Scientific Audio Electronics, Inc.

2200

STEREO POWER AMPLIFIER



The new SAE 2200 Power Amplifier achieves the ultimate. It combines performance and value with aesthetic balance and beauty. Delivering 100 watts RMS/Channel from 20Hz to 20kHz at less than 0.05% Total Harmonic Distortion, the 2200 shares the SAE engineering heritage which includes fully complementary circuitry, high slew rate and low transient distortion. The 2200 package also includes a 15 LED/Channel power display which instantly indicates the amount of power being delivered to your speakers, and because of the quality of material and components that go into every SAE, the 2200 offers a FREE transferable 5 year Service Contract.

FEATURES

FULLY COMPLEMENTARY CIRCUITRY

The 2200 is completely balanced from input to output utilizing full complementary dual-differential inputs, full complementary drivers and full complementary output stages. This design approach offers inherently low steady-state or transient distortion while assuring accurate reproduction of complex musical waveforms.

LED POWER DISPLAY

This display can instantly inform you of the power output to your speakers, channel imbalance and other information pertinent to the proper performance of your system. Utilizing 15 Light Emitting Diodes per channel, the amplifier's average power (peak responding) is constantly displayed from 20 mW to full rated power. Amplifier overload is also indicated. The circuit is analog in nature and displays power output in 3dB increments over its full range, making it the most accurate indicator of its type available in the industry today.

AMPLIFIER PROTECTION

Three means of circuit protection are included in the 2200:

1) A VI limiter which senses load impedances below 2 Ohms without being affected by reactive loads (i.e. electrostatic speakers) which are rated at 4 Ohms or greater.

2) A thermal cutout device shuts down the amplifier should the heatsink reach an abnormally high temperature.

3) An AC line fuse for overall protection.

LOUDSPEAKER PROTECTION

Should subsonic pulses or ± DC Voltages, which could damage your speakers, appear at the amplifiers outputs, a relay circuit will automatically disconnect the speakers from the amplifier. The circuit is also used during turn-on/off to prevent annoying transients. This relay circuit incorporates many features unique to SAE products, the most important of which alleviates high frequency distortion developed by the relay due to "contact diode effect".

PLUG-IN BOARD DESIGN

Easily accessible input-drive, relay-power, and meter boards make the 2200 consistent in performance from one amplifier to another in production, and simple to service.

MONOCOQUE CONSTRUCTION

Utilizing technology developed in our other amplifier designs, the 2200 mechanical package is constructed in the form of a box, offering structural rigidity and integrity, plus high strength to weight coefficient.

FREE 5 YEAR SERVICE CONTRACT

Because of the quality of construction and materials that goes into every SAE product, we proudly offer a FREE Transferable 5 YEAR Service Contract. This contract covers parts and labor not only for the original owner but any subsequent owner for a total of 5 years from the original date of purchase.

QUALITY

PREMIUM MATERIALS

Only the finest materials have been used in the construction of the 2200. Among the components used you will find 5% carbon deposit resistors throughout, military grade glass-epoxy circuit boards and high-grain iron-ore laminations in the transformer. These efforts to use quality materials throughout insures that the 2200 will deliver superior performance and reliability in any application.

PRECISION CONSTRUCTION

No effort has been spared in taking these raw materials to manufacture the highest grade audio components available. It was because of this goal that our 36,000 sq. ft. primary production facility was built. This plant was designed exclusively for the manufacture and assembly of audio components. Further, critical parts unique to SAE products, such as metal work, toroid inductors and circuit boards are produced at our facilities. As a testimonial to SAE thoroughness, our metal shop fabricates all parts with a tolerance of 0.005 in. (.013 cm) for proper fit. All front panels are hand brushed for proper aesthetic appearance, and all aluminum parts are mil-spec anodized for long life and easy upkeep. This attention to detail is the hallmark of SAE Components.

TESTING AND TESTING

Being able to deliver the performance we are so proud of requires the constant verification of performance of individual parts and complete electronic systems. That's why at SAE we check all critical parts before assembly onto our circuit boards. Then we check the completed circuit boards. Then we check the completed product. Then... well, then we operate every 2200 at full musical power for many hours, after which each amplifier is checked throughout by listening tests, vibration and shock tests, and electrical measurement to make sure it meets our standards. After all of these tests the final cosmetic inspection is performed, then the amplifier is packed and is ready for shipment. All of these efforts are for you, so that whether you purchase the 2200 or any of the other fine SAE products, you know you have purchased the best product of its type available.

SPECIFICATIONS

RMS Continuous power output per channel, 20Hz to 20kHz (both channels driven) into 4 or 8 Ohms	**100 WATTS @ 0.05% Total Harmonic Distortion**
Total Harmonic Distortion (THD) from 20Hz to 20kHz at 250 mW to rated power into 4 or 8 Ohms	**0.05% Max.**
Intermodulation Distortion (IM) from 250 mW to rated power at 4 or 8 Ohms with any 2 mixed frequencies between 20Hz and 20kHz at a 4/1 voltage ratio	0.05% Max.
Frequency Response at rated power	±0.25dB, 20Hz to 20kHz
Noise	Greater than 100dB below rated power
Transient Response of any Square Wave	2.5 microseconds rise and fall time
Slew Rate	40 Volts/microsecond
Stability	Unconditionally stable with any type of load or no load including full range electrostatic loudspeakers
Damping Factor	150 Min (100Hz)
Input Sensitivity	1.5 Volts RMS
Input Impedance	50kOhms
Overload Protection	1. Low impedance electronic-sensing circuit limits with output current below 2 Ohms without limiting with 4 Ohms or higher (or reactive Loads). 2. Thermal sensing of inadequate ventilation.
Loudspeaker Protection	Relay circuit protects loudspeakers from low frequency oscillations and plus or minus DC output. Five second turn on disturbances.
Power Requirements	110-120V, 50Hz/60Hz 75 Watts @ idling to 600 Watts @ rated power
Shipping Weight	25 pounds (11.4 Kg.)
Dimensions	19 in. (48.3cm) Wx5.25 in. (13.3cm) H Chassis: 8.5 in. (21.6cm) D (excluding handles and connections)
Cabinet	WC-22 (not included)

SAE

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