Dominion® KX III

Quick Setup Guide

Thank for choosing the Dominion KX III, the industry's highest performance enterprise-class, secure, digital KVM (Keyboard, Video, Mouse) switch.



Package Contents

Each KX III ships as a stand-alone product in a standard 1U or 2U 19" rackmount chassis, depending on your KX III model.

The KX III device ships with the following contents:

- 1 - KX III device
- 1 - KX III Quick Setup Guide
- 1 - Rackmount kit
- 2 - AC power cords
- 1 - Set of 4 rubber feet (for desktop use)
- 1 - Application note

Safety

- 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 Administrators Guide.
- 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.

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Rack Mounting

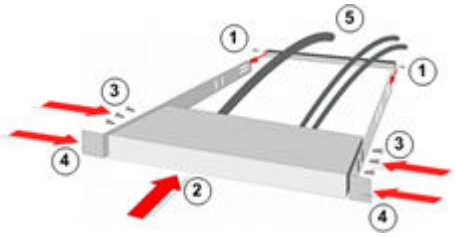
The KX III can be mounted in 1U (1.75", 4.4 cm) of vertical space in a standard 19" rack.

Note: Diagram may not depict your exact device. The mounting instructions are specific to your device.

Forward Mount

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

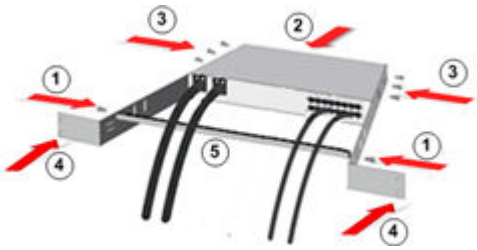
1. Secure the cable-support bar to the back end of the side brackets using two of the included screws.
2. Slide the KX III between the side brackets, with its rear panel facing the cable-support bar, until its front panel is flush with the “ears” of the side brackets.
3. Secure the KX III to the side 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, 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 III 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 III 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, drape them over the cable-support bar.



Step 1: Configuring Network Firewall Settings

- TCP Port 5000: Allow network and firewall communication to enable remote access.
- TCP Port 443: Allow access to the standard HTTPS port to enable access via web browser.
- TCP Port 80: Allow access to the standard HTTP port to enable redirection of HTTP requests.

TCP Port 5000

Enable remote access to KX III by allowing network and firewall communication on TCP Port 5000.

TCP Port 443

Allow access to TCP Port 443 (Standard HTTPS) so you can access KX III 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: Configuring KVM Target Servers

Mouse Settings

Absolute Mouse Synchronization is recommended to minimize mouse settings on target servers.

In this mode, absolute coordinates are used to keep the client and target cursors in synch, even when the target mouse is set to a different acceleration or speed. This mode is supported on servers with USB ports and is the default mode for virtual media CIMs.

- Absolute Mouse Synchronization requires the use of a virtual media CIM - D2CIM-VUSB, D2CIM-DVUSB, D2CIM-DVUSB-DVI, D2CIM-DVUSB-HDMI, D2CIM-DVUSB-DP, D2CIM-VUSB-USBC

Target Server Video Resolutions

See Supported Target Server Video Resolutions in Online Help.

Step 3: Connecting the Equipment

Hardware version may vary.

A: AC Power

1. Use the power cords that came with KX III. Use both cords with AC power outlets for dual-power failover protection.

B: Network Ports

Connect a standard Ethernet cable from the LAN1 network port to an Ethernet switch, hub, or router.

To enable the failover or isolation mode capabilities, connect a standard Ethernet cable from the LAN2 network port to an Ethernet switch, hub, or router.

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C: USB Ports (Local User Port)

► *To connect the keyboard and mouse:*

- Connect a USB keyboard and mouse to the respective Local User port on the back of KX III.

Use the KX III Local User port for administrative and target device access at the rack. The Local User port is required for installation and setup, but is optional for subsequent use.

If you're also using Dominion Serial Access Modules (DSAM), reserve the top USB port on the rear of the unit for connecting DSAM.

D: Local DVI-D Port

A single link DVI cable is used to connect to a local DVI monitor or keyboard tray (not included with the KX III).

Connect to the DVI port on Raritan's T1700-LED or T1900-LED keyboard tray.

Use a required DVI-D to VGA converter to connect to VGA monitors.

E. Connect Target Servers to KX III

1. Connect the keyboard, mouse and video plugs on the CIM to the corresponding ports on the target server.
2. Connect the CIM to an available target server port on the back of the KX III via a Cat5/5e/6 cable.

F. Tier (Optional)

See Configuring and Enabling Tiering in Online Help.

G: Modem Port (Optional)

See Configuring Modem Settings in Online Help

H: Dominion Serial Access Module (Optional)

Connecting a KX III and a Dominion Serial Access Module (DSAM) provides access to devices such as LAN switches and routers that have a RS-232 serial port.

1. Connect the DSAM unit's USB cable to the top USB port on the rear of the KX III device. Connect additional DSAM units to any other USB port.
2. Connect the serial devices to the serial ports on the DSAM unit.

Step 4: Configuring the KX III

For the following steps, you must change the default password and assign the KX III its IP address at the Local Console. All other steps can be performed either from the Local Console, or the KX III Remote Console in a web browser using the KX III's IP address.

Default Login - Change the Password

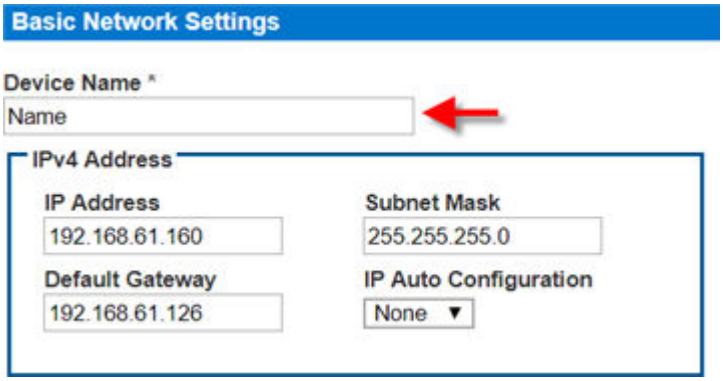
The KX III device is shipped with the following default settings. You are forced to change the password at first login to a strong password.

- Username = `admin`
- Password = `raritan`
- IP address = `192.168.0.192`

Important: For backup and business continuity purposes, it is strongly recommended you create a backup administrator username and password, and keep that information in a secure location.

Assign the KX III a Device Name

Choose Device Settings > Network to go to the Basic Network Settings page in the KX III Remote client.



- Specify a meaningful Device Name for your KX III device.
  - Up to 32 alphanumeric and valid special characters, no spaces between characters.

  Next, configure the IP address and DNS settings.

Choose Failover or Isolation Mode

Configure KX III for Dual LAN Failover Mode (on page 6): In failover mode, LAN status is used to determine which LAN port is used in failover. LAN port #1 is switched as default. If the switched LAN port status is down, then the other LAN port will be switched to until a LAN port whose status is on is found.

Configure KX III for Dual LAN Isolation Mode (on page 8)

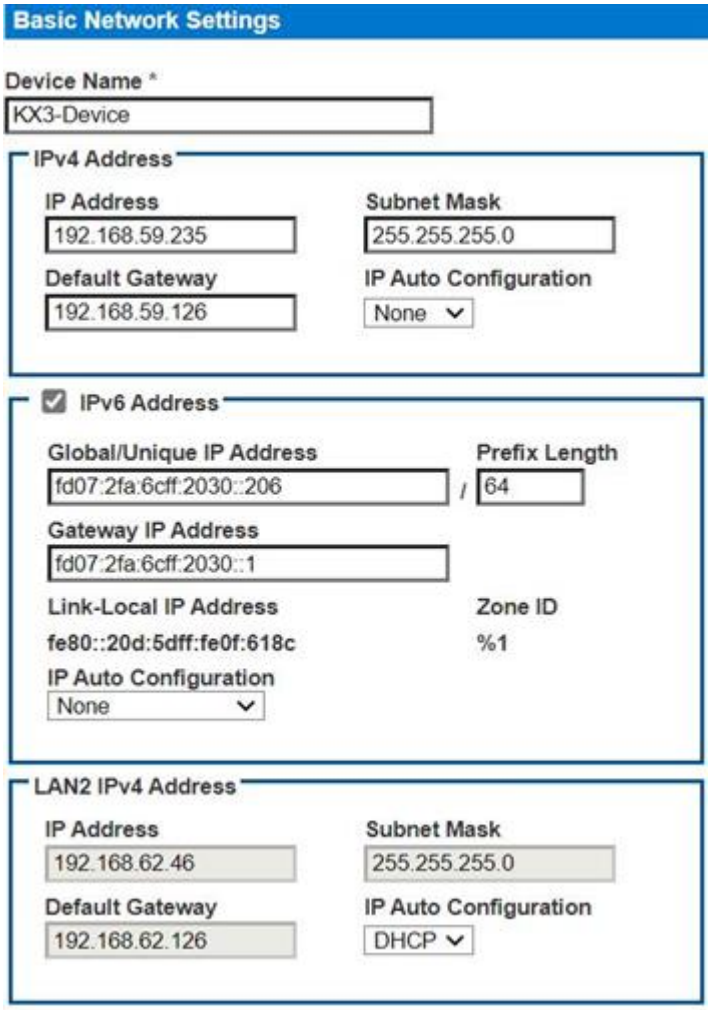
Configure KX III for Dual LAN Failover Mode

LAN1 and LAN2 share the same IP address to support automatic failover.

LAN1 is the primary port. If LAN1 fails, LAN2 is used to access KX III.

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1. Select Device Settings > Network to open the Device Network Settings page.
2. Set the IP Auto Configuration to *None* in the IPv4 section.
3. Select the "Enable Automatic Failover" checkbox under LAN Interface Settings to enable failover.
4. Manually specify the network parameters by entering the Default Gateway.
5. Enter the IPv4 IP Address, if needed. The default IP address is 192.168.0.192.
6. Enter the IPv4 Subnet Mask. The default subnet mask is 255.255.255.0.
7. The LAN1 settings are applied to LAN2 if failover occurs.



8. Complete the IPv6 sections, if applicable.
9. Select the IP Auto Configuration.

If *None* is selected, you must manually specify -

- Global/Unique IP Address - this is the IP address assigned to KX III.
- Prefix Length - this is the number of bits used in the IPv6 address.
- Gateway IP Address.

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

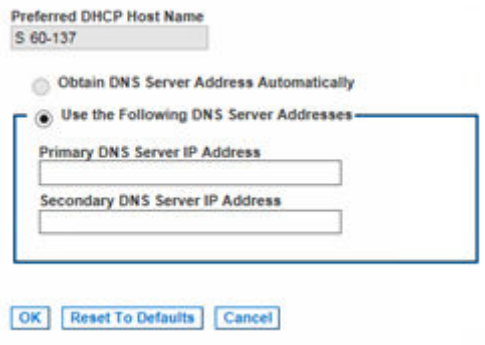
Note that the following additional, read-only information appears in this section -

- Link-Local IP Address - this address is automatically assigned to the device. It is used for neighbor discovery or when no routers are present.
- Zone ID - Identifies the device the address is associated with. Read-Only

10. Next, select "Use the Following DNS Server Addresses" and enter the Primary DNS Server IP Address and Secondary DNS Server IP Address. The secondary address is used if the primary DNS server connection is lost due to an outage.

Note: "Obtain DNS Server Address Automatically" and "Preferred DHCP Host Name" are only enabled when KX III is configured in DHCP mode

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11. Set the LAN 1/LAN 2 Interface Speed and Duplex, and the LAN 1/LAN 2 MTU.
    - Valid range for MTU is 576 - 1500.
12. Set ARP Accept (default 0), ARP Announce (default 2) and ARP Ignore (default 1) options for Address Resolution Protocol (ARP) if needed to change the default system ARP behavior.
13. When finished, click OK. Your KX III device is now network accessible.

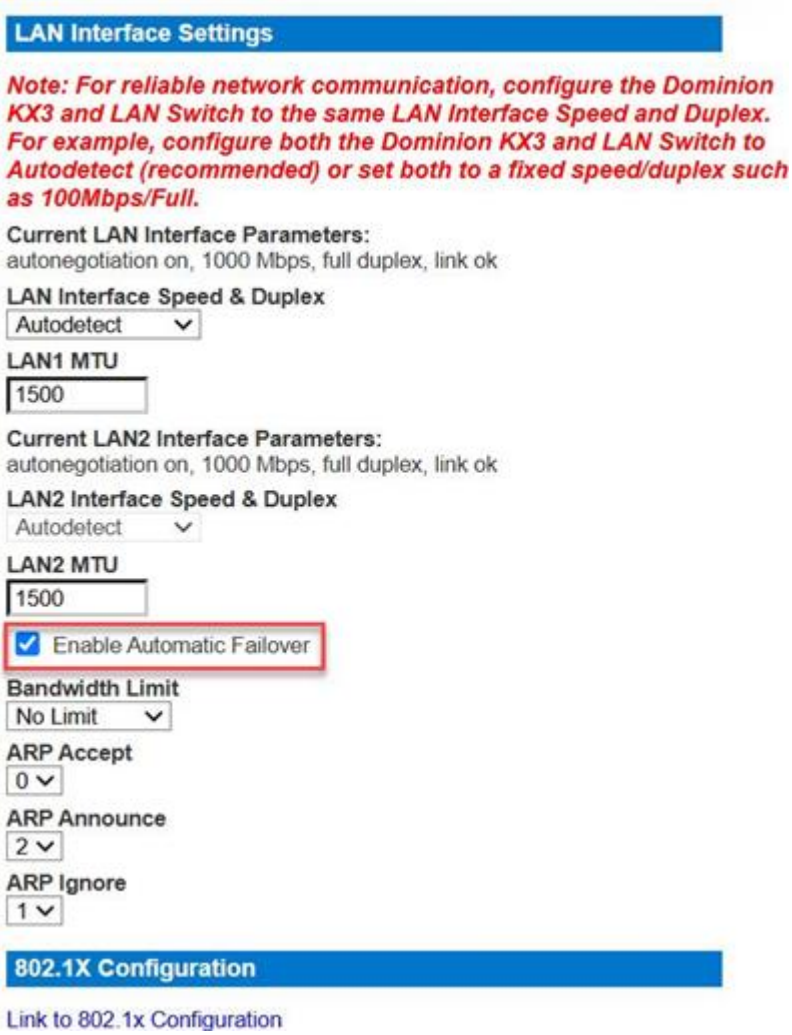
Configure KX III for Dual LAN Isolation Mode

Isolation mode allows you to access each LAN port independently using different IP addresses.

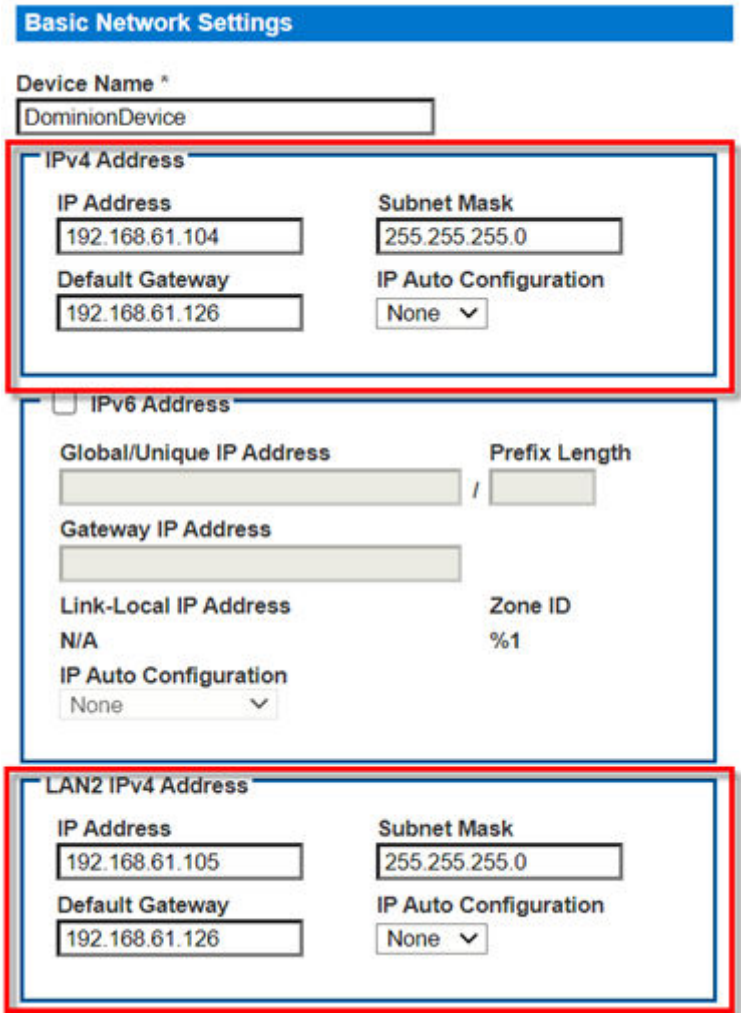
Failover is not supported in this mode.

1. Select Device Settings > Network to open the Device Network Settings page.
2. Set the IP Auto Configuration to *None* in the IPv4 section.
3. Ensure the "Enable Automatic Failover" checkbox is not selected.
4. Set ARP Accept (default 0), ARP Announce (default 2) and ARP Ignore (default 1) are options for Address Resolution Protocol (ARP) if needed to change the default system ARP behavior.

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5. If needed, manually specify the network parameters by entering the Default Gateway and then complete the steps that follow.
6. Enter the IP address you want to use to connect to the KX III LAN1. The default IP address is 192.168.0.192.
7. Enter the IPv4 Subnet Mask. The default subnet mask is 255.255.255.0.
8. In the LAN2 IPv4 section, set the IP Auto Configuration to *None*.
9. Enter the IP address you want to use to connect to the KX III LAN2.
10. Enter the LAN2 IPv4 Default Gateway and Subnet Mask.



11. Complete the IPv6 sections, if applicable.
12. Select the IP Auto Configuration.

If *None* is selected, you must manually specify -

- Global/Unique IP Address - this is the IP address assigned to KX III.
- Prefix Length - this is the number of bits used in the IPv6 address.
- Gateway IP Address.

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

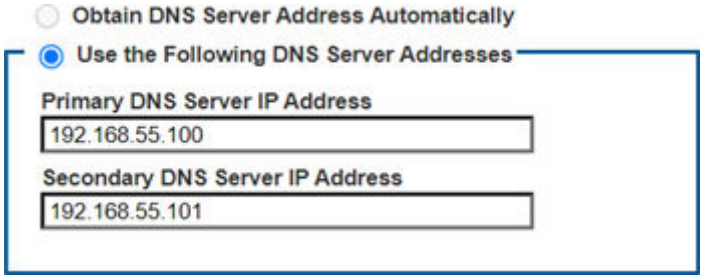
Note that the following additional, read-only information appears in this section -

- Link-Local IP Address - this address is automatically assigned to the device. It is used for neighbor discovery or when no routers are present.
- Zone ID - Identifies the device the address is associated with. Read-Only

13. Select "Use the Following DNS Server Addresses" and enter the Primary DNS Server IP Address and Secondary DNS Server IP Address. The secondary address is used if the primary DNS server connection is lost due to an outage.

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Note: "Obtain DNS Server Address Automatically" and "Preferred DHCP Host Name" are only enabled when KX III is configured in DHCP mode



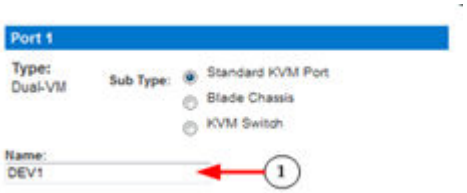
14. Set the LAN 1/LAN 2 Interface Speed and Duplex, and the LAN 1/LAN 2 MTU.
    - Valid range for MTU is 576 - 1500.
15. When finished, click OK.

Your KX III device is now accessible via the LAN1 IP address and the LAN2 IP address.

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.

Specify Power Supply Autodetection

KX III provides dual power supplies.

When both power supplies are used, KX III automatically detects them and notifies you of their status. Additionally, both the Powerln1 and Powerln2 Auto Detect checkboxes are automatically selected on the Power Supply Setup page.

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 III device is Red when the checkbox is selected for an unconnected power supply, and Blue when the checkbox is not selected for an unconnected power supply.

► *To enable automatic detection for the power supply in use:*

1. Select Device Settings > Power Supply Setup.
   - 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

   - Select the PowerIn2 Auto Detect option if you are plugging power input into power supply number two.

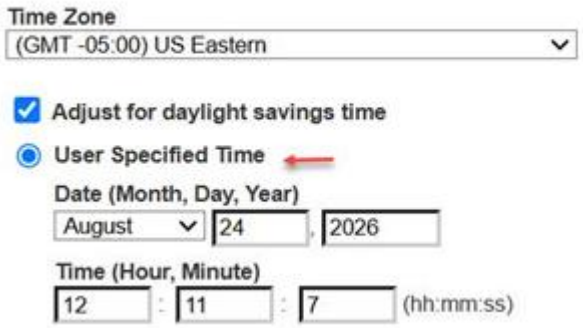
     (The right-most power supply at the back of the device when you are facing rear of the device.)
2. Click OK.

Configure Date/Time Settings

The date and time settings impact SSL certificate validation if LDAPS is enabled. Configuring the date and time also ensures your audit logs will be timestamped correctly.

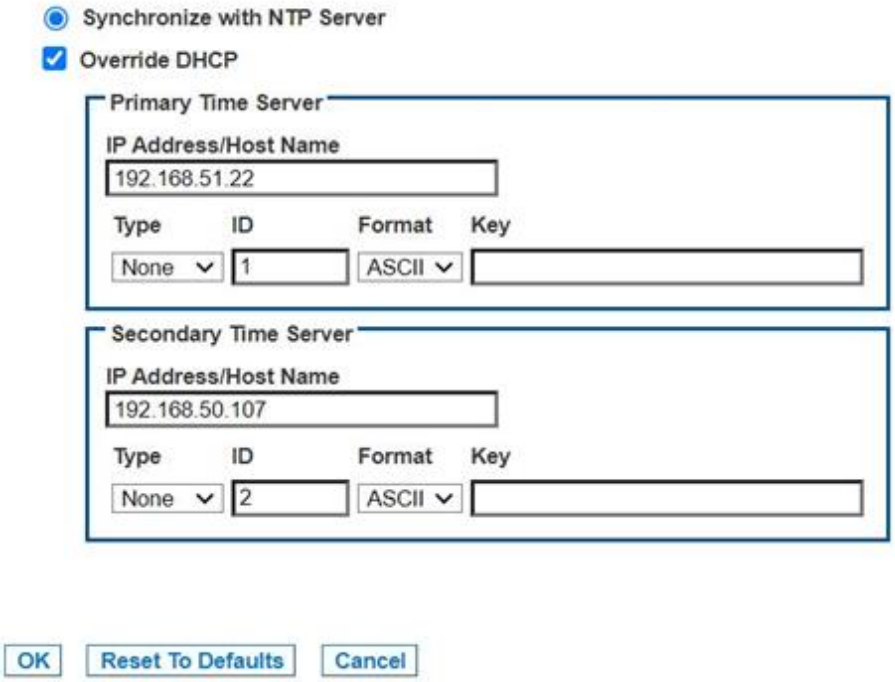
There are two ways to do this:

- Manually set the date and time.



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

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Note: NTP security is added to the KX III, which allows it to request the date and time with or without authentication. If the NTP server is configured to use authentication, it will accept the request along with the authentication key, and send back the date and time along with digital information of the authentication key. The KX III will verify the digital information and will use the date and time if the key matches; otherwise discard the received information.

► *To configure date/time settings:*

1. Choose Device Settings > Date/Time to open the Date/Time Settings page.
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:
   - Enter the IP address of the Primary Time server, Authentication Type, ID, key Format and key value.
   - Enter the IP address of the Secondary Time server, Authentication Type, ID, key Format and key value 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.

6. Click OK.

Step 5: Launching the KX III Remote Console

1. Launch a supported web browser, and enter the IP address assigned to the KX III. A default client is launched based on your pc and browser settings. See the online help for details about clients.
2. Enter your username and password, then click Login.
3. Accept the user agreement (if applicable).
4. If security warnings appear, click to accept.

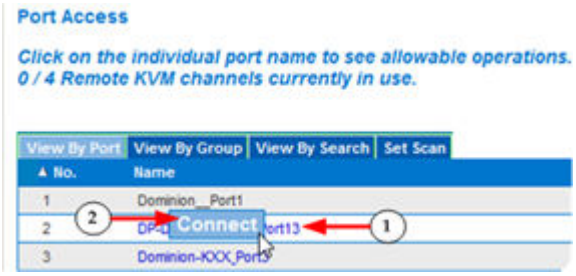
Tip: If you have a Dominion KX III User Station, you can use it to remotely access the KX III target servers. See Dominion User Station (on page 18).

Access and Control Target Servers Remotely

The KX III Port Access page provides a list of all KX III ports.

The page also lists all of the target servers connected to the KX III along with their status and availability.

Access a Target Server from the KX III

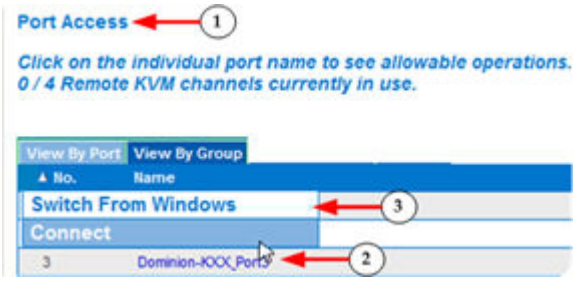


1. On the Port Access page, click the Port Name of the target you want to access. The Port Action Menu is displayed.
2. Choose Connect from the Port Action menu.

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A KVM window opens with a connection to the target.

Switch between Target Servers



1 While already using a target server, access the KX III Port Access page.

2 Click the port name of the target you want to access. The Port Action menu appears.

3 Choose Switch From. The new target server you selected is displayed.

Disconnect from a Target Server

► *To disconnect a target:*

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

  Or
- Close the KVM client window.

Step 6: Configuring the Keyboard Language (Optional)

If you are using a non-US language, the keyboard must be configured for the appropriate language. Also, the keyboard language for the client machine and the KVM target servers must match. Consult your operating system documentation for information about changing the keyboard layout.

Step 7: Create and Install an SSL Certificate

It is strongly recommended to install your own SSL Certificate in each KX III device. This security best practice reduces the number of browser and 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 III device.

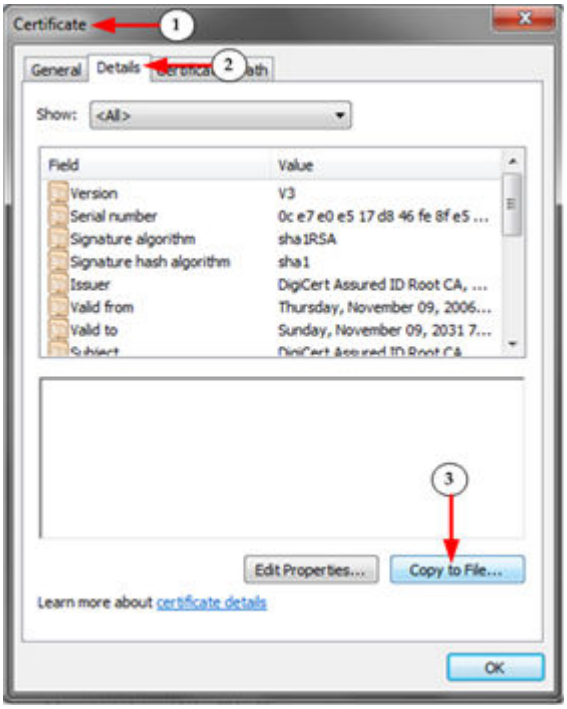
For information on creating and installing SSL certificates, see KX III Online Help.

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

KX III 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.

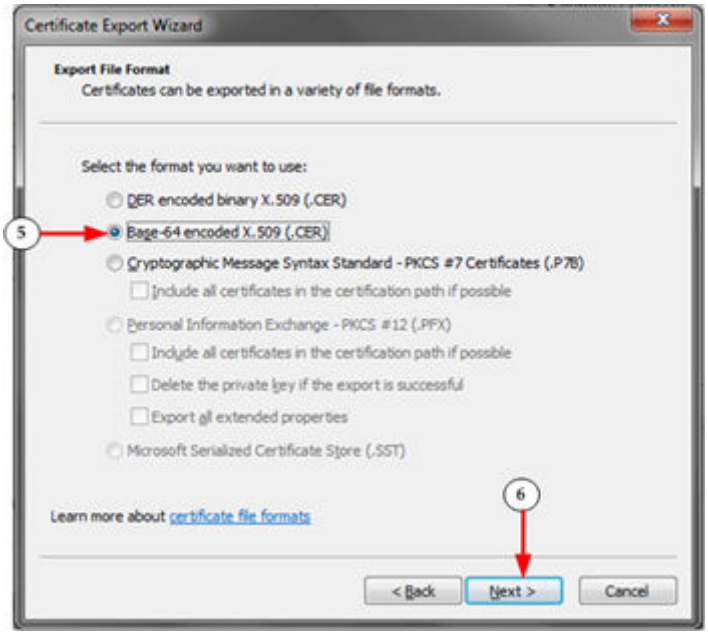
Double-click on the DEGHKVM0001.cer file to open its Certificate dialog.

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

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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 III.

Dominion User Station

To use a standalone appliance instead of the KX III Remote Console to access servers and computer devices connected to the KX III's, you can purchase the Dominion User Station from Raritan.

One User Station can access servers connected to multiple KX III's for easy access and fast switching over your LAN/WAN networks.

For detailed information, refer to the user documentation from the User Station's section on the Raritan website's Support page.

Additional Information

For more information about KX III 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 at open-source-statement on Raritan's website.

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