

BiPAC 7404VGO



**BILLION**™

## VoIP/802.11g ADSL2+ VPN Firewall Router with PSTN Fixed-line support

Want to make the most economical and secure VoIP calls over VPN tunnels? Billion's BiPAC 7404VGO is your first choice! BiPAC 7404VGO is a one-single-box of router device combining with wide range of superb features to provide SOHO and office users to make VoIP calls while enjoying the mobility and high-level security of data communications. The router embedded with IPSec VPN protocol supports the users to establish encrypted private connections over the Internet up to 16 tunnels. With the world-leading Gateway feature "Least Cost Routing", you can choose the most economical rate of VoIP calls provided by varying Internet Telephony Service Providers (ITSP). The FXO port integrated enables you to make calls through PSTN Fixed-line while sharing a high-speed Internet access. The Quality of Service feature ensures a smooth net connection for inbound and outbound data with minimum traffic congestion.



- Make phone calls via Internet as well as PSTN Fixed-line
- Voice over IP compliant with SIP standard
- Two FXS ports for connecting to regular telephones
- One FXO port for voice calls via PSTN Fixed-line
- Gateway - Least Cost Routing support (for retail package only)
- Secured Virtual Private Network (VPN) with powerful 3DES
- High speed Internet Access with ADSL2/2+, backward compatible to ADSL
- 802.11g Wireless AP with WPA-PSK/ WPA2-PSK Support
- SOHO Firewall Security with DoS Prevention and SPI
- Quality of Service for Traffic Prioritization and Bandwidth Management
- Ease of Use with Quick Installation Wizard and Auto-scan ADSL Settings
- Support IPTV Application\*
- Ideal for SOHO and Office Users

### Benefits

#### Truly Cost Saving

Making VoIP calls with toll-quality is very simple, just connect the router with your existing telephone sets. The BiPAC 7404VGO complies with the most popular VoIP industrial standard, SIP protocol, to ensure the interoperability with SIP devices and major VoIP Gateways. The Gateway feature "Least Cost Routing" offers the choices of the most economical rate provided by ITSP. One RJ-11 FXO port is integrated to get inbound and outbound calls transmitted through PSTN Fixed-line so that users can even receive phone calls from PSTN while enjoying VoIP service at the same time. In addition, outgoing calls will be automatically redirected to PSTN when the Internet or VoIP service is not available. The router also supports wider range of telephony features, such as call waiting, silence suppression, line echo cancellation, caller ID and so on.

#### Double Security

The router with IPSec VPN(Virtual Private Network) protocols embedded allows users to establish encrypted private connections over the public Internet up to 16 simultaneous tunnels. With built-in DES/3DES VPN accelerator, the router enhances IPSec VPN performance significantly and ensures secure data transmission between two or more sites. Rich Firewall security features such as SPI, DoS attack prevention, and URL Content Filtering are integrated to provide users unparalleled protection from hackers' attack.

#### Express Internet Access

The router complies with ADSL worldwide standards. It supports downstream rate up to 12/24 Mbps with ADSL2/2+, 8Mbps with ADSL and upstream rate up to 1 Mbps. With this technology, users enjoy not only high-speed ADSL services but also broadband multimedia applications such as interactive gaming, video streaming and real-time audio much easier and faster than ever. Particularly, Annex M standard combined in the model of BiPAC 7404VGO supports the latest ADSL2/2+ for higher upload speeds by doubling the upstream data rate.

#### Smooth and Responsive Net Connection

The Quality of Service (QoS) feature helps users manage the bandwidth and prioritize the traffic of data effectively. It gives you full control over the traffic of any type of data. It ensures latency-sensitive and bandwidth-consuming applications like VoIP call, video conferencing or VPN can move through the router at lightning speed, even under heavy load. You can control the speed for inbound and outbound data passed through the router to ensure users do not saturate the bandwidth and browsing activities.

#### Wireless Mobility

With integrated 802.11g Wireless Access Point in the router, the device offers a quick yet easy access and mobility to the users among wired network, wireless network, broadband connection (ADSL). In addition to 54 Mbps 802.11g data rate, it is also backward compatible with existing 802.11b equipments. The Wireless Protected Access (WPA-PSK/WPA2-PSK) and Wireless Encryption Protocol (WEP) features enhance the security level of data protection and access control via Wireless LAN. If your network requires wider coverage, the built-in Wireless Distribution System (WDS) repeater function allows you to expand the wireless network without using wires at all.



Powering communications  
with Security

ADSL Modem / Router

Wireless ADSL Router

Home Networking ADSL Router

Broadband Router

Security Router

VoIP ADSL Modem/Router

SHDSL Bridge / Router

iBusiness Security Appliance

# Feature & Specification

## ADSL Compliance

- Compliant with ADSL Standard
  - Full-rate ANSI T1.413 Issue 2
  - G.dmt (ITU G.992.1)
  - 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)  
(Available for BiPAC 7404VGOM model only)
- Compliant with ADSL2+ Standard
  - G.dmt.bisplus (ITU G.992.5)
  - ADSL2+ Annex M (ITU G.992.5 Annex M)  
(Available for BiPAC 7404VGOM model only)

## 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
- SNTP, DNS relay and IGMP proxy
- POP3 (email account checking)
- IGMP Snooping for video service

## Firewall

- Built-in NAT firewall
- Stateful Packet Inspection (SPI)
- Prevent 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 string

## VoIP

- Two RJ-11 FXS ports for connecting to regular telephones
- One RJ-11 FXO port for PSTN Fixed-line
- Compliant with SIP standard (RFC3261)
- Supports G.711 A/μ law, and G.729 Audio Codec standards
- Supports Telephony Features: call waiting, silence suppression, voice activity detection (VAD), comfort noise generation (CNG), G.168 line echo cancellation, caller ID (Bell 202,V23)
- Voice over data, QoS control to ensure higher voice quality
- Automatic fallback to PSTN Fixed-line when the Internet or VoIP service is not available.
- Gateway - Least Cost Routing support (for retail package only)

## Quality of Service Control

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

## Wireless 802.11g

- Compliant with IEEE 802.11g and 802.11b standards
- 2.4 GHz – 2.484G Hz frequency range
- Up to 54 Mbps wireless operation rate
- 64/128 bits WEP supported for encryption
- Wireless security with WPA-PSK/WPA2-PSK support
- WDS repeater function support

## Models & Standards Support

- BiPAC 7404VGOA: Annex A
- BiPAC 7404VGOM: Annex A & AnnexM
- BiPAC 7404VGOB: Annex B &U-R2
- Annex A and Annex M: ADSL over POTS
- Annex B and Annex U-R2: ADSL over ISDN

## IPTV Application\*

- IGMP Snooping
- Virtual LAN (VLAN)
- Quality of Service (QoS)

## 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

## Virtual Private Network (VPN)

- 16 IPsec VPN Tunnels
  - 8 L2TP VPN Tunnels (Dial-in: 4, Dial-out: 4)
  - 8 PPTP VPN Tunnels (Dial-in: 4, Dial-out: 4)
- Embedded IPsec & PPTP client/server
- IKE key management
- DES, 3DES and AES encryption for IPsec
- Embedded powerful 3DES accelerator
- MPPE Encryption for PPTP
- L2TP within IPsec
- L2TP/PPTP/IPsec pass-through

## Management

- Quick Installation Wizard and Auto-scan ADSL settings
- Web-based GUI for remote and local management
- Firmware upgrade and configuration data upload and download via Web-based GUI
- Embedded Telnet server for remote and local management
- Available Syslog monitoring
- SNMP v3, MIB-I and MIB-II support
- Support DHCP server/client/relay

## Hardware Specification

### Physical Interface

- WLAN: detachable antenna
- WAN: ADSL port
- Telephone: 2-port FXS  
1-port FXO (For PSTN Fixed-line support)
- LAN: 4-port 10/100M auto-crossover (MDI/MDI-X) Switch
- Console: the Ethernet Port # 4 can be also connected to console
- Factory default reset button
- Power jack
- Power switch
- SDRAM 32MB

### Physical Specification

- Dimensions: 8.27" x 5.83" x 1.42"  
(210mm x 148mm x 36mm)

### Power Requirement

- Input: 12VDC, 1.2A

## Operating Environment

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



July 2006 Updated

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### \*Note:

1. The router may require firmware modification for certain ADSL2+/ Annex M DSLAMs.
2. IPTV application may require subscribing IPTV services from Telco/ISP.
3. Specifications in this datasheet are subject to changes without notice.