

# McIntosh

## MC 2100

POWER AMPLIFIER



## SERVICE INFORMATION

STARTING WITH SERIAL NO. 10W01

McINTOSH LABORATORY INC. 2 CHAMBERS STREET BINGHAMTON, NEW YORK

MC 2100

**PERFORMANCE**

McIntosh audio power ratings are in accordance with the Federal Trade Commission Regulation of November 4, 1974 concerning power output claims for amplifiers used in home entertainment products.

**POWER OUTPUT****STEREO**

105 watts minimum sine wave continuous average power output, per channel, both channels operating into 4 ohms, 8 ohms, or 16 ohms load impedance, which is:

20.5 volts RMS across 4 ohms

29.0 volts RMS across 8 ohms

41.0 volts RMS across 16 ohms

**MONO**

210 watts minimum sine wave continuous average power output, operating into 2 ohms, 4 ohms, or 8 ohms load impedance, which is:

20.5 volts RMS across 2 ohms

29.0 volts RMS across 4 ohms

41.0 volts RMS across 8 ohms

**OUTPUT LOAD IMPEDANCE****STEREO**

4 ohms, 8 ohms, or 16 ohms; separate terminals are provided for each output

**MONO**

2 ohms, 4 ohms, 8 ohms; separate terminals are provided for each output

**RATED POWER BAND**

20 Hz to 20,000 Hz

**TOTAL HARMONIC DISTORTION****STEREO**

0.25% maximum harmonic distortion at any power level from 250 milliwatts to 105 watts per channel from 20 Hz to 20,000 Hz, both channels operating

**MONO**

0.25% maximum distortion at any power level from 250 milliwatts to 210 watts from 20 Hz to 20,000 Hz

**FREQUENCY RESPONSE (at 1 watt output)**

20 Hz to 20,000 Hz +0 -0.25 dB

10 Hz to 100,000 Hz +0 -3.0 dB

**INTERMODULATION DISTORTION****STEREO**

0.25% if instantaneous peak power output is 210 watts or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz

**MONO**

0.25% if instantaneous peak power output is 420 watts or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz

**NOISE AND HUM**

90 dB below rated output

**RATINGS****OUTPUT VOLTAGES****STEREO AND MONO**

25 volts for distribution lines

**DAMPING FACTOR**

20 at 4 ohms output

14 at 8 ohms output

11 at 16 ohms output

**INPUT IMPEDANCE**

200,000 ohms

**INPUT SENSITIVITY**

0.5 volt. Level control provided for higher input voltage

**GENERAL INFORMATION****POWER REQUIREMENTS**

120 volts, 50/60 Hz, 75 watts at zero signal output, 430 watts at rated output

**SEMICONDUCTOR COMPLEMENT**

32 silicon transistors

14 rectifiers & diodes

**MECHANICAL INFORMATION****SIZE**

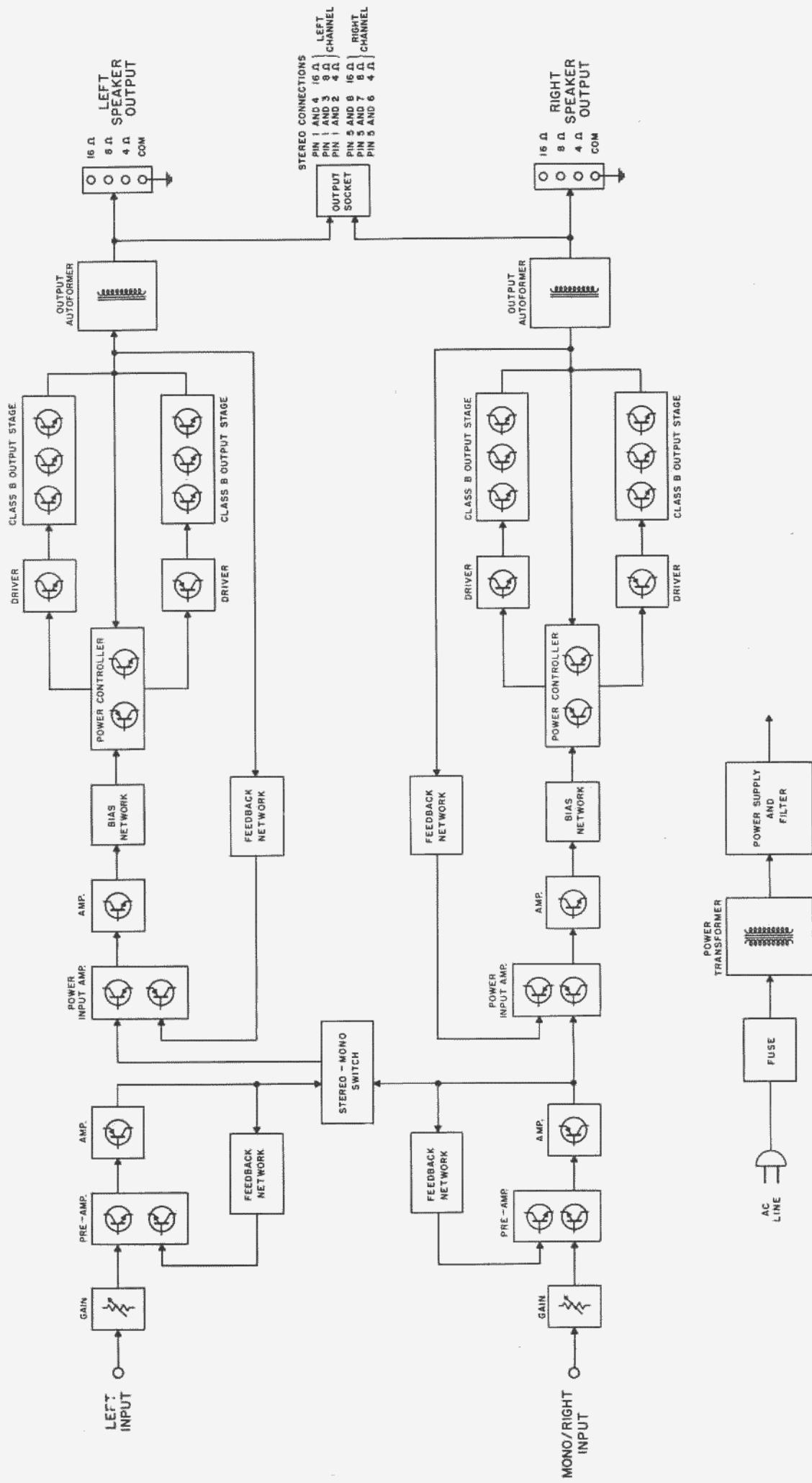
7 $\frac{3}{4}$  inches high (19.69 cm), 11 $\frac{1}{4}$  inches wide (29.85 cm), 17 inches deep (43.18 cm)

**CHASSIS**

Chrome and black

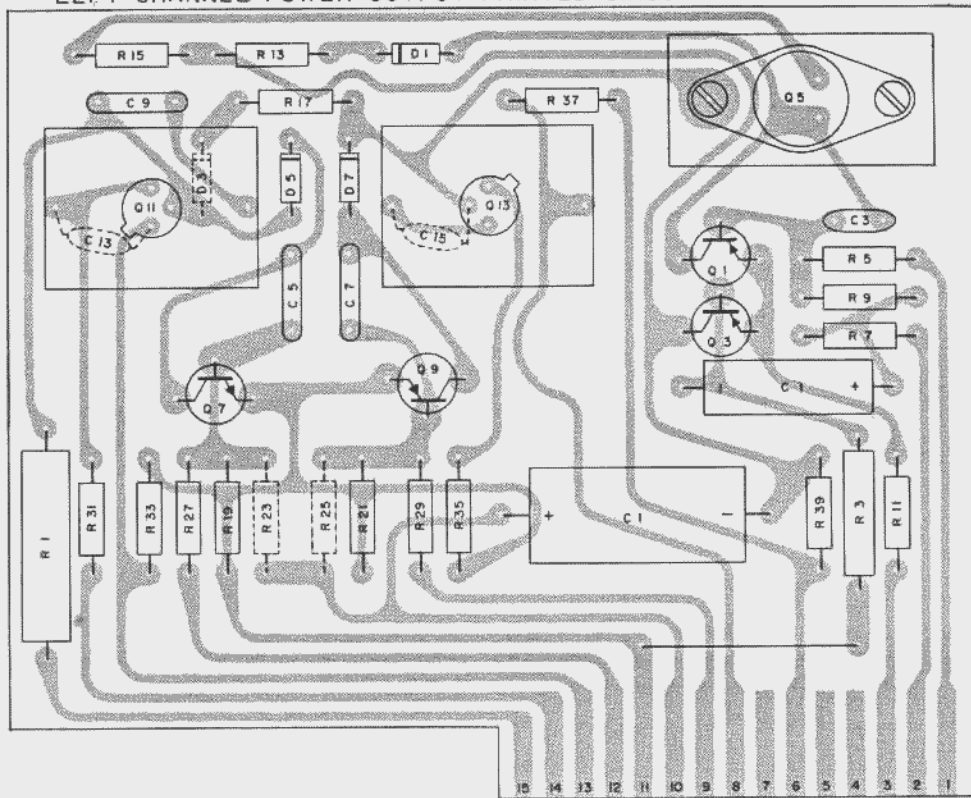
**WEIGHT**

57 pounds (25.86 kg) net, 63 pounds (25.58 kg) in shipping carton

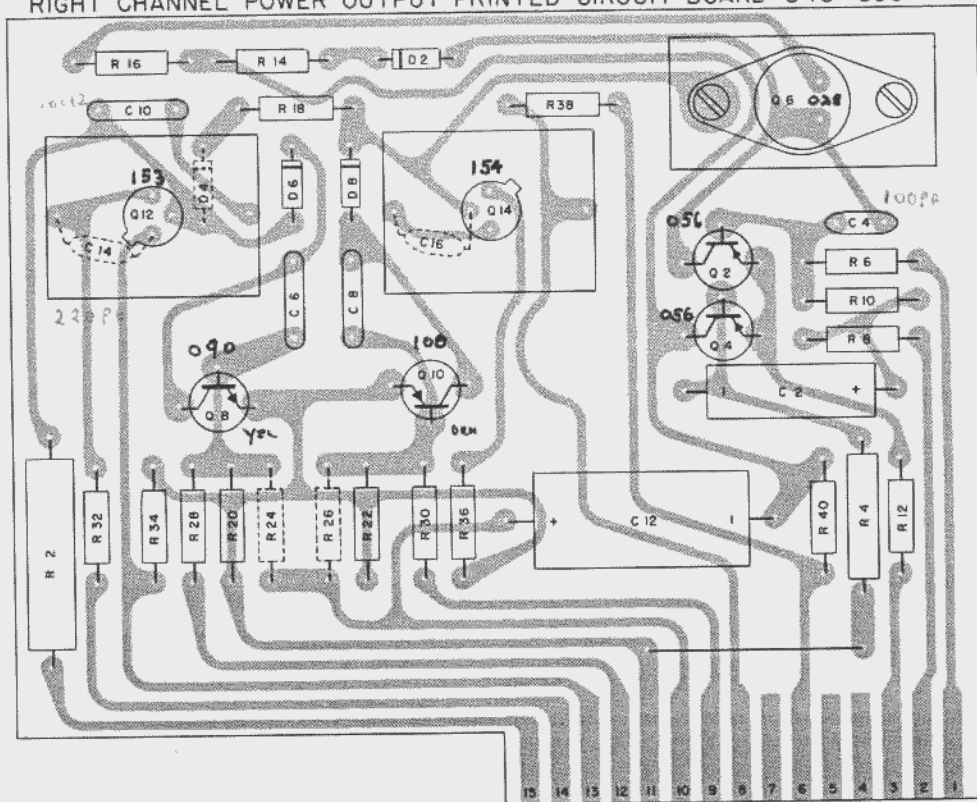


MC 2100 BLOCK DIAGRAM

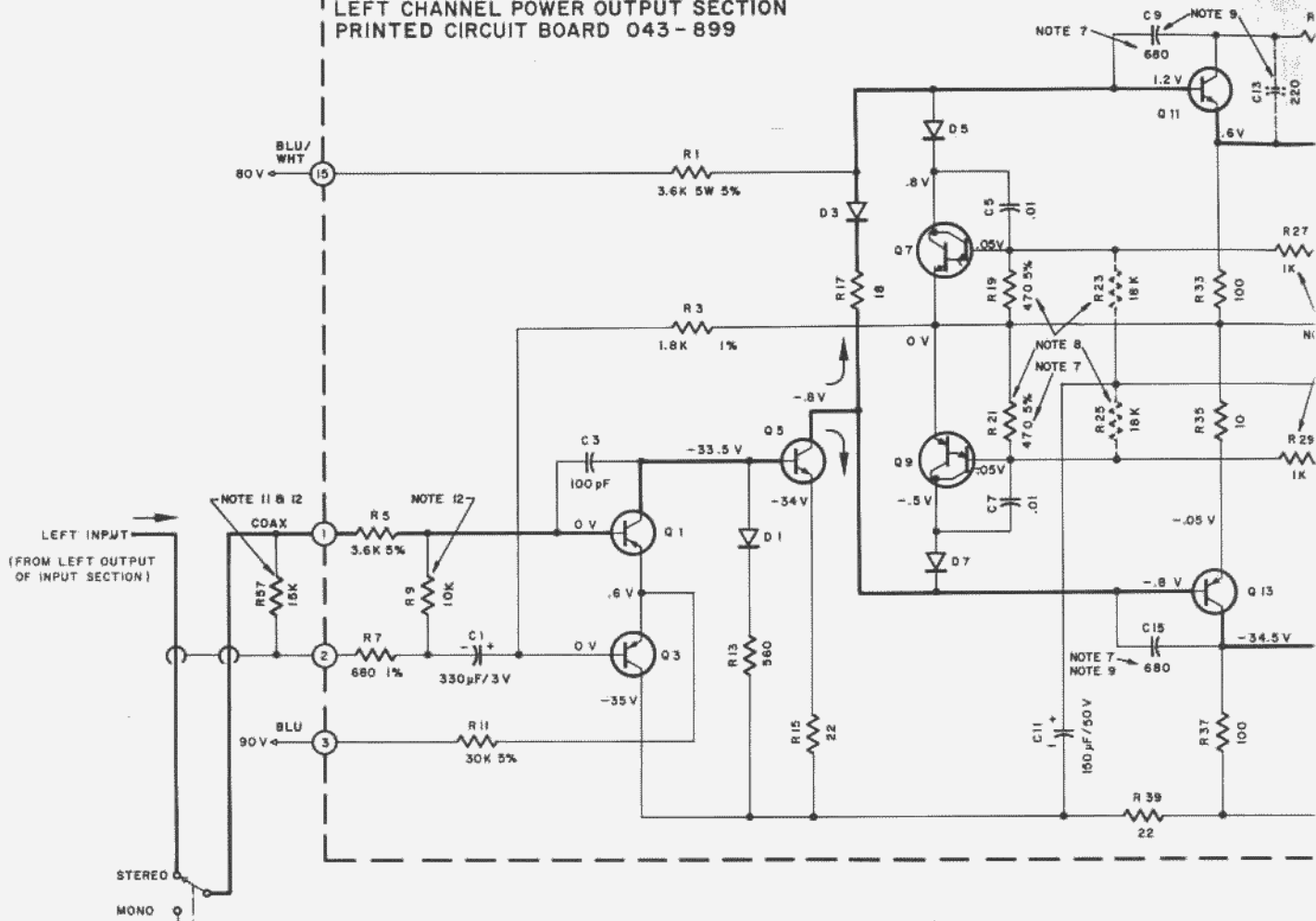
LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-899



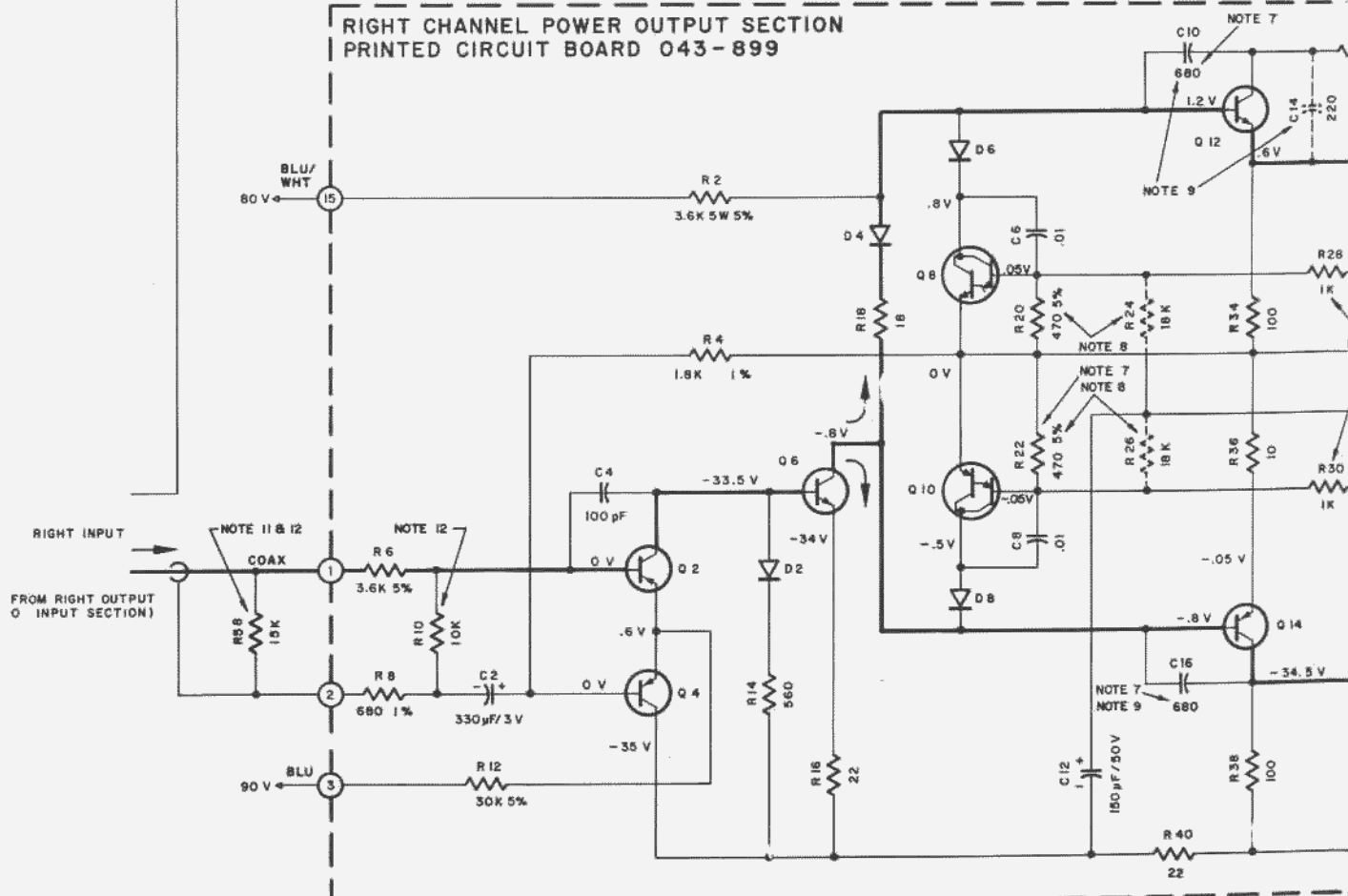
RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-899

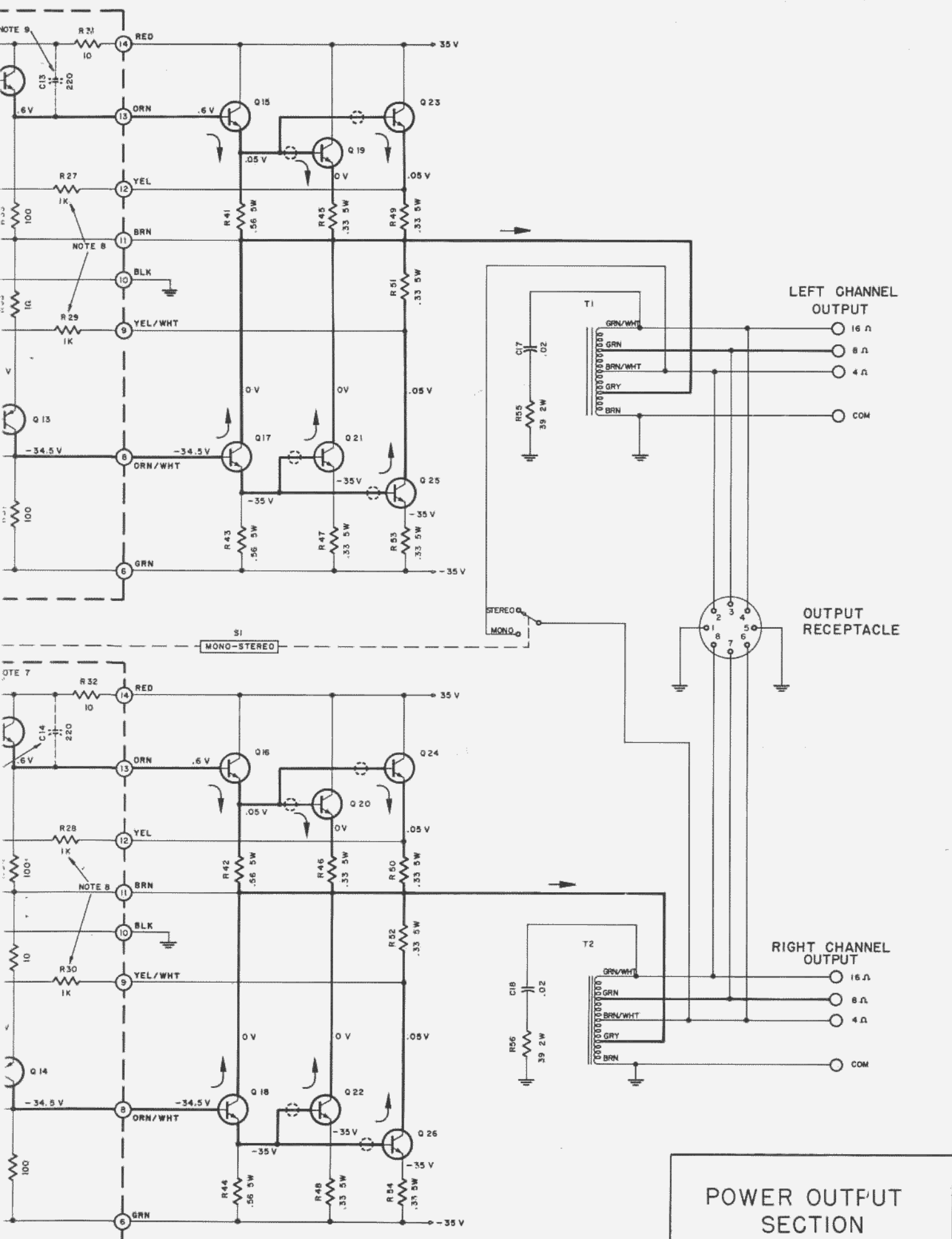


LEFT CHANNEL POWER OUTPUT SECTION  
PRINTED CIRCUIT BOARD 043-899

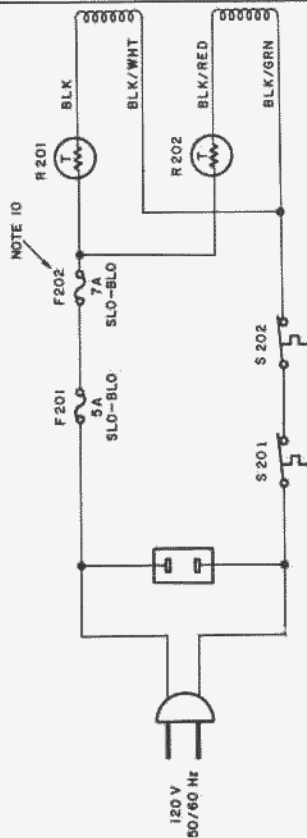
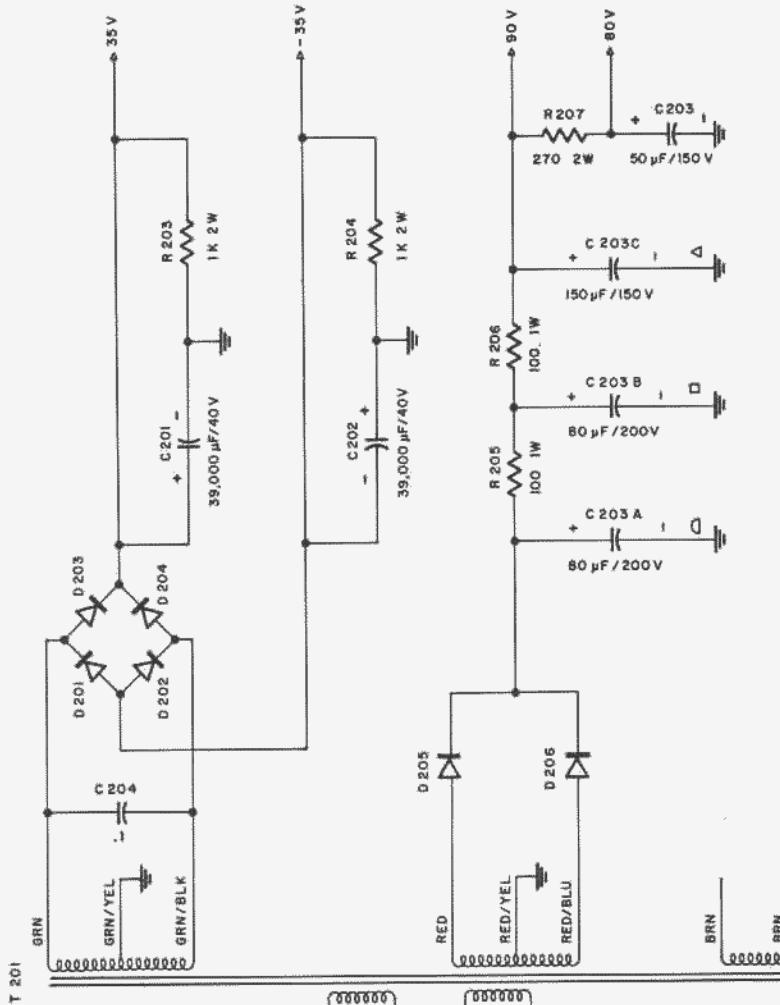


RIGHT CHANNEL POWER OUTPUT SECTION  
PRINTED CIRCUIT BOARD 043-899



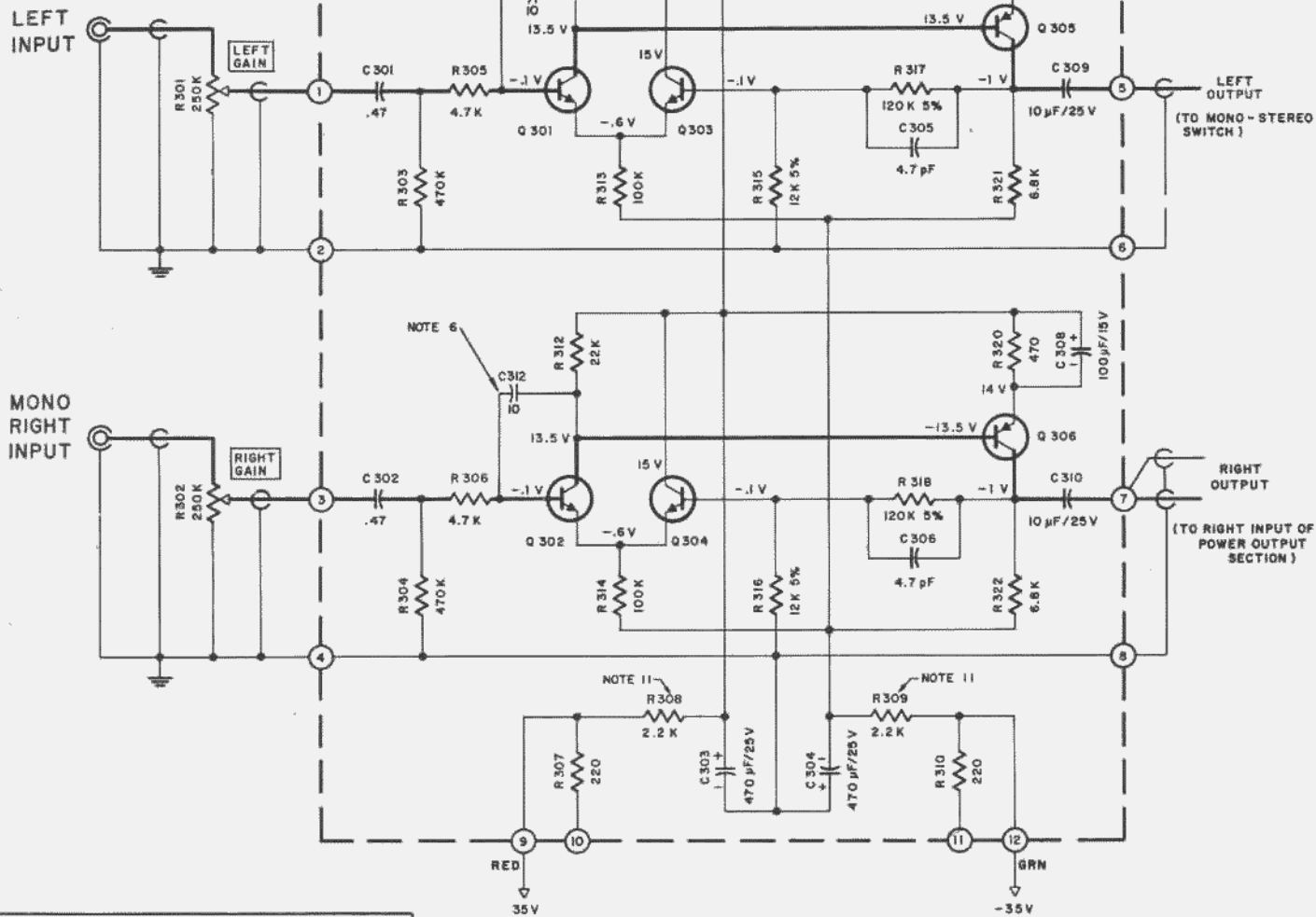


**POWER OUTPUT SECTION**



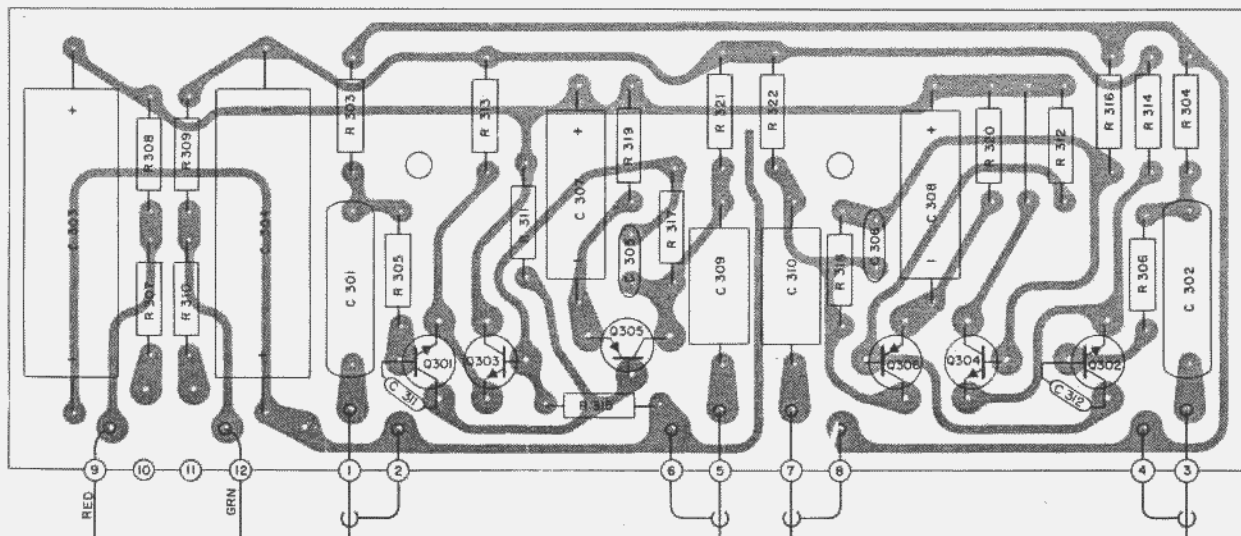
**POWER SUPPLY SECTION**  
MC 2100 154-659

INPUT SECTION PRINTED CIRCUIT BOARD 043-795



INPUT SECTION

INPUT SECTION PRINTED CIRCUIT BOARD 043-795



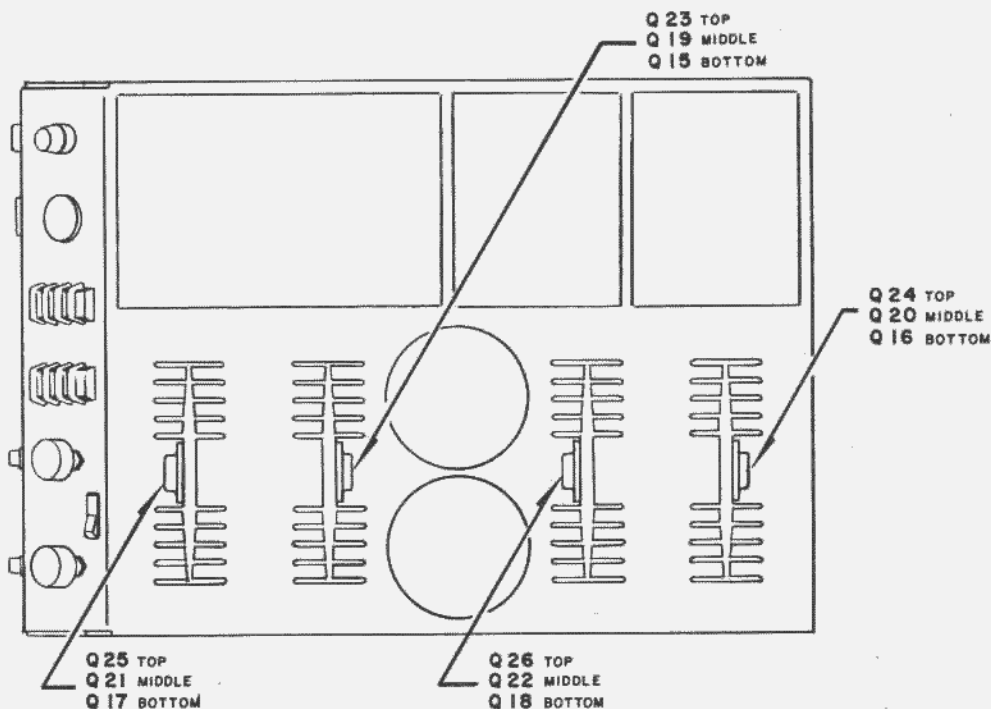


## SCHEMATIC NOTES

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	FULL CCW
Right Gain	FULL CCW
Mode	STEREO
6. In units with Serial No.'s below 10W84, C311 & C312 are not used.
7. In units with Serial No.'s below 13W25: R21 & R22 are 120 $\Omega$  and C9, C10, C15, & C16 are 680pF.
8. In units with Serial No.'s below 59W75: R27, R28, R29 & R30 are 100 $\Omega$ ; R19 & R20 are 120 $\Omega$ ; R21 & R22 are 150 $\Omega$  and R23, R24, R25 & R26 are used.
9. In units with Serial No.'s below 99W26: C13 & C14 are used; R17 and R18 are 22 $\Omega$  and C9, C10, C15 & C16 are .0012 $\mu\text{F}$ .
10. In units with Serial No.'s below 99W26 F202 is not used.
11. In units with Serial No.'s below 86W06: R55 & R56 are 10K and R308 & R309 are 3.3K.
12. In units with Serial No.'s below 86W00: R9 & R10 are 3.3K and R33 & R56 are not used.

## LOCATION OF TRANSISTORS NOT ON PRINTED CIRCUIT BOARDS



## 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
C1,2	Elect. 330 $\mu$ F 3V	066-105
C11,12	Elect. 150 $\mu$ F 63V	066-205
C201,202	Elect. 39000 $\mu$ F 40V	066-119
C203	Elect. 80/80/150/50 $\mu$ F 200/200/150/150V	066-095
C301,302	Mylar .47 $\mu$ F 250V	064-045
C303,304	Elect. 470 $\mu$ F 25V	066-228
C307,308	Elect. 100 $\mu$ F 12V	066-227
C309,310	Elect. 10 $\mu$ F 25V	066-222

## DIODES

D1,2	Si. signal diode	070-047
D3,4	Bias diode	070-046
D5,6	Si. signal diode	070-047
D7,8	Si. signal diode	070-047
D201,202	Si. rectifier	070-038
D203,204	Si. rectifier	070-039
D205,206	Si rectifier	070-031

## FUSES

F201	Fuse 5 amp, slo-blo	089-007
------	---------------------	---------

## TRANSISTORS

Q1,2	Si. PNP transistor	132-056
Q3,4	Si. PNP transistor	132-056
Q5,6	Si. NPN transistor	132-028
Q7,8	Si. NPN transistor	132-090
Q9,10	Si. PNP transistor	132-100
Q11,12	Si. NPN transistor	132-153
Q13,14	Si. PNP transistor	132-154
Q15,16	Si. NPN transistor	132-070
Q17,18	Si. NPN transistor	132-070
Q19,20	Si. NPN transistor	132-070
Q21,22	Si. NPN transistor	132-070
Q23,24	Si. NPN transistor	132-070
Q25,26	Si. NPN transistor	132-070

Q301,302	Si. NPN transistor	132-092
Q303,304	Si. NPN transistor	132-092
Q305,306	Si. PNP transistor	132-056

## POTENTIOMETERS

R301	Left gain	134-206
R302	Right gain	134-206

## RESISTORS

R1,2	Wirewound 3.6k	5W	139-096
R41,42	Wirewound .56 $\Omega$	5W	139-081
R43,44	Wirewound .56 $\Omega$	5W	139-081
R45,46	Wirewound .33 $\Omega$	5W	139-080
R47,48	Wirewound .33 $\Omega$	5W	139-080
R49,50	Wirewound .33 $\Omega$	5W	139-080
R51,52	Wirewound .33 $\Omega$	5W	139-080
R53,54	Wirewound .33 $\Omega$	5W	139-080
R201,202	Thermistor		144-012

## SWITCHES

S1	Mode selector	153-008
S201,202	Thermal cut-out	153-007

## TRANSFORMERS

T1,2	Audio autoformer	043-694
T201	Power transformer	043-693

## MISCELLANEOUS ITEMS

Plastic feet	017-144
Owners manual	038-848
Gain control knob	090-017
Shipping carton	033-099
AC power cord	170-021
Fuseholder	178-001