

## Billion VoIP Product Comparison Matrix

Product Model		BiPAC 7404VGO	BiPAC 7404V(G)P	BiPAC 7401V(G)P	BiPAC 6404(G)P
		VoIP/802.11g ADSL2+ VPN Firewall Router with PSTN Fixed-line Support	VoIP/802.11g ADSL2+ Firewall Router with PSTN Fixed-line Support	VoIP/802.11g ADSL2+ Firewall Router with PSTN Fixed-line Support	VoIP/802.11g Broadband Firewall Router with PSTN Fixed-line Support
Target User		SOHO and Office Users	Home and SOHO Users	Home and SOHO Users	Home and SOHO Users
ADSL Compliance		ADSL2+	ADSL2+	ADSL2+	N/A
		Annex A Annex A & Annex M Annex B & U-R2	Annex A Annex A & Annex M Annex B & U-R2	Annex A Annex A & Annex M Annex B & U-R2	N/A
VoIP	Protocol	SIP	SIP	SIP	SIP
	Codec	G.711 A/μ & G.729 G.723 & G.726-32	G.711 A/μ & G.729 G.723 & G.726-32	G.711 A/μ & G.729 G.723 & G.726-32	G.711 A/μ & G.729 G.723 & G.726-32
	Voice Quality: Silence suppression, VAD, CNG, Echo cancellation	✓	✓	✓	✓
	Voice QoS	✓	✓	✓	✓
	Caller ID	✓	✓	✓	✓
	Call Waiting	✓	✓	✓	✓
Receiving/making calls from/to PSTN		✓	✓	✓	✓
Hardware	LAN Ports	4	4	4	3
	VoIP Port Number	2 x FXS 1 x FXO	2 x FXS 1 x FXO*	1 x FXS 1 x FXO*	2 x FXS 1 x FXO*
	WLAN	✓	N/A (BiPAC 7404VP) ✓ (BiPAC 7404VGP)	N/A (BiPAC 7401VP) ✓ (BiPAC 7401VGP)	N/A (BiPAC 6404VP) ✓ (BiPAC 6404VGP)
Wireless 802.11g with WPA- PSK/WPA2-PSK (up to 54Mbps wireless link rate)		✓	N/A (BiPAC 7404VP) ✓ (BiPAC 7404VGP)	N/A (BiPAC 7401VP) ✓ (BiPAC 7401VGP)	N/A (BiPAC 6404VP) ✓ (BiPAC 6404VGP)
Gateway Feature - Least Cost Routing***		✓	✓	N/A	✓
VPN with 3DES Accelerator		16 IPsec VPN Tunnels 8 L2TP/PPTP VPN Tunnels	N/A	N/A	N/A
IGMP Snooping		✓	✓	✓	✓
Firewall	DoS Prevention, SPI, Packet/URL Filtering	✓	✓	✓	✓
	Intrusion Detection Log	✓	✓	✓	✓
	NAT Firewall	✓	✓	✓	✓
Quality of Service		✓	✓	✓	✓
Network	IGMP proxy	✓	✓	✓	✓
	POP3 (e-mail account checking)	✓	✓	✓	✓

All models are compliant with RoHS Standard 

\* PSTN Fixed-line Support

\*\*PSTN/ISDN Fixed-line Support

\*\*\*For Retail Market package only

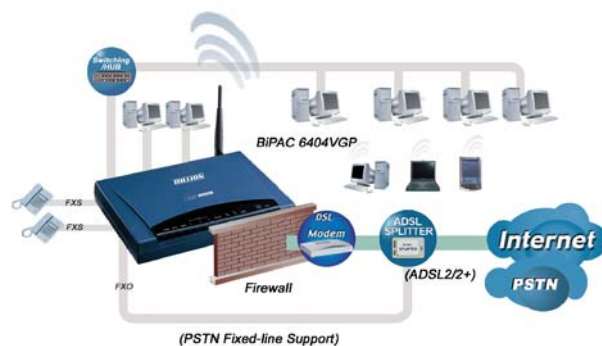
Above product models may not be available in some countries. Please check your retailer or reseller for product availability. All the specifications are subject to change without prior notice.

## Application Diagrams

### ADSL2+ Router Series



### Broadband Router Series (VoIP Router Mode)



When configuring the BiPAC 6404V(G)P in a VoIP Router mode, you can enjoy the router functions such as Firewall, QoS and making toll-quality voice calls over the Internet or via a traditional landline.

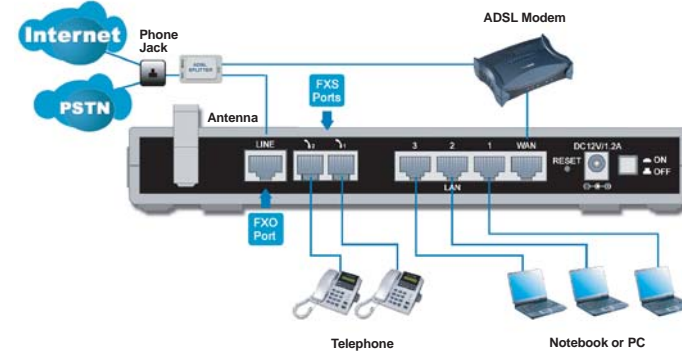
### Broadband Router Series (ATA Mode)



When configuring the BiPAC 6404V(G)P in a pure Analog Telephone Adaptor (ATA) mode, you will lose access to other featured functions such as Firewall, QoS, etc.

## Rear Panel & Connection

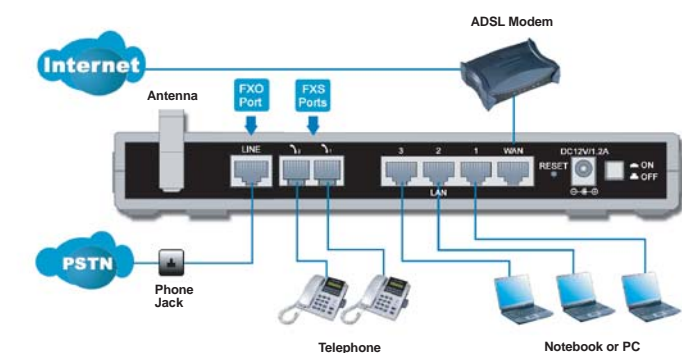
Refer to the following illustrations to ensure correct connections. You will see how easy it is to make a VoIP call - 'just plug and play'!



Applicable Models

BiPAC 6404VP

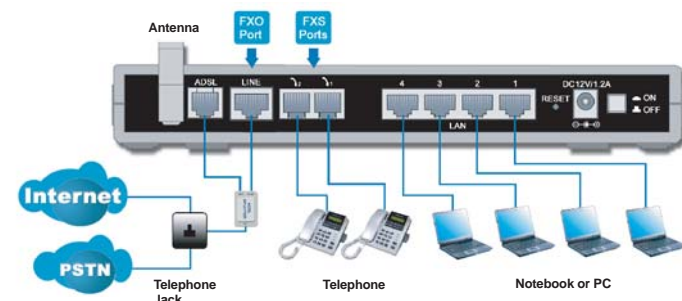
BiPAC 6404VGP



Applicable Models

BiPAC 6404VP

BiPAC 6404VGP



Applicable Models

BiPAC 7401V(G)P

BiPAC 7404V(G)P

BiPAC 7404VGO

Note: The number of ports and wireless antenna varies from model to model. Please check the relevant datasheet for details.

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Global Headquarters: Taipei, Taiwan  
Tel: +886-2-29145665  
Fax: +886-2-29182895

[www.billion.com](http://www.billion.com)

sales@billion.com  
marketing@billion.com  
support@billion.com

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**BILLION**

Cost-Saving Calls with High Speed Net Connection

## Billion VoIP ADSL2+ Routers Series Product Guide



Powering communications  
with Security

## Let's Talk when Surfing the Net

### Dramatic cost-saving VoIP calls, plus valuable Video over IP benefits

**Voice over Internet Protocol (VoIP)** is a breakthrough application that is revolutionizing making phone calls - more economical and expandable than traditional PSTN phone calls. Billion offers a full range of VoIP ADSL routers, which features broadband access, advanced VoIP functionalities, and security in one box to reduce the call cost for home, SOHO and Office users. Particularly, when Video over Internet Protocol (IPTV) becomes a hot item that makes up the dream of the "Digital home". Billion's VoIP solution is just the solution!


Imagine what a Billion VoIP ADSL Router can bring you in your daily life - surfing the Internet, making phone call, watching TV, and saving money. Billion gives you ALL!

 **Dramatic cost-saving VoIP calls**

 **Fast-Speed Internet Access**

 **Advanced Secure Communication**

 **Smooth Voice and Video Transmission**

 **Mobility and Extra Protection**



Note: All the above features are subject to different product series and specifications. Please check the relevant datasheet for details.

## VoIP vs. Traditional PSTN Phone Service

	VoIP Service	Traditional PSTN Phone Service
Free Calls	✓ VoIP calls to/from VoIP	N/A
Premium Features*: • Call waiting • Call Forwarding • Call Transfer • Caller ID	✓ Available for free	Often available at an extra cost
Local and international call cost*	Lower monthly cost	Costs are typically higher
Mobile call cost*	Lower monthly cost	Costs are typically higher
Gateway Feature - Least Cost Routing **	Allows user to choose the most economical rate of VoIP calls provided by different ITSPs	Provided by a single teleco, meaning there is very limited least cost routing
Remote Extensions for Tele-workers and branch-offices	✓	Very costly and require dedicated lines for each remote extension
Expandability and upgradeability	Often just requires more Internet bandwidth and software upgrades.	Very complicated: additional hardware and new line subscription are usually required

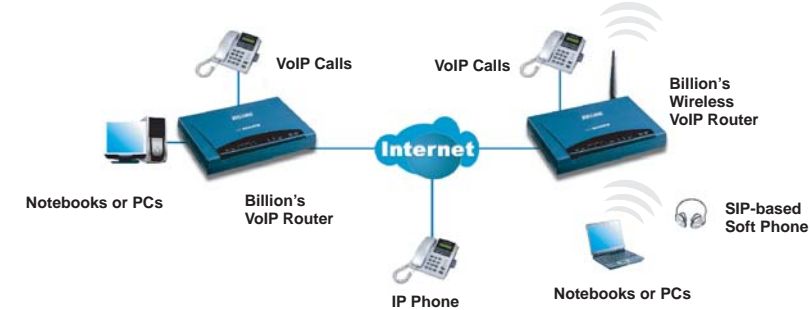
\* Dependent on Internet telephony service providers (ITSP)

\*\*For retail package only

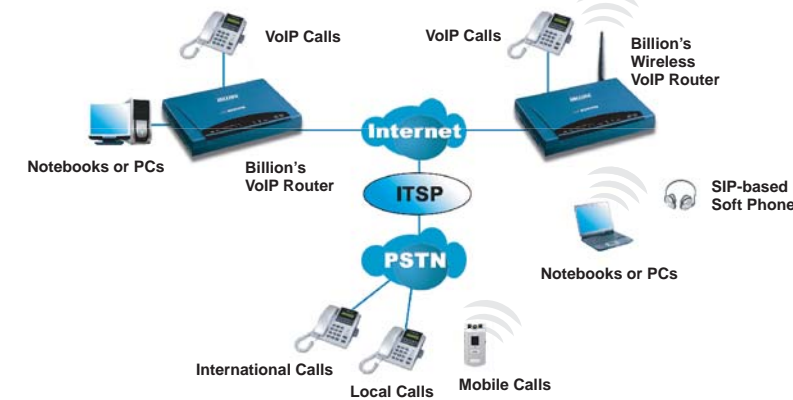
## VoIP Call Applications

Interested? Want to learn how a Billion VoIP router works to enable you to make a call? We keep it simple with illustrated diagrams to guide you through.

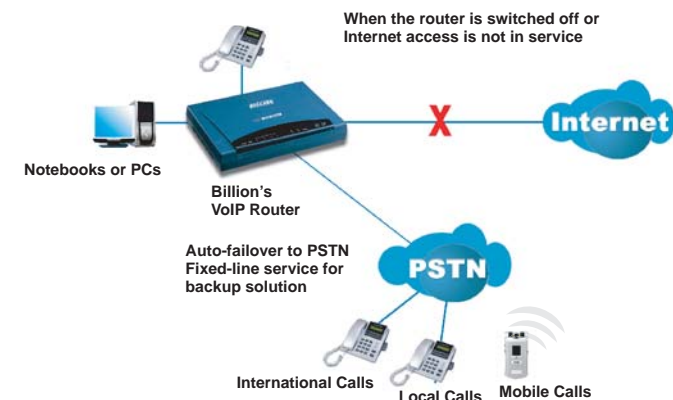
### VoIP calls to/from VoIP



### VoIP calls to/from PSTN

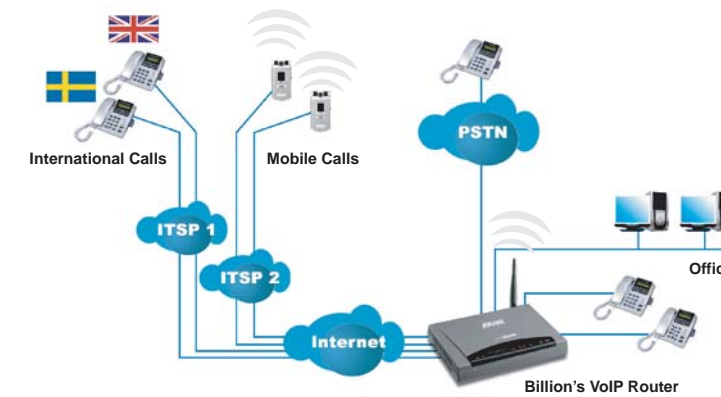


### PSTN Fixed-line Support



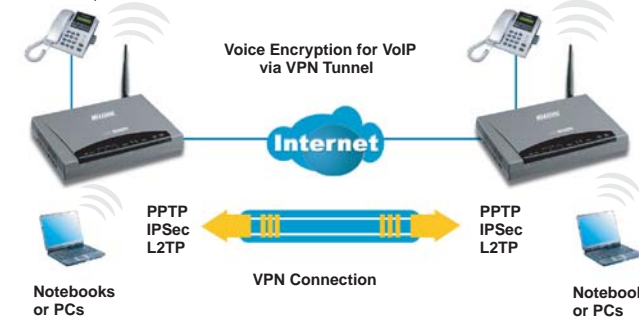
### Gateway - Least Cost Routing

Least Cost Routing feature allows you to choose the most economical rate provided by different telephony service providers.



### Secured Voice over VPN Tunnel (BiPAC 7404VGO only)

Three types of VPN solutions (PPTP, IPsec and L2TP within IPsec) allow office users to build secured VPN tunnels for voice and data communication between headquarters and its branches.



## How to activate VoIP Calls?



## Advanced VoIP Router Application

### Triple Play for Digital Home

#### IGMP Technology

IGMP (Internet Group Management Protocol) is used to manage hosts from multicast group. It allows the video stream to forward correctly.

#### VLAN Bridge Technology

VLAN (Virtual LAN) Bridge allows users to create VLAN groups and specify the members.

#### Quality of Service Technology

The Quality of Service feature ensures smooth voice and video transmission for inbound and outbound data with minimum traffic congestion.

