



## Dominion KX II

### Quick Setup Guide

Thank you for your purchase of the KX II™, the industry's most full-featured, enterprise-class, secure, digital KVM (Keyboard, Video, Mouse) switch.

This Quick Setup Guide explains how to install and configure the KX II. For additional information on any aspect of the KX II, see the accompanying online help accessed from the KX II or the KX II help in PDF format, which can be downloaded from the Firmware and Documentation section of Raritan's website (<http://www.raritan.com/support/firmware-and-documentation/>).

To ensure you have the most current documentation for KX II, Raritan recommends using online help or the PDF versions of the guides that are available on our website as your primary resources.

### Package Contents

Each KX II ships as a fully-configured stand-alone product in a standard 1U (2U for DKX2-864) 19" rackmount chassis. Each KX II device ships with the following contents:

| Amount included | Item                                   |
|-----------------|--|
| 1               | KX II device                           |
| 1               | KX II Quick Setup Guide                |
| 1               | Rackmount kit                          |
| 2               | AC power cords                         |
| 2               | Cat5 network cable                     |
| 1               | Cat5 network crossover cable           |
| 1               | Set of 4 rubber feet (for desktop use) |
| 1               | Application note                       |
| 1               | Warranty card                          |

- Mount equipment in the rack carefully to avoid uneven mechanical loading.
- Connect equipment to the supply circuit carefully to avoid overloading circuits.
- Ground all equipment properly, especially supply connections, such as power strips (other than direct connections), to the branch circuit.

### Rack Mounting

The KX II can be mounted in 1U (1.75", 4.4 cm) of vertical space in a standard 19" equipment rack.

### Forward Mount

Note: The Raritan device used in the diagrams shown here are for example purposes only, and may not be a picture of the KX II device. However, the mounting instructions are consistent.

The steps correspond to the numbers shown in the front rackmount diagrams.

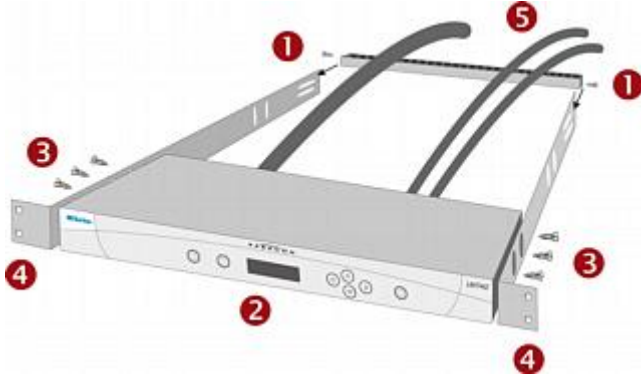
1. Secure the cable-support bar to the back end of the side brackets using two of the included screws.
2. Slide the user station or KVM switch between the side brackets, with its rear panel facing the cable-support bar, until its front panel is flush with the "ears" of the side brackets.
3. Secure the user station or switch to the side brackets using the remaining included screws (three on each side).
4. Mount the entire assembly in your rack and secure the side brackets' ears to the rack's front rails with your own screws, bolts, cage nuts, and so on.

In Raritan products which require Rack Mounting, please follow these precautions:

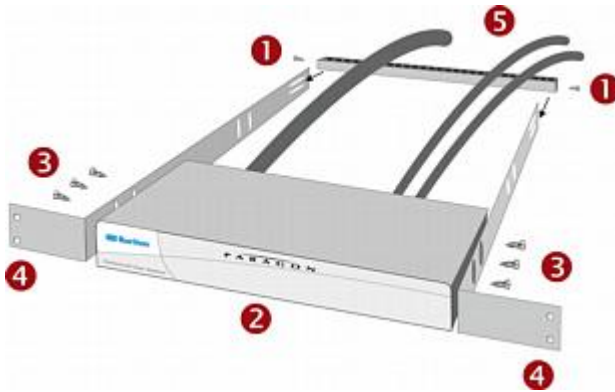
- Operation temperature in a closed rack environment may be greater than room temperature. Do not exceed the rated maximum ambient temperature of the appliances. See Specifications.
- Ensure sufficient airflow through the rack environment.

5. When connecting cables to the rear panel of the user station or switch, drape them over the cable-support bar.

### Front rackmount



### Front rackmount



### Rear Mount

Note: The Raritan device used in the diagrams shown here are for example purposes only, and may not be a picture of the KX II device. However, the mounting instructions are consistent.

The steps correspond to the numbers shown in the rear rackmount diagrams.

1. Secure the cable-support bar to the front end of the side brackets, near the side brackets' "ears," using two of the included screws.
2. Slide the user station or KVM switch between the side brackets, with its rear panel facing the cable-support bar, until its front panel is flush with the back edges of the side brackets.
3. Secure the user station or switch to the side brackets using the remaining included screws (three on each side).
4. Mount the entire assembly in your rack and secure the side brackets' ears to the rack's front rails with your own screws, bolts, cage nuts, and so on.

5. When connecting cables to the rear panel of the user station or switch, drape them over the cable-support bar.

### Rear rackmount



### Rear rackmount



### Step 1: Configure the KVM Target Servers

For optimal bandwidth efficiency and video performance, KVM target servers running graphical user interfaces such as Windows®, Linux®, X-Windows, Solaris™, and KDE may require configuration. The desktop background does not need to be completely solid, but desktop backgrounds featuring photos or complex gradients might degrade performance.

Ensure that the server video resolution and refresh rate are supported by KX II and that the signal is non-interlaced. The KX II supports these resolutions:

| Resolutions   |                 |
|---------------|-----------------|
| 640x350 @70Hz | 1024x768 @85    |
| 640x350 @85Hz | 1024x768 @75Hz  |
| 640x400 @56Hz | 1024x768 @90Hz  |
| 640x400 @84Hz | 1024x768 @100Hz |
| 640x400 @85Hz | 1152x864 @60Hz  |

## Resolutions

|                 |                  |
|-----------------|------------------|
| 640x480 @60Hz   | 1152x864 @70Hz   |
| 640x480 @66.6Hz | 1152x864 @75Hz   |
| 640x480 @72Hz   | 1152x864 @85Hz   |
| 640x480 @75Hz   | 1152x870 @75.1Hz |
| 640x480 @85Hz   | 1152x900 @66Hz   |
| 720x400 @70Hz   | 1152x900 @76Hz   |
| 720x400 @84Hz   | 1280x720@60Hz    |
| 720x400 @85Hz   | 1280x960 @60Hz   |
| 800x600 @56Hz   | 1280x960 @85Hz   |
| 800x600 @60Hz   | 1280x1024 @60Hz  |
| 800x600 @70Hz   | 1280x1024 @75Hz  |
| 800x600 @72Hz   | 1280x1024 @85Hz  |
| 800x600 @75Hz   | 1360x768@60Hz    |
| 800x600 @85Hz   | 1366x768@60Hz    |
| 800x600 @90Hz   | 1368x768@60Hz    |
| 800x600 @100Hz  | 1400x1050@60Hz   |
| 832x624 @75.1Hz | 1440x900@60Hz    |
| 1024x768 @60Hz  | 1600x1200 @60Hz  |
| 1024x768@70     | 1680x1050@60Hz   |
| 1024x768@72     | 1920x1080@60Hz   |

## Mouse Settings

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 online help or user guide 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

► **Configure these Apple Mac® mouse settings:**

Absolute Mouse Synchronization is required for proper mouse synchronization on KVM target servers running a Mac® operating system. In order for Absolute Mouse Synchronization to work, a virtual media CIM is required.

Once you have completed your KX II installation, set the Mac USB profile. If you do not set this profile, the mouse does synch in OS X.

To do this, do one of the following:

1. Connect to the Mac target from the Raritan KVM Client.
2. Select USB Profile > Other Profiles > Mac OS-X (10.4.9 and later).

Or

1. In KX II, select Device Settings > Port Configuration, then click on the target name to open the Port page.
- Select and then add the USB profile from the Select USB Profiles for Port section of the page, and enter profile description (if needed). Click OK to apply the profile.

## 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

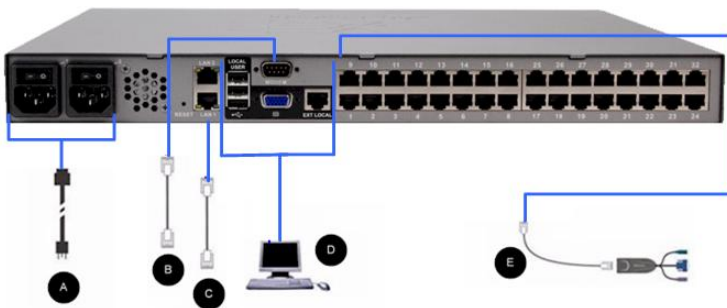
### ► Configure these IBM AIX® mouse settings:

- 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

- To enable remote access to the KX II, allow network and firewall communication on TCP Port 5000. Alternatively, configure the KX II to use a different TCP port, then allow communication on that port.
- To access the KX II via a web browser, your firewall must allow access to TCP Port 443 (Standard HTTPS).
- Access to TCP Port 80 (Standard HTTP) enables automatic redirection of HTTP requests to HTTPS.

## Step 3: Connect the Equipment



### A. AC Power

#### ► To connect the power supply:

1. Attach the included AC power cord to the KX II and plug it into an AC power outlet.
2. For dual power failover protection, attach the second included AC power cord and plug it into a different power source than the first power cord.

### B. Modem Port (Optional)

Please see the KX II help for information on connecting modems.

### C. Network Port

The KX II provides two Ethernet ports for failover purposes (not for load-balancing).

By default, only LAN1 is active and the automatic failover is disabled. When enabled, if the KX II internal network interface or the network switch it is connected to becomes unavailable, LAN2 is enabled using the same IP address.

---

Note: Because a failover port is not activated until after a failover has actually occurred, Raritan recommends that you not monitor the failover port or monitor it only after a failover occurs.

---

#### ► To connect the network:

1. Connect a standard Ethernet cable (included) from the network port labeled LAN1 to an Ethernet switch, hub, or router.
2. To use the optional KX II Ethernet failover capabilities:
  - Connect a standard Ethernet cable from the network port labeled LAN2 to an Ethernet switch, hub, or router.
  - Enable Automatic Failover on the KX II Network Configuration page.

---

Note: Use both network ports only if you want to use one as a failover port.

---

### D. Local Access Port (Local PC)

For access to target servers at the rack, use the KX II Local Access port. The Local Access port also provides a graphical user interface from the KX II Local Console for administration and target server access.

While the Local Access port is required for installation and setup, it is optional for subsequent use.

---

Note: The KX2-808, KX2-832 and KX2-864 also provide an Extended Local port labeled EXT LOCAL on the back of the device for access to target servers while at the rack. The Extended Local port is not required for the initial installation and setup. It is not enabled by default and is configured from the Local Console and the Remote Console.

---

#### ► To connect the local port:

- Attach a multi-sync VGA monitor, mouse, and keyboard to the respective Local User ports using USB keyboard and mouse. The Local User and Extended Local ports are on the back panel of the KX II.
- Monitor - attach a standard multi-sync VGA monitor to the HD15 (female) video port



- Keyboard - attach either a standard keyboard to the Mini-DIN6 (female) keyboard port, or a standard USB keyboard to one of the USB Type A (female) ports
- Mouse - attach either a standard mouse to the Mini-DIN6 (female) mouse port, or a standard USB mouse to one of the USB Type A (female) ports

## E. Target Server Ports

The KX II uses standard UTP cabling (Cat5/5e/6) to connect to each target server.

For information on the supported distances between the KX II and target server, see **Supported Target Server Connection Distance/Refresh Rate/Video Resolution** in the online help or user guide. If you are using digital CIMs (DCIMs), review **Digital CIM Target Server Timing and Video Resolution** in the online help or user guide.

### ► To connect a target server to the KX II:

1. Use the appropriate CIM or DCIM. Attach the video connector of your CIM/DCIM to the video port of your target server. Ensure that your target server's video is configured to a supported resolution and refresh rate. For Sun servers, ensure your target server's video card is set to output standard VGA (H-and-V sync) and not composite sync.
2. Attach the keyboard/mouse connector of your CIM/DCIM to the corresponding ports on your target server. Use a DCIM if you are connecting from the target server video port to the KX II.
3. Attach the CIM to an available server port on the back of the KX II. Use a standard, straight-through UTP (Cat5/5e/6) cable for CIMs, or standard USB cable for DCIMs.

---

Note: The DCIM-USB G2 provides a small slide switch on the back of the CIM. Move the switch to P for PC-based USB target servers. Move the switch to S for Sun USB target servers. Power-cycle the CIM by removing the USB connector from the target server, then plugging it back in a few seconds later in order to apply the new switch position.

---

## Step 4: Configure the KX II

Aside from the initial setup of the IP address, all other KX II settings can be configured via a web browser over the network using a crossover Ethernet cable and the KX II's default IP address. This requires the currently supported Java Runtime Environment (JRE) version is installed the workstation.

### Changing the Default Password

The KX II ships with a default password. The first time you start the KX II you are required to change that password.

### ► 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 and special characters.
3. Click Apply. Click OK on the Confirmation page.

---

Note: The default password can also be changed from the Raritan Multi-Platform Client (MPC).

---

### Assigning an IP Address

#### ► To assign the KX II an IP address on the KX II Network Settings page:

1. Choose Device Settings > Network. The Network Settings page opens.
2. Specify a meaningful Device Name for your KX II device. Up to 32 alphanumeric characters and valid special characters, no spaces between characters.
3. In the IPv4 section, enter or select the appropriate IPv4-specific network settings:
  - a. Enter the IP Address if needed. The default IP address is 192.168.0.192.
  - b. Enter the Subnet Mask. The default subnet mask is 255.255.255.0.
  - c. Enter the Default Gateway if None is selected from the IP Auto Configuration drop-down.
  - d. Enter the Preferred DHCP Host Name if DHCP is selected from the IP Auto Configuration drop-down.
  - e. Select the IP Auto Configuration. The following options are available:
    - None (Static IP) - This option requires that you manually specify the network parameters. This is the recommended option because the KX II is an infrastructure device and its IP address should not change.
    - DHCP - Dynamic Host Configuration Protocol is used by networked computers (clients) to obtain unique IP addresses and other parameters from a DHCP server. With this option, network parameters are assigned by the DHCP server. If DHCP is used, enter the Preferred host name (DHCP only). Up to 63 characters.
4. If using IPv6, enter or select the appropriate IPv6-specific network settings in the IPv6 section:
  - a. Select the IPv6 checkbox to activate the fields in the section and enable IPv6 on the device.
  - b. Enter a Global/Unique IP Address. This is the IP address assigned to the KX II.
  - c. Enter the Prefix Length. This is the number of bits used in the IPv6 address.
  - d. Enter the Gateway IP Address.

- e. Link-Local IP Address. This address is automatically assigned to the device, and is used for neighbor discovery or when no routers are present. **Read-Only**
- f. Zone ID. Identifies the device the address is associated with. **Read-Only**
- g. Select an IP Auto Configuration option:
  - None - use this option if you do not want an auto IP configuration and prefer to set the IP address yourself (static IP). This is the default and recommended option.  
If None is selected, the following Network Basic Settings fields are enabled: Global/Unique IP Address, Prefix Length, and Gateway IP Address allowing you to manually set the IP configuration.
  - Router Discovery - use this option to automatically assign IPv6 addresses that have Global or Unique Local significance beyond that of the Link Local, which only applies to a directly connected subnet.
5. Select Obtain DNS Server Address Automatically if DHCP is selected and Obtain DNS Server Address is enabled. When Obtain DNS Server Address Automatically, the DNS information provided by the DHCP server will be used.
6. If Use the Following DNS Server Addresses is selected, whether or not DHCP is selected, the addresses entered in this section is used to connect to the DNS server.  
Enter the following information if the Following DNS Server Addresses is selected. These addresses are the primary and secondary DNS addresses used if the primary DNS server connection is lost due to an outage.
  - a. Primary DNS Server IP Address
  - b. Secondary DNS Server IP Address
7. When finished, click OK. Your KX II device is now network accessible.

### Configure Date/Time Settings (Optional)

Optionally, configure the date and time settings. Note that date and time settings impact SSL certificate validation if LDAPS is enabled.

#### ► To set the date and time:

1. Choose Device Settings > Date/Time. The Date/Time Settings page opens.
2. Choose your time zone from the Time Zone drop-down list.
3. Adjust for daylight savings time by checking the "Adjust for daylight savings time" checkbox.
4. 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.

5. For the Synchronize with NTP Server option:
  - a. Enter the IP address of the Primary Time server.
  - b. Enter the IP address of the Secondary Time server. **Optional**
6. Click OK.

### Naming Target Servers

#### ► To name the target servers:

1. Connect all of the target servers if you have not already done so.
2. From the KX II Local Console, select Device Settings > Port Configuration, then click the Port Name of the target server you want to name.
3. Enter a name for the server. Up to 32 alphanumeric and special characters. Click OK.

### Specifying Power Supply Auto Detection

The KX II provides dual power supplies, and can automatically detect and provide notification regarding the status of these power supplies. Proper configuration ensures the KX II sends the appropriate notifications should a power supply fail.

The Power Supply Setup page is configured to automatically detect both power supplies when two power supplies are used. If only one power supply is used in your configuration, you can disable automatic detection from the Power Supply Setup page.

#### ► To enable automatic detection for the power supplies in use:

1. Choose Device Settings > Power Supply Setup. The Power Supply Setup page opens.
2. If you are plugging power input into power supply number one (left-most power supply at the back of the device), select the PowerIn1 Auto Detect option.
3. If you are plugging power input into power supply number two (right-most power supply at the back of the device), select the PowerIn2 Auto Detect option.
4. Click OK.

---

Note: If either of these checkboxes is selected and power input is not actually connected, the power LED at the front of the device turns red.

---

### Creating User Groups and Users (Optional)

#### ► To add a new user group:

1. Select User Management > Add New User Group or click Add on the User Group List page.
2. Type a descriptive name for the new user group into the Group Name field (up to 64 characters).
3. Select the checkboxes next to the permissions you want to assign to all of the users belonging to this group.

4. Specify the server ports and the type of access for each user belonging to this group.
5. Set the IP ACL. This feature limits access to the KX II device by specifying IP addresses. It applies only to users belonging to a specific group, unlike the IP Access Control list feature that applies to all access attempts to the device (and takes priority). **Optional**
6. Click OK.

► **To add a new user:**

1. Select User Management > Add New User or click Add on the User List page.
2. Type a unique name in the Username field (up to 16 characters).
3. Type the person's full name in the Full Name field (up to 64 characters).
4. Type a password in the Password field and retype the password in the Confirm Password field (up to 64 characters).
5. Choose the group from the User Group drop-down list.
6. To activate the new user, leave the Active checkbox selected. Click OK.

---

## Step 5: Launch the KX II Remote Console

Log in to your KX II from any workstation with network connectivity that has Microsoft .NET<sup>®</sup> and/or Java Runtime Environment<sup>®</sup> installed.

► **To launch the KX II Remote Console:**

1. Launch a supported web browser.
2. Enter the URL: `http://IP-ADDRESS` or `http://IP-ADDRESS/akc` for .NET. This is the IP address assigned to your KX II. You can also use https, or the DNS name of the KX II assigned by your administrator (if applicable). KX II always redirects the IP address from HTTP to HTTPS.
3. Enter your username and password. Click Login.

## Access and Control Target Servers Remotely

The KX II Port Access page provides a list of all KX II ports, as well as the connected target servers, their status, and availability.

### Accessing a Target Server

► **To access a target server:**

1. From the KX II Port Access page, click the Port Name of the target you want to access. The Port Action Menu is displayed.
2. Choose Connect from the Port Action menu. A KVM window opens with a connection to the target.

### Switching between Target Servers

► **To switch between KVM target servers:**

1. While already using a target server, access the KX II Port Access page.
2. Click the port name of the target you want to access. The Port Action menu appears.
3. Choose Switch From in the Port Action menu. The new target server you selected is displayed.

### Disconnecting a Target Server

► **To disconnect a target server:**

- Click the port name of the target you want to disconnect. When Port Action menu appears, click Disconnect.

---

## Step 6: Configure the Keyboard Language (Optional)

Note: This step is not required if you are using the US/International language keyboard.

If you are using a non-US language, the keyboard has to be configured for the appropriate language. In addition, the keyboard language for the client machine and the KVM target servers has to match.

Consult your operating system documentation for additional information about changing the keyboard layout.

### Changing the Keyboard Layout Code (Sun Targets)

Use this procedure if you are using a DCIM-SUSB and want to change the keyboard layout to another language.

► **To change the keyboard layout code (DCIM-SUSB only):**

1. Open a Text Editor window on the Sun<sup>™</sup> workstation.
2. Check that the Num Lock key is active and press the left Ctrl key and the Del key on your keyboard. The Caps Lock light starts to blink, indicating that the CIM is in Layout Code Change mode. The text window displays: `Raritan Computer, Inc. Current keyboard layout code = 22h (US5 UNIX)`.
3. Type the layout code desired (for example, 31 for the Japanese keyboard). Press Enter.
4. Shut down the device and power on once again. The DCIM-SUSB performs a reset (power cycle).
5. Verify that the characters are correct.

---

## Step 7: Configure Tiering (Optional)

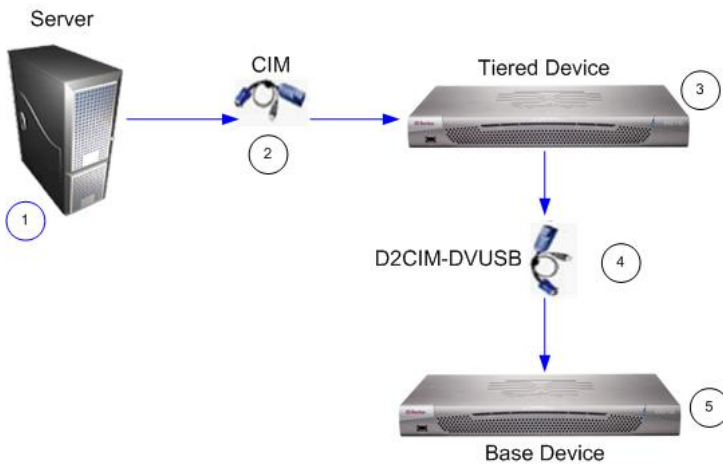
The optional tiering feature allows you to connect tiered KX II devices to a base KX II. You can then access the servers and PX PDUs through the base both locally and remotely. See the **Device Management** section of the **KX II Help** for more information on this feature.

Connect from a target server port on the base device to the tier KX II Local Access port video/keyboard/mouse ports using a D2CIM-DVUSB.

If the tier device is a KX2-808, KX2-832 or KX2-864, connect from a target server port on the base device directly to the tier KX2-808/KX2-832/KX2-864 Extended Local port.

► **To enable tiering:**

1. From the tier base device, select Device Settings > Device Services to open the Device Service Settings page.
2. Select Enable Tiering as Base.
3. In the Base Secret field, enter the secret shared between the base and the tiered devices. This secret is required for the tiered devices to authenticate the base device. You will enter the same secret word for the tiered device. Click OK.
4. Enable the tiered devices. From the tiered device, choose Device Settings > Local Port Settings.
5. In the Enable Local Ports section of the page, select Enable Local Port Device Tiering.
6. In the Tier Secret field, enter the same secret word you entered for the base device on the Device Settings page. Click OK.



**Diagram key**

|          |   |
|----------|---|
| <b>1</b> | Target server   |
| <b>2</b> | CIM from target server to the KX II tiered device                     |
| <b>3</b> | KX II tiered device   |
| <b>4</b> | D2CIM-DVUSB CIM from the KX II tiered device to the KX II base device |
| <b>5</b> | KX II base device   |

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

**Additional Information**

For more information about the KX II® and the entire Raritan product line, see Raritan's website ([www.raritan.com](http://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.

Raritan's products use code licensed under the GPL and LGPL. You can request a copy of the open source code. For details, see the Open Source Software Statement at (<http://www.raritan.com/about/legal-statements/open-source-software-statement/>) on Raritan's website.