Ascend

Pipeline 25-*Fx*, 50 and 75 Family

Power Telecommuter, Branch Office, and Remote LAN Solutions
Ethernet-to-ISDN Bridging, IP and IPX Routing with Compression

This selling brief focuses on Ascend's ISDN entry and mid-range Pipeline® products targeting remote site to corporate LAN, Internet and telecommuting applications. For high-performance, multiprotocol remote access routing applications see the Pipeline 130 Selling Brief. For single user Internet or telecommuting requirements see the NetWarp™ 128 Selling Brief.

Entry and Mid-Range Pipeline Family

Pipeline 25-*Fx*, for Telecommuting, Home Office/Remote Office Network Access

Up to four-user ISDN bridge with integrated NT1. High-speed ISDN communication for single user PCs and SOHO LANs connecting to corporate networks. Concurrent analog and ISDN support for modem, phone and/or faxes via two analog jacks to save the cost of an extra analog phone line.

Pipeline 50, for LAN to Internet, and LAN to LAN Access

ISDN IP and IPX router, with multiprotocol bridging, NT1, lease/switch 56 and optional firewall security for remote LAN to LAN environments.

Pipeline 75, for Home Office/Internet Access and High-Performance Telecommuting

ISDN router supports unlimited users for power telecommuters, Internet access, and LAN environments. Two RJ-11 analog phone jacks, IP and IPX routing, NT1, compression, and optional firewall for Internet security.

Applications:

- Telecommuting and Internet Access with remote management: **Pipeline 75**

- Remote Office Dial-up access: **Pipeline 50**

- SOHO – Up to 4 users: **Pipeline 25-*Fx***

A S C E N D
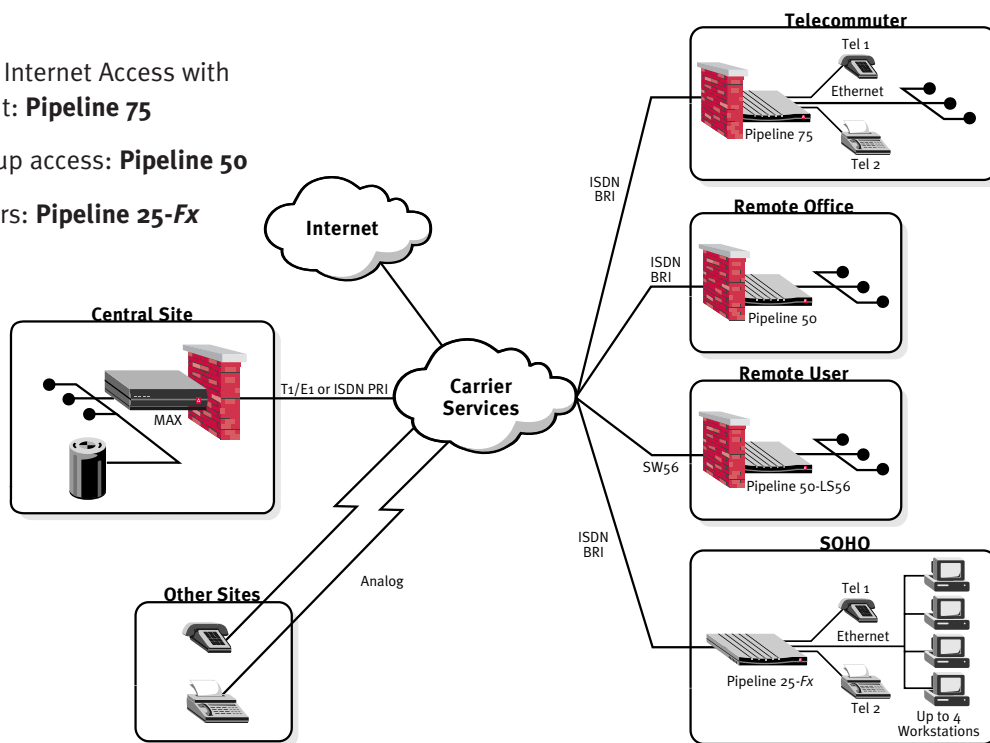
Pipeline 25-*Fx*, 50 and 75 Key Features

All Pipeline models feature:

- **Java-based GUI software** to quickly and simply configure, save and restore Pipeline configurations from a PC or Macintosh. Runs over an Ethernet connection – eliminating the need for a VT100 terminal or terminal emulation package. Free with the included Pipeline Companion CD-ROM, or download the latest version at: ftp://ftp.ascend.com.

- **Maximum performance, minimum line costs** through Dynamic Bandwidth Allocation™ (bandwidth on demand)

- **Up to 4:1 data compression** (Pipeline 50 and 75 only)

- **PPP, MultiLink PPP (MP), and MultiLink Protocol Plus™ (MP+)**

- **NCSA Certified Secure Access™ Firewall.** Integrated dynamic firewall software option for Pipeline 50, Pipeline 75 and the entire MAX™ family of WAN access switches. No special hardware is required.

- **PAP, CHAP, callback and token-based security**

Ascend Pipeline Competitive Advantages

More Features and Capability For Less Money

- **Pipeline 25-*Fx*** – Full-featured ISDN bridging solution with analog support at a price comparable with external ISDN terminal adapters.

- **Pipeline 50** – The world's best selling remote office ISDN router which integrates proven performance, robust security options, and remote management capabilities with multiprotocol routing at an extremely competitive price.

- **Pipeline 75** – Combines the high performance, SNMP management and functionality of the Pipeline 50, with two analog ports to provide an ideal cost-effective telecommuting or SOHO solution.

- **Integrated Secure Access™ Firewall** – The first fully integrated "state full inspection" router firewall – priced at $500 MSRP, a fraction of the cost of less secure and non-integrated security solutions. Certified by the National Computer Security Association (NCSA).

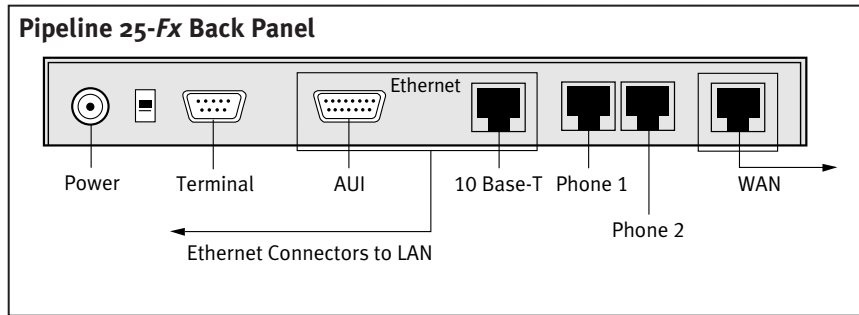### Total Solution From the Market Leader

- Internet compatible – Ascend dominates the industry with a 56% share of the total access concentrator market and over 80% share of the total ISDN access concentrators[1]

- A scalable product family providing end-to-end remote access solutions

- Products which are cost-effectively tailored for specific applications

[1]*Dell'Oro Market Research Group, Q2 1996 Publication*

Selling Points

- **New GUI Configurator minimizes customer installation time** – Configure, save and restore configurations quickly with Ascend's new Java-based Pipeline Configurator. Less install time means lower installation costs and higher reseller margins.

- **Low cost of operation** – patented Dynamic Bandwidth Allocation and MP+ saves money by increasing/decreasing lines during connection as needed to minimize line charges.

- **Best use of resources** – two analog phone ports allow users to integrate voice, fax, or other services over the same ISDN connection to eliminate an extra analog line. Call routing directs calls to the correct analog device (phone, fax or modem).

- **Easy remote management** – choose from Ascend remote management (Pipeline 25-*Fx* models), SNMP, Telnet, or Syslog.

- **Compact design** – modem-sized so it doesn't clutter the desktop.

- **Scalable and comprehensive family** – as remote access needs expand, scale up the extensive Pipeline family, but keep the same management tools and security features already utilized.

Pipeline 25-*Fx* and 50 Features

Pipeline 25-*Fx* Back Panel

Pipeline 25-*Fx* Back Panel diagram showing: Power, Terminal, AUI, Ethernet, 10 Base-T, Phone 1, Phone 2, WAN. Ethernet Connectors to LAN.

U interface	
P25-1U-FX	Pipeline 25 ISDN bridge, 2 RJ-11 analog phone jacks, NT1

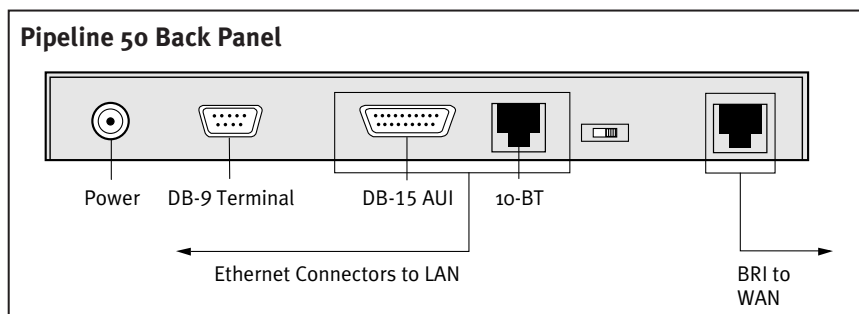| S/T interface (no NT1)	
P25-1S-FX	Pipeline 25, ISDN bridge, 2 RJ-11 analog phone jacks, no NT1

Pipeline 25-*Fx* Features

- One ISDN BRI port (U interface or S/T interface)
- Two analog phone ports with advanced call features – hold, drop, conference and transfer
- Ethernet support eliminates the need to change DIP switches or set IRQs, and sidesteps serial port bottlenecks.
- Multi-user (four) bridging capability. For Internet access, routing is required – please recommend Pipeline 50 or 75 for multi-user environments. For single user applications, specify the Pipeline 25-*Px* (external), or the NetWarp terminal adapter (internal).

Pipeline 50 Back Panel

Pipeline 50 Back Panel diagram showing: Power, DB-9 Terminal, DB-15 AUI, 10-BT, BRI to WAN. Ethernet Connectors to LAN.

U interface	
P50-1UBRI	Pipeline 50, U Interface
P50-1UBRI-ASA	Pipeline 50, U Interface with integrated firewall

Switch 56 interface	
P50-LS56	Pipeline 50, Switch 56 Interface (single or dedicated SW56 model)

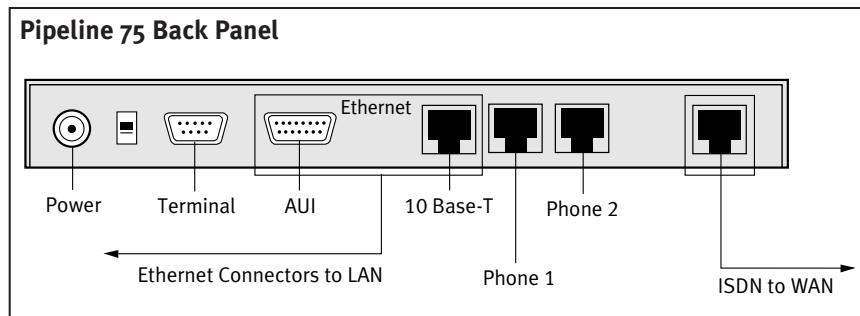| S/T interface	
P50-1SBRI	Pipeline 50, S/T Interface
P50-1SBRI-ASA	Pipeline 50, S/T Interface with integrated firewall

Secure Access Firewall Software	
P50-SWUP-ASA	Shrink wrapped Secure Access Firewall for P50 (to upgrade an existing Pipeline 50 without Firewall)

Pipeline 50 Features

- One ISDN BRI (U or S/T interface)
- Transparent bridging, IP and IPX routing
- SNMP management
- Unlimited number of users
- Integrated Secure Access Firewall option

Pipeline 75 Features

Pipeline 75 Back Panel

U interface

P75-1UBRI	Pipeline 75, U Interface
P75-1UBRI-ASA	Pipeline 75, U Interface with integrated firewall

S/T interface

P75-1SBRI	Pipeline 75, S/T Interface
P75-1SBRI-ASA	Pipeline 75, S/T Interface with integrated firewall

Secure Access Firewall Software

P75-SWUP-ASA	Shrink wrapped Secure Access Firewall for Pipeline 75 (to upgrade an existing Pipeline 75 without firewall)

Pipeline 75 Features

- One ISDN BRI port (U or S/T interface)
- Two analog phone ports with advanced calling features
- Transparent bridging, IP and IPX routing
- SNMP management
- Unlimited number of users
- Integrated Secure Access Firewall option

Selling Tip: Securing the Firewall Add On Sale

Firewall security is a great add on sale – it secures against Internet attack, is cost-effective, and comes integrated in Pipeline products or as a simple software upgrade.

So why should corporate customers deploy firewalls? Firewalls protect information from attack via the public Internet. By integrating Ascend's NCSA-certified firewall, perimeter protection and simplified security management can be deployed cost-effectively enterprise-wide. NCSA certification assures firewall security is tested against a suite of known attacks – including SATAN and other automated probes.

Secure Access Firewall uses "statefull inspection technology," which dynamically adapts to network traffic to provide finer granularity and security than static packet filtering. For example, during a FTP download, Secure Access Firewall opens only those specific access ports required, for only as long as needed, then automatically closes the ports at the end of the session. Conversely, traditional static packet filtering opens all access ports, giving hackers an opportunity to probe the network.

Security administration includes logging and reporting attempted security breaches. Also supported is user authentication, encryption, callback, calling line ID and RADIUS, and third party security add-ons.

Competition

	Ascend Pipeline 25-*Fx*	Ascend Pipeline 75	Bay Networks Clam	3Com OCR 520**	Cisco 766	Motorola Vanguard 312	Shiva AccessPort
Price (MSRP)							
Base Price	**$595**	**$995**	$1,195	$1,295	$799	$1,195	$1,495
Fully-Configured Price	**$595**	**$1,495**	$1,395	$1,295	$1,250	$1,495	$1,495
Key Features							
Bridging	✔	✔	✔	✔	✔	No	✔
IP Routing	**No**	✔	✔	✔	✔	✔	✔
IPX Routing	**No**	✔	✔	✔	✔	$300 Option	✔
Analog Phone Jacks (RJ11)	**2**	**2**	1 ($200)	1	2	2	2
Advanced Calling Features	✔	✔	No	No	✔	✔	Limited
Multi-User/Unlimited	4	**Unlimited**	✔	✔	4 (>4 =$300)	✔	✔
Multilink PPP Support	✔	✔	No	No	✔	✔	✔
SNMP Support	**No**	✔	✔	✔	✔	✔	✔
Stac Data Compression	**No**	✔	✔	Proprietary	$150	Proprietary	No
Security							
PAP & CHAP	✔	✔	✔	✔	✔	✔	✔
Token-based Security	✔	✔	No	No	No	No	No
Dynamic Firewall Support	**No**	**Optional**	No	No	No	No	No

** Office Connect Remote 520

	Ascend Pipeline 50	Bay Networks Clam	3Com AB 500	3Com OCR 520**	Motorola Vanguard 311	Cisco 1004	Shiva AccessPort
Price (MSRP)							
Base Price	**$895**	$1,195	$1,595	$1,295	$995	$1,000	$1,495
Fully-Configured Price	**$1,395**	$1,195	$1,595	$1,295	$1,295	$1,600	$1,495
Key Features							
Bridging	✔	✔	No	✔	No	✔	✔
IP Routing	✔	✔	No	✔	✔	$1,000 Option[1]	✔
IPX Routing	✔	✔	No	✔	$300 Option	Optional $	✔
Multi-User/Unlimited	**Unlimited**	✔	✔	✔	Unlimited	✔	✔
PPP Support	✔	✔	✔	✔	✔	✔	✔
MP Support	✔	No	No	No	✔	✔	✔
SNMP Support	✔	✔	✔	✔	✔	✔	✔
Stac Data Compression	✔	✔	No	Not Stac	Not Stac	No	No
Security							
PAP & CHAP	✔	✔	✔	✔	✔	✔	✔
Token-based Security	✔	No	No	No	No	No	No
Dynamic Firewall Support	**Optional**	No	No	No	No	No	No

Prices as of November 1996. Prices subject to change.

[1] IP and IPX routing for Cisco 1004 drive price up $1,000

Selling Against the Competition

Bay/Xylogics CLAM

- **Only a single (optional) analog port** for sharing an ISDN line with either a phone, fax machine, or modem. The Pipeline 25/75 comes with two analog ports.
- **No advanced calling features** (call hold, transfer conference) on the analog port option like Ascend's Pipeline 25/75.
- **Limited status feedback** with only one status LED as opposed to five on Pipeline products.
- **No integrated router/dynamic firewall** solution for Internet security. Ascend has secure firewall option for Pipeline 50/75.
- **Lacks support for token-based security** – limits security in corporate LAN access applications. All Ascend Pipeline products support token-based security.

3Com Office Connect Router 520

- **Only one analog telephone jack** – forces user to chose between having a phone or fax line. The Pipeline 25/75 comes with two analog ports.
- **Lack of Multilink PPP support** limits effectiveness in Internet access applications. Pipeline provides Multilink PPP support as a standard.
- **Lacks Stac data compression** to limit potential throughput. Ascend Pipeline 50/75 supports Stac data compression for up to 4:1 throughput improvement.
- **Lacks advanced calling features** on analog phone port (e.g. call hold, transfer, conference) – users are forced to give up features they normally get with analog phones.
- **Lacks an optional integrated, dynamic firewall** solution for maximum Internet security. Dynamic firewall software option is available on Pipeline 50/75.
- **Lacks support for token-based security** – limits security in corporate LAN access applications. All Ascend Pipeline products support token-based security.

3Com AccessBuilder Remote Office 500

- **Larger, bulky design.** Ascend Pipeline products are compact and convenient for desktop use.
- **Only one analog telephone jack** – forces user to chose between having a phone or fax line. Ascend's Pipeline 25/75 have two analog phone jacks.
- **Lacks advanced calling features** on analog phone port as with Pipeline products (e.g., call hold, transfer, conference) – users are forced to give up features they normally have with analog phones.
- **Lacks an optional integrated, dynamic firewall** solution for maximum Internet security. Dynamic firewall software option is available on Pipeline 50/75.
- **Lacks support for token-based security** – limits security in corporate LAN access applications. All Ascend Pipeline products support token-based security.

CiscoPro 766

- **Extra charge for features** ($300 for support of four or more users, $150 for compression) compared to what is standard in Pipeline 50/75.
- **Lacks integrated, dynamic firewall** solution for Internet security. Pipeline provides this option.
- **Large footprint** takes over precious desk space. Pipelines are compact and convenient for desktop use.
- **Unproven design with little shipping history.** Pipeline products have been shipping for years with a solid field track record.

CiscoPro 1004

- **Software** other than basic bridging is **sold separately** as an expensive FLASH memory upgrade. Ascend Pipeline 50/75 bundle in router software at one low price.
- **Only has 10BaseT Ethernet support.** Ascend Pipeline products provide AUI and 10Base-T Ethernet – offering greater cabling flexibility.
- **RJ45 console port uses a custom cable.** Ascend uses industry-standard RS232 DB9 terminal port connector.
- **Cisco charges extra for cabling** (e.g., 10BaseT cabling, ISDN connection cable). Ascend provides industry standard cabling in the box for quick connection.
- Cisco 1004 routers are **twice the size and weight** of the Pipeline products. Pipeline products are compact and light for easy desk or wall placement.

Motorola Vanguard 311/312

- **IPX routing is $300 extra.** Ascend Pipeline 50/75 bundle in router software at one low price.
- **Lacks advanced calling features** on analog phone port as provided in Pipelines (e.g., call hold, transfer, conference) – users are forced to give up features they normally have with analog phones.
- **Lacks an optional integrated, dynamic firewall** solution for maximum Internet security. Dynamic firewall software option is available on Pipeline 50/75.
- **Lacks support for token-based security** – limits security in corporate LAN access applications. All Ascend Pipeline products support token-based security.
- **TFTP support** for network-wide software downloading **is an option.** This is a standard in the Pipeline family.

Shiva AccessPort

- **Lacks an optional integrated, dynamic firewall** solution for maximum Internet security. Dynamic firewall software option is available on Pipeline 50/75.
- **Lacks advanced calling features** on analog phone port as in Pipeline products (e.g., call hold, transfer, conference) – users are forced to give up features they normally have with analog phones.
- **Lacks support for token-based security** – limits security in corporate LAN access applications. All Ascend Pipeline products support token-based security.
- **Unproven design with little shipping history.** Pipeline products have been shipping for years with a solid field track record.

THIRD TIER ROUTER VENDORS

Trancell Webramp

- **A very small, under-financed company.** Its ability to support and develop new products is questionable. Minimal shipping history makes any Trancell product a high-risk purchase.
- **No analog phone jacks,** making it unsuitable for the small office or home office. Ascend Pipeline 25/75 include analog phone ports as standard equipment.
- **No SNMP management** support, therefore it is difficult for corporate MIS to support telecommuters. SNMP management is standard on the Pipeline 50/75.
- **No Stac data compression** (for up to 4:1 greater data throughput). Stac data compression is standard on all Pipeline 50/75 products.
- The only differentiating feature of the Webramp is its integrated 8-port hub. However, if the hub or router portion of this product fails, you must bring down your entire network to get it fixed or replaced. **More single points of failure!**
- **No dynamic firewall software option or token-based security** for secure telecommuting. Dynamic firewall software is available on Pipeline 50/75 as an option.
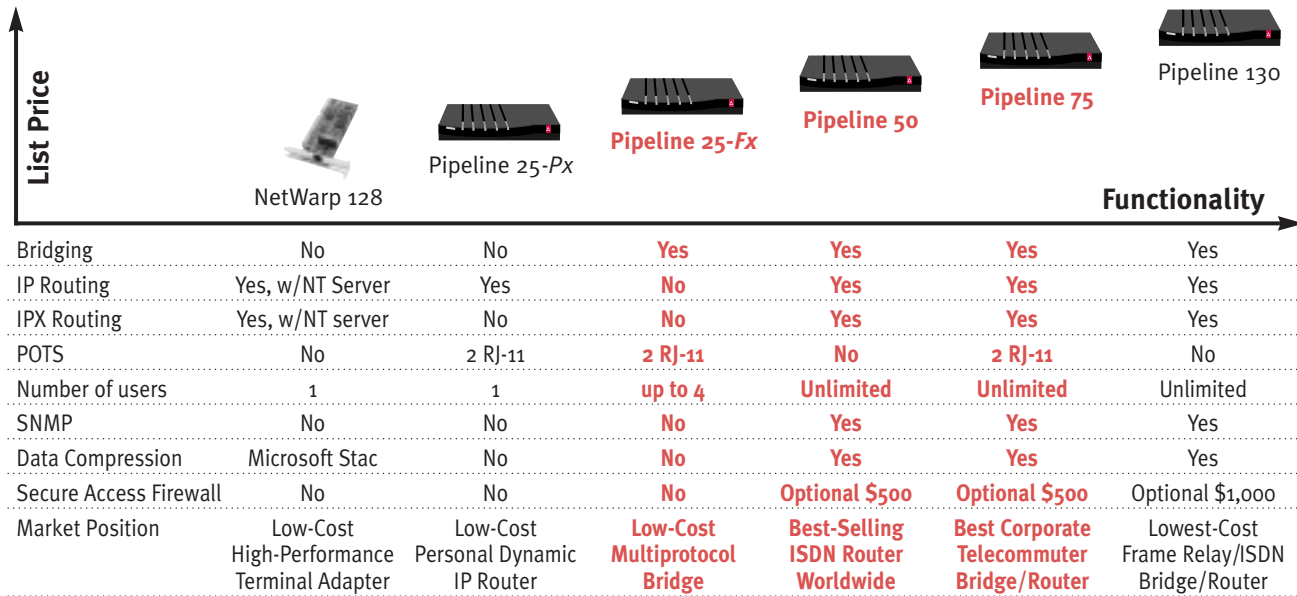
Symplex DirectRoute

- **A very small, under-financed company.** Their ability to support and develop new products is questionable. Minimal shipping history for the DirectRoute makes this a high-risk purchase
- **No analog phone jacks,** making it unsuitable for the small office/home office. Ascend Pipeline 25/75 include analog phone ports as standard equipment.
- **No configuration/management software** bundled with it. Pipeline products come bundled with a Browser-based configuration utility and the MaxLink Client software (a $200 value).
- **No dynamic firewall software option or Token-based security** for secure telecommuting. Dynamic firewall software is available on Pipeline 50/75 as an option. Token-based security support is standard on all Pipeline products.

Gandalf XpressConnect 5242i

- **Gandalf is very weak financially,** losing money or breaking even for the past two years. Gandalf's ongoing ability to develop and support products is questionable.
- The 5242i only has a **single analog phone jack** (vs. two for the Pipeline 25 and 75). This provides limited value in most small offices or home offices where both a phone and fax machine/ modem is required.
- The 5242i **does not support industry-standard Stac compression** for interoperable high-speed file transfers. This limits the value of the 5242i in Internet applications where high throughput is greatly valued.
- The 5242i **does not offer dynamic firewall software security** for unauthorized internet access. Dynamic firewall software is available on Pipeline 50/75 as an option.

Ascend's NetWarp™ and Pipeline® ISDN Remote Site Families

List Price (vertical axis) — Functionality (horizontal axis)

Products shown: NetWarp 128, Pipeline 25-*Px*, Pipeline 25-*Fx*, Pipeline 50, Pipeline 75, Pipeline 130

	NetWarp 128	Pipeline 25-*Px*	Pipeline 25-*Fx*	Pipeline 50	Pipeline 75	Pipeline 130
Bridging	No	No	**Yes**	**Yes**	**Yes**	Yes
IP Routing	Yes, w/NT Server	Yes	**No**	**Yes**	**Yes**	Yes
IPX Routing	Yes, w/NT server	No	**No**	**Yes**	**Yes**	Yes
POTS	No	2 RJ-11	**2 RJ-11**	**No**	**2 RJ-11**	No
Number of users	1	1	**up to 4**	**Unlimited**	**Unlimited**	Unlimited
SNMP	No	No	**No**	**Yes**	**Yes**	Yes
Data Compression	Microsoft Stac	No	**No**	**Yes**	**Yes**	Yes
Secure Access Firewall	No	No	**No**	**Optional $500**	**Optional $500**	Optional $1,000
Market Position	Low-Cost High-Performance Terminal Adapter	Low-Cost Personal Dynamic IP Router	**Low-Cost Multiprotocol Bridge**	**Best-Selling ISDN Router Worldwide**	**Best Corporate Telecommuter Bridge/Router**	Lowest-Cost Frame Relay/ISDN Bridge/Router

Part Numbers

Pipeline 25-*Fx* ISDN Bridge for Small Office/Home Office (SOHO)		MSRP
U interface models		
P25-1U-FX	Pipeline 25, ISDN bridge, 2RJ-11 POTS, NT1	$595
S/T interface models (no NT1)		
P25-1S-FX	Pipeline 25, ISDN bridge only	$595

Pipeline 50 – LAN Internet And Remote Access		
U interface models		
P50-1UBRI	Pipeline 50, U Interface	$895
P50-1UBRI	Pipeline 50, U Interface with integrated firewall	$1,395
Switch 56 Interface model		
P50-LS56	Pipeline 50, Switch 56 Interface (single or dedicated SW56 model)	$1,695
S/T interface models (no NT1)		
P50-1SBRI	Pipeline 50, S/T Interface	$895
P50-1SBRI-ASA	Pipeline 50, S/T Interface with integrated firewall	$1,395
Secure Access Firewall Software Upgrade		
P50-SWUP-ASA	Shrink wrapped Secure Access Firewall software upgrade for Pipeline 50 (to upgrade an existing Pipeline 50 without firewall)	$500

Pipeline 75 – Telecommuter/SOHO with Remote Management		
U interface models		
P75-1UBRI	Pipeline 75, U Interface	$995
P75-1UBRI-ASA	Pipeline 75, U Interface with integrated firewall	$1495
S/T interface models (no NT1)		
P75-1SBRI	Pipeline 75, S/T Interface	$995
P75-1SBRI-ASA	Pipeline 75, S/T Interface with integrated firewall	$1495
Secure Access Firewall Software Upgrade		
P75-SWUP-ASA	Shrink wrapped Secure Access Firewall software upgrade for Pipeline 75 (to upgrade an existing Pipeline 75 without firewall)	$500

Call your distribution partner to order, or participate in Ascend's demo program.

Remote Networking
Solutions That Work.™

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