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# Dell™ PowerConnect™ J-Series J-SRX210 Services Gateway

Hardware Guide



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# Table of Contents

	<b>About This Guide</b> .....	<b>xiii</b>
	Objectives .....	xiii
	Audience .....	xiii
	Documentation Conventions .....	xiv
	Repair and Warranty .....	xv
	Requesting Technical Support .....	xv
<b>Part 1</b>	<b>J-SRX210 Services Gateway Overview</b>	
<b>Chapter 1</b>	<b>Introduction to the J-SRX210 Services Gateway</b> .....	<b>3</b>
	J-SRX210 Services Gateway Description .....	3
	About the J-SRX210 Services Gateway .....	3
	J-SRX210 Services Gateway Models .....	3
	Accessing the J-SRX210 Services Gateway .....	4
	J-SRX210 Services Gateway Hardware Features .....	4
<b>Chapter 2</b>	<b>J-SRX210 Services Gateway Hardware Components and Specifications</b> .....	<b>7</b>
	J-SRX210 Services Gateway Specifications .....	7
	J-SRX210 Services Gateway Front Panel and Back Panel Views (Low Memory, High Memory and PoE Version) .....	9
	J-SRX210 Services Gateway Front Panel .....	10
	J-SRX210 Services Gateway Back Panel .....	10
	J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views .....	12
	J-SRX210 Services Gateway with Integrated Convergence Services Front Panel .....	12
	J-SRX210 Services Gateway with Integrated Convergence Services Back Panel .....	13
	J-SRX210 Services Gateway Built-In Interfaces .....	14
	J-SRX210 Services Gateway LEDs .....	17
	Front Panel LEDs .....	17
	Ethernet Port LEDs .....	19
	Voice Interface Port LED .....	20
	J-SRX210 Services Gateway Boot Devices and Dual-Root Partitioning Scheme .....	22
	Boot Devices .....	22
	Dual-Root Partitioning Scheme .....	22
	J-SRX210 Services Gateway Cooling System .....	22
	J-SRX210 Services Gateway Power Supply .....	24

<b>Chapter 3</b>	<b>J-SRX210 Services Gateway 3G ExpressCard . . . . . 25</b>
	J-SRX210 Services Gateway 3G ExpressCard Overview . . . . . 25
	Introduction . . . . . 25
	Using the 3G ExpressCard . . . . . 25
	Key Features . . . . . 26
	Physical Specifications . . . . . 27
	Installing the 3G ExpressCard in the J-SRX210 Services Gateway ExpressCard Slot . . . . . 27
	J-SRX210 Services Gateway 3G ExpressCard Basic CLI Commands . . . . . 28
<b>Chapter 4</b>	<b>J-SRX210 Services Gateway Power over Ethernet Support . . . . . 31</b>
	J-SRX210 Services Gateway PoE Overview . . . . . 31
	Introduction . . . . . 31
	PoE Classes and Power Ratings . . . . . 32
	Configuring PoE Functionality on the J-SRX210 Services Gateway . . . . . 33
<b>Chapter 5</b>	<b>J-SRX210 Services Gateway with Integrated Convergence Services . . . . . 35</b>
	About the J-SRX210 Services Gateway with Integrated Convergence Services . . . . . 35
	Basic Functions . . . . . 36
	Supported Features . . . . . 36
	Common Deployment Scenarios . . . . . 37
	Understanding the Functions of the J-SRX210 Services Gateway with Integrated Convergence Services . . . . . 37
	J-SRX210 Services Gateway with Integrated Convergence Services Interoperability . . . . . 38
	Configuring the J-SRX210 Services Gateway with Integrated Convergence Services . . . . . 39
<b>Chapter 6</b>	<b>J-SRX210 Services Gateway Mini-Physical Interface Modules . . . . . 41</b>
	J-SRX210 Services Gateway Mini-Physical Interface Modules . . . . . 41
<b>Part 2</b>	<b>Setting Up the J-SRX210 Services Gateway</b>
<b>Chapter 7</b>	<b>Preparing the Site for the J-SRX210 Services Gateway Installation . . . . . 45</b>
	Site Preparation Checklist for the J-SRX210 Services Gateway . . . . . 45
	General Site Guidelines for Installing the J-SRX210 Services Gateway . . . . . 47
	J-SRX210 Services Gateway Cabinet Requirements . . . . . 48
	J-SRX210 Services Gateway Rack Requirements . . . . . 49
	Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway . . . . . 50
	J-SRX210 Services Gateway Electrical and Power Requirements . . . . . 51
<b>Chapter 8</b>	<b>Installation Overview for the J-SRX210 Services Gateway . . . . . 53</b>
	Installation Overview for the J-SRX210 Services Gateway . . . . . 53
<b>Chapter 9</b>	<b>Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway . . . . . 55</b>
	Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway . . . . . 55



<b>Chapter 10</b>	<b>Unpacking the J-SRX210 Services Gateway . . . . .</b>	<b>57</b>
	Unpacking the J-SRX210 Services Gateway . . . . .	57
	Verifying Parts Received with the J-SRX210 Services Gateway . . . . .	58
<b>Chapter 11</b>	<b>Preparing the J-SRX210 Services Gateway for Installation . . . . .</b>	<b>61</b>
	Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation . . . . .	61
	Preparing the J-SRX210 Services Gateway for Rack-Mount Installation . . . . .	62
	Preparing the J-SRX210 Services Gateway for Desk-Mount Installation . . . . .	63
	Preparing the J-SRX210 Services Gateway for Wall-Mount Installation . . . . .	64
<b>Chapter 12</b>	<b>Installing the J-SRX210 Services Gateway . . . . .</b>	<b>65</b>
	J-SRX210 Services Gateway Safety Requirements, Warnings, and Guidelines . . .	65
	J-SRX210 Services Gateway Installation . . . . .	65
	Adjusting the Power Supply Adapter Tray for the J-SRX210 Services Gateway for Rack-Mount Installation . . . . .	66
	Installing the J-SRX210 Services Gateway in a Rack . . . . .	67
	Installing the J-SRX210 Services Gateway on a Desk . . . . .	70
	Installing the J-SRX210 Services Gateway on a Wall . . . . .	72
	Replacing or Installing Mini-Physical Interface Modules in the J-SRX210 Services Gateway . . . . .	74
<b>Chapter 13</b>	<b>Connecting, Grounding, and Powering On the J-SRX210 Services Gateway . . . . .</b>	<b>75</b>
	Connecting the J-SRX210 Services Gateway to the Power Supply . . . . .	75
	Connecting and Organizing Interface Cables to the J-SRX210 Services Gateway . . . . .	76
	Grounding the J-SRX210 Services Gateway . . . . .	77
	Powering On and Powering Off the J-SRX210 Services Gateway . . . . .	78
	Powering On the J-SRX210 Services Gateway . . . . .	78
	Powering Off the J-SRX210 Services Gateway . . . . .	79
	Resetting the J-SRX210 Services Gateway . . . . .	80
<b>Chapter 14</b>	<b>J-SRX210 Services Gateway Autoinstallation . . . . .</b>	<b>81</b>
	J-SRX210 Services Gateway Autoinstallation Overview . . . . .	81
<b>Chapter 15</b>	<b>Connecting the J-SRX210 Services Gateway to Management Devices . . .</b>	<b>83</b>
	Connecting a J-SRX210 Services Gateway to the J-Web Interface . . . . .	83
	Connecting a J-SRX210 Services Gateway to the CLI Locally . . . . .	85
	Connecting a J-SRX210 Services Gateway to the CLI Remotely . . . . .	86
	Connecting the Modem at the J-SRX210 Services Gateway End . . . . .	87
	Connecting the Modem to the Console Port on the J-SRX210 Services Gateway . . . . .	88
	Connecting to the CLI at the User End for the J-SRX210 Services Gateway . . . .	89
<b>Chapter 16</b>	<b>Performing Initial Software Configuration on the J-SRX210 Services Gateway . . . . .</b>	<b>91</b>
	J-SRX210 Services Gateway Software Configuration Overview . . . . .	91
	Preparing J-SRX210 Services Gateway for Configuration . . . . .	91
	Understanding Built-In Ethernet Ports . . . . .	92
	Mapping the Chassis Cluster Ports . . . . .	92

	Understanding Management Access . . . . .	93
	Performing Initial Software Configuration on the J-SRX210 Services Gateway	
	Using the CLI . . . . .	94
	Performing Initial Software Configuration on the J-SRX210 Services Gateway	
	Using the J-Web Interface . . . . .	96
	Establishing Basic Connectivity . . . . .	97
	Configuring Basic System Properties . . . . .	98
	J-SRX210 Services Gateway Secure Web Access Overview . . . . .	101
<b>Part 3</b>	<b>Maintaining and Monitoring the J-SRX210 Services Gateway Hardware</b>	
<b>Chapter 17</b>	<b>Maintaining the J-SRX210 Services Gateway Hardware Components . . .</b>	<b>105</b>
	Maintaining the J-SRX210 Services Gateway Hardware Components . . . . .	105
<b>Chapter 18</b>	<b>Monitoring the J-SRX210 Services Gateway . . . . .</b>	<b>107</b>
	Monitoring Hardware Components on the J-SRX210 Services Gateway . . . . .	107
	Monitoring the J-SRX210 Services Gateway Chassis Using the CLI . . . . .	107
	Monitoring the J-SRX210 Services Gateway Components Using LEDs . . . . .	109
	Monitoring the J-SRX210 Services Gateway Using Chassis Alarm	
	Conditions . . . . .	111
	Monitoring the J-SRX210 Services Gateway Power System . . . . .	113
	Resetting the Configuration File When the J-SRX210 Services Gateway Is	
	Inaccessible . . . . .	113
	Using the Reset Config Button on the J-SRX210 Services Gateway . . . . .	114
	Changing the Reset Config Button Behavior on the J-SRX210 Services	
	Gateway . . . . .	114
	Dell Support . . . . .	115
<b>Part 4</b>	<b>Appendixes</b>	
<b>Appendix A</b>	<b>Safety and Regulatory Compliance Information . . . . .</b>	<b>119</b>
	J-SRX210 Services Gateway Definition of Safety Warning Levels . . . . .	119
	J-SRX210 Services Gateway General Safety Guidelines and Warnings . . . . .	121
	J-SRX210 Services Gateway Fire Safety Requirements . . . . .	125
	J-SRX210 Services Gateway Installation Safety Guidelines and Warnings . . . . .	125
	J-SRX210 Services Gateway Laser and LED Safety Guidelines and Warnings . . .	130
	Laser and LED Safety Guidelines and Warnings . . . . .	130
	General Laser Safety Guidelines . . . . .	130
	Class 1 Laser Product Warning . . . . .	130
	Class 1 LED Product Warning . . . . .	131
	Laser Beam Warning . . . . .	131
	Radiation from Open Port Apertures Warning . . . . .	132
	J-SRX210 Services Gateway Maintenance and Operational Safety Guidelines	
	and Warnings . . . . .	133
	Safety Guidelines and Warnings . . . . .	133
	Battery Handling Warning . . . . .	133
	Jewelry Removal Warning . . . . .	134
	Lightning Activity Warning . . . . .	135
	Operating Temperature Warning . . . . .	135

	Product Disposal Warning . . . . .	137
	J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings . . . . .	137
	J-SRX210 Services Gateway Agency Approvals . . . . .	138
	J-SRX210 Services Gateway Compliance Statements for EMC Requirements . . . . .	140
	J-SRX210 Services Gateway Compliance Statements for Environmental Requirements . . . . .	141
	J-SRX210 Services Gateway Compliance Statements for Acoustic Noise . . . . .	142
<b>Appendix B</b>	<b>J-SRX210 Services Gateway Power Guidelines, Requirements, and Specifications . . . . .</b>	<b>143</b>
	J-SRX210 Services Gateway Site Electrical Wiring Guidelines . . . . .	143
	J-SRX210 Services Gateway Power Specifications and Requirements . . . . .	144
	J-SRX210 Services Gateway Grounding Specifications . . . . .	145
<b>Appendix C</b>	<b>J-SRX210 Services Gateway Interface Cable Specifications and Connector Pinouts . . . . .</b>	<b>147</b>
	Interface Cable and Wire Specifications for the J-SRX210 Services Gateway . . . . .	147
	RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Ethernet Port . . . . .	148
	RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port . . . . .	148
	RJ-11 Connector Pinouts for the J-SRX210 Services Gateway with Integrated Convergence Services FXO and FXS Ports . . . . .	149
<b>Appendix D</b>	<b>Getting Help . . . . .</b>	<b>151</b>
	Obtaining Assistance . . . . .	151
	Online Services . . . . .	152
	Automated Order-Status Service . . . . .	153
	Support Service . . . . .	153
	Dell Enterprise Training and Certification . . . . .	153
	Problems With Your Order . . . . .	153
	Product Information . . . . .	153
	Returning Items for Warranty Repair or Credit . . . . .	153
	Before You Call . . . . .	154
	Diagnostics Checklist . . . . .	154
	Contacting Dell . . . . .	155
	Locating a J-SRX210 Services Gateway Component Serial Number and Agency Labels . . . . .	155
	Listing the J-SRX210 Services Gateway and Component Details with the CLI . . . . .	155
	J-SRX210 Services Gateway Chassis Serial Number and Agency Labels . . . . .	156
	J-SRX210 Services Gateway Mini-Physical Interface Module Serial Number Label . . . . .	156
	Packing the J-SRX210 Services Gateway and Components for Shipment . . . . .	157
	Packing the Services Gateway . . . . .	157
	Packing the Components for Shipment . . . . .	157
	Dell Support . . . . .	158
<b>Part 5</b>	<b>Index</b>	
	Index . . . . .	161



# About This Guide

This preface includes the following topics:

- Objectives on page xiii
- Audience on page xiii
- Documentation Conventions on page xiv
- Repair and Warranty on page xv
- Requesting Technical Support on page xv

## Objectives

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This guide describes hardware components and installation, basic configuration, and basic troubleshooting procedures for the PowerConnect™ J-Series J-SRX210 Services Gateway. It explains how to prepare your site for services gateway installation, unpack and install the hardware, power on the services gateway, perform initial software configuration, and perform routine maintenance. After completing the installation and basic configuration procedures covered in this guide, see the JUNOS Software configuration guides for information about further JUNOS Software configuration.

## Audience

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This guide is designed for network administrators who are installing and maintaining a PowerConnect J-Series J-SRX210 Services Gateway or preparing a site for device installation. To use this guide, you need a broad understanding of networks in general and the Internet in particular, networking principles, and network configuration. Any detailed discussion of these concepts is beyond the scope of this guide.

## Documentation Conventions

Table 1: Notice Icons





Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
<b>Bold text like this</b>	Represents text that you type.	To enter configuration mode, type the <b>configure</b> command:  user@host> <b>configure</b>
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> <b>show chassis alarms</b> No alarms currently active
<i>Italic text like this</i>	<ul style="list-style-type: none"> <li>Introduces important new terms.</li> <li>Identifies book names.</li> <li>Identifies RFC and Internet draft titles.</li> </ul>	<ul style="list-style-type: none"> <li>A policy <i>term</i> is a named structure that defines match conditions and actions.</li> <li><i>JUNOS Software System Basics Configuration Guide</i></li> <li>RFC 1997, <i>BGP Communities Attribute</i></li> </ul>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name:  [edit] root@# <b>set system domain-name</b> <i>domain-name</i>
Plain text like this	Represents names of configuration statements, commands, files, and directories; IP addresses; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none"> <li>To configure a stub area, include the <b>stub</b> statement at the [edit protocols <b>ospf area area-id</b>] hierarchy level.</li> <li>The console port is labeled <b>CONSOLE</b>.</li> </ul>
< > (angle brackets)	Enclose optional keywords or variables.	<b>stub</b> <default-metric <i>metric</i> >;
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	<b>broadcast</b>   <b>multicast</b>  ( <i>string1</i>   <i>string2</i>   <i>string3</i> )

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	<code>rsvp { # Required for dynamic MPLS only</code>
[ ] (square brackets)	Enclose a variable for which you can substitute one or more values.	<code>community name members [ <i>community-ids</i> ]</code>
Indentation and braces ( { } )	Identify a level in the configuration hierarchy.	<code>[edit] routing-options {   static {     route default {       nexthop <i>address</i>;       retain;     }   } }</code>
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
<b>J-Web GUI Conventions</b>		
<b>Bold text like this</b>	Represents J-Web graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none"> <li>In the Logical Interfaces box, select <b>All Interfaces</b>.</li> <li>To cancel the configuration, click <b>Cancel</b>.</li> </ul>
> (bold right angle bracket)	Separates levels in a hierarchy of J-Web selections.	In the configuration editor hierarchy, select <b>Protocols&gt;Ospf</b> .

## Repair and Warranty



CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

## Requesting Technical Support

For technical support, see <http://www.support.dell.com>.





## PART 1

# J-SRX210 Services Gateway Overview

- Introduction to the J-SRX210 Services Gateway on page 3
- J-SRX210 Services Gateway Hardware Components and Specifications on page 7
- J-SRX210 Services Gateway 3G ExpressCard on page 25
- J-SRX210 Services Gateway Power over Ethernet Support on page 31
- J-SRX210 Services Gateway with Integrated Convergence Services on page 35
- J-SRX210 Services Gateway Mini-Physical Interface Modules on page 41



## CHAPTER 1

# Introduction to the J-SRX210 Services Gateway

This chapter includes the following topics:

- J-SRX210 Services Gateway Description on page 3
- J-SRX210 Services Gateway Hardware Features on page 4

## J-SRX210 Services Gateway Description

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This topic includes the following sections:

- About the J-SRX210 Services Gateway on page 3
- J-SRX210 Services Gateway Models on page 3
- Accessing the J-SRX210 Services Gateway on page 4

### About the J-SRX210 Services Gateway

The PowerConnect J-Series J-SRX210 Services Gateway offers complete functionality and flexibility for delivering secure, reliable data and voice services over IP, along with multiple interfaces that support WAN and LAN connectivity. Besides SIP/analog voice support, additional features include 3G wireless support, DSLAM, flexible data/voice T1/E1, and Power over Ethernet (PoE).

The device provides Internet Protocol Security (IPsec), virtual private network (VPN), and firewall services for small-sized and medium-sized companies and enterprise branch and remote offices.

### J-SRX210 Services Gateway Models

The J-SRX210 Services Gateway is available in four models, which are listed in Table 3 on page 3.

**Table 3: J-SRX210 Services Gateway Models**

Product Name	Device Type	Model Number
J-SRX210 Services Gateway	Low Memory	J-SRX210B
J-SRX210 Services Gateway	High Memory	J-SRX210H

**Table 3: J-SRX210 Services Gateway Models (continued)**

Product Name	Device Type	Model Number
J-SRX210 Services Gateway with PoE	Power over Ethernet (PoE)	J-SRX210H-POE
J-SRX210 Services Gateway with integrated convergence services	Voice	J-SRX210H-P-MGW

All J-SRX210 Services Gateways run the JUNOS operating system.

### Accessing the J-SRX210 Services Gateway

Two user interfaces are available for monitoring, configuring, troubleshooting, and managing the J-SRX210 Services Gateway:

- **J-Web interface:** Web-based graphical interface that allows you to operate a services gateway without commands. The J-Web interface provides access to all JUNOS functionality and features.
- **JUNOS command-line interface (CLI):** JUNOS command shell that runs on top of a UNIX-based operating system kernel. The CLI is a straightforward command interface. On a single line, you type commands that are executed when you press the Enter key. The CLI provides command Help and command completion.

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Hardware Features on page 4

### J-SRX210 Services Gateway Hardware Features

Table 4 on page 4 lists the hardware features supported on the J-SRX210 Services Gateway.

**Table 4: J-SRX210 Services Gateway Hardware Features**

Feature	J-SRX210 Services Gateway Low Memory	J-SRX210 Services Gateway High Memory	J-SRX210 Services Gateway Power over Ethernet	J-SRX210 Services Gateway with Integrated Convergence Services
DDR memory	512 MB	1 GB	1 GB	1 GB
SIP/analog voice support	No	No	No	Yes
PoE support	No	No	Yes	Yes

Table 4: J-SRX210 Services Gateway Hardware Features (*continued*)

Feature	J-SRX210 Services Gateway Low Memory	J-SRX210 Services Gateway High Memory	J-SRX210 Services Gateway Power over Ethernet	J-SRX210 Services Gateway with Integrated Convergence Services
Power supply adapter	60 watts	60 watts	150 watts	150 watts
AC input voltage	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC
Average power consumption	27 watts	28 watts	84 watts	96 watts
Gigabit Ethernet ports	2	2	2	2
Fast Ethernet ports	6	6	6	6
Console port	One	One	One	One
USB ports	Two	Two	Two	Two
Foreign Exchange Subscriber (FXS) and Foreign Exchange Office (FXO) interface	None	None	None	Two FXS ports and two FXO ports
Mini-PIM slots	One	One	One	One
LEDs	Status, Alarm, HA, Power, Mini-PIMs, 3G ExpressCard, Port (TX/RX and PoE)	Status, Alarm, HA, Power, Mini-PIMs, 3G ExpressCard, Port (TX/RX and PoE)	Status, Alarm, HA, Power, Mini-PIMs, 3G ExpressCard, Port (TX/RX and PoE)	Status, Alarm, HA, Power, Mini-PIMs, 3G ExpressCard, Port (TX/RX and PoE), and Voice Interface
NAND flash	1 GB	1 GB	1 GB	2 GB



**NOTE:** The PoE LED is enabled only on the PoE model of the J-SRX210 Services Gateway. For non-PoE services gateways, the PoE LED remains off.

For more details on the J-SRX210 Services Gateway software features and licenses, see the *JUNOS Software Administration Guide*.

**Related Topics** • J-SRX210 Services Gateway Description on page 3

- J-SRX210 Services Gateway Specifications on page 7

## CHAPTER 2

# J-SRX210 Services Gateway Hardware Components and Specifications

This chapter includes the following topics:

- J-SRX210 Services Gateway Specifications on page 7
- J-SRX210 Services Gateway Front Panel and Back Panel Views (Low Memory, High Memory and PoE Version) on page 9
- J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12
- J-SRX210 Services Gateway Built-In Interfaces on page 14
- J-SRX210 Services Gateway LEDs on page 17
- J-SRX210 Services Gateway Boot Devices and Dual-Root Partitioning Scheme on page 22
- J-SRX210 Services Gateway Cooling System on page 22
- J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway Specifications

The J-SRX210 Services Gateway chassis is a rigid sheet metal structure of 1 rack Unit (U) height that houses all the other hardware components.

Figure 1 on page 8 shows the J-SRX210 Services Gateway with Integrated Convergence Services chassis.

Figure 1: J-SRX210 Services Gateway with Integrated Convergence Services

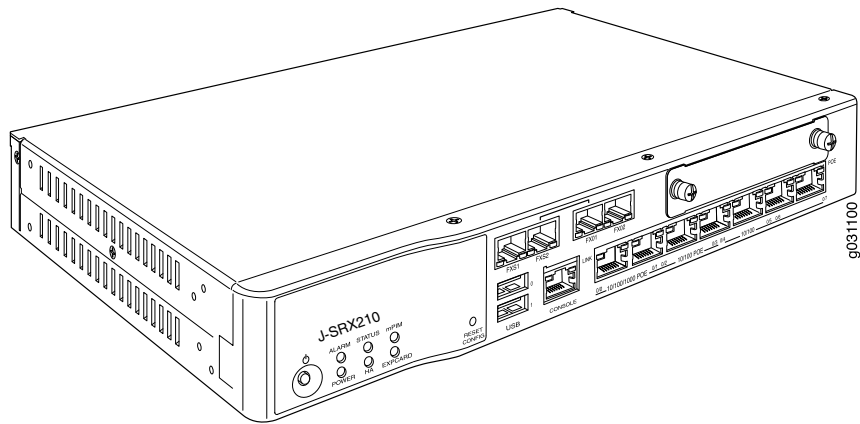


Figure 2 on page 8 shows the J-SRX210 Services Gateway chassis (for low memory and high memory model).

Figure 2: J-SRX210 Services Gateway

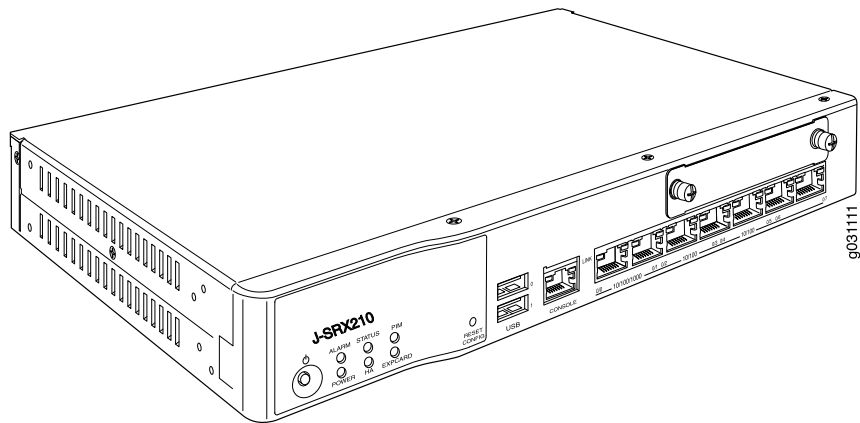


Table 5 on page 8 provides information on the physical specifications of the device.

Table 5: J-SRX210 Services Gateway Specifications

Specification	Value
Dimensions (H x W x D)	1.73 in. x 11.02 in. x 7.04 in. 44 mm x 280 mm x 179 mm
Chassis weight	<ul style="list-style-type: none"> <li>3.43 lb (1.56 kg) for J-SRX210 Services Gateway Low Memory and High Memory models</li> <li>3.50 lb (1.59 kg) for J-SRX210 Services Gateway with PoE</li> <li>3.76 lb (1.70 kg) for J-SRX210 Services Gateway with Integrated Convergence Services</li> </ul>



Table 5: J-SRX210 Services Gateway Specifications (*continued*)

Specification	Value
Altitude	<ul style="list-style-type: none"> <li>No performance degradation up to 10,000 ft (3048 m) for J-SRX210 Services Gateway Low Memory, High Memory, and PoE models</li> <li>No performance degradation up to 6561 ft (2000 m) for J-SRX210 Services Gateway with Integrated Convergence Services)</li> </ul>
Temperature	<p>Normal operation ensured in temperature range of 32°F (0°C) to 104°F (+40°C)</p> <p>Nonoperating storage temperature in shipping container: -40°F (-40°C) to 158°F (70°C)</p>
Maximum thermal output  NOTE: These specifications are estimates and subject to change.	<ul style="list-style-type: none"> <li>AC power: 120 BTU/hour (35 watts) for J-SRX210 Services Gateway Low Memory</li> <li>AC power: 126 BTU/hour (37 watts) for J-SRX210 Services Gateway High Memory</li> <li>AC power: 327 BTU/hour (96 watts) for J-SRX210 Services Gateway with PoE</li> <li>AC power: 396 BTU/hour (116 watts) for J-SRX210 Services Gateway with Integrated Convergence Services</li> </ul>
Noise level	70 dB(A) or less per EN ISO 7779



**CAUTION:** Before removing or installing components of a functioning services gateway, attach an electrostatic discharge (ESD) strap to an ESD point and place the other end of the strap around your bare wrist. Failure to use an ESD strap could result in damage to the services gateway.

#### Related Topics

- J-SRX210 Services Gateway Description on page 3
- J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
- Monitoring the J-SRX210 Services Gateway Components Using LEDs on page 109
- J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings on page 137

## J-SRX210 Services Gateway Front Panel and Back Panel Views (Low Memory, High Memory and PoE Version)

This topic contains views of the front panel and back panel of the J-SRX210 Services Gateway high memory, low memory, and Power over Ethernet (PoE) versions. This topic includes the following sections:

- J-SRX210 Services Gateway Front Panel on page 10
- J-SRX210 Services Gateway Back Panel on page 10

## J-SRX210 Services Gateway Front Panel

Figure 3 on page 10 shows the front panel of the J-SRX210 Services Gateway.

**Figure 3: J-SRX210 Services Gateway Front Panel**

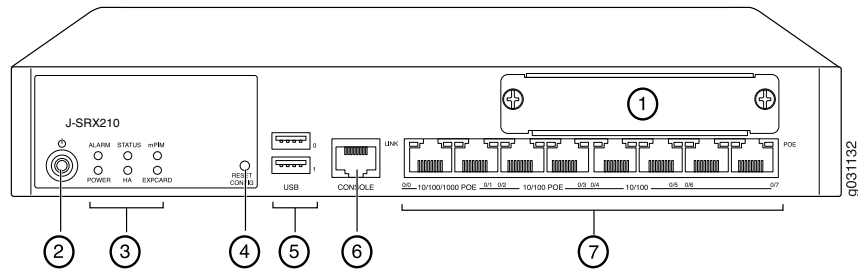


Table 6 on page 10 lists the front panel components of the services gateway.



**NOTE:** The numbers in Figure 3 on page 10 correspond to the numbers in Table 6 on page 10.

**Table 6: J-SRX210 Services Gateway Front Panel Components**

Number	Component
1	Mini-PIM slot
2	Power button
3	LEDs- Status, Alarm, Power, 3G ExpressCard, Mini-PIM, HA
4	Reset Config button
5	Universal Serial Bus (USB) ports
6	Console port
7	Gigabit Ethernet ports and Fast Ethernet ports

For more information on the front panel components, see the following topics:

- J-SRX210 Services Gateway Built-In Interfaces on page 14
- J-SRX210 Services Gateway LEDs on page 17
- J-SRX210 Services Gateway Boot Devices on page 22

## J-SRX210 Services Gateway Back Panel

Figure 4 on page 11 illustrates the back panel of the J-SRX210 Services Gateway.

Figure 4: J-SRX210 Services Gateway Back Panel

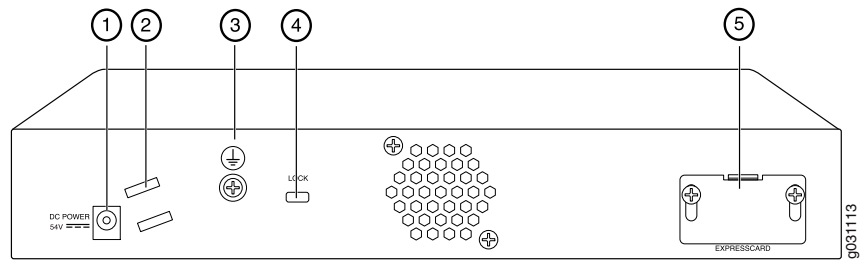


Table 7 on page 11 lists the back panel components of the J-SRX210 Services Gateway.



**NOTE:** The numbers in Figure 4 on page 11 correspond to the numbers in Table 7 on page 11.

Table 7: J-SRX210 Services Gateway Back Panel Components

Number	Component
1	Power supply point
2	Cable tie holder
3	Grounding point
4	Lock
5	ExpressCard slot



**NOTE:** The cable tie holder provides support to hold the power cord on to the power supply point.

The lock provides the capability to lock and secure the device to the installation site.

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Built-In Interfaces on page 14
  - J-SRX210 Services Gateway LEDs on page 17
  - J-SRX210 Services Gateway Boot Devices on page 22
  - J-SRX210 Services Gateway Cooling System on page 22
  - J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views

This topic contains views of the front panel and back panel of the J-SRX210 Services Gateway with Integrated Convergence Services. This topic includes the following sections:

- J-SRX210 Services Gateway with Integrated Convergence Services Front Panel on page 12
- J-SRX210 Services Gateway with Integrated Convergence Services Back Panel on page 13

### J-SRX210 Services Gateway with Integrated Convergence Services Front Panel

Figure 5 on page 12 shows the front panel of the J-SRX210 Services Gateway with Integrated Convergence Services.

**Figure 5: J-SRX210 Services Gateway with Integrated Convergence Services Front Panel**

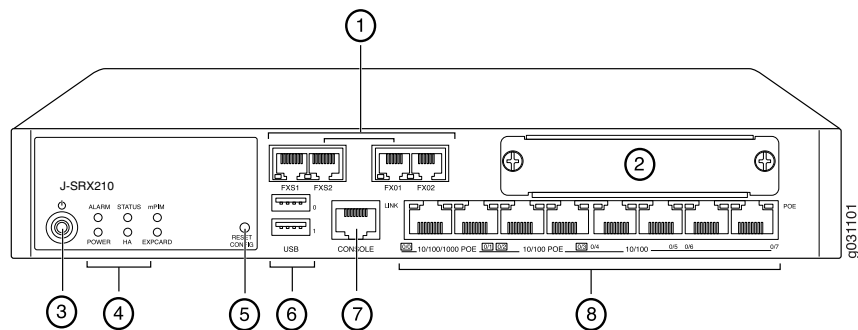


Table 8 on page 12 lists the front panel components of the services gateway.



**NOTE:** The numbers in Table 8 on page 12 correspond to the numbers in Figure 5 on page 12.

**Table 8: J-SRX210 Services Gateway with Integrated Convergence Services Front Panel Components**

Number	Component
1	FXO and FXS ports
2	Mini-PIM slot
3	Power button
4	LEDs- Status, Alarm, Power, 3G ExpressCard, Mini-PIM, HA
5	Reset Config button

**Table 8: J-SRX210 Services Gateway with Integrated Convergence Services Front Panel Components (continued)**

Number	Component
6	Universal Serial Bus (USB) ports
7	Console port
8	Gigabit Ethernet ports and Fast Ethernet ports

**J-SRX210 Services Gateway with Integrated Convergence Services Back Panel**

Figure 6 on page 13 illustrates the back panel of the J-SRX210 Services Gateway with Integrated Convergence Services.

**Figure 6: J-SRX210 Services Gateway with Integrated Convergence Services Back Panel**

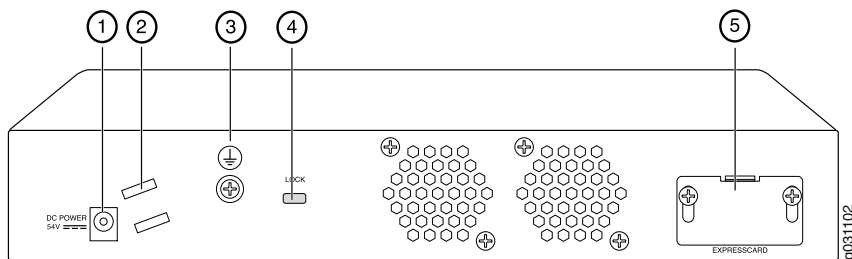


Table 9 on page 13 lists the back panel components of the J-SRX210 Services Gateway with Integrated Convergence Services.



**NOTE:** The numbers in Figure 6 on page 13 correspond to the numbers in Table 9 on page 13.

**Table 9: J-SRX210 Services Gateway with Integrated Convergence Services Back Panel Components**

Number	Component
1	Power supply point
2	Cable tie holder
3	Grounding point
4	Lock
5	ExpressCard slot

**Related Topics** • J-SRX210 Services Gateway Specifications on page 7

- J-SRX210 Services Gateway Built-In Interfaces on page 14
- J-SRX210 Services Gateway LEDs on page 17
- J-SRX210 Services Gateway Boot Devices on page 22
- J-SRX210 Services Gateway Cooling System on page 22
- J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway Built-In Interfaces

Table 10 on page 14 summarizes the interface ports supported on the J-SRX210 Services Gateway.

**Table 10: J-SRX210 Services Gateway Built-In Hardware Interfaces**

Interface Type	Specifications	Description
Gigabit Ethernet	<ul style="list-style-type: none"> <li>• Consist of two fixed ports</li> <li>• Are labeled as port <b>ge-0/0/0</b> and port <b>ge-0/0/1</b> on the front panel</li> <li>• Use an RJ-45 connector</li> <li>• Provide link speeds of 10/100/1000 Mbps</li> <li>• Operate in full-duplex and half-duplex modes</li> <li>• Support flow control</li> <li>• Support autonegotiation and autosensing</li> </ul> <p>Both Gigabit Ethernet ports support Power over Ethernet on the PoE and media gateway models of the J-SRX210 Services Gateway.</p>	<p>The Gigabit Ethernet ports can be used as follows:</p> <ul style="list-style-type: none"> <li>• To function as front-end network ports</li> <li>• To provide LAN and WAN connectivity to hubs, switches, local servers, and workstations</li> <li>• To forward incoming data packets to the device</li> <li>• To receive outgoing data packets from the device</li> <li>• To connect power devices to receive network connectivity and electric power (PoE functionality) (For the PoE and media gateway model of the J-SRX210 Services Gateway)</li> </ul>

**Table 10: J-SRX210 Services Gateway Built-In Hardware Interfaces (*continued*)**

Interface Type	Specifications	Description
Fast Ethernet	<ul style="list-style-type: none"> <li>• Consist of six fixed ports</li> <li>• Are labeled as port <b>fe-0/0/2</b> to port <b>fe-0/0/7</b> on the front panel</li> <li>• Provide link speeds of 10/100 Mbps</li> <li>• Operate in full-duplex and half-duplex modes</li> </ul> <p>The first two Fast Ethernet ports support Power over Ethernet on the J-SRX210 Services Gateway (PoE version and media gateway version).</p>	<p>The Fast Ethernet ports can be used as follows:</p> <ul style="list-style-type: none"> <li>• To provide LAN connectivity to hubs, switches, local servers, and workstations</li> <li>• To forward incoming data packets to the device</li> <li>• To receive outgoing data packets from the device</li> <li>• To connect power devices to receive network connectivity and electric power (PoE functionality) (For the PoE and media gateway model of the J-SRX210 Services Gateway)</li> </ul>
Universal Serial Bus (USB)	<ul style="list-style-type: none"> <li>• Consist of two ports</li> <li>• Function in full speed and high speed</li> <li>• Are compliant with USB revision 2.0</li> </ul>	<p>The USB ports can be used as follows:</p> <ul style="list-style-type: none"> <li>• To support a USB storage device that functions as a secondary boot device in case of the internal flash failure on startup, if the USB storage device is installed and configured</li> </ul> <p>NOTE: You must install and configure the USB storage device on the USB port to use it as secondary boot device. Also, the USB device must have JUNOS installed.</p> <ul style="list-style-type: none"> <li>• To provide the USB interfaces that are used to communicate with many types of USB storage devices compatible with JUNOS Software.</li> </ul> <p>Contact your Dell customer service representative for more information.</p>

**Table 10: J-SRX210 Services Gateway Built-In Hardware Interfaces (*continued*)**

Interface Type	Specifications	Description
Console	<ul style="list-style-type: none"> <li>Consists of one port</li> <li>Uses an RJ-45 serial cable connector</li> <li>Supports the RS-232 (EIA-232) standard</li> </ul>	<p>The console port can be used as follows:</p> <ul style="list-style-type: none"> <li>To provide the console interface</li> <li>To function as a management port to log into a device directly</li> <li>To configure the device using the CLI</li> </ul>
Foreign Exchange Subscriber (FXS) interface	<ul style="list-style-type: none"> <li>Consist of two ports</li> <li>Use an RJ-11 connector</li> </ul>	<p>The FXS port can be used as follows:</p> <ul style="list-style-type: none"> <li>To provide an interface to connect analog phones, fax machines, or similar devices</li> <li>To supply battery power, ringing voltage, dial tone, and so on to the station</li> </ul> <p>NOTE: There is a hardware relay between the built-in FXO1 interface and the FXS2 interface. The relay automatically connects the FXS2 port and the FXO1 port in the event of a power failure.</p>
Foreign Exchange Office (FXO) interface	<ul style="list-style-type: none"> <li>Consist of two ports</li> <li>Use an RJ-11 connector</li> </ul>	<p>The FXO port can be used to provide direct connection to the telephone exchange or Public Switched Telephone Networks (PSTN) central office</p>
Mini-Physical Interface Module (Mini-PIM)	Consists of one slot for a Mini-PIM	<p>The Mini-PIM slot can be used to provide LAN and WAN functionality along with connectivity to various media types.</p> <p>For more information about the supported Mini-PIMs, see the <i>J-SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide</i>.</p>





**NOTE:** We recommend the use of transceivers compatible with JUNOS Software on a J-SRX210 Services Gateway. Correct operation cannot be guaranteed if the transceivers are not compatible with JUNOS Software. Contact Dell for the correct transceiver part number for your device.

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
  - J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12
  - J-SRX210 Services Gateway LEDs on page 17
  - J-SRX210 Services Gateway Boot Devices on page 22
  - J-SRX210 Services Gateway Cooling System on page 22
  - J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway LEDs

This topic includes the following sections:

- Front Panel LEDs on page 17
- Ethernet Port LEDs on page 19
- Voice Interface Port LED on page 20

### Front Panel LEDs

Figure 7 on page 17 shows the J-SRX210 Services Gateway front panel LEDs.

Table 11 on page 18 lists the LED indicators on the J-SRX210 Services Gateway front panel.

**Figure 7: J-SRX210 Services Gateway Front Panel LEDs**

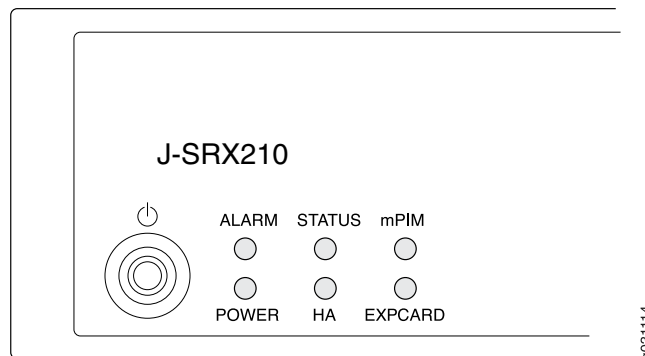


Table 11: J-SRX210 Services Gateway Front Panel Components LEDs

Component	Description	Usage
Alarm LED	<p>The Alarm LED has the following indicator colors:</p> <ul style="list-style-type: none"> <li>• Red and steadily on indicates a major alarm.</li> <li>• Amber and steadily on indicates a minor alarm.</li> <li>• Off indicates that the device is starting up.</li> </ul> <p>NOTE: When the system is up and running, if the Alarm LED is off, it indicates that no alarms are present on the device.</p>	The Alarm LED can be used to gather information on major or minor alarms or to determine if the device is functioning normally.
Status LED	<p>The Status LED has the following indicator colors:</p> <ul style="list-style-type: none"> <li>• Green and steadily on indicates that the device is functioning normally.</li> <li>• Amber and steadily on indicates that the device is starting up.</li> <li>• Red and steadily on indicates that the device has failed.</li> </ul>	The Status LED can be used to determine whether the device is starting up, is functioning normally, or has failed.
Mini-PIM LED	<p>The Mini-PIM LED has the following indicator colors:</p> <ul style="list-style-type: none"> <li>• Green and steadily on indicates that the Mini-PIM is functioning normally.</li> <li>• Off indicates that the Mini-PIM is not present or not detected by the device.</li> </ul>	The Mini-PIM LED can be used to determine if the Mini-PIM is present and detected by the device.
Power LED	<p>The Power LED has the following indicator colors:</p> <ul style="list-style-type: none"> <li>• Green and steadily on indicates that the device is functioning normally.</li> <li>• Amber and steadily on indicates that the Power button has been pressed and quickly released. The device is gracefully shutting down.</li> <li>• Off indicates that the device is not receiving power.</li> </ul>	The Power LED can be used to determine if the device is receiving power.
HA LED	<p>The HA LED has the following indicator colors:</p> <ul style="list-style-type: none"> <li>• Green and steadily on indicates that all HA links are available.</li> <li>• Red and steadily on indicates that the HA links are not working as expected.</li> <li>• Amber and steadily on indicates that some HA links are not working as expected.</li> <li>• Off indicates that HA is not enabled.</li> </ul>	The HA LED can be used to determine if high availability is enabled on the device.

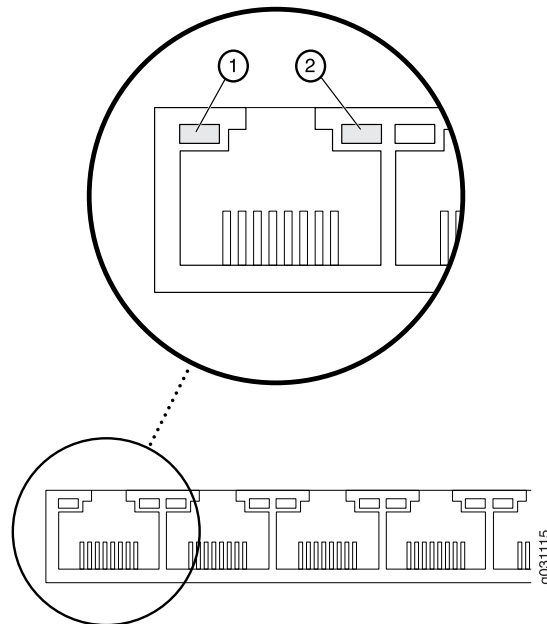
**Table 11: J-SRX210 Services Gateway Front Panel Components LEDs (continued)**

Component	Description	Usage
3G ExpressCardLED	<p>The 3G ExpressCard LED has the following indicator colors:</p> <ul style="list-style-type: none"> <li>Green and steadily on indicates that the ExpressCard is plugged in and the data call is established.</li> <li>Red and steadily on: <ul style="list-style-type: none"> <li>Indicates that the ExpressCard plugged in is faulty or not detected by the device.</li> <li>Indicates that the ExpressCard is plugged in but not registered with the Network.</li> </ul> </li> <li>Amber and steadily on indicates that the ExpressCard is plugged in and registered with the Network.</li> <li>Off indicates that the ExpressCard is not plugged in.</li> </ul>	The 3G ExpressCard LED provides information on the functioning of the ExpressCard slot.

## Ethernet Port LEDs

On the J-SRX210 Services Gateway, each Gigabit Ethernet port and Fast Ethernet port has two LEDs. Figure 8 on page 19 shows the J-SRX210 Services Gateway Ethernet port LEDs.

**Figure 8: J-SRX210 Services Gateway Ethernet Port LEDs**





NOTE: The numbers in Figure 8 on page 19 correspond to the numbers in Table 12 on page 20.

Table 12 on page 20 describes the built-in Ethernet port LEDs.

**Table 12: J-SRX210 Services Gateway Built-In Ethernet Port LEDs**

Number	Function	Color	State	Description
1	TX/RX/LINK LED	Green	Blinking	Link is active. Data communication is taking place.
			Steady	Link is active. No data communication is taking place.
		Unlit	Off	Link is inactive.
2	PoE LED	Green	Steady	PoE (Power over Ethernet) is on and the connected power device is receiving power.
			Yellow	Steady
		Unlit	Off	PoE is off.



NOTE: The PoE LED is enabled only on the Power over Ethernet (PoE) model of the J-SRX210 Services Gateway. For non-PoE models, the PoE LED remains off.

### Voice Interface Port LED

On the J-SRX210 Services Gateway, each Voice Interface (FXO port and FXS port) port has a single LED indicating the status of the port.

Figure 9 on page 21 shows the J-SRX210 Services Gateway Voice Interface port LEDs.

Figure 9: J-SRX210 Services Gateway Voice Interface Port LEDs

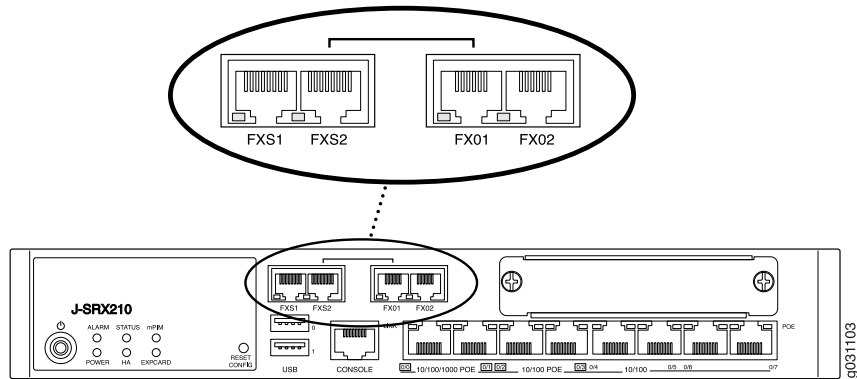


Table 13 on page 21 describes the Voice Interface port LEDs.

Table 13: J-SRX210 Services Gateway Voice Interface Port LEDs

LED	Color	State	Description
Voice Interface LEDs	Off	Unlit	Port is inactive.
(FXS1, FXS2, FXO1, and FXO2)	Green	Steady	Port is connected and active.
	Amber	On	Port is active and not ready for data communication.
	Green	Blinking	Port is active and data communication is taking place.
	Red	Blinking	Port is initializing.
	Red	Steady	Port has detected a hardware initialization failure.

NOTE: The Voice Interface port LEDs glow red (blinking) while initializing. If there is an error, the LEDs remain red; otherwise, change to green.

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
  - J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12
  - J-SRX210 Services Gateway Built-In Interfaces on page 14
  - J-SRX210 Services Gateway Boot Devices on page 22
  - J-SRX210 Services Gateway Cooling System on page 22
  - J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway Boot Devices and Dual-Root Partitioning Scheme

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This topic includes the following sections:

- Boot Devices on page 22
- Dual-Root Partitioning Scheme on page 22

### Boot Devices

The J-SRX210 Services Gateway can boot from two devices:

- Internal NAND flash (default; always present)
- USB storage key (alternate)

### Dual-Root Partitioning Scheme

The dual-root partitions allow the J-SRX210 Services Gateways to remain functional if there is file system corruption and facilitate easy recovery of the corrupted file system.

The dual-root partitioning scheme keeps the primary and backup JUNOS Software images in two independently bootable root partitions. If the primary root partition becomes corrupted, the system will be able to boot from the backup JUNOS Software image located in the other root partition and remain fully functional.

When the J-SRX210 Services Gateway powers up, it tries to boot the JUNOS Software from the default storage media. If the device fails to boot from the default storage media, it tries to boot from the alternate storage media. With the dual-root partitioning scheme, the J-SRX210 Services Gateway first tries to boot the JUNOS Software from the primary root partition and then from the backup root partition on the default storage media. If both primary and backup root partitions of a media fail to boot, then the device tries to boot from the next available type of storage media. The J-SRX210 Services Gateway remains fully functional even if it boots the JUNOS Software from the backup root partition of storage media.

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
  - J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12
  - J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway Cooling System

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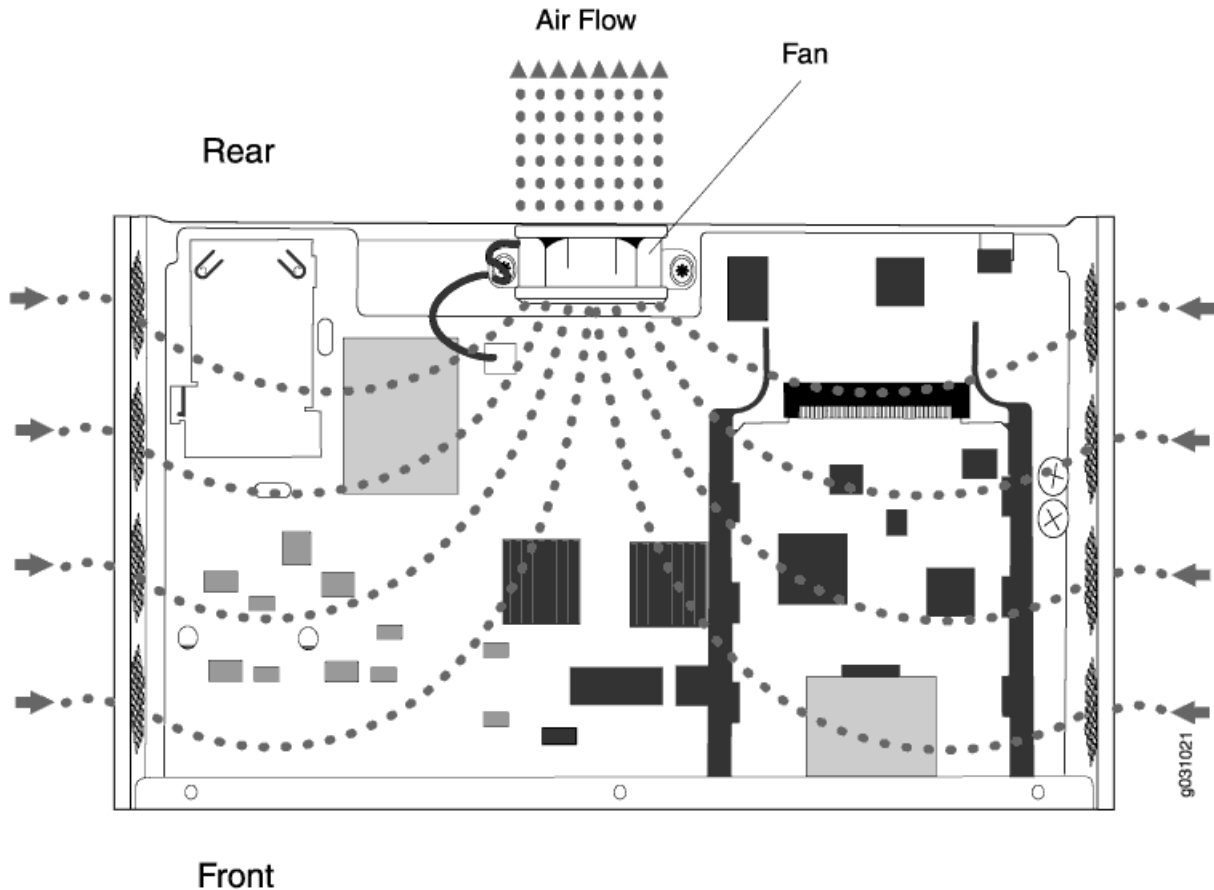
The cooling system for the J-SRX210 Services Gateway with low memory, high memory, or PoE includes one fixed fan. The J-SRX210 Services Gateway with Integrated Convergence Services has two fixed fans.

The cooling system works from side-to-rear in the services gateway chassis. The fans draw air through vents along the left and right sides of the chassis and exhaust the air through the rear side of the chassis.

The airflow produced by the fans keeps device components within the acceptable temperature range.

Figure 10 on page 23 shows the airflow for the J-SRX210 Services Gateway with low memory, high memory, and Power over Ethernet (PoE) models.

Figure 10: Airflow Through the J-SRX210 Services Gateway Chassis



- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
  - J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12
  - J-SRX210 Services Gateway Power Supply on page 24

## J-SRX210 Services Gateway Power Supply

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The power supply for the J-SRX210 Services Gateway is external. You must use the power supply adapter provided by Dell to provide power to the services gateway.

- Related Topics**
- [J-SRX210 Services Gateway Specifications on page 7](#)
  - [J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9](#)
  - [J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12](#)
  - [J-SRX210 Services Gateway Boot Devices on page 22](#)
  - [J-SRX210 Services Gateway Cooling System on page 22](#)
  - [Monitoring the J-SRX210 Services Gateway Power System on page 113](#)



## CHAPTER 3

# J-SRX210 Services Gateway 3G ExpressCard

This chapter includes the following topics:

- J-SRX210 Services Gateway 3G ExpressCard Overview on page 25
- Installing the 3G ExpressCard in the J-SRX210 Services Gateway ExpressCard Slot on page 27
- J-SRX210 Services Gateway 3G ExpressCard Basic CLI Commands on page 28

## J-SRX210 Services Gateway 3G ExpressCard Overview

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This topic provides an overview of the J-SRX210 Services Gateway 3G ExpressCard and it includes the following sections:

- Introduction on page 25
- Using the 3G ExpressCard on page 25
- Key Features on page 26
- Physical Specifications on page 27

### Introduction

Wireless WAN access is becoming widely available and comparably priced to ISDN and DSL. The J-SRX210 Services Gateway provides support for a wireless interface as a backup for primary interfaces such as Gigabit Ethernet or Fast Ethernet.

To facilitate wireless connectivity, the J-SRX210 Services Gateway has a 3G port with an ExpressCard interface on the back panel. See Figure 4 on page 11.

### Using the 3G ExpressCard

The 3G ExpressCard supports the following modem types from Sierra Wireless Inc.:

- EXPCD-3G-CDMA-V: 3G EVDO ExpressCard for Verizon Wireless
- EXPCD-3G-CDMA-S: 3G EVDO ExpressCard for Sprint
- Sierra Wireless AirCard 880E: Global System for Mobile Communications (GSM) High-Speed Downlink Packet Access (HSDPA) ExpressCard

To use the ExpressCard, you plug it into the 3G ExpressCard slot, enabling you to dial a wireless call to the 3G wireless service provider network, which acts as an Internet gateway.

To use the 3G ExpressCard as a backup interface, you can use the dialer feature available in the services gateway.

For more information on configuring the 3G ExpressCard, see the *JUNOS Software Interfaces and Routing Configuration Guide*.



**NOTE:** The J-SRX210 Services Gateway does not support hot insertion and removal of the 3G ExpressCard.

## Key Features

The 3G ExpressCard provides the following key features:

- Onboard Subscriber Identity Module (SIM) — All GSM cards have an onboard SIM. The service provider populates this SIM with the subscriber service parameters.
- Onboard nonvolatile RAM (NVRAM) — The Code Division Multiple Access (CDMA) cards have an onboard NVRAM.
- Activation of new cards through the CLI — You can activate CDMA ExpressCards from the JUNOS CLI.
- Unlocking ExpressCards — You can unlock GSM ExpressCards from the JUNOS CLI. If the SIM is locked, you need to unlock it before making a call.



**NOTE:** Only GSM cards support locking and unlocking of the SIM.

- Interface support — The ExpressCard interface supports the IP over PPP interface from the network through the wireless link.
- Dial-out support — The dialer interface can place calls and has multiple features such as dial-backup, dialer-watchlist, and dialer-filter. The dialer interface can use the ExpressCard to support this feature.



**NOTE:** The 3G ExpressCard does not support the dial-in feature.

- Card information availability — You can use CLI commands to obtain information on the ExpressCard, such as type, version, wireless status, and user profiles.
- Security
  - GSM cards support PIN lock to prevent unauthorized access and use of the wireless account.
  - You can use the CLI **request** commands to lock or unlock the SIM card.

- You have the option to store the PIN code you provide in the services gateway configuration , so that the SIM can be unlocked without user intervention on each reboot or reset on the box.



**NOTE:** Currently all GSM cards support PIN-protected SIMs.

## Physical Specifications

Table 14 on page 27 lists the physical parameters of the 3G ExpressCard.

**Table 14: 3G ExpressCard Physical Specifications**

Specification	Value
Type	Standard ExpressCard with 34 modules
ExpressCard width	34 mm (1.33 in.)
Thickness	5 mm (0.19 in.)
Connector pins	26
Max power consumption	1.3 watts
Voltage supply	<ul style="list-style-type: none"> <li>• 3.3V (primary source)</li> <li>• 1.5V (secondary source)</li> </ul>

- Related Topics**
- J-SRX210 Services Gateway 3G ExpressCard Basic CLI Commands on page 28
  - Installing the 3G ExpressCard in the J-SRX210 Services Gateway ExpressCard Slot on page 27

## Installing the 3G ExpressCard in the J-SRX210 Services Gateway ExpressCard Slot



**TIP:** Placing the J-SRX210 Services Gateway on a flat, level surface, with the Dell logo facing up, will make it easier to align and insert the 3G ExpressCard in the ExpressCard slot.



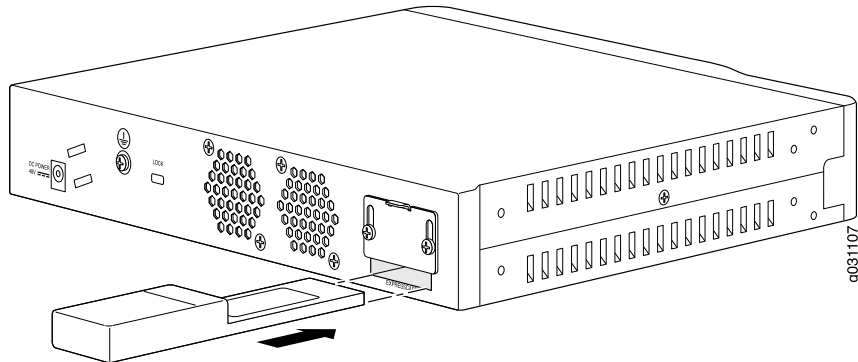
**CAUTION:** The J-SRX210 Services Gateway does not support hot insertion and removal of the 3G ExpressCard.

To install the 3G ExpressCard in the ExpressCard slot on the J-SRX210 Services Gateway:

1. Align the 3G ExpressCard as follows:

- Ensure that the 3G ExpressCard is parallel with the surface on which the J-SRX210 Services Gateway is placed.
  - Ensure that the center of the 3G ExpressCard is aligned with the center of the ExpressCard slot on the J-SRX210 Services Gateway.
2. Study Figure 11 on page 28, which shows installation of the 3G ExpressCard on the J-SRX210 Services Gateway.

Figure 11: Installing 3G ExpressCard in the J-SRX210 Services Gateway



3. Insert the 3G ExpressCard slowly and firmly into the ExpressCard slot until the 3G ExpressCard is engaged in the slot as follows:
  - The 3G ExpressCard is designed to fit tightly in the slot. You will encounter two points of resistance while inserting the 3G ExpressCard into the slot. Use firm pressure as you insert the card.
  - You will encounter the first point of resistance when you begin to insert the 3G ExpressCard. After you align the 3G ExpressCard, lift the card slightly and use firm pressure to slide it into the slot.
  - When you have partially inserted the 3G ExpressCard, you will encounter the second point of resistance. Use additional pressure to finish inserting the 3G ExpressCard into the slot.

- Related Topics**
- J-SRX210 Services Gateway 3G ExpressCard Overview on page 25
  - J-SRX210 Services Gateway 3G ExpressCard Basic CLI Commands on page 28

## J-SRX210 Services Gateway 3G ExpressCard Basic CLI Commands

Table 15 on page 29 lists the basic CLI commands for operating the 3G ExpressCard on the J-SRX210 Services Gateway.

The 3G wireless interface uses the prefix `cl` in the syntax `cl-slot-number/0/port number`.

Table 15: J-SRX210 Services Gateway 3G ExpressCard Basic CLI Commands

Action	Command
Checks the status of the 3G ExpressCard.	<code>show modem wireless interface cl-0/0/8</code> <code>show interfaces terse</code>
<b>CDMA ExpressCards</b>	
Activates the CDMA ExpressCard	<code>request modem wireless activate</code>
<ul style="list-style-type: none"> <li>IOTA — Activates Internet-based over air provisioning.</li> <li>Manual activation — Requires manual entry of the required information.</li> <li>OTASP — Activates over the air service provisioning.</li> </ul>	<ul style="list-style-type: none"> <li><code>request modem wireless activate iota cl-0/0/8</code></li> <li><code>request modem wireless activate manual cl-0/0/8 msl <i>MSL value</i> mdn <i>MDN value</i> imsi <i>IMSI value</i> sid <i>SID value</i> nid <i>NID value</i> sip-user-id <i>SIP ID</i> sip-password <i>SIP_PASSWORD</i></code></li> <li><code>request modem wireless activate otasp cl-0/0/8 dial-string <i>calling number</i></code></li> </ul>
<b>GSM</b>	
Unlocks the GSM SIM.	<code>request modem wireless gsm sim-unlock cl-0/0/8 pin</code>
Unlocks the SIM automatically on reboot	<code>set interfaces cl-0/0/8 cellular-options gsm-options sim-unlock-code</code>
Recovers the SIM from the Pin Unlock Key (PUK) state	<code>request modem wireless gsm sim-unblock cl-0/0/8 puk <i>puk number</i> pin <i>new pin number</i></code>
When you attempt to unlock the SIM, if you enter a wrong PIN three times in a row, the SIM enters the PUK state.	NOTE: You must obtain the PUK value from your cellular service provider.
Changes the PIN on the SIM.	<code>request modem wireless gsm change-pin cl-0/0/8 old-pin <i>current pin</i> new-pin <i>new pin</i></code>

For more information about configuring the 3G wireless interface, see *JUNOS Software Interfaces and Routing Configuration Guide*.

- Related Topics**
- J-SRX210 Services Gateway 3G ExpressCard Overview on page 25
  - Installing the 3G ExpressCard in the J-SRX210 Services Gateway ExpressCard Slot on page 27



## CHAPTER 4

# J-SRX210 Services Gateway Power over Ethernet Support

This chapter includes the following topics:

- J-SRX210 Services Gateway PoE Overview on page 31
- Configuring PoE Functionality on the J-SRX210 Services Gateway on page 33

## J-SRX210 Services Gateway PoE Overview

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This topic includes the following sections:

- Introduction on page 31
- PoE Classes and Power Ratings on page 32

### Introduction

Power over Ethernet (PoE) is the implementation of the IEEE 802.3 AF and IEEE 802.3 AT standards that allow both data and electric power to pass over a copper Ethernet LAN cable.

The J-SRX210 Services Gateway supports PoE on four ports, which supply electric power over the same ports that are used to connect network devices. PoE ports allow you to plug in devices that require both network connectivity and electric power, such as VoIP and IP phones and wireless access points.

You can configure the gateway to act as power sourcing equipment for devices connected on the designated ports.

Table 16 on page 31 lists the J-SRX210 Services Gateway PoE specifications.

**Table 16: J-SRX210 Services Gateway PoE Specifications**

Power Management Schemes	Values
Supported standards	<ul style="list-style-type: none"><li>• IEEE 802.3 AF</li><li>• IEEE802.3 AT (PoE+)</li><li>• Legacy (pre-standards)</li></ul>

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Table 16: J-SRX210 Services Gateway PoE Specifications (*continued*)

Power Management Schemes	Values
Supported ports	The following ports support PoE: <ul style="list-style-type: none"> <li>• ge-0/0/0</li> <li>• ge-0/0/1</li> <li>• fe-0/0/2</li> <li>• fe-0/0/3</li> </ul>
Total PoE power sourcing capacity	50 watts
Per-port power limit	30 watts
Power management modes	<ul style="list-style-type: none"> <li>• Static: power allocated for each interface can be configured</li> <li>• Class: power allocated for interfaces is decided based on the class of powered device connected</li> </ul>

## PoE Classes and Power Ratings

A powered device is classified based on the maximum power that it draws across all input voltages and operational modes. When the class-based power management mode is configured on the services gateway, power is allocated by taking into account the maximum power ratings defined for the different classes of devices.

Table 17 on page 32 lists the classes and their power ratings as specified by the IEEE 802.3 AF standard.

Table 17: PoE Classes and Power Ratings on the J-SRX210 Services Gateway

Class	Maximum Power Level Output from the PoE Port
0	15.4 watts
1	4.0 watts
2	7.0 watts
3	15.4 watts
4	30.0 watts



- Related Topics**
- J-SRX210 Services Gateway Description on page 3
  - J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
  - J-SRX210 Services Gateway Built-In Interfaces on page 14
  - J-SRX210 Services Gateway LEDs on page 17
  - Mini-Physical Interface Modules on the J-SRX210 Services Gateway
  - J-SRX210 Services Gateway 3G ExpressCard Overview on page 25

## Configuring PoE Functionality on the J-SRX210 Services Gateway

To enable the Power over Ethernet (PoE) feature support on your J-SRX210 Services Gateway, you must configure the services gateway.

You can configure PoE using the CLI configuration editor.

For more details on configuring PoE, see the *JUNOS Software Interfaces and Routing Configuration Guide*.

- Related Topics**
- J-SRX210 Services Gateway Description on page 3
  - J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
  - J-SRX210 Services Gateway Built-In Interfaces on page 14
  - J-SRX210 Services Gateway LEDs on page 17
  - Mini-Physical Interface Modules on the J-SRX210 Services Gateway



## CHAPTER 5

# J-SRX210 Services Gateway with Integrated Convergence Services

This chapter includes the following topics:

- About the J-SRX210 Services Gateway with Integrated Convergence Services on page 35
- Understanding the Functions of the J-SRX210 Services Gateway with Integrated Convergence Services on page 37
- J-SRX210 Services Gateway with Integrated Convergence Services Interoperability on page 38
- Configuring the J-SRX210 Services Gateway with Integrated Convergence Services on page 39

### About the J-SRX210 Services Gateway with Integrated Convergence Services

This topic includes following sections:

- Basic Functions on page 36
- Supported Features on page 36
- Common Deployment Scenarios on page 37

## Basic Functions

The availability of hardware and software for voice and data transmission on the same device is called *integrated convergence services*.

J-SRX210 Services Gateway with Integrated Convergence Services implements a media gateway and a survivable call server. The J-SRX210 Services Gateway with Integrated Convergence Services integrates voice and data capabilities and provides a generic SIP-based voice over IP (VoIP) Media Gateway (SVMG) capability for local public switched telephone network (PSTN) and legacy analog/fax/phone connectivity. This feature enables standard phones to be used for voice calls over the Internet.

The J-SRX210 Services Gateway with Integrated Convergence Services performs the following basic functions:

- Bridges the VoIP network to the PSTN so that calls can be made from remote SIP and PSTN phones and routed to local analog telephones, fax machines, and local SIP phones behind the media gateway.
- Assumes the call routing role as a survivable call server for local SIP or Analog phones, in the event of loss of WAN connections.
- Supports emergency calling (E911) by providing the mechanism to detect emergency calls from local VoIP phones and passes these calls to the PSTN when detected.
- Provides power failover support for one analog phone and PSTN FXO port.

## Supported Features

The J-SRX210 Services Gateway with Integrated Convergence Services also offers the following additional features:

- Digit manipulation for remapping digits
- Caller ID support for detection and transmission of caller information (for U.S. standards)
- Call waiting for SIP and analog phones in which the user is alerted about a pending, incoming call
- Call hold and resume in which SIP calls may be placed on hold and resumed by the SIP phone user
- Call waiting and call forwarding
- Local auto attendant with a standard workflow, allowing the caller to enter an extension number to reach the call destination
- Voice mail answering and retrieval through PSTN digit mapping

## Common Deployment Scenarios

The J-SRX210 Services Gateway with Integrated Convergence Services is deployed in following environments:

- Enterprises that deploy VoIP in their headquarters and want to enable VoIP functionality for their branch offices.
- Services providers (SPs) who provide VoIP services to their business customers.
- Branch sites currently using a local key system or PBX that want to utilize SIP trunking services

### Related Topics

- Understanding the functions of the J-SRX210 Services Gateway with Integrated Convergence Services on page 37
- J-SRX210 Services Gateway Integrated Convergence Services Interoperability on page 38
- Configuring the J-SRX210 Services Gateway with Integrated Convergence Services on page 39
- J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12

## Understanding the Functions of the J-SRX210 Services Gateway with Integrated Convergence Services

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J-SRX210 Services Gateway with Integrated Convergence Services functions as follows:

- Analog telephones and fax machines are directly connected to the J-SRX210 Services Gateway with Integrated Convergence Services through Foreign Exchange Station (FXS) interfaces.
- The telephone exchange or PSTN central office is directly connected to the J-SRX210 Services Gateway with Integrated Convergence Services through Foreign Exchange Office (FXO) interfaces.
- The media gateway converts analog signals from FXS and FXO ports and digital TDM signals from T1/E1 ports to VoIP packets and sends them to the network after processing through JUNOS Software secure routing and firewall flows. Similarly, the media gateway receives forwarded VoIP packets from the network, and converts them into analog signal or digital TDM signals and send them across the appropriate interface.
- The media gateway also provides power failover support in the event of power loss by providing a hardware relay between the built-in FXS2 port and FXO1 port, which automatically connects the two ports when the media gateway loses power.



**NOTE:** The 2-Port FXS/2-Port FXO Mini-PIM and the 4-Port FXO Mini-PIM do not support failover relay between any of the FXS and FXO ports.

- Telephony interface expansion available through Mini-PIM interface card option includes a 2-Port FXS/2-Port FXO Mini-PIM, 4-Port FXO Mini-PIM, and an IP Flex T1/E1 Mini-PIM with initial support for T1-CAS (loopstart only).



**NOTE:** For more information on Mini-PIMs, see the *J-SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide*.

- Related Topics**
- About the J-SRX210 Services Gateway with Integrated Convergence Services on page 35
  - J-SRX210 Services Gateway Integrated Convergence Services Interoperability on page 38
  - Configuring the J-SRX210 Services Gateway with Integrated Convergence Services on page 39

## J-SRX210 Services Gateway with Integrated Convergence Services Interoperability

The J-SRX210 Services Gateway with Integrated Convergence Services aligns with the open convergence architecture and supports different brands of call servers and SIP phones.

Table 18 on page 38 summarizes the SIP phones, softphones, and analog devices supported by J-SRX210 Services Gateway with Integrated Convergence Services.

**Table 18: J-SRX210 Services Gateway Integrated Convergence Services Interoperability**

Phone Types	Devices
SIP phones	<ul style="list-style-type: none"> <li>• Avaya 4600 and 9600 series</li> <li>• Polycom 300 and 500 series</li> <li>• Snom 300 series</li> <li>• Microsoft OCS-compatible phones</li> <li>• Cisco Unified SIP phones 7960 and 7961</li> </ul>
Softphones	<ul style="list-style-type: none"> <li>• SNOM 360</li> <li>• Microsoft OCS client</li> <li>• X-Lite EyeBeam Mini-SIP</li> <li>• Avaya one-x</li> </ul>
Analog devices	Any analog device connected through FXO including phones, fax machines, PBX or key systems, voice mail or answering machine, and analog paging systems.

**Table 18: J-SRX210 Services Gateway Integrated Convergence Services Interoperability (continued)**

Phone Types	Devices
SIP call servers	<ul style="list-style-type: none"> <li>• Avaya CM 5.2 with SES</li> <li>• Avaya ASM (Aura 1.x)</li> <li>• Microsoft OCS R1 and R2</li> <li>• Asterisk 1.6.x (Open Source)</li> </ul>

- Related Topics**
- About the J-SRX210 Services Gateway with Integrated Convergence Services on page 35
  - Understanding the functions of the J-SRX210 Services Gateway with Integrated Convergence Services on page 37
  - Configuring the J-SRX210 Services Gateway with Integrated Convergence Services on page 39

## Configuring the J-SRX210 Services Gateway with Integrated Convergence Services

To enable voice support on your J-SRX210 Services Gateway with Integrated Convergence Services, you must configure the services gateway.

You can configure the voice functionality using:

- CLI configuration editor
- J-Web configuration editor

For more information on configuring voice, see the *Integrated Convergence Services Configuration and Administration Guide for J-SRX Series Services Gateways*.

- Related Topics**
- Understanding the functions of the J-SRX210 Services Gateway with Integrated Convergence Services on page 37
  - J-SRX210 Services Gateway Integrated Convergence Services Interoperability on page 38





## CHAPTER 6

# J-SRX210 Services Gateway Mini-Physical Interface Modules

This chapter includes the following topic:

- J-SRX210 Services Gateway Mini-Physical Interface Modules on page 41

## J-SRX210 Services Gateway Mini-Physical Interface Modules

The J-SRX210 Services Gateway supports Mini-Physical Interface Modules (Mini-PIMs).

A Mini-PIM is a network interface card that is installed on the services gateway to provide physical connections to a LAN or a WAN. The Mini-PIMs supported on the services gateway are field-replaceable. The field replaceable Mini-PIMs are removable and insertable into the device. You can install a Mini-PIM into the Mini-PIM slot available on the front panel of the services gateway chassis.

For more information about supported Mini-PIMs, including how to install and configure Mini-PIMs, refer to the *J-SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide*.



**NOTE:** The Mini-PIMs available on the J-SRX210 Services Gateway are not hot-swappable. You need to power off the device before removing or installing Mini-PIMs.

### Related Topics

- J-SRX210 Services Gateway Description on page 3
- J-SRX210 Services Gateway Specifications on page 7
- J-SRX210 Services Gateway Hardware Features on page 4
- J-SRX210 Services Gateway Built-In Interfaces on page 14



## PART 2

# Setting Up the J-SRX210 Services Gateway

- Preparing the Site for the J-SRX210 Services Gateway Installation on page 45
- Installation Overview for the J-SRX210 Services Gateway on page 53
- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
- Unpacking the J-SRX210 Services Gateway on page 57
- Preparing the J-SRX210 Services Gateway for Installation on page 61
- Installing the J-SRX210 Services Gateway on page 65
- Connecting, Grounding, and Powering On the J-SRX210 Services Gateway on page 75
- J-SRX210 Services Gateway Autoinstallation on page 81
- Connecting the J-SRX210 Services Gateway to Management Devices on page 83
- Performing Initial Software Configuration on the J-SRX210 Services Gateway on page 91



## CHAPTER 7

# Preparing the Site for the J-SRX210 Services Gateway Installation

This chapter provides a checklist to help you prepare your site for installation of the J-SRX210 Services Gateway. Read this section to make sure that your site has the proper operating environment and equipment.

This chapter includes the following topics:

- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
- J-SRX210 Services Gateway Cabinet Requirements on page 48
- J-SRX210 Services Gateway Rack Requirements on page 49
- Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50
- J-SRX210 Services Gateway Electrical and Power Requirements on page 51

## Site Preparation Checklist for the J-SRX210 Services Gateway

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The checklist in Table 19 on page 45 summarizes the tasks you need to perform when preparing a site for installing the J-SRX210 Services Gateway.

**Table 19: Site Preparation Checklist for the J-SRX210 Services Gateway Installation**

Item or Task	Additional Information	Performed By	Date	Notes
<b>Environment</b>				
Verify that environmental factors such as temperature and humidity do not exceed device tolerances.	"J-SRX210 Services Gateway Specifications" on page 7			
<b>Power</b>				

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**Table 19: Site Preparation Checklist for the J-SRX210 Services Gateway Installation (continued)**

Item or Task	Additional Information	Performed By	Date	Notes
<ul style="list-style-type: none"> <li>• Measure distance between external power sources and device installation site.</li> <li>• Locate sites for connection of system grounding.</li> <li>• Calculate the power consumption and requirements.</li> </ul>	<p>"J-SRX210 Services Gateway Site Electrical Wiring Guidelines" on page 143</p> <p>"J-SRX210 Services Gateway Power Specifications and Requirements" on page 144</p>			
<b>Rack Installation</b>				
<ul style="list-style-type: none"> <li>• Verify that your rack meets the minimum requirements.</li> <li>• Plan rack location, including required space clearances.</li> <li>• Secure the rack to the floor and building structure.</li> </ul>	<p>"J-SRX210 Services Gateway Rack Requirements" on page 49</p>			
<b>Cabinet Installation</b>				
<ul style="list-style-type: none"> <li>• Verify that your cabinet meets the minimum requirements.</li> <li>• Plan the cabinet location, including required space clearances.</li> </ul>	<p>"J-SRX210 Services Gateway Cabinet Requirements" on page 48</p>			
<b>Wall Installation</b>				
<ul style="list-style-type: none"> <li>• Verify that the area selected meets the minimum requirements.</li> <li>• Verify that you have the required hardware to proceed with the installation.</li> </ul>	<p>"Preparing the J-SRX210 Services Gateway for Wall-Mount Installation" on page 64</p>			
<b>Desktop Installation</b>				
<ul style="list-style-type: none"> <li>• Verify that the area selected meets the minimum requirements.</li> <li>• Plan the installation location, including required space clearances and airflow requirements.</li> </ul>	<p>"Preparing the J-SRX210 Services Gateway for Desk-Mount Installation" on page 63</p>			
<b>Cables</b>				

**Table 19: Site Preparation Checklist for the J-SRX210 Services Gateway Installation (continued)**

Item or Task	Additional Information	Performed By	Date	Notes
<ul style="list-style-type: none"> <li>Acquire cables and connectors.</li> <li>Review the maximum distance allowed for each cable. Choose the length of cable based on the distance between the hardware components being connected.</li> <li>Plan the cable routing and management.</li> </ul>	<p>"Interface Cable and Wire Specifications for the J-SRX210 Services Gateway" on page 147</p>			

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
  - Installation Overview for the J-SRX210 Services Gateway on page 53
  - J-SRX210 Services Gateway Cabinet Requirements on page 48
  - J-SRX210 Services Gateway Rack Requirements on page 49
  - Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50

## General Site Guidelines for Installing the J-SRX210 Services Gateway

The following precautions help you plan an acceptable operating environment for your J-SRX210 Services Gateway and avoid environmentally caused equipment failures:

- For the cooling system to function properly, the airflow around the chassis must be unrestricted. Allow sufficient clearance between the front and back of the chassis and adjacent equipment. Ensure that there is adequate circulation in the installation location.
- Follow the ESD procedures to avoid damaging equipment. Static discharge can cause components to fail completely or intermittently over time.
- Ensure that the blank Mini-PIM panel is installed in the empty slot to prevent any interruption or reduction in the flow of air across internal components.



**NOTE:** Install the device only in restricted areas, such as dedicated equipment rooms and equipment closets, in accordance with Articles 110–16, 110–17, and 110–18 of the National Electrical Code, ANSI/NFPA 70.

- Related Topics**
- J-SRX210 Services Gateway Specifications on page 7
  - J-SRX210 Services Gateway Safety Requirements, Warnings, and Guidelines on page 65
  - J-SRX210 Services Gateway Cabinet Requirements on page 48

- J-SRX210 Services Gateway Rack Requirements on page 49
- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50

## J-SRX210 Services Gateway Cabinet Requirements

The J-SRX210 Services Gateway can be installed in a standard 800 mm (31.5 in.) or larger enclosed cabinet. Table 20 on page 48 provides the details on cabinet size, clearance, and airflow requirements.

**Table 20: J-SRX210 Services Gateway Cabinet Requirements**

Cabinet Requirements	Specifications
Cabinet size	<p>19 in. (48.3 cm) as defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310-D) published by the Electronics Industry Association (<a href="http://www.eia.org">http://www.eia.org</a>).</p> <p>You can mount the services gateway horizontally in the cabinet.</p>
Clearance requirements	<ul style="list-style-type: none"> <li>• The cabinet is at least 1 U (1.75 in. or 4.5 cm) high.</li> <li>• The outer edges of the mounting brackets extend the width of either chassis to 19 in. (48.2 cm), and the front of the chassis extends approximately 0.5 in. (1.27 cm) beyond the mounting brackets.</li> <li>• The minimum total clearance inside the cabinet is 30.7 in. (78 cm) between the inside of the front door and the inside of the rear door.</li> </ul> <p>NOTE: The holes for the mounting brackets chassis are spaced 1.25 in. (3.2 cm) apart, measured from the center of the hole.</p>
Cabinet airflow requirements	<ul style="list-style-type: none"> <li>• Ensure sufficient ventilation through the cabinet is sufficient to prevent overheating.</li> <li>• Ensure adequate cool air supply to dissipate the thermal output of the device.</li> <li>• Install the device as close as possible to the front of the cabinet so that the cable management system clears the inside of the front door. Installing the chassis close to the front of the cabinet maximizes the clearance in the rear of the cabinet for critical airflow.</li> <li>• Route and dress all cables to minimize the blockage of airflow to and from the chassis.</li> </ul> <p>NOTE: A cabinet larger than the minimum required provides better airflow and reduces the chance of overheating.</p>

- Related Topics**
- General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
  - Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
  - J-SRX210 Services Gateway Rack Requirements on page 49



- Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50

## J-SRX210 Services Gateway Rack Requirements

The services gateway can be installed in a rack. Many types of racks are acceptable, including front-mount racks and four-post (telco) racks.



**NOTE:** The services gateway does not support center-mount racks.

Table 21 on page 49 provides the details on rack size, clearance, and airflow requirements.

**Table 21: Rack Requirements for the Services Gateway**

Rack Requirements	Specifications
Rack Size	A 19 in. (48.3 cm) rack as defined in <i>Cabinets, Racks, Panels, and Associated Equipment</i> (document number EIA-310-D) published by the Electronics Industry Association ( <a href="http://www.eia.org">http://www.eia.org</a> ).
Rack Requirements	<ul style="list-style-type: none"> <li>• The outer edges of the mounting brackets extend the width of either chassis to 19 in. (48.3 cm).</li> <li>• The front of the chassis extends approximately 0.5 in. (1.27 cm) beyond the mounting ears.</li> <li>• Maximum permissible ambient temperature when two devices are placed side by side in a 19 in. rack is 40° C.</li> <li>• In a rack, two devices should be placed in alternate slots and not adjacent.</li> </ul> <p>NOTE: If you use a front-mount rack, we recommend you support the back of the device with a shelf or other structure.</p>
Spacing of Mounting Bracket and Flange Holes	<ul style="list-style-type: none"> <li>• The holes within each rack set are spaced at 1 U [1.75 in. (4.5 cm)]. The device can be mounted in any rack that provides holes or hole patterns spaced at 1-U [1.75 in. (4.5 cm)] increments.</li> <li>• The mounting brackets and front-mount flanges used to attach the chassis to a rack are designed to fasten to holes spaced at rack distances of 1 U (1.75 in.).</li> <li>• The mounting holes in the mounting brackets provided with the device are spaced 1.25 in. (3.2 cm) apart (top and bottom mounting hole).</li> </ul>
Connecting to the Building Structure	Always secure the rack in which you are installing the services gateway to the structure of the building. If your geographical area is subject to earthquakes, bolt the rack to the floor. For maximum stability, also secure the rack to ceiling brackets.

- Related Topics**
- General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
  - Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
  - J-SRX210 Services Gateway Cabinet Requirements on page 48
  - Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50

## Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway

When planning the installation site for the J-SRX210 Services Gateway, you need to allow sufficient clearance around the rack or cabinet where you are planning to install the device.

When planning the installation site for the services gateway, consider the following:

- For the cooling system to function properly, the airflow around the chassis must be unrestricted.
- For service personnel to remove and install hardware components, there must be adequate space at the front and back of the device. Allow at least 24 in. (61 cm) both in front of and behind the device.
- If you are mounting the device in a rack with other equipment, or if you are placing it on the desktop near other equipment, ensure that the exhaust from other equipment does not blow into the intake vents of the chassis.

Table 22 on page 50 provides information on the clearance requirements for maintaining the optimum airflow and the distances for facilitating easy maintenance of the device.

**Table 22: Clearance Requirements for the Services Gateway**

Location	Recommended Clearance	Requirement for Clearance
Front of the chassis	2.5 in. (6.35 cm)	Space for service personnel to remove and install hardware components  NOTE: More space is required for installing and removing Mini-PIMs.
Rear of the chassis	2.5 in. (6.35 cm)	Space for service personnel to remove and install hardware components
Between front-mounting flange and rack or cabinet edge	2.5 in. (6.35 cm)	Space for cable management and organization
Between side of the chassis and any non-heat-producing surface such as a wall or cabinet side	2.5 in. (6.35 cm)	Space for the cooling system to function properly and to maintain unrestricted airflow around the chassis
Between side of the chassis and devices that have fans or blowers	2.5 in. (6.35 cm)	Space for the cooling system to function properly and to maintain unrestricted airflow around the chassis

- Related Topics**
- J-SRX210 Services Gateway Description on page 3
  - General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
  - Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
  - J-SRX210 Services Gateway Cabinet Requirements on page 48

- J-SRX210 Services Gateway Rack Requirements on page 49

## J-SRX210 Services Gateway Electrical and Power Requirements

There are factors you must consider while planning the electrical wiring and power availability at your site. These factors include the following requirements:

- Power specifications and requirements for the device
- Electrical wiring guidelines for the device installation site
- Power, connection, and power cord specifications for the device
- Grounding guidelines and specifications for the device

### **Related Topics**

- J-SRX210 Services Gateway Site Electrical Wiring Guidelines on page 143
- J-SRX210 Services Gateway Power Specifications and Requirements on page 144
- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45



## CHAPTER 8

# Installation Overview for the J-SRX210 Services Gateway

This chapter includes the following topic:

- Installation Overview for the J-SRX210 Services Gateway on page 53

### Installation Overview for the J-SRX210 Services Gateway

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After you have prepared your installation site, you are ready to unpack and install the services gateway. It is important to proceed through the installation process as shown in Table 23 on page 53.

**Table 23: Installation Process Order for the J-SRX210 Services Gateway**

Step	Task	For more information, see
1	Review the safety guidelines explained.	"J-SRX210 Services Gateway General Safety Guidelines and Warnings" on page 121
2	Verify that you have prepared your site for the installation of the services gateway using the checklist.	"Site Preparation Checklist for the J-SRX210 Services Gateway" on page 45
3	Unpack the services gateway and verify that the parts are received.	"Unpacking the J-SRX210 Services Gateway" on page 57
4	Prepare the services gateway for installation.	"Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation" on page 61
5	Install the services gateway.	"J-SRX210 Services Gateway Installation" on page 65
6	Connect cables to external devices.	"Connecting and Organizing Interface Cables to the J-SRX210 Services Gateway" on page 76
7	Connect the grounding cables.	"Grounding the J-SRX210 Services Gateway" on page 77

**Table 23: Installation Process Order for the J-SRX210 Services Gateway (continued)**

Step	Task	For more information, see
8	Power on the services gateway.	"Powering On and Powering Off the J-SRX210 Services Gateway" on page 78

- Related Topics**
- Unpacking the J-SRX210 Services Gateway on page 57
  - General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
  - Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61
  - J-SRX210 Services Gateway Installation on page 65

## CHAPTER 9

# Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway

This chapter includes the following topic:

- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55

### Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway

Table 24 on page 55 lists the tools and equipments required to install and maintain the J-SRX210 Services Gateway.

**Table 24: Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway**

Task	Tools and Parts	Related Topic
Installing the J-SRX210 Services Gateway	<ul style="list-style-type: none"><li>• Phillips (+) screwdrivers, numbers 1 and 2</li><li>• Tie wrap</li></ul>	"J-SRX210 Services Gateway Installation" on page 65
Connecting the J-SRX210 Services Gateway	Electrostatic discharge (ESD) grounding wrist strap	"Connecting the J-SRX210 Services Gateway to the Power Supply" on page 75
Grounding the J-SRX210 Services Gateway	Phillips (+) screwdrivers, numbers 1 and 2	"Grounding the J-SRX210 Services Gateway" on page 77
Packing the J-SRX210 Services Gateway	<ul style="list-style-type: none"><li>• Blank panel to cover empty Mini-PIM slot</li><li>• Electrostatic bag or antistatic mat, for each component</li><li>• Electrostatic discharge (ESD) grounding wrist strap</li></ul>	"Packing the J-SRX210 Services Gateway and Components for Shipment" on page 157

- Related Topics**
- Unpacking the J-SRX210 Services Gateway on page 57

- J-SRX210 Services Gateway Installation on page 65
- Grounding the J-SRX210 Services Gateway on page 77
- Connecting the J-SRX210 Services Gateway to the Power Supply on page 75
- Packing the J-SRX210 Services Gateway and Components for Shipment on page 157



## CHAPTER 10

# Unpacking the J-SRX210 Services Gateway

This chapter includes the following topics:

- Unpacking the J-SRX210 Services Gateway on page 57
- Verifying Parts Received with the J-SRX210 Services Gateway on page 58

## Unpacking the J-SRX210 Services Gateway

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The J-SRX210 Services Gateway is shipped in a cardboard carton. The carton also contains an accessory box and the *J-SRX210 Services Gateway Quick Start Guide*.



**NOTE:** The device is maximally protected inside the shipping carton. Do not unpack it until you are ready to begin installation.

To unpack the J-SRX210 Services Gateway:

1. Open the box in which the device is shipped.
2. Verify the parts received against the lists in “Verifying Parts Received with the J-SRX210 Services Gateway” on page 58.
3. Store the shipping box and packing material in case you need to return or move the device at a later time.

- Related Topics**
- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
  - Verifying Parts Received with the J-SRX210 Services Gateway on page 58
  - Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61
  - Installation Overview for the J-SRX210 Services Gateway on page 53

## Verifying Parts Received with the J-SRX210 Services Gateway

The J-SRX210 Services Gateway shipment package contains a packing list that includes all parts and accessories available with the device. Check the parts in the shipment against the items on the packing list. The packing list specifies the part numbers and descriptions of each part in your order.

If any part is missing, contact your Dell customer service representative.

A fully configured J-SRX210 Services Gateway contains the chassis with installed components, listed in Table 25 on page 58, and an accessory box, which contains the parts listed in Table 26 on page 59.



**NOTE:** The parts shipped with your device can vary depending on the configuration you ordered.

**Table 25: Parts List for a Fully Configured J-SRX210 Services Gateway**

Component	Quantity
<ul style="list-style-type: none"> <li>For Low Memory model (J-SRX210B): J-SRX210 Services Gateway with 2xGE + 6xFE ports, 1xMini-PIM slot, and base memory (512 MB RAM, 1GB Flash)</li> <li>For High Memory model (J-SRX210H): J-SRX210 Services Gateway with 2xGE + 6xFE ports, 1xMini-PIM slot, and high memory (1GB RAM, 1GB Flash)</li> <li>For PoE model (J-SRX210H-POE): J-SRX210 Services Gateway with 2xGE + 6xFE ports, 1xMini-PIM slot, high memory (1GB RAM, 1GB Flash), 4 ports of POE 802.3at (50 watts across 4 ports)</li> <li>For Voice model (J-SRX210H-P-MGW): J-SRX210 Services Gateway with 2xGE + 6xFE ports, 1xMini-PIM slot, high memory (1GB RAM, 1GB Flash), 4 ports POE (50 watts) and Media Gateway with 2 FXO and 2 FXS ports</li> </ul>	1
<ul style="list-style-type: none"> <li>Power supply adapter (60 watts for Low Memory and High memory models)</li> <li>Power supply adapter (150 watts for PoE and voice models)</li> </ul>	1
3-Prong Power Cord	1
DB-9 to RJ-45 Adapter, Straight Through, 7 feet	1

Table 26: Accessory Parts List for the J-SRX210 Services Gateway

Part	Quantity
Product Warranty	1
End User License Agreement	1
Quick Start Guide	1
Security Products Safety Guide	1
Compliance Form Letter	1
Product Registration	1
Tie Wrap	1



NOTE: The mounting kits available for rack, wall, and desk installation of the J-SRX210 Services Gateway must be ordered separately. Contact your Dell customer service representative for more information.



NOTE: The Mini-Physical Interface Modules (Mini-PIMs) are not shipped with the device. You have to order them separately. Contact your Dell customer service representative for more information.

#### Related Topics

- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
- Unpacking the J-SRX210 Services Gateway on page 57
- Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61



## CHAPTER 11

# Preparing the J-SRX210 Services Gateway for Installation

This chapter includes the following topics:

- Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61
- Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
- Preparing the J-SRX210 Services Gateway for Desk-Mount Installation on page 63
- Preparing the J-SRX210 Services Gateway for Wall-Mount Installation on page 64

## Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation

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You can mount a J-SRX210 Services Gateway in a rack, on a desk, or on a wall. See the following topics for more information:

- Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
- Preparing the J-SRX210 Services Gateway for Desk-Mount Installation on page 63
- Preparing the J-SRX210 Services Gateway for Wall-Mount Installation on page 64

The mounting kits for rack, wall, and desk installation of the J-SRX210 Services Gateway must be ordered separately. Contact your Dell customer service representative for more information.

### Related Topics

- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- Unpacking the J-SRX210 Services Gateway on page 57
- Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50
- Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
- Preparing the J-SRX210 Services Gateway for Desk-Mount Installation on page 63
- Preparing the J-SRX210 Services Gateway for Wall-Mount Installation on page 64

## Preparing the J-SRX210 Services Gateway for Rack-Mount Installation

You can mount a J-SRX210 Services Gateway on four-post (telco) racks, enclosed cabinets, and open-frame racks.



**NOTE:** The J-SRX210 Services Gateway does not support center-mount racks.

Table 27 on page 62 provides the list of tasks you need to perform before installing the device.

**Table 27: J-SRX210 Services Gateway Preinstallation Checklist for Rack-Mount Installation**

Task	Additional Information
Verify that the site meets the requirements.	"Site Preparation Checklist for the J-SRX210 Services Gateway" on page 45
Verify that the racks or cabinets meet the specific requirements.	"J-SRX210 Services Gateway Rack Requirements" on page 49
Place the rack or cabinet in its permanent location, allowing adequate clearance for airflow and maintenance, and secure it to the building structure.	"Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway" on page 50
Remove the services gateway chassis from the shipping carton.	"Unpacking the J-SRX210 Services Gateway" on page 57
Verify that you have the following parts available in your rack-mounting kit for the J-SRX210 Services Gateway: <ul style="list-style-type: none"> <li>• Rack-mounting brackets</li> <li>• Screws</li> <li>• Power supply adapter tray with screws</li> </ul>	
Adjust the power supply adapter tray.	"Adjusting the Power Supply Adapter Tray for J-SRX210 Services Gateway" on page 66



**NOTE:** The rack-mounting kit is not shipped with the device and must be ordered separately.

### Related Topics

- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50
- Unpacking the J-SRX210 Services Gateway on page 57

- Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61
- Preparing the J-SRX210 Services Gateway for Desk-Mount Installation on page 63
- Preparing the J-SRX210 Services Gateway for Wall-Mount Installation on page 64

## Preparing the J-SRX210 Services Gateway for Desk-Mount Installation

You can mount a J-SRX210 Services Gateway on a desk or other level surface horizontally or vertically. The four rubber feet attached to the chassis provide stability.

Table 28 on page 63 provides the list of tasks you need to perform before installing the device.

**Table 28: J-SRX210 Services Gateway Preinstallation Checklist for Desk-Mount Installation**

Task	Additional Information
Verify that the site meets the requirements.	"Site Preparation Checklist for the J-SRX210 Services Gateway" on page 45
Place the desk in its permanent location, allowing adequate clearance for airflow and maintenance, and secure it to the building structure.	"Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway" on page 50
Remove the services gateway chassis from the shipping carton.	"Unpacking the J-SRX210 Services Gateway" on page 57
Verify that you have the following parts available in your desk-mounting kit to mount the J-SRX210 Services Gateway vertically: <ul style="list-style-type: none"> <li>• Vertical stand</li> <li>• Screws</li> </ul>	



**NOTE:** If you are mounting the services gateway horizontally on a desk, ensure that the chassis is attached with the rubber feet.



**NOTE:** The vertical desk-mounting kit is not shipped with the device and must be ordered separately.

### Related Topics

- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50
- Unpacking the J-SRX210 Services Gateway on page 57

- Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
- Preparing the J-SRX210 Services Gateway for Wall-Mount Installation on page 64

## Preparing the J-SRX210 Services Gateway for Wall-Mount Installation

You can mount a J-SRX210 Services Gateway on a wall. The four rubber feet attached to the chassis provide stability.

Table 29 on page 64 provides the list of tasks you need to perform before installing the device.

**Table 29: J-SRX210 Services Gateway Preinstallation Checklist for Wall-Mount Installation**

Task	Additional Information
Verify that the site meets the requirements.	"Site Preparation Checklist for the J-SRX210 Services Gateway" on page 45
Remove the services gateway chassis from the shipping carton.	"Unpacking the J-SRX210 Services Gateway" on page 57
Verify that you have the following parts available in your wall-mounting kit to mount the J-SRX210 Services Gateway on wall: <ul style="list-style-type: none"> <li>• Wall-mounting brackets</li> <li>• Screws</li> </ul>	



**NOTE:** The wall-mounting kit is not shipped with the device and must be ordered separately.

### Related Topics

- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- Unpacking the J-SRX210 Services Gateway on page 57
- Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
- Preparing the J-SRX210 Services Gateway for Desk-Mount Installation on page 63



# Installing the J-SRX210 Services Gateway

This chapter includes the following topics:

- J-SRX210 Services Gateway Safety Requirements, Warnings, and Guidelines on page 65
- J-SRX210 Services Gateway Installation on page 65
- Replacing or Installing Mini-Physical Interface Modules in the J-SRX210 Services Gateway on page 74

## J-SRX210 Services Gateway Safety Requirements, Warnings, and Guidelines

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To avoid harm to yourself or the device as you install and maintain it, follow the guidelines for working with and near electrical equipment, as well as the safety procedures for working with devices. For a discussion of how to make the installation site a safe environment and a list of safety warnings, see the Appendix A for “Safety and Regulatory Compliance Information” on page 119.



NOTE: Providing an exhaustive set of guidelines for working with electrical equipment is beyond the scope of this guide.

### Related Topics

- General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
- Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61

## J-SRX210 Services Gateway Installation

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You can install the J-SRX210 Services Gateway in a rack, on a desk, or on a wall. The device includes rubber feet for desk and wall mounting. The mounting brackets are optional accessories.

Install the device as appropriate for your site using one of the following procedures:

- Adjusting the Power Supply Adapter Tray for the J-SRX210 Services Gateway for Rack-Mount Installation on page 66
- Installing the J-SRX210 Services Gateway in a Rack on page 67
- Installing the J-SRX210 Services Gateway on a Desk on page 70
- Installing the J-SRX210 Services Gateway on a Wall on page 72

## Adjusting the Power Supply Adapter Tray for the J-SRX210 Services Gateway for Rack-Mount Installation

This topic provides details on the power supply adapters provided with different models of the J-SRX210 Services Gateway and the procedure for adjusting the power supply adapter tray to hold the power supply adapter.

The following power supply adapters are provided with the J-SRX210 Services Gateway:

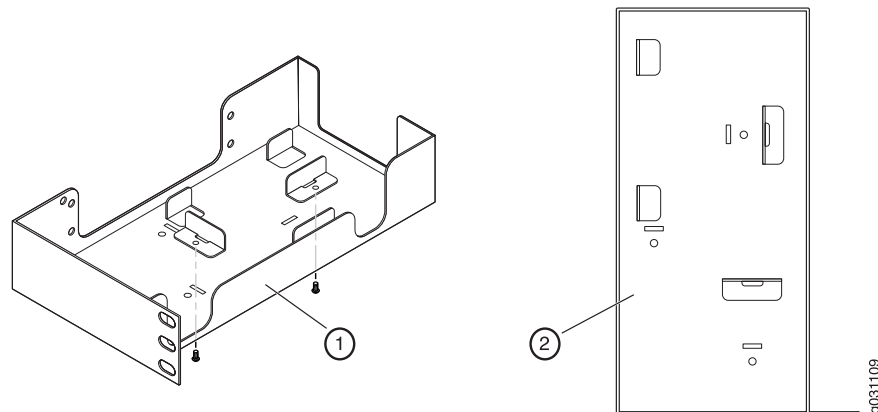
- 60 watt power supply adapter for the J-SRX210 Services Gateway Low Memory and High Memory models.
- 150 watt power supply adapter for the J-SRX210 Services Gateway with PoE and the J-SRX210 Services Gateway with Integrated Convergence Services

To adjust the power supply adapter tray:

- To accommodate the 60-watt power supply, use the two 420–028535 screws to attach the adapter stopper brackets at the point on the chassis marked B.

Figure 12 on page 66 shows the adjustments to the power supply adapter tray required for the 60-watt power supply.

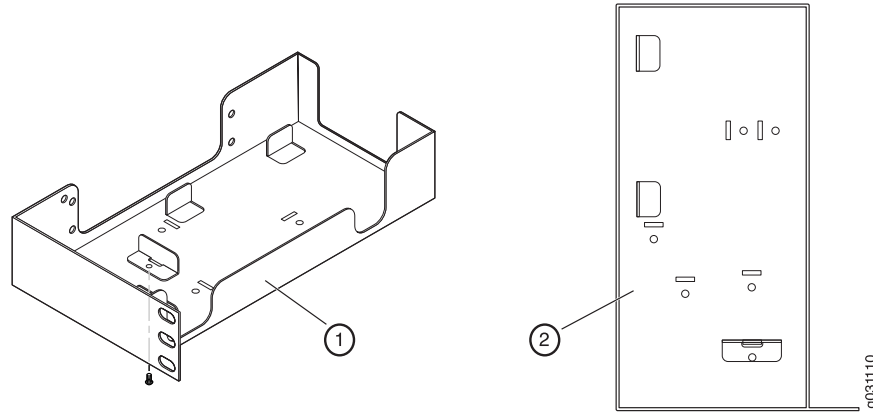
**Figure 12: Adjusting Power Supply Adapter Tray for 60 Watts**



1. Attaching the adapter stopper brackets into power supply adapter tray.
  2. Fully configured power supply adapter tray.
- To accommodate the 150-watt power supply, use the 420–028535 screw to attach the adapter stopper bracket at the point on the chassis marked A.

Figure 13 on page 67 shows the adjustments to the power supply adapter tray required for the 150-watt power supply.

**Figure 13: Adjusting Power Supply Adapter Tray for 150 Watts**



1. Attaching the adapter stopper brackets into power supply adapter tray.
2. Fully configured power supply adapter tray.

- Related Topics**
- Preparing the J-SRX210 Services Gateway for Rack-Mount, Desk-Mount, and Wall-Mount Installation on page 61
  - Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62

### Installing the J-SRX210 Services Gateway in a Rack

You can front-mount the J-SRX210 Services Gateway in a rack. Many types of racks are acceptable, including four-post (telco) racks, enclosed cabinets, and open-frame racks. For more information about the type of rack or cabinet the J-SRX210 Services Gateway can be installed into, see “J-SRX210 Services Gateway Rack Requirements” on page 49.



**NOTE:** The rack-mounting kit is not shipped with the device and must be ordered separately.



**NOTE:**

- If you are installing multiple devices in one rack, install the lowest one first and proceed upward in the rack.
- Make sure that the rubber feet from the base of the chassis are removed for rack installation.

To install the device in a rack:

1. Position a mounting bracket on each side of the chassis as shown in Figure 14 on page 68.

**Figure 14: Installation of J-SRX210 Services Gateway in a Rack — Positioning Mounting Brackets**

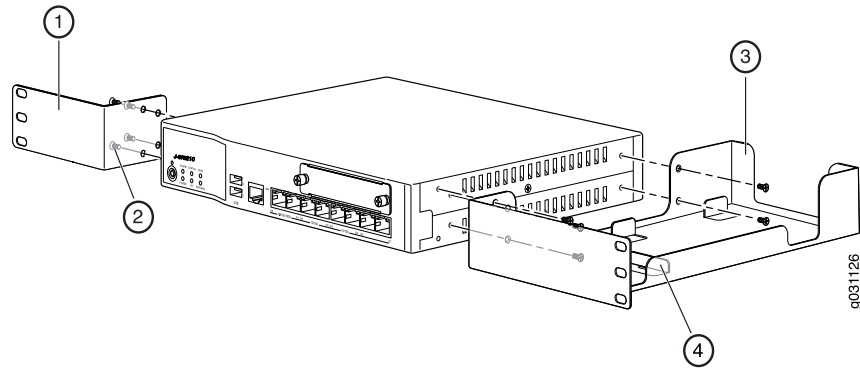


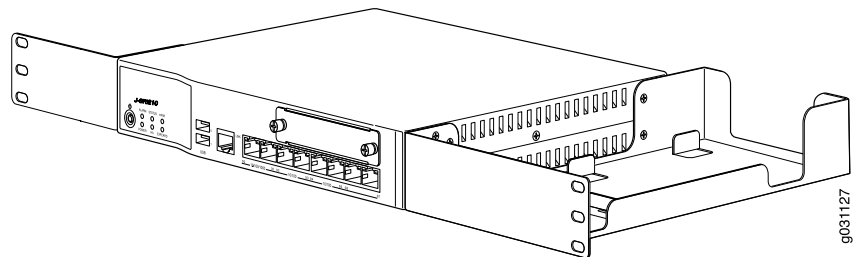
Table 30 on page 68 lists the parts used for installing the J-SRX210 Services Gateway on the rack. The numbers in Figure 14 on page 68 correspond to the numbers in Table 30 on page 68.

**Table 30: J-SRX210 Services Gateway Rack Installation Parts**

S.No	Part
1	Mounting brackets
2	Screws (Mounting bracket)
3	Power supply adapter tray
4	Screws (Power supply adapter tray)

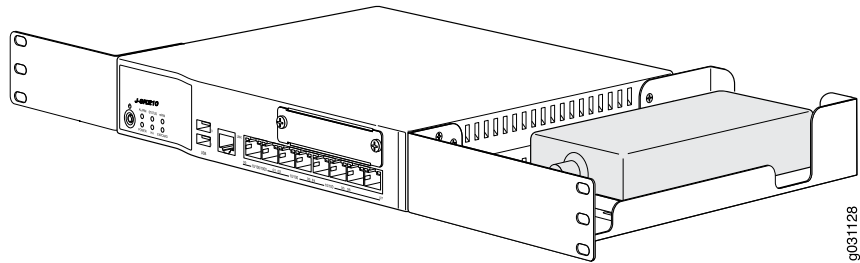
2. Use a number-1 Phillips screwdriver to install the screws that secure the mounting brackets and power supply adapter tray to the chassis as shown in Figure 15 on page 68.

**Figure 15: J-SRX210 Services Gateway Rack Installation — Securing Mounting Brackets and Power Supply Adapter Tray**



3. Place the power supply adapter in the tray as shown in Figure 16 on page 69.

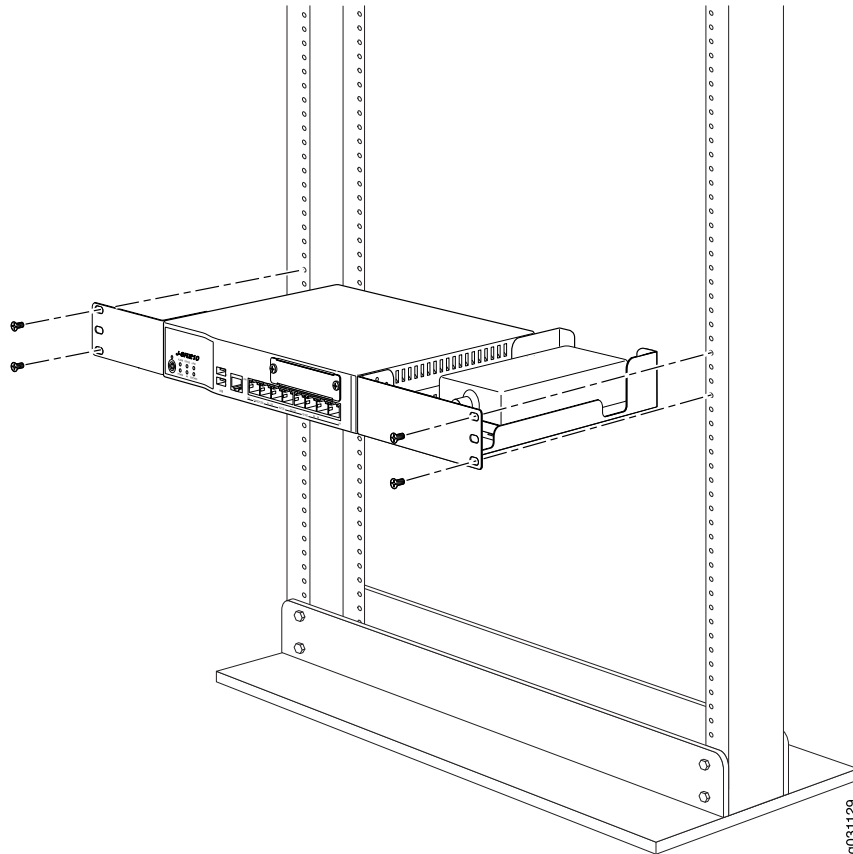
**Figure 16: J-SRX210 Services Gateway Rack Installation — Positioning Power Supply Adapter Tray**



g031128

4. Have one person grasp the sides of the device, lift it, and position it in the rack.
5. Align the bottom hole in each mounting bracket with a hole in each rack rail as shown in Figure 17 on page 69, making sure the chassis is level.

**Figure 17: J-SRX210 Services Gateway Rack Installation — Hanging the Services Gateway in a Rack**



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6. Have a second person install a mounting screw into each of the two aligned holes. Use a number-1 Phillips screwdriver to tighten the screws.
7. Install the second screw in each mounting bracket.
8. Verify that the mounting screws on one side of the rack are aligned with the mounting screws on the opposite side and that the device is level.

- Related Topics**
- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121
  - Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
  - Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
  - Adjusting the Power Supply Adapter Tray for the J-SRX210 Services Gateway on page 66
  - Installing the J-SRX210 Services Gateway on a Desk on page 70
  - Installing the J-SRX210 Services Gateway on a Wall on page 72

## Installing the J-SRX210 Services Gateway on a Desk

Follow these guidelines when installing the device on a desk:

- You can install the J-SRX210 Services Gateway on a desk, table, or other level surface.
- The device is shipped with the rubber feet attached. The rubber feet are necessary to stabilize the device on the desk.
- You can install the device in a horizontal or vertical position.
- The vertical position requires the vertical installation kit, which consists of a vertical installation stand with the rubber feet attached.



**NOTE:** The desk-mounting kit is not shipped with the device and must be ordered separately.

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To install the device in a horizontal position:

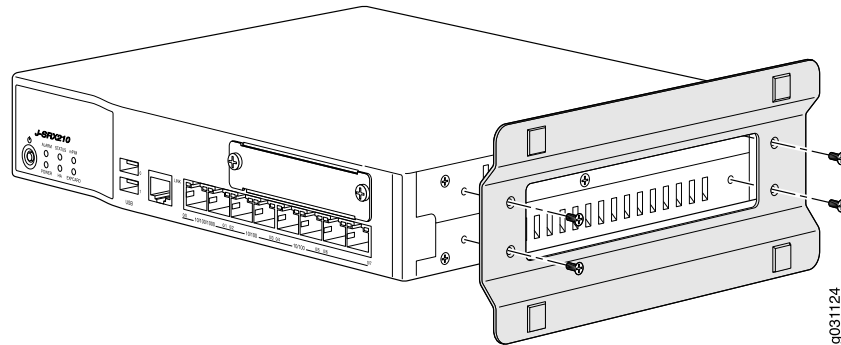
The horizontal position is the standard installation position and does not require the vertical installation kit.

1. Make sure that the rubber feet are attached to the chassis.
2. Place the device on a desk with the Dell logo embossed on the top cover facing up.

To install the device in a vertical position:

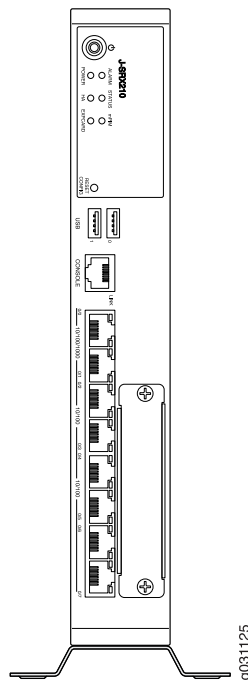
1. Place the device on a flat and level surface with the Dell logo embossed on the top cover facing up.
2. Attach the vertical stand to the right side of the chassis using the specified screws as shown in Figure 18 on page 71.

**Figure 18: J-SRX210 Services Gateway Desk Installation — Attaching Vertical Stand**



- Place the chassis vertically on the desk with the stand resting on the desk as shown in Figure 19 on page 71.

**Figure 19: J-SRX210 Services Gateway Desk Installation — Placing the Services Gateway on Desk**



- Related Topics**
- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121
  - Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
  - Preparing the J-SRX210 Services Gateway for Desk-Mount Installation on page 63
  - Installing the J-SRX210 Services Gateway in a Rack on page 67
  - Installing the J-SRX210 Services Gateway on a Wall on page 72

## Installing the J-SRX210 Services Gateway on a Wall

You can install the J-SRX210 Services Gateway on a wall.



**NOTE:** The wall-mounting kit is not shipped with the device and must be ordered separately.

To install the device on a wall:

1. Place the device on a flat and level surface with the Dell Logo embossed on the top cover facing up. Ensure that rubber feet are attached to the bottom of the chassis.
2. Position a mounting bracket on each side of the chassis as shown in Figure 20 on page 72.

**Figure 20: J-SRX210 Services Gateway Wall Installation — Attaching Mounting Brackets**

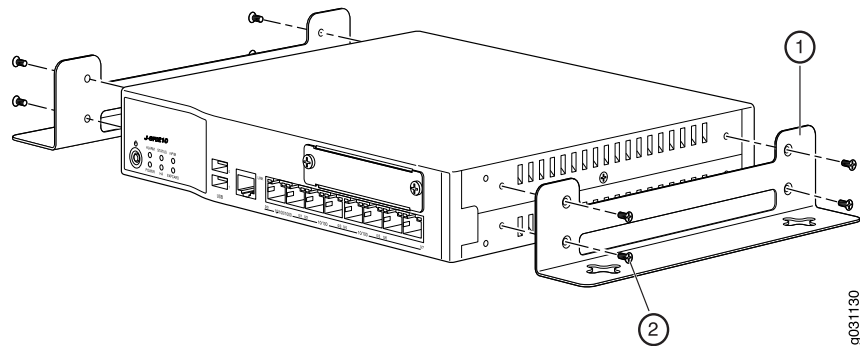


Table 31 on page 72 lists the parts used for installing the J-SRX210 Services Gateway on the wall. The numbers in Figure 20 on page 72 correspond to the numbers in Table 31 on page 72.

**Table 31: J-SRX210 Services Gateway Wall Installation Parts**

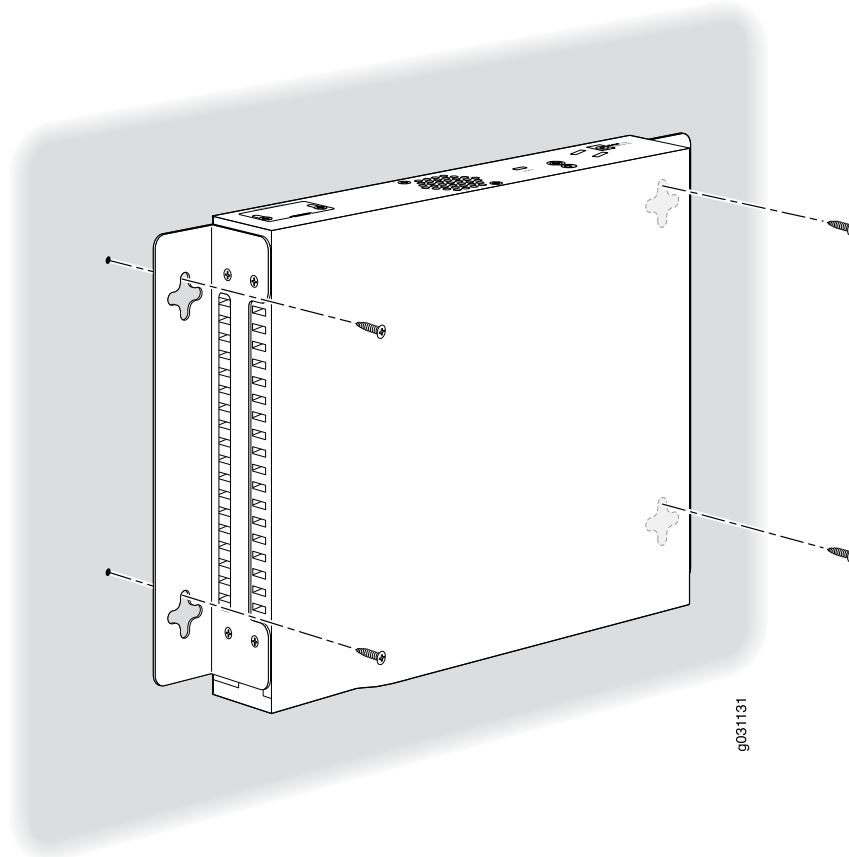
Numbers	Part
1	Mounting brackets
2	Screws (Mounting bracket)

3. Use a number-1 Phillips screwdriver to install the screws that secure the mounting brackets to the chassis.
4. If you are using wall anchors to support the chassis, install two pairs of anchors on the wall, spaced apart equal to width of chassis with mounting brackets attached.
5. Have one person grasp the sides of the device, lift it, and position it on the wall.



6. Have a second person install two pairs of mounting screws through the bracket holes on either side of the device to secure it to the wall.
7. Verify that the mounting screws on one side are aligned with the mounting screws on the opposite side and that the device is level (see Figure 21 on page 73).

**Figure 21: J-SRX210 Services Gateway Wall Installation — Hanging the Services Gateway on Wall**



- Related Topics**
- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121
  - Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
  - Preparing the J-SRX210 Services Gateway for Rack-Mount Installation on page 62
  - Adjusting the Power Supply Adapter Tray for the J-SRX210 Services Gateway on page 66
  - Installing the J-SRX210 Services Gateway on a Desk on page 70
  - Installing the J-SRX210 Services Gateway on a Wall on page 72

## Replacing or Installing Mini-Physical Interface Modules in the J-SRX210 Services Gateway

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Mini-Physical Interface Modules (Mini-PIMs) are circuit boards that you can install in a device for enhanced functionality based on your requirements. They enable you to easily add or change physical interfaces on a device.

The Mini-Physical Interface Module (Mini-PIM) slot is covered with a blank faceplate to maintain proper airflow through the services gateway. Before installing the Mini-PIM, you must remove the faceplate.

See the *J-SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide* for information about installing the Mini-PIMs.



**NOTE:** The Mini-PIMs available on the J-SRX210 Services Gateway are not hot-swappable. You need to power off the device before removing or installing Mini-PIMs.

### Related Topics

- J-SRX210 Services Gateway Installation Safety Guidelines and Warnings on page 125
- Installing the J-SRX210 Services Gateway on a Desk on page 70
- Installing the J-SRX210 Services Gateway on a Wall on page 72
- Installing the J-SRX210 Services Gateway in a Rack on page 67

# Connecting, Grounding, and Powering On the J-SRX210 Services Gateway

This chapter includes the following topics:

- Connecting the J-SRX210 Services Gateway to the Power Supply on page 75
- Connecting and Organizing Interface Cables to the J-SRX210 Services Gateway on page 76
- Grounding the J-SRX210 Services Gateway on page 77
- Powering On and Powering Off the J-SRX210 Services Gateway on page 78

## Connecting the J-SRX210 Services Gateway to the Power Supply

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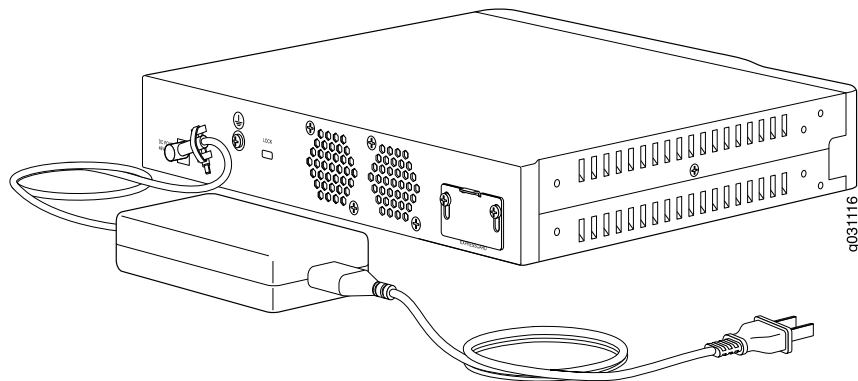
To connect the device to the power supply:



**CAUTION:** Before connecting the device to the power supply, attach an ESD strap to an ESD point and place the other end of the strap around your bare wrist.

1. Plug the DC connector end of the power cable into the power connector on the back of the device (see Figure 22 on page 75).
2. Plug the AC adapter end of the power cable into an AC power outlet.

**Figure 22: Connecting the J-SRX210 Services Gateway to Power Supply**





CAUTION: We recommend using a surge protector for the power connection.



NOTE: Use the cable tie holder to secure the power cord on to the power supply point.

- Related Topics**
- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
  - Grounding the J-SRX210 Services Gateway on page 77
  - Connecting and Organizing Interface Cables to the J-SRX210 Services Gateway on page 76
  - J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121

## Connecting and Organizing Interface Cables to the J-SRX210 Services Gateway

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You can connect the interfaces installed in the services gateway to various network media. Each type of interface on a services gateway uses a particular medium to transmit data. You must configure each network interface before it can operate on the device.

To connect and organize the interface cable to the device:

1. Have ready a length of the type of cable used by the interface.
2. Insert the cable connector into the cable connector port on the interface faceplate.
3. Arrange network cables as follows to prevent them from dislodging or developing stress points:
  - Secure cables so that they are not supporting their own weight as they hang to the floor.
  - Place excess cable out of the way in neatly coiled loops.
  - Use fasteners to maintain the shape of cable loops.

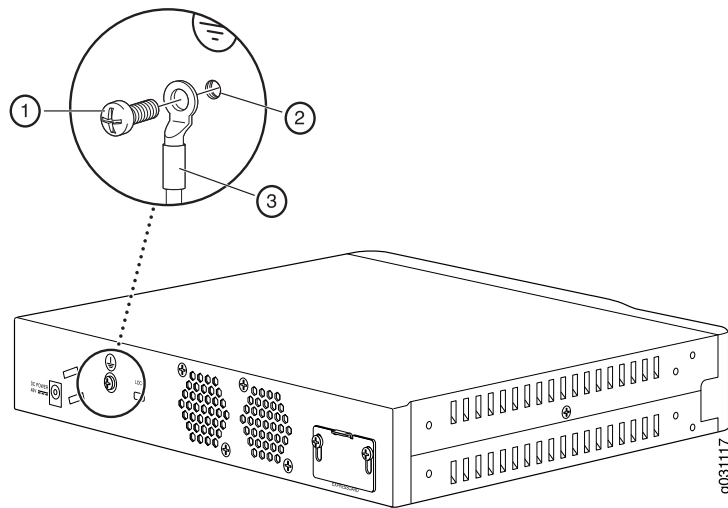
- Related Topics**
- Connecting the J-SRX210 Services Gateway to the Power Supply on page 75
  - Grounding the J-SRX210 Services Gateway on page 77
  - Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147
  - J-SRX210 Services Gateway Installation Safety Guidelines and Warnings on page 125

## Grounding the J-SRX210 Services Gateway

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, you must adequately ground the J-SRX210 Services Gateway before connecting power.

Figure 23 on page 77 illustrates connecting a grounding cable to the services gateway.

**Figure 23: Grounding the J-SRX210 Services Gateway**



You ground the device by connecting a grounding cable to earth ground and then attaching it to the chassis grounding points using one 6–32 UNC screw.

Table 32 on page 77 lists the specifications of the grounding cable used with the device.

**Table 32: Grounding Cable Specifications for the Services Gateway**

Grounding Requirement	Specification
Grounding cable	14 AWG single-strand wire cable
Amperage of grounding cable	Up to 4 A
Grounding lug	Ring-type, vinyl-insulated TV14-6R lug or equivalent



**CAUTION:** Before device installation begins, a licensed electrician must attach a cable lug to the grounding and power cables that you supply. A cable with an incorrectly attached lug can damage the device (for example, by causing a short circuit).

To ground the device:

1. Connect the grounding cable to a proper earth ground.
2. Verify that a licensed electrician has attached the cable lug to the grounding cable
3. Place the grounding cable lug over the grounding point on the upper rear of the chassis.
4. Secure the grounding cable lug to the grounding point with the screw.
5. Dress the grounding cable and verify that it does not touch or block access to the services gateway components and that it does not cause anyone to trip on it.



NOTE: The device should be permanently connected to ground during normal operation.

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#### Related Topics

- Connecting the J-SRX210 Services Gateway to the Power Supply on page 75
- Connecting and Organizing Interface Cables to the J-SRX210 Services Gateway on page 76
- J-SRX210 Services Gateway Grounding Specifications on page 145
- Powering On and Powering Off the J-SRX210 Services Gateway on page 78
- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121

## Powering On and Powering Off the J-SRX210 Services Gateway

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This topic describes the following procedures:

1. Powering On the J-SRX210 Services Gateway on page 78
2. Powering Off the J-SRX210 Services Gateway on page 79
3. Resetting the J-SRX210 Services Gateway on page 80

### Powering On the J-SRX210 Services Gateway

To power on the services gateway:

1. Ensure that you have connected the power supply to the device.
2. Insert the plug of the power supply adapter into an AC power source receptacle.
3. Turn on the power to the AC power receptacle and press the Power button.
4. The device starts automatically as the power supply completes its startup sequence. The Power LED lights up during startup and remains on steadily when the device is operating normally.



NOTE: After the power supply is turned on, it can take up to 60 seconds for status indicators—such as the Status LEDs on the power supply and the show chassis command display—to show that the power supply is functioning normally. Ignore error indicators that appear during the first 60 seconds.



NOTE: If the system is completely powered off when you turn on the power supply, the device starts as the power supply completes its startup sequence. If the device finishes starting and you need to power off the system again, first issue the CLI request system power-off command.

### Powering Off the J-SRX210 Services Gateway

You can power off the services gateway in one of the following ways:

- Graceful shutdown— Press and release the Power button. The device begins gracefully shutting down the operating system and then powers itself off.
- Immediate shutdown— Press the Power button and hold it for more than five seconds. The device immediately powers itself off without shutting down the operating system.



NOTE: Do not press the power button while the device is shutting down.



NOTE: The Power button on the services gateway is a standby power switch. If the services gateway is connected to a power source when you press the Power button to power the device off, the device remains in standby mode, and a small amount (5 V and 3.3 V) of standby voltage is still available in the chassis.



WARNING: Use the graceful shutdown method to halt, power off, or reboot the services gateway. Use the immediate shutdown method as a last resort to recover the services gateway if the services gateway operating system is not responding to the graceful shutdown method.



CAUTION: Immediate shutdown can result in data loss and corruption of the file system.



NOTE: To remove power completely from the device, unplug the AC power cord or switch off the power source.

After powering off a power supply, wait at least 10 seconds before turning it back on. After powering on a power supply, wait at least 10 seconds before turning it off.



TIP: For immediate restart, there is no hardware restart and the device is not powered off. To power off the device, the command needs to be provided through the software. The device software displays a message prompting you to remove the power cable. When the power cable is removed, the device is completely powered off.



NOTE: You can schedule a reboot of the services gateway using `request system reboot`.

For more information about halting, powering off, or rebooting the services gateway using CLI, see the *JUNOS Software Administration Guide*.

## Resetting the J-SRX210 Services Gateway

The Reset Config button located at the front panel of the J-SRX210 Services Gateway removes the current configuration and resets the device to the default configuration. The button is recessed in the front panel to prevent it from being pressed accidentally.



NOTE: Pressing and holding the Reset Config button for 15 seconds or more deletes all configurations on the device and loads and commits the factory configuration.

### Related Topics

- Connecting the J-SRX210 Services Gateway to the Power Supply on page 75
- Grounding the J-SRX210 Services Gateway on page 77
- J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9
- Using the Reset Config Button on the J-SRX210 Services Gateway on page 114



# J-SRX210 Services Gateway Autoinstallation

This chapter includes the following topic:

- J-SRX210 Services Gateway Autoinstallation Overview on page 81

## J-SRX210 Services Gateway Autoinstallation Overview

The autoinstallation process begins any time a services gateway is powered on and cannot locate a valid configuration file in the internal flash. Typically, a configuration file is unavailable when a services gateway is powered on for the first time or if the configuration file is deleted from the internal flash. The autoinstallation feature enables you to deploy multiple services gateways from a central location in the network.

If you are setting up many devices, autoinstallation can help automate the configuration process by loading configuration files onto new or existing devices automatically over the network. You can use either the J-Web configuration editor or the CLI configuration editor to configure a device for autoinstallation.

For the autoinstallation process to work, you must store one or more host-specific or default configuration files on a configuration server in the network and have a service available—typically Dynamic Host Configuration Protocol (DHCP)—to assign an IP address to the services gateway.

Autoinstallation takes place automatically when you connect an Ethernet port on a new services gateway to the network and power on the device. To simplify the process, you can explicitly enable autoinstallation on a device and specify a configuration server, an autoinstallation interface, and a protocol for IP address acquisition.

For more information about configuring autoinstallation, see the *JUNOS Software Administration Guide*.

- Related Topics**
- Connecting the J-SRX210 Services Gateway to the Power Supply on page 75
  - Grounding the J-SRX210 Services Gateway on page 77
  - Powering On and Powering Off the J-SRX210 Services Gateway on page 78
  - J-SRX210 Services Gateway Basic Connectivity Overview



## CHAPTER 15

# Connecting the J-SRX210 Services Gateway to Management Devices

This chapter includes the following topics:

- Connecting a J-SRX210 Services Gateway to the J-Web Interface on page 83
- Connecting a J-SRX210 Services Gateway to the CLI Locally on page 85
- Connecting a J-SRX210 Services Gateway to the CLI Remotely on page 86
- Connecting the Modem at the J-SRX210 Services Gateway End on page 87
- Connecting the Modem to the Console Port on the J-SRX210 Services Gateway on page 88
- Connecting to the CLI at the User End for the J-SRX210 Services Gateway on page 89

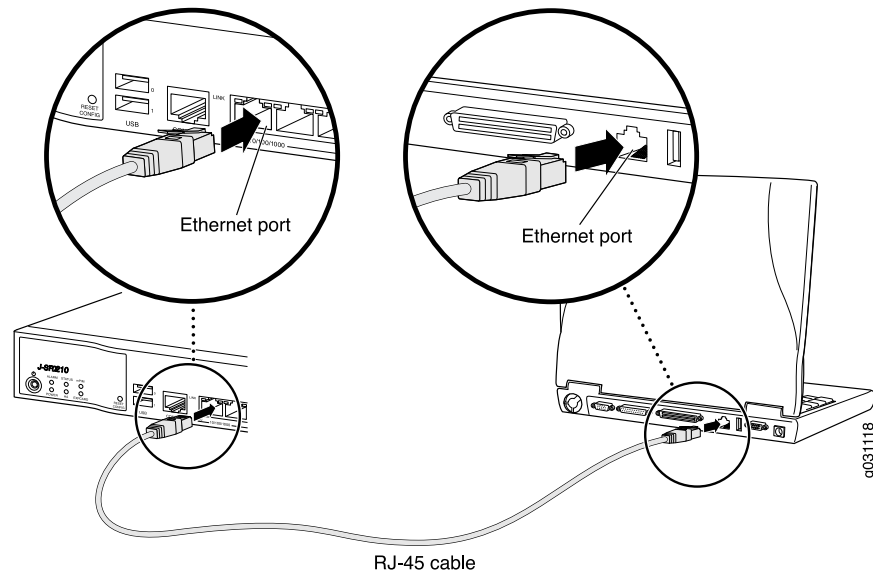
### Connecting a J-SRX210 Services Gateway to the J-Web Interface

If you plan to use the J-Web interface to configure the J-SRX210 Services Gateway, you must connect through one of the built-in Ethernet management ports.

When the services gateway is powered on for the first time, the system looks for a DHCP server. If it does not find one, the system assigns an IP address within the **192.168.1.0/24** subnetwork to any devices connected to the system.

To connect to the J-Web interface through any of the ports **ge-0/0/1** or **fe-0/0/2** to **fe-0/0/7** on the services gateway, see Figure 24 on page 84.

Figure 24: Connecting to the Ethernet Port on a J-SRX210 Services Gateway



To connect to the Ethernet port:

1. From the management device you use to access the J-Web interface (such as a PC or a laptop), verify that the address of the port you connect to is set to one of the following values:
  - Ethernet address on the **192.168.1/24** subnetwork other than **192.168.1.1**
  - Ethernet address from a DHCP server
2. Plug one end of the Ethernet cable into the Ethernet port on the management device.
3. Connect the other end of the Ethernet cable to the built-in Gigabit Ethernet port on the services gateway.
4. Wait until the Status LED on the front panel turns solid green.
5. Turn on the power to the management device. The services gateway assigns an IP address to the management device within the **192.168.1.0/24** subnetwork if the services gateway is configured to use DHCP.
6. From the management device, open a Web browser and enter the IP address **192.168.1.1** in the address field.
7. Configure basic settings for your services gateway.



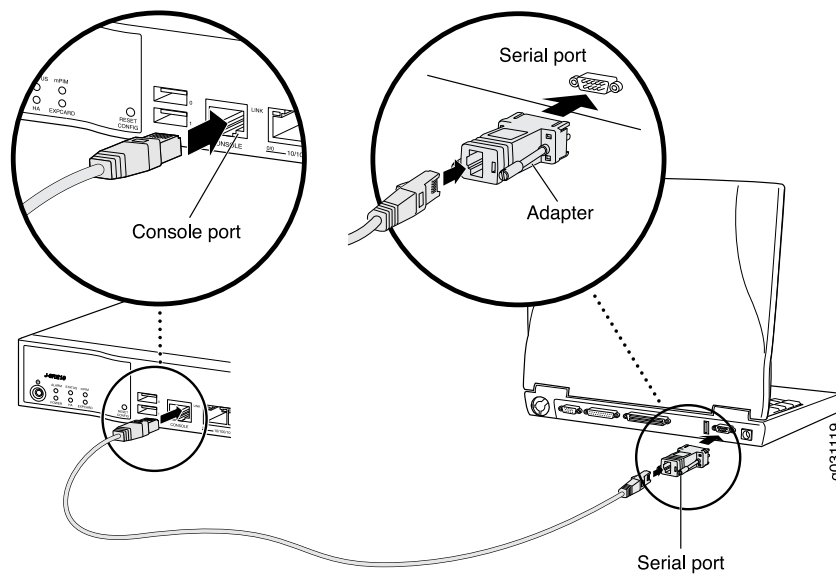
**NOTE:** You must manually configure the IP address for the management port you are using before you save your initial configuration. When you save the configuration for the first time, you will lose the connection to the services gateway if you have not manually configured the IP address. If you lose the connection through the management interface, you must connect through the Console port.

- Related Topics**
- Performing Initial Software Configuration on the J-SRX210 Services Gateway Using J-Web Interface on page 96
  - Connecting a J-SRX210 Services Gateway to the CLI Locally on page 85
  - J-SRX210 Services Gateway Software Configuration Overview on page 91
  - J-SRX210 Services Gateway Secure Web Access Overview on page 101

## Connecting a J-SRX210 Services Gateway to the CLI Locally

If you plan to use the CLI to configure the J-SRX210 Services Gateway, you must connect through the console port, as shown in Figure 25 on page 85.

**Figure 25: Connecting to the Console Port on a J-SRX210 Services Gateway**



**NOTE:** Figure 25 on page 85 shows a connection to a local management device. A remote connection to the services gateway through a modem requires the cable and connector shown (provided in the services gateway accessory box), plus a DB-9 female to DB-25 male (or similar) adapter for your modem, which you must purchase separately.

To connect to the CLI using a local management device through the console port on the services gateway:

1. Turn off power to the services gateway.
2. Turn off power to the management device, such as a PC or laptop computer, that you are using to access the CLI.
3. Plug one end of the Ethernet cable supplied with your services gateway into the RJ-45 to DB-9 serial port adapter supplied with your services gateway (see Figure 25 on page 85).

4. Plug the RJ-45 to DB-9 serial port adapter into the serial port on the management device (see Figure 25 on page 85).
5. Connect the other end of the Ethernet cable to the console port on the services gateway (see Figure 25 on page 85).
6. Turn on the power to the management device.
7. Start your asynchronous terminal emulation application (such as Microsoft Windows HyperTerminal) and select the appropriate **COM** port to use (for example, **COM1**).
8. Configure the port settings shown in Table 33 on page 86.

**Table 33: Port Settings when Connecting to Console Port**

Port Settings	Value
Bits per second	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

9. Power on the services gateway by pressing the Power button on the front panel.
10. Verify that the Power LED on the front panel turns green.  
  
The terminal emulation screen on your management device displays the startup sequence. When the services gateway has finished starting up, a login prompt appears.
11. Log in as the user **root**. No password is required at initial connection, but you must assign a root password before committing any configuration settings.

- Related Topics**
- [Connecting a J-SRX210 Services Gateway to the CLI Remotely on page 86](#)
  - [Performing Initial Software Configuration on the J-SRX210 Services Gateway Using CLI on page 94](#)
  - [Connecting a J-SRX210 Services Gateway to the J-Web Interface on page 83](#)
  - [J-SRX210 Services Gateway Software Configuration Overview on page 91](#)
  - [J-SRX210 Services Gateway Secure Web Access Overview on page 101](#)

## Connecting a J-SRX210 Services Gateway to the CLI Remotely

You can connect a J-SRX210 Services Gateway to the CLI from a remote location through two dial-up modems:

- A modem that is connected to the console port on the services gateway

- A second modem connected to a remote management device

The modem connection allows you to remotely perform the same console operations you can perform locally.

- Related Topics**
- Connecting a J-SRX210 Services Gateway to the CLI Locally on page 85
  - Performing Initial Software Configuration on the J-SRX210 Services Gateway Using CLI on page 94
  - Connecting a J-SRX210 Services Gateway to the J-Web Interface on page 83
  - J-SRX210 Services Gateway Software Configuration Overview on page 91
  - J-SRX210 Services Gateway Secure Web Access Overview on page 101

## Connecting the Modem at the J-SRX210 Services Gateway End



**NOTE:** These instructions use Hayes-compatible modem commands to configure the modem. If your modem is not Hayes-compatible, refer to the documentation for your modem and enter the equivalent modem commands.

To configure the modem on the services gateway end:

1. Connect the modem to a PC or laptop computer.
2. Power on the modem.
3. From the PC or laptop computer, start your asynchronous terminal emulation application (such as Microsoft Windows HyperTerminal) and select the **COM** port to which the modem is connected (for example, **COM1**).
4. Configure the port settings shown in Table 34 on page 87.

**Table 34: Port Settings to Configure the Modem on Services Gateway End**

Port Settings	Value
Bits per second	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

5. In the HyperTerminal window, enter **AT**.

For more information on the AT commands, see the *JUNOS Software Administration Guide*.

An **OK** response verifies that the modem can communicate successfully with the **COM** port on the PC or laptop.

6. Configure the modem to answer a call on the first ring, by entering **ATS0=1**.
7. Configure the modem to accept modem control DTR signals, by entering **AT&D1**.
8. Disable flow control, by entering **AT&K0**.
9. Save modem settings, by entering **AT&W**.

- Related Topics**
- Connecting the Modem to the Console Port on the J-SRX210 Services Gateway on page 88
  - Connecting to the CLI at the User End for the J-SRX210 Services Gateway on page 89
  - J-SRX210 Services Gateway Software Configuration Overview on page 91

## Connecting the Modem to the Console Port on the J-SRX210 Services Gateway

To connect the dial-up modem to the console port on the services gateway:

1. Turn off power to the services gateway.
2. Turn off power to the modem.
3. Plug one end of the Ethernet cable supplied with your services gateway into the console port (Figure 28 on page 149 shows the console cable connector) on the services gateway.
4. Plug the other end of the Ethernet cable into the RJ-45 to DB-9 serial port adapter supplied with your services gateway.
5. Connect the serial port adapter to a separately purchased DB-9 female to DB-25 male adapter or other adapter appropriate for your modem.
6. Plug the modem adapter into the DB-25 connector on the modem.
7. Connect the modem to your telephone network.
8. Turn on the power to the modem.
9. Power on the services gateway by pressing the Power button on the front panel. Verify that the **Power** LED on the front panel turns green.



**NOTE:** Most modems have an RS-232 DB-25 connector. You must separately purchase an adapter to connect your modem to the RJ-45 to DB-9 adapter and Ethernet cable supplied with the services gateway.

- Related Topics**
- Connecting the Modem at the J-SRX210 Services Gateway End on page 87
  - Connecting to the CLI at the User End for the J-SRX210 Services Gateway on page 89
  - J-SRX210 Services Gateway Software Configuration Overview on page 91



## Connecting to the CLI at the User End for the J-SRX210 Services Gateway

To remotely connect to the CLI through a dial-up modem connected to the console port on the services gateway:

1. Connect a modem at your remote location to a management device such as a PC or laptop computer.
2. Start your asynchronous terminal emulation application (such as Microsoft Windows HyperTerminal) on the PC or laptop computer.
3. Select the **COM** port to which the modem is connected (for example, **COM1**).
4. Configure the port settings shown in Table 35 on page 89.

**Table 35: Port Settings for Connecting CLI at User End**

Port Settings	Value
Bits per second	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

5. In the HyperTerminal window, enter **AT**.

For more information on the AT commands, see the *JUNOS Software Administration Guide*.

An **OK** response verifies that the modem can communicate successfully with the **COM** port on the PC or laptop.

6. Dial the modem that is connected to the console port on the services gateway by entering **ATDT remote-modem-number**. For example, if the number of the modem connected to the console port on the services gateway is **0013033033030**, enter **ATDT 0013033033030**.

The services gateway login prompt appears.

7. Log in as the user **root**. No password is required at initial connection, but you must assign a root password before committing any configuration settings.

### Related Topics

- Connecting the Modem at the J-SRX210 Services Gateway End on page 87
- Connecting the Modem to the Console Port on the J-SRX210 Services Gateway on page 88
- J-SRX210 Services Gateway Software Configuration Overview on page 91



## CHAPTER 16

# Performing Initial Software Configuration on the J-SRX210 Services Gateway

This chapter includes the following topics:

- J-SRX210 Services Gateway Software Configuration Overview on page 91
- Performing Initial Software Configuration on the J-SRX210 Services Gateway Using the CLI on page 94
- Performing Initial Software Configuration on the J-SRX210 Services Gateway Using the J-Web Interface on page 96
- J-SRX210 Services Gateway Secure Web Access Overview on page 101

## J-SRX210 Services Gateway Software Configuration Overview

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This topic includes the following sections:

- Preparing J-SRX210 Services Gateway for Configuration on page 91
- Understanding Built-In Ethernet Ports on page 92
- Mapping the Chassis Cluster Ports on page 92
- Understanding Management Access on page 93

## Preparing J-SRX210 Services Gateway for Configuration

The services gateway is shipped with the JUNOS Software preinstalled and ready to be configured when the device is powered on.

When the device boots, it first attempts to start the image on the USB flash drive. If a USB flash drive is not inserted into the Routing Engine or the attempt otherwise fails, the device next tries the CompactFlash card (if installed), and finally the hard disk.

You configure the Services Gateway by issuing JUNOS command-line interface (CLI) commands.

Gather the following information before configuring the device:

- Device name to be used on the network
- Domain name the device will use

- IP address and prefix length information for the Ethernet interface
- IP address of a default router
- IP address of a DNS server
- Password for the root user

## Understanding Built-In Ethernet Ports

Note the following points about the J-SRX210 Services Gateway management port:

- The J-SRX210 Services Gateway uses **ge-0/0/1** and **fe-0/0/2** to **fe-0/0/7** as a management ports to perform initial device setup. Before initial configuration, when the factory default configuration is active, the device attempts to perform autoinstallation by obtaining a device configuration through all of its connected interfaces.
- The services gateway acts as a DHCP client out of the built-in Ethernet ports. If the services gateway does not find a DHCP server within a few seconds, the device acts as a DHCP server and assigns an IP address as 192.168.1.1/24. With the device temporarily acting as a DHCP server, you can manually configure it with the J-Web interface.
- Any DHCP client host, for example, a PC or laptop computer, directly connected to any of **ge-0/0/1** or **fe-0/0/2** to **fe-0/0/7** ports receives an address on the 192.168.1.1/24 network.

## Mapping the Chassis Cluster Ports

On the J-SRX210 Services Gateway, the following ports are not user configurable when the services gateway is operating in chassis cluster mode.

The **fxp0** port is dedicated as the out-of-band management interface for each of the devices in the chassis cluster setup and the **fxp1** port is dedicated as the chassis-cluster control port.

Table 36 on page 92 shows the mapping of the chassis cluster ports.

**Table 36: Mapping the Chassis Cluster Ports on a J-SRX210 Services Gateway**

FE Ports on J-SRX210 Services Gateway	Management Interface
fe-0/0/6	fxp0 (management port)
fe-0/0/7	fxp1 (control port)

JUNOS Software automatically creates the **fxp0** and **fxp1** interfaces on these ports when the J-SRX210 Services Gateway is operating in chassis cluster mode.

For more information, see the following guides:

- *JUNOS Software Interfaces and Routing Configuration Guide*

- *JUNOS Software Security Configuration Guide*

## Understanding Management Access

Telnet allows you to connect to the services gateway and access the CLI to execute commands from a remote system. The Telnet CLI connections are not encrypted and therefore can be intercepted.



**NOTE:** Telnet access to the root user is prohibited. You must use more secure methods, such as SSH, to log in as root.

SSH provides the following features:

- Allows you to connect to the device and access the CLI to execute commands from a remote system
- Encrypts traffic so that it cannot be intercepted (unlike Telnet)
- Can be configured so that connections are authenticated by a digital certificate
- Uses public–private key technology for both connection and authentication

The SSH client software must be installed on the machine where the client application runs. If the SSH private key is encrypted (for greater security), the SSH client must be able to access the passphrase used to decrypt the key.

For information about obtaining SSH software, see <http://www.ssh.com> and <http://www.openssh.com>.

If you are using a JUNOScript server to configure and monitor devices, you can activate cleartext access on the device to allow unencrypted text to be sent directly over a Transmission Line Protocol (TCP) connection without using any additional protocol (such as SSH, SSL, or Telnet). For more information about the JUNOScript application programming interface (API), see the *JUNOScript API Guide*.



**NOTE:** Information sent in cleartext is not encrypted and therefore can be intercepted.

If the device is operating in a Common Criteria environment, see the *Secure Configuration Guide for Common Criteria and JUNOS-FIPS*.

### Related Topics

- Connecting a J-SRX210 Services Gateway to the J-Web Interface on page 83
- Connecting a J-SRX210 Services Gateway to the CLI Locally on page 85
- Connecting a J-SRX210 Services Gateway to the CLI Remotely on page 86
- Performing Initial Software Configuration on the J-SRX210 Services Gateway Using CLI on page 94
- Performing Initial Software Configuration on the J-SRX210 Services Gateway Using J-Web Interface on page 96

- J-SRX210 Services Gateway Secure Web Access Overview on page 101

## Performing Initial Software Configuration on the J-SRX210 Services Gateway Using the CLI

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This procedure connects the device to the network but does not enable it to forward traffic. For complete information about enabling the device to forward traffic, including examples, see the appropriate JUNOS Software configuration guides.

To configure the software:

1. Verify that the device is powered on.
2. Log in as the root user. There is no password.
3. Start the CLI.

```
root# cli
root@>
```

4. Enter configuration mode.

```
configure
[edit]
root@#
```

5. Set the root authentication password by entering a cleartext password, an encrypted password, or an SSH public key string (DSA or RSA).

```
[edit]
root@# set system root-authentication plain-text-password
New password: password
Retype new password: password
```

6. Configure an administrator account on the device.

```
[edit]
root@# set system login user admin class super-user authentication
plain-text-password
```

7. Commit the configuration to activate it on the device.

```
[edit]
root@# commit
```

8. Log in as the administrative user you configured in Step 6.

9. Configure the name of the device. If the name includes spaces, enclose the name in quotation marks (" ").

```
configure
[edit]
admin@# set system host-name host-name
```

10. Configure the traffic interface.

```
[edit]
admin@# set interfaces ge-0/0/1 unit 0 family inet address address/prefix-length
```

11. Configure the default route.

```
[edit]
admin@# set routing-options static route 0.0.0.0/0 next-hop gateway
```

12. Configure basic security zones and bind them to traffic interfaces.

```
[edit]
admin@# set security zones security-zone untrust interfaces ge-0/0/1
```

13. Configure basic security policies.

```
[edit]
admin@# set security policies from-zone trust to-zone untrust policy policy-name
match source-address any destination-address any application any
root@# set security policies from-zone trust to-zone untrust policy policy-name then
permit
```

14. Create a NAT rule for source translation of all Internet bound traffic.

```
[edit]
admin@# set security nat source rule-set interface-nat from zone trust
admin@# set security nat source rule-set interface-nat to zone untrust
admin@# set security nat source rule-set interface-nat rule rule1 match
source-address 0.0.0.0/0 destination-address 0.0.0.0/0
admin@# set security nat source rule-set interface-nat rule rule1 then source-nat
interface
```

15. Check the configuration for validity.

```
[edit]
admin@# commit check
configuration check succeeds
```

16. Commit the configuration to activate it on the device.

```
[edit]
admin@# commit
commit complete
```

17. Optionally, display the configuration to verify that it is correct.

```
[edit]
user@host# show
system {
  host-name devicea;
  domain-name lab.device.net;
  domain-search [ lab.device.net device.net ];
  backup-device 192.168.2.44;
  time-zone America/Los_Angeles;
  root-authentication {
    ssh-rsa "ssh-rsa AAAAB3Nza...D9Y2gXF9ac==root@devicea.lab.device.net";
  }
  name-server {
    10.148.2.32;
  }
  services {
  }
  ntp {
    server 10.148.2.21;
  }
}
```

```
}
interfaces {
  ge-0/0/0 {
    unit 0 {
      family inet {
        address 192.168.1.1/24;
      }
    }
  }
  lo0 {
    unit 0 {
      family inet {
        address 172.16.1.24/32;
      }
    }
  }
}
```

18. Commit the configuration to activate it on the device.

```
[edit]
admin@# commit
```

19. Optionally, configure additional properties by adding the necessary configuration statements. Then commit the changes to activate them on the device.

```
[edit]
admin@host# commit
```

20. When you have finished configuring the device, exit configuration mode.

```
[edit]
admin@host# exit
admin@host>
```

- Related Topics**
- [Connecting a J-SRX210 Services Gateway to the CLI Locally on page 85](#)
  - [Connecting a J-SRX210 Services Gateway to the CLI Remotely on page 86](#)
  - [J-SRX210 Services Gateway Software Configuration Overview on page 91](#)
  - [Performing Initial Software Configuration on the J-SRX210 Services Gateway Using J-Web Interface on page 96](#)
  - [J-SRX210 Services Gateway Secure Web Access Overview on page 101](#)

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## Performing Initial Software Configuration on the J-SRX210 Services Gateway Using the J-Web Interface

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This topic includes the following sections:

- [Establishing Basic Connectivity on page 97](#)
- [Configuring Basic System Properties on page 98](#)



## Establishing Basic Connectivity

To establish basic connectivity:

1. Connect an Ethernet cable from any of the **ge-0/0/1** or **fe-0/0/2** to **fe-0/0/7** ports to the Ethernet port on the management device (workstation or laptop).
2. Connect the power cable to the device and a power source. (We recommend using a surge protector.) Note the following indications:
  - Power LED (solid green): The device is receiving power.
  - Status LED (solid green): The device is operating normally.



**NOTE:** The services gateway functions as a DHCP server and will assign an IP address to the management device.

3. Ensure that the management device acquires an IP address on the 192.168.1/24 subnetwork (other than 192.168.1.1) from the device.



**NOTE:** If an IP address is not assigned to the management device, manually configure an IP address in the 192.168.1/24 subnetwork. Do not assign the 192.168.1.1 IP address to the management device, as this IP address is assigned to the device.

4. Access the J-Web interface:
  - a. Launch a Web browser from the management device.
  - b. Enter 192.168.1.1 in the Address box.
  - c. Specify the default user name as root. Do not enter any value in the Password box.
  - d. Press **Enter**. The J-Web Initial Setup page is displayed.
5. Configure the basic settings such as Host Name, Domain Name, Root Password, and IP Address for your services gateway. Ensure that you have configured the IP address, root authentication, and default gateway before you apply the configuration.



**NOTE:** All network and management access settings are optional.

6. Click **Apply** to apply the configuration.



**NOTE:** After configuring the basic settings, the Web session may timeout. Refresh or relaunch the page if the applied configuration page is not displayed.

## Configuring Basic System Properties

Table 37 on page 98 through Table 39 on page 99 provide the summary of configuration details for initial setup.

**Table 37: Basic Configuration Summary (Device Identification)**

Field	Function	Your Action
Host Name	Defines the hostname of the services gateway.	Type the hostname.
Domain Name	Defines the network or subnetwork that the services gateway belongs to.	Type the domain name.
Root Password (required)	Sets the password that user <b>root</b> can use to log in to the services gateway.	Type a plaintext password that the system encrypts.  NOTE: After a root password has been defined, it is required when you log in to the J-Web user interface or the CLI.
Verify Root Password (required)	Verifies the root password has been typed correctly.	Retype the password.
DNS Name Servers	Specifies a DNS server that the services gateway can use to resolve hostnames into addresses.	Add an IP address by selecting it in the box to the left of the Add button, then clicking <b>Add</b> .  Delete an IP address by clicking it in the box above the Add button, then clicking <b>Remove</b> .
Domain Search	Adds each domain name that includes the services gateway to the configuration so that each domain is included in a DNS search.	Add a domain name by typing it in the box to the left of the Add button, then clicking <b>Add</b> .  Delete a domain name by , clicking it in the box above the Add button, then clicking <b>Remove</b> .

**Table 38: Basic Configuration Summary (Management Access)**

Field	Function	Your Action
Default Gateway	Defines a default gateway through which to direct packets addressed to networks not explicitly listed in the routing table.	Type a 32-bit IP address in dotted decimal notation.
Loopback Address	Defines a reserved IP address that is always available on the services gateway. If no address is entered, this address is set to <b>127.0.0.1/32</b> .	Type a 32-bit IP address and prefix length in dotted decimal notation.

**Table 38: Basic Configuration Summary (Management Access) (continued)**

Field	Function	Your Action
Allow Telnet Access	Allows remote access to the services gateway using Telnet.	Enable Telnet access by selecting the box.
Allow JUNOScript over Clear-Text Access	Allows JUNOScript to access the services gateway using a protocol for sending unencrypted text over a TCP connection.	Enable JUNOScript access over cleartext by selecting the box.
Allow SSH Access	Allows remote access to the services gateway using SSH.	Enable SSH access by selecting the box.

**Table 39: Basic Configuration Summary (Date and Time)**

Field	Function	Your Action
<b>Date and Time</b>		
Time Zone	Identifies the time zone in which the services gateway is located.	From the list, select the appropriate time zone.
NTP Servers	Specifies an NTP server that the services gateway can reach to synchronize the system time.	<p>Add an IP address by clicking <b>Add</b> and entering IP address and then clicking <b>OK</b>.</p> <p>Delete an IP address by clicking it in the box and then clicking <b>Delete</b>.</p>
Current System Time	Synchronizes the system time with the NTP server or allows you to manually set the system time and date.	<ul style="list-style-type: none"> <li>Set the time immediately using the NTP server; select <b>NTP Servers</b>. The services gateway sends a request to the NTP server and synchronizes the system time.</li> </ul> <p>NOTE: If you are configuring other settings on this page, the services gateway also synchronizes the system time using the NTP server when you click <b>OK</b>.</p> <ul style="list-style-type: none"> <li>Set the time manually by selecting the <b>Manual</b> button. A window allows you to select the current date and time from lists.</li> </ul>

To configure basic system properties:

- In the J-Web interface, select **Configure > System properties** and select the required tab and proceed with configuring the other settings. See Table 37 on page 98 through Table 39 on page 99 for details.
- Click one of the following buttons:
  - Click **OK** to save changes.
  - Click **Cancel** to cancel your entries and return to the previous page.

- Click **Commit** to apply the configuration and other pending changes (if any) and click **Discard** to discard pending changes.
3. Configure an interface as follows:
    - a. In the J-Web interface, select **Configure>Interfaces**

The Interfaces page appears and lists the network interfaces present on the services gateway.
    - b. Under the Interface Name column, click the interface you want to configure (for example ge-0/0/0).
    - c. Under **Logical Interfaces**, click **Add**.
    - d. Under **IPv4 Addresses and Prefixes**, click **Add**.
    - e. In the IPv4 Address and Prefix fields, enter an IP address and a subnet mask
    - f. Click **OK**. The configured IP address is included in the Address Prefix column.
  4. Configure the default route as follows
    - a. In the J-Web interface, select **Configure>Routing>Static routing**
    - b. In the Static Routing page, click **Add**.
    - c. Add an IP address for Route and Next-hop.
    - d. Click **OK**. The configured IP address is included in the Static Routing page.
  5. Configure basic security zones and bind them to traffic interfaces.
    - a. In the J-Web interface, under the Configure tab, navigate to **Security > Zones**
    - b. Under Security Zone, click **Add**.
    - c. Enter a name for the zone in the Zone Name field.
    - d. Scroll down to the Interfaces Configuration panel on the page to add an interface to a specific zone.
    - e. Click **OK** to save the configuration.
  6. Configure basic security policies.
    - a. In the J-Web interface, under the Configure tab, navigate to **Security > Policy**.
    - b. In the Security Policy page, click **Add**.
    - c. Enter a name for the policy and select the source and destination zones.
    - d. Enter a source address, destination address, and an application.
    - e. Select Policy Action as **Permit**, or **Deny**, or **Reject**.
    - f. Click **OK** to save the configuration.



**NOTE:** Click **Commit** to apply the configuration and other pending changes (if any) and click **Discard** to discard pending changes.

For more instructions on managing users and operations, monitoring network performance, upgrading software, and diagnosing common problems on a J-SRX210 Series Services Gateways, see the *JUNOS Software Administration Guide*.

## J-SRX210 Services Gateway Secure Web Access Overview

You can manage a services gateway remotely through the J-Web interface. To communicate with the services gateway, the J-Web interface uses Hypertext Transfer Protocol (HTTP). HTTP allows easy Web access but no encryption. The data that is transmitted between the Web browser and the services gateway by means of HTTP is vulnerable to interception and attack. To enable secure Web access, a services gateway supports HTTP over Secure Sockets Layer (HTTPS). You can enable HTTP or HTTPS access on specific interfaces and ports as needed.

The services gateway uses the SSL protocol to provide secure management of services gateways through the Web interface. SSL uses public-private key technology that requires a paired private key and an authentication certificate for providing the SSL service. SSL encrypts communication between your device and the Web browser with a session key negotiated by the SSL server certificate.

An SSL certificate includes identifying information such as a public key and a signature made by a certificate authority (CA). When you access the services gateway through HTTPS, an SSL handshake authenticates the server and the client and begins a secure session. If the information does not match or the certificate has expired, your access to the services gateway through HTTPS is restricted.

Without SSL encryption, communication between your services gateway and the browser is sent in the open and can be intercepted. We recommend that you enable HTTPS access on your WAN interfaces.

For more details about configuring the secure Web access, see the *JUNOS Software Administration Guide*.

### Related Topics

- J-SRX210 Services Gateway Basic Connectivity Overview
- Configuring Basic Settings for the J-SRX210 Services Gateway with J-Web Quick Configuration
- Configuring Basic Settings for the J-SRX210 Services Gateway with a Configuration Editor
- Displaying Basic Connectivity Configurations for the J-SRX210 Services Gateway



## PART 3

# Maintaining and Monitoring the J-SRX210 Services Gateway Hardware

- Maintaining the J-SRX210 Services Gateway Hardware Components on page 105
- Monitoring the J-SRX210 Services Gateway on page 107





# Maintaining the J-SRX210 Services Gateway Hardware Components

This chapter describes how to maintain the hardware components of the J-SRX210 Services Gateway. This chapter includes the following topic:

- Maintaining the J-SRX210 Services Gateway Hardware Components on page 105

## Maintaining the J-SRX210 Services Gateway Hardware Components

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Table 40 on page 105 describes the common tasks to maintain the hardware components of the services gateway.

**Table 40: Maintenance Procedures for the Services Gateway Hardware Components**

Maintenance Procedures	Description
Routine Maintenance Procedures	To maintain optimum performance of the services gateway, you should regularly perform the following preventive maintenance procedures: <ul style="list-style-type: none"><li>• Inspect the installation site for moisture, loose wires or cables, and excessive dust.</li><li>• Make sure that airflow is unobstructed around the device and into the air intake vents.</li><li>• Check the Status LED on the front panel of the device and on the Mini-Physical Interface Module (Mini-PIM) you are using.</li></ul>
Maintaining the Cooling System	The services gateway cooling system works to maintain an optimal temperature for the device. If the fan controller fails, the device temperature will exceed the maximum working temperature and the device will fail. Ensure that you maintain the recommended clearances behind the device to enable the cooling system to function optimally.

**Table 40: Maintenance Procedures for the Services Gateway Hardware Components (continued)**

Maintenance Procedures	Description
Maintaining the Power Supply	<p>To maintain the power supply on the services gateway:</p> <ul style="list-style-type: none"><li>• Make sure that the power and grounding cables are arranged so that they do not obstruct access to other device components.</li><li>• Periodically inspect the site to ensure that the grounding and power cables connected to the device are securely in place and that there is no moisture accumulating near the device.</li></ul> <p>CAUTION: We recommend using a surge protector for the power connection.</p>

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- Related Topics**
- [Connecting the J-SRX210 Services Gateway to the Power Supply on page 75](#)
  - [Clearance Requirements for Airflow and Hardware Maintenance of the J-SRX210 Services Gateway on page 50](#)
  - [Site Preparation Checklist for the J-SRX210 Services Gateway on page 45](#)

## CHAPTER 18

# Monitoring the J-SRX210 Services Gateway

This chapter describes how to monitor the J-SRX210 Services Gateway hardware components. If you encounter software problems, or problems with hardware components not discussed here, contact Dell Support. This chapter includes the following topics:

- Monitoring Hardware Components on the J-SRX210 Services Gateway on page 107
- Resetting the Configuration File When the J-SRX210 Services Gateway Is Inaccessible on page 113
- Dell Support on page 115

## Monitoring Hardware Components on the J-SRX210 Services Gateway

This topic includes the following sections:

- Monitoring the J-SRX210 Services Gateway Chassis Using the CLI on page 107
- Monitoring the J-SRX210 Services Gateway Components Using LEDs on page 109
- Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions on page 111
- Monitoring the J-SRX210 Services Gateway Power System on page 113

## Monitoring the J-SRX210 Services Gateway Chassis Using the CLI

You can monitor alarms to troubleshoot hardware problems on a services gateway. The chassis properties include the status of active chassis alarms on the device, environment measurements, and the status of Mini-PIMs on the device.

To view these chassis properties, select **Monitor** in the J-Web interface, or enter the following CLI **show** commands:

- **show chassis hardware**
- **show chassis environment**
- **show chassis fpc**
- **show chassis alarms**

**Examples:**

The following examples provide the sample output of commands:

**show chassis hardware**

- For the J-SRX210 Services Gateway

**user@host > show chassis hardware**

Item	Version	Part number	Serial number	Description
Chassis				SRX210-1m
Routing Engine RE-SRX210-LOWMEM	REV X0	750-021778	000000PS2627	
FPC 0				FPC
PIC 0 FE, 1x 3G				2x GE, 6x
Power Supply 0				

- For the J-SRX210 Services Gateway with Integrated Convergence Services

**user@host > show chassis hardware**

Item	Version	Part number	Serial number	Description
Chassis				
Routing Engine	REV 01	750-021778	VG8859	RE-SRX210-VOICE
FPC 0				FPC
PIC 0 3G, 2xFXS, 1xFX0				2x GE, 6x FE, 1x
Power Supply 0				

**show chassis environment**

**user@host > show chassis environment**

Class	Item	Status	Measurement
Temp	Routing Engine	OK	33 degrees C / 91 degrees F
Fans	SRX210 Chassis fan	OK	Spinning at intermediate-speed
Power	Power Supply 0	OK	

**show chassis fpc**

**user@host > show chassis fpc**

Temp	CPU Utilization (%)	Memory	Utilization (%)
------	---------------------	--------	-----------------

```

Slot State          (C) Total Interrupt      DRAM (MB) Heap      Buffer
0  Online          ----- CPU less FPC -----
1  Online          ----- CPU less FPC -----

```

**show chassis alarms**

```
user@host > show chassis alarms
```

```

Alarm time   Class  Description
2009-05-11 10:47:47 UTC Major  SRX210 Chassis Fan Failure

```

- Related Topics**
- Monitoring the J-SRX210 Services Gateway Components using LEDs on page 109
  - Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions on page 111
  - Monitoring the J-SRX210 Services Gateway Power System on page 113
  - Maintaining the J-SRX210 Services Gateway Hardware Components on page 105
  - Dell Support on page 115

## Monitoring the J-SRX210 Services Gateway Components Using LEDs

The LEDs available on the services gateway display the status of various components. Table 41 on page 109 describes the LEDs.

**Table 41: Component LEDs on the Services Gateway**

LED	State	Meaning	Possible Causes and Corrective Actions
Status LED	Green	Indicates that the device is functioning normally.	Normal condition. No action is required.
	Amber	<ul style="list-style-type: none"> <li>• The device is starting up.</li> <li>• The Reset Config button is pressed.</li> </ul>	Normal condition. No action is required.
	Red	An error is detected in the device.	contact Dell Support. See ""Dell Support"" on page 115.

Table 41: Component LEDs on the Services Gateway (*continued*)

LED	State	Meaning	Possible Causes and Corrective Actions
Alarm LED	Red	The device detects a major alarm.	A major alarm indicates a critical situation on the gateway that requires immediate action.  See the "Monitoring the Services Gateway Using Chassis Alarm Conditions" topic under Related Topics.
	Amber	The device detects a minor alarm.	A minor alarm requires monitoring or maintenance. If left unchecked, it might cause an interruption in service or degradation in performance.  See the "Monitoring the Services Gateway Using Chassis Alarm Conditions" topic under Related Topics.
	Off	The device is starting up.  NOTE: When the system is up and running, if the Alarm LED is off, it indicates that no alarms are present on the device.	Normal condition. No action is required.
Power LED	Green	The device is receiving power and is functioning normally.	Normal condition. No action is required.
	Amber	The Power button has been pressed and quickly released. The device is gracefully shutting down or starting up.	Normal condition. No action is required.
	Off	The device is not receiving power.	Normal condition if the services gateway is switched off. No action is required.  If you have not powered off the services gateway, verify that the AC power cord from the power source to the device is not damaged, the socket is in working condition, and the device has an AC input voltage between 110 and 240 VAC.  See the "Monitoring the Services Gateway Power System" topic under Related Topics.
HA LED	Off		The device is not part of the chassis cluster setup.

Table 41: Component LEDs on the Services Gateway (*continued*)

LED	State	Meaning	Possible Causes and Corrective Actions
Mini-PIM LED	Green	The Mini-PIM is present and detected by the device.	Normal condition. No action is required.
	Off	The Mini-PIM is not present or is not detected by the device.	See the "Monitoring the Services Gateway Using Chassis Alarm Conditions" topic under Related Topics.
Voice Interface LED	Off	The port is inactive.	Normal condition. No action is required.
	Green (Steady)	The port is active and functioning normally.	Normal condition. No action is required.
	Amber	The port is active and not ready for data communication.	Normal condition. No action is required.
	Green (Blinking)	The port is active and data communication is taking place.	Normal condition. No action is required.
	Red (blinking)	The port is initializing.  NOTE: The Voice Interface port LED glows red (blinking) while initializing. If there is an error, the LED remains red; otherwise, the LED changes to green.	Normal condition. No action is required.
	Red (steady)	The Port has detected a hardware initialization failure.	contact Dell Support. See ""Dell Support"" on page 115.

- Related Topics**
- Monitoring the J-SRX210 Services Gateway Chassis Using the CLI on page 107
  - Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions on page 111
  - Monitoring the J-SRX210 Services Gateway Power System on page 113
  - Using the Reset Config Button on the J-SRX210 Services Gateway on page 114
  - Changing the Reset Config Button Behavior on the J-SRX210 Services Gateway on page 114
  - Dell Support on page 115

## Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions

When the services gateway detects an alarm condition, the alarm LED on the front panel turns red or amber as appropriate.

To view a more detailed description of the cause of the alarm, issue the **show chassis alarms** CLI command.

For more information on the **show chassis alarms** command, see the *JUNOS Software Administration Guide*.

Table 42 on page 112 describes alarms that can occur for a J-SRX210 Services Gateway chassis component.

**Table 42: J-SRX210 Services Gateway Chassis Alarm Conditions and Corrective Actions**

Component	Alarm Condition	Action	Alarm Severity
Boot media	The services gateway boots from an alternate boot device.	<ul style="list-style-type: none"> <li>If the internal flash fails at startup, the services gateway automatically boots from the alternative boot device (USB storage device).</li> </ul> <p>NOTE: If you configured your services gateway to boot from an alternative boot device, ignore this alarm condition.</p> <ul style="list-style-type: none"> <li>Reformat the internal flash and install a bootable image. (See the <i>JUNOS Software Administration Guide</i>.)</li> <li>If you did not configure the services gateway to boot from an alternative boot device, contact Dell Support. See "Dell Support" on page 115.</li> </ul>	Amber (minor)
Mini-Physical Interface Module (Mini-PIM)	A Mini-PIM has failed.	<ul style="list-style-type: none"> <li>Contact Dell Support. See "Dell Support" on page 115.</li> <li>If you must replace the failed Mini-PIM, see the <i>J-SRX Series Services Gateways for the Branch Physical Interface Modules Hardware Guide</i> for information about replacing the Mini-PIMs.</li> </ul>	Red (major)
Hardware components on the services gateway	The services gateway chassis temperature is too warm	<ul style="list-style-type: none"> <li>Check the room temperature. See "J-SRX210 Services Gateway Specifications" on page 7.</li> <li>Check the air flow. See "General Site Guidelines for Installing the J-SRX210 Services Gateway" on page 47.</li> <li>Check the fans. See "J-SRX210 Services Gateway Cooling System" on page 22.</li> </ul> <p>If you must replace a fan, contact Dell Support. See "Dell Support" on page 115.</p>	Amber (minor)
	The services gateway fan has failed.	<p>Place your hand near the exhaust vents at the rear of the chassis to determine whether the fan is pushing air out of the chassis.</p> <p>Replace the failed fan. Contact Dell Support. See "Dell Support" on page 115.</p>	Red (major)

- Related Topics**
- Monitoring the J-SRX210 Services Gateway Chassis Using the CLI on page 107
  - Monitoring the J-SRX210 Services Gateway Components Using LEDs on page 109
  - Monitoring the J-SRX210 Services Gateway Power System on page 113
  - Using the Reset Config Button on the J-SRX210 Services Gateway on page 114
  - Changing the Reset Config Button Behavior on the J-SRX210 Services Gateway on page 114
  - Dell Support on page 115



## Monitoring the J-SRX210 Services Gateway Power System

The LEDs on the services gateway enable you to determine the performance and operation. The Power LED, located on the front panel of the services gateway, indicates the different settings with respect to the power system.

Table 43 on page 113 describes different Power LED status settings and their corrective actions.

**Table 43: Services Gateway Power LED Status**

LED Status	Meaning	Possible Cause and Corrective Action
Green	The device is receiving power, and the internal power supply is functional.	Normal indication. No action is required.
Amber	The Power button has been pressed and quickly released. The device is shutting down or starting up.	Normal indication. No action is required.
Off	The device is not receiving power.	<ul style="list-style-type: none"> <li>Verify that the AC power cord from the power source to the device is not damaged. If the insulation is cracked or broken, immediately replace the cord or cable.</li> <li>Ensure that the socket you plug in is in working condition.</li> <li>Ensure the device has an AC input voltage between 110 and 240 VAC.</li> <li>If you cannot determine the cause of the problem or need additional assistance, contact Dell Support. See "Dell Support" on page 115.</li> </ul>

- Related Topics**
- Monitoring the J-SRX210 Services Gateway Chassis Using the CLI on page 107
  - Monitoring the J-SRX210 Services Gateway Components Using LEDs on page 109
  - Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions on page 111
  - Using the Reset Config Button on the J-SRX210 Services Gateway on page 114
  - Changing the Reset Config Button Behavior on the J-SRX210 Services Gateway on page 114
  - Dell Support on page 115

## Resetting the Configuration File When the J-SRX210 Services Gateway Is Inaccessible

You can use the J-SRX210 Services Gateway's Reset Config button to restore the device's configuration file when the current one is faulty or fails. You can also change the default behavior of the Reset Config button.

This topic includes the following sections:

- Using the Reset Config Button on the J-SRX210 Services Gateway on page 114
- Changing the Reset Config Button Behavior on the J-SRX210 Services Gateway on page 114

## Using the Reset Config Button on the J-SRX210 Services Gateway

If a configuration fails or denies management access to the services gateway, you can use the Reset Config button to restore the device to the factory default configuration or a rescue configuration. For example, if someone inadvertently commits a configuration that denies management access to a services gateway, you can delete the invalid configuration and replace it with a rescue configuration by pressing the Reset Config button.



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**NOTE:** The Reset Config button is recessed to prevent it from being pressed accidentally.

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The rescue configuration is a previously committed, valid configuration. You must have previously set the rescue configuration through the J-Web interface or the CLI.

To press the Reset Config button, insert a small probe (such as a straightened paper clip) into the pinhole on the front panel.

- By default, pressing and quickly releasing the Reset Config button loads and commits the rescue configuration through the J-Web interface or the CLI. The Status LED glows amber during this time. For details, see the *JUNOS Software CLI User Guide*.
- By default, pressing and holding the Reset Config button for 15 seconds or more—until the Status LED glows amber—deletes all configurations on the device, including the backup configurations and rescue configuration, and loads and commits the factory configuration. For details about factory default settings, see the *JUNOS Software Administration Guide*.

### Related Topics

- Changing the Reset Config Button Behavior on the J-SRX210 Services Gateway on page 114
- Monitoring the J-SRX210 Services Gateway Chassis Using the CLI on page 107
- Monitoring the J-SRX210 Services Gateway Components Using LEDs on page 109
- Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions on page 111
- Monitoring the J-SRX210 Services Gateway Power System on page 113
- Dell Support on page 115

## Changing the Reset Config Button Behavior on the J-SRX210 Services Gateway

You can change the default operation of the Reset Config button by limiting how the button resets the services gateway:

- To prevent the Reset Config button from setting the device to the factory default configuration and deleting all other configurations, enter the following command:

```
user@host# set chassis config-button no-clear
```

You can still press and quickly release the button to reset it to the rescue configuration.

- To prevent the Reset Config button from setting the device to the rescue configuration, enter the following command:

```
user@host# set chassis config-button no-rescue
```

You can still press and hold the button for 15 seconds or more to reset the gateway to the factory defaults.

- To disable the button and prevent the device from resetting to either configuration, use the following command:

```
user@host# set chassis config-button no-clear no-rescue
```

The **no-rescue** option prevents the Reset Config button from loading the rescue configuration. The **no-clear** option prevents the Reset Config button from deleting all configurations on the services gateway.

To return the function of the Reset Config button to its default behavior, remove the **config-button** statement from the device configuration.

#### Related Topics

- Using the Reset Config Button on the J-SRX210 Services Gateway on page 114
- Monitoring the J-SRX210 Services Gateway Chassis Using the CLI on page 107
- Monitoring the J-SRX210 Services Gateway Components Using LEDs on page 109
- Monitoring the J-SRX210 Services Gateway Using Chassis Alarm Conditions on page 111
- Monitoring the J-SRX210 Services Gateway Power System on page 113
- Dell Support on page 115

## Dell Support

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If you need assistance while troubleshooting a services gateway, please go to the Dell Support website at <http://www.support.dell.com>.



## PART 4

# Appendixes

- Safety and Regulatory Compliance Information on page 119
- J-SRX210 Services Gateway Power Guidelines, Requirements, and Specifications on page 143
- J-SRX210 Services Gateway Interface Cable Specifications and Connector Pinouts on page 147
- Getting Help on page 151



## APPENDIX A

# Safety and Regulatory Compliance Information

This appendix includes the following topics:

- J-SRX210 Services Gateway Definition of Safety Warning Levels on page 119
- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121
- J-SRX210 Services Gateway Fire Safety Requirements on page 125
- J-SRX210 Services Gateway Installation Safety Guidelines and Warnings on page 125
- J-SRX210 Services Gateway Laser and LED Safety Guidelines and Warnings on page 130
- J-SRX210 Services Gateway Maintenance and Operational Safety Guidelines and Warnings on page 133
- J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings on page 137
- J-SRX210 Services Gateway Agency Approvals on page 138
- J-SRX210 Services Gateway Compliance Statements for EMC Requirements on page 140
- J-SRX210 Services Gateway Compliance Statements for Environmental Requirements on page 141
- J-SRX210 Services Gateway Compliance Statements for Acoustic Noise on page 142

### J-SRX210 Services Gateway Definition of Safety Warning Levels

This topic defines the following three levels of safety warnings used in Dell technical publications:



NOTE: You might find this information helpful in a particular situation or might otherwise overlook it.



CAUTION: You need to observe the specified guidelines to avoid minor injury or discomfort to you or severe damage to the services gateway.



**WARNING:** This symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

**Waarschuwing** Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen.

**Varoitus** Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista.

**Attention** Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents.

**Warnung** Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewusst.

**Avvertenza** Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti.

**Advarsel** Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker.

**Aviso** Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes.

**¡Atención!** Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes.

**Varning!** Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador.

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**Related Topics**

- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121
- J-SRX210 Services Gateway Fire Safety Requirements on page 125



- J-SRX210 Services Gateway Installation Safety Guidelines and Warnings on page 125
- J-SRX210 Services Gateway Laser and LED Safety Guidelines and Warnings on page 130
- J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings on page 137
- J-SRX210 Services Gateway Maintenance and Operational Safety Guidelines and Warnings on page 133

## J-SRX210 Services Gateway General Safety Guidelines and Warnings

### General Safety Guidelines and Warnings

The following guidelines help ensure your safety and protect the services gateway from damage. The list of guidelines might not address all potentially hazardous situations in your working environment, so be alert and exercise good judgment at all times.

- Perform only the procedures explicitly described in these topics. Make sure that only authorized service personnel perform other system services.
- Keep the area around the chassis clear and free from dust before, during, and after installation.
- Keep tools away from areas where people could trip on them.
- Wear safety glasses if you are working under any conditions that could be hazardous to your eyes.
- Do not perform any actions that create a potential hazard to people or make the equipment unsafe.
- Never install or manipulate wiring during electrical storms.
- Never install electrical jacks in wet locations unless the jacks are specifically designed for wet environments.
- Do not open or remove chassis covers or sheet metal parts unless instructions are provided in this guide. Such an action could cause severe electrical shock.
- Do not push or force any objects through any opening in the chassis frame. Such an action could result in electrical shock or fire.
- Avoid spilling liquid onto the services gateway chassis or onto any services gateway component. Such an action could cause electrical shock or damage the services gateway.
- Avoid touching uninsulated electrical wires or terminals that have not been disconnected from their power source. Such an action could cause electrical shock.

### Qualified Personnel Warning



**WARNING:** Only trained and qualified personnel should install or replace the services gateway.

**Waarschuwing** Installatie en reparaties mogen uitsluitend door getraind en bevoegd personeel uitgevoerd worden.

**Varoitus** Ainoastaan koulutettu ja pätevä henkilökunta saa asentaa tai vaihtaa tämän laitteen.

**Attention** Tout installation ou remplacement de l'appareil doit être réalisé par du personnel qualifié et compétent.

**Warnung** Gerät nur von geschultem, qualifiziertem Personal installieren oder auswechseln lassen.

**Avvertenza** Solo personale addestrato e qualificato deve essere autorizzato ad installare o sostituire questo apparecchio.

**Advarsel** Kun kvalifisert personell med riktig opplæring bør montere eller bytte ut dette utstyret.

**Aviso** Este equipamento deverá ser instalado ou substituído apenas por pessoal devidamente treinado e qualificado.

**¡Atención!** Estos equipos deben ser instalados y reemplazados exclusivamente por personal técnico adecuadamente preparado y capacitado.

**Warning!** Denna utrustning ska endast installeras och bytas ut av utbildad och kvalificerad personal.

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#### **Restricted Access Area Warning**

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**WARNING:** The services gateway is intended for installation in restricted access areas. A restricted access area is an area to which access can be gained only by service personnel through the use of a special tool, lock and key, or other means of security, and which is controlled by the authority responsible for the location.

**Waarschuwing** Dit toestel is bedoeld voor installatie op plaatsen met beperkte toegang. Een plaats met beperkte toegang is een plaats waar toegang slechts door servicepersoneel verkregen kan worden door middel van een speciaal instrument, een slot en sleutel, of een ander veiligheidsmiddel, en welke beheerd wordt door de overheidsinstantie die verantwoordelijk is voor de locatie.

**Varoitus** Tämä laite on tarkoitettu asennettavaksi paikkaan, johon pääsy on rajoitettua. Paikka, johon pääsy on rajoitettua, tarkoittaa paikkaa, johon vain huoltohenkilöstö pääsee jonkin erikoistyökalun, lukkoon sopivan avaimen tai jonkin muun turvalaitteen avulla ja joka on paikasta vastuussa olevien toimivaltaisten henkilöiden valvoma.

**Attention** Cet appareil est à installer dans des zones d'accès réservé. Ces dernières sont des zones auxquelles seul le personnel de service peut accéder en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

L'accès aux zones de sécurité est sous le contrôle de l'autorité responsable de l'emplacement.

**Warnung** Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt ist ein Bereich, zu dem nur Wartungspersonal mit einem Spezialwerkzeugs, Schloß und Schlüssel oder anderer Sicherheitsvorkehrungen Zugang hat, und der von dem für die Anlage zuständigen Gremium kontrolliert wird.

**Avvertenza** Questa unità deve essere installata in un'area ad accesso limitato. Un'area ad accesso limitato è un'area accessibile solo a personale di assistenza tramite un'attrezzo speciale, lucchetto, o altri dispositivi di sicurezza, ed è controllata dall'autorità responsabile della zona.

**Advarsel** Denne enheten er laget for installasjon i områder med begrenset adgang. Et område med begrenset adgang gir kun adgang til servicepersonale som bruker et spesielt verktøy, lås og nøkkel, eller en annen sikkerhetsanordning, og det kontrolleres av den autoriteten som er ansvarlig for området.

**Aviso** Esta unidade foi concebida para instalação em áreas de acesso restrito. Uma área de acesso restrito é uma área à qual apenas tem acesso o pessoal de serviço autorizado, que possua uma ferramenta, chave e fechadura especial, ou qualquer outra forma de segurança. Esta área é controlada pela autoridade responsável pelo local.

**¡Atención!** Esta unidad ha sido diseñada para instalarse en áreas de acceso restringido. Área de acceso restringido significa un área a la que solamente tiene acceso el personal de servicio mediante la utilización de una herramienta especial, cerradura con llave, o algún otro medio de seguridad, y que está bajo el control de la autoridad responsable del local.

**Varning!** Denna enhet är avsedd för installation i områden med begränsat tillträde. Ett område med begränsat tillträde får endast tillträdas av servicepersonal med ett speciellt verktyg, lås och nyckel, eller annan säkerhetsanordning, och kontrolleras av den auktoritet som ansvarar för området.

---

### **Preventing Electrostatic Discharge Damage to the Services Gateway**

Many services gateway hardware components are sensitive to damage from static electricity. Some components can be impaired by voltages as low as 30 V. You can easily generate potentially damaging static voltages whenever you handle plastic or foam packing material or if you move components across plastic or carpets. Observe the following guidelines to minimize the potential for electrostatic discharge (ESD) damage, which can cause intermittent or complete component failures:

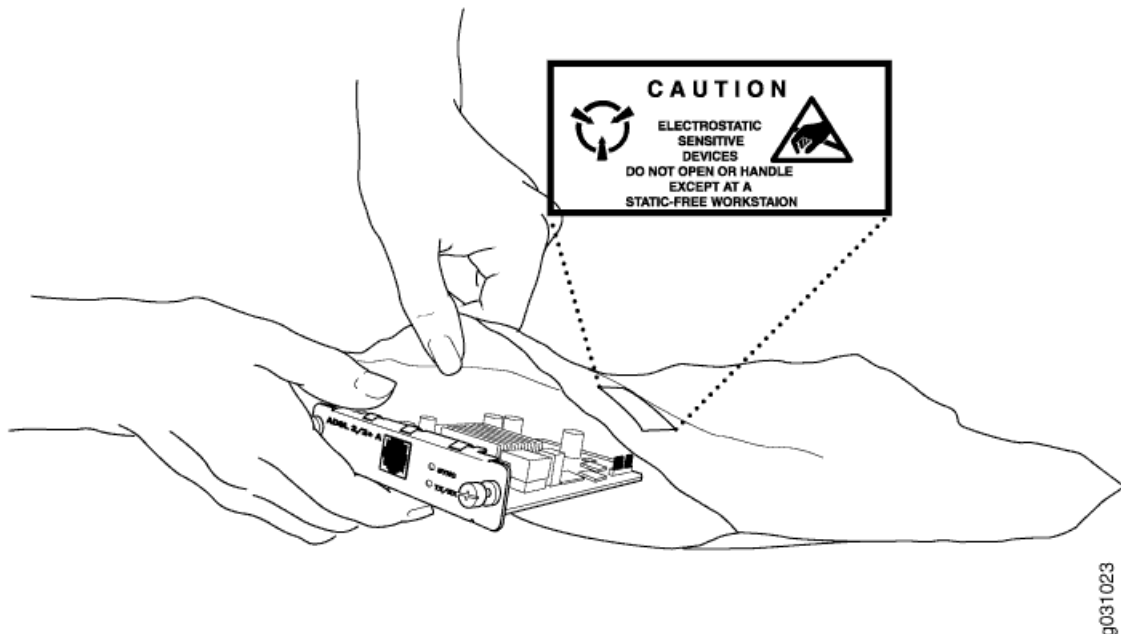
- Always use an ESD wrist strap or ankle strap, and verify that it is in direct contact with your skin.



**CAUTION:** For safety, periodically check the resistance value of the ESD strap. The measurement should be in the range of 1 to 10 Mohms.

- When handling any component that is removed from the chassis, verify that the equipment end of your ESD strap is attached to one of the ESD points on the chassis.
- Avoid contact between the component and your clothing. ESD voltages emitted from clothing can still damage components.
- When removing or installing a component, always place it component-side up on an antistatic surface, in an antistatic card rack, or in an electrostatic bag. If you are returning a component, place it into an electrostatic bag before packing it. See Figure 26 on page 124.

Figure 26: Placing a Component into an Electrostatic Bag



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- Related Topics**
- J-SRX210 Services Gateway Definition of Safety Warning Levels on page 119
  - J-SRX210 Services Gateway Fire Safety Requirements on page 125

## J-SRX210 Services Gateway Fire Safety Requirements

### Services Gateway Fire Suppression Procedure and Equipment

In the event of a fire emergency involving devices and other network equipment, the safety of people is the primary concern. Establish procedures for protecting people in the event of a fire emergency, provide safety training, and properly provision fire-control equipment and fire extinguishers.

In addition, establish procedures to protect your equipment in the event of a fire emergency. Dell products should be installed in an environment suitable for electronic equipment. We recommend that fire suppression equipment be available in the event of a fire in the vicinity of the equipment and that all local fire, safety, and electrical codes and ordinances be observed when installing and operating your equipment.

In the event of an electrical hazard or an electrical fire, first turn power off to the equipment at the source. Then use a Type C fire extinguisher to extinguish the fire. Type C fire extinguishers, which use noncorrosive fire retardants such as carbon dioxide (CO<sub>2</sub>) and Halotron™, are most effective for suppressing electrical fires. Type C fire extinguishers displace the oxygen from the point of combustion to eliminate the fire. For extinguishing fire on or around equipment that draws air from the environment for cooling, use this type of inert oxygen displacement extinguisher instead of an extinguisher that leave residues on equipment.

Do not use multipurpose Type ABC chemical fire extinguishers (dry chemical fire extinguishers) near Dell equipment. The primary ingredient in these fire extinguishers is monoammonium phosphate, which is very sticky and difficult to clean. In addition, in minute amounts of moisture, monoammonium phosphate can become highly corrosive and corrodes most metals.

Any equipment in a room in which a chemical fire extinguisher has been discharged is subject to premature failure and unreliable operation. The equipment is considered to be irreparably damaged.



**NOTE:** To keep warranties effective, do not use a dry chemical fire extinguisher to control a fire at or near a J-SRX Series services gateway. If a dry chemical fire extinguisher is used, the unit is no longer eligible for coverage under a service agreement.

We recommend that you dispose of any irreparably damaged equipment in an environmentally responsible manner.

- Related Topics**
- J-SRX210 Services Gateway General Safety Guidelines and Warnings on page 121
  - J-SRX210 Services Gateway Installation Safety Guidelines and Warnings on page 125

## J-SRX210 Services Gateway Installation Safety Guidelines and Warnings

### Installation Instructions Warning



.....  
WARNING: Read the installation instructions before you connect the services gateway to a power source.

Waarschuwing Raadpleeg de installatie-aanwijzingen voordat u het systeem met de voeding verbindt.

Varoitus Lue asennusohjeet ennen järjestelmän yhdistämistä virtalähteeseen.

Attention Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

Warnung Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.

Avvertenza Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.

Advarsel Les installasjonsinstruksjonene før systemet kobles til strømkilden.

Aviso Leia as instruções de instalação antes de ligar o sistema à sua fonte de energia.

¡Atención! Ver las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Varning! Läs installationsanvisningarna innan du kopplar systemet till dess strömförsörjningsenhet.

.....  
**Rack-Mounting Requirements and Warnings**

Ensure that the equipment rack into which the services gateway is installed is evenly and securely supported to avoid the hazardous condition that could result from uneven mechanical loading.



.....  
WARNING: To prevent bodily injury when mounting or servicing the services gateway in a rack, take the following precautions to ensure that the system remains stable. The following directives help maintain your safety:

- The services gateway must be installed into a rack that is secured to the building structure.
- The services gateway should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting the services gateway in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the services gateway in the rack.

Waarschuwing Om lichamelijk letsel te voorkomen wanneer u dit toestel in een rek monteert of het daar een servicebeurt geeft, moet u speciale voorzorgsmaatregelen

nemen om ervoor te zorgen dat het toestel stabiel blijft. De onderstaande richtlijnen worden verstrekt om uw veiligheid te verzekeren:

- De J-SRX Series services gateway moet in een stelling worden geïnstalleerd die aan een bouwsel is verankerd.
- Dit toestel dient onderaan in het rek gemonteerd te worden als het toestel het enige in het rek is.
- Wanneer u dit toestel in een gedeeltelijk gevuld rek monteert, dient u het rek van onderen naar boven te laden met het zwaarste onderdeel onderaan in het rek.
- Als het rek voorzien is van stabiliseringshulpmiddelen, dient u de stabilisatoren te monteren voordat u het toestel in het rek monteert of het daar een servicebeurt geeft.

**Varoitus** Kun laite asetetaan telineeseen tai huolletaan sen ollessa telineessä, on noudatettava erityisiä varotoimia järjestelmän vakavuuden säilyttämiseksi, jotta välttyään loukkaantumiselta. Noudata seuraavia turvallisuusohjeita:

- J-SRX Series services gateway on asennettava telineeseen, joka on kiinnitetty rakennukseen.
- Jos telineessä ei ole muita laitteita, aseta laite telineen alaosaan.
- Jos laite asetetaan osaksi täytettyyn telineeseen, aloita kuormittaminen sen alaosasta kaikkein raskaimmalla esineellä ja siirry sitten sen yläosaan.
- Jos telinettä varten on vakaimet, asenna ne ennen laitteen asettamista telineeseen tai sen huoltamista siinä.

**Attention** Pour éviter toute blessure corporelle pendant les opérations de montage ou de réparation de cette unité en casier, il convient de prendre des précautions spéciales afin de maintenir la stabilité du système. Les directives ci-dessous sont destinées à assurer la protection du personnel:

- Le rack sur lequel est monté le J-SRX Series services gateway doit être fixé à la structure du bâtiment.
- Si cette unité constitue la seule unité montée en casier, elle doit être placée dans le bas.
- Si cette unité est montée dans un casier partiellement rempli, charger le casier de bas en haut en plaçant l'élément le plus lourd dans le bas.
- Si le casier est équipé de dispositifs stabilisateurs, installer les stabilisateurs avant de monter ou de réparer l'unité en casier.

**Warnung** Zur Vermeidung von Körperverletzung beim Anbringen oder Warten dieser Einheit in einem Gestell müssen Sie besondere Vorkehrungen treffen, um sicherzustellen, daß das System stabil bleibt. Die folgenden Richtlinien sollen zur Gewährleistung Ihrer Sicherheit dienen:

- Der J-SRX Series services gateway muß in einem Gestell installiert werden, das in der Gebäudestruktur verankert ist.
- Wenn diese Einheit die einzige im Gestell ist, sollte sie unten im Gestell angebracht werden.
- Bei Anbringung dieser Einheit in einem zum Teil gefüllten Gestell ist das Gestell von unten nach oben zu laden, wobei das schwerste Bauteil unten im Gestell anzubringen ist.
- Wird das Gestell mit Stabilisierungszubehör geliefert, sind zuerst die Stabilisatoren zu installieren, bevor Sie die Einheit im Gestell anbringen oder sie warten.

**Avvertenza** Per evitare infortuni fisici durante il montaggio o la manutenzione di questa unità in un supporto, occorre osservare speciali precauzioni per garantire che il sistema rimanga stabile. Le seguenti direttive vengono fornite per garantire la sicurezza personale:

- Il J-SRX Series services gateway deve essere installato in un telaio, il quale deve essere fissato alla struttura dell'edificio.
- Questa unità deve venire montata sul fondo del supporto, se si tratta dell'unica unità da montare nel supporto.
- Quando questa unità viene montata in un supporto parzialmente pieno, caricare il supporto dal basso all'alto, con il componente più pesante sistemato sul fondo del supporto.
- Se il supporto è dotato di dispositivi stabilizzanti, installare tali dispositivi prima di montare o di procedere alla manutenzione dell'unità nel supporto.

**Advarsel** Unngå fysiske skader under montering eller reparasjonsarbeid på denne enheten når den befinner seg i et kabinett. Vær nøye med at systemet er stabilt. Følgende retningslinjer er gitt for å verne om sikkerheten:

- J-SRX Series services gateway må installeres i et stativ som er forankret til bygningsstrukturen.
- Denne enheten bør monteres nederst i kabinettet hvis dette er den eneste enheten i kabinettet.
- Ved montering av denne enheten i et kabinett som er delvis fylt, skal kabinettet lastes fra bunnen og opp med den tyngste komponenten nederst i kabinettet.
- Hvis kabinettet er utstyrt med stabiliseringsutstyr, skal stabilisatorene installeres før montering eller utføring av reparasjonsarbeid på enheten i kabinettet.

**Aviso** Para se prevenir contra danos corporais ao montar ou reparar esta unidade numa estante, deverá tomar precauções especiais para se certificar de que o sistema possui um suporte estável. As seguintes directrizes ajudá-lo-ão a efectuar o seu trabalho com segurança:



- O J-SRX Series services gateway deverá ser instalado numa prateleira fixa à estrutura do edifício.
- Esta unidade deverá ser montada na parte inferior da estante, caso seja esta a única unidade a ser montada.
- Ao montar esta unidade numa estante parcialmente ocupada, coloque os itens mais pesados na parte inferior da estante, arrumando-os de baixo para cima.
- Se a estante possuir um dispositivo de estabilização, instale-o antes de montar ou reparar a unidade.

**¡Atención!** Para evitar lesiones durante el montaje de este equipo sobre un bastidor, o posteriormente durante su mantenimiento, se debe poner mucho cuidado en que el sistema quede bien estable. Para garantizar su seguridad, proceda según las siguientes instrucciones:

- El J-SRX Series services gateway debe instalarse en un bastidor fijado a la estructura del edificio.
- Colocar el equipo en la parte inferior del bastidor, cuando sea la única unidad en el mismo.
- Cuando este equipo se vaya a instalar en un bastidor parcialmente ocupado, comenzar la instalación desde la parte inferior hacia la superior colocando el equipo más pesado en la parte inferior.
- Si el bastidor dispone de dispositivos estabilizadores, instalar éstos antes de montar o proceder al mantenimiento del equipo instalado en el bastidor.

**Varning!** För att undvika kroppsskada när du installerar eller utför underhållsarbete på denna enhet på en ställning måste du vidta särskilda försiktighetsåtgärder för att försäkra dig om att systemet står stadigt. Följande riktlinjer ges för att trygga din säkerhet:

- J-SRX Series services gateway måste installeras i en ställning som är förankrad i byggnadens struktur.
- Om denna enhet är den enda enheten på ställningen skall den installeras längst ned på ställningen.
- Om denna enhet installeras på en delvis fylld ställning skall ställningen fyllas nedifrån och upp, med de tyngsta enheterna längst ned på ställningen.
- Om ställningen är försedd med stabiliseringsdon skall dessa monteras fast innan enheten installeras eller underhålls på ställningen.

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**Related Topics**

- J-SRX210 Services Gateway Fire Safety Requirements on page 125
- J-SRX210 Services Gateway Laser and LED Safety Guidelines and Warnings on page 130

## J-SRX210 Services Gateway Laser and LED Safety Guidelines and Warnings

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The 1-Port SFP Mini-Physical Interface Module (Mini-PIM) is equipped with laser transmitters, which are considered a Class 1 Laser Product by the U.S. Food and Drug Administration, and they are evaluated as a Class 1 Laser Product per EN 60825-1 +A11 +A2 requirements.

This topic includes the following sections:

- Laser and LED Safety Guidelines and Warnings on page 130

### Laser and LED Safety Guidelines and Warnings

#### General Laser Safety Guidelines

When working around Mini-PIMs, observe the following safety guidelines to prevent eye injury:

- Do not look into unterminated ports or at fibers that connect to unknown sources.
- Do not examine unterminated optical ports with optical instruments.
- Avoid direct exposure to the beam.



.....  
**WARNING:** Unterminated optical connectors can emit invisible laser radiation. The lens in the human eye focuses all the laser power on the retina, so focusing the eye directly on a laser source—even a low-power laser—could permanently damage the eye.  
.....

#### Class 1 Laser Product Warning

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**WARNING:** Class 1 laser product.  
**Waarschuwing Klasse-1 laser produkt.**

**Varoitus Luokan 1 lasertuote.**

**Attention Produit laser de classe I.**

**Warnung Laserprodukt der Klasse 1.**

**Avvertenza Prodotto laser di Classe 1.**

**Advarsel Laserprodukt av klasse 1.**

**Aviso Produto laser de classe 1.**

**¡Atención! Producto láser Clase I.**

**Varning! Laserprodukt av klass 1.**  
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### Class 1 LED Product Warning

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WARNING: Class 1 LED product.

Waarschuwing Klasse 1 LED-product.

Varoitus Luokan 1 valodiodituote.

Attention Alarme de produit LED Class I.

Warnung Class 1 LED-Produktwarnung.

Avvertenza Avvertenza prodotto LED di Classe 1.

Advarsel LED-produkt i klasse 1.

Aviso Produto de classe 1 com LED.

¡Atención! Aviso sobre producto LED de Clase 1.

Varning! Lysdiodprodukt av klass 1.

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### Laser Beam Warning

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WARNING: Do not stare into the laser beam or view it directly with optical instruments.

Waarschuwing Niet in de straal staren of hem rechtstreeks bekijken met optische instrumenten.

Varoitus Älä katso säteeseen äläkä tarkastele sitä suoraan optisen laitteen avulla.

Attention Ne pas fixer le faisceau des yeux, ni l'observer directement à l'aide d'instruments optiques.

Warnung Nicht direkt in den Strahl blicken und ihn nicht direkt mit optischen Geräten prüfen.

Avvertenza Non fissare il raggio con gli occhi né usare strumenti ottici per osservarlo direttamente.

Advarsel Stirr eller se ikke direkte p strlen med optiske instrumenter.

Aviso Não olhe fixamente para o raio, nem olhe para ele directamente com instrumentos ópticos.

¡Atención! No mirar fijamente el haz ni observarlo directamente con instrumentos ópticos.

Varning! Rikta inte blicken in mot strålen och titta inte direkt på den genom optiska instrument.

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### Radiation from Open Port Apertures Warning

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**WARNING:** Because invisible radiation may be emitted from the aperture of the port when no fiber cable is connected, avoid exposure to radiation and do not stare into open apertures.

**Waarschuwing** Aangezien onzichtbare straling vanuit de opening van de poort kan komen als er geen fiberkabel aangesloten is, dient blootstelling aan straling en het kijken in open openingen vermeden te worden.

**Varoitus** Koska portin aukosta voi emittoitua näkymätöntä säteilyä, kun kuitukaapelia ei ole kytkettyä, vältä säteilylle altistumista äläkä katso avoimiin aukkoihin.

**Attention** Des radiations invisibles à l'il nu pouvant traverser l'ouverture du port lorsqu'aucun câble en fibre optique n'y est connecté, il est recommandé de ne pas regarder fixement l'intérieur de ces ouvertures.

**Warnung** Aus der Port-Öffnung können unsichtbare Strahlen emittieren, wenn kein Glasfaserkabel angeschlossen ist. Vermeiden Sie es, sich den Strahlungen auszusetzen, und starren Sie nicht in die Öffnungen!

**Avvertenza** Quando i cavi in fibra non sono inseriti, radiazioni invisibili possono essere emesse attraverso l'apertura della porta. Evitate di esporvi alle radiazioni e non guardate direttamente nelle aperture.

**Advarsel** Unngå utsettelse for stråling, og stirr ikke inn i åpninger som er åpne, fordi usynlig stråling kan emitteres fra portens åpning når det ikke er tilkoblet en fiberkabel.

**Aviso** Dada a possibilidade de emissão de radiação invisível através do orifício da via de acesso, quando esta não tiver nenhum cabo de fibra conectado, deverá evitar a exposição à radiação e não deverá olhar fixamente para orifícios que se encontrarem a descoberto.

**¡Atención!** Debido a que la apertura del puerto puede emitir radiación invisible cuando no existe un cable de fibra conectado, evite mirar directamente a las aperturas para no exponerse a la radiación.

**Varning!** Osynlig strålning kan avges från en portöppning utan ansluten fiberkabel och du bör därför undvika att bli utsatt för strålning genom att inte stirra in i oskyddade öppningar.

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- Related Topics**
- J-SRX210 Services Gateway Installation Safety Guidelines and Warnings on page 125
  - J-SRX210 Services Gateway Maintenance and Operational Safety Guidelines and Warnings on page 133

## J-SRX210 Services Gateway Maintenance and Operational Safety Guidelines and Warnings

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This topic includes the following section:

- Safety Guidelines and Warnings on page 133

### Safety Guidelines and Warnings

#### Battery Handling Warning

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**WARNING:** Replacing the battery incorrectly might result in an explosion. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

**Waarschuwing** Er is ontplofingsgevaar als de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type dat door de fabrikant aanbevolen is. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften weggegooid te worden.

**Varoitus** Räjähdyksen vaara, jos akku on vaihdettu väärään akkuun. Käytä vaihtamiseen ainoastaan saman- tai vastaaventyypistä akkua, joka on valmistajan suosittama. Hävitä käytetyt akut valmistajan ohjeiden mukaan.

**Attention** Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

**Warnung** Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

**Avvertenza** Pericolo di esplosione se la batteria non è installata correttamente. Sostituire solo con una di tipo uguale o equivalente, consigliata dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.

**Advarsel** Det kan være fare for eksplosjon hvis batteriet skiftes på feil måte. Skift kun med samme eller tilsvarende type som er anbefalt av produsenten. Kasser brukte batterier i henhold til produsentens instruksjoner.

**Aviso** Existe perigo de explosão se a bateria for substituída incorretamente. Substitua a bateria por uma bateria igual ou de um tipo equivalente recomendado pelo fabricante. Destrua as baterias usadas conforme as instruções do fabricante.

**¡Atención!** Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

**Varning!** Explosionsfara vid felaktigt batteribyte. Ersätt endast batteriet med samma batterityp som rekommenderas av tillverkaren eller motsvarande. Följ tillverkarens anvisningar vid kassering av använda batterier.

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### Jewelry Removal Warning

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**WARNING:** Before working on equipment that is connected to power lines, remove jewelry, including rings, necklaces, and watches. Metal objects heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.

**Waarschuwing** Alvorens aan apparatuur te werken die met elektrische leidingen is verbonden, sieraden (inclusief ringen, kettingen en horloges) verwijderen. Metalen voorwerpen worden warm wanneer ze met stroom en aarde zijn verbonden, en kunnen ernstige brandwonden veroorzaken of het metalen voorwerp aan de aansluitklemmen lassen.

**Varoitus** Ennen kuin työskentelet voimavirtajohtoihin kytkettyjen laitteiden parissa, ota pois kaikki korut (sormukset, kaulakorut ja kellot mukaan lukien). Metalliesineet kuumenevat, kun ne ovat yhteydessä sähkövirran ja maan kanssa, ja ne voivat aiheuttaa vakavia palovammoja tai hitsata metalliesineet kiinni liitäntänapoihin.

**Attention** Avant d'accéder à cet équipement connecté aux lignes électriques, ôter tout bijou (anneaux, colliers et montres compris). Lorsqu'ils sont branchés à l'alimentation et reliés à la terre, les objets métalliques chauffent, ce qui peut provoquer des blessures graves ou souder l'objet métallique aux bornes.

**Warnung** Vor der Arbeit an Geräten, die an das Netz angeschlossen sind, jeglichen Schmuck (einschließlich Ringe, Ketten und Uhren) abnehmen. Metallgegenstände erhitzen sich, wenn sie an das Netz und die Erde angeschlossen werden, und können schwere Verbrennungen verursachen oder an die Anschlußklemmen angeschweißt werden.

**Avvertenza** Prima di intervenire su apparecchiature collegate alle linee di alimentazione, togliersi qualsiasi monile (inclusi anelli, collane, braccialetti ed orologi). Gli oggetti metallici si riscaldano quando sono collegati tra punti di alimentazione e massa: possono causare ustioni gravi oppure il metallo può saldarsi ai terminali.

**Advarsel** Fjern alle smykker (inkludert ringer, halskjeder og klokker) før du skal arbeide på utstyr som er koblet til kraftledninger. Metallgjenstander som er koblet til kraftledninger og jord blir svært varme og kan forårsake alvorlige brannskader eller smelte fast til polene.

**Aviso** Antes de trabalhar em equipamento que esteja ligado a linhas de corrente, retire todas as jóias que estiver a usar (incluindo anéis, fios e relógios). Os objectos metálicos aquecerão em contacto com a corrente e em contacto com a ligação à terra, podendo causar queimaduras graves ou ficarem soldados aos terminais.

**¡Atención!** Antes de operar sobre equipos conectados a líneas de alimentación, quitarse las joyas (incluidos anillos, collares y relojes). Los objetos de metal se calientan cuando se conectan a la alimentación y a tierra, lo que puede ocasionar quemaduras graves o que los objetos metálicos queden soldados a los bornes.

**Varning!** Tag av alla smycken (inklusive ringar, halsband och armbandsur) innan du arbetar på utrustning som är kopplad till kraftledningar. Metallobjekt hettas upp när de kopplas ihop med ström och jord och kan förorsaka allvarliga brännskador; metallobjekt kan också sammansvetsas med kontakterna.

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### Lightning Activity Warning

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**WARNING:** Do not work on the system or connect or disconnect cables during periods of lightning activity.

**Waarschuwing** Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.

**Varoitus** Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.

**Attention** Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.

**Warnung** Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.

**Avvertenza** Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.

**Advarsel** Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lyner.

**Aviso** Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).

**¡Atención!** No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.

**Varning!** Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.

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### Operating Temperature Warning

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**WARNING:** To prevent the services gateway from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104°F (40°C). To prevent airflow restriction, allow at least 6 in. (15.2 cm) of clearance around the ventilation openings.

**Waarschuwing** Om te voorkomen dat welke services gateway van de J-SRX Series services gateway dan ook oververhit raakt, dient u deze niet te bedienen op een plaats waar de maximale aanbevolen omgevingstemperatuur van 40°C wordt overschreden.

Om te voorkomen dat de luchtstroom wordt beperkt, dient er minstens 15,2 cm speling rond de ventilatie-openingen te zijn.

**Varoitus** Ettei J-SRX Series services gateway-sarjan reititin ylikuumentuusi, sitä ei saa käyttää tilassa, jonka lämpötila ylittää korkeimman suositellun ympäristölämpötilan 40°C. Ettei ilmanvaihto estyisi, tuuletusaukkojen ympärille on jätettävä ainakin 15,2 cm tilaa.

**Attention** Pour éviter toute surchauffe des routeurs de la gamme J-SRX Series services gateway, ne l'utilisez pas dans une zone où la température ambiante est supérieure à 40°C. Pour permettre un flot d'air constant, dégagez un espace d'au moins 15,2 cm autour des ouvertures de ventilations.

**Warnung** Um einen services gateway der services gateway vor Überhitzung zu schützen, darf dieser nicht in einer Gegend betrieben werden, in der die Umgebungstemperatur das empfohlene Maximum von 40°C überschreitet. Um Lüftungsverschluß zu verhindern, achten Sie darauf, daß mindestens 15,2 cm lichter Raum um die Lüftungsöffnungen herum frei bleibt.

**Avvertenza** Per evitare il surriscaldamento dei services gateway, non adoperateli in un locale che ecceda la temperatura ambientale massima di 40°C. Per evitare che la circolazione dell'aria sia impedita, lasciate uno spazio di almeno 15.2 cm di fronte alle aperture delle ventole.

**Advarsel** Unngå overoppheting av eventuelle rutere i J-SRX Series services gateway. Disse skal ikke brukes på steder der den anbefalte maksimale omgivelsestemperaturen overstiger 40°C (104°F). Sørg for at klaringen rundt lufteåpningene er minst 15,2 cm (6 tommer) for å forhindre nedsatt luftsirkulasjon.

**Aviso** Para evitar o sobreaquecimento do encaminhador J-SRX Series services gateway, não utilize este equipamento numa área que exceda a temperatura máxima recomendada de 40°C. Para evitar a restrição à circulação de ar, deixe pelo menos um espaço de 15,2 cm à volta das aberturas de ventilação.

**¡Atención!** Para impedir que un encaminhador de la serie J-SRX Series services gateway se recaliente, no lo haga funcionar en un área en la que se supere la temperatura ambiente máxima recomendada de 40°C. Para impedir la restricción de la entrada de aire, deje un espacio mínimo de 15,2 cm alrededor de las aperturas para ventilación.

**Varning!** Förhindra att en J-SRX Series services gateway överhettas genom att inte använda den i ett område där den maximalt rekommenderade omgivningstemperaturen på 40°C överskrids. Förhindra att luftcirkulationen inskränks genom att se till att det finns fritt utrymme på minst 15,2 cm omkring ventilationsöppningarna.



### Product Disposal Warning



**WARNING:** Disposal of this product must be handled according to all national laws and regulations.

**Waarschuwing** Dit produkt dient volgens alle landelijke wetten en voorschriften te worden afgedankt.

**Varoitus** Tämän tuotteen lopullisesta hävittämisestä tulee huolehtia kaikkia valtakunnallisia lakeja ja säännöksiä noudattaen.

**Attention** La mise au rebut définitive de ce produit doit être effectuée conformément à toutes les lois et réglementations en vigueur.

**Warnung** Dieses Produkt muß den geltenden Gesetzen und Vorschriften entsprechend entsorgt werden.

**Avvertenza** L'eliminazione finale di questo prodotto deve essere eseguita osservando le normative italiane vigenti in materia

**Advarsel** Endelig disponering av dette produktet må skje i henhold til nasjonale lover og forskrifter.

**Aviso** A descartagem final deste produto deverá ser efectuada de acordo com os regulamentos e a legislação nacional.

**¡Atención!** El desecho final de este producto debe realizarse según todas las leyes y regulaciones nacionales

**Varning!** Slutlig kassering av denna produkt bör skötas i enlighet med landets alla lagar och föreskrifter.

- Related Topics**
- J-SRX210 Services Gateway Laser and LED Safety Guidelines and Warnings on page 130
  - J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings on page 137

## J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings

### In Case of Electrical Accident

If an electrical accident results in an injury, take the following actions in this order:

1. Use caution. Be aware of potentially hazardous conditions that could cause further injury.
2. Disconnect power from the services gateway.
3. If possible, send another person to get medical aid. Otherwise, assess the condition of the victim, then call for help.

### General Electrical Safety Guidelines and Warnings

- Install the services gateway in compliance with the following local, national, or international electrical codes:
  - United States—National Fire Protection Association (NFPA 70), United States National Electrical Code
  - Canada—Canadian Electrical Code, Part 1, CSA C22.1
  - Other countries—International Electromechanical Commission (IEC) 60364, Part 1 through Part 7
- Evaluated to the TN power system
- Locate the emergency power-off switch for the room in which you are working so that if an electrical accident occurs, you can quickly turn off the power.
- Do not work alone if potentially hazardous conditions exist anywhere in your workspace.
- Never assume that power is disconnected from a circuit. Always check the circuit before starting to work.
- Carefully look for possible hazards in your work area, such as moist floors, ungrounded power extension cords, and missing safety grounds.
- Operate the services gateway within marked electrical ratings and product usage instructions.
- For the services gateway and peripheral equipment to function safely and correctly, use the cables and connectors specified for the attached peripheral equipment, and make certain they are in good condition.

#### Related Topics

- J-SRX210 Services Gateway Electrical and Power Requirements on page 51
- J-SRX210 Services Gateway Maintenance and Operational Safety Guidelines and Warnings on page 133
- J-SRX210 Services Gateway Agency Approvals on page 138
- Grounding the J-SRX210 Services Gateway on page 77

### J-SRX210 Services Gateway Agency Approvals

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The J-SRX210 Services Gateway complies with the following standards:

- Safety
  - CSA 60950-1 (2003) Safety of Information Technology Equipment
  - UL 60950-1 (2003) Safety of Information Technology Equipment
  - EN 60950-1 (2001) Safety of Information Technology Equipment
  - IEC 60950-1 (2001) Safety of Information Technology Equipment (with country deviations)

- EN 60825-1 +A1+A2 (1994) Safety of Laser Products - Part 1: Equipment Classification
- EN 60825-2 (2000) Safety of Laser Products - Part 2: Safety of Optical Fiber Comm. Systems
- EMC
  - EN 300 386 V1.3.3 (2005) Telecom Network Equipment - EMC requirements
- EMI ( J-SRX210 Services Gateway Low Memory and High Memory Models) :
  - FCC Part 15 Class B (2007) USA Radiated Emissions
  - EN 55022 Class B (2006) European Radiated Emissions
  - VCCI Class B (2007) Japanese Radiated Emissions
- EMI ( J-SRX210 Services Gateway with PoE and J-SRX210 Services Gateway with Integrated Convergence Services) :
  - FCC Part 15 Class A (2007) USA Radiated Emissions
  - EN 55022 Class A (2006) European Radiated Emissions
  - VCCI Class A (2007) Japanese Radiated Emissions
- Immunity
  - EN 55024 +A1+A2 (1998) Information Technology Equipment Immunity Characteristics
  - EN-61000-3-2 (2006) Power Line Harmonics
  - EN-61000-3-3 +A1 +A2 +A3 (1995) Power Line Voltage Fluctuations
  - EN-61000-4-2 +A1 +A2 (1995) Electrostatic Discharge
  - EN-61000-4-3 +A1+A2 (2002) Radiated Immunity
  - EN-61000-4-4 (2004) Electrical Fast Transients
  - EN-61000-4-5 (2006) Surge
  - EN-61000-4-6 (2007) Immunity to Conducted Disturbances
  - EN-61000-4-11 (2004) Voltage Dips and Sags

**Related Topics**

- J-SRX210 Services Gateway Electrical Safety Guidelines and Warnings on page 137
- J-SRX210 Services Gateway Compliance Statements for EMC Requirements on page 140
- J-SRX210 Services Gateway Compliance Statements for Environmental Requirements on page 141
- J-SRX210 Services Gateway Compliance Statements for Acoustic Noise on page 142

## J-SRX210 Services Gateway Compliance Statements for EMC Requirements

---

### For the J-SRX210 Services Gateway Low Memory and High Memory Models

#### Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

#### European Community

This is a Class B product.

#### Japan

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

The preceding translates as follows:

This is a Class B product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this product is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

#### United States

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## For the J-SRX210 Services Gateway with PoE and J-SRX210 Services Gateway with Integrated Convergence Services

### Canada

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

### European Community

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### Japan

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA 情報技術装置です。この装置は、家庭環境で使用することを目的としています。この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

The preceding translates as follows:

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

### United States

The services gateway has been tested and found to comply with the limits for a Class A digital device of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- Related Topics**
- J-SRX210 Services Gateway Agency Approvals on page 138
  - J-SRX210 Services Gateway Compliance Statements for Environmental Requirements on page 141
  - J-SRX210 Services Gateway Compliance Statements for Acoustic Noise on page 142

## J-SRX210 Services Gateway Compliance Statements for Environmental Requirements

This topic includes the compliance statement for the following environmental requirement:

### Lithium Battery

Batteries in this product are not based on mercury, lead, or cadmium substances. The batteries used in this product are in compliance with EU Directives 91/157/EEC, 93/86/EEC, and 98/101/EEC. The product documentation includes instructional information about the proper method of reclamation and recycling.

- Related Topics**
- J-SRX210 Services Gateway Compliance Statements for EMC Requirements on page 140
  - J-SRX210 Services Gateway Compliance Statements for Acoustic Noise on page 142
  - J-SRX210 Services Gateway Agency Approvals on page 138

## J-SRX210 Services Gateway Compliance Statements for Acoustic Noise

---

Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 70 dB(A) oder weniger gemäss EN ISO 7779

Translation:

The maximum emitted sound pressure level is 70 dB(A) or less per EN ISO 7779.

- Related Topics**
- J-SRX210 Services Gateway Compliance Statements for EMC Requirements on page 140
  - J-SRX210 Services Gateway Compliance Statements for Environmental Requirements on page 141
  - J-SRX210 Services Gateway Agency Approvals on page 138

## APPENDIX B

# J-SRX210 Services Gateway Power Guidelines, Requirements, and Specifications

This appendix includes the following topics:

- J-SRX210 Services Gateway Site Electrical Wiring Guidelines on page 143
- J-SRX210 Services Gateway Power Specifications and Requirements on page 144
- J-SRX210 Services Gateway Grounding Specifications on page 145

## J-SRX210 Services Gateway Site Electrical Wiring Guidelines

---

Table 44 on page 143 describes the factors you must consider while planning the electrical wiring for the services gateway at your site.



**CAUTION:** It is particularly important to provide a properly grounded and shielded environment and to use electrical surge-suppression devices.

**Table 44: Site Electrical Wiring Guidelines for the Services Gateway**

Site Wiring Factor	Guideline
Signaling Limitations	<p>To ensure that signaling functions optimally:</p> <ul style="list-style-type: none"><li>• Install wires correctly. Improperly installed wires can emit radio interference.</li><li>• Do not exceed the recommended distances or pass wires between buildings. The potential for damage from lightning strikes increases if wires exceed recommended distances or if wires pass between buildings.</li><li>• Shield all conductors. The electromagnetic pulse (EMP) caused by lightning can damage unshielded conductors and destroy electronic devices.</li></ul>

**Table 44: Site Electrical Wiring Guidelines for the Services Gateway (continued)**

Site Wiring Factor	Guideline
Radio Frequency Interference (RFI)	<p>To reduce or eliminate the emission of RFI from your site wiring:</p> <ul style="list-style-type: none"> <li>• Use twisted-pair cable with a good distribution of grounding conductors.</li> <li>• Use a high-quality twisted-pair cable with one ground conductor for each data signal when applicable, if you must exceed the recommended distances.</li> </ul>
Electromagnetic Compatibility (EMC)	<p>Provide a properly grounded and shielded environment and use electrical surge-suppression devices.</p> <p>Strong sources of electromagnetic interference (EMI) can cause the following damage:</p> <ul style="list-style-type: none"> <li>• Destroy the signal drivers and receivers in the device</li> <li>• Conduct power surges over the lines into the equipment, resulting in an electrical hazard</li> </ul> <p>NOTE: If your site is susceptible to problems with EMC, particularly from lightning or radio transmitters, you may want to seek expert advice.</p>



**CAUTION:** To comply with intrabuilding lightning/surge requirements, the intrabuilding wiring must be shielded. The shielding for the wiring must be grounded at both ends.

- Related Topics**
- General Site Guidelines for Installing the J-SRX210 Services Gateway on page 47
  - J-SRX210 Services Gateway Electrical and Power Requirements on page 51
  - J-SRX210 Services Gateway Power Specifications and Requirements on page 144

## J-SRX210 Services Gateway Power Specifications and Requirements

The AC power system electrical specifications for the J-SRX210 Services Gateway are listed in Table 45 on page 144.

**Table 45: Power Supply Electrical Specifications for the J-SRX210 Services Gateway**

Power Requirement	Specification
AC input voltage	100 to 240 VAC
AC input line frequency	47 to 63 Hz
AC system current rating	1.5 A maximum 2.5 A maximum (for PoE and media gateway models)





**WARNING:** The AC power cord for the services gateway is intended for use with the device only and not for any other use.

**Related Topics**

- J-SRX210 Services Gateway Power Supply on page 24
- J-SRX210 Services Gateway Site Electrical Wiring Guidelines on page 143
- Site Preparation Checklist for the J-SRX210 Services Gateway on page 45
- J-SRX210 Services Gateway Grounding Specifications on page 145
- Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147

## J-SRX210 Services Gateway Grounding Specifications

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, the services gateway must be adequately grounded before power is connected. A grounding lug provided on the rear of the services gateway chassis is used to connect the device to earth ground.



**WARNING:** Before device installation begins, a licensed electrician must attach a cable lug to the grounding and power cables that you supply. A cable with an incorrectly attached lug can damage the device (for example, by causing a short circuit).

To ground the device before connecting power, you connect the grounding cable to earth ground and then attach the lug on the cable to the chassis grounding point with the screw.

Table 46 on page 145 lists the specifications of the grounding cable used with the device.

**Table 46: Grounding Cable Specifications for the Services Gateway**

Grounding Requirement	Specification
Grounding cable	14 AWG single-strand wire cable
Amperage of grounding cable	Up to 4 A
Grounding lug	Ring-type, vinyl-insulated TV14-6R lug or equivalent

**Related Topics**

- J-SRX210 Services Gateway Site Electrical Wiring Guidelines on page 143
- J-SRX210 Services Gateway Power Specifications and Requirements on page 144
- Grounding the J-SRX210 Services Gateway on page 77
- Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147



## APPENDIX C

# J-SRX210 Services Gateway Interface Cable Specifications and Connector Pinouts

The network interfaces supported on the services gateway accept different types of network cables.

This appendix includes the following topics:

- Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147
- RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Ethernet Port on page 148
- RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port on page 148
- RJ-11 Connector Pinouts for the J-SRX210 Services Gateway with Integrated Convergence Services FXO and FXS Ports on page 149

### Interface Cable and Wire Specifications for the J-SRX210 Services Gateway

Table 47 on page 147 lists the specifications for the cables that connect to ports.

**Table 47: Cable and Wire Specifications for Ports**

Port	Cable Specification	Cable/Wire Supplied	Maximum Length	Device Receptacle
Console port	RS-232 (EIA-232) serial cable	One 6-ft (1.83-m) length with DB-9/DB-9 connectors	6 ft (1.83 m)	RJ-45
Ethernet port	Category 5 cable or equivalent suitable for 100BASE-T operation	One 15-ft (4.57-m) length with RJ-45/RJ-45 connectors	328 ft (100 m)	RJ-45

- Related Topics**
- RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Ethernet Port on page 148
  - RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port on page 148
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9

## RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Ethernet Port

The Ethernet ports on the front panel are autosensing 10/100-Mbps Ethernet RJ-45 receptacle that accepts an Ethernet cable for connecting the services gateway to a management LAN (or other device that supports out-of-band management).

Figure 27 on page 148 shows the RJ-45 cable connector.

**Figure 27: Ethernet Cable Connector (RJ-45)**

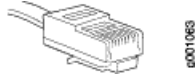


Table 48 on page 148 describes the RJ-45 connector pinouts for the Ethernet port.

**Table 48: RJ-45 Connector Pinouts for the Services Gateway Ethernet Port**

Pin	Signal
1	TX+
2	TX –
3	RX+
4	Termination network
5	Termination network
6	RXD
7	Termination network
8	Termination network

- Related Topics**
- Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147
  - RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port on page 148
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9

## RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port

The port on the front panel labeled console is an autosensing 10/100-Mbps Ethernet RJ-45 receptacle that accepts an RJ-45 cable for connecting the services gateway to a management LAN (or other device that supports out-of-band management).

Figure 28 on page 149 shows the RJ-45 connector pinouts for the console port.

Figure 28: Console Cable Connector

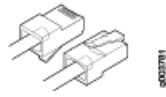


Table 49 on page 149 describes the RJ-45 connector pinouts for the console port.

Table 49: RJ-45 Connector Pinouts for Services Gateway Console Port

Pin	Signal	Description
1	RTS	Request to Send
2	DTR	Data Terminal Ready
3	TXD	Transmit Data
4	Ground	Signal Ground
5	Ground	Signal Ground
6	RXD	Receive Data
7	DSR/DCD	Data Set Ready
8	CTS	Clear to Send

- Related Topics**
- Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147
  - RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Ethernet Port on page 148
  - RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port on page 148
  - J-SRX210 Services Gateway Front Panel and Back Panel Views on page 9

## RJ-11 Connector Pinouts for the J-SRX210 Services Gateway with Integrated Convergence Services FXO and FXS Ports

The FXO and FXS ports use an RJ-11 cable.

Table 50 on page 149 describes the RJ-11 connector pinouts.

Table 50: RJ-11 Connector Pinouts

Pin	Signal
1	No connect
2	No connect
3	RJ P –Ring

**Table 50: RJ-11 Connector Pinouts (continued)**

Pin	Signal
4	RJ N –Tip
5	No connect
6	No connect

- Related Topics**
- Interface Cable and Wire Specifications for the J-SRX210 Services Gateway on page 147
  - RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Ethernet Port on page 148
  - RJ-45 Connector Pinouts for the J-SRX210 Services Gateway Console Port on page 148
  - J-SRX210 Services Gateway with Integrated Convergence Services Front Panel and Back Panel Views on page 12

## APPENDIX D

# Getting Help

This section contains information about getting help for questions about the PowerConnect J-SRX Series products. The topics covered in this section include:

- Obtaining Assistance on page 151
- Dell Enterprise Training and Certification on page 153
- Problems With Your Order on page 153
- Product Information on page 153
- Returning Items for Warranty Repair or Credit on page 153
- Before You Call on page 154
- Contacting Dell on page 155
- Locating a J-SRX210 Services Gateway Component Serial Number and Agency Labels on page 155
- Packing the J-SRX210 Services Gateway and Components for Shipment on page 157
- Dell Support on page 158

## Obtaining Assistance

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If you experience a problem with your computer, you can complete the following steps to diagnose and troubleshoot the problem:

1. Fill out the diagnostics checklist. See "Diagnostics Checklist."
2. Use Dell's extensive suite of online services available at Dell Support (<http://www.support.dell.com>) for help with installation and troubleshooting procedures. See "Online Services" for a more extensive list of Dell Support Online.
3. If the preceding steps have not resolved the problem, see "Contacting Dell."



**NOTE:** Call Dell Support from a telephone near or at the computer so that the support staff can assist you with any necessary procedures.



**NOTE:** Dell's Express Service Code system may not be available in all countries.

When prompted by Dell's automated telephone system, enter your Express Service Code to route the call directly to the proper support personnel. For instructions on using the Dell Support, see "Support Service."



NOTE: Some of the following services are not always available in all locations outside the continental U.S. Call your local Dell representative for information on availability.

## Online Services

You can learn about Dell products and services on the following websites:

- <http://www.dell.com>
- <http://www.dell.com/ap> (Asian/Pacific countries only)
- <http://www.dell.com/jp> (Japan only)
- <http://www.euro.dell.com> (Europe only)
- <http://www.dell.com/la> (Latin American and Caribbean countries)
- <http://www.dell.ca> (Canada only)

You can access Dell Support through the following websites and e-mail addresses:

- Dell Support websites
  - <http://www.support.dell.com>
  - <http://www.support.jp.dell.com> (Japan only)
  - <http://www.support.euro.dell.com> (Europe only)
- Dell Support e-mail addresses
  - [mobile\\_support@us.dell.com](mailto:mobile_support@us.dell.com)
  - [support@us.dell.com](mailto:support@us.dell.com)
  - [la-techsupport@dell.com](mailto:la-techsupport@dell.com) (Latin America and Caribbean countries only)
  - [apsupport@dell.com](mailto:apsupport@dell.com) (Asian/Pacific countries only)
- Dell Marketing and Sales e-mail addresses
  - [apmarketing@dell.com](mailto:apmarketing@dell.com) (Asian/Pacific countries only)
  - [sales\\_canada@dell.com](mailto:sales_canada@dell.com) (Canada only)
- Anonymous file transfer protocol (FTP)
  - [ftp.dell.com](ftp://ftp.dell.com)

Log in as user: anonymous, and use your e-mail address as your password.



## Automated Order-Status Service

To check on the status of any Dell products that you have ordered, you can go to <http://www.support.dell.com>, or you can call the automated order-status service. A recording prompts you for the information needed to locate and report on your order. For the telephone number to call for your region, see "Contacting Dell."

## Support Service

Dell's support service is available 24 hours a day, 7 days a week, to answer your questions about Dell hardware. Our support staff use computer-based diagnostics to provide fast, accurate answers. To contact Dell's support service, see "Before You Call" and then see the contact information for your region.

## Dell Enterprise Training and Certification

---

Dell Enterprise Training and Certification is available; see <http://www.dell.com/training> for more information. This service may not be offered in all locations.

## Problems With Your Order

---

If you have a problem with your order, such as missing parts, wrong parts, or incorrect billing, contact Dell for customer assistance. Have your invoice or packing slip handy when you call. For the telephone number to call for your region, see "Contacting Dell."

## Product Information

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If you need information about additional products available from Dell, or if you would like to place an order, visit the Dell website at <http://www.dell.com>. For the telephone number to call for your region or to speak to a sales specialist, see "Contacting Dell."

## Returning Items for Warranty Repair or Credit

---

Prepare all items being returned, whether for repair or credit, as follows:

1. Call Dell to obtain a Return Material Authorization Number, and write it clearly and prominently on the outside of the box. For the telephone number to call for your region, see "Contacting Dell."
2. Include a copy of the invoice and a letter describing the reason for the return.
3. Include a copy of the Diagnostics Checklist (see "Diagnostics Checklist"), indicating the tests that you have run and any error messages reported by the Dell Diagnostics.
4. Include any accessories that belong with the item(s) being returned (such as power cables, media such as CDs and diskettes, and guides) if the return is for credit.
5. Pack the equipment to be returned in the original (or equivalent) packing materials.

You are responsible for paying shipping expenses. You are also responsible for insuring any product returned, and you assume the risk of loss during shipment to Dell. Collect On Delivery (C.O.D.) packages are not accepted.

Returns that are missing any of the preceding requirements will be refused at Dell's receiving dock and returned to you.

## Before You Call

---



**NOTE:** Have your Express Service Code ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently.

Remember to fill out the Diagnostics Checklist (see "Diagnostics Checklist"). If possible, turn on your computer before you call Dell for assistance and call from a telephone at or near the computer. You may be asked to type some commands at the keyboard, relay detailed information during operations, or try other troubleshooting steps possible only at the computer itself. Ensure that the computer documentation is available.



**WARNING:** Before working inside your device, follow the safety instructions in the Safety, Environmental, and Regulatory Information that shipped with your system.

## Diagnostics Checklist

Name:

Date:

Address:

Phone number:

Service Tag (bar code on the back or bottom of the device):

Express Service Code:

Return Material Authorization Number (if provided by Dell support technician):

Operating system and version:

Devices:

Expansion cards:

Are you connected to a network? Yes No

Network, version, and network adapter:

Programs and versions:

See your operating system documentation to determine the contents of the system's start-up files. If the computer is connected to a printer, print each file. Otherwise, record the contents of each file before calling Dell.

Error message, beep code, or diagnostic code:

Description of problem and troubleshooting procedures you performed:

## Contacting Dell

For customers in the United States, call 800-WWW.DELL (800.999.3355).



**NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit <http://www.support.dell.com>.
2. Click your country or region at the bottom of the page. For a full listing of countries and regions, click **All**.
3. In the Support menu, click **All Support**.
4. Choose the method of contacting Dell that is convenient for you.

## Locating a J-SRX210 Services Gateway Component Serial Number and Agency Labels

This topic includes the following sections:

- Listing the J-SRX210 Services Gateway and Component Details with the CLI on page 155
- J-SRX210 Services Gateway Chassis Serial Number and Agency Labels on page 156
- J-SRX210 Services Gateway Mini-Physical Interface Module Serial Number Label on page 156

### Listing the J-SRX210 Services Gateway and Component Details with the CLI

Before contacting Dell to request an RMA, you must find the serial number on the J-SRX210 Services Gateway or component.

To list all of the J-SRX210 Services Gateway components and their serial numbers, enter the following command-line interface (CLI) command:

```
user@host> show chassis hardware
Hardware inventory:
Item                Version  Part number  Serial number  Description
-----
Chassis             REV X0   750-021778   000000PS2627  RE-SRX210-LOWMEM
Routing Engine
FPC 0
PIC 0
3G
```

Power Supply 0



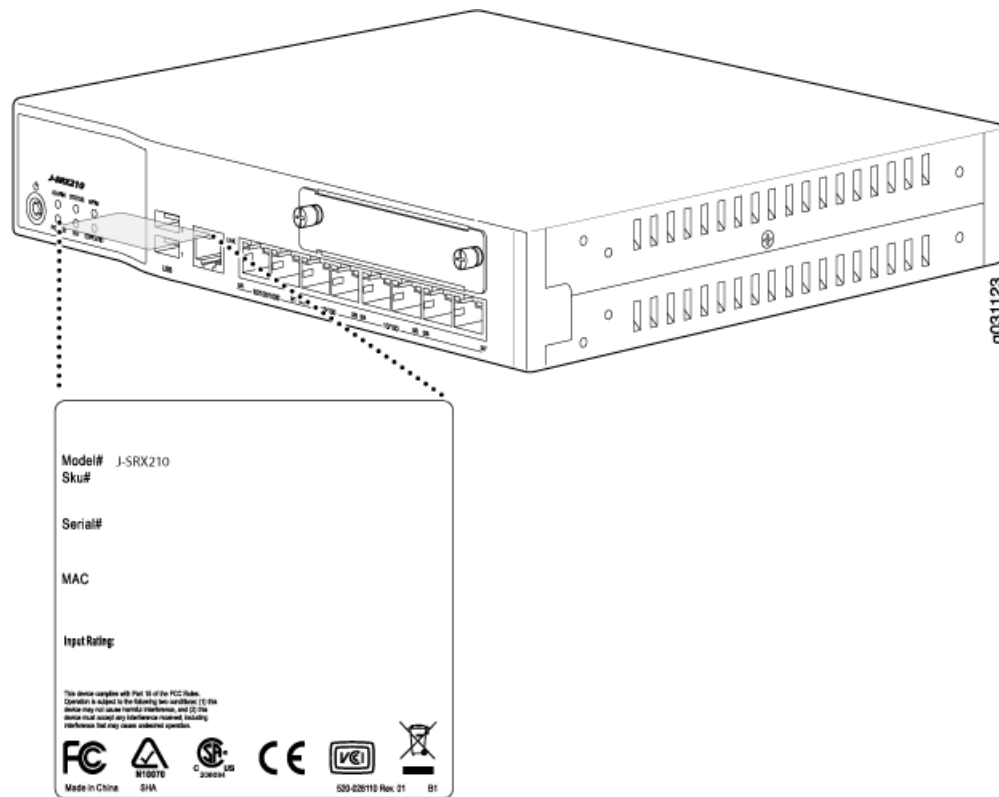
NOTE: In the `show chassis hardware` command, the Mini-Physical Interface Module (Mini-PIM) slot number is reported as an FPC number, and the Mini-PIM number (always 0) is reported as the PIC number.

Most components also have a serial number ID label attached to the component body.

### J-SRX210 Services Gateway Chassis Serial Number and Agency Labels

The J-SRX210 Services Gateway has a serial number ID and agency labels on the bottom of the chassis as shown in Figure 29 on page 156.

Figure 29: Location of J-SRX210 Serial Number and Agency Labels



### J-SRX210 Services Gateway Mini-Physical Interface Module Serial Number Label

Mini-Physical Interface Modules (Mini-PIMs) are field-replaceable on the J-SRX210 Services Gateway. Each Mini-PIM has a unique serial number. The serial number label is located on the right side of the Mini-PIM, when the Mini-PIM is horizontally oriented (as it would be installed on the device). The exact location might be slightly different on different Mini-PIMs, depending on the placement of components on the Mini-PIM.

- Related Topics**
- Packing the J-SRX210 Services Gateway and Components for Shipment on page 157

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## Packing the J-SRX210 Services Gateway and Components for Shipment

---

This topic includes the following sections:

- Packing the Services Gateway on page 157
- Packing the Components for Shipment on page 157

### Packing the Services Gateway

To pack the services gateway for shipment:

1. Retrieve the shipping carton and packing materials in which the device was originally shipped. If you do not have these materials, contact your Juniper Networks representative about approved packaging materials.
2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis or to an outside ESD point if the device is disconnected from earth ground.
3. On the console or other management device connected to the services gateway, enter CLI operational mode and issue the following command to shut down the services gateway software:

```
user@host> request system power-off
```

Wait until a message appears on the console confirming that the operating system has halted.

4. Shut down power to the device by pressing the Power button on the front panel of the device.
5. Disconnect power from the device.
6. Remove the cables that connect to all external devices.
7. Remove all field-replaceable units (FRUs) from the device.
8. If the device is installed on a wall or rack, have one person support the weight of the device while another person unscrews and removes the mounting screws.
9. Place the device in the shipping carton.
10. Cover the device with an ESD bag, and place the packing foam on top of and around the device.
11. Replace the accessory box on top of the packing foam.
12. Securely tape the box closed.
13. Write the Return Materials Authorization (RMA) number on the exterior of the box to ensure proper tracking.

### Packing the Components for Shipment

Follow these guidelines for packing and shipping individual components of the services gateway:

- When you return a component, make sure that it is adequately protected with packing materials and packed so that the pieces are prevented from moving around inside the carton.
- Use the original shipping materials if they are available.
- Place individual Mini-Physical Interface Modules (Mini-PIMs) in electrostatic bags.
- Write the Return Materials Authorization (RMA) number on the exterior of the box to ensure proper tracking.



**CAUTION:** Do not stack any of the services gateway components during packing.

---

#### Related Topics

- Required Tools and Parts for Installing and Maintaining the J-SRX210 Services Gateway on page 55
- Locating a J-SRX210 Services Gateway Component Serial Number and Agency Labels on page 155

## Dell Support

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If you need assistance while troubleshooting a services gateway, please go to the Dell Support website at <http://www.support.dell.com>.

PART 5

# Index

- Index on page 161





# Index

## Symbols

3G	
using.....	25
3G ExpressCard.....	25

## A

accessory list.....	58
adapter, console port	
chassis.....	85, 88
agency approvals.....	138
airflow.....	22
Alarm LED.....	18
monitoring.....	109
alarms	
relay contacts.....	147
wire specifications.....	147
altitude, acceptable range.....	7
approvals, agency.....	138
AT modem command.....	87, 89
AT&D1 modem command.....	87
AT&K0 modem command.....	87
AT&W modem command.....	87
ATDT modem command.....	89
ATSO=1 modem command.....	87
autoinstallation	
overview.....	81

## B

basic connectivity	
secure Web access.....	101
blank faceplate	
removing.....	74
boot devices	
types.....	22
boot media	
monitoring.....	111

## C

cables	
console port cable (chassis),	
connecting.....	85, 88
Ethernet cable, connecting.....	85, 88
cables, .....	84
chassis alarms	
sample.....	111
Clearance Requirements.....	50
CLI show commands.....	107
compliance	
acoustic noise.....	142
EMC requirements.....	140
Environmental requirements.....	141
general standards.....	138
configuration	
Services Gateway.....	91
connectivity	
LAN.....	3
modem (remote) connection.....	85
through J-Web.....	83
through the CLI locally.....	85
through the CLI remotely.....	85
WAN.....	3
console port	
adapter (chassis).....	85, 88
cable specifications.....	147
connecting through the CLI locally.....	85
connecting through the CLI remotely.....	85
RJ-45.....	149
settings for local CLI connection.....	85
settings for modem connection at device for	
remote CLI access.....	87
settings for modem connection for remote CLI	
access.....	89
cooling system.....	22
maintenance.....	105
customer support.....	xv

**D**

DB-9 to DB-25 serial port adapter.....	88
DDR Memory.....	4
Dell Support.....	115
desk	
installing.....	70
desk installation	
preparing.....	63
desk mount	
preparing.....	63
device grounding.....	77
dial-up modem connection <i>See</i> modem connection to console port	

**E**

electricity	
safety warnings.....	137
electromagnetic compatibility.....	143
EMC (EMI)	
compliance with requirements.....	140
standards.....	138
encrypted access	
through HTTPS.....	101
through SSL.....	101
environmental specifications.....	7
Ethernet cable	
connecting the services gateway to a management device.....	84, 85
connecting the services gateway to a modem.....	88
Ethernet cable, connecting.....	84
ethernet port	
cable specifications.....	147
Ethernet port	
RJ-45.....	148
ExpressCard.....	25
ExpressCard LED.....	18

**F**

factory default configuration.....	114
fire safety specifications.....	125
Foreign Exchange Office (FXO) interface.....	4
Foreign Exchange Subscriber (FXS) .....	4
FXO.....	35
FXS.....	35

**G**

ge-0/0	
connecting through J-Web.....	83

## guidelines

electrical.....	137
electrical wiring.....	143
installing.....	47

**H**

HA LED.....	18
hardware components	
maintenance.....	105
monitoring.....	111
Hayes-compatible modem <i>See</i> modem connection to console port	
HTTP (Hypertext Transfer Protocol) on built-in management interfaces.....	101
HTTPS (Hypertext Transfer Protocol over SSL) recommended for secure access.....	101
HyperTerminal, for terminal emulation	
local CLI connection.....	85
modem connection at device for remote CLI access.....	87
modem connection for remote CLI access.....	89

**I**

immunity standards.....	138
installation	
guidelines.....	47
safety guidelines.....	65
safety requirements.....	65
safety warnings.....	65
installation parts.....	55
installation site	
electrical wiring guidelines.....	143
installation tools.....	55
interface	
installing.....	74
removing.....	74
interface alarms.....	111
interface cable	
specifications.....	147
interface cables	
connecting.....	76
organizing.....	76
interfaces	
built-in.....	14
hardware.....	14
internet.....	3

**J**

J-SRX210 Services Gateway .....	3
---------------------------------	---

- 
- J-SRX210 Services Gateway with Integrated
    - Convergence Services .....3, 35
  - J-Web interface.....83
    - connecting.....83
    - Quick Configuration See Quick Configuration
  - JUNOS CLI
    - connecting locally.....85
    - connecting remotely.....85
  - JUNOS Software
    - establishing secure Web access.....101
  
  - L**
  - laptop See management device
  - laser safety guidelines.....130
  - LEDs
    - front panel.....17
    - port.....17
    - safety warnings.....130
    - voice interface.....17
  - local connection to the console port.....85
  
  - M**
  - maintenance guidelines
    - warnings.....133
  - management device
    - connecting to J-Web.....83
  - Mini-PIM
    - monitoring.....111
  - Mini-PIM LED.....18
    - monitoring.....109
  - Mini-PIMs
    - installing.....74
    - removing.....74
  - modem commands
    - at device end.....87
    - at remote end.....89
  - modem connection to console port
    - configuring modem at services gateway
      - end.....87
    - configuring modem at user end.....89
    - connecting modem to device.....88
    - overview.....85
  
  - N**
  - NEBS standards.....138
  - network.....3
  
  - P**
  - parts list.....58
  
  - PC See management device
  - pinouts.....149
    - RJ-45.....148
  - PoE.....3, 31
    - configuring.....33
  - PoE Status LED.....20
  - Port LED
    - TX/RX, POE.....19
  - port settings.....87
  - power
    - shutdown.....79
  - Power LED.....18
    - monitoring.....109
    - status.....113
  - Power over Ethernet.....31
  - power rating
    - PoE classes.....31
  - power supply
    - connecting.....75
    - maintenance.....105
  - power system
    - monitoring.....113
    - requirements.....144
    - specifications .....144
  
  - R**
  - rack
    - installing.....67
  - rack installation
    - preparing.....62
  - rack mount
    - preparing.....62
  - radio frequency interference.....143
  - remote connection to console port
    - configuring modem at services gateway
      - end.....87
    - configuring modem at user end.....89
    - connecting modem to device.....88
    - overview.....85
  - requirements
    - airflow clearance.....50
    - cabinet airflow.....48
    - cabinet size.....48
    - electrical.....51
    - geographical area.....49
    - hardware maintenance.....50
    - power.....51
    - rack size.....49
-

rack strength.....	49	installation process.....	53
spacing mounting brackets.....	49	installation types.....	61
rescue configuration.....	114	LEDs.....	17
Reset Config Button		monitoring component LEDs.....	109
CLI commands.....	114	parts.....	55
set chassis commands.....	114	PoE.....	31
using.....	114	power supply.....	24, 78
RJ-11 connector pinouts.....	149	powering off.....	79
RJ-45 pinouts		powering on.....	78
console port.....	148	preparing installation.....	61
Ethernet port.....	148	rack installation.....	67
RJ-45 to DB-9 serial port adapter		SSL access.....	101
chassis console port.....	88	tools.....	55
root password		unpacking.....	57
at initial local connection (none).....	85	verifying parts.....	58
at initial remote connection (none).....	89	wall installation.....	72
RS-232 (EIA-232) .....	147	Services Gateway	
<b>S</b>		configuration.....	91
safety guidelines		show chassis commands	
general.....	121	show chassis alarms.....	107
installation.....	125	show chassis environment.....	107
LED.....	130	show chassis fpc.....	107
safety standards.....	138	show chassis hardware.....	107
safety warning levels		shutdown	
definition.....	119	graceful.....	79
safety warnings		immediate.....	79
general.....	121	signaling limitations.....	143
installation.....	125	SIP/analog voice support.....	4
laser.....	130	site	
maintenance and operational.....	133	environmental specifications.....	7
secure access		specifications	
HTTPS recommended.....	101	cable.....	147
overview.....	101	environmental.....	7
requirements.....	101	fire safety.....	125
Secure Sockets Layer See SSL		PoE.....	31
services gateway.....	3	wires to external alarm-reporting devices.....	147
3G.....	25	SSL (Secure Sockets Layer)	
autoinstallation.....	81	management access.....	101
back panel.....	9	standards compliance.....	138
chassis alarms.....	111	Status LED.....	18
components.....	9	monitoring.....	109
desk installation.....	70	support, technical.....	xv
establishing secure Web access.....	101	<b>T</b>	
front panel.....	9	technical support.....	xv
grounding.....	77	temperature, acceptable range.....	7
hardware interfaces.....	14	temperature, nonoperating range.....	7
HTTPS Web access.....	101	thermal output.....	7
installation overview.....	53	TX/RX LED.....	20

**V**

Voice.....3

**W**

wall

installing.....72

wall installation

preparing.....64

wall mount

preparing.....64

warnings

electrical.....137

wire specifications.....147

wireless.....25

