

Output Noise: MODEL 111-A  
The unweighted output noise generated within the 111-A Amplifier is equivalent to an input signal of -124 DBM (DB below .001 Watt) over a band width of 20,000 Cycles.

FREQUENCY CHARACTERISTIC: Production run  $\pm 5$  to 1 DB over the range 30-15,000 Cycles.

EXTERNAL POWER SUPPLY REQUIREMENTS:

Filament 6.3 Volts 1.2 Amperes.  
Plate 275 Volts, 16 Milliampere  
(Filament and Plate may be obtained from 201 Series Rectifiers).

EXTERNAL CONNECTIONS:

TERMINAL NUMBERS		EXTERNAL CONNECTIONS
CHANNEL #1	CHANNEL #2	
1-2	11-12	30 Ohms Input (Note 1)
2-3	12-13	250 Ohm Input (Note 2)
1-3	11-13	600 Ohm Input (Note 1)
4	14	Plate Current Meter (positive) 1st Stage
5	15	Plate Current Meter (positive) 2nd Stage
6	16	Chassis Ground
7	17	+275 Volts DC
8	18	-275 Volts DC, Plate Current Meter (Neg.) and circuit Ground
9-10	19-20	Output 150 or 600 Ohms (Note 3)
21-22	24-25	6.3 Volts AC 1.2 Amperes
23	23	Chassis Ground

NOTES:

1. On unbalanced INPUT circuits, the grounded side should be connected to Terminals 1 and 11.
2. On unbalanced INPUT circuits, the grounded side should be connected to Terminals 2 and 12.
3. On unbalanced OUTPUT circuits, the grounded side should be connected to Terminals 10 and 20.
4. Supplied strapped for 600 Ohms. For 150 Ohms remove strap between Terminals 4 and 5 and restrap to 3 and 5 and 4 and 6.
5. Amplifier is shipped with plate and filament terminals of Channel #1 strapped to respective plate and filament terminals of Channel #2. If it is desired to supply each channel from a separate power supply, these traps should be removed.

METERING CIRCUITS:

Metering Circuits are designed for a percentage type meter with a 200 Microampere movement. A series resistor should be added of such value that the total resistance of meter and resistor is 1000 Ohms. Correct plate current (100%) will read at 75% of full scale.

CAUTION:

Due to the extended frequency range in this Amplifier, careful shielding and grounding of all Input and Output Circuits must be observed.

TUBE COMPLEMENT: 2 - 1603  
2 - 6SJ7

111-A AMPLIFIER

TYPE: Two stage, dual channel, fixed medium gain, low noise, pre-amplifier for use in high quality speech input systems.

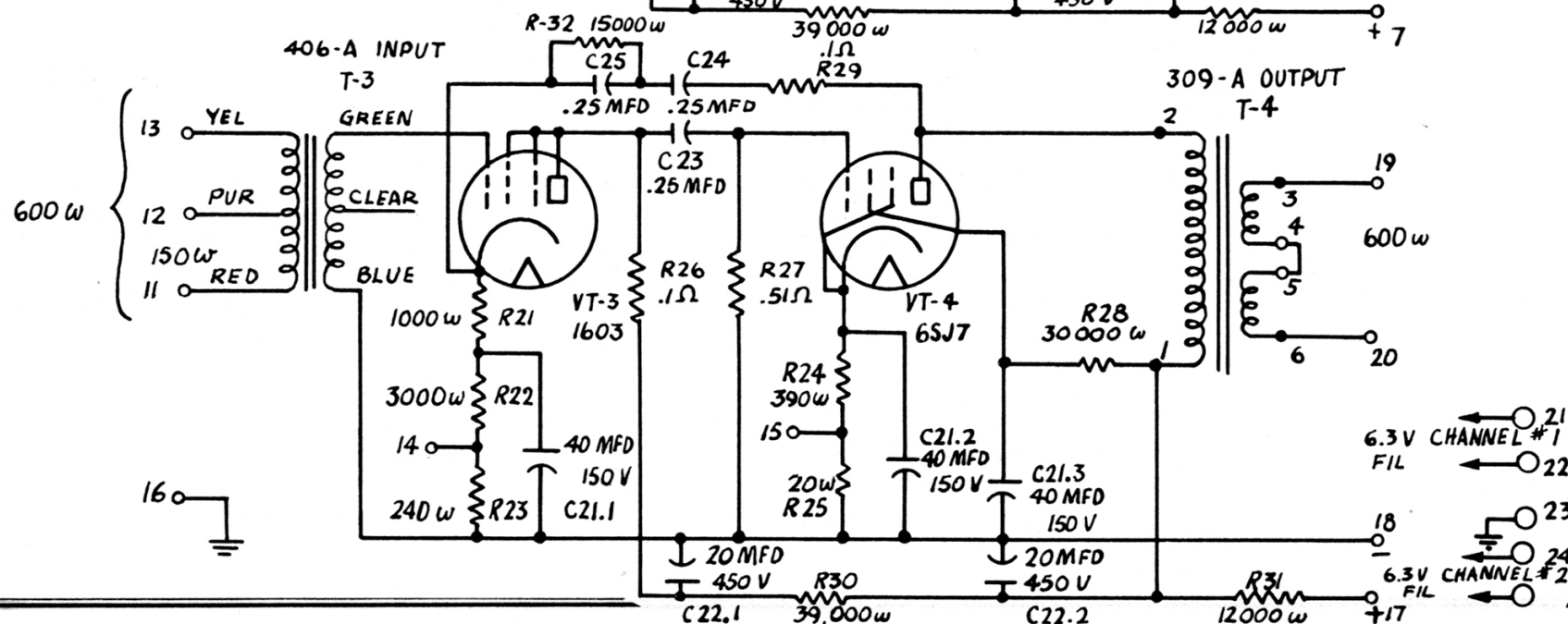
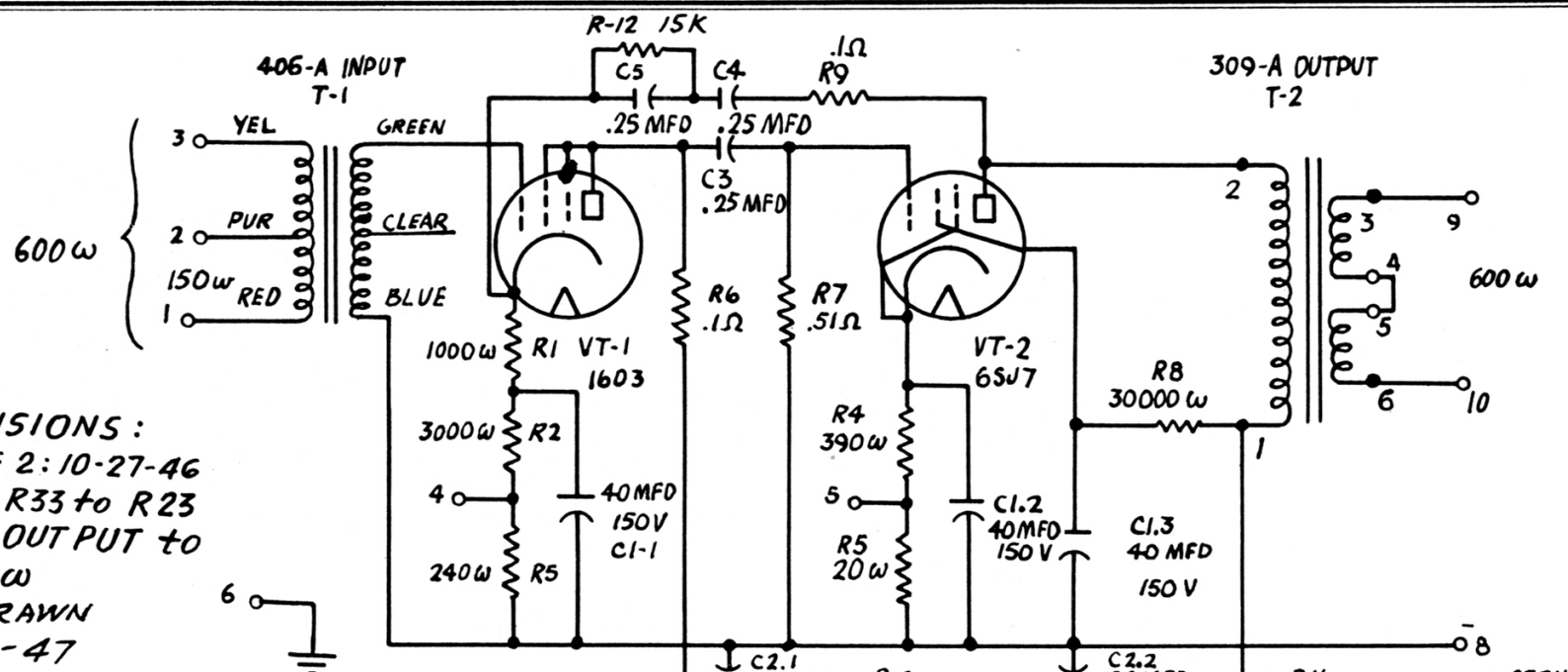
TYPICAL ELECTRICAL CHARACTERISTICS

Gain: Approximately 47 db.

Operates From: Source impedance of 30, 250, or 600 Ohms

Operates Into: Load impedance of 150 or 600 Ohms

Output Power: Approximately .038 Watt (+16 DBM) with less than 1% R.M.S. harmonic distortion at 400 Cycle single frequency.



## MODEL 111-B

TYPE

Two stage, dual channel, fixed medium gain, low noise, pre-amplifier for use in high quality speech input systems.

TYPICAL ELECTRICAL CHARACTERISTICS

GAIN: Approximately 47 db

OPERATES FROM: Source impedance of 150 or 600 ohms.

OPERATES INTO: Load impedance of 150 or 600 ohms.

OUTPUT POWER: Approximately .038 Watt (15dbm) with less than 1% RMS harmonic distortion at 400 cycle single frequency.

OUTPUT NOISE: The unweighted output noise generated within the 111-B amplifier is equivalent to an input signal of -124 dbm (db below .001 watt) over a band width of 20,000 cycles.

FREQUENCY CHARACTERISTIC: Production run - 5 to 1 db over the range 30-15,000 cycles.

EXTERNAL POWER SUPPLY REQUIREMENTS: FILAMENT 6.3 Volts 1.2 amperes.

PLATE 275 volts, 16 milliamperes. (Filament and Plate may be obtained from 201 series rectifiers).

EXTERNAL CONNECTIONS

<u>TERMINAL NUMBERS</u>	
<u>CHANNEL #1</u>	<u>CHANNEL #2</u>
1-2	11-12
1-3	11-13
4	14
5	15
6	16
7	17
8	18
9-10	19-20
21-22	24-25
23	23

EXTERNAL CONNECTIONS

150 Ohm Input (Note 1)  
600 Ohm Input (Note 1)  
Plate Current Meter (positive) First Stage  
Plate Current Meter (Positive) Second Stage  
Chassis Ground  
275 Volts DC  
-275 Volts DC, Plate Current Meter  
(negative) and Circuit Ground  
Output 150 or 600 Ohms (Note 2)  
6.3 Volts AC, 1.2 Amperes  
Chassis Ground

NOTES

1. On unbalanced INPUT circuits, the grounded side should be connected to Terminals #1 and #11.
2. On unbalanced OUTPUT circuits, the grounded side should be connected to Terminals #10 and #20. Supplied strapped for 600 Ohms. For 150 Ohms remove strap on Output Transformer between Terminals #4 and #5 and restrap #3 to #5 and #4 to #6.
3. Amplifier is shipped with plate and filament terminals of Channel #1 strapped to respective plate and filament terminals of Channel #2. If it is desired to supply each channel from a separate power supply, these straps should be removed.

METERING CIRCUITS

Metering Circuits are designed for a percentage type meter with a 200 Microampere movement. A series resistor should be added of such value that the total resistance of meter and resistor is 1000 ohms. Correct plate current (100%) will read at 75% of full scale.

CAUTION

Due to the extended frequency range in this amplifier, careful shielding and grounding of all input and output circuits must be obtained.

TUBE COMPLEMENT

2 - 1603

2 - 6SJ7

Gain: Approximately 47 db. MODEL 111-C

Operates From: Source impedance of 30, 250, or 600 Ohms

Operates Into: Load impedance of 600 Ohms

Output Power: Approximately .038 (+16 DBM) with less than 1% RMS harmonic distortion at 400 Cycle single frequency.

Output Noise: The unweighted output noise generated within the 111-C Amplifier is equivalent to an input signal of -124 DBM (DB below .001 Watt) over a bandwidth of 20,000 Cycles.

FREQUENCY CHARACTERISTIC: Production run  $\pm 1$  DB over the range 30-15,000 Cycles.

EXTERNAL POWER SUPPLY REQUIREMENTS:

Filament 6.3 Volts 1.2 Amperes.

Plate 275 Volts, 76 Milliamperes.

(Filament and Plate may be obtained from 201 Series Rectifiers).

EXTERNAL CONNECTIONS

<u>TERMINAL NUMBERS</u>	
<u>Channel #1</u>	<u>Channel #2</u>

1-2      11-12  
2-3      12-13  
1-3      11-13  
4      14  
5      15  
6      16  
7      17  
8      18  
9-10      19-20  
21-22      24-25  
23      23

EXTERNAL CONNECTIONS

30 Ohm input (Note 1)  
250 Ohm input (Note 2)  
600 Ohm input (Note 1)  
Plate Current Meter (positive) First Stage  
Plate Current Meter (positive) Second Stage  
Chassis Ground  
+ 275 Volts DC  
- 275 Volts DC, Plate Current Meter (Neg.)  
and Circuit Ground  
Output 150 or 600 Ohms (Note 3)  
6.3 Volts AC 1.2 Amperes  
Chassis Ground

NOTES:

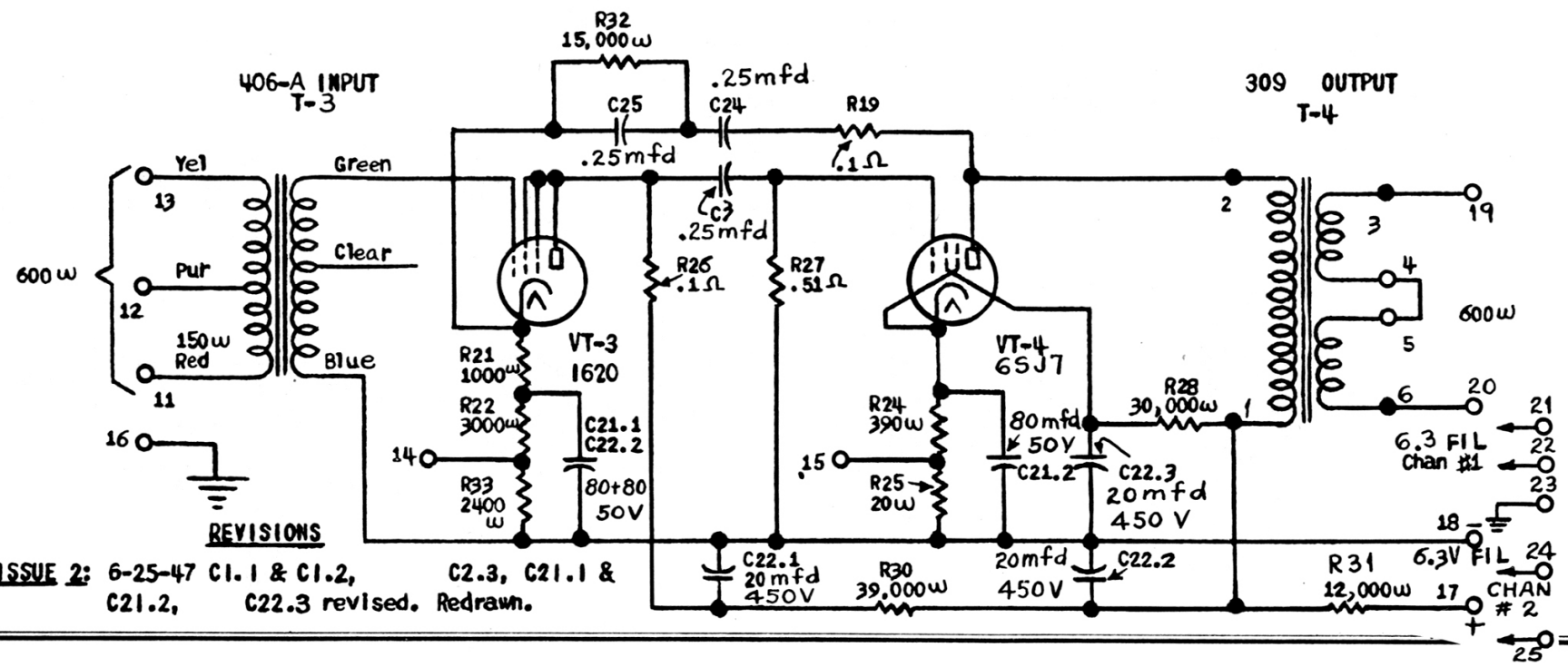
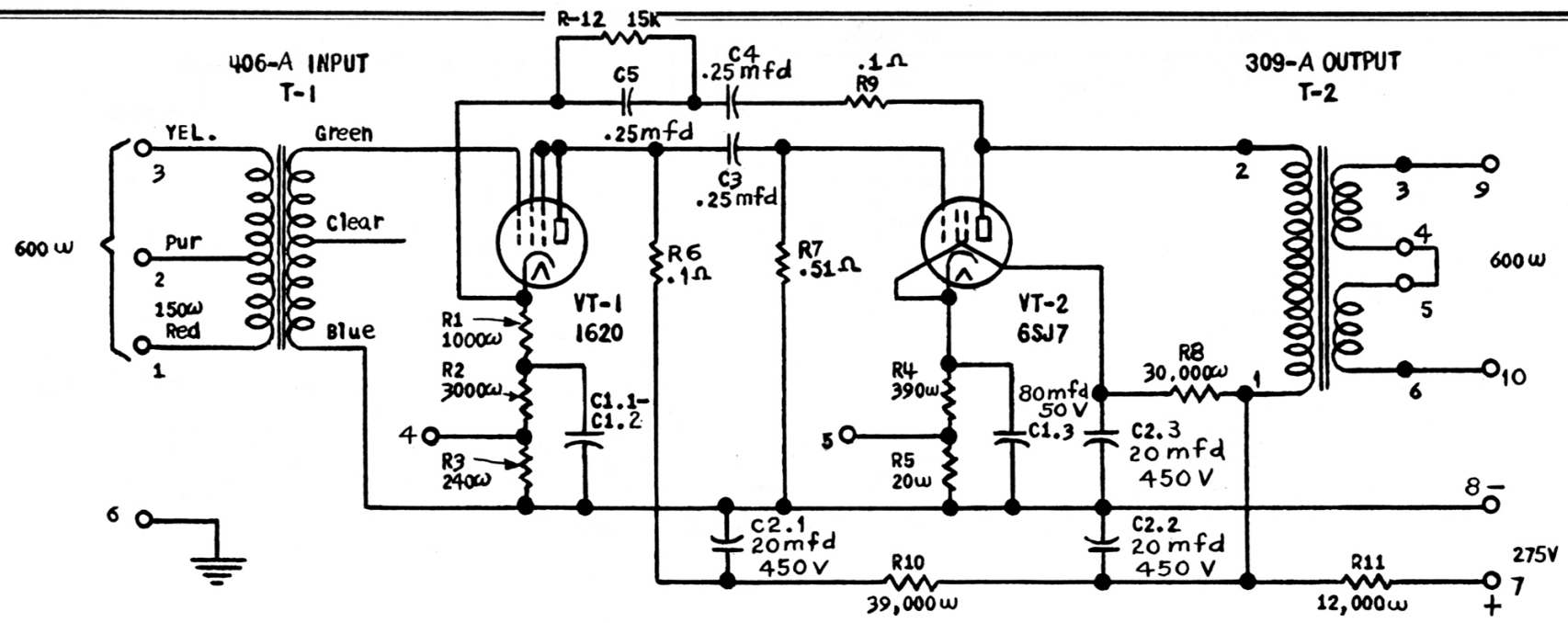
1. On unbalanced INPUT circuits, the grounded side should be connected to Terminals 1 and 11.
2. On unbalanced INPUT circuits, the grounded side should be connected to Terminals 2 and 12.
3. On unbalanced OUTPUT circuits, the grounded side should be connected to Terminals 10 and 20. Supplied strapped for 600 Ohms. For 150 Ohms remove strap on Output Transformer between Terminals 4 and 5 and restrap 3 to 5 and 4 to 6.
4. Amplifier is shipped with plate and filament terminals of Channel #1 strapped to respective plate and filament terminals of Channel #2. If it is desired to supply each channel from a separate power supply, these straps should be removed.

METERING CIRCUITS:

Metering circuits are designed for a percentage type meter with a 200 Microampere movement. A series resistor should be added of such value that the total resistance of meter and resistor is 1000 ohms. Correct plate current (100%) will read at 75% of full scale.

CAUTION:

Due to the extended frequency range in this Amplifier, careful shielding and grounding of all input and output circuits must be observed.



**REVISIONS**  
**ISSUE 2:** 6-25-47 C1.1 & C1.2, C2.3, C21.1 & C21.2, C22.3 revised. Redrawn.

# MODEL 111-D

## TYPE

Two stage, dual channel, fixed medium gain, low noise, pre-amplifier for use in high quality speech input systems.

## TYPICAL ELECTRICAL CHARACTERISTICS

GAIN: Approximately 47 db.

OPERATES FROM: Source impedance of 150 or 600 Ohms.

OPERATES INTO: Load impedance of 150 or 600 Ohms.

OUTPUT POWER: Approximately .038 Watt ( 16 DBM) with less than 1% RMS harmonic distortion at 400 Cycle single frequency.

OUTPUT NOISE: The unweighted output noise generated within the 111-D Amplifier is equivalent to an input signal of 124 DBM (DB below .001 Watt) over a band width of 20,000 Cycles.

FREQUENCY CHARACTERISTIC: Production run .5 to 1DB over the range 30-15,000 Cycles.

EXTERNAL POWER SUPPLY REQUIREMENTS: FILAMENT 6.3 Volts 1.2 Amperes. Plate 275 Volts, 16 Milliampere. (Filament and Plate may be obtained from the 201 Series Rectifiers).

## EXTERNAL CONNECTIONS

### TERMINAL NUMBERS

#### CHANNEL #1 CHANNEL #2

1-2	11-12
1-3	11-13
4	14
5	15
6	16
7	17
8	18
9-10	19-20
21-22	24-25
23	23

### EXTERNAL CONNECTIONS

150 Ohm input (Note 1)
600 Ohm input (Note 1)
Plate Current Meter (positive) First Stage
Plate Current Meter (positive) Second Stage
Chassis Ground
275 Volts DC
275 Volts, DC, Plate Current Meter (negative) and Circuit Ground
Output 150 or 600 Ohms (Note 2)
6.3 Volts AC 1.2 Amperes
Chassis Ground

## NOTES

- On unbalanced INPUT circuits, the grounded side should be connected to Terminals 1 & 11.
- On unbalanced OUTPUT circuits, the grounded side should be connected to Terminals 10 & 20. Supplied strapped for 600 Ohms. For 150 Ohms remove strap on Output Transformer between Terminals 4 & 5 and restrap 3 to 5 and 4 to 6.
- Amplifier is shipped with plate and filament terminals of Channel #1 strapped to respective plate and filament terminals of Channel #2. If it is desired to supply each channel from a separate power supply, the straps should be removed.

## METERING CIRCUITS

Metering Circuits are designed for a percentage type meter with a 200 Microampere movement. A series resistor should be added of such value that the total resistance of meter and resistor is 1000 Ohms. Correct plate current (100%) will read at 75% of full scale.

## CAUTION

Due to the extended frequency range in this amplifier, careful shielding and grounding of all input and output circuits must be obtained.