

## Cisco WAG310G Wireless-G ADSL2+ Gateway— The Solution for Internet Connectivity, VoIP, and IPTV

The Cisco® Triple Play WAG310G Wireless-G ADSL2+ Gateway is ready to support Internet, VoIP, and IPTV Services. The WAG310G is an Integrated Access Device (IAD) that is designed with both versatility and reliability to support a variety of services offerings. The WAG310G combines an ADSL2/2+ modem, an Ethernet WAN port, a Wireless-G access point, an Ethernet switch, and an Analog Telephone Adapter (ATA) in a stylish, compact solution.

The high-speed ADSL/2/2+ interface supports a variety of ADSL standards and also supports up to 8 permanent virtual circuits (PVCs) that offer services separation. Advanced features such as QoS and Internet Group Management Protocol (IGMP) create the framework to help ensure a positive user experience for voice, data, and video.

The WAG310G delivers clear, high-quality voice communication in diverse network conditions. Excellent voice quality in a demanding IP network is consistently achieved using our advanced implementation of standard voice-coding algorithms. The WAG310G supports two FXS ports and one FXO port. The FXO port provides a fallback connection to the public switched telephone network (PSTN) in the event that the Internet connection is lost or in the event of a power failure. The WAG310G is interoperable with common telephony equipment such as voicemail, fax, PBX, and interactive voice response systems.

The WAG310G can be managed and remotely provisioned, supporting TR-069 and TR-104 in addition to supporting dynamic, in-service software upgrades. When deploying on a massive scale, a secure profile upload saves the time and expense of managing and pre-configuring or reconfiguring. Smaller scale provisioning users can use the Cisco proprietary CBPT Software embedded in the WAG310G stack customer premises equipment (CPE). Cisco understands that security for subscribers and service providers is fundamental for a solid, carrier-grade telephony service. The WAG310G supports secure, encryption-based methods for communication, provisioning, and servicing.

**Figure 1.** Cisco WAG310G Wireless-G ADSL2+ Gateway with VoIP



**Features**

- Versatile high-speed ADSL/2/2+ modem designed to enable service providers to offer value-added triple-play services
- Multifaceted device integrates an ADSL modem, Wireless-G router, 4-port switch, and telephony interfaces to create an ideal solution for small office or home office (SOHO) and residential multi-service environments
- Management and remote provisioning with TR-069 and TR-104 support along with dynamic in-service software upgrades
- Secure, encryption-based methods for deployment, communication, and servicing on a massive scale

**Figure 2.** WAG310G Front Panel (Image may vary from actual product and specification)



**Table 1.** Front Panel Features

Feature	Description
Controls	Power
Indicators	Ethernet LAN 1-4, Ethernet WAN/LAN5, Wireless Activity, Wireless Security, USB, Phone 1-2, Line, DSL, Internet

**Figure 3.** WAG310G Back Panel (Image may vary from actual product and specification)



**Table 2.** Back Panel Features

Feature	Description
Connections	DSL, Line, Phone 1-2, USB, Ethernet WAN/LAN5, Ethernet LAN 1-4
Power	External 12 VDC Power Supply
Controls	Power Button, Reset
Antenna	1 Omni-directional External Antenna

**Product Specifications**

**Table 3.** Product Specifications

Specification	Value
<b>Interfaces</b>	
WAN	<ul style="list-style-type: none"> <li>• ADSL [ITU 992.1]</li> <li>• ADSL2 [ITU 992.3]</li> <li>• ADSL2+ [ITU 992.5]</li> <li>• ANSI T1.413 Issue 2 Annex A</li> <li>• 1 RJ-11 Port</li> <li>• 1 Ethernet WAN Interface RJ-45 Port (WAN/LAN Configured)</li> </ul>
LAN	5 RJ-45 Ports (RJ-45) 10/100BASE-T with Auto-crossover (4 Fixed + 1 Configurable)
USB	1 USB 2.0 (Host) Port
Phone	2 FXS Ports (RJ-11), 1 FXO Port (RJ-11)
Wi-Fi	<ul style="list-style-type: none"> <li>• IEEE 802.11b/g</li> <li>• SpeedBooster-G</li> <li>• 802.1x Authentication</li> <li>• External RADIUS Authentication</li> <li>• WPA/WPA2 Protected Access</li> <li>• 64/128 Bits WEP Encryption</li> <li>• AES and TKIP Encryption</li> <li>• Wi-Fi Multimedia Support: WMM and WMM-PS</li> <li>• Multiple SSIDs Profiles</li> <li>• MAC Address Filtering Integrated</li> <li>• WPS (Pushbutton and PIN entry)</li> </ul>

Specification	Value
<b>Networking</b>	
Bridging Routing	<ul style="list-style-type: none"> <li>• Transparent Bridging between LAN Devices</li> <li>• Transparent Bridged Ethernet over ATM</li> <li>• Virtual LAN Bridging (VLAN): 802.1P, 802.1Q</li> <li>• Automatic MAC Discovery</li> <li>• Static Routing</li> <li>• RIP1 and RIP2 on LAN/WAN</li> <li>• NAT-NAPT, RFC 3022</li> <li>• Static NAT and NAPT</li> <li>• 30+ Application Level Gateway (ALG) Modules</li> <li>• Port Forwarding and Port Triggering</li> <li>• STUN Pass-through</li> <li>• IGMPv1, IGMPv2, IGMPv3 Proxy, RFC 3376</li> <li>• IGMP Snooping</li> <li>• IGMP Fast-leave</li> <li>• IP Multicast Support through NAT</li> </ul>
IP Addressing	<ul style="list-style-type: none"> <li>• DHCP (Client, Server, Proxy)</li> <li>• DNS (Server and Proxy)</li> <li>• Dynamic DNS, RFC 2136 (TZO.com and Dyndns.org)</li> <li>• SNTP Client, RFC 2030</li> <li>• Private Network Address Allocation, RFC 1918</li> </ul>
QoS	<ul style="list-style-type: none"> <li>• Diffserv (TR-098 QoS-compliant with 4 queues on each interface)</li> <li>• IEEE 802.1p—Priority Bits</li> <li>• IEEE 802.1q—VLAN Tagging</li> <li>• ATM: UBR, VBR-nrt, VBR-rt CBR</li> <li>• 802.11e Wireless QoS</li> </ul>
Management	<ul style="list-style-type: none"> <li>• DSL Forum TR-069 Remote Management</li> <li>• TR-104 with Cisco Extension Parameters</li> <li>• Supports TR-098 Data Model and Cisco Extension on DDNS</li> <li>• Integrated Gateway-based Diagnostics</li> <li>• DNS Ping, ICMP Ping, Traceroute</li> <li>• Web-UI Configuration and Diagnostics</li> <li>• Statistic and Log Reporting</li> <li>• Remote Syslog</li> </ul>
Protocol Support	<ul style="list-style-type: none"> <li>• IPv4, UDP, TCP</li> <li>• PPP Protocol, RFC 1661</li> <li>• PPTP Tunneling Protocol, RFC 2637</li> <li>• PPP IP Control Protocol (IPCP), RFC 1332</li> <li>• RTP, RTCP Realtime Protocol Support (RFCs 1889, 1890)</li> <li>• PPP over AAL5 (PPPoATM), RFC 2364</li> <li>• PPP over Ethernet (PPPoE), RFC 2516</li> <li>• Multiple PPPoE Connections</li> <li>• PPP Authentication Protocols, RFC 1334</li> <li>• UPnP-based Auto-Configuration and Port Forwarding</li> </ul>
Security	<ul style="list-style-type: none"> <li>• Stateful Packet Inspection (SPI)</li> <li>• Configurable Firewall Function</li> <li>• Predefined Security Policies</li> <li>• Denial of Service (DoS) Protection</li> <li>• Virtual DMZ/IP Pass-through</li> <li>• Intrusion Detection and DoS (Over 200 Signatures)</li> <li>• WEP, WPA, WPA2 and MAC Filtering Security Features</li> <li>• IP Protocol Filtering</li> <li>• Advanced Firewall Filtering Rules</li> <li>• Security Architecture for the Internet Protocol, RFCs 2401, 2412, 2393</li> <li>• Network Address Protocol Translator (NAPT)</li> </ul>

Specification	Value
<b>Voice</b>	
Voice Specifications	<ul style="list-style-type: none"> <li>• SIPv2: Session Initiation Protocol v2 (RFCs 3261, 3262, 3263, 3264)</li> <li>• SIP Proxy Redundancy—Dynamic via DNS SRV, A Records</li> <li>• Re-registration with Primary SIP Proxy Server</li> <li>• G.711, G.726, G.729A, G.723.1</li> <li>• SIP Support in NAT (includes STUN)</li> <li>• Dynamic Payload</li> <li>• Adjustable Audio Frames per Packet</li> <li>• DTMF: In-band and Out-of-band (RFC 2833) (SIP Information)</li> <li>• Call Progress Tone Generation</li> <li>• Jitter Buffer—Adaptive</li> <li>• Frame Loss Concealment</li> <li>• Full Duplex Audio</li> <li>• Echo Cancellation (G.165/G.168)</li> <li>• VAD—Voice Activity Detection with Silence Suppression</li> <li>• Comfort Noise Generation</li> <li>• Distinctive Ringing—Calling</li> <li>• DND, Call Return, Call Back on Busy</li> <li>• Caller ID Generation (Name and Number)—Bellcore, DTMF, ETSI</li> <li>• Call Waiting, Cancel Call Waiting, Call Waiting Caller ID Detection (Bellcore Type 1)</li> <li>• Call Forwarding, Call Transfer, Call Blocking with Toll Restriction</li> <li>• Three-way Conference Calling with Local Mixing</li> <li>• Message Waiting Indication—Visual and Tone-based</li> <li>• Music on Hold</li> <li>• Hot Line and Warm Line Calling</li> <li>• PSTN-to-FXS and FXS-to-PSTN Call Support</li> <li>• Inbound and Outbound Call Routing (Based on Dial Plan/Number)</li> <li>• Independent Configurable Dial Plans</li> <li>• Automatic PSTN Fallback (Loss of Power or IP Service to Unit—with Quiescence to Normal Operations)</li> <li>• Selective/Anonymous Call Rejection</li> <li>• Speed Dialing of 8 Numbers/Addresses</li> <li>• Provisioning/Configuration/Authentication via HTTPS, HTTP, TFTP</li> <li>• Fax: G.711 Pass-through or Real Time Fax over IP via T.38*</li> </ul> <p>*T.38 support is dependent on fax machine and network/transport resilience</p>
Subscriber Line Interface Circuit (SLIC)	<ul style="list-style-type: none"> <li>• Ring Frequency: 10 to 100 Hz</li> <li>• Ring Waveform: Trapezoidal and Sinusoidal</li> <li>• Maximum Ringer Load: 5 REN</li> <li>• On-hook Voltage (Tip/Ring): -50 V NOMINAL</li> <li>• Off-hook Current: 25 mA max</li> <li>• Terminating Impedance: Configurable based on Region</li> </ul>
<b>Device Characteristics</b>	
Power	110-240 VAC 50/60 Hz Switching Power Supply; 12 VDC, 2 A Output
Mounting	Desktop and Wall Mount
Dimensions (H x W x D)	1.6 in. x 8.6 in. x 6.9 in. (4 cm x 22 cm x 17.5 cm) maximum
Weight	14 oz. (.4 kg)
<b>Safety and Emissions</b>	
Certification	FCC, Industry Canada, UL/C-UL Information Technology, European EMC and Safety, CE Mark, Telepermit and C-tick
<b>Operating Conditions</b>	
Operating Temperature	32° to 104°F (0° to 40°C)
Storage Temperature	-4° to 140°F (-20° to 60°C)
Humidity	20 to 80% Non-condensing

## Ordering Information

**Table 4.** Ordering Information

Description	Part Number
Cisco WAG310 Wireless-G ADSL2+ Gateway with VoIP. (Contact your business unit representative for detailed customer configuration information.)	WAG310G-NA-40 WAG310G-AU-40 WAG310G-U2-40 WAG310G-E2-40



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