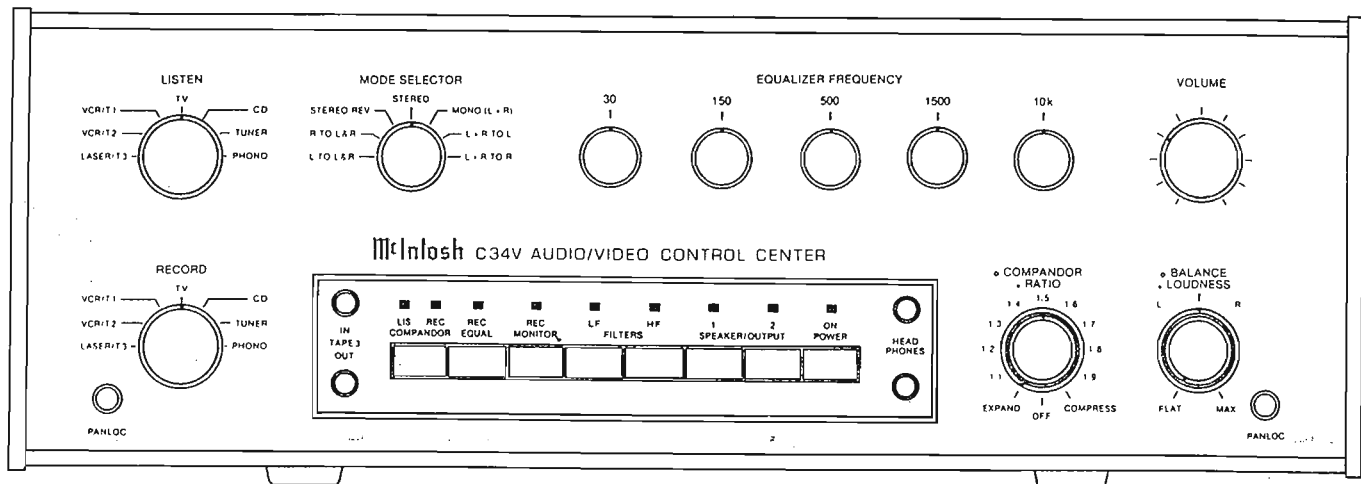


C34V

AUDIO/VIDEO CONTROL CENTER



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McIntosh[®] Service Manual

Performance Specifications

Preamplifier Section

FREQUENCY RESPONSE

+0, -0.5dB from 20Hz to 20,000Hz

MAXIMUM VOLTAGE OUTPUT

10 volts from 20Hz to 20,000Hz

TOTAL HARMONIC DISTORTION

0.01% maximum from 20Hz to 20,000Hz at rated output

SENSITIVITY

Phono — 2mV for 2.5V rated output (0.4mV IHF)

High Level — 250mV for 2.5V rated output (50mV IHF)

SIGNAL TO NOISE RATIO, A-WEIGHTED

Phono — 90dB below 10mV input (84dB IHF)

High Level — 100dB below rated output (86dB IHF)

MAXIMUM INPUT SIGNAL

Phono — 100mV

High Level — 20 volts

INPUT IMPEDANCE

Phono — 47k ohms and 65pf capacitance

High Level — 50k ohms

EQUALIZATION CONTROLS

Variable 12dB boost to 12dB cut at center frequencies of 30, 150, 500, 1500, 10k Hz

COMPANDER RATIOS

From 1:2 compression to 2:1 expansion

LF FILTER

Flat or roll-off at 12dB per octave below 50 Hz.

HF FILTER

Flat or roll-off at 12dB per octave above 7,000 Hz.

Monitor Amplifier Section

CONTINUOUS AVERAGE POWER OUTPUT

20 watts per channel into 8 ohms, from 20 Hz to 20 kHz, at 0.01% maximum harmonic distortion

FREQUENCY RESPONSE

+0, -0.2dB from 20Hz to 20,000Hz

SENSITIVITY

750mV for rated output (170mV IHF), input impedance is 27K ohms

SIGNAL TO NOISE RATIO, A-WEIGHTED

100dB below rated output (87dB IHF)

General Information

SEMICONDUCTOR COMPLEMENT

31 Bipolar Transistors

76 Field Effect Transistors

35 Integrated Circuits

107 Diodes

1 Silicon Controlled Rectifier

AC POWER OUTLETS

1 green turntable current sensing, 100 watts

2 red unswitched

3 black switched

1440 watts total capacity

POWER REQUIREMENTS

120 volts, 50/60 Hz, 25 to 85 watts

Mechanical Information

SIZE:

16-1/8 inches wide (40.6 cm) by 5-7/16 inches high (13.8 cm) by 13 inches deep (33 cm), from the mounting surface, including PANLOC shelf and back panel connectors. Knob clearance required is 1-1/4 inches (3.2 cm) in front of the mounting panel.

WEIGHT:

26 pounds (11.8 kg) net, 38 pounds (17.2 kg) in shipping carton.

Top and Front Views

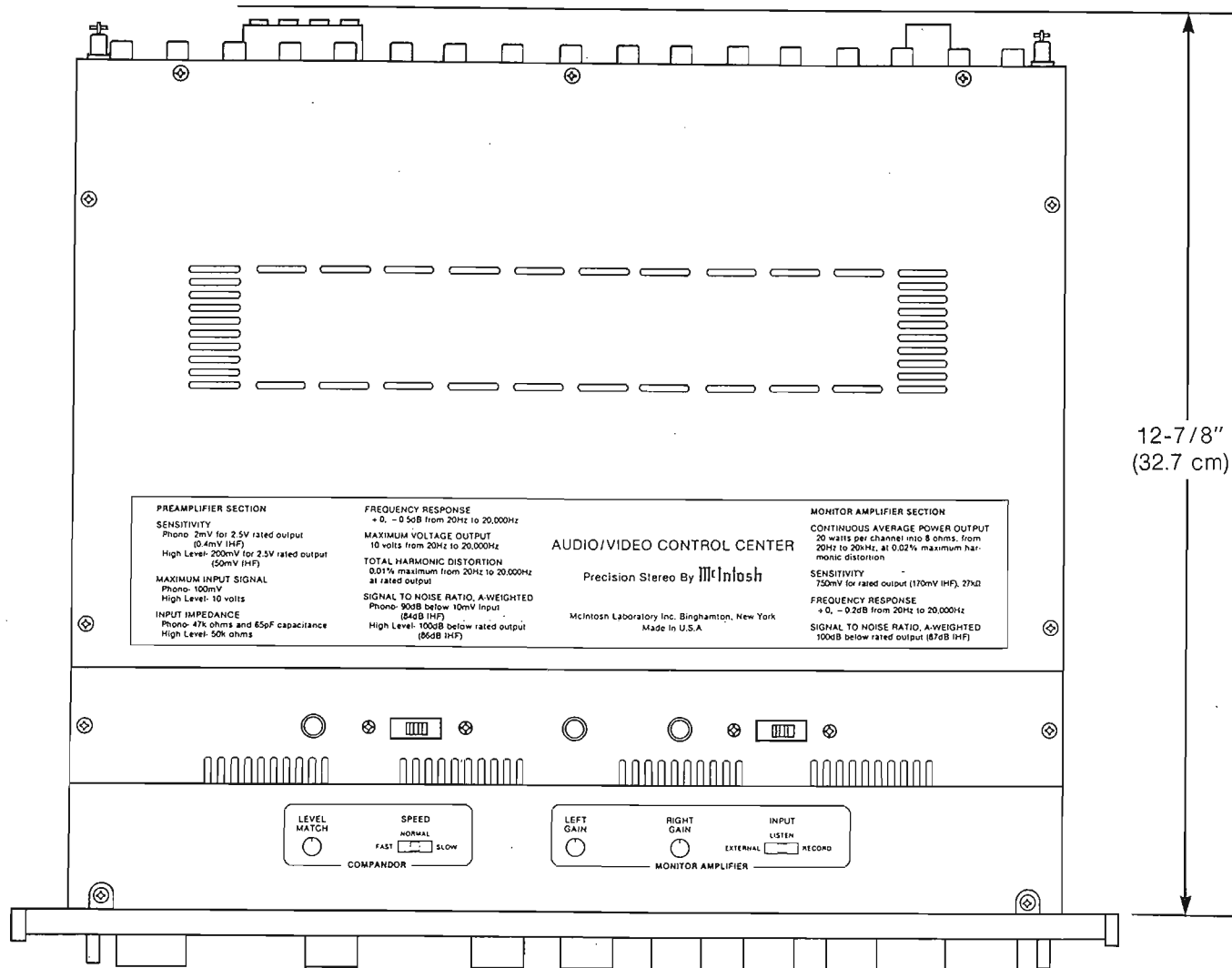


Fig. 1. Top view

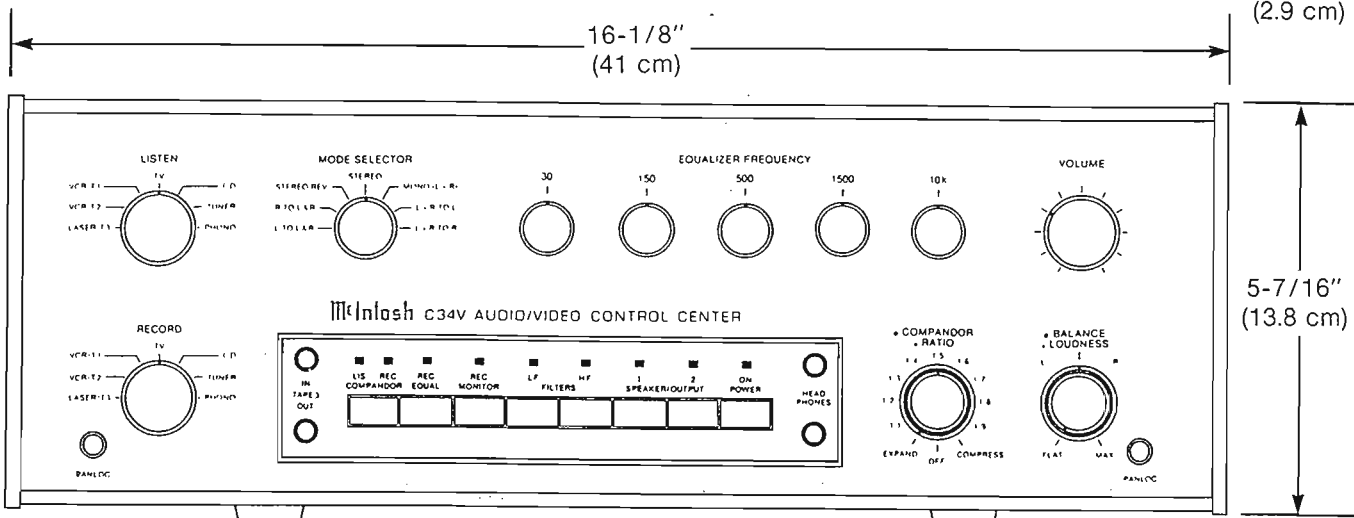


Fig. 2. Front view

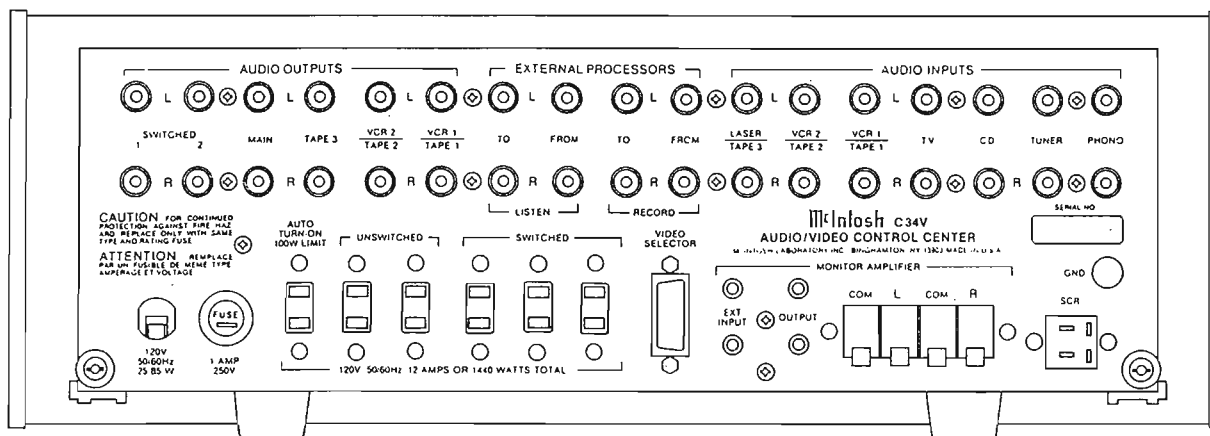


Fig. 3. Rear view

General Notes

1. Unless otherwise noted, all voltages indicated on the following schematics are measured under the following conditions:
 - a. AC input at 120 volts, 50/60Hz.
 - b. All voltages are $\pm 10\%$ with respect to ground. A high impedance (10 megohm) voltmeter must be used.
2. Unless otherwise specified:
 - a. Resistor values are in ohms.
 - b. Capacitor values smaller than 1 are microfarads (μF), and capacitor values greater than 1 are in picofarads (pF).
 - c. Inductor values are in microhenries (μH).

Section Locations

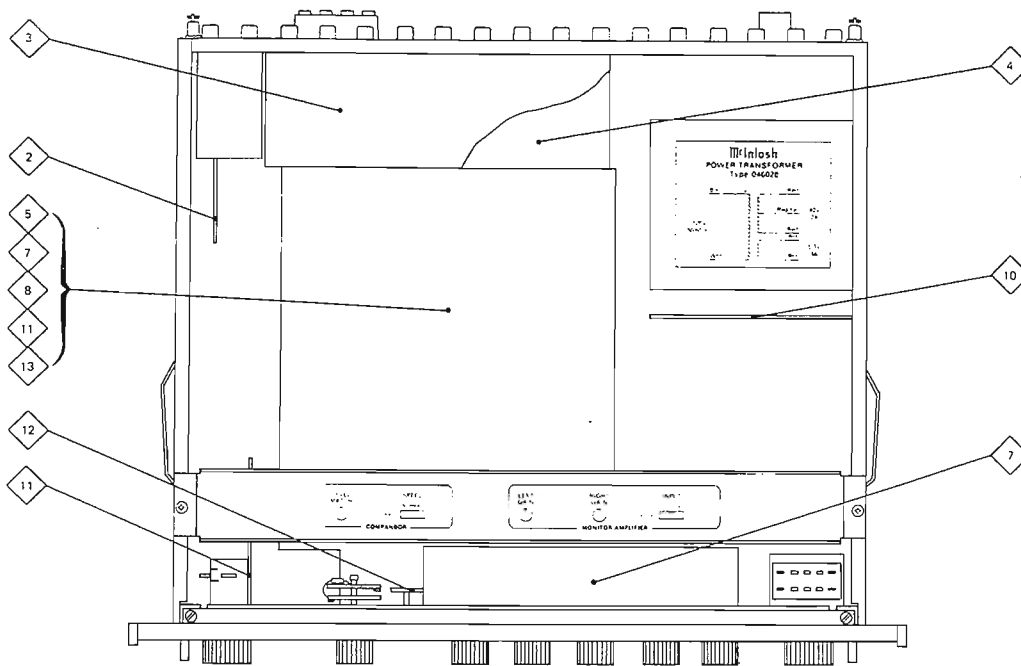


Fig. 4. Top view with cover removed

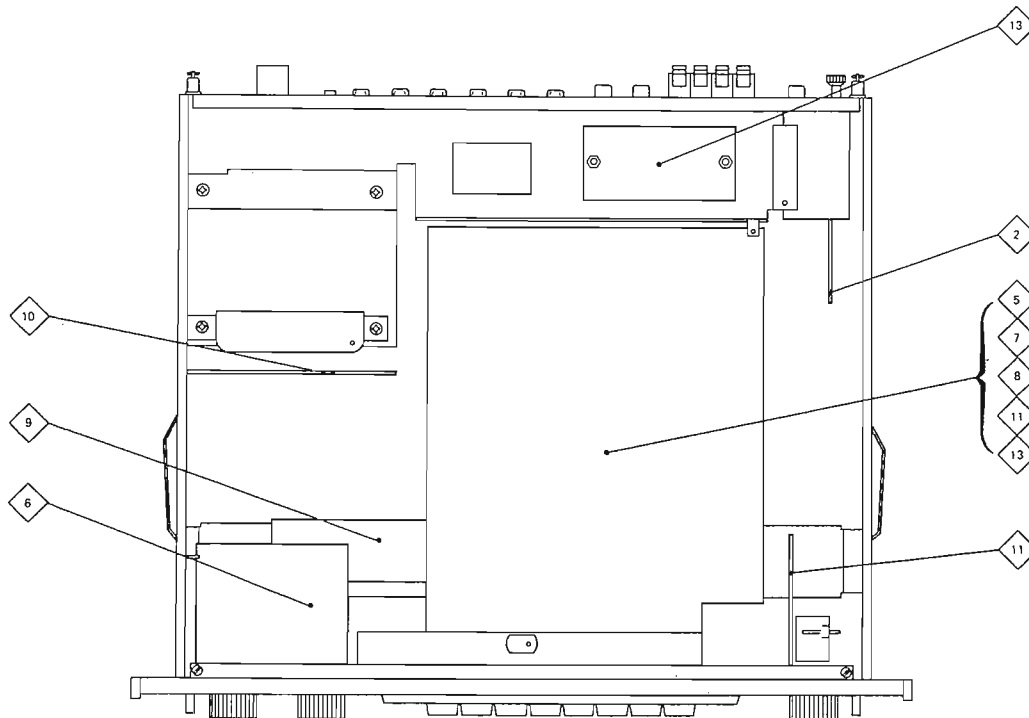
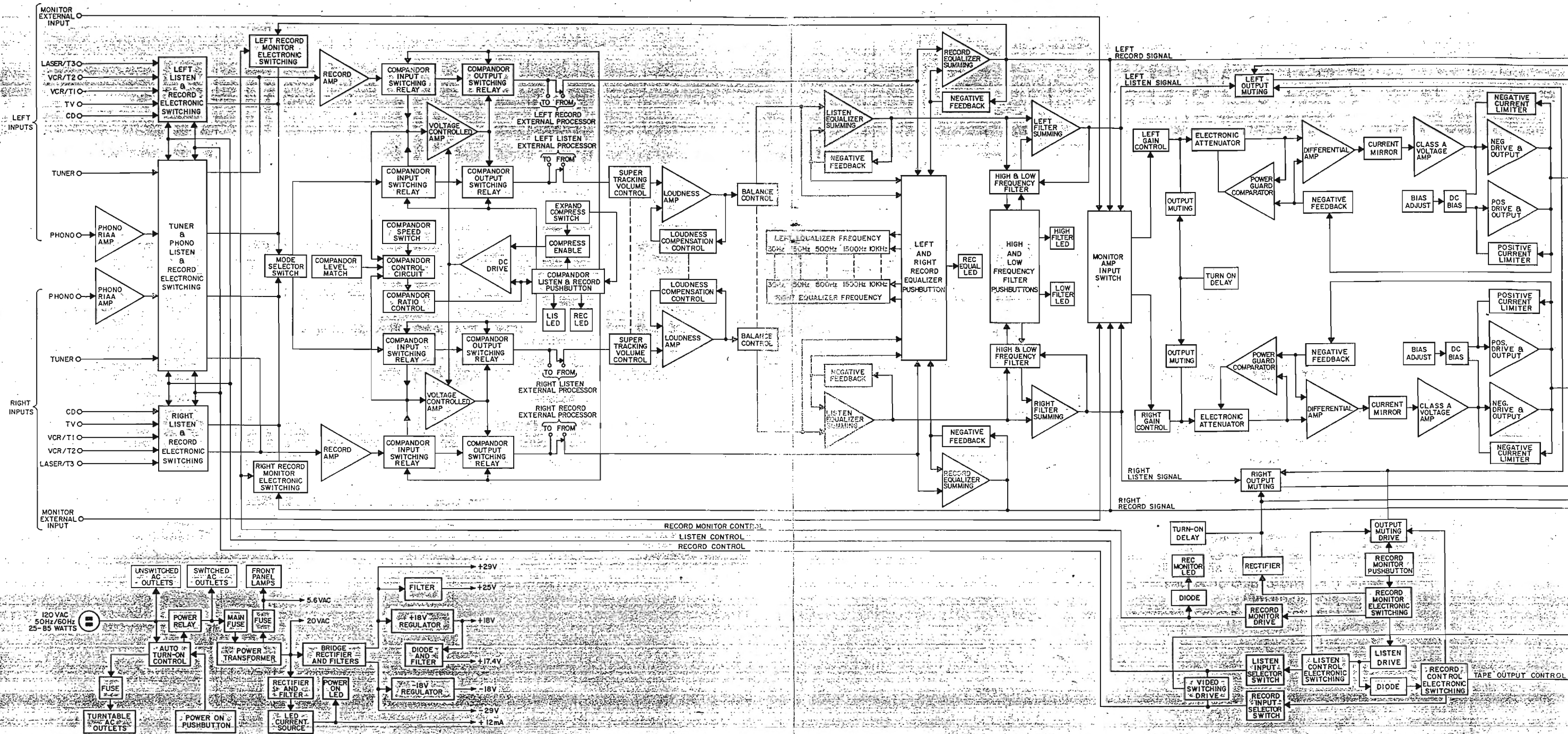


Fig. 5. Bottom view with cover removed

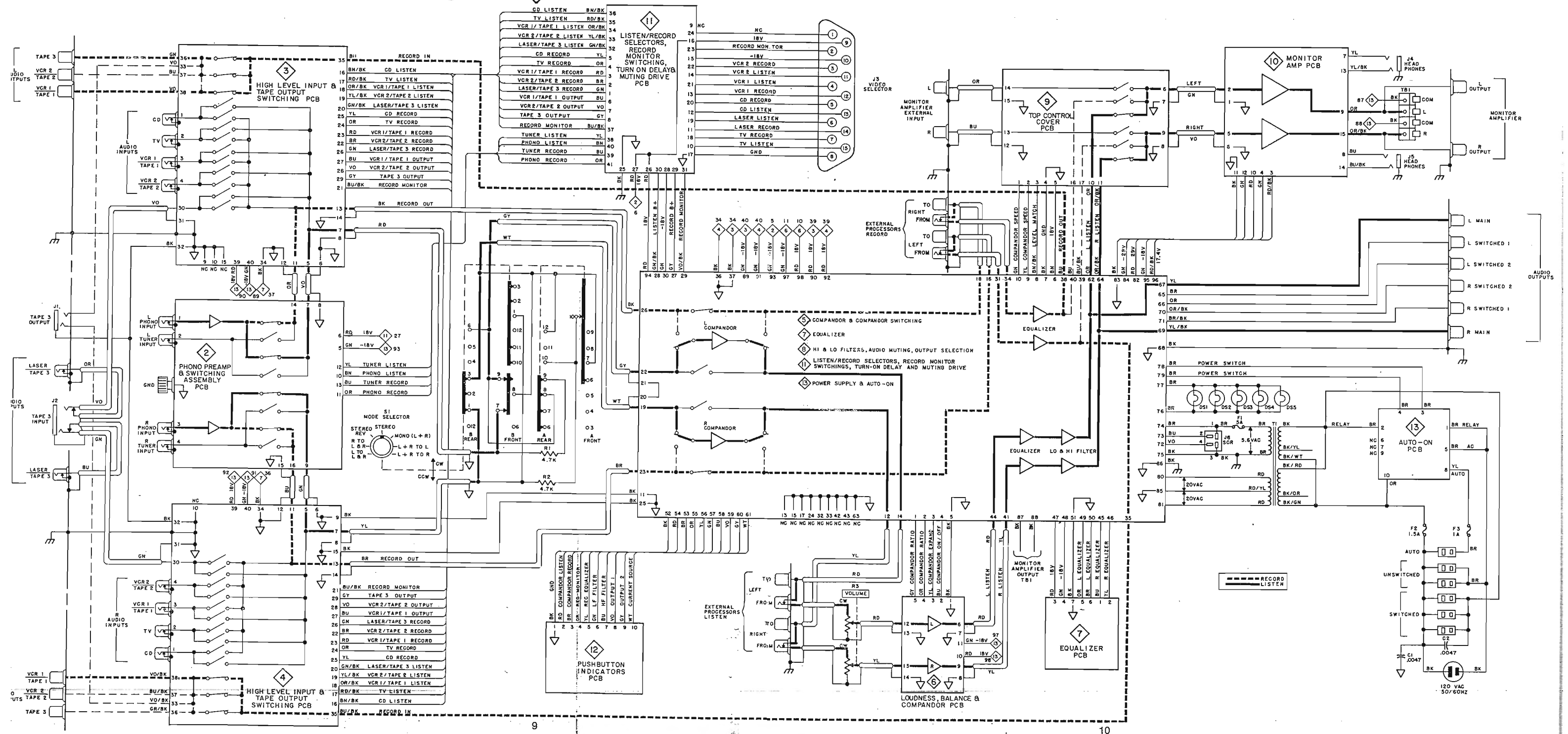
Block Diagram

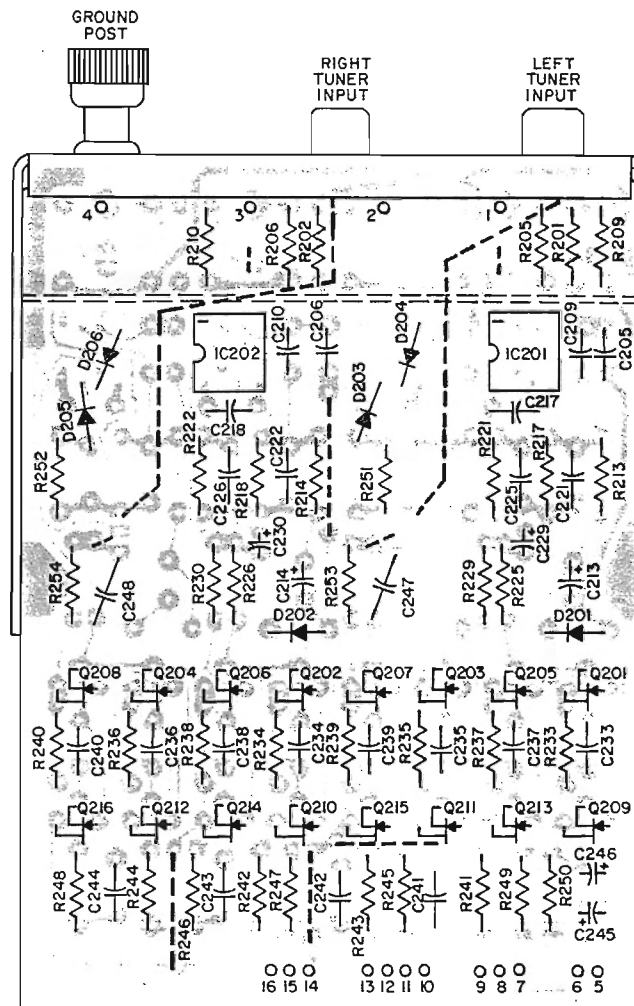
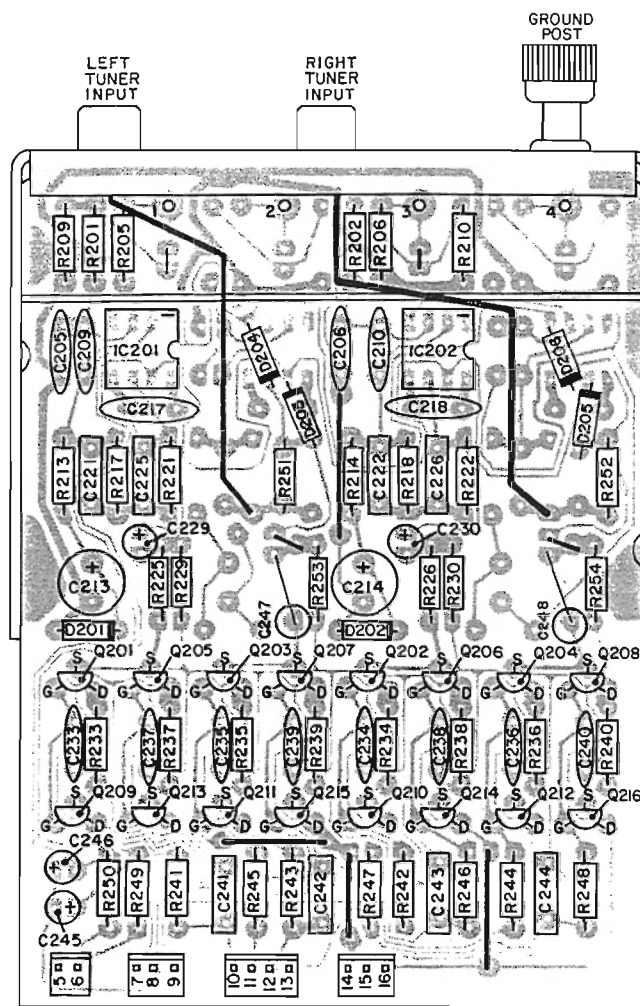


017156	Plastic Feet, Secure w/100160 Screws
038179	Mounting Template
043401	Mounting Strip
043622	Panloc Shelf Bracket, Right
043623	Panloc Shelf Bracket, Left
045142	Hardware Pkg.

Interconnection Diagram

1

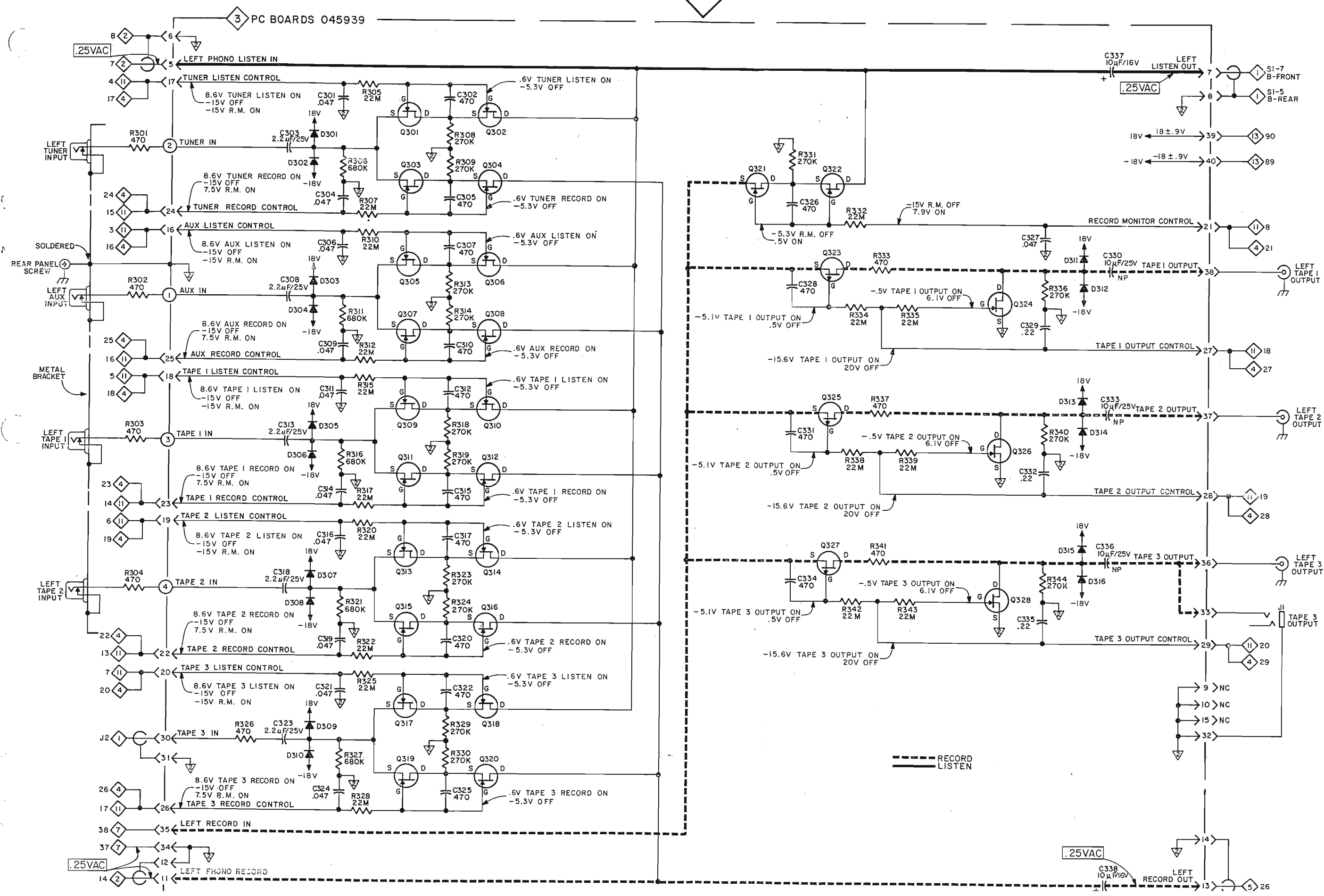




PHONO PREAMP AND SWITCHING ASSEMBLY PCB 046545

High Level Input and Tape Switching (Left)

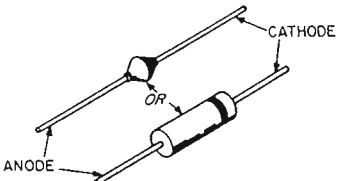
3



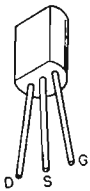
HIGH LEVEL INPUT AND
TAPE SWITCHING (LEFT)
PARTS LIST

Symbol No.	Part No.	Description
DIODES		
D301-D316	070047	SIG, 75V, 10mA, 1N4148

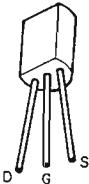
TRANSISTORS		
Q301-Q322, Q324, Q326, Q328	132193	N, JFET, 2N4392
Q323, Q325, Q327	132226	P, JFET, J174



D301-D316

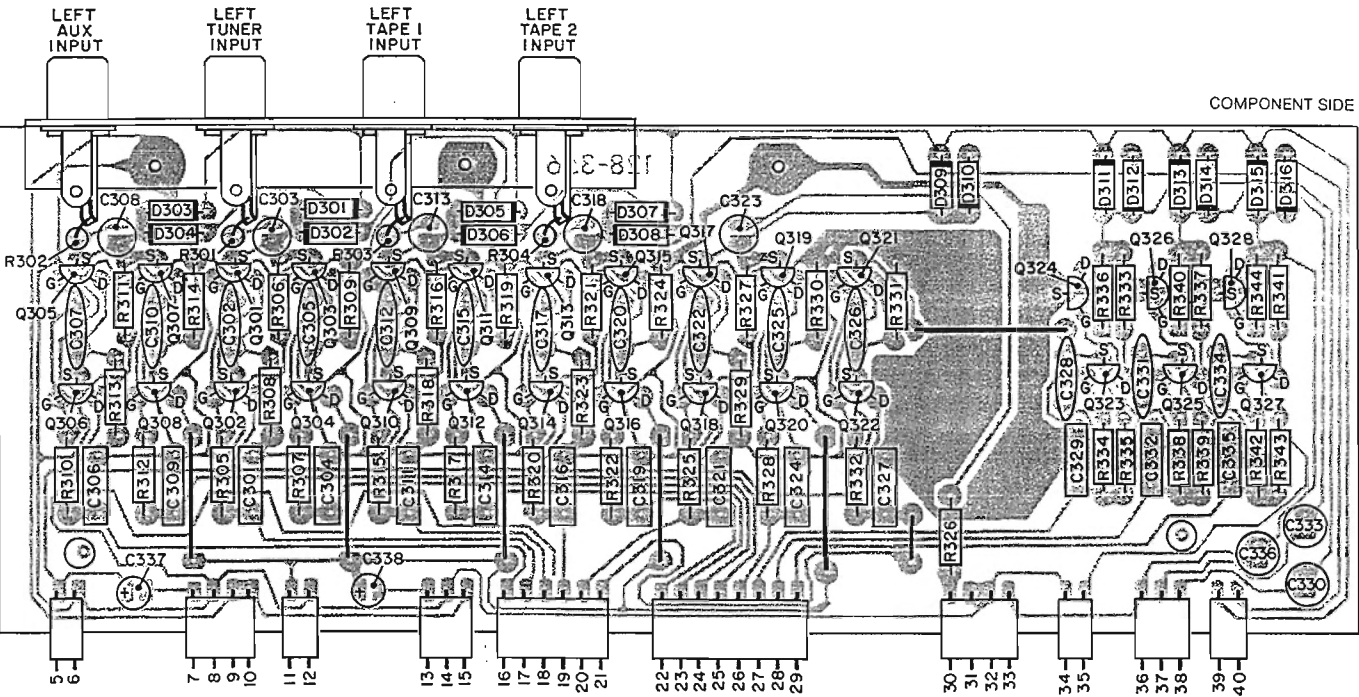


Q301-Q322,
Q324, Q326,
Q328

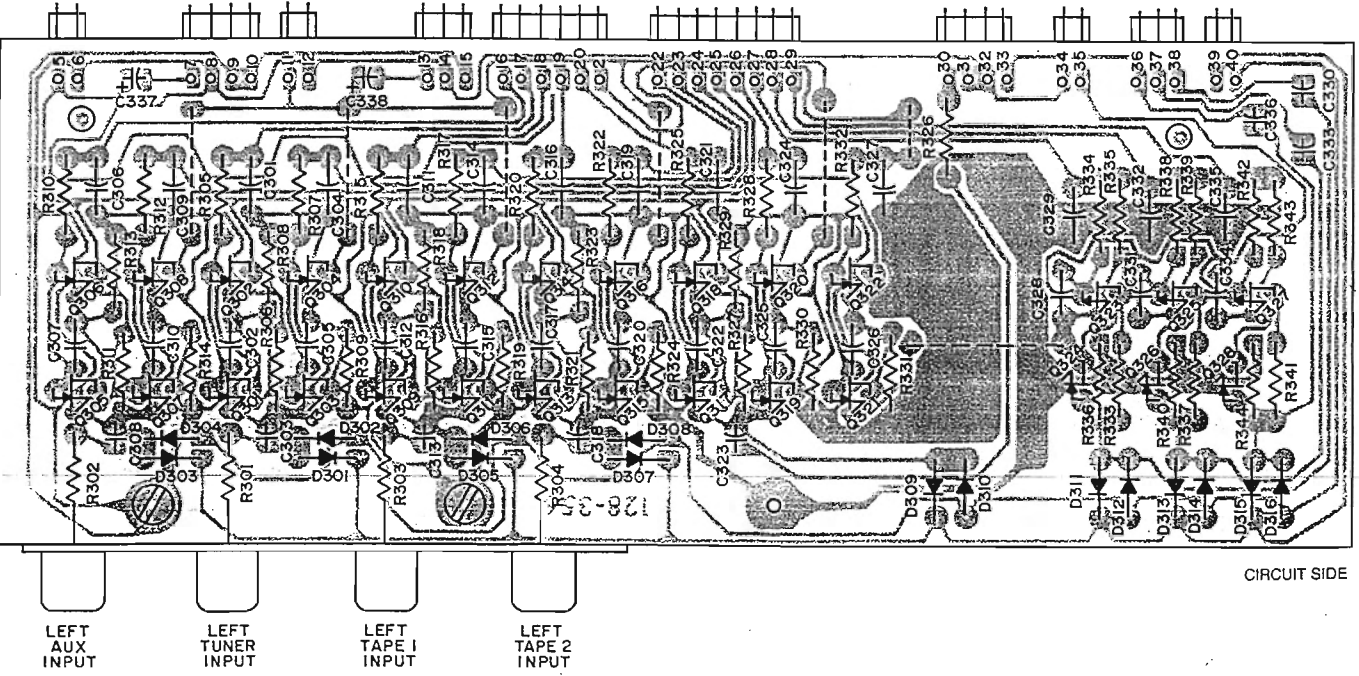


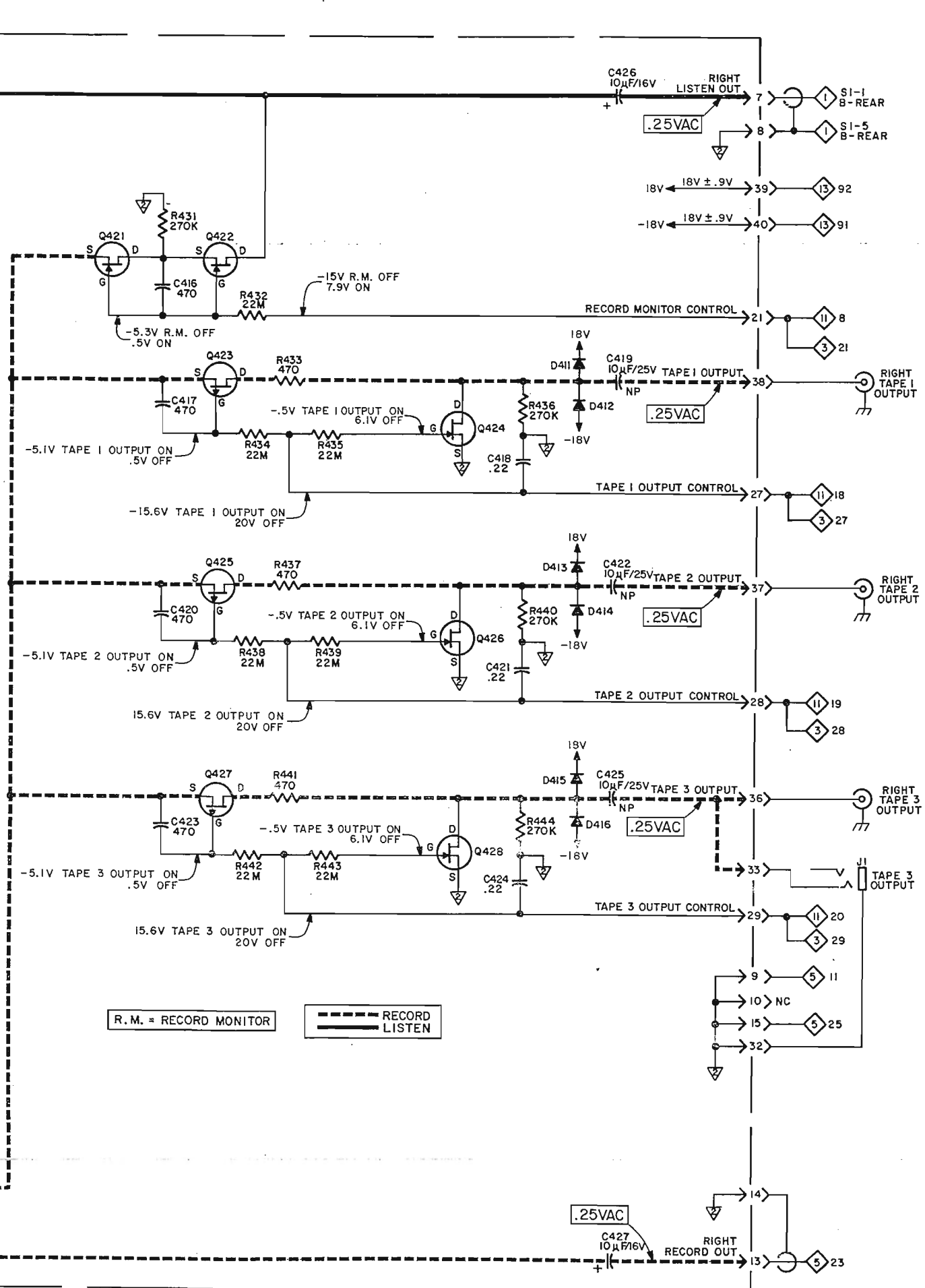
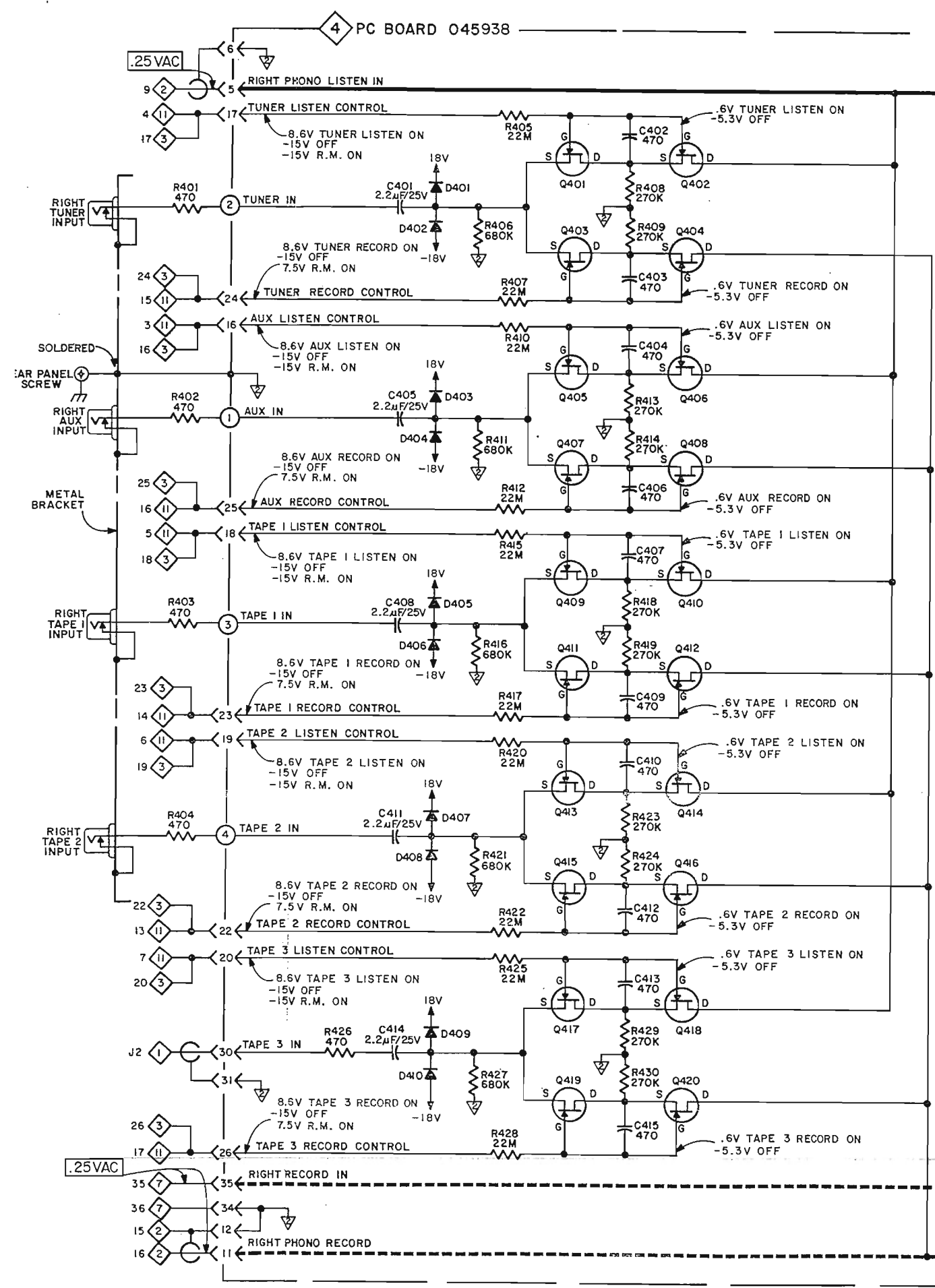
Q323, Q325,
Q327

3



HIGH LEVEL INPUT AND TAPE OUTPUT SWITCHING (LEFT) PCB 045939

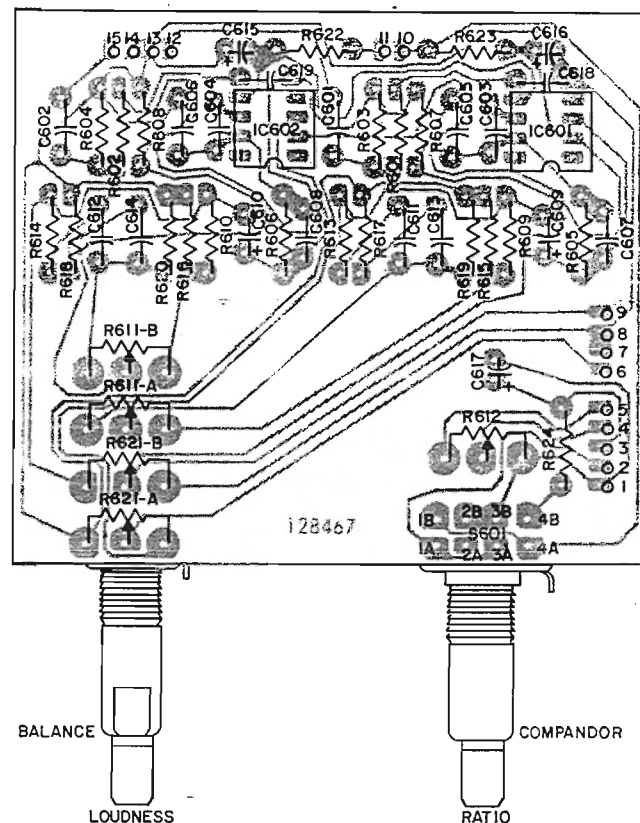
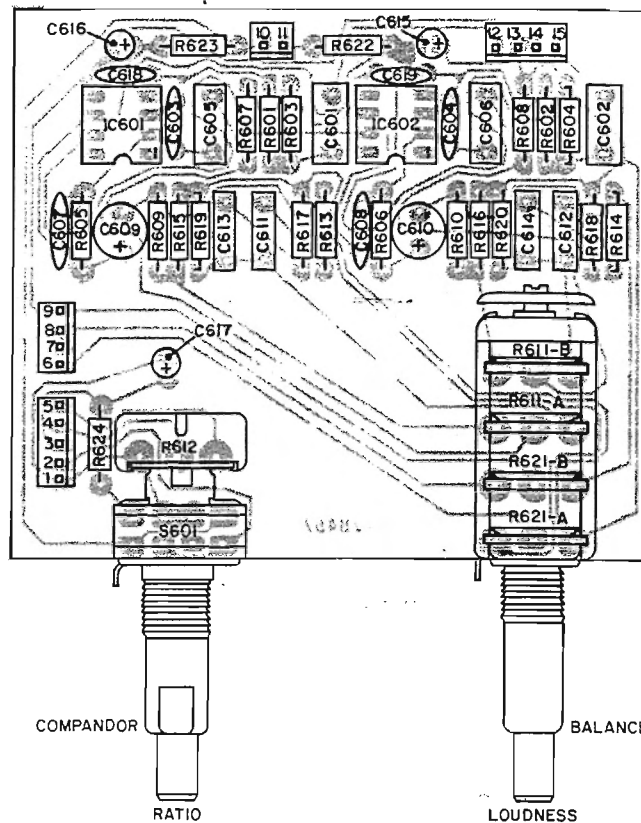




4 High Level Input and Tape Output Switching (Right)

COMPONENT SIDE

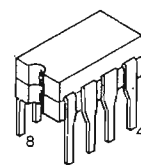
CIRCUIT SIDE



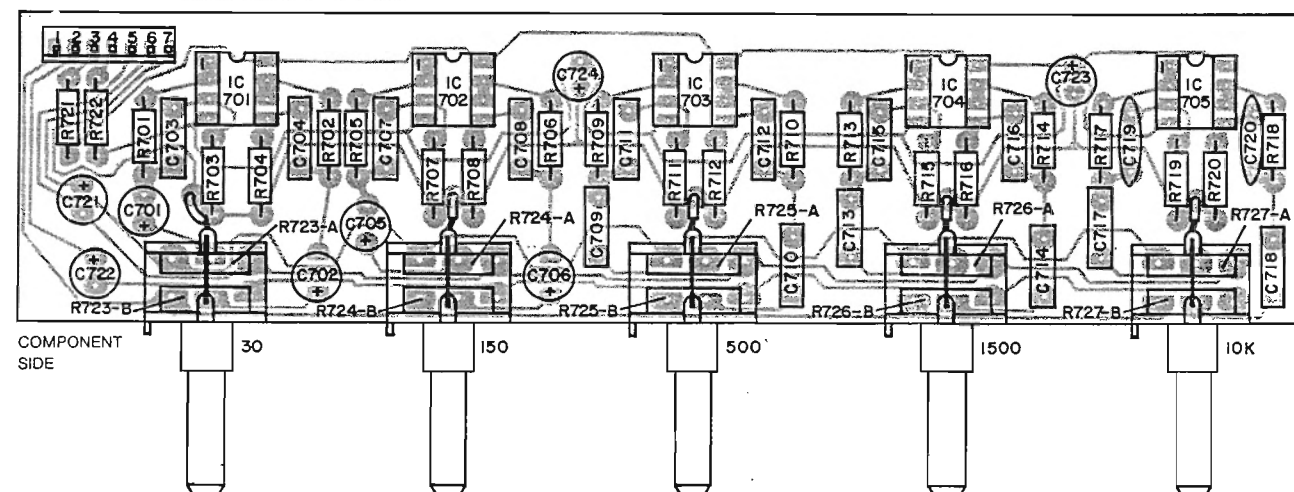
LOUDNESS AND BALANCE PCB 046039

LOUDNESS AND BALANCE PARTS LIST

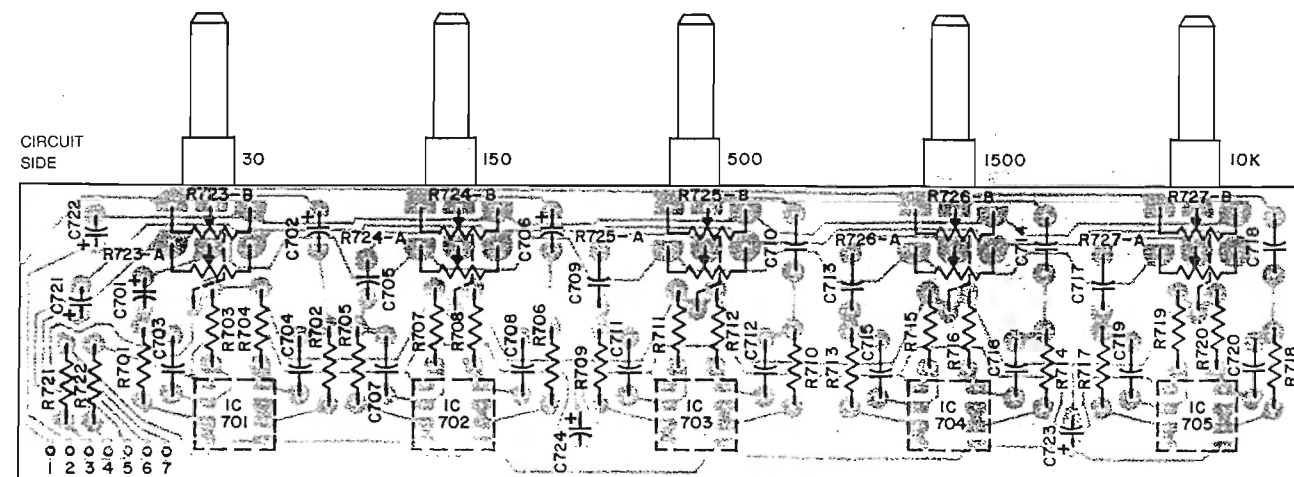
Symbol No.	Part No.	Description
INTEGRATED CIRCUITS		
IC601-IC602	133066	Operational Amp, NE5534N
RESISTORS		
R611, R621	134397	POT, Balance/Loudness
R612/S601	134398	POT, Compressor/Ratio Control
SWITCHES		
S601/R612	134398	POT, Compressor/Ratio Control



IC601-IC602

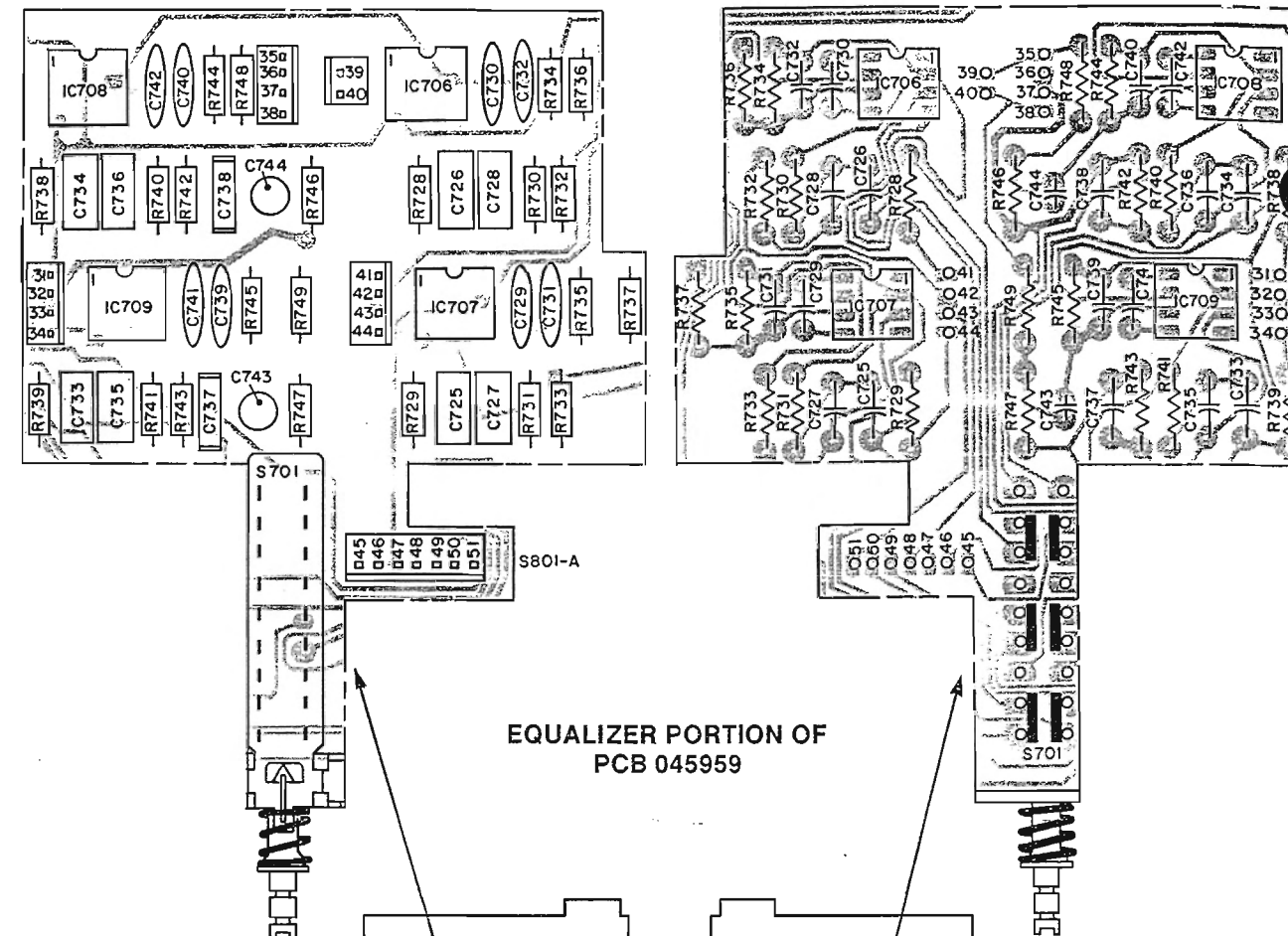


EQUALIZER PCB 045819



COMPONENT SIDE

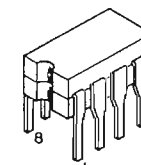
CIRCUIT SIDE



EQUALIZER PORTION OF PCB 045959

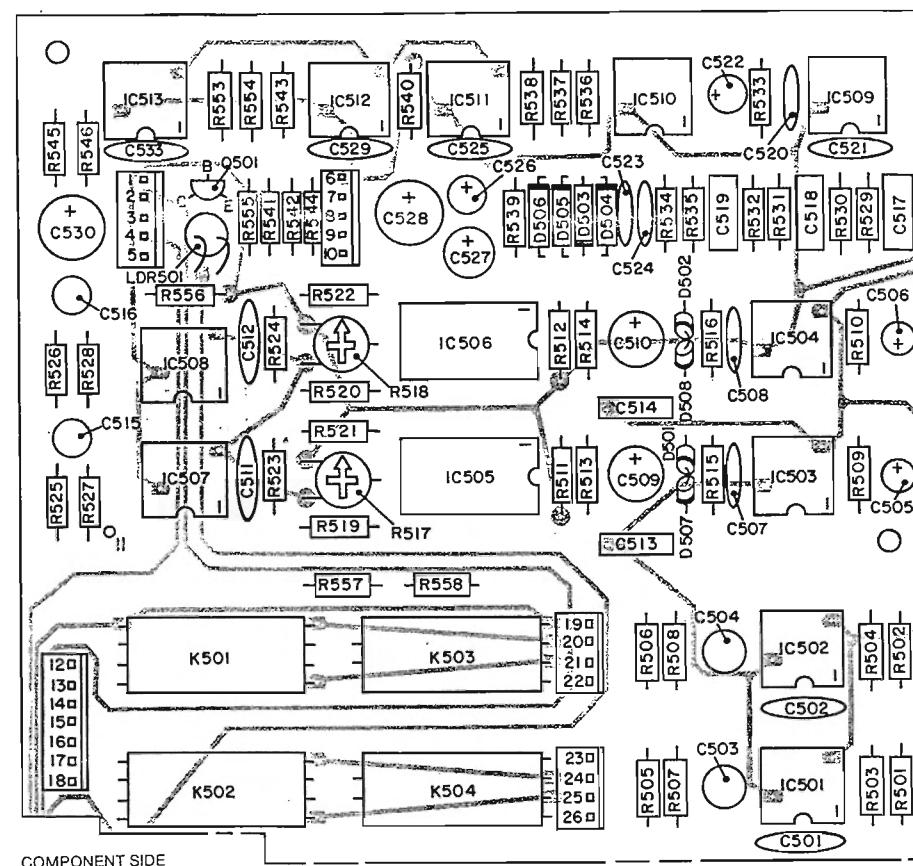
EQUALIZER PARTS LIST

Symbol No.	Part No.	Description
INTEGRATED CIRCUITS		
IC701-IC705	133028	Dual Hi-Speed Operational Amp, MC4558CP1
IC706-IC709	133066	Operational Amp, NE5534N
RESISTORS		
R723-R727	134316	POT, 100KΩ/100KΩ, Equalizer
SWITCHES		
S701	150038	Pushbutton Switch (8)

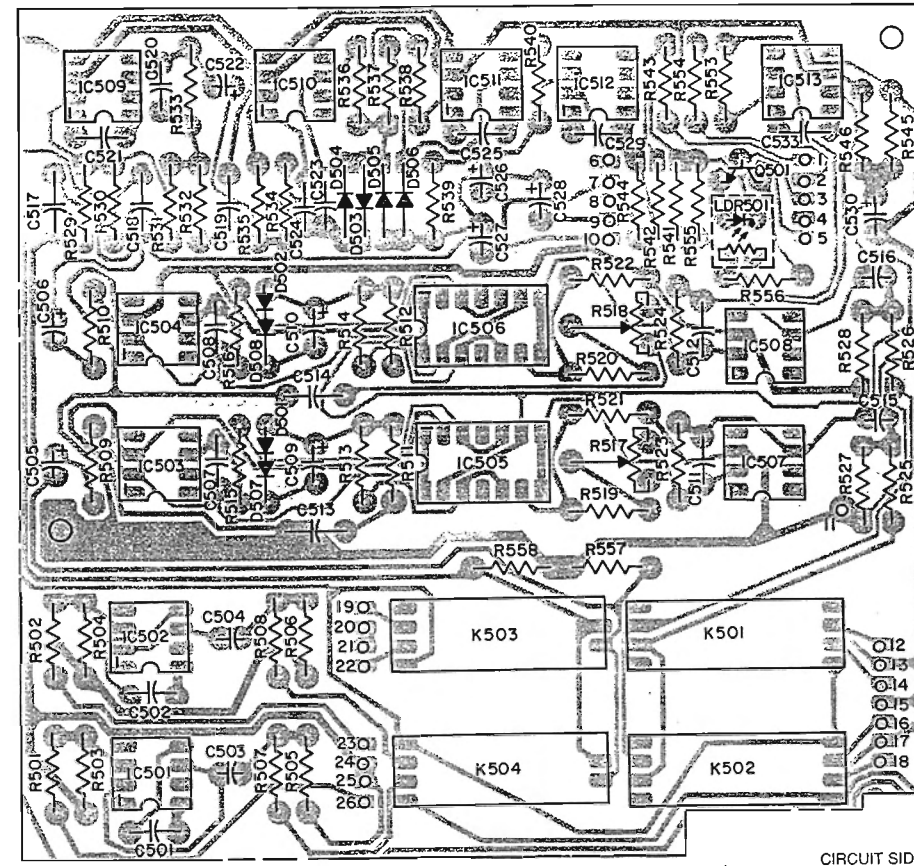


IC701-IC709

Compandor and Compandor Switching



COMPONENT SIDE



CIRCUIT SIDE

COMPANDOR AND COMPANDOR SWITCHING PORTION OF PCB 045959

COMPONENT SIDE

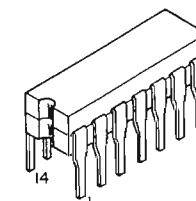
CIRCUIT SIDE

COMPONENT SIDE

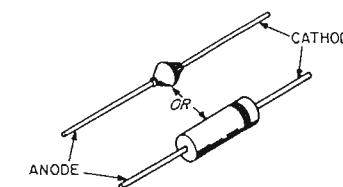
CIRCUIT SIDE

COMPANDOR AND COMPANDOR SWITCHING PARTS LIST

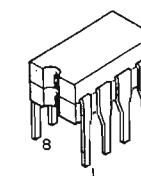
Symbol No.	Part No.	Description
DIODES		
D501-D508	070047	SIG, 75V, 10mA, 1N4148
LIGHT DEPENDENT RESISTORS		
LDR501	144070	LDR, CLM6000
INTEGRATED CIRCUITS		
IC501, IC502	133066	Operational Amp, NE5534N
IC503, IC504,		
IC507, IC508	133131	Operational Amp, MC34081P
IC505, IC506	133040	Quad Complementary Transistor Array, MPQ6100A
IC509-IC513	133066	Operational Amp, LM201AN
RELAYS		
K501-K502	087034	DPDT, 12VDC
K503-K504	087024	DPST, 12VDC
TRANSISTORS		
Q501	132223	NPN, MPS4124
SWITCHES		
S501	150038	Pushbutton Switch (8)



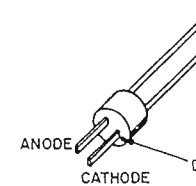
IC505, IC506



D501-D508



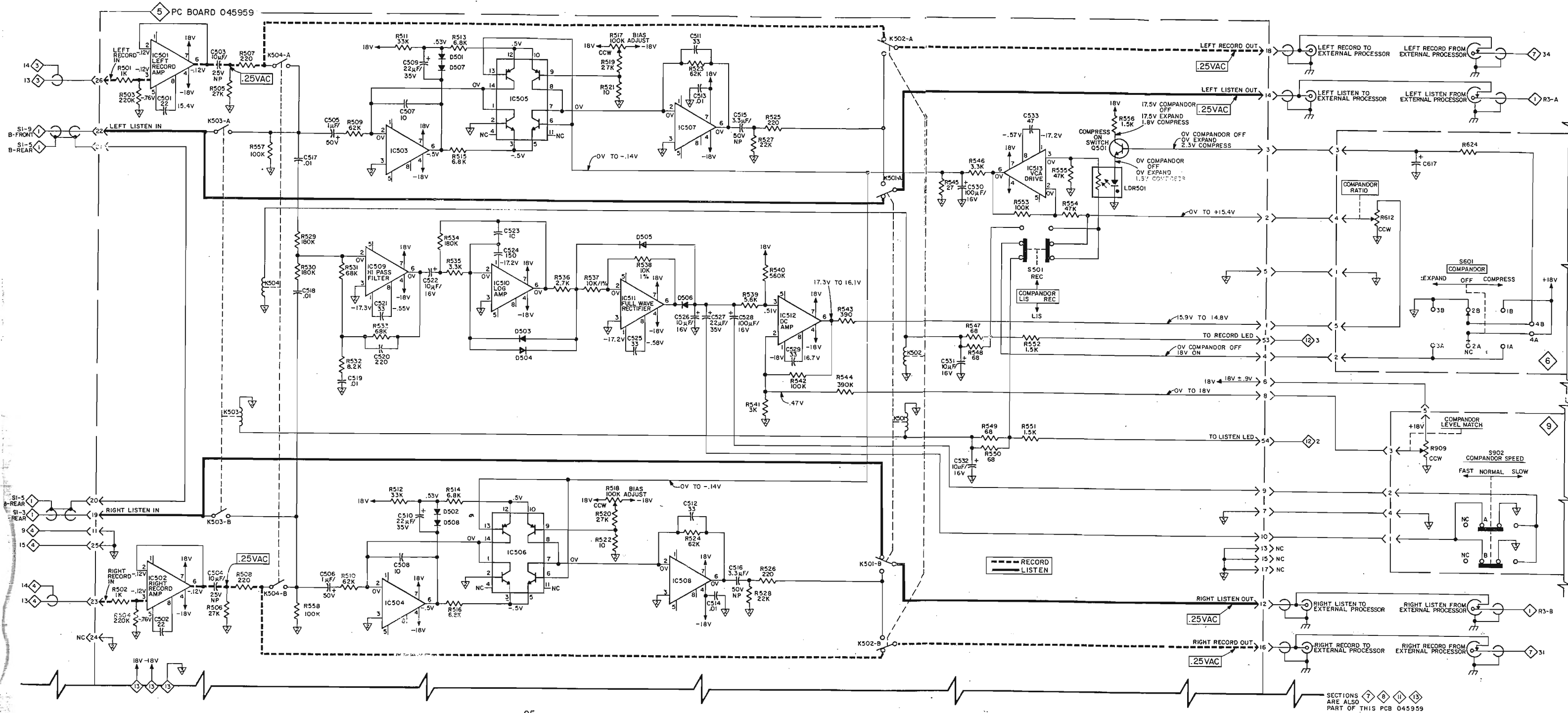
Q501



LDR501

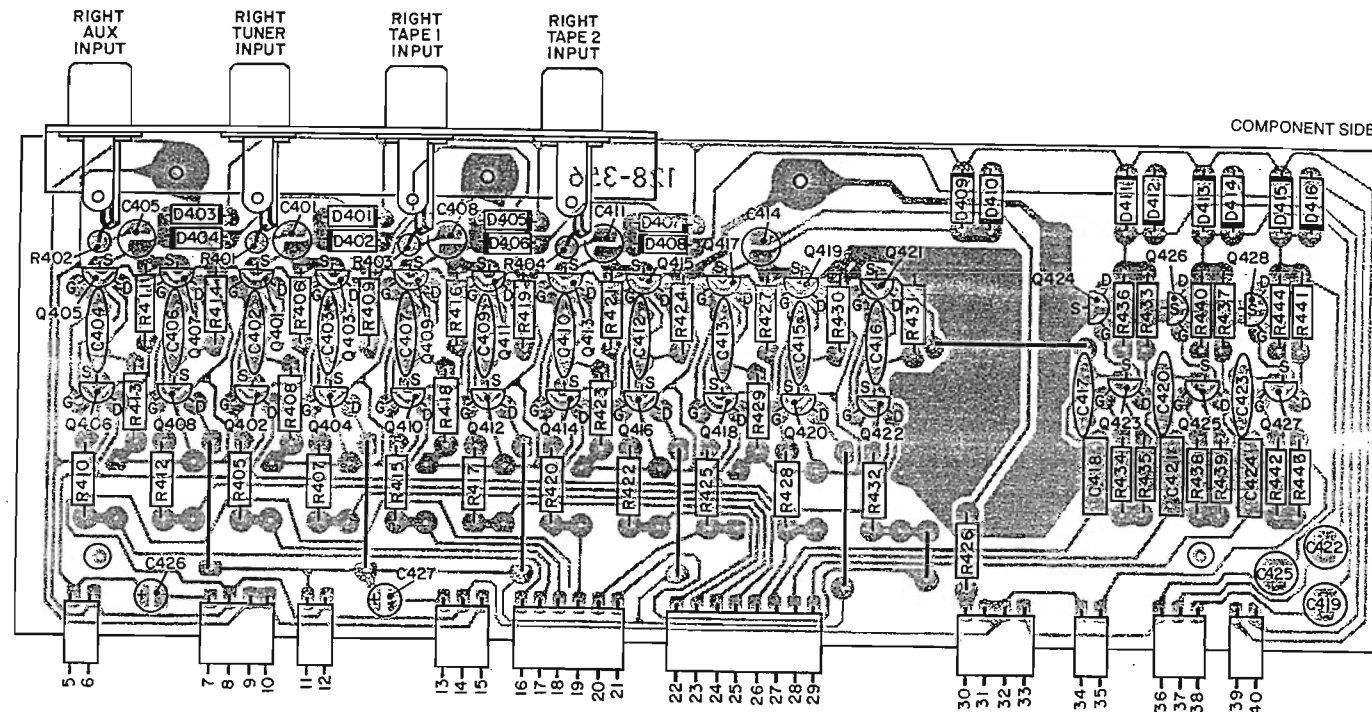
Compor and Compor Switching

5

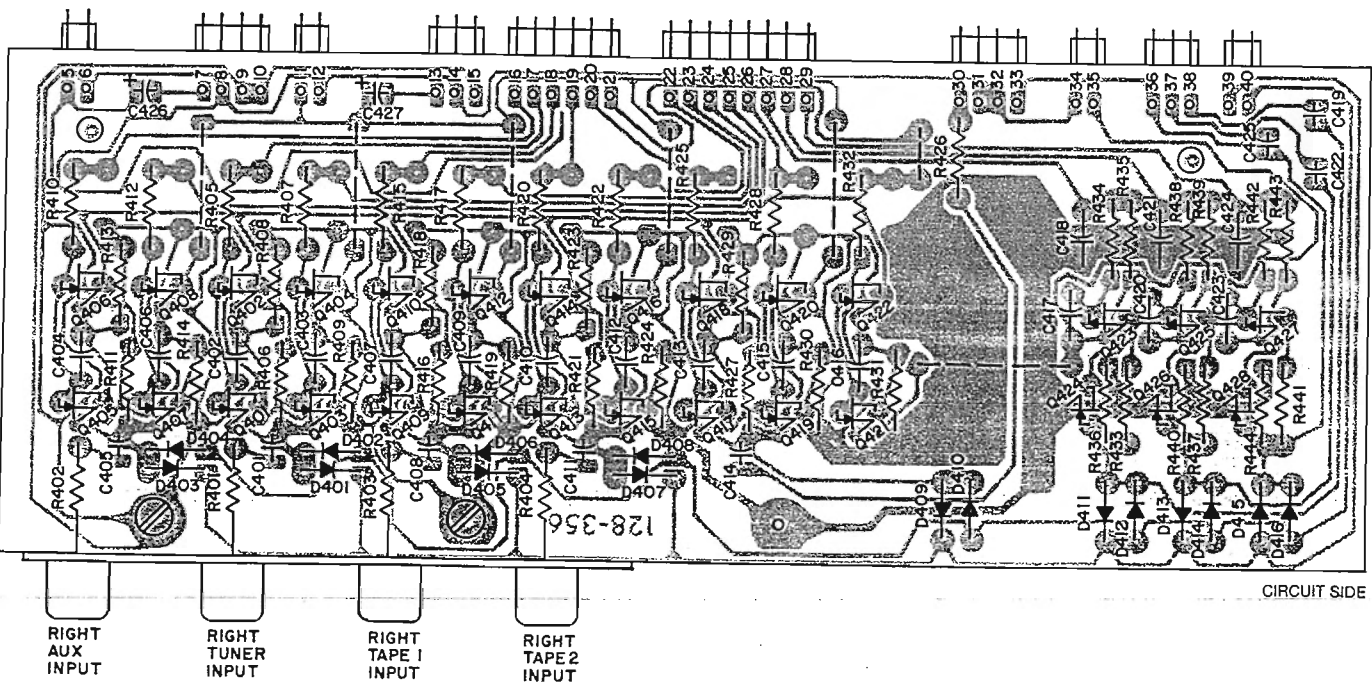


High Level Input and Tape Output Switching (Right)

4

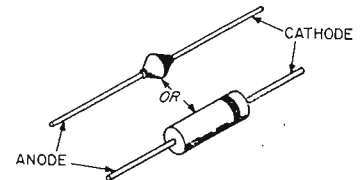


HIGH LEVEL INPUT AND TAPE OUTPUT SWITCHING (RIGHT) PCB 045938

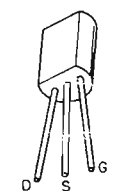


HIGH LEVEL INPUT AND TAPE OUTPUT SWITCHING (RIGHT) PARTS LIST

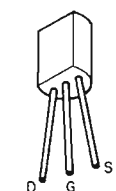
Symbol No.	Part No.	Description
DIODES		
D401-D416	070047	SIG, 75V, 10mA, 1N4148
TRANSISTORS		
Q401-Q422, Q424, Q426, Q428	132193	N, JFET, 2N4392
Q423, Q425, Q427	132226	P, JFET, J174



D401-D416



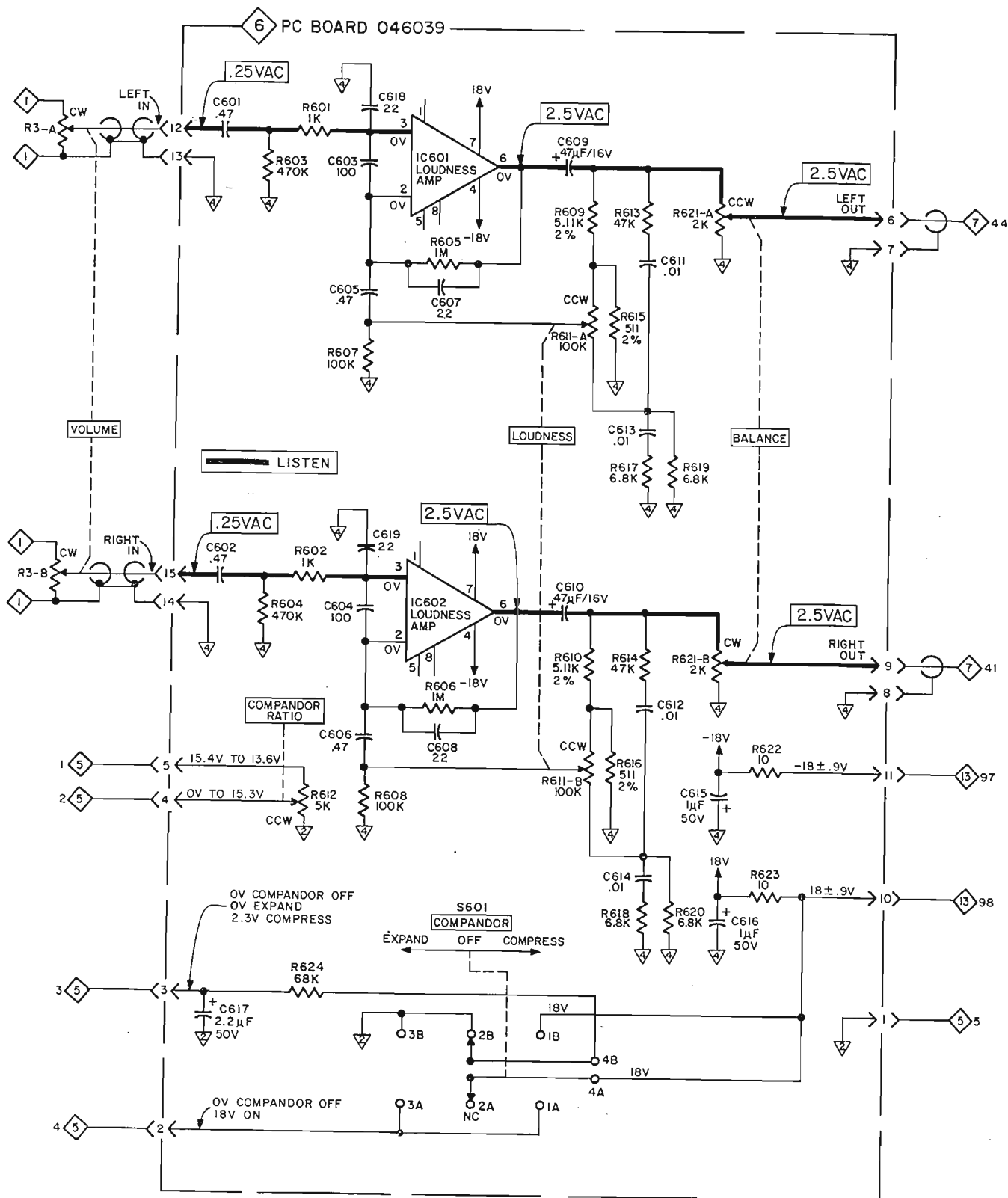
Q401-Q422, Q424, Q426, Q428



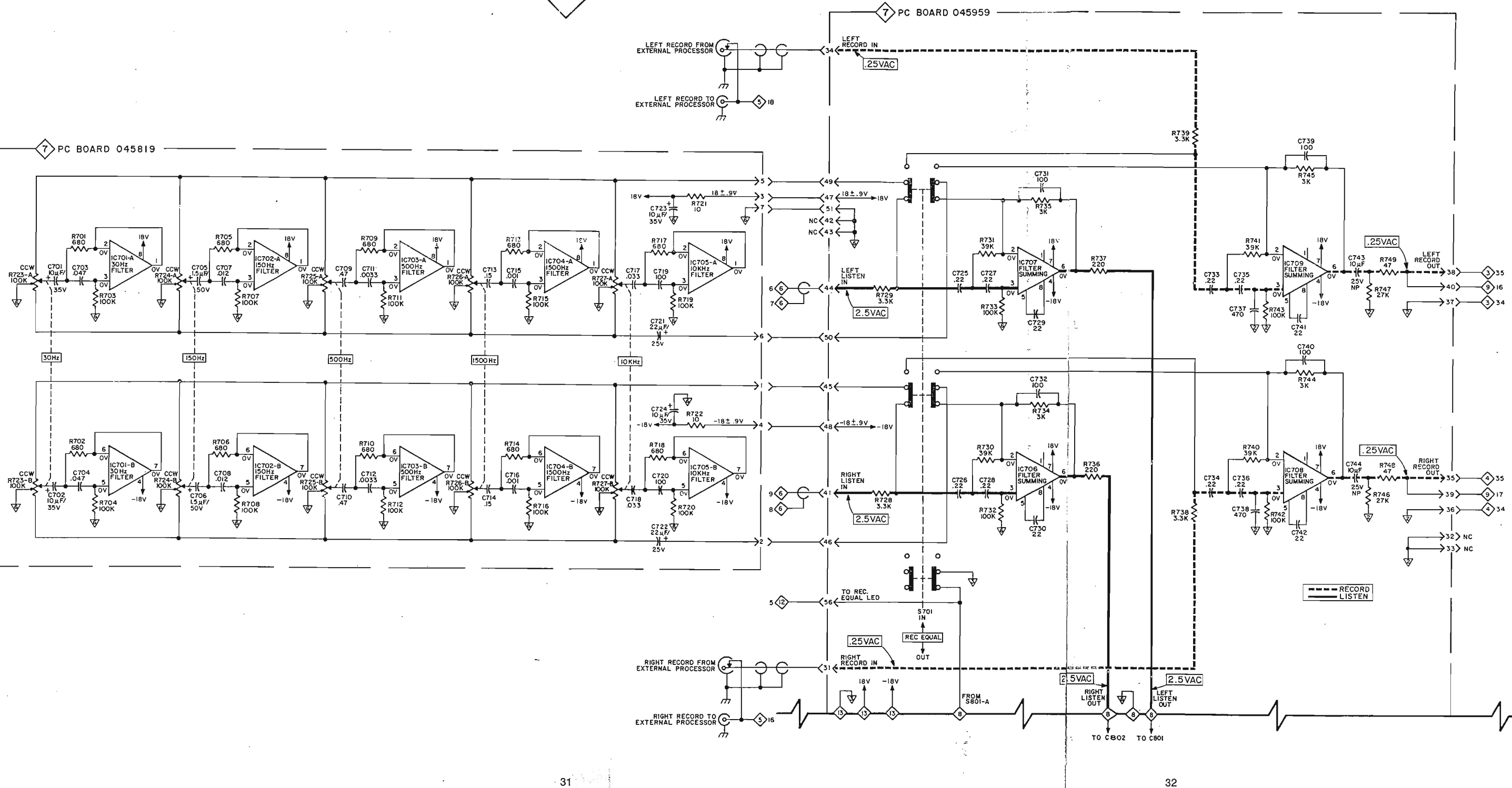
Q423, Q425, Q427

6

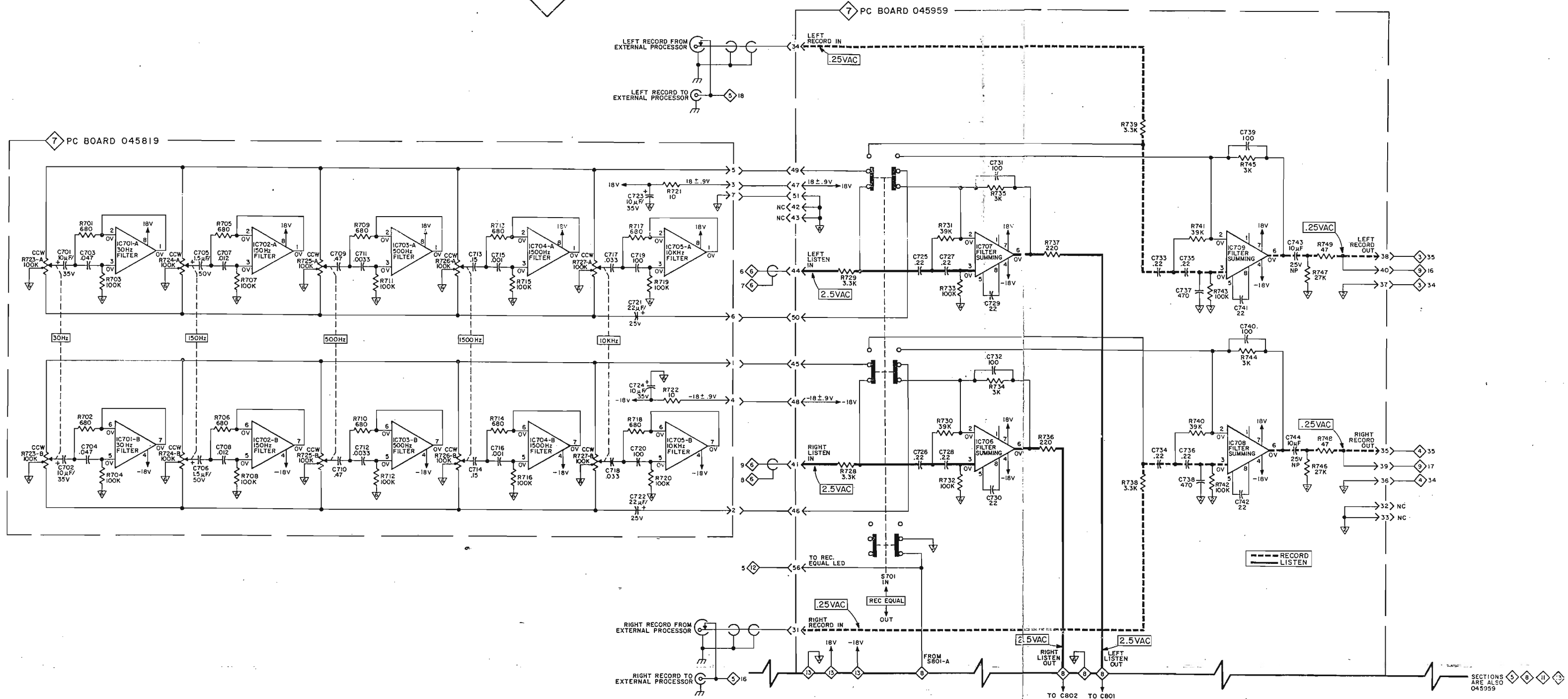
Loudness and Balance



Equalizer 7

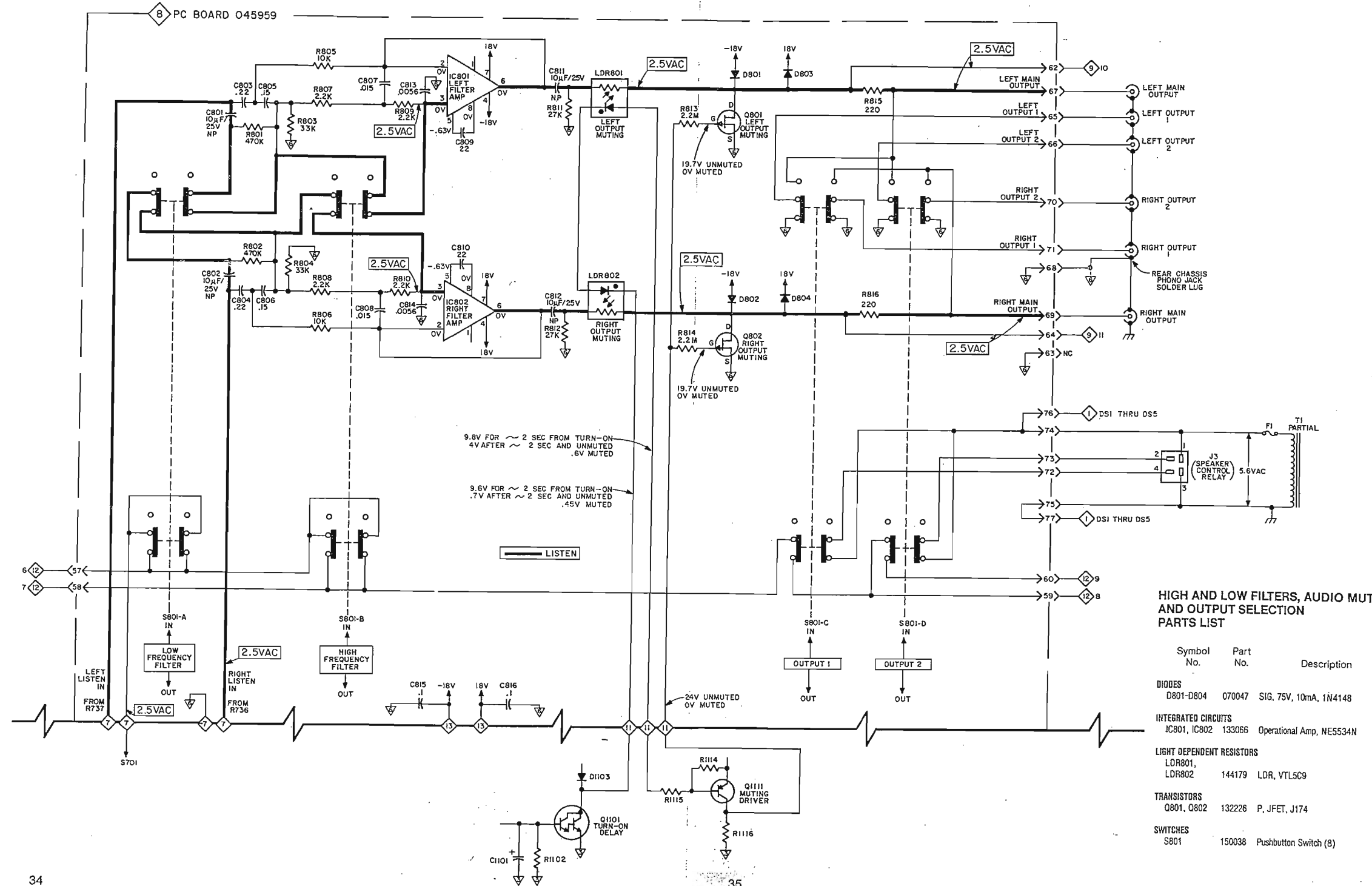


Equalizer 7



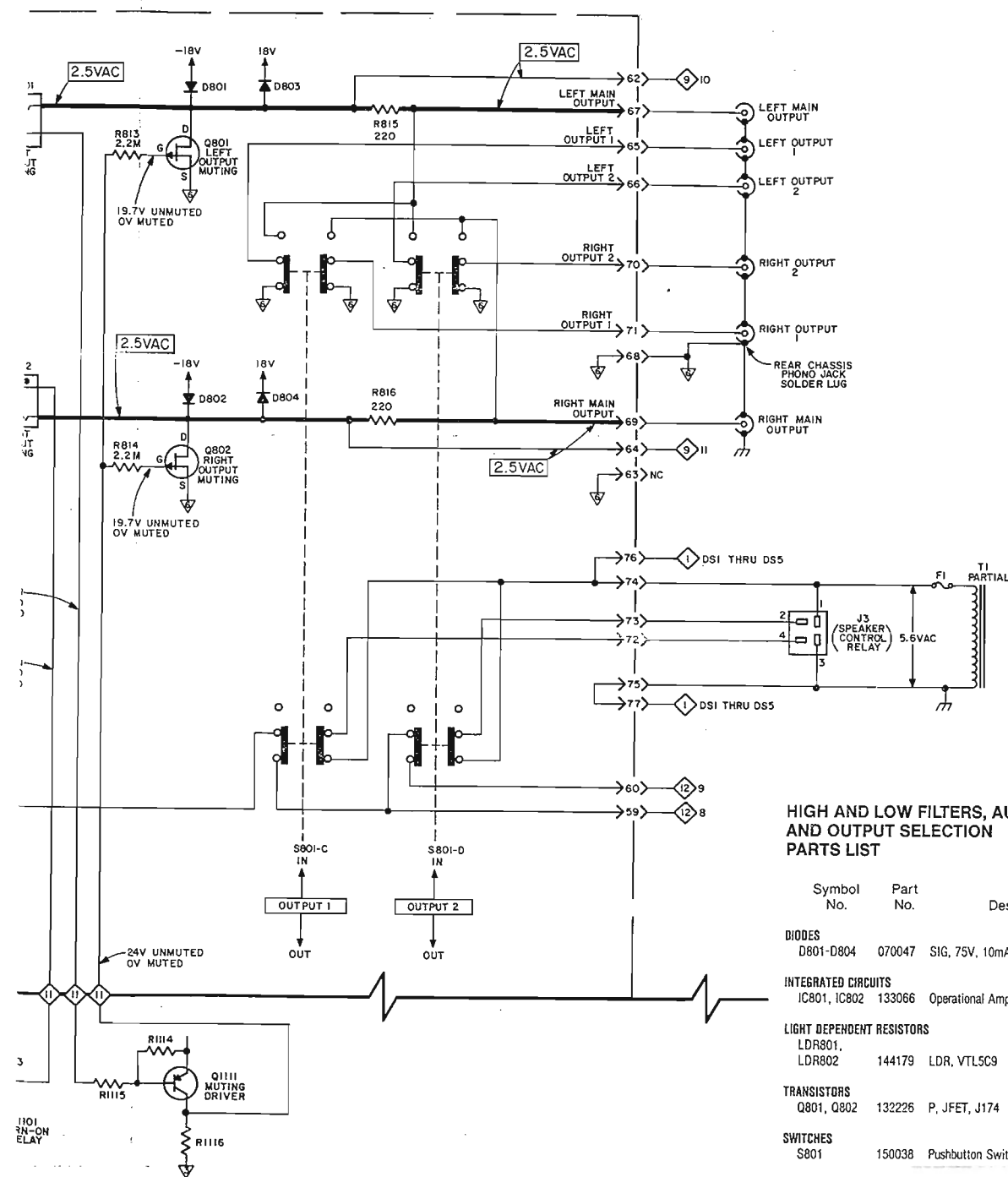
High and Low Filters, Audio Muting and Output Selection

PC BOARD 045959



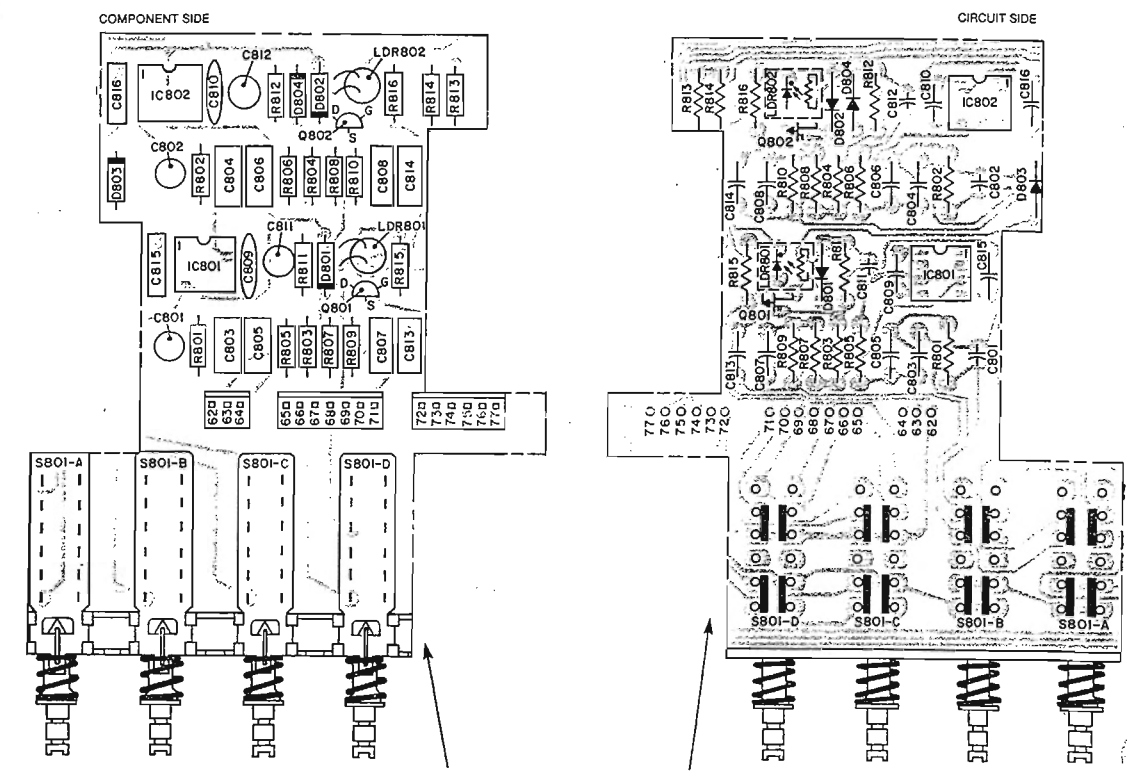
HIGH AND LOW FILTERS, AUDIO MUT AND OUTPUT SELECTION

Symbol No.	Part No.	Description
DIODES		
D801-D804	070047	SIG, 75V, 10mA, 1N4148
INTEGRATED CIRCUITS		
IC801, IC802	133066	Operational Amp, NE5534N
LIGHT DEPENDENT RESISTORS		
LDR801, LDR802	144179	LDR, VTL5C9
TRANSISTORS		
Q801, Q802	132226	P, JFET, J174
SWITCHES		
S801	150038	Pushbutton Switch (8)

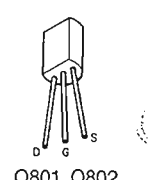
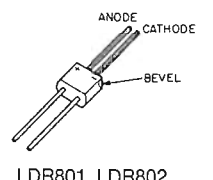
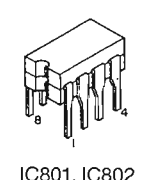
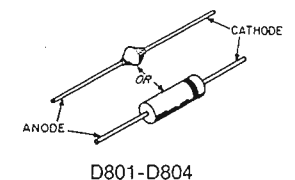
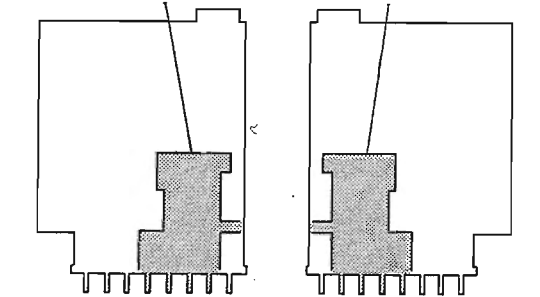


HIGH AND LOW FILTERS, AUDIO MUTING AND OUTPUT SELECTION PARTS LIST

Symbol No.	Part No.	Description
DIODES		
D801-D804	070047	SIG. 75V, 10mA, 1N4148
INTEGRATED CIRCUITS		
IC801, IC802	133066	Operational Amp, NE5534N
LIGHT DEPENDENT RESISTORS		
LDR801, LDR802	144179	LDR, VTL5C9
TRANSISTORS		
Q801, Q802	132226	P, JFET, J174
SWITCHES		
S801	150038	Pushbutton Switch (8)

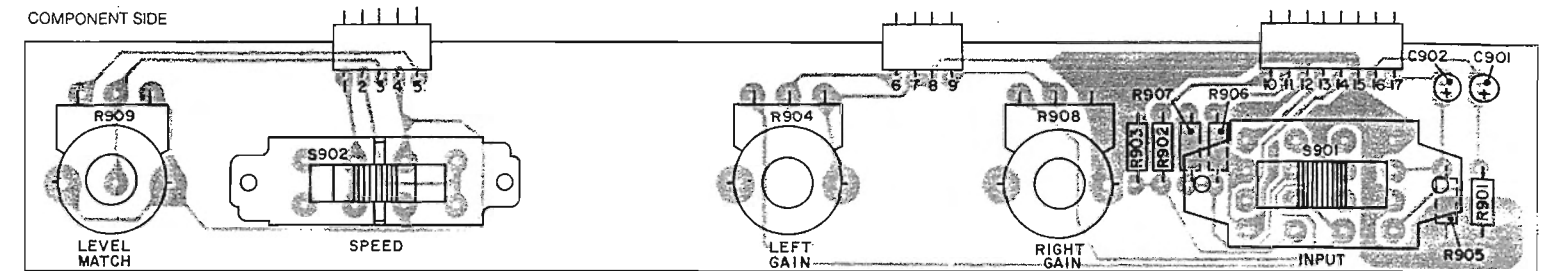
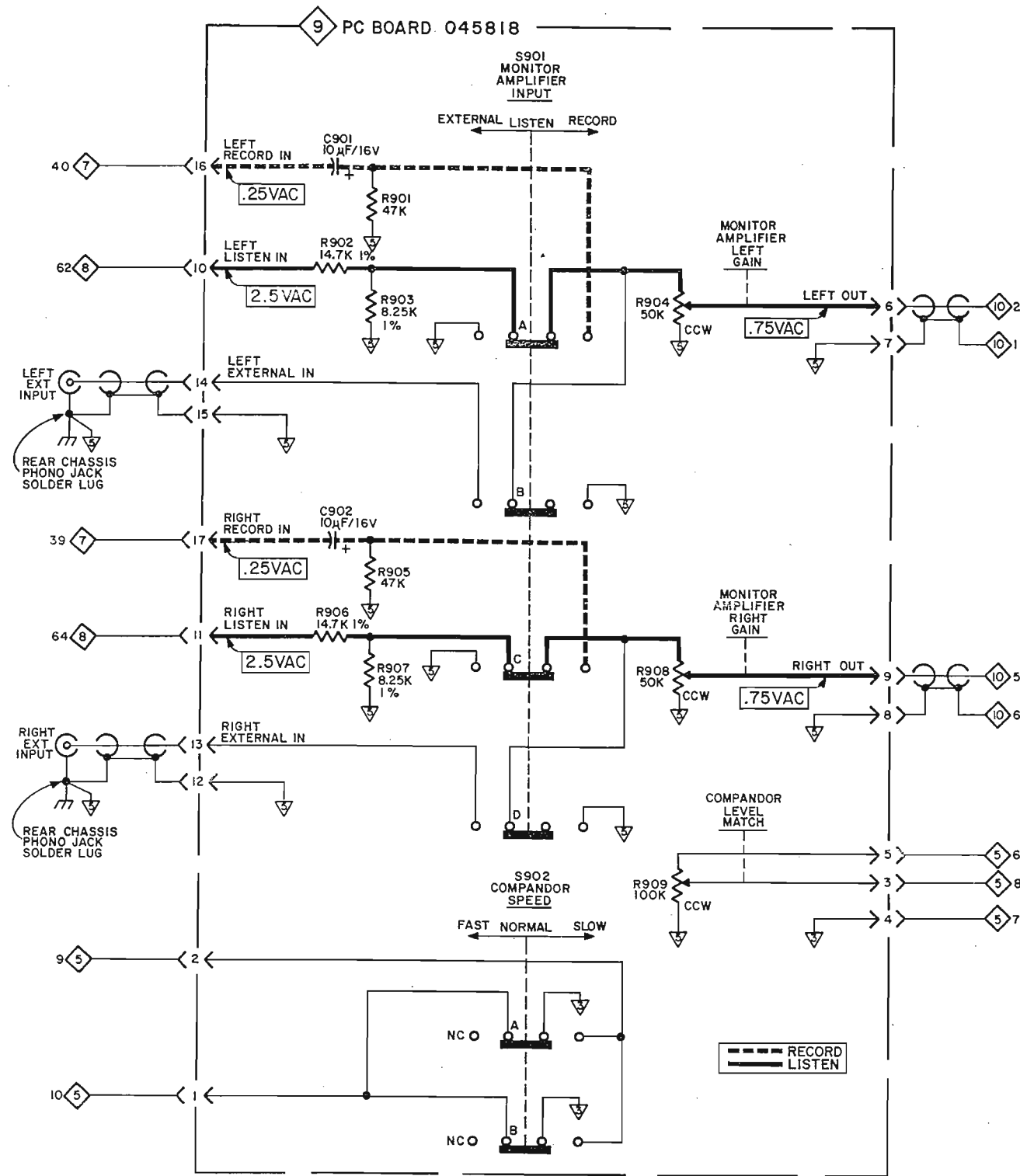


HIGH AND LOW FILTERS, AUDIO MUTING AND OUTPUT SELECTION PORTION OF PCB 045959

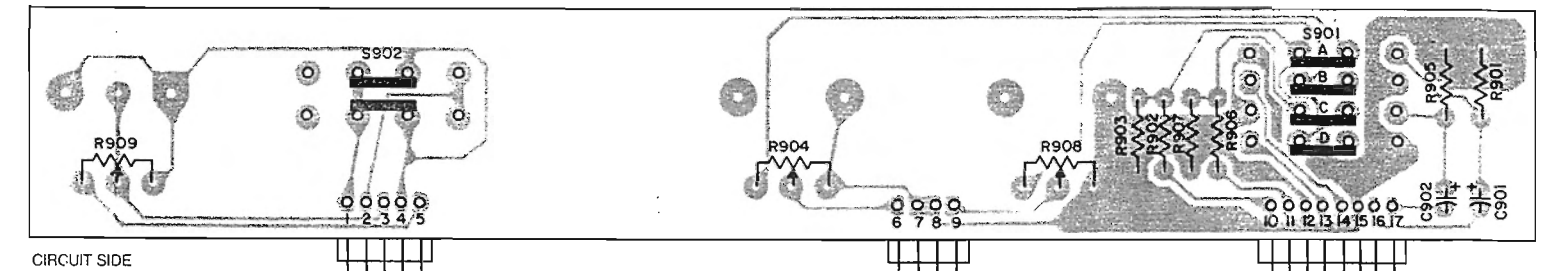


Top Cover Controls

9



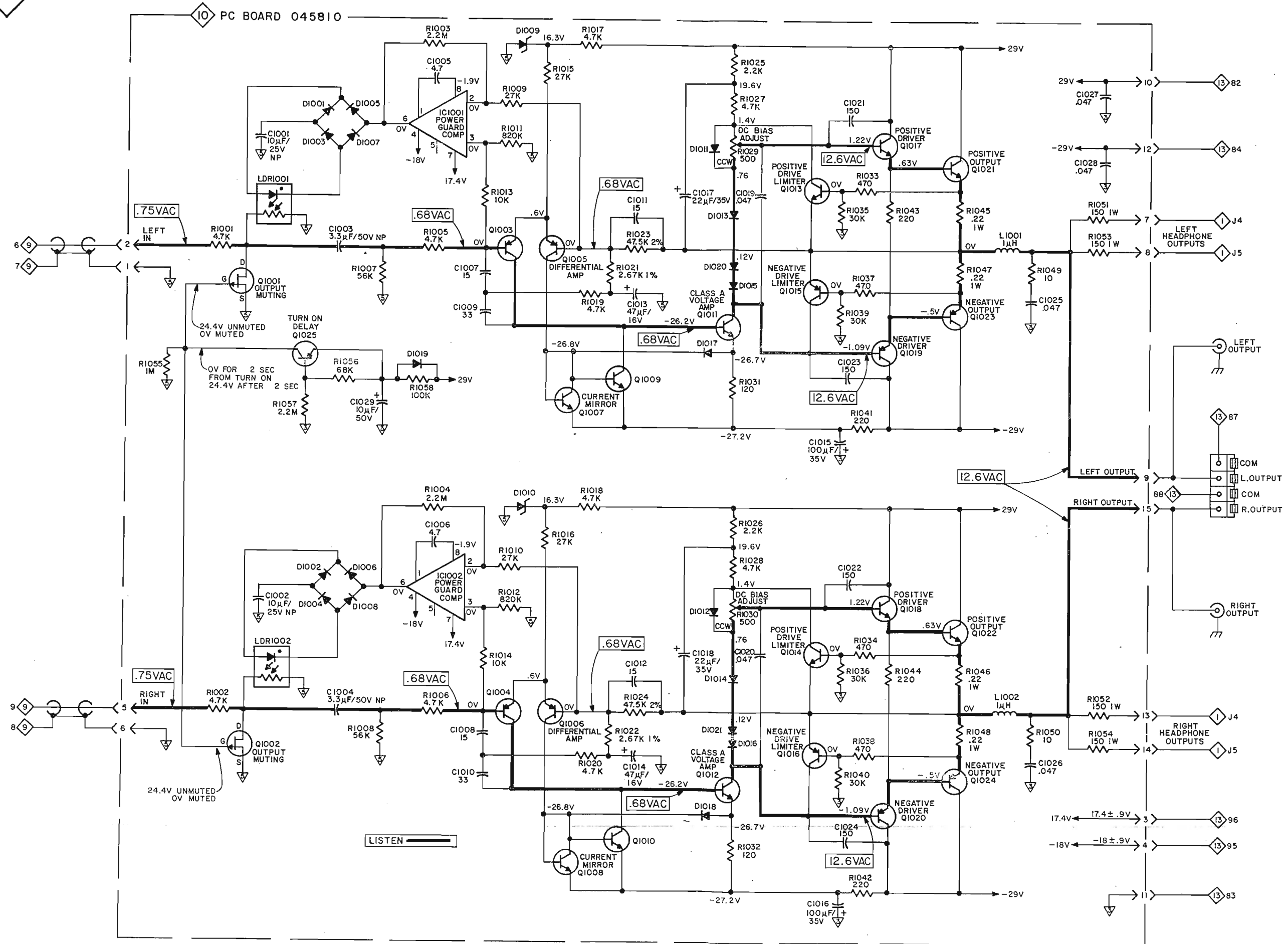
TOP COVER CONTROLS PCB 045818



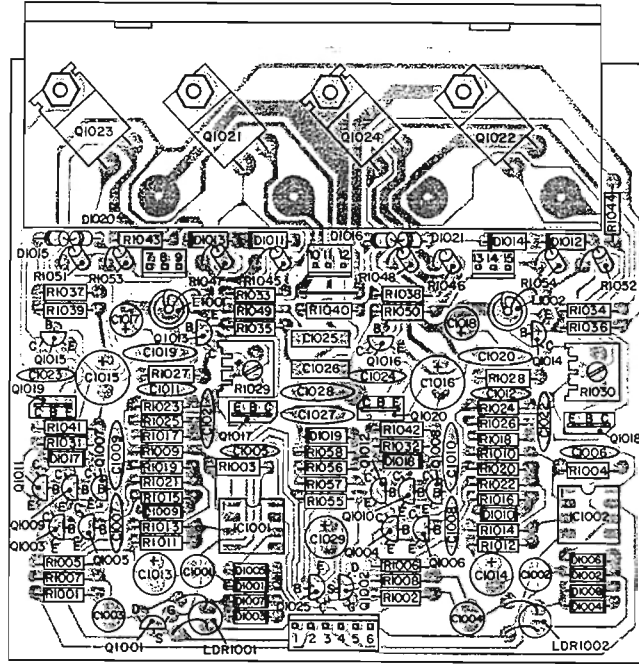
TOP COVER CONTROLS PARTS LIST

Symbol No.	Part No.	Description
RESISTORS		
R904, R908	134399	POT, 50KΩ
R909	134306	POT, 100KΩ
SWITCHES		
S901	148056	Input Switch
S902	148057	Speed Switch

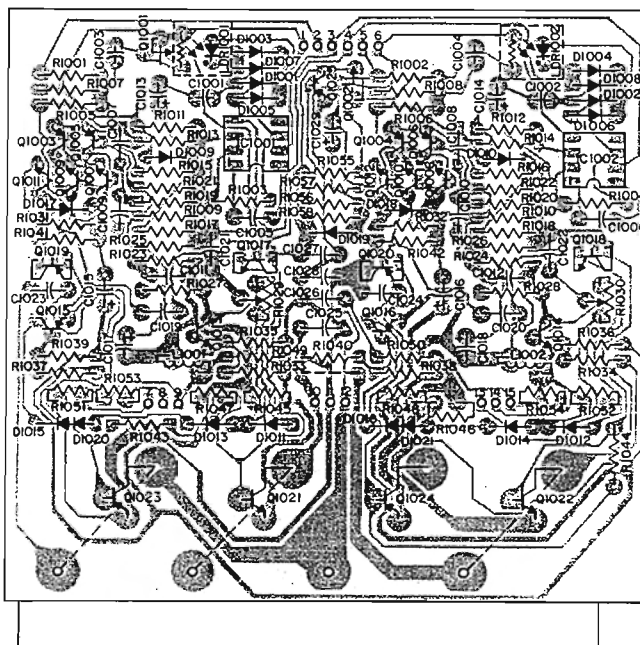
10 Monitor Amplifier



COMPONENT SIDE



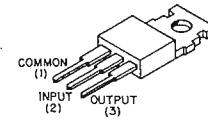
MONITOR AMPLIFIER PCB 045810



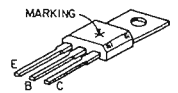
CIRCUIT SIDE

MONITOR AMPLIFIER
PARTS LIST

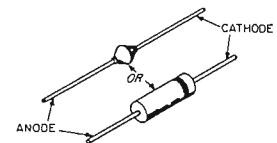
Symbol No.	Part No.	Description
DIODES		
D1001-D1008,		
D1011-D1021	070047	SIG, 75V, 10mA, 1N4148
D1009, D1010	070114	ZN, 16V, 5%, 500mW
INTEGRATED CIRCUITS		
IC1001,		
IC1002	133068	Operational Amp, LM201AN
LIGHT DEPENDENT RESISTORS		
LDR1001,		
LDR1002	144070	LDR, CLM6000
TRANSISTORS		
Q1001, Q1002	132226	P, JFET, J174
Q1003-Q1006,		
Q1025	132056	PNP, 2N5087
Q1013, Q1014	132223	NPN, MPS4124
Q1011, Q1012	132235	NPN, 2SC 2240-BL
Q1015, Q1016	132224	PNP, MPS4126
Q1017, Q1018	132149	NPN, MPSV07
Q1019, Q1020	132194	PNP, Selected 2N6556
Q1021, Q1022	132227	NPN, TIP41B
Q1023, Q1024	132228	PNP, TIP42B



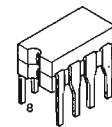
Q1021-Q1024



Q1017-Q1020



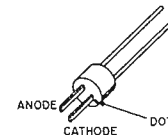
D1001-D1021



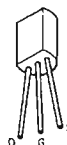
IC1001, IC1002



Q1001, Q1002



Q1011, Q1012



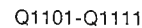
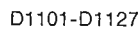
LDR1001, LDR1002

11

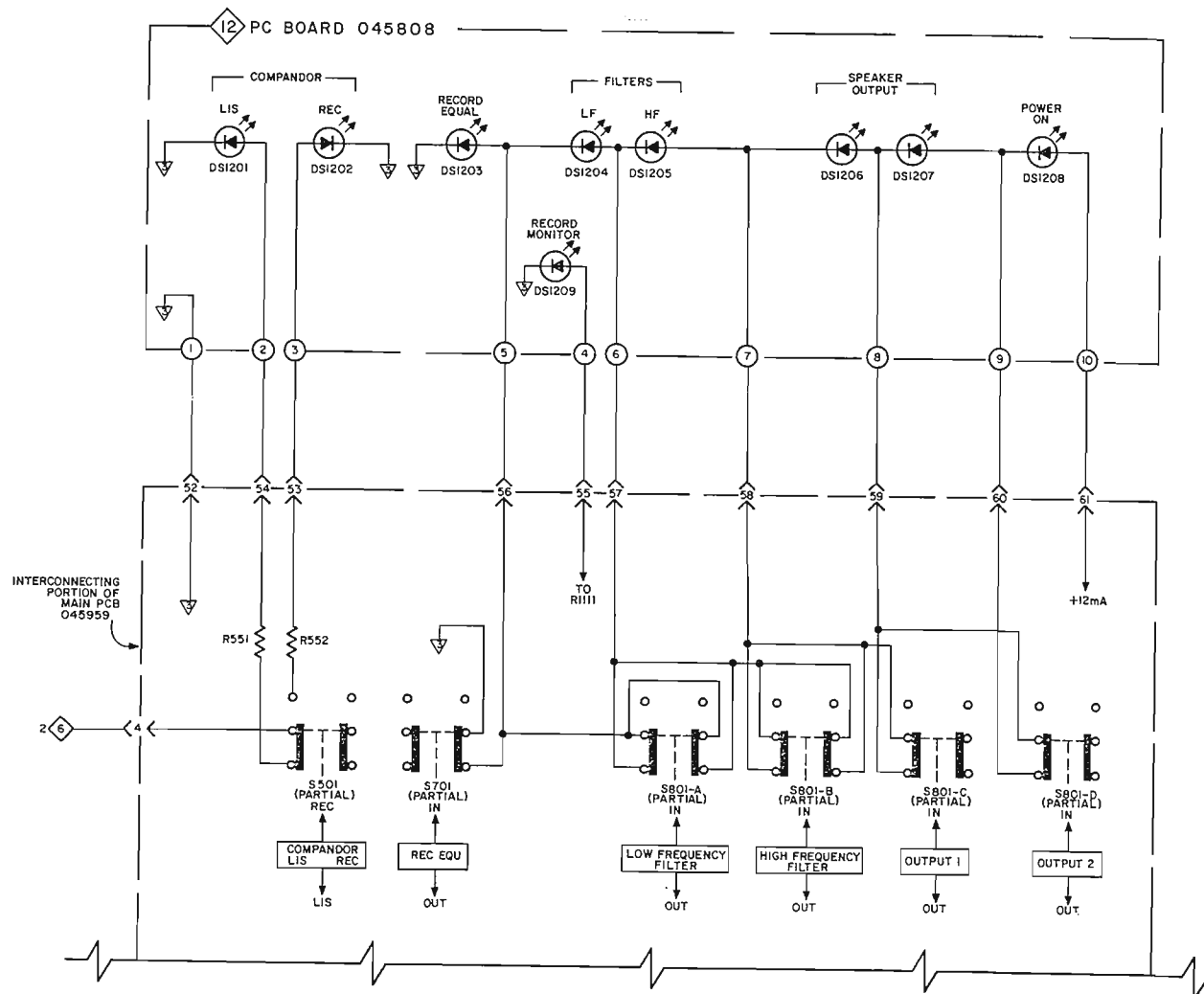


SECTION II PARTS LIST

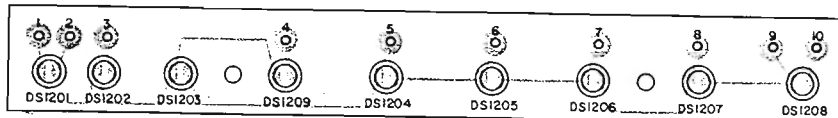
Symbol No.	Part No.	Description
DIODES		
D1101	070085	ZN, 6.2V, 5%, 500mW, 1N5234B
D1102-D1127	070047	SIG, 75V, 10mA, 1N4148
INTEGRATED CIRCUITS		
IC1101	133053	CMOS, Dual Type-DF-F, MC14013AL
TRANSISTORS		
Q1101, Q1110	132090	NPN, DAR, Selected MPSA14
Q1102, Q1104, Q1109	132171	NPN, MPSA05
Q1103, Q1105-Q1107,		
Q1111	132056	PNP, 2N5087
Q1108	132223	NPN, MPS4124
SWITCHES		
S1101	150038	Pushbutton Switch (8)



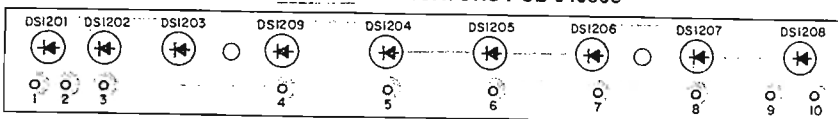
12 Pushbutton Indicators



COMPONENT SIDE



PUSHBUTTON INDICATORS PCB 045802

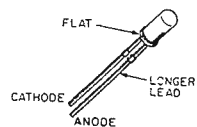


CIRCUIT SIDE

PUSHBUTTON INDICATORS PARTS LIST

Symbol No.	Part No.	Description
DS1201-DS1209	070093	LED, Red, HP5082-4658

LIGHTING DEVICES



DS1201-DS1209

Repackaging Instructions

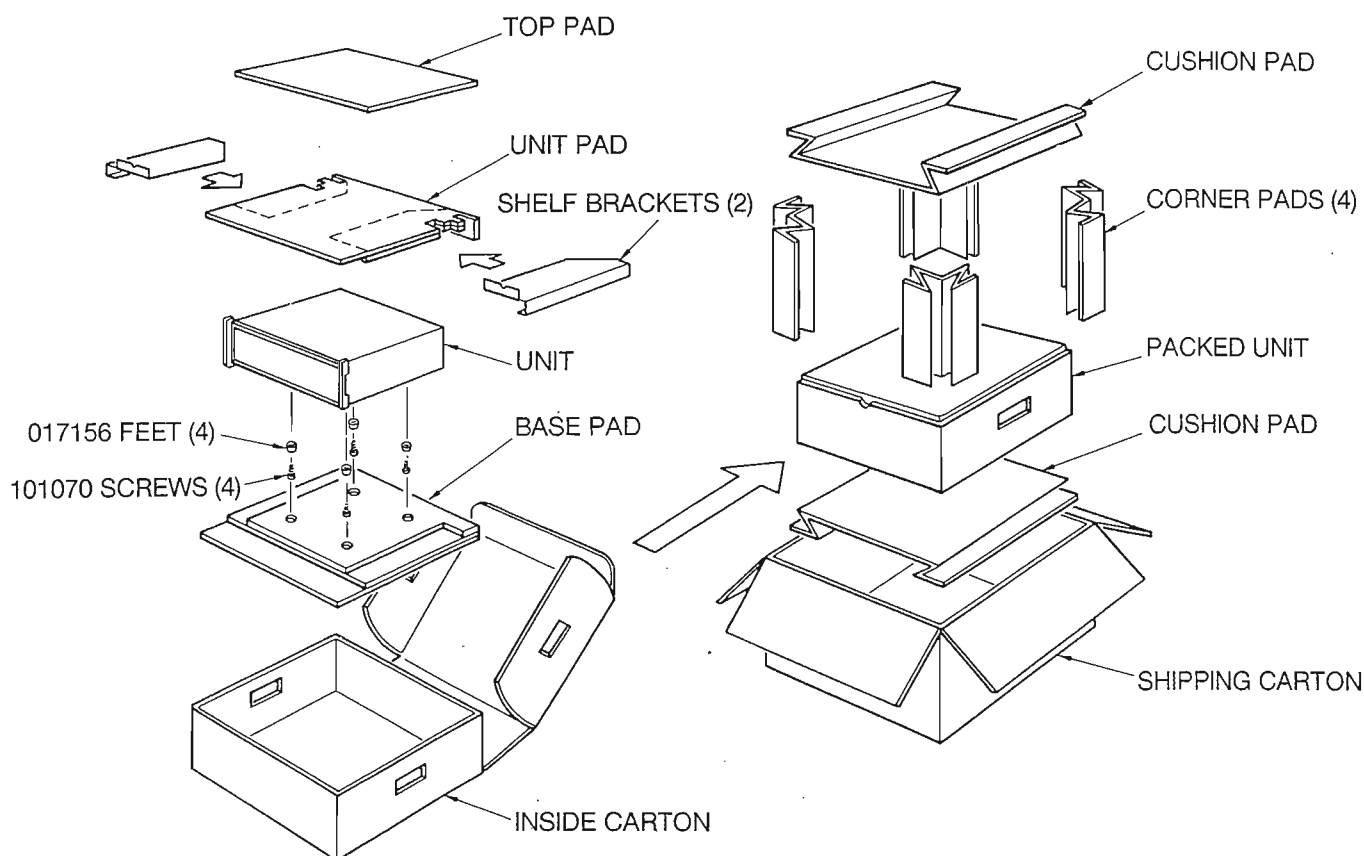
In the event it is necessary to return the C34V to McIntosh Laboratory for service, the unit must be packed exactly as shown below. It is not necessary to return the shelf brackets, although their position in the carton is shown.

The four plastic feet must be attached to the bottom of the C34V so they will locate in the four holes of the base pad.

If a shipping carton is needed, please call or write the Customer Service Department of McIntosh Laboratory. Order using the part numbers on the accompanying list.

Use the original shipping carton only if all pads and cartons are in good serviceable condition.

QTY.	PART NO.	DESCRIPTION
1	033466	Shipping carton only
1	033331	Top pad
1	033330	Unit pad
1	033259	Base pad
1	033118	Inside carton
2	033332	Cushion pad
4	033333	Corner pads
4	017156	Plastic feet
1	046862	Shipping carton complete
4	100160	Screws for feet
4	104080	Washers



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McIntosh Laboratory Inc. 2 Chambers Street Binghamton, NY 13903-2699

Part No. 039631

Printed in U.S.A.

Telephone (607)723-3512

Power Supply and Auto-On

13 PC BOARD 046472

SWITCHES
S1301 150038 Pushbutton Switch (8)

