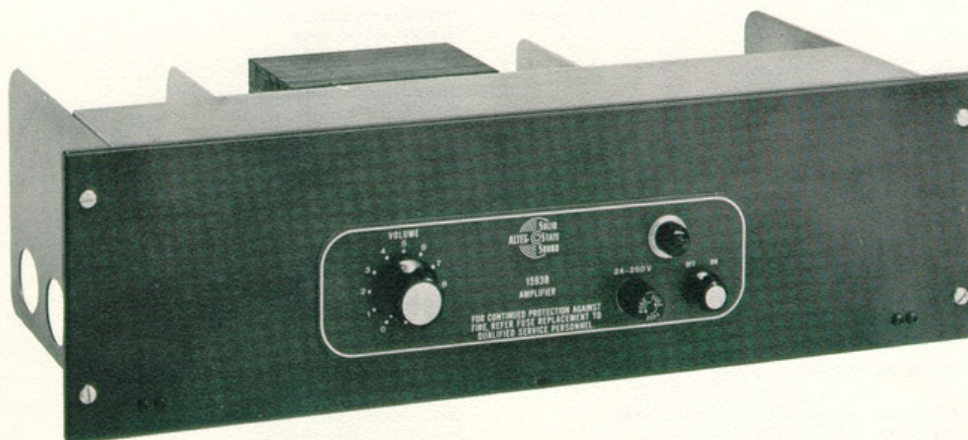


1593B Power Amplifier

1593B



Features:

- 100 Percent Solid-State
- Operates from AC or Negative Ground Source
- 50 Watt Power Output
- Automatic Transfer from AC to DC Battery Operation
- Power Dissipation Protection Circuitry
- High Impedance Input
 - 4, 8, 16 Ohm and 70 Volt Outputs
- Selectable High-Pass Filter
- Low Power Consumption
- Low Heat Generation

NEW . . . IMPROVED . . . OPERATES FROM NEGATIVE GROUND SOURCE
DESIGNED FOR: SOUND REINFORCEMENT SYSTEMS, PAGING SYSTEMS,
MILITARY INSTALLATIONS, SCHOOLS, HOSPITALS, HOTELS, AUDITORIUMS,
AIRBORNE SOUND SYSTEMS, RECREATION AREAS, CHURCHES, STADIUMS

ALTEC, the worlds largest manufacturer of sound equipment, continues to advance electronic technology by designing useful, active devices for all types of commercial and industrial sound systems. ALTEC'S 1593B Power Amplifier is a new improved version of the 1593A, designed for all applications where uninterrupted operation is required.

The ALTEC 1593B Power Amplifier, is a solid-state unit, delivering 50 watts of power at less than one percent total harmonic distortion from 45 Hz to 20 KHz. The amplifier provides outputs for 4, 8, and 16 ohm loudspeakers, and a 70 volt line output for distribution systems. The amplifier is capable of operating from an ac (120 or 240 volt), source or a negative ground source (28 volts dc). In addition to the high impedance input, the amplifier incorporates an octal socket to accept a transformer when line isolation is required, and a selectable high pass filter for use in speech systems. Cut-off frequency is approximately 500 Hz with a locking plate-chassis mounted switch to activate the filter.

Immune to power failure, the ALTEC 1593B features a "Fail Safe" silent automatic transfer to dc operation in the event of a power failure. The dc power may be permanently connected, and when ac power has been restored, will again provide the operating energy for the amplifier, furnishing a trickle charge for the 24 volt battery.

Designed for rack mounting, the ALTEC 1593B Power Amplifier occupies only 3 units of rack space (5 1/4"), and the hinged front panel facilitates ease of servicing without removing the amplifier from the rack. A printed circuit card, plugged into a receptacle contains all active input and output circuitry. Output transistors and associated drivers are mounted on a heat sink on the rear of the chassis.

ALTEC'S exclusive Active Dissipation-Sensing Circuit, another feature of the 1593B Power Amplifier, provides protection to the output transistors. Should a malfunction occur, or the load represent a severe downward mismatch in the presence of high level program material, the sensing circuit prevents the output transistors from operating in a mode which would cause damage or degradation. The action of the circuit is immediate and effective at all frequencies within the passband of the amplifier, limiting only that portion of the program material which would damage the transistors.



A quality company of LTV Ling Altec, Inc.

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ALTEC 1593B

SPECIFICATIONS

Type: Power Amplifier
Gain: 61 dB
Input Sensitivity: 0.8 volts rms for rated output
Power Output: 50 watts at less than 1 percent THD, 45 - 20,000 Hz
Frequency Response: ± 1 dB, 20 - 20,000 Hz
Input Impedance: 15,000 ohm (potentiometer)
Source Impedance: 150 or 600 ohm with 15095 plug-in transformer
Load Impedance: 4, 8, 16, 100 ohms
Load Voltage: 14, 20, 28, 70 volts
Output Impedance: Less than 10 percent of nominal load impedance
Noise Level: -38 dBm or 85 dB below rated output

Controls: Potentiometer, continuously variable composition

Power Supply: 120/240 volts 50/60 Hz
13 watts at zero signal
85 watts at 17 watts output
145 watts at 50 watts output
OR 24/28 volts dc (battery (-) is ground)
0.2 amp at zero signal
2.5 amp at 17 watts output
4.0 amp at 50 watts output

Operating Temperature: Up to 55° ambient
Dimensions: 5-1/4" H x 19" W x 7-3/8" D

Weight: 23 pounds
Color: ALTEC Green

Accessories: 15095 plug-in line transformer
15335 plug-in bridging and matching transformer

Special Feature: Automatic transfer from ac to dc power in the event of ac power failure
Solid-state dissipation sensing device for protection of output transistors
High-pass filter

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The amplifier shall be a solid-state power amplifier with 100 percent silicon transistors and diodes. The amplifier shall be rack mountable, measuring not more than 5-1/4" high by 19" wide, by 7-3/8" deep. The front panel shall be hinged for ease of servicing without removing the amplifier from the rack. The amplifier shall be green in color and shall weigh not more than 23 pounds.

The amplifier shall have a frequency response of ± 1 dB, 20 - 20,000 Hz and a power output of 50 watts at less than one percent total harmonic distortion of 45 - 20,000 Hz. The amplifier shall be capable of continuous power and shall have an input impedance of 15,000 ohm (potentiometer); load impedance of 4, 8, and 16 ohms; an output impedance of less than ten percent of nominal load impedance, and a 70 volt line output for distribution systems.

The amplifier shall be equipped with a continuously variable volume control and an octal socket to accept a transformer when input line isolation is required (specified elsewhere). When 150 or 600 line matching is required the amplifier shall be capable of operating with an accessory input transformer (specified elsewhere). Gain of the amplifier shall be 61 dB and noise level shall be no more than -35 dBm; 85 dB below rated output. Input sensitivity of the amplifier shall be 0.8 volt rms for rated output.

The amplifier shall operate from either ac (120 or 240 volts), or a negative ground (24/28 volt dc) source. DC power source may be permanently connected to insure immediate and silent transfer of power, in the event of a power failure. Restoration of AC power will energize the amplifier and furnish a trickle charge to the 28 volt battery.

The amplifier shall be equipped with a dissipation sensing device providing protection to the output transistor should a malfunction occur in the output circuit when high level program signals are present. The circuitry shall be sensitive to both the voltage and current in the output circuit, and to their phase relationship. The action of the circuit shall be immediate and effective at all frequencies within the passband of the amplifier, limiting only that portion of the program material which would damage the transistors.

There shall be available, as a plug-in accessory to the amplifier, a bridging and matching transformer with equal (pins 1 and 6) input and output (pins 7 and 8) impedances of 15,000 ohms. The plug-in accessory shall have 30 dB of electromagnetic shielding; ± 1 dB, 30 - 15,000 Hz frequency response. Maximum input level of the plug-in accessory shall be +18 dBm across a 600 ohm line.

There shall be available, as a plug-in accessory to the amplifier, a line transformer to provide balanced input. The transformer shall have 30 dB electromagnetic shielding ± 1.0 dB, 30 to 20,000 Hz frequency response, 125/150, 500/600 (with C.T.), and +18 dBm above 40 Hz.

Any power amplifier not meeting all of the above requirements shall be deemed unacceptable under this specification.

The plug-in bridging and matching transformer shall be ALTEC Lansing model 15335.

The plug-in line transformer shall be ALTEC Lansing model 15095.

The power amplifier shall be ALTEC Lansing model 1593B.

NOTICE

We recommend that you obtain your Altec products from factory trained authorized Altec Sales and Contract Distributors. This will insure you of proper installation, a continuing source of knowledgeable advice, service, and quick warranty protection.