WAN Routers

Product Line Summary

Product Line		Ethernet Ports	Integrated WAN Interfaces	Model	Description	Pg
Low-Cost WAN Routers 		1	1 T1/E1	2603	Low-Cost Single Port T1/E1 Access Router	48
		4	2 T1/E1	2620	Low-Cost Dual-Port T1/E1 Access Router	52
		1	1 E1	2701/I	Low-Cost Single E1 Access Bridge	62
		1	1 T1	2720/I	Low-Cost Single T1 Access Bridge	100
Serial Routers 	Public Access	1	V.35	2635	WAN Router V.35	49
		1	X.21	2621	WAN Router X.21	49
		1	V.35	2135	V.35 Micro Bridge	64
		1	X.21	2121	X.21 Micro Bridge	64
		1	V.24 (RS-232)	2124	V.24/RS-232 Micro Bridge	64
Managed VPN Routers 	Private Access	1 or 4-port switch	1 Ethernet	2802/2805	SOHO/Enterprise Secure VPN Router Appliance	46
		2	1 T1/E1	2803	Integrated T1/E1 VPN WAN Access Device	50
		2	V.35	2835	Integrated V.35 VPN WAN Access Device	51
		2	X.21	2821	Integrated X.21 VPN WAN Access Device	51
Edge Routers 	Edge	2 Gigabit Ethernet	2/4 T1/E1 Inverse Multiplexer	2888	T1/E1 Multi-Megabit Edge Router	54
		2 Gigabit Ethernet	2/4 T1/E1	2884	T1/E1 Channelized Gigabit Edge Router	53
		Up to 11	Up to 128 T1/E1 Ports	6400	Modular T1/E1 Edge Router	55

								
Model	2603	2620	2635	2621	2701/I & 2720/I	2135	2121	2124
Description	Low-Cost Single Port T1/E1 Access Router	Low-Cost T1/E1 Access Router with Drop & Insert	WAN Router V.35	WAN Router X.21	Ethernet-over-T1/E1 WAN Bridge	V.35 Micro Bridge	X.21 Micro Bridge	V.23 (RS-232) Micro Bridge
Form Factor	Desktop				Micro Unit			
Feature Set	Basic Internet Access/Delivery Feature Set				PPP Bridging Feature Set			
Routing & Protocols IP Connectivity Features	RIP V1 and V2, Frame Relay, Inverse ARP, PPP with BCP or IPCP, PPPoE				PPP/BCP			
QoS	NAT/NAPT, DHCP server and relay, DNS relay, SNTP client, PPPoE				–			
VPN/Security	–				–			
Key Features	DoS Detection/Protection. Intrusion detection, blacklisting with automated configurable actions, packet filtering firewall, access list.				–			
	• Lowest Cost Internet Access Router in the Market • Integrated WAN interfaces • Full Featured IP Router				• Transparent LAN Bridging • Standard PPP Bridge Control Protocol • Auto Learning and Aging Supports 4096 MAC Address			

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In This Section

Product Highlights

Basic T1/E1 Routers

- Single and dual port T1/E1
- Intrusion Detection and ACL/Filters
- Full Frame Relay & PPP Support
- Advanced IP features include NAT, DHCP, DNS relay

Sync-Serial Routers

- X.21 and V.35 interfaces
- Basic Firewall Functionality
- Advanced IP feature set
- Simple SNMP/HTTP management interface

QoS VPN Routers

- IPSec with DES/3DES/AES
- ACLs and active Packet Filtering
- Active traffic classification, scheduling & prioritization
- Service login feature set (PPPoE/NAT/DHCP)
- T1/E1, Ethernet, and V.35 and X.21 sync-serial interfaces

Edge Routers

- Modular interfaces support from 4 to 208 T1/E1s
- Tunneling protocols supported for port wholesaling
- VPN (PPTP & IPsec) for secure networking

							
2802/2805	2823	2803	2835	2821	2884	2888	6400
SOHO/Enterprise Secure VPN Ethernet Appliances	Managed DMZ Secure VPN WAN Access Device	Integrated T1/E1 VPN WAN Access Device	Integrated V.35 VPN WAN Access Device	Integrated X.21VPN WAN Access Device	Multi-Port T1/E1 Channelized Gigabit Edge Router	Multi-Port T1/E1 Multi-Megabit Edge Router	Modular T1/E1 Edge Router
Desktop					Desktop & 19" Rack Mount	Desktop & 19" Rack Mount	Rack Mount Modular
Secure, QoS, VPN Feature Set					Edge Router Feature Set		
RIP V1 and V2, Frame Relay, PPP, PPPoE					RIP V1 & V2, OSPFv2 & v3, RIPng, PPP with BCP & IPCP, Multi-Link PPP		
NAT/NAPT, DHCP server and client, PPPoE, VLAN .p/Q					NAT/NAPT, VLAN .p/Q, Tunneling/port wholesaling with L2TP; IP filtering; MAC filtering		
ToS and DiffServ labeling: Active QoS with traffic scheduling and classification. Weighted fair queuing and shaping of traffic classes with configurable burst tolerance; DownStreamQoS™ with dynamic restriction of inbound TCP traffic; IKE; IPsec encryption of voice (VoVPN)					ToS and DiffServ labeling: Active QoS with traffic scheduling and classification. Hierarchical queuing and shaping of traffic classes with configurable burst tolerance; Random Early Discard (RED) for uplink ports. Eight priority queues dedicated for the classification of VLAN traffic.		
DoS Detection/Protection. Intrusion detection, packet filtering firewall, Static Firewall ACLs, IPSec with DES/3DES/AES including Internet Key Exchange (IKE), VPN-Passthrough for PPTP/GRE, PPTP VPN.					Packet filtering firewall, PPTP VPN, L2TP, VLAN, IPsec VPN		
• IPSec VPN Tunneling • DES/3DES/AES Encryption • Firewall and Intrusion Detection • Built-In Router					• OSPF and Other Advanced Routing Features • nxE1 and STM-1 Connectivity • Voice, Video, and Data Quality QoS with Hierarchical Levels of Prioritization		

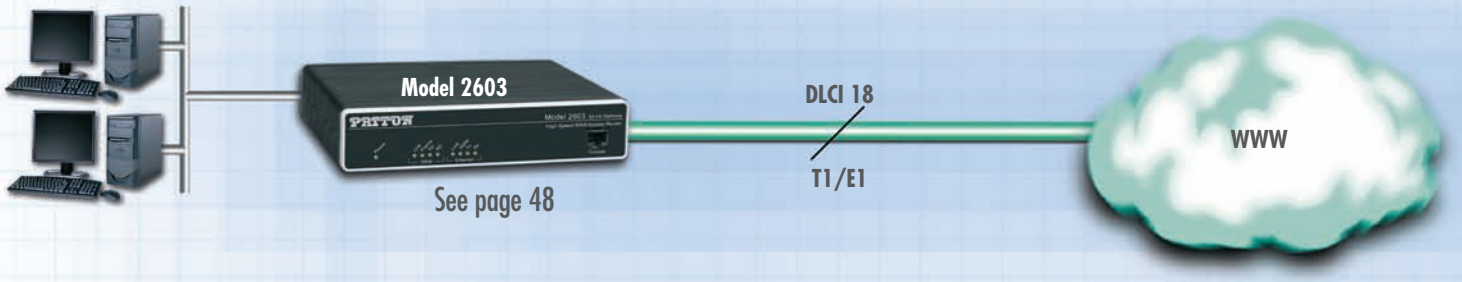
WAN Routers

Solutions Center Product Guide

Pg	Model	Product	Application	Solution
48	2603	T1/E1 WAN Access Router	Low-Cost Network Access	Inexpensive T1/E1 Internet access with basic routing support.
49 51	2621/2635 2821/2835	Serial Access Routers	Legacy Network Integration	Convert serial interfaces to Ethernet. Add VPN security to serial interfaces.
52	2620	Dual Port T1/E1 Drop & Insert Router	Integrated TDM and IP Data	Simultaneous delivery of digital voice over fractional T1/E1 and IP data with IP terminated on Ethernet port and voice switched to second T1/E1 port.
46	2802/2805	Managed Ethernet VPN Routers	Secure Triple-Play Router	Manage encrypted voice, video and data flows over IP to create secure building ingress points.
50	2803	Managed T1/E1 VPN Routers	Secure Managed Service	Service provider based Internet Access and IPsec VPN service overlay for remote branch connectivity.
50	2800	Managed VPN Routers and Inverse Multiplexers	Multimedia IP Demarc	Use existing broadband and T1/E1 Internet access networks to create secure private networks with firewalls using strong VPN encryption. Create a service handoff point with advanced per flow QoS, support for per flow strong encryption of voice, video and data, and advanced service delivery such as IP Centrex and IP multicast video.
53	2884	Channelized Gigabit Router	Remote Site Monitoring	
54	2888	Multi-Megabit Inverse Mux	Remote Traffic Backhaul	

Low Cost Network Access

T1/E1 Router



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The Model 2603 T1/E1 Router provides basic IP access across T1/E1 lines.

This is our lowest cost T1/E1 router providing basic "Ethernet to T1/E1 converter" functionality. So if you need a low cost WAN router for basic internet access, or IP monitoring of a remote site, this series of products are right for you.

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Legacy Network Integration

Serial (V.35/X.21) to Ethernet Conversion

- Extend life of serial routers
- Update the functionality of serial network equipment
- Connect to serial NTUs

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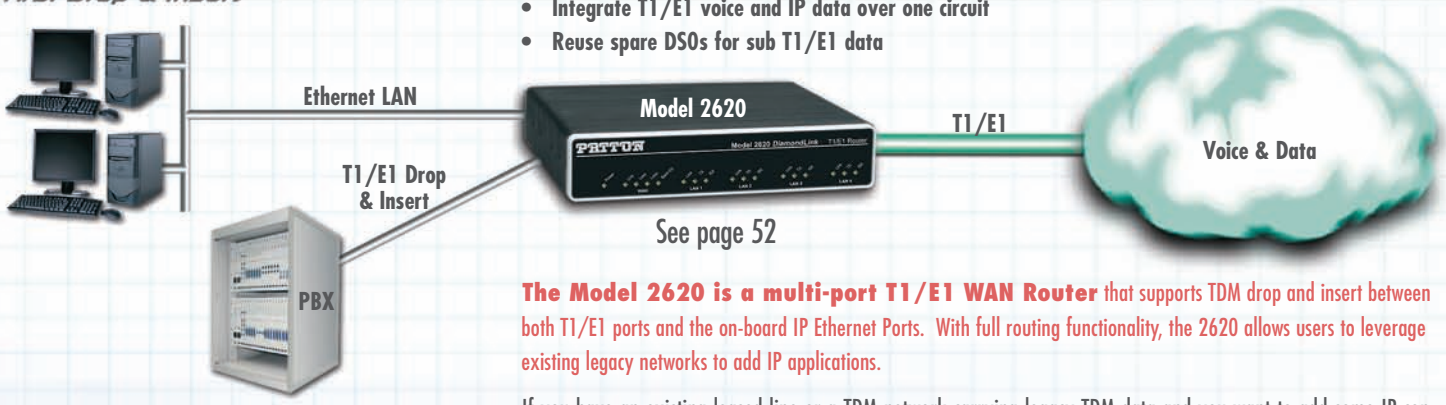
The Model 2621/2635 WAN Router provides basic IP access across any TDM WAN network by providing standard X.21 and V.35 WAN interfaces

These units are low cost WAN routers which provide "Ethernet to X.21 or V.35 converter" functionality. If you need to add a second Ethernet port to an existing modular router or provide IP access for existing leased-line based networks, the 2621 and 2635 are right for you.

Integrated TDM & IP Data

T1/E1 Drop & Insert

- Integrate T1/E1 voice and IP data over one circuit
- Reuse spare DS0s for sub T1/E1 data



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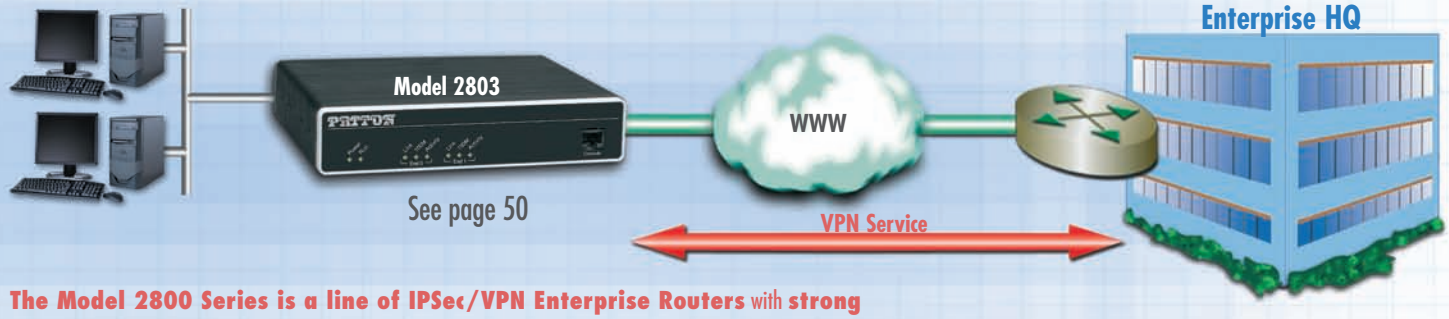
The Model 2620 is a multi-port T1/E1 WAN Router that supports TDM drop and insert between both T1/E1 ports and the on-board IP Ethernet Ports. With full routing functionality, the 2620 allows users to leverage existing legacy networks to add IP applications.

If you have an existing leased line or a TDM network carrying legacy TDM data and you want to add some IP connectivity between locations, the Model 2620 is right for you.

Secure Managed Service

Internet Access with Enterprise VPN Service Overlay



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The Model 2800 Series is a line of IPSec/VPN Enterprise Routers with **strong encryption** and a variety of integrated WAN interface options.

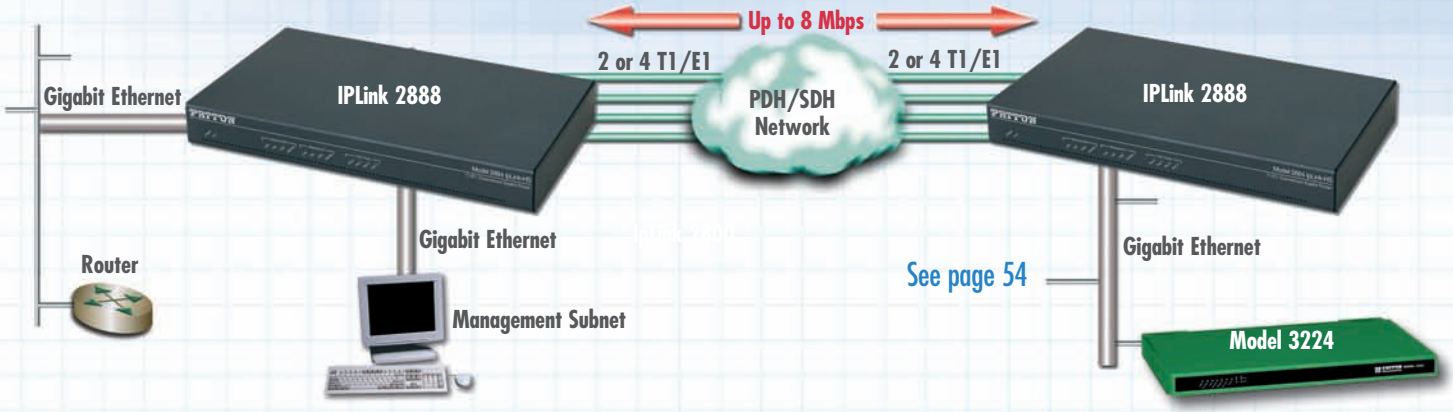
If you are a Carrier or Service Provider delivering a managed IP VPN service across WAN circuits, the 2803 series is right for you. Boasting QoS, IPSec/VPN Tunneling as well as DES/3DES and AES encryption, plus Firewall and IKE security, the 2800 series is ideal for your banking, government, and other security-minded customers.

WAN Routers

Solutions Center Product Guide

Remote Traffic Backhaul

TDM Inverse Mux



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The Model 2888 provides point-to-point high-bandwidth Ethernet/IP connectivity over TDM-based T1/E1 circuits.

If you need to increase raw bandwidth between two locations, the Model 2888 is right for you. An ideal solution for IPDSLAM traffic backhaul, the 2888 uses ML PPP to aggregate up to 4 T1/E1 TDM ports and provide perfect complement to any MxU DSLAM installation.

Remote Site Monitoring

Channelized T1/E1 router

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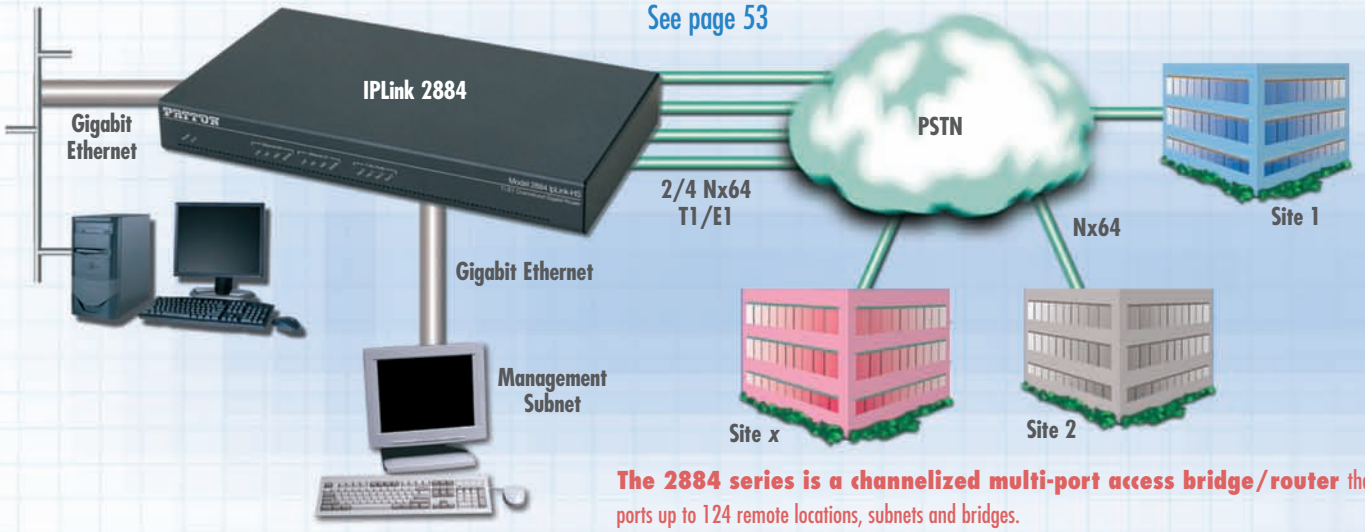

The 2884 series is a channelized multi-port access bridge/router that supports up to 124 remote locations, subnets and bridges.

If you have multiple remote locations to manage, the 2884 provides an ideal companion to any out-of-band network management solution. Equipped with VLAN and RIP support, the 2884 is adept at providing the connectivity required to manage and monitor remote locations.

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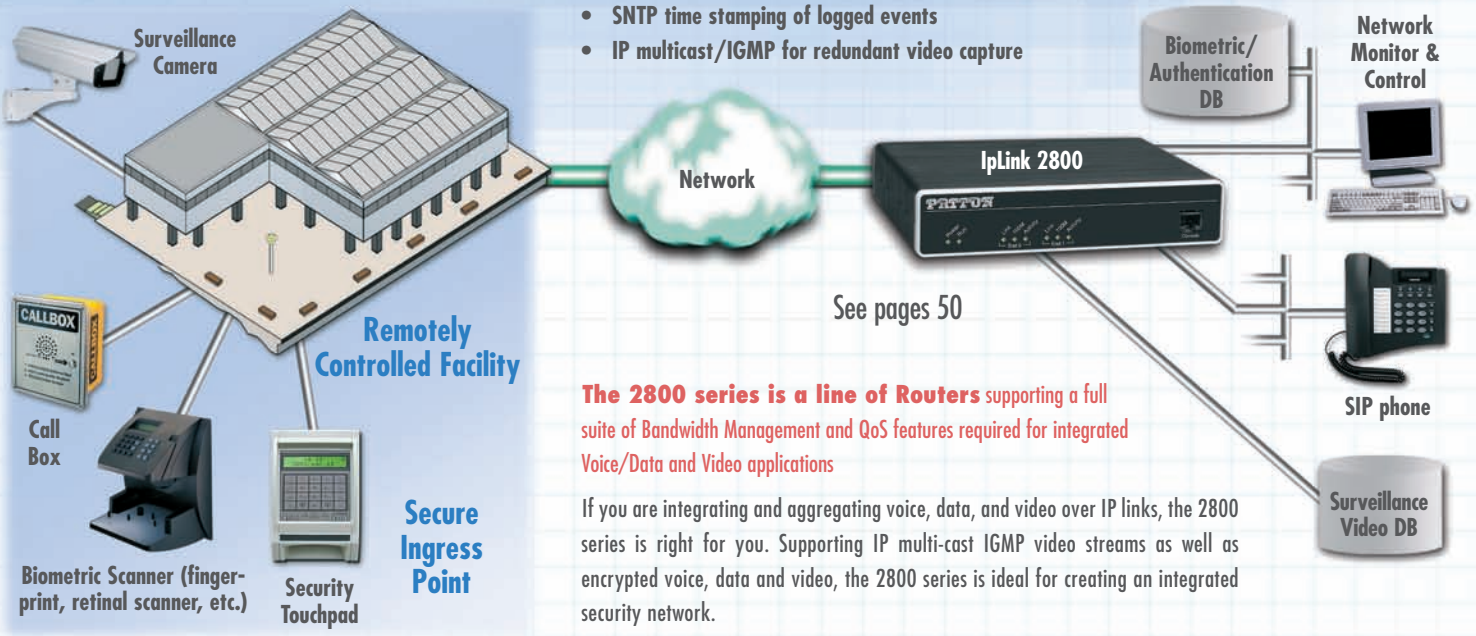
Secure Triple-Play Router

Secure Voice, Video, & Data

- Firewall with ACLs
- Encrypted voice & data for data integrity
- SNTP time stamping of logged events
- IP multicast/IGMP for redundant video capture



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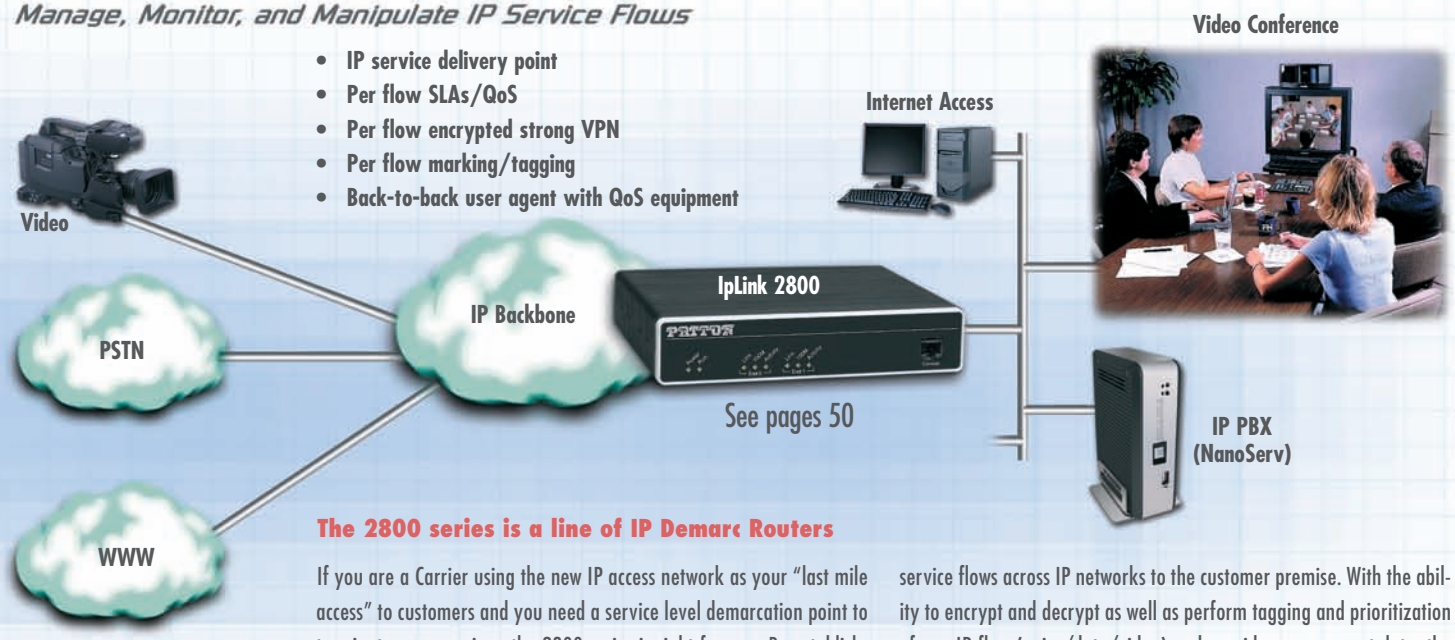
The 2800 series is a line of Routers supporting a full suite of Bandwidth Management and QoS features required for integrated Voice/Data and Video applications

If you are integrating and aggregating voice, data, and video over IP links, the 2800 series is right for you. Supporting IP multi-cast IGMP video streams as well as encrypted voice, data and video, the 2800 series is ideal for creating an integrated security network.

Multimedia IP Demarc

Manage, Monitor, and Manipulate IP Service Flows

- IP service delivery point
- Per flow SLAs/QoS
- Per flow encrypted strong VPN
- Per flow marking/tagging
- Back-to-back user agent with QoS equipment



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The 2800 series is a line of IP Demarc Routers

If you are a Carrier using the new IP access network as your "last mile access" to customers and you need a service level demarcation point to terminate your services, the 2800 series is right for you. By establishing differential Quality of Service metrics for voice, data and video services the 2800 series allows the Carrier to manage and control IP service flows across IP networks to the customer premise. With the ability to encrypt and decrypt as well as perform tagging and prioritization of any IP flow (voice/data/video) and provide management data, the 2800 series is an ideal IP Demarc for Next Generation Carriers and Service Providers

Ethernet Managed VPN WAN Router

IPLink™ 2802 & 2805

IPLink Managed VPN Routers promote business/dual use of broadband access networks by applying VPN encryption AND QoS/CoS traffic management to traffic flows.

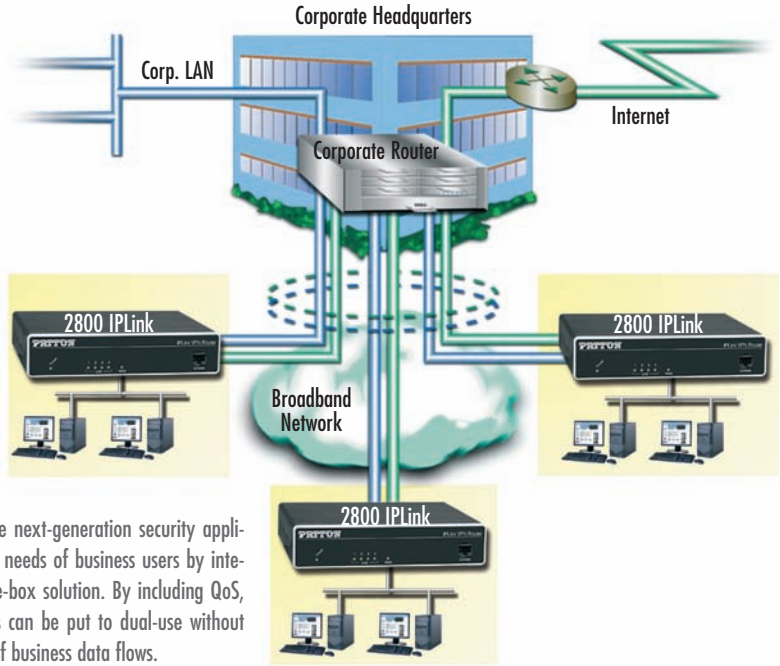
The IPLink Managed VPN Routers are a family of next generation appliances that address both the security and the traffic prioritization needs of enterprises. VPN routers enable the secure communication of remote offices, home offices, and mobile users across insecure IP networks such as the Internet. IPLink VPN Routers take it one step further and integrate quality of service (QoS) to optimize business traffic flows, allowing dual use (business and leisure) of broadband connections without impacting the quality of business communications.

IPLink VPN Routers implement a comprehensive security environment. It all starts with IPSec. By supporting ESP as well as AH, IPLink VPN Routers provide data integrity, authentication, anti-replay and data confidentiality to any traffic flow. DES, 3DES, and AES provide standard encryption up to 256 bits. Firewall capabilities of the IPLink VPN Routers include Access Control Lists (ACLs), IP address and port filtering, and protection against Denial of Service (DoS) attacks. Likewise, PPPoE protocols include support for PAP and CHAP authentication.

QoS features include ToS/DiffServ marking and the configuration of eight service class tags per IEEE 802.1p/Q. With traffic scheduling and shaping, create dedicated bandwidth guarantees, configurable burst tolerance, and policing to include excess traffic discard. IP fragmentation is configurable to help minimize jitter in traffic flows.

Advanced IP features include RIPv1 & RIPv2 routing and static route configuration. Static and dynamic NAT, NAPT, DNS resolver and relay, dynamic DNS, and DHCP server further add to the capabilities of the IPLink VPN Router. All IPLink VPN routers can be managed via a web browser (HTTP), command line interface (Telnet), or an SNMP management platform.

Typical application



IPLink VPN Routers are next-generation security appliances that address the needs of business users by integrating QoS into a one-box solution. By including QoS, broadband connections can be put to dual-use without impacting the quality of business data flows.

FEATURES & BENEFITS

- ✔ VPN Tunnels—Standard IPSec with AH and ESP ensures maximum protection when traversing unsecured networks.
- ✔ Strong Encryption—DES, 3DES, and AES offer standards based encryption algorithms from 56 to 256 bits.
- ✔ QoS/CoS Profiles—Configurable burst tolerance, bandwidth guarantees plus reduce per flow traffic jitter as required by the application.
- ✔ Configurable Security Profiles—Built-in IP address and IP port filtering, ACLs and DoS attack detection creates a comprehensive security environment.
- ✔ Enhanced IP Services—DNS resolver and relay, NAT/NAPT, dynamic DNS, and DHCP server, eases integration.
- ✔ 10/100 Ethernet—Dual 10/100 Ethernet and 5 port Ethernet switch.
- ✔ SNMP/HTTP Management—Easily manage the IPLink VPN Routers via a simple web browser interface.

ORDERING INFORMATION

2802/EUI: VPN Router; 2 Ethernet ports; external UI power supply

2805/EUI: VPN Router; 5 Ethernet ports; external UI power supply

SPECIFICATIONS

WAN Ethernet port:
2802 & 2805—10/100Base-T (RJ-45 connector); auto-negotiating; half/full duplex operation with automatic MDI/MDI-X

LAN Ethernet Ports:
2802—10/100Base-T (RJ-45 connector); auto-negotiating; half or full duplex operation with automatic MDI/MDI-X
2805—4 port 10/100Base-T switch (RJ-45 connector); auto-negotiating; half/full duplex operation with automatic MDI/MDI-X

Management: CLI via Telnet; TFTP for software upgrade and configuration upload; SNMPv1; HTTP/web browser

Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP & ICMP Redirect (RFC 792), ARP (RFC 826). IP Router with RIPv1 (RFC 1058), RIPv2 (RFC 2453), programmable static routes. Integrated DHCP Server (RFC 2131), DNS Relay (RFC 1631), IEEE 802.1p VLAN Tagging. NAT/NAPT (RFC 1631/2391), IGMPv2

Security: IPSec including AH and ESP. DES, 3DES, and AES encryption. Access Control Lists (ACLs). IP port and address filtering both by source and destination. DoS Detection. Password protected system management with a username/password for console and virtual terminal, IKE

Power Supplies: External universal 90–260 VAC input or 48 VDC input. (Optional internal universal 90–260 VAC input.)

Compliance: CE Mark; Safety: UL60950-1, CSA 22.2 6095001, IEC/EN60950-1. Universal AC units are US NRTL Listed; EMC Emissions: FCC Part 15 Class A; EN55022 Class A; EMC Immunity: EN55024

Environment: Temp.: 0–40°C (32–104°F); Humidity: 5–80% non-condensing

Dimensions:
7.3W x 1.6H x 6.1D in. (18.5H x 4.1W x 15.5D cm)

Weight: 30.5 oz./500g (models with internal power); 24.4 oz./400g (models with external power; no power supply)

DMZ Secure Router

IPLink™ 2823 Managed VPN Routers

Patton DMZ Secure Routers streamline DMZ implementation and secure-firewall configurations for enterprise networks without sacrificing QoS for critical business traffic.

IPLink Managed VPN Routers are a family of next generation appliances that address both the security and the traffic prioritization needs of enterprises. The Model 2823 Secure DMZ Router with integrated QoS makes it easy for enterprises to isolate their web servers in a secure demilitarized zone (DMZ). The three-port router physically provides and logically separates connections to a private LAN and a DMZ network, while still allowing secure business-class Internet access with traffic-shaping services.

As with all IPLink VPN Routers, the Secure DMZ Router implements a comprehensive security environment. It all starts with IPsec. By supporting ESP as well as AH, IPLink VPN Routers provide data integrity, authentication, anti-replay and data confidentiality to any traffic flow. DES, 3DES, and AES provide standard encryption up to 256 bits. Firewall capabilities of the IPLink VPN Routers include Access Control Lists (ACLs), IP address and port filtering, and protection against Denial of Service (DoS) attacks. Likewise, PPPoE protocols include support for PAP and CHAP authentication.

QoS features include ToS/DiffServ marking and the configuration of eight service class tags per IEEE 802.1p/Q. With traffic scheduling and shaping, create dedicated bandwidth guarantees, configurable burst tolerance, and policing to include excess traffic discard. IP fragmentation is configurable to help minimize jitter in traffic flows.

Advanced IP features include RIPv1 & RIPv2 routing and static route configuration. Static and dynamic NAT, NAPT, DNS resolver and relay, dynamic DNS, and DHCP server further add to the capabilities of the IPLink VPN Router. All IPLink VPN routers can be managed via a web browser (HTTP), command line interface (Telnet), or an SNMP management platform.

FEATURES & BENEFITS

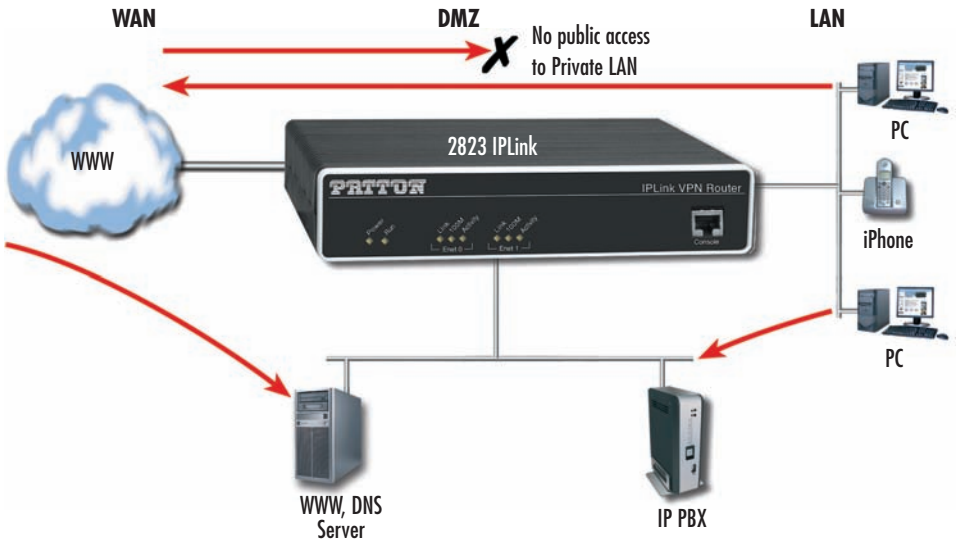
- ✔ Triple-Port Power DMZ—Use to configure the 3rd 10/100 Ethernet port as a physical and logical DMZ to keep traffic off the local network.
- ✔ VPN Tunnels—Standard IPsec with AH and ESP ensures maximum protection when traversing unsecured networks.
- ✔ Strong Encryption—DES, 3DES, and AES offer standards based encryption algorithms from 56 to 256 bits.
- ✔ QoS/CoS Profiles—Configurable burst tolerance, bandwidth guarantees plus reduce per flow traffic jitter as required by the application.
- ✔ Configurable Security Profiles—Built-in IP address and IP port filtering, ACLs and DoS attack detection creates a comprehensive security environment.
- ✔ Enhanced IP Services—DNS resolver and relay, NAT/NAPT, dynamic DNS, and DHCP server, eases integration.
- ✔ SNMP/HTTP Management—Easily manage the IPLink VPN Routers via a simple web browser interface.

ORDERING INFORMATION

2823/UI: Secure DMZ Router; external UI power supply

2823/48: Secure DMZ Router; 48-VDC power supply

Typical application



SPECIFICATIONS

WAN Ethernet port: 10/100Base-T (RJ-45 connector); auto-negotiating; half/full duplex operation with automatic MDI/MDI-X

LAN Ethernet Ports: One 10/100BaseT port (RJ-45 connector); auto-negotiating; half or full duplex operation with automatic MDI/MDI-X plus One 10BaseT (RJ-45 connector); half or full duplex with automatic MDI/MDI-X

Management: CLI via Telnet; TFTP for software upgrade and configuration upload; SNMPv1; HTTP/web browser

Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP & ICMP Redirect (RFC 792), ARP (RFC 826). IP Router with RIPv1 (RFC 1058), RIPv2 (RFC 2453), programmable static routes. Integrated DHCP Server (RFC 2131), DNS Relay (RFC 1631), IEEE 802.1p VLAN Tagging, NAT/NAPT (RFC 1631/2391)

Security: IPsec including AH and ESP. DES, 3DES, and AES encryption. Access Control Lists (ACLs). IP port and address filtering both by source and destination. DoS Detection. Password protected system management with a username/password for console and virtual terminal.

Power Supplies: External universal 90–260 VAC input or 48 VDC input. (Optional Internal universal 90–260 VAC input.)

Compliance: CE Mark; Safety: UL60950-1, CSA 22.2 6095001, IEC/EN60950-1. Universal AC units are US NRTL Listed; EMC Emissions: FCC Part 15 Class A; EN55022 Class A; EMC Immunity: EN55024

Environment: Temp.: 0–40°C (32–104°F); Humidity: 5–80% non-condensing

Dimensions: 7.3W x 1.6H x 6.1D in. (18.5H x 4.1W x 15.5D cm)

Weight: 30.5 oz./500g (models with internal power); 24.4 oz./400g (models with external power; no power supply)

Low-cost T1/E1 WAN Access Router

IPLink™ 2603

This WAN Gateway Router is a complete all-in-one network access device which easily connects your IP/LAN to any T1/E1 network interface with routed or bridged connections

The Models 2603 Gateway Router is the ideal solution for connecting any small to medium-sized enterprise or remote office to an IP/Internet network using standard telco and WAN interfaces.

Combining ease-of-use with a full suite of LAN/WAN routing features, the IPLink routers provide selectable bridging or routing functionality along with advanced IP features such as NAT/NAPT, Firewall, and DHCP. A complete set of configurable FR/PPP/IP WAN protocols allow a wide range of choices when connecting branches via common WAN services. The IPLink Routers boast easy installation offering Console/VT-100, Telnet, and HTTP/SNMP management options.

The IPLink 2603 come with an auto-sensing full-duplex 10/100Base-T Ethernet port, cross-over switch, and internal power supply. The Model 2603 is equipped with an integrated T1/E1 CSU/DSU for connection to full and fractional T1/E1 services.

Patton's new series of high-speed routers offer the versatility and reliability demanded for business-class applications at the most affordable price.

Why use our IPLink Router?

Patton's IPLink 2603 Gateway router delivers all the advanced features for secure, reliable, and high speed Internet data connections. It combines ease-of-use with powerful data routing to make shared Internet connectivity simple and easy.

With NAT support, the IPLink router offers convenient and economical operation by using a single IP address while the integrated DHCP server automates IP address assignment for connected LAN computers. Security is standard with built-in firewall and violation alerting features that protect the network from would-be intruders.

Patton stands behind our products-we are the only company in the industry offering free configuration support, free technical services, and a minimum one-year warranty on all our products.

FEATURES & BENEFITS

- ✔ T1/E1 WAN interface in industry-standard connectors
- ✔ PPP and Frame Relay —Versatile WAN options enable deployment into any network. Use routed IP or bridged Ethernet for transparent networking. Bridge passes VLAN tagged frames (no VLAN tagging within the 2603)
- ✔ NAT/NAPT, Firewall, DHCP —Powerful routing features make shared Internet connectivity simple and secure.
- ✔ 10/100 Ethernet with MDI-X—Easily connect to any computer or LAN—the built-in communication crossover switch eliminates messy configuration cables.
- ✔ WWW/SNMP Manageable—Built-in VT-100 console port makes setup a *snap*, and you can use the embedded HTTP/SNMP agent to manage an IPLink router from anywhere in the world.

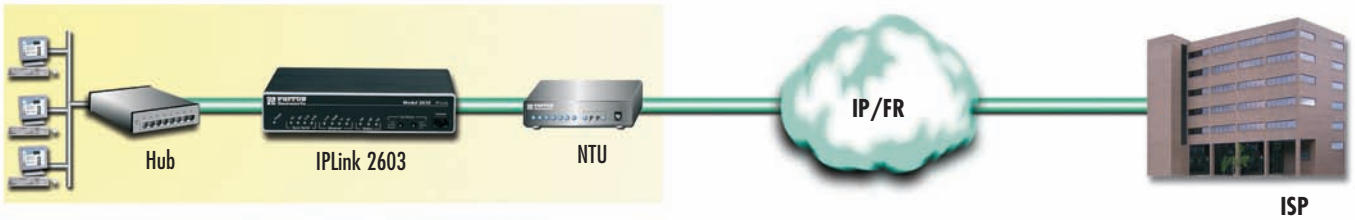
SPECIFICATIONS

WAN Interface: T1/E1 (RJ-48C)
Ethernet Connection: Single-port 10/100Base-T switch, auto-sensing, full/half-duplex operation, built-in MDI-X
Management: EIA-561 RJ-45 RS-232, VT-100 CLI, TELNET, Embedded WEB/HTTP, SNMP, Logging events: POST, POST errors, line/DSL, PPP/DHCP.
Protocol: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP (RFC 950), ARP (RFC 826), BCP (RFC 1638) • IP Router with RIP (RFC 1058), RIPv2 (RFC 2453), Integrated DHCP Server (RFC 2131 • Selectable IP leases and MAC/IP pairings • DHCP relay agent (RFC 2132/RFC 1542) with 8 address pools. DNS Relay. IGMP v1 and v2 • Ethernet Bridging • NAT/NAPT with integrated application support, MultiNat with 1:1 mapping, Many:1, Many:Many mapping, NAT Port/IP redirection and mapping
Security: DoS Detection/protection. Intrusion detection, Logging of session, blocking and intrusion events and Real-Time alerts, Password protected system management with a username/password for console and virtual terminal, Packet filtering firewall for controlled access to and from LAN/WAN • Support for 255 rules in 32 filter sets • 16 individual connection profiles • Access list determining up to 5 hosts/networks which are allowed to access management system SNMP/HTTP/TELNET
Indicators: 12 LEDs: Power, Link, Loss, Loop, Back-Up WAN signals; Link, TX, RX LAN signals
Power Supply: Internal universal 90-260 VAC input or 48 VDC input.
Compliance: FCC Part 15A, CE Mark, EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC, EN60950, EN55022 (CISPR 22) • FCC part 68.
Environment: Temp.: 32–122°F (0–50°C) • Humidity: 5-90%, non-condensing
Dimensions: 7.3 x 6.6 x 1.62 inch (185 x 168 x 41 mm)

ORDERING INFORMATION

2603/K/EUI: E1 (RJ-45/BNC) Router with external UI power supply
2603/K/48: T1/E1 (RJ-45/BNC) Router with 48-VDC power supply
2603/T/EUI: T1 (RJ-45) Router with external UI power supply
2603/T/48: T1/E1 (RJ-45) Router with 48-VDC power supply

Application diagram



Sync. Serial WAN Routers

IPLink™ 2621 & 2635

These WAN Gateway Routers are complete all-in-one network access devices that easily connect your IP/LAN to any X.21 or V.35 network interface with routed or bridged connections

The Models 2621 and 2635 Gateway Routers are the ideal solution for connecting any small to medium-sized enterprise or remote office to an IP/Internet network using standard telco and WAN interfaces.

Combining ease-of-use with a full suite of LAN/WAN routing features, the IPLink routers provide selectable bridging or routing functionality along with advanced IP features such as NAT/NAPT, Firewall, and DHCP. A complete set of configurable FR/PPP/IP WAN protocols allow a wide range of choices when connecting branches via common WAN services. The IPLink Routers boast easy installation offering Console/VT-100, Telnet, and HTTP/SNMP management options.

All IPLink routers come with an auto-sensing full-duplex 10/100Base-T Ethernet port, cross-over switch, and internal power supply. The Model 2621 has an X.21 interface, and the Model 2635 comes with a V.35 interface.

Patton's new series of high-speed routers offer the versatility and reliability demanded for business-class applications at the most affordable price.

Why use our IPLink Routers?

IPLink Gateway routers deliver all the advanced features for secure, reliable, and high speed Internet data connections. They combine ease-of-use with powerful data routing to make shared Internet connectivity simple and easy.

With NAT support, the IPLink routers offer convenient and economical operation by using a single IP address while the integrated DHCP server automates IP address assignment for connected LAN computers. Security is standard with built-in firewall and violation alerting features that protect the network from would-be intruders.

Available with such standard WAN sync-serial interfaces as V.35 and X.21, the IPLink series gives you the right interface needed for your WAN service.

Patton stands behind our products-we are the only company in the industry offering free configuration support, free technical services, and a minimum one-year warranty on all our products.

FEATURES & BENEFITS

- ✔ V.35 or X.21 WAN interfaces—Get the WAN interface you need in industry-standard connectors
- ✔ PPP and Frame Relay—Versatile WAN options enable deployment into any network. Use routed IP or Bridged Ethernet for transparent networking. Bridge passes VLAN tagged frames (no VLAN tagging within the 2635/2621)
- ✔ NAT/NAPT, Firewall, DHCP—Powerful routing features make shared Internet connectivity simple and secure.
- ✔ 10/100 Ethernet with MDI-X—Easily connect to any computer or LAN—the built-in communication crossover switch eliminates messy configuration cables.
- ✔ WWW/SNMP Manageable—Built-in VT-100 console port makes setup a *snap*, and you can use the embedded HTTP/SNMP agent to manage the IPLink routers from anywhere in the world.

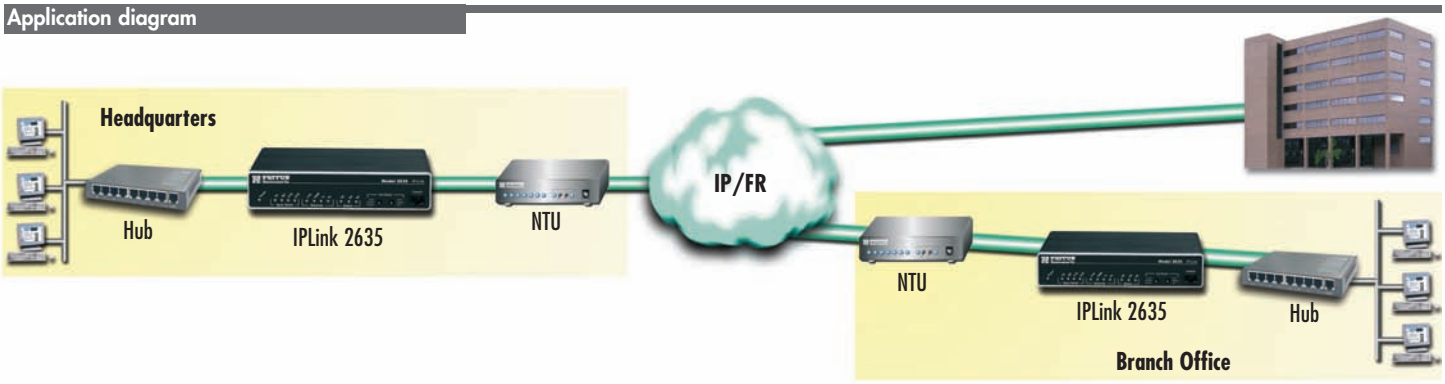
SPECIFICATIONS

WAN Interface: 2635: V.35 (M/34F) • 2621: X.21 (DB-15F)
Ethernet Connection: Single-port 10/100Base-T switch • auto-sensing • full/half-duplex operation • built-in MDI-X
Management: EIA-561 RJ-45 RS-232, VT-100 CLI, TELNET, Embedded WEB/HTTP, SNMP, Logging events: POST, POST errors, line/DSL, PPP/DHCP.
Protocol: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP (RFC 950), ARP (RFC 826), BCP (RFC 1638) • IP Router with RIP (RFC 1058), RIPv2 (RFC 2453), Integrated DHCP Server (RFC 2131) • Selectable IP leases and MAC/IP pairings • DHCP relay agent (RFC 2132/RFC 1542) with 8 address pools • DNS Relay • IGMP v1 and v2 • Ethernet Bridging • NAT/NAPT with integrated application support, MultiNat with 1:1 mapping, Many:1, Many:Many mapping, NAT Port/IP redirection and mapping
Security: DoS Detection/protection • Intrusion detection, Logging of session, blocking and intrusion events and Real-Time alerts, Password protected system management with a username/password for console and virtual terminal, Packet filtering firewall for controlled access to and from LAN/WAN • Support for 255 rules in 32 filter sets • 16 individual connection profiles • Access list determining up to 5 hosts/networks which are allowed to access management system SNMP/HTTP/TELNET
Indicators: 12 LEDs: Power, Link, Loss, Loop, Back-Up WAN signals; Link, TX, RX LAN signals
Power: Internal universal 90–260 VAC input or 48 VDC input.
Compliance: FCC Part 15A, CE Mark, EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC, EN60950, EN55022 (CISPR 22) • FCC part 68.
Environment: Temp.: 32–122°F (0–50°C) • Humidity: 5–90%, non-condensing
Dimensions: 7.3 x 6.6 x 1.62 inch (185 x 168 x 41 mm)

ORDERING INFORMATION

2621/EUI: X.21 Router; external UI power supply
2621/48: X.21 Router; external 48-VDC power supply
2635/EUI: V.35 Router; external UI power supply
2635/48: V.35 Router, 48-VDC power supply

Application diagram



T1/E1 Managed VPN WAN Router

IPLink™ 2803

Multimedia-enable any Access TDM network.

The IPLink Managed T1/E1 VPN Router with integrated WAN port is a multimedia router with built-in NTU that manages, monitors and manipulates IP traffic flows to create a service quality control point for IP traffic going over TDM networks. The Model 2803 addresses both the security and the traffic prioritization needs of enterprises and service providers alike through its support for strong encryption of all traffic flows as well as key multimedia features such as prioritization of voice, video and data traffic, IP multicast and IGMP, and embedded VoIP gateway.

VPN routers enable the secure communication of remote offices, home offices, and mobile users across insecure IP networks such as the Internet. IPLink VPN Routers take it one step further and integrate quality of service (QoS) to optimize business traffic flows plus include an NTU to eliminate the need for external converters. IPLink VPN Routers implement a comprehensive security environment and encrypt all flows including VoIP and video flows.

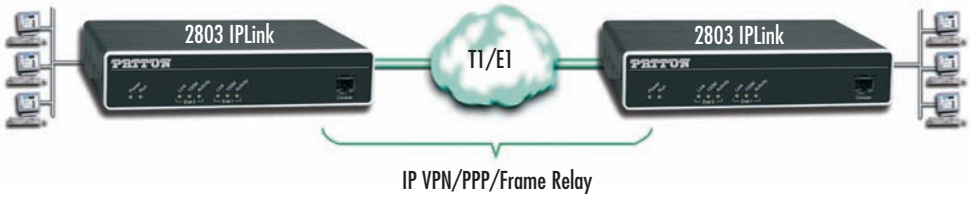
It all starts with IPsec. By supporting ESP as well as AH, IPLink VPN Routers provide data integrity, authentication, anti-replay and data confidentiality to any traffic flow. DES, 3DES, and AES provide standard encryption up to 256 bits. Firewall capabilities of the IPLink VPN Routers include Access Control Lists (ACLs), IP address and port filtering, and protection against Denial of Service (DoS) attacks. Likewise, PPP/PPPoE protocols include support for PAP and CHAP authentication.

QoS features include ToS/DiffServ marking and the configuration of eight service class tags per IEEE 802.1p/Q. With traffic scheduling and shaping, create dedicated bandwidth guarantees, configurable burst tolerance, and policing to include excess traffic discard. IP, PPP, and Frame Relay fragmentation is configurable to help minimize jitter in traffic flows.

Advanced IP features include IGMP and IP multicast support as well as RIPv1 & RIPv2 routing and static route configuration. Static and dynamic NAT, NAPT, DNS resolver and relay, dynamic DNS, and DHCP server further add to the capabilities of the IPLink VPN Router. Frame Relay support is included standard. All IPLink VPN routers can be managed via a web browser (HTTP), command line interface (Telnet or Console), or an SNMP management platform. IKE is included for ease of key management.

Application diagram

IPLink VPN Routers are next generation security appliances that address the needs of business users by integrating QoS and WAN interfaces into a one-box solution. Service Providers can take advantage of the built-in QoS to provide both VPN services as well as managed bandwidth services using IPLink VPN Routers.



FEATURES & BENEFITS

- ✔ Strong encryption of traffic including VoIP & video flows
- ✔ IP multicast and IGMP support
- ✔ True multimedia QoS with traffic class prioritization
- ✔ VoIP SIP proxy with built-in NAT, DHCP relay and DynDNS
- ✔ Embedded T1/E1 NTU with loopback and alarms
- ✔ VLAN per IEEE 802.1Q including priority queuing

ORDERING INFORMATION

2803/K/EUI: VPN Router, 2 Ethernet ports, 1 T1/E1 port with RJ & BNC, external UI power supply

2803/K/48: VPN Router, 2 Ethernet ports, 1 T1/E1 port with RJ & BNC, 48-VDC power supply

2803/T/EUI: VPN Router, 2 Ethernet ports, 1 T1/E1 port RJ only, external UI power supply

2803/T/48: VPN Router, 2 Ethernet ports, 1 T1/E1 port RJ only, 48-VDC power supply

*I'm Joe, one of Patton's Senior Product Managers. If you have any questions about products or applications using WAN Routers, please call me at **+1 301.975.1000, x137**, or via e-mail at **joe@patton.com**.*

Ask the Experts

SPECIFICATIONS

WAN ports: 2803: One T1/E1. (E1—G.703/G.704 with HDB3 and AMI encoding. T1—ANSI T1.403 & AT&T TR54016 with AMI coding/D4 framing or B8ZS coding/ESF framing. RJ-48C connector and/or dual BNC available. 2835: V.35 DTE on DB-25F Connector 2821: X.21 DTE or DCE on DB-15F Connector

Ethernet ports: Two 10/100Base-T ports (RJ-45 connector); auto-negotiating; half or full duplex operation with built-in MDI-X

Management: CLI via Telnet Ethernet or RS-232 Console Port (EIA-564); TFTP for Software upgrade and configuration upload; SNMPv1; HTTP/web browser

Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP & ICMP Redirect (RFC 792), ARP (RFC 826). IP Router with RIPv1 (RFC 1058), RIPv2 (RFC 2453), programmable static routes. Integrated DHCP Server (RFC 2131), DNS Relay (RFC 1631), IEEE 802.1p VLAN Tagging, NAT/NAPT (RFC 1631/2391); IGMPv2

Security: IPSec including AH and ESP. DES, 3DES, and AES encryption. Access Control Lists (ACLs). IP port and address filtering both by source and destination. DoS Detection. Password protected system management with a username/password for console and virtual terminal; IKE

Power: External universal 90–260 VAC input or 48 VDC input. (Optional Internal universal 90–260 VAC input.)

Compliance: CE Mark; Safety: UL60950-1, CSA 22.2 6095001, IEC/EN60950-1. Universal AC units are US NRTL Listed; EMC Emissions: FCC Part 15 Class A; EN55022 Class A; EMC Immunity: EN55024

Environment: Temp.: 0–40°C (32–104°F) • Humidity: 5–80% non-condensing

Dimensions: 7.3W x 1.6H x 6.1D in. (18.5H x 4.1W x 15.5D cm)

Weight: 30.5 oz./500g (models with internal power); 24.4 oz./400g (models with external power; no power supply)

Sync. Serial Managed VPN WAN Router

IPLink™ 2821 & 2835

IPLink Managed VPN Routers with integrated WAN ports optimize and secure information flows applying VPN encryption and QoS/CoS traffic management.

The IPLink Managed VPN Routers with integrated serial ports are a family of next generation appliances that address both the security and the traffic prioritization needs of enterprises. VPN routers enable the secure communication of remote offices, home offices, and mobile users across insecure IP networks such as the Internet. IPLink VPN Routers take it one step further and integrate quality of service (QoS) to optimize business traffic flows plus include a serial port to eliminate the need for external converters.

IPLink™ VPN Routers implement a comprehensive security environment. It all starts with IPSec. By supporting ESP as well as AH, IPLink VPN Routers provide data integrity, authentication, anti-replay and data confidentiality to any traffic flow. DES, 3DES, and AES provide standard encryption up to 256 bits. Firewall capabilities of the IPLink VPN Routers include Access Control Lists (ACLs), IP address and port filtering, and protection against Denial of Service (DoS) attacks. Likewise, PPP/PPPoE protocols include support for PAP and CHAP authentication.

QoS features include ToS/DiffServ marking and the configuration of eight service class tags per IEEE 802.1p/Q. With traffic scheduling and shaping, create dedicated bandwidth guarantees, configurable burst tolerance, and policing to include excess traffic discard. IP, PPP, and Frame Relay fragmentation is configurable to help minimize jitter in traffic flows.

Advanced IP features include RIPv1 & RIPv2 routing and static route configuration. Static and dynamic NAT, NAPT, DNS resolver and relay, dynamic DNS, and DHCP server further add to the capabilities of the IPLink VPN Router. Frame Relay support is included standard. All IPLink VPN routers can be managed via a web browser (HTTP), command line interface (Telnet or Console), or an SNMP management platform.

FEATURES & BENEFITS

- ✔ V.35 and X.21 — Get the integrated serial port you need.
- ✔ VPN Tunnels — Standard IPSec with AH and ESP ensures maximum protection when traversing unsecured networks.
- ✔ Strong Encryption — DES, 3DES, and AES offer standards based encryption algorithms from 56 to 256 bits.
- ✔ QoS/CoS Profiles — Configurable burst tolerance, bandwidth guarantees plus reduce per flow traffic jitter as required by the application.
- ✔ Configurable Security Profiles — Built-in IP address and IP port filtering, ACLs and DoS attack detection creates a comprehensive security environment.
- ✔ Enhanced IP Services — DNS resolver and relay, NAT/NAPT, dynamic DNS, and DHCP server, eases integration.
- ✔ SNMP/HTTP Management — Easily manage the IPLink VPN Routers via a simple web browser interface.

ORDERING INFORMATION

2821/EUI: VPN Router, 2 Ethernet ports, 1 X.21 port with DB15 connector, external UI power supply

2821/K/48: VPN Router, 2 Ethernet ports, 1 X.21 port with DB15 connector, 48-VDC power supply

2835/EUI: VPN Router, 2 Ethernet ports, 1 V.35 port with M34 connector, external UI power supply

2835/48: VPN Router, 2 Ethernet ports, 1 V.35 port with M34 connector, 48-VDC UI power supply

SPECIFICATIONS

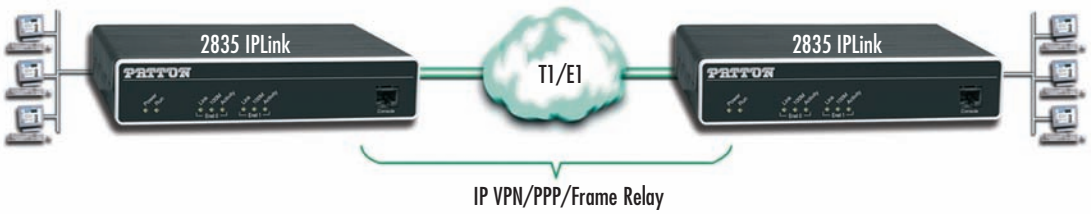
WAN ports: 2835—V.35 DTE on DB-25F connector • 2821—X.21 DTE or DCE on DB-15F connector
Ethernet ports: Two 10/100Base-T ports (RJ-45 connector); auto-negotiating; half or full duplex operation with built-in MDI-X
Management: CLI via Telnet Ethernet or RS-232 Console Port (EIA-564); TFTP for Software upgrade and configuration upload; SNMPv1; HTTP/web browser
Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP & ICMP Redirect (RFC 792), ARP (RFC 826). IP Router with RIPv1 (RFC 1058), RIPv2 (RFC 2453), programmable static routes. Integrated DHCP Server (RFC 2131), DNS Relay (RFC 1631), IEEE 802.1p VLAN Tagging, NAT/NAPT (RFC 1631/2391); IGMPv2
Security: IPSec including AH and ESP. DES, 3DES, and AES encryption. Access Control Lists (ACLs). IP port and address filtering both by source and destination. DoS Detection. Password protected system management with a username/password for console and virtual terminal; IKE
Power supplies: External universal 90–260 VAC input or 48 VDC input. (Optional internal universal 90–260 VAC input.)
Compliance: CE Mark; Safety: UL60950-1, CSA 22.2 6095001, IEC/EN60950-1. Universal AC units are US NRTL Listed; EMC Emissions: FCC Part 15 Class A; EN55022 Class A; EMC Immunity: EN55024
Environment: Temp.: 0–40°C (32–104°F); Humidity: 5–80% non-condensing
Dimensions: 7.3W x 1.6H x 6.1D in. (18.5H x 4.1W x 15.5D cm)
Weight: 30.5 oz./500g (models with internal power); 24.4 oz./400g (models with external power; no power supply)

I'm Nathan, Patton's NMS Product Line Manager. If you do not find the solutions you need at ***www.patton.com*** *or in this catalog, please call me at* ***+1 301.975.1000, x129****. You can also send e-mail to* ***nathan@patton.com****.*

Ask the Experts

Application diagram

IPLink VPN Routers are next generation security appliances that address the needs of business users by integrating QoS and WAN interfaces into a one-box solution. Service Providers can take advantage of the built-in QoS to provide both VPN services as well as managed bandwidth services using IPLink VPN Routers.



Integrated TDM & IP Routers

IPLink™ 2620

Link up effortlessly with the Patton Model 2620 Dual-Port T1/E1 IPLink Router combines two T1/E1 and four 10/100 Ethernet ports to deliver drop and insert and WAN bandwidth to the most demanding access applications.

This dual-port T1/E1 router is a versatile access router supporting drop and insert T1/E1 applications as well as high-speed WAN IP network access.

Combining ease-of-use with a full suite of LAN/WAN routing features, the Model 2620 provides selectable bridging or routing functionality along with advanced IP features such as NAT/NAPT, DNS relay, and DHCP server and relay. Numerous firewall features, including the ability to filter by IP address and by IP port, support for Intrusion Detection (IDS), and the capability of "blacklisting" offending traffic flows, likewise come standard with the unit.

A complete set of configurable FR/PPP/IP WAN protocols allow a wide range of choices when connecting equipment via common WAN services. By supporting the latest version of PPP/BCP, the IPLink transparently negotiates the passing of VLAN traffic. Deployments can also take advantage of the Model 2620's full implementation of Frame Relay to support Frame Relay VPN deployments over switched carrier networks.

The Model 2620 boasts easy installation offering Console/VT-100, Telnet, and HTTP/SNMP management options. All IPLink Routers come with a four port auto-sensing full-duplex 10/100Base-T Ethernet switch, the choice of internal or external power supply and two T1/E1 WAN ports with built-in CSU/DSU.

Patton's series of high-speed access routers offer the versatility and reliability demanded for business-class applications at the most affordable price.

FEATURES & BENEFITS

- ✔ Dual T1/E1 with Drop & Insert—Easily take any DS0 from one T1/E1 port and switch it to the other.
- ✔ Four 10/100 Ethernet—Easily bridge the gap between the LAN and WAN.
- ✔ Terminate nx64 data, Frame Relay, or PPP encapsulated IP traffic on channelized interfaces.
- ✔ Enhanced IP Services—DNS relay, NAT/NAPT, DHCP server and relay, make it easy to offer any service.
- ✔ Firewall with Standard DoS & Filtering—Built-in IP address and IP port filtering, intrusion detection and blacklisting capabilities make firewall services a snap.

ORDERING INFORMATION

2620/KK/EUI: E1 Router, D&I port, Quad 10/100 Ethernet, 90–260 VAC PS

2620/TT/EUI: T1 Router, D&I with Quad 10/100 Ethernet, 90–260 VAC PS

2620/KK/48: E1 Router, D&I port, Quad 10/100 Ethernet, internal 36–72 VDC PS

2620/TT/48: T1 Router, D&I with Quad 10/100 Ethernet, internal 36–72 VDC PS

SPECIFICATIONS

WAN ports: Two software configurable ports. E1—G.703/G.704 with HDB3 and AMI encoding support. T1—ANSI T1.403 & AT&T TR54016 with AMI coding/D4 framing or B8ZS coding/ESF framing

Ethernet Ports: Four port 10/100Base-T (RJ-45 connector) • auto-negotiating • half or full duplex operation with built-in MDI-X

Management: HTTP/SNMP, Telnet Ethernet, RS-232 Console Port, SYSLOG Client, Software upgrade via TFTP, SNTP

Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP (RFC 950), ARP (RFC 826) • IP Router with RIP (RFC 1058) and RIPv2 (RFC 2453), integrated DHCP Server (RFC 2131) with selectable IP leases and MAC/IP pairings • DHCP relay agent (RFC 2132/RFC 1542) with 8 address pools • DNS Relay, IGMP v1 and v2, Ethernet Bridging • NAT/NAPT with integrated application support, MultiNat with 1:1 mapping, Many:1, Many:Many mapping, NAT Port/IP redirection and mapping

Security: DoS Detection/protection • Intrusion detection, Logging of session, blocking of intrusion events and Real-Time alerts, Password protected system management with a username/password for console and virtual terminal, Packet filtering firewall for controlled access to and from LAN/WAN. Support for 255 rules in 32 filter sets. 16 individual connection

Power: Internal universal 90–260 VAC input or 48 VDC input.

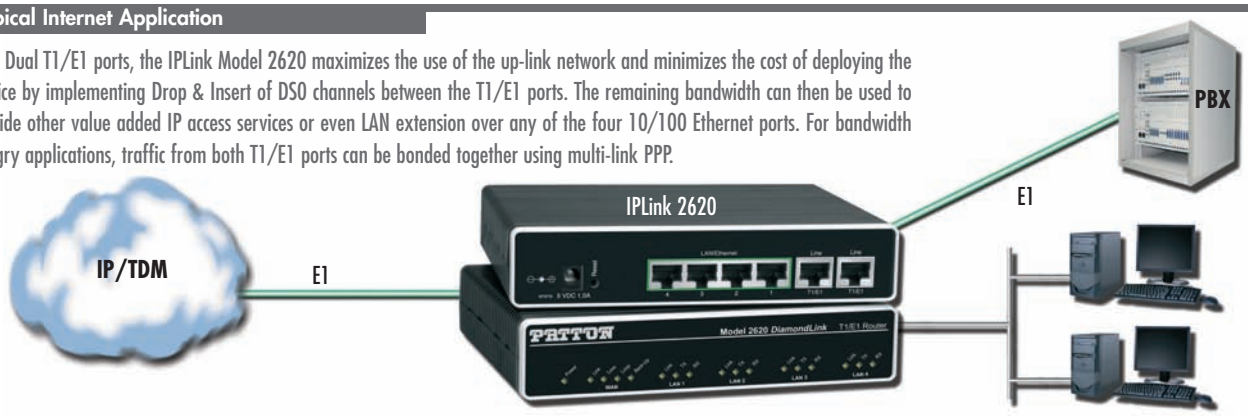
Compliance: FCC Part 15A, CE Mark, EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC, EN60950, EN55022 (CISPR 22) • FCC part 68

Environment: Temp.: 0–50°C (32–122 °F) • Humidity: 5–90% non-condensing

Dimensions: 7.3 x 6.6 x 1.62 in. (185 x 168 x 41 mm)

Typical Internet Application

With Dual T1/E1 ports, the IPLink Model 2620 maximizes the use of the up-link network and minimizes the cost of deploying the service by implementing Drop & Insert of DS0 channels between the T1/E1 ports. The remaining bandwidth can then be used to provide other value added IP access services or even LAN extension over any of the four 10/100 Ethernet ports. For bandwidth hungry applications, traffic from both T1/E1 ports can be bonded together using multi-link PPP.



Channelized Gigabit Router

IPLink™ 2884 T1/E1 Router

Patton's IPLink Channelized Gigabit multi-media routers concentrate up to 124 WAN connections or bond up to 4 T1/E1s for an 8 Mbps link to serve high-density and bandwidth hungry applications.

The Model 2884 Series T1/E1 Channelized Gigabit Routers are a family of multi-media routers that terminate up to 124 PPP channels as well as perform Layer 2 bonding of T1/E1 WAN ports with multi-link PPP. Dual Gigabit Ethernet ports ensure connection to any LAN infrastructure.

The IPLink Channelized Gigabit Routers offer pre-set priorities for voice and video traffic on a per port basis up to a user configurable bandwidth. QoS configurations ease the bandwidth management of ports and applications through the creation of QoS classes and profiles. Traffic can be shaped and policed to provide full QoS control over both the egress and ingress directions. ToS/DiffServ bits can be re-striped to ensure network-wide QoS enforcement. VLAN priority bits can be used for QoS enforcement.

Stateful Firewall inspection of traffic is accomplished through the creation of Access Control Lists (ACLs) that enable the filtering of traffic based on numerous criteria including source and destination IP address, port and protocol.

Logical and physical ports are selectable for bridging or routing. Advanced IP features such NAT/NAPT and VLANs are likewise configurable on a per port basis. By supporting the latest version of PPP/BCP, the IPLink transparently negotiates the passing of VLAN traffic over PPP based WAN links. Bridged traffic can be tagged and prioritized according to user defined parameters.

The 2884 Model Series boasts easy installation, offering CLI configuration via Console/VT-100 or Telnet/SSH, and HTTP web based management, and SNMP. Patton's series of high-speed access routers offer the versatility and reliability demanded for business-class applications at the most affordable price.

FEATURES & BENEFITS

- ✔ 2/4 port Channelized T1/E1 — Support up to 124 PPP sessions with up to 4 channelized T1/E1 ports.
- ✔ ML PPP Expands Bandwidth — Bind any number of channels or T1/E1 ports to create up to an 8-Mbps WAN link.
- ✔ Dual Gigabit Ethernet Ports — With Dual 10/100/1000, auto-MDI ports easily connect to any LAN infrastructure.
- ✔ Per Flow QoS — Traffic rates are set through ACLs that shape and police VLAN and IP traffic.
- ✔ Stateful Firewall Inspection through ACLs that filter by source and destination IP address, IP port and protocol.
- ✔ VLAN Tagging — VLAN tagging and processing is configurable on any T1/E1 channel or Ethernet port.
- ✔ Easy Management — Easily manage the 2884 router via an HTTP/web interface, a CLI accessible via the VT100 console or through Telnet/SSH, or via SNMP.

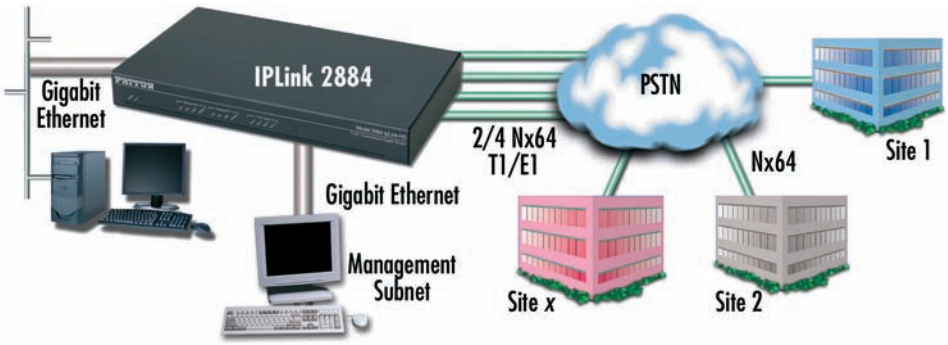
SPECIFICATIONS

WAN ports: Two or Four software configurable channelized ports. E1 – G.703/G.704 with HDB3 and AMI encoding support. T1 – ANSI T1.403 & AT&T TR54016 with AMI coding/D4 framing or B8ZS coding/ESF framing.
Ethernet Ports: Two port 10/100/1000BaseT (RJ-45 connector); auto-negotiating; half or full duplex operation with built-in MDI-X
Management: HTTP/SNMP, Telnet/SSH Ethernet, RS-232 Console Port, SYSLOG Client, Software upgrade via TFTP
Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP (RFC 950), ARP (RFC 826). IP Router with RIP (RFC 1058) and RIPv2 (RFC 2453), integrated DHCP Server (RFC 2131) with selectable IP leases and MAC/IP pairings; IGMP v1 and v2, Ethernet Bridging. NAT/NAPT with integrated application support. MultiNat with 1:1 mapping, Many:1, Many:Many mapping, NAT Port/IP redirection and mapping; PPP/BCP, PP/IPCP; IEEE 802.1p/Q VLAN Tagging and Priority
Security: Logging of session, Password protected system management with a username/password for console and virtual terminal, Packet filtering firewall for controlled access to and from LAN/WAN. ACL rule and profile creation; SSH for secure remote access.
Power Supplies: Internal universal 100–240 VAC input (50/60 Hz). Less 15W power consumption.
Compliance: EMC Compliance: EB55022 and EN55024
Safety Compliance: EN 60950
FCC Part 15A, CE Mark, FCC part 68, CS-03
Environment:
Operating temperature: 32–122 °F (0–50°C)
Humidity: up to 90% non-condensing
Dimensions:
11 x 1.5 x 7 in. (280 x 39 x 180 mm)

Remote Site Monitoring

The 2884 series is a channelized multi-port access bridge/router that supports up to 124 remote locations, subnets and bridges.

If you have multiple remote locations to manage, the 2884 provides an ideal companion to any out-of-band network management solution. Equipped with VLAN and RIP support, the 2884 is adept at providing the connectivity required to manage and monitor remote locations.



ORDERING INFORMATION

2884/2/UI: Dual-Port, T1/E1 Dual Gigabit-Ethernet Router, internal 100–240 VAC power supply

2884/4/UI: Quad-Port, T1/E1 Dual Gigabit-Ethernet Router, internal 100–240 VAC power supply

Multi-Megabit Inverse Mux

IPLink™ 2888

Patton's IPLink™ Multi-Megabit Inverse Multiplexer facilitates the bonding of up to 4 T1/E1 ports into a high-bandwidth WAN link to feed the most bandwidth hungry applications.

The Model 2888 Four-Port T1/E1 Multi-Megabit Inverse Multiplexer provides point-to-point high-bandwidth Ethernet/IP connectivity over TDM-based T1/E1 circuits. Dual 10/100/1000 Ethernet ports ensure easy connection to any LAN infrastructure.

In order to maximize the bandwidth utilization over the T1/E1 links, the Multi-Megabit Inverse Mux uses Multi-Link PPP to bond the individual circuits into one high bandwidth WAN link. Ethernet/IP traffic is transparently bridged over the link using PPP/BCP which adds minimal encapsulation overhead when compared to ATM.

Key features make the Multi-Megabit Inverse Mux an ideal solution for VLAN trunk extension. The Inverse Mux supports IEEE 802.1p/Q VLAN tagging and priority. VLAN tagged traffic that is received on any of the Gigabit Ethernet interfaces is transparently transported over the WAN to the matching Inverse Mux on the other side. The VLAN priority bits are inspected and the QoS of the individual Ethernet frames are preserved end-to-end. The Multi-Megabit Inverse Mux likewise supports VLAN tagging of Ethernet traffic.

ACLs allow Layer 3 filtering and Layer 3 based QoS of the VLAN and bridge connections. Filter by IP address, IP port or even protocol. Use the ACL to force an inspection of the ToS/DiffServ bits and preserve end-to-end QoS.

The 2888 Model Series boasts easy installation, offering CLI configuration via Console/VT-100 or Telnet/SSH, HTTP web based management, and SNMP. Patton's series of high-speed access routers offer the versatility and reliability demanded for business-class applications at the most affordable price.

FEATURES & BENEFITS

- ✔ 4-port T1/E1 Inverse Mux—Using ML PPP bond from 2-4 T1/E1 ports to create a single high-bandwidth WAN link over TDM circuits.
- ✔ Dual Gigabit Ethernet Ports—With Dual 10/100/1000, auto-MDI ports easily connect to any LAN infrastructure.
- ✔ End-to-end QoS—Inspect and preserve VLAN priority as well as ToS/Diffserv bits to maintain end-to-end QoS.
- ✔ VLAN Trunk Extension—Tag untagged traffic, preserve VLAN QoS, or simply transparently forward VLAN traffic.
- ✔ Layer 3 Traffic Filtering—Assign an ACL to the bridge or VLAN connection
- ✔ VLAN Tagging—VLAN tagging and processing is configurable on any T1/E1 channel or Ethernet port.
- ✔ Easy Management—Easily manage the 2888 router via an HTTP/web interface, a CLI accessible via the VT100 console or through Telnet/SSH, or via SNMP.
- ✔ Large MTU size support for frame sizes greater than 9216.

ORDERING INFORMATION

2888/2/UI: Dual-Port, Dual Gigabit-Ethernet Router, internal 100–240 VAC power supply

2888/4/UI: Quad-Port, Dual Gigabit-Ethernet Router, internal 100–240 VAC power supply

SPECIFICATIONS

WAN ports: Four software-configurable channelized ports. E1 – G.703/G.704 with HDB3 and AMI encoding support. T1 – ANSI T1.403 & AT&T TR54016 with AMI coding/D4 framing or B8ZS coding/ESF framing.

Ethernet Ports: Two-port 10/100/1000Base-T (RJ-45 connector); auto-negotiating; half or full duplex operation with built-in MDI-X

Management: HTTP/SNMP, Telne/SSH Ethernet, RS-232 Console Port, SYSLOG Client, Software upgrade via TFTP

Protocols: IP (RFC 741), TCP (RFC 793), UDP (RFC 768), ICMP (RFC 950), ARP (RFC 826); IGMP v1 and v2, Ethernet Bridging.; PPP/BCP, IEEE 802.1p/Q VLAN Tagging and Priority

Security: Password protected system management with a username/password for console and virtual terminal, Packet filtering firewall for controlled management access. ACL rule and profiles; SSH for secure remote access.

Power Supplies: Internal universal 100–240 VAC input (50/60 Hz). Less 15W power consumption.

Compliance: EMC Compliance: EB55022 and EN55024
Safety Compliance: EN 60950
FCC Part 15A, CE Mark, FCC part 68, CS-03

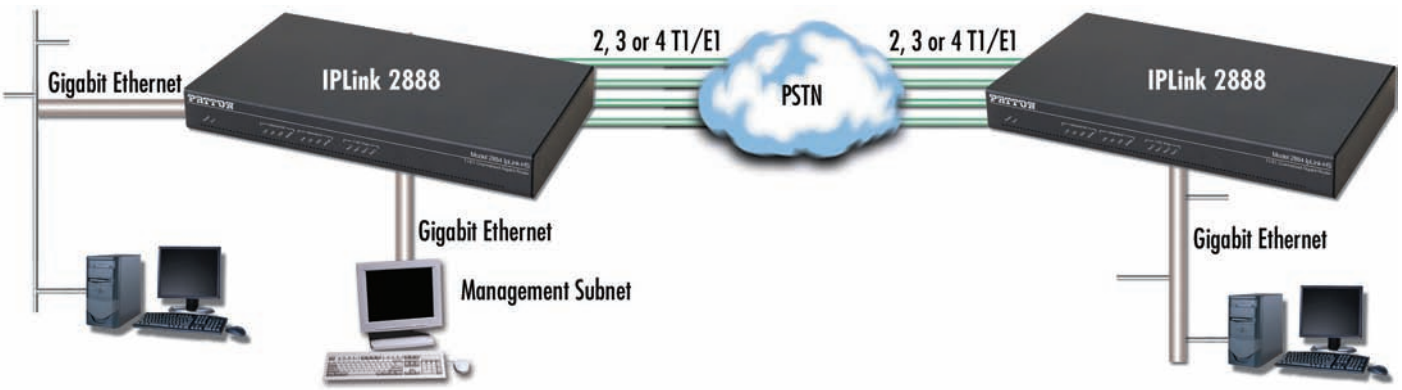
Environment: Operating temperature: 32–122°F (0–50°C)
Humidity: up to 90% non-condensing

Dimensions: 11 x 1.5 x 7 in. (280 x 39 x 180 mm)

Remote Traffic Backhaul

The Model 2888 provides point-to-point high-bandwidth Ethernet/IP connectivity over TDM-based T1/E1 circuits.

If you need to increase raw bandwidth between two locations the Model 2888 is right for you. An ideal solution for IPDSLAM traffic backhaul, the 2888 uses ML-PPP to aggregate up to 4 T1/E1 TDM ports and provide perfect complement to any MxU DSLAM installation.



Modular T1/E1 Routers

ForeFront™ 6400 Series Edge/Access Routers

Patton's ForeFront™ Edge/Access TDM Router line delivers carrier grade IP networking and helps service providers integrate TDM based services with core MPLS networks.

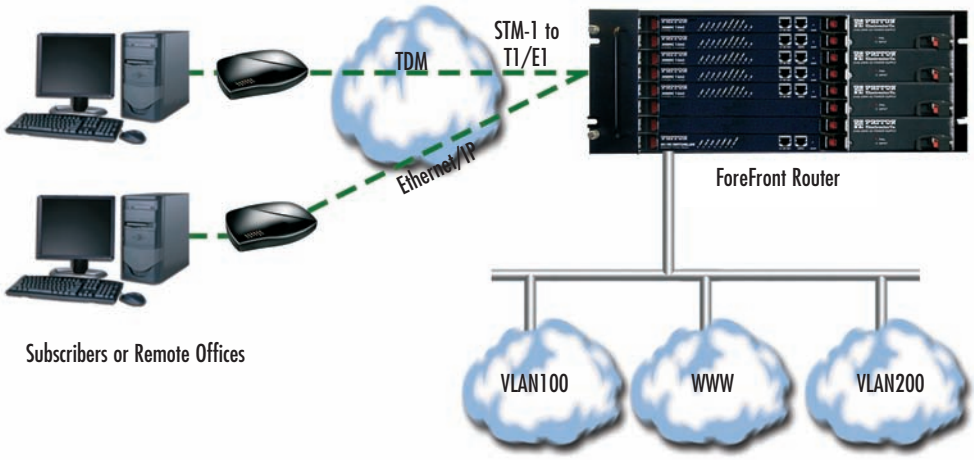
The Patton ForeFront™ 6400 Edge/Access Router Series redefines carrier grade networking with the unparalleled redundancy and upgradeability needed to establish service commitments and optimize capital investments. Flexible, rugged and easily upgradeable, it is a platform for current and future networking needs including next-generation narrowband, broadband, and multimedia requirements.

The 6400 Model Series can accept nx64 or full T1/E1 traffic and ease the integration of TDM technologies with modern broadband networks by supporting per subscriber Ethernet VLAN tagging conforming to 802.1p/Q standards. Simple bridging configurations are likewise supported. When used in conjunction with Patton Model 2616RC cards, the solution permits drop & insert of DS0 circuits as well as the cross-connecting and multiplexing of TDM (DS0) traffic.

ForeFront Routers are equipped to meet the most demanding needs of organizations. Advanced QoS/CoS mechanisms reliably guarantee bandwidth and set burst tolerances for traffic flowsx. Access Control Lists (ACL) permit the level of filtering needed to provide service differentiation on a per port basis.

ForeFront Modular Routers offer a robust, reliable solution complete with power distribution, thermal management, and a redundant high-speed backplane.

Application diagram



FEATURES & BENEFITS

- ✔ Carrier Grade—Integrated cooling, redundant backplane, hot-swappable components, redundant power.
- ✔ MPLS Integration via VLAN—Use VLAN tags to make traffic from TDM circuit transparent to core MPLS networks supporting broadband subscribers.
- ✔ Drop & Insert—Take any TDM channel from any port and perform a Drop & Insert to any other port.
- ✔ Multimedia Ready—Support for IGMP efficiently handles multicast multimedia applications.
- ✔ QoS/CoS—Configure bursts, guarantee bandwidth and reduce per flow traffic jitter.
- ✔ Management Features—Configurable alarm reporting with SNMP Traps, HTTP, SNMP, Telnet Ethernet, RS-232 Console Port, SYSLOG Client, Software upgrade via FTP, SSH, NTP, RADIUS Authentication (RFC 2865 & 2868), Accounting (RFC 2866 & 2867).

*I'm Glen, one of Patton's Product Marketing Managers. If you do not find what you need at **www.patton.com** or in this catalog, please call me at **+1 301.975.1000, x356**. You can also send e-mail to **gflowers@patton.com**.*

Ask the Experts

SPECIFICATIONS

Routing: RIPv1 (RFC 1058), RIPv2 (RFC 2453), OSPFv2 (RFC 2328), VLSM (RFC 1878)
T1/E1 Ports: Software configurable: T1 (AMI/B8ZS line coding) or E1 (HDB3/AMI line coding), G.703, G.704, G.723
IP Services: ARP (RFC0826), Proxy-ARP (RFC1027), ICMP (RFC0950, RFC1256), NTPv3 (RFC1305), IGMP & IGMPv2 (RFC2236), DiffServ (RFC2474), NAT (RFC 1631/2663/2766/2993), PAP (RFC 1332), CHAP (RFC 1334 & 1994)
Ethernet Ports: One to three 10/100Base-T (RJ-45 connector); auto-negotiating; half or full duplex operation. Optional Dual and Quad Gigabit Ethernet ports are avilable.
Front Panel Indicators: LEDs for power, CPU, system, Ethernet, External clock, and test mode
Management Service: HTTP, SNMP, Telnet Ethernet, RS-232 Console Port, SYSLOG Client, Software upgrade via FTP, SSH, NTP, RADIUS Authentication (RFC 2865 & 2868), Accounting (RFC 2866 & 2867)
Alarm Reporting: Configurable alarms; Remote SNMP Traps; Front Panel LEDs
Compliance: Safety: UL/CSA per UL1950 (METS) Canadian cMET and CS-03. EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC (EN60950), FCC Part 15, CE Mark, CTR12, CTR13, FCC Part 68
Environment:
Operating temperature: 0–40°C (32–104 °F)
Humidity: 5–90% non-condensing

ORDERING INFORMATION*

6423/16E/R48: One 2U-high 4-slot chassis with DC power, 16 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6423/32E/R48: One 2U-high 4-slot chassis with DC power, 32 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6423/16E/RUI: One 2U-high 4-slot chassis with AC power, 16 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6423/32E/RUI: One 2U-high 4-slot chassis with AC power, 32 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6443/16E/R48: One 4U-high 8-slot chassis with DC power, 16 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6443/32E/R48: One 4U-high 8-slot chassis with DC power, 32 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6443/16E/RUI: One 4U-high 8-slot chassis with AC power, 32 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6443/32E/RUI: One 4U-high 8-slot chassis with AC power, 32 T1/E1 ports, and router card with 3 10/100 Ethernet ports
6423/1S/R48: One 4U-high 8-slot chassis with DC power, 32 T1/E1 ports, and router card with 3 10/100 Ethernet ports

*Call for additional model numbers.