

## **DG301 Multi-WAN residential gateway**

# *Multi-WAN RGW with DECT*

DG301 is a high-end Multi-WAN residential gateway with advanced router and bridge functions. DG301 is equipped with one ADSL/2/2+/VDSL2 WAN, one 10/100/1000 WAN, four 10/100/1000 LAN, one wireless 802.11n 2,4 (AP) and integrated DECT base station. DG301 is delivered with internal 2x2 antennas.



### **Features**

- Based on Broadcom BCM 63268
- Support for VDSL2 G.993.2 8a, 8b, 8c, 8d, 12a, 17a, ADSL/ADSL2/ADSL2+ fallback
- Support for ADSL/2/2+ G.992.1, G.992.3 & G.992.5 annex A, annex B, annex M and annex L
- Support for Broadcom extensions Nitro and PhyR mode
- Integrated four-port Gigabit Ethernet switch with automatic speed-sensing and crossover correction
- Gigabit Ethernet WAN port.
- Two USB host 2.0 ports (1x 0,5A, 1x 1A).
- Integrated 802.11n 2,4GHz WiFi, MIMO 2x2.
- Secure transmitting encryption by either 802.x; WEP; WEP2; WPA; WPA2; TKIP; AES; 802.11i
- Two FXS ports for VoIP using POTS
- Integrated DECT base station supporting up to six handsets.
- Secure boot
- Remote management via IUP/HTTP / TFTP / SNMP/ TR-069
- Optional integrated Voice reinjection.



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## Specifications, hardware

### LAN Interfaces

- Four 10/100/1000 Base-T Ethernet ports
- Integrated 802.11n 2,4GHz WiFi Access with internal 2x2 antennas

### DSL WAN Interface

- 2-wire loop with 100 ohms line impedance in RJ-11 connector
- G.994 compliant
- G.992.1 – Annex A, B, and L compliant
- ANSI T1.413 compliant
- G.992.3 (ADSL2) compliant, supporting Annex A, B, C, L and M
- G.992.5 (ADSL2+) compliant, supporting Annex A, B, C and M
- G.993.2 (VDSL2) compliant, supporting profiles 8a, 8b, 8c, 8d, 12a, 17a, (30a optional hardware)
- G.993.5 (G.Vector) compliant

## Specifications, software

### ATM

- AAL0, AAL5, OAM, RM and Transparent cell types
- 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

- 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

### Ethernet WAN Interface

- One 10/100/1000 Base-T Ethernet ports

### Analog Voice Interface

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

### Digital Voice Interface

- DECT base station supporting up to six handsets.

### 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; WEP2; 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 (RFC2327, RFC3264) as well as both TCP and UDP transport

### OAM&P

- Through Web browser, remotely or locally
- One hidden console port (RS-232) formaintenance

### 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 12VDC 2,5A
- Power consumption: compliant to EU CoC

### Physical Dimensions

- TBD 238 × 173 × 46 (W × D × H)

- 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

### Configuration and Network Management

- SNMP GETs, SETs and TRAPs for four groups in MIB-II
- Embedded syslog; SNMP with DHCP options
- UPnP Internet Gateway Device (IGD) compliance
- Management and configuration via Web / HTTP
- Firmware upgrade using IUP/ HTTP / TFTP / TR-069
- Supports TR-069, TR-098, TR-104 management and provisioning

**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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