



## BiPAC 8820NXL

### Bonded VDSL2 with Triple-WAN Dual-Band Wireless-N 3G/4G LTE VDSL2/ADSL2+ Firewall Router

The Billion BiPAC 8820NXL, a multi service VDSL2 bonded (17a) Router over comparable single-port model. It features fibre-ready triple-WAN VDSL2 (17a) supports backward compatibility to ADSL2+(17a) for a longer reach distance modem router, an all-in-one advanced device including concurrent 2.4GHz Wireless-N 300Mbps, Fast Ethernet, 3G/4G LTE, and NAS (Network Attached Storage) in one unit. As well as being IPv6-capable, the BiPAC 8820NXL VDSL2 router supports superfast fibre connections via dual-WAN connectivity through a Gigabit Ethernet WAN port. It also has one USB port, allowing the device to act as a print server as well as a NAS (Network Attached Storage) device with DLNA (Digital Living Network Alliance) and FTP (File Transfer Protocol) access. Moreover, the USB port can host a 3G/4G LTE modem connecting to the 3G/4G LTE network for Internet access. With an array of advanced features, the Billion BiPAC 8820NXL delivers a future-proof solution for VDSL2 connections, superfast FTTC and ultra-speed FTTH (Fiber-To-The-Home) network deployment and services.

#### Optimal Wireless Speeds and Coverage

With an integrated 802.11n wireless access point, the router delivers up to 6 times the speed and 3 times the wireless coverage of an 802.11b/g network device. It supports a data rate up to 300Mbps and is also compatible with 802.11b/g equipment. The Wi-Fi Protected Access (WPA-PSK / WPA2-PSK) and Wired Equivalent Privacy (WEP) features enhance the level of transmission security and access control over wireless LAN.

#### Pathway to the Future

IPv6 (Internet Protocol Version 6), launched as the current IPv4 is getting filled up, gradually becomes the indispensable addressing system for the savvy cloud computing users. Equipped with IPv6, the BiPAC 8820NXL eagerly provides users a better working environment to work with, a shortcut to upgrade and a more efficient solution to save budget. For the customers during this transition period, dual stack (IPv4 and IPv6) feature enables the hosts a convenient way to reserve both address to smooth over this coexistent period.

#### 3G/4G LTE Mobility and Always-On Connectivity

With the BiPAC 8820NXL you can connect a 3G/4G LTE USB modem to its built-in USB port, allowing you to watch movies, download music or access e-mail no matter where you may be. You can even share your Internet connection with others, when away on business, at a show, or wherever there is mobile signal but no fixed line access. The auto fail-over feature ensures maximum connectivity and minimum interruption by quickly and smoothly connecting to a 3G/4G LTE network in the event that your DSL/fibre/cable line fails. The BiPAC 8820NXL will then automatically reconnect to the DSL2/fibre/cable connection when it's restored, reducing connection costs. These features are perfect for office situations where a constant and uninterrupted connection is critical.

**Ideal for  
SOHO  
and home  
users**

- Compliant with all ADSL2+/VDSL2 single and bonding standards
- Triple-WAN ports for 3G/4G LTE, VDSL2/ADSL2+ fallback, Gigabit Ethernet WAN (EWAN) for broadband connectivity
- Wireless-N 300Mbps 2.4GHz
- Gigabit WAN port for broadband connectivity
- IPv6 ready (IPv4/IPv6 dual stacks)
- Fiber (FTTC/FTTP/FTTH) ready with high WAN throughput
- USB port for print server, NAS, DLNA media server, and 3G/4G LTE USB modem
- SNR adjustments to achieve highest sync speeds
- Monitoring of individual LAN ports
- QoS for traffic prioritization and bandwidth management
- Compliant with IEEE 802.11a/b/g/n standards
- WPS (Wi-Fi Protected Setup) for easy setup
- Wireless security with WPA-PSK/WPA2-PSK
- Supports WDS repeater function
- Multiple wireless SSIDs with wireless guest access and client isolation
- Supports virtual LAN (port-based VLAN)
- SOHO firewall security
- Auto failover
- Supports IPTV application <sup>\* Note -1</sup>
- Ease of use with quick installation wizard (EZSO)
- Broadcom chipset for better stability
- Ideal for SOHO and office users



# Features & Specifications

## VDSL2/ADSL2+ Compliance

- Compliant with xDSL Standard
  - ITU-T G.993.2 (VDSL2)
  - ITU-T G.998.4 (G.inp)
  - ITU-T G.993.5 (G.vector)
  - ITU-T G.992.5 (G.dmt.bis plus, Annex M) (ADSL2+ Annex M, available for BiPAC 8820NXL A model only)
  - ITU-T G.992.3 (G.dmt.bis, Annex M, ADSL2 Annex M, available for BiPAC 8820NXL A model only)
  - Full-rate ANSI T1.413 Issue 2
  - ITU-T G.992.1 (G.dmt)
  - ITU-T G.992.2 (G.lite)
  - ITU-T G.994.1 (G.hs)
- Supports VDSL2 band plan: 997 and 998
- ADSL2/2+ fallback modes
- Supports ADSL and VDSL bonding up to 17a profile.
  - ITU-T G.998.1, and G.998.2 (ADSL/VDSL2 lines bonded)
- Supports VDSL2 profiles: 8a, 8b, 8c, 8d, 12a, 12b, and 17a
- Supports ATM and PTM modes

## Network Protocols and Features

- IPv4 or IPv4 / IPv6 dual stack
- NAT, static (v4/v6) routing and RIP-1/2
- IPv6 stateless/stateful address auto-configuration
- IPv6 router advertisement
- IPv6 over PPP
- DHCPv6
- IP Tunnel IPv6 in IPv4 (6RD)
- IP Tunnel IPv4 in IPv6 (DS-Lite)
- Universal Plug and Play (UPnP) compliant
- Dynamic Domain Name System (DDNS)
- Virtual server and DMZ
- SNTP, DNS relay, IGMP proxy and IGMP snooping for video service
- MLD proxy and MLD snooping for video service
- Management based-on IP protocol, port number and address
- Supports port-based Virtual LAN (VLAN)

## Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- Supports web(http)/ssh/ftp/telnet/snmp
- IP filtering incoming/outgoing(v4/v6)
- URL content filtering - string or domain name detection in URL string
- MAC filtering
- Password protection for system management

## Quality of Service Control

- Supports the DiffServ approach
- Traffic prioritization and bandwidth management based-on IPv4/IPv6 protocol, port number and address

## ATM and PPP Protocols

- ATM Adaptation Layer Type 5 (AAL5)
- Multiple protocol 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)
- OAM F4/F5

## IPTV Application <sup>\* Note -1</sup>

- IGMP snooping and IGMP proxy
- MLD snooping and MLD proxy
- Virtual LAN (VLAN)
- Quality of Service (QoS)

## Wireless LAN

- Compliant with IEEE 802.11a/b/g/n standards
- 2.4 GHz frequency range
- Up to 300Mbps wireless operation rate
- WPS (Wi-Fi Protected Setup) for easy setup
- Supports WPS v2
- 64/128 bits WEP supported for encryption
- Wireless security with WPA-PSK/WPA2-PSK
- Multiple wireless SSIDs with wireless guest access and client isolation
- WDS repeater function

## USB Application Server

- 3G/4G LTE USB modem
- Storage/NAS: FTP server, samba server, DLNA media server
- Print server

## Management

- Easy Sign-On (EZSO)
- Web-based GUI for remote and local management (IPv4/IPv6)
- Firmware upgrade and configuration data upload and download via web-based GUI
- Embedded Telnet server for remote and local management
- SNMP v1, v2, MIB-I and MIB-II support
- Supports DHCP server/client/relay
- TR-069 <sup>Note -2</sup> supports remote management
- Available syslog
- Mail alert for WAN IP changed
- Auto failover
- Push server

## Hardware Specifications

### Physical Interface

- WLAN: 2 external antennas
- DSL: VDSL port
- USB 2.0 supports storage service, print server, and 3G/4G LTE USB modem
- Ethernet: 3-port 10/100Mbps auto-crossover (MDI/MDI-X) switch + 1-port 10/100/1000Mbps auto-crossover
- EWAN: Ethernet WAN 10/100/1000Mbps port can be configured as a WAN interface for broadband connectivity
- Factory default reset button
- WPS push button
- Power jack
- Power switch

### Physical Specifications

- Dimensions: 7.29" x 4.97" x 1.53"  
(185.2 mm x 126.4 mm x 39mm)

### Power Requirements

- Input: 12V DC, 1.5A

### Operating Environment

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

### \*Notes:

- IPTV application may require subscription to IPTV services from a Telco / ISP.
- On request for Telco / ISP projects
- Specifications on this datasheet are subject to change without prior notice.