

III-C 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 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 III-C 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 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).

Mechanical Characteristics

PANEL SIZE: 5-1/4" x 10-1/4". The apparatus extends approximately 5" from the front and 2" from the rear or wiring side of the chassis.

WEIGHT: Approximately 6 lbs. Shipping Weight approximately 12 lbs.

MOUNTING: Designed for mounting on 1/3 of the space available on a 3-A Mounting Frame (must be ordered separately) through four vibration resisting rubber mountings which are furnished with the Amplifier. (See 3-A Mounting Frame Apparatus Sheet for details).

External Connections

| TERMINAL NUMBERS | | EXTERNAL CONNECTIONS |
|------------------|------------|--|
| Channel #1 | Channel #2 | |
| 1-2 | 11-12 | 30 Ohm Input (Note 1) |
| 2-3 | 12-13 | 250 Ohm Input (Note 2) |
| 1-3 | 11-13 | 600 Ohm Input (Note 3) |
| 4 | 14 | Plate Current Meter (positive) First Stage |
| 5 | 15 | Plate Current Meter (positive) Second Stage |
| 6 | 16 | Chassis Ground |
| 7 | 17 | + 275 Volts DC |
| 8 | 18 | -275 Volts DC, Plate Current Meter (negative) 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 & 20. Supplied strapped for 600 Ohms. For 150 Ohms remove strap on Output Transformer between Terminals 4 & 6 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.

TUBE COMPLEMENT

2 - 1620 2 - 6SJ7

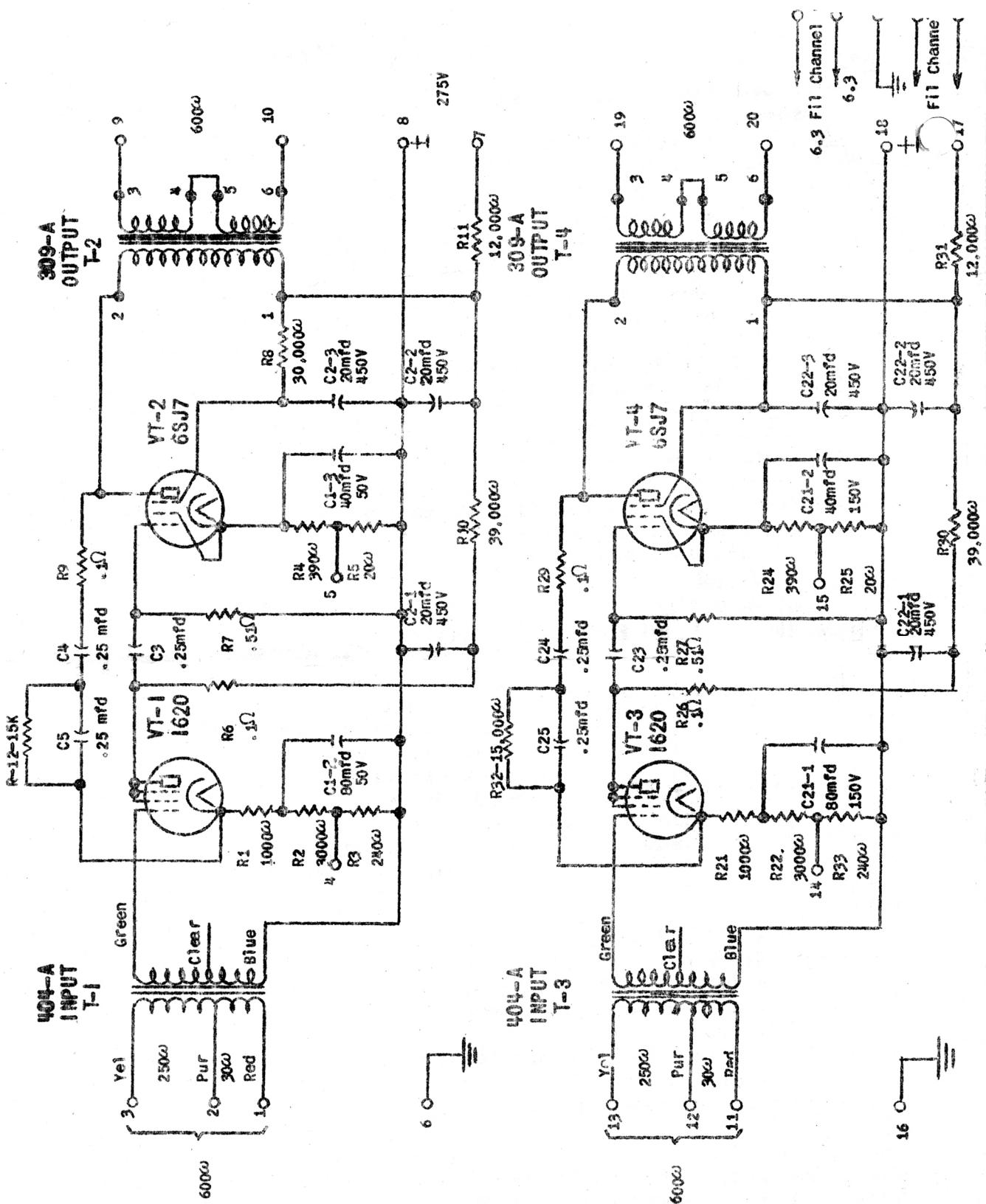
W.M.D/m

9-30-46

Drawing #2994-1 ISSUE 2

W.M.D/m

THE LANGEVIN COMPANY INC.
37 West 65th Street



REVISIONS

Issue 3 6-2-47 304-A Output chd to 309-A;
redrawn. *PS*

SCHEMATIC III-C AMPLIFIER

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|-------------------|-------------------------------------|----------------------|
| DR. BY <i>glo</i> | THE THE LANGEVIN CO. NEW YORK | ENG. <i>W.H. PER</i> |
| CK. BY <i>PS</i> | | DATE <i>10-4-46</i> |
| SCALE: <i>S</i> | | DR. NO. <i>2994</i> |