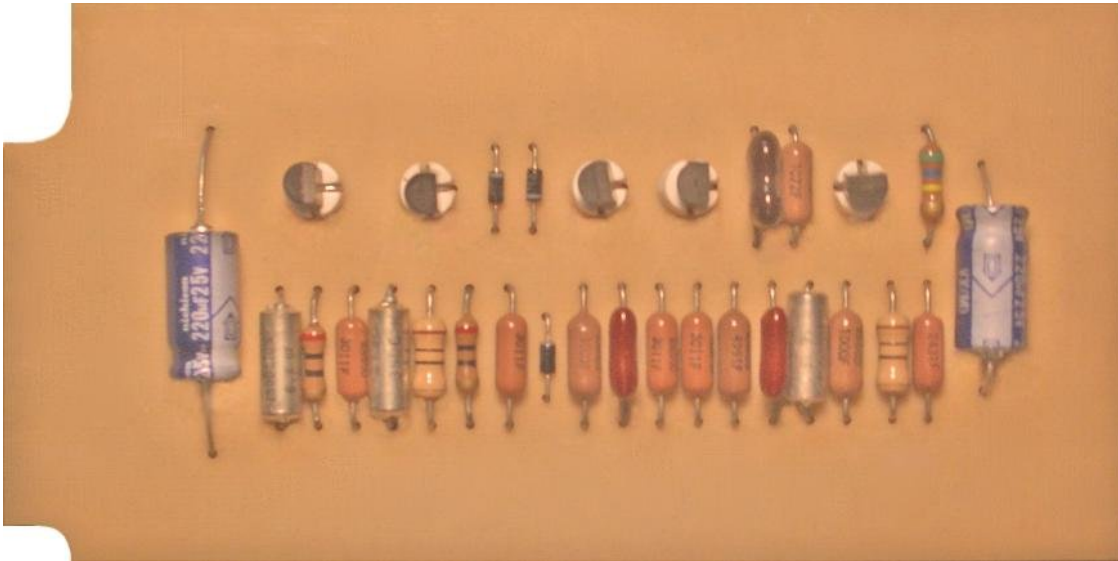




Model 110 Audio Amplifier Module



GENERAL DESCRIPTION

The SPECTRA SONICS Model 110 is a solid-state audio amplifier of advanced design. It may be employed in the professional audio fields of recording, broadcast, film, motion pictures and sound reinforcement. A single design satisfies all amplifier requirements within an audio control system. The SPECTRA SONICS Model 110 performs the functions of microphone pre-amplifier, booster amplifier, mixing amplifier, program amplifier, line amplifier and other such functions required up to line level.

ARCHITECTS' AND ENGINEER' SPECIFICATION

The amplifier shall be a modular (plug-in) printed circuit card and shall contain all silicon transistors and diodes. Gain shall be 40dB + or - .1dB, externally adjustable from 40 to 50dB. Total harmonic distortion at +18dBu shall not exceed 1/100th of 1%, from 20Hz to 20kHz, frequency response shall be within .1dB from 10Hz to 200kHz, noise shall not exceed an equivalent input of -127dBm unweighted (20Hz to 20kHz) with input terminated with 600 ohms, and phase shift shall not exceed 5 degrees from 35Hz to 100kHz. The amplifier shall be direct coupled except for input and output, and shall be capable of reproducing square waves to 50kHz. The amplifier shall be SPECTRA SONICS Model 110.

SPECIFICATIONS

Gain	40dB +/- .1dB (any desired gain from 40dB to 55dB By external resistor change).
Source Impedance	50 ohms to INFINITY
Input Impedance	600 ohms +/- 1%
Output Loading	600 ohms to INFINITY
Maximum Undistorted Output	+21dBu
Overload Recovery Time	1 microsecond for up to 1000% overload.
Frequency Response (+21dBu)	Within .1dB from 10Hz to 200kHz
Total Harmonic Distortion	Unmeasurable: less than 1/100 th of 1% (Measurement Residual).
+18dBu, 20Hz to 20kHz	Unmeasurable: less than 4/100 th s of 1% (Measurement Residual).
Intermodulation Distortion	Not over an input equivalent of -127dBu, unweighted 20Hz to 20kHz, input terminated 600 ohms (-130dBu, 50 OHMS terminated).
+18dBu, 60Hz & 7kHz, 4:1	Less than 5° from 35Hz to 100,000Hz
Output Noise	Stable under any condition of pure capacitive loading At input and/or output.
Phase Shift	40 degrees to 140 degrees Fahrenheit
Capacitive Loading	Plus and minus 24 VDC at 20mA each
Ambient Temperature Range	2 ½ " X 5" X ½ ", Net Weight 2 ounces, shipping weight 6 ounces.
Power Requirements	
Physical Dimensions And Weight	

An "A" Series (Model 110A) Audio Amplifier is also available. The Model 110A has high (2.43K ohms +/- 1%) input impedance. Measurements conducted with the input terminated with 300 ohms provide performance identical to the published specifications of the Model 110 Audio Amplifier.

TRANSIENT RESPONSE AND STABILITY

Utilizing amplifier square wave response as an indication of both transient and stability performance. The response at 20Hz is limited only by coupling capacitors. Stability of the amplifier is indicated by the absence of any ringing or overshoot.

SPECTRA SONICS

LEADER IN ADVANCED TECHNOLOGY

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