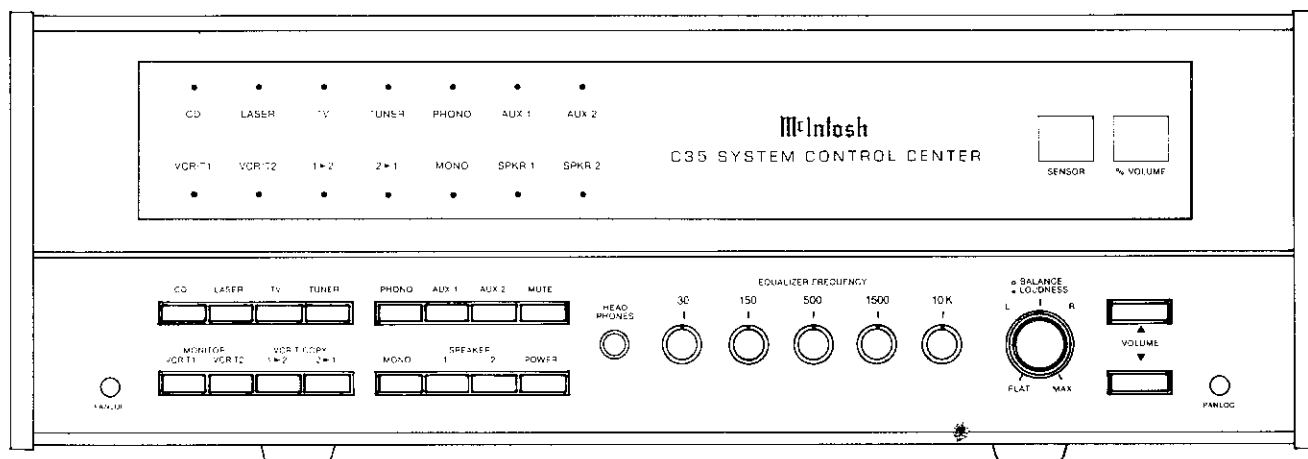


C35

SYSTEM CONTROL CENTER



CONTENTS

Performance Specifications	2
Mechanical Views	3-4
General Notes	4
Block Diagram	5-6
Section Locations	6
Front Panel and Trim Parts List	7
Installation Hardware Parts List	7
Section 1—Interconnection Diagram	7-9
Section 2—Signal Switching (Left channel)	10-14
Section 3—Signal Switching (Right channel)	15-19
Section 4—Input and Mode Switches	20
Section 5—Volume Control Switches	21
Section 6—Control	21-25
Section 7—Status Display	26-28
Section 8—Preamp and Power Supply	29-31
Section 9—Outputs	32-36
Section 10—Backup Power Supply	37-38
Repacking Instructions	39

McIntosh® Service Manual

Performance Specifications

FREQUENCY RESPONSE

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

RATED OUTPUT

2.5V

OUTPUT IMPEDANCE

Balanced 600 ohm

Unbalanced 600 ohm

MAXIMUM VOLTAGE OUTPUT

Main and Tape Output- 8V from 20 to 20,000Hz

TOTAL HARMONIC DISTORTION

0.002% maximum from 20 to 20,000Hz at rated output

SENSITIVITY

Phono- 2.5mV for 2.5V rated output
(0.5mV 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- 105dB below rated output (95dB IHF)

MAXIMUM INPUT SIGNAL

Phono- 90mV

High Level- 10V

INPUT IMPEDANCE

Phono- 47K ohms and 65pF capacitance

High Level- 22k ohms

VOLTAGE GAIN

Phono to Tape- 40dB

Phono to Main- 60dB

High Level to Tape- 0dB

High Level to Main- 20dB

EQUALIZER CONTROLS

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

GENERAL INFORMATION

SEMICONDUCTOR COMPLEMENT

49 Bipolar Transistors

73 Field Effect Transistors

35 Integrated Circuits

112 Diodes

AC POWER OUTLETS

4 Black, switched, and 1 red, unswitched, 1500 watts total capacity

POWER REQUIREMENTS

120 Volts, 50/60Hz, 25 watts

MECHANICAL INFORMATION

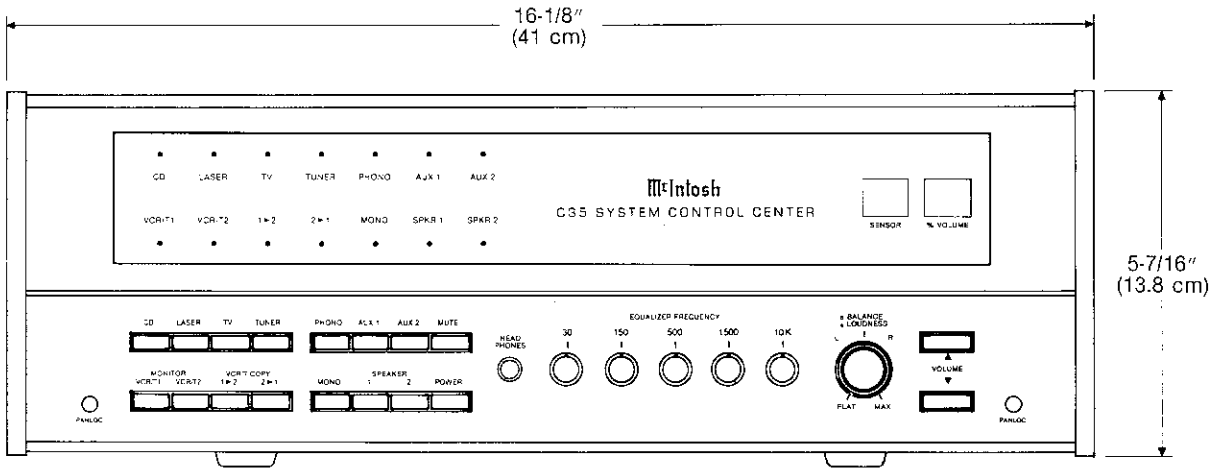
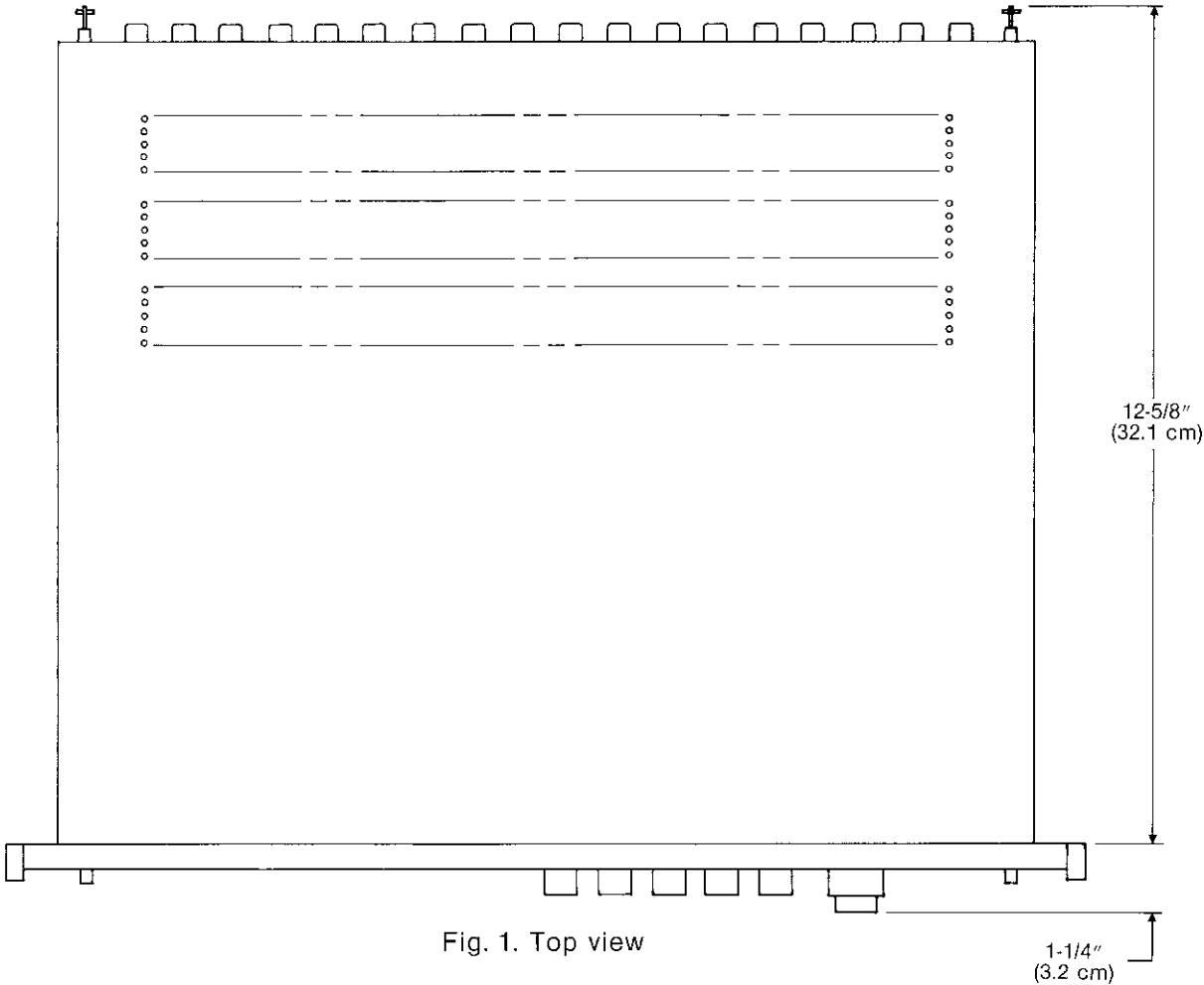
SIZE:

Front panel measures 16-1/8 inches wide (41 cm) by 5-7/16 inches high (13.8 cm) by 13 inches deep (33 cm), including connectors. Knob clearance required is 1-3/8 inches (3.5 cm) in front of mounting panel.

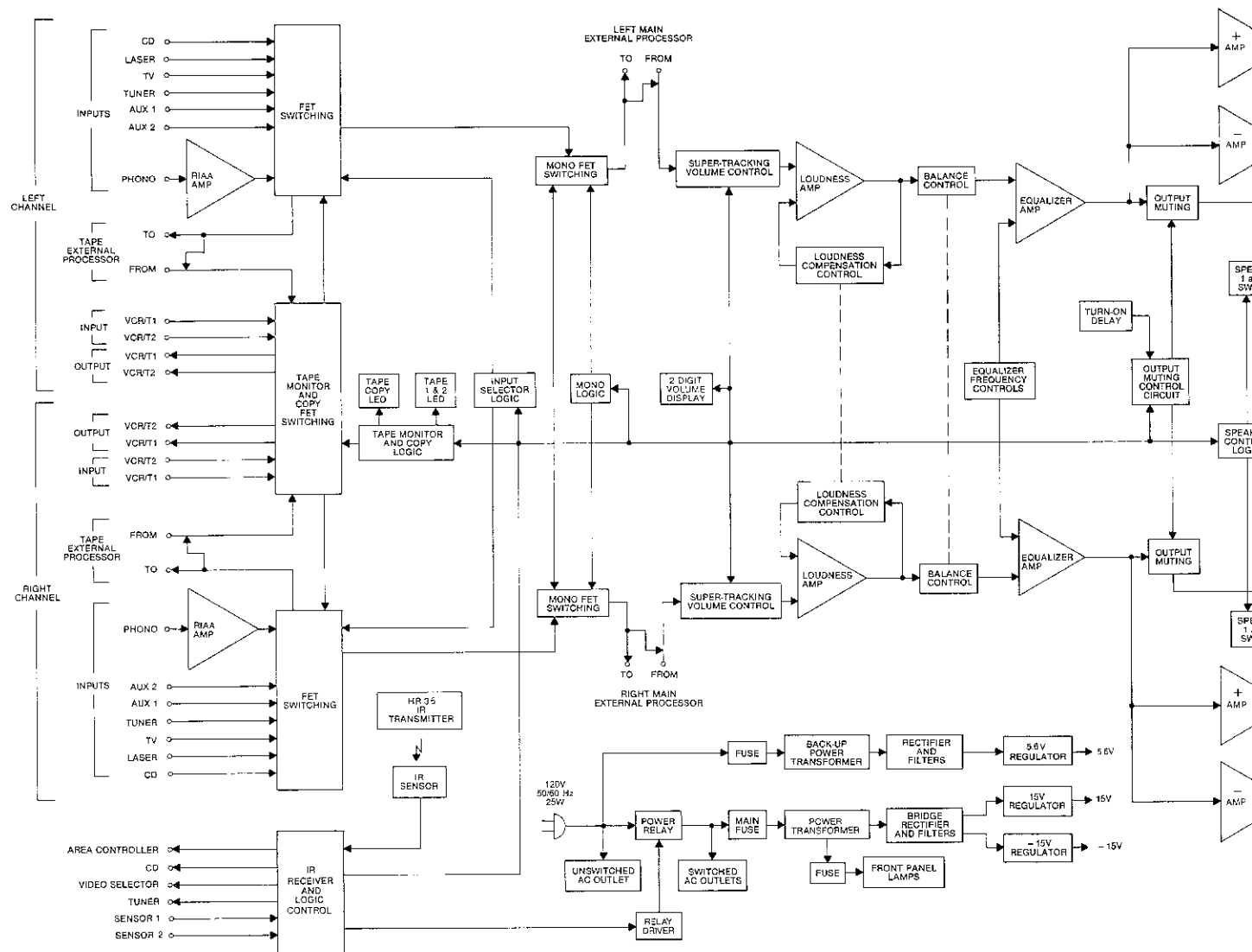
WEIGHT

18 pounds (8.2 kg) net, 30 pounds (13.6 kg) in shipping carton.

Mechanical Views



Block Diagram



Section Locations

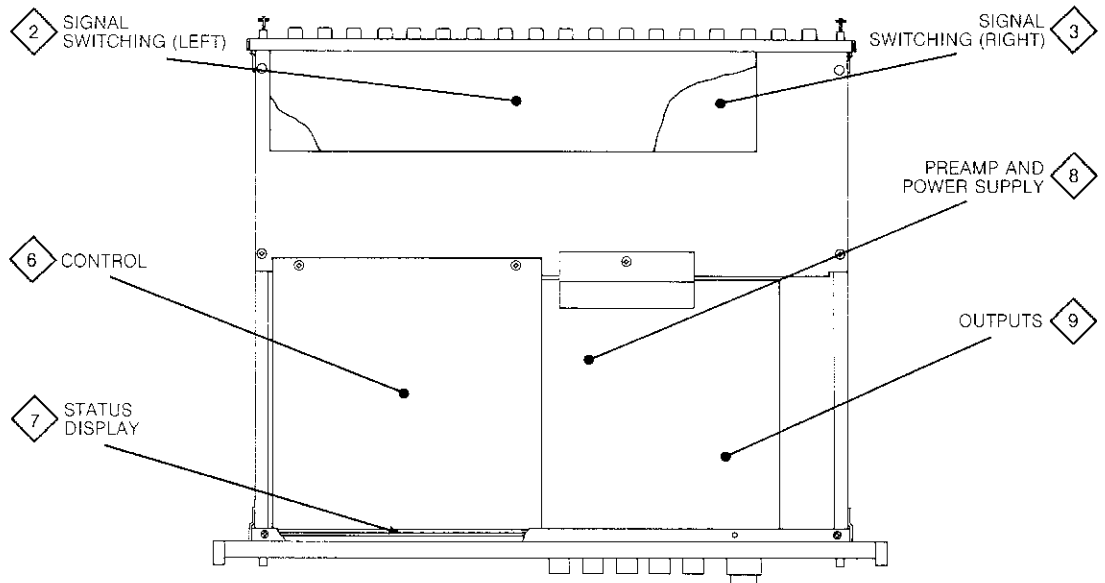
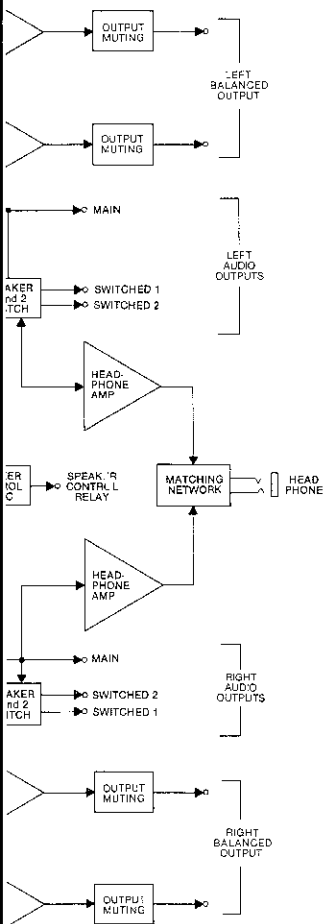


Fig. 4. Top view with cover removed.

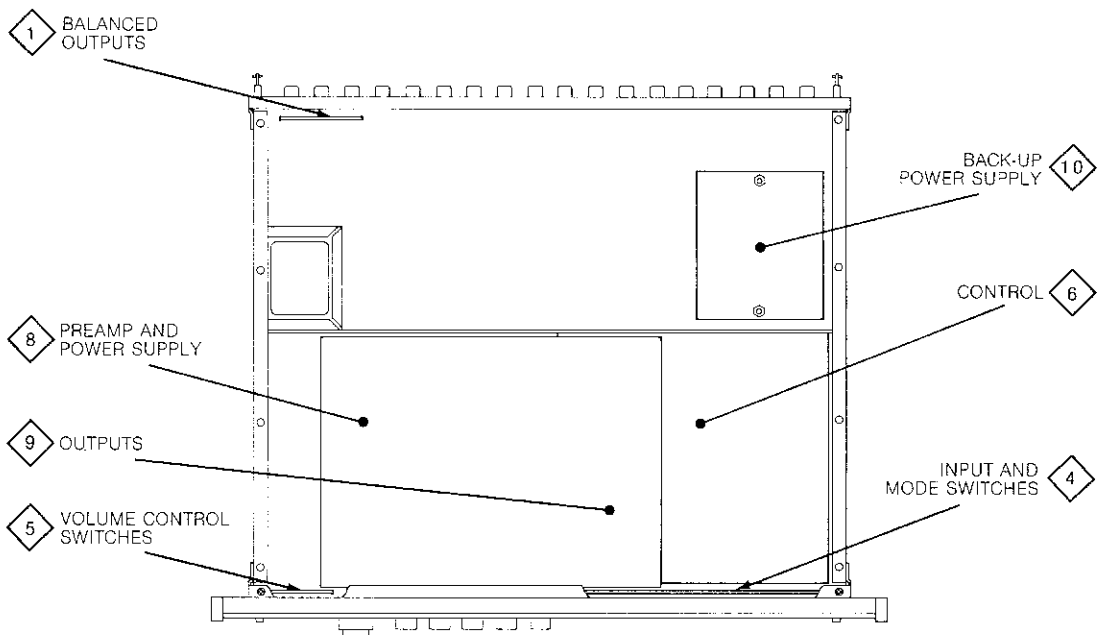


Fig. 5. Bottom view with cover removed.

Interconnection Diagram

1

FRONT PANEL and TRIM PARTS LIST

Part	Description
017341	Pushbutton, Black, Volume
017396	Pushbutton, Black
017397	Pushbutton, Red
018364	Bottom Extrusion
018375	Top Panel Rail, Secure W/100147 Screws
018232	End Cap, Secure W/101042 Screws
046958	Front Panel, Glass
046959	Front Panel, Complete
090207	Balance Knob, Rear
090218	Loudness Knob, Front
090221	Equalizer Frequency Knob
104017	Knob Felt Washer, 3/4 Dia.

INSTALLATION HARDWARE PARTS LIST

Part	Description
003508	Panloc Shelf Bracket, Right
003509	Panloc Shelf Bracket, Left
017156	Plastic Foot, 3/4 in. high (Earlier Units), Secure W/100160 Screws
017218	Plastic Foot, 1 in. high (Later Units), Secure W/100159 Screws
039671	Mounting Template
043401	Mounting Strip
046722	Hardware Package

INTERCONNECTION PARTS LIST

Symbol	Part	Description
--------	------	-------------

CAPACITORS

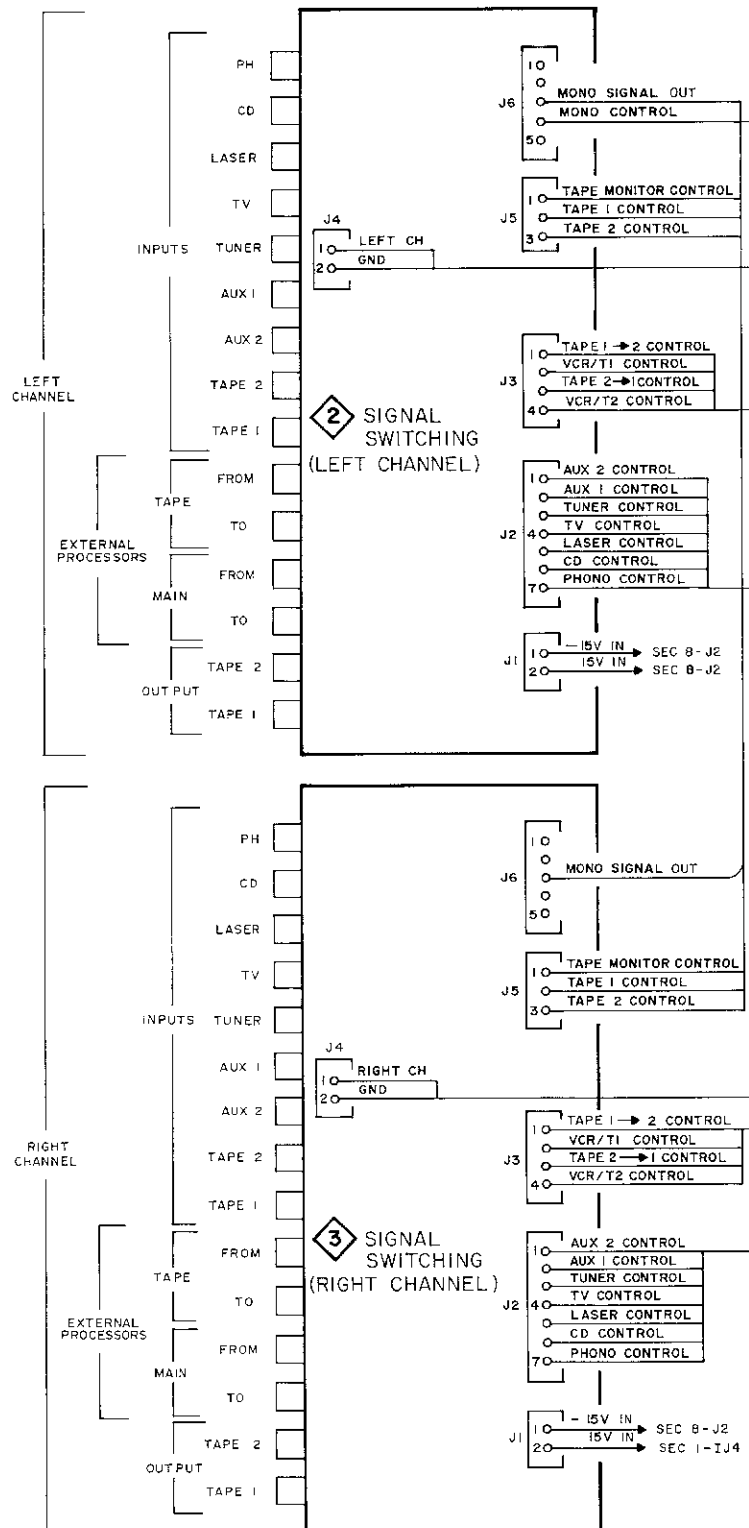
C1,C2	061276	CD, 0.0047uF, 400V, UL/CSA
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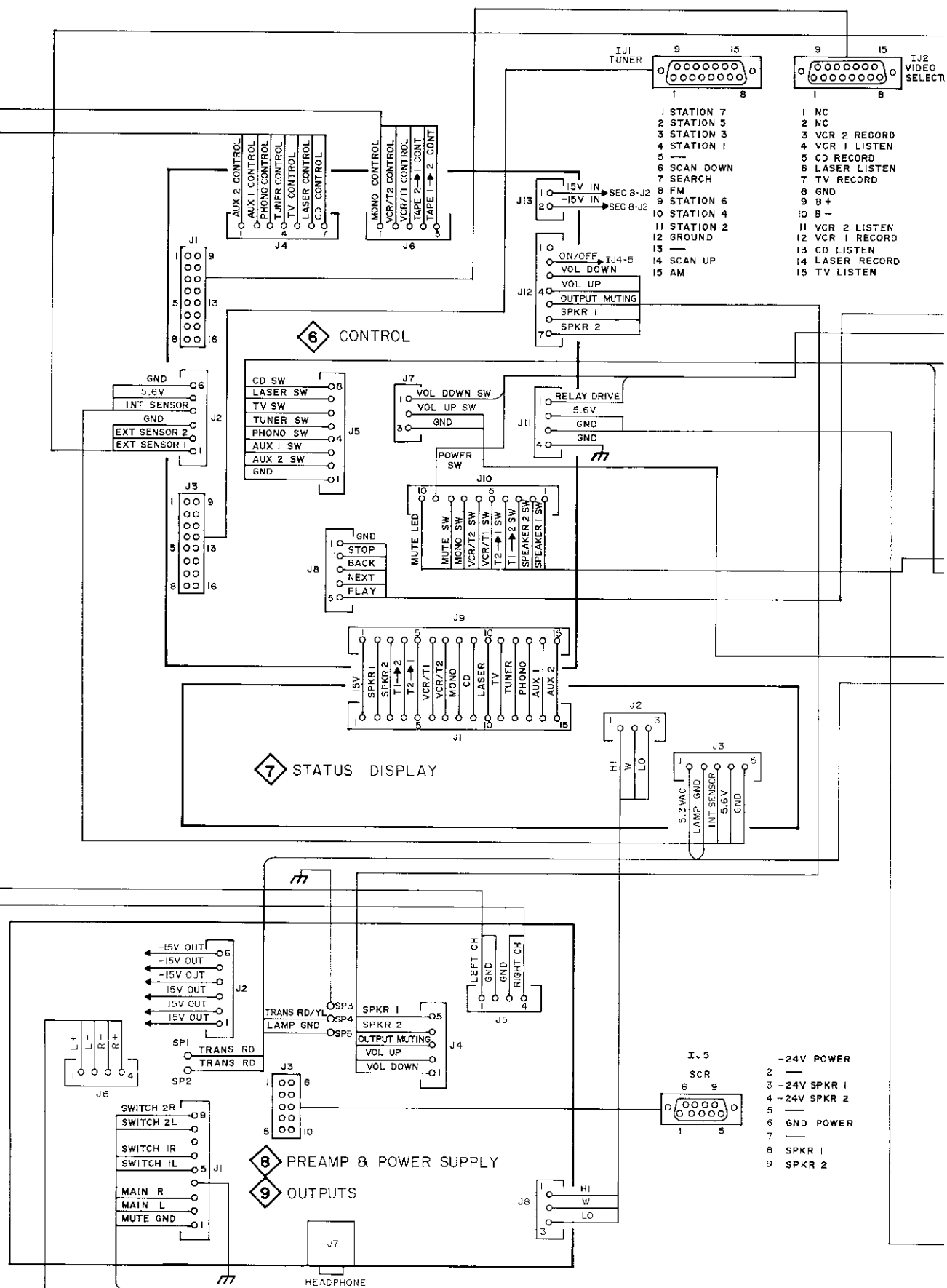
FUSES

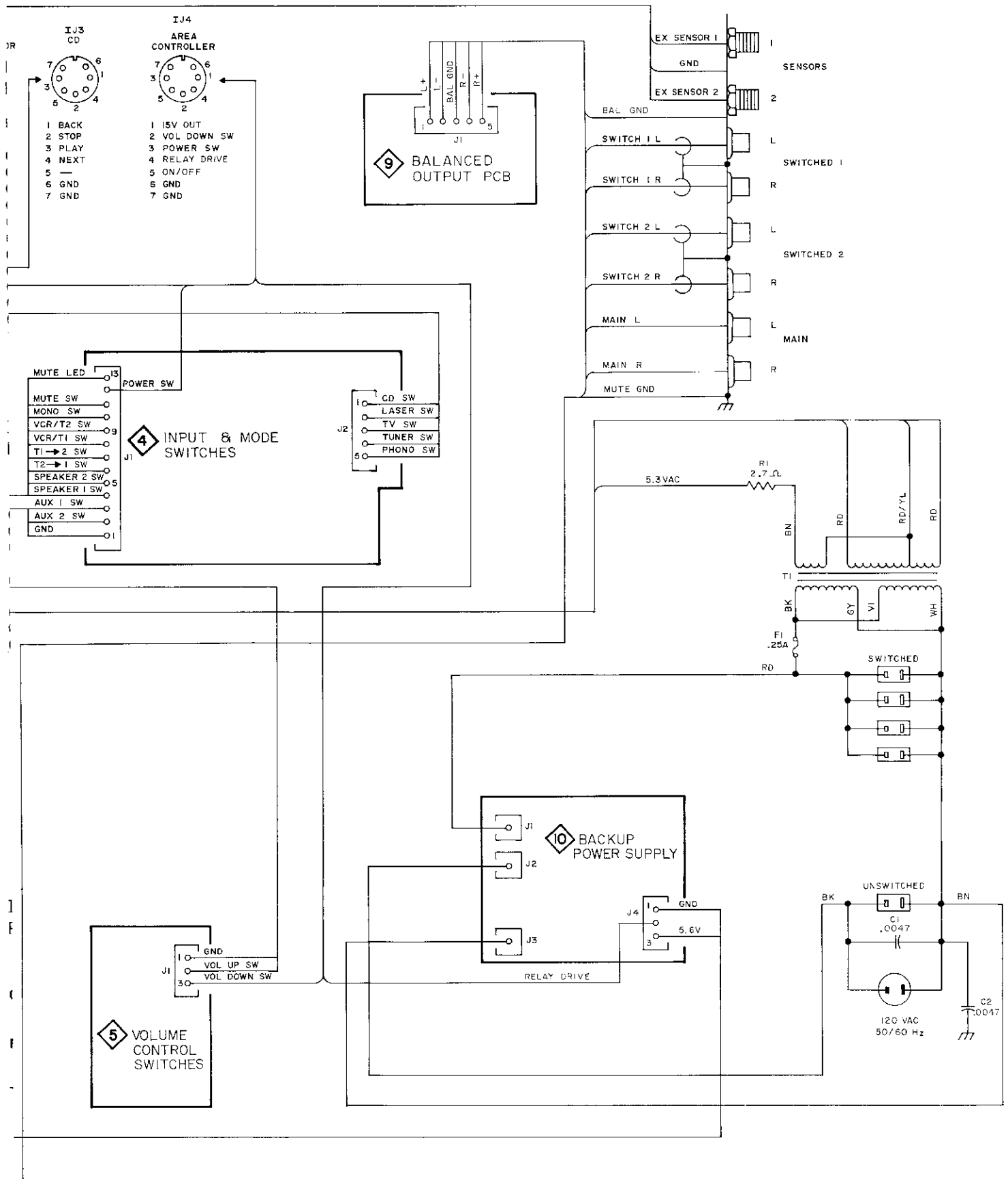
F1	089048	Fuse, SB, 0.25A, 250V, MDL-1/4
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TRANSFORMERS

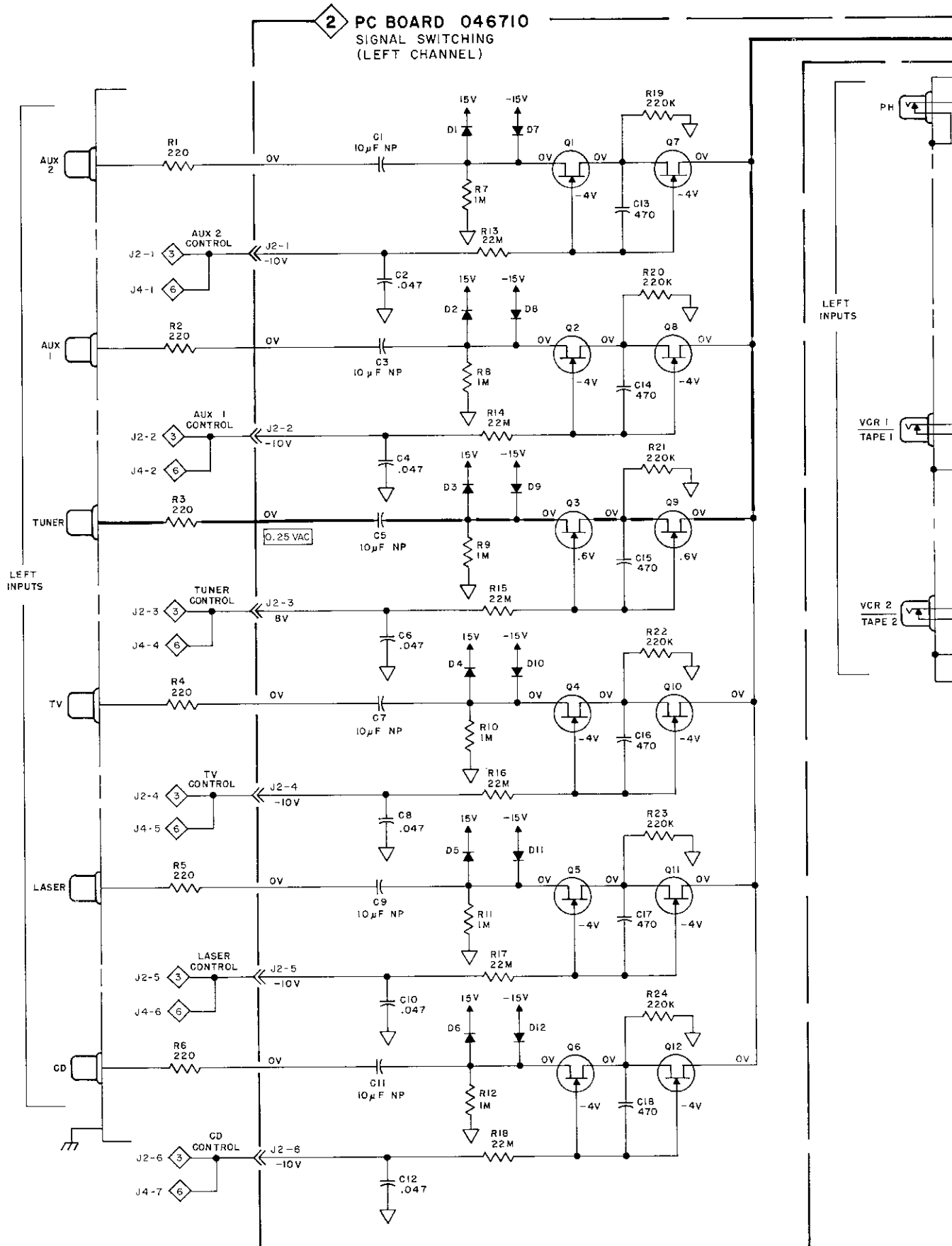
T1	159198	Power
----	--------	-------

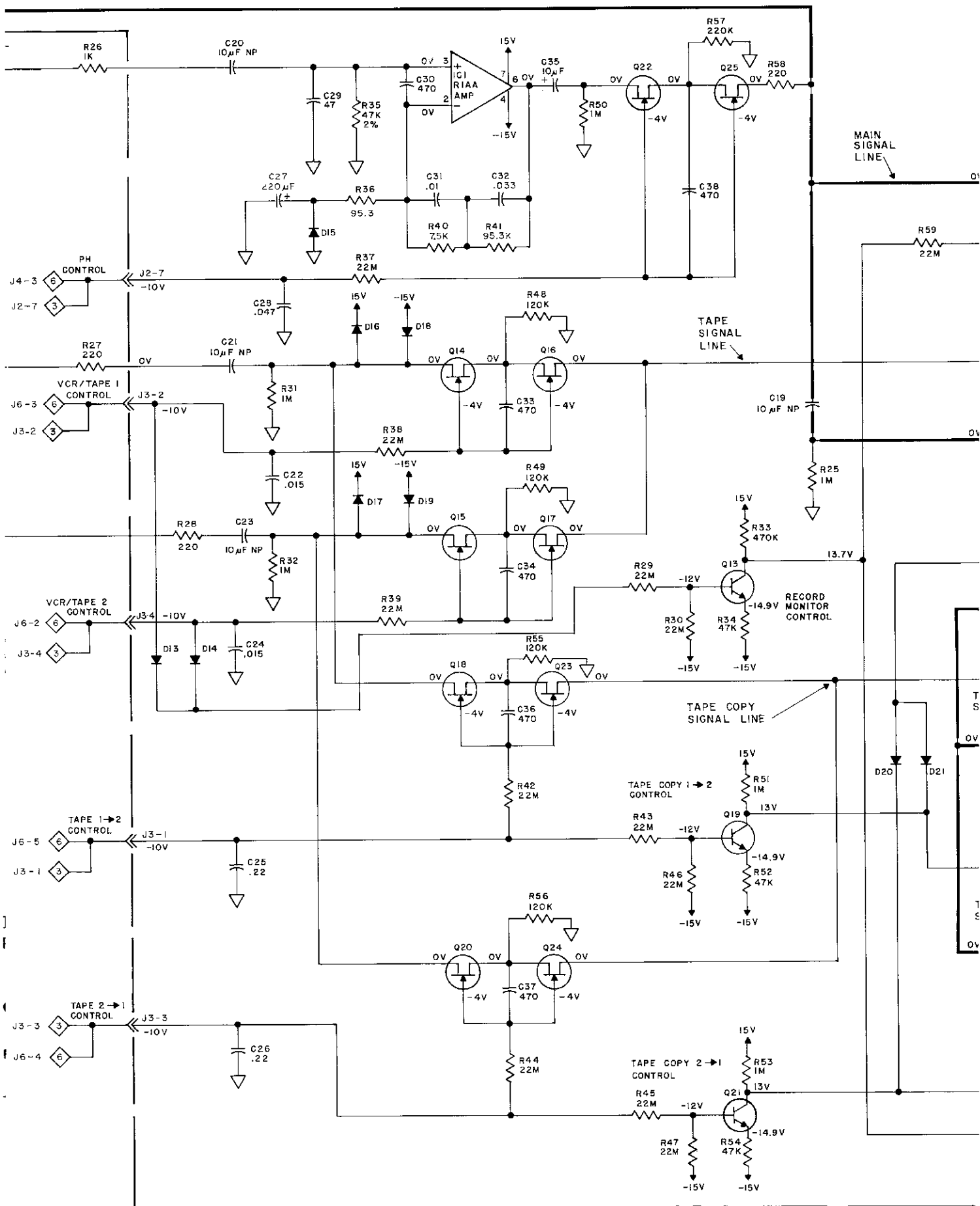


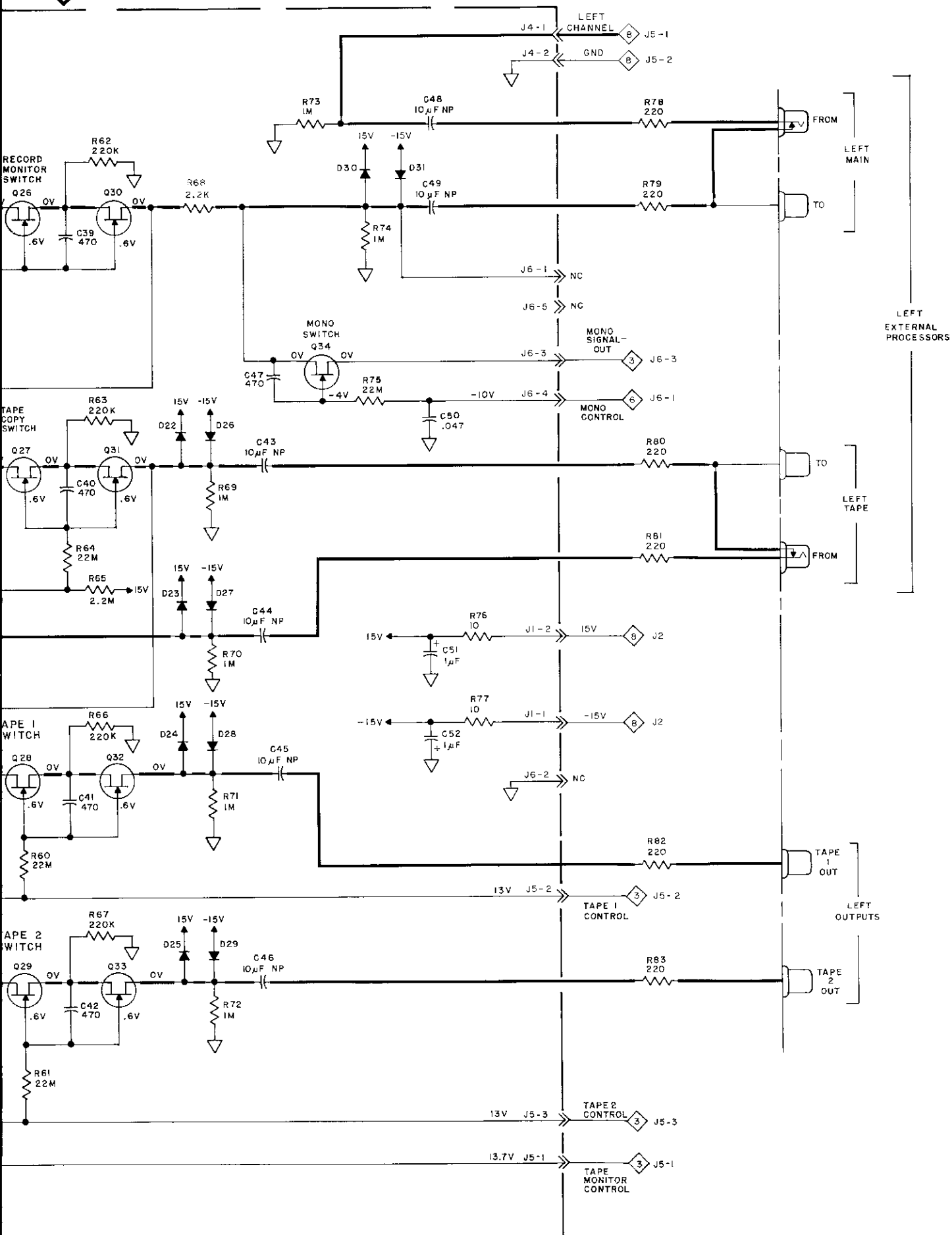




2 Signal Switching (Left Channel)

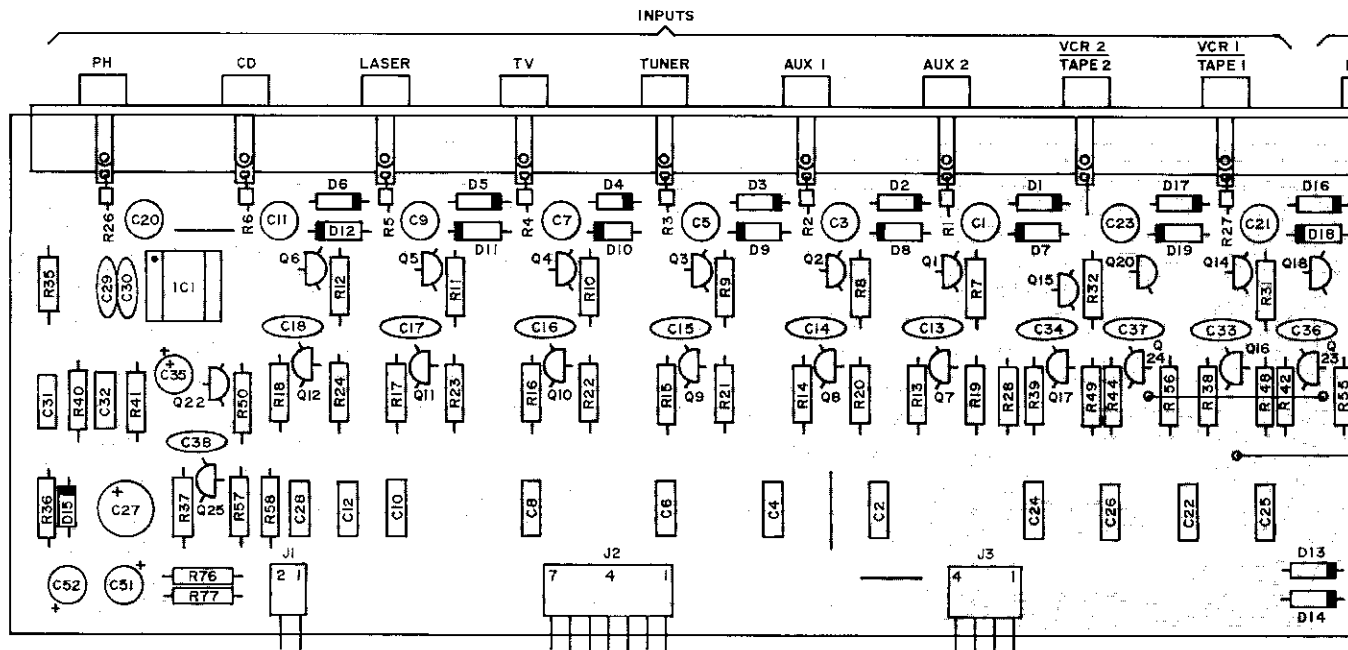






Signal Switching (Left Channel)

2



SIGNAL SWITCHING (LEFT CHANNEL) PC

SIGNAL SWITCHING (LEFT CHANNEL) PARTS LIST

Symbol	Part	Description
--------	------	-------------

DIODES

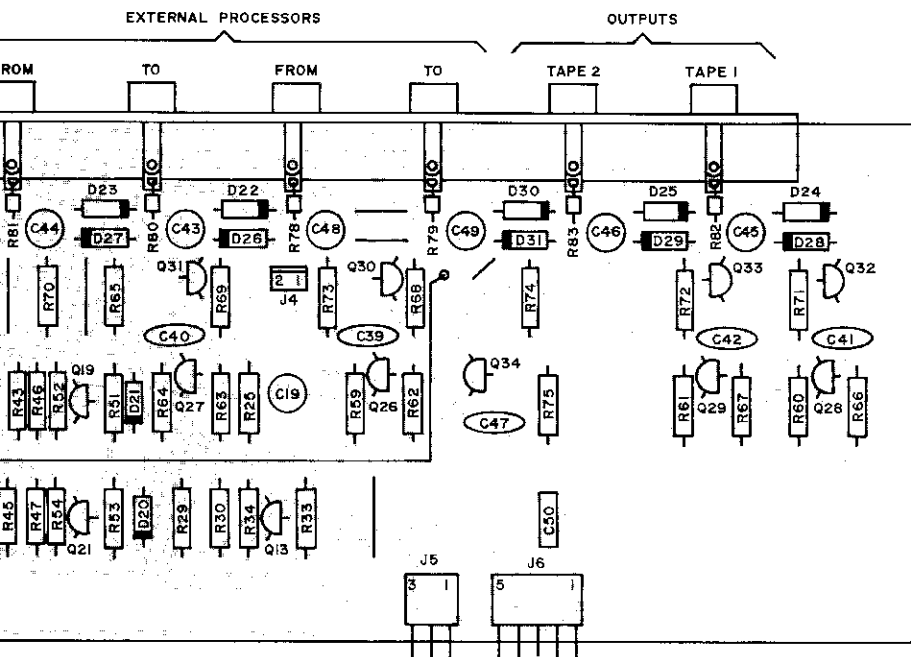
D1-D31	070047	SIG, 75V, 150mA, 1N4148
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INTEGRATED CIRCUITS

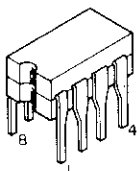
IC1	133067	Operational Amp, Low Noise, NE5534AN
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TRANSISTORS

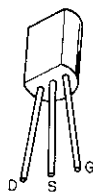
Q1-Q12	132193	N, JFET, 2N4392
Q13	132235	NPN, 2SC2240-BL
Q14-Q18	132193	N, JFET, 2N4392
Q19	132235	NPN, 2SC2240-BL
Q20	132193	N, JFET, 2N4392
Q21	132235	NPN, 2SC2240-BL
Q22-Q34	132193	N, JFET, 2N4392



CB 046710



IC1



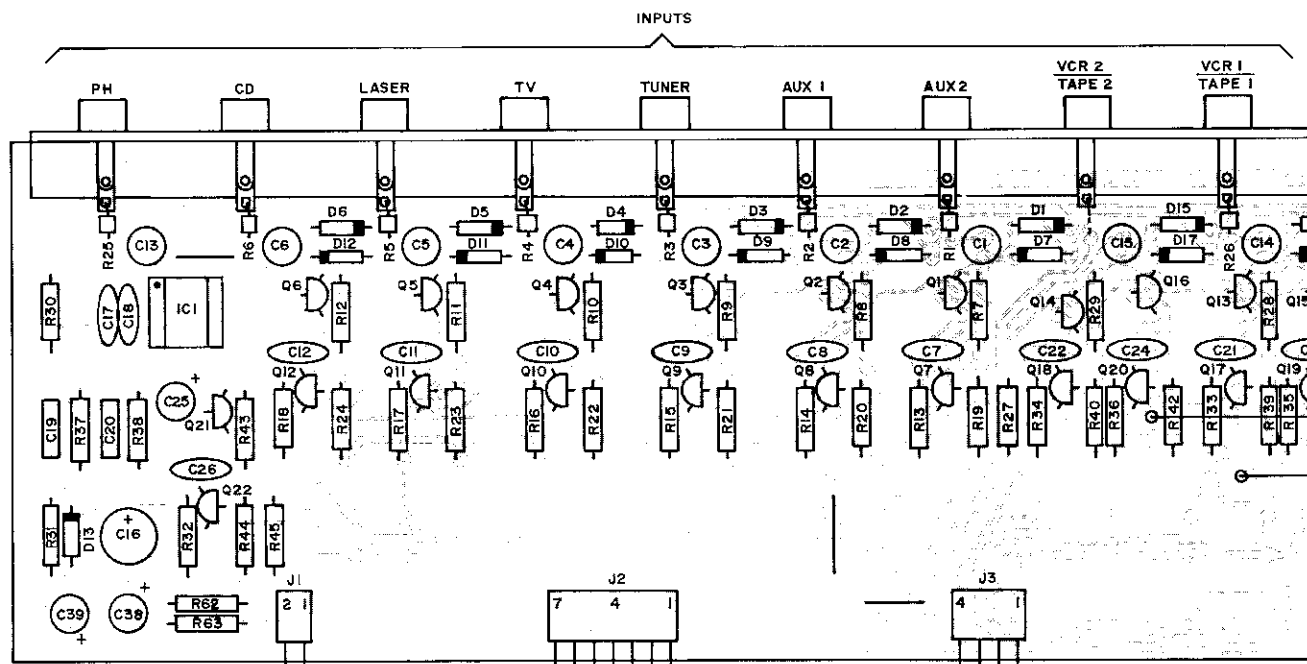
Q1-Q12, Q14-Q18,
Q20, Q22-Q34



Q13, Q19, Q21

3

Signal Switching (Right Channel)



SIGNAL SWITCHING (RIGHT CHANNEL)

SIGNAL SWITCHING (RIGHT CHANNEL) PARTS LIST

Symbol	Part	Description
--------	------	-------------

DIODES

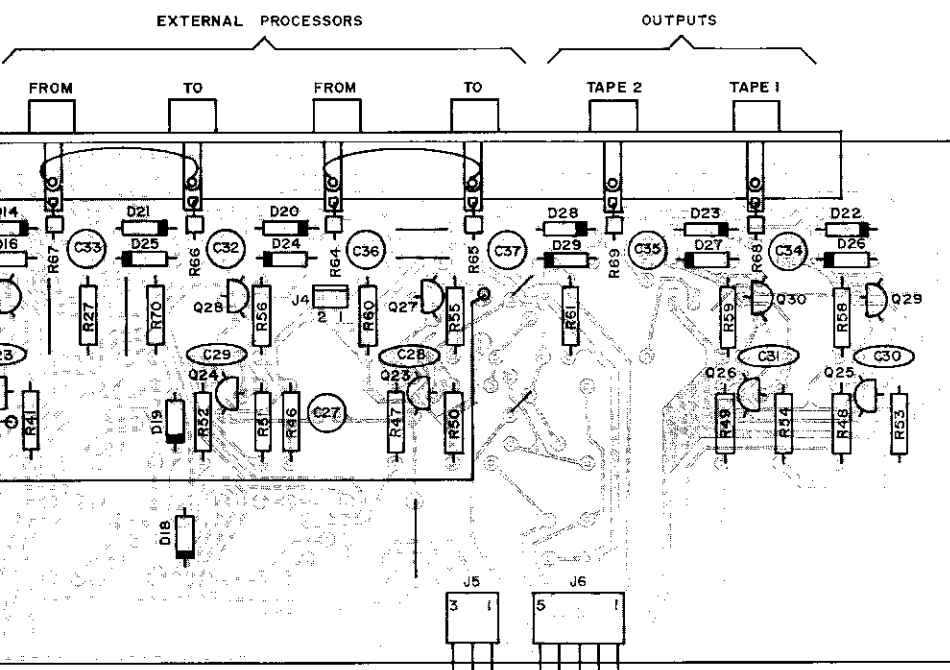
D1-D29	070047	SIG, 75V, 150mA, 1N4148
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INTEGRATED CIRCUITS

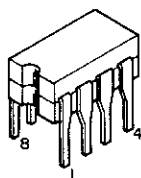
IC1	133067	Operational Amp, Low Noise, NE5534AN
-----	--------	--------------------------------------

TRANSISTORS

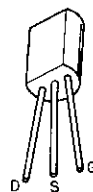
Q1-Q30	132193	N, JFET, 2N4392
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) PCB 046711



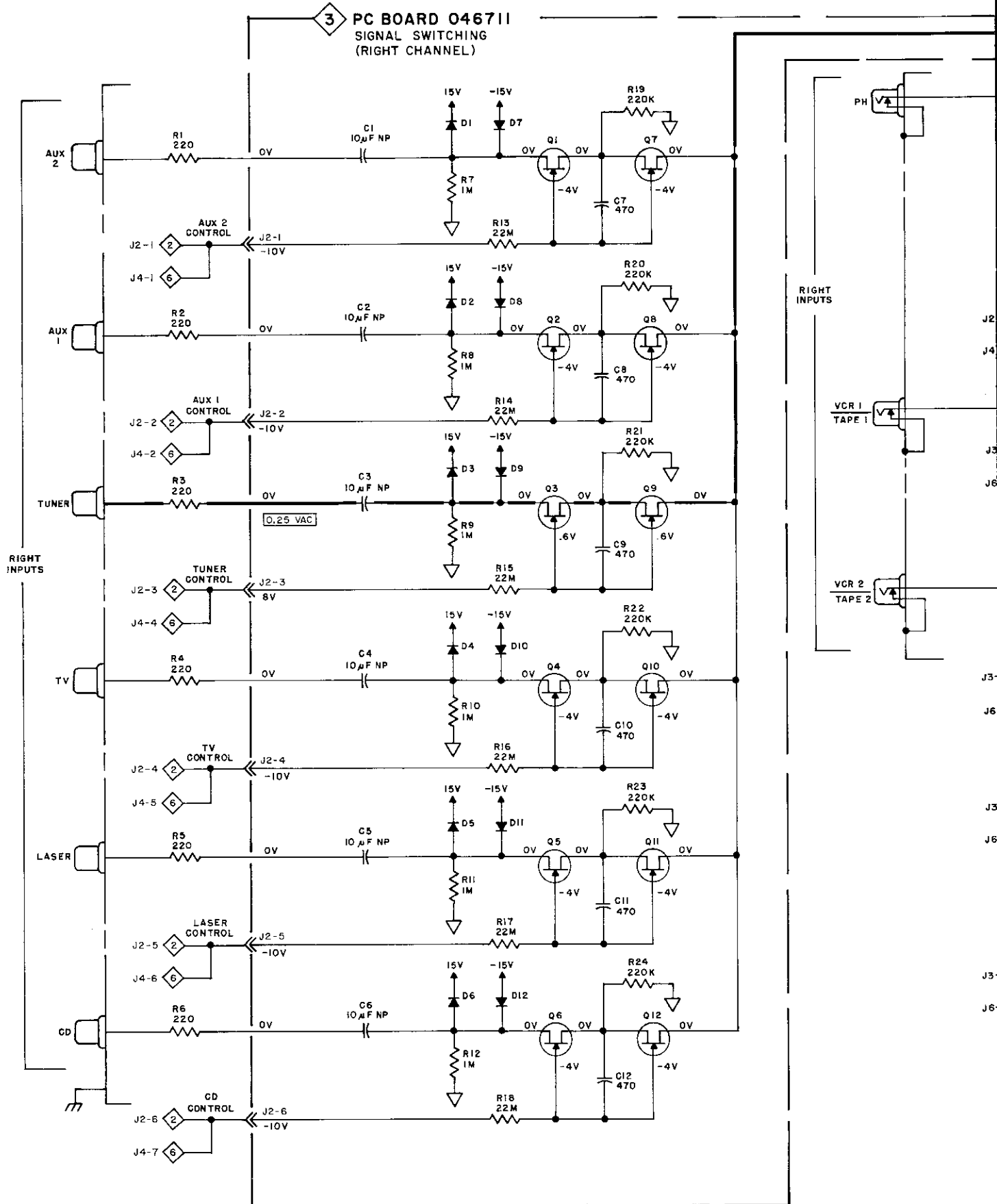
IC1

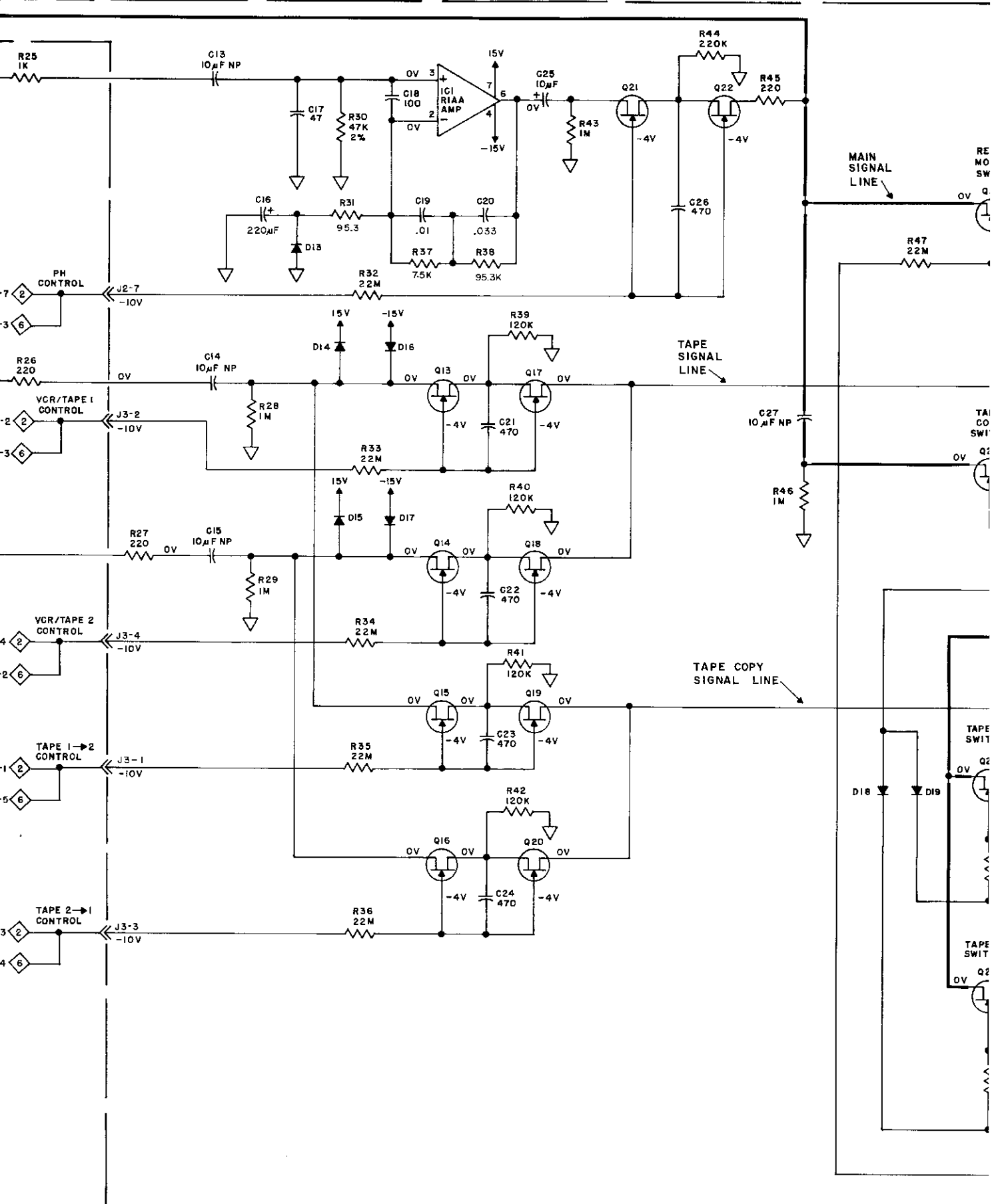


Q1-Q30

Signal Switching (Right Channel)

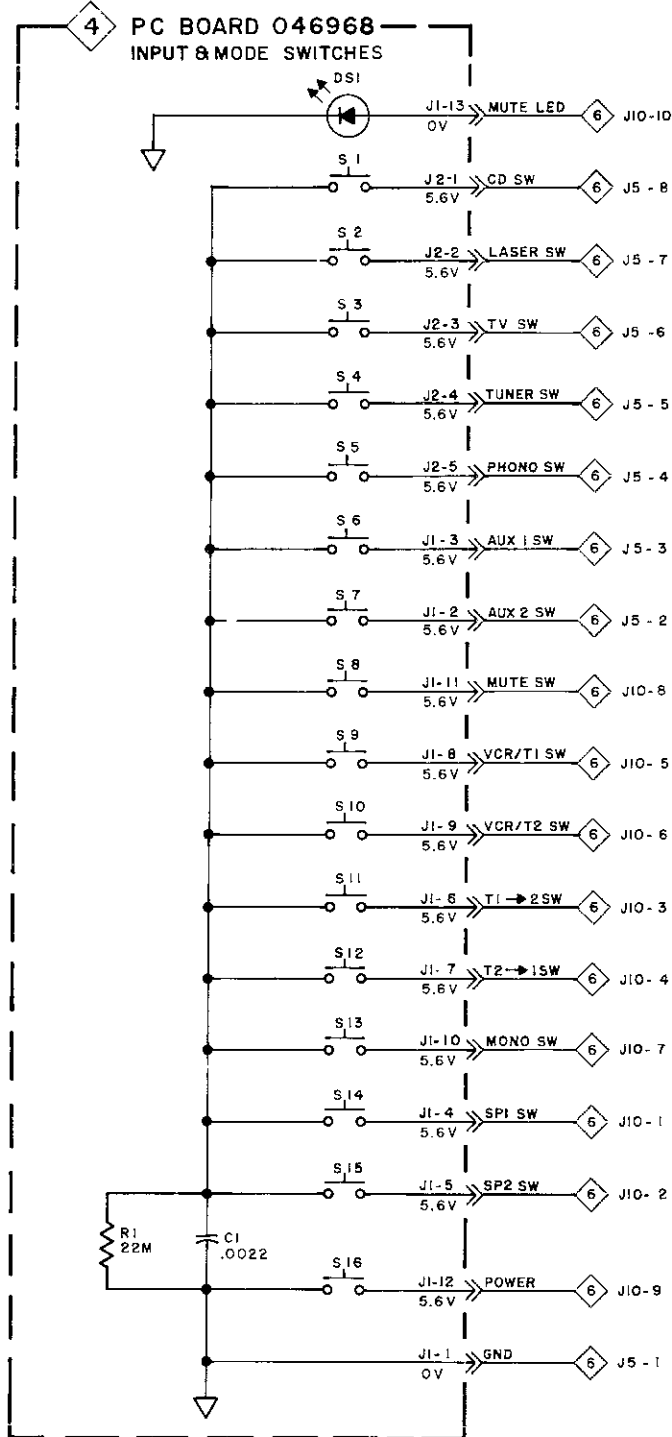
3







4 Input and Mode Switches



INPUT and MODE SWITCHES PARTS LIST

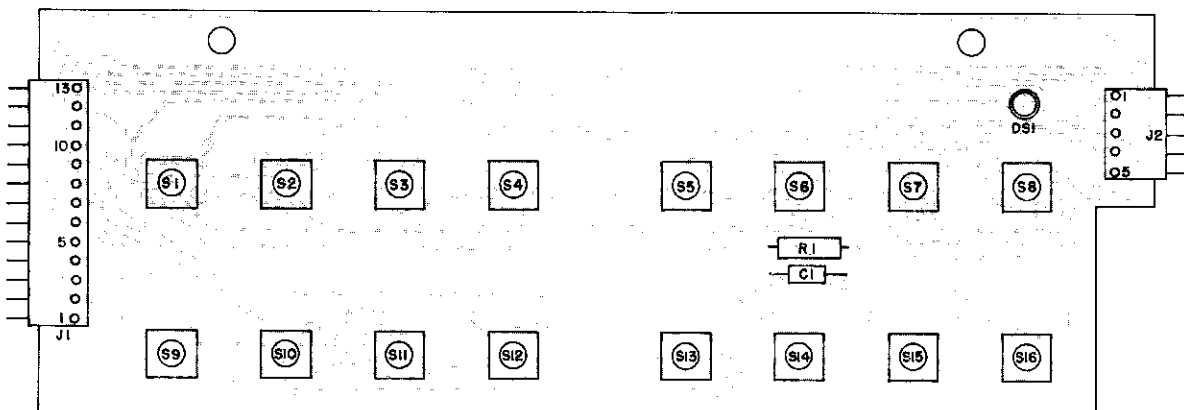
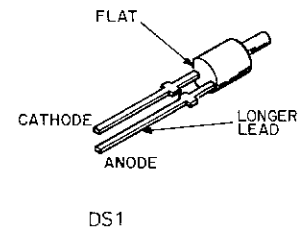
Symbol	Part	Description
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LIGHTING DEVICES

DS1	058078	LED, Red, SLP144B
-----	--------	-------------------

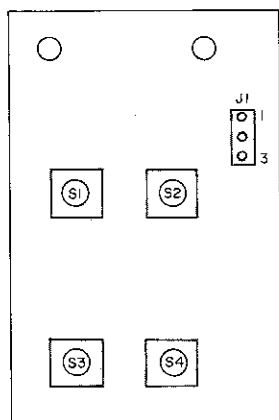
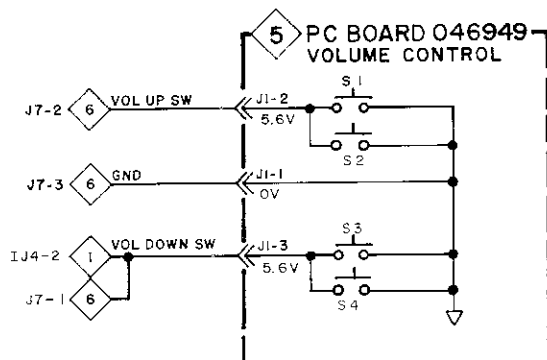
SWITCHES

S1-S16	150051	TACT, MOMENTARY
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INPUT AND MODE SWITCHES PCB 046968

5 Volume Control Switches



VOLUME CONTROL SWITCHES
PCB 046949

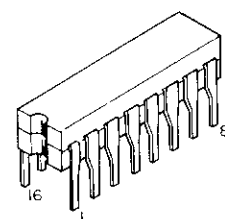
VOLUME CONTROL SWITCHES PARTS LIST

Symbol	Part	Description
SWITCHES		
S1-S4	150051	TACT, MOMENTARY

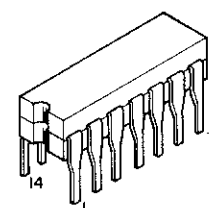
6 Contro

CONTROL PARTS LIST

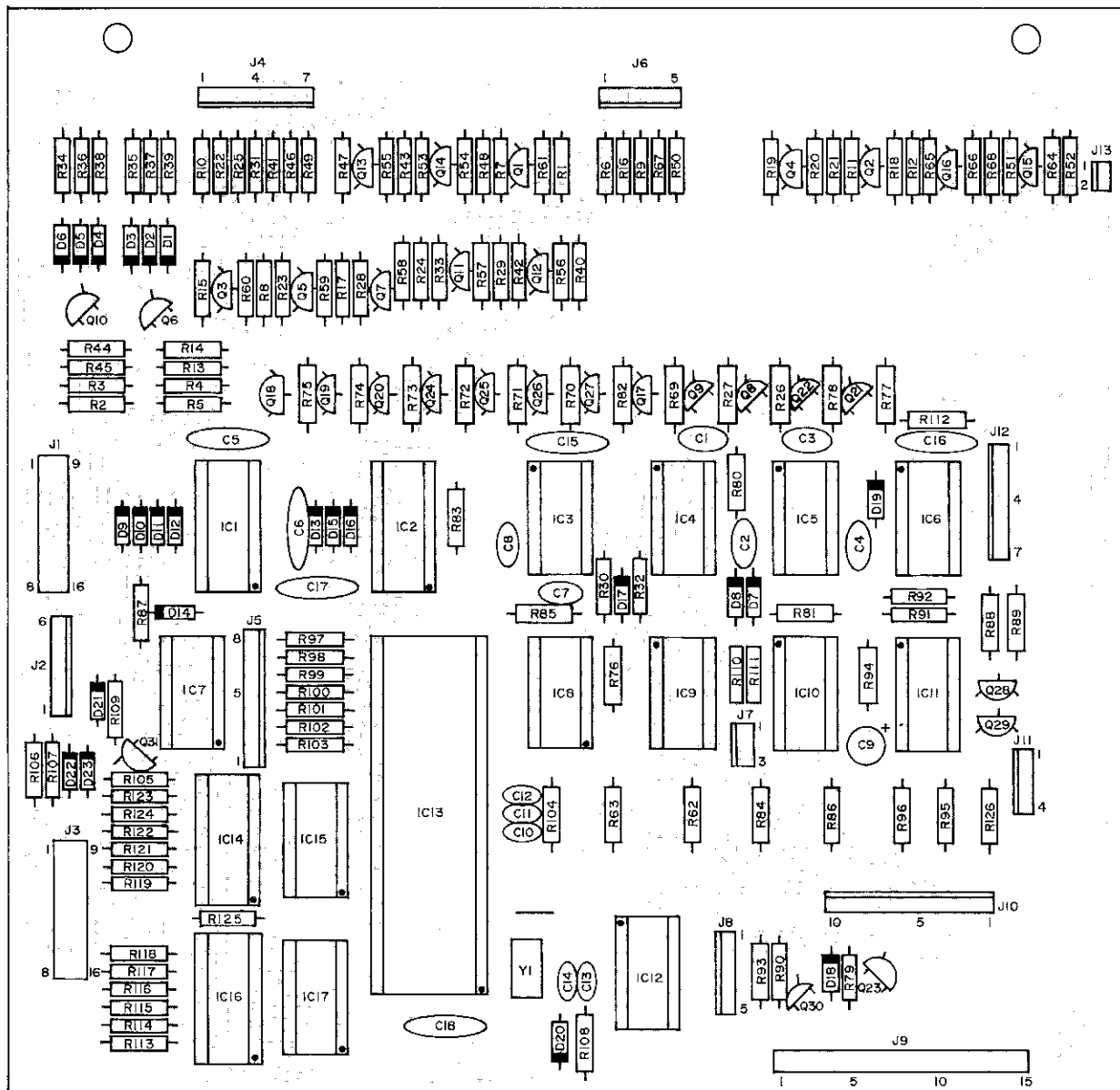
Symbol	Part	Description
DIODES		
D1-D23	070047	SIG, 75V, 150mA, 1N4148
INTEGRATED CIRCUITS		
IC1,IC2	133135	CMOS, 4-Bit Register, HEF4076BPN
IC3-IC6	133053	CMOS, Dual Type-D F-F, MC14013AL
IC7,IC8	133124	CMOS, Hex Inv, HEF4069UB
IC9-IC11	133064	CMOS, Quad 2-input NOR Gate, MC14001B
IC12	133076	CMOS, Quad 2-input AND Gate, MC14081B
IC13	132123	CMOS, IR Receiver, TC9134P
IC14,IC16	133137	6-input Strobed Driver, LB17
IC15,IC17	133124	CMOS, Hex Inv, HEF4069UB
TRANSISTORS		
Q1-Q5	132056	PNP, 2N5087
Q6	132235	NPN, 2SC2240-BL
Q7	132056	PNP, 2N5087
Q8-Q10	132235	NPN, 2SC2240-BL
Q11-Q16	132056	PNP, 2N5087
Q17-Q20	132223	NPN, MPS4124
Q21,Q22	132235	NPN, 2SC2240-BL
Q23	132090	NPN, DAR, MPSA25
Q24-Q29	132223	NPN, MPS4124
Q30,Q31	132235	NPN, 2SC2240-BL
CRYSTALS		
Y1	180033	Ceramic Resonator, 455kHz,



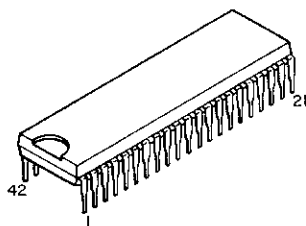
IC1,IC2,
IC14,IC16



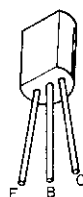
IC3-IC12
IC15,IC17



CONTROL PCB 046706



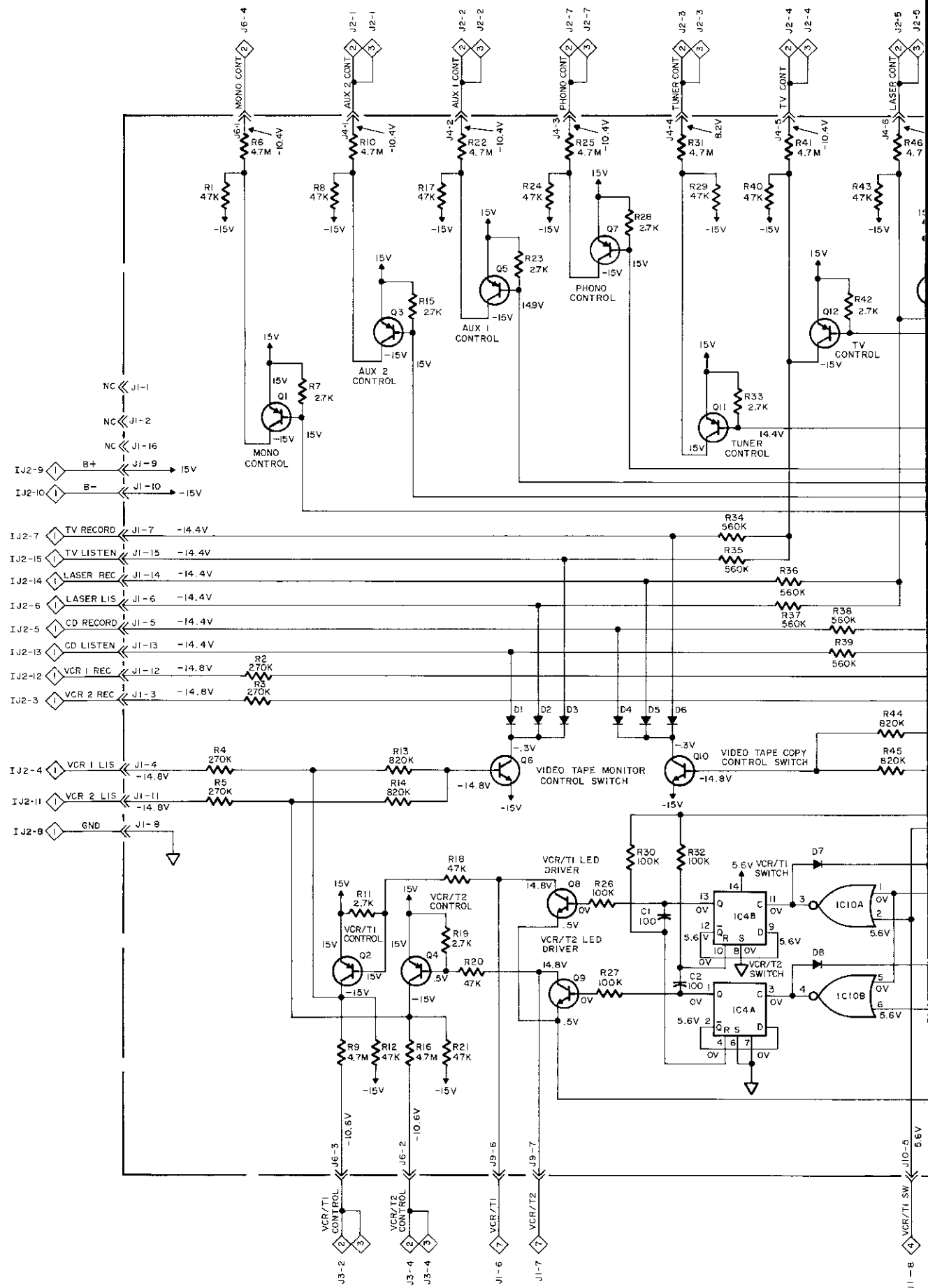
IC13

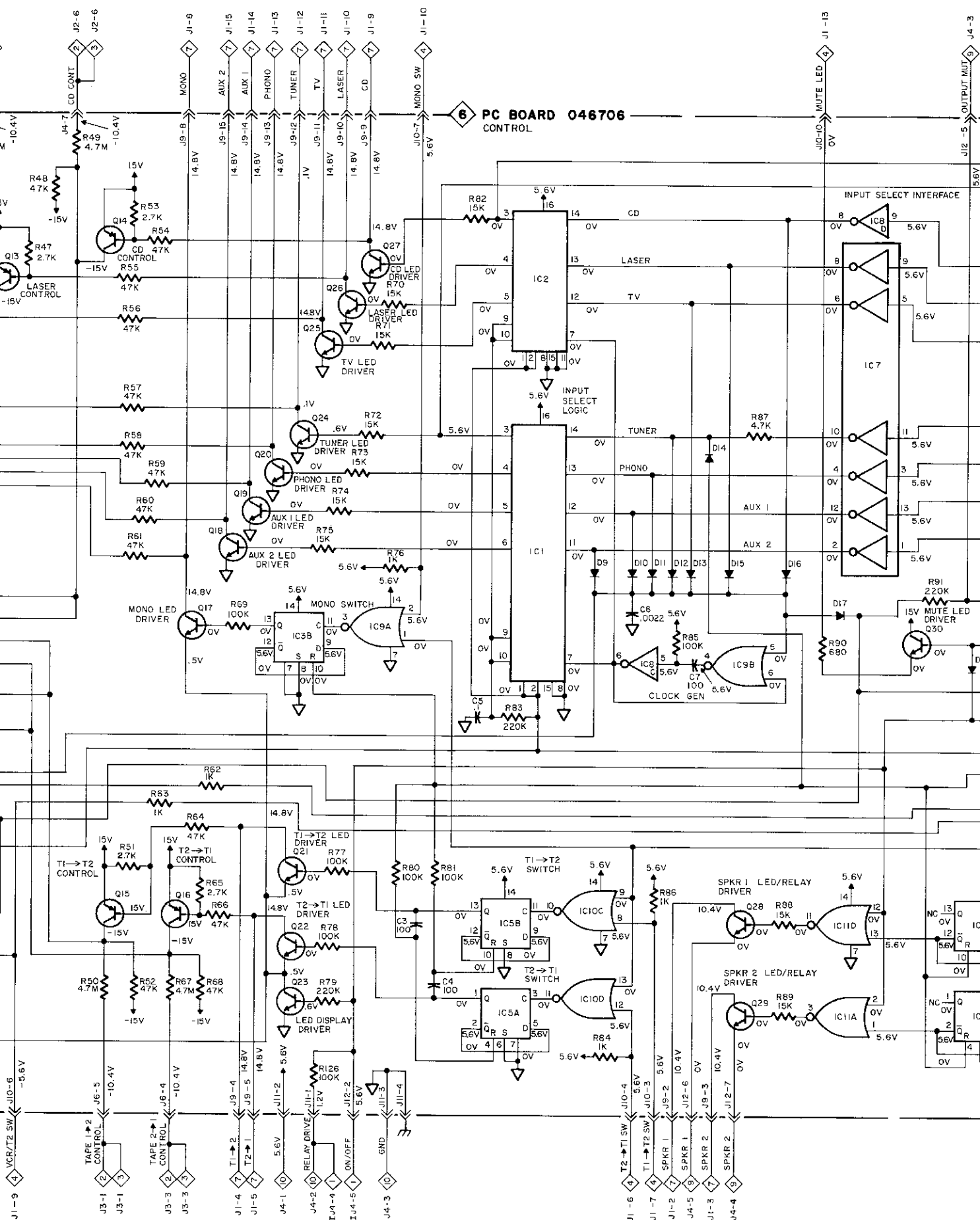


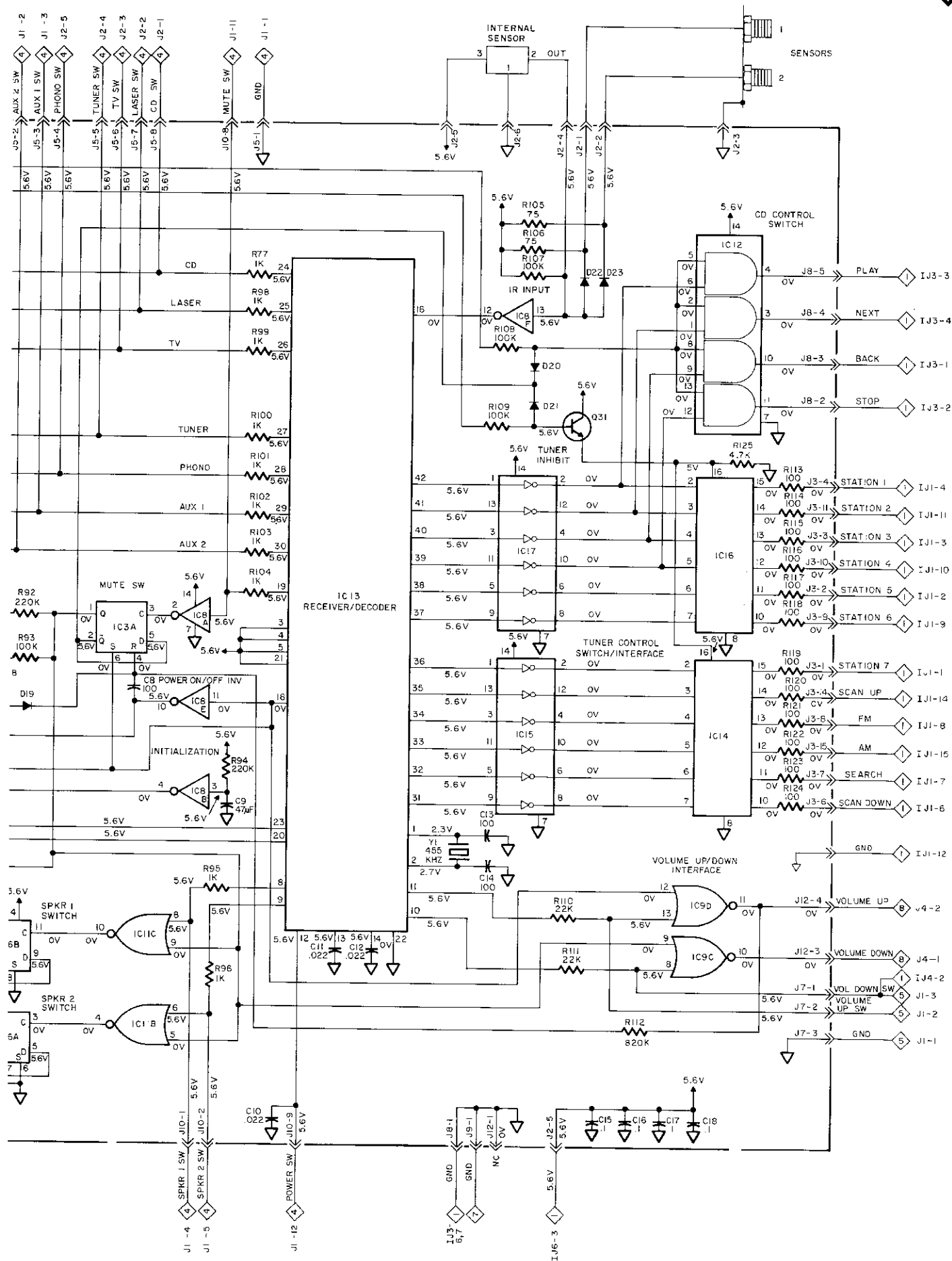
Q1-Q5, Q7,
Q11-Q20
Q23-Q29



Q6, Q8-Q10,
Q21, Q22
Q30, Q31

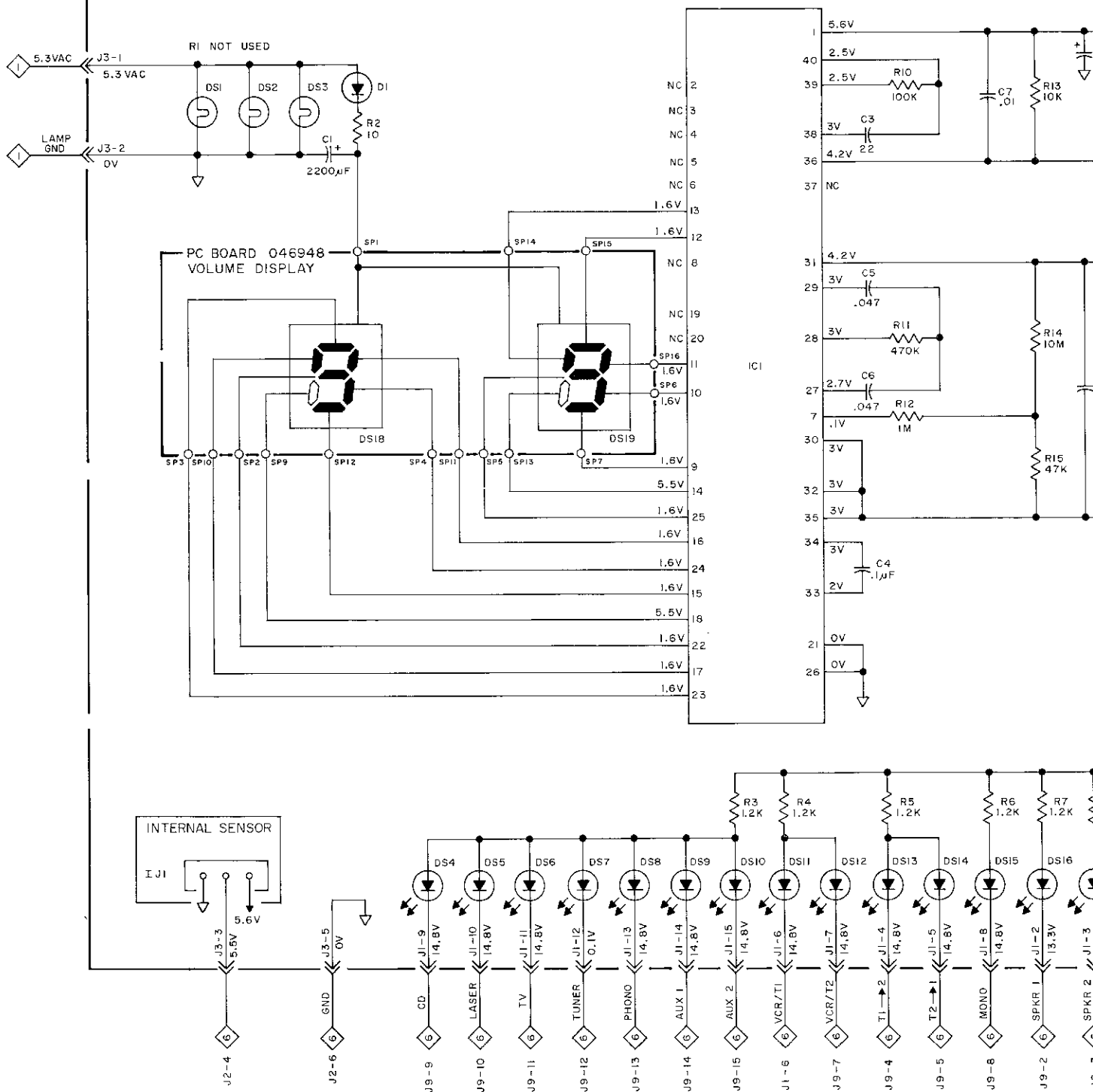


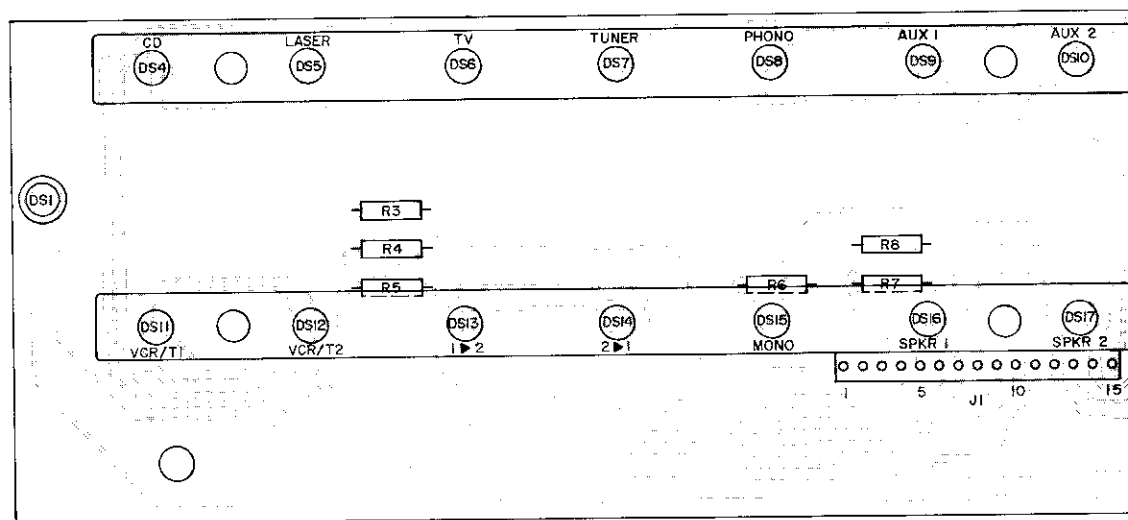


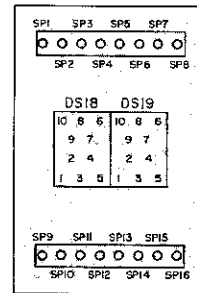


7 Status Display

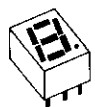
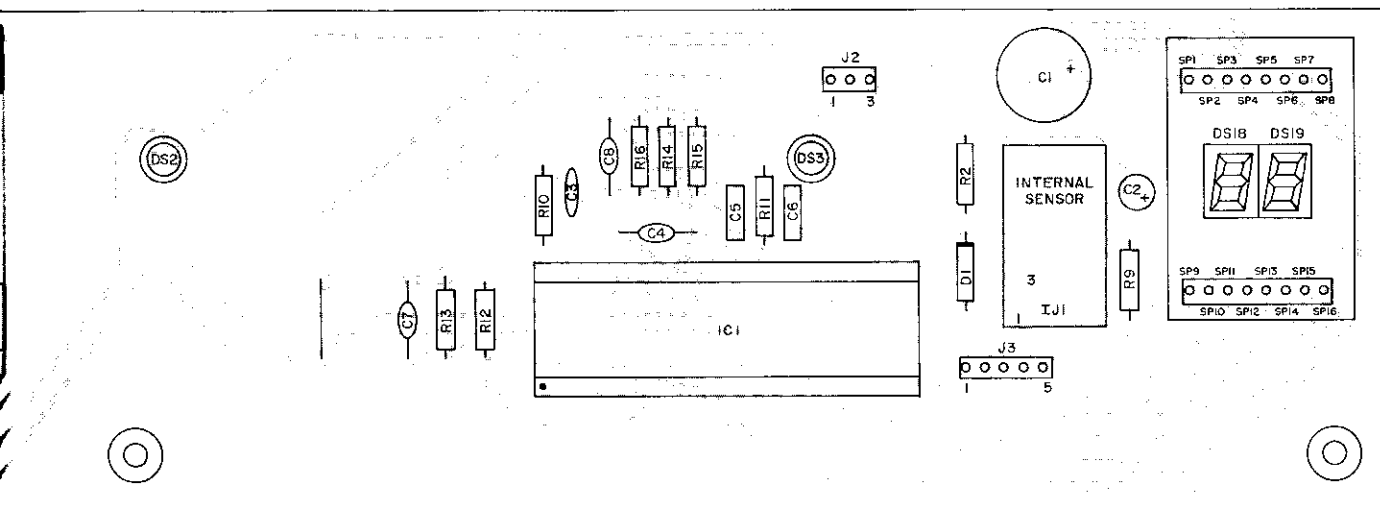
7 PC BOARD 046960
STATUS DISPLAY



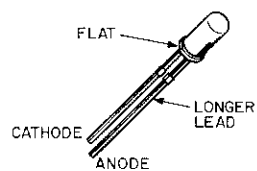




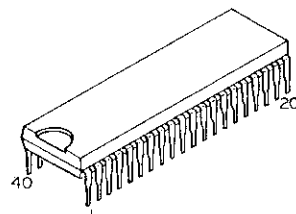
VOLUME DISPLAY PCB 046973



DS18, DS19



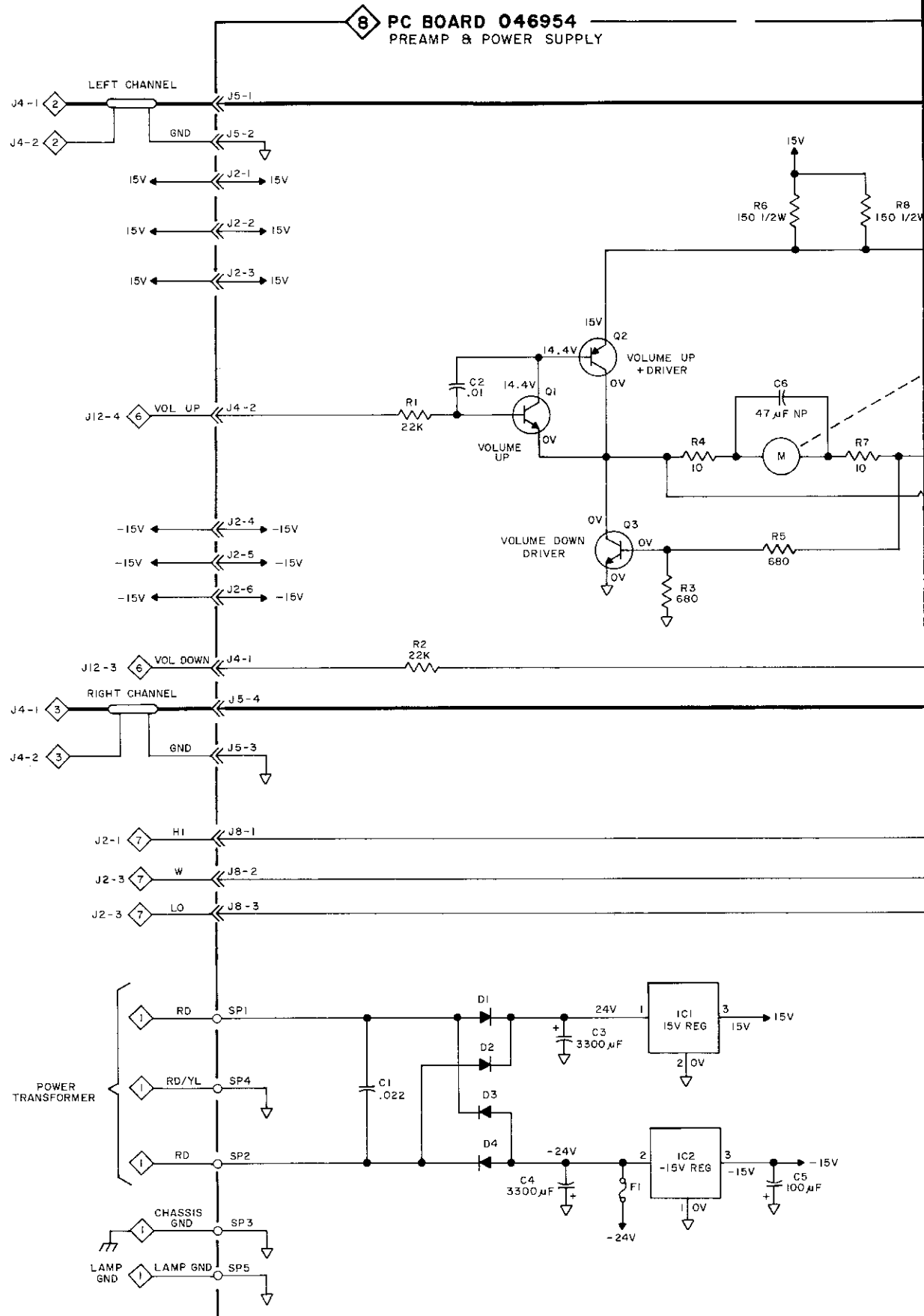
DS4-DS17

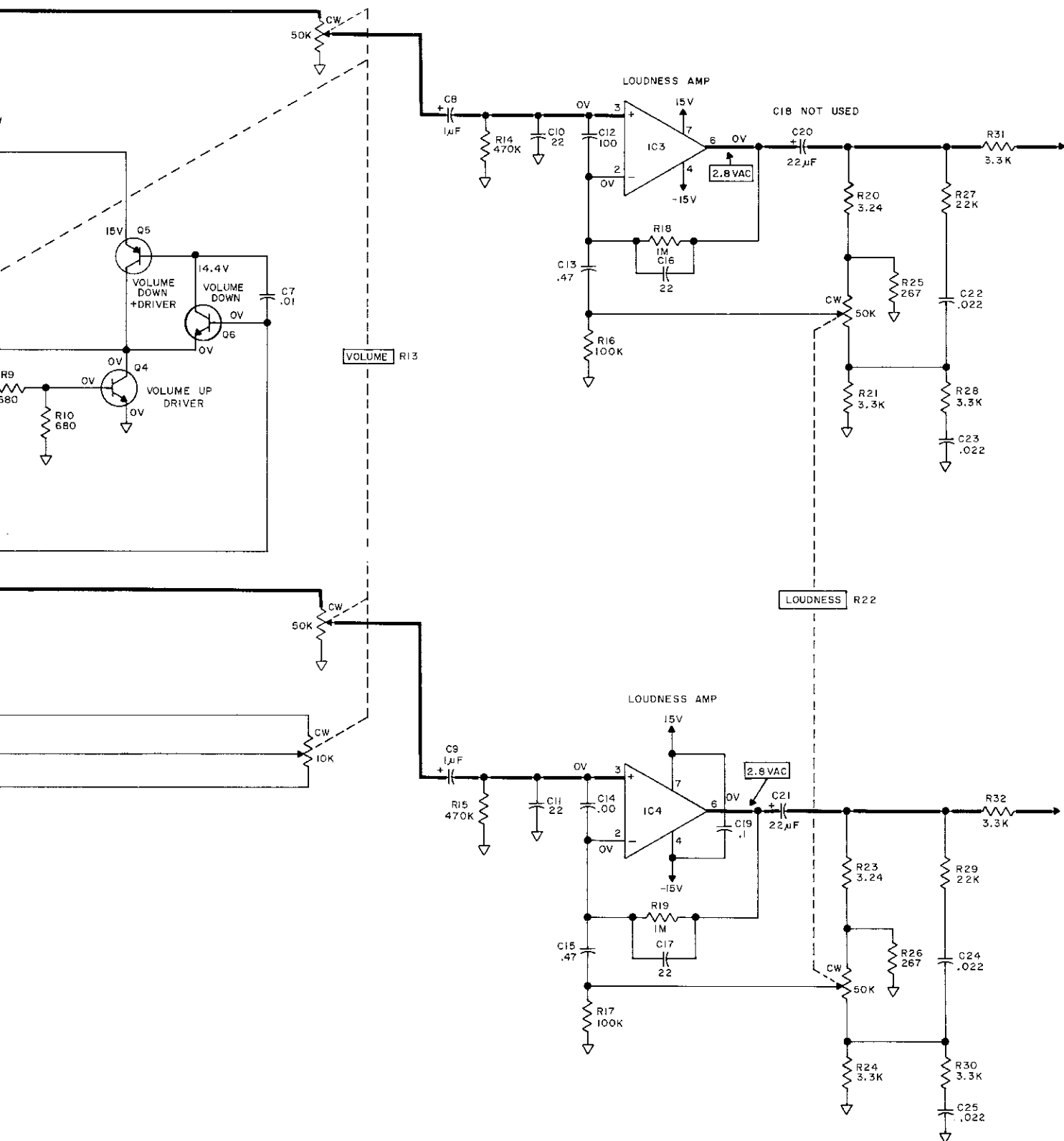


IC1

Preamp and Power Supply

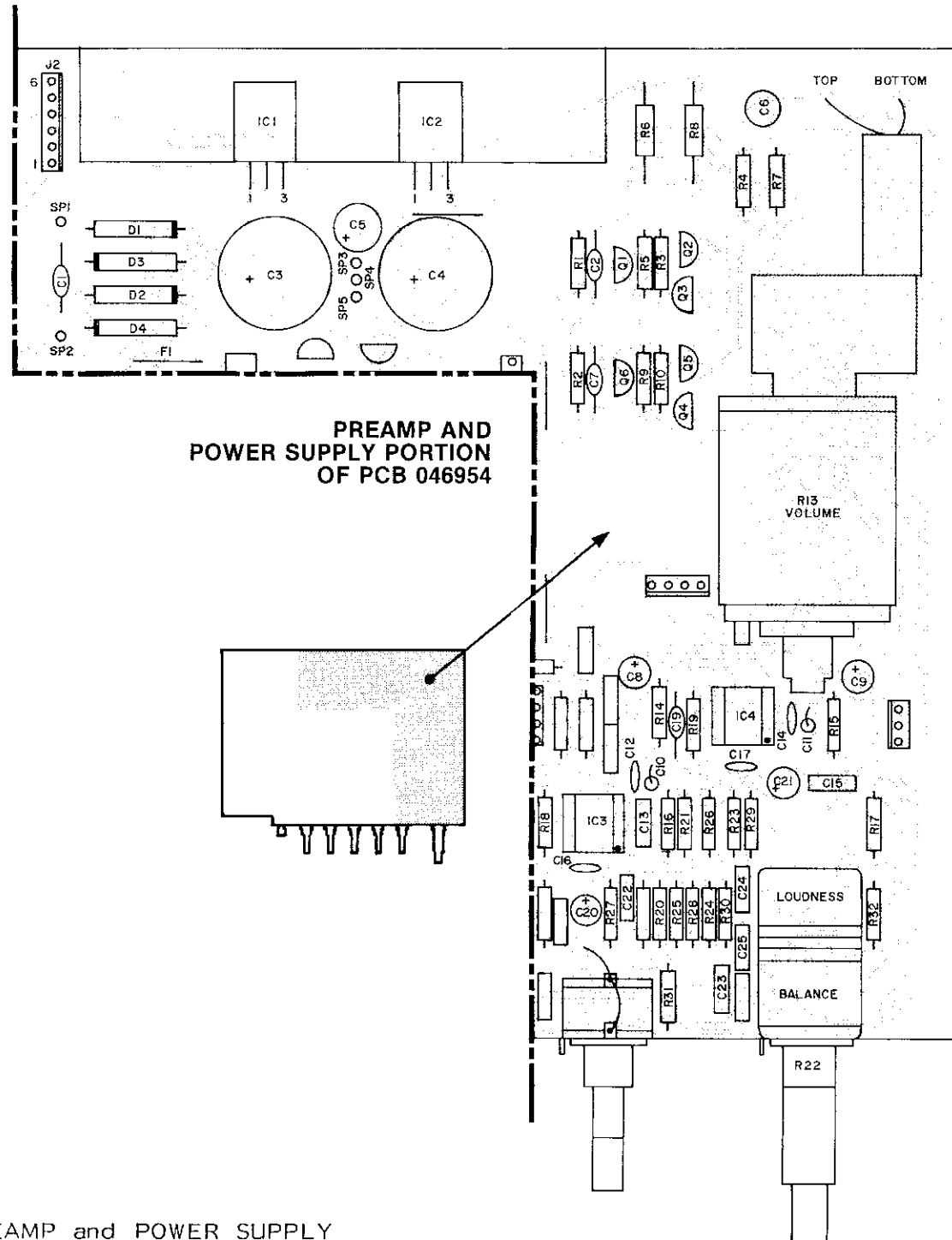
8





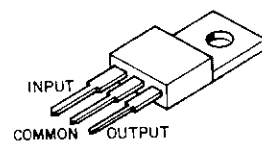
L OUT
9

R OUT
9

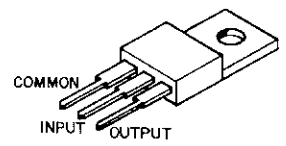


PREAMP and POWER SUPPLY PARTS LIST

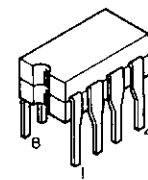
Symbol	Part	Description
DIODES		
D1-D4	070131	RECT, 400V, 1A 1N4004
FUSES		
F1	174198	Fuse, 36 Gauge Tinned Copper Wire
INTEGRATED CIRCUITS		
IC1	133154	+15V Regulator, MC78M15CT
IC2	133153	-15V Regulator, MC79M15CT
IC3,IC4	133066	Operational Amp, NE5534N
TRANSISTORS		
Q1,Q3	132223	NPN, MPS4124
Q2	132224	PNP, MPS4126
Q4,Q6	132223	NPN, MPS4124
Q5	132224	PNP, MPS4126
RESISTORS		
R13	134436	POT, Motor Driven Volume Control
R22	134437	POT, Balance/Loudness



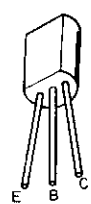
IC1



IC2

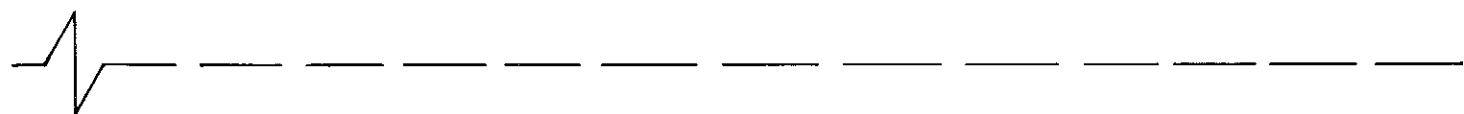


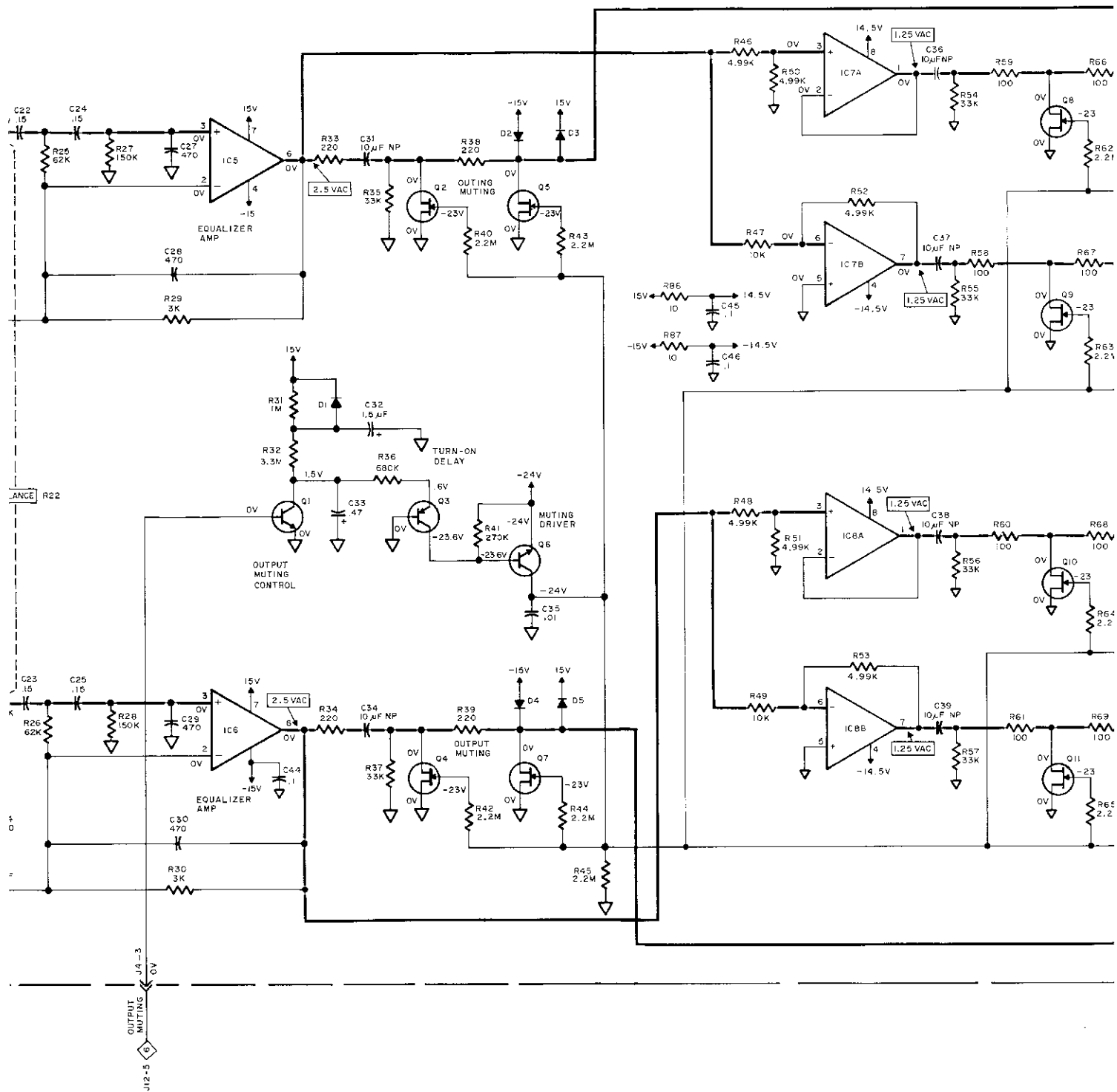
IC3,IC4

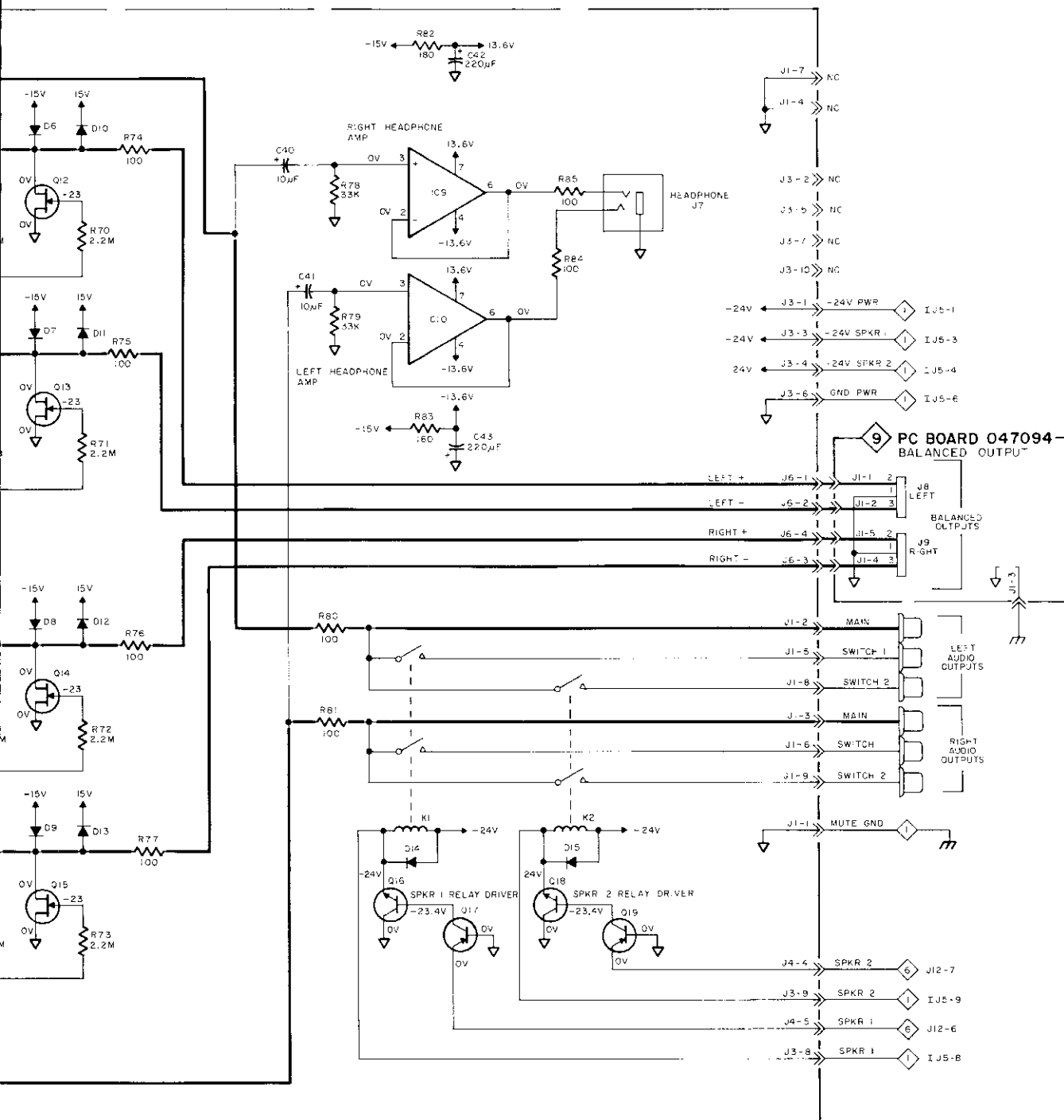


Q1-Q6

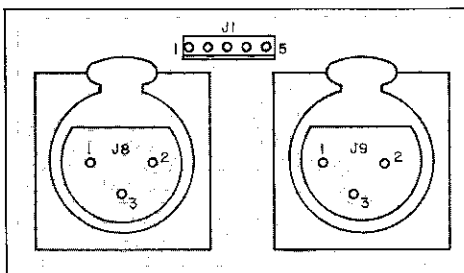
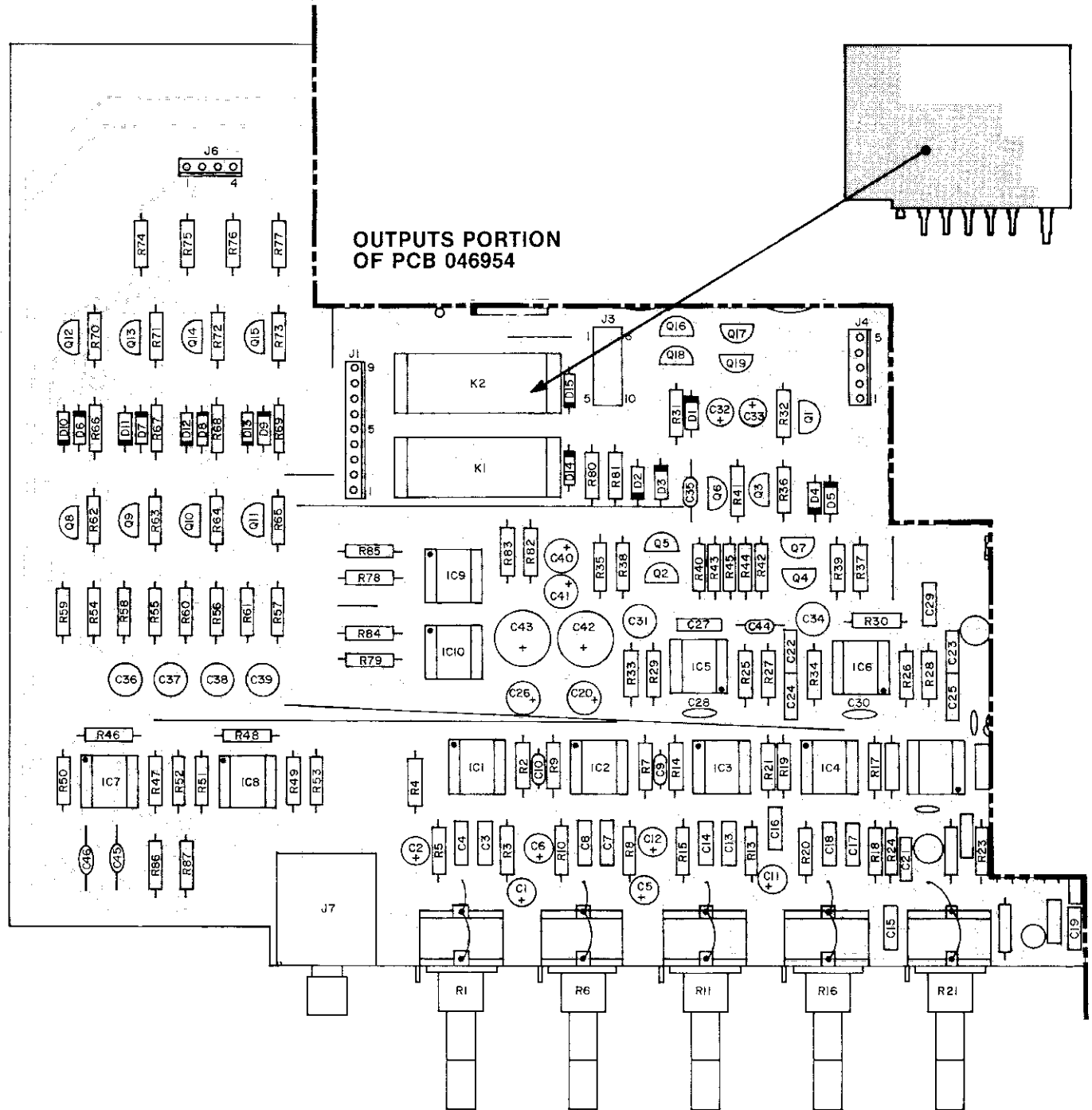
9







Outputs 9



**BALANCED OUTPUT
PCB 047094**

OUTPUTS PARTS LIST

Symbol	Part	Description
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DIODES

D1-D15	070047	SIG, 150mA, 1N4148
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INTEGRATED CIRCUITS

IC1-IC4	133028	Dual Hi-speed Operational Amp, MC4558CP1
IC5,IC6	133066	Operational Amp, NE5534N
IC7,IC8	133094	Dual Operational Amp, NE5532N
IC9,IC10	133066	Operational Amp, NE5534N

JACKS

J7	117340	Headphone Jack
J8,J9	117414	XLR Connector, Male, PCB

RELAYS

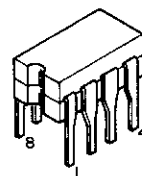
K1,K2	087041	DPST, 2VDC, REED
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TRANSISTORS

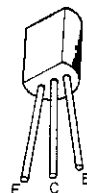
Q1	132235	NPN, 2SC2240-BL
Q2	132222	N, FET, J108
Q3	132056	PNP, 2N5087
Q4,Q5	132222	N, FET, J108
Q6	132235	NPN, 2SC2240-BL
Q7-Q15	132222	N, FET, J108
Q16,Q18	132171	NPN, MPSA05
Q17,Q19	132056	PNP, 2N5087

RESISTORS

R1,R6	134316	POT, 100K ohm/100K ohm, Equalizer
R11,R16	134316	POT, 100K ohm/100K ohm, Equalizer
R21	134316	POT, 100K ohm/100K ohm, Equalizer
R22	134437	POT, Balance/Loudness



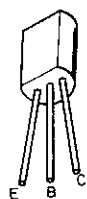
IC1-IC10



Q1,Q6

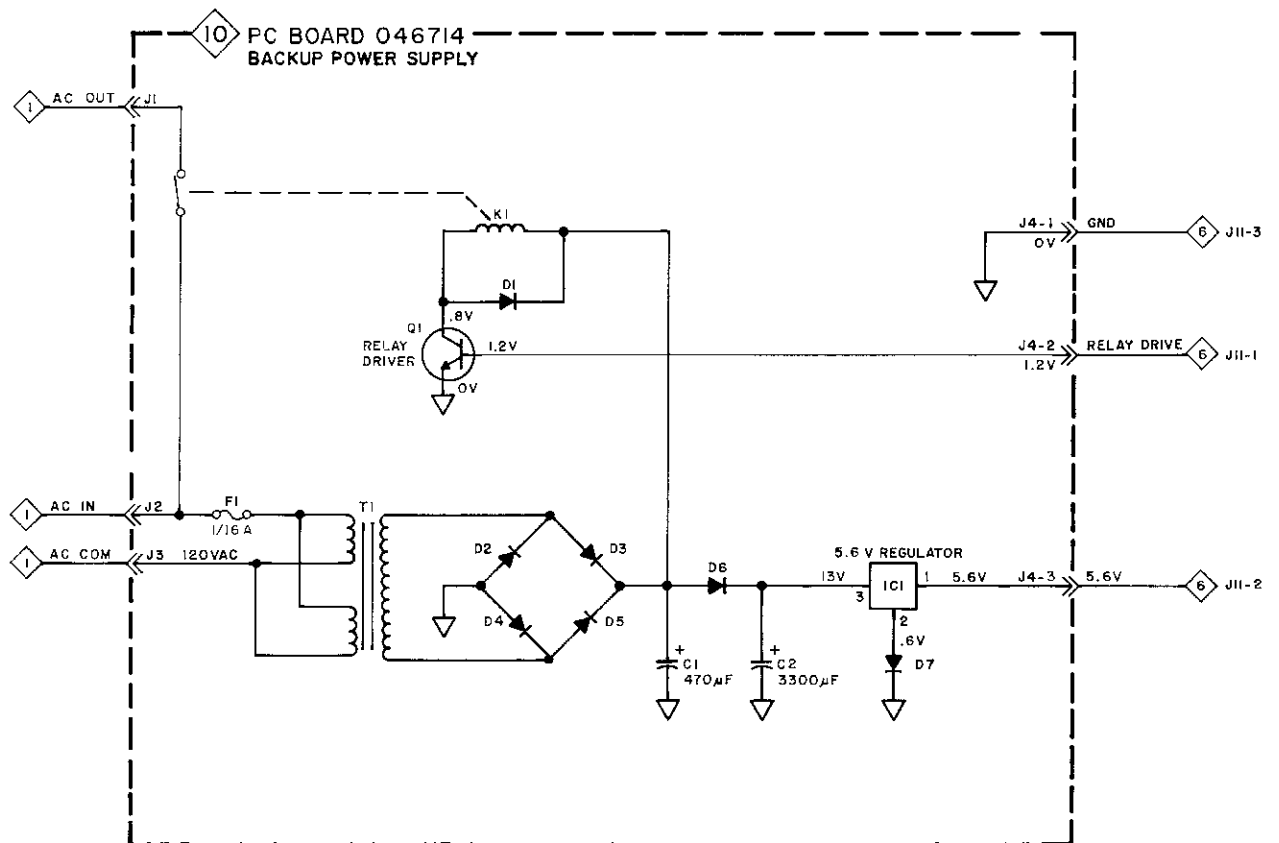


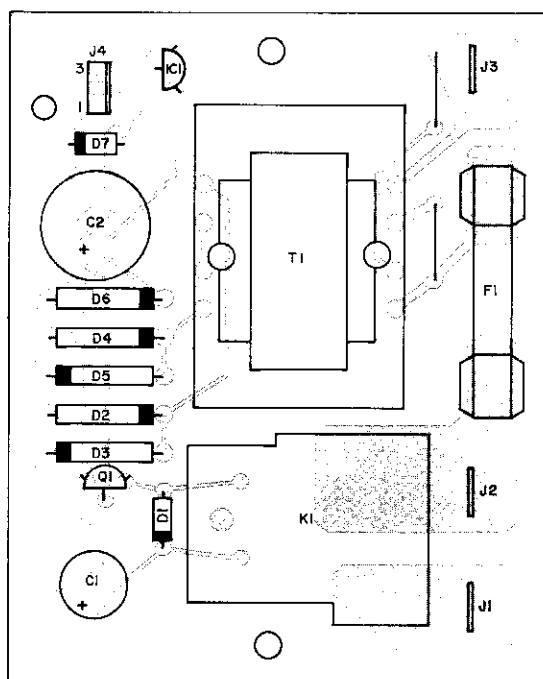
Q2,Q4,Q5
Q7-Q15



Q3,Q16-Q19

10 Backup Power Supply

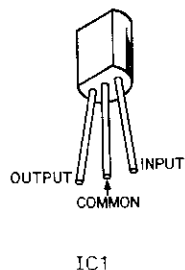




BACKUP POWER SUPPLY PCB 046714

BACKUP POWER SUPPLY PARTS LIST

Symbol	Part	Description
DIODES		
D1	070047	SIG, 75V, 150mA, 1N4148
D2-D6	070131	RECT, 400V, 1A, 1N4004
D7	070047	SIG, 75V, 150mA, 1N4148
FUSES		
F1	089047	Fuse, FA, 1/16A, 250V
INTEGRATED CIRCUITS		
IC1	133093	+5V Regulator, MC78L05ACP
RELAYS		
K1	087038	SPST, 12VDC
TRANSISTORS		
Q1	132090	NPN, DAR, MPSA25
TRANSFORMERS		
T1	159195	POWER



Repacking Instructions

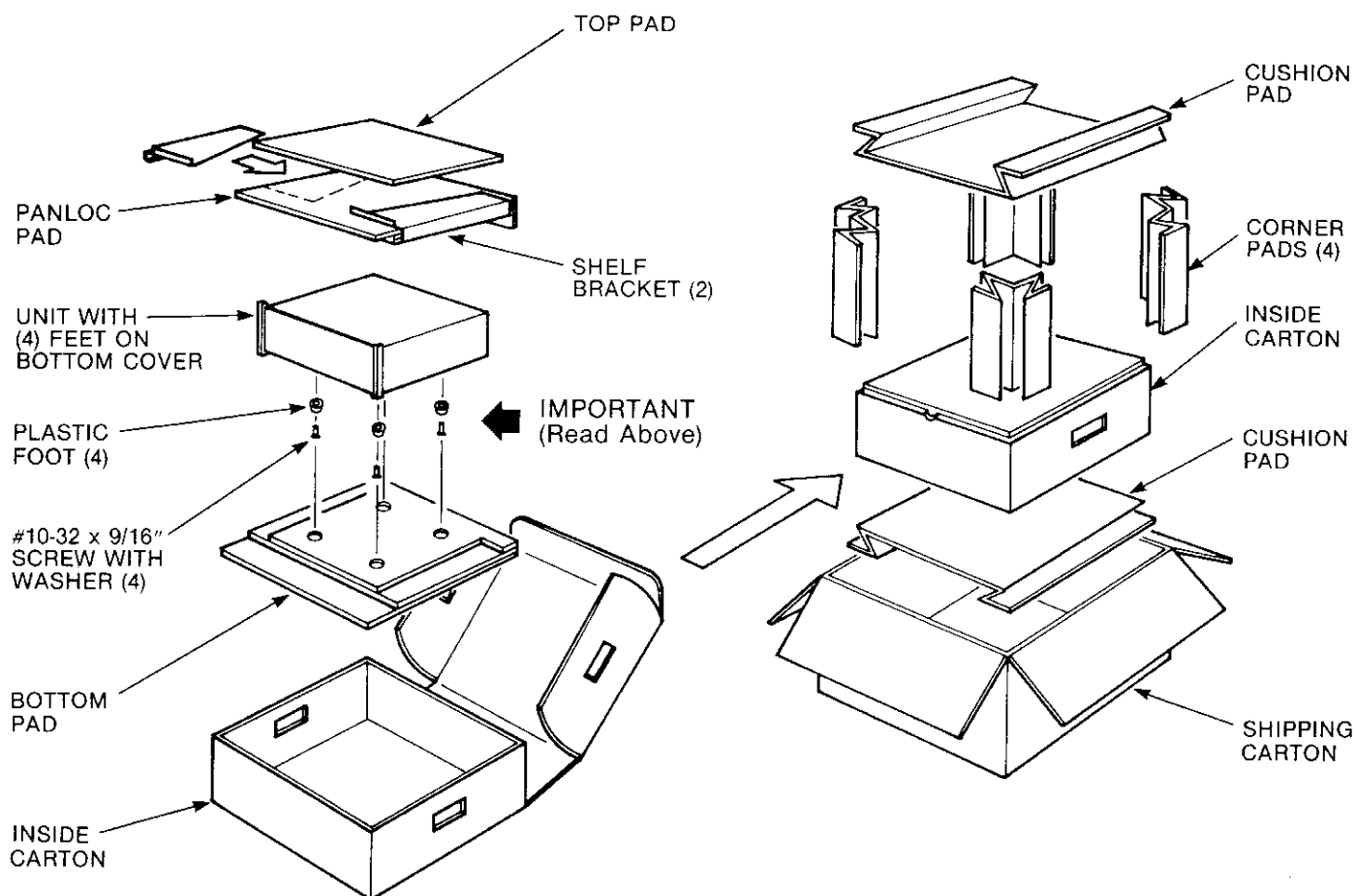
In the event it is necessary to repack the unit for shipment, the unit must be packed exactly as shown below. The shelf brackets do not have to be included in the carton for the unit to be packed properly, but their position in the carton is indicated.

IMPORTANT - The four plastic feet must be attached to the bottom of the unit so they will locate in the four holes of the bottom pad. Failure to do this will result in shipping damage.

If a shipping carton or any of the interior parts is needed, please call or write the Customer Service Department of McIntosh Laboratory. Order parts from the accompanying list by part number.

Use the original shipping carton and interior parts only if they are all in good serviceable condition.

Qty	Part No.	Description
1	033466	Shipping carton only
2	033332	Cushion pad
4	033333	Corner pad
1	033118	Inside carton only
1	033331	Top pad
1	033330	Panloc pad
1	033456	Bottom pad
4	017156	Plastic foot, 3/4" high on earlier units, held originally with 101089 screw and later with 100160 screw listed below.
4	017218	Plastic foot, 1" high on later units, held with 100159 screw.
4	100159	#10-32 x 3/4 Machine screw.
4	100160	#10-32 x 9/16 Machine screw.
4	101089	#8 x 5/8 Sheetmetal screw.
4	104080	#10 Flat washer
1	047167	Shipping carton complete with all the above parts



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C35 SYSTEM CONTROL CENTER

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Part No. 039720

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