

# ZyXEL



## All-in-one ADSL2+ VoIP IAD for SOHO



- **ADSL2/2+ Support**
- **SIP (RFC3261) Support**
- **QoS Bandwidth Management**
- **802.11g Wireless Connectivity**
- **Firewall Protection and IPSec VPN Security**

### Benefits

#### Voice over IP

The P-2602HW/HWL-DxA Series is a 802.11g Wireless ADSL 2+ router complied with standard SIP voice protocol (RFC 3261) for Internet phone services. End-users can still use the 2 phone ports simultaneously even when your ITSP provides you with only one SIP number. By providing this convenient feature to the end-users, service providers get the opportunity to create more revenue.

#### Robust Protection and Security

The ICSA-certified ZyNOS operating system ensures state-of-the-art SPI firewall protection especially against DoS attacks. The IAD provides the first line of defense against hackers, network intruders, and other malicious threats. In addition, IPSec VPN helps ensure secured transmission between two sites, allowing secure connection between telecommuters and branch offices without expensive lease lines.

#### Effective Network Bandwidth Management

The P-2602HW/HWL-DxA Series enables users to allocate network resources while guaranteeing Quality of Service (QoS). Network Bandwidth Management increases productivity and efficiency by tailoring a system to specific demands such as time-sensitive VoIP and multimedia applications.

#### Lifeline Support (P-2602HWL-DxA Series)

In case of an unexpected power failure, you can still make regular phone calls with Lifeline support. This feature also kicks into work when the VoIP service becomes unavailable. Phone calls are placed through the PSTN phone system.

802.11g Wireless ADSL2+ VoIP IAD

P-2602HW/  
HWL-DXA SERIES



# VOIP



## Specifications

### DSL Features

- Support Multi-Mode standard (ANSI T1.413, Issue 2; G.dmt (G.992.1); G.lite (G992.2))
- ADSL2 G.dmt.bis (G.992.3)
- ADSL2 G.lite.bis (G.992.4)
- ADSL2+ (G.992.5)
- Reach Extended ADSL (RE ADSL)
- ADSL Physical Connection ATM AAL5 (ATM Adaptation Layer type 5)
- Support PPP over ATM AAL5 (RFC2364)
- PPP over Ethernet (RFC 2516)
- Support VC-based and LLC-based Multiplexing
- Support up to 8 PVCs
- F4/F5 OAM
- Zero Configuration
- Annex M

### Router Features

- NAT (includes multi-to-multi NAT)/SUA, 512 NAT Sessions Per Host
- NAT Server (Port Forwarding)
- TCP/IP
- PPPoE Client
- DHCP Client/Server/Relay
- RIP I/RIP II Supported
- IP Multicasting, IGMP v1 and v2
- Dynamic DNS Support
- IP Alias
- UPnP Support

### Voice Functionality

- SIP (RFC 3261) version 2
- SDP (RFC 2327)
- RTP (RFC 1889)
- RTCP (RFC 1890)
- Echo Cancellation: G.168
- VAD (Voice Activity Detection)
- Silence Suppression
- CNG (Comfort Noise Generation)
- Support TOS & DiffServ Tagging
- VLAN Tag Support
- Codec: G.711 (PCM A-law or  $\mu$ -law selectable), G.729a/b
- Option: G.726 (ADPCM), G.723\*
- DTMF Detection & Generation
- Multiple SIP Numbers Support
- Multiple Channels Support
- Modem and Fax Tone Detection
- Dynamic Jitter Buffer
- T.38 Fax Relay
- Polarity Reverse\*
- DNS SRV\*

### Phone Features

- CW (Call Waiting)
- Call Waiting with Caller ID
- Call Forwarding (Unconditional/Busy/No Answer)
- Call Transferring
- Three Way Conference w/Local Mixing

- CLIP (Calling Line Identification Presentation)
- CLIR (Calling Line Identification Restriction)
- Call Hold/Call Retrieve
- Incoming Call Policy (Call Accept/Call Forward/Call Block)
- Second Call
- Internal Call
- Early Media
- Flash Hook Timer
- Music on Hold
- MWI (Message Waiting Indicator (RFC 3842))
- IVR (Interactive Voice Response)
- Speed Dial (Phone Book)
- Caller ID Generation/Detection with DTMF and FSK Format
- MCID (Malicious Call Identification)\*
- Call Block
- DND (Do Not Disturb)\*
- Distinctive Ringing\*
- Last Number Redial\*
- COLP (Connected Line Identification Presentation)\*
- COLR (Connected Line Identification Restriction)\*
- Call Filtering\*
- Automatic Call Return\*
- MWI by E-mail\*
- Fixed Destination Call\*

### QoS

- ATM QoS UBR/VBR/CBR Support
- ATM SAR with Low and High Queues
- Media Bandwidth Management
- RTP Voice Packet as Highest Priority
- ToS/DiffServ
- Port-based PVC for Different Services (by ISP's Request)
- QoS for Triple Play

### Wireless LAN

- IEEE 802.11g/11b Compliance
- Data Rates up to 54Mbps, Auto Fall back
- 64/128/256 bits WEP Encryption
- IEEE 802.1-Port-based Authentication
- RADIUS Support for 802.1x
- One Non-detachable Antenna
- WMM
- 4x Mode\*

### Network Management

- Friendly Web-based Configuration Tool
- SNMP v1 & v2c with MIB II
- Remote FTP/TFTP Firmware Upgrade and Configuration Backup/Restore
- Remote Management: Telnet/FTP/Web
- Secure TFTP and HTTP Auto-provisioning
- IVR for IP Address and FW Upgrade
- UPnP Support
- HTTPs Auto-provisioning (by project)
- 2-tier Web and Management: Admin & Guest Access Authority (by project)

### Lifeline Support

- Send Emergency Call to PSTN
- Make a PSTN Call by Dialing Pre-fix Number
- PSTN Relay when Device Power Down
- PSTN Relay when VoIP Service is NOT available
- Receive Incoming PSTN Phone Call

### Firewall Security

- ICSA Certified Firewall with Stateful Packet Inspection
- Prevent DoS Attack
- Access Control of Service
- Content Filtering: URL Blocking such as ActiveX, Java, Cookies and Web
- IP & Generic Packet Filtering
- Real-time Attack Alert and Log

### Virtual Private Network

- 5 IPsec VPN Tunnels (2 Concurrent VPN Tunnels)
- IKE and Manual Key Management
- AH and ESP Protocol
- DES/3DES and AES Encryption (S/W)
- SHA-1 and MD5 Authentication
- Tunnel and Transport Mode Encapsulation
- IPsec NAT Traversal
- NETBIOS Pass-through for IPsec

### Hardware

- RJ-11 DSL Port for ADSL Annex A and RJ-45 DSL Port for ADSL Annex B and U-R2
- 4-port Auto MDI/MDI-X 10/100M Ethernet Ports
- Embedded 802.11g Wireless LAN
- One External Dipole Antenna, Non-detachable
- Restore Factory Defaults Button
- 2 FXS POTS Interface
- 1 FXO PSTN POTS (on P-2602HWL-DxA)

### Physical Specifications

- 165 (W) x 65 (D) x 242 (H) mm
- Weight: 600g

### Environmental Specifications

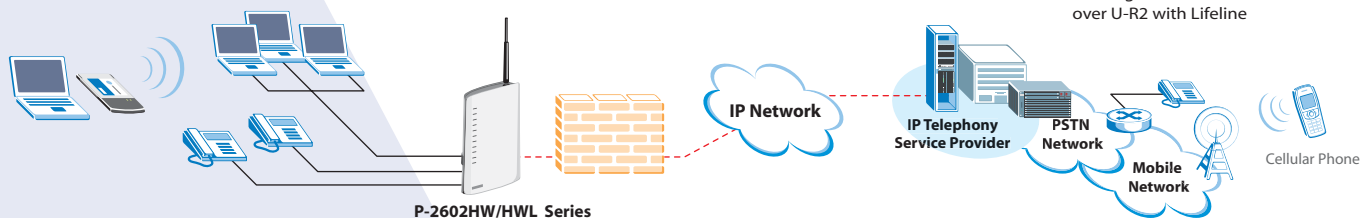
- Operating Temperature: 0°C ~ 40°C
- Storage Temperature: -30°C ~ 60°C
- Operating Humidity: 20% ~ 95% RH
- Storage Humidity: 20% ~ 95% RH

\* Firmware upgradeable for future enhancement

## Product Description

- P-2602HW-D1A** 802.11g Wireless ADSL2+ VoIP IAD over POTS
- P-2602HW-D3A** 802.11g Wireless ADSL2+ VoIP IAD over ISDN
- P-2602HW-D7A** 802.11g Wireless ADSL2+ VoIP IAD over U-R2
- P-2602HWL-D1A** 802.11g Wireless ADSL2+ VoIP IAD over POTS with Lifeline
- P-2602HWL-D3A** 802.11g Wireless ADSL2+ VoIP IAD over ISDN with Lifeline
- P-2602HWL-D7A** 802.11g Wireless ADSL2+ VoIP IAD over U-R2 with Lifeline

## Application Diagram



For more product information, visit us on the web [www.ZyXEL.com](http://www.ZyXEL.com)

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