

Communications (COM) Series Multi-Channel Amplifiers



The Media Technology Systems Communications (COM) series amplifiers are specifically designed for applications requiring large numbers of constant voltage (70 or 100volt) amplifier channels. Such applications include transportation sector (airports, rail networks, subway systems) retail malls, hospitality, theme parks, buildings, etc.

KEY FEATURES

- 2, 4, 6, and 8 channels
- Four power levels:
 - 75watts
 - 150watts
 - 300watts
 - 600watts (2, 4 CH only)
- Amplifier output is selectable between 70volts or 100volts
- Protection against short circuit, overcurrent, DC and over temperature
- Selectable 110Hz High pass filter, 12dB/Oct
- Control & monitoring of all amplifier parameters
- CobraNet® interface
- Ethernet interface
- Serial interface (RS485 multidrop)
- Optional DSP module
- "World Power" Full specification is delivered when operated on any voltage internationally and or "brown-out" low voltage conditions. A/C power supply from 86-265 Volts – 43-63Hz.
- Automatic output changeover in case of channel failure.



Further Enquiries

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The COM-series amplifiers employ a Class D output topology for maximum efficiency and does not require high volume, forced fan cooling even with the amplifier running into clip on all channels. In addition, the switch mode power supply (SMPS) incorporates power factor correction (PFC) to comply with incoming legislation and minimize noise pollution of the electrical supply.

The COM-series amplifiers provide changeover relays on the output of each channel, where the N/O connection of the relay is available at the rear port of the amplifier. This enables any of the internal amplifier channels to act as a backup in case of primary amplifier channel failure. Alternatively, an external Media Technology Systems amplifier/channel can be used to backup the primary amplifier channel via the same port



The MTS-SMPS technology provides full rated power even when A/C power levels droop. Conventional linear power supplies lose 20% of their output power for each 10% reduction in supply voltage. In contrast, MTS amplifiers provide full rated power and headroom under all reasonable power conditions. Further, the use of SMPS assures continued operation on low A/C power when many products shut down as voltages go out of regulated range.

The COM-series amplifiers provide a switch selectable analog 110Hz high pass filter for protection of loudspeakers and transformers.

The COM-series amplifiers contain a multi-drop RS485 serial port for control and monitoring of all amplifier parameters, including fault and load monitoring. In addition, the amplifier features a 100baseTx Ethernet port providing Telnet access to the amplifier control and monitoring capability, as well as a CobraNet™ port for audio transport.

The COM-series amplifiers have an optional 100MIPS of DSP processing, including mixing, equalization, compressors, duckers, filters, etc.

The COM-series amplifier output stage is selectable between 70volts RMS (true 100volts peak) and 100volts RMS (true 141 volts peak).

APPLICATIONS

- Airports
- Rail networks
- Subway systems
- Buildings
- Shopping Malls
- Theme Parks



picture of front panels (COM-1504D)



picture of rear panels (COM-1504D)

SPECIFICATIONS

Performance

Power handling (20Hz-20kHz with all channels clipping-12dB crest factor pink noise):

COM754	4 channel	75watts	70 or 100 volt
COM756	6 channel	75watts	70 or 100 volt
COM758	8 channel	75watts	70 or 100 volt
COM1502	2 channel	150watts	70 or 100 volt
COM1504	4 channel	150watts	70 or 100 volt
COM1506	6 channel	150watts	70 or 100 volt
COM1508	8 channel	150watts	70 or 100 volt
COM3002	2 channel	300watts	70 or 100 volt
COM3004	4 channel	300watts	70 or 100 volt
COM3006	6 channel	300watts	70 or 100 volt
COM3008	8 channel	300watts	70 or 100 volt
COM6002	2 channel	600watts	70 or 100 volt
COM6004	4 channel	600watts	70 or 100 volt

Frequency response

20Hz-20kHz (+/-0.5dB), any channel driven, less than 0.3%THD

Sensitivity

0.308volts RMS (-8dBu) develops full output at minimum attenuation setting

Noise

Less than 100dB

Input clipping

+24dBu

Output

Class D

Power Supply

Switch Mode Power Supply -SMPS with Power Factor Protector-PFC. Auto ranging between 86-265 Volts, 43-63hz. Appropriate fuses for power ranges 100-120volts and 220-240volts must be selected

Input impedance

10k balanced

Connectors

Inputs & RS485 ports-Euroblock 3 pin 3.5mm. Outputs-Euroblock 4pin 5.08mm, Network Neutrik EtherCon

Cooling

Air-Exchange fan on the PFC

Physical

2U High (87.9mm), 19" wide (483mm), 18 1/2 " deep (470mm)

INTERNAL CONFIGURATIONS

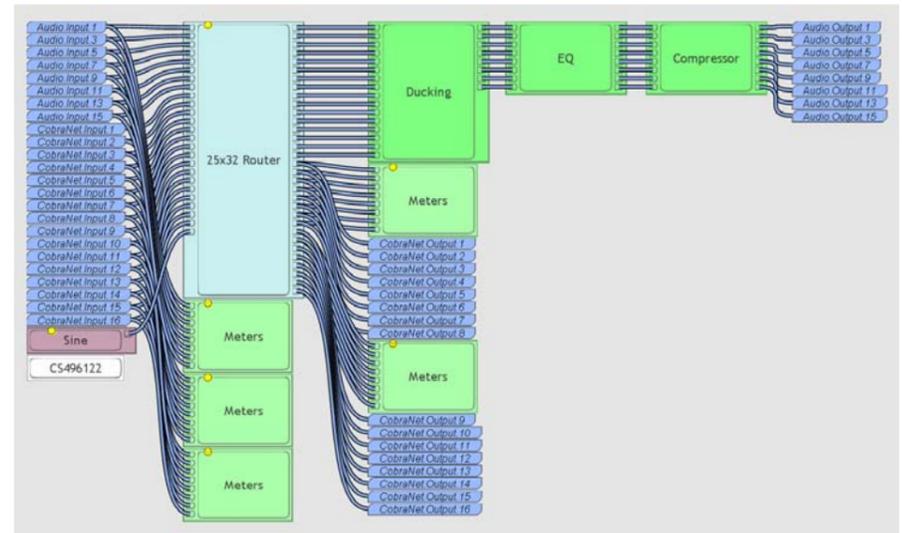
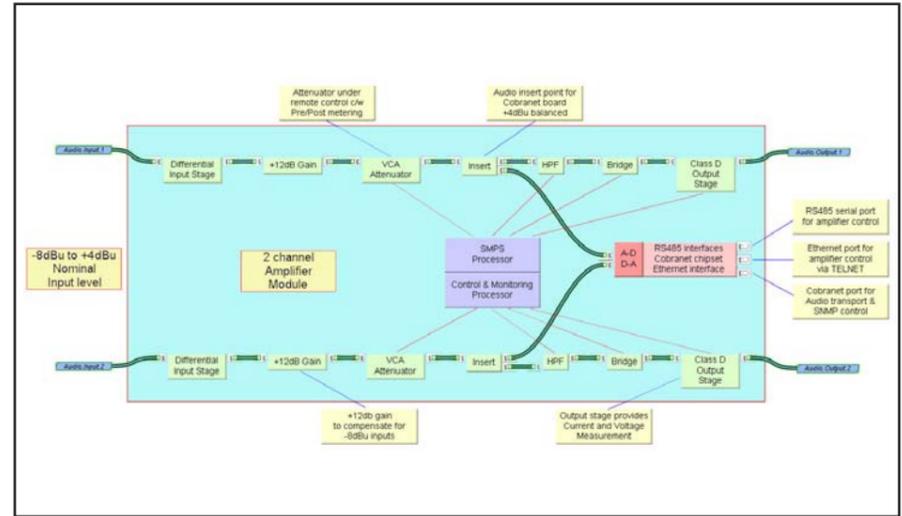
1. Amplifier routing: The circuit of each amplifier channel includes an analog VCA (for remote level/mute control) and a microcontroller with 12 A-D converters (10bit accuracy). The microcontroller enables remote monitoring of pre/post attenuator input signals, output current and voltage signals to the loudspeaker, output clip, rear panel HPF switches, heat-sink temperature, short circuit, channel overcurrent and DC conditions. The microcontroller allows remote relay muting/disabling of the amplifier channels.

The amplifier configuration provides both multidrop serial (RS485) and ethernet (TELNET)

for control & monitoring (using the same instruction set), where up to 32 amplifiers (up to 64 channels) can be connected to one host computer port or third party AV control system. The CobraNet™ port also provides control & monitoring of all amplifier parameters via SNMP.

As the amplifier provides measurement of output voltage and current, a host computer can monitor line impedance and thus short or open circuit.

The amplifier has a separate microprocessor controlling the switch mode power supply. This enables remote monitoring of the front



2. Internal DSP routing: The DSP configuration adds 100MIPS of DSP processing to the standard version of the amplifier.

The DSP provides the following algorithms

- Sine wave generator for local monitoring
- 25x16 Input/Output router.
- 8 channels of ducking for BGM
- 8 channels of EQ (8 band parametric plus HPF & LPF)
- 8 channels of compressors.

panel local/remote switch, 70/100volt selection switch, Amplifier model, power supply rails, power supply temperature, over current and over voltage conditions. The SMPS microprocessor will also provide remote standby/power on control of the amplifier module(s) high voltage supply

The amplifier provides both a VFD front panel display (with control buttons) and LED display to monitor status and configure the internal operation.

The serial (RS485) port enables "serial bridging", a facility provided by the CobraNet® protocol.

The VCA on each of the analog audio channels has a 12db gain stage, so consumer line level signals (eg, DVD, VCR, CD, etc) can be accommodated.

In addition to the 2, 4, 6, or 8 local analog inputs, the CobraNet™ port connects up to 16 network audio input channels to the amplifier. Any of the (up to 8) analog inputs or 16 network inputs can be routed to any of the (up to 8) amplifier output channels.

Similarly, any of the 2, 4, 6, or 8 local analog audio inputs can be routed to any of the 16 network audio output channels available on the CobraNet™ port.

MODEL SUMMARY

COM75x 75watt amplifier with CobraNet™ I/F and DSP

Where x = 4, 6, or 8 channels (3 models)

COM150x 150watt amplifier with CobraNet™ I/F and DSP

COM300x 300watt amplifier with CobraNet™ I/F and DSP

Where x = 2, 4, 6, or 8 channels (8 models)

COM600x 600watt amplifier with CobraNet™ I/F and DSP

Where x = 2 or 4 channels (2 models)

CobraNet™ is a trade mark of Cirrus Logic