



Dominion® LX

Quick Setup Guide

Thank you for your purchase of the Dominion® LX. The LX is the industry's highest quality, most affordable digital KVM (Keyboard, Video, Mouse) switch for your growing SMB business.

For details on using the LX, access online help from the application, or download help in PDF format from the [Support page](#) on Raritan's website.

Package Contents

Each LX ships as a fully-configured, stand-alone product in a standard 1U 19" rackmount chassis. Each LX device ships with the following contents:

- 1 - LX device
- 1 - Rackmount kit
- 1 - AC power cord
- 1 - LX Quick Setup Guide
- 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.

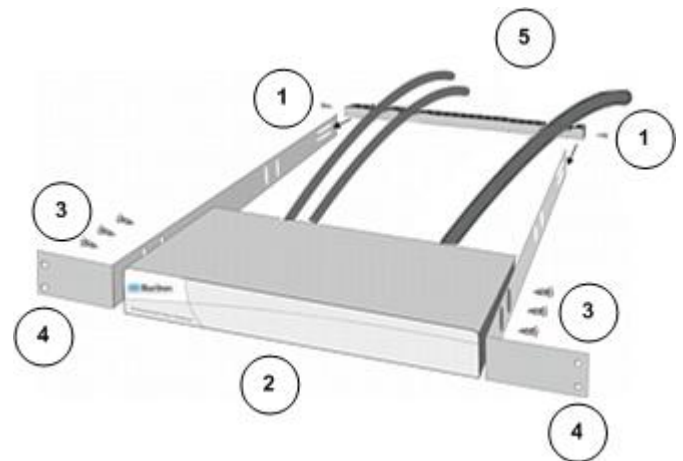
Rack Mounting

The LX can be mounted in 1U (1.73", 44 mm) of vertical space in a standard 19" equipment rack. You can mount the LX facing the front of the rack or facing the rear of the rack.

To rack-mount the LX, use the brackets and screws that came with the device.

Forward Mount

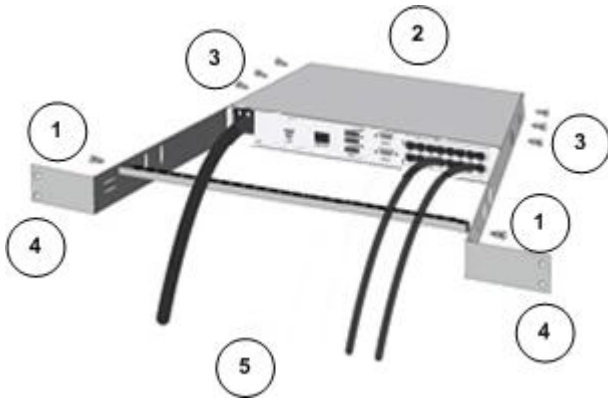
The steps in the table correspond to the numbers shown in the front rackmount diagrams.



1. Secure the cable-support bar to the back end of the side brackets using two of the included screws.
2. Slide the LX 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 LX 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 LX, drape them over the cable-support bar.

Rear Mount

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



Step 1: Configure the KVM Target Servers

Before installing the LX, configure all KVM target servers to ensure optimum performance. This configuration applies only to KVM target servers, not to the client workstations (remote PCs) used to access the LX remotely.

Desktop Background

For optimal bandwidth efficiency and video performance, use solid color backgrounds whenever possible. Backgrounds featuring photos or complex gradients might degrade performance.

Supported Video Resolutions

Ensure each target server's video resolution and refresh rate are supported by the LX, and that the signal is noninterlaced.

Video resolution and cable length are important factors in the ability to obtain mouse synchronization. See **Target Server Connection Distance and Video Resolution** in the **LX Online Help**.

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 **LX 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®:](#)

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 LX 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 LX 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 LX, drape them over the cable-support bar.

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 LX 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 LX, 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 the LX.

Alternatively, configure the LX to use a different TCP port, then allow communication on that port.

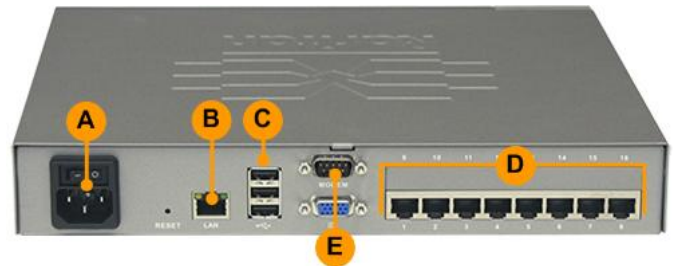
TCP Port 443

Allow access to TCP Port 443 (Standard HTTPS) so you can access LX 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



A. AC Power

► **To connect the power supply:**

- Attach the included AC power cord to the LX and plug it into an AC power outlet.

B. Network Port

► **To connect the network:**

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

C. Local Access Port (Local PC)

► **To connect the local port:**

- Attach a multi-sync VGA monitor, mouse and keyboard to the respective Local User ports using a USB keyboard and mouse. The port connections are located on the back panel of the LX.

- Monitor - attach a standard multi-sync VGA monitor to the HD15 (female) video port
- Keyboard - attach a standard USB keyboard to one of the USB Type A (female) ports
- Mouse - attach a standard USB mouse to one of the USB Type A (female) ports

D. Target Server Ports

► To connect a target server to the LX:

1. Use the appropriate CIM or DCIM.
2. Attach the UTP (Cat5/5e/6) cable of your CIM to the video port of your target server. Ensure that your target server's video is already configured to a supported resolution and refresh rate. For Sun servers, ensure that 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 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 LX device.

E. Modem (Optional)

Please see the **LX Online Help** for information on connecting modems.

Step 4: Configure the LX

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

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

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

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

Change the Default Password

The first time you start the LX, you are required to change the default 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.

Assign the LX an IP Address

► To assign an IP address to the LX:

1. Choose Device Settings > Network. The Network Settings page opens.
2. Specify a meaningful Device Name for your LX device.
Up to 32 alphanumeric and valid special characters, no spaces between characters.
3. Next, configure the IPv4, IPv6 and DNS settings.

Configure the IPv4 Settings

1. 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 you manually specify the network parameters.

This is the recommended option because the LX is an infrastructure device, and its IP address should not change.

Select this option if you want to ensure redundant failover capabilities should the primary Ethernet port (or the switch/router to which it is connected) fail. If it fails, KX III fails over to the secondary network port with the same IP address, ensuring there is not interruption.

- 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.

2. Next, configure IPv6 and/or DNS settings.

Configure the IPv6 Settings

1. 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 LX.
 - 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 (Static IP) - this option requires you manually specify the network parameters.

This is the recommended option because the LX is an infrastructure device, and its IP address should not change.

Select this option if you want to ensure redundant failover capabilities should the primary Ethernet port (or the switch/router to which it is connected) fail. If it fails, KX III switches to the secondary network port with the same IP address, ensuring there is no interruption.

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.
2. Next, configure DNS settings.

Configure the DNS Settings

1. 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.
2. 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
3. When finished, click OK.

Your LX device is now network accessible.

Name Your Target Servers

► To name the target servers:

1. Connect all of the target servers if you have not already done so.
2. 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.

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 the LX. 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.

► 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

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 LX Remote Console

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

► To launch the LX 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 LX

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

Accessing a Target Server

► To access a target server:

1. On the LX 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 LX 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 LX 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 LX device.

For information creating and installing SSL certificates, see SSL Certificates in online help.

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

Additional Information

For more information about the LX® 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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