# SpeedTouch™ 716
Broadband Voice IAD

## SpeedTouch™ 716g
Wireless 802.11g Broadband Voice IAD

### ▶ ATM Features
- Compliant to ATM Forum UNI 3.1 / 4.0 Permanent Virtual Circuits (PVCs)
- Support up to 16 PVCs for UBR, CBR, VBR-nrt, VBR-rt with traffic shaping
- RFC2684 LLC Encapsulation and VC Multiplexing over AAL5
- RFC2364 Point-to-Point Protocol (PPP) over AAL5
- RFC2225 Classical IP and ARP over ATM
- RFC2516 PPP over Ethernet: support Relay (Transparent Forwarding) and Client functions
- Supports PPPoA or PPPoE Bridged mode (the IP address got from ISP can be passed to the user's PC and behave as the IP address of the user's PC.)
- OAM F4/F5 End-to-End/Segment Loopback Cells

### ▶ Bridging Features
- Supports self-learning bridge specified in IEEE 802.1d Transparent Bridging
- Supports up to 4096 learning MAC addresses
- Transparent Bridging among 10/100 Mb Ethernet, USB, and 802.11g wireless LAN

### ▶ Routing Features
- NAT (Network Address Translation) / PAT (Port Address Translation) let multiple users on the LAN access the Internet for the cost of only one IP address.
- ALGs (Application Level Gateways): such as NetMeeting, MSN Messenger, FTP, Quick Time, mIRC, Real Player, CuSeeMe, VPN pass-through, etc.
- DMZ
- UPnP* IGD (Internet Gateway Device) with NAT traversal capability
- Static routes, RFC1058 RIPv1, and RFC1723 RIPv2
- DNS Relay, Dynamic DNS
- DHCP Client/Relay/Server
- Time protocol can be used to get current time from network time server.

### ▶ Security
- PAP (RFC1334), CHAP (RFC1994), and MS-CHAP for PPP session
- Firewall supports IP packet filtering based on IP address/Port number/Protocol type
- Protect Denial of Service (DoS) attacks, such as SYN Flood, IP Smurfing, Ping of Death, Fraggle, LAND, Tear-drop, etc.
- Supports URL filtering on demand

### ▶ Management
- User-friendly embedded web configuration interface with password protection
- Remote management access control
- Telnet session for local or remote management
- Firmware upgrades through HTTP or TFTP
- The boot loader contains very simple web page to allow the users to update the run-time firmware image.
- Configuration file backup and restore
- SNMPv1/v2 agent with MIB-II, ADSL Line MIB

### ▶ Regulatory Approvals and Compliance
- EMC: FCC part 15 Class B, CE
- Telecom: FCC part 68 Class B
- Safety: UL, CB, LVD
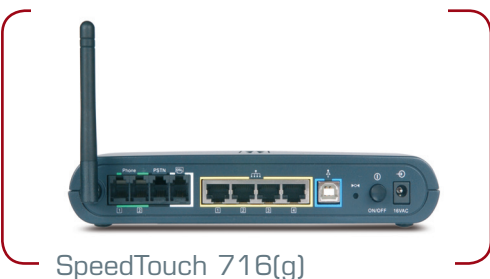
SpeedTouch 716(g)

### ▶ For more information: www.speedtouch.com

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# speedtouch™

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Broadband Voice IAD

## SpeedTouch™ 716g
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SpeedTouch 716(g)

## The ultimate in digital and voice communication

The SpeedTouch 716 and 716g are DSL broadband access devices that allow ADSL connectivity while providing voice over IP functions for home and office users. The SpeedTouch 716g offers an additional 802.11g wireless LAN interface. Both IADs support ADSL2/ADSL2+ and are backward compatible to ADSL offering auto-negotiation capability for G.dmt, G.lite, or T1.413 Issue 2.

The SpeedTouch 716(g) is equipped with a 4-port 10/100 Mb/s Ethernet switch, plus two Voice over IP (VoIP) ports and a feature-rich router, which allow seamless use of a wealth of high-bandwidth applications together with high-quality Voice over IP functionality. The SpeedTouch 716g also includes a 54 Mb/s Wi-Fi CERTIFIED* 802.11g interface to offer seamless connection of wired and wireless worlds from anywhere in the home.

### Easy to install
The SpeedTouch Wireless Home Install Wizard makes setting up a wireless home network as easy as clicking a button, thereby drastically reducing helpdesk calls. This unique and robust mechanism configures and secures your SpeedTouch ADSL access point and wireless network clients from a single CD.
The wizard performs comprehensive system checks before and during the installation process, and validates all user inputs to guarantee the end-user a secured wireless connection (using WEP or WPA) to the Internet.

* Wi-Fi CERTIFIEDTM is a registered certification mark of the Wi-Fi Alliance

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## Broadband Voice IAD

# SpeedTouch™ 716g
## Wireless 802.11g Broadband Voice IAD

### Voice over IP

The SpeedTouch 716 and 716g offer two phone connectors to accommodate a telephone and a fax, for example. Once registered with a VoIP service, regular phone calls can be conducted over the Internet offering all the benefits of IP telephony. The SpeedTouch 716/716g natively offer services like Caller ID, CLIR, call waiting, 3-way conference, and message waiting notification.

### Secure

The SpeedTouch firewall guarantees users the ultimate level in network security. Through integration with Hyper-NAT, the firewall leverages all the Application Level Gateways provided in the Hyper-NAT context to minimize undesired service impact. The SpeedTouch firewall provides stateful inspection of packets, and an integrated Denial of Service (DoS) engine monitors a wide range of attack patterns, and logs potential security breaches to a local cache or remote server.
The SpeedTouch 716/716g also support powerful wireless security mechanisms, such as Wi-Fi Protected AccessTM (WPA), Wired Equivalent Privacy (WEP) encryption, and a physical registration button, which allow users to communicate and access data with efficient link quality and the highest level of network security. Filtering of unwanted content on the Internet also got integrated in the SpeedTouch 716/716g. Different levels of content filtering are available ranging from white list/blacklist that can be maintained locally or remotely, to subscription-based URL blocking using a network located URL database for URL classification.

### Services

The SpeedTouch 716 and 716g support a number of features, which guarantee efficient and robust delivery of multimedia services from the core of the network right to the end-user.
• TR-37 enables auto-configuration of network bandwidth according to service needs, allowing seamless integration with the network's provisioning system.
• Diffserv IP QoS
• Wi-Fi QoS, such as WME, guarantee local delivery of streamed media to the service delivery nodes.
• The optional dedication of the 5GHs spectrum to streaming media adds robustness to the Wi-Fi delivery path.
• Smart DNS and DHCP support smooth introduction pf media delivery nodes, like Set Top boxes, VoIP phones, etc.

### FLEXIBundLE

The FLEXIBundLE architecture enables service providers to define, manage, and evolve the characteristics of the service offered by the SpeedTouch 716/716g to adopt the specific features of a differentiated service offering. The basis for this architecture is an extensive multi-role, multi-user management framework that allows each individual component of the Gateway to be (de)activated independently and remotely.

### Hyper-NAT with IP pass-through

Hyper-NAT delivers absolute flexibility in managing any type of Network Address and/or Port translation, enabling seamless operation of servers on the local network. An extensive list of Application Level Gateways completes this powerful architecture to simultaneously enable services like:
• Any-to-many IPSec,
• L2TP and PPTP pass-through,
• IP pass-through,
• SIP, H.323...,
• FTP, RTSP, IPv6inIPv4, Jabber, Netmeeting, Microsoft Messenger...

### Why ours is better?

The SpeedTouch 716 and 716g have a unique positioning versus other products:
• The same software for our whole product range.
• We have strong management of IP QoS which comes from our Business Routers. We can support either QoS on multiple VP/VC (ATM level) or/and QoS at IP level.
• We have full implementation of TR-69 that enables an easy rollout on the field, in addition to our easy install wizard.
• We use VoIP stack from a market leader that guarantees instant operability with softswitch- and IP-PBX vendors and that gives confidence (SIP, MGCP or H.323).
• We support port mapping on any RJ45 port depending on the type of traffic (e.g. data, voice, or video).

If you are looking for a scaleable, manageable, and reliable Integrated Access Device, please visit us at www.speedtouchpartner.com
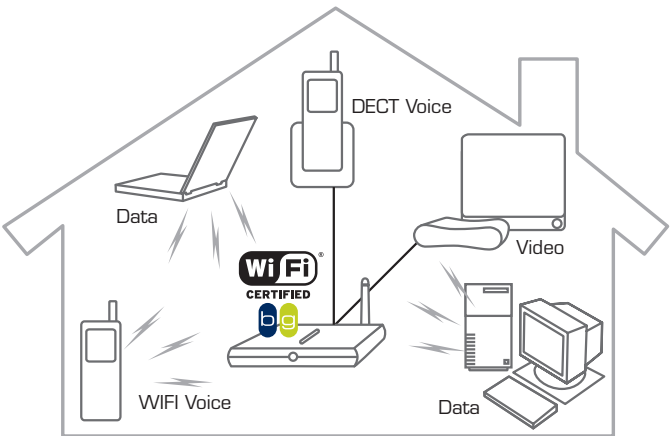
## Technical Summary

### ▸ Hardware specifications
• 12 Mb/s connection rate
  - Mini-PCI interface for IEEE 802.11g (2.4 GHz) wireless LAN connection (SpeedTouch 716g only)
  - WAN
    • ADSL port (RJ11)
    • One RJ-11 port for connecting to PSTN line
    • Two RJ-11 ports (FXS ports) for VoIP phone calls
• AC Voltage: 100 - 120VAC/220 - 240VAC
• Ambient Temperature: 0 to 40°C (32 to 96°F)
• Relative Humidity: 20% to 90% (non-condensing)
• Dimensions: 215 x 160 x 40 mm (LxWxH) (8.6 x 6.4 x 1.6 in.)

### ▸ Software
ADSL Compliance
• ANSI T1.413 Issue 2, ITU G.992.1 Annex A (G.dmt), ITU G.992.2 Annex A (G.lite), ITU G.994.1 (G.hs)
• Support dying gasp
• Maximum Rate: 8 Mb/s for downstream and 1 Mb/s for upstream
ADSL2 Compliance
• ITU G.992.3 Annex A (G.dmt.bis), ITU G.992.4 Annex A (G.lite.bis)
• Maximum Rate: 12 Mb/s for downstream and 1.5 Mb/s for upstream
ADSL2+ Compliance
• ITU G.992.5 Annex A
• Maximum Rate: 24 Mb/s for downstream and 3 Mb/s for upstream

### ▸ Wireless performance (SpeedTouch 716g only)
• IEEE 802.11g and IEEE 802.11b
• Data Rate: 54, 48, 36, 24, 18, 12, 9, 6 Mb/s for 802.11g 11, 5.5, 2, 1 Mb/s for 802.11b
• Modulation Technique: OFDM for 802.11g; CCK (11 Mb/s, 5,5 Mb/s) for 802.11b; DQPSK (2Mb/s) for 802.11b; DBPSK (1 Mb/s) for 802.11b
• Operating Frequency: 2.4 ~ 2.497 GHz
• Operating Channels: depending on local regulations. For example, 11 Channels (North America), 13 Channels (Europe), and 14 Channels (Japan)

• Coverage Area:
  802.11g: Line of Sight (LoS - Outdoors): Max. 50 meters ; Indoors: Max. 20 meters
  802.11b: LoS (Outdoors): Max. 180 meters ; Indoors: Max. 60 meters
• Supports WEP (Wired Equivalent Privacy) mechanism with 64-bit or 128-bit key length
• Supports 802.1x and WPA
• Supports the Access Control function: only registered WLAN clients can be allowed to associate to this IAD.
• SSID can be hidden for added security.
• Supports the Repeater function to extend the coverage area (WDS)

### ▸ Voice over IP Features
• Call Feature: basic outgoing and incoming call, Call Waiting, 3 Way Conference Call, Call Transfer, Caller ID
• Call Control: MGCP (RFC2705) or SIP (RFC3261)
• Voice Transport: compliance to RTP (RFC1889)
• Voice Codec: G.711 (a-law and μ-law), G.723.1A, G.726, and G.729A
• Tone Signal: compliance to the area of North America, UK, Japan, China, and Europe
• Tone Generation: support DTMF, dial tone, ring back tone, busy tone, ring tone
• Tone Detection: DTMF
• Echo Cancellation: compliance to G.168
• Supports FAX/Analog Modem function
• Supports T.38 Fax relay
• Supports RFC2833 RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals
• Two VoIP (FXS) ports for VoIP phone calls
• Both VoIP ports supporting intelligent lifeline backup
• Manual selection of PSTN mode or VoIP mode while making a phone call
• Automatic selection of PSTN phone call on dialing emergency numbers
• Supports IP QoS

DECT Voice

Data

Wi Fi® CERTIFIED

Video

WIFI Voice

Data

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