



DUAL-PORT SYNCHRONOUS SERIAL PHYSICAL INTERFACE MODULE

Product Overview

Dual-Port Synchronous Serial Physical Interface Module (PIM) is for use with the Juniper Networks J2320, J2350, J4350, and J6350 Services Routers, as well as the Juniper Networks SSG140, SSG320M, SSG350M, SSG520M and SSG550M Secure Services Gateways.

Product Description

The Juniper Networks® Dual-Port Synchronous Serial PIM provides the physical connection to serial network media types, receiving incoming packets from the network and transmitting outgoing packets to the network. The Dual-Port Synchronous Serial PIM is equipped with a dedicated network processor that forwards incoming data packets to the Routing Engine, and receives outgoing data packets from the Routing Engine. During this process, the PIM performs framing and line-speed signaling.

When the Dual-Port Synchronous Serial PIM is installed in a Juniper Networks ScreenOS® Software-based SSG Series Secure Services Gateways security appliance, the dedicated network processor will forward traffic to the SSG Series CPU where traffic decisions are made based upon security policies.

Features and Benefits

The Juniper Networks Dual-Port Synchronous Serial PIM provides increased bandwidth capabilities while making effective use of the Juniper Networks J Series Services Routers and SSG Series modular interface slots. Features include:

- Single serial interface supporting RS232, V.35, X.21, RS449, and EIA530
- Up to 8 Mbps per physical port
- Onboard network processor
- Clock rate configurable
- 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

High-Level Data Link Control (HDLC) Features

- 56K and 64K mode
- CRC 16/32
- Shared flag
- Idle flag/fill
- Counters: runts, giants, frame check sequence (FCS) error, abort error, align error

Interface Connector

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

- 5.45 x 0.63 x 6.5 in (13.8 x 1.6 x 16.5 cm)

Environmental

- Operating temperature: 32° to 104° F (0° to 40° C)
- Storage temperature: -40° to 158° F (-40° to 70° C)
- Relative humidity: 5% to 90% noncondensing

Diagnostics

Loopbacks

- Local, DCE-local

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

PIM LEDs indicate port status with the following LED states:

Color	State	Description
Green	On steadily	Online with no alarms or failures
Red	On steadily	Active with a local alarm; router has detected a failure

Management Capabilities

- Telnet/Console/J-Web: Remote and local configuration, monitoring, and troubleshooting

Standards and Compliance

Safety

- CAN/CSA-C22.2 No. 60950-1-03 - UL 60950-1 Safety of Information Technology Equipment
- EN 60950-1 Safety of Information Technology Equipment EMC (Emissions)
- AS/NZS 3548 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
- EIA/TIA 232
- EIA/TIA 422

Juniper Networks Services and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit www.juniper.net/us/en/products-services.

Ordering Information

Model Number	Description
JX-2SERIAL-S	Dual-Port Synchronous Serial PIM

Juniper Networks Junos® Operating System Release

The Dual-Port Synchronous Serial PIM is supported on J Series routers in Junos OS 7.0 and higher releases.

Juniper Networks ScreenOS Software Release

The Dual-Port Synchronous Serial PIM is supported in ScreenOS 5.1 and higher releases on the Juniper Networks SSG500 line, ScreenOS 6.0/r2 and higher releases on the Juniper Networks SSG300 line, and ScreenOS 5.4 and higher releases on the Juniper Networks SSG140 Secure Services Gateway.

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.

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