SYSTEMS INTEGRATION (SI) Series
Multi-Channel Amplifiers

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The Media Technology Systems SI-series multi-media amplifiers are specifically designed for applications requiring large numbers of low impedance amplifier channels. Such applications include multi-zone systems for restaurants, bars; distributed loudspeaker systems for corporate meeting rooms, auditoriums, lecture rooms; and mix-minus solutions for judicial, legislative and classroom applications.

KEY FEATURES

- 2, 4, 6, and 8 channels
- Four power levels:
  - 75watts/4ohm, 40watts/8ohm
  - 150watts/4ohm, 75watts/8ohm
  - 300watts/4ohm, 150watts/8ohm
  - 600watts/4ohm, 300watts/8ohm
    (600 watt is available in 2 & 4 CH only)
- Protection against short circuit, over current, DC and over temperature
- Bridged channel pair operation.
- 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.

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Further Enquiries

The SI-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 SI-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.

picture of front panels

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 SI-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 CobraNetTM port for audio transport.

The SI-series amplifiers provide a switch selectable analog 110Hz high pass filter for protection of zones of ceiling loudspeakers and switch selectable bridge output for each pair of channels.

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

The SI-series amplifier output stage applies an intelligent load limit based on maximum current. The recommended minimum load is 4ohms, but the amplifier can accommodate difficult loads (down to 2 ohms), as long as the current demand does not exceed the rated limit of that channel.

APPLICATIONS
- Auditoriums
- Corporate meeting rooms
- Legislative chambers
- Courtrooms
- Classrooms
- Training rooms
- Restaurants
- Retail outlets
- Health Clubs
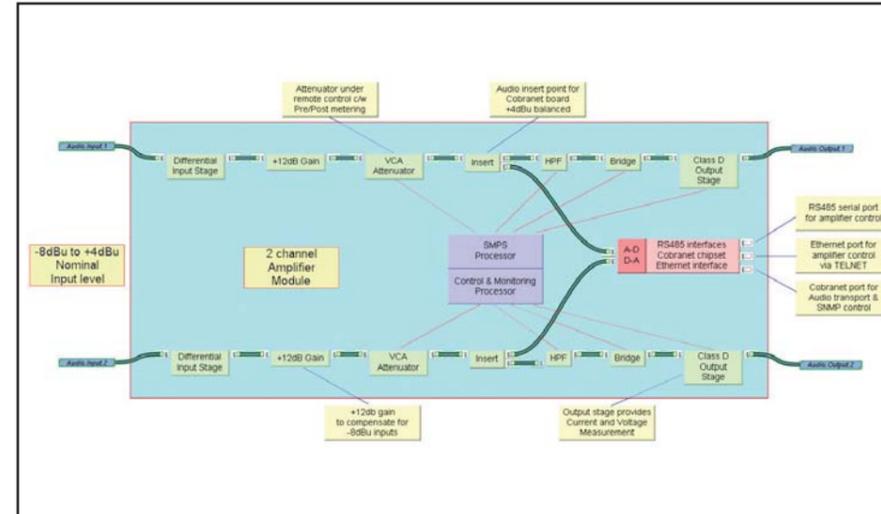
INTERNAL CONFIGURATIONS

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 and bridge 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 CobraNetTM 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 panel local/remote 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 íserial bridgingî, a facility provided by the CobraNetTM 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.
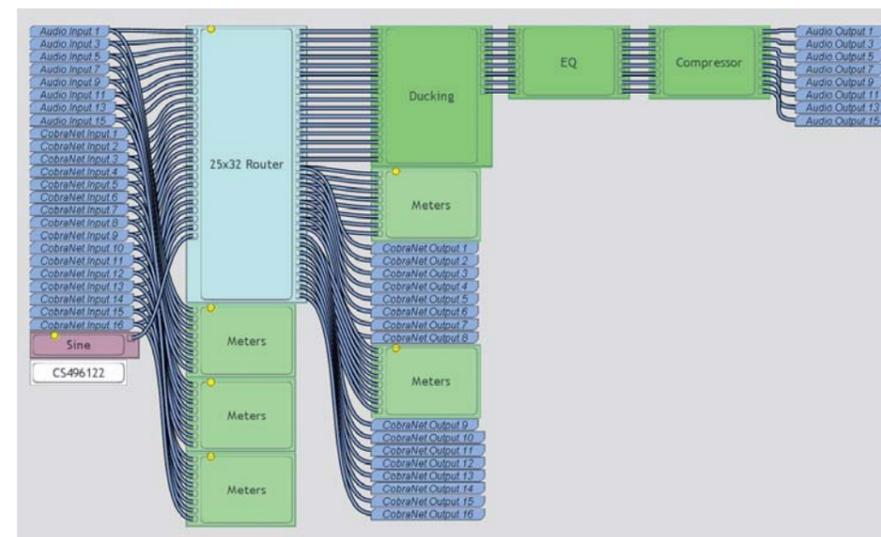
In addition to the 2, 4, 6, or 8 local analog inputs, the CobraNetTM port connects up to 16 network audio input channels to the amplifier. Any of the (up to 8) analog inputs or 16 network inputs can be routed to any of the (up to 8) amplifier output channels.

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 CobraNetTM port.

picture of rear panels

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

SI754	4 channel	75W/4ohm	40W/8ohm
SI756	6 channel	75W/4ohm	40W/8ohm
SI758	8 channel	75W/4ohm	40W/8ohm
SI1502	2 channel	150W/4ohm	75W/8ohm
SI1504	4 channel	150W/4ohm	75W/8ohm
SI1506	6 channel	150W/4ohm	75W/8ohm
SI1508	8 channel	150W/4ohm	75W/8ohm
SI3002	2 channel	300W/4ohm	150W/8ohm
SI3004	4 channel	300W/4ohm	150W/8ohm
SI3006	6 channel	300W/4ohm	150W/8ohm
SI3008	8 channel	300W/4ohm	150W/8ohm
SI6002	2 channel	600W/4ohm	300W/8ohm
SI6004	4 channel	600W/4ohm	300W/8ohm

Recommended loudspeaker impedance
Minimum 4 ohms

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), 181/2" deep (470mm).

2. Internal DSP routing: The DSP configuration provides 100MIPS of DSP processing to 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.

MODEL SUMMARY

SI75x	75watt amplifier with CobranetTM I/F and DSP
Where x = 4, 6, or 8 channels (3 models)	

SI150x	150watt amplifier with CobranetTM I/F and DSP
SI300xC	Standard 300watt amplifier with CobranetTM I/F and DSP
Where x = 2, 4, 6, or 8 channels (8 models)	

SI600x	600watt amplifier with CobranetTM I/F and DSP
Where x = 2 or 4 channels (2 models)	

CobranetTM is a trade mark of Cirrus Logic