

# 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:

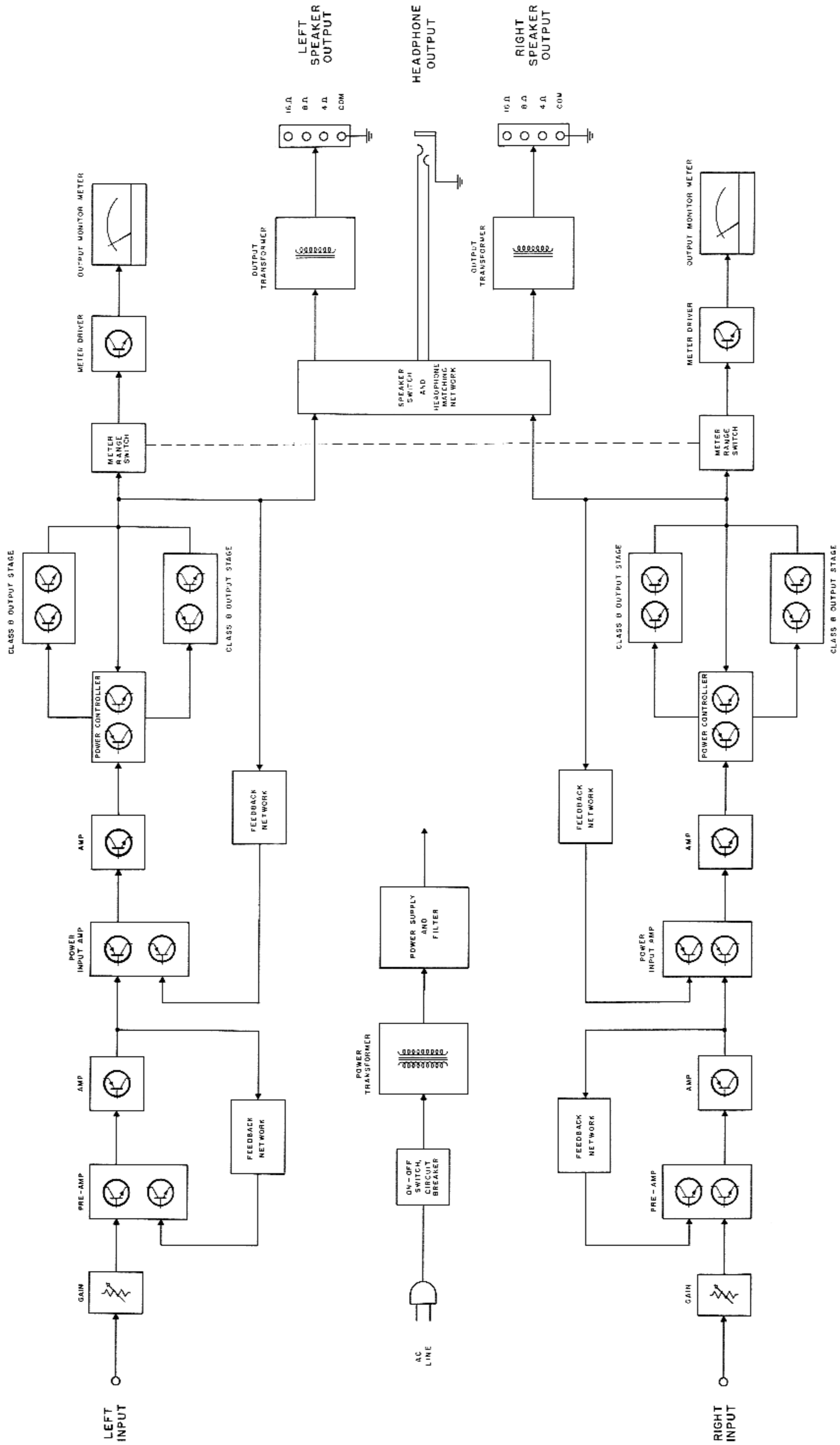
Greater than 90dB below rated output.

### 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:

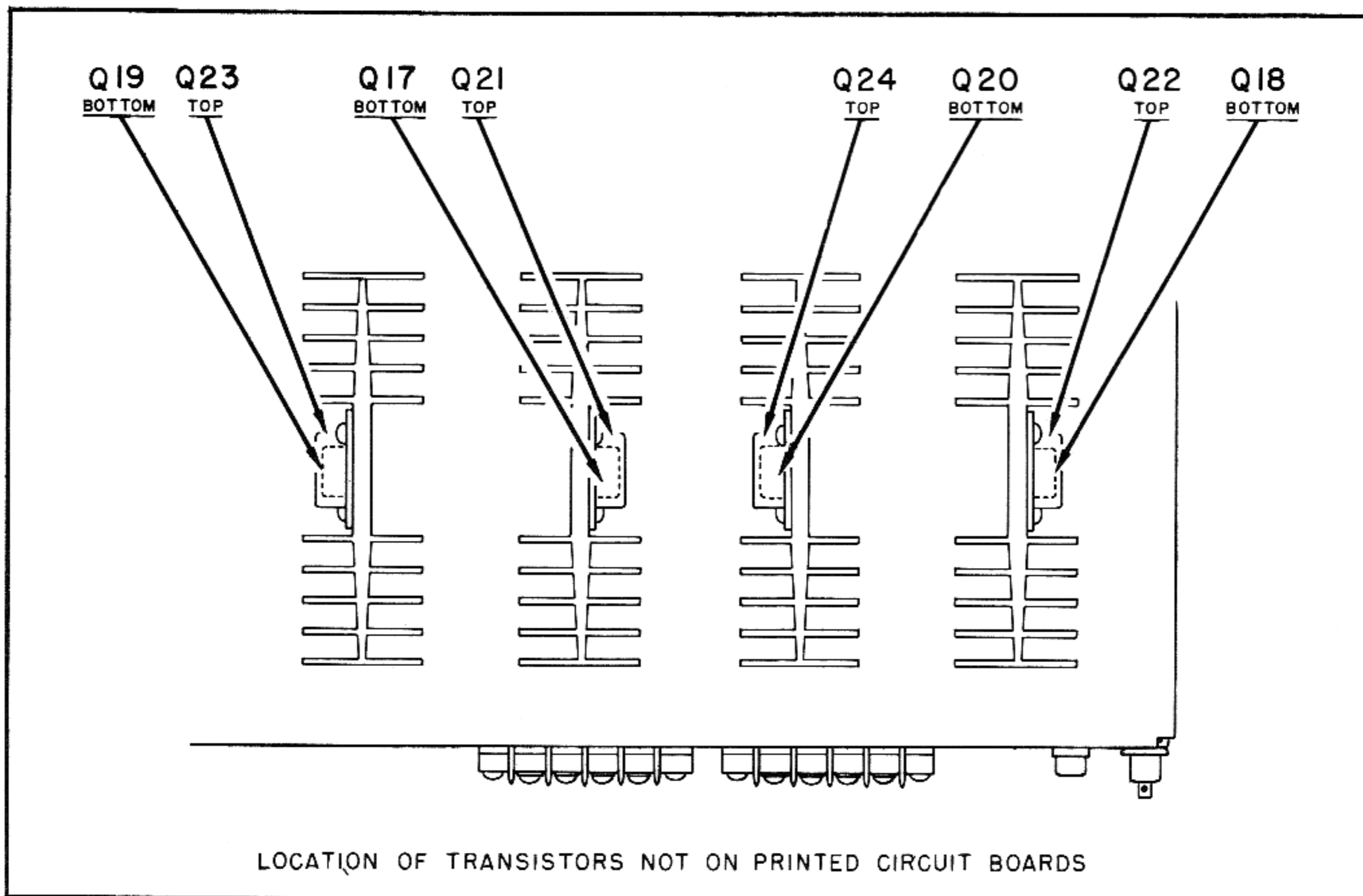
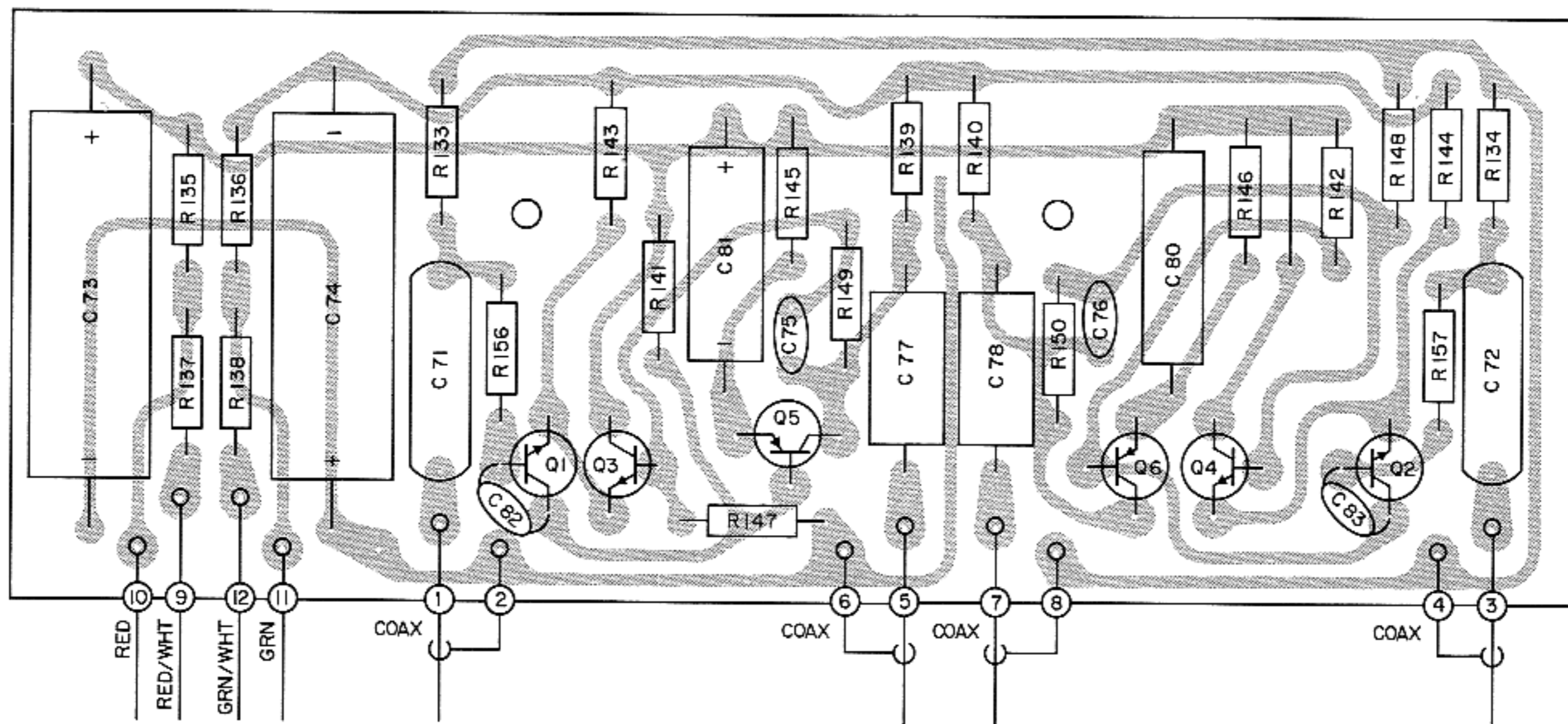
117 volts AC 50-60 cycles, 50 watts at zero signal output, 250 watts at rated output.



MC 2505 BLOCK DIAGRAM

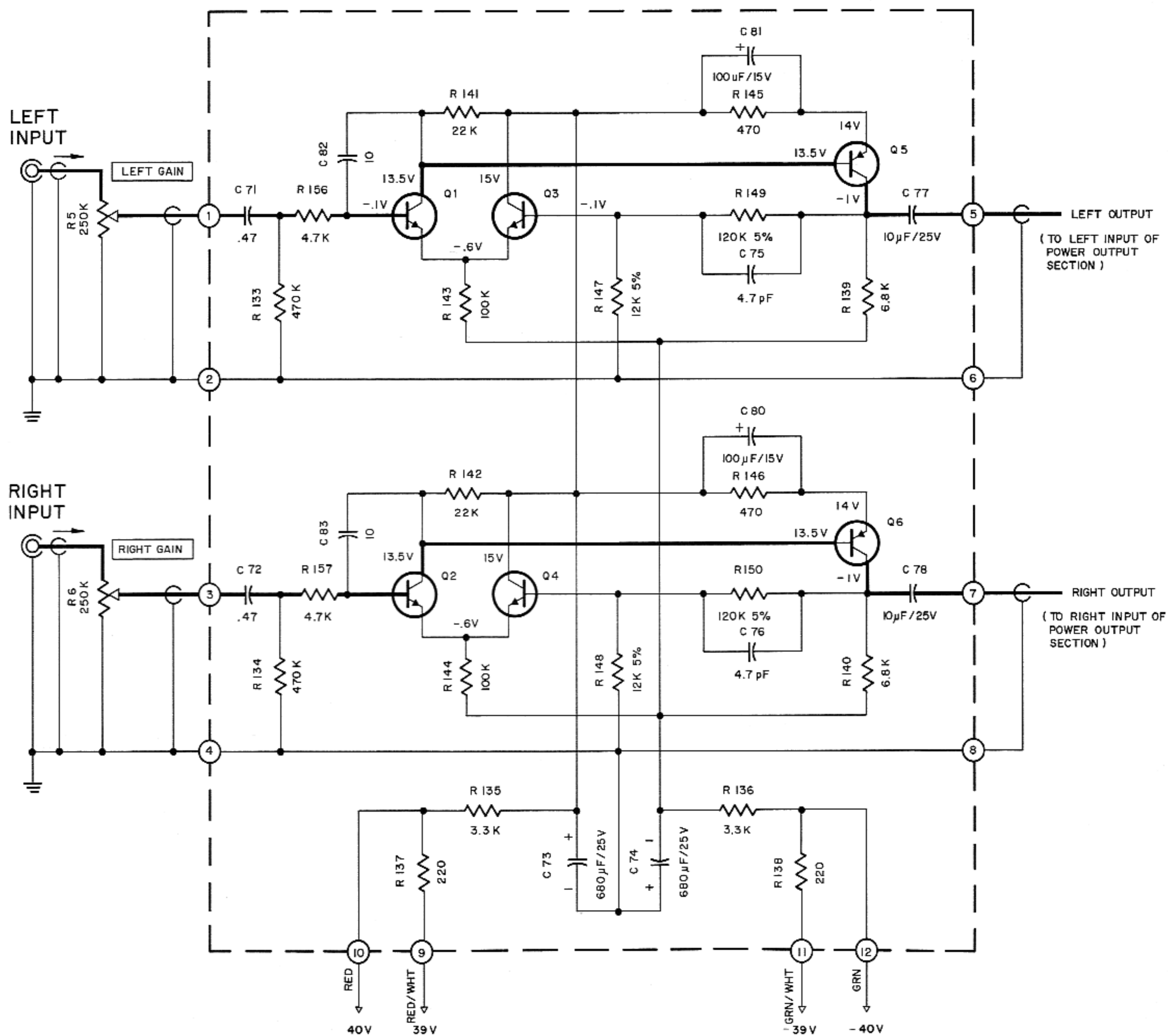


INPUT SECTION PRINTED CIRCUIT BOARD 043-795

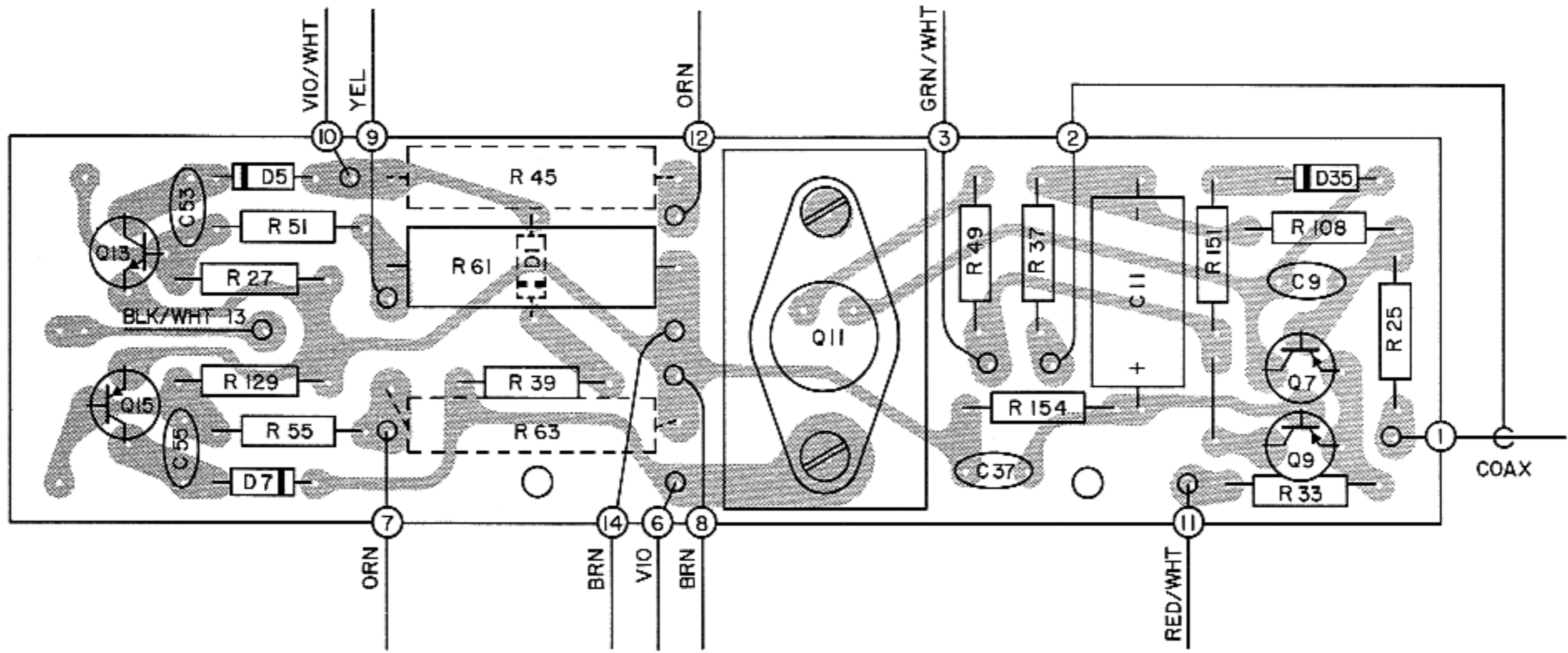


LOCATION OF TRANSISTORS NOT ON PRINTED CIRCUIT BOARDS

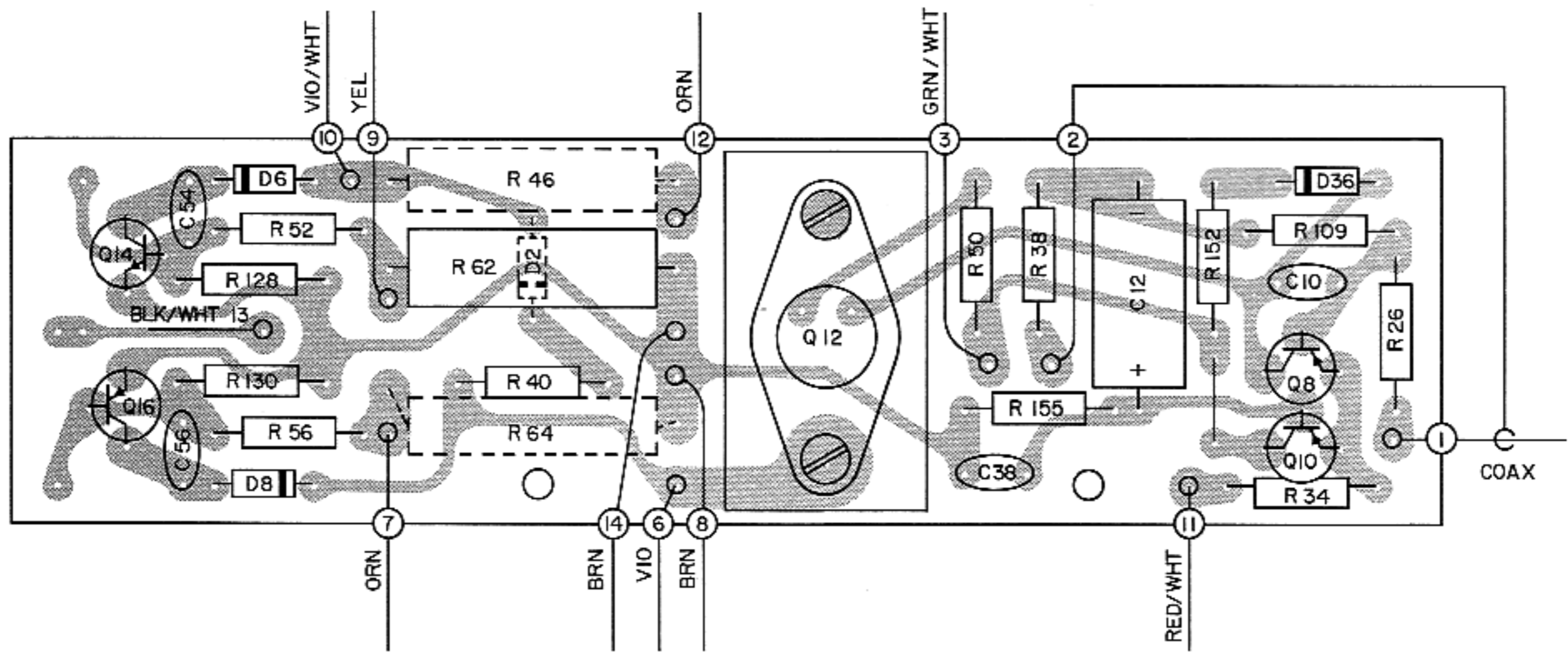
INPUT SECTION PRINTED CIRCUIT BOARD 043-795



INPUT SECTION



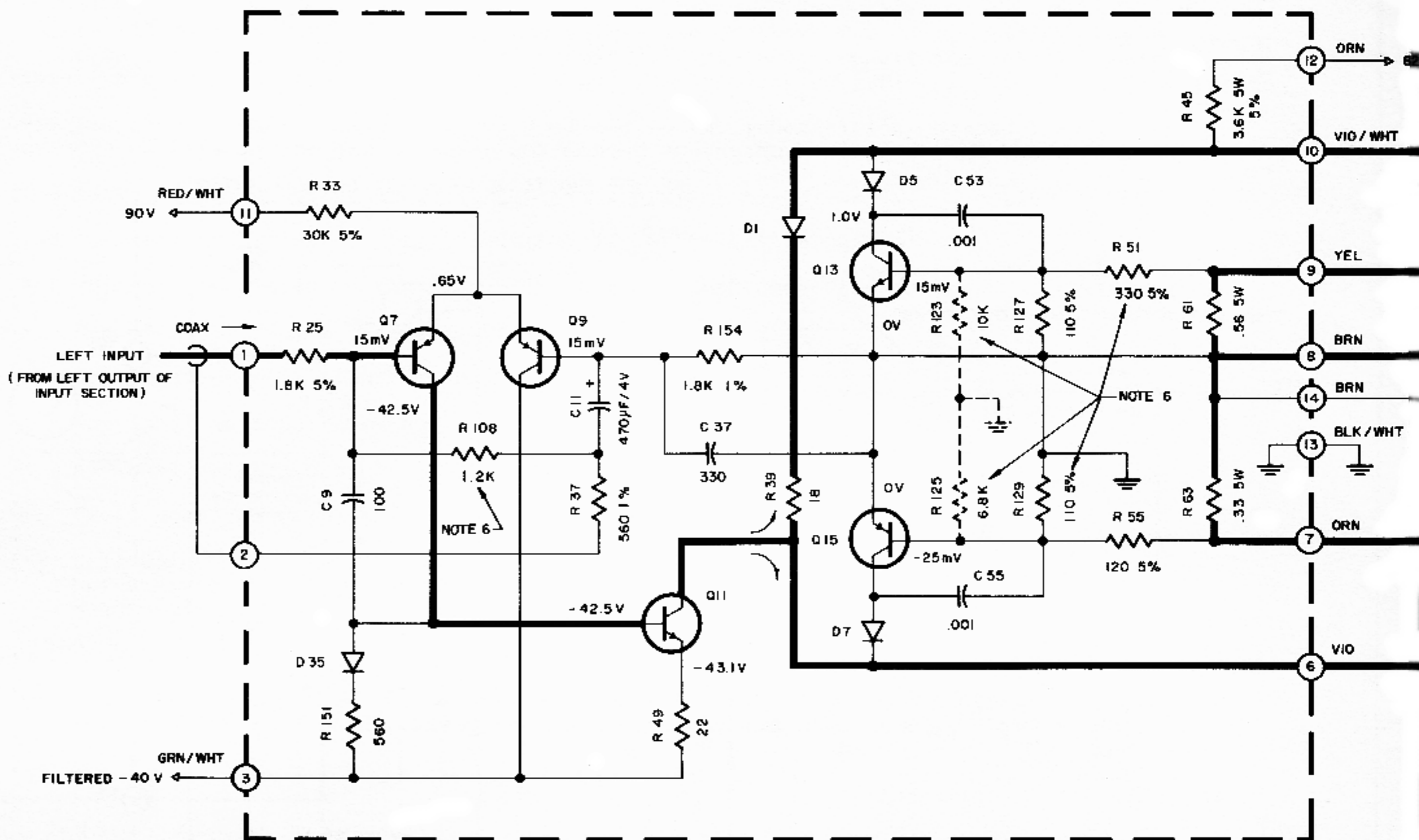
LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



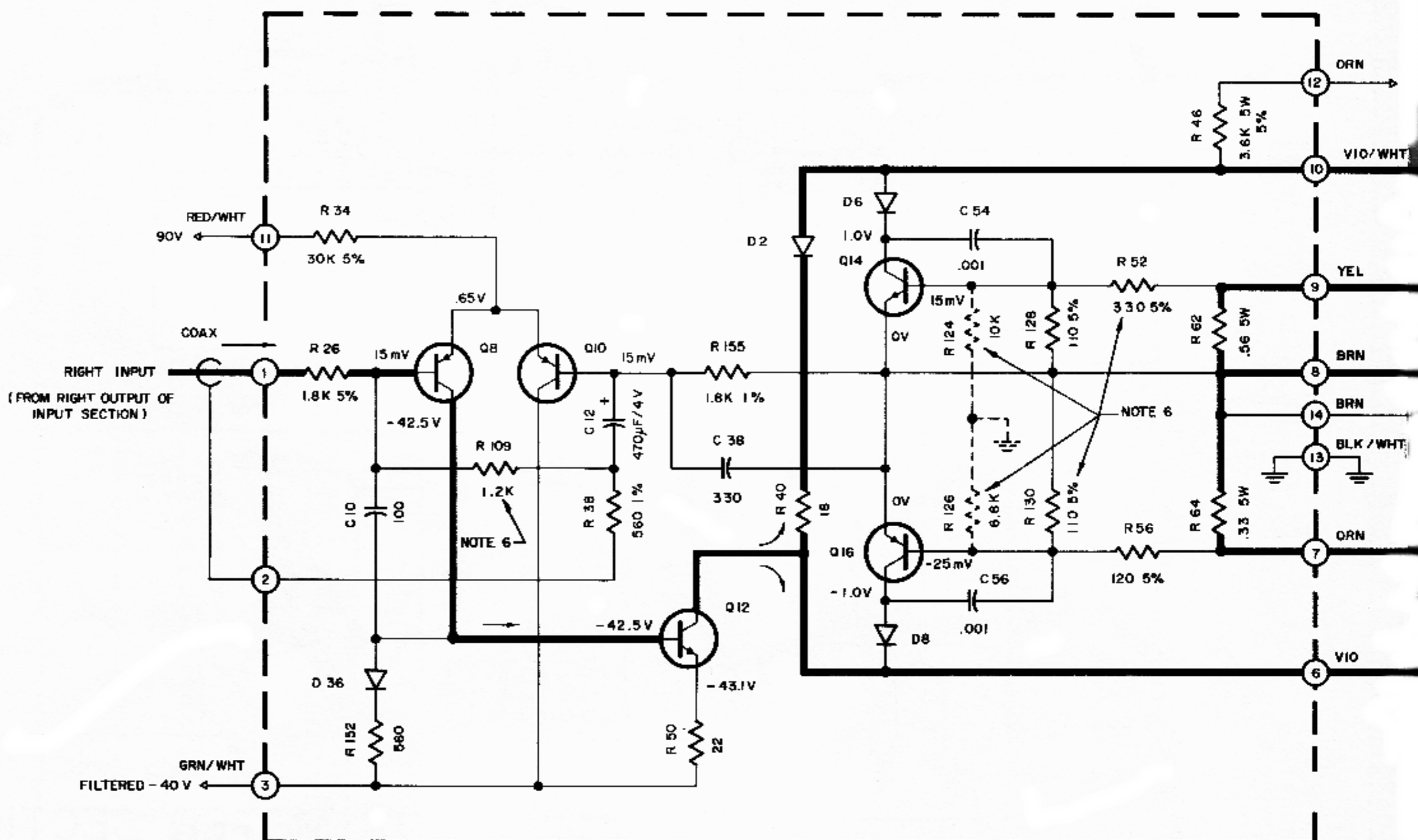
RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



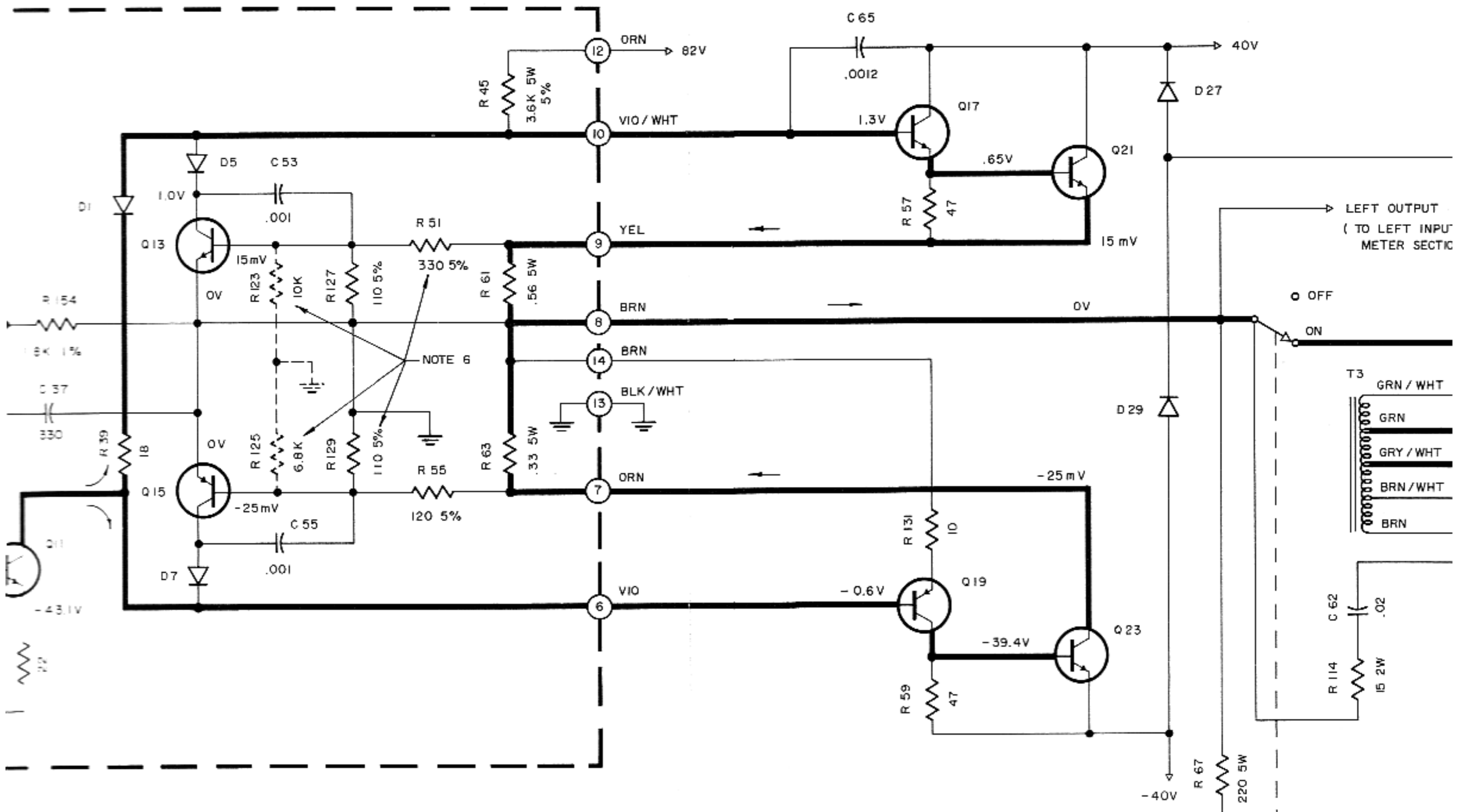
### LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



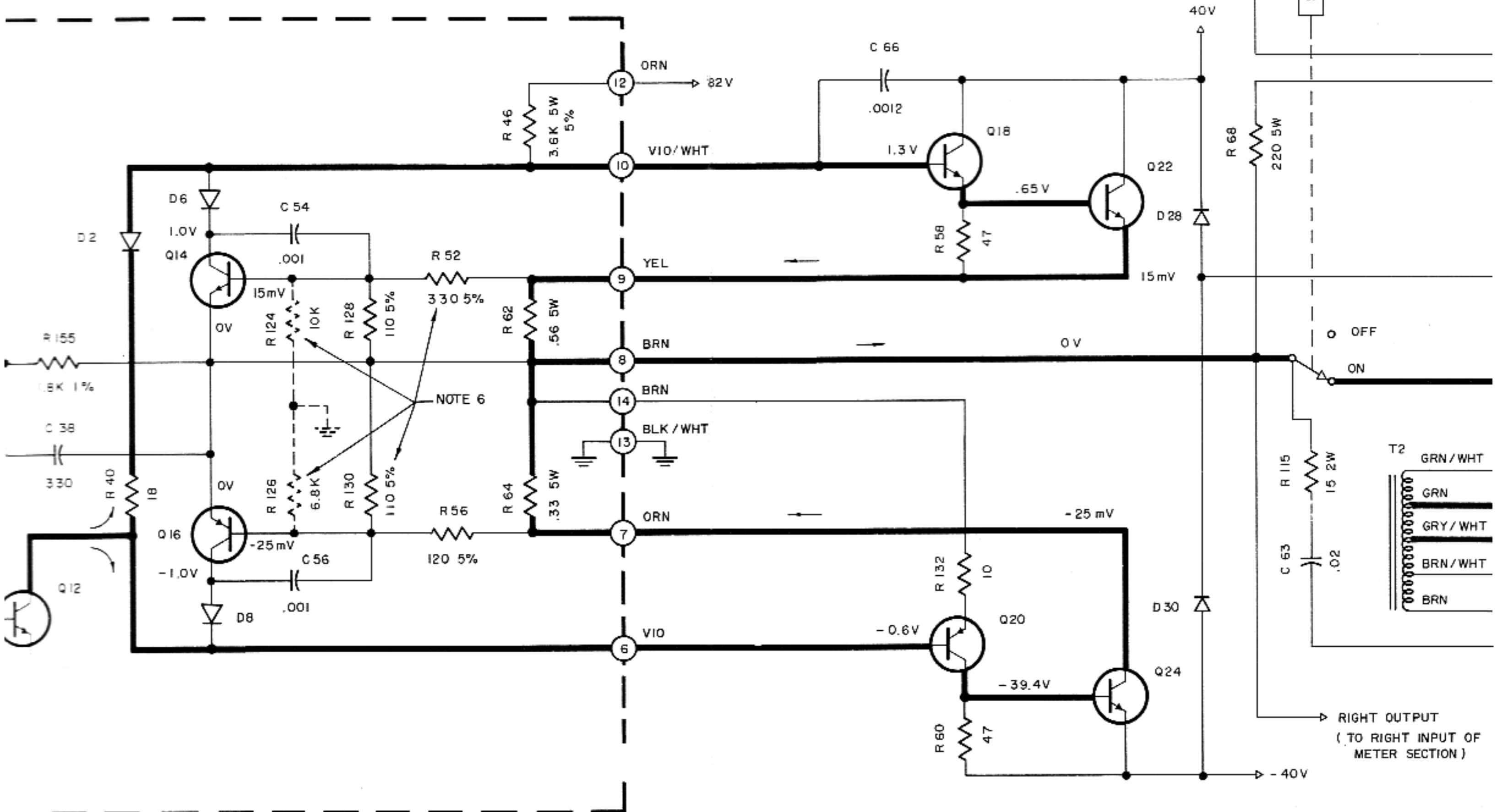
### RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-916



PUT PRINTED CIRCUIT BOARD 043-916



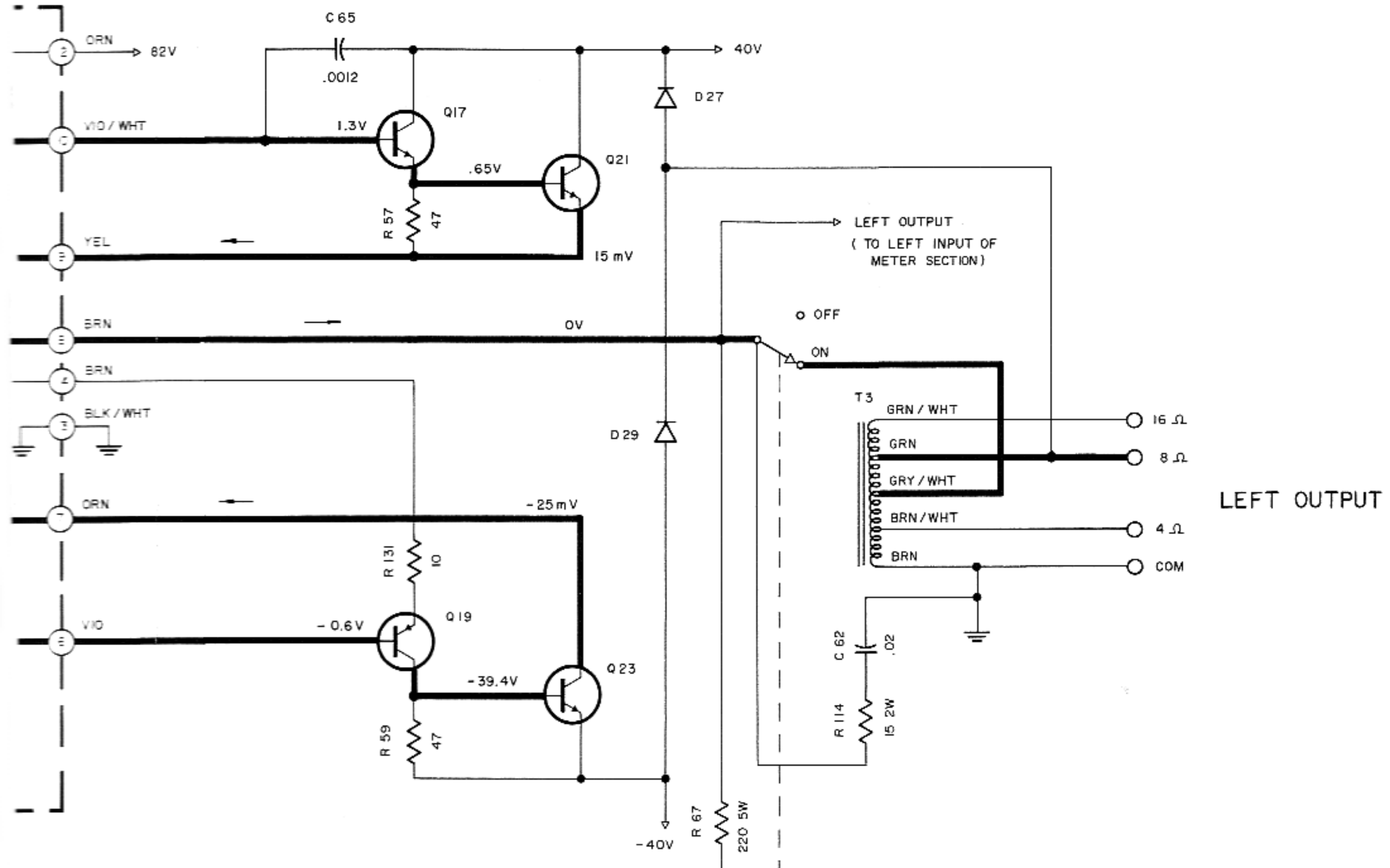
PRINTED CIRCUIT BOARD 043-916



HEAVY LINE SHOWS PRIMARY SIGNAL

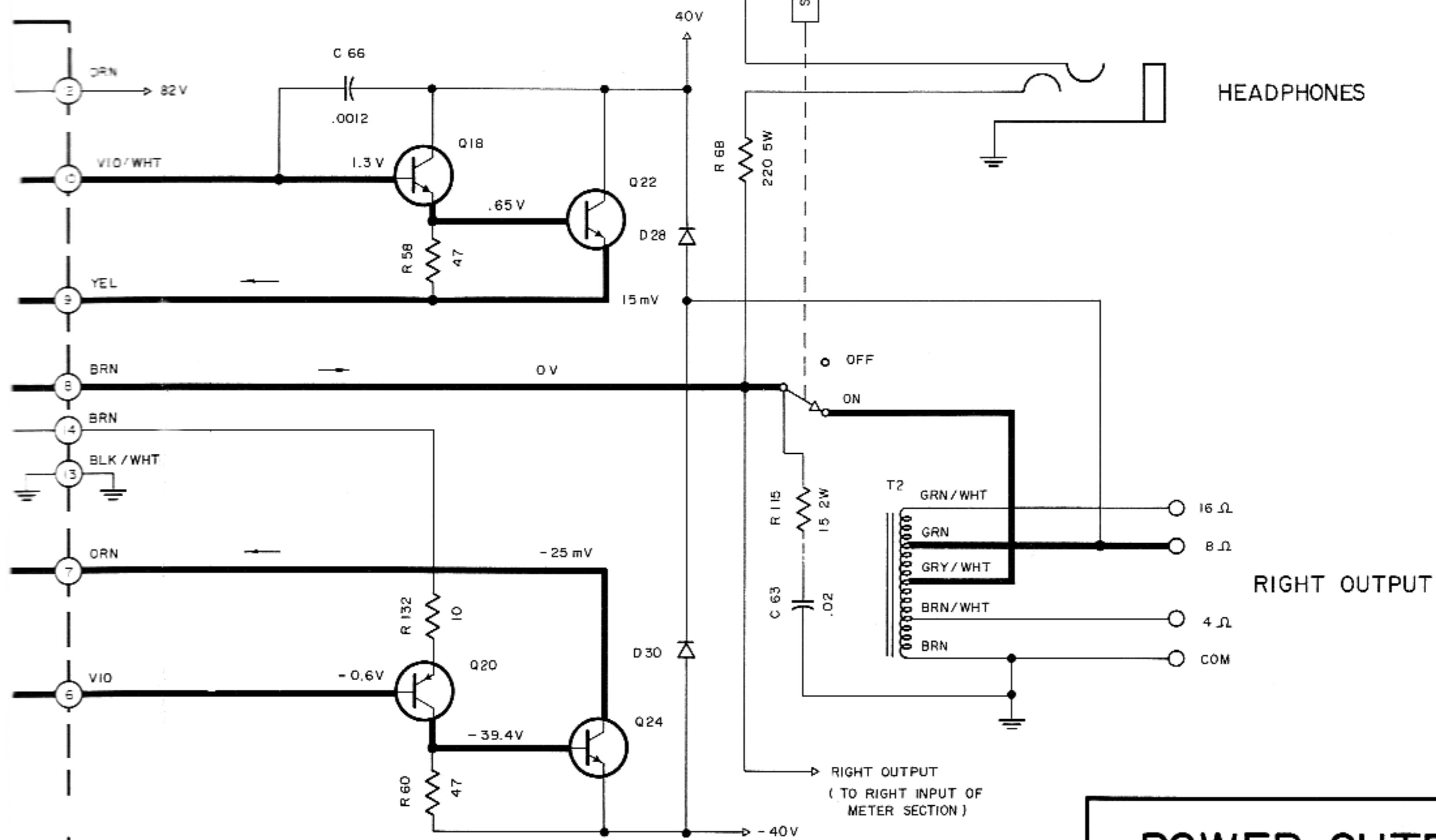


- 916



LEFT OUTPUT

- 916



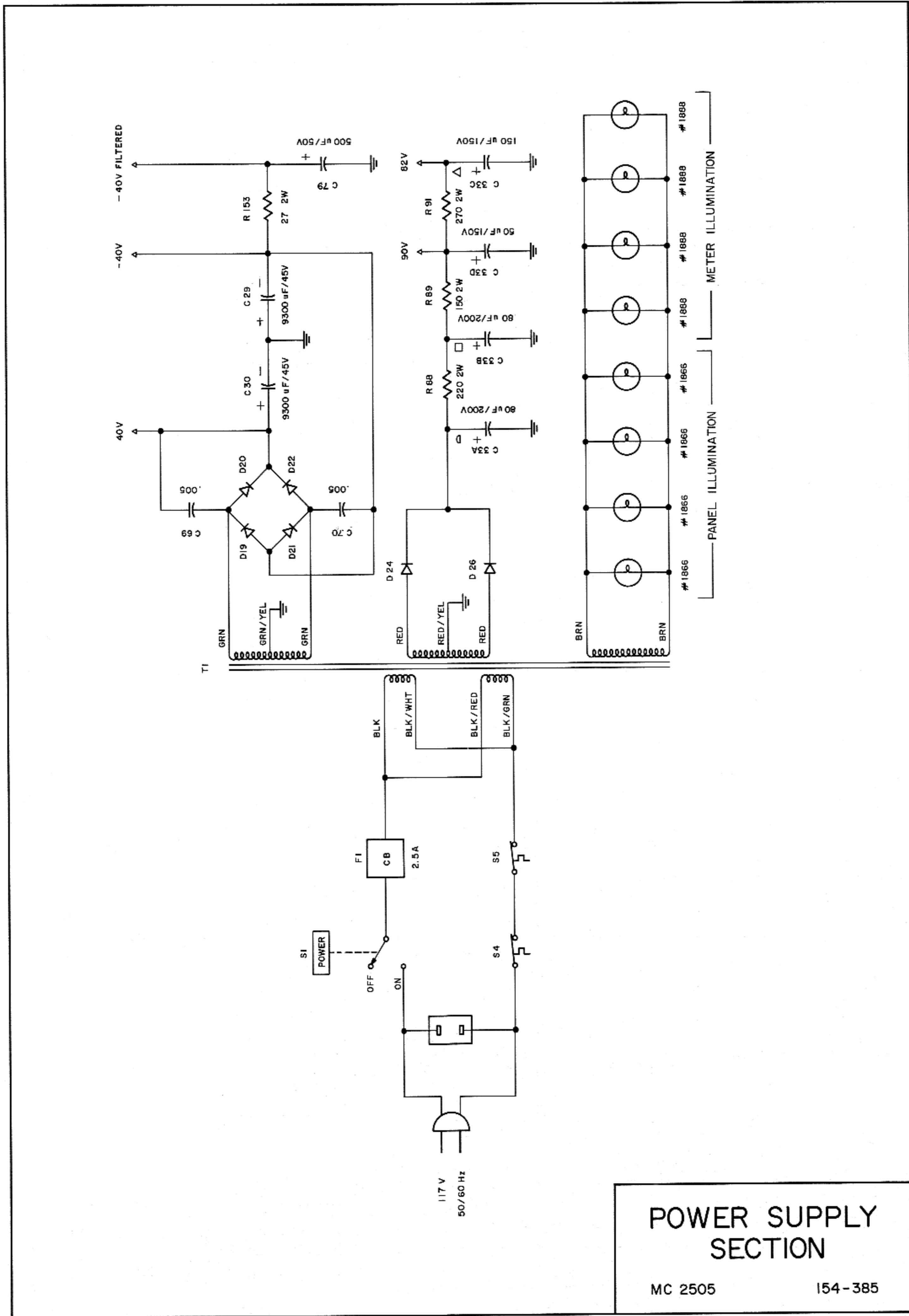
RIGHT OUTPUT

HEAVY LINE SHOWS PRIMARY SIGNAL PATH

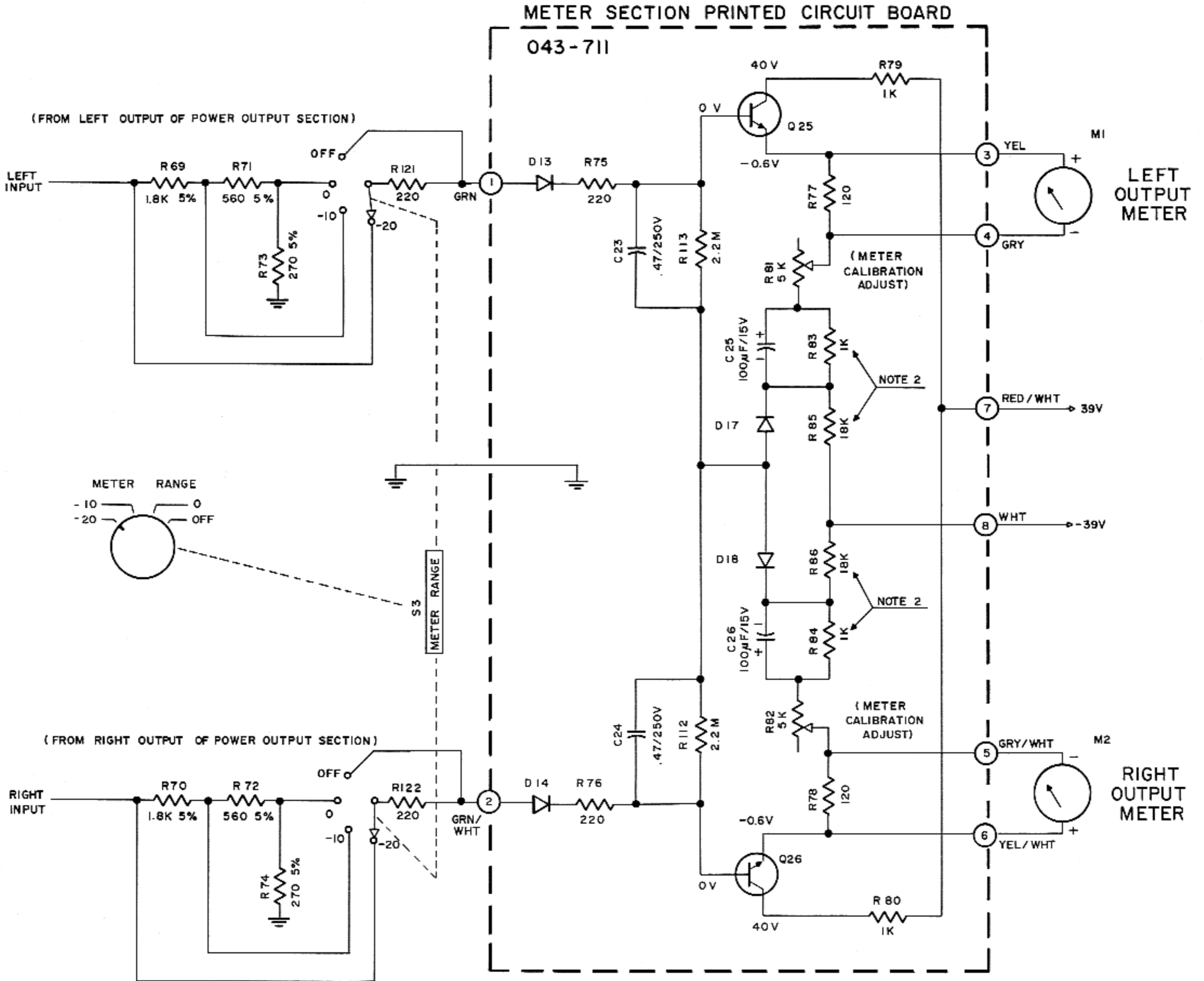
# POWER OUTPUT SECTION

MC 2505

154-421



**POWER SUPPLY SECTION**



**METER SECTION**

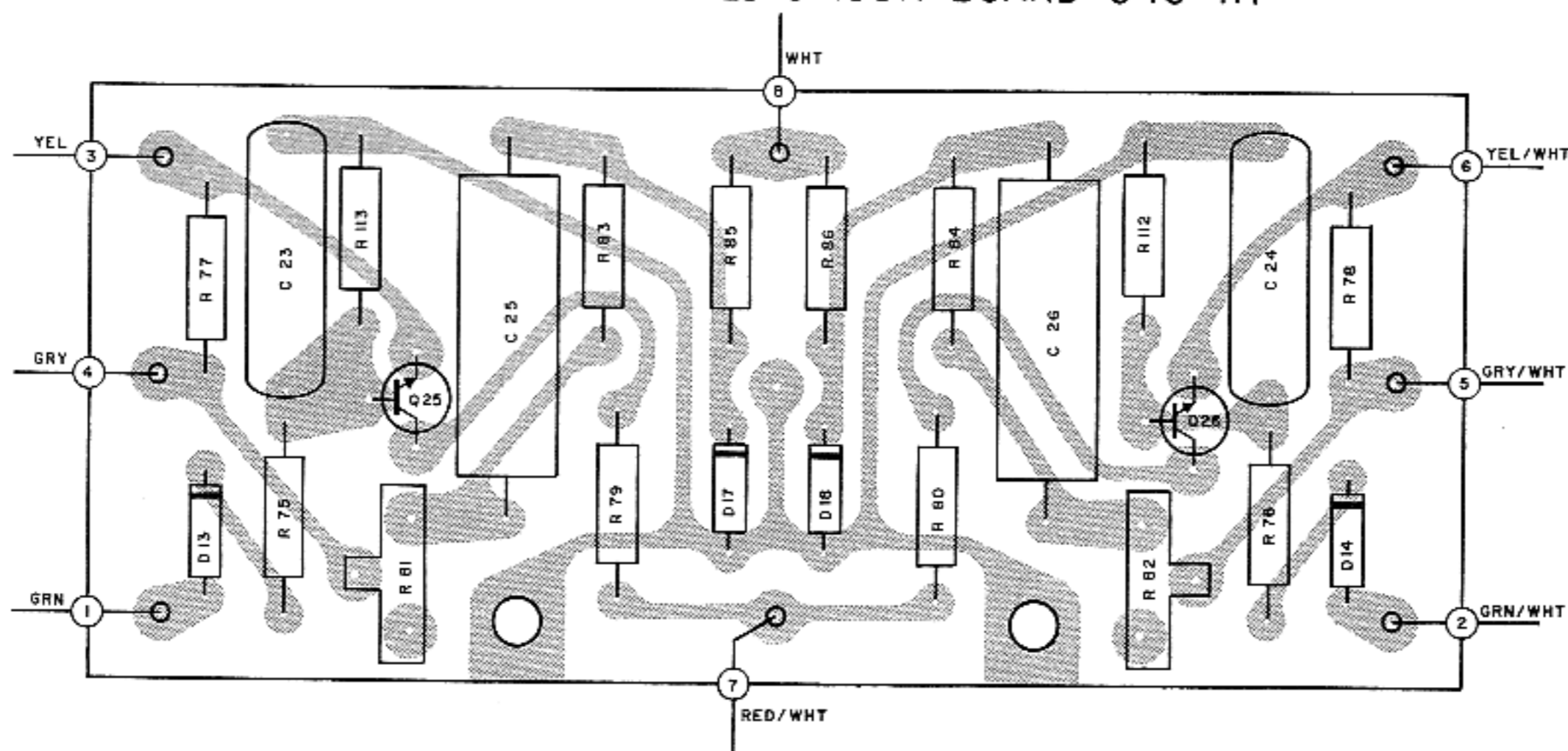


## SCHEMATIC NOTES

1. Unless otherwise specified: Resistance values are in ohms, 1/2 watt, and 10% tolerance; capacitance values smaller than 1 are in microfarads ( $\mu\text{F}$ ); capacitance values greater than 1 are in picofarads (pF); inductors are in microhenries ( $\mu\text{H}$ ).
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 $\Omega$ ; R129 & R130 are 160 $\Omega$ ; 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 $\mu$ F 4V	066-136
C23,24	Mylar .47 $\mu$ F 250V	064-045
C25,26	Elect. 100 $\mu$ F 15V	066-127
C29,30	Elect. 9300 $\mu$ F 45V	066-106
C33	Elect. 80/80/150/50 $\mu$ F 200/200/150/150V	066-095
C71,72	Mylar .47 $\mu$ F 250V	064-045
C73,74	Elect. 680 $\mu$ F 25V	066-135
C77,78	Elect. 10 $\mu$ F 25V	066-005
C79	Elect. 500 $\mu$ F 50V	066-137
C80,81	Elect. 100 $\mu$ 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
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## METERS

M1,2	Meter (power level)	124-013
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## 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 $\Omega$ 5W	139-048
R63,64	Wirewound .33 $\Omega$ 5W	139-071
R67,68	Wirewound 220 $\Omega$ 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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