



ADSL/ADSL2/ADSL2+ PHYSICAL INTERFACE MODULES

Product Overview

The Juniper Networks asymmetric digital subscriber line (ADSL) Physical Interface Modules (PIMs) are for use with Juniper Networks SSG Series Secure Services Gateway including the SSG140, SSG320M, SSG350M, SSG520M and SSG550M, and the Juniper Networks J Series Services Routers including the J2320, J2350, J4300, J4350, J6300 and J6350. These PIMs support Annex A and Annex B, and include one physical port that supports ADSL, ADSL2, or ADSL2+ protocols.

Product Description

Juniper Networks® ADSL/ADSL2/ADSL2+ PIMs provide a single physical interface to ADSL/ADSL2/ADSL2+ network media types, receiving incoming packets from the network and transmitting outgoing packets to the network. The ADSL/ADSL2/ADSL2+ PIMs forwards packets for processing while performing framing and line-speed signaling.

Features and Benefits

Table 1: ADSL/ADSL2/ADSL2+ Features and Benefits

FEATURE	FEATURE DESCRIPTION	BENEFIT
ADSL/ADSL2/ADSL2+ support	Same module can be used in ADSL, ADSL2, and ADSL2+ environments	Provides investment protection when upgrading WAN connectivity
Automatic configuration	Automatically configures the ADSL line after negotiating with the DSL access multiplexer (DSLAM)	Minimizes configuration and support overhead
Dedicated network processor	Provides additional processing resources	Helps maintain predictable WAN performance by offloading the J Series or SSG Series CPU
Dying gasp support	Notifies the DSLAM, in the event of power loss, that the SSG Series or J Series is about to go offline	Reduces downtime associated with unplanned power outages

Specifications

Minimum Software Releases

- Juniper Networks JUNOS® Software 7.2: ADSL Annex A and Annex B functionality is supported on J Series routers.
- JUNOS Software 7.3: ADSL 2/2+ Annex A functionality is supported on J Series routers.
- ScreenOS 6.0: ADSL/ADSL2/ADSL2+ Annex A and Annex B functionality is supported on SSG 140 and SSG 500 series platforms.

Dimensions and Weight (H x W x D)

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

ATM

- ATM Adaptation Layer 5 (AAL5)
- Up to 32 permanent virtual circuits (PVCs) per PIM

Environmental

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

Diagnostics

Loopbacks

- UTOPIA Loopback at IXP side
- UTOPIA Loopback at STM side

Network Alarms

- Loss of signal (LOS)
- Loss of frame (LOF)
- Loss of margin (LOM)
- Loss of power (LOP)
- Loss of cell delineation interleaved (LOCDI)
- Loss of cell delineation non-interleaved (LOCDNI)

LEDs

PIM LEDs indicate port status with the following LED states:

- 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/JWeb: Remote and local configuration, monitoring, and troubleshooting
- SNMP: ADSL MIB – RFC 2662

Compliance and Standards

Safety

- CAN/CSA-C22.2 No.60950/UL 60950 Third Edition, Safety of Information Technology Equipment
- EN 60950 (2000) Third edition – Safety of Information Technology Equipment
- IEC 60950 (1999) Third edition – Safety of Information Technology Equipment

EMC (Emissions)

- FCC Part 15 Class B (USA)
- EN 55022 Class B (Europe)
- AS 3548 Class B (Australia)
- VCCI Class B (Japan)
- BSMI Class B (Taiwan)

Immunity

- EN 55024
- 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
- EN-61000-4-11 Voltage Dips and Sags

European Telecommunications Standardization Institute (ETSI)

- ETSI EN-300386-2: Telecommunication Network Equipment Electromagnetic Compatibility Requirements

Telecom

- FCC Part 68/TIA-968
- IC CS-03

Standards

- ANSI T1.413 II compliant (vendor version 1)
- G994.1 (G.HS) Version 05/03 + Amendment 1 (02/04)
 - Annex A (POTS overlay)
 - Annex B (ISDN overlay)
 - Appendix 1 (ATM Interface – Utopia)
- G992.3 (G.DMTbis; ADSL2) + Amendment 1,2
 - Annex A (POTS overlay)
 - Annex B (ISDN overlay)
 - Annex L (Reach Extended)
 - Appendix 1 (ATM Interface – Utopia)
- G992.5 (ADSL2+) + Corrigendum 1 + Amendment 2
 - Annex A (POTS overlay)
 - Annex B (ISDN overlay)
 - Appendix 1 (ATM Interface – Utopia)
- ETSI TS 101 388 V1.3.1

Performance-Enabling Services and Support

Juniper Networks is the leader in performance-enabling services and support, which are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to bring revenue-generating capabilities online faster so you can realize bigger productivity gains, faster rollouts of new business models and ventures, and greater market reach, while generating higher levels of customer satisfaction. At the same time, Juniper Networks ensures operational excellence by optimizing your network to maintain required levels of performance, reliability, and availability. For more details, please visit www.juniper.net/products-services.

Ordering Information

PART NUMBER	DESCRIPTION
JX-1ADSL-A-S	1-port ADSL 2/2+ interface card with Annex A (over POTS) support
JX-1ADSL-B-S	1-port ADSL 2/2+ interface card with Annex B (over ISDN) support


About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at www.juniper.net.



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