

**AMPLIFIER**  
**KS-16622, L1**

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**1. GENERAL**

**1.01** This section describes the KS-16622, L1 Amplifier designed for use in those situations where large amounts of high quality audio output power are required. The amplifier will have general use in music distribution systems and local program circuits. This section is re-issued to include changes in the output terminal connections and power connections.

**1.02** The KS-16622, L1 Amplifier is ac operated and is capable of transmitting frequencies up to 20,000 cycles with low distortion. It is designed for mounting on 19-inch racks in a central office.

**1.03** The application schematic is SD-95282-01 and includes connecting information, circuit schematic, operating voltages and a parts list. The detailed description of the amplifier is covered in CD-95282-01.

**2. ELECTRICAL CHARACTERISTICS**

**2.01** The following electrical characteristics are typical for the KS-16622, L1 Amplifier:

*Power Supply:*

110 - 130 volts 60 cycles 150 watts maximum.

*Power Output:*

30 watts continuous 20 to 20,000 cycles with less than 0.5% harmonic distortion into rated resistive load.

*Output Impedances:*

1, 4, 8, 16, 150 and 600 ohms. 70.7 volts may be obtained from the 150-ohm output. Internal output impedance is approximately 10 per cent of rated load.

*Input Impedances:*

150 and 600 ohms balanced or unbalanced, and 10,000 ohms bridging.

*Maximum Input Level:*

+10 dbm for 150- and 600-ohm inputs,  
 +34 dbm for bridging input.

*Maximum Gain:*

66 db for rated input and output impedances. 42 db for bridging input to rated output impedances.

*Frequency Response:*

20 to 20,000 cycles within 1 db.

*Output Noise:*

-45 dbm maximum (unweighted) — does not change with gain control setting. Signal-to-noise ratio 90 db minimum.

*Gain Control Range:*

44.5 db in 0.5 db steps and OFF with two controls having 5 and 0.5 db steps.

**3. MECHANICAL CHARACTERISTICS**

**3.01** The mechanical characteristics of the amplifier are as follows:

**Size:**

Width: 19 inches (arranged for mounting on a standard 19-inch relay rack)

Height: 7 inches

Depth: 9 inches (extends 5 inches to the front and 4 inches to the rear of the mounting surface)

**Weight:**

40 pounds

**Finish:**

Light gray

**Electron Tubes:**

These are not furnished with the amplifier.

DESIGNATION	TUBE TYPE	FUNCTION
V1	12AX7	Voltage Amplifier
V2	12AU7	Phase Inverter
V3	12BH7	Push-Pull Voltage Amplifier
V4	12AX7	Push-Pull Driver Amplifier
V5	6L6GC	Push-Pull Output
V6	6L6GC	
V7	5U4GB	Rectifier

**4. EXTERNAL CONNECTIONS**

**4.01** Input connections should be made to the terminals located behind the front panel of the amplifier. Connections should be made to terminals 1 through 7 as follows:

INPUT ARRANGEMENT	CONNECT TO TERMINALS
Bridging (10,000 ohms)	1 and 2
150 ohms	3 and 5
600 ohms	3 and 4
600-ohm center tap	5
Circuit ground	6
Chassis ground	7

**4.02** The output connections should be made to terminals marked 8 through 18 located behind the front panel of the amplifier. Connections should be made as follows:

OUTPUT IMPEDANCE	STRAP TERMINALS	CONNECT TO TERMINALS
1 ohm	14 to 15 and 16 to 17	14 and 17
4 ohms	15 to 16	14 and 17
8 ohms	15 to 16	13 and 17
16 ohms	15 to 16	12 and 17
150 ohms or 70.7 volts	8 to 9 and 10 to 11	8 and 11
600 ohms	9 to 10	8 and 11
600-ohm center tap	9 to 10	9
Circuit ground	none	18

**4.03** The amplifier circuit and chassis grounds are brought out to separate terminals. This feature provides flexibility in grounding the amplifier to avoid "ground loops." The amplifier is normally provided with terminals 6 and 7 strapped.

**4.04** Power connections are made to terminals 19 through 22. These terminals are located behind the front panel of the amplifier. The connections should be made as follows:

TERMINAL NUMBER	CONNECTION
19	Grounded side of AC (120-130V)
20	Grounded side of AC (110-120V)
21	Underground side of AC Line
22	Chassis ground

**5. INSTALLATION**

**5.01** The amplifier is designed to operate satisfactorily at room ambient temperatures up to 100° F. Several amplifiers may be mounted in a relay rack or cabinet without forced ventilation provided the room ambient temperature does not exceed 100° F. At least 100 square inches of open area should be provided above the top amplifier and below the bottom amplifier when they are mounted in an enclosed cabinet.