BILLION®

VPN Security

3G/4G LTE

BiPAC 7800NX

Triple-WAN Wireless-N 3G/4G LTE VPN ADSL2+/Fibre Broadband Router

The BiPAC 7800NX is a fibre-ready triple-WAN ADSL2+ modem router, an all-in-one advanced device including Wireless-N 300Mbps, Gigabit Ethernet, 3G/4G LTE, and NAS (Network Attached Storage) in one unit. It comes equipped with the latest high throughput VPN technology to fit the needs of SOHO and office users. As well as being IPv6-capable, the BiPAC 7800NX ADSL2+ router supports superfast fibre connections via dual-WAN connectivity through a Gigabit Ethernet WAN port. Also, it has a 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 7800NX delivers a future-proof solution for ADSL2+ connections, superfast FTTC and ultra-speed FTTH (Fibre-To-The-Home) network deployment and services.

Secure VPN Connections
The BiPAC 7800NX supports comprehensive and robust IPSec VPN (Virtual Private Network) protocols for business users to establish private encrypted tunnels over the public Internet to secure data transmission between headquarters and branch offices. With a built-in DES/3DES VPN accelerator, the router enhances IPSec VPN performance significantly.

Maximum Performance
With an integrated 802.11n Wireless Access Point, the router delivers up to 6 times the speed of an 802.11a/b/g network device. It supports a data rate of up to 300Mbps and is also compatible with 802.11a/b/g equipment. The Wireless Protected Access (WPA-PSK/WPA2-PSK) and Wireless Encryption Protocol (WEP) features enhance the level of transmission security and access control over wireless LAN. The router also supports the Wi-Fi Protected Setup (WPS) standard, allowing users to establish a secure wireless network by simply pushing a button. If your network requires wider coverage, the built-in Wireless Distribution System (WDS) repeater function allows you to expand your wireless network without the need for any external wires or cables.

3G/4G Mobility and Always-On Connectivity
With the BiPAC 7800NX 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 ADSL/fibre/cable line fails. The BiPAC 7800NX will then automatically reconnect to the ADSL/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.

Experience Gigabit
The BiPAC 7800NX has four Gigabit LAN ports and the fourth port can be configured as a WAN port if required. This EWAN offers another broadband connectivity option for connecting to a cable, VDSL, fibre or second ADSL modem. The BiPAC 7800NX again offers users convenience and optimal network performance with data rates reaching up to 1Gbps.

Pathway to the Future
The BiPAC 7800NX fully supports IPv6 (Internet Protocol Version 6), launched as the current IPv4 range is filling up, and IPv6 is gradually becoming the indispensable addressing system for savvy cloud computing users. Dual stack means the router is capable of running IPv4 and IPv6 in parallel during the transition period. With Billion IPv6 enabled devices, three major transition mechanisms such as Dual-Stack, Dual-Stack Lite, and 6RD (IPv6 rapid deployment) are supported to be adapted easily into service provider's IPv4/IPv6 network.
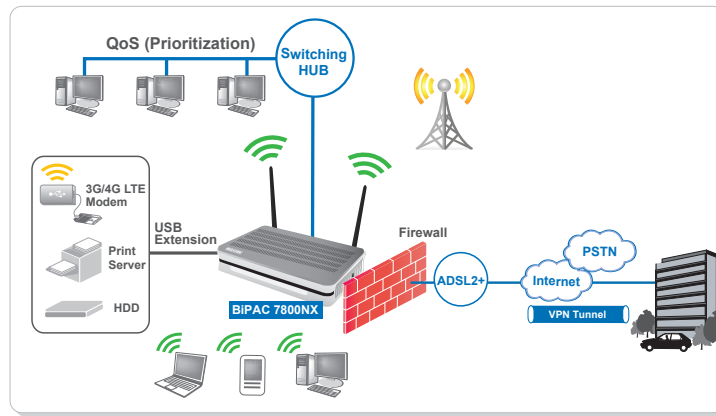
Triple-WAN
Fibre Ready

- Triple-WAN ports for 3G/4G LTE, ADSL2+, Gigabit Ethernet WAN (EWAN) for broadband connectivity
- Gigabit WAN and LAN
- Fibre (FTTC/FTTP/FTTH) ready with high WAN throughput
- 16 IPSec VPN tunnels
- PPTP VPN client and server
- IPSec VPN client and server with powerful hardware encryption
- Pure L2TP and L2TP over IPSec
- IPv6 ready (IPv4/IPv6 dual stacks)
- 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
- Broadcom chipset for better stability
- Multiple wireless SSIDs with wireless guest access and client isolation
- Supports IPTV applications[*2]
- NBN (National Broadband Network) ready[*3]
- Supports port-based Virtual LAN (VLAN)
- Available syslog
- Dynamic Domain Name System (DDNS)
- Ideal for SOHO and office users

ADSL 3G | **ADSL2+** | **QoS** | **802.11n** | **EWAN** | **IPv6 Support** | **Firewall** | **VPN Security**

Application Diagram

Features & Specifications

ADSL Compliance
· Compliant with ADSL standard
  - Full-rate ANSI T1.413 issue 2
  - G.dmt (ITU G.992.1)
  - G.lite (ITU G.992.2)
  - G.hs (ITU G.994.1)
  - ADSL over ISDN/U-R2
· Compliant with ADSL2 standard
  - G.dmt.bis (ITU G.992.3)
  - ADSL2 Annex M (ITU G.992.3 Annex M)
· Compliant with ADSL2+ standard
  - G.dmt.bis plus (ITU G.992.5)
  - ADSL2+ Annex M (ITU G.992.5 Annex M)

Network Protocols and Features
· IPv4 or IPv4/IPv6 dual stacks
· 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
· SMTP client with SSl/TLS
· 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.
· Remote access control for web base access
· Packet filtering (v4/v6) - port, source IP address, destination IP address, MAC address
· URL content filtering (v4/v6) - string or domain name detection in URL string
· MAC filtering
· Password protection for system management

Virtual Private Network (VPN)
· 16 IPSec VPN tunnels
· IKE key management
· L2TP over IPSec
· DES, 3DES and AES encryption for IPSec
· PAP/CHAP/MS-CHAPv2 authentication for PPTP
· IPSec pass-through
· GRE (Generic Routing Encapsulation) tunnel

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-based 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[2]
· IGMP snooping and IGMP proxy
· MLD snooping and MLD proxy
· Virtual LAN (VLAN)
· Quality of Service (QoS)
· VLAN MUX supported

Wireless LAN
· Compliant with IEEE 802.11b/g/n standards
· 2.4GHz −2.484GHz 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
· 802.1x radius supported

USB Application Server
· 3G/4G LTE USB modem
· Storage/NAS: FTP server, samba server, and 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 supported
· Supports DHCP server/client/relay
· TR-069[1] supports remote management
· Available syslog
· Mail alert for WAN IP changed
· Wake on LAN
· Auto failover and fallback
· Push service

Hardware Specifications
Physical Interface
· WLAN: 2 detachable antennas
· DSL: ADSL port
· USB 2.0 supports storage service, print server, and 3G/4G LTE USB modem
· Ethernet: 4-port 10/100/1000M auto-crossover (MDI/MDI-X) switch
· EWAN: Ethernet port #4 can be configured as a WAN interface for broadband connectivity
· Factory default reset button
· WPS push button
· Power jack
· Power switch
Physical Specifications
· Dimensions: 9.04" x 6.10" x 1.69" (229.5 mm x 155 mm x 43 mm)
Power Requirements
· Input: 12V DC, 1.5A

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

Models & Standards Supported
· BiPAC 7800NXA:
  Supports Annex A & Annex M
  (Annex A and Annex M: ADSL over POTS)
· BiPAC 7800NXU:
  Supports Annex B & U-R2
  (Annex B and U-R2: ADSL over ISDN)

*Notes:
1. On request for Telco/ISP projects.
2. IPTV application may require subscription to IPTV services from a Telco/ISP.
3. This is only applicable for Australia and New Zealand.
4. Specifications on this datasheet are subject to change without prior notice.

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