

## KS-19739 L1 AMPLIFIER

### DESCRIPTION

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#### 1. GENERAL

**1.01** This section describes the KS-19739 L1 solid-state audio amplifier. This amplifier is designed for use as a distribution amplifier in the No. 3A announcement subcenter, in other announcement systems, and in miscellaneous line circuits requiring low-distortion amplification of audio signals.

**1.02** This section is reissued to add capacitor C4 and resistor R9 to the schematic diagram, Fig. 4.

**1.03** The KS-19739 L1 amplifier operates from the 48-volt dc central office battery or other 48-volt dc supplies capable of supplying 235 mA. (Either the positive or negative side of the power

source may be grounded.) It is designed for mounting in a standard 23-inch rack and occupies 2 inches of rack space. Fig. 1, 2, and 3 show the front and rear views of the amplifier.

**1.04** The KS-19739 L1 amplifier consists of a preamplifier, a KS-19221 L1 amplifier, and the necessary input and output transformers mounted on a standard 189A mounting plate. The KS-19221 amplifier is assembled on a plug-in type, printed-wiring board for easy servicing. A schematic diagram of the KS-19739 L1 amplifier is shown in Fig. 4. The KS-19221 L1 amplifier is covered in Sections 024-181-100 and 024-181-500.

**1.05** The application schematic for the KS-19739 L1 amplifier is SD-99360-01 and includes connecting information, circuit schematic, and operating voltages. The detailed circuit description is covered in CD-99360-01.

**1.06** The amplifier is furnished with a removable front cover which protects the printed circuit board and a removable protective plate which protects the wiring on the rear side of the mounting plate.

**1.07** The screwdriver-adjusted gain control is accessible after removing the front cover.

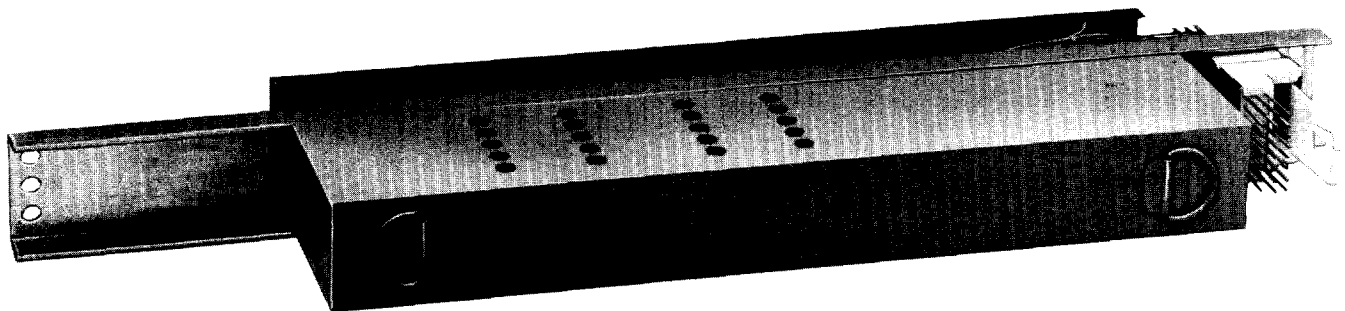


Fig. 1—KS-19739 L1 Amplifier, Front View

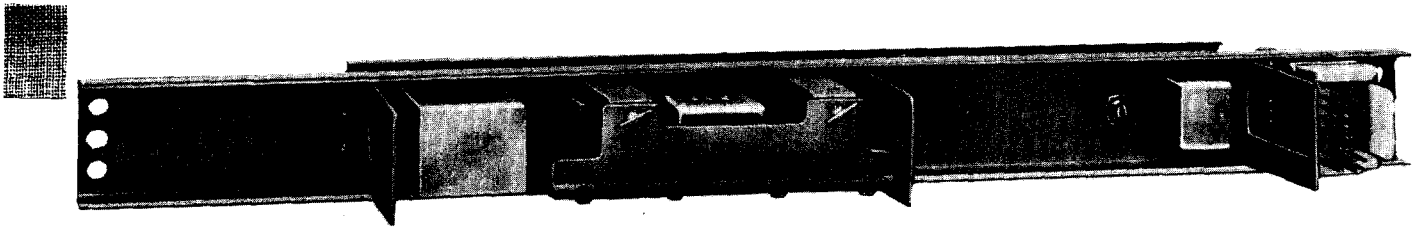


Fig. 2—KS-19739 L1 Amplifier, Front View with Protective Cover Removed

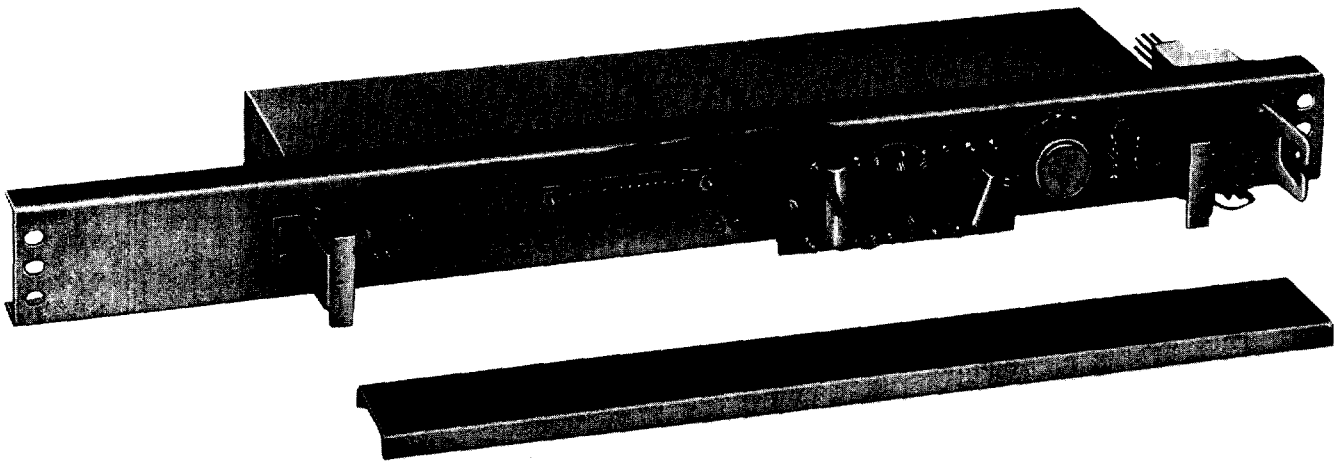


Fig. 3—KS-19739 L1 Amplifier, Rear View with Protective Panel Removed

## 2. ELECTRICAL CHARACTERISTICS

2.01 The following electrical characteristics are typical for the KS-19739 L1 amplifier:

**Power Supply:**

48 volts dc, 235 mA

**Power Output:**

4 watts into nominal resistive load with less than 5 percent harmonic distortion from 200 to 5000 Hz

**Input Impedance:**

600-ohm balanced input; internal input impedance, approximately 900 ohms.

**Output Impedance:**

1, 4, and 600 ohms; internal output impedance, approximately 25 percent of nominal load

**Maximum Gain:**

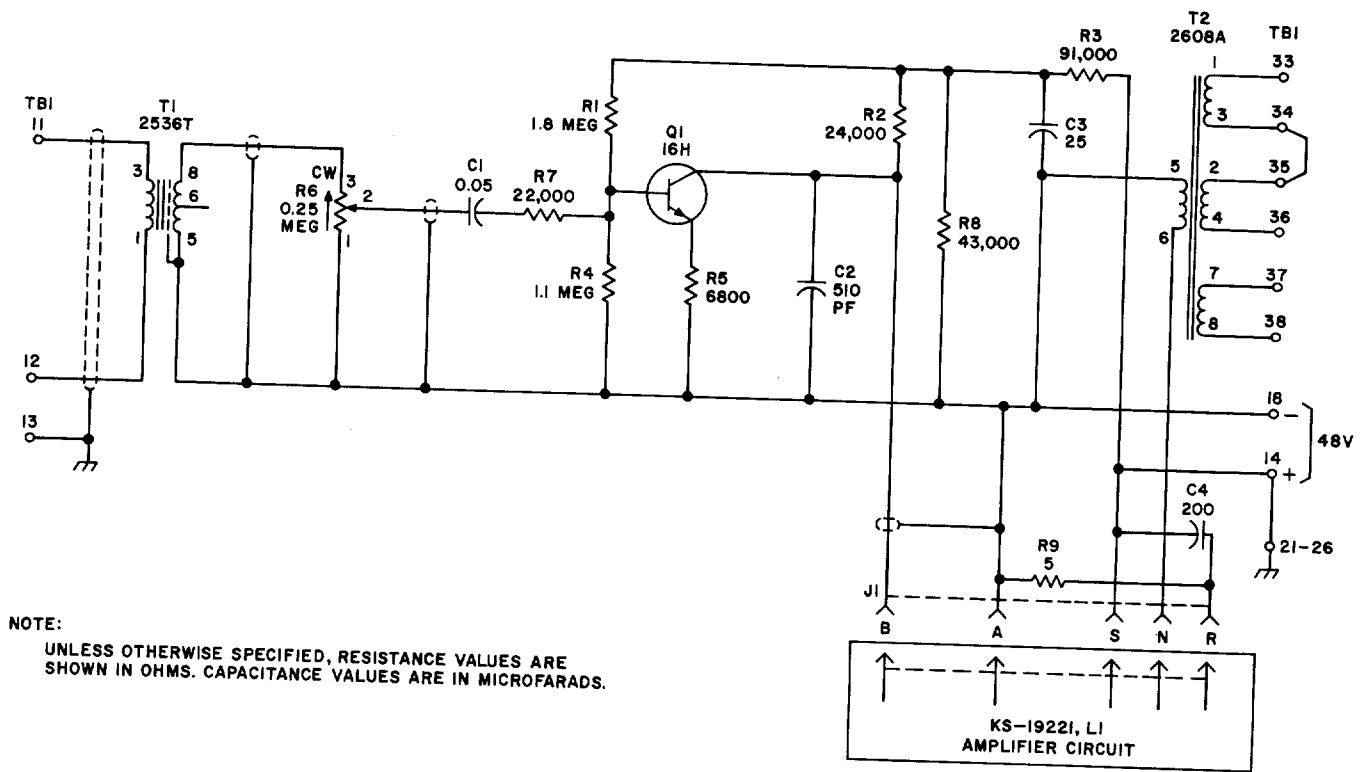
Approximately 62 dB between rated impedance at 1000 Hz

**Frequency Response:**

Within 3 dB of 1000-Hz value between 150 and 8000 Hz

**Output Noise:**

-40 dBm maximum



NOTE:  
UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE SHOWN IN OHMS. CAPACITANCE VALUES ARE IN MICROFARADS.

Fig. 4—KS-19739 L1 Amplifier, Schematic Diagram

**Gain Control:**

Continuously variable screwdriver-operated potentiometer

**Finish:**

Light gray

**3. MECHANICAL CHARACTERISTICS**

3.01 The mechanical characteristics of the KS-19739 L1 amplifier are as follows:

**Size:**

Width: 23 inches (arranged for mounting in a standard 23-inch relay rack)

Height: 2 inches

Depth: 6-1/4 inches (extends 4-1/4 inches beyond mounting surface on equipment side)

**Weight:**

6-1/2 pounds

**4. EXTERNAL CONNECTIONS**

4.01 Inputs to the KS-19739 amplifier are made through a terminal strip mounted on the right side of the mounting plate when viewed from the front. The 600-ohm balanced signal input is applied to terminals 11 and 12 of the terminal strip. Input power from the 48-volt dc battery supply is terminated on terminals 14 and 18. The negative (-) side of the battery supply should be connected to terminal 18 and the positive (+) side to terminal 14. If the negative side of the power supply is grounded (at the power supply), option Y should be installed. If the positive side is grounded, option Z should be installed. Chassis ground is available at terminals 21, 22, 23, 24, 25, and 26.

4.02 Amplifier outputs are located on the same terminal strip as the inputs. Connections for a 600-ohm load are provided on terminals 37 and 38. Terminals 33 and 36 allow connection to

## SECTION 024-182-100

a 1-ohm or 4-ohm load when the proper option is installed. Option X, requiring straps between terminals 33 and 35 and between terminals 34 and 36, is necessary for the 1-ohm output. Option W, or straps across terminals 34 and 35, provides the 4-ohm output.

**4.03** The amplifier is normally supplied with options W (4 ohms) and Z (positive side of the power supply grounded) installed.

### 5. INSTALLATION

**5.01** All connections to the amplifier are made to the terminal board TB1 located on the

right side of the mounting plate when viewed from the front.

**5.02** The amplifier will operate satisfactorily in ambient temperatures up to 60°C (140°F).

**5.03** The amplifier is mounted so that the removable cover is on the apparatus side of the frame or rack.