

BG Series

MULTISERVICE BUSINESS ROUTERS



Aethra Telecommunications BG Series Multiservice Business Routers

Aethra Telecommunications BG Series are feature-rich routers and Integrated Access Devices, providing advanced data and voice services for Small and Medium Enterprises.

Up to eight concurrent high quality voice calls, a four ports Gb Ethernet switch, Fax/Modem support and secure WiFi make the BG Series routers the perfect choice for ADSL, VDSL2 (with full end to end vectoring support) and FTTH connectivity.

BG Series	WAN	LAN	WiFi	FXS/BRI	FXO ²	DECT CATiq	G.729 ch.	3G/4G	USB
BG7420	A/VDSL ¹ GbE	4 x GbE	802.11b/g/n, 3x3, 2.4 GHz, WEP WPA1/2, WPS	2 / 0	1	✓	4	optional	2
BG7500	A/VDSL ¹ GbE	4 x GbE	-	0 / 0	-	-	-	-	1
BG7500W	A/VDSL ¹ GbE	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS (802.11ac factory option)	0 / 0	-	-	-	-	1
BG7520W	A/VDSL ¹ GbE	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS (802.11ac factory option)	2 / 0	-	-	4	-	1
BG7500MW	A/VDSL ¹ GbE	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS	0 / 0	-	-	-	✓	1
BG7500EW	2x A/VDSL ³ GbE SFP	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS	0 / 0	-	-	-	optional	1
BG7520EW	2x A/VDSL ³ GbE SFP	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS	2 / 0	-	-	4	optional	1
BG7542W	A/VDSL ¹ GbE	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS (802.11ac factory option)	4 / 2 (BRI VOICE: 2 NT / 1 TE) (BRI DATA: 1 TE)	1	-	4	optional	1
BG8542RW	A/VDSL ¹ GbE SFP	4 x GbE	802.11b/g/n, 2x2, 2.4 GHz, WEP WPA1/2, WPS	4 / 2 (BRI VOICE: 2 NT/TE) (BRI DATA: 1 TE)	1	✓	4	optional	2

NOTES
¹VDSL2 full vectoring support

²optional

³VDSL2 2 pair bonding - full vectoring support

BG Series with analog voice ports

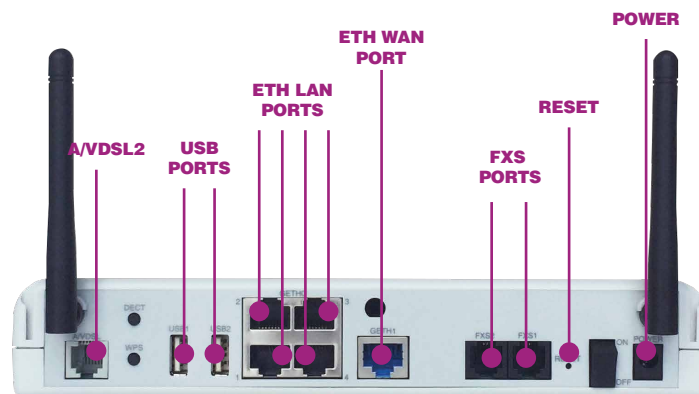


Figure 1: Aethra Telecommunications BG7420.

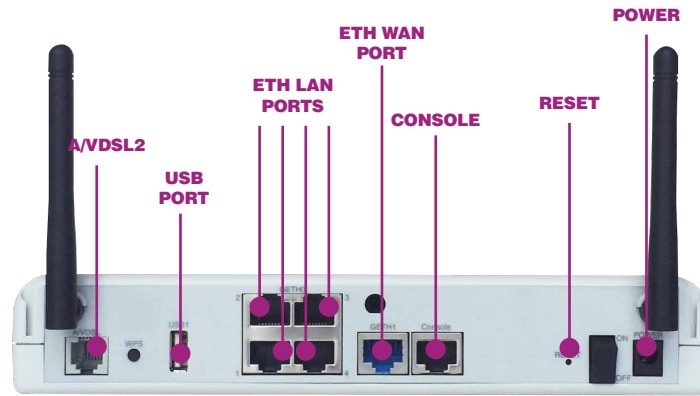


Figure 2: Aethra Telecommunications BG7500W.

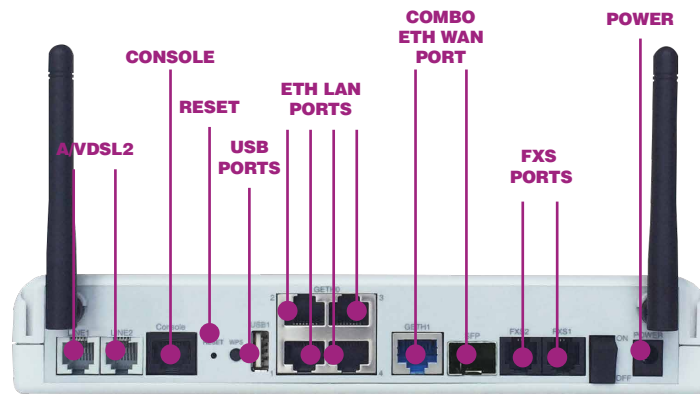


Figure 3: Aethra Telecommunications BG7520EW.

BG Series with analog and ISDN voice ports

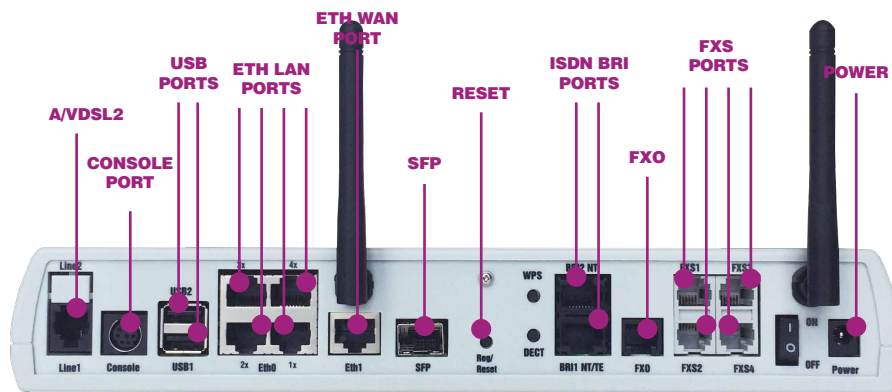


Figure 4: Aethra Telecommunications BG8542.

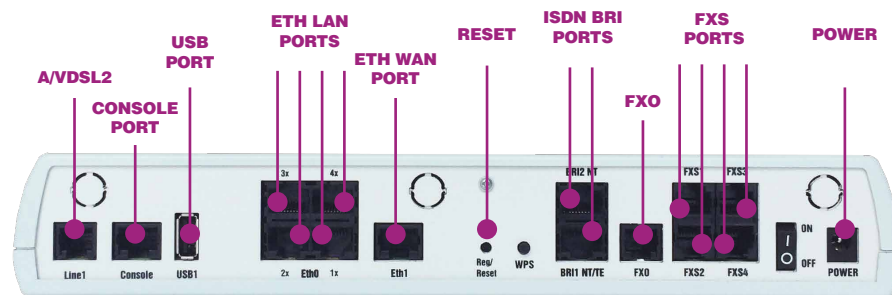


Figure 5: Aethra Telecommunications BG7542.

TECHNICAL SPECIFICATIONS

LED Indicators

- POWER
- FXS
- ISDN
- USB
- ETH0
- ETH1
- Wi-Fi
- INTERNET
- LINE

Physical Interfaces

- 1 or 2-port A/VDSL2 with RJ-11 connector
- 1-port GbE with RJ-45 and SFP connectors (Eth1)
- 4-port GbE switch with RJ-45 connectors (Eth0)
- 1-port console with RJ45 connector or MiniDIN 8P connector
- 1 or 2-host USB
- 2-port ISDN-BRI with RJ-45 connectors
- 2 or 4-port FXS with RJ-11 connectors
- 1-port FXO with RJ-11 connector

VDSL2/ADSL2+ Network Interface

- VDSL2 backward compatible with ADSL2/2+ interface
- VDSL2 interface
- ITU-T G.993.2
- Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
- Full Vectoring
- Profile 17a&30a 2-pair bonding
- DELT
- ADSL2/2+ interface
- ITU-T G.992.1 Annex A, B⁹⁹
- ITU-T G.992.3 Annex A, B, J, L, M⁹⁹
- ITU-T G.992.5 Annex A, B, J, L, M⁹⁹
- T1.413
- Downstream line rate: up to 24 Mbps
- Upstream line rate: up to 1 Mbps, up to 3.5 Mbps with Annex M

3G/LTE

- LTE (FDD) B1/B2/B3/B5/B7/B8/B20
- DC-HSPA+/HSPA+/HSPA/UMTS dual-band B1/B2/B5/B8
- EDGE/ GPRS/ GSM quad-band 850/900/1800/1900 MHz
- Data Transfer Rate
- DC-HSPA+ :Downlink:42 Mbps, Uplink: 5.76 Mbps
- LTE FDD: Downlink:100 Mbps, Uplink: 50 Mbps @Bandwidth 20M (CAT3)
- North America - AT&T Variant (optional):
- LTE: 700 (B17/B12/B13) / 850 (B5) / AWS1700 (B4) / 1900 (B2)
- UMTS | HSPA: 850, 1900 MHz

ATM

- Services
- Up to 8 VCCs
- Class of Services (CBR, VRB-rt, VBR-nrt, UBR+, UBR)
- Voice and Data packets over different VCCs (VC bundling)
- Selective CLP marking
- F4/F5 OAM cells, AIS and RDI
- ATM: ITU T-1.361, ITU T-1363.5, ITU T-1432, ITU T1610, ITU T-1731
- Access protocols
- IP over AAL-5, Ethernet over AAL-5 (RFC2684)
- PPP over AAL-5 (RFC2364)
- PPP over Ethernet (RFC2516)
- LLC/SNAP and VC encapsulation

- Multiprotocol Interconnect over Frame Relay (RFC1490 Bridged, RFC1490 Routed)

WiFi Interface

- IEEE 802.11b/g/n
- IEEE 802.11ac (factory option)
- WEP encryption
- WPA1 and WPA2
- IEEE 802.1x authentication
- MAC filtering

Voice Interfaces

- FXS
- Compliant to Q.552 requirements
- Port impedance: real 600Ω or complex Euro values
- Low distortion ringing voltages
- Diagnostic features
- FXO
- Compliant to ETSI TBR 21 requirements
- ISDN-BRI
- 4-port NT/TE VOICE (2-port TE DATA)
- Fully compliant to L1 standards (ETSI ETS 300 012)
- PP and PMP configuration
- ISDN-PRI
- 1-port NT/TE with RJ-45 connector
- Balanced E1 G.703/G.704
- Fully compliant to L1 standards (ITU-T I.413, ETSI ETS 300 011)
- Euro ISDN EDSS-1
- ETS 300 125 (ITU-T Q.921)
- ETS 300 102-1 (ITU-T Q.931)

Voice Processing

- Voice Codes
- ITU-T G.711 (A-law, μ-law)
- ITU-T G.729a (Factory Setup Option)
- Transparent pass-through
- ITU-T G.165/G.168 echo cancellation
- Voice Activity Detection and Comfort Noise Generation
- RTP/RTCP (RFC1889)
- Up to 12 Voice Channels VoIP + 30 (PRI Module)

Signalling

- Euro ISDN EDSS-1
- ETS 300 125 (ITU-T Q.921)
- ETS 300 102-1 (ITU-T Q.931)
- SIP 2.0 according to RFC 3261 (TCP or UDP transport)
- En-block and Overlap sending
- ISDN speech, audio and data (Fax Gr 2/3)
- DTMF detection and carrying (RFC2833), DTMF info
- Local Generation of
- Dial tone
- Ring back tone (180 Ringing reply)
- Call Waiting tone- Busy tone
- Fast Busy tone

Fax and Modem Support

- T.38 fax relay
- Automatic G.711 Fax and Modem Pass-Through

Supplementary Services⁹⁹

- Locally managed⁹⁹ or Softswitch-based
- Call hold
- Consultation call
- Call waiting
- Call forwarding
- Caller Identity Presentation (CLIP), DTMF and FSK based
- Identity restriction
- Call transfer
- 3party conference (FXS only)

- MSN

DDI Bundle

- GNR Management
- Multi-port to one number association and vice versa
- Multi-port to multi-number range association

IP Functions

- IP Routing
- RIP v1/v1c/ v2, BGP, OSPF
- Enhanced Network Address and Port Translation (NAPT) engine, with multiple
- ALGs (including SIP, TFTP and H.323)
- DHCP Server/Client/Relay, DHCP Learning
- Multicast IGMP v1/v2/v3, PIM-SM, Static
- IP Multipath Balancer
- Routing Filtering Redistribution
- Firewalling
- Extended Access Lists
- Stateful Packet Inspection including Denial of Service attacks
- IP Services
- DNS proxy
- DDNS client
- VPN (GRE, IP, PPTP server/client)
- IPSec with DES, 3DES and AES
- Layer 3 QoS according to DiffServ model (RFC2474, RFC2475)
- Priority based queuing (Absolute Priority, WFQ, RED)
- Extensive monitoring, tracing and troubleshooting facilities

Ethernet Services

- Self Learning Bridge with up to 1k MAC addresses and automatic ageing
- Full-Duplex IEEE 802.3x
- Half-Duplex back pressure flow control
- Automatic MDI/MDI-X crossover
- Broadcast/Multicast storm protection
- VLANs (802.1Q and 802.1p) port based management
- Tag/Re-Tag/Untag
- Trunking (VLAN multiplexing)
- Priority based queuing

Authentication

- PAP/CHAP/MS-CHAPv1 and v2 authentication
- Basic and Digest schemes (RFC2617)
- Service Resiliency
- ISDN backup
- VRRP (RFC2338)
- Dial on Demand Routing

Management & Configuration

- Password Protected Access
- 2 login levels + configurable privilege access right
- AAA and local authentication
- TACACS+
- Local Management
- Console port
- Extensive CLI
- Remote Management
- CLI (internal Telnet Server)
- HTTP (embedded WEB Server)
- HTTPS (embedded Secure HTTP WEB Server)
- SNMP Agent (v1, v2c, v3)
- SSH
- Syslog
- Network Performance Monitor

- Ping MIB

- TR-069⁹⁹

- Firmware upgrades: Local and Remote (TFTP & FTP client embedded)

Ethernet OAM functionality

- Link Layer OAM (IEEE 802.3ah OAM)
- Service Layer OAM (IEEE 802.1ag Connectivity Fault Management)
- ITU-T Y.1731 Performance Monitoring
- SAM according to ITU-T Y.1564

PCI DSS 2.0 Compliance

Aethra Telecommunications Routers and Integrated Access Devices include high-end security features that can be used to help businesses ensure that all the payment data and transaction are protected according to the specifications of the Payment Card Industry (PCI) Data Security Standard.

Please refer to the "PCI DSS 2.0 Compliance with Aethra Telecommunications Routers and Integrated Access Devices" white paper to understand how to use BG Series Integrated Access Devices to help secure the access portion of the network in order to achieve PCI DSS Compliance.

Environment

- Operating Temperature: -5° ÷ 45°C (23° ÷ 113°F)
- Non-Operating Temperature: -40° ÷ 70°C (-40° ÷ 158°F)
- Operating Humidity: 10 ÷ 93% (noncondensing)

Compliance & Approvals

- Storage: ETSI EN 300 019-2-1 T 1.3
- Transportation: ETSI EN 300 019-2-2 T 2.3
- Operating Conditions: ETSI EN 300 019-2-3 T 3.2
- EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3
- Protection: ITU-T K.21
- Safety: EN 60950-1

Power

- External power supply
- AC input voltage: 100-240 Vac
- AC input frequency: 50/60 Hz
- AC input current: max 0,65A

NOTES

⁹⁹Supplementary Services management is not yet fully standardised by international bodies and their implementation could be subject to revisions

⁹⁹Depending on the specific service, a common implementation between the IAD and the Softswitch needs to be agreed

⁹⁹TR-069 available under license

⁹⁹For Annex B and Annex J support please contact your sales representative

DISCLAIMER

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