



NVG589

TRIPLE PLAY RESIDENTIAL GATEWAY

The high performance residential gateway optimized for Video, Voice, Wi-Fi®, and data services

Product Overview

The Motorola NVG589 Triple Play Residential Gateway is a full-featured, cost-effective way for subscribers to migrate seamlessly from traditional narrowband telephony service to an all-IP service. The NVG589 is ideal for both xDSL and FTTN applications, combining a Bonded VDSL2/ADSL2+ router with HomePNA 3.1 support for in-home video distribution in one convenient package. The optional, field-replaceable Lithium-ion battery provides VoIP subscribers with primary line reliability in the event of primary power failure.

With the NVG589, high-speed Internet connectivity is only the beginning. The NVG589's Advanced Quality of Service (QoS), security firewall, and extensive remote management features enable reliable, single-platform delivery of Voice-over-IP (VoIP), data, and streaming broadcast-quality video over the VDSL2/ADSL2 broadband network, including:

- Simultaneous use of phone, video, and high speed data over a bonded or single copper pair
- IPTV video
- High speed home networking using HomePNA
- 802.11g/b/n Wi-Fi® support
- Primary Line Voice over IP (VoIP) telephone service
- Optional Integrated Battery Back-Up

The NVG589 features 400mW high-power 802.11g/b/n Wi-Fi®. It uses multiple-input and multiple-output MIMO technology with 802.11n, eliminating the need for wired connections and enabling users to easily network all of their wireless 802.11b/g/n-equipped devices. The NVG589's four 10/100/1000 Ethernet ports give subscribers the option of setting up a home network to share a printer, data, music, and video files. As a result, the NVG589 enables users to maximize the high-bandwidth potential of their home or business network.

Service Assurance

The NVG589 gateway's advanced features help service providers improve efficiency and reduce costs. Support for 802.1x WAN supplicant simplifies CPE authentication to the service provider network and eliminates the customer's need to manually enter their PPP credentials.

The Motorola NVG589's design ensures it's scalable and forward looking, with the ability to support an upgrade path to more advanced features such as OSGi and DLNA. And, because Motorola designs its Gateways to be remotely manageable via industry standard TR-069/TR-098, the NVG589 is interoperable with any ACS solution that follows the Broadband Forum's TR-069/TR-098 specification.



Features

- HomePNA 3.1
- Four Gigabit Ethernet ports (RJ-45)
- One port Gigabit Ethernet WAN (RJ-45)
- High-power 400mW 802.11b/g/n Wi-Fi radio
- Single FXS voice telephony port (RJ-14) with support for two Voice-over-IP (VoIP) lines

Interfaces

WAN	Bonded VDSL2 / single line VDSL2 / bonded ADSL2+ / single line ADSL, RJ-14 One-port 10/100/1000 Ethernet, RJ-45
LAN	400mW 802.11b/g/n Wi-Fi four-port 10/100/1000 Ethernet switch, RJ-45 HomePNA v3.1 over coax connector Single-port voice FXS, RJ-14 USB2.0 network interface

Embedded Firmware

Encoding and Access Protocols

VDSL2 Support (Bonded and Single Line)	ITU-T G.993.2 VDSL2 Annex A Support for bonded profiles 8a, 8b, 8c, 8d, 12a, 12b, 17a U0 Band (25kHz to 276kHz) G.993.2 Annex K.3 (Packet Transfer Mode - PTM) G.993.5 (vectoring) G.997.1 (2006) VDSL2 physical layer OAM G.998.4 (G.INP)
ADSL2+ Support (Bonded and Single Line)	ITU G.992.5 with Amendment 2
ADSL2 Support	ITU G.992.3 with Amendments 1 and 2 (INP up to 16)
ADSL Support	ITU G.992.1 and ANSI T1.413 Issue2 Annex A, Annex L (RE-ADSL2) and Annex M support TR-067 and TR-100
ATM Adaptation Layer 5 (AAL5)	Eight permanent virtual circuits (PVCs); UBR, CBR, VBRnrt, VBRrt ITU-T 1.610 (F4/F5) OAM DHCP Client, PPP, or 802.1x Supplicant Authentication
IP Addressing and Routing	IPv4 , IPv6 / 6rd DHCP server/relay DNS Proxy, Dynamic DNS Support Multiple subnet support
Traffic Management and QoS (Quality of Service)	Network Address Port Translation (NAPT) Application Level Gateway (ALG) support IP maps (pinholes) Diffserv QoS with Weighted Fair Queuing IGMPv2, IGMPv3 with Fast Leave IEEE 802.1P/Q VLANs DSCP setting for SIP/RTP
Security	Stateful Packet Inspection Firewall Virtual DMZ/IP pass-through Denial of Service (DoS) protection VPN Pass-through (PPTP, L2TP, IPSec)
Device Management	Password protected access, statistics, and log reporting
Remote Management	TR-069/TR-098, TR-104, TR-111, WebUI, CLI (Telnet), SSH
Local Management	TR-064, UPnP, WebUI, CLI (Telnet), captive portal
Utilities	Ping, traceroute, reverse DNS, NTP, diagnostics

Wi-Fi

High-Power Wi-Fi	IEEE 802.11b/g/n 400mW Radio
Wi-Fi Characteristics	2x2 integrated omni-directional antennas with diversity 2.4 GHz support
Wi-Fi Features	Multiple BSSID (unique authentication per SSID) Wi-Fi Protected Setup (WPS) Wi-Fi Multimedia (WMM), WMM-PS (power save) Transmit power control
Wi-Fi Security	WEP (64-bit, 128-bit, 256-bit) encryption 802.1x, WPA, WPA-PSK, 802.11i/WPA2, WPA2-PSK EAP-TLS, EAP-TTLS, EAP-SIM MAC Address filtering

Voice Features

SIP v2 call, SIPv2 call control	
DNS SRV, A Records Re-registration with primary SIP proxy server	
Geo-Redundancy—DNS SRV, A-records	
Flexible dial plan support	
Hook flash event signaling	
RTP audio transport	
RFC2833 RTP payload, SIP INFO and InBand DTMF mode	
Audio Codecs	G.711 (a-law and u-law), G.729a and G.726 (16, 24, 32, 40 kbps) AMR (narrow band) Adaptive jitter buffer PLC—(G.711 Appendix I and Frame repeat) VAD (Voice Activity Detection) with silence suppression and comfort noise generation G.168 Network Echo Cancellation G.167 Acoustic Echo Cancellation
FAX Relay Protocols Compliance	T.38 pass-through and over IP Fax/modem detection control, T.38 (IP) compliant Group 3 and SG3 fallback to Transport T.30, V.34 fax and modem bypass (automatic fallback to G.711) support
CLASS Calling Features	Call Waiting; Call Hold; Call Resume; Call Forward Unconditional Call Forward on busy; Caller ID; 3-way Conference; Call Consultant Call Transfer and network-initiated class services—MWI messaging VMWI via FSK Voice announcements during low battery conditions

Regulatory Compliance

Americas	UL 60950, CUL, CSA FCC Part 15 Class B, ICES-003 FCC Part 68, CS-03 CEC Compliant, Energy Star, K.21
Integrated Battery	Hazardous Materials Regulations and Procedures CFR Title 49, Section 173, Subsection 185 UL60950/CAN/CSA-C22.2 No. 60950—Recognized component (U.S. and Canada) UL 2054—Recognized component (U.S. and Canada) UN Manual of test and Criteria, sect. 38.3, CE, IEC62133 California Code of Regulation Title 20

Environmental Specifications

Operating Temperature	0 °C to 42 °C (32 °F to 107 °F) 8% to 95% (Non Condensing) Relative Humidity
Storage Temperature	–20 °C to 85 °C (–4 °F to 185 °F)

Physical Specifications

Dimensions	10 in H x 7.25 in L x 1.63 in W (25.4 cm H x 18.4 cm L x 4.1 cm W)
Weight	1.28 lbs (.58 kg) (without integrated battery) 1.77 lbs (.80 kg) (with integrated battery)
Placement	Vertical desktop, horizontal desktop, or vertical wall mount

Battery (Optional)

Type	Replaceable, lithium-ion, single piece construction, four-cell
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