IPD 12000E Broadband Loop Carrier (BLC)

IPD12000E

Video Ready, High-capacity Ethernet-based Modular Multi-Service Broadband Loop Carrier for large scale Central Office DSL deployments

- ✓ *DSL the Easy Way™ provides true 'Plug & Play', loop-bonded operation with no configuration required*
- ✓ *High density system with 12 line card slots (up to 576 lines / chassis or 1,152 lines per 7' rack)*
- ✓ *High bandwidth, full duplex 16-GigE uplink and 24-GigE backplane capacities*
- ✓ *Choice of T1, E1, ADSL2+, SHDSL/SHDSL.bis, and Active Ethernet, hot-swappable, access modules*
- ✓ *Supports T1/E1 and SHDSL/SHDSL.bis loop bonding for high-capacity, symmetric business-class services*
- ✓ *Survivable network topology options based on RFC3619 EAPS rings and uplink card redundancy*
- ✓ *Metro Ethernet Forum (MEF 9/14) Certified for EVPL and E-LAN Services*

Zhone's IPD12000E Broadband Loop Carrier (BLC) provides a high capacity, native IP Ethernet platform for the feature rich multi-service access multiplexer modules in the IPD family.

The IPD12000E is engineered for efficient, high-speed IP data transport in a compact, fault-tolerant chassis. Supporting high-density Active Ethernet, ADSL2+, SHDSL, extended-rate SHDSL.bis, and T1/E1 access modules, the Ethernet-based IPD12000E is the optimal line aggregation platform for today's advanced IP-based access networks. Incumbents, Competitive Operators, and Internet Service Providers are able to cost-effectively offer the full range of today's advanced IP-based services, such as high-speed broadband Internet and IP video. Most importantly, these services can be delivered over a pure IP network without a dependency on ATM.

The IPD12000E features a high capacity backplane, delivering up to 2 Gbps throughput to each of the 12 access slots, and up to 16 Gbps upstream from a pair of Broadband Services Switch 8000 uplink cards. Dual 50-pin, RJ-21 connectors are provided for every slot so that the chassis can support higher port density modules in any access slot. High port density modules include a 48-port ADSL2+, a 48-port SHDSL.bis, and 24-port, 4-wire T1 and E1 modules. For mission-critical, high speed data applications, the IPD12000E offers survivable network topologies by means of Ethernet Automatic Protection Switching (EAPS) rings and BSX8000 uplink card-level redundancy options.

Managing all of these high-speed services could not be simpler with the availability of a full range of local and remote management options, including an integrated Web GUI, SNMP, and Command Line Interface (CLI). All of the Access Modules offer simple, 'Plug & Play' operation, with the system configuring each port automatically and without intervention. When more sophisticated bandwidth management functionality is desired, the IPD supports Zhone's complete Multi-media Traffic Management (MTM) feature set, giving system operators the ability to prioritize traffic based on DSCP, IP address ranges, MAC address ranges, and VLAN ranges. Rate limiting features and 802.1p priority also ensure that specific applications are given appropriate priority and bandwidth allocation throughout the system, while marking packets for appropriate VLAN and QoS management by upstream network devices.

The IPD12000E supports up to two BSX8000-5 (Broadband Switch Modules) uplink cards, each operating in simplex mode or a pair of BSX8000-5R cards operating in redundant mode. Each BSX8000 switch card supports four (4) Gigabit uplink ports, and has provisions for an optional MIM (Micro Interface Module), allowing the IPD to integrate easily into a variety of network designs. A variety of MIM types are available, including: 10/100 Ethernet; 100 Mbps fiber; 2 x T1/E1; 4 x T1/E1; and either 2- or 4- Gigabit Ethernet ports using either copper or fiber Small Form Factor Pluggable modules.

For installation flexibility, the IPD12000E is only 9-rack units high, and has removable mounting brackets that can be placed in increments of 1.45” up to 9.28” from the front of the chassis, allowing for multiple installation options in either 19" or 23" equipment racks.

DATASHEET

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Technical Specifications

Dimensions

- Nine (9) Rack-Units high
- 15.75" H x 17" W x 18" D
- 40cm H x 43.2cm W x 46cm D

Weight

- 47 lbs (21.4 kg) (chassis only)

Power

- AC - Requires External AC to -48 Volt DC Power Converter
- DC - Redundant -48 VDC Terminal Blocks
- 30 A maximum; 15 A typical*
- *actual power consumption dependent upon chassis configuration

Interfaces

- 14 slot chassis:
  - 12 Access Module slots (front)
  - 2 Broadband Services Switch (BSX) slots (front)
  - 24 RJ-21 (50-pin) Telco Connectors (rear)

Regulatory Compliance

- NEBS: GR-63-CORE, GR-1089-CORE
- EMC: FCC Part 15, CSA C108.8, EN55022, EN55024, CE Marking
- Safety: UL1950, CSA C22.2 No. 950, EN60950, CE Marking

Operating Requirements

- Temperature: 32ºF to 122ºF (0ºC to 50ºC)
- Non-operating temperature: -40ºF to 158º F (-40ºC to 70ºC)
- Humidity: 5% to 95%, non-condensing
- Altitude: -200ft to 16,500ft (-60m to 5,000m)

Ordering Information

System Chassis	
IPD12000E-19	IPD12000E chassis (12-Access Slots / 2-BSX Uplink Slots). Ships with 19" variable rack mounting brackets
IPD12000E-23	IPD12000E chassis (12-Access Slots / 2-BSX Uplink Slots). Ships with 23" variable rack mounting brackets
IPD12000E-RMB19	19" variable rack mount brackets for the IPD12000E (included with IPD12000E-19)
IPD12000E-RMB23	23" variable rack mount brackets for the IPD12000E (included with IPD12000E-23)
Uplink & Interface Modules	
BSX8000-5	Broadband Services Switch 8000 for IPD 12000E/4000E (with EAPS support)
BSX8000-5R	Broadband Services Switch 8000 w/Redundant Messaging (for use in pairs and IPD12000E chassis)
MIM	Micro Interface Modules (MIM) for the BSX8000-5 and BSX8000-5R cards
Access Modules	
AEM100-16	16-port Active Ethernet Module for the IPD
AIM24000-48	48-port ADSL2+ Line Card (Conexant chipset)
AIM29000-48	48-port ADSL2+ Line Card (Broadcom chipset)
EIM2000-24	24-port E1 Inverse Multiplexer Module
ESIM5700-48	48-port Ethernet SHDSL.bis Inverse Multiplexer Module
SIM2000-24	24-port SHDSL Inverse Multiplexer Module
TIM1500-24	24-port T1 Inverse Multiplexer Module
Modular Power Converter	
MPC	Modular AC-to-DC Power Converters

ZHONE

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