AUDIOVIDEOSUPPLY

AMP-4600

4-Channel Power Amplifier, 600W/Ch.

> High-efficiency four-channel amplifier

> Robust and reliable performance

> Professional sound quality

> 600 watts per channel @ 4/8 Ohms or 70V/100V

> Each channel configurable for Lo-Z or Hi-Z operation

> Supports 100V to 240V AC line power with 4/8Ω or 70V / 100V output

> Mono, stereo, and bridged modes

> Comprehensive fault and speaker protection per channel

> Extensive front panel status indicators and output meters

> High-speed Ethernet LAN connectivity

> Software configuration, control, and monitoring

> Crestron® control system integration support

> Crestron XiO Cloud™ service support

> Crestron Fusion® enterprise management support [1]

> Rear panel +24 dBu balanced inputs and level adjustments

> Detachable terminal block connectors for easy servicing

> Single-space 19 in. rack mountable

> High-density stackable without extra vent spacing

The Crestron® AMP-4600 amplifier is designed to complement the Crestron Avia™ family of digital signal processors, and is well-suited for all types of commercial audio applications. The AMP-4600 furnishes four channels of clean, efficient amplification in a space-saving 1 RU rack-mountable chassis. Each channel is configurable for Lo-Z or Hi-Z operation, as well as stereo and bridged modes. Network connectivity enables configuration, monitoring, and control via the Avia Audio Tool software, a Crestron control system, Crestron XiO Cloud™ service[1], or Crestron Fusion® software.[2]
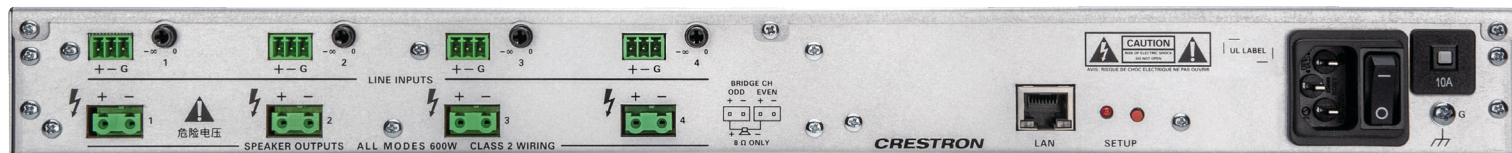
Solid & Efficient Performance

The AMP-4600 is engineered to deliver exceptional performance and reliability with low distortion, low noise, and high power headroom. Advanced Class D technology maximizes efficiency to reduce power consumption and heat dissipation. An internal universal power supply with power factor correction ensures consistent performance with varying line voltages.

The AMP-4600 features professional balanced inputs that support input signal levels up to +24 dBu. Rear panel input attenuation controls allow for signal level matching. Remote level control and monitoring is enabled using the Avia Audio Tool software, or using a touch screen control panel or mobile device through integration with a Crestron control system. Integration with a control system also enables centralized monitoring and control of multiple amplifiers throughout a facility as part of a Crestron Fusion or Crestron XiO Cloud managed enterprise.

Configurable & Controllable

The AMP-4600 delivers 600 watts per channel into 4 or 8 ohm "Lo-Z" loads. Each channel is individually configurable via software for use with "Hi-Z" distributed speaker systems (either 70V or 100V). Adjacent pairs of channels may be configured for stereo or bridged operation. Stereo mode enables remote control of a stereo pair of speakers using a single set of controls. Bridged mode allows two channels to be combined to provide a single channel delivering up to 1200 watts into 8 ohms.

Each output channel can be independently configured to throttle the amount of power delivered to connected loudspeakers. Power throttling can be used to protect connected loudspeakers from receiving too much power.

The power throttle can also be used for output load balancing. This is useful when mixing different loudspeaker types on adjacent channels such as a subwoofer that requires continuously high power versus a high frequency compression driver with a much lower power requirement. Using Power throttle, the output of the amplifier is provisioned to match the loudspeaker and line drive requirements. Amplifier gain is automatically adjusted such that a 0dBu input will yield the selected power throttle output level. No matter the gain from head-end equipment feeding the amplifier, power throttle will consistently provide an extra level of loudspeaker protection and overall system optimization.

Fully Protected

The AMP-4600 features comprehensive protection against overheating, shorted or overloaded speaker lines, excessive signal levels, and other faults. Each channel is independently protected, allowing an individual channel to enter protection mode without interrupting the operation of other channels. Protection is automatic, quickly disconnecting the speaker line and shutting down the affected channel, and then restoring normal operation once the fault is resolved. Clear indication of any fault is provided on the front panel, and may also be reported to a control system to provide notification on a touch screen or mobile device, through a text message or e-mail, or at a central help desk using Crestron Fusion software or the Crestron XiO Cloud service.

CRESTRON®

AMP-4600 – Front View

AMP-4600 – Rear View

SPECIFICATIONS

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, SSH, SFTP (SSH File Transfer Protocol)

USB Device: USB device port for computer console (setup)

Audio

Input Signal Types: Balanced or unbalanced analog line-level

Output Signal Types: 4/8 Ohm, 70 or 100 Volt direct-coupled

Operating Modes: (Configurable via Avia Audio Tool software)

  Mono: Each channel is configurable to operate independently from all other channels

  Stereo: Adjacent channels (1&2, 3&4) are configurable to operate as a stereo pair with linked control settings

  Bridged: Adjacent channels (1&2, 3&4) are configurable to operate as an 8 Ohm bridged mono output

  4/8Ω Mode: Each channel is configurable for 4/8 Ohm "Lo-Z" output

  70V/100V Mode: Each channel is configurable for 70/100 Volt "Hi-Z" output

Output Power:

  600 Watts per channel @ 4-8 Ohms or 70/100 Volts nominal

  1200 Watts per bridged pair of channels @ 8 Ohms

Power Throttle:

  600, 500, 400, 300, 250, 200, 150, 125, 100, 75, 50 Watts per channel

Frequency Response:

  20 Hz to 20 kHz ±0.5 dB at 1 Watt, 4-8 Ohms;

  200 Hz to 20 kHz ±0.5 dB at 1 Watt, 70/100 Volts

High Pass Filter: -3 dB @ 80 Hz, 12 dB per octave in 70V or 100V mode

THD+N: <0.05% @ 1 kHz at 3 dB below clipping

S/N Ratio: >103 dBA, 20 Hz to 20 kHz

Channel Separation: >70 dB

Input Sensitivity: 1.29 Vrms, +4 dBu (balanced) for full rated output power

Fault Protection:

  Over Current: Protects each channel individually against an excessive speaker load or shorted speaker line

  DC Offset: Protects each channel and speaker line against DC voltages sensed at each output

  Over Temperature: Protects the amplifier power supply and each channel against overheating due to poor ventilation or excessive temperature

  Under Voltage: Protects the amplifier if the internal power supply voltage is below tolerance due to excessive output levels or insufficient line voltage

  Note: All faults report to the control system, the front panel, and the software tool.

Output Relays: Disconnects the speaker line at each output under fault conditions, and during startup and shutdown

Audio Ramp: Ramps each channel's audio level up to its last used setting after the corresponding output relay has closed following startup or fault recovery; ramp time 130 milliseconds

Connectors

LINE INPUTS 1 – 4: (4) 3-pin 3.5 mm detachable terminal blocks; Balanced line-level audio inputs;
Maximum Input Level: 12.3 Vrms, +24 dBu;
Input Impedance: 20k Ohms balanced

SPEAKER OUTPUTS 1 – 4: (4) 2-pin 7.62 mm reversed gender 20A detachable terminal blocks;
Power amplifier outputs;
Wire Size: Terminals accept up to 12 AWG (3.31 mm^2);
Note: Output is direct-coupled in all modes for all load types, not transformer isolated

LAN: (1) 8-pin RJ45 female;
10Base-T/100Base-TX Ethernet LAN port

100-240V~ 50/60Hz 4A-2A: (1) IEC 60320 C14 main power inlet;
Mates with removable power cord (included)

G: (1) 6-32 screw;
Chassis ground lug

COMPUTER (front): (1) USB Type B female;
USB computer console port (for setup only)

Controls & Indicators

PWR: (1) Bi-color green/amber LED, indicates operating power supplied from AC line power, amber indicates startup in progress, green indicates normal operation, alternating green/amber indicates absence of a network connection

RESET: (1) Recessed pushbutton, restores last saved settings

STATUS, FAULT 1 – 4: (4) Red LEDs, each indicates an under-voltage fault condition on the corresponding channel

STATUS, CURRENT 1 – 4: (4) Blue LEDs, each indicates an over-current fault condition on the corresponding output

STATUS, DC 1 – 4: (4) Blue LEDs, each indicates a DC offset fault condition on the corresponding channel

STATUS, THERM 1 – 4: (4) Blue LEDs, each indicates an over-temperature fault condition on the corresponding channel

STATUS, 70V/100V 1 – 4: (4) Blue LEDs, each indicates the corresponding channel is configured for 70 Volt / 100 Volt operation

VU 1 – 4: (4) 5-segment LED bar graph audio level meters for each corresponding output; each contains (4) blue LEDs for -40dB, -30dB, -20dB, and -10dB, and (1) red LED for CLIP

LINE INPUTS 1 – 4 (rear): (4) Screwdriver-adjustable rotary controls, each adjusts the input attenuation level for the corresponding channel

LAN (rear): (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity

SETUP (rear): (1) Red LED and (1) pushbutton for Ethernet setup, flashes while updating firmware

Power Switch (rear): (1) Rocker switch, turns main power on or off

Circuit Breaker Reset (rear): (1) Push button switch, resets 10A circuit breaker

Power

Main Power: 4-2 Amps @ 100-240 Volts AC, 50/60 Hz, 10 Amps max.
Input Power: 300 Watts
Power Consumption: 300 Watts, all channels driven at 1/8th output power; 70 Watts, all channels idle

Environmental

Temperature: 41° to 104° F (5° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 1025 BTU/hr, all channels driven at 1/8th output power; 240 BTU/hr, all channels idle

Construction

Chassis: Metal, variable-speed fan-cooled, vented side to side
Front Panel: Metal, black finish with polycarbonate label overlay
Mounting: Freestanding or 1 RU 19-inch rack-mountable (front rack ears and rear support brackets included)

Dimensions

Height: 1.72 in. (44 cm)
Width: 17.16 in. (436 mm);
19.00 in. (483 mm) with rack ears
Depth: 14.59 in (371 mm)

Weight

14.1 lb (6.4 kg)

Compliance

UL 60065, FCC Class A commercial use

MODELS & ACCESSORIES

Available Models

AMP-4600: 4-Channel Power Amplifier, 600W/Ch., 4/8Ω or 70V/100V high impedance distribution systems, 100-240V mains

Available Accessories

DSP Series: Avia™ Digital Signal Processors
SW-AAT: Avia™ Audio Tool
SAROS Series: Saros® Commercial Speakers
VECTOR Series: Vector™ Performance Loudspeakers

Notes:

1. Crestron XiO Cloud connectivity requires a subscription. For more information about XiO Cloud, please visit https://www.crestron.com/xiocloud.
2. Integration with Crestron Fusion requires a control system and custom programming.

DIMENSIONAL DIAGRAM