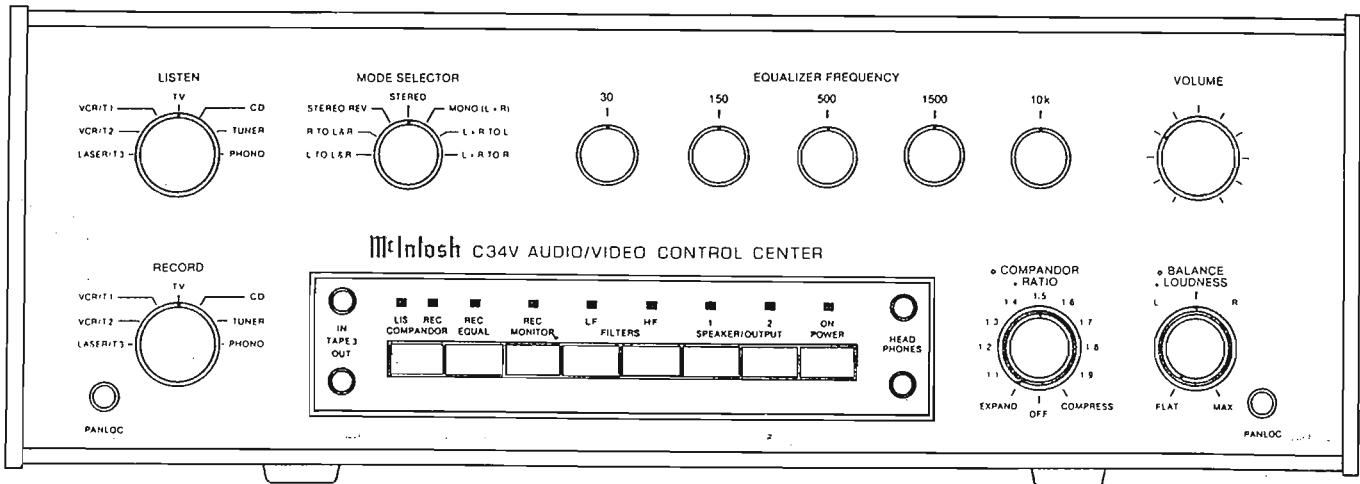


C34V

AUDIO/VIDEO CONTROL CENTER



CONTENTS

Performance Specifications	2	Section 5 — Compandor and Compandor Switching	23-27
Top and Front Views	3	Section 6 — Loudness and Balance	28-29
Rear View	4	Section 7 — Equalizer	29-33
General Notes	4	Section 8 — High and Low Filters, Audio Muting and Output Selection	34-36
Section Locations	5	Section 9 — Top Cover Controls	37-38
Block Diagram	6-8	Section 10 — Monitor Amplifier	39-41
Interconnection Diagram Parts List	8	Section 11 — Listen/Record Selectors, Record Monitor Switching, Turn-on Display and Muting Drive	42-45
Front Panel and Trim Parts List	8	Section 12 — Pushbutton Indicators	46-47
Installation Hardware Parts List	8	Section 13 — Power Supply and Auto-on	47-49
Section 1 — Interconnection Diagram	9-11	Repacking Instructions	50
Section 2 — Phono Preamp and Switching Assembly	12-14		
Section 3 — High Level Input and Tape Switching (Left)	15-17		
Section 4 — High Level Input and Tape Output Switching (Right)	18-22		

www.AUDIOCLASSICS.com

-Limited- -Since 1979-

3501 Old Vestal Road, Vestal, NY 13850

Phone/Fax: 607-766-3501

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

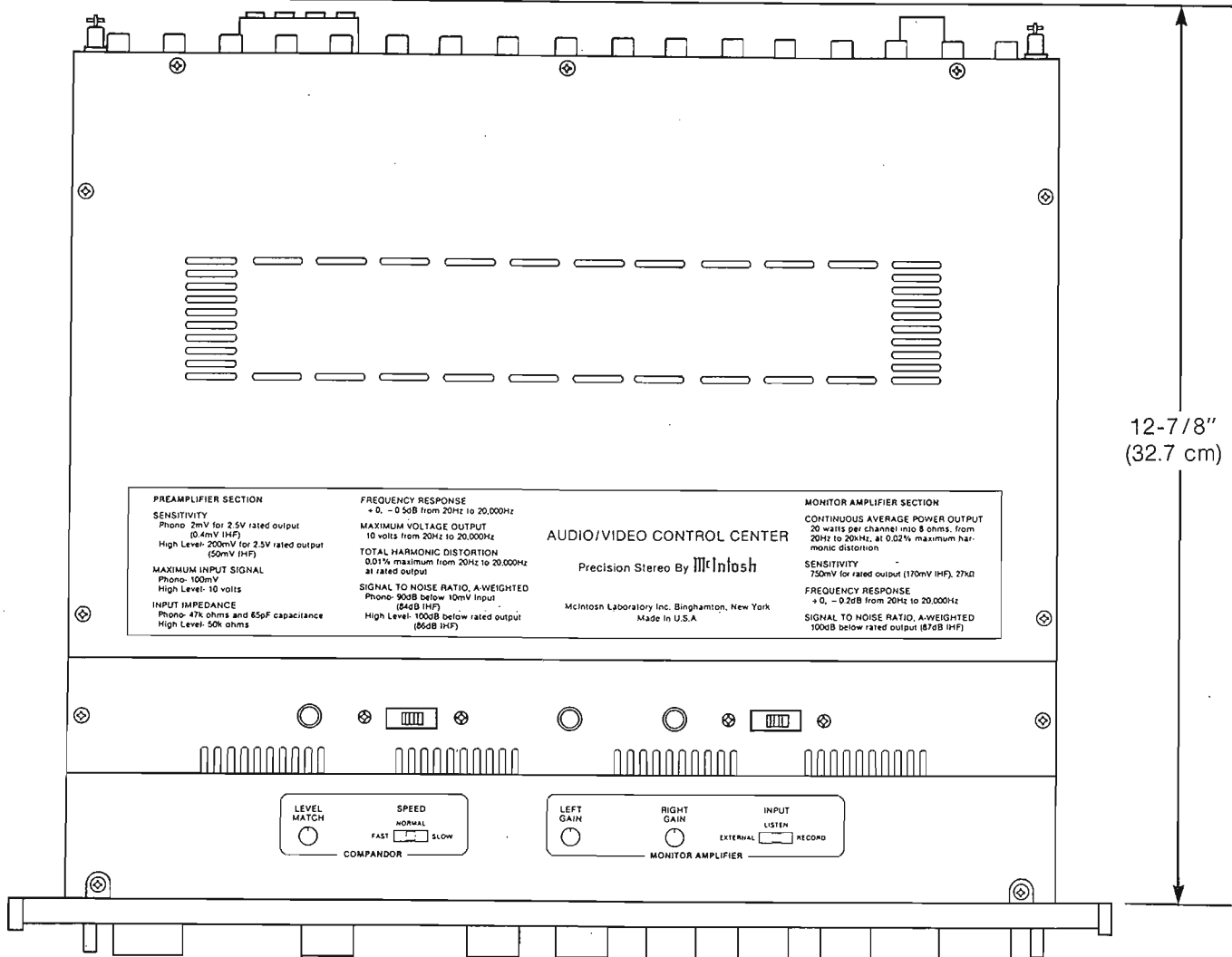


Fig. 1. Top view

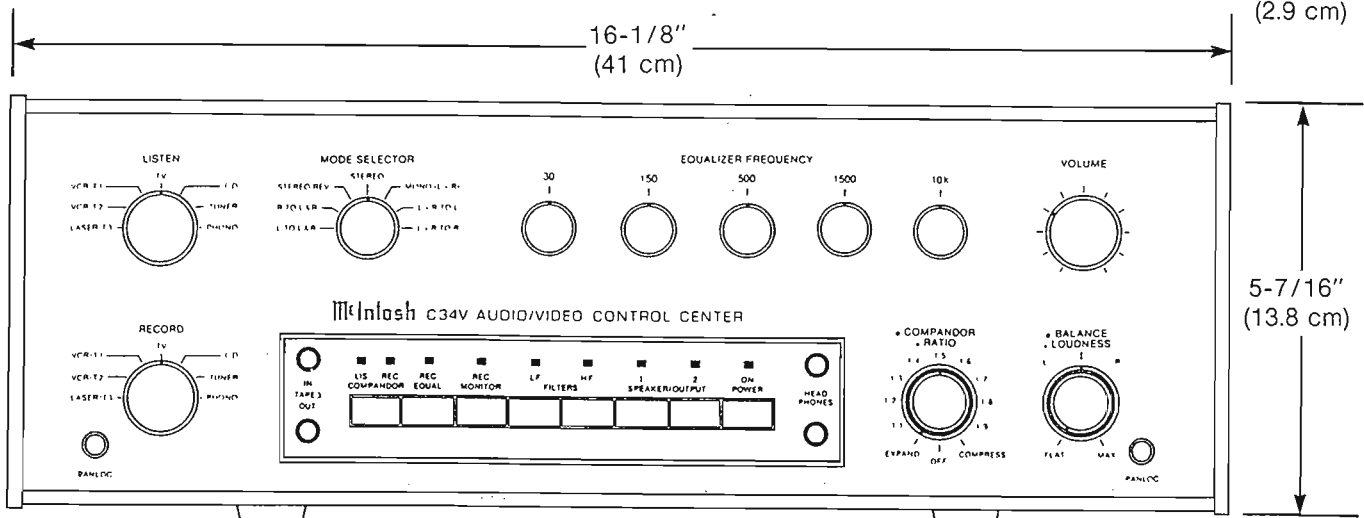


Fig. 2. Front view

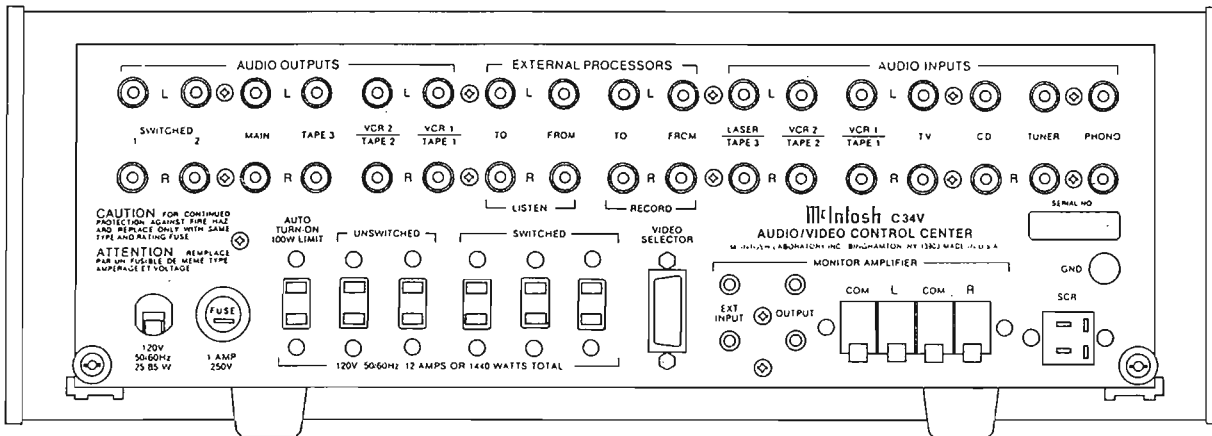


Fig. 3. Rear view

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

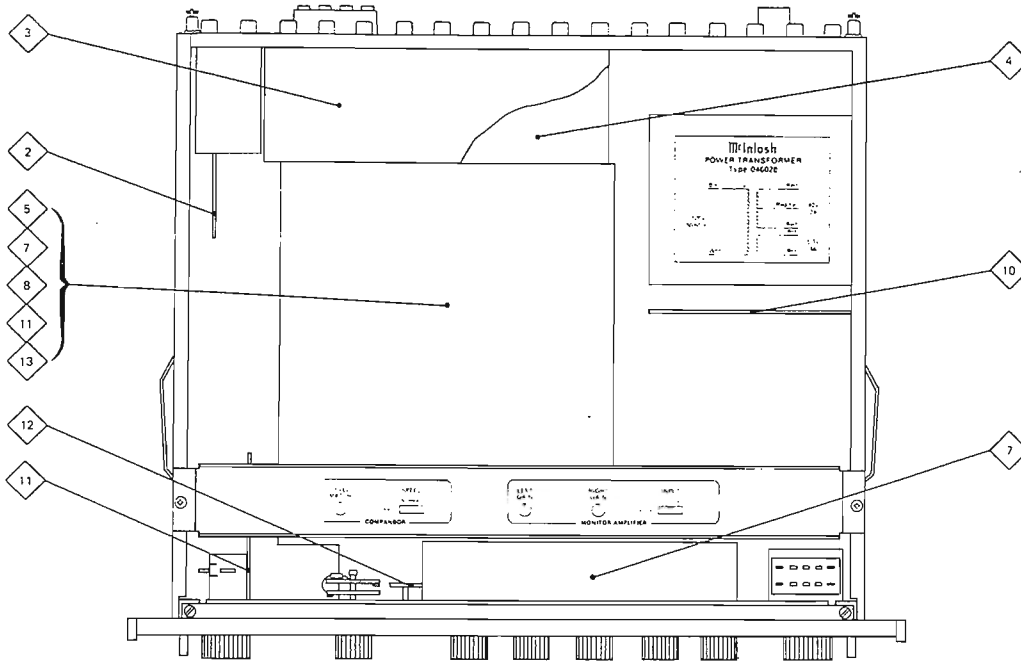


Fig. 4. Top view with cover removed

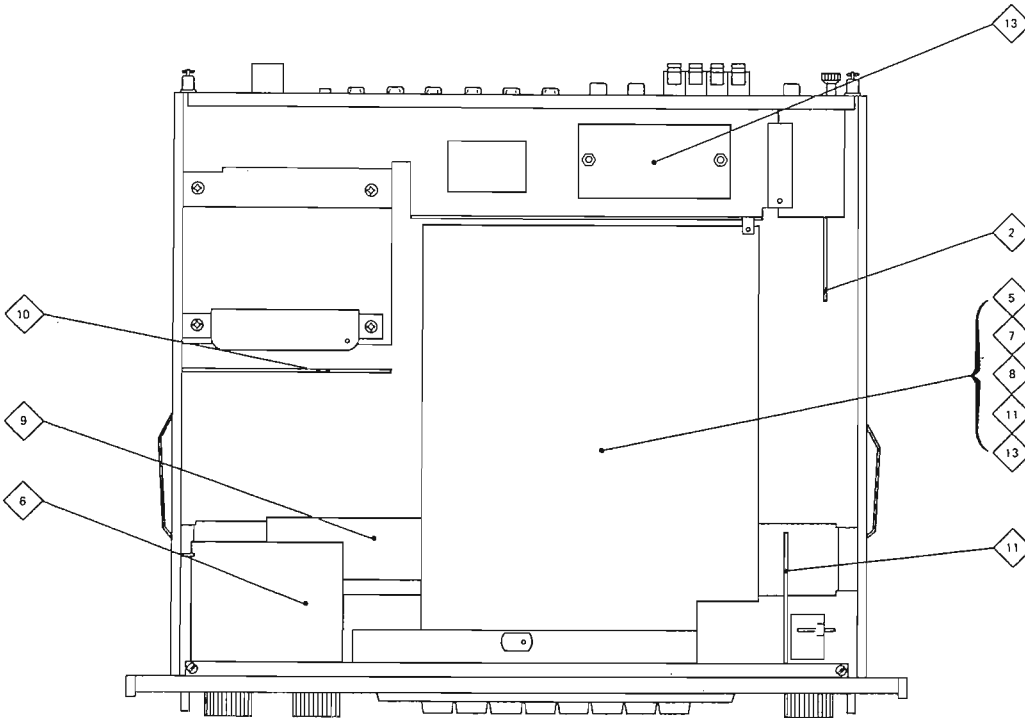
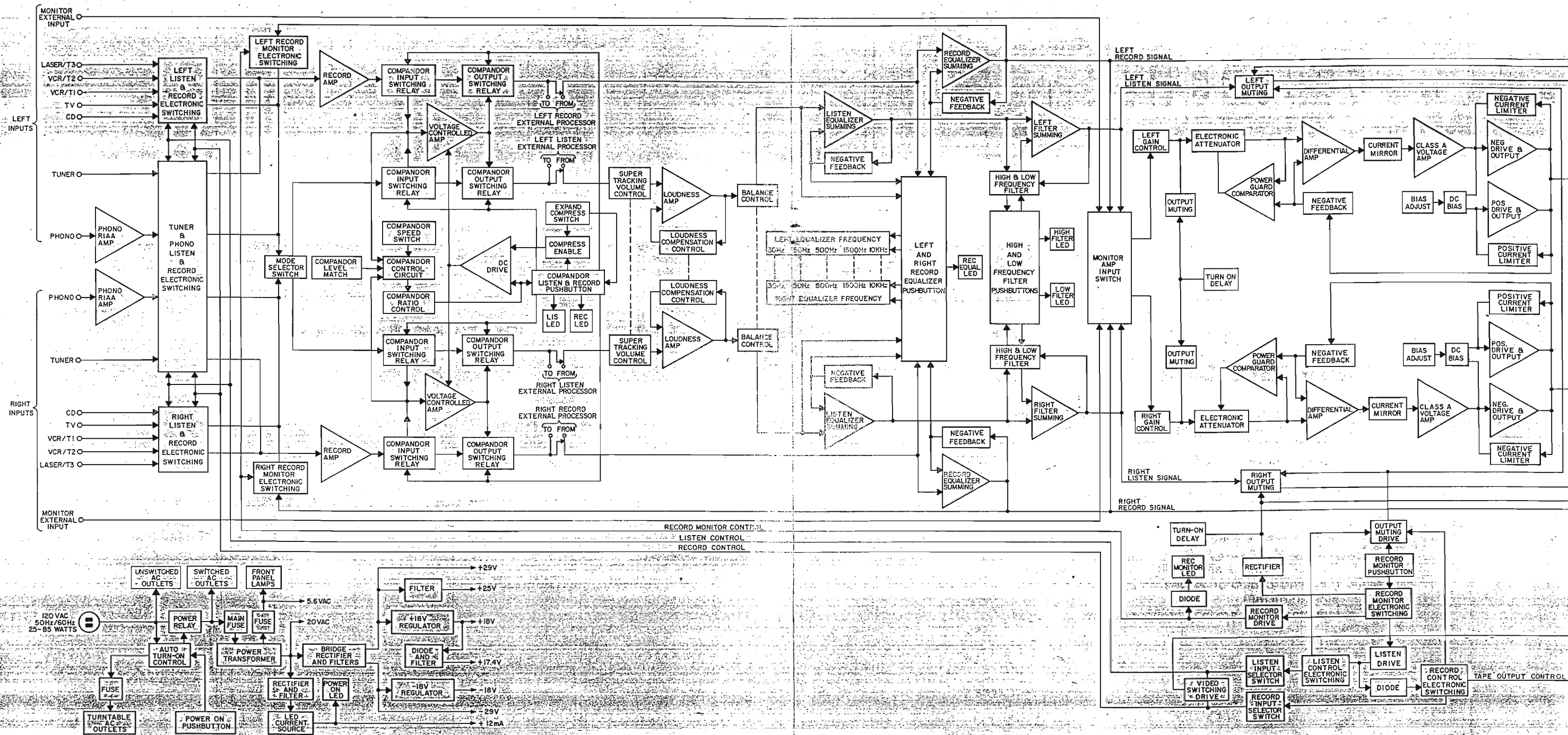


Fig. 5. Bottom view with cover removed

Block Diagram



INTERCONNECTION DIAGRAM PARTS LIST

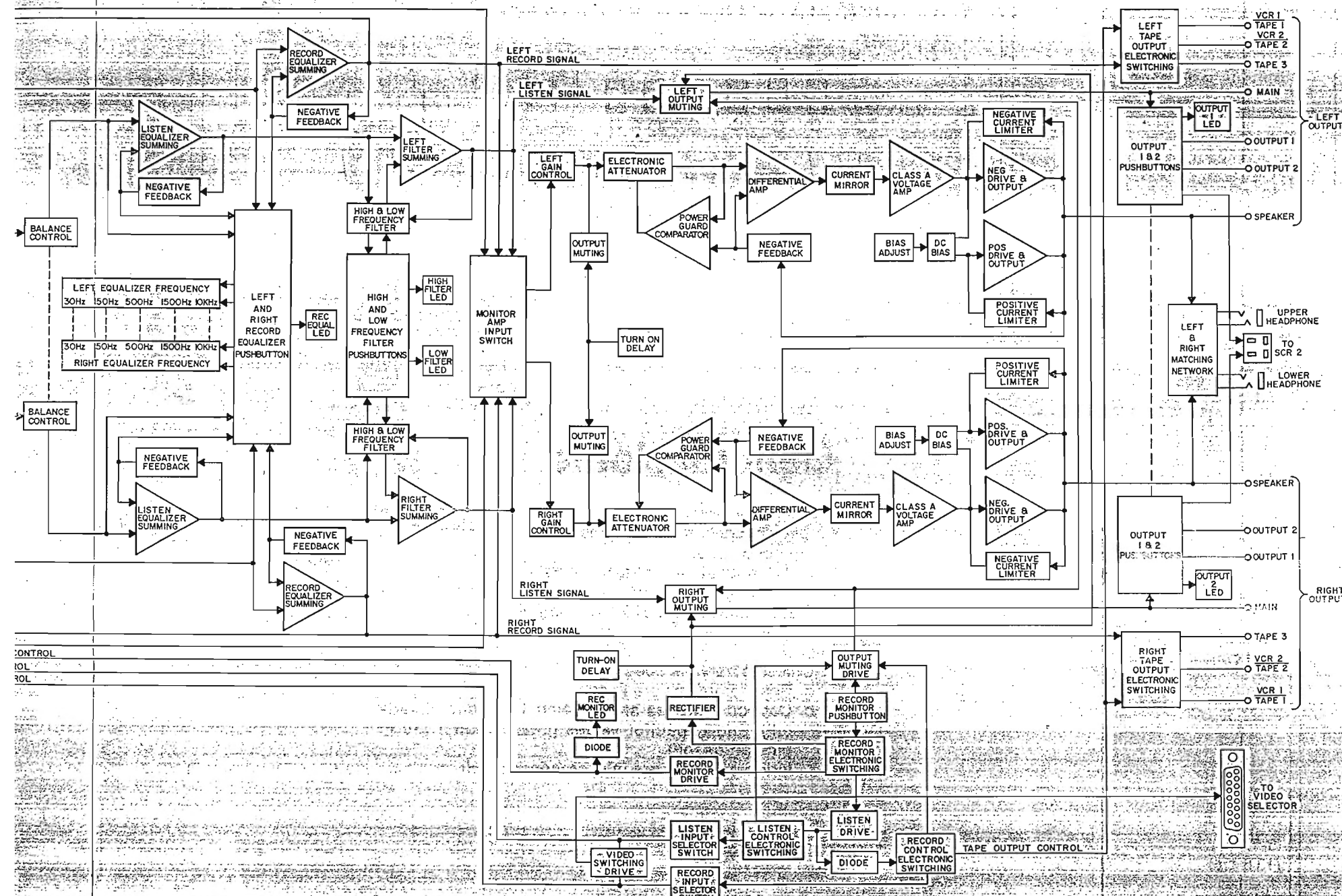
Symbol No.	Part No.	Description
CAPACITORS		
C1-C2	061276	CD, .0047 μ F, 400V, UL/CSA
LIGHTING DEVICES		
DS1-DS5	058069	INC, 6.3V, 8610
FUSES		
F1	089007	Fuse, SB, 5A, 125V, MDL-5
F2	089003	Fuse, SB, 1.5A, 125V, MDL-1.5
F3	089002	Fuse, FA, 1A, 250V, AGC-1
	178122	Fuseholder
RESISTORS		
R3	134395	POT, 100K Ω , Volume Control
SWITCHES		
S1	146228	Mode Selector Switch
TRANSFORMERS		
T1	045807	Power

FRONT PANEL AND TRIM PARTS LIST

Part No.	Description
017230	Pushbutton, Black
017244	Pushbutton, Red
018155	Top Panel Rail, Secure w/100007 Screws
018348	End Cap, Secure w/101042 Screws
043410	Bottom Panel Rail, Secure w/100103 Screws
045828	Pushbutton Bezel, w/Adhesive
046550	Front Panel, Glass
046551	Front Panel, Complete
090217	Ratio Knob (Front)
090187	Compandor Knob (Rear)
090217	Loudness Knob (Front)
090187	Balance Knob (Rear)
090214	Mode Selector Knob
090215	Listen Knob
090215	Record Knob
090215	Volume Knob
090216	Equalizer Frequency Knob
101054	Tapping Screws, 6-32 x 1/4, Phillips, Black
104017	Knob Felt Washers, 3/4 Dia.
104073	Knob Felt Washers, 5/8 Dia.

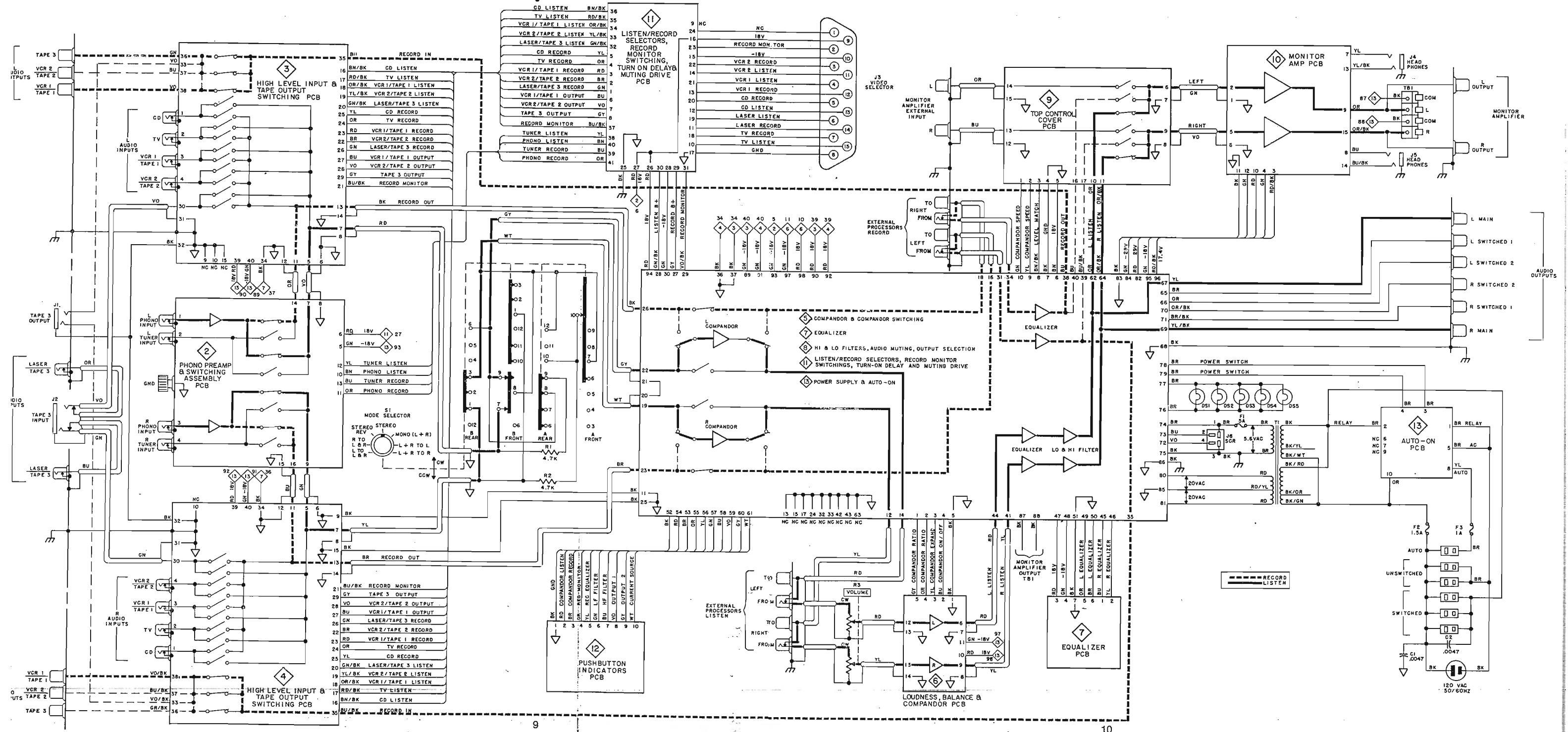
INSTALLATION HARDWARE PARTS LIST

Part No.	Description
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.



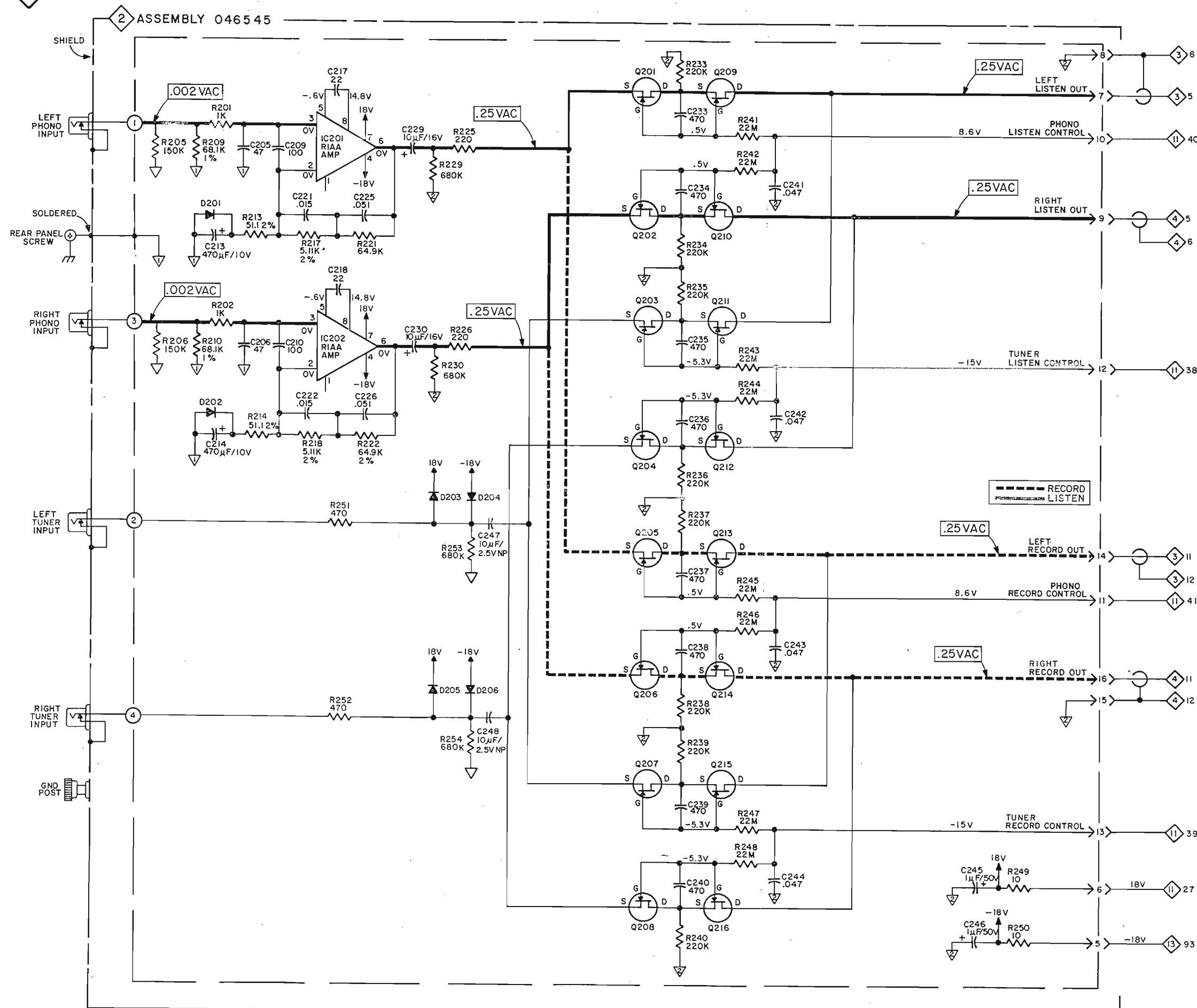
Interconnection Diagram

1



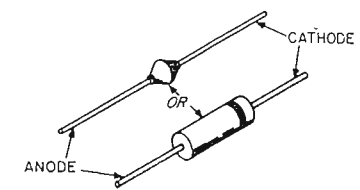
2

Phono Preamp and Switching Assembly

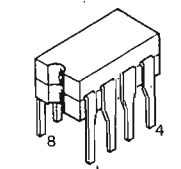


PHONO PREAMP AND SWITCHING ASSEMBLY PARTS LIST

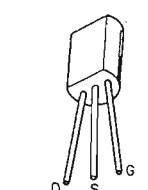
Symbol No.	Part No.	Description
DIODES		
D201-D206	070047	SIG, 75V, 10mA, 1N4148
INTEGRATED CIRCUITS		
IC201-IC202	133067	Operational Amp, Low Noise & THD, NE5534AN
TRANSISTORS		
Q201-Q216	132193	N, JFET, 2N4392



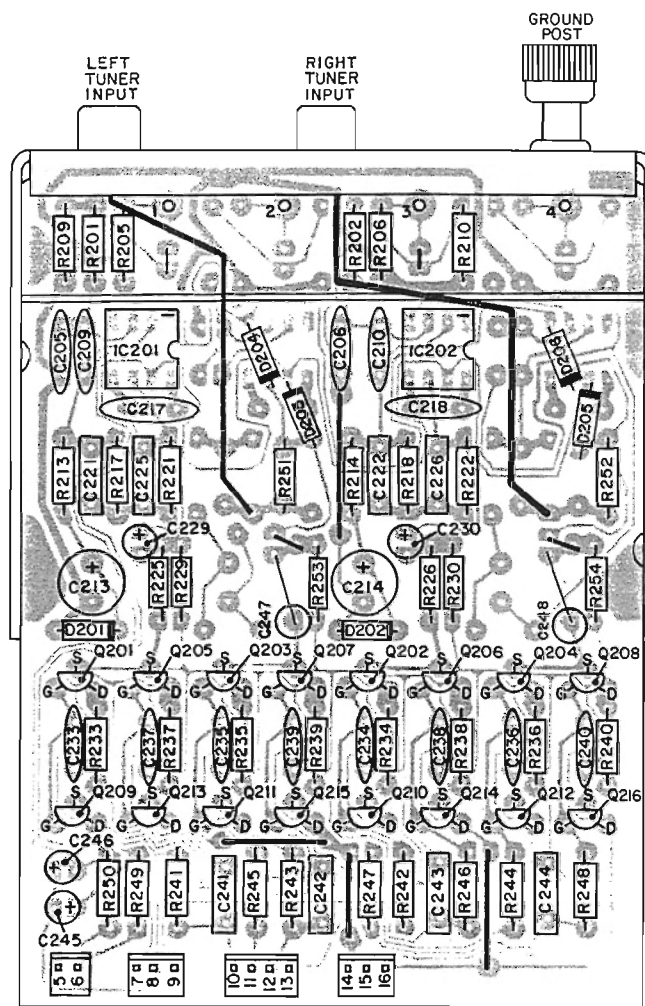
D201-D206



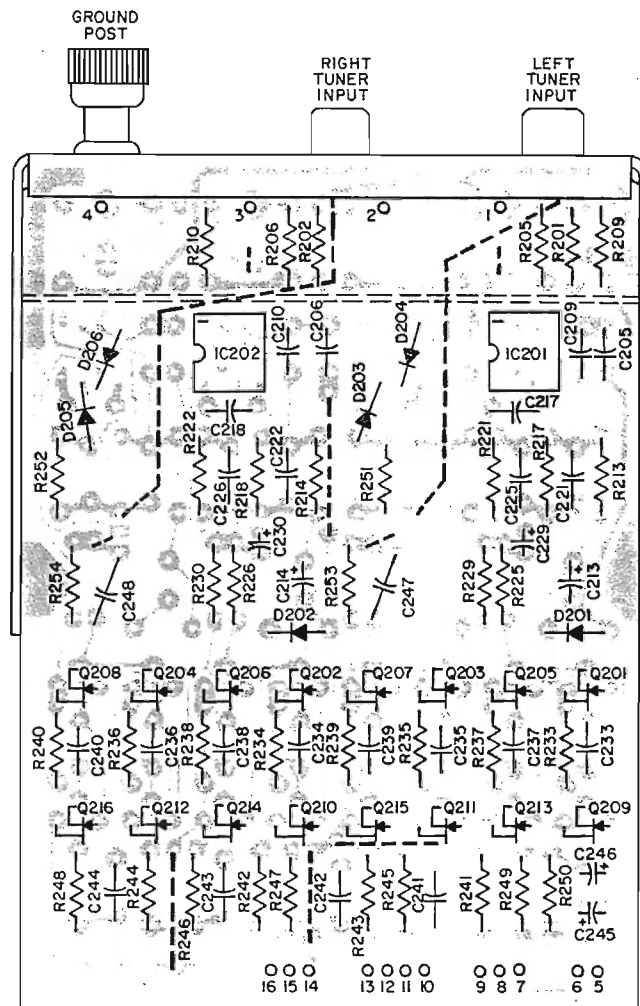
IC201-IC202



Q201-Q216



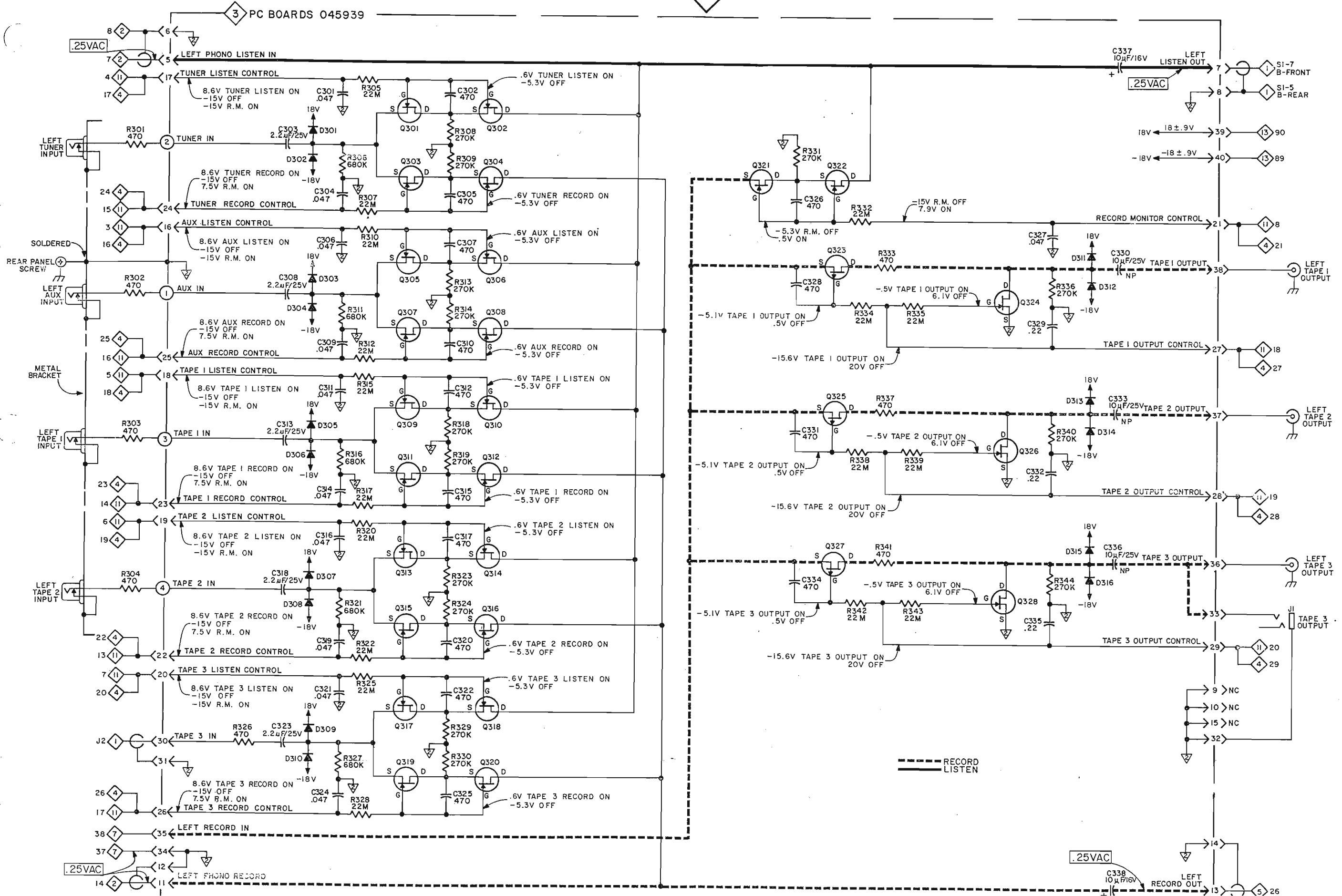
COMPONENT SIDE



CIRCUIT SIDE

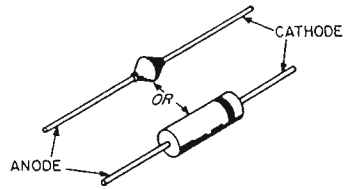
PHONO PREAMP AND SWITCHING ASSEMBLY PCB 046545

High Level Input and Tape Switching (Left)

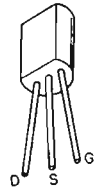


HIGH LEVEL INPUT AND TAPE SWITCHING (LEFT) PARTS LIST

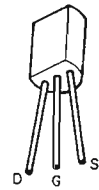
Symbol No.	Part No.	Description
DIODES		
D301-D316	070047	SIG, 75V, 10mA, 1N4148
TRANSISTORS		
Q301-Q322, Q324, Q326, Q328	132193	N, JFET, 2N4392
Q323, Q325, Q327	132226	P, JFET, J174



D301-D316

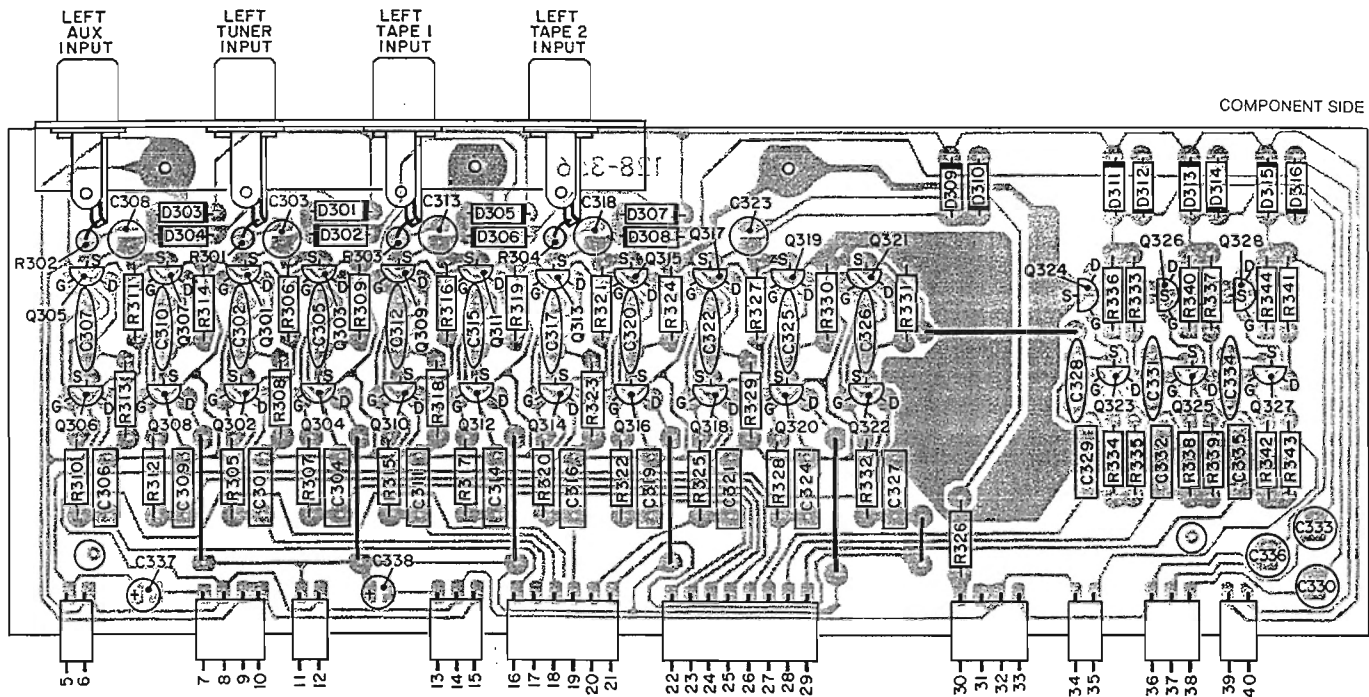


Q301-Q322, Q324, Q326, Q328

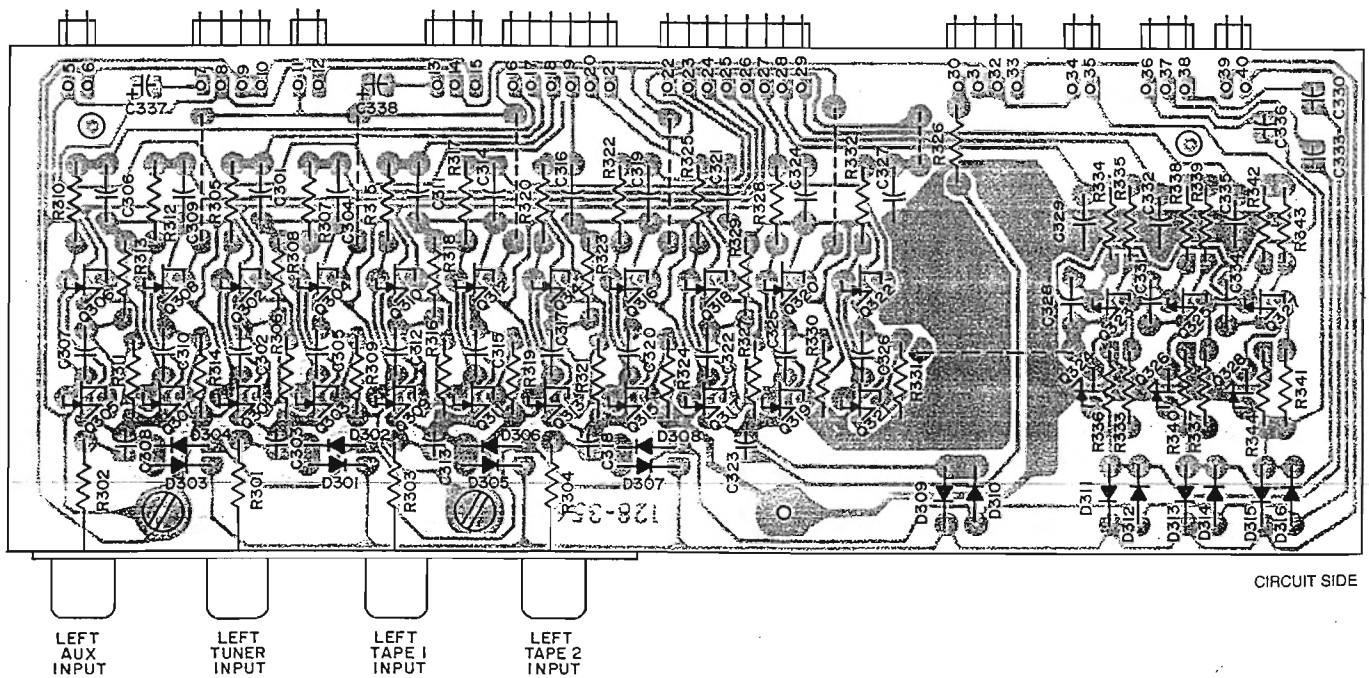


Q323, Q325, Q327

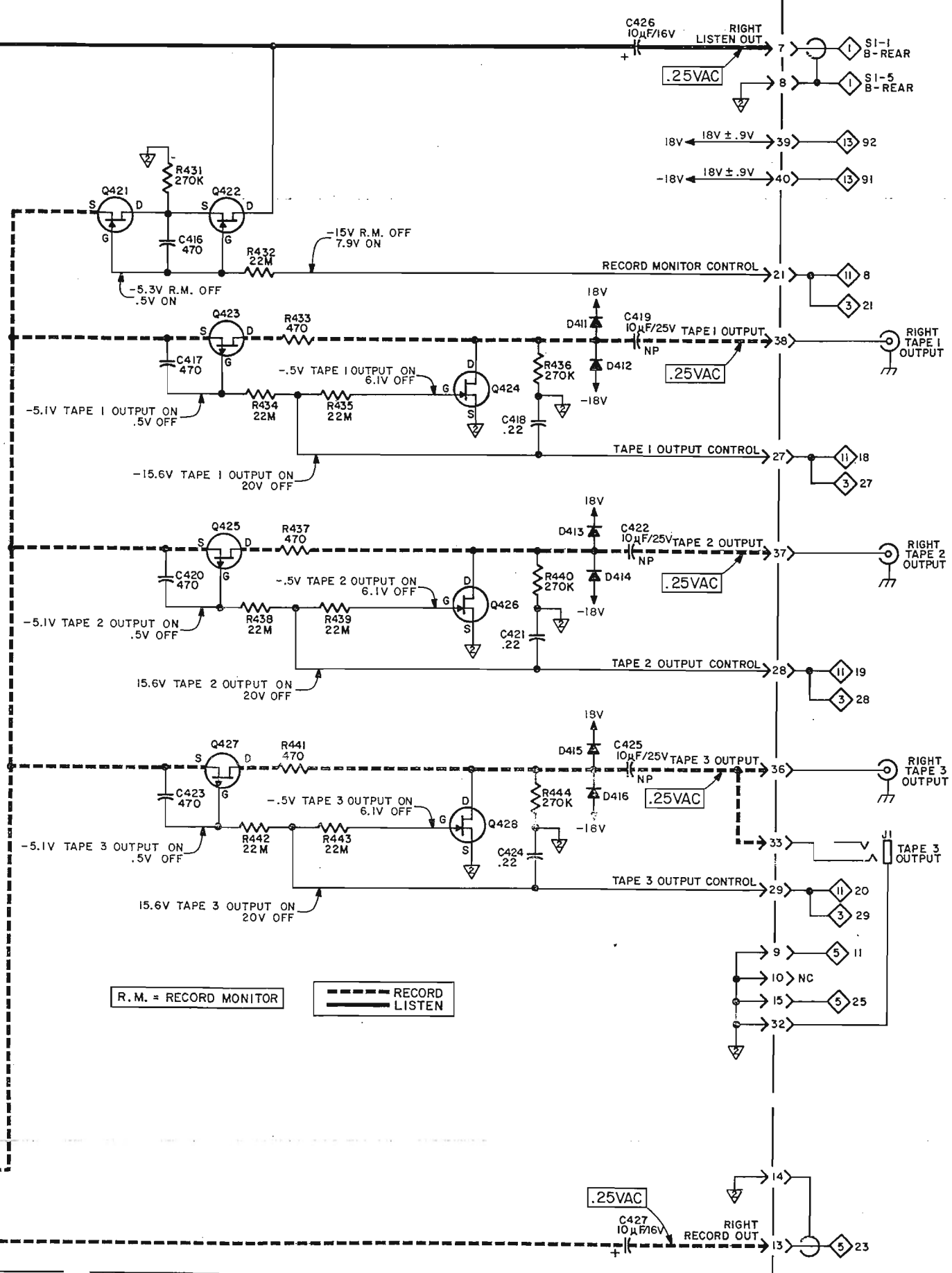
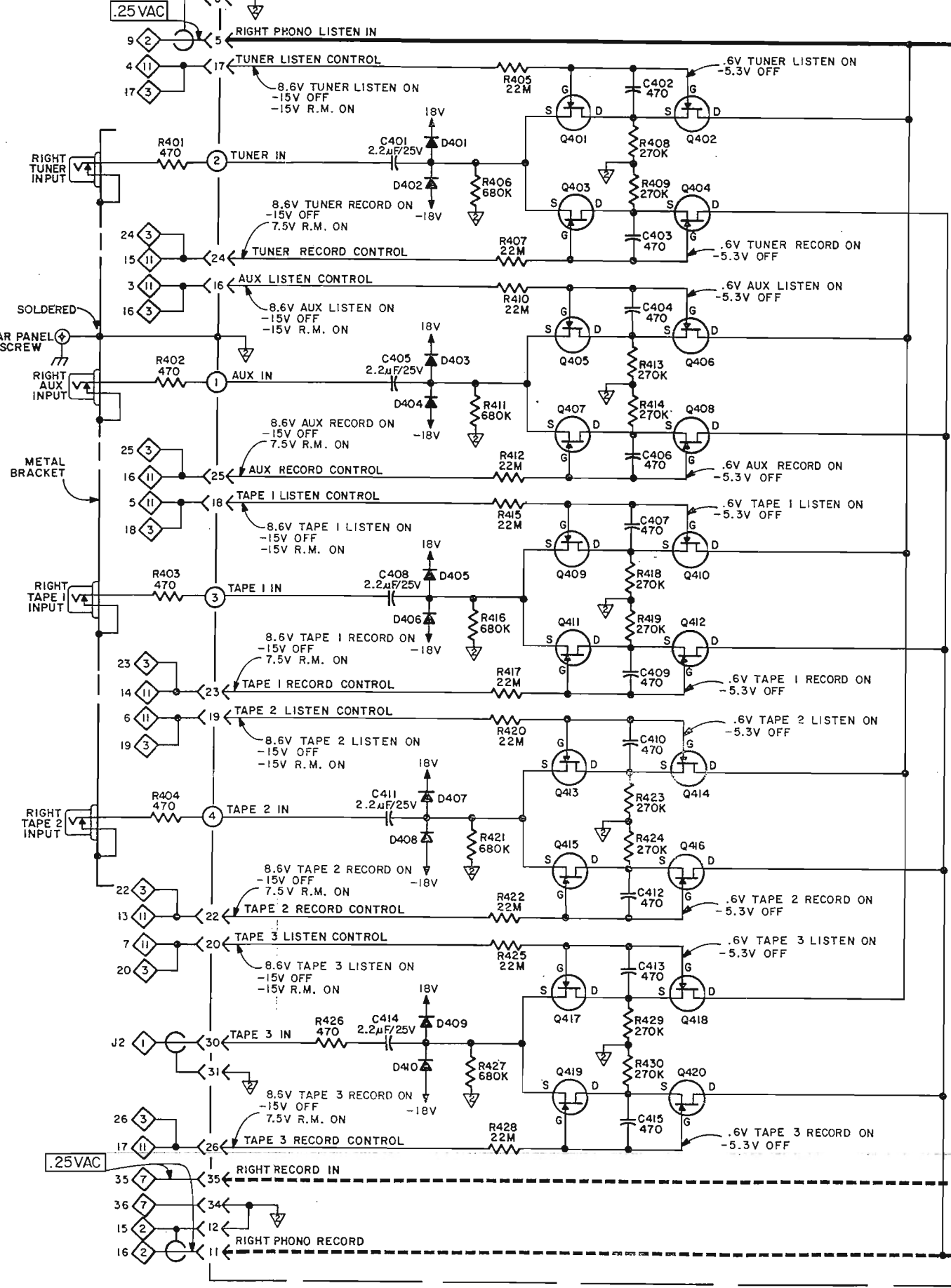
3



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



4 PC BOARD 045938

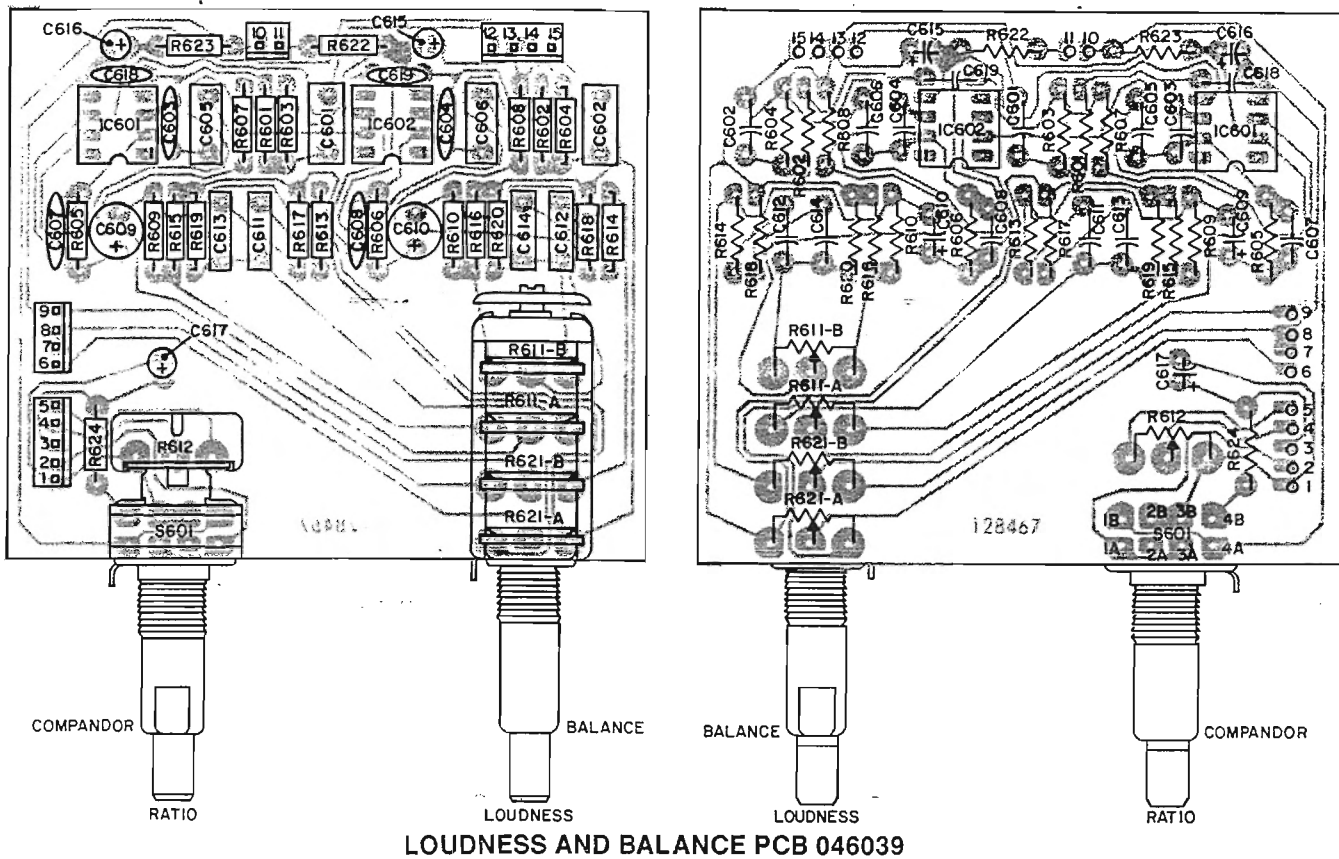


R. M. = RECORD MONITOR
--- RECORD
--- LISTEN

4 High Level Input and Tape Output Switching (Right)

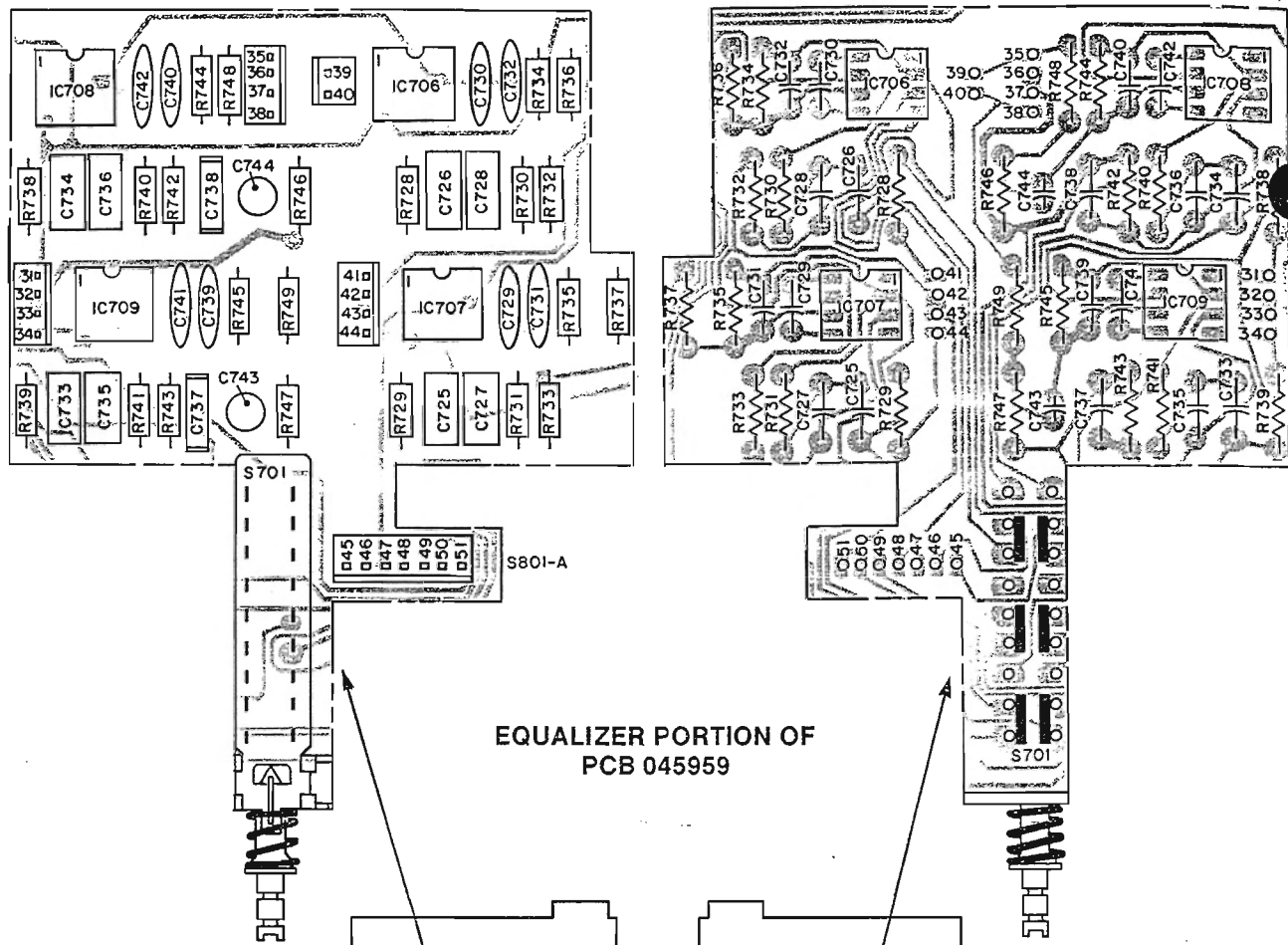
COMPONENT SIDE

CIRCUIT SIDE



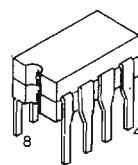
COMPONENT SIDE

CIRCUIT SIDE

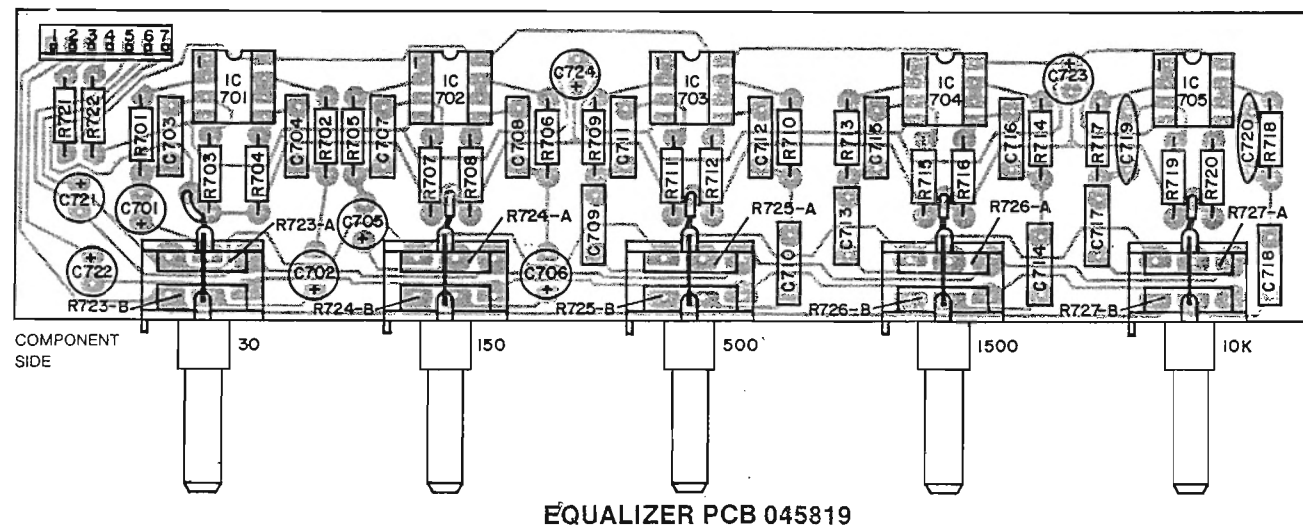


LOUDNESS AND BALANCE PARTS LIST

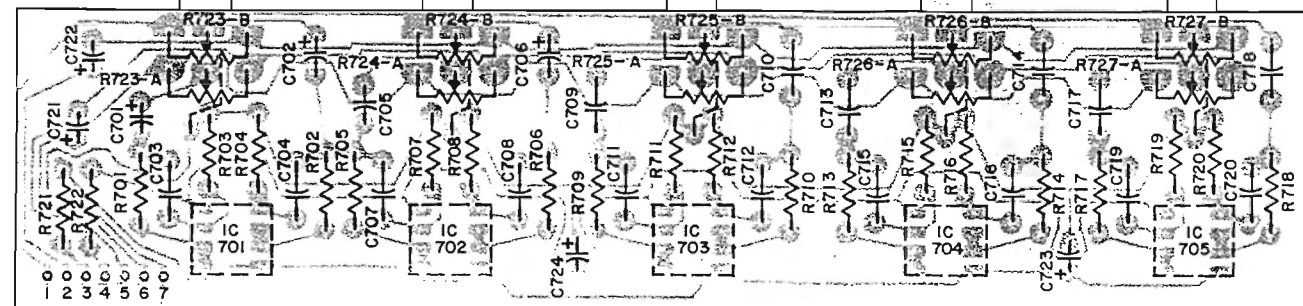
Symbol No.	Part No.	Description
INTEGRATED CIRCUITS		
IC601-IC602	133066	Operational Amp, NE5534N
RESISTORS		
R611, R621	134397	POT, Balance/Loudness
R612/S601	134398	POT, Compandor/Ratio Control
SWITCHES		
S601/R612	134398	POT, Compandor/Ratio Control



IC601-IC602

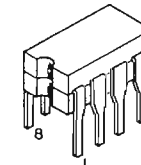


CIRCUIT SIDE



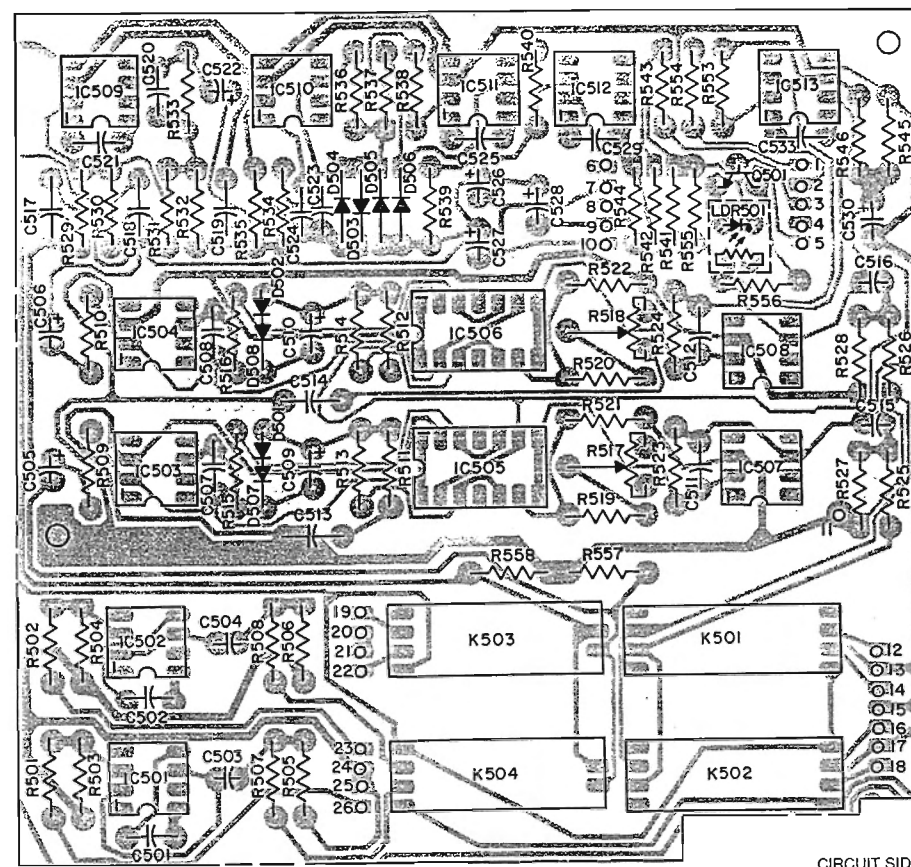
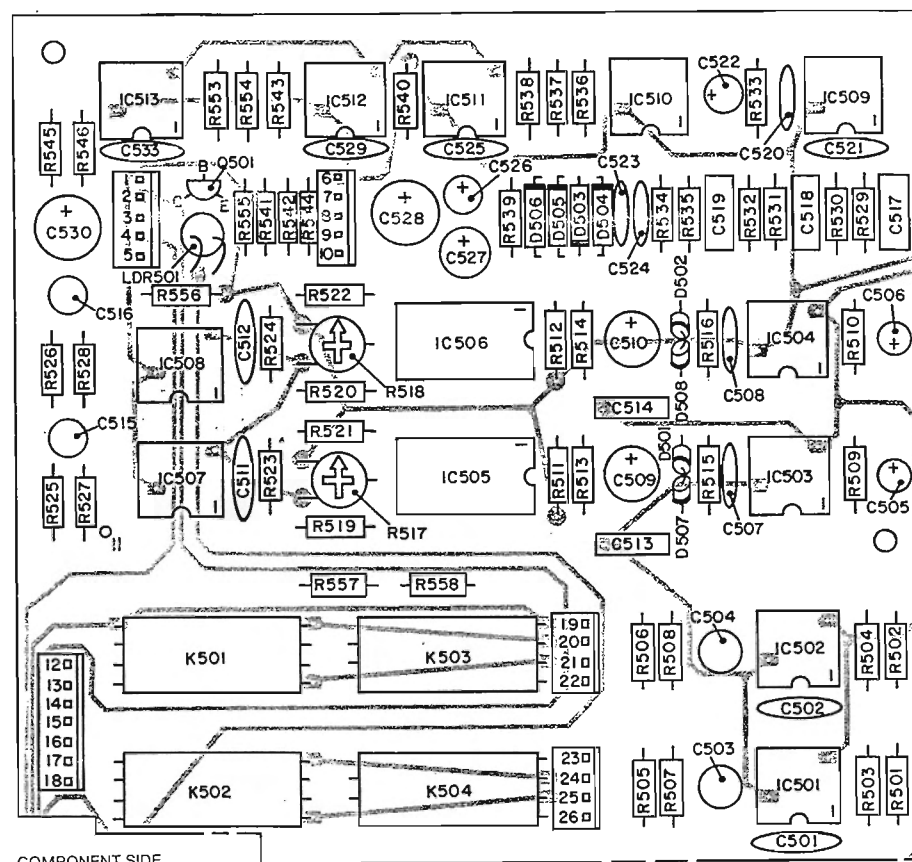
EQUALIZER PARTS LIST

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)

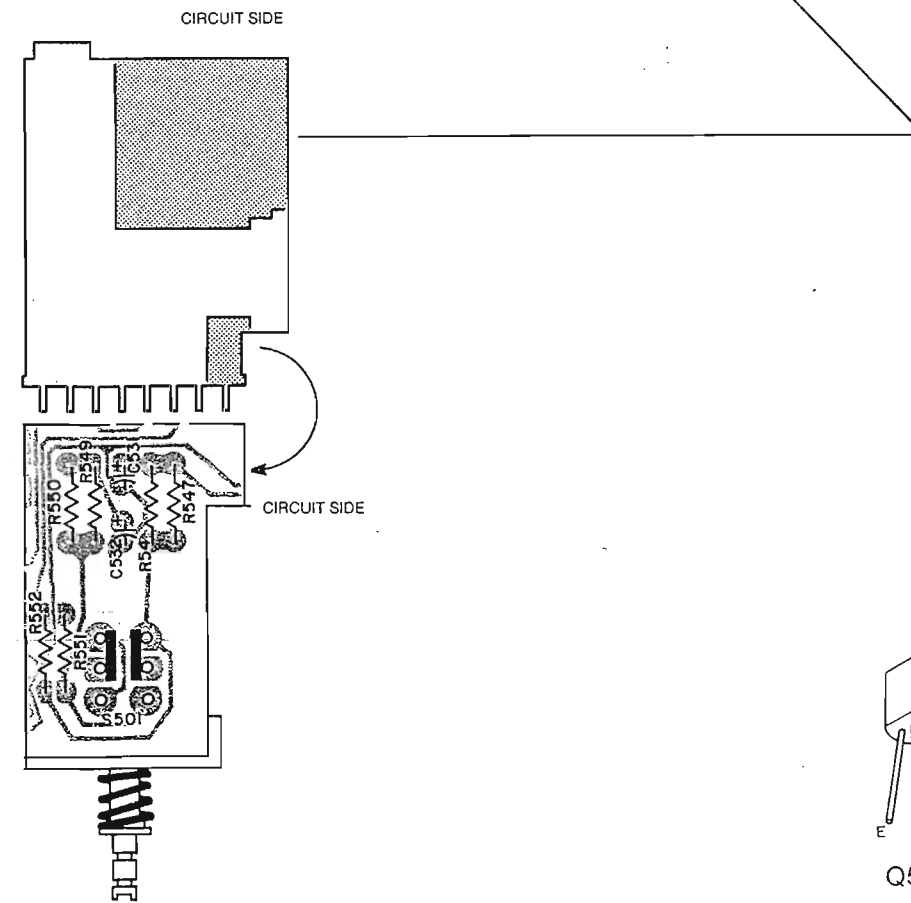
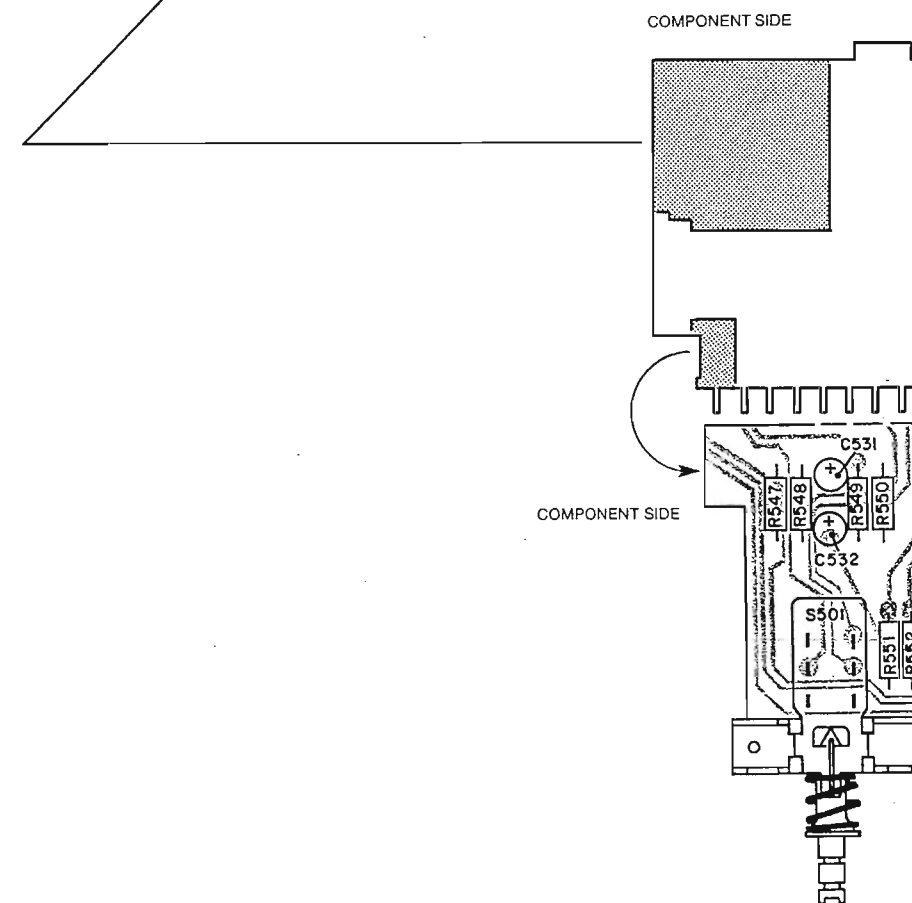


IC701-IC705

Compandor and Compandor Switching

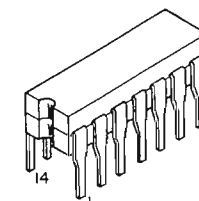


COMPANDOR AND COMPANDOR SWITCHING PORTION OF PCB 045959

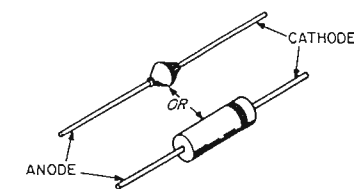


COMPANDOR AND COMPANDOR SWITCHING PARTS LIST

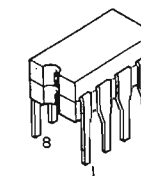
Symbol No.	Part No.	Description
DIODES		
D501-D508	070047	SIG, 75V, 10mA, 1N4148
LIGHT DEPENDENT RESISTORS		
LDR501	144070	LDR, CLM6000
INTEGRATED CIRCUITS		
IC501, IC502	133066	Operational Amp, NE5534N
IC503, IC504, IC507, IC508	133131	Operational Amp, MC34081P
IC505, IC506	133040	Quad Complementary 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)



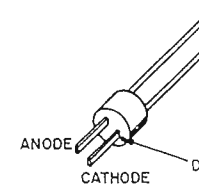
IC505, IC506



D501-D508



Q501

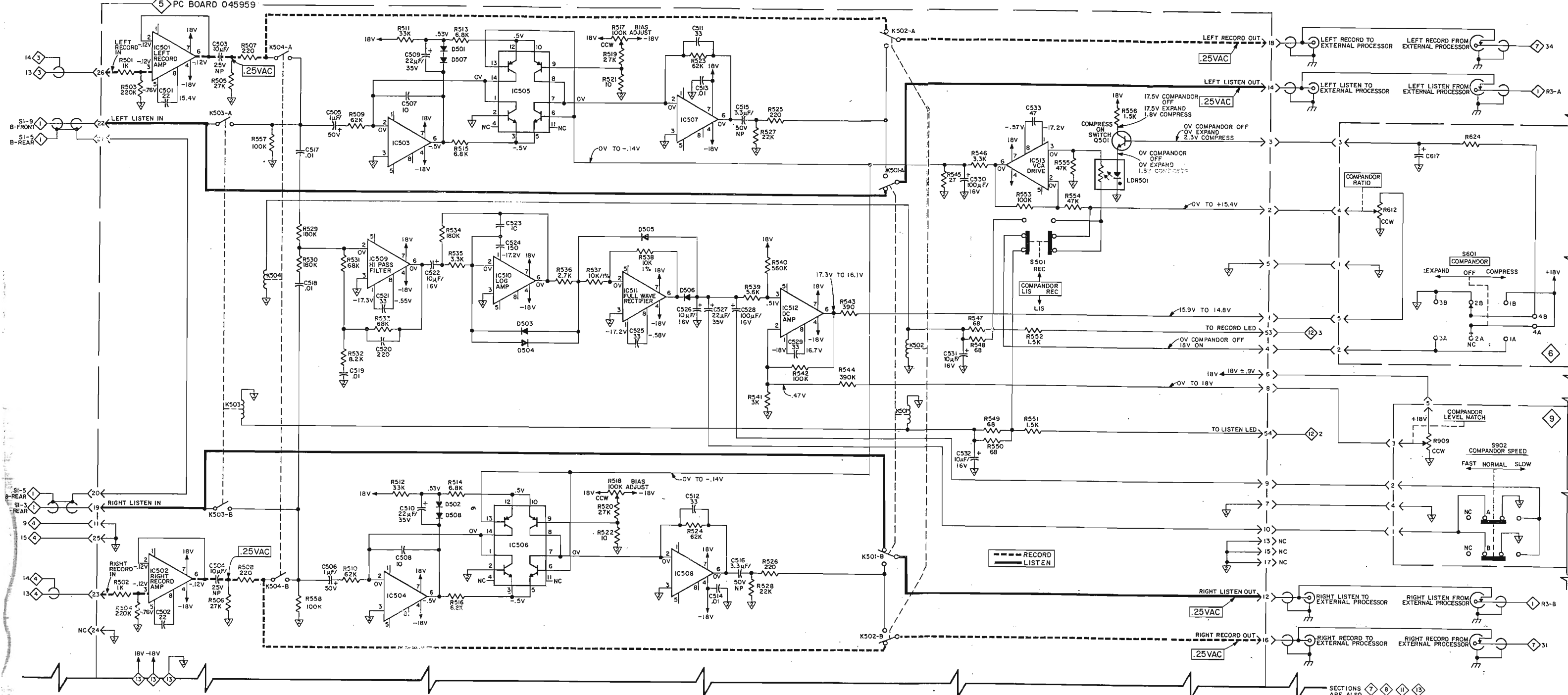


LDR501

Compor and Compor Switching

5

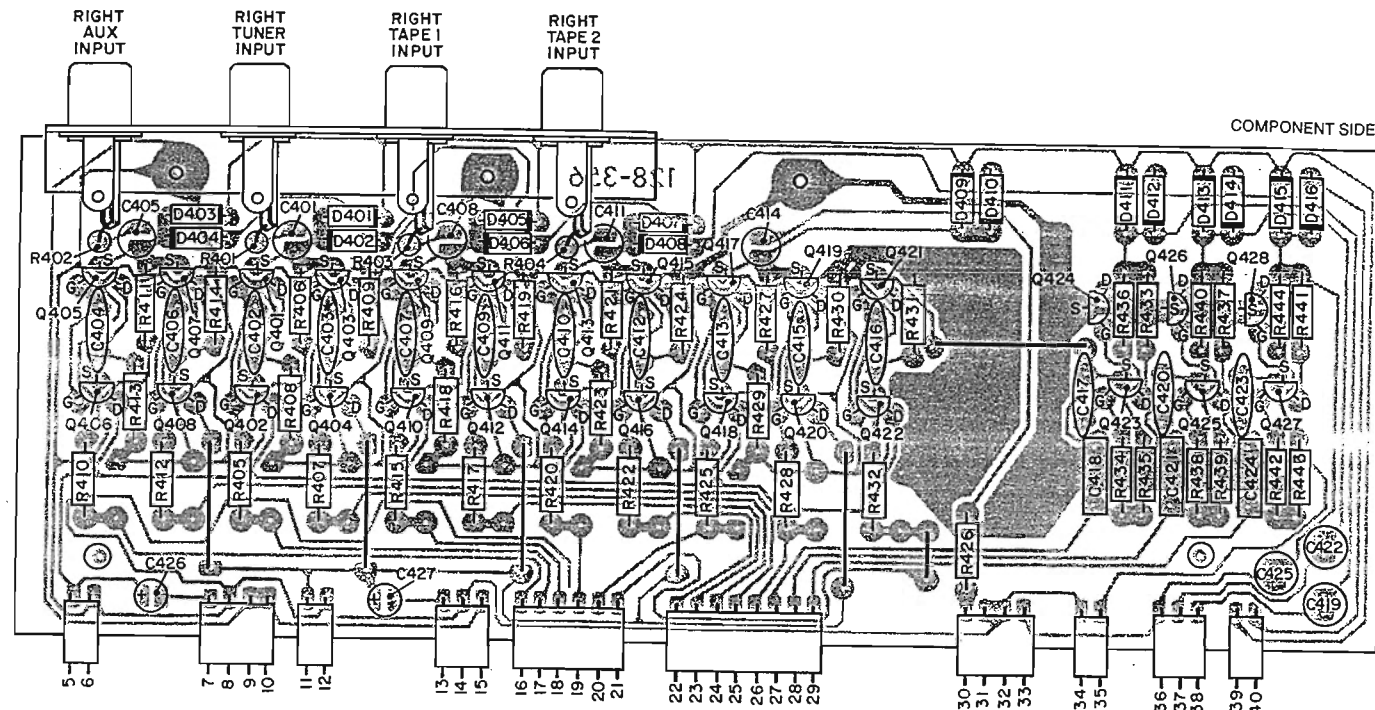
PC BOARD 045959



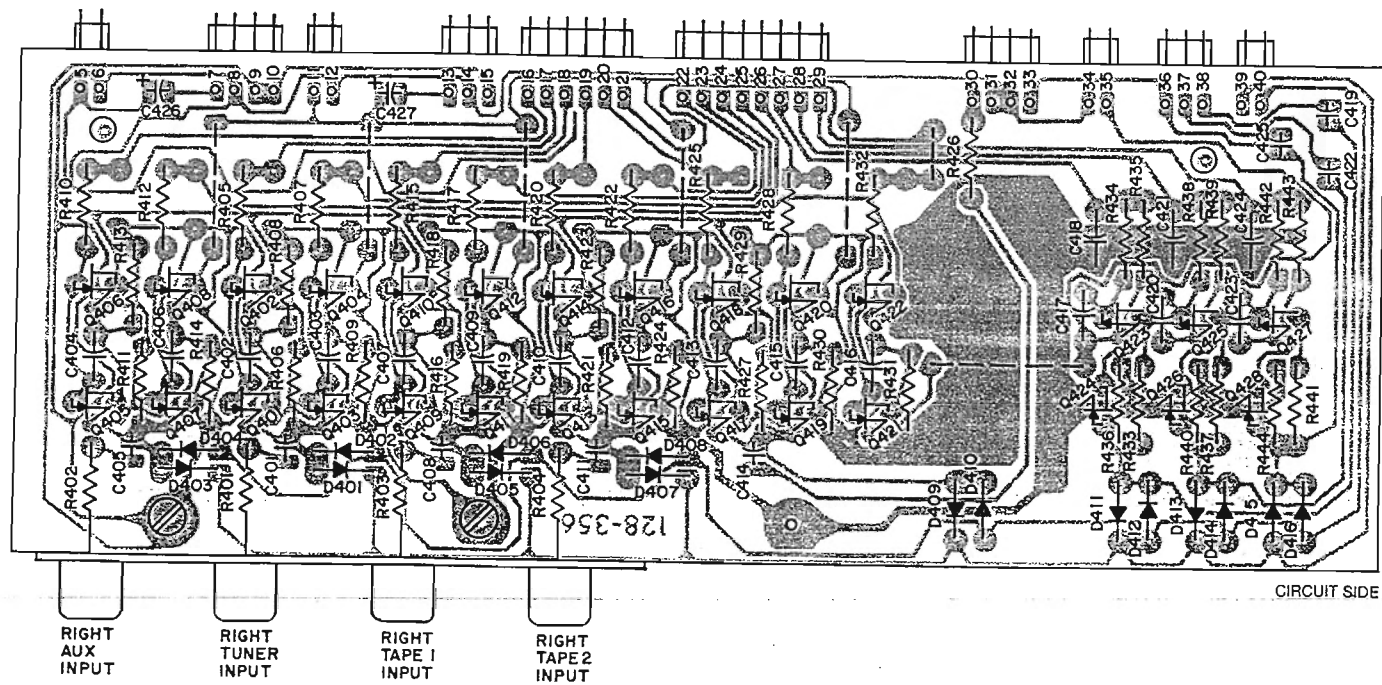
SECTIONS 7 8 11 13 ARE ALSO PART OF THIS PCB 045959

High Level Input and Tape Output Switching (Right)

4



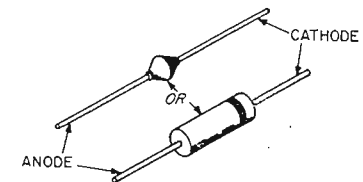
HIGH LEVEL INPUT AND TAPE OUTPUT SWITCHING (RIGHT) PCB 045938



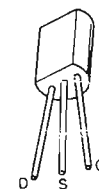
CIRCUIT SIDE

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

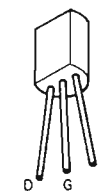
Symbol No.	Part No.	Description
DIODES		
D401-D416	070047	SIG, 75V, 10mA, 1N4148
TRANSISTORS		
Q401-Q422, Q424, Q426, Q428	132193	N, JFET, 2N4392
Q423, Q425, Q427	132226	P, JFET, J174



D401-D416



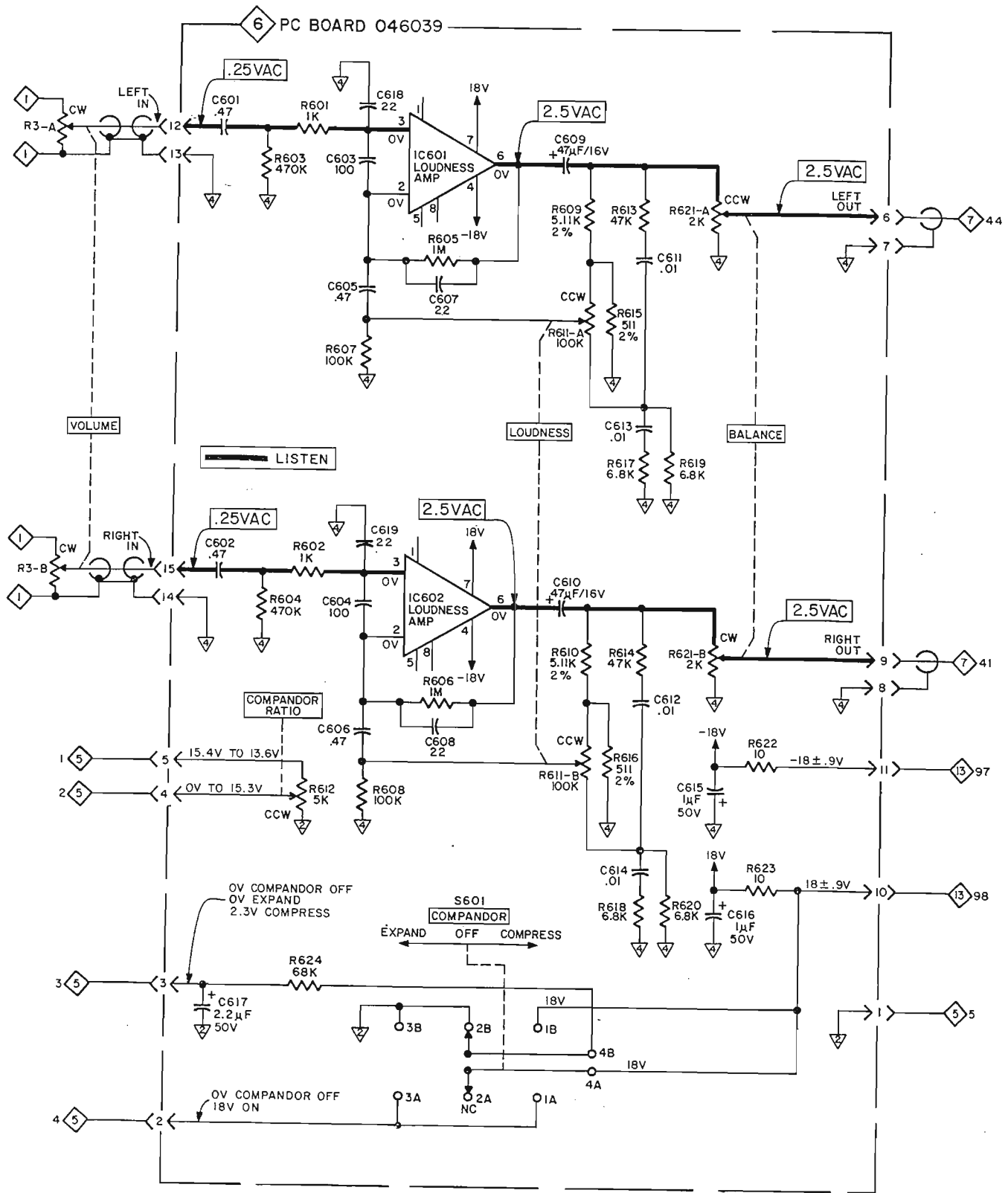
Q401-Q422, Q424, Q426, Q428



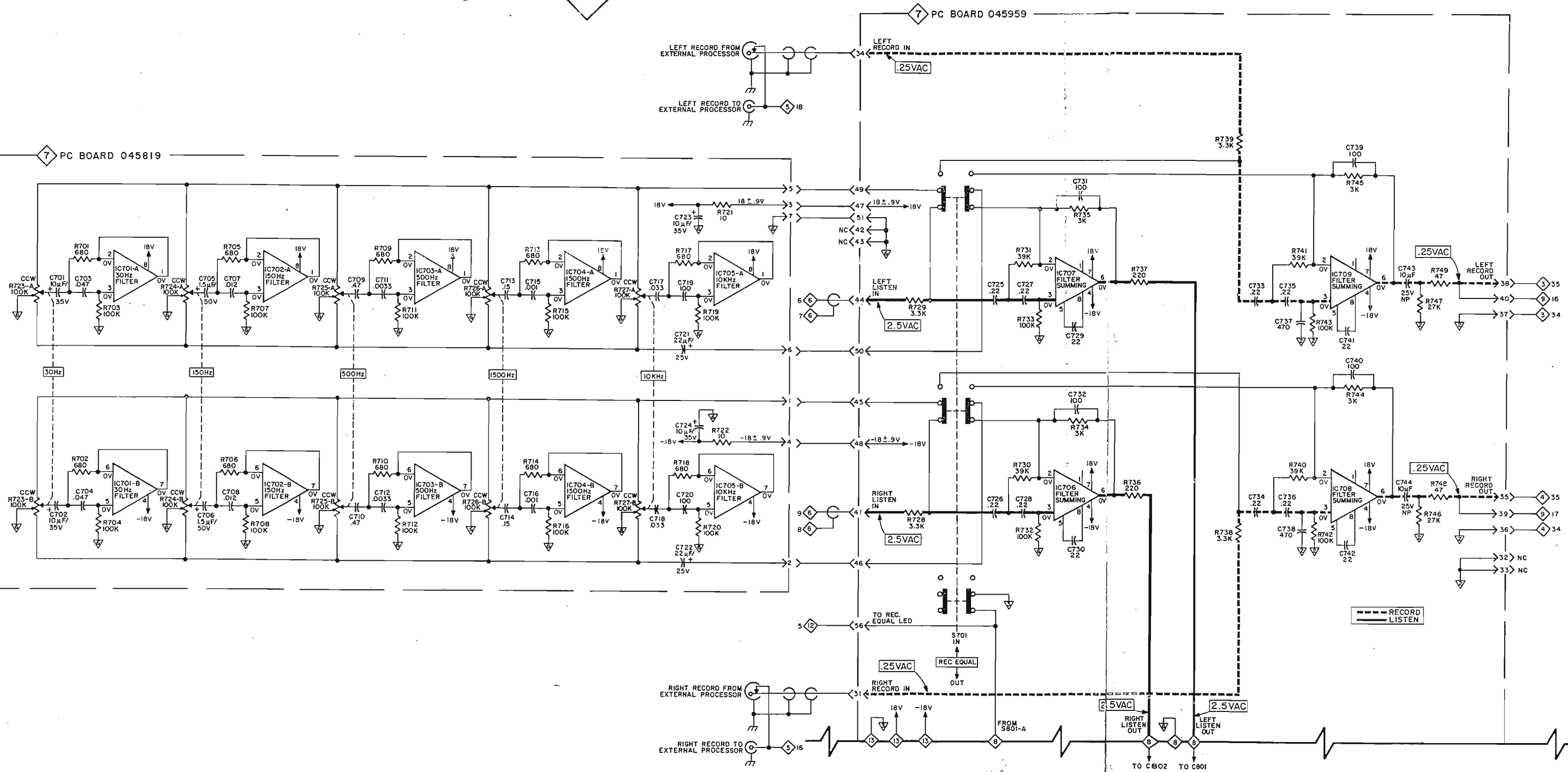
Q423, Q425, Q427

6

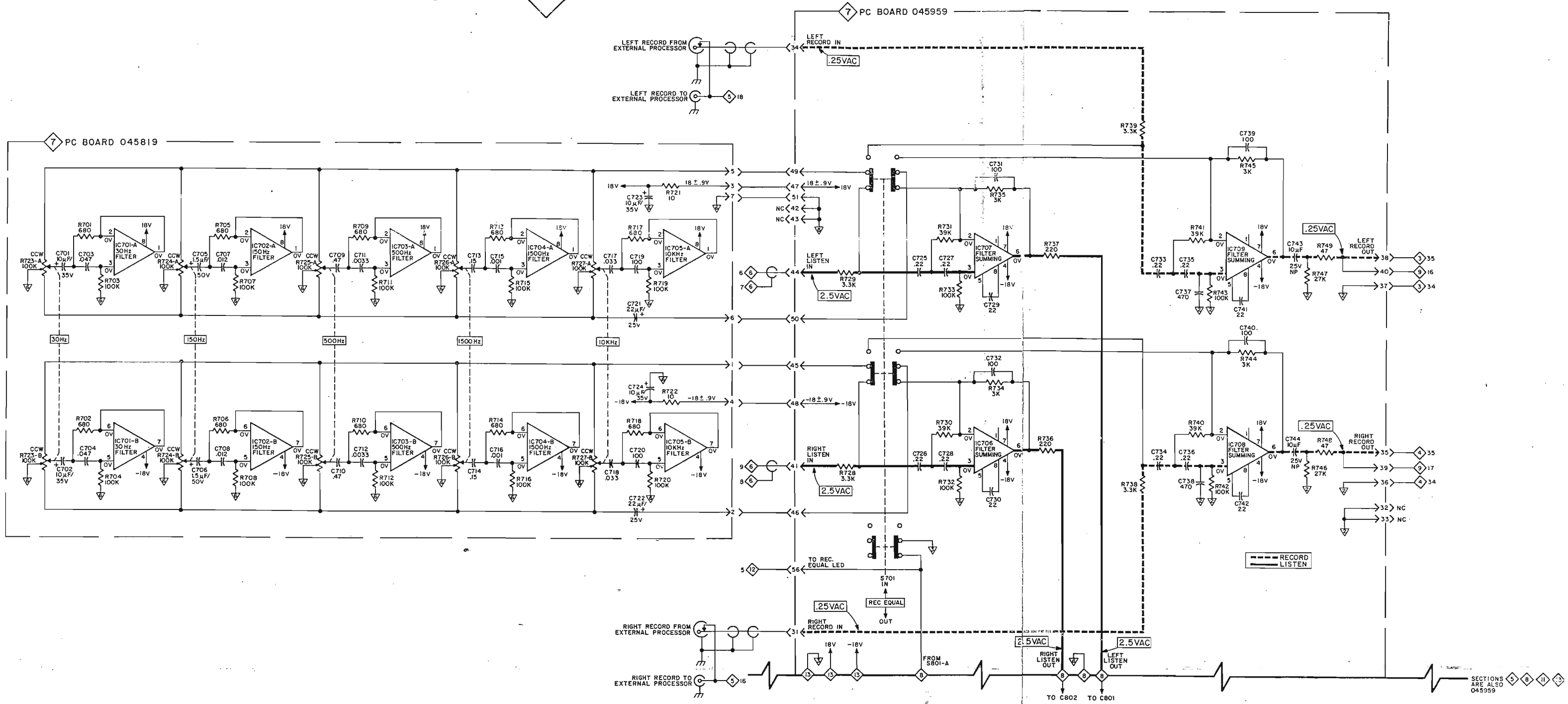
Loudness and Balance



Equalizer 7

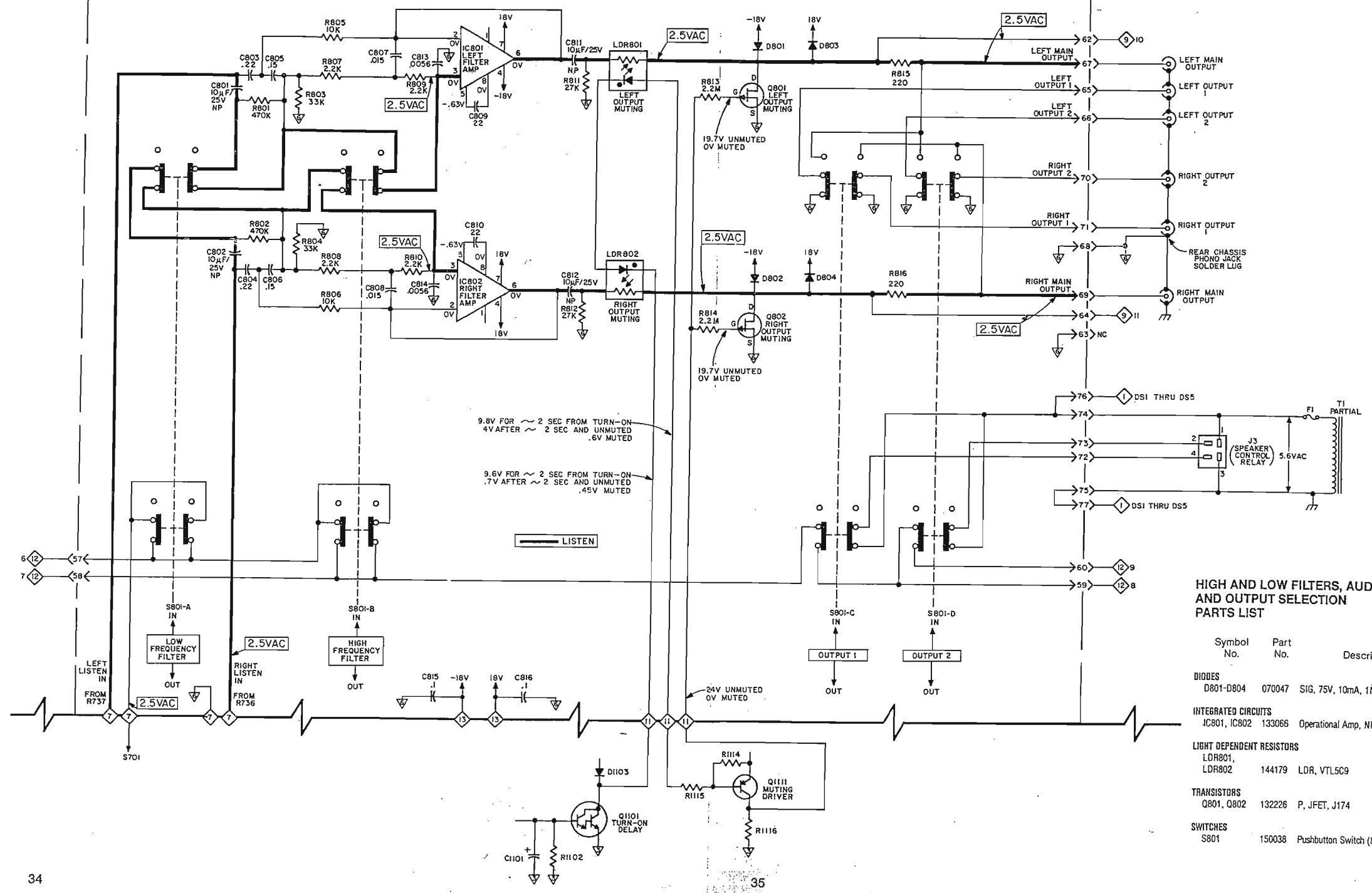


Equalizer 7



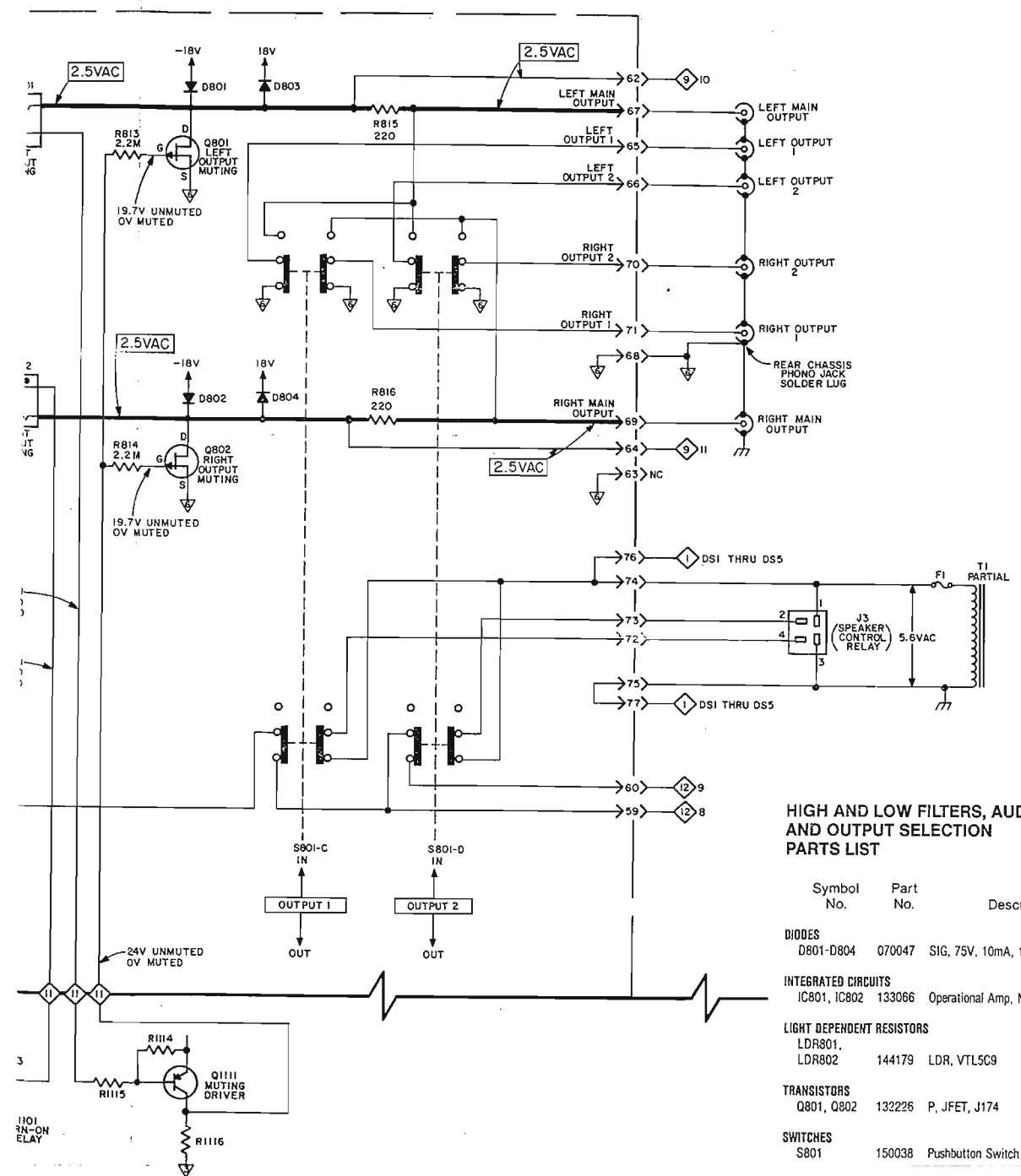
8 High and Low Filters, Audio Muting and Output Selection

PC BOARD 045959



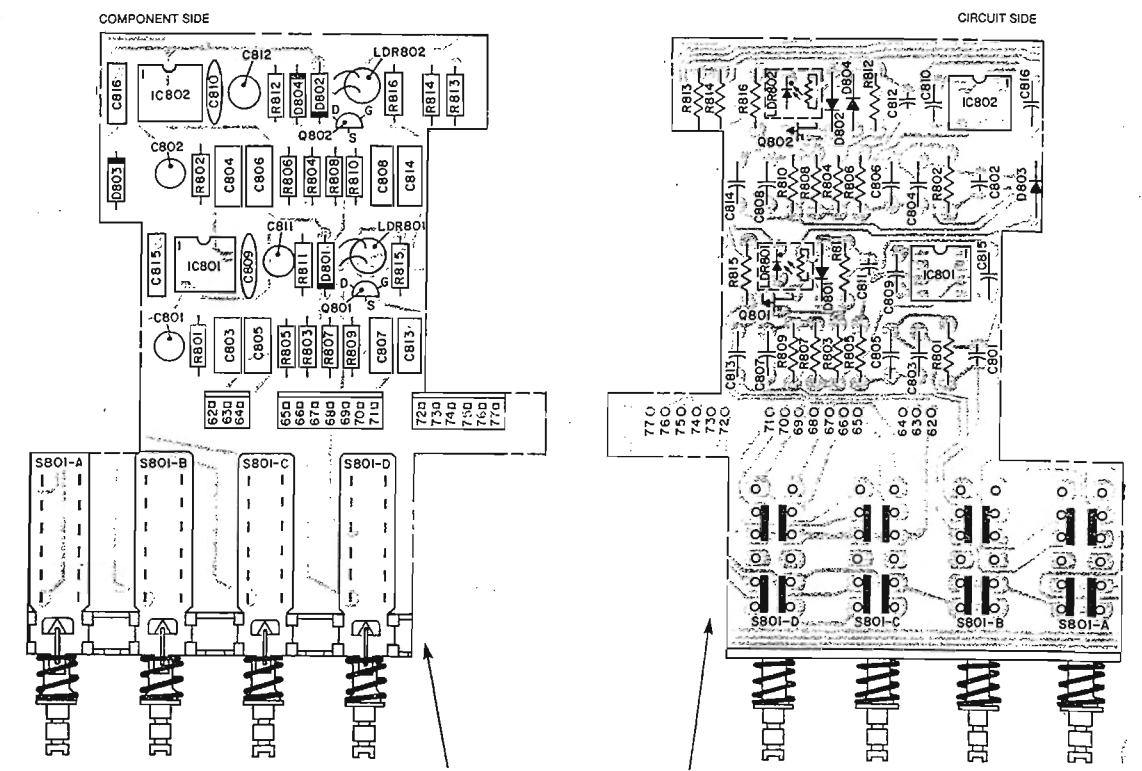
HIGH AND LOW FILTERS, AUDIO MUT AND OUTPUT SELECTION PARTS LIST

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)

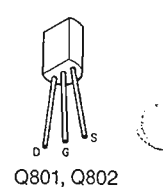
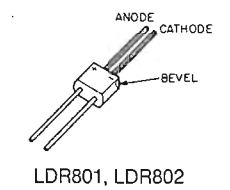
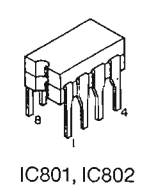
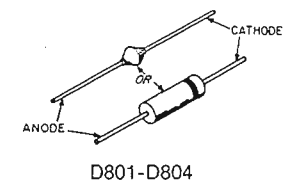
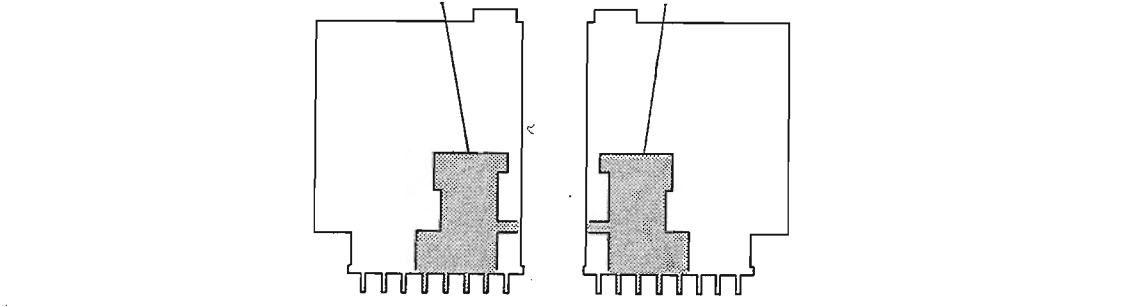


HIGH AND LOW FILTERS, AUDIO MUTING AND OUTPUT SELECTION PARTS LIST

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)

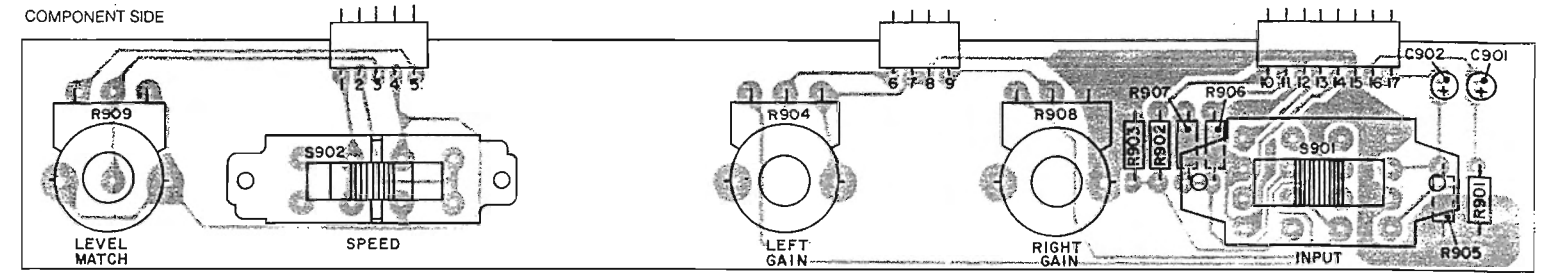
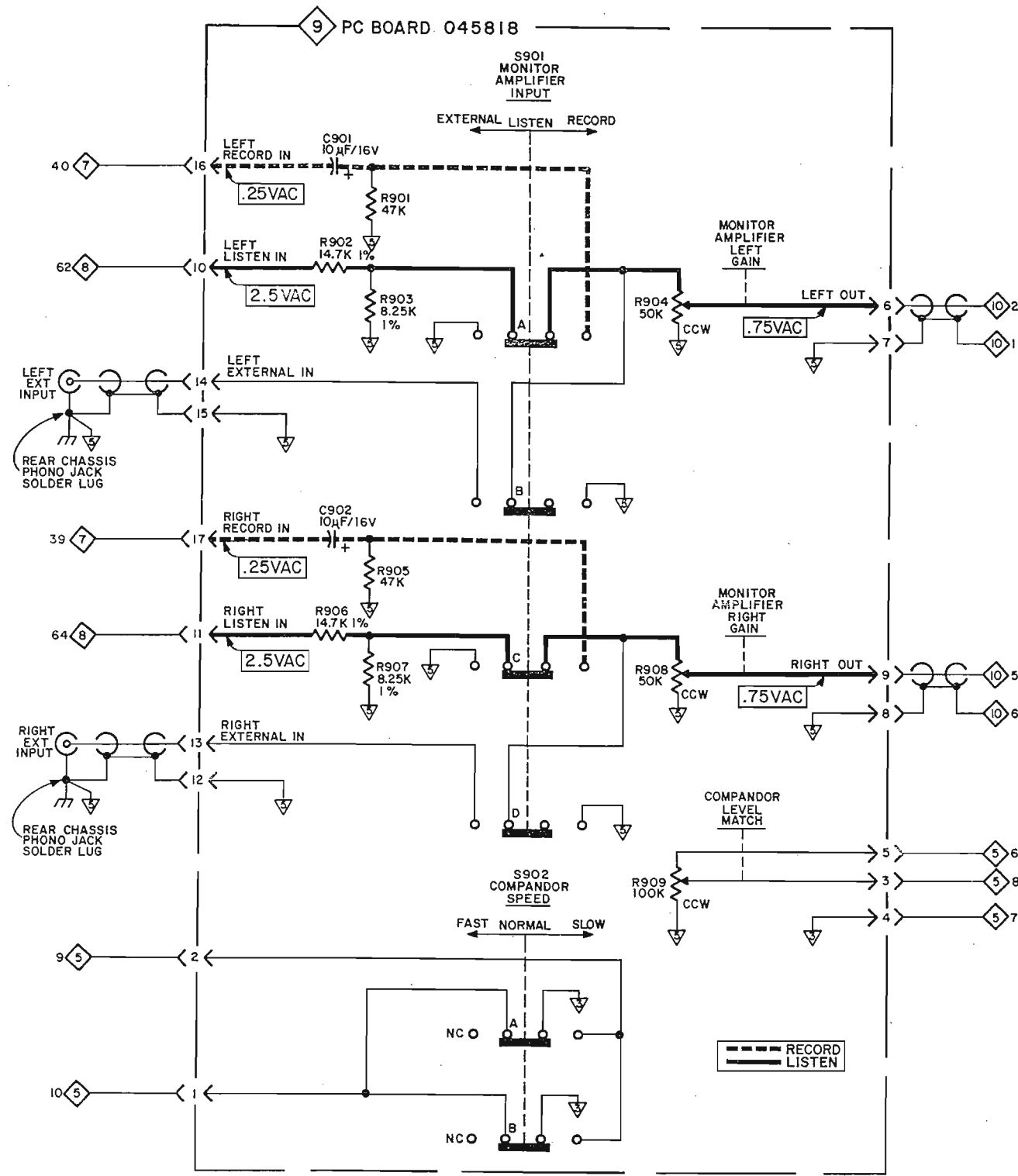


HIGH AND LOW FILTERS, AUDIO MUTING AND OUTPUT SELECTION PORTION OF PCB 045959

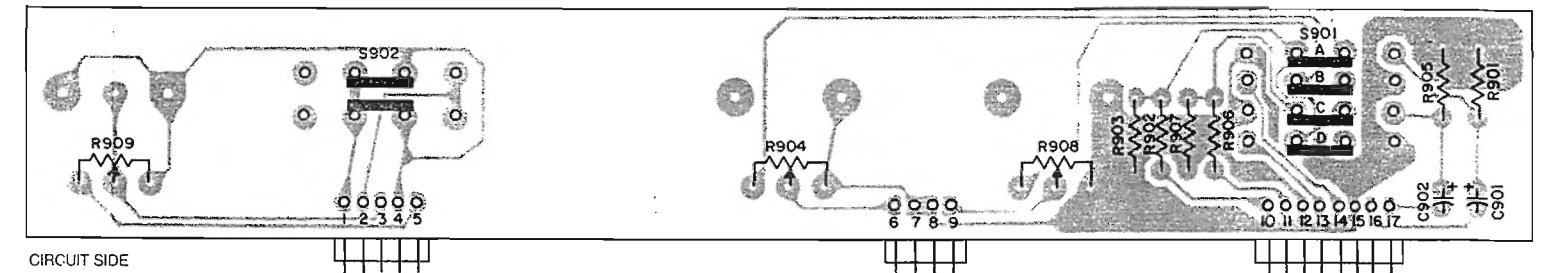


Top Cover Controls

9



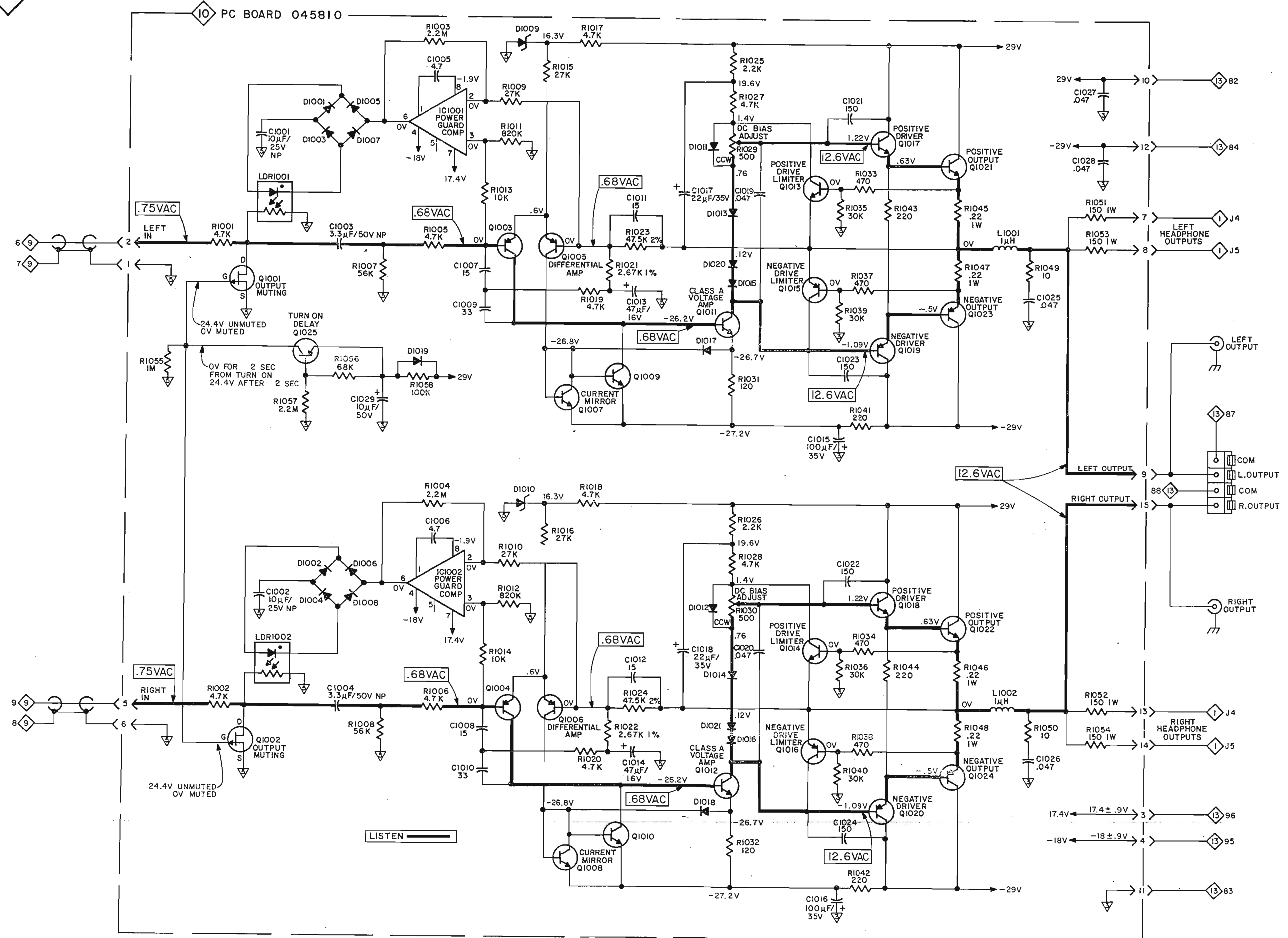
TOP COVER CONTROLS PCB 045818



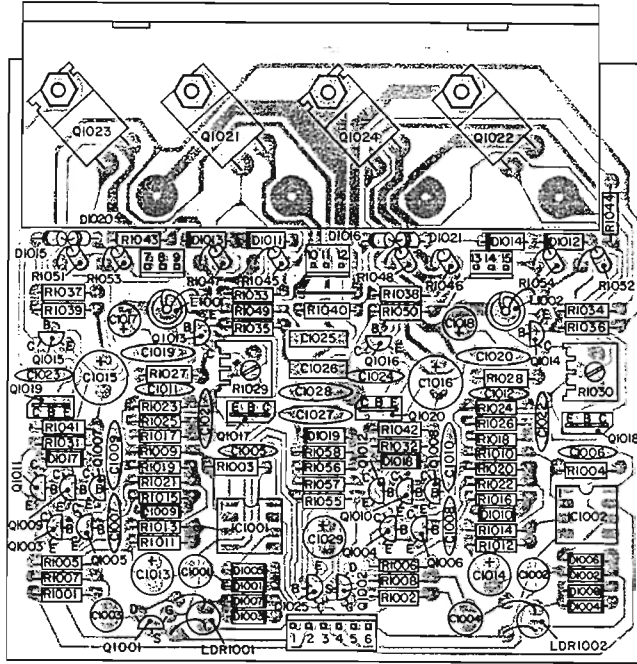
TOP COVER CONTROLS PARTS LIST

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

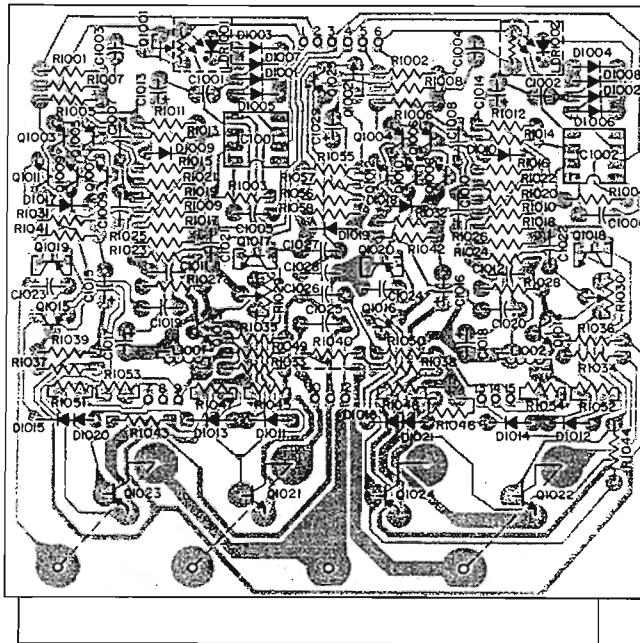
10 Monitor Amplifier



COMPONENT SIDE



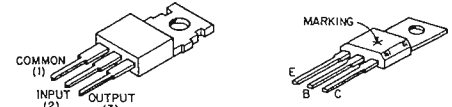
MONITOR AMPLIFIER PCB 045810



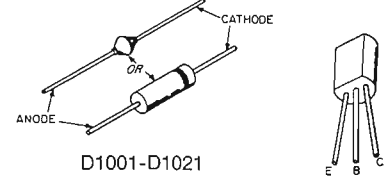
CIRCUIT SIDE

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



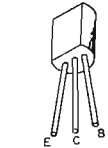
Q1021-Q1024 Q1017-Q1020



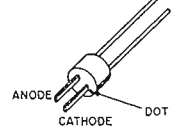
D1001-D1021



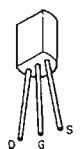
IC1001, IC1002



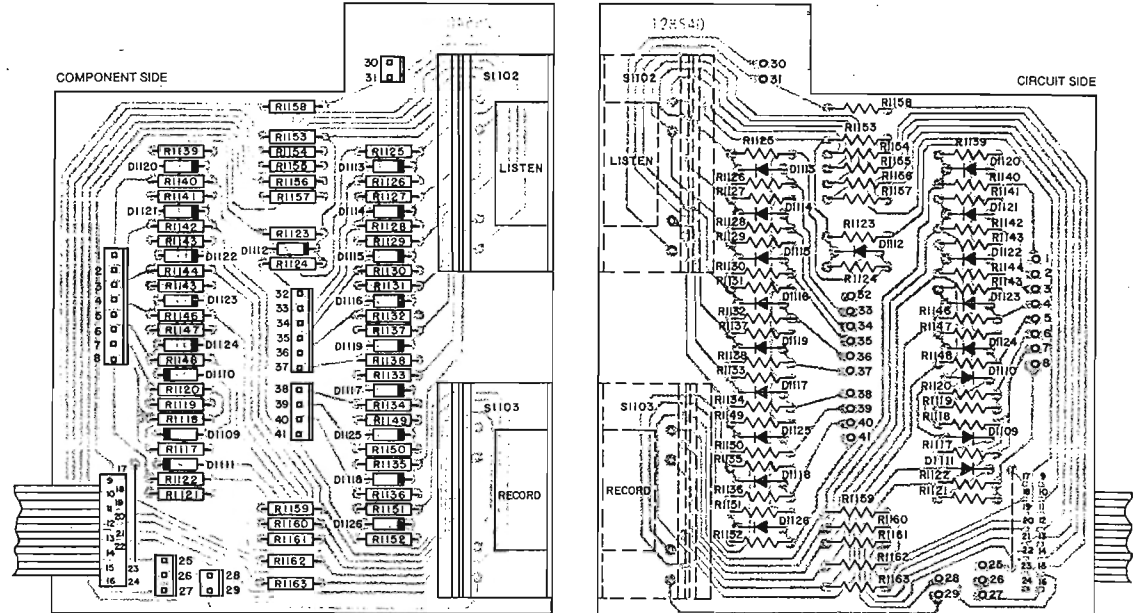
Q1001, Q1002



Q1011, Q1012



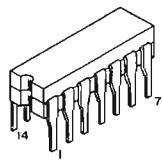
LDR1001, LDR1002



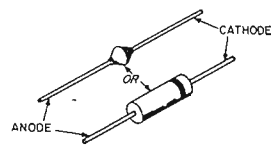
LISTEN/RECORD SELECTORS
PCB 046544

SECTION II PARTS LIST

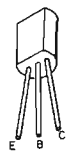
Symbol No.	Part No.	Description
DIODES		
D1101	070085	ZN, 6.2V, 5%, 500mW, 1N5234B
D1102-D1127	070047	SIG, 75V, 10mA, 1N4148
INTEGRATED CIRCUITS		
IC1101	133053	CMOS, Dual Type-DF-F, MC14013AL
TRANSISTORS		
Q1101, Q1110	132090	NPN, DAR, Selected MPSA14
Q1102, Q1104, Q1109, Q1103, Q1105-Q1107, Q1111,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



IC1101



D1101-D1127

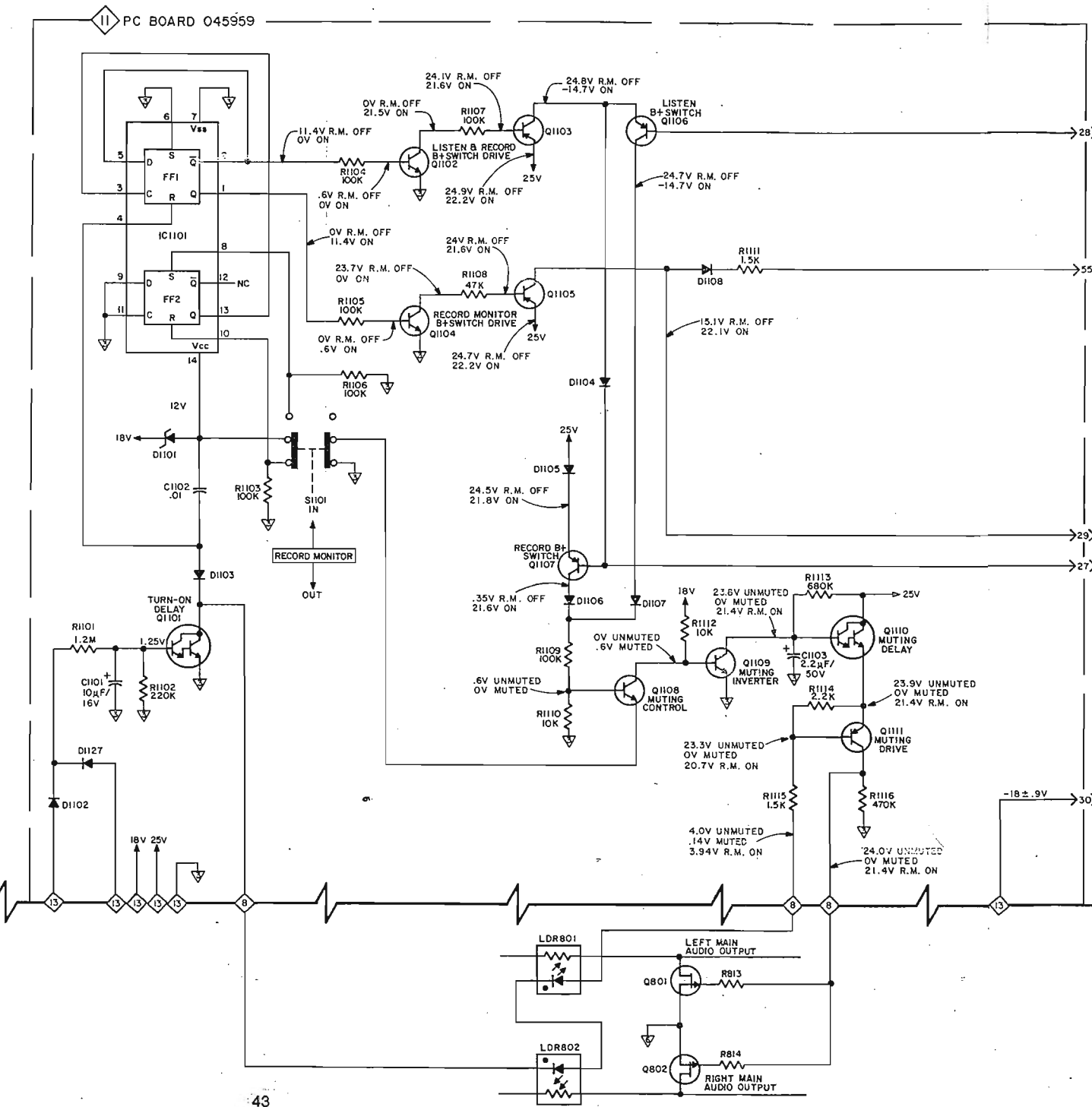
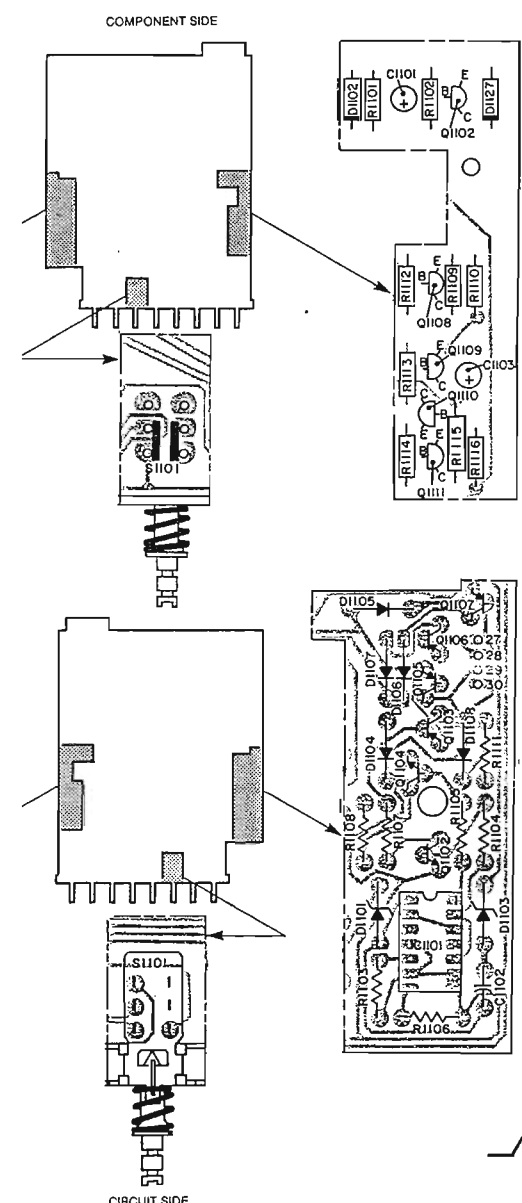


Q1101-Q1111

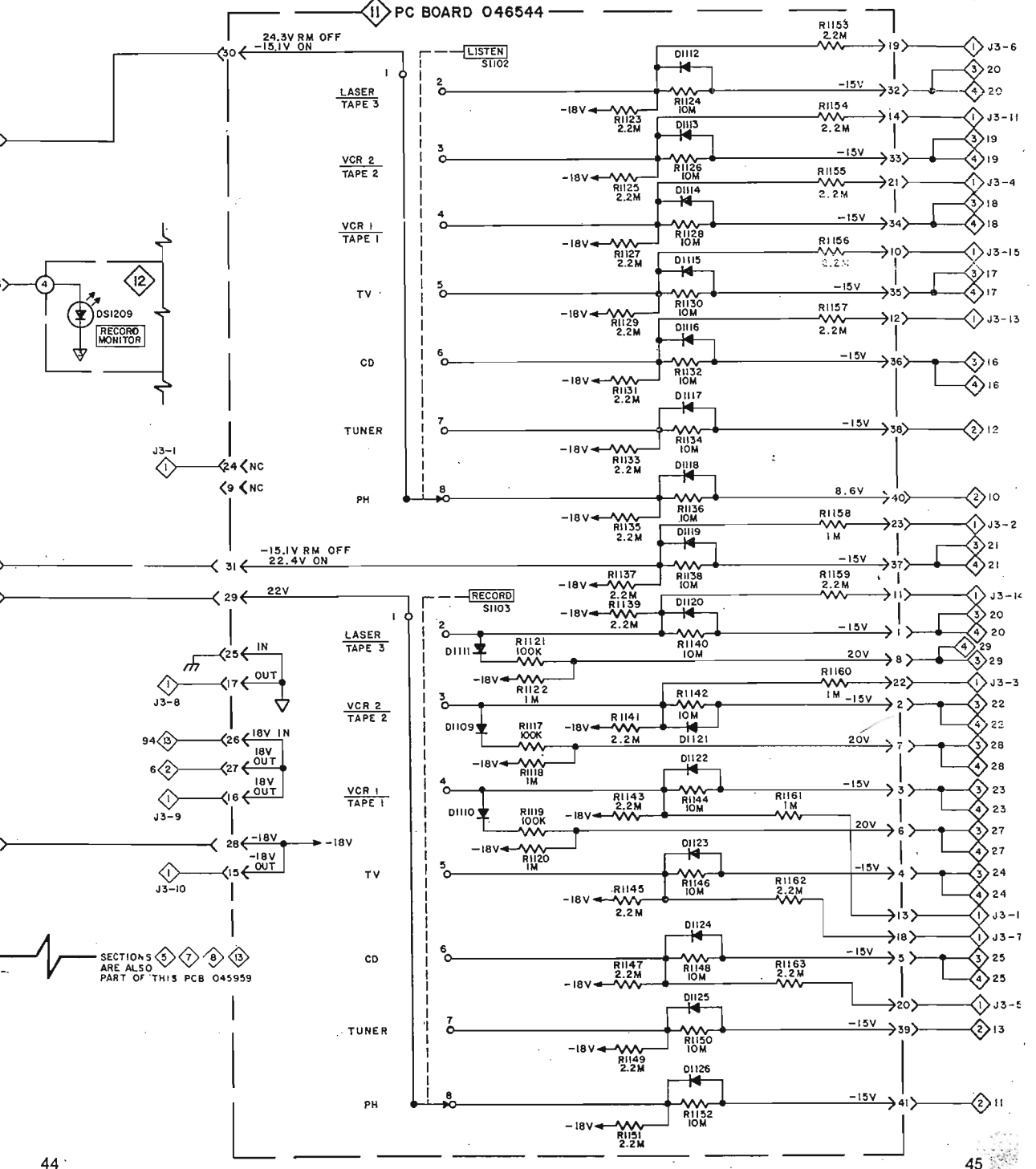
Record Selectors, Record Monitor
Turn-on Display and Muting Drive

11

11



43



44

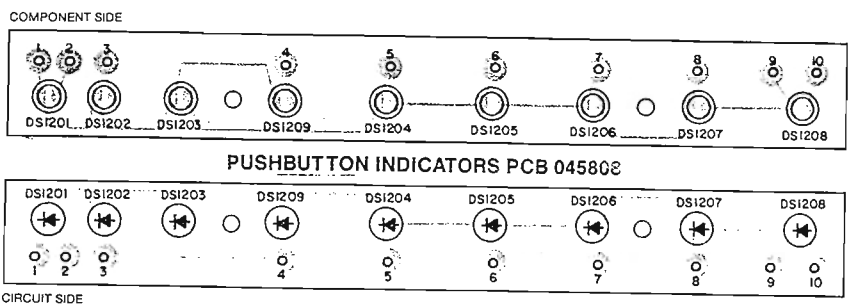
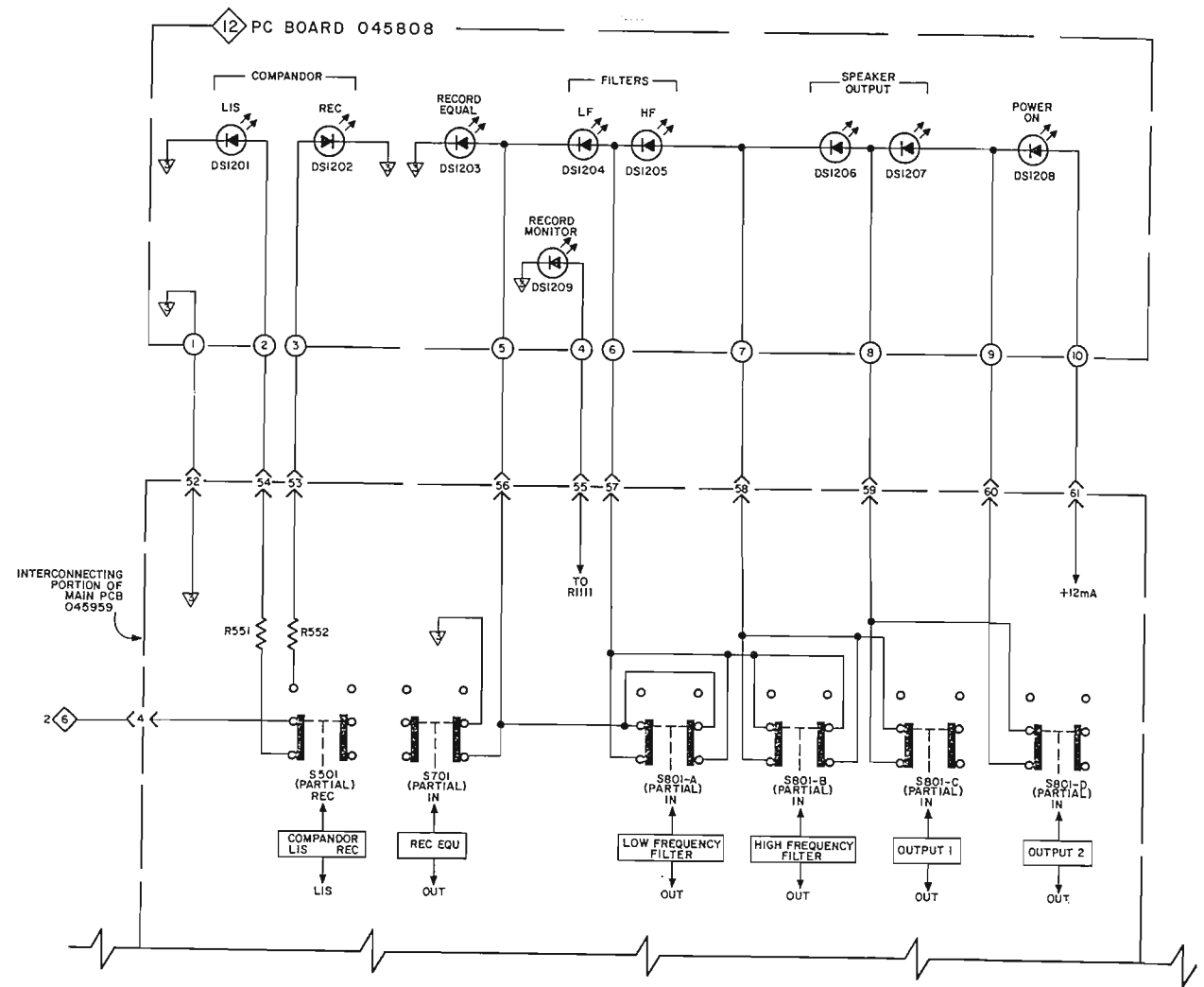
RECORD MONITOR SWITCHING,
TURN ON DELAY AND MUTING DRIVE
PORTION OF PCB 045959

SECTIONS 5, 7, 8, 9, 10
ARE ALSO
PART OF THIS PCB 045959

45

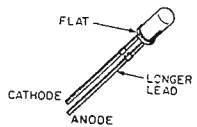
12

Pushbutton Indicators



PUSHBUTTON INDICATORS PARTS LIST

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



DS1201-DS1209

Repackaging Instructions

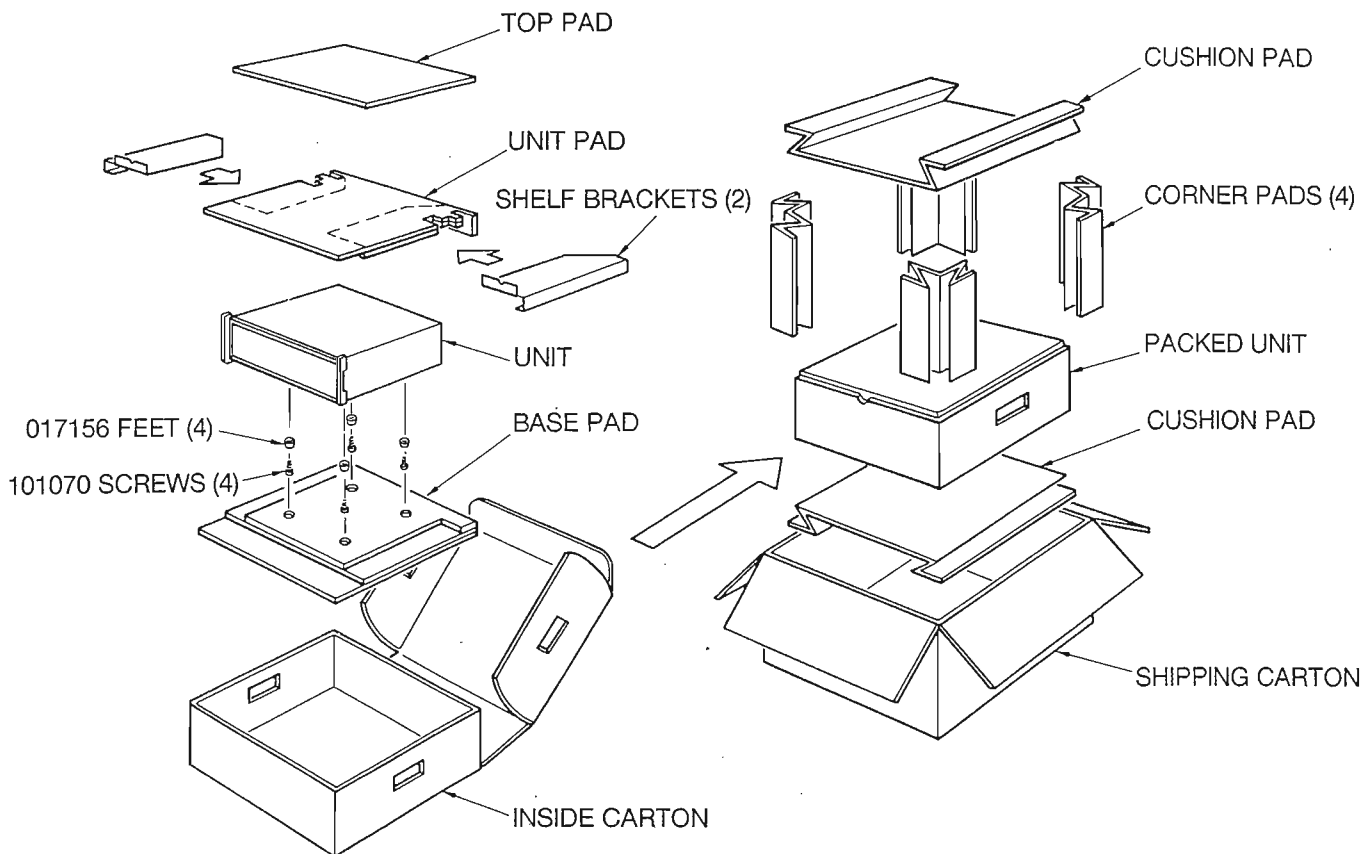
In the event it is necessary to return the C34V to McIntosh Laboratory for service, the unit must be packed exactly as shown below. It is not necessary to return the shelf brackets, although their position in the carton is shown.

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



McIntosh

AUDIO CLASSICS, LTD.

www.audioclassics.com

3501 Old Vestal Road, Vestal, NY 13850

Fax/Phone: 607-766-3501

The continuous improvement of its products is the policy of McIntosh Laboratory Incorporated, who reserve the right to improve design without notice. Because of the constant upgrading of McIntosh products' circuitry and components, the Company cannot insure, and does not warrant, the accuracy of the within schematic material, which is intended for information only.

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

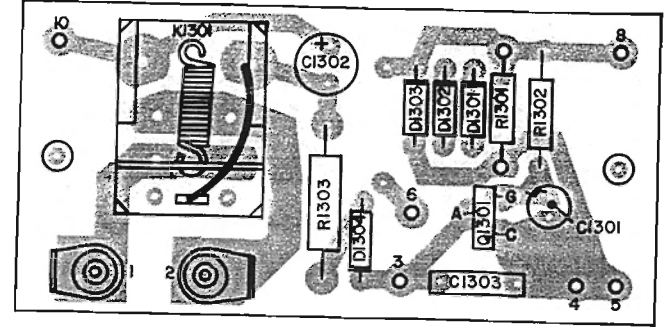
Part No. 039631

Printed in U.S.A.

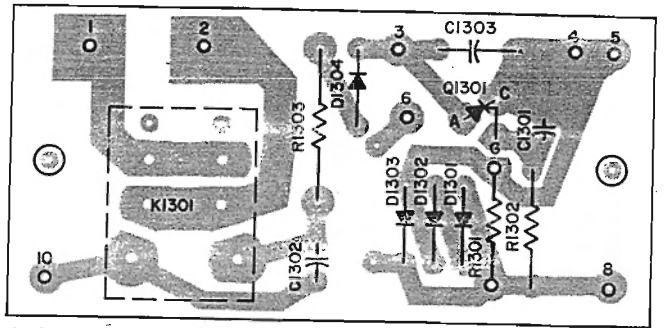
Telephone (607)723-3512

13 Power Supply and Auto-On

COMPONENT SIDE

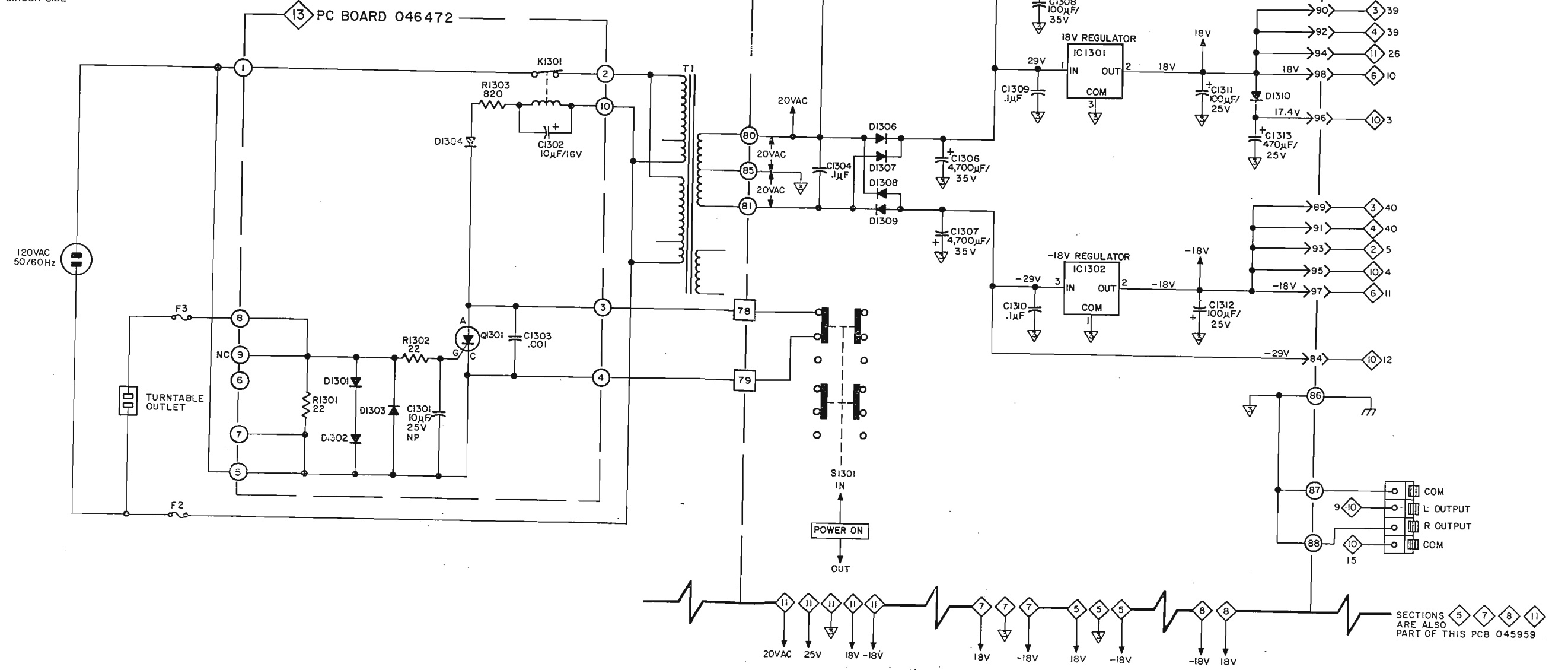
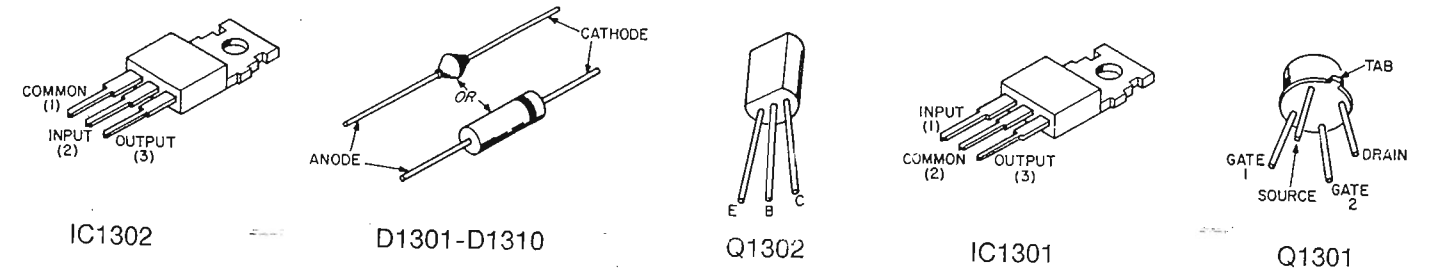


AUTO-ON PCB 046472

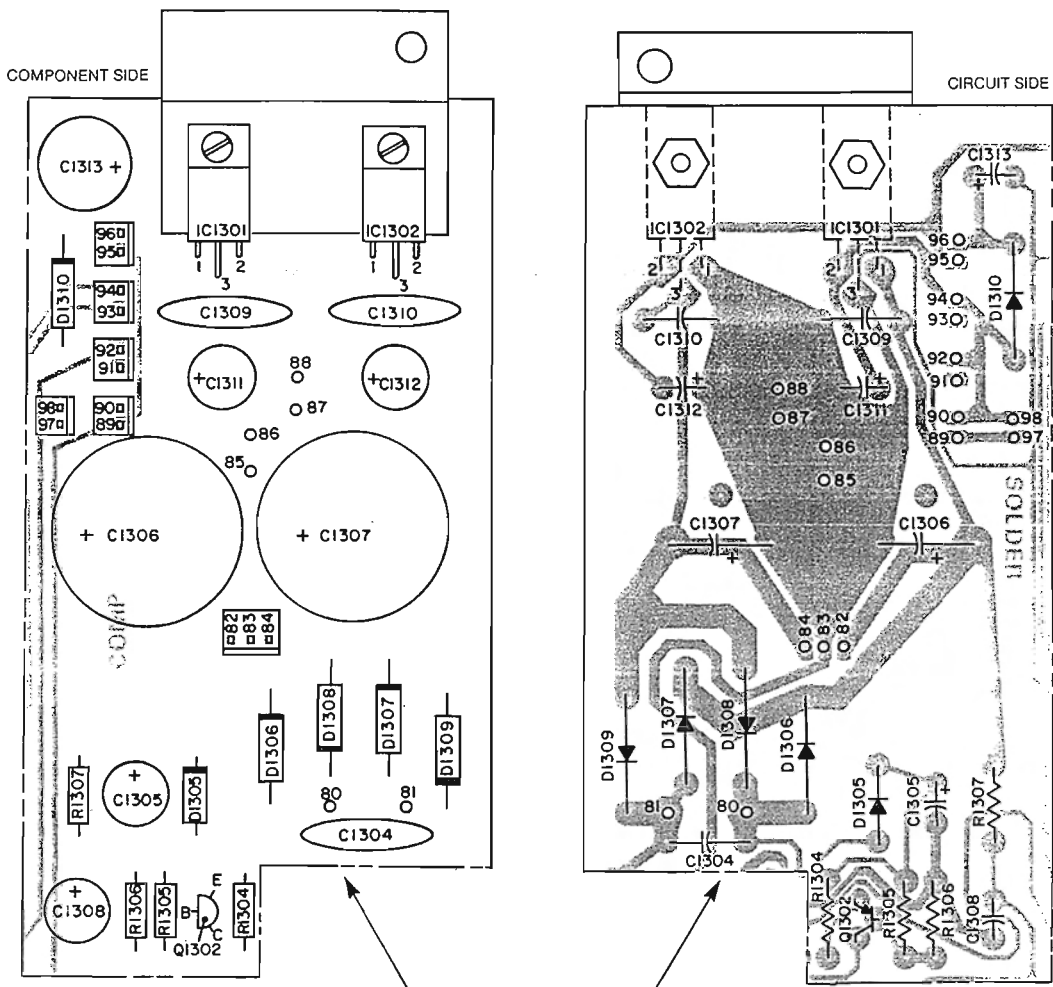


CIRCUIT SIDE

Symbol No.	Part No.	Description
DIODES		
D1301-D1304	070031	RECT, 400V, 1.5A
D1305	070047	SIG, 75V, 10mA, 1N4148
D1306-D1310	070131	RECT, 400V, 1A, 1N4004
INTEGRATED CIRCUITS		
IC1301	133045	+18V Regulator, LM340T-18
IC1302	133044	-18V Regulator, LM320T-18
RELAYS		
K1301	087033	SPDT, 110VDC
TRANSISTORS		
Q1301	131012	SCR, C106M
Q1302	132056	PNP, 2N5087
SWITCHES		
S1301	150038	Pushbutton Switch (8)



SECTIONS 5 7 8 11 ARE ALSO PART OF THIS PCB 045959



POWER SUPPLY PORTION OF PCB 045959

