

## 72 port ADSL2+ Broadcom Line Card with g.bond Bonding Capability

- ✓ *High Density ADSL2+*
- ✓ *Annex A and Annex B models*
- ✓ *Operates in the MXK 819/823 and MXK 319 Chassis*
- ✓ *Environmentally Hardened*
- ✓ *Broadcom Phy-R Support*
- ✓ *ADSL2+ Bonding Support*

Zhone's MXK intelligent terabit access concentrator reflects a clean-sheet approach to truly scalable multi-service architecture, designed to meet the rapidly evolving demands on access networks. The MXK is a full-featured Multi Service Access Platform enabling service providers to combine data, video and voice in one platform over a pure packet access network. MXK gives carriers the flexibility to cost-effectively deliver triple play services over existing facilities. The ADSL2+ line cards for the MXK are high density modules that provide very high speed non-blocking asymmetrical bandwidth for the MXK 819/823 and MXK 319 Chassis.

Zhone's ADSL2+ line cards for the MXK have 72 ports providing ADSL2+ speeds which include the ability for higher upstream speeds (up to 3Mbps) using Annex M. The ADSL2+ line cards also support both Annex A and Annex B modes to support world wide deployment needs.

ADSL2+ Bonding is supported on this line card effectively doubling the available bandwidth to the subscriber. Bonding two ADSL lines together provides the opportunity to extend current subscriber services further from the central office. ADSL line bonding also provides more bandwidth for service subscribers looking to deploy high-revenue services such as IPTV.

Zhone's SLMS (Single Line Multi-Service) access operating system provides intelligent functionality across all the company's hardware products. Driven by 8 years of experience in commercial operation and collaboration with 700+ service providers worldwide, Zhone's SLMS software delivers functionality critical to today's access networks in advanced networking, quality of experience, voice, security, and management.

## Technical Specifications

### Interfaces

- ADSL2+ Annex A, M
- ADSL2+ Annex B

### Standards Support

- ITU G.992.1 (full-rate G.dmt)
- ITU G.992.2 (G.lite)
- ITU G.992.5 (ADSL2+)
- ITU G.994.1 (Hand Shake Protocol)
- ITU G.997.1 (Physical Layer Management)
- Annex M (on AnnexA cards only)
- Annex L
- Annex J (future)
- SELT/DELT
- ADSL loop bonding using G.BOND G.998.1
- Power Management
- Broadcom Phy-R

### Protocol Support

- RIP v1 (RFC 1058)/RIP v2 (RFC 2453)
- DHCP Server (RFC 2131, 2132)
- DHCP Relay
- Bridging 802.1D
- VLAN 802.1Q with 802.1p Priorities
- VLAN Q-in-Q
- Multicast IGMP v2, v3

### Management

- Terminals
  - ZMS (Zhone Management System) via SNMP v2c for GUI and CORBA IDL machine interface
  - Terminal for Command Line Interface (CLI)
  - Built-in Web GUI Management
- Management Interfaces
  - In-band
  - Out-band IP over 10 / 100 Base-T Ethernet

### Regulatory Compliance

- Safety: UL 60950-1; CSA 60950-1; EN 60950-1
- Emissions: EN 55022A; PART 15A (FCC)
- Immunity: GR-1089-CORE, Issue 3\*; SR-3580, Issue 1\*; ATT-TP-76200, Issue 14\*; VZ.TPR.9205, Issue 3\*
- Environmental: GR-63-CORE, Issue 3\*
- \*In process

### Operating Requirements

- Ambient operating temperature: -40° C to +65° C
- Relative operating humidity: up to 85% (non-condensing)
- GR-487 compliant
- Designed for outside plant deployment

## Ordering Information

MXK-ADSL2+-BCM-72A	72-Port ADSL2+ Annex A
MXK-ADSL2+-BCM-72B	72-Port ADSL2+ Annex B

Cables (Contact Zhone Sales for Cabling Options)

### Zhone Technologies, Inc.

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