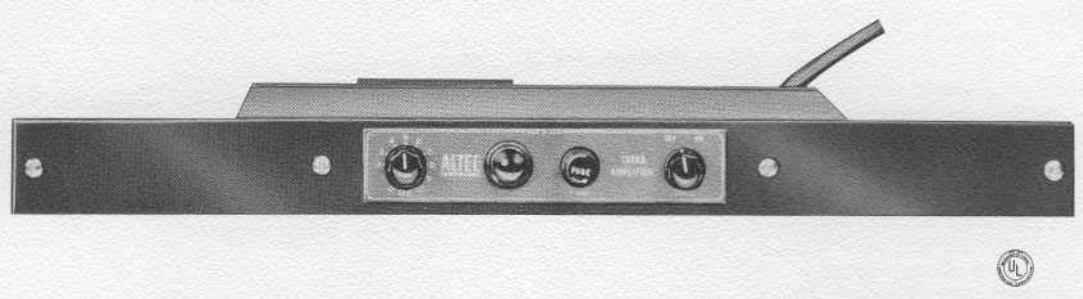
1566A AMPLIFIER

OPERATING INSTRUCTIONS



SPECIFICATIONS

Gain:	*65* db maximum
Power Output:	+ 10 dbm or 18 v (rms) open circuit
Frequency Response:	±1 db 30-15000 cps
Input Impedance:	100,000 ohms
Source Impedance:	30/50 and 120/200 ohms with 4722 plug-in microphone transformer
Load Impedance:	15,000 ohms to infinity. 150 and 600 ohms with 15095 plug-in line transformer.
Noise Level:	Equivalent input noise —120 dbm. Output noise -81 dbm with gain control closed.
Controls:	Gain and power
Power Supply:	117 volts, 60 cps, 5 watts
External Power Available:	117 volt AC receptacle on chassis
Tubes:	2-12AX7
Dimensions:	1 3/4" H x 19" W x 7" D (rack mounting) 1 3/4" H x 11 1/8" W x 7 1/4" D (wall mounting)
Color:	Dark green 5
Weight:	1/2 lbs.
Accessories:	4722 Plug-in microphone transformer 15095 Plug-in line transformer 13033 Phono Equalizer Assembly

A Division of LTV Ling Altec, Inc.
®Altec Lansing

1515 S. Manchester Ave., Anaheim, Calif.
New York

12938-3 Price $ .14
Litho in USA C/P 8/65

GENERAL DESCRIPTION

The 1566A is a compact three-stage microphone preamplifier with self-contained power supply. As supplied, its input will accept high impedance microphones and its output will drive one or more high impedance amplifiers such as the Altec 1568, 1569, or 1570. The preamplifier may be used with low impedance microphones by the addition of the accessory Altec 4722 plug-in microphone transformer.

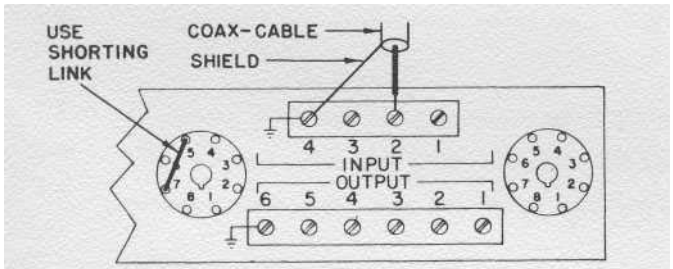
150 ohm and 600 ohm output loads may be accommodated by the addition of the plug-in Altec 15095 line transformer. When this transformer is used, both line and direct output are available simultaneously.

The compact microphone preamplifier occupies only one unit of standard rack space (1 3/4"). The front panel contains a continuously variable gain control, pilot light, power switch and circuit fuse. All input and output connections are made to simple screw terminals on the rear of the chassis, doing away with the necessity for time-consuming soldering. A pre-wired three conductor power cord and connector is supplied, and an auxiliary AC convenience outlet controlled by the power switch is provided on the rear of the chassis.

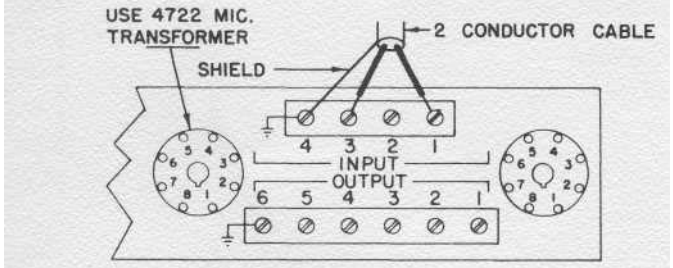
The circuit consists of a two-stage voltage amplifier, with an interstage volume control, followed by a cathode follower output. The power supply uses selenium rectifiers for both high voltage and heater supply circuits for long life, cool operation and hum-free performance. The quality exceeds all FCC requirements for FM and AM broadcasting and the 1566A will find wide application in commercial systems requiring only a small number of microphone inputs.

INPUT CONNECTIONS High

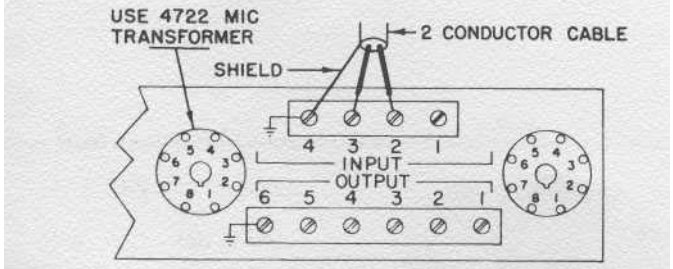
Impedance Microphone



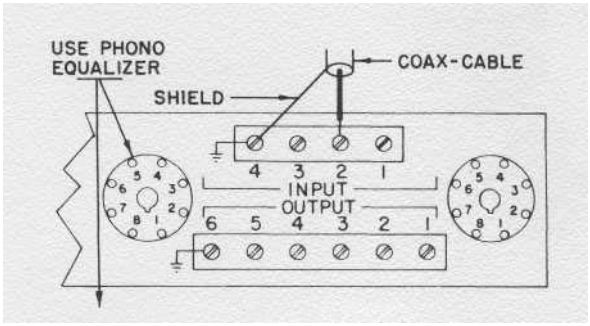
120/200 Ohm Microphone



30/50 Ohm Microphone

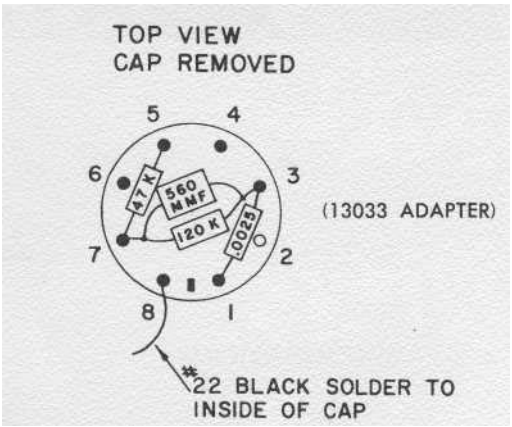


Variable Reluctance Phono



Special Input

To provide the RIAA playback characteristic necessary for variable reluctance cartridges, a plug-in adapter is required. Construction details are as follows:

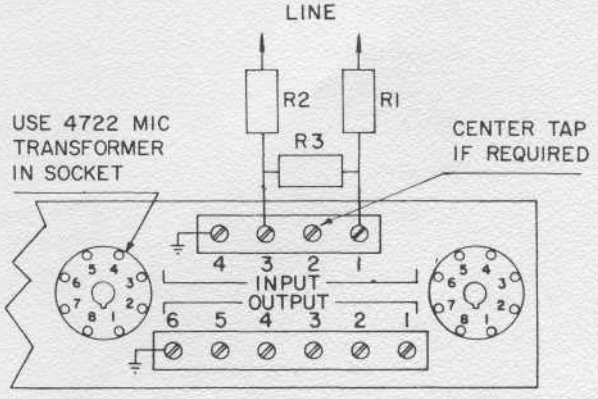


PARTS:

1 AMPHENOL 86 CP8 PLUG
1 AMPHENOL 3-18 CAP
1 47 K ± 10% 1/2 W RESISTOR
1 120K ± 10% 1/2W RESISTOR
1 .0025 ± 10% CERAMIC CONDENSER
1 560 MMF± 10% CERAMIC CONDENSER

Line Input

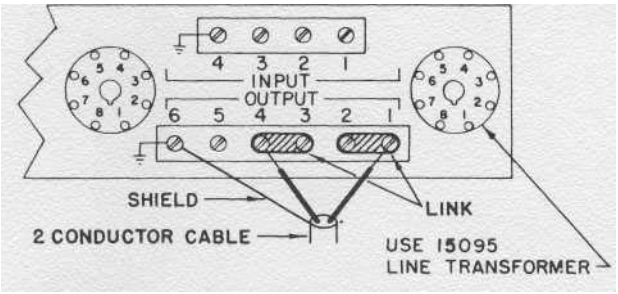
For line input to the 1566A it is recommended that the 4722 Transformer be used with an appropriate pad constructed of 1/2 watt resistors. Resistance values for several line levels are shown below.



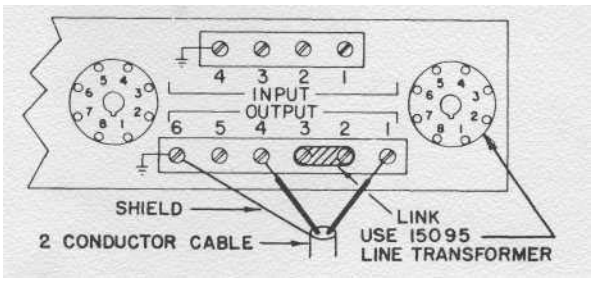
Max. Line Level	Impedance	R1 & R2	R3	Max. Overall Gain
−18 dbm	600 ohm (Terminating)	270 ohm	150 ohm	57 db
0 dbm	5,000 ohm (Bridging)	2,700 ohm	150 ohm	36 db
+10 dbm	15,000 ohm (Bridging)	7,500 ohm	150 ohm	27 db
+20 dbm	50,000 ohm (Bridging)	24,000 ohm	150 ohm	16 db

OUTPUT CONNECTIONS

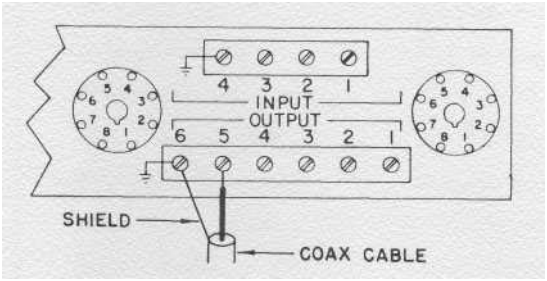
150 Ohm Output



600 Ohm Output



Direct Output



Paralleling Outputs (2 or more 1566A Amplifiers)

1. Direct Output: Place 15,000 ohm carbon resistor in series with each amplifier output.

2. 600 Ohm Output (with 15095 Line Transformer): Place 560 ohm carbon resistor in series with each amplifier output.

3. 150 Ohm Output (with 15095 Line Transformer): Place 150 ohm carbon resistor in series with each amplifier output.

Note: On 150 and 600 ohm connections where the lines are balanced *(not* grounded at *either end)* the resistor values may be *halved* and *two* used, one in series with *each* side of the line for more accurate balance.

The 1566A amplifier can directly drive high impedance power amplifiers such as the 1568A, 1659A, 1570A, 128A, etc., without use of the 15095 line transformer. When this connection is used, special attention must be given to ground interconnections or hum will result. Be sure to read the section on common ground connections. The direct output impedance is low enough that as much as 25 feet of 29 mmf per foot coaxial cable may be used for interconnection with good performance. The direct output and balanced line output, using a 15095 line transformer may be used simultaneously.

COMMON GROUND CONNECTIONS

The circuit ground of the 1566A is connected to chassis at the input to prevent R.F. and other noises picked up on the microphone cable shield from being detected and amplified by the system. Any additional connection between circuit and chassis or ground will cause system hum. When the direct output of the 1566A is used to drive a power amplifier, the circuit to chassis connection must be removed at the power amplifier. It is important, however, that the chassis of the two amplifiers are electrically connected. This automatically occurs when the chassis are mounted in the same rack or cabinet, or when the 3-wire power cord of one is inserted in the 3-wire outlet of the other, or when both 3-wire power cords are inserted in outlets which provide third wire ground.

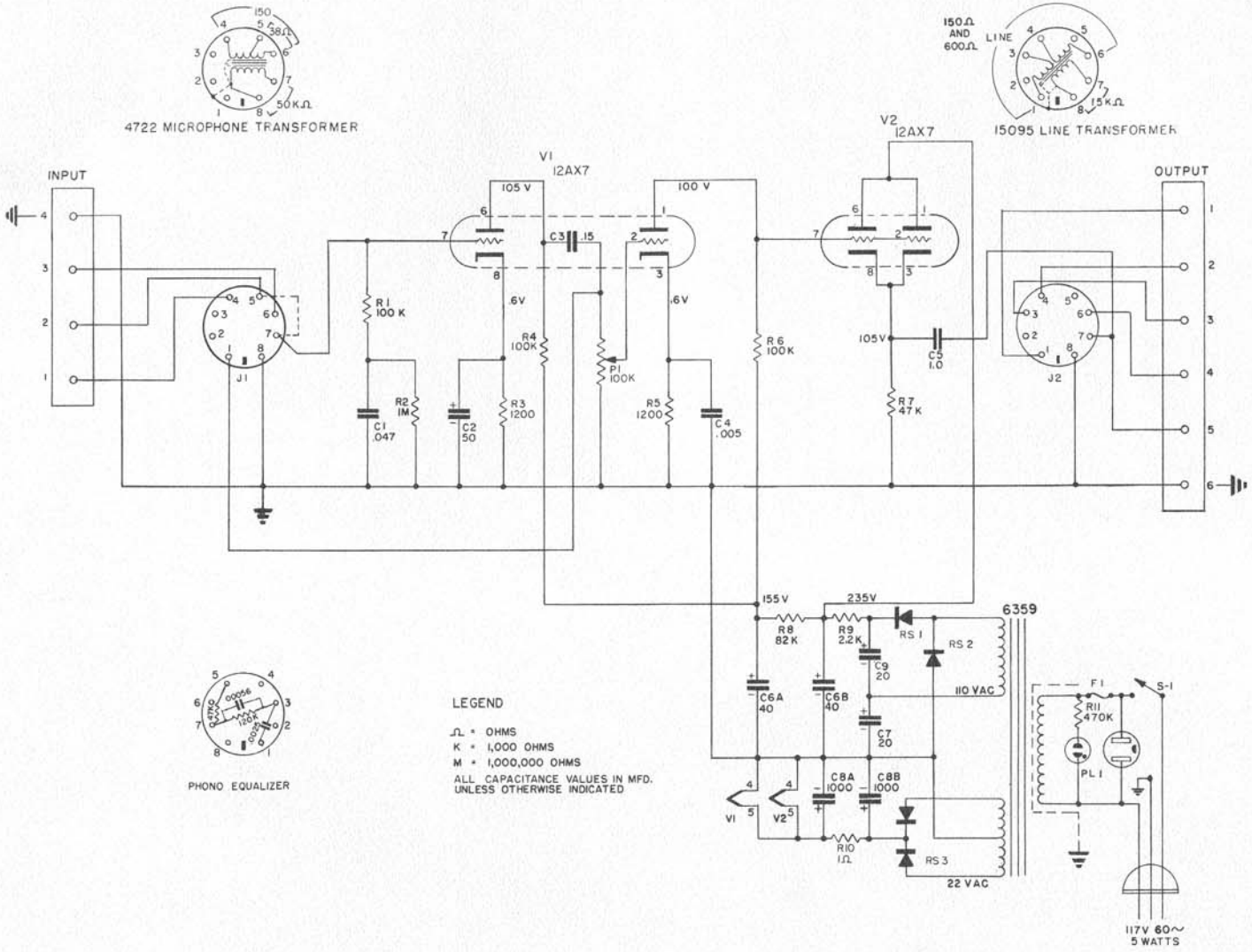
For the unbalanced connections described, use single conductor coaxial cable and connect the shield to the amplifier input or output "common" terminal at each end. Use two conductor shield cable when a 15095 line transformer is required for isolation or balanced lines. In this case, chassis-circuit grounds are *not* disturbed and the cable shield should be connected at one end only.

SERVICING

Line fuse, pilot lamp and tubes are readily accessible for replacement. The main chassis is easily serviced by removing the two screws nearest the front panel cut-out, withdrawing the main chassis toward the rear, thus exposing circuitry for normal service meter tests. All pertinent information is shown on the schematic.

PARTS LIST

R1,4,6	100,000 ohms ±10% 1/2 watt
R2	1 megohm ±10%, 1/2 watt
R3, 5	1,200 ohms ±10%, 1/2 watt
R7	47,000 ohms ±10%, 1/2 watt
R8	82,000 ohms ±10%, 1/2 watt
R9	2,200 ohms ±10%, 1/2 watt 1
R10	ohm ±10%, 1 watt 470,000
R11	ohms ±10%, 1/2 watt .047
C1	mfd., 200 V., CD. PJ2S47 50
C2	mfd., 3 V., C.D. BBR 50-3 .15
C3	mfd., 400 V., CD. PJ415 .005
C4	mfd., ±20%, Erie type 801
C5	1 mfd., 200 V., CD. PJ2W1
C6	40-40 mfd., 300 V., Mallory FP217.87
C7,9	20 mfd., 150 V., Astron MM 20-150
C8	1000-1000 mfd., 15 V., Mallory WP200
F1	2 amp, 3AG
P1	100,000 ohms, A Taper, Allen Bradley Type J
P.L. 1	NE 51
R.S. 1,	Sarkes Tarzian model 10 rectifier
R.S. 3	Sarkes Tarzian 3N26-1C1-AS rectifier
S1	Altec 12536
T1	Peerless 6359
V1, 2	12AX7 vacuum tube



ALTEC LANSING
1566 A PREAMPLIFIER

FIRST MADE FOR 1566 A SINGLE CHANNEL PREAMPLIFIER

ISSUE	APPR'D	DATE	CHANGE
1		3-26-68	
2		5-15-68	POLARITY REV: C8
3		7-8-70	AC RECEPT. WAS GROUNDED

ALTEC
ANAHEIM, CALIFORNIA

1566 A PREAMLIFIER
SCHEMATIC

DR. BY ED GOLKA

6586