Ascend
Pipeline 25-*Fx*

Small Office ▾ **Internet Access** ▾ **Remote Access**

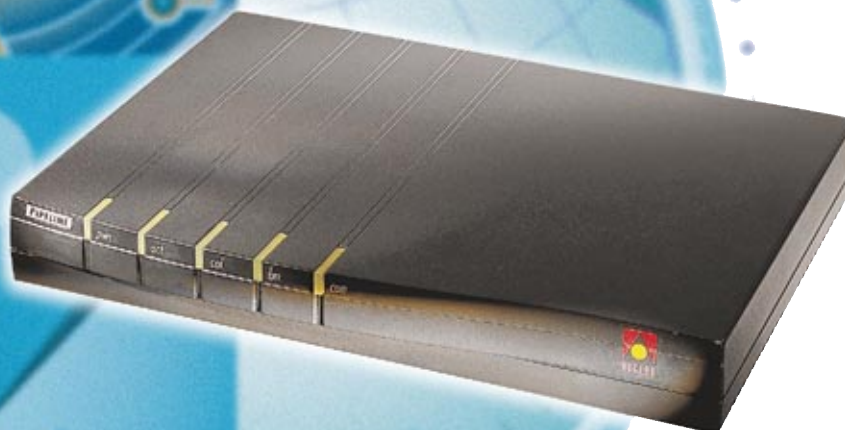**Your small office can't afford to be stymied by a complicated remote networking system. Let the Pipeline 25-*Fx* simplify all of your remote access connections.**

The Pipeline™ 25-*Fx* provides up to four users with an Ethernet-to-ISDN bridge that offers optional IP or IPX routing. The integrated analog and digital capabilities of the Pipeline 25-*Fx* make it ideal for small office/home office (SOHO) users to consolidate separate transmissions over a single ISDN BRI line. Because the Pipeline 25-*Fx* is easy to configure and even easier to use, your small office/ home office can transfer data, make analog calls or surf the Internet in no time at all.

Equipped with bridging and optional routing, the Pipeline 25-*Fx* connects SOHO users to other small offices, a corporate LAN or the Internet. The feature-rich Pipeline 25-*Fx* offers the added benefits of bandwidth on demand, Ethernet support and integrated security. The Pipeline 25-*Fx* is a complete solution for SOHO users who want a high-end product without the aggravation of a cumbersome remote networking system.

ASCEND

Networking Solutions for Small Offices/Home Offices and Telecommuting

Integrate analog and digital capabilities into one complete telecommuting solution

By consolidating separate transmission services over one ISDN BRI line, telecommuters no longer have the burden of maintaining separate analog and digital lines. The Pipeline 25-*Fx* allows users to have a single digital line that serves their networking needs.

- High-speed Ethernet-to-ISDN bridge/router
- Standard U interface (NI 1 compliant) eliminates the need for an external NT1 device (S/T model also available)
- Dual analog ports allow you to connect phones, modems, and fax machines over a single ISDN line
- Advanced analog calling features (Hold, Drop, Transfer and Conference)
- Sophisticated call routing directs calls to the correct analog device (phone, fax or modem)

Bandwidth on demand maximizes performance and decreases costs

Dial-up connections are established and removed transparently without interruptions to the user. Costs are minimized because you pay for bandwidth only when you need it.

- Dynamic Bandwidth Allocation™ varies channel usage by utilizing both B-channels for high performance tasks and dropping one channel when throughput is not needed
- Inverse multiplexing uses both B-channels for 128 Kbits/s throughput
- Optional data compression boosts throughput up to 512 Kbits/s

- Incoming and outgoing analog calls preempt one B-channel while maintaining one B-channel for data connections
- Two analog devices can be used simultaneously when both B-channels are available

## Access bridging and routing allow efficient connectivity to all LANs and the Internet

Bridging and routing capabilities give users the option to make efficient connections to remote LANs or the Internet while minimizing line charges. The Pipeline 25-*Fx* combines routing and bridging into one system, eliminating the costs involved with purchasing separate devices.

- Optional IP or IPX routing
- BCP standard multiprotocol bridging
- PPP, Multilink PPP (MP), Multilink Protocol Plus™ (MP+)

Easy to set-up and configure directly from your workstation

The Pipeline 25-*Fx* is equipped with a Windows-based configurator that allows users to set up their system directly from a PC. Once it is configured, additional maintenance is not required.

- With the Pipeline 25-*Fx* Configuration Program for Windows, users can configure the Pipeline 25-*Fx* without any assistance from a network administrator
- Ethernet support eliminates the need to change DIP switches or set IRQs
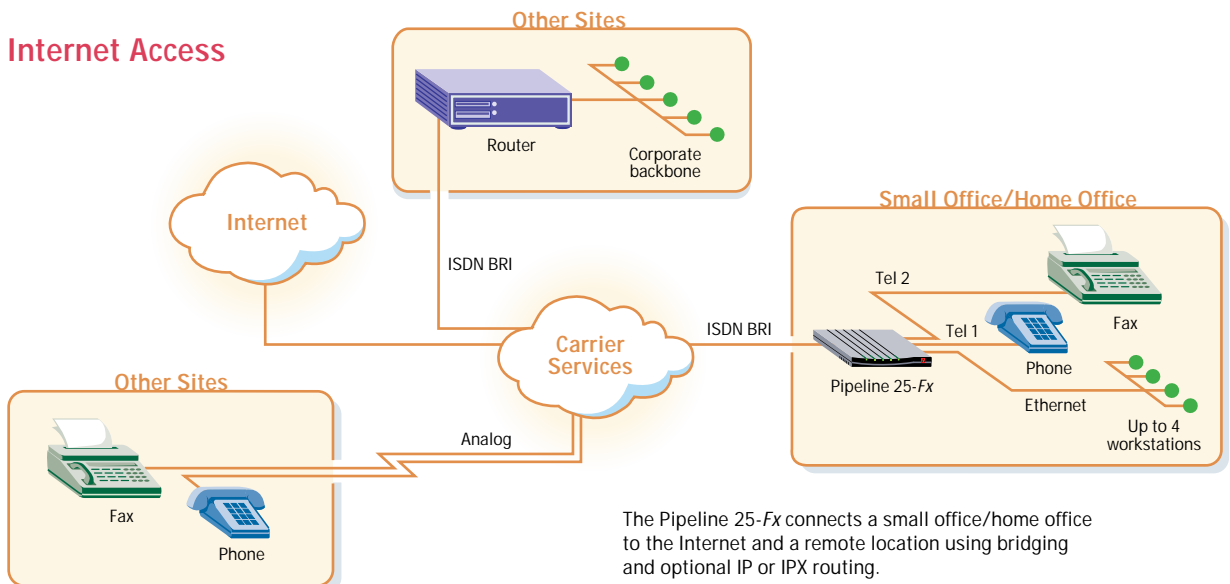
Internet Access

The Pipeline 25-*Fx* connects a small office/home office to the Internet and a remote location using bridging and optional IP or IPX routing.

Industry-standard security protocols protect against unauthorized access

Support for user authentication makes it easy for network managers to manage the security of large-scale remote access applications. The security features on the Pipeline 25-*Fx* can be configured to verify all access attempts and to permit only authorized users.

- Authentication profiles with PAP or CHAP
- Token-based security including Security Dynamics and Engima Logic
- Callback assures connections are made with known users
- Transmit and receive packet filtering

Built-in Ethernet interface maximizes performance and compatibility

The Ethernet interface gives you the flexibility to connect any type of computer directly to the Pipeline 25-*Fx*. With 10 Mbits/s Ethernet, you can take advantage of the full throughput of an ISDN BRI line.
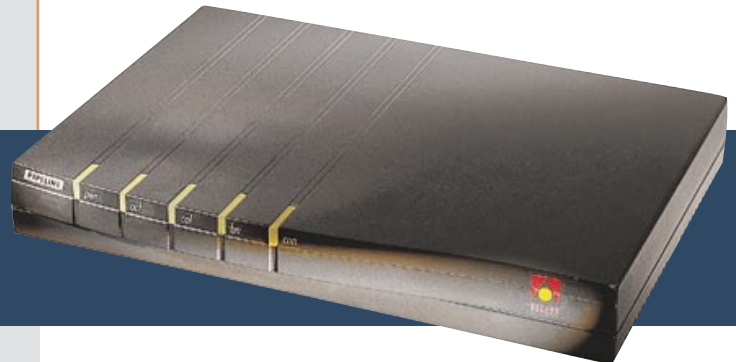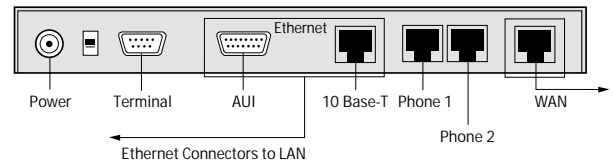
- Supports multiple platforms (i.e. PC, Unix Workstation, or Apple)
- Supports varying software configurations

Monitor remote access equipment directly from the central site

Ascend's remote management protocol allows Internet Service Providers and network managers using Ascend's equipment to remotely monitor the Pipeline 25-*Fx*. They can check configurations or change settings directly from the central site when it is required.
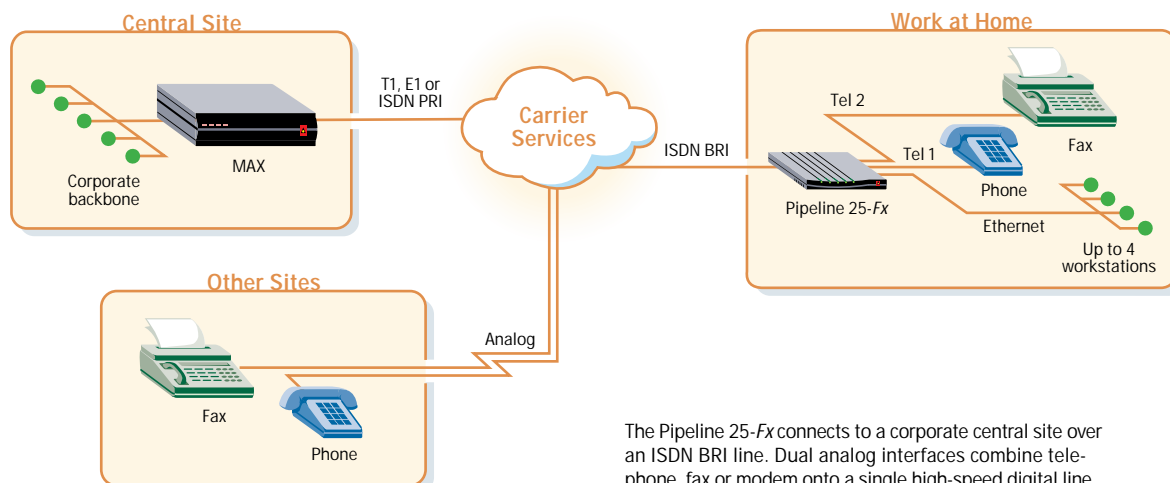
- WAN loopback
- Flash memory for easy software upgrades

Pipeline 25-*Fx* Back Panel

Power Terminal AUI Ethernet 10 Base-T Phone 1 Phone 2 WAN

Ethernet Connectors to LAN

Pipeline 25-*Fx*

Central Site Access

Central Site

Corporate backbone

MAX

T1, E1 or ISDN PRI

Carrier Services

Other Sites

Fax

Phone

Analog

ISDN BRI

Work at Home

Tel 2

Tel 1

Fax

Phone

Pipeline 25-*Fx*

Ethernet

Up to 4 workstations

The Pipeline 25-*Fx* connects to a corporate central site over an ISDN BRI line. Dual analog interfaces combine telephone, fax or modem onto a single high-speed digital line.

Hardware Specifications

Dimensions	8.2 in x 6 in x 1.2 in [20.8 cm x 15.24 cm x 3.05 cm]
Weight	2.25 lbs [1.02 kg]
LAN Interface	10 Mbits/s Ethernet (AUI, 10Base-T)
WAN Interface	BRI S/T Interface (model: P25-1S-FX) BRI U Interface (model: P25-1U-FX)
Software Upgrade	Via built-in flash RAM
Power Requirements	90-130VAC, 0.4A 22-24VAC, 0.2A 47-63Hz
Operating Requirements	Temperature: 32-104˚F [0-40˚C] Altitude: 0-14,800 feet [0-4,500 meters] Relative Humidity: 5-95% (non-condensing)
Safety Certifications	FCC Class B, CSA, UL
EMI/RF	FCC Part 68, FCC Part 15

Software Specifications

Protocols Supported	TCP/IP, IPX routing, BCP standard bridging of all protocols
WAN Protocols Supported	PPP, Multilink PPP (MP), Multilink Protocol Plus (MP+)
Bandwidth Management	Multilink PPP (MP), Multilink Protocol Plus (MP+), TCP header compression, STAC data compression (optional)
Security	PAP, CHAP, callback, token based security (Security Dynamics, Enigma Logic), packet filtering
Management	Serial cable connection (Db9), Ascend's remote management protocol

Ascend's Remote Networking Products

MAX™ Family

Designed specifically for remote access server applications. Supports ISDN BRI, ISDN PRI, T1/E1 and Ethernet on the base unit.* Allows simultaneous calls from ISDN BRI, frame relay and/or modem users over ISDN PRI, channelized T1/E1, or ISDN BRI lines.

Pipeline™ Family

Pipeline products are designed to connect users in small or home offices to backbone networks and/or the Internet. Pipeline models support Ethernet to ISDN, Switched 56 or Leased 56 services, and Ethernet to 56 Kbits/s or 64 Kbits/s frame relay services.*

Multiband™ Family

Multiband bandwidth-on-demand controllers are designed primarily for videoconferencing applications and let users dial-up bandwidth in increments of 56/64 Kbits/s up to 4 Mbits/s, using all types of digital access lines*—Switched 56, T1/E1, ISDN BRI, ISDN PRI and network carrier services.

* Depending on model and configuration

Ascend Communications, Inc. (NASDAQ: ASND) is a leading, worldwide provider of remote networking solutions for corporate central sites, Internet Service Provider points of presence, remote offices, mobile workers and telecommuters. Ascend develops, manufactures, markets, sells and supports products with bandwidth on demand to extend existing corporate networks for applications such as remote LAN access, Internet access, telecommuting, SOHO connectivity and videoconferencing/multimedia access. Detailed information on Ascend products, news announcements, seminars, service and support is available on Ascend's home page at the World Wide Web site http://www.ascend.com.

Ascend markets the MAX, Pipeline and Multiband families of products. Ascend products are available in more than 30 countries worldwide.

Dynamic Bandwidth Allocation™ (U.S. Patent No. 5,231,649), MAX™, Multiband™, Multilink Protocol Plus™, and Pipeline™ are trademarks of Ascend Communications, Inc. Other trade names mentioned in this publication belong to their respective owners.

Specifications are subject to change without notice.

ASCEND

Remote Networking
Solutions That Work.™