

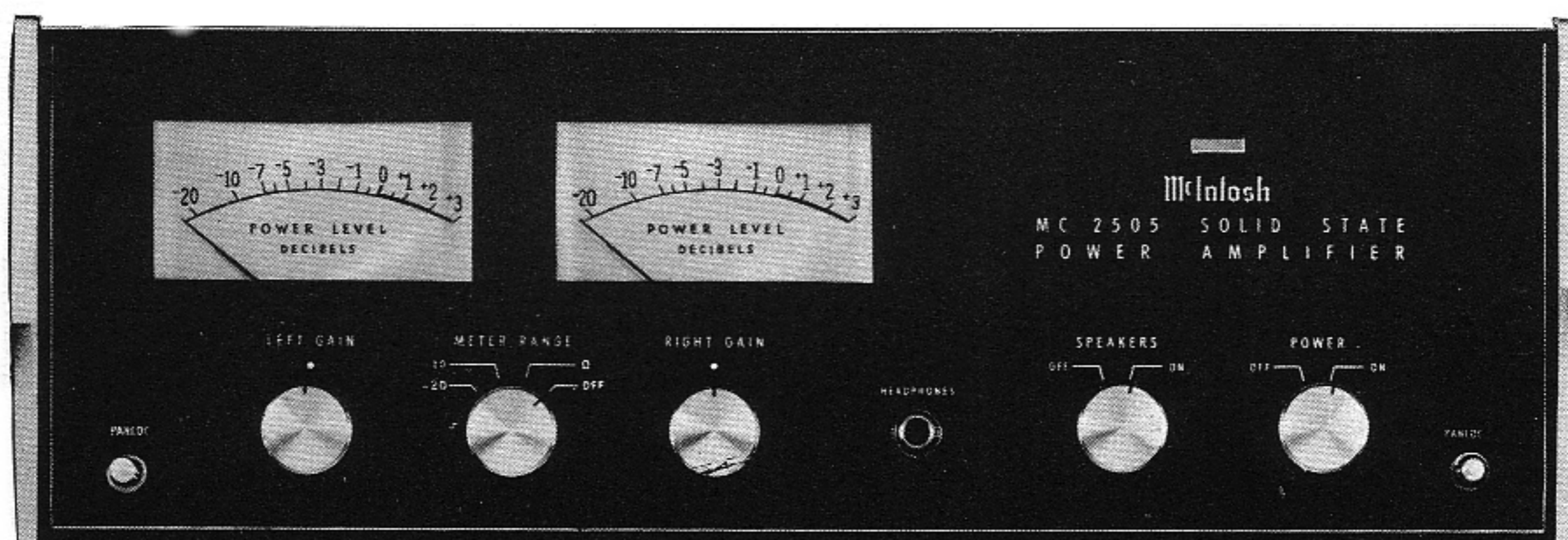
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McIntosh

MC 2505

AMPLIFIER



SERVICE INFORMATION

STARTING WITH SERIAL NO. 36K00

McINTOSH LABORATORY INC. 2 CHAMBERS STREET BINGHAMTON, NEW YORK

SCHEMATIC PART NO. 038-425

MC 2505

ELECTRICAL SPECIFICATIONS

Power Output:

100 watts RMS continuous, 50 watts per channel operating simultaneously, into 4 ohm, 8 ohm, or 16 ohm loads.

Harmonic Distortion:

Less than 0.25% at rated power output from 20Hz to 20,000Hz.

Intermodulation Distortion.

Less than 0.25% for any combination of frequencies between 20 Hz and 20,000 Hz.

Frequency Range:

At rated output both channels: +0, -0.25dB, 20Hz through 20,000Hz.

Output Damping Factor:

Greater than 10 for any output tap.

Input Sensitivity & Impedance:

Input sensitivity is 0.5 volts. Input impedance is 200,000 ohms.

Hum & Noise:

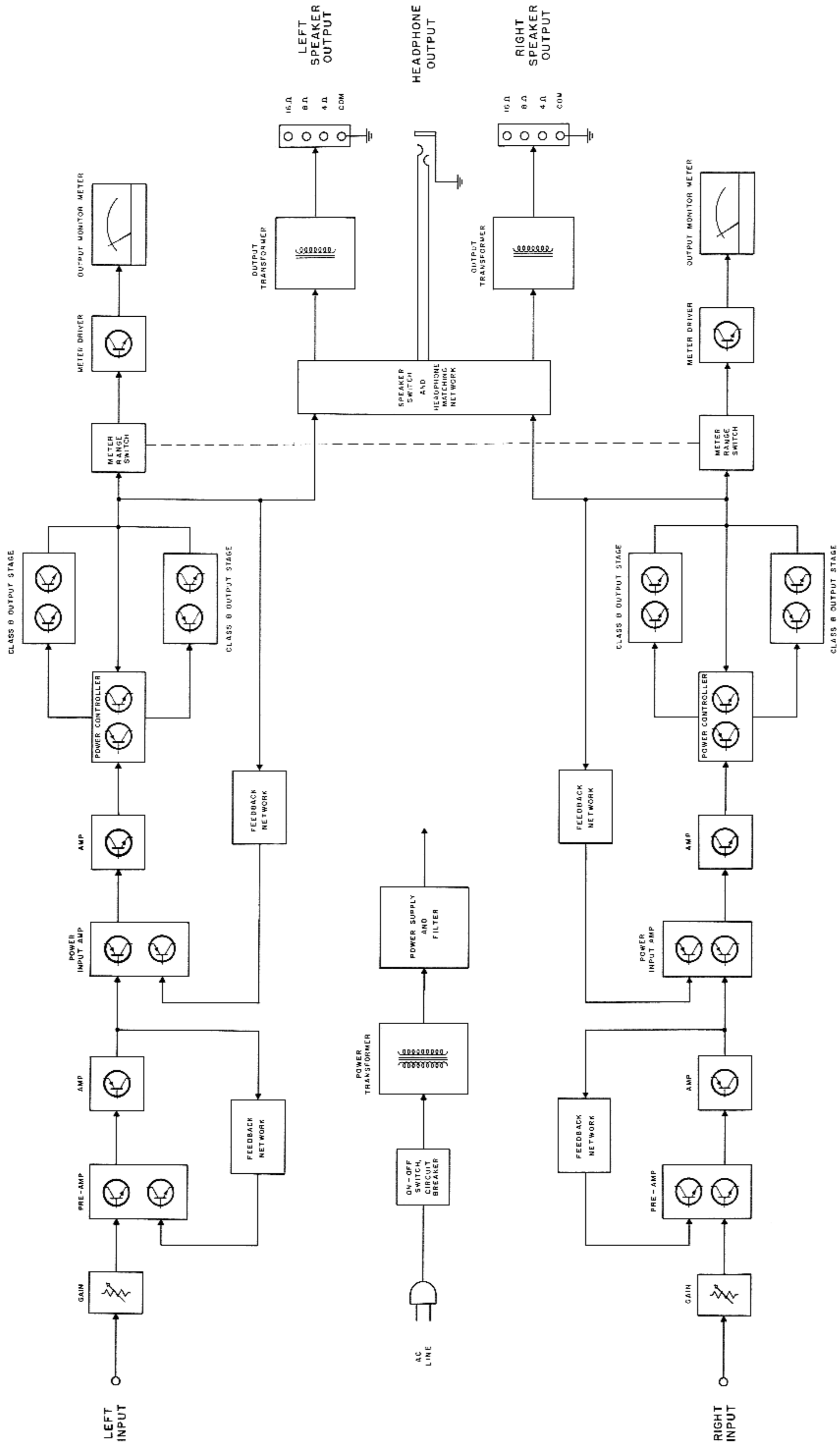
Greater than 90dB below rated output.

Output Power Monitor Meter:

Meter is calibrated to read +3dB when amplifier produces rated output. Meter range switch increases meter sensitivity by 10dB or 20dB.

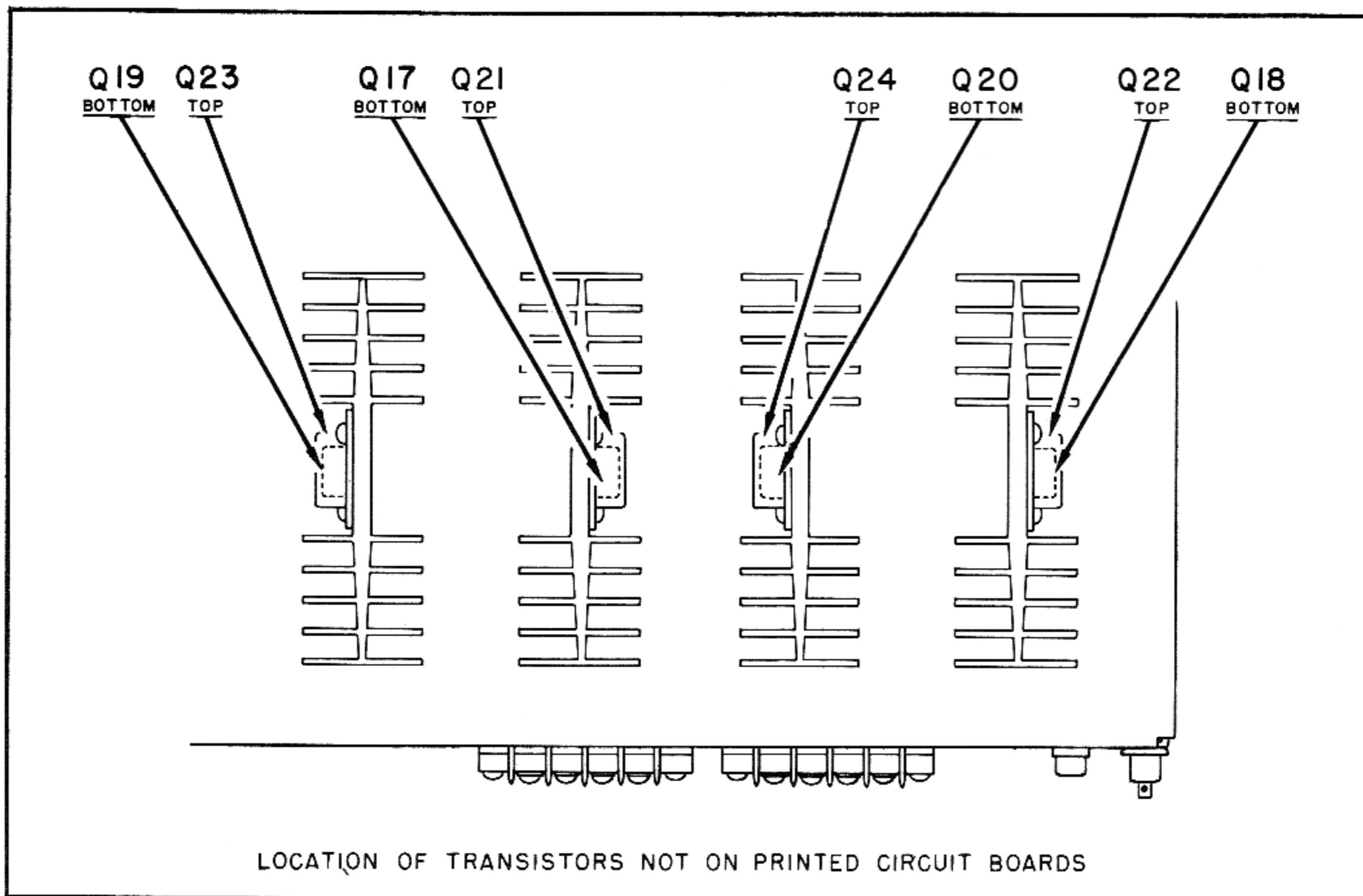
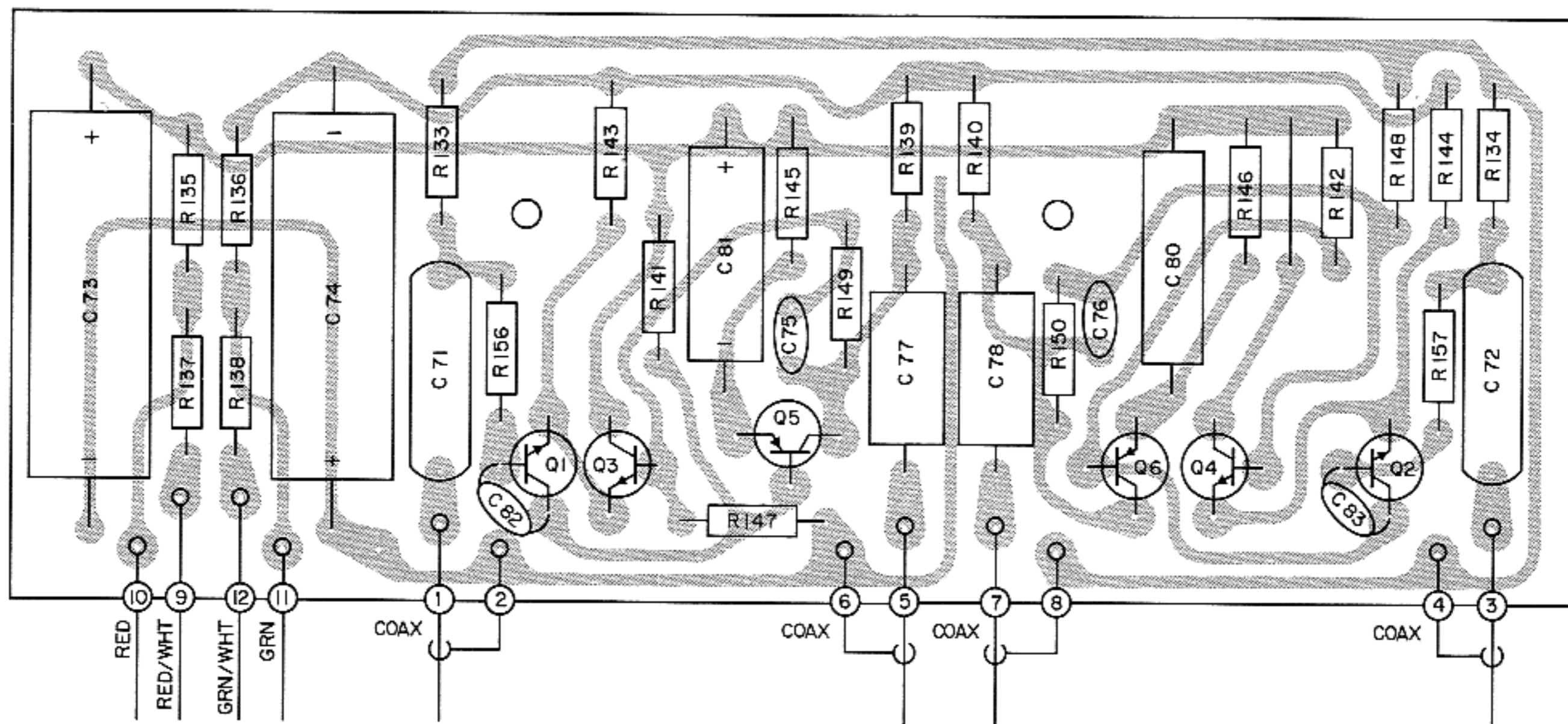
Power Requirements:

117 volts AC 50-60 cycles, 50 watts at zero signal output, 250 watts at rated output.



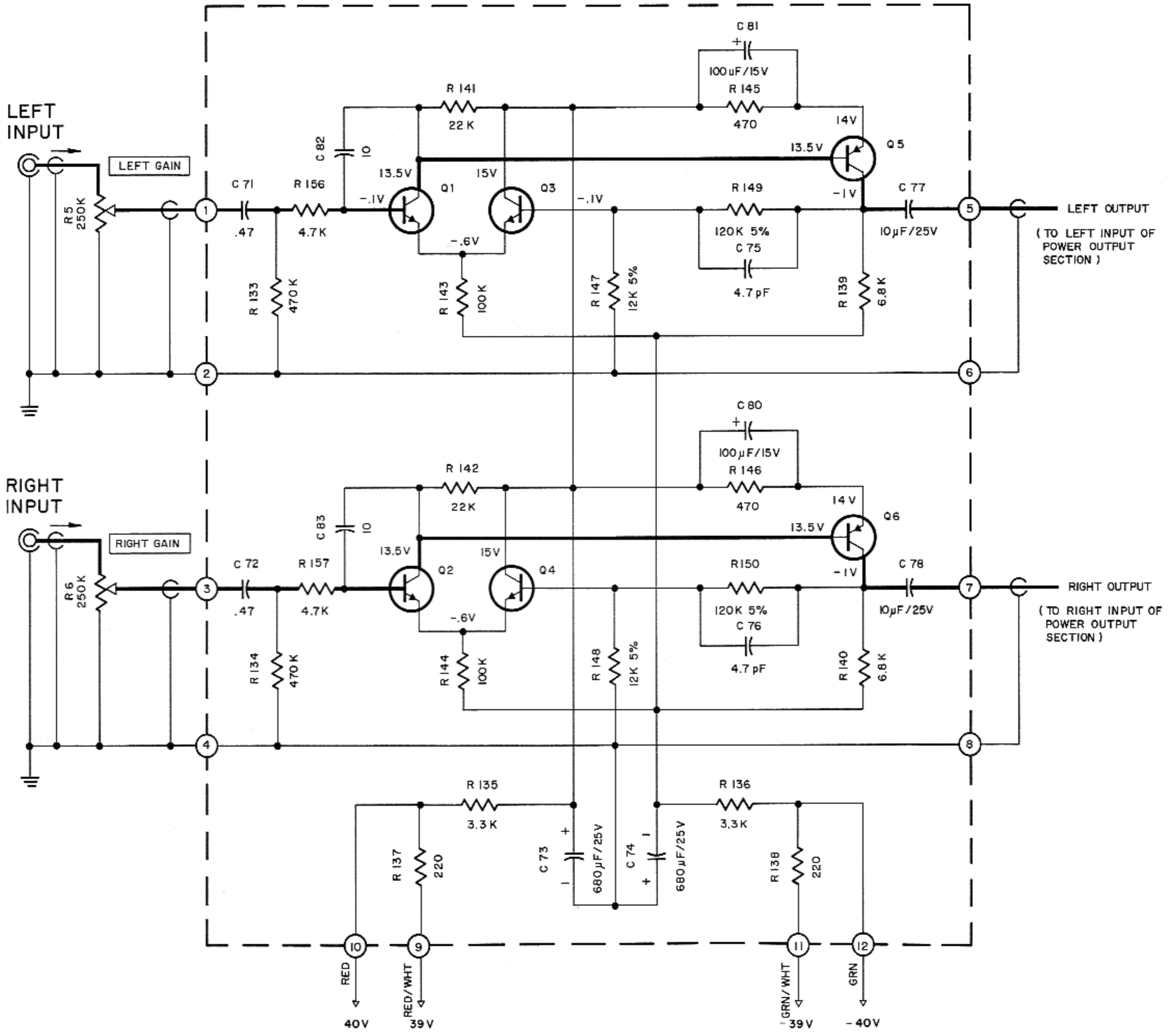
MC 2505 BLOCK DIAGRAM

INPUT SECTION PRINTED CIRCUIT BOARD 043-795

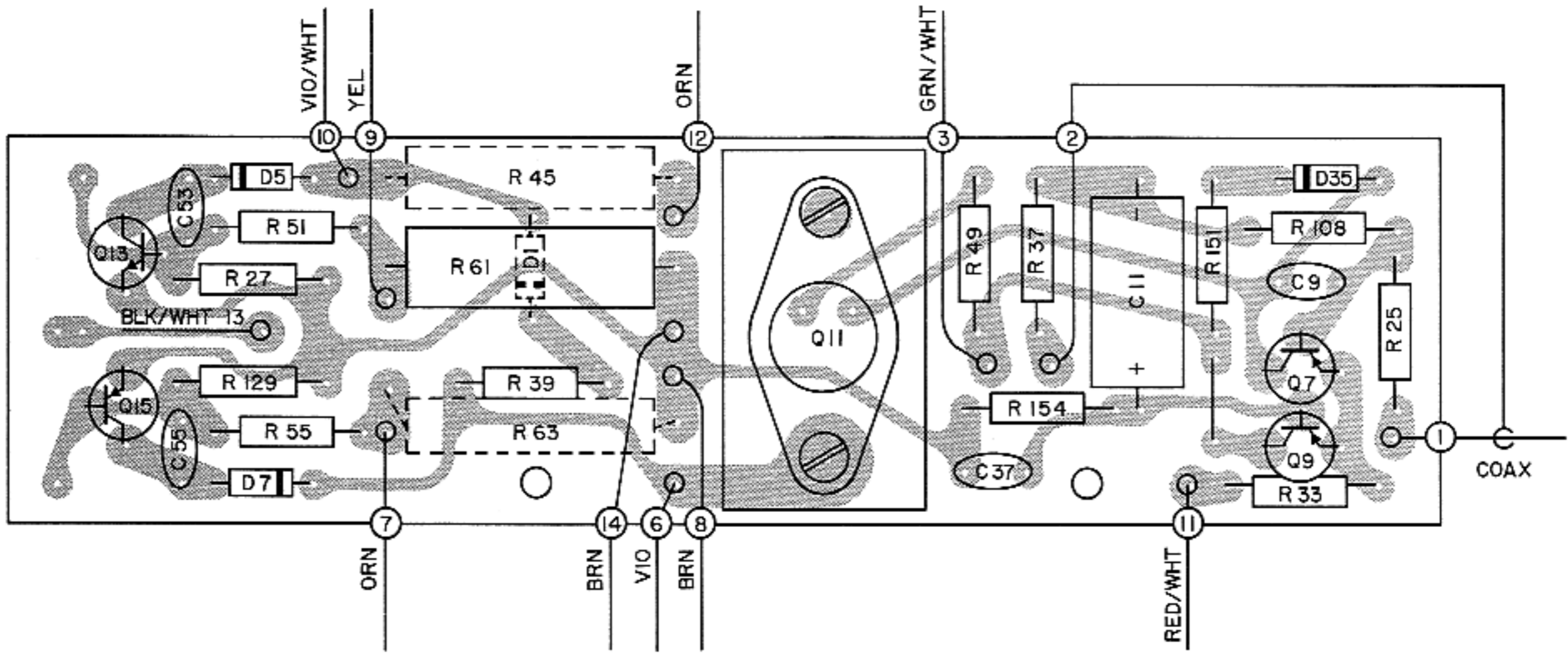


LOCATION OF TRANSISTORS NOT ON PRINTED CIRCUIT BOARDS

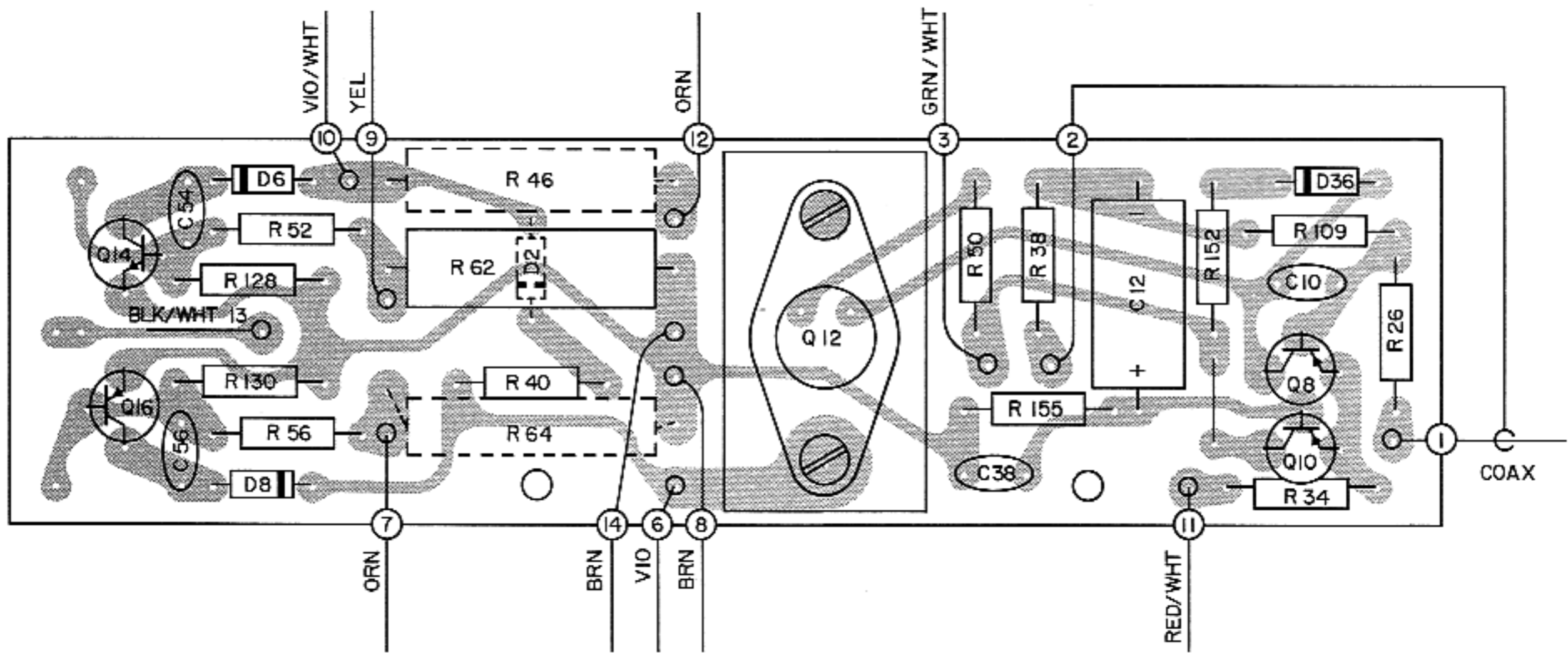
INPUT SECTION PRINTED CIRCUIT BOARD 043-795



INPUT SECTION

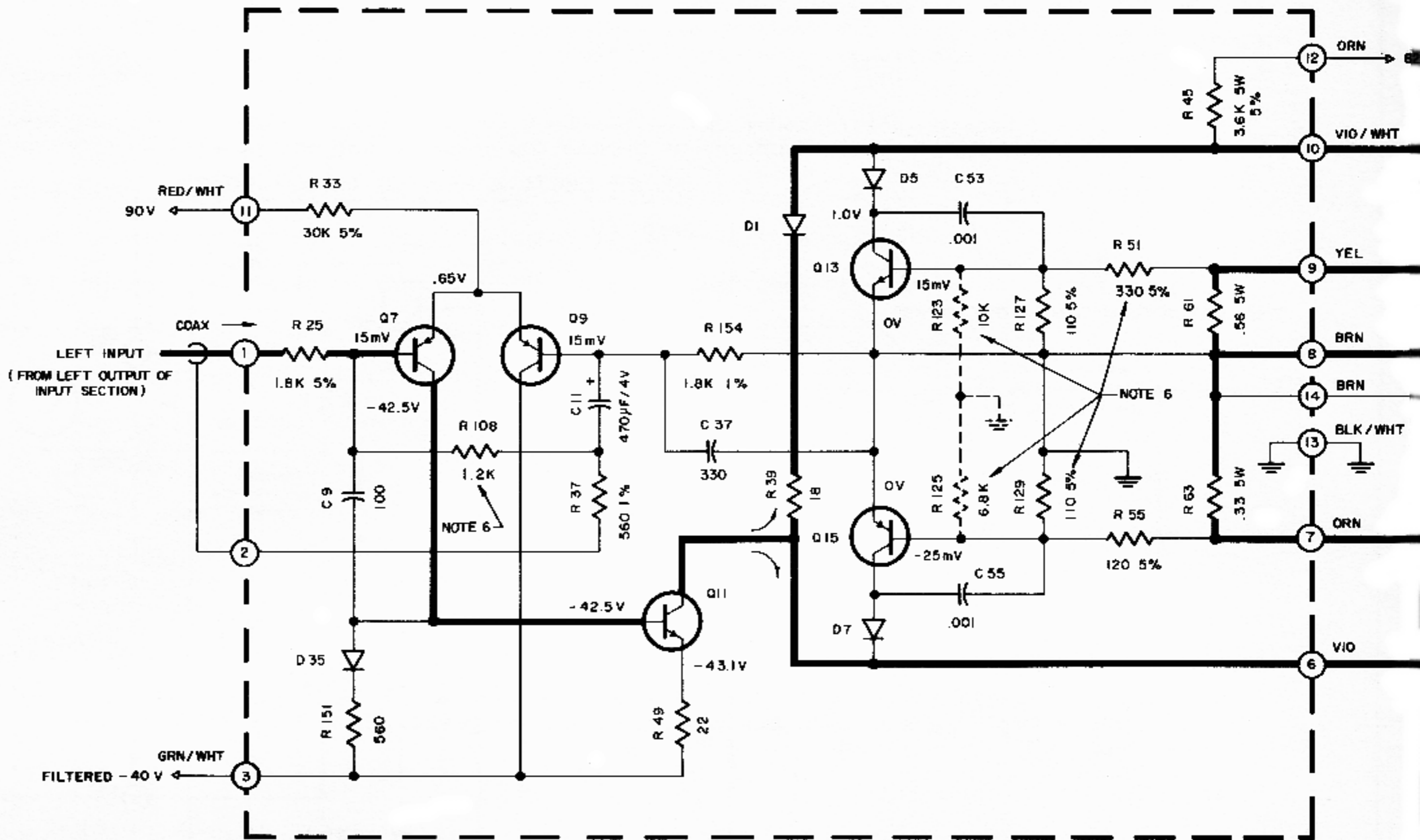


LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916

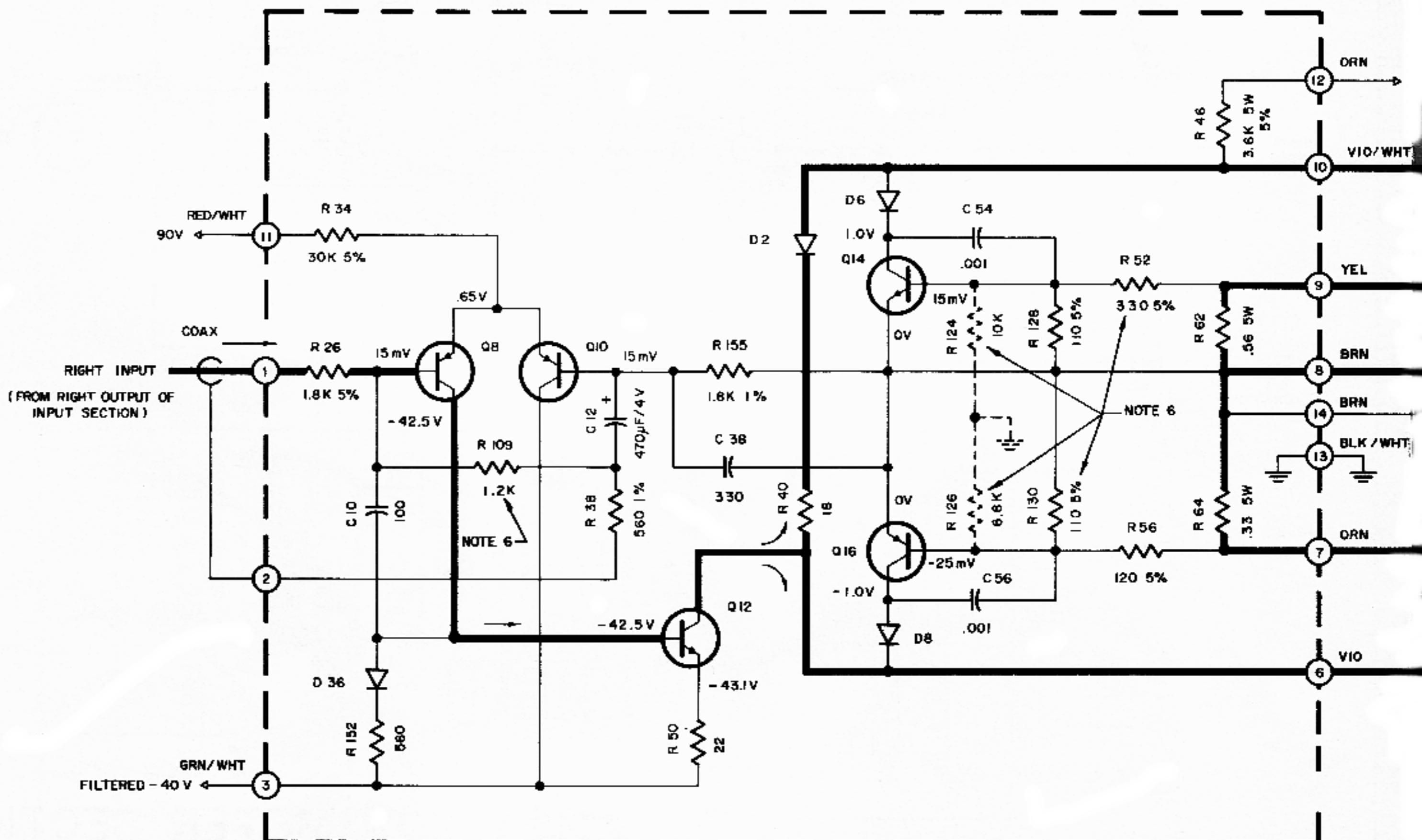


RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916

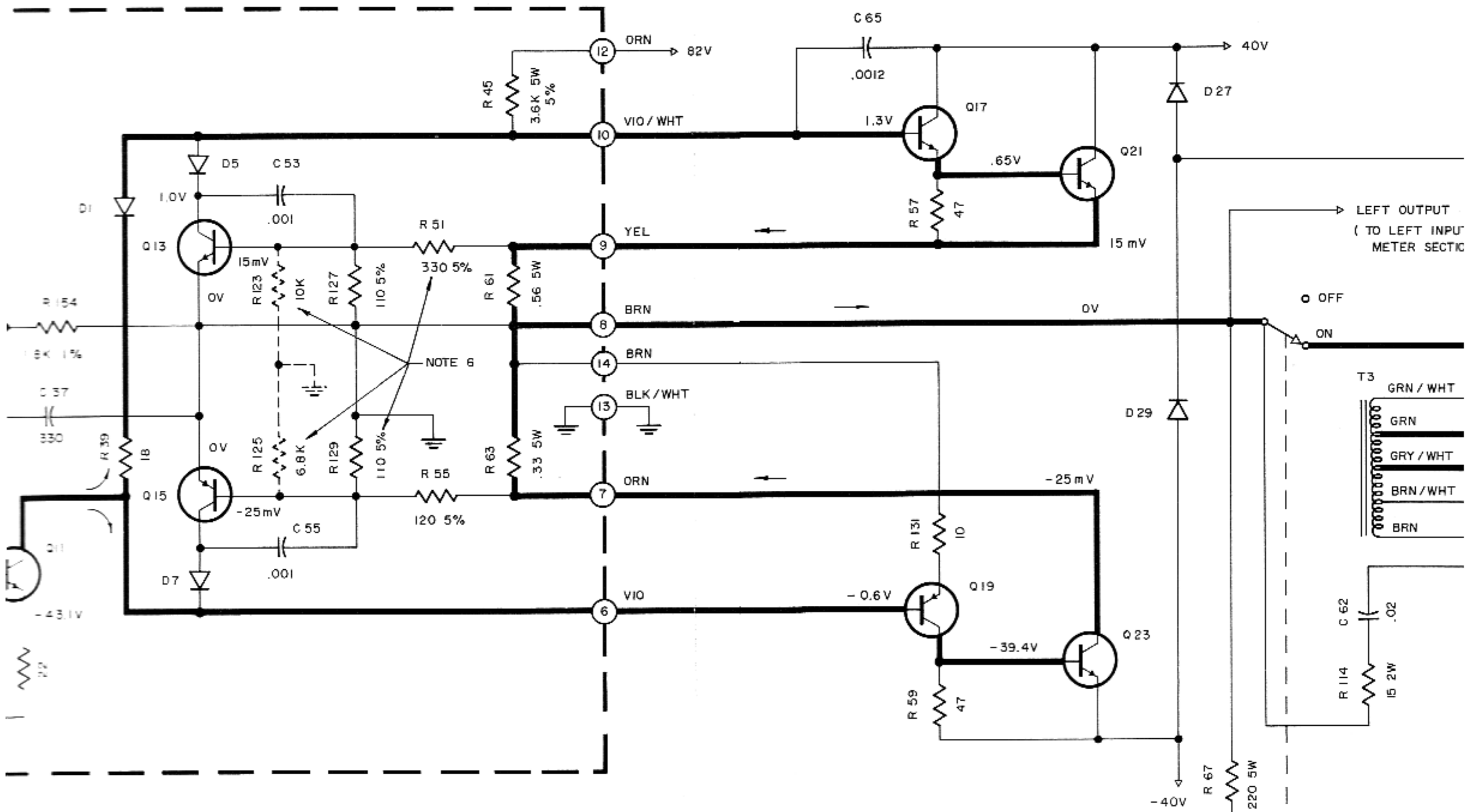
LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



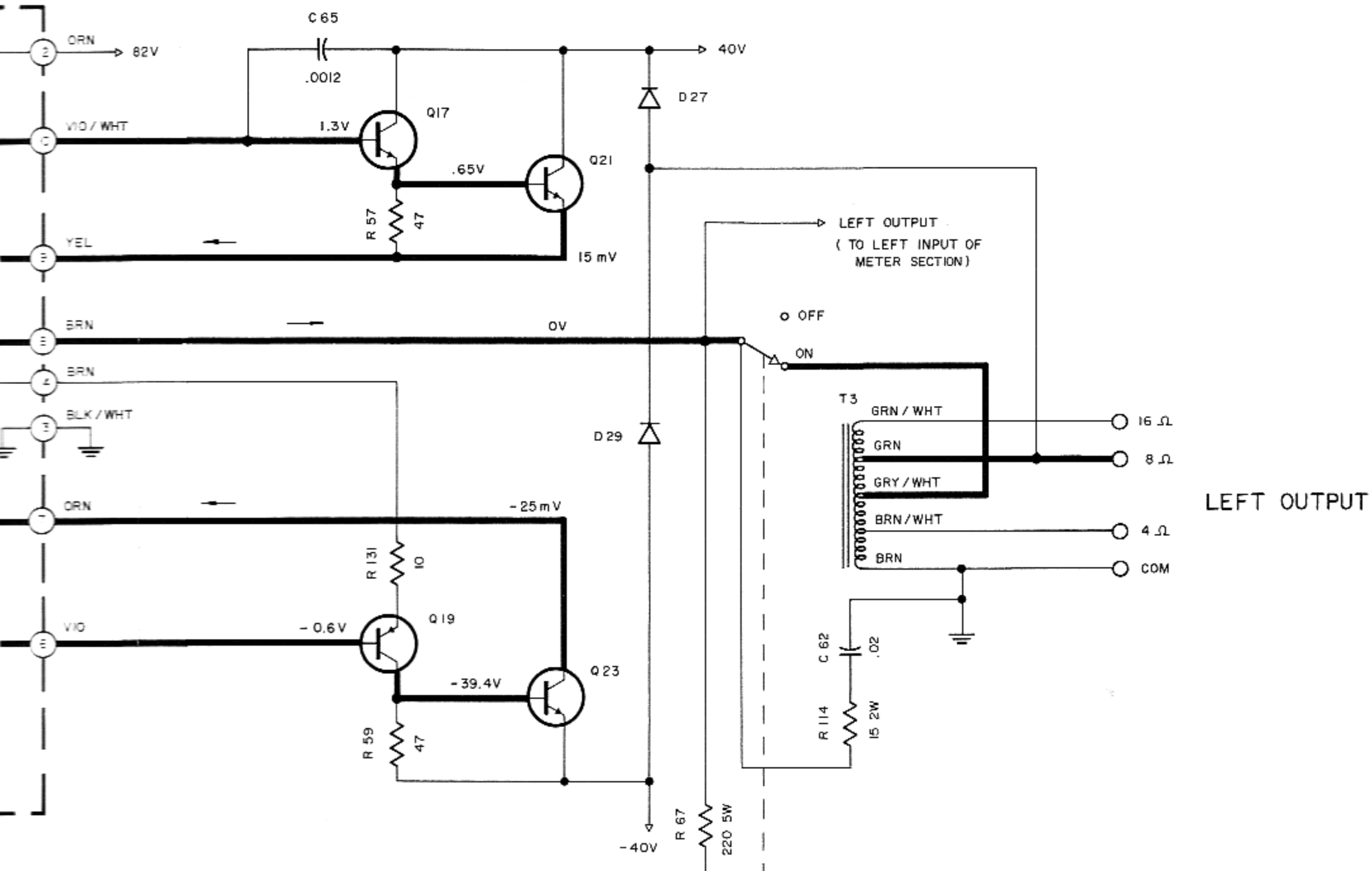
RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



PUT PRINTED CIRCUIT BOARD 043-916

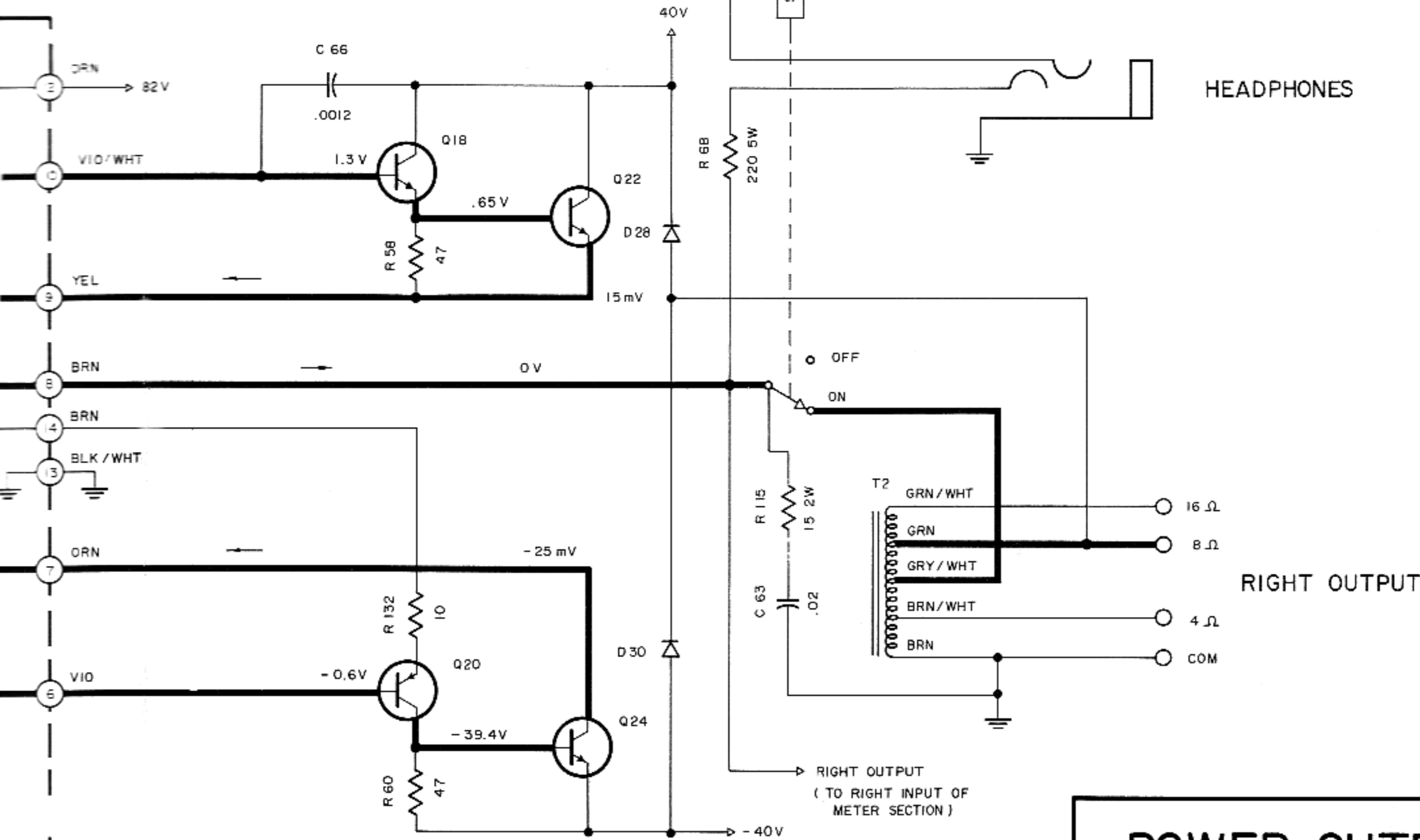


- 916



LEFT OUTPUT

- 916

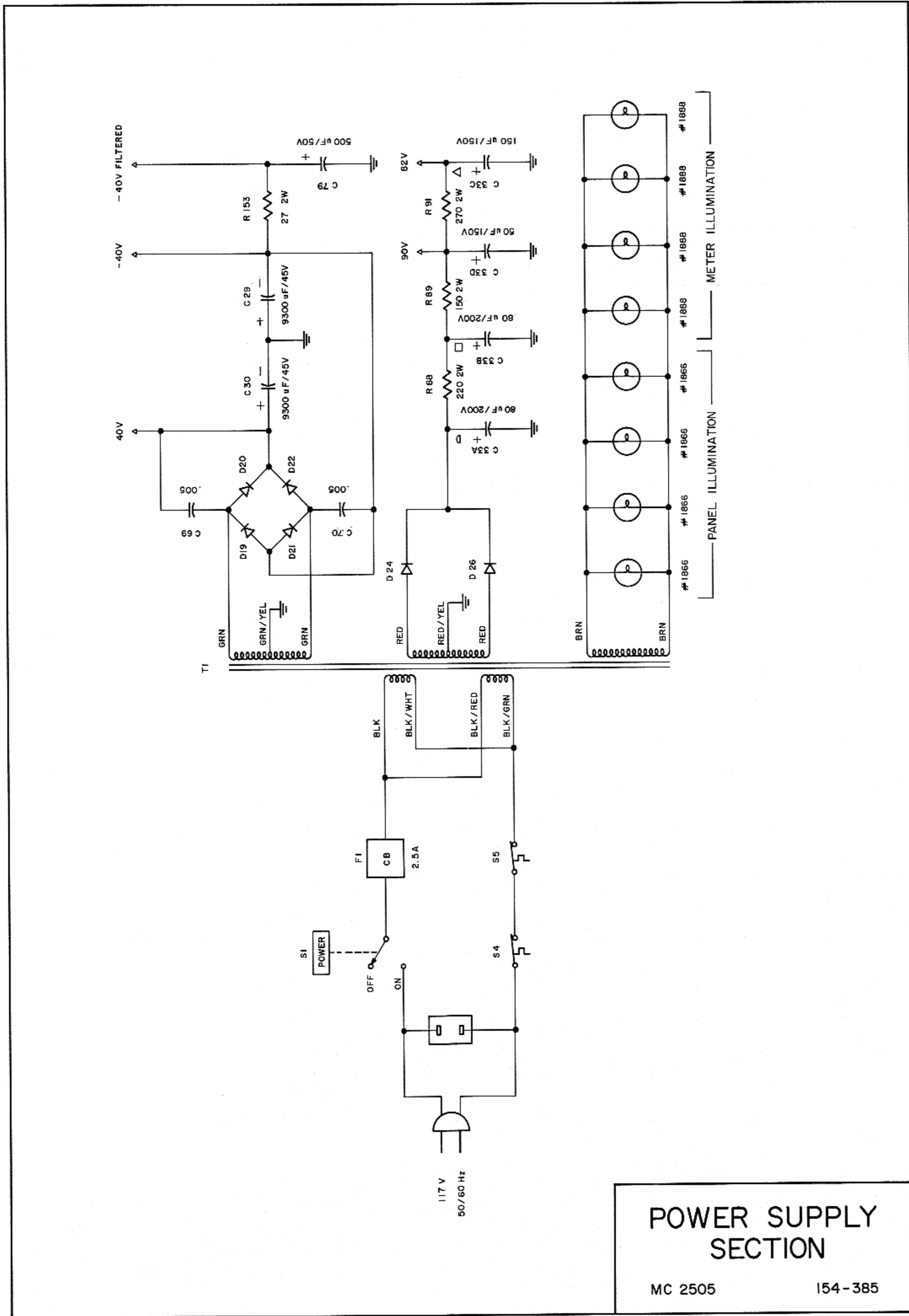


RIGHT OUTPUT

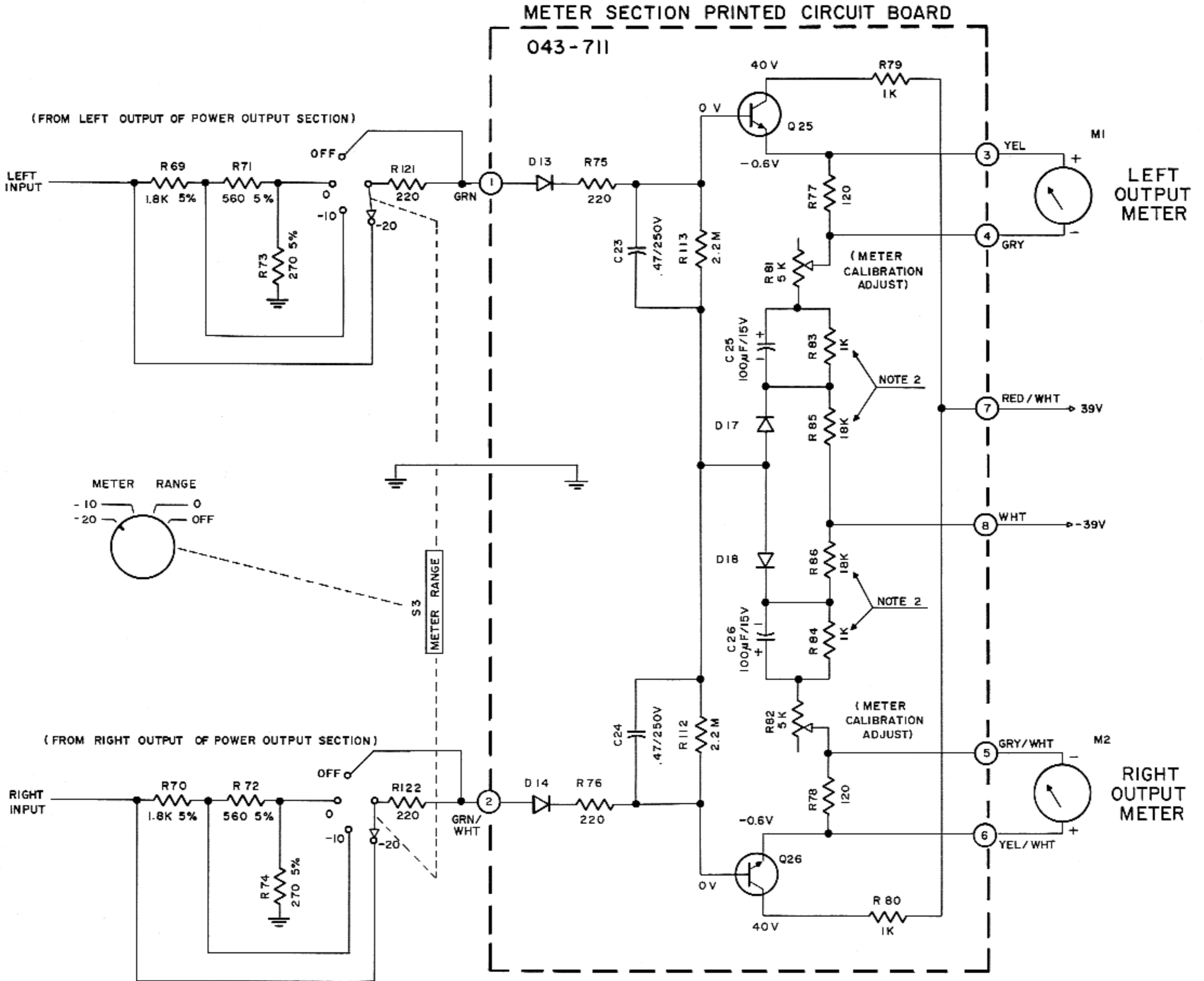
HEAVY LINE SHOWS PRIMARY SIGNAL PATH

POWER OUTPUT SECTION

MC 2505 154-421



POWER SUPPLY SECTION



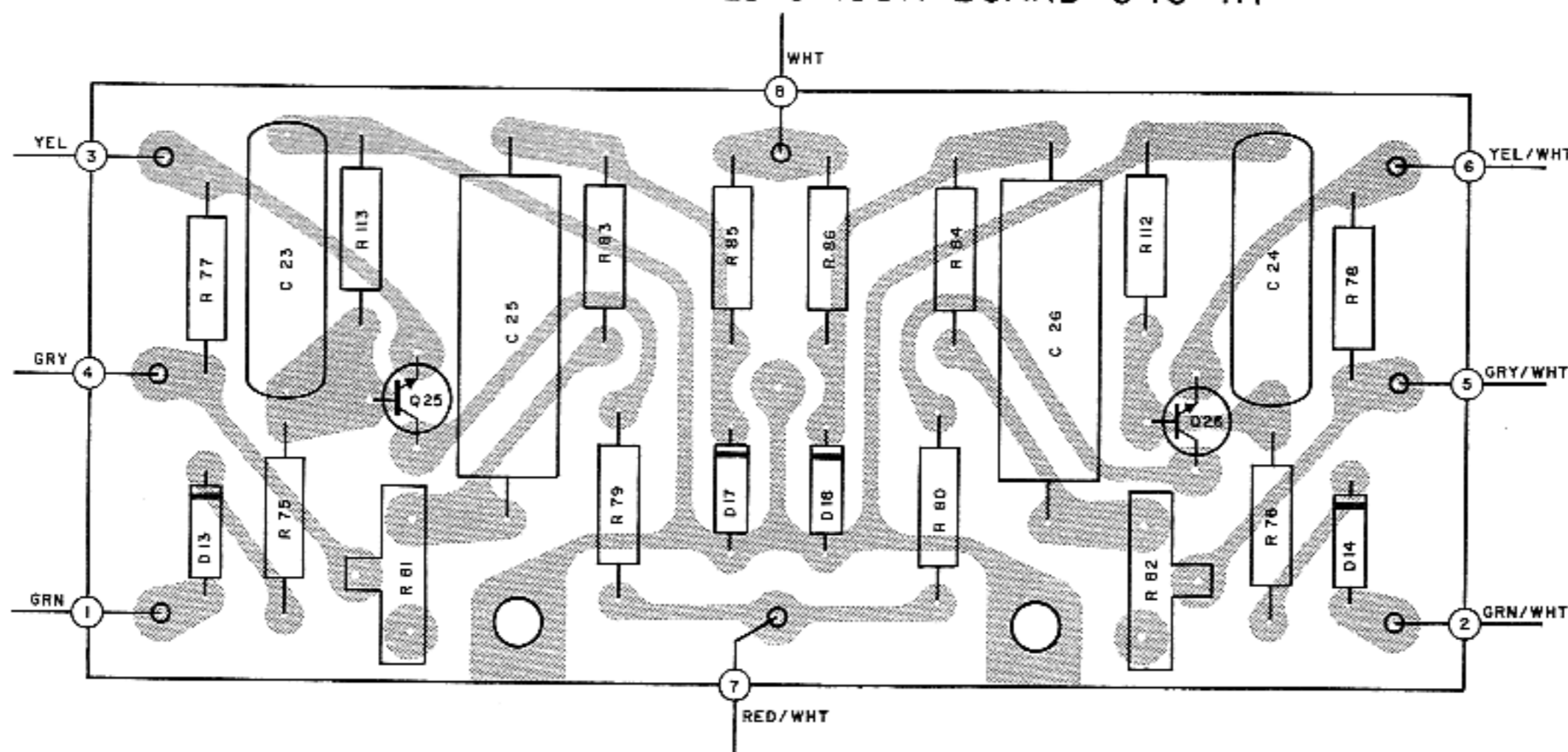
METER SECTION

SCHEMATIC NOTES

1. Unless otherwise specified: Resistance values are in ohms, 1/2 watt, and 10% tolerance; capacitance values smaller than 1 are in microfarads (μF); capacitance values greater than 1 are in picofarads (pF); inductors are in microhenries (μH).
2. Printed circuit board components are outlined on the schematics by dotted lines. The circled numbers on the dotted lines correspond to the numbers on the PC board layouts.
3. The heavy lines on the schematics denote the primary signal path.
4. The terminal numbering of rotary switches is for reference only.
5. All voltages indicated on the schematics are measured under the following conditions:
 - a. Use of an 11 megohm impedance VTVM.
 - b. All voltages $\pm 10\%$ with respect to chassis ground.
 - c. No signal at input terminals.
 - d. AC input at 117 volts AC, 50/60Hz.
 - e. Front panel controls at:

| | |
|-------------|-----------|
| Left Gain | FULLY CCW |
| Meter Range | OFF |
| Right Gain | FULLY CCW |
| Speakers | ON |
| Power | ON |
6. In units with Serial No.'s below 46K40: R108 & R109 are 3.3k; R51 & R52 are 220 Ω ; R129 & R130 are 160 Ω ; R123, R124, R125, R126 are used and are connected as shown by dotted lines.

METER SECTION PRINTED CIRCUIT BOARD 043-117



REPLACEMENT PARTS

All parts not listed are common items obtainable from radio parts jobbers.

Replacement parts may be obtained when ordered by PART NUMBER from:

McIntosh Laboratory, Inc.
Customer Service Department
2 Chambers Street
Binghamton, New York 13903
(telephone 607-723-3512)

CAPACITORS

| Symbol Number | Description | Part Number |
|---------------|---|-------------|
| C11,12 | Elect. 470 μ F 4V | 066-136 |
| C23,24 | Mylar .47 μ F 250V | 064-045 |
| C25,26 | Elect. 100 μ F 15V | 066-127 |
| C29,30 | Elect. 9300 μ F 45V | 066-106 |
| C33 | Elect. 80/80/150/50 μ F 200/200/150/150V | 066-095 |
| C71,72 | Mylar .47 μ F 250V | 064-045 |
| C73,74 | Elect. 680 μ F 25V | 066-135 |
| C77,78 | Elect. 10 μ F 25V | 066-005 |
| C79 | Elect. 500 μ F 50V | 066-137 |
| C80,81 | Elect. 100 μ F 15V | 066-127 |

DIODES

| | | |
|--------|---------------------|---------|
| D1,2 | Si. reference diode | 070-046 |
| D5,6 | Si. rectifier | 070-022 |
| D7,8 | Si. rectifier | 070-022 |
| D13,14 | Ge. signal diode | 070-003 |
| D17,18 | Ge. signal diode | 070-003 |
| D19,20 | Si. rectifier | 070-041 |
| D21,22 | Si. rectifier | 070-041 |
| D24 | Si. rectifier | 070-031 |
| D26 | Si. rectifier | 070-031 |
| D27,28 | Si. rectifier | 070-031 |
| D29,30 | Si. rectifier | 070-031 |
| D35,36 | Si. rectifier | 070-022 |

CIRCUIT BREAKERS

| | | |
|-----|-------------------------|---------|
| CB1 | Circuit breaker 2.5 amp | 088-001 |
|-----|-------------------------|---------|

METERS

| | | |
|------|---------------------|---------|
| M1,2 | Meter (power level) | 124-013 |
|------|---------------------|---------|

TRANSISTORS

| | | |
|------|--------------------|---------|
| Q1,2 | Si. NPN transistor | 132-057 |
| Q3,4 | Si. NPN transistor | 132-057 |
| Q5,6 | Si. PNP transistor | 132-056 |

| | | |
|--------|--------------------|---------|
| Q7,8 | Si. PNP transistor | 132-056 |
| Q9,10 | Si. PNP transistor | 132-056 |
| Q11,12 | Si. NPN transistor | 132-515 |
| Q13,14 | Si. NPN transistor | 132-021 |
| Q15,16 | Si. PNP transistor | 132-032 |
| Q17,18 | Si. NPN transistor | 132-524 |
| Q19,20 | Si. PNP transistor | 132-530 |
| Q21,22 | Si. NPN transistor | 132-070 |
| Q23,24 | Si. NPN transistor | 132-070 |
| Q25,26 | Si. NPN transistor | 132-054 |

POTENTIOMETERS

| | | |
|--------|--------------------------|---------|
| R5,6 | Gain controls | 134-207 |
| R81,82 | Meter calibration adjust | 134-120 |

RESISTORS

| | | |
|--------|---------------------------|---------|
| R45,46 | Wirewound 3.6k 5% 5W | 139-065 |
| R61,62 | Wirewound .56 Ω 5W | 139-048 |
| R63,64 | Wirewound .33 Ω 5W | 139-071 |
| R67,68 | Wirewound 220 Ω 5W | 139-009 |

SWITCHES

| | | |
|----|---------------------|---------|
| S1 | Power on-off switch | 146-102 |
| S2 | Speaker switch | 146-103 |
| S3 | Meter range switch | 146-109 |
| S4 | Thermal cut-out | 153-007 |
| S5 | Thermal cut-out | 153-007 |

TRANSFORMERS

| | | |
|----|----------------|---------|
| T1 | Power | 043-605 |
| T2 | Output (right) | 043-606 |
| T3 | Output (left) | 043-607 |

FRONT PANEL AND TRIM

| | |
|----------------------|---------|
| Front panel | 043-809 |
| Front panel end caps | 018-120 |
| Knobs (all controls) | 043-428 |

LAMPS

| | |
|---------------------|---------|
| #1866 (for wording) | 058-014 |
| #1888 (for meters) | 058-029 |

PANLOC SYSTEM

| | |
|------------------------|---------|
| Shelf bracket (right) | 043-592 |
| Shelf bracket (left) | 043-593 |
| Mounting template #100 | 038-179 |
| Hardware package | 043-608 |

MISCELLANEOUS ITEMS

| | |
|-----------------------|---------|
| Plastic feet | 017-041 |
| Shipping carton | 043-955 |
| Owners manual | 038-145 |
| Line cord | 170-021 |
| Output terminal block | 074-001 |

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