



## AbovEdge™ 6000 Series Media Gateway Voice Resource Server Media Service Server

**AbovEdge™ 6000 series** provides with functionalities of media gateway and voice processing resources to collaborate with AbovEdge™-CS call server at the same site, or to be deployed at the remote site to physically extend AbovEdge™ IP-PBX features and functions through Internet connection. It can also provides fully featured voice-based services like voice mail (VM), Auto Attendant (AA), interactive voice response (IVR), and conference services. With various options of up to four DSC ( Digital Subscriber Circuit) interfaces, it provides local digital trunk connection (T1/E1/ISDN PRI), and/or local analog trunk and extension interfaces while using the DSC interfaces wired to TeleLEX™ analog expansion boxes (ES-0624 or ES-0030). With its built-in VoIP capability, AbovEdge™ 6000 series also supports SIP VoIP trunk and extension linkage.

**AbovEdge™-MV Media Service Server** works together with AbovEdge™-CS call server to provide with the functionalities of a media gateway, and voice resources such as AA, IVR, VM and conference services, as well as to provide for VoIP communication service.

**AbovEdge™-MG Media Gateway** is a high performance media gateway. When deployed remotely, it physically extends AbovEdge™ IP-PBX connection to the remote site. All the extensions under AbovEdge™-MG share the same functions and features as local extensions connected to the AbovEdge™-CS call server in the main office, and all the trunks connected to AbovEdge™-MG will function as if it were at the same site as the AbovEdge™-CS call server.

**AbovEdge™-VR Voice Resource Server** provides voice processing capacities for ever more demands of AA/IVR/VM, conference services to accommodate the company's growth.

### Local Survival and Live Link Recovery

When AbovEdge™-MG is deployed remotely in distributed multi-location communication network; it can operate as independent PBX in the remote office even if the Internet connection fails. Once the Internet connection is re-acquired, AbovEdge™-MG will automatically recover the distributed networking linkage without manual setup or restarting the system. With Local Survival and Live Link Recovery from AbovEdge™, the impact of disconnected Internet on business usual operation and maintenance effort of administrator can be minimized.

### FEATURES & BENEFITS

- Suitable for needs of 50 to 200 extensions
- 1U 19" Rack Mountable
- SIP compliant VoIP ports
- Up to 4 T1/E1 port for trunk or connect to TeleLEX™ ES-0624/0030 for analog trunk and extension
- 1-channel analog trunk and extension line interface with status LED
- Support FXO/T1/E1/PRI/VoIP SIP trunk
- Support FXS/IP/Softphone/WiFi extension
- Built-in voice resource for auto attendant, voice mail, and conference (MV/VR only)
- Local survival and live link recovery
- Intuitive LED status indicators
- Hot-swappable
- Remote on-line firmware upgradable
- Unified expansion/upgrade architecture
- Cost-effective and easily manageable through remote web-based user interface

### APPLICATIONS

- Provide physical interface to the T1/E1 trunk for AbovEdge™-CS call server
- Provide VoIP and voice resources for AbovEdge™-CS call server.
- Connected to TeleLEX™ ES-0624/0030 for analog trunk and extension ports

## VOICE and NETWORK SPECIFICATIONS

- Communication Protocol:
  - ✓ RFC-3261 SIP
  - ✓ RFC-2833 out-band DTMF signaling
  - ✓ RFC-2327 SDP
  - ✓ RFC-3264 offer/answer model
  - ✓ RTP / RTCP with jitter buffering
  - ✓ QoS for IP TOS (Type of Service)
- Codec Support:
  - ✓ G.711
  - ✓ G.723.1 (6.3kbps&5.3kbps)
  - ✓ G.729A
  - ✓ Selectable and auto codec negotiable
- DTMF dialing/ receiving: EIA464 & RFC2833 out-band
- Programmable gain control (±18db)
- Echo Cancellation: ITU-T G.165/168
- Silence Suppression:
  - ✓ ITU-T G.729B for G.729A
  - ✓ ITU-T G.723.1A for G.723.1
- T.38 Fax Relay supports Group III V.17, V.21, V.27ter, V.29, V.33 (2.4 to 14.4 Kbps)
- Auto Attendant/ interactive voice response/ voice mail
- On-line detection: remote hang-up, user defined tone
- Call Progress detection: ringback tone, Busy tone, user defined tone
- ADSI tone generation
- Network interface: 2 Fast Ethernet ports (10/100 Base-T auto-detection)
  - ✓ Connector: RJ-45 × 2 (1 × WAN, 1 × LAN)

## GENERAL SPECIFICATIONS

### LED Indicator:

- FXS LED (Green)
- FXO LED (Green)
- SYS1 ~ SYS4 LED (Green): System status indicators
- FAN1 & FAN2 LED (Red): Fan alert indicators
- PWR LED (Green)
- RST LED (Red)
- Sync (Green) & Error (Orange) LEDs: DSC(T1/E1) link status indicators
- Link (Green) & ACT (Orange) LEDs: WAN/LAN status indicators

### Reset Switch:

- Reset switch at the front panel

### Power Supply:

- Input: AC 100V ~ 240VAC, 50 ~ 60 Hz
- Power consumption: 30W (max.)

### Dimension:

438mm×333mm×44mm(WxDxH)

### Environment:

- Operating Temperature: 0 °C to 45 °C
- Storage Temperature: -20 °C to 75 °C
- Humidity: 20% to 90% non-condensing

## PHISICAL INTERFACE SPECIFICATIONS

### Analog Trunk Interface:

- Loop start
- Loop voltage polarity reverse detection
- Loop current: 20 ~ 80mA, polarity insensitive
- Interface impedance: 600 ohms nominal
- Frequency response: 200 ~ 3400Hz
- Ring detection: 30Vrms ~ 140Vrms(16 ~ 68Hz)
- Pulse dialing: 10/20 PPS, M/B ratio 33/66, 40/60 selectable
- Caller ID receiving: Bellcore GR-30-CORE & DTMF
- Line Status Indicator: Ringing, Line In use ,Loop Current Off, Not in use
- Connector: 1 port RJ-11

### Analog Extension Interface:

- Loop start
- Loop Range: 0 ~ 200 ohms
- DC Supply: -48V (standby)
- Loop current: 26mA
- Interface impedance: 600 ohms
- Frequency response: 200 ~ 3400Hz
- Ringing: 56Vrms (20Hz) / 60mA
- Caller ID generating: Bellcore GR-30-CORE / DTMF
- Message waiting indicator: Bellcore FSD 01-02-2000
- Pick-up/ hang-up detection, flash detection, and flash duration selection
- Connector: 1 port RJ-11

### DSC (Digital Subscriber Circuit) Interface:

- Signaling
  - ✓ ISDN PRI: ITU-T Q.921, Q.931
  - ✓ Wink start: Bellcore GR-506
  - ✓ Robbed bit tie trunk: ANSI T1.403 E&M
- T1/E1 Interface:
  - ✓ Nominal bit rate: 1,544 Kbit/s (T1); 2,048 Kbit/s (E1)
  - ✓ Frame Format: ESF/SF (T1); CRC4 (E1)
  - ✓ Line code: B8ZS, AMI (T1); HDB3 (E1)
  - ✓ CRC check capability
  - ✓ Voice channel: a-law /  $\mu$ -law compression
  - ✓ Load impedance: 100 ohm (T1), 75/120 ohm (E1),  $\pm 5\%$
  - ✓ Transmit level:  $3 \pm 0.6V$
  - ✓ Synchronization clock and timing mode: internal timing or recover clock from port 1 ~ 4
  - ✓ Clock frequency departure: less than  $\pm 32$  ppm
- Connector: up to 4 RJ-45 phone jacks (depending on models)

## SETUP AND MANAGEMENT

- Managing tool: web browser, syslog
- Remote management through web-browser:
  - ✓ On-line system parameter modification
  - ✓ Firmware upgrade
- Unified expansion architecture
- Unified upgrade architecture

## Ordering Information

Model	Capacity
MV/MG-6216	▪ 2 T1/E1, Up to 50 extensions
MV/MG-6416	▪ 4 T1/E1, Up to 100 extensions
MV/MG-6432	▪ 4 T1/E1, Up to 100 extensions
MV/MG-6132	▪ 1 T1/E1, Up to 200 extensions
MV/MG-6140	▪ 1 T1/E1, Up to 200 extensions
MV/MG-6040	▪ Up to 200 extensions

### Analog Expansion Box:

Model	Capacity
TeleLEX™ ES-0624	▪ 6 FXO, 24 FXS interface
TeleLEX™ ES-0030	▪ 30 FXS interface

### MG/MV/VR-6XXX

