



▲ BiPAC 8501



▲ BiPAC 8521

SHDSL.bis series feature chart				
Model	Symmetric Data Rate	Back-to-back connectivity	IPSec VPN	EFM Compliance
BiPAC 8501	5.7Mbps (2-wire SHDSL.bis)	—	✓	—
BiPAC 8521	11.4Mbps (4-wire SHDSL.bis)	✓	—	✓



▲ BiPAC 8501 Real Panel



▲ BiPAC 8521 Real Panel

BiPAC 8501/8521

5.7/11.4Mbps SHDSL.bis (VPN) Firewall Bridge/Router

Higher symmetric data rates power office productivity!

Small businesses often can maintain competitiveness by using a cost-effective networking solution instead of expensive leased lines for an online presence. As a substitute for a local leased line, Billion's BiPAC 8501/8521 series offers a perfect solution with symmetric transmission so SOHO and SME users can enjoy high-speed SHDSL.bis broadband services. Users can also access bandwidth-consuming applications such as video conferencing with greater ease and speed than previously. The device supports the latest SHDSL.bis technology with a higher symmetric upstream and downstream data rate of up to 5.7Mbps or 11.4Mbps. The Rate Adaptive feature allows the BiPAC 8501/8521 series to adjust the data rate automatically according to the quality of the wire connection. The Quality of Service feature ensures a smooth net connection for inbound and outbound data with minimal traffic congestion. The BiPAC 8501 also supports IPSec VPN for users to create secure data communication between two or more sites. Rich Firewall security features such as SPI, DoS attack prevention and URL Content Filtering are also integrated, providing users with unparalleled access protection.

High-speed Internet Access with 2/4-wire SHDSL.bis

The BiPAC 8501/8521 series complies with the latest SHDSL.bis technology standards for worldwide deployment and supports a symmetric data rate of up to 5.7Mbps/11.4Mbps. With SHDSL.bis technology, the BiPAC 8501/8521 series allows office users to enjoy high-speed symmetric bandwidth and access multimedia applications such as FTP sharing, video conferencing and real-time audio with greater ease and speed than ever before.

Smooth, Responsive Net Connection

The Quality of Service (QoS) feature helps users to manage their bandwidth and prioritize data transfer effectively. It gives full control over the passage of any type of data, ensuring latency-sensitive and bandwidth-consuming applications such as video conferencing, customer information or FTP sharing, can move through the router at instantaneous speed, even when experiencing heavy use. The speed for inbound and outbound data passed through the router can be controlled to ensure that users do not saturate bandwidth with browsing activities.

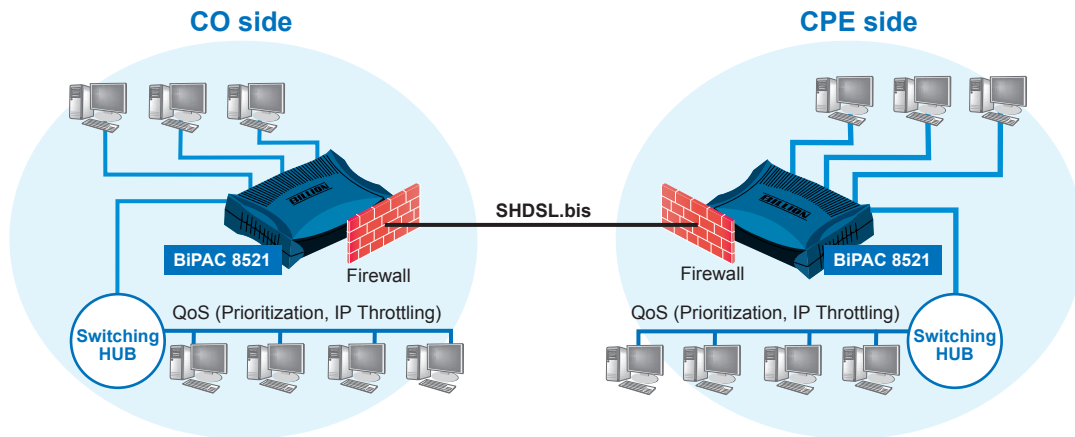
Firewall Security with DoS Prevention and SPI

Besides having a built-in NAT natural firewall feature, the BiPAC 8501/8521 series also provides advanced hacker pattern-filtering protection that can automatically detect and block Denial of Service (DoS) attacks, such as IP Spoofing, Ping of Death, etc. The router is also built with Stateful Packet Inspection (SPI) to determine whether a data packet should be allowed to pass through the firewall to the private LAN.

Virtual Private Network

The BiPAC 8501 supports embedded Virtual Private Network (VPN) protocols for users to establish private encrypted tunnels over the public Internet.

- Supports Symmetric Data Transfer up to 5.7Mbps/11.4Mbps
- High-speed Internet Access with SHDSL.bis, backward compatible with SHDSL
- Secure Virtual Private Network (VPN) (BiPAC 8501 only)
- Back-to-back Connectivity (BiPAC 8521 only)
- Supports EFM and EFM Bonding (future software upgradeable)
- SOHO Firewall Security with DoS Prevention and SPI
- Access Control with URL Blocking and Packet Filtering
- DiffServ Quality of Service Control
- Dynamic Domain Name System (DDNS)
- Integrated 4-port Ethernet Switch
- Ideal for Office Users



▲ Back-to-back connectivity (applicable to BiPAC 8521)

Features & Specifications

SHDSL Compliance

- Compliant with ITU-T G.991.2 Standard
- Compliant with ITU-T G.991.2.bis Standard
- Symmetric data rate of up to 5.7Mbps on 2-wire; 11.4Mbps on 4-wire
- Rate Adaptive Mode

EFM Compliance (software upgradeable)

- Compliant with IEEE 802.3ah

Network Protocols and Features

- NAT, static routing and RIP-1/2
- Universal Plug and Play (UPnP) Compliant
- Dynamic Domain Name System (DDNS)
- Virtual Server and DMZ
- SNMP, DNS relay and IGMP proxy

Firewall

- Built-in NAT firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including IP Spoofing, Land Attack, Smurf Attack, Ping of Death, TCP SYN Flooding, etc.
- Packet Filtering – port, source IP address, destination IP address, MAC address
- URL Content Filtering – string or domain name detection in URL strings

ATM and PPP Protocols

- Supports ATM over SHDSL.bis and SHDSL
- ATM Adaptation Layer Type 5 (AAL5)
- Multiple Protocols over AAL5 (RFC 2684, formerly RFC 1483)
- Bridged or routed Ethernet encapsulation
- VC and LLC based multiplexing
- PPP over Ethernet (PPPoE)
- PPP over ATM (RFC 2364)
- Classical IP over ATM (RFC 1577)
- MAC Encapsulated Routing (RFC 1483 MER)

Quality of Service Control

- Supports the DiffServ approach
- Traffic prioritization and bandwidth management based on IP protocol, port number and address

Virtual Private Network (VPN) (BiPAC 8501)

- Embedded IPSec and PPTP client/server
- IKE key management
- DES, 3DES and AES encryption for IPSec
- MPPE Encryption for PPTP
- L2TP over IPSec
- L2TP/PPTP/IPSec/ VPN pass-through (BiPAC 8501 & BiPAC 8521)

Management

- Web-based GUI for remote and local management
- Firmware upgrades and configuration data upload and download via Web-based GUI
- Embedded Telnet server for remote and local management
- SNMP v3, MIB-I and MIB-II supported
- Supports DHCP server/client/relay

Operating Environment

- Operating temperature: 0 – 40 °C
- Storage temperature: -20 – 70 °C
- Operating Humidity: 20% – 95% non-condensing

Hardware Specifications

Physical Interface

- WAN: SHDSL port (BiPAC 8501); 2x SHDSL ports (BiPAC 8521)
- Console: PS/2
- LAN: 4-port 10/100M auto-crossover (MDI/MDI-X) Switch
- Factory default reset button
- Power jack
- Power switch

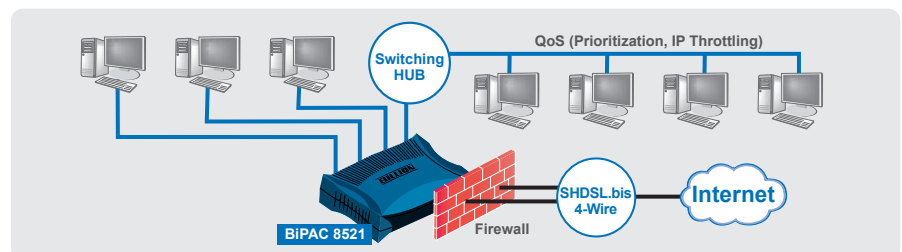
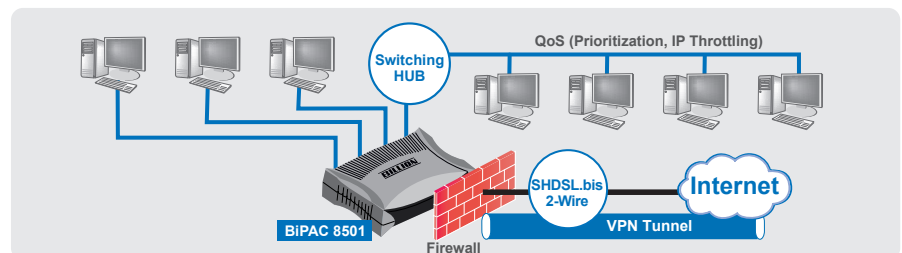
Physical Specifications

- Dimensions: 7.09" x 4.72" x 1.57" (180mm x 120mm x 40mm)

Power Requirements

- Input: 12V DC, 1A

Application Diagrams



Note:
Specifications in this datasheet are subject to change without prior notice.

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