# SRX Series Services Gateway Transceiver Reference

#### April 2016

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# SRX Series Services Gateway Transceivers

You can install transceivers of the following types in sockets in various cards or modules in SRX Series Services Gateways:

- Small form-factor pluggable (SFP)
- Enhanced small form-factor pluggable (SFP+)
- 10-Gigabit SFP (XFP)
- 100-Gbps form-factor pluggable (CFP)
- Quad 40-Gbps form-factor pluggable plus (QSFP+)

This guide describes all of the transceivers applicable to the SRX Series Services Gateways. The transceiver types are not interchangeable, with one exception: SFP+ transceivers can be used in SFP interfaces. However, an SFP+ transceiver installed in an SFP interface will be limited to the 1 Gbps maximum data rate of the interface in which it is installed.



NOTE: Modular Interface Cards (MICs) with SFP interfaces do not support SFP+ transceivers.



WARNING: Do not look directly into a fiber-optic transceiver or into the ends of fiber-optic cables. Fiber-optic transceivers and fiber-optic cable connected to a transceiver emit laser light that can damage your eyes.



WARNING: Do not leave a fiber-optic transceiver uncovered except when inserting or removing cable. The safety cap keeps the port clean and prevents accidental exposure to laser light.



CAUTION: Avoid bending fiber-optic cable tighter than its minimum bend radius. An arc smaller than a few inches in diameter can damage the cable and cause problems that are difficult to diagnose.



CAUTION: If you are having a problem running a Juniper Networks device that is using a third-party optic or cable, the Juniper Networks Technical Assistance Center (JTAC) can help you diagnose the source of the problem. Your JTAC engineer might recommend that you check the third-party optic or cable and potentially replace it with an equivalent Juniper Networks optic or cable that is qualified for the device.

# Table 1 on page 3 describes the SFP transceivers applicable to SRX Series Services Gateway SFP interfaces.

# Table 1: SFP Gigabit Ethernet Transceivers

		Eth over at	Wave λ (nm	length )			Core and	Max
Juniper Networks Model	Description	Ethernet Standard	тх	RX	Media	Connector	Cladding Size	Max. Distance
SRX-SFP-FE-FX	SFP100BASE-FX Fast Ethernet optic module	100BASE-FX	1300		MMF	LC	62.5/125 µm	2 km
	·						50/125 µm	2 km
SRX-SFP-1GE-LH	SFP 1000BASE-LH Gigabit Ethernet optic module	1000BASE-ZX	1550		SMF	LC	9/125 µm	70 km
SRX-SFP-1GE-LH-ET	SFP 1000BASE-LH Gigabit Ethernet optic module, extended temperature range (see note below)	1000BASE-ZX	1550		SMF	LC	9/125 µm	70 km
SRX-SFP-1GE-LX	SFP 1000BASE-LH	1000BASE-LX	1310		SMF	LC	9/125 µm	10 km
	Gigabit Ethernet optic module				MMF	LC	50/125 µm	550 m
							62.5/125 µm	550 m
SRX-SFP-1GE-LX-ET	SFP 1000BASE-LH	1000BASE-LX	E-LX 1310		SMF	LC	9/125 µm	10 km
	Gigabit Ethernet optic module, extended				MMF	LC	50/125 µm	550 m
	temperature range (see note below)						62.5/125 µm	550 m
SRX-SFP-1GE-SX	SFP 1000BASE-SX Gigabit Ethernet	1000BASE-SX	850		MMF	LC	50/125 µm	550 m
	optic module						62.5/125 µm	275 m

# Table 1: SFP Gigabit Ethernet Transceivers (continued)

	e Ethernet Har							
			Wave λ (nm	length I)			Core and	
Juniper Networks Model	Description	Ethernet Standard	тх	RX	Media	Connector	Cladding Size	Max. Distance
SRX-SFP-1GE-SX-ET	SFP 1000BASE-SX Gigabit Ethernet	1000BASE-SX	850		MMF	LC	50/125 µm	550 m
	optic module, extended temperature range (see note below)						62.5/125 µm	275 m
SRX-SFP-1GE-T	SFP 1000BASE-T Gigabit Ethernet module (uses Cat 5 cable)	1000BASE-T			Copper	RJ-45	4 twisted pair, category 5 shielded	100 m
SRX-SFP-1GE-T-ET	1000BASE-T Gigabit Ethernet module (uses Cat 5 cable), extended temperture range	1000BASE-T			Copper	RJ-45	4 twisted pair, category 5 shielded	100 m
SFP-FE20KT13R15 EX-SFP-FE20KT13R15	100BASE-BX Fast Ethernet optic module	100BASE-BX-U	1310	1550	SMF (single-strand fiber)	LC	9/125 µm	20 km
SFP-FE20KT15R13 EX-SFP-FE20KT15R13	100BASE-BX Fast Ethernet optic module	100BASE-BX-D	1550	1310	SMF (single-strand fiber)	LC	9/125 µm	20 km
SFP-GE10KT13R14 EX-SFP-GE10KT13R14	1000BASE-BX10 optic module	1000BASE-BX-U	1310	1490	SMF (single-strand fiber)	LC	9/125 µm	10 km
SFP-GE10KT13R15 EX-SFP-GE10KT13R15	1000BASE-BX10 optic module	1000BASE-BX-U	1310	1550	SMF (single-strand fiber)	LC	9/125 µm	10 km
SFP-GE10KT14R13 EX-SFP-GE10KT14R13	1000BASE-BX10 optic module	1000BASE-BX-D	1490	1310	SMF (single-strand fiber)	LC	9/125 µm	10 km
SFP-GE10KT15R13 EX-SFP-GE10KT15R13	1000BASE-BX10 optic module	1000BASE-BX-D	1550	1310	SMF (single-strand fiber)	LC	9/125 µm	10 km
SFP-GE40KTI3RI5 EX-SFP-GE40KTI3RI5	1000BASE-BX optic module	1000BASE-BX-U	1310	1550	SMF (single-strand fiber)	LC	9/125 µm	40 km

# Table 1: SFP Gigabit Ethernet Transceivers (continued)

luniner Ne	Jniper Networks		Ethernet	Wavelength $\lambda$ (nm)				Core and Cladding Size	Max. Distance
Model	Description	Standard	тх	RX	Media	Connector			
SFP-GE40k	(T15R13	1000BASE-BX optic module	1000BASE-BX-D	1550	1310	SMF (single-strand	LC	9/125 µm	40 km
EX-SFP-GE	40KT15R13	optic module				fiber)			



NOTE: For SRX3400 and SRX3600 Services Gateways to meet NEBS and ETSI standards, all transceivers installed in the services gateway must be of extended temperature (ET) type.

Table 2 on page 5 describes the SFP+ 10-Gigabit Ethernet transceivers applicable to SRX Series Services Gateway SFP and SFP+ interfaces.

# Table 2: SFP+10-Gigabit Ethernet Transceivers

			λ (nm)				Core and	Mex
Juniper Networks SKU	Description	Standard	ТХ	RX	Media	Connector	Cladding Size	Max. Distance
SRX-SFP-10GE-ER	SFP+ 10-Gigabit Ethernet optic module. Meets extended temperature range requirements (see note below)	10GBASE-ER	1550		SMF	LC	9/125 µm	40 km
SRX-SFP-10GE-LR EX-SFP-10GE-LR	SFP+ 10-Gigabit Ethernet optic module. Meets extended temperature range requirements (see note below)	10GBASE-LR	1310		SMF	LC	9/125 µm	10 km
SRX-SFP-10GE-SR EX-SFP-10GE-SR	SFP+ 10-Gigabit Ethernet optic module	10GBASE-SR	850		MMF	LC	50/125 µm	300 m (OM3) 400 m (OM4)
							62.5/125 µm	33 m

	λ (nm)		)			Core and Cladding	Max.	
Juniper Networks SKU	Description	Standard	тх	RX	Media	Connector	Size	Distance
SFPP-10GE-LRM	SFP+ 10GBase-LRM 10-Gigabit	10GBASE-LRM	1260		MMF	LC	50/125 µm	220 m
	Ethernet optic module						62.5/125 µm	220 m
SRX-SFPP-10G-SR-ET	SFP+10-Gigabit Ethernet optic module	10GBASE-SR	850		MMF	LC	50/125 µm	300 m
SRX-SFPP-10G-LR	SFP+ 10-Gigabit Ethernet optic module	10GBASE-LR	1310		SMF	LC	9/125 µm	10 km

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NOTE: For SRX3400 and SRX3600 Services Gateways to meet NEBS and ETSI standards, all transceivers installed in the services gateway must be of extended temperature (ET) type.

Table 3 on page 6 describes the SFP+ 10-Gigabit Ethernet, Direct Attach Cables (DAC) transceivers applicable to SRX Series Services Gateway SFP+ interfaces.

# Table 3: SFP+ 10-Gigabit Ethernet DAC Transceivers

			λ <b>(</b> ni	m)			Core and	Max
Juniper Networks SKU	Description	Standard	ΤХ	RX	Media	Connector	Cladding Size	Max. Distance
SRX-SFP-10GE-DAC-1M EX-SFPP-10GE-DAC-1M	10-Gbps full-duplex serial transmission	10GBASE-DAC			Direct Attached 30 AWG	SFP+ passive Twinax copper cable assembly		lm
SRX-SFP-10GE-DAC-3M EX-SFP-10GE-DAC-3M	10-Gbps full-duplex serial transmission	10GBASE-DAC			Direct Attached 30 AWG	SFP+ passive Twinax copper cable assembly		3 m
EX-SFP-10GE-DAC-5M	10-Gbps full-duplex serial transmission	10GBASE-DAC			Direct Attached 24 AWG	SFP+ passive Twinax copper cable assembly		5 m

			λ <b>(</b> πι	m)			Core and Cladding	Max.
Juniper Networks SKU	Description	Standard	ТΧ	RX	Media	Connector	Size	Distance
EX-SFP-10GE-DAC-7M	10-Gbps full-duplex serial transmission	10GBASE-DAC			Direct Attached 24 AWG	SFP+ passive Twinax copper cable assembly		7 m

# Table 3: SFP+ 10-Gigabit Ethernet DAC Transceivers (continued)

Table 4 on page 7 describes the XFP 10-Gigabit Ethernet transceivers applicable to SRX Series Services Gateway XFP interfaces.

# Table 4: XFP 10-Gigabit Ethernet Transceivers

Juniper Networks SKU	Description	Standard	λ (nm TX	) RX	Media	Connector	Core and Cladding Size	Max. Distance
SRX-XFP-10GE-ER	10-Gigabit Ethernet single-mode optic module	10GBASE-ER	1550		SMF	LC	9/125 µm	40 km
SRX-XFP-10GE-ER-ET	10-Gigabit Ethernet single-mode optic module, extended temperature range (see note below)	10GBASE-ER	1550		SMF	LC	9/125 µm	40 km
SRX-XFP-10GE-LR	10-Gigabit Ethernet single-mode optic module	10GBASE-LR	1310		SMF	LC	9/125 µm	10 km
SRX-XFP-10GE-LR-ET	10-Gigabit Ethernet single-mode optic module, extended temperature range (see note below)	10GBASE-LR	1310		SMF	LC	9/125 µm	10 km
SRX-XFP-10GE-SR	10-Gigabit Ethernet short-reach multimode optic module	10GBASE-SR	850		SMF	LC	9/125 µm	10 km
SRX-XFP-10GE-SR-ET	10-Gigabit Ethernet short-reach multimode optic module, extended temperature range (see note below)	10GBASE-SR	850		SMF	LC	9/125 µm	10 km



NOTE: For SRX3400 and SRX3600 Services Gateways to meet NEBS and ETSI standards, all transceivers installed in the services gateway must be of extended temperature (ET) type.

Table 5 on page 8 describes the CFP 100-Gigabit Ethernet transceivers applicable to SRX Series Services Gateway CFP interfaces.

# Table 5: CFP 100-Gigabit Ethernet Transceivers

			λ (nm)				Max.
Juniper Networks SKU	Description	Standard	тх	RX	Media	Connector	Max. Distance
SRX-CFP-100G-LR4	100-Gigabit Ethernet single-mode optic module	100GBASE-LR4	1310		SMF	Dual SC	10 km
SRX-CFP-100G-SR10	100-Gigabit Ethernet single-mode optic module	100GBASE-SR10	850		MMF	Ribbon cable, 24 multimode fibers	100 m (OM3) 150 m (OM4)
CFP2-100GBASE-SR10	100-Gigabit Ethernet	100GBASE-SR10	860	860	MMF	24-fiber MPO	100 m
CFP2-100GBASE-LR4	100-Gigabit Ethernet	100GBASE-LR4	1310	1310	SMF	LC	10 km

Table 6 on page 8 describes the QSFP+ 40-Gigabit Ethernet transceivers applicable to SRX Series Services Gateway QSFP+ interfaces.

# Table 6: QSFP+ 40-Gigabit Ethernet Transceivers

			λ (nm)				Max
Juniper Networks SKU	Description	Standard	тх	RX	Media	Connector	Max. Distance
SRX-QSFP-40G-SR4	40-Gigabit Ethernet single-mode optic module	40GBASE-SR4	850		MMF	OM3, OM4, 12 fiber MPO connector	100 m (OM3) 150 m (OM4)
SRX-QSFP-40G-LR4	40-Gigabit Ethernet single-mode optic module	40GBASE-LR4	1310		SMF	LC	10 km
JNP-QSFP-40G-LX4	40-Gigabit Ethernet pluggable	40GBASE-LX4	1310		MMF	OM4 duplex MMF	150 m (OM3)

# SRX Series Services Gateway Transceiver Interfaces

# Table 7 on page 9, Table 8 on page 9, Table 9 on page 9, and Table 10 on page 10 show the different types of transceiver interfaces available on the various types of SRX Series Services Gateways.

#### Table 7: SRX210, SRX220, and SRX240 Services Gateway Transceiver Interface Types

Transceiver Type	Card Model	Description	Number of Transceiver Interfaces
SFP	SRX-MP-1SFP	1-Port SFP Mini-PIM (not supported on SRX220)	1
SFP	SRX-MP-1SFP-GE	1-Port Gigabit Ethernet SFP Mini-PIM	1

### Table 8: SRX550 and SRX650 Services Gateway Transceiver Interface Types

Transceiver Type	Card Model	Description	Number of Transceiver Interfaces
SFP	SRX-MP-1SFP-GE (SRX550 only)	1-Port Gigabit Ethernet SFP Mini-PIM	1
	SRX-GP-8SFP	8-Port Gigabit Ethernet SFP XPIM	8
SFP+	SRX-GP-2XE-SFPP-TX	2-Port 10-Gigabit Ethernet XPIM	2

# Table 9: SRX1400, SRX3400, and SRX3600 Services Gateway Transceiver Interface Types

Transceiver Type	Card Model	Description	Number of Transceiver Interfaces
SFP	SRX3K-16GE-SFP	IOC	16
	SRX1K-SYSIO-GE (SRX1400 only)	SYSIOC	б
SFP+	SRX1K3K-NP-2XGE-SFPP	NP-IOC	2
	SRX1K-SYSIO-XGE (SRX1400 only)	SYSIOC	3
XFP	SRX3K-2XGE-XFP	IOC	2

Transceiver Type	Card Model	Description	Number of Transceiver Interfaces
SFP	SRX5K-40GE-SFP	IOC	40
	SRX-IOC-16GE-SFP	Flex IOC Port Module	16
	SRX5K-SPC-2-10-40	SPC	2
	SRX5K-SPC-4-15-320	SPC	2
	SRX-MIC-20GE-SFP	MIC	20
SFP+	SRX-MIC-10XG-SFPP	MIC	10
XFP	SRX5K-4XGE-XFP	IOC	4
	SRX-IOC-4XGE-XFP	Flex IOC Port Module	4
CFP	SRX-MIC-1X100G-CFP	MIC	1
QSFP+	SRX-MIC-2X40G-QSFP	MIC	2

# Table 10: SRX5400, SRX5600, and SRX5800 Services Gateway Transceiver Interface Types

The following is a list of transceivers supported on the SRX300 Series, SRX550 High Memory, and SRX1500 Services Gateways.

Supported Transceiver	SRX300 Series Services Gateways	SRX550 High Memory Services Gateway	SRX1500 Services Gateway
SRX-SFP-1GE-LH	$\checkmark$	$\checkmark$	$\checkmark$
SRX-SFP-1GE-LX	$\checkmark$	$\checkmark$	$\checkmark$
SRX-SFP-1GE-SX	$\checkmark$	$\checkmark$	$\checkmark$
SRX-SFP-1GE-T	$\checkmark$	$\checkmark$	$\checkmark$
SRX-SFP-FE-FX	$\checkmark$	$\checkmark$	
EX-SFP-10GE-LR			$\checkmark$
EX-SFP-10GE-SR			$\checkmark$
EX-SFP-FE20KTI3R15	$\checkmark$	$\checkmark$	
EX-SFP-FE20KT15R13	$\checkmark$	$\checkmark$	

Supported Transceiver	SRX300 Series Services Gateways	SRX550 High Memory Services Gateway	SRX1500 Services Gateway
EX-SFP-GE10KT13R14	$\checkmark$	$\checkmark$	
EX-SFP-GE10KT13R15	$\checkmark$	$\checkmark$	
EX-SFP-GE10KT14R13	$\checkmark$	$\checkmark$	
EX-SFP-GE10KT15R13	$\checkmark$	$\checkmark$	
EX-SFP-GE40KT13R15	$\checkmark$	$\checkmark$	
EX-SFP-GE40KT15R13	$\checkmark$	$\checkmark$	
EX-SFPP-10GE-DAC-1M			$\checkmark$
EX-SFPP-10GE-DAC-3M			$\checkmark$

The following is a list of all the cards and supported transceivers for the SRX1400 Services Gateway.

			5	Supported Cards			
		I/O Cards		Syste	m I/O Cards	Network Processing I/O Cards	
	SRX3K-16GE-TX	SRX3K-16GE-SFP	SRX3K-2XGE-XFP	SRX1K-SYSIO-GE	SRX1K-SYSIO-XGE	SRX1K3K-NP-2XGE-SFPP	
Supported Transceivers	16 ports	16 ports	2 ports	12 GBE ports (6-copper RJ45 6-SFP)	9 GBE ports + 3 10GE (6 copper RJ45, 3 SFP, + 3 10GE SFP+)	2 ports	
	1 GE	1 GE	10 GE	1GE	1GE + 10GE	10 GE	
SFP Gigabit Ethernet Transceivers							
SRX-SFP-1GE-LH		~		~	✓		
SRX-SFP-1GE-LH-ET		~		~	✓		
SRX-SFP-1GE-LX		~		~	✓		
SRX-SFP-1GE-LX-ET		~		~	✓		
SRX-SFP-1GE-SX		~		✓	✓		
SRX-SFP-1GE-SX-ET		~		✓	✓		
SRX-SFP-1GE-T		✓		✓	✓		
SRX-SFP-1GE-T-ET		✓		<ul> <li>✓</li> </ul>	✓		
SFP+ 10-Gigabit Ethernet Transceivers							
SRX-SFP-10GE-ER					✓	✓	
SRX-SFP-10GE-LR					✓	~	
SRX-SFP-10GE-SR				2	✓	✓	
SFPP-10GE-LRM					✓	✓	
SRX-SFP-10GE-DAC-1M					✓	✓	
SRX-SFP-10GE-DAC-3M		8			✓	~	
XFP 10-Gigabit Ethernet Transceivers							
SRX-XFP-10GE-ER			~				
SRX-XFP-10GE-ER-ET			~				
SRX-XFP-10GE-LR			✓				
SRX-XFP-10GE-LR-ET			~				
SRX-XFP-10GE-SR			~				
SRX-XFP-10GE-SR-ET		2	✓				

	Supported Cards								
		I/O Cards		Network Processing I/O Cards	Switch Fabric Board				
Supported Transceivers	SRX3K-16GE-TX	SRX3K-16GE-SFP	SRX3K-2XGE-XFP	SRX1K3K-NP-2XGE-SFPP	SFB-12GE				
	16 ports	16 ports	2 ports	2 ports	12 ports (8 Copper + 4 SFP)				
	1 GE	1 GE	10 GE	10 GE	1GE				
SFP Gigabit Ethernet Transceivers									
SRX-SFP-1GE-LH		✓			✓				
SRX-SFP-1GE-LH-ET		✓			✓				
SRX-SFP-1GE-LX		✓			✓				
SRX-SFP-1GE-LX-ET		✓			✓				
SRX-SFP-1GE-SX		✓			✓				
SRX-SFP-1GE-SX-ET		✓			$\checkmark$				
SRX-SFP-1GE-T		✓			✓				
SRX-SFP-1GE-T-ET		✓			$\checkmark$				
SFP+ 10-Gigabit Ethernet Transceivers									
SRX-SFP-10GE-ER				✓					
SRX-SFP-10GE-LR				√					
SRX-SFP-10GE-SR				✓					
SFPP-10GE-LRM				√					
SRX-SFP-10GE-DAC-1M				✓					
SRX-SFP-10GE-DAC-3M				✓					
XFP 10-Gigabit Ethernet Transceivers									
SRX-XFP-10GE-ER			✓						
SRX-XFP-10GE-ER-ET			✓						
SRX-XFP-10GE-LR			√						
SRX-XFP-10GE-LR-ET			✓						
SRX-XFP-10GE-SR			✓						
SRX-XFP-10GE-SR-ET			✓						

The following is a list of all the cards and supported transceivers for the SRX3400 and SRX3600 Services Gateways.

							IO Card No						
				SRXSK-MPC (contains 2 MIC slots) SRXSK-FPC-IOC (contains 2 IOC slots)								SPC Cards - HA Control Ports	
Supported Transceivers	SRX5K-MPC3- 40G10G	SRX5K-MPC3- 100G10G	SRX-MIC-10XG- SFPP	SRX-MIC-2X40G QSFP	- SRX-MIC-1X100G- CFP	SRX-MIC-20GE- SFP	SRX-IOC-16GE- SFP	SRX-IOC-16GE- TX	SRX-IOC-4XGE- XFP	SRX5K-40GE-SFP	SRX5K-4XGE-XFP	SRX5K-SPC-2-10-40	SRX5K-SPC-4-15-32
			10 ports	2 ports	1 port	20 ports	16 ports	16 ports	4 ports	40 ports	4 ports	2 ports	2 ports
							Spe	ed					
	24 x 10 GE 6 x 40 GE	4 x 10 GE 2 x 100 GE	10 GE	40 GE	100 GE	1 GE	1 GE	1 GE	10 GE	1 GE	10 GE	1 GE	1 GE
SRX-CFP-100G-LR4	6 X 40 GE	2 X 100 GE			<b>√</b> ●								
SRX-CFP-100G-SR10													
CFP2-100GBASE-SR10													
CFP2-100GBASE-LR4													
SRX-QSFP-40G-LR4	<b>√●</b>			<b>~</b>									
SRX-QSFP-40G-SR4	$\checkmark$												
JNP-QSFP-40G-LX4				$\checkmark$									
SRX-SFPP-10G-SR-ET		✓●	<b>√●</b>	v									
SRX-SFPP-10G-LR	$\checkmark$	V V	$\checkmark$										
SRX-SFP-10G-LR		$\checkmark$	$\checkmark$										
SRX-SFP-10GE-SR		v u √●											
SFPP-10GE-ER	$\checkmark$	-	-										
SFPP-10GE-ER-XT		$\checkmark$	$\checkmark$										
SRX-XFP-10GE-ER	$\checkmark$	v •							✓		✓		
SRX-XFP-10GE-ER-ET									· ·		· ·		
SRX-XFP-10GE-LR									· ·		· · · · · · · · · · · · · · · · · · ·		
SRX-XFP-10GE-LR-ET									· ·		· ·		
SRX-XFP-10GE-SR									· ·		· ·		
SRX-XFP-10GE-SR-ET									· ·		· ·		
SRX-SFP-10GE-DAC-1M	<b>√●</b>		. ✓ ●										
SRX-SFP-10GE-DAC-3M	$\checkmark$	V V	V V										
EX-SFP-10GE-DAC-5M		V O											
EX-SFP-10GE-DAC-7M													
SRX-SFP-1GE-LH							×			×		1	1
SRX-SFP-1GE-LH-ET							· ·			· ·		· ·	· · ·
SRX-SFP-1GE-LX						<b>√●</b>				· · ·			· · ·
SRX-SFP-1GE-LX-ET							· •			· · ·			· ·
SRX-SFP-1GE-SX							· ·			· · ·		· ·	· · ·
SRX-SFP-1GE-SX-ET							· ·			· · ·		· ·	· · ·
SRX-SFP-1GE-T							· •			· · ·			
										· · ·		-	

Following is a list of transceivers supported on all cards, along with the Junos OS release in which they were introduced, for the SRX5000 line of Services Gateways.

IO Card Model Number

# Installing Transceivers

Transceivers are hot-insertable and hot-removable. Removing a transceiver does not interrupt the functioning of the card or module.

To install a transceiver:

- 1. Attach an ESD grounding strap to your bare wrist, and connect the strap to one of the ESD points on the chassis.
- 2. Take each transceiver to be installed out of its electrostatic bag, and identify the socket on the card or module where you will install it.



WARNING: Do not leave a fiber-optic transceiver uncovered except when inserting or removing cable. The safety cap keeps the port clean and prevents accidental exposure to laser light.

- 3. For each fiber interface transceiver, verify that the interface port is covered by a rubber safety cap. If it is not, cover the interface port with a safety cap. The safety cap prevents the release of laser light that can damage your eyes.
- 4. Carefully align the transceiver with the socket in the services gateway card or module. The connector should face the socket.
- 5. Slide the transceiver into the socket until the connector is seated in the component slot. If you are unable to fully insert the transceiver, make sure the connector is oriented correctly. See the hardware documentation for your services gateway for more information about LEDs.
- 6. Close the ejector handle of the transceiver.
- 7. Remove the rubber safety caps from both the transceiver and from the end of the cable. Insert the cable into the transceiver.
- 8. Verify that the status LEDs on the component faceplate indicate that the transceiver is functioning correctly.

### **Documentation and Release Notes**

To obtain the most current version of all Juniper Networks<sup>®</sup> technical documentation, see the product documentation page on the Juniper Networks website at http://www.juniper.net/techpubs/.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

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#### **Requesting Technical Support**

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or Partner Support Service support contract, or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf .
- Product warranties—For product warranty information, visit http://www.juniper.net/support/warranty/ .
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

#### Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: http://www.juniper.net/customers/support/
- Find product documentation: http://www.juniper.net/techpubs/
- Find solutions and answer questions using our Knowledge Base: http://kb.juniper.net/
- Download the latest versions of software and review release notes: http://www.juniper.net/customers/csc/software/
- Search technical bulletins for relevant hardware and software notifications: https://www.juniper.net/alerts/
- Join and participate in the Juniper Networks Community Forum: http://www.juniper.net/company/communities/
- Open a case online in the CSC Case Management tool: http://www.juniper.net/cm/

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: https://tools.juniper.net/SerialNumberEntitlementSearch/

#### **Opening a Case with JTAC**

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at http://www.juniper.net/cm/.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, visit us at http://www.juniper.net/support/requesting-support.html

#### **Revision History**

June 2015— Added information about DAC and CFP2 optics.

August 2015— Updated core and cladding size for SRX-SFP-FE-FX.

October 2015—Added information about DAC optics.

November 2015-Added OM4 detail for SRX-SFP-10GE-SR.

April 2016—Added transceiver support information for the SRX300 Series, SRX550 High Memory, and SRX1500 Services Gateways.

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