



## COBRA M

Dual-Band Wi-Fi 6 Smart Ultra-Broadband Gateway

with Voice

DGA4135

The Vantiva COBRA M DGA4135 is a powerful carrier grade network-agnostic Digital Home enabler featuring VDSL2 WAN connectivity (up to VDSL2 profile 35b) and advanced voice services. Equipped with the latest Wi-Fi 6 technology, the DGA4135 allows for faster throughputs, better performance in dense multi-user environments and improved battery lifetime of connected devices.

### Wi-Fi 6 Technology

Wi-Fi 6 – a stronger, higher performing wireless connectivity – is a major evolution that improves gigabit-services delivery through providing reliable connections to a large number of devices.

Used in both the 2.4 and 5 GHz bands, Wi-Fi 6 is the first major upgrade for Wi-Fi at 2.4 GHz since Wi-Fi 4 in 2009.

Wi-Fi 6 increases signal robustness to accommodate more devices and allow better sharing of the wireless channel. Wi-Fi 6 provides higher maximum data rates on the network by using higher orders of modulation – up to 1024 QAM from Wi-Fi 5's 256 QAM. It lowers latency by dramatically reducing delay times as data is sent, improving load times and helping avoid disconnects and other issues benefitting applications such as on-line gaming. Additionally, Wi-Fi 6 provides a mechanism to reduce interference between neighboring routers through efficient spectrum use, improving service quality levels to customers that live in high Wi-Fi density areas. Finally, Wi-Fi 6 introduces a concept called Target Wake Time (TWT), allowing the access point to put clients' Wi-Fi radio in a sleep mode until it's needed, reducing power consumption and prolonging battery life.

Featuring the next-generation Wi-Fi 6 technology on both the 2.4 GHz and 5 GHz bands, the DGA4135 makes optimal use of the radio spectrum allowing for faster throughputs, better performance in dense multi-user environments and saving battery lifetime of connected devices. With its optimized antenna configuration, the DGA4135 enables a best in class coverage.

The DGA4135 supports Wi-Fi XL™, a differentiated Wi-Fi solution that delivers multi-user gigabit Wi-Fi services throughout the home

### Features at a Glance

- Integrated VDSL2 modem (up to VDSL2 35b profile)
- 1 GE WAN port
- AutoWAN sensing™
- 4 GE LAN ports
- Dual-band concurrent Wi-Fi radios
  - 2.4 GHz (2x2) Wi-Fi 6 (IEEE 802.11ax)
  - 5 GHz (4x4) Wi-Fi 6 (IEEE 802.11ax)
- EasyMesh (agent and controller) enabled
  - Ready for EasyMesh R2 upgrade
- Enabled to support
  - Vantiva Wi-Fi XL™
  - Vantiva Navigate mobile app
- 2 FXS ports for phone or fax
- 1 superspeed USB 3.0 port
- 1 highspeed USB 2.0 port (optional)
- Seamless media sharing
- Future-proof Added Value Services platform supporting Vantiva HOMEWARE
- Extensive remote management
- Non-service-affecting platform software upgrades (dual bank memory)
- IPv4 & IPv6 enabled
- Designed according to the latest ECO standards



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## Wi-Fi EasyMesh Technology

EasyMesh™, a standards-based and open approach to deploying multiple access points in the home, gives consumers both freedom of choice and easy setup of Wi-Fi mesh networks. EasyMesh certified devices from different manufacturers are fully compatible and can be used to create whole home Wi-Fi coverage.

Enriched with advanced diagnostics capabilities, Vantiva's EasyMesh certified products intelligently select the most appropriate access point & frequency bands and maximize performance for every user and device in the home. All Vantiva products are software upgradable from and backwards compatible with the EasyMesh R1.

Vantiva's EasyMesh products bring the following capabilities:

- Easy setup for automatic device onboarding and configuration
- Standardized network intelligence gathering mechanisms that enable roaming, band steering and load balancing to maximize network performance
- Interoperability of EasyMesh certified access points from multiple vendors.
- Standardized Wi-Fi diagnostics (R2)
- Guaranteed service continuity through improved channel management (R2)
- Traffic separation for guest accounts (R2)
- Enhanced client steering (R2)

## Vantiva Wi-Fi XL

Vantiva is proud to deliver Wi-Fi XL™, a superior whole home Wi-Fi solution combining the Vantiva wireless expertise embedded in our new home gateways, extenders and set-top-boxes, with the latest Wi-Fi alliance technology standards and additional layers of innovative software for more advanced functionalities.

By combining several products, technologies and software Wi-Fi XL solves multiple pain points:

- First, it extends Wi-Fi coverage to all corners of the home, transmitting the gigabit access-speeds that enter it.
- Secondly, it provides seamless roaming by integrating EasyMesh and guarantees a smooth experience over time through the use of advanced software tracking that solves wireless issues as they arise.
- Lastly, it caters to the new reality of an ever-increasing amount of Wi-Fi users that have dedicated needs in terms of latency, bandwidth and priority (i.e. Audio and Video).

Wi-Fi XL enables optimized connectivity and seamless interactions for every user, every time and in every corner of their home. This means seamless Wi-Fi, without exception – reducing the number of calls to your helpdesk and driving increased customer satisfaction, loyalty, and lifetime value.

Wi-Fi XL™ also introduces Vantiva Navigate, a mobile app solution interacting with all in-home Vantiva Wi-Fi XL products. Navigate allows the user to monitor, configure and optimize their whole home Wi-Fi network and topology.

## Leapfrogging Performance

The DGA4135 is equipped with a System on Chip (SoC) featuring a 1.5 GHz triple-core processor (8.5k DMIPS). Combined with a Level 2 cache, this smart gateway is ideally suited to run multiple demanding applications and services, such as NAS-quality media sharing, high-speed LTE backup, smart life applications, deep packet inspection and powerful encryption algorithms simultaneously without impacting routing performances.

## Flexible & Future-Proof Software Stack

The DGA4135 is powered with HOMEWARE, a reliable and managed middleware developed by Vantiva, enabling our operator customers to tap into a thriving ecosystem of partners to bring the most innovative services to their subscribers.

HOMEWARE is open: based on Open Source Software that we extended to make it carrier grade.

HOMEWARE is apps-ready: with its dedicated and short learning curve SDK, it allows NSPs to generate new services and improve ARPU by integrating third-party applications. It also pre-integrates Vantiva's partners apps (via the Vantiva HERO Program) and delivers a full apps Life Cycle Management to improve broadband service availability by decoupling the upgrade and maintenance of applications from the core software.

HOMEWARE is secure: it uses an overall software architecture with end-to-end security by design, from bootup to the installation of applications via life cycle management.

HOMEWARE is interoperable: working with multiple network components, allowing a shorter time to market, greater freedom for the service provider to choose the network components or to deploy in an environment with multiple vendors in the network. It also reduces complexity for the service provider as a single software stack that can deal with a vast variety of environments.

## Easy to Manage

The DGA4135 is completely designed according to the TR-069's TR-098 IGD data model through which the device can be configured remotely by the operator without interrupting the end user's experience.

In addition, the TR-181i2 Device:2 data model is made available to further increase the remote management capabilities towards life cycle management, diagnostics and application management.

## Voice over IP

The DGA4135 offers VoIP functions for residential and business users. POTS phone connectors are provided to accommodate regular phones and faxes. Once the gateway is registered with a VoIP service, regular phone calls can be conducted over the Internet with all the benefits of IP telephony.

On top of a wide range of advanced voice services like caller ID, CLIR, call waiting, call forwarding, three-way conference and message waiting notification, the DGA4135 is completely interoperable with the main IMS cores in the market.

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## Technical Specifications

### Hardware

■ CPU	1.5 GHz triple-core CPU (8.5k DMIPS)
■ Memory	256 MB Flash 512 MB RAM
■ Interfaces WAN	1 RJ-11 DSL line port 1 Ethernet WAN 10/100/1000 Base-T port
■ Interfaces LAN	4-port autosensing 10/100/1000 Base-T Ethernet LAN switch 1 Wi-Fi 6 (IEEE 802.11ax) 2.4 GHz radio 1 Wi-Fi 6 (IEEE 802.11ax) 5 GHz radio 2 FXS POTS ports 1 USB 3.0 master port 1 USB 2.0 master port (optional)
■ Buttons & LEDs	Wi-Fi on/off button WPS button Reset button (recessed) Power button 5 status LEDs DC jack
■ Power input	12 VDC external PSU
■ Power supply	100 - 240 VAC, 50 - 60 Hz (switched mode power supply)
■ AC Voltage	215 x 50 x 175 mm (8.46 x 1.97 x 6.89 in.)
■ Dimensions	0 - 40 °C (32 - 104 °F)
■ Operating temperature	20 - 80 % RH non-condensing
■ Operating humidity	-20 - 70 °C (-4 - 158 °F)
■ Storage temperature	

### xDSL modem

■ Supports multi mode standards	
■ ADSL compliancy	ITU-T G.992.1 Annex A (G.dmt) ITU-T G.992.2 Annex A (G.lite) ITU-T G.994.1 (G.hs) Rates up to 8 Mbps downstream and 1 Mbps upstream
■ ADSL2 compliancy	ITU-T G.992.3 Annex A, L (G.dmt.bis) ITU-T G.992.4 Annex A, L (G.lite.bis) ITU-T G.998.4 (G.inp) Rates up to 12 Mbps downstream and 1 Mbps upstream
■ ADSL2+ compliancy	ITU-T G.992.5 Annex A, M ITU-T G.998.4 (G.inp) Rates up to 24 Mbps downstream and 3 Mbps upstream
■ VDSL2 compliancy	ITU G.993.2 SOS SRA INM ITU-T G.993.5 (G.vector) ITU-T G.998.4 (G.inp) Up to VDSL2 profile 35b
■ Supports Dying Gasp (optional)	

### Wi-Fi

■ Full dual band concurrent Wi-Fi radios, Wi-Fi 6 certified®	2x2 Wi-Fi 6 (IEEE 802.11ax) 2.4 GHz access point 4x4 Wi-Fi 6 (IEEE 802.11ax) 5 GHz access point
■ Wi-Fi security levels	WPA2™-Enterprise WPA3™-Personal / WPA2™-Personal WPA3™ + WPA2™ mixed mode (SAE, AES)
■ Wi-Fi Protected Setup (WPS™)	
■ Wi-Fi Multimedia (WMM®) and WMM-Power Save	
■ Wi-Fi EasyMesh™	EasyMesh R1 controller (upgrade to EasyMesh R2 supported) EasyMesh R1 agent (upgrade to EasyMesh R2 supported)
■ Up to 4 BSSIDs (virtual AP) support per radio interface	
■ Wireless hotspot capabilities	
■ Band Steering	
■ MIMO 2.4 GHz Wi-Fi features	2.4 GHz frequency bands 2400 - 2483.5 MHz 2.4 GHz Wi-Fi power up to 20 dBm (100 mW EIRP) SGi (Short Guard Interval) STBC (Space-Time Block Code) 20, 40 MHz bandwidths 2x2 antenna
■ MU-MIMO 5 GHz Wi-Fi features	5 GHz frequency bands Band 1 5150 - 5250 MHz Band 2 5250 - 5350 MHz with DFC Band 3 5470 - 5725 MHz with DFC 5 GHz Wi-Fi power Band 1, 2 up to 23 dBm (200 mW EIRP) Band 3 up to 30 dBm (1000 mW EIRP) SGi (Short Guard Interval) STBC (Space-Time Block Code) LDPC (FEC) Multi-User MIMO TPC (Transmit Power Control) OCAC (Off Channel Availability Check) 20, 40, 80, 160 MHz bandwidths 4x4 antenna
■ RX/TX switched diversity	
■ Dynamic rate switching for optimal wireless performance	
■ Manual/auto radio channel selection	

### Voice and telephony

■ Voice technologies	Voice over IP (VoIP)
■ Voice signalling	SIP
■ Voice codecs	G.711, G.726, G.729, iLBC (Internet Low Bitrate Codec) Wideband G.722.2 AMR-WB (optional) T.38
■ Echo cancellation	G.168 compliant
■ Comfort Noise Generator (CNG)	
■ Voice Activity Detection (VAD)	
■ Flexible telephone number per FXS handset, including common numbers	
■ Supplementary and advanced services	Caller ID Call waiting (on call basis) Call forwarding (no answer/busy/unconditional) Call transferring, hold, call return Calling Line Identification Presentation (CLIP) Calling Line Identification Restriction (CLIR) Calling Name Identification Presentation (CNIP) Calling Name Identification Restriction (CNIR) Fax transparency / V.92 transparency 3-way conference Message Waiting Indicator (MWI) Call completion to busy subscriber Anonymous Call Rejection (ACR) Distinctive ringing DNS SRV
■ SIP server	Back-to-Back User Agent
■ Interoperable with main market softswitches	

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## Technical Specifications

### Management

- Customizable user-friendly GUI via HTTP and HTTPS
- Command Line Access SHell (CLASH)  
SSH v2
- Web services API for remote access (portal, management, diagnostics, applications,...)
- Web-browsing intercept (install/diagnostics/captive portal)
- AutoWAN sensing™ (automatic selection and configuration of WAN interfaces)
- TR-069 CPE WAN Management Protocol (CWMP)
  - TR-098 Internet Gateway Device (IGD) data model
  - TR-104 voice service provisioning and configuration
  - TR-111 home network device management
  - TR-140 storage service provisioning
  - TR-143 network throughput performance tests and statistical monitoring
  - TR-157a3 Life Cycle Management (LCM)
  - TR-181i2 Device:2 data model
- Zero-touch autoprovisioning

### Services

- Life Cycle Management (LCM) for developing advanced services support
- Open architecture for 3rd party application and UI development
- Enabled to support Vantiva Managed Services
  - Wi-Fi XL™  
Navigate mobile app
- 3G/LTE/4G mobile fall-back WAN connection (through USB adapter)
- VPN client/server scenarios L2TP/IPSec
  - PPTP
  - OpenVPN
- Wireless hotspot (optional, on request)
  - Based on HotSpot 2.0 technologies
  - Passpoint™
  - GRE tunneling
  - EAP
  - Fon
- Parental control
  - URL- and (optional) content-based website filtering
  - Time-based access control (Tim-of-Day)
- Printer sharing
  - IPP
  - LPD
  - Server Message Block (SMB) Samba printer sharing
  - Server Message Block (SMB) Samba file server
  - Digital Media Server (DMS) and media control point
  - Metadata support
- HDD file systems
  - FAT32, NTFS, ExFAT
  - EXT2, EXT3, EXT4
  - HFS+

### Networking

- Symmetrical NAT with application helpers (ALGs)
- Game and application sharing NAT port maps
- DHCP conditional serving & relay
- DNS server & relay
- IGMPv3 proxy (Fastleave)
- IGMP snooping (full routed)
- DHCP spoofing
- IEEE 802.1q VLAN bridging, multiple bridge instances
- MLD Proxy for IPv6
- Port Control Protocol (PCP)
- Multicast to unicast translation on Wi-Fi interfaces

### IPv6 networking

- IPv4 / IPv6 dual IP stack
- Supported models
  - PPP(oE)(oA)
  - IPoE(oA)
- Transitioning
  - 6rd, 6in4, 6to4
  - 464XLAT
  - DS-Lite
  - MAP-T
- Stateful connection tracking
- Stateful inspection firewall
- DHCPv6
  - Stateful/stateless DHCPv6 client
  - Stateless DHCPv6 server
  - Relay
  - Prefix Delegation
- ICMPv6

### Quality of Service

- ATM QoS
  - UBR, VBR-nrt, VBR-rt, CBR shaping, queuing and scheduling
  - CLP tagging
- IP QoS
  - Flexible classification (ALG aided)
  - IP rate limiting (two-rate remarking/dropping)
  - DSCP (re)marking
  - Dynamic link fragmentation
- Ethernet QoS
  - Priority or C-VLAN/S-VLAN tagging
  - Ethernet switch port queuing and scheduling
- Wireless QoS
  - WMM (BE, BK, VI, VO access categories) queuing and scheduling

### Security

- Stateful Packet Inspection Firewall (SPIF)
- Customizable firewall security levels
- Intrusion detection and prevention
- DeMilitarized Zone (DMZ)
- GRE Tunnel encryption
- Multilevel access policy
- Secure boot
- Security and service segregation per SSID

### Package contents

- DGA4135
- DSL cable
- Ethernet cable
- Power supply unit
- Quick Setup leaflet(s) (optional)
- Safety Instructions & Regulatory Information
- Filter(s) or splitter(s) (optional)

### VANTIVA TECHNOLOGIES

10 Boulevard de Grenelle,  
75015 Paris,  
France.

[www.vantiva.com](http://www.vantiva.com)

### SALES CONTACT

For more information please contact your local Vantiva sales representative.

