



EIGHT-PORT SYNCHRONOUS SERIAL GIGABIT-BACKPLANE PHYSICAL INTERFACE MODULE (GPIM)

Product Overview

Providing the physical connection to serial network media types, Juniper's eight-port synchronous serial Gigabit-Backplane Physical Interface Module (GPIM) is used for the Juniper Networks® SRX550 and SRX650 Services Gateway products to increase bandwidth capabilities for synchronous serial connectivity and provide high density aggregation.

Product Description

The Juniper Networks eight-port synchronous serial GPIM provides the physical connection to serial network media types, receiving incoming packets from the network and transmitting outgoing packets to the network. The eight-port synchronous serial GPIM forwards packets for processing while performing framing and line-speed signaling.

Features and Benefits

The Juniper Networks eight-port synchronous serial GPIM provides increased bandwidth capabilities for synchronous serial connectivity as well as high density aggregation, while making effective use of the SRX550 and SRX650 interface slots. Features include:

- 60-pin synchronous serial (female) connector type
- Support for the following standards: TIA/EIA 530, EIA 530A, V.35, X.21, RS-232, RS-449
- Up to 8 Mbps per physical port
- Clock rate configurable 1.2 KHz to 8 MHz
- Crypto resynchronization support
- Juniper's proprietary data terminal equipment (DTE) and data circuit-terminating equipment (DCE) cables available for each protocol (10 in all) with auto-detection for DTE/DCE modes

Specifications

Interface Specifications

- Transmit rate: 8 Mbps per port
- Receive bit rate: 8 Mbps per port
- Line encoding: NRZ, NRZI
- Line protocols: EIA530, X.21, RS449/RS422, RS232, V35
- Modes: DTE, DCE

Data Interface

- Data interface Point-to-Point Protocol (PPP)
- Frame Relay
- High-Level Data Link Control (HDLC) features
 - 56 KB/64 Kb mode
 - Cyclic redundancy check (CRC) 16/32
 - Shared flag
 - Idle flag/fill
 - Counters: Runts, giants, fcs error, abort error, align error

Table 1: Interface Connector

Product Number	Type	Length	Connector Type
SRX-CBL-EIA530-DCE-2	2 Port EIA530 cable (DCE)	10 feet	Female
SRX-CBL-EIA530-DTE-2	2 Port EIA530 cable (DTE)	10 feet	Male
SRX-CBL-EIA530A-DCE-2	2 Port EIA530A cable (DCE)	10 feet	Female
SRX-CBL-EIA530A-DTE-2	2 Port EIA530A cable (DTE)	10 feet	Male
SRX-CBL-RS232-DCE-2	2 Port RS232 cable (DCE)	10 feet	Female
SRX-CBL-RS232-DTE-2	2 Port RS232 cable (DTE)	10 feet	Male
SRX-CBL-RS449-DCE-2	2 Port RS449 cable (DCE)	10 feet	Female
SRX-CBL-RS449-DTE-2	2 Port RS449 cable (DTE)	10 feet	Male
SRX-CBL-V35-DCE-2	2 Port V.35 cable (DCE)	10 feet	Female
SRX-CBL-V35-DTE-2	2 Port V.35 cable (DTE)	10 feet	Male
SRX-CBL-X21-DCE-2	2 Port X.21 cable (DCE)	10 feet	Female
SRX-CBL-X21-DTE-2	2 Port X.21 cable (DTE)	10 feet	Male

System Timing

- Clocking modes: DCE, internal, loop
- Clocking rates: 1.2 KHz, 2.4 KHz, 9.6 KHz, 19.2 KHz, 38.4 KHz, 56.0 KHz, 64.0 KHz, 72.0 KHz, 125.0 KHz, 148.0 KHz, 250.0 KHz, 500.0 KHz, 800.0 KHz, 1.0 MHz, 1.3 MHz, 2.0 MHz, 4.0 MHz, 8.0 MHz

Dimensions and Weight (W x H x D)

- 6.72 x 0.76 x 8.23 in (170.8 x 19.2 x 209.1 mm)
- 16.6 oz (0.470 kg)

Environmental

- Operating temperature: 0° to 40° C
- Storage temperature: -40° to 70° C
- Relative humidity: 5% to 90% noncondensing

Diagnostics

- Loopbacks: Local, DCE-local, remote loopback

Network Alarms

- Rx clock absent
- Tx clock absent
- Data carrier detect (DCD) absent
- Clear to send (CTS) absent
- Data set ready (DSR) absent

Error Counters

- Controlled slipped seconds (CSS or CS)
- Line errored seconds (LES)
- Errored seconds (ES)
- Bursty errored seconds (BES)
- Severely errored seconds (SES)
- Severely errored framing seconds (SEFS)
- Loss of signal seconds (LOS)
- Loss of frame seconds (LOFS)
- Unavailable seconds (UAS)

LEDs

Status

- Red light on: GPIM has failed
- Red light off: GPIM has no power and can be removed safely
- Amber light on: GPIM is starting up, running diagnostics, or shutting down

P0 – P7

- Yellow: An alarm is present
- Green: An alarm is not present

Management Capabilities

- Telnet/console: Remote and local configuration, monitoring, and troubleshooting

Standards and Compliance

Safety

- CAN/CSA-C22.2 No. 60950-1
- UL 60950-1
- EN 60950-1
- IEC 60950-1

EMC (Emissions)

- AS/NZS CISPR22 Class B
- EN55022 Class B
- FCC Part 15 Class B
- VCCI Class B

Immunity

- EN-61000-4-2 ESD
- EN-61000-4-3 Radiated Immunity
- EN-61000-4-4 EFT
- EN-61000-4-5 Surge
- EN-61000-4-6 Low Frequency Common Immunity
- European Telecommunications Standardization Institute (ETSI)
- ETSI EN-300386-2 Telecommunication Network Equipment Electromagnetic Compatibility

Standards

- ITU V.35
- ITU X.21
- EIA/TIA 530, 530A
- EIA/TIA 232
- EIA/TIA 422

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Ordering Information

Model Number	Description
SRX-GP-8SERIAL	Eight-port sync serial GPIM

Note: Order Up to four cables listed in Table 1 for the eight serial ports on the GPIM

Software

The eight-port synchronous serial GPIM is supported on the SRX550 Services Gateway and SRX650 Services Gateway running Juniper Networks Junos® operating system 12.1R2 and higher releases.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

Corporate and Sales Headquarters

Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or 408.745.2000
Fax: 408.745.2100
www.juniper.net

APAC Headquarters

Juniper Networks (Hong Kong)
26/F, Cityplaza One
1111 King's Road
Taikoo Shing, Hong Kong
Phone: 852.2332.3636
Fax: 852.2574.7803

EMEA Headquarters

Juniper Networks Ireland
Airside Business Park
Swords, County Dublin, Ireland
Phone: 35.31.8903.600
EMEA Sales: 00800.4586.4737
Fax: 35.31.8903.601

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