the drop-down list (*depending on the Raritan device in use, different options may be available*):

US/International
French (France)
German (Germany)
Japanese
United Kingdom
Korean (Korea)

7. **Keyboard Shortcut Menu Hotkey**. Select the key combination you would like to use to invoke the Keyboard Shortcut Menu. Select from among the options in the drop-down list: **Ctrl** + **Alt** + (any uppercase letter).

8. For advanced options, open the Advanced tab:
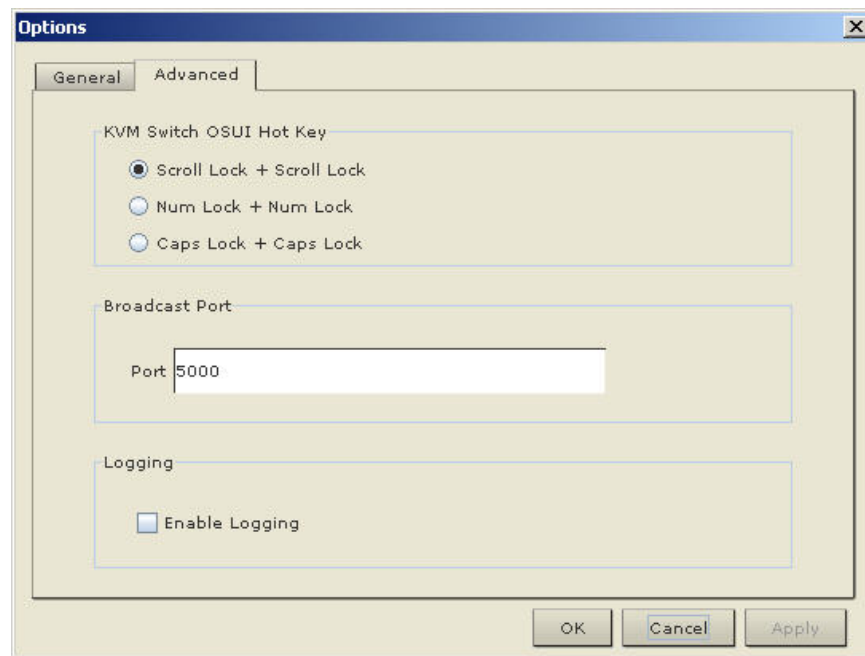
Figure 61: Options – Advanced Tab

9. **KVM Switch OSUI Hot Key**. Select the hotkey to use when switching between target server displays.

10. For the **Broadcast Port**, type the broadcast port number in the **Port** field if you want to use a port other then 5000.

11. Check the **Enable Logging** checkbox if you want to enable logging.

12. Click **OK** when finished or click **Cancel** to exit this window without saving changes. Click **Apply** any time during your selection to apply an option you have chosen.

General Options (RRC Only)

1. On the **Tools** menu, click **Options** to view the Options screen. You can customize your keyboard and video options to optimize use.

Figure 62: General Options Window

2. Click on the check box before **Show scroll borders** to view the thin scroll borders that show the Auto-Scroll area.
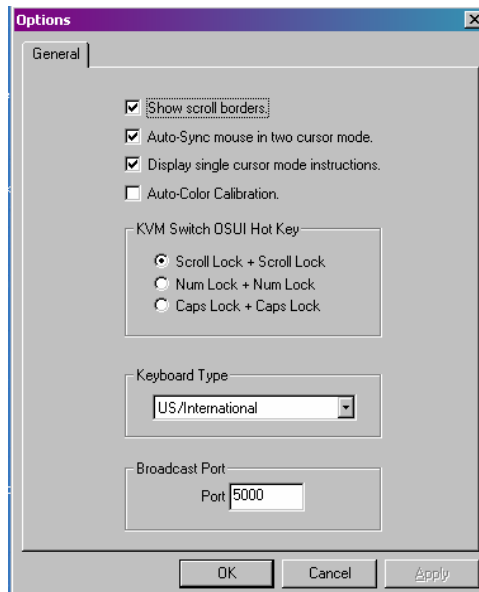3. Click on the check box before **Auto-Sync mouse in two cursor mode** to enable Automatic Mouse Synchronization.
4. Click on the check box before **Display single cursor mode instructions** if you wish to see the following instructions when entering Single Cursor Mode.
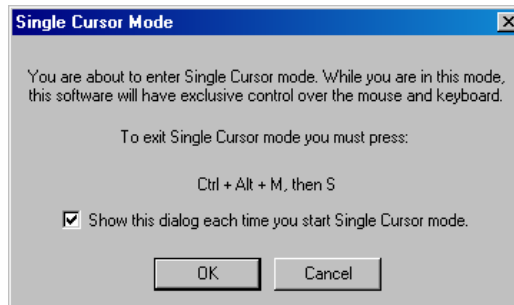
Figure 63: Single Cursor Mode Confirmation Screen

5. In the KVM Switch OSUI Hot Key panel, click on the radio button before your choice of hot key combinations.
6. In the Keyboard Type panel, click on the drop-down arrow and click on your keyboard choice.
7. In the Broadcast Port Panel, type the broadcast port number in the Port field.
8. Click **OK** when finished or click **Cancel** to exit this window without saving changes. Click **Apply** any time during your selection to apply an option you have chosen.

Appendix A: Installing and Launching Standalone MPC

This section guides you through installation and initial launch of the standalone MPC application for various operating systems.

Raritan recommends that you launch <u>only one standalone MPC session at a time.</u> Launching more than one standalone MPC session on the same client at the same time may cause performance problems and system errors.

Note: Please note that the file names of the installers, as well as the install directories or folder paths may differ slightly from what is outlined in this manual.

Important: MPC modem connectivity is supported on Windows, Linux, and Sun Solaris, but not Macintosh. When working in Windows, use Standalone MPC.

You must have the MPC JAR file to install MPC for any of these operating systems.

1. Download the installation file, **MPC-installer.jar** from the Raritan Website on the Support – Firmware Upgrades page (http://www.raritan.com/support/firmwareupgrades). Click on **Dominion Family** and scroll to the Standalone Multi-Platform Client link.

2. If copying **MPC-installer.jar** from a known location, double-click on the file to start installation.

Windows

Checking JRE Version in Windows

1. Click on the Windows **Start** button at the bottom left of your screen and click **Control Panel**. In the upper left corner of the screen, you may see a panel named Control Panel with the option **Switch to Classic View** or **Switch to Category View.** For easier viewing, opt for **Classic View.**

2. Search the Control Panel files for a **Java** icon. When you locate Java, double-click on it to launch the **Java Control Panel**. Click on the **General** tab, and then click on the **About** button to check the current Java Runtime Environment (JRE).

3. If the JRE is version **1.4.2_05** or greater, proceed with the MPC Installation. If the Java icon does not exist in the Control Panel, or if the JRE is older, please go to the Sun Microsystems Website at http://java.sun.com/products/ to download the latest JRE.

   A. For future Java access and automatic launch, set your path to the Java executable: on your desktop, right-click on the **My Computer** icon and click **Properties.**

   B. Click on the **Advanced** tab and then click **Environment variables.**

   C. Edit the **Path** address so that it contains the path to the Java executable.
   For example: if Java is installed in **C:\j2re1.4.2_05** and your path is currently set to C:\WINDOWS\SYSTEM32, then change the path to read
   C:\WINDOWS\SYSTEM32;C:\j2re1.4.2_05

Installing MPC for Windows

1. Log on to your Windows machine.

2. Download, or copy from a known location, the **MPC-installer.jar** installation file.

3. After the initial screen loads, click **Next**.
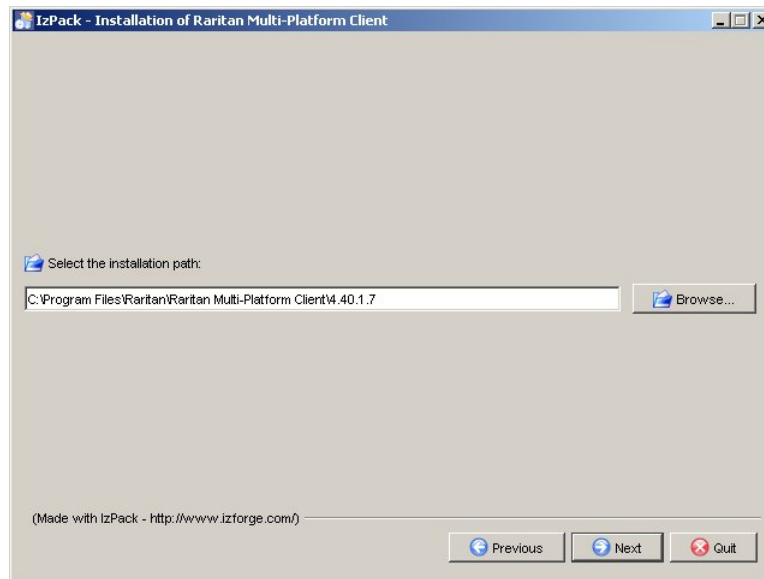
Figure 64: Choose Install Path

4. Select the directory where you want to install MPC and click **Next**. Click **Browse** to navigate to a non-default directory.

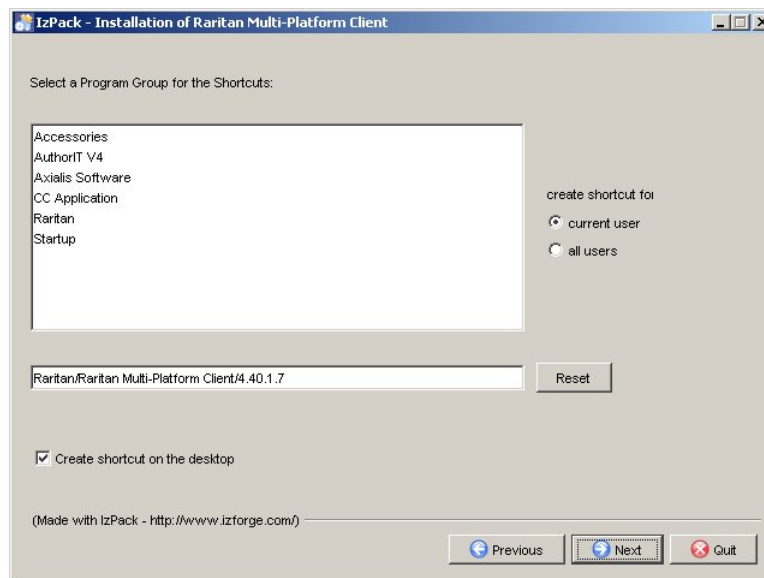5. After the progress bars have moved across the screen, click **Next**.

Figure 65: Shortcut Options

6. On the Shortcut screen, choose a shortcut location, determine who should have the shortcut, and whether you want the shortcut on the desktop. When finished, click **Next**.

7. The installation is complete; the final screen indicates where you will find an uninstaller program, and allows the option of generating an automatic installation script. Click **Done** to close the Installation window.
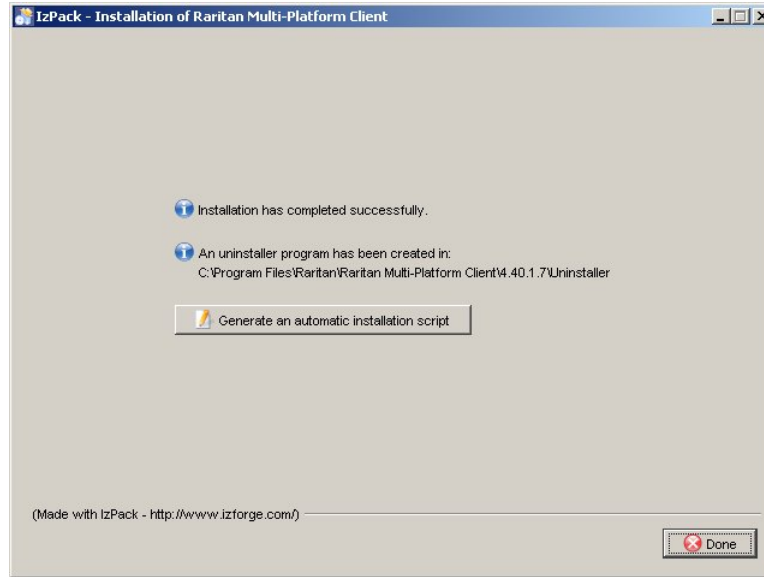
Figure 66: Final Installation Screen

Launching MPC in Windows

1. Click on the Windows **Start** menu, click **All Programs,** and then click **Raritan Multi-Platform Client,** or double-click the desktop shortcut if you created one.

2. Double-click on the desired device to establish a connection, type your **Username** and **Password** and click **OK** to log on. Please refer to **Chapter 2: Operation** for additional operation instructions.

Figure 67: Launching MPC in Windows

Linux

Checking JRE Version in Linux

1. In a graphical environment, launch a terminal window.

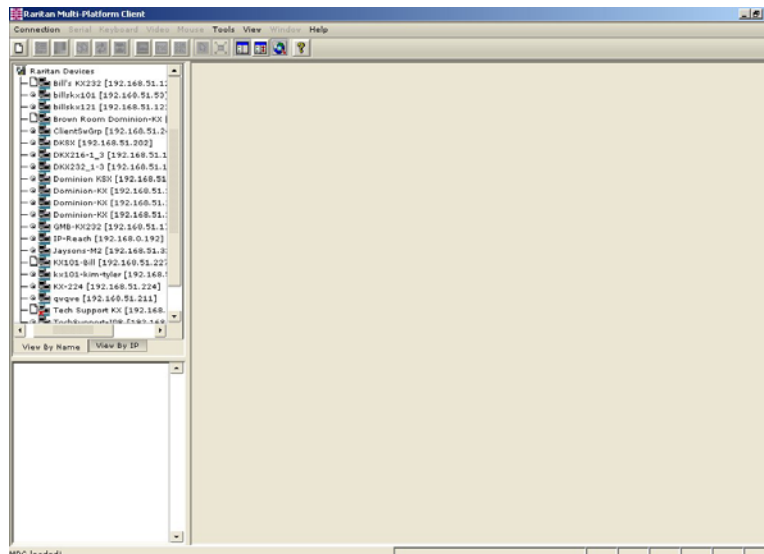2. Type **java –version** in the command line and press **ENTER.** The currently-installed version of Java Runtime Environment (JRE) appears.

   A. If your path variable is not set to where the java binaries have been installed, you may not be able to see the JRE version.

   B. To set your path: Assuming JRE 1.4.2_05 is installed in **/usr/local/java**: you must set your PATH variable.

   C. To set path for bash shell: **export PATH=$PATH:/usr/local/java/j2re1.4.2_05/bin.**

   D. To set path for tcsh or csh: **set PATH = ($PATH /usr/local/java/j2re1.4.2_05/bin).**

   E. These commands can either be typed at the terminal each time you login, or you can add it to your .bashrc for bash shell or .cshrc for csh or tcsh so that each time you login, the PATH is already set. Please refer to your shell documentation if you encounter problems.

Figure 68: Check JRE Version in Linux

3. If the JRE is version **1.4.2_05** or greater, proceed with the MPC installation. If the version is older, please go to the Java website at http://java.sun.com/products/ to download the latest Runtime Environment.

Installing MPC for Linux

You must have Administrative privileges to install MPC.

1. Log on to your Linux machine.

2. Download, or copy from a known location, the **MPC-installer.jar** installation file.

3. Open a terminal window and change to the directory where the installer is saved.

4. Type **java –jar MPC-installer.jar** and press **ENTER** to run the installer.

5. After the initial screen loads, click **Next**.

Figure 69: Set Installation Path
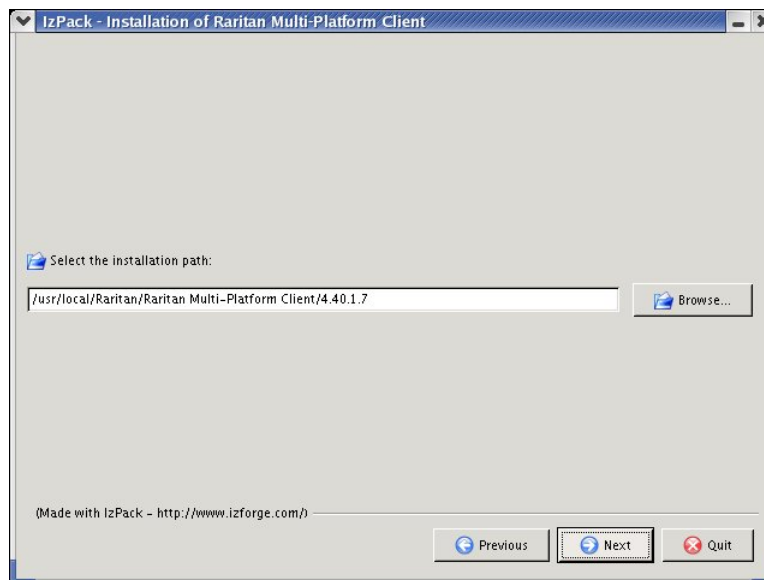
6. Select the directory where you want to install MPC and click **Next**. Click **Browse** to navigate to a non-default directory.

7. When installation is complete, click **Next**.

8. On the Shortcut screen, choose a shortcut location, determine who should have the shortcut, and whether you want the shortcut on the desktop. When finished, click **Next**.
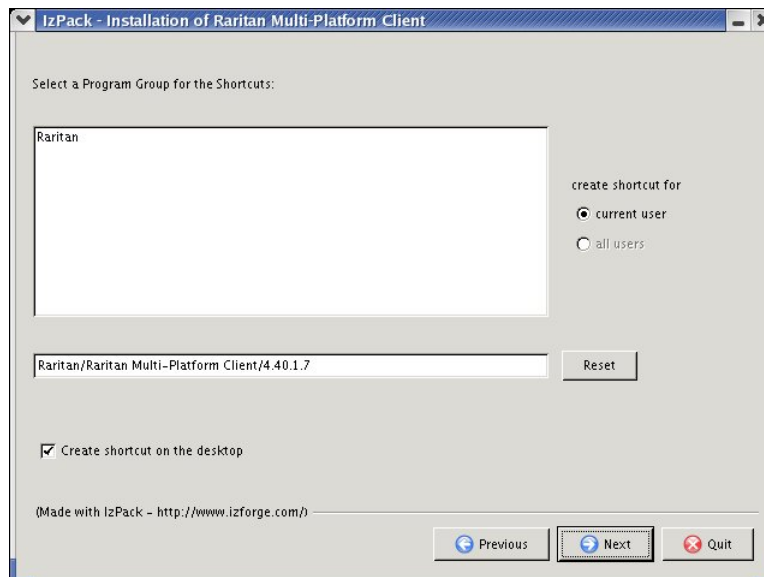
Figure 70: Shortcut Options

9. The installation is complete; the final screen indicates where you will find an uninstaller program, and allows the option of generating an automatic installation script. Click **Done** to close the Installation window.
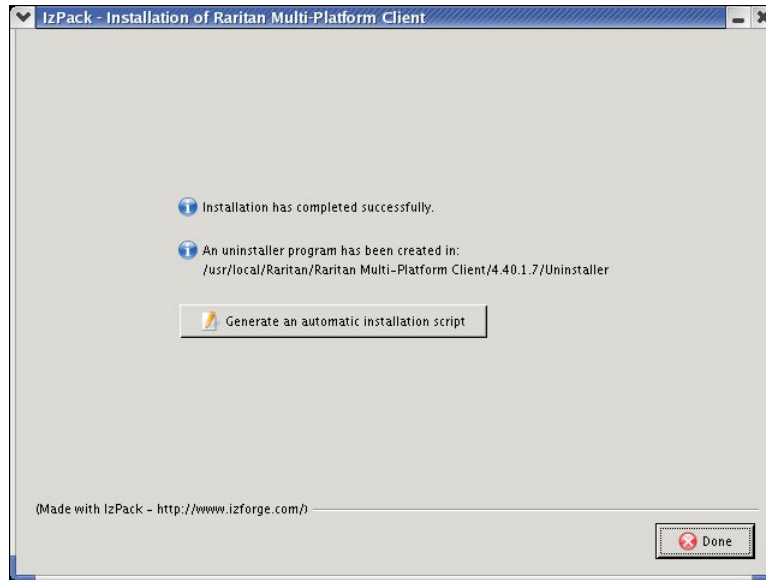
Figure 71: Final Installation Screen

Launching MPC in Linux

1. Open a terminal window and change directories to the directory where you installed MPC (default location: **/usr/local/Raritan/Raritan MPC/4.40.1.7/**).

2. Type **./start.sh** and press **ENTER** to launch MPC.
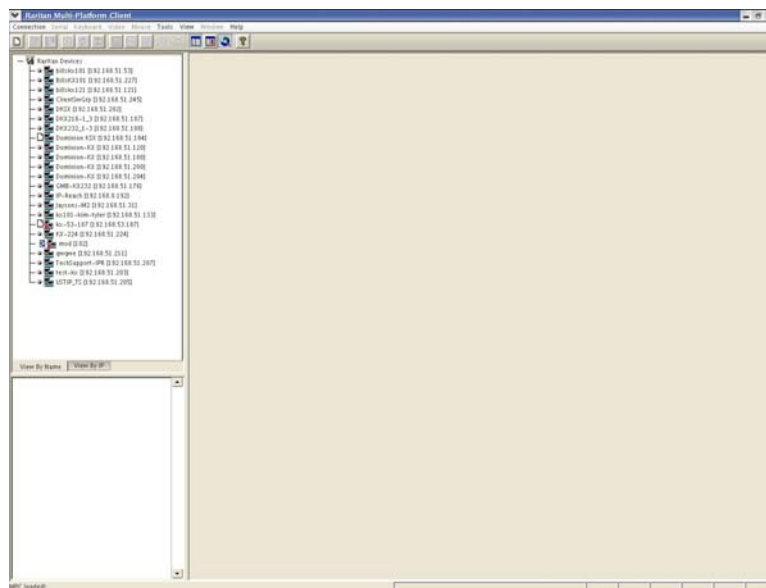
Figure 72: MPC Launched in Linux

3. Double-click on the desired device to establish a connection, type your **Username** and **Password** and click **OK** to log on. Please refer to **Chapter 2: Using MPC** for additional operation instructions.

Solaris

Checking JRE Version on Sun Solaris

1. Launch a terminal window on the Sun Solaris desktop.

2. Type **java –version** in the command line and press **ENTER.** The currently-installed version of Java Runtime Environment (JRE) appears.

    A. If your path variable is not set to where the java binaries have been installed, you may not be able to see the JRE version.
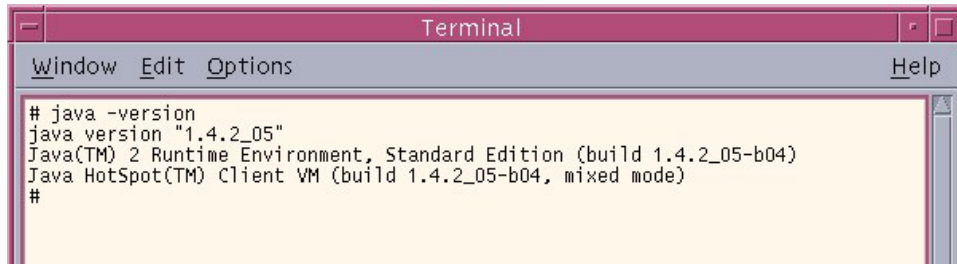
    B. To set your path: Assuming JRE 1.4.2_05 is installed in **/usr/local/java**: you must set your PATH variable.

    C. To set path for bash shell: **export PATH=$PATH:/usr/local/java/j2re1.4.2_05/bin.**

    D. To set path for tcsh or csh: **set PATH = ($PATH /usr/local/java/j2re1.4.2_05/bin).**

    E. These commands can either be typed at the terminal each time you login, or you can add it to your .bashrc for bash shell or .cshrc for csh or tcsh so that each time you login, the PATH is already set. Please refer to your shell documentation if you encounter problems.

Figure 73: Check JRE Version in Sun Solaris

3. If the JRE is version **1.4.2_05** or greater, proceed with the MPC installation. If the version is older, please go to the Sun website at: http://java.sun.com/products/ to download the latest Runtime Environment.

Installing MPC for Sun Solaris

You must have administrative privileges to install MPC.

1. Log on to your Sun Solaris machine.

2. Download, or copy from a known location, the **MPC-installer.jar** installation file.

3. Open a terminal window and change to the directory where the installer is saved.

4. Type **java –jar MPC-installer.jar** and press **ENTER** to run the installer.

5. After the initial screen loads, click **Next**.

6. After the initial screen loads, click **Next**.

Figure 74: Set Installation Path

7. Select the directory where you want to install MPC and click **Next**. Click **Browse** to navigate to a non-default directory.

8. When installation is complete, click **Next**.

9. Click **Next** again.

10. The installation is complete; the final screen indicates where you will find an uninstaller program, and allows the option of generating an automatic installation script. Click **Done** to close the Installation window.

Figure 75: Final Installation Screen

Launching MPC on Sun Solaris

1. Open a terminal window and change to the directory where you installed MPC (default location: **/usr/local/Raritan/Raritan MPC/4.40.1.7**).

2. Type **./start.sh** and press **ENTER** to launch MPC.
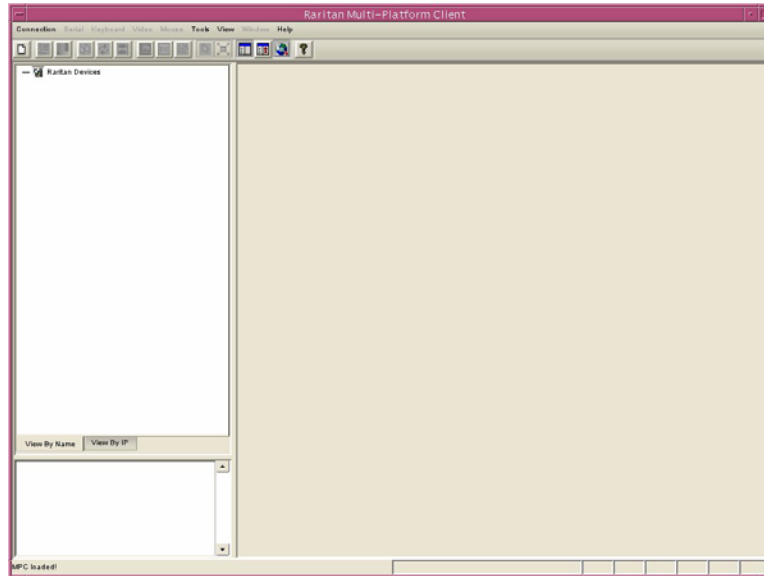
Figure 76: Launching MPC in Sun Solaris

3. Double-click on the desired device to establish a connection, type your **Username** and **Password** and click **OK** to log on. Please refer to **Chapter 2: Using MPC** for additional operation instructions.

Macintosh

Checking JRE Version in Mac OSX

1. Launch a terminal window on the Macintosh desktop.

2. Type **java –version** in the command line and press **ENTER**. The currently-installed version of Java Runtime Environment (JRE) appears.
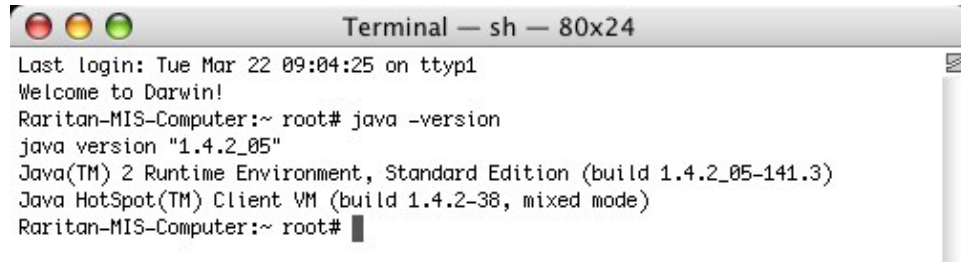
Figure 77: Check JRE Version in Mac OSX

3. If the JRE is version **1.4.2_05** or greater, proceed with the MPC installation. If the version is older, please go to the Apple website to download the latest Runtime Environment.

Installing MPC for Mac OSX

You must have administrative privileges to install MPC.

1. Log on to your Macintosh.

2. Download, or copy from a known location, the **MPC-installer.jar** installation file.

3. Open a Finder window and locate where the installer was saved.

4. Double click on the file named **MPC-installer.jar** to run the installer.
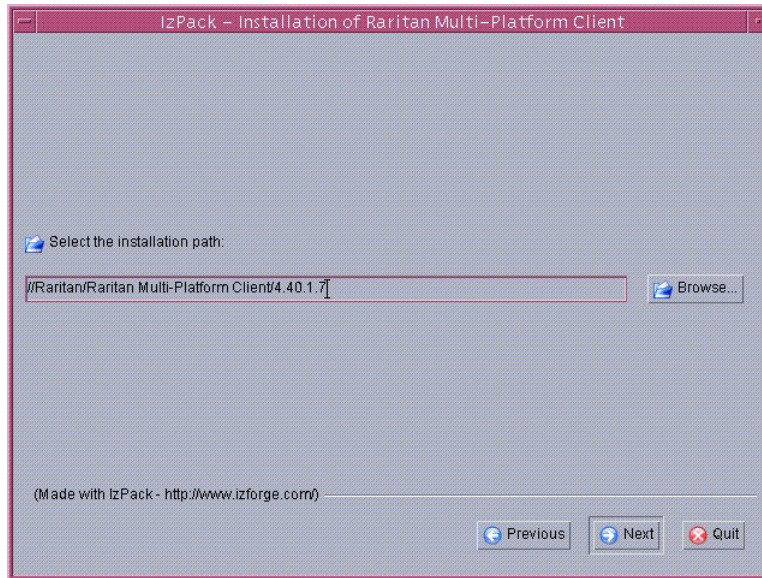
5. After the initial screen loads, click **Next**.
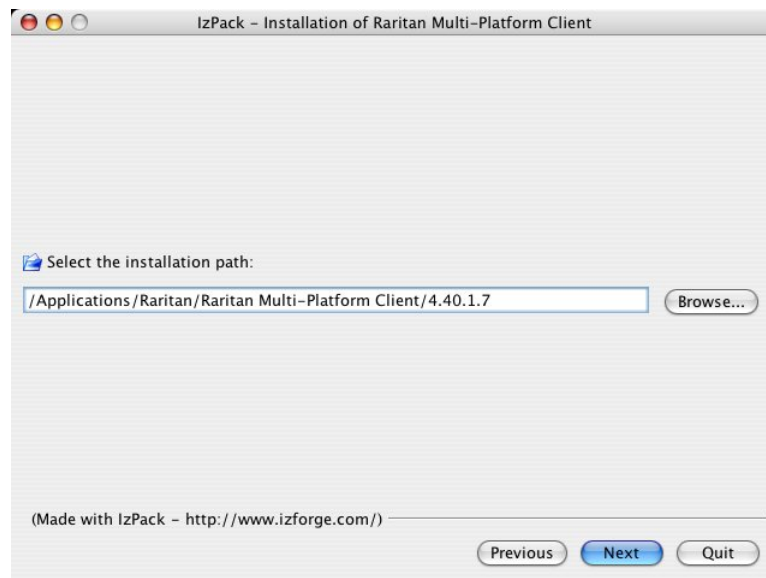
Figure 78: Select Installation Path

6. Select the directory where you want to install MPC and click **Next**. Click **Browse** to navigate to a non-default directory.

7. When installation is complete, click **Next**.

8. The installation is complete; the final screen indicates where you will find an uninstaller program, and allows the option of generating an automatic installation script. Click **Done** to close the Installation window.
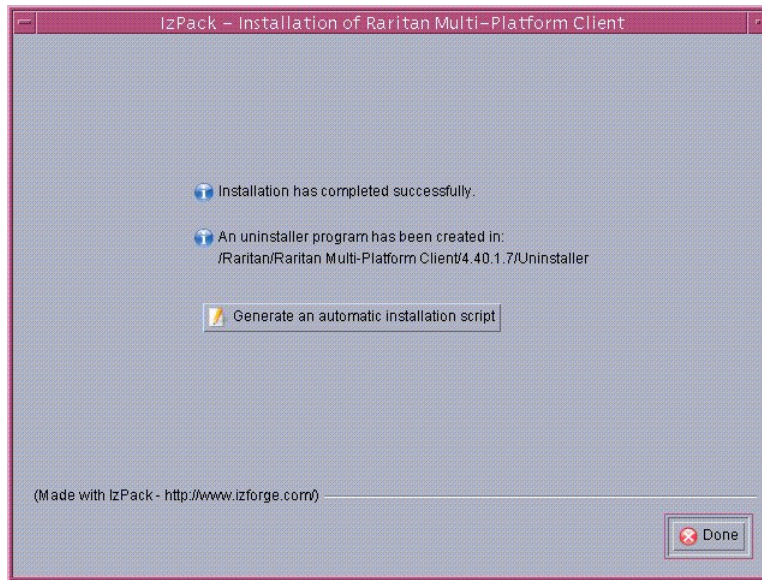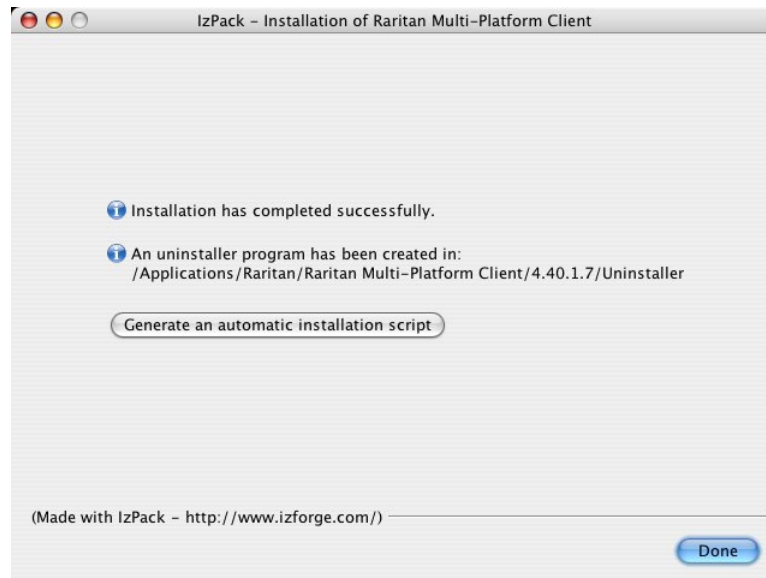

Figure 79: Final Installation Screen

Launching MPC in Mac OSX

1. Open a Finder window and navigate to the directory where you installed MPC (default location: **/Applications/Raritan/Raritan MPC/4.40.1.7**).
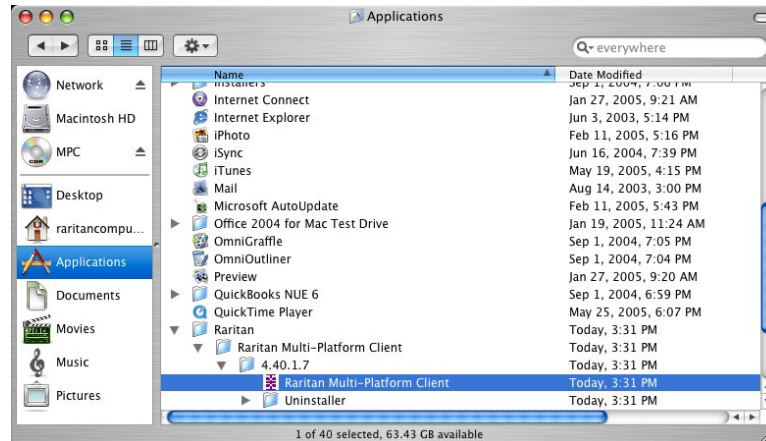
Figure 80: Finding And Launching MPC in Mac OSX

2. Double-click on the desired device to establish a connection, type your **Username** and **Password** and click **OK** to log on. Please refer to **Chapter 2: Using MPC** for additional operation instructions.

Modem Connectivity

To Make Modem Connectivity Available on Unix/Linux for Non-Root Users

1. As root, change group for /etc/ppp directory and required files:

   A. chgrp uucp /etc/ppp

   B. chgrp uucp /etc/ppp/pap-secrets

   C. chgrp uucp /etc/ppp/peers

2. Change permissions for /etc/ppp chmod g+rwx /etc/ppp

3. Change permissions for /etc/ppp/pap-secrets chmod g+rwx /etc/ppp/pap-secrets

4. Change permissions for /etc/ppp/peers chmod g+rwx /etc/ppp/peers

5. Set suid bit to pppd chmod u+s /usr/sbin/pppd (/usr/bin/pppd depending on the location of pppd)

6. Assign users to the uucp group

   A. /usr/sbin/usermod –G {existing groups for user1},uucp user1

   B. /usr/sbin/usermod –G {existing groups for user2},uucp user2, etc.

7. and when logged in as the normal user, update PATH for access to pppd and chat export PATH=$PATH:/usr/sbin (/usr/bin depending on the location of pppd)

*Note: Ensure that the options file exists under **/etc/ppp***

Appendix B: Conditions for Intelligent Mouse Synchronization

Intelligent Mouse Synchronization, available on the **Mouse** drop-down menu in Dominion KX units, automatically resynchronizes mouse cursors during moments of inactivity. For this to work properly, the following conditions should be met:

- Active Desktop should be disabled on the target.
- No windows should appear at the top left corner of the target screen.
- There should not be an animated background in the top left corner of the target screen.
- The target mouse cursor shape should be normal and not animated.
- Target mouse speeds should not be set to very slow or very high speed values.
- "Enhanced pointer precision" or any such mouse property should be disabled.
- Other fancy mouse features, such as "snap mouse to default button in dialog boxes," should be disabled.
- Users must choose "Best Possible Video Mode" in the Video Settings window.
- The edges of the target video should be clearly visible (that is, a black border should be visible between the target desktop and the **Remote KVM Console** window when you scroll to an edge of the target video image).

After auto sensing the target video, users should manually initiate mouse synchronization by clicking the **Synchronize Mouse** button on MPC toolbar. This also applies when the resolution of the target changes if the mouse cursors start to de-sync from each other.

If Intelligent Mouse Synchronization fails, this mode will follow the **Standard** mouse synchronization behavior.

*Note: **Absolute** mouse setting requires a USB target system, and is the recommended mouse setting for KX101.*

Please note that mouse configurations will vary on different target operation systems; consult your OS guidelines for further details. Also note that Intelligent Mouse Synchronization does **not** work with UNIX targets.

Appendix C: Special Characters

The following table identifies the special characters that can be used in MPC:

CHARACTER	DESCRIPTION	CHARACTER	DESCRIPTION
!	Exclamation point	:	Colon
"	Double quote	;	Semi-colon
#	Pound sign	=	Equal sign
$	Dollar sign	>	Greater than sign
%	Percent sign	?	Question mark
&	Ampersand	@	At sign
'	Single quote	[	Left bracket
(	Left parenthesis	\	Backward slash
)	Right parenthesis	]	Right bracket
*	Asterisk	^	Caret
+	Plus sign	_	Underscore
,	Comma	`	Grave accent
-	Dash	{	Left brace
.	Period	|	Pipe sign
/	Forward slash	}	Right brace
<	Less than sign	~	Tilde

World Headquarters

Raritan, Inc.
400 Cottontail Lane
Somerset, NJ 08873
USA
Tel. (732) 764-8886
Fax. (732) 764-8887
Email: sales@raritan.com
Web: www.raritan.com

Raritan America

Raritan, Inc.
400 Cottontail Lane
Somerset, NJ 08873
USA
Tel. (732) 764-8886
Fax. (732) 764-8887
Email: sales@raritan.com
Web: www.raritan.com

Asia Pacific Headquarters

Raritan Asia Pacific, Inc.
5F, 121 , Lane 235 , Pao-Chiao Road,
Hsin Tien 231,
Taipei, Taiwan, ROC
Tel. (886) 2 8919-1333
Fax. (886) 2 8919-1338
Email: sales.asia@raritan.com
Web: raritan-ap.com

Raritan China Offices

Raritan Beijing
No. 35 Financial St, Xicheng District
Room 1035, Block C,
Corporate Square
Beijing 100032, China
Tel: (86) 10-8809-1890
Email: sales.china@raritan.com
Web: raritan.com.cn

Raritan Shanghai
Rm 17E Cross Region Plaza
899 Lingling Rd., Shanghai, China
(200030)
Tel. (86) 21 5425-2499
Fax. (86) 21 5425-3992
Email: sales.china@raritan.com
Web: raritan.com.cn

Raritan Guangzhou
1205/F, Metro Plaza
183 Tian He Bei Road
Guangzhou (510075), China Raritan
Tel. (86) 20 8755-5581
Fax. (86) 20 8755-5571
Email: sales.china@raritan.com
Web: raritan.com.cn

Raritan Korea

#3602, Trade Tower, World Trade Center
Samsung-dong, Kangnam-gu
Seoul, Korea
Tel. (82) 2 557-8730
Fax. (82) 2 557-8733
Email: sales.korea@raritan.com
Web: raritan.co.kr

Raritan Japan

4th Floor, Shinkawa NS Building
1-26-2 Shinkawa, Chuo-ku, Tokyo 104-0033
Tel. (81) 03-3523-5991
Fax. (81) 03-3523-5992
Email: sales@raritan.co.jp
Web: raritan.co.jp

Raritan Osaka
3rd Floor,
Osaka Kagaku Sen'l Kaikan Bldg.
4-6-8 Kawara-machi, Chuo-ku,
Osaka 541-0048
Tel. (81) 03-3523-5953
Fax. (81) 03-3523-5992
Web: raritan.co.jp

Raritan Australia Offices

Raritan Melbourne
Level 2, 448 St Kilda Rd.,
Melbourne, VIC3004
Australia
Tel. (61) 3-9866-6887
Email: sales.au@raritan.com
Web: raritan.com.au

Raritan Sydney
PO BOX A386,
Sydney, NSW2000, Australia
Tel: (61) 2-9029-2558
Email: sales.au@raritan.com
Web: raritan.com.au

Raritan India

210 2nd Floor Orchid Square
Sushant Lok 1, Block B, Mehrauli Gurgaon
Rd, Gurgaon 122 002
Haryana, India
Tel. (91) 124 410-7881
Fax. (91) 124 410-7880
Email: enquiry.india@raritan.com
Web: raritan.co.in

Raritan Taiwan

5F, 121, Lane 235, Pao-Chiao Road
Hsin-Tien City
Taipei Hsien, Taiwan, ROC
Tel. (886) 2 8919-1333
Fax. (886) 2 8919-1338
Email: sales.taiwan@raritan.com
Web: raritan.com.tw

Raritan Singapore

350 Orchard Road
#11-08, Suite 21, Shaw House
Singapore 238868
Tel: (65) 6725 9871
Fax : (65) 6725 9872
Email: sales.ap@raritan.com
Web: raritan-ap.com

European Headquarters

Raritan Europe, B.V.
Eglantierbaan 16
2908 LV Capelle aan den IJssel
The Netherlands
Tel. (31) 10-284-4040
Fax. (31) 10-284-4049
Email: sales.europe@raritan.com
Web: www.raritan.fr
     www.raritan.de

Raritan France

120 Rue Jean Jaures
92300 Levallois-Perret, France
Tel. (33) 14-756-2039
Fax. (33) 14-756-2061
Email: sales.france@raritan.com
Web: www.raritan.fr

Raritan Deutschland GmbH

Lichtstraße 2
D-45127 Essen, Germany
Tel. (49) 201-747-98-0
Fax. (49) 201-747-98-50
Email: sales.germany@raritan.com
Web: www.raritan.de

Raritan Italia

Via dei Piatti 4
20123 Milan
Italy
Tel. (39) 02-454-76813
Fax. (39) 02-861-749
Email: sales.italy@raritan.com
Web: raritan.it
     www.raritan.info

Raritan Canada

Raritan Inc.
4 Robert Speck Pkwy., Suite 1500
Mississauga, ON L4Z 1S1
Canada
Tel. 1-905-949-3650
Email: sales.canada@raritan.com
Web: raritan.ca

Raritan U.K.

9th Floor, 12-20 Camomile St
London EC3A 7EX, United Kingdom
Tel. (44) (0)20-7614-7700
Email: sales.uk@raritan.com
Web: raritan.co.uk