



Dominion® KX II

Quick Setup Guide

Thank you for your purchase of Dominion® 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 KX II. For details on using KX II, 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 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:

- 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

In Raritan products that 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** in online help.
- Ensure sufficient airflow through the rack environment.
- 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.

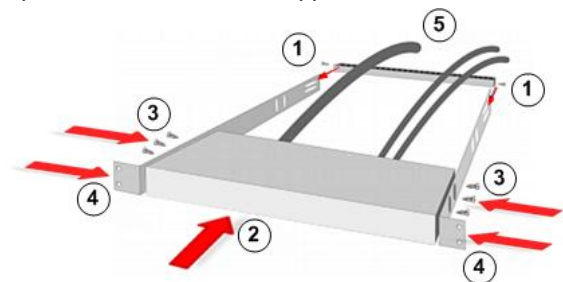
Note: The Raritan device depicted in the rack mounting diagrams is for example purposes only and may not depict

your device. The mounting instructions are specific to your device.

Forward Mount

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 KX II 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 KX II 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 KX II, drape them over the cable-support bar.

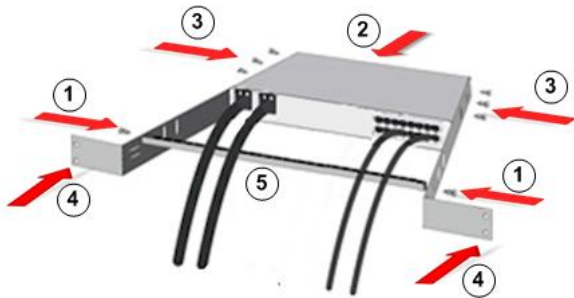


Rear Mount

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 KX II 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 KX II 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.



Step 1: Configuring Network Firewall Settings

TCP Port 5000

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

Alternatively, configure the KX II 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 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 2: Configure the KVM Target Servers

Mouse Settings

Following are the mouse settings for various operating systems.

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

► 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. For a list of supported CIMs, see Supported Computer Interface Module (CIMs) Specifications.

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.

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**
3. In KX II, select Device Settings > Port Configuration, then click on the target name to open the Port page.
 4. Expand 'Select USB Profiles for Port' section.
 5. Select 'Mac OS-X (10.4.9) and later' from the Available box, then click Add to add it to the Selected box.
 6. Click on 'Mac OS-X (10.4.9) and later' in the Selected box. This automatically adds it to the Preferred Profile drop-down.
 7. Select 'Mac OS-X (10.4.9) and later' from the Preferred Profile drop-down, then check the checkbox under 'Set Active Profile As Preferred Profile'.
- Click OK to apply.

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

Target Server Video Resolutions

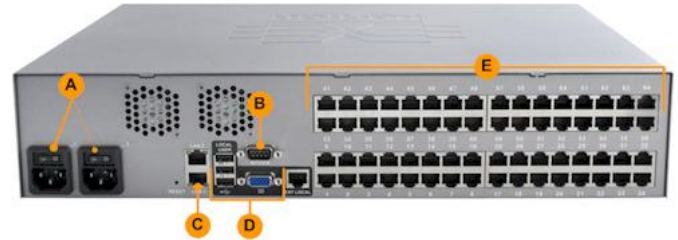
For optimal bandwidth efficiency and video performance, KVM target servers running graphical user interfaces such as Windows®, Linux®, X-Windows, Solaris™, and KDE may require configuration.

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.

See KX II online help for a list of supported target server video resolutions.

Step 3: Connect the Equipment



A. AC Power

► **Connect the power supply(s):**

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

B. Modem Port (Optional)

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

C. Network Port

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.

Enable network failover if you want LAN2 to use the same IP address should the KX II internal network interface or the network switch it is connected to become unavailable.

► **To connect to the network:**

①	Connect a standard Ethernet cable 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.

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 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

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

For information on the supported distances between KX II and target server, see [Supported Target Server Connection Distance/Refresh Rate/Video Resolution](#) in KX II online help.

If you are using digital CIMs (DCIMs), review [Digital CIM Target Server Timing and Video Resolution](#) in KX II online help.

► **To connect a target server to KX II:**

Use the appropriate CIM or DCIM.

①	Attach the video connector of your CIM/DCIM to the video port of your target server.
②	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.
③	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.

④	Attach the CIM/DCIM to an available server port on the back of the KX II using 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 KX II

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

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

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

Microsoft .NET® 3.5 (or later) is required to use KX II with the Microsoft Windows®-based Active KVM Client (AKC).

Change the Default Password

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

①	Once the unit has booted, enter the default username <i>admin</i> and password <i>raritan</i> . Click Login.
②	Enter the old password <i>raritan</i> , 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 KX II a Device Name

Choose Device Settings > Network. The Basic Network Settings page opens.

- Specify a meaningful Device Name for your KX II 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.

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

- 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 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 fails over to the secondary network port with the same IP address so there is no interruption.

- 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.

Configure the IPv6 Settings

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

- 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**

- Ⓐ **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
 - 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**.

- Ⓑ **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" or "Use the Following DNS Server Addresses"

- Ⓐ 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 device is now network accessible.

Obtain DNS Server Address Automatically
 Use the Following DNS Server Addresses B

Primary DNS Server IP Address
 192.168.61.207

Secondary DNS Server IP Address
 192.168.61.209

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 device is now network accessible.

Next, configure LAN interface settings as needed. See LAN Interface Settings

Name Your Target Servers

Connect all of the target servers if you have not already done so.

Select Device Settings > Port Configuration, then click the Port Name of the target server you want to name.

Port 1

Type: Dual-VM Sub Type: Standard KVM Port
 Blade Chassis
 KVM Switch

Name: DEV1 1

1 Enter a name for the server up to 32 alphanumeric and special characters. Click OK.

Home > Device Settings > Port Configuration > Port

Port 3

Type: DVM-DVI Sub Type: Standard KVM Port
 Blade Chassis
 KVM Switch

Name: KX3-SYSTEMTEST6 1

Specify Power Supply Autodetection

KX II provides dual power supplies.

When both power supplies are used, KX II automatically detects them and notifies you of their status.

Additionally, both the PowerIn1 and PowerIn2 Auto Detect checkboxes are automatically selected on the Power Supply Setup page (select Device Settings > Power Supply Setup).

If you are using only one power supply, you can enable automatic detection for only the power supply in use.

When only one power input is connected, the Power LED on the front of the KX II device is Red, regardless of the selection you make on the Power Supply Setup page.

▶ To enable automatic detection for the power supply in use:

Home > Device Settings > Power Supply Setup Page

Power Supply Setup Page

PowerIn1 Auto Detect 1
 PowerIn2 Auto Detect

OK Reset To Defaults Cancel



1 Select the PowerIn1 Auto Detect option if you are plugging power input into power supply number one. (The left-most power supply at the back of the device when you are facing rear of the device.)

Or

Home > Device Settings > Power Supply Setup Page

Power Supply Setup Page

PowerIn1 Auto Detect
 PowerIn2 Auto Detect 2

OK Reset To Defaults Cancel



2 Select the PowerIn2 Auto Detect option if you are plugging power input into power supply number two. (The right-most power supply at the back of the device when you are facing rear of the device.)
Click OK.

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.

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.

Date/Time Settings

Time Zone
(GMT +00:00) England, Ireland, Portugal

Adjust for daylight savings time

User Specified Time
Date (Month, Day, Year)
November 27, 2002
Time (Hour, Minute)
22 : 33 : 40 (hh:mm:ss)

Synchronize with NTP Server
Primary Time Server
Secondary Time Server

The NTP Server configuration is obtained automatically. For proper function, please make sure that the DHCP server used by this device provides correct time server information.

OK Reset To Defaults Cancel

- | | |
|---|--|
| 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
<hr/> 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.
<hr/> Click OK. |
|---|--|

Step 5: Launching the KX II Remote Console

Login to your KX II Remote Console from any workstation with network connectivity that has Microsoft .NET® and/or Java Runtime Environment™ installed.

To launch the KX II Remote Console:

1. Launch a supported web browser.
2. Enter either:
 - The URL - *http://IP-ADDRESS* to use the Java-based Virtual KVM Client
Or
 - *http://IP-ADDRESS/akc* for the Microsoft .NET-based Active KVM Client

IP-ADDRESS is the IP address assigned to your KX II

You can also use HTTPS, or the DNS name of KX II assigned by your administrator (if applicable).
3. You are always redirected to the IP address from HTTP to HTTPS.
4. 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.

Access a Target Server from KX II

Port Access

Click on the individual port name to see allowable operations.
0 / 4 Remote KVM channels currently in use.

View By Port	View By Group	View By Search	Set Scan
▲ No.	Name		
1	Dominion_Port1		
2	DP-Connect-Port13		
3	Dominion-KXX_Ports		

- | | |
|---|---|
| 1 | On 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:**

- On the Port Access page, click the port name of the target you want to disconnect from, then click Disconnect on Port Action menu when it appears.

Step 6: Configuring 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 must be configured for the appropriate language.

Additionally, the keyboard language for the client machine and the KVM target servers must 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™ workstation. |
| 2 | <p>Check that the Num Lock key is active. then press the left Ctrl key and the Del key on your keyboard, or select the option "set CIM keyboard/Mouse options" from the keyboard menu.</p> <p>The Caps Lock light starts to blink, indicating that the CIM is in Layout Code Change mode.</p> <p>The text window displays: Raritan Computer, Inc.
Current keyboard layout code = 22h (US5 UNIX).</p> |
| 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 use a KX II as your base device, then connect additional KX II's to it as tiered devices.

You can then access servers and PX PDUs through the base both locally and remotely.

See the [Device Management](#) section of KX II online help for more information on this feature.

- | | |
|----------|--|
| 1 | From the base KX II tier 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. 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. |

Step 8: Create and Install an SSL Certificate

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

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

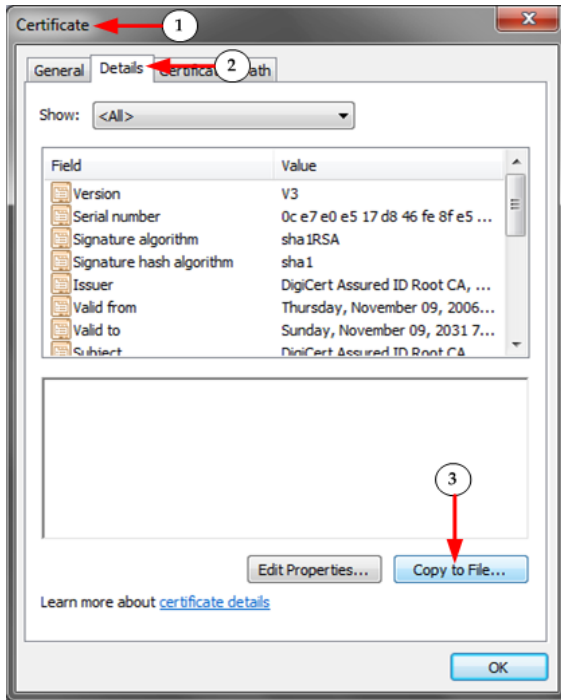
It also prevents future Java versions and browser versions from blocking access to your KX II device.

For information creating and installing SSL certificates, see [SSL Certificates](#) in online help.

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

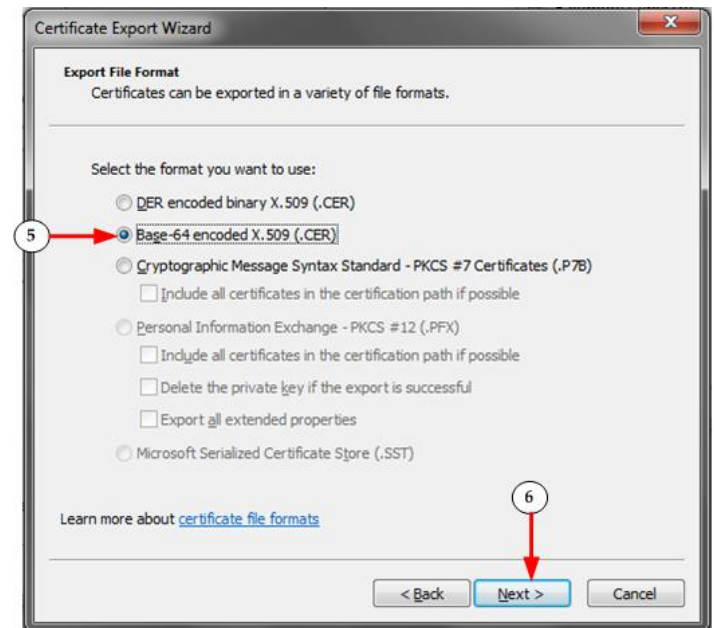
KX II requires an SSL certificate in either Base64-Encoded DER format or PEM format.

If you are using an SSL certificate in binary format, you cannot install it. However, you can convert your binary SSL certificate.



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

- 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..."



- 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.

Additional Information

For more information about KX II 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.

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.