

Juniper Networks E1 Mini-PIM



The Juniper Networks optional single-port E1 Mini Physical Interface Modules (Mini-PIM) for the SSG 20 platform complement the five on-board 10/100 Ethernet interfaces with expanded WAN connectivity. The E1 Mini-PIMs include one physical E1 port with an integrated CSU/DSU.

The combination of a E1 modem and an integrated CSU/DSU eliminates the need to deploy several separate external devices, thereby consolidating devices to reduce capital expenditures, saving valuable space and simplifying management.

Features

- Fully integrated CSU/DSU
- Full and fractional E1 capabilities
- 56K & 64K modes support
- G.703, G.704, & G.706 E1 support
- Independent Clock
- Loopback, BERT, and Long Buildout diagnostics
- Complete configuration and management by CLI, WebUI, or NetScreen Security-Manager

Specifications

Product Number	Description
JXM-1E1-S	1 port E1 Mini Physical Interface Module

ScreenOS Software Release

The E1 Mini PIM is supported in ScreenOS 5.4 on the SSG 20

Network Interface Specifications

Transmit bit rate:	2.048 Mbps
Receive bit rate:	2.048 Mbps
Line encoding:	HDB3
Modes:	Framed Clear Channel Unframed Clear Channel Framed Fractional
Framing:	G704 G704 without CRC4 Unframed

HDLC Features

- N x 64 Kbps or N x 56 Kbps, nonchannelized data rates (E1:n = 1 to 31)
- CRC 16/32
- Shared Flag
- Idle flag/fill
- Counters: Runts, Giants, FCS, Error, Abort Error, Align Error

Interface Connector

- RJ-48

System timing

- External (network recovered clocks)

Dimensions (W x L x H) and Weight

- 3.75" x 5.9" x 0.80"
- 9.5 cm x 14.5 cm x 2.0 cm
- 0.18 lb. (81.6g)

Environmental

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

Loopback Diagnostics

- Local, Remote, Payload
- Test patterns (BERT)
- All ones
- All zeros
- Alternating ones and zeros (AA/55)
- 1:3 or 1 in 4 pattern
- 1:7 or 1 in 8 pattern
- 3:24 - 3 bits set in every 24 bits
- QRSS20 (Modified PRBS 2²⁰-1, with 14 zero suppression)
- PRBS 2⁷-1
- PRBS 2⁹-1 (as specified in ITU-T O.153)
- PRBS 2¹¹-1 (as specified in ITU-T O.153)/2047 pattern
- PRBS 2¹⁵-1 (as specified in ITU-T O.151/O.153)
- PRBS 2²⁰-1 (as specified in ITU-T O.153)
- Programmable word or 32-bit programmable pattern
- LOS, LOF, AIS, YLW

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 Framing Seconds (LOFS)
- UAS Unavailable Seconds (UAS)

LEDs

PIM LED's indicate port status with the following LED states:

- Alarm – Solid Yellow
- Loopback – Solid Yellow when loopback enabled
- CD (Carrier Detect) – solid green when line is sync'ed

Standards and Compliance

Agency/Regulatory Compliance

Safety

- CAN/CSA-C22.2 No. 60950-1-03/UL 60950-1 Third Edition, Safety of Information Technology Equipment
- EN 60950-1:2001 + A11, Safety of Information Technology Equipment
- IEC 60950-1:2001 First Edition, Safety of Information Technology Equipment

EMC (Emissions)

- FCC Part 15 Class B
- EN 55022 Class B
- AS/NZS 3548 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

ETSI

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

Telecom

- TBR12/13
- ACA TS 016

E1 Standards

- ITU-T G.703
- ITU-T G.704
- ITU-T G.706
- ITU-T G.823
- ITU-T G.826



CORPORATE HEADQUARTERS
AND SALES HEADQUARTERS
FOR NORTH AND SOUTH AMERICA
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

EAST COAST OFFICE
Juniper Networks, Inc.
10 Technology Park Drive
Westford, MA 01886-3146 USA
Phone: 978-589-5800
Fax: 978-589-0800

ASIA PACIFIC REGIONAL
SALES HEADQUARTERS
Juniper Networks (Hong Kong) Ltd.
Suite 2507-11, Asia Pacific Finance Tower
Citibank Plaza, 3 Garden Road
Central, Hong Kong
Phone: 852-2332-3636
Fax: 852-2574-7803

EUROPE, MIDDLE EAST, AFRICA
REGIONAL SALES HEADQUARTERS
Juniper Networks (UK) Limited
Juniper House
Guildford Road
Leatherhead
Surrey, KT22 9JH, U. K.
Phone: 44(0)-1372-385500
Fax: 44(0)-1372-385501

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