Dominion® KX II-101-V2

Quick Setup Guide

Thank you for your purchase of Dominion® KX II-101-V2, the economical, full-featured, single-port digital KVM-over-IP device.

For details on using KX II-101-V2, access online help from the application or the **Support page** on the Raritan website. Online help is your primary resource but a PDF version of the help is also available on the Support page.

Package Contents

Each KX II-101-V2 device ships with:

- 1 - KX II-101-V2 KVM over IP
- 1 - KVM cable
- 1 - Power adapter (AC/DC 5VDC with universal adapter)
- 1 - Mounting bracket kit
- 1 - Quick Setup Guide
- 1 - Release notes (if applicable)

Step 1: Configure the Target Server

Target Server Video Resolutions

For optimal bandwidth efficiency and video performance, a target server running a graphical user interface such as Windows, X-Windows, Solaris, and KDE should be configured with desktop backgrounds set to a predominantly solid, light-colored graphic.

Backgrounds featuring photos or complex gradients should be avoided.

Ensure that the server's video resolution and refresh rate are supported by the KX II-101-V2, and that the signal is non-interlaced.

See KX II-101-V2 online help for a list of support target server resolutions.

Mouse Modes

The KX II-101-V2 operates in several mouse modes: Absolute Mouse Synchronization™, Intelligent Mouse mode and Standard Mouse mode.

Note: Do not use an animated mouse while using Intelligent Mouse mode.

Mouse parameters do not have to be altered for Absolute Mouse Synchronization.

For both the Standard and Intelligent Mouse modes, mouse parameters must be set to specific values, which are described in this section.

Mouse configurations will vary on different target operating systems. Consult your OS documentation for additional details.

Following are the mouse settings for various operating systems.

These settings are configured on your target operating system unless otherwise indicated.

See the KX II-101-V2 online help for details on configuring these mouse settings.

Windows 7 and Windows Vista Mouse Settings

▶ **Configure these mouse settings in Windows 7® and Windows Vista®:**

Configure the motion settings:

- Set the mouse motion speed setting to exactly the middle speed
- Disable the "Enhanced pointer precision" option

Disable animation and fade effects:

- Animate controls and elements inside windows
- Animate windows when minimizing and maximizing
- Fade or slide menus into view
- Fade or slide ToolTips into view
- Fade out menu items after clicking

Windows XP, Windows 2003, Windows 2008 Mouse Settings

▶ **Configure these mouse settings in Windows XP®, Windows 2003® and Windows 2008®:**

Configure the Motion settings:

- Set the mouse motion speed setting to exactly the middle speed
- Disable the "Enhance pointer precision" option
- Disable the Snap To option

Disable transition effects:

- Deselect the "Use the following transition effect for menus and tooltips" option

Windows 2000 Mouse Settings

▶ **Configure these Windows 2000® mouse settings:**

Configure the Motion settings:

- Set the acceleration to None
- Set the mouse motion speed setting to exactly the middle speed

Disable transition effects:

- Deselect the "Use the following transition effect for menus and tooltips" option

Apple Mac Mouse Settings

Absolute Mouse Synchronization is required for proper mouse synchronization on KVM target servers running a Mac® operating system.

▶ **To enter Absolute Mouse Synchronization:**

- Choose Mouse > Absolute in the KVM client.

Linux Mouse Settings

▶ **Configure these Linux® mouse settings:**

- (Standard Mouse Mode only) Set the mouse acceleration to exactly 1 and set the threshold to exactly 1. Enter the following command: `xset mouse 1 1`. This should be set for execution upon login.

Sun Solaris Mouse Settings

▶ **Configure these Sun® Solaris™ mouse settings:**

- Set the mouse acceleration value to exactly 1 and the threshold to exactly 1
- Ensure that your video card is set to a supported resolution and that its output is VGA, not composite sync

IBM AIX Mouse Settings

▶ **Configure these IBM AIX® mouse settings:**

- Go to the Style Manager, click on Mouse Settings and set Mouse Acceleration to 1.0 and Threshold to 3.0

Step 2: Configure Network Firewall Settings

TCP Port 5000

Allow network and firewall communication on TCP Port 5000 to enable remote access to KX II-101-V2.

Alternatively, configure KX II-101-V2 to use a different TCP port, then allow communication on that port.

TCP Port 443

Allow access to TCP Port 443 (Standard HTTPS) so you can access KX II-101-V2 via a web browser.

TCP Port 80

Allow access to TCP Port 80 (Standard HTTP) to enable automatic redirection of HTTP requests to HTTPS.

Step 3: Connect the Equipment

Power

The KX II-101-V2 is powered by a 100-240V AC input and 5VDC output power adaptor that is included with the device.

For standard AC power, plug the included AC power adaptor into the Power port and plug the other end into a nearby AC power outlet.

Network

Connect a standard Ethernet cable from the network port labeled LAN to an Ethernet switch, hub or router.

The LAN LEDs that appear above the Ethernet connection indicate Ethernet activity.

The yellow one blinks while KX II-101-V2 is in use, indicating IP traffic at 10 Mbps.

The green light indicates a 100 Mbps connection speed.

Target Server

Use either the PS/2 or USB to connect to the target.

Before connecting, configure your target server's video to a supported resolution.
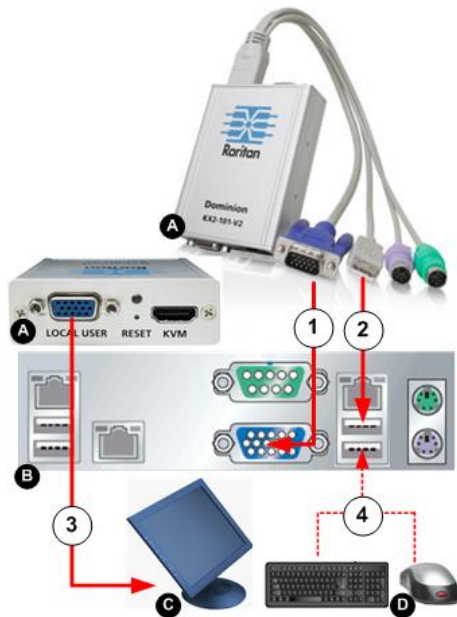
Use the USB connection if you are using virtual media or Absolute Mouse Mode.

The following items are in each of the connection diagrams that follow:

A - KX II-101-V2

B - Target server

C - Local monitor **Optional**

D - Local mouse and keyboard **Optional**

USB Configuration

Note: If you are using virtual media, you must use the USB connection.

▶ **To configure KX II-101-V2 for use with a USB target server:**

1. Use the attached video cable to connect the KX II-101-V2 to the target video port.
2. Connect the USB connector of the KVM cable to the KX II-101-V2 and to a USB port on the target server.
3. Connect a monitor to the KX II-101-V2 Local User Port if you need to use the local video. **Optional**
4. Connect the USB keyboard and mouse directly to the target. **Optional**

PS/2 Configuration

Note: If you are using virtual media, you must use the USB connection.
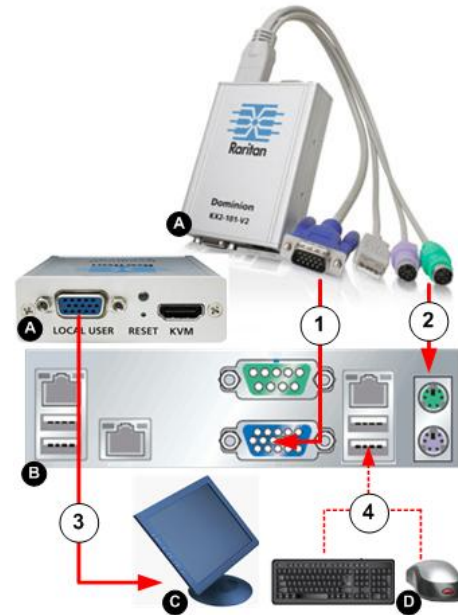
▶ **To configure the KX II-101-V2 for use with a PS/2 target server:**

1. Use the attached video cable to connect the KX II-101-V2 to the target video port.
2. Connect the PS/2 connector of the KVM cable to a PS/2 port on the target.
3. Connect a monitor to the KX II-101-V2 Local User Port if you need to use the local video. **Optional**

If you have a PS/2 keyboard and mouse, use a PS/2 to USB adapter (not included) to connect to the USB port of the target directly. **Optional**

Admin Port

Use the Admin port to do the following:

- Configure and manage the device with a terminal emulation such as HyperTerminal program on your PC.
- Configure and manage a power strip (requires an adapter, not included).
- Connect an external modem to dial into the device.

Use one DB9M to DB9F straight serial cable to connect from the KX II-101-V2 to the serial port on your PC or laptop.

The serial port communication settings should be configured as follows:

- 115,200 Baud
- 8 data bits
- 1 stop bit
- No parity
- No flow control

Local User Port

The Local User port serves as a pass-through to the target server video so that it connects directly to the monitor.

The local keyboard and mouse must be connected to target server directly.

For USB configurations, only the local video connects to the target server at the Local User port.

The keyboard and mouse connect directly to the target server using USB ports.

Step 4: Configure KX II-101-V2

Note: You must use a crossover cable between the KX II-101-V2 and client if you are configuring KX II-101-V2 through a web browser.

For the following steps, you must change the default password and assign KX II-101-V2 its IP address at the Local Console.

All other steps can be performed either from the Local Console, or the KX II-101-V2 Remote Console via a supported web browser using KX II-101-V2's default IP address.

Java 1.7™ is required to use the Java-based Java-based KX II-101-V2 Virtual KVM Client and Multi-Platform Client (MPC)..

You can also use a terminal emulation program to configure KX II-101-V2. See **Configure the KX II-101-V2 Using a Terminal Emulation Program (Optional)** (on page 7).

Change the Default Password

The first time you start the KX II-101-V2 device, you are required to change the default password.

1. Once the unit has booted, enter the default username *admin* and password *raritan*. Click Login.
2. Enter the old password *raritan*, then enter and reenter a new password.

Passwords can be up to 64 characters in length consisting of English alphanumeric characters and special characters.

3. Click Apply. Click OK on the Confirmation page.

Assign the KX II-101-V2 a Device Name

Choose Device Settings > Network. The Basic Network Settings page opens.
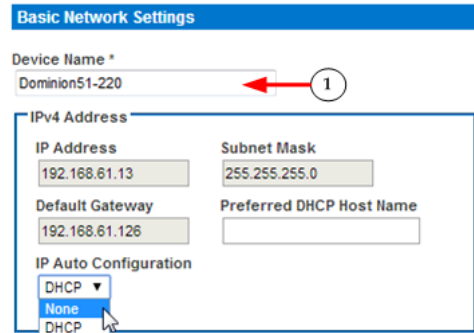
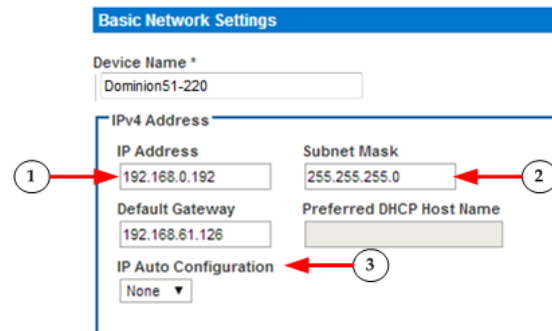|	
①	Specify a meaningful Device Name for your KX II-101-V2 device. Up to 32 alphanumeric and valid special characters, no spaces between characters.

Configure the IPv4 Settings

In the IPv4 section, enter or select the appropriate IPv4-specific network settings.

①	Enter the IP Address, if needed. The default IP address is 192.168.0.192.
②	Enter the Subnet Mask. The default subnet mask is 255.255.255.0.
③	Set up your IP Auto Configuration by selecting - None or DHCP

Raritan.

Basic Network Settings

Device Name *
Dominion51-220

IPv4 Address

IP Address: 192.168.0.192
Subnet Mask: 255.255.255.0

Default Gateway: 192.168.61.126
Preferred DHCP Host Name:

IP Auto Configuration: None ▼ **(A)**

(A)	*None* - for a static IP. Default selection. **Recommended** option.
	If *None* is selected, you must manually specify the network parameters by entering the Default Gateway.
	Leaving the selection set to *None* -
	• Lets you set the network parameters since KX II-101-V2 is part of your network infrastructure and you most likely do not want its IP address to change frequently.
	• Ensure redundant failover capabilities should the primary Ethernet port or the switch/router to which it is connected fail.
	If a failure occurs, KX II-101-V2 fails over to the secondary network port with the same IP address so there is no interruption.

Basic Network Settings

Device Name *
Dominion51-220

IPv4 Address

IP Address:
Subnet Mask: 255.255.255.0

Default Gateway: 192.168.61.126
Preferred DHCP Host Name: 192.168.61.13

IP Auto Configuration: DHCP ▼ **(B)**

(B)	DHCP - with this option, the IP address is automatically assigned by a DHCP server.
	Dynamic Host Configuration Protocol is used by networked computers (clients) to obtain unique IP addresses and other parameters from a DHCP server.
	Enter the Preferred DHCP Host Name if DHCP is selected from the IP Auto Configuration drop-down.
	Up to 63 characters.

Next, configure IPv6 and/or DNS settings.

Configure the IPv6 Settings

If using IPv6, enter or select the appropriate IPv6-specific network settings in the IPv6 section.

☑ IPv6 Address — **(1)**

Global/Unique IP Address
Prefix Length /

Gateway IP Address

Link-Local IP Address: N/A
Zone ID: %1

IP Auto Configuration: None ▼ **(2)**
None
Router Discovery

(1)	Select the IPv6 checkbox to activate the fields in the section and enable IPv6 on the device.
(2)	Select an IP Auto Configuration option - None or Router Discovery.
Link-Local IP Address	
This address is automatically assigned to the device. The address is used for neighbor discovery or when no routers are present. **Read-Only**	
Zone ID	
Identifies the device the address is associated with. **Read-Only**	

☑ IPv6 Address

Global/Unique IP Address
Prefix Length /

Gateway IP Address

Link-Local IP Address: N/A
Zone ID: %1

IP Auto Configuration: None ▼
None **(A)**
Router Discovery

(A)	*None* - for a static IP.
	Default selection.
	Recommended option.
	If *None* is selected, you must manually specify -
	• Global/Unique IP Address - this is the IP address assigned to KX II-101-V2
	• Prefix Length - this is the number of bits used in the IPv6 address
	• Gateway IP Address
	See IPv4 for details on leaving the selection set to *None*

B	*Router Discovery* Select this option to locate a Global or Unique IPv6 address instead of a Link-Local subnet. Once located, the address is automatically applied.

Configure the DNS Settings

1	Do one of the following to configure DNS - "Obtain DNS Server Address Automatically" "Use the Following DNS Server Addresses"

A	Select "Obtain DNS Server Address Automatically" if DHCP is selected. The DNS information is then provided by the DHCP server that is used. When finished, click OK. Your KX II-101-V2 device is now network accessible.

B	Enter the following information if the "Use the Following DNS Server Addresses" is selected - Primary DNS Server IP Address Secondary DNS Server IP Address These addresses are the primary and secondary DNS addresses used if the primary DNS server connection is lost due to an outage. Even if DHCP is selected in the IPv4 section, enter the primary and secondary addresses since these addresses are used to connect to the DNS server. When finished, click OK. Your KX II-101-V2 device is now network accessible. Next, configure LAN interface settings as needed. See LAN Interface Settings

Connect to a Switch

Once KX II-101-V2 is network accessible, remove the crossover cable and connect the KX II-101-V2 to the switch using a Cat5 cable.

Configure Date/Time Settings (Optional)

Optionally, configure the date and time settings.

The date and time settings impact SSL certificate validation if LDAPS is enabled.

Use the Date/Time Settings page to specify the date and time for KX II-101-V2.

There are two ways to do this:

- Manually set the date and time.
- Synchronize the date and time with a Network Time Protocol (NTP) server.

Choose Device Settings > Date/Time to open the Date/Time Settings page.

①	Choose your time zone from the Time Zone drop-down list.
②	Adjust for daylight savings time by checking the "Adjust for daylight savings time" checkbox.
③	Choose the method to use to set the date and time: User Specified Time - use this option to input the date and time manually. For the User Specified Time option, enter the date and time. For the time, use the hh:mm format (using a 24-hour clock). Synchronize with NTP Server - use this option to synchronize the date and time with the Network Time Protocol (NTP) Server.
④	For the Synchronize with NTP Server option: Enter the IP address of the Primary Time server. Enter the IP address of the Secondary Time server. **Optional**
	Note: If DHCP is selected for the Network Settings on the Network page, the NTP server IP address is automatically retrieved from the DHCP server by default. Manually enter the NTP server IP address by selecting the Override DHCP checkbox.
	Click OK.

Configure the KX II-101-V2 Using a Terminal Emulation Program (Optional)

You can use the Admin serial console with a terminal emulation program like HyperTerminal to set the following configuration parameters for KX II-101-V2:

- IP address
- Subnet mask address
- Gateway address
- IP autoconfiguration
- LAN speed
- LAN interface mode

To use a terminal emulation program with KX II-101-V2, you must first connect the included RS-232 serial cable from the Admin port on the KX II-101-V2 to a COM port on your PC.

For demonstration purposes, the terminal emulation program described in this section is HyperTerminal. You can use any terminal emulation program.

▶ **To use a terminal emulation program to configure KX II-101-V2:**

1. Connect to the Admin port on the KX II-101-V2 and the COM1 port on the PC.
2. Launch the terminal emulation program you want to use to configure KX II-101-V2.
3. Set the following port settings in the terminal emulation program:
   - Bits per second - 115200
   - Data bits - 8
   - Parity - None
   - Stop bits - 1
   - Flow control - None
4. Connect to the KX II-101-V2. The login page opens.
5. Type the administrator username and press Enter. You are prompted to enter your password.
6. Type the default administrator name *admin* and press Enter. You are promoted to enter your password.
7. At the Admin Port > prompt, type *config* and press Enter.
8. At the Config > prompt, type *network* and press Enter.
9. To configure new network settings, at the Network prompt, type *interface* followed by one of the following commands and its appropriate argument (option), then press Enter.

Command	Argument	Options
ipauto	none|dhcp	none - Enables you to manually specify an IP address for the device. You must follow this option with the ip command and the IP address, as shown in the following example: `interface ipauto none`

Command	Argument	Options

		`ip 192.168.50.12`
		
		dhcp - Automatically assign an IP address to the device on startup.
		
		`interface ipauto dhcp`

ip	IP address	The IP address to assign to the device. To manually set an IP address for the first time, this command must be used with the ipauto command and the none option. See ipauto for information. After you have manually assigned an IP address once, you can use the ip command alone to change the IP address.
mask	subnet mask	Command column should be "interface" interface | ip | ... interface | mask | The subnet mask IP address interface | gw | The gateway IP address `interface	mode	....`
gw	IP address	The gateway IP address
mode	mode	The Ethernet mode. You have the following choices: auto - Automatically sets speed and interface mode based on the network. 10hdx - 10 MB/s, half duplex. 10fdx - 10 MB/s, full duplex 100hdx - 100 MB/s, half duplex 100fdx - 100 MB/s, full duplex

When you have successfully changed a setting, you see a confirmation message like the following:

```
Admin Port > config

Admin Port > Config > network

Admin Port > Config > Network > interface
ipauto none ip 192.168.50.126

Network interface configuration
successful.
```

When you are finished configuring KX II-101-V2, type *logout* at the command prompt and press Enter. You are logged out of the command line interface.

Step 5: Create and Install an SSL Certificate

Raritan strongly recommends you install your own SSL Certificate in each KX II-101-V2 device.

This security best practice reduces the number of Java™ warning messages, and avoids man-in-the-middle attacks.

It also prevents future Java versions and browser versions from blocking access to your KX II-101-V2 device.

For information creating and installing SSL certificates, see KX II-101-V2 online help.

Converting a Binary Certificate to a Base64-Encoded DER Certificate (Optional)

KX II-101-V2 requires an SSL certificate in either Base64-Encoded DER format or PEM format.

If you are using an SSL certificate in binary format, you cannot install it.

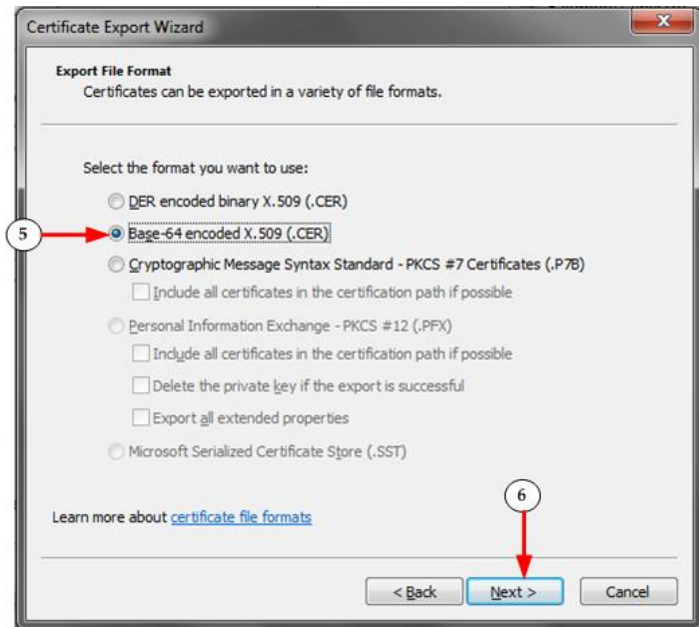However, you can convert your binary SSL certificate.
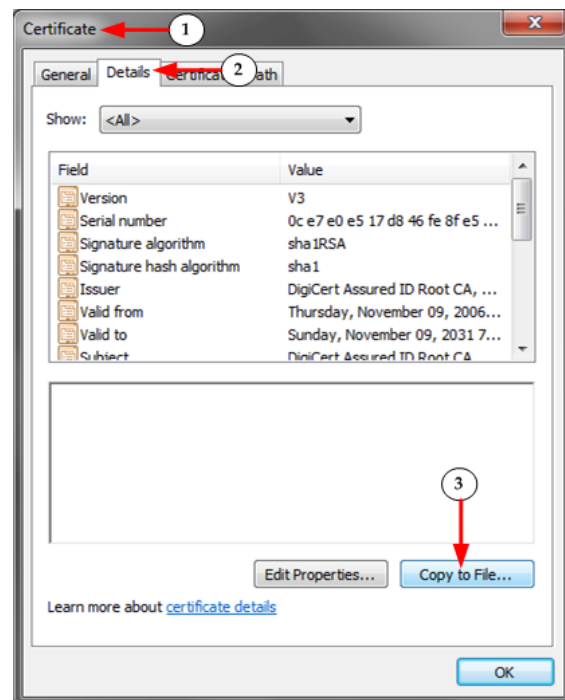
1	Locate the DEGHKVM0001.cer binary file on your Windows machine. Double-click on the DEGHKVM0001.cer file to open its Certificate dialog.

2	Click the Detail tab.
3	Click "Copy to File...".

4	The Certificate Export Wizard opens. Click Next to start the Wizard.

5	Select "Base-64 encoded X.509" in the second Wizard dialog.

6	Click Next to save the file as a Base-64 encoded X.509. You can now install the certificate on your KX II-101-V2.

Resetting the Device (Optional)

Use the reset feature only if you want to reset the device to its original factory settings.

Note: It is recommended that you save the audit log prior to performing a factory reset. The audit log is deleted when a factory reset is performed and the reset event is not logged on the audit log.

► **To reset the device:**

1. Power off the KX II-101-V2.
2. Use a pointed object to press and hold the Reset button.
3. While continuing to hold the Reset button, power the KX II-101-V2 device back on.
4. Continue holding the Reset button for 10 seconds.

Additional Information

For more information about KX II-101-V2 and the entire Raritan product line, see Raritan's website (www.raritan.com). For technical issues, contact Raritan Technical Support. See the Contact Support page in the Support section on Raritan's website for technical support contact information worldwide.

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