# DATA SHEET
# VOCIA® VA-8600c AMPLIFIER


The Vocia VA-8600c is a digital networked multi-channel amplifier for use in Vocia® systems. The VA-8600c is CobraNet® enabled and can support up to eight modular AM-600c amplifier cards. These are individually software configurable from 100–600 Watts per channel up to a maximum of 2400 Watts of power per chassis. 70V, 100V and low-impedance outputs are software selectable per card. The amplifiers can be configured for channel to-channel or device-to-device failover. The amplifier uses comprehensive fixed-chain digital-signal processing within the device, including volume control, ducking, equalization, compressor/limiter, speaker crossover, delay, and output gain. Emergency messages for life-safety compliant systems are stored in non-volatile memory within the VA-8600c. Intuitive software provides audio system design via PC. Two RJ-45 connectors on the rear panel of the VA-8600c provide redundant connectivity to control data and audio over a single Ethernet cable and caters for an optional page active relay or dual 3:1 / 7:1 failover module. As part of the Vocia system, the VA-8600c used with the AM-600c compliant amplifier modules meets EN 54-16 certification for facilities of all sizes.

## FEATURES

- Modular based design
- Amplification modules have software configurable power levels/load options
  - 8 amplification modules per frame with 100 to 600 Watts per module
  - 70V or 100V with direct drive capability, or low-impedance (4 or 8Ω) operation
  - Maximum of 2400 Watts of power in a device
- Failover capability between channels and amplifiers
  - Device-to-Device
  - 1:1
  - Dual 3:1 (VFOM-1 module required)
  - 7:1 (VFOM-1 module required)
- LED Indication:
  - Amplifier failure
  - Clip present
  - Fan stuck-rotor
  - Heat sink temperature fault
  - Signal peak
  - Signal present
- Local non-volatile storage of emergency messages
- Software Monitoring Features:
  - Amplifier failure
  - Excessive clipping
  - Fan stuck rotor
  - Heat sink temperature fault
  - Peak present
  - Short circuit on output
- Software-configurable signal processing including volume control, filters, compressor/limiting, delay, speaker equalization, and output sensitivity
- CobraNet audio and control data over a single Ethernet cable
- Dual Ethernet ports for redundancy
- Rotary switches for unit identification
- Rack mountable (3RU)
- EN 54-16 certified, CE marked, UL listed and RoHS compliant
- Covered by Biamp Systems' 5-year warranty

BIAMP® SYSTEMS

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## ARCHITECTS & ENGINEERS SPECIFICATION

The modular amplifier shall be designed exclusively for use with Biamp® Vocia® systems. The amplifier shall be modular and support software configurable power levels/load options of 8 amplification modules per frame with 100 to 600 Watts per module (maximum of 2400W per chassis) and 70V or 100V with direct drive capability, or low-impedance (4 or 8Ω) operation. The amplifier shall provide control data and digital audio over CobraNet®. The amplifier shall provide dual Ethernet ports for redundant network connection. The amplifier shall provide front-panel LED indication of amplifier chassis and channel status. Additionally software monitoring features will include per channel ground fault detection, short circuit and output fault monitoring. The amplifier shall be rack mountable (3RU) and feature software-configurable signal processing including volume control, filters, compressor/limiting, delay, speaker equalization, and output sensitivity. The amplifier shall support channel-to-channel and chassis-to-chassis failover. The amplifier shall be EN 54-16 certified, UL listed and shall be compliant with the RoHS directive. Warranty shall be five years. The amplifier shall be a Vocia VA-8600c.

## VOCIA VA-8600c SPECIFICATIONS

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|---|---|
| **Network Connection:** | RJ-45 with shielded Ethernet (CAT5, CAT5e, CAT6 or CAT7 |
| **Memory:** | 5.625 MB |
| **Inputs:** | 20 bits, 48 kHz, 5-1/3 ms (fixed) |
| **Output Power:** | 2400W maximum per chassis (Burst Mode only. Protective thermal limiting will reduce long-term power output.) |
| **Environment:** | |
| **Ambient Operating Temperature Range:** | 23-104° F (-5 – 40° C) |
| **Humidity:** | 0 – 95% non-condensing |
| **Altitude:** | 0-10,000 Feet (0-3000 Meters) MSL |

| | |
|---|---|
| **Power:** | 100-240VAC; 50/60Hz |
| **Overall Dimensions:** | |
| **Height:** | 5.25 inches (133 mm) |
| **Width:** | 19.0 inches (483 mm) |
| **Depth:** | 17.25 inches (438 mm) |
| **Weight:** | |
| **Chassis:** | 50 lbs. (22.68 kg) |
| **AM-600/AM-600c card:** | 1.25 lbs. (0.57 kg) |
| **Compliance:** | |
| | EN 54-16 certified |
| | FCC Part 15B (USA) |
| | CE marked (Europe) |
| | UL and C-UL listed (USA and Canada) |
| | RCM (Australia) |
| | EAC (Eurasian Customs Union) |
| | RoHS Directive (Europe) |

## AM-600c CARD SPECIFICATIONS

| | |
|---|---|
| **Supported Loads:** | 4Ω, 6Ω, 8Ω, 70-Volt or 100-Volt Line direct drive |
| **Continuous operation:** (in chassis with fans running normally and unrestricted intake and exhaust) | 600W: 1kHz continuous sine wave indefinitely |
| **Frequency response (20Hz – 20kHz):** | ± 1dB |
| **THD+N (20Hz – 20kHz):** | |
| **All loads and power levels:** | ≤0.3% |
| **Inter-channel Isolation: (20Hz-20kHz, full power out)** | >75 dB |

| | |
|---|---|
| **Intermodulation distortion (SMPTE):** | <0.2% |
| **DC offset:** | <10mV |

**Signal-to-Noise Ratio (unweighted over 22Hz – 20kHz):**

| | Low-impedance | 70V | 100V |
|---|---|---|---|
| 100W | >95 dB | >100 dB | >101 dB |
| 200W | >98 dB | >101 dB | >102 dB |
| 300W | >99 dB | >101 dB | >102 dB |
| 400W | >101 dB | >102 dB | >103 dB |
| 500W | >102 dB | >102 dB | >103 dB |
| 600W | >102 dB | >103 dB | >104 dB |

## VOCIA VA-8600c BACK PANEL