Ascend

Pipeline 130 Family

Dual WAN port, multiprotocol remote access router/bridge — supporting a combination of dial-up ISDN BRI, Frame Relay, T1/FT1 and leased lines with integrated CSU/DSU, NT1 and optional firewall

What it does

The three models in the Pipeline 130® family provide a cost-effective, flexible and secure solution for corporate Internet access and/or mission-critical remote network connectivity. Each Pipeline 130 product provides a built-in growth path — scaling from a single dial-up line, to multiple digital connections — with no additional hardware purchase required.

Applications:

• Mission-Critical Remote Networking
• Corporate Internet Gateway
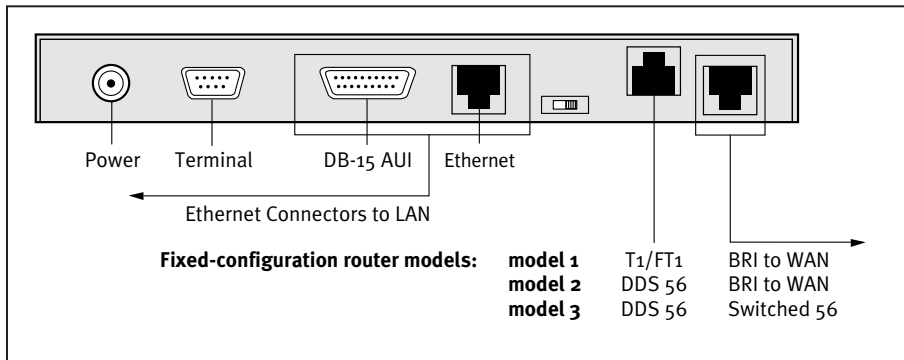• Integrated Remote Networking/Internet Access
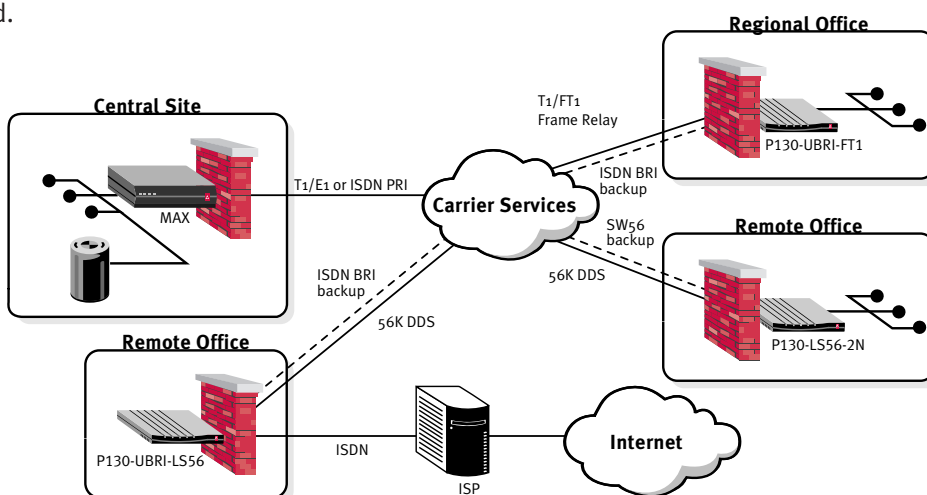
Selling Points

• **Cost-effective, convenient and complete solution** - Integrated NT1, CSU/DSU, ISDN, and Frame Relay support in a modem-sized device costing less than most competitor's incomplete solutions.

• **Flexible, scalable Internet access** - Connects remote offices and corporate LANs to the Internet, and fully supports growth from a 56K dial-up or leased line to a frame relay connection at up to T1 speeds.

• **Cost-effective network redundancy** - Provides a dedicated WAN connection, in addition to an integrated switched connection for mission-critical back-up and overflow applications.

• **Lowest-cost operation**
   - Ascend's patented Dynamic Bandwidth Allocation™ saves money by increasing/ decreasing bandwidth as needed during connection.
   - Choose between dial-up and dedicated connections depending on usage and volume.

   - Dial-up port available to accommodate overflow traffic from dedicated port (non-frame relay connections only) — minimizes hardware costs.

• **Integrated Firewall solution** - The Pipeline 130 is the only access router with an optional integrated dynamic firewall (more secure than traditional firewall technology).

• **Easiest to manage solution** - Choose from SNMP, Telnet, Syslog and out-of-band remote management.

• **Most comprehensive line** — The Pipeline product line represents the largest range of flexible solutions for small office/home office, telecommuting, Internet access and remote access.

• **Remote access leadership** - Ascend has market dominance (54%) in the access concentrator market.

Pipeline 130 Features

Pipeline 130 Back Panel

Power	Terminal	DB-15 AUI	Ethernet			

Ethernet Connectors to LAN

Fixed-configuration router models:	**model 1**	T1/FT1	BRI to WAN
	model 2	DDS 56	BRI to WAN
	model 3	DDS 56	Switched 56

The Pipeline 130 family consists of three products, each supporting a full Ethernet LAN. Models include:

Pipeline 130-T1/FT1, ISDN BRI (U or S/T interface), T1/FT1, and frame relay
Fully integrated NT1, and DSU/CSU supporting up to a full T1 (1.544 Mbps)

Pipeline 130-L56 for SW 56, DDS 56, ISDN BRI (U or S/T interface)
Fully integrated NT1, and DSU/CSU

Pipeline 130-LS56-2N for SW 56, DDS 56
Fully integrated DSU/CSU

Feature set for all models

WAN
- RFC 1490 Frame Relay encapsulation, Annex D Link Management
- Supports up to 8 PVC's
- PPP, Multilink PPP (MP), or Multilink Protocol Plus™ (MP+)
- Dial-on-demand
- Dynamic Bandwidth Allocation combines both B-channels (for 128 Kbps throughput), or independently on an as-needed basis.
- STAC data compression for up to 512 Kbps over ISDN BRI
- Unicast and multicast packet filtering

LAN Interface
- BCP standard bridging supports any bridgeable protocol
- Integrated routing (IP for Internet access, IPX for corporate NetWare networks)
- Pre-configured bridging filters for IP, IPX and AppleTalk protocols, and IPX spoofing
- Support for up to 1024 LAN devices
- Built-in Ethernet (10 Mbps) interface (AUI and 10Base-T ports)

Management
- SNMP, Telnet, Syslog, and Ascend Remote Management protocol for local or remote management over a network or Internet.
- Terminal (VT100)-based access available via 9 pin serial port (RS232)
- Support for TFTP for remote software upgrades
- Flash memory for easy software upgrades
- WAN loopback

Integrated Security feature option

Secure Access™ Firewall offers:
- Fully-integrated dynamic firewall(stateful inspection)
- Comprehensive monitoring and logging
- Easy configuration and management with Secure Access Manager

- Authentication profiles with PAP, or CHAP
- Token card-based security
- Callback assures connections are made only with known users
- Password-protected terminal server access

Competition

Feature	Ascend Pipeline 130	Cisco 2503I	3Com NB 201	3Com AB 500	Motorola Vanguard 300	Bay/Xylogics MARLIN
Price-Base	$1,995	$2,195	$1,595	$1,595	$2,299	$2,695
IP/IPX Solution Price	$1,995	$5,395	$2,795	$2,290	$2,599	$3,395
Firewall Option [1]	$1,000	$9,000 - $40K	$1,495	$1,495	N/A	$3,195
WAN Support						
ISDN BRI	✔	✔	External	✔	✔	✔
NT1	✔	External	External	✔	External	✔
DSU/CSU	✔	External	External	External	Opt. to 56K	External
Switched 56	✔	✔	No	No	No	No
DDS 56	✔	✔	✔	✔	No	✔
T1/E1	✔	✔	✔	✔	✔	✔
Frame Relay	✔	✔	✔	No	✔	No
Protocol Support						
BCP Bridging	✔	✔	No	✔	✔	✔
IP Routing	✔	Optional	✔	✔	✔	✔
IPX Routing	✔	Optional[2]	✔	✔	✔	✔
PPP Support	✔	✔	✔	✔	✔	✔
MP Support	✔	✔	No	No	✔	✔
Integrated STAC Compression	✔	No	No	✔	No	✔
Security						
PAP & CHAP	✔	✔	✔	✔	No	✔
Token-based Security	✔	✔	No	✔	No	No
Integrated, Dynamic Firewall	Optional	No	No	No	No	No

[1]All Firewall options except Ascend's are external, non-integrated, 3rd Party solutions.
[2]Cisco software upgrades require RAM upgrades at additional cost.

Selling against the competition

Cisco CPA 2503I
- Expensive to purchase and maintain; software upgrades require RAM upgrades at additional cost
- Complexity of Cisco's IOS makes installation and configuration difficult
- Lacks integrated DSU/CSU resulting in a multivendor solution — additional points of failure and cost
- Lacks integrated NT1
- Lack of integrated, dynamic firewall security software resulting in a more complex, expensive system

3Com NetBuilder 201
- Expensive compared to the Pipeline 130 integrated solution
- Boundary routing solution must be used with a 3Com central site router
- Lacks integrated DSU/CSU
- Lacks integrated ISDN support
- Lack of integrated, dynamic firewall security software results in a more complex, more expensive system.

3Com AccessBuilder Remote Office 500
- Lacks integrated DSU/CSU
- Lacks Token-based security which increases potential for unauthorized network access
- Lacks integrated, dynamic firewall security
- Proprietary compression algorithm results in compatibility issues with Internet Service Providers
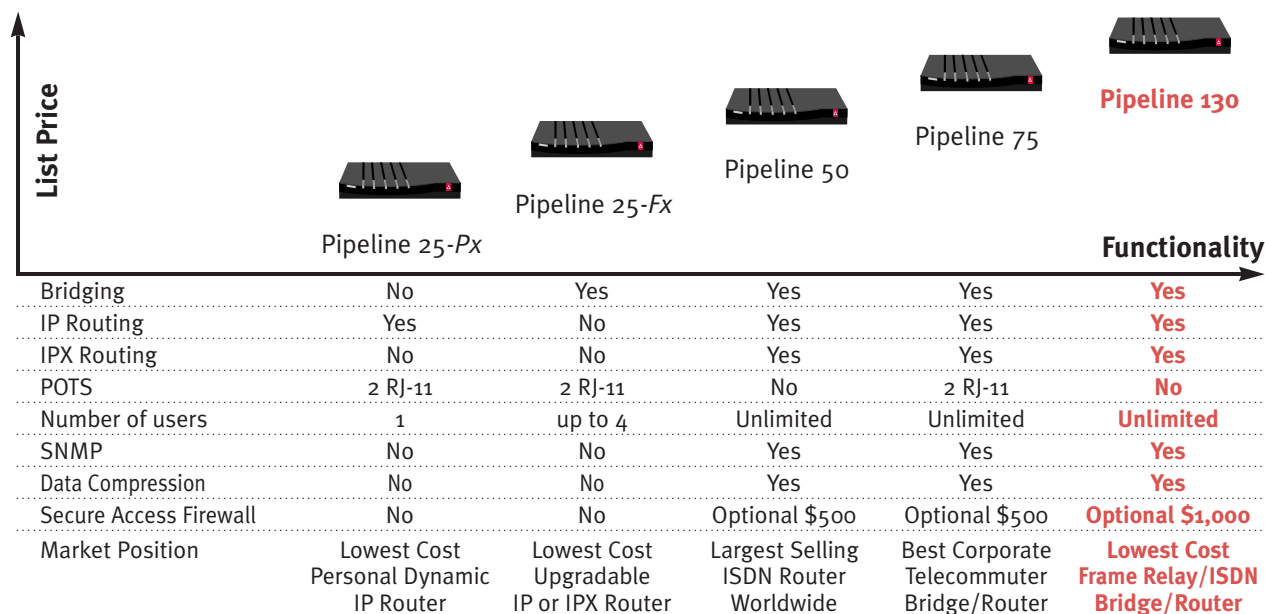- No Switched 56 backup support

Motorola Vanguard 300
- Optionally integrated DSU/CSU only supports 56K — forces purchase of expensive third party solution for higher speeds
- Lacks integrated NT1
- Lacks integrated, dynamic firewall security
- No support for Switched 56 services
- Lack of PAP, CHAP or Token-based security support increases potential for unauthorized network access

Bay Networks (Xylogics) MARLIN
- Lacks integrated DSU/CSU
- Lacks integrated, dynamic firewall security
- Lacks frame relay support resulting in fewer high speed connectivity options
- Lacks Switched 56 support limiting backup and overflow line options
- Lacks Token-based security support

Ascend's Pipeline ISDN Remote Site Family

List Price ↑ ... **Functionality** →

Pipeline 130
Pipeline 75
Pipeline 50
Pipeline 25-*Fx*
Pipeline 25-*Px*

	Pipeline 25-*Px*	Pipeline 25-*Fx*	Pipeline 50	Pipeline 75	Pipeline 130
Bridging	No	Yes	Yes	Yes	**Yes**
IP Routing	Yes	No	Yes	Yes	**Yes**
IPX Routing	No	No	Yes	Yes	**Yes**
POTS	2 RJ-11	2 RJ-11	No	2 RJ-11	**No**
Number of users	1	up to 4	Unlimited	Unlimited	**Unlimited**
SNMP	No	No	Yes	Yes	**Yes**
Data Compression	No	No	Yes	Yes	**Yes**
Secure Access Firewall	No	No	Optional $500	Optional $500	**Optional $1,000**
Market Position	Lowest Cost Personal Dynamic IP Router	Lowest Cost Upgradable IP or IPX Router	Largest Selling ISDN Router Worldwide	Best Corporate Telecommuter Bridge/Router	**Lowest Cost Frame Relay/ISDN Bridge/Router**

Part Numbers

Pipeline 130		MSLP
P130-UBRI-FT1	One Ethernet LAN, one ISDN BRI U interface (NT1), one T1/FT1 CSU/DSU	$1,995
P130-UBRI-L56	One Ethernet LAN, one ISDN BRI U interface (NT1), one DDS 56Kbps CSU/DSU	$1,895
P130-LS56-2N	One Ethernet LAN, one DDS 56Kbps CSU/DSU, one Switched 56 CSU/DSU	$1,995
Pipeline 130 with Secure Access Firewall pre-installed		
P130-FT1-ASA	One Ethernet LAN, one ISDN BRI U interface (NT1), one T1/FT1 CSU/DSU with Secure Access Firewall	$2995
P130-L56-ASA	One Ethernet LAN, one ISDN BRI U interface (NT1), one DDS 56Kbps CSU/DSU with Secure Access Firewall	$2895
P130-LS56-2N-ASA	One Ethernet LAN, one DDS 56Kbps CSU/DSU, one Switched 56 CSU/DSU with Secure Access Firewall	$2995
Pipeline Secure Access Firewall software option only		
P130-SWUP-ASA	Shrink wrapped diskette, manual, and 800 number to call for serial number	$1,000

Please call your distribution partner to order or to participate in Ascend's demo program.

Why Partner with Ascend?

- **Market leadership** – enhanced name recognition and credibility with your customers
  - **54% dominance of the access concentrator market** (analog & ISDN ports)**
  - **84% of total ISP access server parts worldwide**
- **Ensured Internet interoperability** – 28 of 30 largest ISPs use Ascend's central site products. Assures end user compatibility, shortens VAR sales cycle, and reduces support demands when selling Pipeline's
- **Technology leadership** – more remote access features than any other vendor
- **Complete remote networking solution** with remote and central site products to fit every need

* Source: Dell' Oro Market Research Group, 1996

ASCEND
Remote Networking
Solutions That Work.™

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