# <u>Ascend</u>

## ISDN Digital Subscriber Line (IDSL)

Ascend's MultiDSL is a family of DSL products that includes the Central Office Equipment (COE) and Customer Premise Equipment (CPE) required for a wide range of DSL technologies including IDSL, SDSL, ADSL-CAP and ADSL-DMT that utilize the existing pair of wires between the Central Office (CO) and residences/businesses. The MultiDSL products for CO permit carriers to launch high-speed access services from 128 Kbps to 6.4 Mbps. The COE consists of DSL line cards for the MAX<sup>™</sup> 4002, 4004 and MAX<sup>™</sup> TNT family of products. The DSLPipe<sup>™</sup> family offers CPE products for the various DSL technologies. With the MultiDSL offering, Ascend becomes the only vendor in the industry to offer a true integrated DSL solution for both COE and CPE. Ascend's MultiDSL delivers IDSL immediately and does not require a "forklift" upgrade for other DSL technologies.

Ascend's MAX TNT is a multiprotocol, carrier-class WAN access switch that enables carriers, ISPs and major network service providers to offer a variety of services such as analog, ISDN and T1 or T3 Frame Relay. With the introduction of the MultiDSL product offerings, the MAX TNT becomes the only fully integrated DSL WAN access solution in the market that is flexible and scalable, meeting the access needs of the carriers today and tomorrow.

ISDN Digital Subscriber Line (IDSL) is the latest DSL technological innovation from Ascend that permits data transmission at speeds of 128 Kbps over a single copper pair between the central office (CO) and the residence/office. By allowing full duplex data at 128 Kbps over a pair of 24 gauge wire for up to 18,000 feet, carriers and service providers can provide dedicated 128 Kbps data access.

Ascend has developed, tested and is the first to market an IDSL solution using the MAX 4002, 4004 and MAX TNT platforms. IDSL lets end-users continue to use their existing ISDN terminal adapters, Pipeline<sup>®</sup> products and application software while connecting to IDSL circuits from the carriers. Carriers can now alleviate the load on the voice network by offering IDSL services today and divert the data calls to a packet switched based network. Above all, carriers can use the existing twisted pair (local loop) between the CO and the residence/business to offer this IDSL service.

IDSL lines provide dedicated access to a packet switched network, and customers subscribing to IDSL services can connect to any pre-defined services such as Internet access or destinations such as corporate headquarters.

With the MAX 4002, 4004 and MAX TNT, carriers can immediately enter the DSL market by rolling out IDSL services with an easy upgrade path (not a forklift upgrade) to offer other DSL services such as SDSL, HDSL and ADSL in the near future.







### Applications

- Internet Access
- Telecommuting
- Remote office connectivity

#### Features

- 8-port IDSL line cards for the MAX 4002 or 4004; Up to 40 IDSL ports per MAX 4002 or 4004
- 12-port IDSL line cards for the MAX TNT; Up to 168 IDSL ports per MAX TNT shelf
- Supports 2B1Q line coding standard used on ISDN BRI circuits
- Standard RJ45 connectors on the MAX 4002 or 4004
- Transport protocols: Point-to-Point Protocol (PPP), MP, MP+ or Frame Relay
- Functions with existing (third party) ISDN BRI terminal adapters, Pipeline products and application software
- To test and verify the quality of the local loop between COE and CPE, Ascend's IDSL solution offers extensive loopback tests such as Line Loopback, Corrupt CRC test, Request Corrupt CRC test
- Monitoring of line conditions including line errors, block errors such as NEBE (near end block errors) and FEBE (far end block errors)
- The line cards can be managed via SNMP-based management systems, Aview and via the console port with a VT-100 terminal.

#### **Market Positioning**

Ascend's innovation of IDSL technology permits carriers and service providers to offer 128 Kbps data access over the existing copper pair between the Central Office and residence/office for applications such as Internet access, telecommuting and remote office connectivity. With Ascend's MAX TNT, carriers and service providers can offer multiple services such as analog, ISDN and DSL services using a single fully integrated platform.

#### **Product Information**

New feature requests: prod-mgmt@ascend.com Collateral and product information : info@ascend.com

#### Availability

8-port IDSL line card for MAX 4002 or 4004: 12-port IDSL line card for MAX TNT: December 1996 March 1997

### **Ordering Guidelines**

Model	Product Description	US List	
MX-SL-IDSL8	IDSL 8-port line card for MAX 4002 or 4004	\$3,000	
TNT-SL-IDSL12	IDSL 122-port line card for MAX TNT	\$4,200	



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