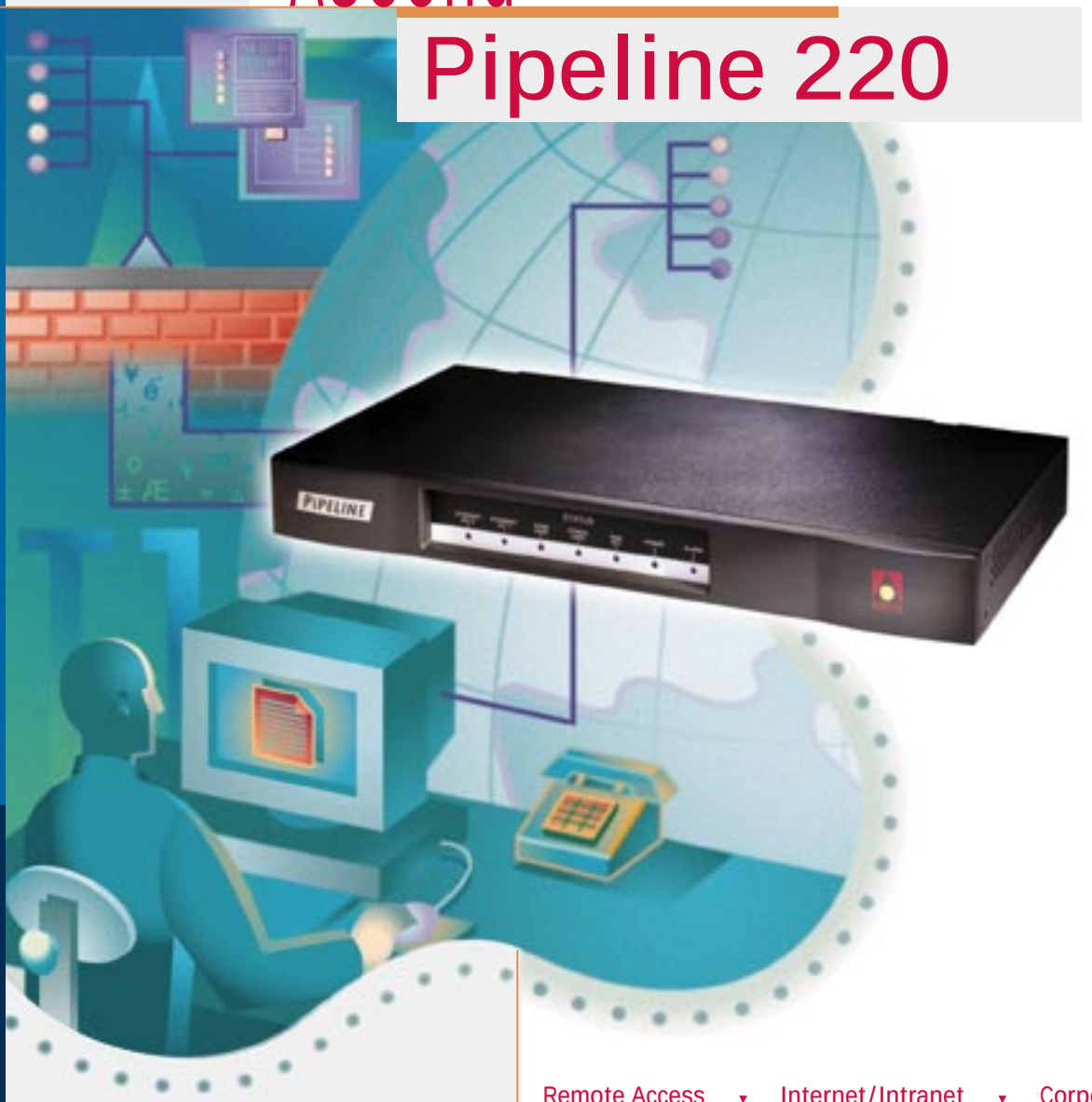
product information

Ascend Pipeline 220



Convenience, connectivity and encrypted protection meet in the Pipeline 220—Ascend's economical router for security-conscious businesses.

Remote Access ▾ Internet/Intranet ▾ Corporate LAN

The Pipeline® 220 remote access router offers open WAN-to-LAN access and comprehensive security options in a single unit. It is ideal for organizations that need to maintain a tightly protected LAN for internal data transactions while permitting the outside world free access to Web servers, FTP sites and other "public" resources.

The Pipeline 220 connects a Frame Relay or point-to-point WAN to dual independent Ethernet LANs. It uses Ascend's integrated Secure Access™ Firewall to safeguard all network connections and can further secure them by applying IPSec encryption. The formidable combination of LAN autonomy, dynamic firewall and data encryption creates a "demilitarized zone" that effectively shields your intranet or other private network from public access. The Pipeline 220 also saves you money by eliminating the need for separate routers and stand-alone security software. Now you can have the connectivity, high-performance and security you need in one affordable easy-to-manage unit.

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Secure Networking for Corporate LANs and Remote Offices

Choice of configurations accommodates your WAN interface needs

With the Pipeline 220, remote offices and Internet users can connect to inexpensive Frame Relay services at speeds up to 2 Mbps (as determined by the clock speed from the link). Connections to the Frame Relay network are made either through a V.35 (RS-449) serial interface or an unchannelized T1/FT1 (or E1) interface, depending on the user-defined configuration.

- Choice of V.35 (RS-449) serial port (DB44 connector), T1/FT1 or E1 port (RJ48C connector)
- RFC 1490 Frame Relay encapsulation
- Annex D Link Management
- T1/FT1 interface includes integrated CSU/DSU
- Frame Relay or Point-to-Point transmission services
- PCMCIA card slot holds up to 32 MB of flash memory
- DRAM card slot holds up to 32 MB of additional DRAM

Tunneling protocol support enables Virtual Private Networking

The Pipeline 220 supports popular VPN tunneling protocols, including PPTP, ATMP, L2F and L2TP. These protocols encapsulate non-IP traffic so that it can be sent over the Internet, thereby creating a Virtual Private Network (VPN). The combination of VPN tunneling with IPSec encryption ensures that mission-critical, proprietary and sensitive data reaches its destination undisturbed and safely through the public Internet.

Concurrent routing and bridging simplify LAN and WAN connectivity

Concurrent routing and bridging eliminates the need for separate devices by providing a single configurable solution for LAN and WAN access.

- IP routing
- IPX and AppleTalk Routing
- BCP standard multiprotocol bridging

Point-and-click configurator makes setting parameters fast and easy

The Pipeline 220's Java-based configurator is a Graphical User Interface (GUI) that lets users set, save and restore parameters from any computer running Windows 95 or Windows NT 4.0. It allows network administrators to set or modify all but the firewall parameters via Ethernet.

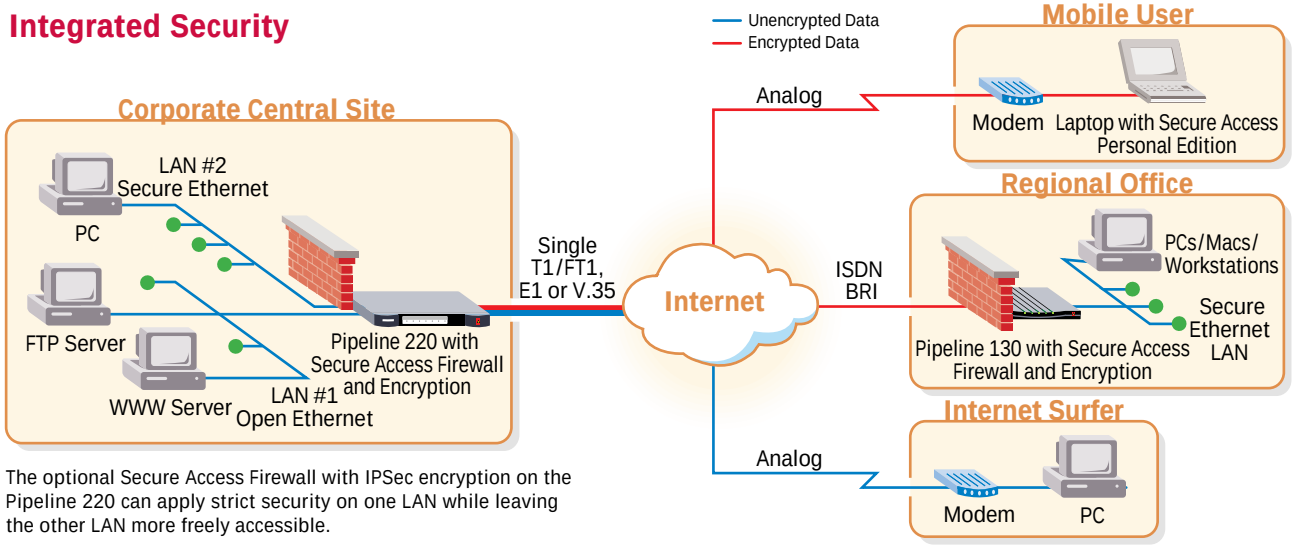
Included in the configurator is a QuickStart utility, which makes first-time setup fast and easy. This tool walks users through the application and features complete HTML-based, on-line help.

Remote and local management simplifies setup and administration

The Pipeline 220 can be managed locally over one of the Ethernets or remotely over the WAN. Remote management reduces the cost of installation and ongoing support by allowing network managers to monitor and troubleshoot remote user problems directly from the central site.

- Ascend's comprehensive, multivendor network management support
- WAN loopback
- SNMP (MIB II) support
- Telnet remote management
- Syslog
- Ascend remote management protocol
- Battery-protected memory for configuration profiles
- Power loss alarm relay

Integrated Security



The optional Secure Access Firewall with IPSec encryption on the Pipeline 220 can apply strict security on one LAN while leaving the other LAN more freely accessible.

Comprehensive Security

Protecting corporate assets and ensuring privacy requires comprehensive security—the kind that Ascend's SecureConnect™ family of products delivers. SecureConnect includes Ascend's Secure Access Firewall and Encryption, which are available as an option for the Pipeline 220. Completely transparent to valid users, SecureConnect offers one of the highest levels of security available for all devices on the protected LAN.

Secure Access Firewall provides iron-clad security

Ascend's NCSA-certified Secure Access Firewall safeguards information at the corporate LAN, remote offices and telecommuter's home office. It can be activated on the Pipeline 220 WAN port and on one or both of its Ethernet ports. The firewall allows authorized Internet transmissions to securely tunnel through to the appropriate LAN, but soundly excludes unauthorized access attempts. Security statistics from the Secure Access Firewall keep system administrators informed of any illicit access attempts. (See the Secure Access Firewall datasheet or visit Ascend's Web site for more information.)

- Stateful Packet Inspection
- Controlled access of all IP application level protocols
- User definable custom protocols
- Pass/Block control of DEC LAT, IBM LLC2 and all other ethertypes
- Anti-probing and anti-spoofing
- Tailorable Syslog for reporting security alerts
- Configured using Secure Access Manager
- Remote control of firewall

IPSec encryption shields sensitive intellectual property

The SecureConnect option for the Pipeline 220 includes Ascend's integrated Secure Access Firewall with IETF-standard IPSec encryption capability. The encryptor encodes and authenticates each and every packet, making the encrypted information virtually impossible for an unauthorized user to interpret. Because the encryptor is integrated with the firewall, encryption becomes available anywhere firewall protection is available.

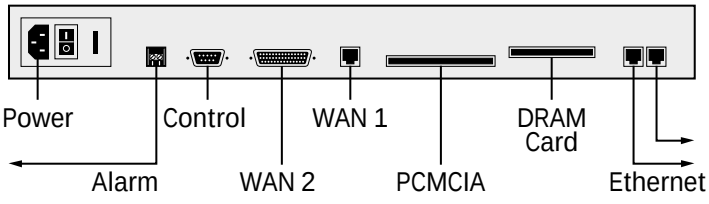
- Supports RFC 1825, 1826, 1827, 1828
- Supports IPSec tunneling and transport modes
- Authenticates and encrypts all router management transactions
- Supports Authenticated Headers (AH) and/or Encapsulating Security Protocol (ESP)

Network Address Translation conceals host identities

The Pipeline 220 can be configured to apply Network Address Translation (NAT) when routing data to and from the Internet. This technique allows the registered IP address of the Pipeline 220 to be substituted for the unregistered IP addresses of the devices on the LANs. Because only one registered IP address needs to be purchased, NAT is a money saving technique. But NAT is also an excellent security technique, because the Pipeline 220 alone "knows" the identities of the devices on its logical ports, and there is no way of predicting which port will be assigned to which device. Moreover, the address of the Pipeline 220 itself is concealed. This makes NAT highly effective for concealing host identities.

Pipeline 220

Pipeline 220 Back Panel



Hardware Specifications

Model No.	P22-T1-V35 P22-E1-V35
Dimensions	17.63 in x 2.0 in x 8.25 in [44.8 cm x 5.1 cm x 21.0 cm]
Weight	7.25 lbs [3.3 kg]
LAN Interface	Dual 10 Mbps Ethernet interfaces
WAN Interface	V.35/RS-449 or Unchannelized T1/FT1 (software configurable)
Software Upgrade	Via built-in flash RAM
Power Requirements	100-265 VAC, 47-63 Hz, 12-45 W
Operating Requirements	Temperature: 50-104˚F [10-40˚ C] Altitude: 0-12,000 feet [0-3,650 meters] Relative Humidity: 5-95% (non-condensing) EMI/RF FCC Part 68, FCC Part 15

Software Specifications

Routed Protocols Supported	Concurrent TCP/IP, IPX, AppleTalk, BCP standard bridging of all protocols
VPN Tunneling Protocols Supported	PPTP, ATMP, L2TP, L2F (Model No. P22-SO-VPN or Model No. P22-SWOP-VPN)
WAN Protocols Supported	PPP, RFC 1490 Frame Relay, V.35
Management	Serial cable connection, Ascend remote management protocol, Telnet, SNMP, Java-based configurator, network management
Security	Secure Access Firewall, IPSec encryption (Model No. P22-SO-ASA), VPN tunneling (L2TP, ATMP, PPTP, L2P)

The Security of Independent Ethernet LANs

Ethernet is the most popular interface for Local Area Networks (LANs) because it allows heterogeneous devices such as PCs, UNIX workstations and Macintoshes to share the same network. To keep their Ethernet LANs safe from hackers and other unauthorized users, some network managers install firewall software on every computer. Although this is an effective solution, it can be expensive, places an extra burden on each processor and makes network management more difficult.

A better way to protect each device on a LAN would be to use a single, very sophisticated firewall at the LAN's router. Sites requiring maximum security could be isolated on an additional LAN outfitted with a data encryptor as well as a firewalled router. With the Pipeline 220, you can have this kind of independent protection without having to buy and manage extra routing, firewall and encryption hardware/software.

The Pipeline 220 features two physically separate 10Base-T Ethernet interfaces. These can access the WAN or function in an Ethernet-only configuration. Users will typically dedicate one Ethernet as a "public" LAN while activating the firewall/encryption option on the other Ethernet for security. This combination of an open network with a protected one allows outside users access to an organization's Web site, FTP site and other admissible resources while providing ironclad safeguards on restricted areas.

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Ascend Communications, Inc. is a leading, worldwide provider of remote networking solutions for corporate central sites, Internet Service Providers' points of presence, remote offices, mobile workers, and telecommuters. Ascend develops, manufactures, markets, sells and supports products which utilize bandwidth on demand to extend existing corporate networks for applications such as remote LAN access, Internet access, telecommuting, SOHO connectivity and video-conferencing/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 GRF, MAX, Multiband, MultiDSL, Network Management, Pipeline and Security families of products. Ascend products are available in more than 30 countries worldwide.

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