

## **DG201 Multi-WAN residential gateway**

# **VDSL2/ADSL2+ RGW with VoIP and wireless 802.11n**



DG201 is a high-end VDSL2, ADSL2+ fall back residential gateway with advanced router and bridge functions. DG201 is equipped with four 10/100 LAN ports, two Gigabit Ethernet LAN ports (one optional as WAN) and wireless 802.11b/g/n.

### **Features**

- Supports VDSL2 data rates up to 17A
- Supports up to ADSL2+ (G.992.5) with 24 Mbps downstream and 1 Mbps upstream rates
- Supports fall back to ADSL2+ if VDSL2 training fails
- Integrated four-port Ethernet switch with automatic speed-sensing and crossover correction
- Integrated two Gigabit Ethernet LAN ports, one may be used as optional WAN.
- 802.11b/g/n WiFi support.
- Secure transmitting encryption by either 802.1x; WEP; WPA; WPA2; TKIP; AES; 802.11i
- Two FXS ports for VoIP
- Supports voice CODECs like G.722.2, G.711, G.726, G.729AB, BV16, ILBC, T.38 etc.; programmable G.168 echo cancellation, adaptive jitter buffer and packet loss concealment
- Voice activity detection (VAD), comfort noise generation (CNG) and caller ID
- DTMF tone detection and generation; Fax / Modem detection and pass-through
- Supports SIP signaling protocol and bonus services like call forwarding, call waiting, call transfer, call busy, call return, enquiry service, CLIP/CLIR and three way conference
- Supports networking protocols such as PPP, NAT, Routing, DHCP server / relay / client
- Local and remote management and configuration
- Firmware upgradeable through HTTP, TFTP or TR-069
- Supports TR-069 and TR-104



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## Specifications, hardware

### LAN Interfaces

- Four 10/100 Base-T Ethernet ports
- Two 10/100/1000 Base-T Ethernet ports
- Integrated 802.11b/g/n WiFi Access Point with external antennas

### WAN Interface

- 2-wire loop with 100 ohms line impedance in RJ-11 connector
- G.994 compliant
- G.992.1 (G.dmt) – Annex A and B compliant
- G.992.2 (G.lite) – Annex A compliant
- ANSI T1.413 compliant
- G.992.3 (ADSL2) compliant, supporting Annex A, B, L and M

- G.992.5 (ADSL2+) compliant, supporting Annex A, B and M
- I.432 ATM physical layer compliant ANSI T1.424 Trial Use Standard
- ETSI TS101270
- ITU-T G.993.1
- IEEE 802.3ah 10 PASS TS D2.1

### Analog Voice Interface

- 2 \* FXS ports with RJ-11 connectors for analog phone set connection

### OAM

- AAL0, AAL5, OAM, F4/F5, RM and Transparent cell types
- Through Web browser, remotely or locally
- One hidden console port (RS-232) for maintenance

### Environment

- Operation Temperature: 0°C ~ 45°C
- Operation Humidity: 5% ~ 95% (non-condensing)
- Storage Temperature: -20°C ~ +85°C
- Storage Humidity: 5% ~ 95% (non-condensing) Power
- AC adapter :Input 120 VAC/60Hz or 230VAC/50Hz; Output 15VDC 1A
- Power consumption: Less than 15 watts

### Physical Dimensions

- 262 mm x 155 mm x 33 mm (W x D x H)

## Specifications, software

### ATM

- Traffic shaper/scheduler: priority scheduling; per-VCC queuing; UBR/CBR/VBR shaping based on Peak Cell Rate (PCR), Sustained Cell Rate (SCR), and Maximum Burst Tolerance; Minimum Cell Rate Shaping; Multi-priority AAL Queuing
- Full 24-bit Virtual Port Identifier (VPI)/ Virtual Circuit Identifier (VCI) support
- 16 Virtual Channel Connections (VCCs)
- Payload Encapsulation: – RFC2684 / RFC1483, Multiprotocol Encapsulation over ATM Adaptation Layer 5 – RFC2225 / RFC1577, Classical IP and ARP over ATM (IPoA) – RFC2364, PPP over AAL5 (PPPoA)

### Bridging

- RFC2684 / RFC1483 bridged PDU encapsulation
- Transparent bridging (IEEE 802.1D) with at least 32 MAC addresses
- Bridge filtering with per-port extensions

### Routing

- RFC2684 / RFC1483 bridged and routed PDU encapsulations
- MAC Encapsulated Routing (MER)
- Supports Point-to-Point Protocol (including PPPoA and PPPoE) and user authentication via PAP, CHAP or MS-CHAP
- Routing Information Protocol (RIP) v1 and v2, static route
- DHCP client, server and relay agent
- NAT / PAT – RFC1631 with support for extensive ALGs
- DNS relay
- Firewall
- NAT: 1000 sessions, DMZ and ALGs

- Stateful Packet Inspection (SPI) with DOS protection - Ping of Death, SYN Flood LAND
- Protection against IP and MAC address spoofing
- UPnP NAT traversal and VPN / IPSec pass-through

### Wireless

- Supports 802.1x; WEP; WP2; WPA; WPA2; TKIP; AES; 802.11i
- Hidden SSID
- WMM for advanced Quality of Service
- AES in hardware
- 125 High Speed Mode: Standards-plus performance enhancement delivers best real-world performance as the client card use the same 125 High Speed Mode

### Voice

- FXO for failsafe lifeline
- Supports voice CODECs like G.722.2, G.711, G.726, G.729AB, BV16, ILBC, T.38 etc
- G.168 line echo cancellation with programmable tail
- Adaptive jitter buffer, packet loss concealment (PLC), voice activity detection (VAD), comfort noise generation (CNG) and Caller ID
- DTMF tone detection and generation; Fax/Modem detection and pass-through

### VoIP and Telephony Bonus Services

- Supports SIP (RFC3261), SDP SSID SSID RFC3264) as well as both TCP and UDP transport
- Supports User Agent Client (UAC) - User Agent Server (UAS) call, or proxy call routing

- Supports SIP and telephone URL addressing
- Supports in-band DTMF tone sending / receiving and out-band DTMF signaling with RTP, as per RFC2833
- Bonus services include:
  - Call Forwarding: Unconditional, No Response, On Busy
  - Call Waiting: Force Busy, Pickup and Release Old, Pickup and Put Old on Hold, Switch between two calls
  - Call Transfer, Call Back busy subscriber, Call Back last number called (call return)
  - Enquiry service
  - Three way conference
- Provisioning through TFTP client with configuration profile Configuration and Network Management
- SNMP GETs, SETs and TRAPs for four groups in MIB-II
- Embedded syslog; SNTP with DHCP options
- UPnP Internet Gateway Device (IGD) compliance
- Management and configuration via Web / HTTP
- Firmware upgrade using HTTP, TFTP or TR-067
- Supports TR-069 and TR-104

**Note:** Not every listed feature will be included in the shipping product.

We reserve the right to make changes of technical specifications, housing or design without prior notice.



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