



I. Prepare Devices and Network for Remote Operation

Congratulations on your purchase of Dominion SX, the complete solution for secure console management. Before installing Dominion SX, first configure each device that you intend to access remotely with the following parameters. This very important installation procedure ensures a smooth installation.

Pre-installation

Have the right cabling on-hand to connect to the serial consoles of the target server(s) or other serially-managed devices that provide a console port. See section III, **Attaching Servers or other serially-managed devices to the Dominion SX.**

The following list, **Network Information**, outlines required information for your Dominion SX unit. We recommend that you obtain all required information prior to performing the configuration steps outlined in this guide. If you are uncertain of any information, contact your system administrator for assistance. We recommend you store this information in a secure location for future reference.

Network Information

Raritan Unit Name: A generic name or term for your Dominion SX unit - maximum 64 characters (underscores are permitted), no minimum size, and no spaces.

IP Address: The IP address of the unit, as directed by your network administrator.

IP Subnet Mask: The IP subnet mask for the unit, as directed by your network administrator.

IP Gateway: The IP gateway for the unit, as directed by your network administrator.

Port Address: Port 51000 (default) or any port number from 1024 to 65536, as directed by your network administrator.

Domain Name: Your domain name, ex: mycompany.com or mycompany.co.uk.

[Optional] Port for CommandCenter (CC) discovery: not required for a standalone installation of Dominion SX. If you are going to manage this Dominion SX unit using Raritan's CC, leave this port number set at the default value of 5000, or set it to the port number specified by the administrator. In rare cases another device may be using port 5000 as its default broadcast (or discovery) port.

II. Physical Installation and Initial Configuration

There are two ways to complete the basic network installation of the Dominion SX 1) Using a Java enabled web-browser and Ethernet cable - see II, **A: Java enabled System Configuration for DSX** or 2) Using a VT100 terminal or equivalent setup, such as a communications package like HyperTerminal/Minicom or equivalent and a serial cable - see II, **B: Command Line Interface System Configuration for DSX.**

Physical Installation

(see illustration above, right)

1. Obtain a computer with a network card and crossover network cable. This computer will be referred to as the 'installation computer.'

2. Physically mount the unit in an ergonomically sound manner. The unit is designed to be easily rack-mounted, and rack mounting is recommended.

3. Connect the crossover network LAN cable to the primary LAN connection on the back of the chassis. Connect the other end to the network card in the installation computer.

4. Connect the female end of the external power cord to the back of the chassis.

5. Connect the male end of the external power cord to the power supply outlet.

6. Power ON the Dominion SX unit.

Note: The unit will perform a hardware and firmware self-test and then start the software boot sequence. The boot sequence is complete when the light goes on and remains on.

Each unit comes with a certain set of configuration defaults henceforth referred to as **Factory Reset Mode**. The default network settings for this mode are:

Internet Address (IP): 192.168.0.192
Gateway Address: 192.168.0.192
Subnet Mask: 255.255.255.0
Port Address: 51000

Username: admin
Password: raritan

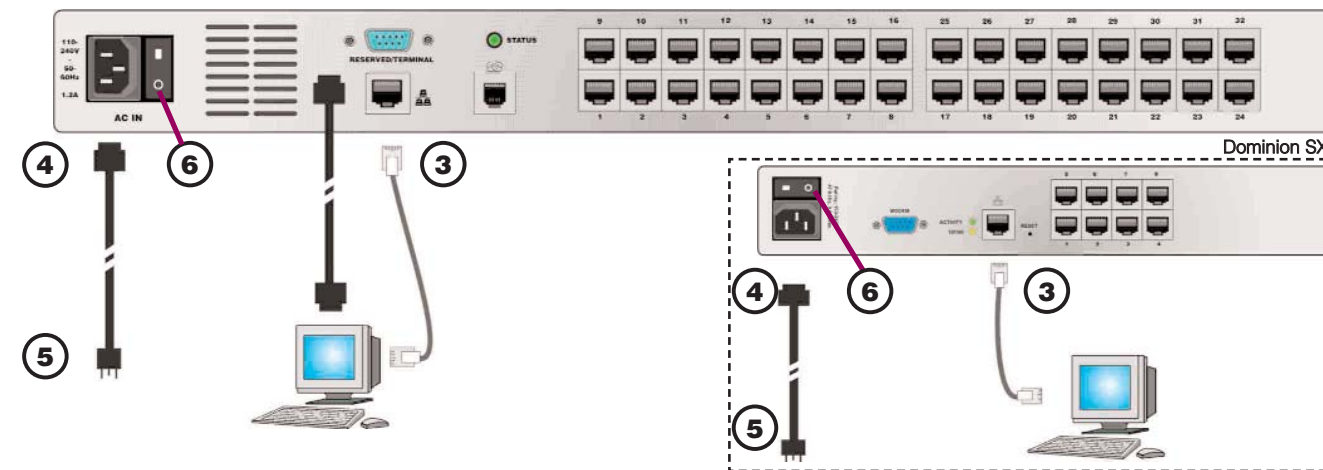
A. Java-enabled System Configuration for DSX

Ensure that your installation computer has a route to and can communicate with IP address **192.168.0.192** by entering the command **route print** on the command line interface of the installation computer.

If 192.168.0.192 is not on the gateway list, add it to the gateway list by typing the following commands into either a DOS or UNIX command line interface on the installation computer where your browser is running.

On a Windows NT/95/98/2000 system, type: **route add 192.168.0.192 <client_host IP address>**

Physical Installation Diagram



For example:

```
route add 192.168.0.192 15.128.122.12
```

On a UNIX (incl. Sun Solaris) system, type:
route add 192.168.0.192 <client_host IP address> -interface

For example:

```
route add 192.168.0.192 15.128.122.12 -interface
```

On the command line interface, type: **ping 192.168.0.192.**

If this does not produce a reply, please verify that:

- The Dominion SX unit is powered on and has completed the self-test
- It has a crossover Ethernet cable connected to it from the installation computer (or a straight-through cable from a known-good port on a hub, switch, or router)
- The correct IP address was entered into the URL on a Java-enabled browser
- There is route from the installation computer to the Dominion SX.

Use the installation computer to connect to the unit, typing the factory default IP address **192.168.0.192** in the installation computer Web browser's address line. Once you have reached the unit's initial configuration screen, enter the Initial Software Configuration information as described below.

User Information

This information should be entered for each user, up to 50 user accounts, with at least one administrator for each Dominion SX unit.

User Name: 32 characters maximum, one character minimum, spaces permitted.

Login Name: 20 characters maximum, one character minimum, no spaces.

User Type:

- **Administrator:** Can modify configuration of the unit, has read/write access to the console window.

- **Operator:** Cannot modify configuration of the unit (except own password), has read/write access to the console window.

- **Observer:** Cannot modify configuration of the unit (except own password), has read-only access to the console window.

Information: Any additional information (text) you want associated with this user. Can be 64 characters maximum, no minimum, spaces permitted.

mitted.

Password: Alphanumeric text, 6-16 characters in length, no spaces. The first six characters of the password must contain at least two alphas and one numeric character; the first four characters cannot be the same as the user name.

Once configured, the Dominion unit will automatically reboot. The unit will now be operating at its newly assigned IP address. If the unit is not yet mounted in the final installation location, the unit can be powered down and disconnected from the AC/DC power source (mains) and then relocated to its place in the rack or equipment shelf.

To communicate with the unit, please use a **Java-enabled browser**, and enter the unit's new IP address. Use the newly created Administrator Username and Password to access the unit, add users, and configure ports for access via the Dominion SX.

Also, at this time, it is important to verify/correct the Time and Date settings for the unit (under the **Time** tab), since all log entries rely on this information.

Configure the ports, using the information below, for secure console access. Set up the user profile for the specific ports each specific user is authorized to access.

All Servers

1. Note the communication settings for the console port on each server that is to be connected to the Dominion SX. These will include baud/bit rate, typically 9600bps to 115.2Kbps, parity, flow-control; hardware (CTS/RTS) or software (XON/XOFF).

2. Ensure that you have the right cabling, and in some cases, adapters, to connect the server to the Dominion SX serial port.

3. Ensure that the console port is enabled on the server to be connected to the Dominion SX.

4. Ensure that the server supports - and console is set for - VT100 emulation. Default code-set for Raritan's terminal emulation package, RaritanConsole is US ASCII; alternatively, RaritanConsole can be set for ISO 8859-1 or ISO 8859-15.

Network / Firewall

In order to enable access to Dominion SX, your

network and firewall must allow communication on TCP Port 51000.

Dominion SX can be configured to use a different TCP port of your own designation (from 1024-65536).

To access Dominion SX via web browser, your firewall must also allow access to TCP Port 443 (Standard HTTPS). You may also wish to allow access to TCP Port 80 (Standard for HTTP) for additional convenience; because Dominion SX will forward all HTTP requests to HTTPS. Allowing the initial HTTP requests on TCP Port 80 usually reduces complication for users (users may initiate the connection with either "http" - unit will automatically switch to "https" - or "https" as a URL).

B. Command Line Interface System Configuration for DSX

As of release 2.5, you can use a Command Line Interface (CLI) or a Web browser for basic networking setup and configuration.

1. Connect the Dominion SX unit to power, AC or DC, depending on the unit. For DC models, cabling is customer-provided.

2. Power ON the unit.

3. Connect a VT100 terminal (or equivalent) to the Terminal (or Terminal/Reserved on some models) serial port. This port is a DB9-Male port on most models, except ALL dual-power dual-LAN models, including DSXA-48, which have an RJ45 connector for a terminal port.

4. The cabling required varies depending on the terminal used for this initial configuration; maximum length is 50 feet at 9600bps. Without the correct cabling, it is impossible to communicate with the Dominion SX.

a. PC with serial port using Windows with HyperTerminal (or equivalent communications package): DB9-F (female) to DB9-F serial cable OR RJ45 male to DB9-F serial cable (RJ45 male end plugs into the Dominion SX)

b. PC with serial port using Linux operating system and Minicom (or equivalent) communications package: DB9-F (female) to DB9-F serial cable OR RJ45 male to DB9-F serial cable (RJ45 male end plugs into the Dominion SX)

(continued, over)

II. Physical Installation and Initial Configuration (continued)

(continued from other side)

- c. Another device with an asynchronous RS232 communications port and a communications package capable of being set to 9600-N-8-1: Custom cabling may be required. Minimally, the following pins must be supported by the device - Transmit, Receive, and Ground.
5. Set the communication parameters for the communications package to 9600-N-8-1 and ensure that the communications port configured in the software is the same as the physical port that the serial cable from the Dominion SX is plugged into. Keep in mind that other devices in a PC may be using a communications port internally. In these instances, the COM port that the Dominion SX is connected to must be different than the port used by the modem.
6. Press Enter on your keyboard; the initial configuration screen for network parameters should appear. If the screen does not appear, one of the following may have happened:
 - a. The unit is running software ver-

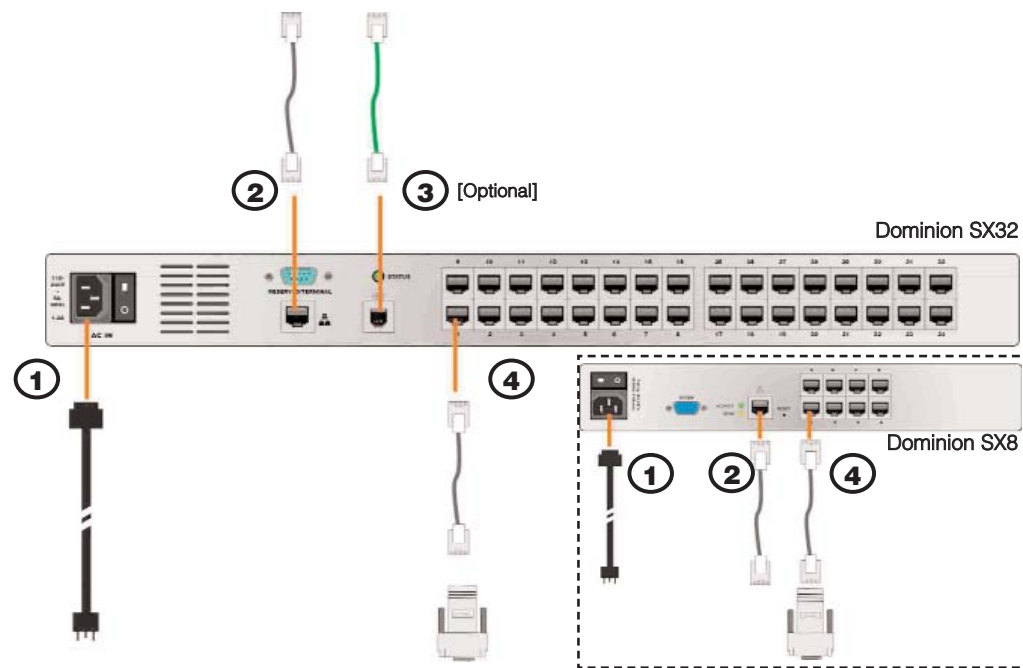
- tion below 2.5; initial network installation from a terminal is supported only in units running 2.5 or higher.
 - b. The cabling is not correct. Please review the cabling instructions earlier in this document.
 - c. The communications settings are not set to 9600-N-8-1.
 - d. The Dominion SX unit is not plugged into the right COM (communications) port.
 - e. The communications software is not configured to connect to the correct port (may be set to COM3, while the Dominion SX is connected to COM2).
 - 8) Type a name for the administrator of the Dominion SX unit. The default username is admin. This name is required to configure the unit, and is case-sensitive.
 - 9) Type a password for the administrator. The default password is **raritan** and is case-sensitive.
- After initial network setup, the admin user must change the password for the admin account. This new username and password are required for future configurations to the unit. If

you forget or misplace this information, you must reset the unit to Factory Default. Once lost, there is no way for a user or Raritan to recover this information. Note that usernames and password are case sensitive. The following characters (within double-quotes) cannot be used in these fields: spaces, "<", ">". Login Name: 20 characters maximum, one character minimum, no spaces. Passwords: use a mixture of letter and numbers.

Upon completion of network configuration, the unit performs a self-test, and then starts the software boot sequence. Depending on the unit, the initial boot sequence can take from 1-3 minutes, and is complete when the blue LED on unit's front panel lights and remains on for longer than 30 seconds (subsequent reboots take less time).

The unit can now be accessed at the new IP address, using the admin username and password entered above. The user will be prompted to change the password.

III. Attaching Servers or other serially-managed devices to Dominion SX



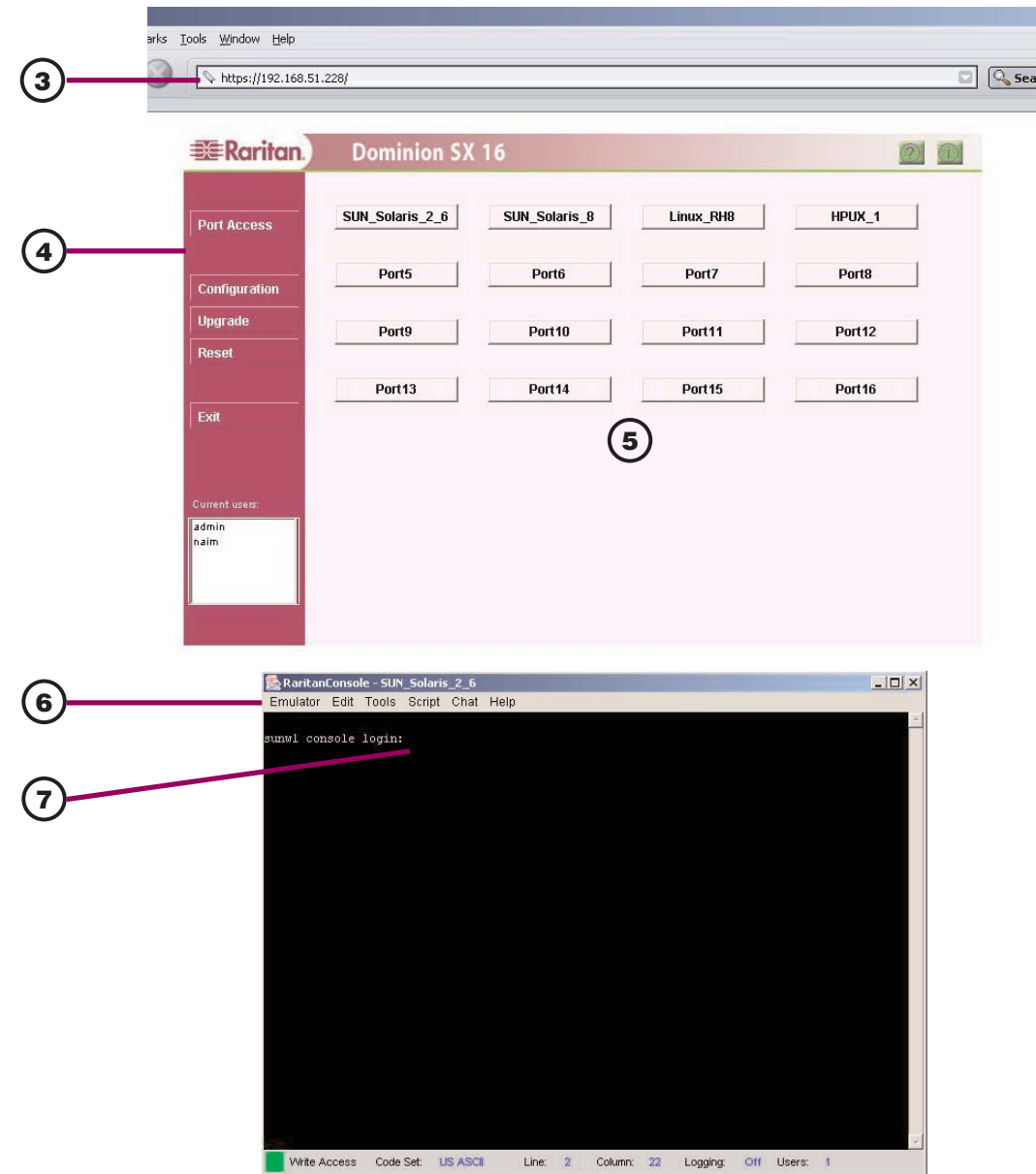
Attaching Servers

1. Plug in power cord to AC (main) supply.
2. Connect a standard Cat5 Ethernet cable from the Dominion SX network port, to your networked switch / hub / router.
3. [Optional] Depending on the model, connect the integrated modem found in Dominion SX by attaching one end of the included

- telephone cable to the modem port, and the other end to an analog telephone line.
4. To connect a standard DB9 or DB25 serial console port to Dominion SX, use a Raritan Nulling Serial Adapter (p/n ASCSDB9F, ASCSDB9M, ASCSDB25F, ASCSDB25M) to interconnect the console port to Dominion SX via a standard Cat5 Ethernet cable.
5. Many Cisco and Sun devices

are equipped with serial console ports employing non-standard RJ45 connections. Most of these devices' serial console ports can be directly connected to Dominion SX with a "serial rollover cable" (not a standard Ethernet cable). If you have misplaced the rollover cable supplied with your Cisco or Sun device, you may purchase one from Raritan (p/n CRLVR-15).

IV. Launch RaritanConsole (RC)



Launch RaritanConsole

Dominion SX provides secure web-browser access to devices connected to each of your servers or other serially managed devices from any Java-enabled browser. This enables convenient remote access to your server(s)/devices without the burden of having software on-hand.

1. Log on to any computer with a Java-enabled browser with network access to Dominion SX.

Notes:

- If you are using Windows NT, 2000, or XP, ensure that you are not a "restricted" user.
- If you are using Windows XP, ensure that either Java Virtual Machine or Microsoft VM (XP Service Pack 1) is installed.

2. Launch Microsoft Internet Explorer or the Netscape browser. Ensure that your Internet Explorer/Netscape security settings allow the

download and execution of Java-applets.

Note:

- The Microsoft Windows default security setting, "Medium" will suffice.

3. Enter the IP address for the Dominion unit in the URL field, and provide a valid username and password when prompted.

4. Once authenticated, the list of ports that the user is authorized to access will appear.

5. Click on a specific port to access, which must be connected to a powered-on and properly configured server/device.

6. A terminal emulation window (RaritanConsole) will be launched. Position the mouse in the window and press the Enter key on the keyboard.

7. You should then see the login prompt from the target server/device. Alternatively, just to test the port, please plug in the supplied RJ45

loop-back plug into a specific port and then select that port. You will see the characters you type echoed back.

The installation is now complete! Please refer to your Dominion SX Installation and Operations Manual, located on the Raritan User Manual CD-ROM for more details on any specific topic.