

cmg 4000

Compact VoIP & DCME Gateway



Toll Quality Voice and Lowest Transmission Bandwidth
Full System Redundancy Ensures High Reliability
Optimized for Low and Mid Port Density Sites
Reliable Traffic Handling Maximizes Call Completion Rate
Minimal Entry Cost and Linear Expansion Capability
Comprehensive and User-Friendly O&M Features
Superior System reliability - Six 9's



Aethra has set the benchmark for voice quality in TDM-based and packet-based telephony, while preserving end-to-end service transparency for voice, fax and Voice Band Data (VDB) modem calls. By combining high-quality performance, scalability and reliability with open standards-based interfaces, the CMG 4000 can serve as a powerful DCME bandwidth optimization platform for both incumbent and green field carriers.

Superior Traffic Quality over TDM and IP Networks

- Successful fax and modem transport
- High-quality echo cancellation
- Efficient Voice Activity Detection
- Spectral Comfort Noise Generation
- Bandwidth efficient and Reliable Signalling transmission
- Sophisticated packet-loss concealment
- High performance, adaptive jitter buffer
- Unique Packet Priority Selection QoS mechanism
- Transparent transmission of mobile 64 kbps data
- High degree of system scalability - low entry cost
- Small-step granularity
- Low operating costs

Bandwidth Savings without Compromising Voice Quality

Superior codec implementations coupled with a rich set of payload optimization and silence suppression algorithms enable carriers to realize substantial bandwidth savings. Backed by field-proven voice processing technology, the CMG 4000 can deliver up to 16:1 voice compression ratio while still maintaining high quality voice.

Robust and Flexible SS7 Backhaul Options

The CMG 4000 platform's unique ability to support robust and highly reliable transport of SS7, PRI and CAS signalling information over TDM and packet networks.

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Technical Specifications

Total Capacity

- Maximum of 496 DS0 channels

Traffic Handling

- Voice, fax, VBD and Clear Channels
- SS7, PRI, Q.SIG, CAS R1, CAS R2 and DTMF
- Silence Suppression and Comfort Noise Injection
- Bandwidth efficient CCS Signaling transmission mechanism
- CAS tunneling

Voice CODECs

- G.711 PCM @ 64Kbps A-law/u-law
- G.729A (+B) CS-ACELP @8Kbps
- G.723.1 ACELP / MPMLQ @ 5.3, 6.3 Kbps
- GSM-AMR @12.2 Kbps (GSM 06.90)

Echo Cancellation

- ITU-T G.168 & G.165 compliant
- Up to 128 msec Echo Tail Length
- Dynamic EC enabling (c or dbits)

Fax

- ITU Group 3 faxes (up to 14.4 Kbps)

Voice Band Data (modem)

- Pass through to G.711
- V.22, V.23, V.32, V.34, V.90 and V.92

64 Kbps Transparent (Clear) Channels

- Operator configurable redundancy: 1+1, 1+2 or 1+3
- Operator configurable maximum number of Transparent Channels (and VBD/modem calls)

Jitter Buffer

- Adaptive - Up to 300 msec jitter

Trunk Interfaces (PSTN)

- E1 2.048 Mb/s Balanced 120 ohms
- T1 1.544 Mb/s Balanced 100 ohms

Bearer Interfaces

- E1 2.048 Mb/s Balanced 120 ohms
- T1 1.544 Mb/s Balanced 100 ohms
- Fast Ethernet (100 BaseT)

Trunk and Bearer Capacity

- Up to 20 E1 links comprising up to 16 fully populated E1 trunks and up to 4 E1 bearers
- Up to 20 E1 links where some or all of them partially populated E1 trunks or comprising up to 4 E1 bearers
- Up to 20 T1 links where all are T1 trunks or comprising up to 4 T1 bearers

WAN Protocols

- PPP
- ML-PPP
- Proprietary IP over TDM

High Reliability

- Six 9's (99.99995%) Availability
- Card redundancy
- Power input redundancy
- Power supply redundancy
- TDM and IP link redundancy
- TDM Bearer protection modes
- Hitless hot-swappable modules
- Hitless SW upgrade
- Run time configuration
- Fan Turbo mode

System Synchronization

- Primary Clock source (E1 or T1)
- Secondary Clock source (E1 or T1)
- Internal Clock source

Network Management

- Web-based management
- Multiple users
- Statistics and Reports
- In-band management
- Out-of-band management

Power Consumption

- 76 Watts (max)

DC power input

- -48VDC / -60VDC

AC power input

- 220 VAC / 110 VAC

Electro-Magnetic Compatibility

- EN 300 386 V1.3.2 (2003-05)
- FTZ 1TR9:06-2002
- Emission EN55022
- Immunity EN61000-4 2, 3, 4, 5, 6, 11
- FCC rules CFR 47 part 15
- ICES-003 (Canada)
- VCCI V-3/2001.04 (Japan)
- CISPR 22:04 (Australia/NZ)

Product Safety

- UL 60950-1:2003 for US
- CAN/CSA -C22.2 No. 60950-1-03 for Canada
- CE EN60950-1:2001

Environmental standards

- ETSI -ETS 300 019
- Bellcore -GR-63

Operating Temperature Range

- -5°C to 50°C

Dimensions

- Width: 435mm (17.1") - not incl. mounting brackets
- Height: 44.45mm (1.75" - 1U)
- Depth: 350mm (13.8")

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