



Dominion® KSX II

Quick Setup Guide

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

For details on using Dominion® KSX 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 KSX II ships as a fully-configured stand-alone product in a standard 1U 19" rackmount chassis.

Each KSX II device ships with the following contents:

- 1 - Dominion KSX II device
- 1 - Quick Setup Guide
- 1 - Rackmount kit
- 1 - AC power cord
- 1 - Cat5 network cable
- 1 - Cat5 network crossover cable
- 1 - Set of 4 rubber feet (for desktop use)
- 1 - Application notes
- 1 - Warranty card
- 1 - Phone line cable
- 1 - Loopback adapter

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

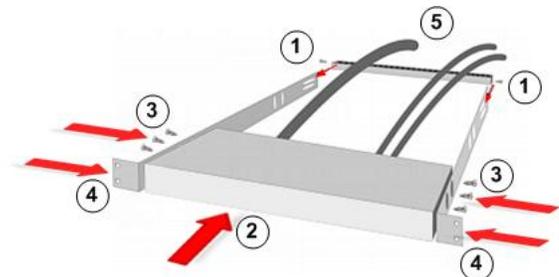
The KSX II can be mounted in 1U (1.75", 4.4 cm) of vertical space in a standard 19" equipment rack.

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.

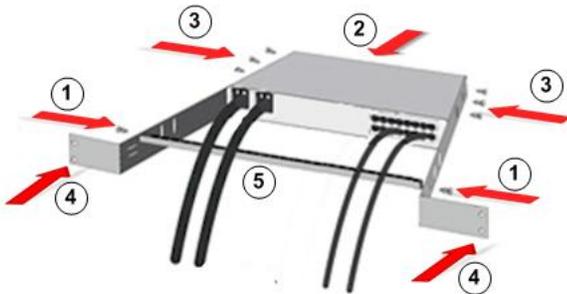
1. Secure the cable-support bar to the back end of the side brackets using two of the included screws.
2. Slide the KSX II between the side brackets, with its rear panel facing the cable-support bar, until its front panel is flush with the "ears" of the side brackets.
3. Secure the KSX II to the side 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 KSX 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 KSX 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 KSX 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: 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.

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 KSX II and that the signal is non-interlaced.

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

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 KSX 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 KSX 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
3. In KSX 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

Step 2: Configure Network Firewall Settings

TCP Port 5000

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

Alternatively, configure KSX II to use a different TCP port, then allow communication on that port.

TCP Port 443

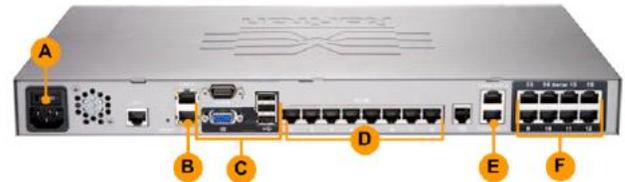
Allow access to TCP Port 443 (Standard HTTPS) so you can access KSX II via a web browser.

TCP Port 80

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

Step 3: Connect the Equipment

Connect the KSX II to the power supply, network, local PC, local video display, keyboard and mouse, KVM target servers, and serial targets.



A. AC Power

► To connect the power supply:

1. Attach the included AC power cord to the KSX II and plug into an AC power outlet.

B. Network Port

The KSX 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 KSX II internal network interface or the network switch to which it is connected becomes unavailable, LAN2 will be 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 either 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 make use of the optional KSX 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 Network Configuration page.

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

C. Local User Port (Local PC) and Local Admin Port

For convenient access to KVM target servers and serial devices while at the rack, use the KSX II Local Access port. While the local port is required for installation and setup, it is optional for subsequent use. The local port provides the KSX II Local Console graphical user interface for administration and target server access.

► To connect the Local User port:

- Attach a multi-sync VGA monitor, keyboard, and mouse to the respective Local User ports using a USB keyboard and mouse.
- 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

You can use the Local Admin port to connect the KSX II directly to a workstation to manage your serial targets and configure the system with a terminal emulation program such as HyperTerminal. The Local Admin port requires the use of a standard null modem cable.

Note: When local Authorization and Authentication is set to None, logging in to serial admin console requires username input.

D. KVM Target Server Ports

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

► To connect a KVM target server to the KSX II:

1. Use the appropriate Computer Interface Module (CIM).
2. Attach the HD15 video connector of your CIM to the video port of your KVM target server. Ensure that your target server's video has already been configured to a supported resolution and refresh rate. For Sun servers, also ensure that your target server's video card has been set to output standard VGA (H-and-V sync) and not composite sync.
3. Attach the keyboard/mouse connector of your CIM to the corresponding ports on your target server. Using a standard straight-through UTP (Cat5/5e/6) cable, connect

the CIM to an available server port on the back of your KSX II device.

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.

E. Power Strip

► To connect the Dominion PX to the KSX II:

1. Plug one end of a Cat5 cable into the Serial port on the front of the Dominion PX.
2. Connect the other end of the Cat5 cable to either the Power Ctrl. 1 or Power Ctrl. 2 ports on the back of the KSX II.
3. Attach an AC power cord to the target server and an available rack PDU outlet.
4. Connect the rack PDU to an AC power source. Power on the KSX II device.

Important: When using CC-SG, the power ports should be inactive before attaching rack PDUs that were swapped between the power ports. If this is not done, there is a possibility that the number of power outlets will not be correctly detected, especially after swapping 8 and 20 outlet rack PDU models.



Diagram key

| | | | |
|----------|---|----------|----------------|
| A | KSX II | D | PX serial port |
| B | KSX II Power Ctrl. 1 Port or Power Ctrl. 2 Port | 1 | Cat5 cable |
| C | PX | | |

F. Serial Target Ports

To connect a serial target to the KSX II, use a Cat5 cable with an appropriate serial adapter.

The following table lists the necessary KSX II hardware (adapters and/or cables) for connecting the KSX II to common vendor/model combinations.

| Vendor | Device | Console connector | Serial connection |
|------------------|--------------|-------------------|---|
| Checkpoint | Firewall | DB9M | ASCSD9F adapter and a CAT 5 cable |
| Cisco | PIX Firewall | | |
| Cisco | Catalyst | RJ-45 | CRLVR-15 rollover cable; or CRLVR-1 adapter cable and a CAT5 cable CRLVR-1 cable for connecting a terminal port (RJ-45 Connector type) of KSX II-48 models that have this connector to another KSX II. |
| Cisco | Router | DB25F | ASCSD25M adapter and a CAT 5 cable |
| Hewlett Packard® | UNIX® Server | DB9M | ASCSD9F adapter and a CAT 5 cable |
| Silicon Graphics | Origin | | |
| Sun™ | SPARCStation | DB25F | ASCSD25M adapter and a CAT 5 cable |
| Sun | Netra T1 | RJ-45 | CRLVR-15 cable; or CRLVR-1 adapter and a CAT5 cable |
| Sun | Cobalt | DB9M | ASCSD9F adapter and a CAT 5 cable |
| Various | Windows NT® | | |

Go to the Support page on Raritan's website (www.raritan.com) to obtain a list of commonly used cables and adapters.

Step 4: Configure KSX II

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

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

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

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

Change the Default Password

The first time you start the KSX II 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 KSX II a Device Name

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

1. Specify a meaningful Device Name for your KSX 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.

Basic Network Settings

Device Name *
Dominion51-220

IPv4 Address

IP Address: 192.168.0.192 (1)

Subnet Mask: 255.255.255.0 (2)

Default Gateway: 192.168.61.126

Preferred DHCP Host Name: (empty)

IP Auto Configuration: None (3)

- | | |
|---|--|
| 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 |

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: (empty)

IP Auto Configuration: None (A)

- | | |
|---|--|
| A | <p><i>None</i> - for a static IP. Default selection. Recommended option.</p> <p>If <i>None</i> is selected, you must manually specify the network parameters by entering the Default Gateway.</p> <p>Leaving the selection set to <i>None</i> -</p> <ul style="list-style-type: none"> Lets you set the network parameters since KSX 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. <p>If a failure occurs, KSX II fails over to the secondary network port with the same IP address so there is no interruption.</p> |
|---|--|

Basic Network Settings

Device Name *
Dominion51-220

IPv4 Address

IP Address: (empty)

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.61.126

Preferred DHCP Host Name: 192.168.61.13 (B)

IP Auto Configuration: DHCP (B)

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

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)

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**

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 KSX 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*

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 KSX II device is now network accessible.

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.

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 KSX II device is now network accessible.

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

Configure the DNS Settings

1 Do one of the following to configure DNS -

- "Obtain DNS Server Address Automatically"
- "Use the Following DNS Server Addresses"

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.

- 1 Enter a name for the server up to 32 alphanumeric and special characters. 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 KSX 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

The screenshot shows the 'Date/Time Settings' page. Callout 1 points to the 'Time Zone' dropdown menu. Callout 2 points to the 'Adjust for daylight savings time' checkbox. Callout 3 points to the 'Date (Month, Day, Year)' and 'Time (Hour, Minute)' input fields. Callout 4 points to the 'Synchronize with NTP Server' radio button. Below the form are buttons for 'OK', 'Reset To Defaults', and '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

 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.

Step 5: Launching the KSX II Remote Console

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

► To launch the KSX 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 KSX II

You can also use HTTPS, or the DNS name of KSX 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 KSX II Port Access page provides a list of all KSX II ports, as well as the connected target servers, their status, and availability.

Accessing a Target Server

► To access a target server:

1. On the KSX 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 KSX 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: Create and Install an SSL Certificate

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

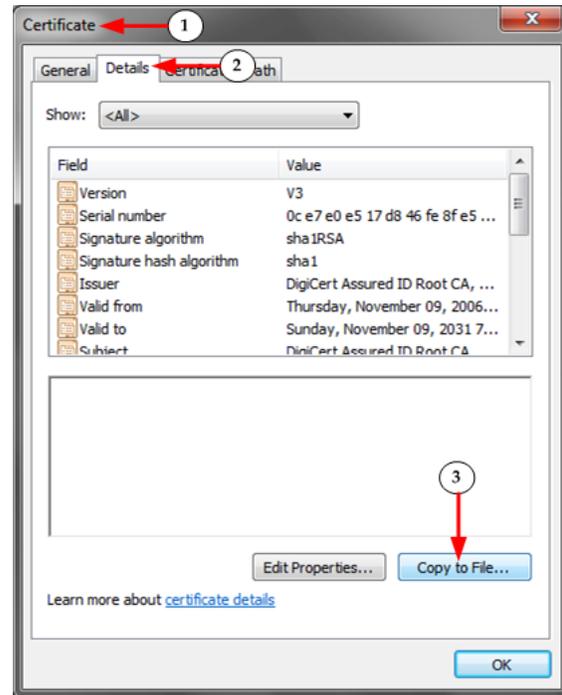
For information creating and installing SSL certificates, see KSX II online help.

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

KSX 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.

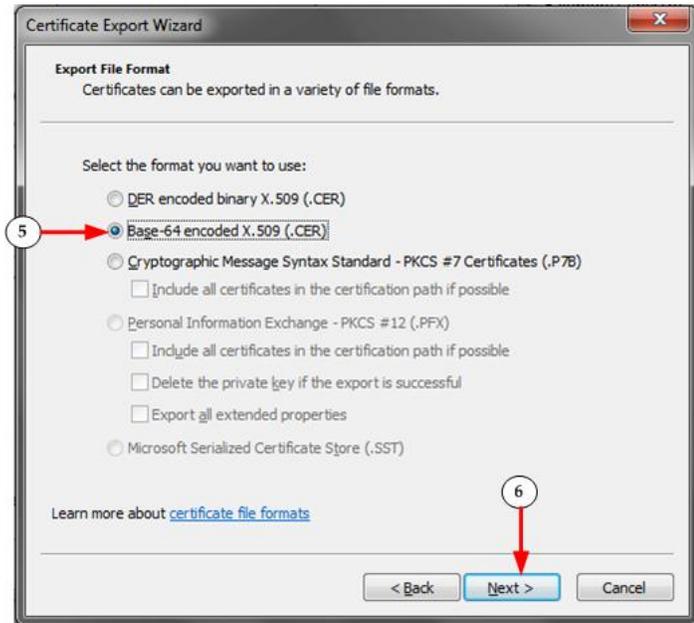
However, you can convert your binary SSL certificate.



| | |
|---|--|
| ① | <p>Locate the DEGHKVM0001.cer binary file on your Windows machine.</p> <p>Double-click on the DEGHKVM0001.cer file to open its Certificate dialog.</p> |
| ② | <p>Click the Detail tab.</p> |
| ③ | <p>Click "Copy to File..."</p> |



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 KSX II.

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

Additional Information

For more information about KSX 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.

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