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
- 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

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Type</th>
<th>Length</th>
<th>Connector Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>JX-CBL-EIA530-DCE</td>
<td>EIA530 cable (DCE)</td>
<td>10 feet</td>
<td>Female</td>
</tr>
<tr>
<td>JX-CBL-EIA530-DTE</td>
<td>EIA530 cable (DTE)</td>
<td>10 feet</td>
<td>Male</td>
</tr>
<tr>
<td>JX-CBL-RS232-DCE</td>
<td>RS232 cable (DCE)</td>
<td>10 feet</td>
<td>Female</td>
</tr>
<tr>
<td>JX-CBL-RS232-DTE</td>
<td>RS232 cable (DTE)</td>
<td>10 feet</td>
<td>Male</td>
</tr>
<tr>
<td>JX-CBL-RS449-DCE</td>
<td>RS449 cable (DCE)</td>
<td>10 feet</td>
<td>Female</td>
</tr>
<tr>
<td>JX-CBL-RS449-DTE</td>
<td>RS449 cable (DTE)</td>
<td>10 feet</td>
<td>Male</td>
</tr>
<tr>
<td>JX-CBL-V35-DCE</td>
<td>V.35 cable (DCE)</td>
<td>10 feet</td>
<td>Female</td>
</tr>
<tr>
<td>JX-CBL-V35-DTE</td>
<td>V.35 cable (DTE)</td>
<td>10 feet</td>
<td>Male</td>
</tr>
<tr>
<td>JX-CBL-X21-DCE</td>
<td>X.21 cable (DCE)</td>
<td>10 feet</td>
<td>Female</td>
</tr>
<tr>
<td>JX-CBL-X21-DTE</td>
<td>X.21 cable (DTE)</td>
<td>10 feet</td>
<td>Male</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Color</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>On steadily</td>
<td>Online with no alarms or failures</td>
</tr>
<tr>
<td>Red</td>
<td>On steadily</td>
<td>Active with a local alarm; router has detected a failure</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>JX-2SERIAL-S</td>
<td>Dual-Port Synchronous Serial PIM</td>
</tr>
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</table>

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.