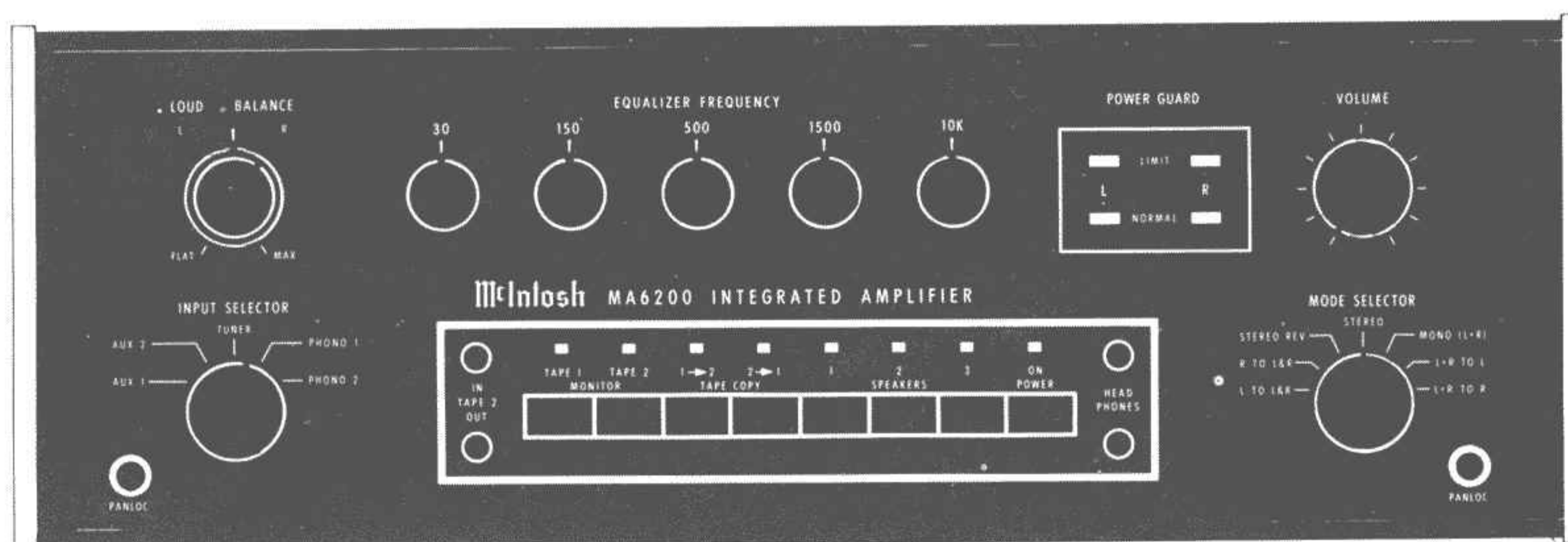


McIntosh

MA 6200

INTEGRATED AMPLIFIER



SERVICE INFORMATION

FOR SERIAL NUMBER BX5302 and ABOVE

PERFORMANCE LIMITS

POWER OUTPUT

100 Watts minimum sine wave continuous average power output, per channel, both channels operating into 4 ohms, 20Hz to 20kHz with no more than .05% total Harmonic Distortion.

75 Watts minimum sine wave continuous average power output, per channel, both channels operating into 8 ohms, 20Hz to 20kHz with no more than .05% total Harmonic Distortion.

OUTPUT LOAD IMPEDANCE

4 ohms, 8 ohms

RATED POWER BAND

20Hz to 20kHz

TOTAL HARMONIC DISTORTION

.05% maximum at any power level from 250mW to rated power per channel, 20Hz to 20kHz, both channels operating.

INTERMODULATION DISTORTION

.05% maximum at any power level from 250mW to rated power per channel with both channels operating for any combination of frequencies 20Hz to 20kHz.

FREQUENCY RESPONSE

20Hz to 20kHz +0 -0.5dB at rated power

HUM AND NOISE

Power Amp: 105dBA, 100dB unweighted, below rated output

Tape & Aux Input: 100dBA, 95dB unweighted, below rated output

Phono Input: 85dBA, 80dB unweighted, below 10mV input.

DAMPING FACTOR

Greater than 30

INPUT SENSITIVITY AND IMPEDANCE

Power Amp:	2.5V	22,000 ohms
Tape & Aux:	250mV	100,000 ohms
Phono:	2mV	47,000 ohms, 100pF

TAPE OUTPUT

Aux. Tape:	250mV with rated input
Phono:	250mV with rated input

PROGRAM EQUALIZER

± 12dB at 30, 150, 500, 1,500 and 10,000Hz

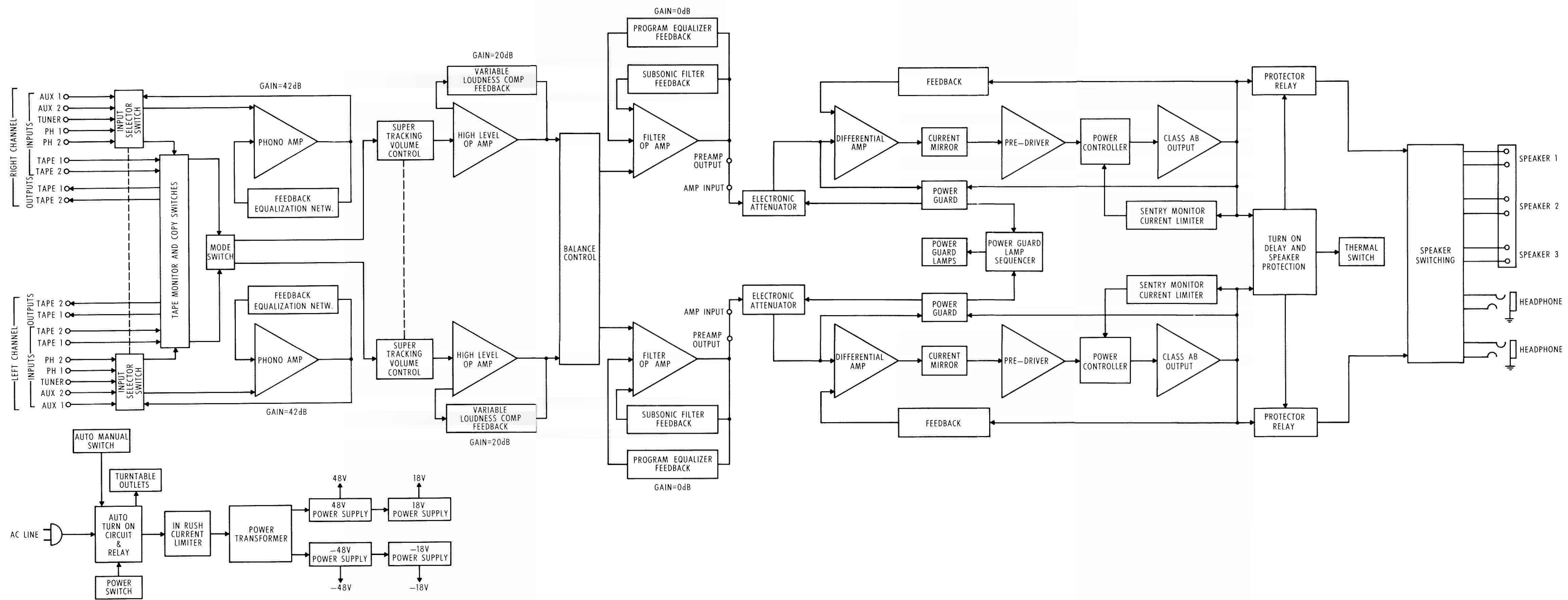
POWER REQUIREMENT

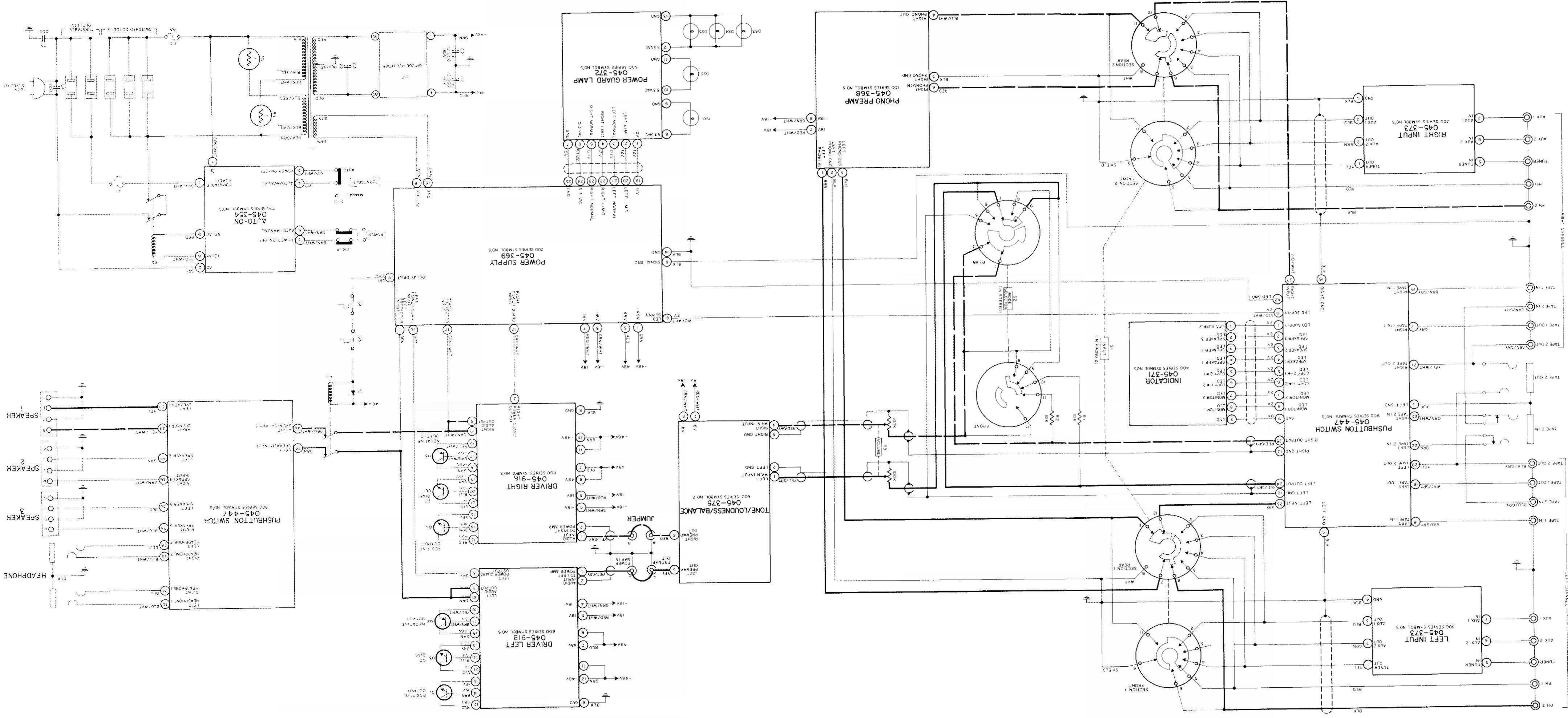
120 Volts, 50/60Hz, 0.5 to 5 Amperes

MECHANICAL INFORMATION

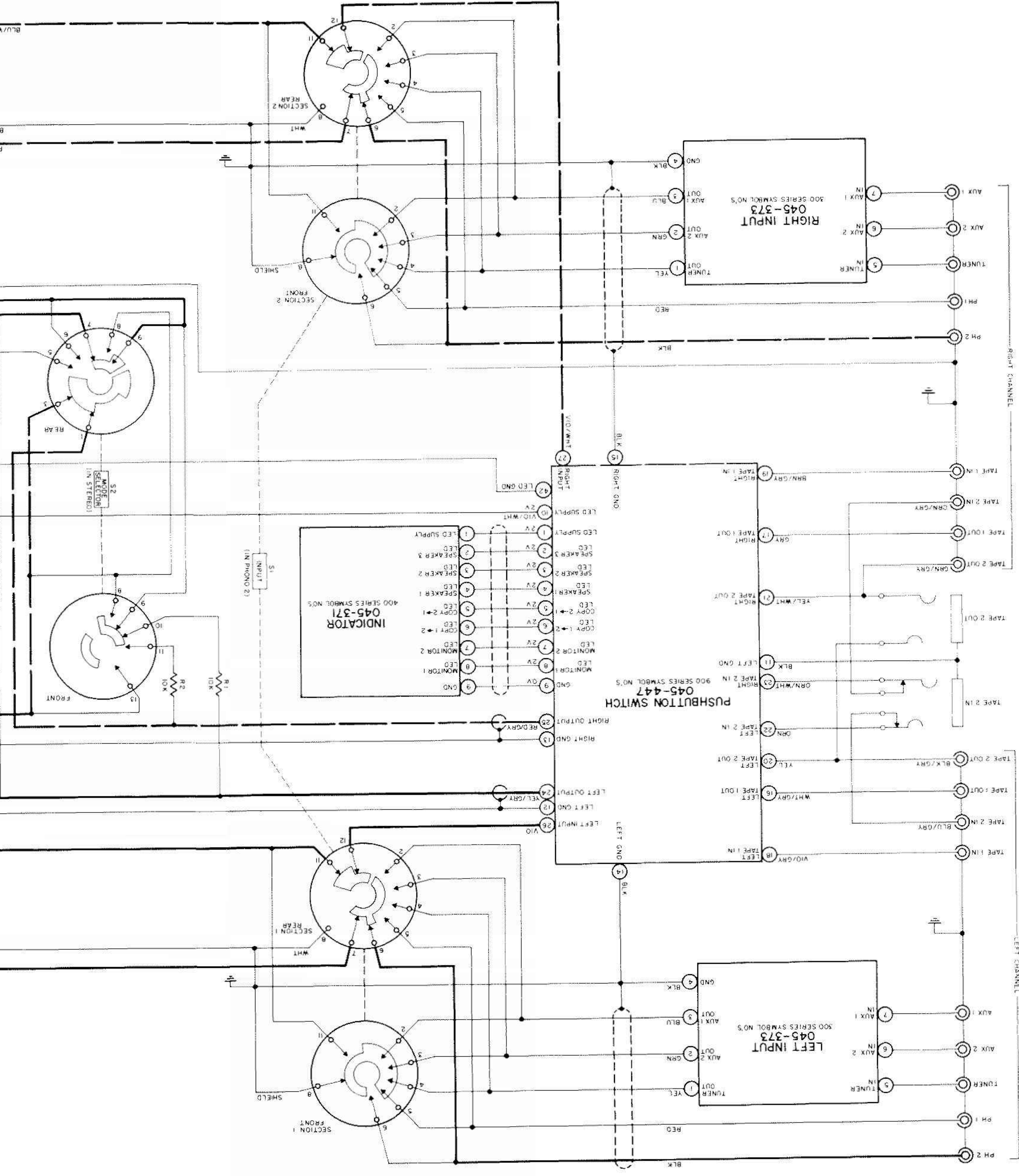
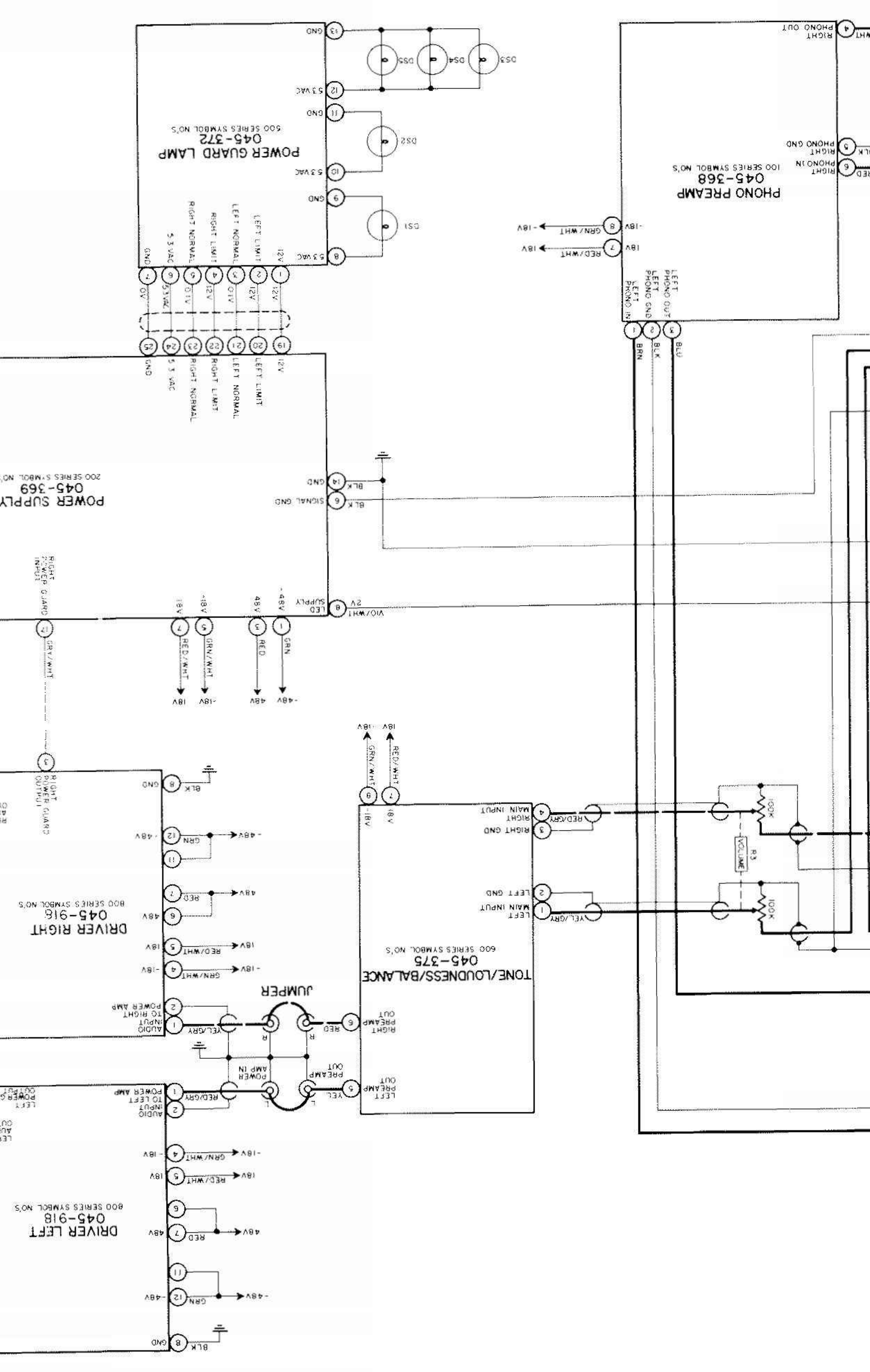
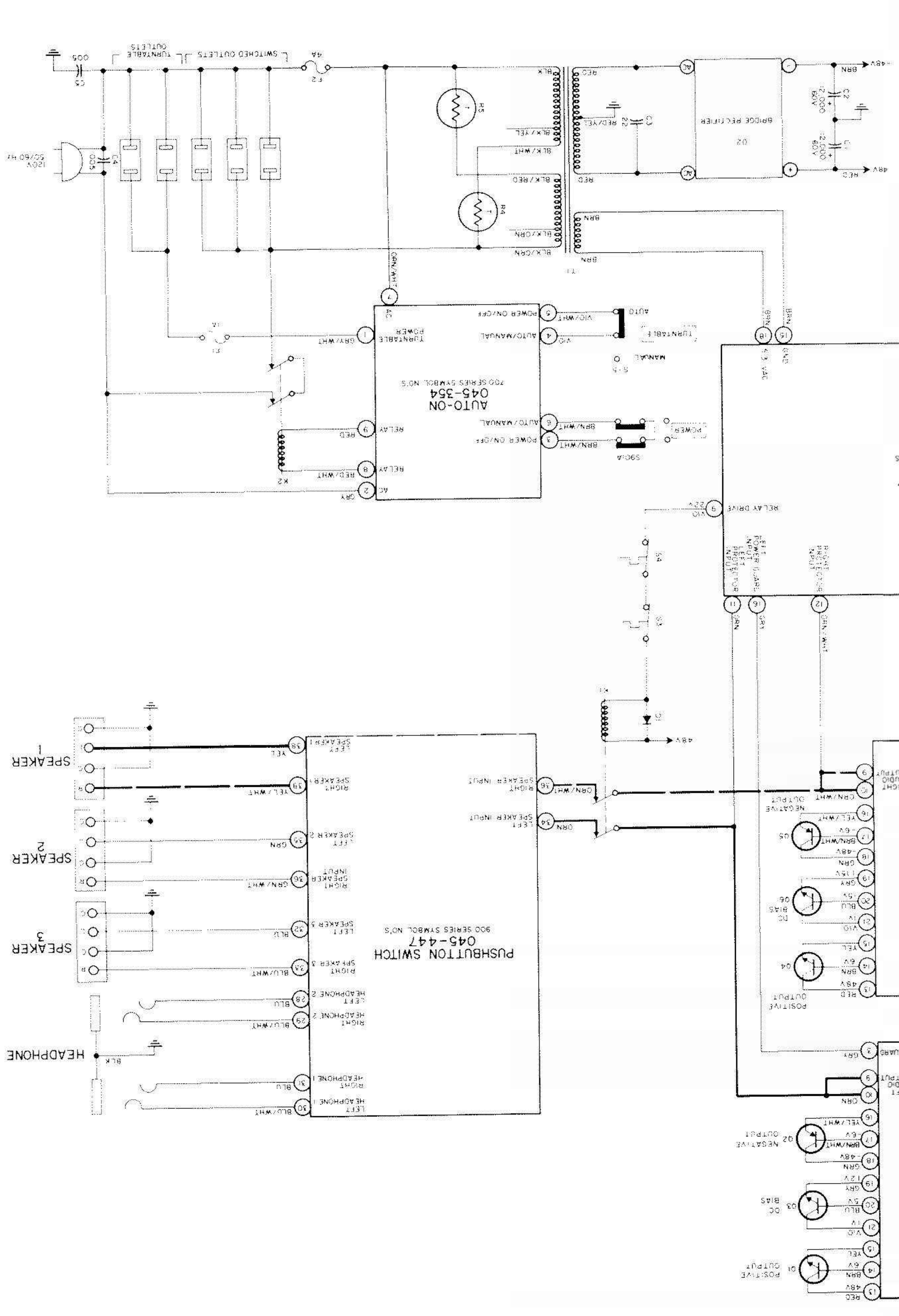
SIZE: Front Panel measures 16 inches wide (40.6 cm) by 5-7/16 inches high (13.8 cm). Knob clearance required is 1-1/4 inches (3.2 cm) in front of the mounting panel.

WEIGHT: 30 lbs. Net





INTERCONNECT

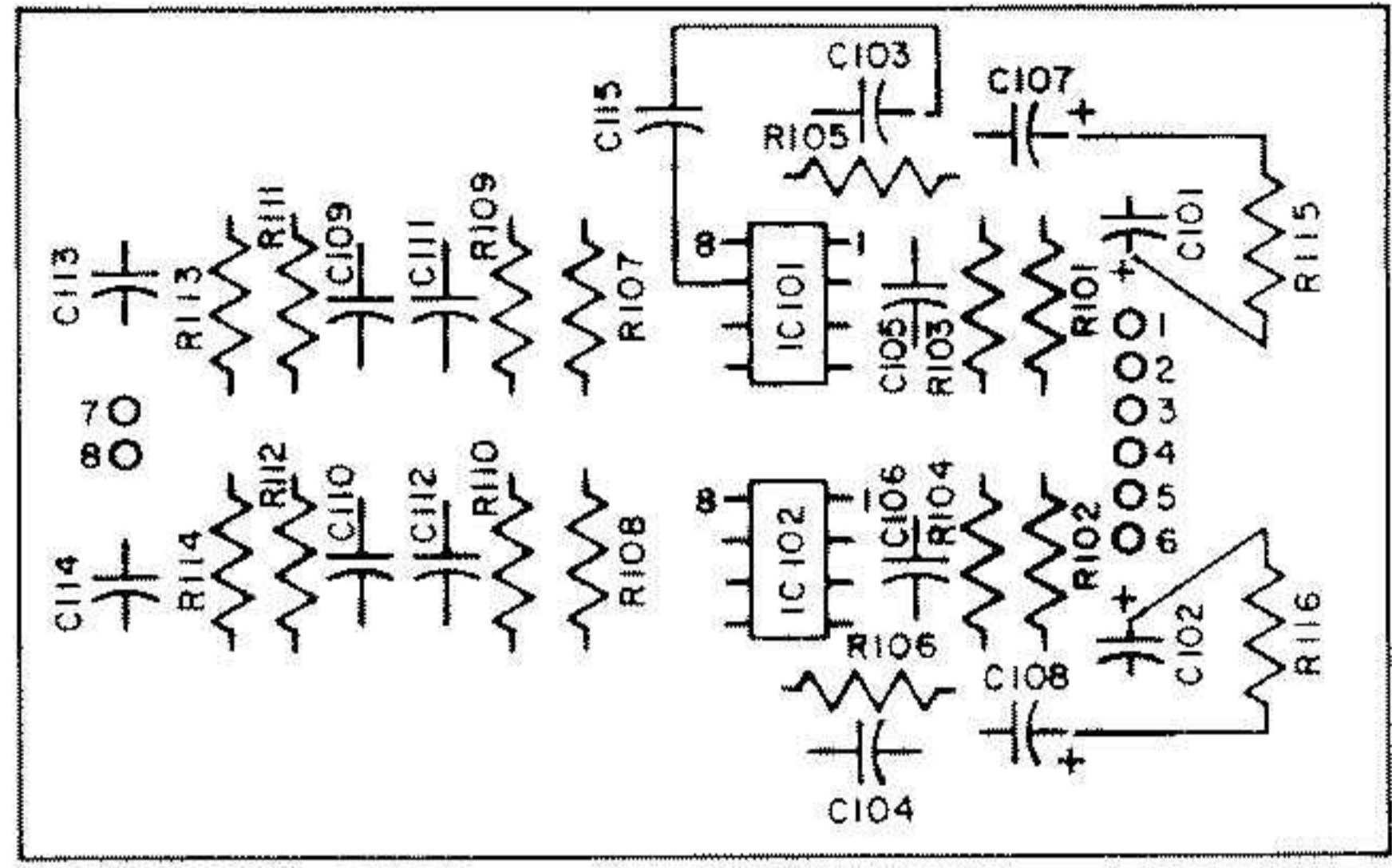
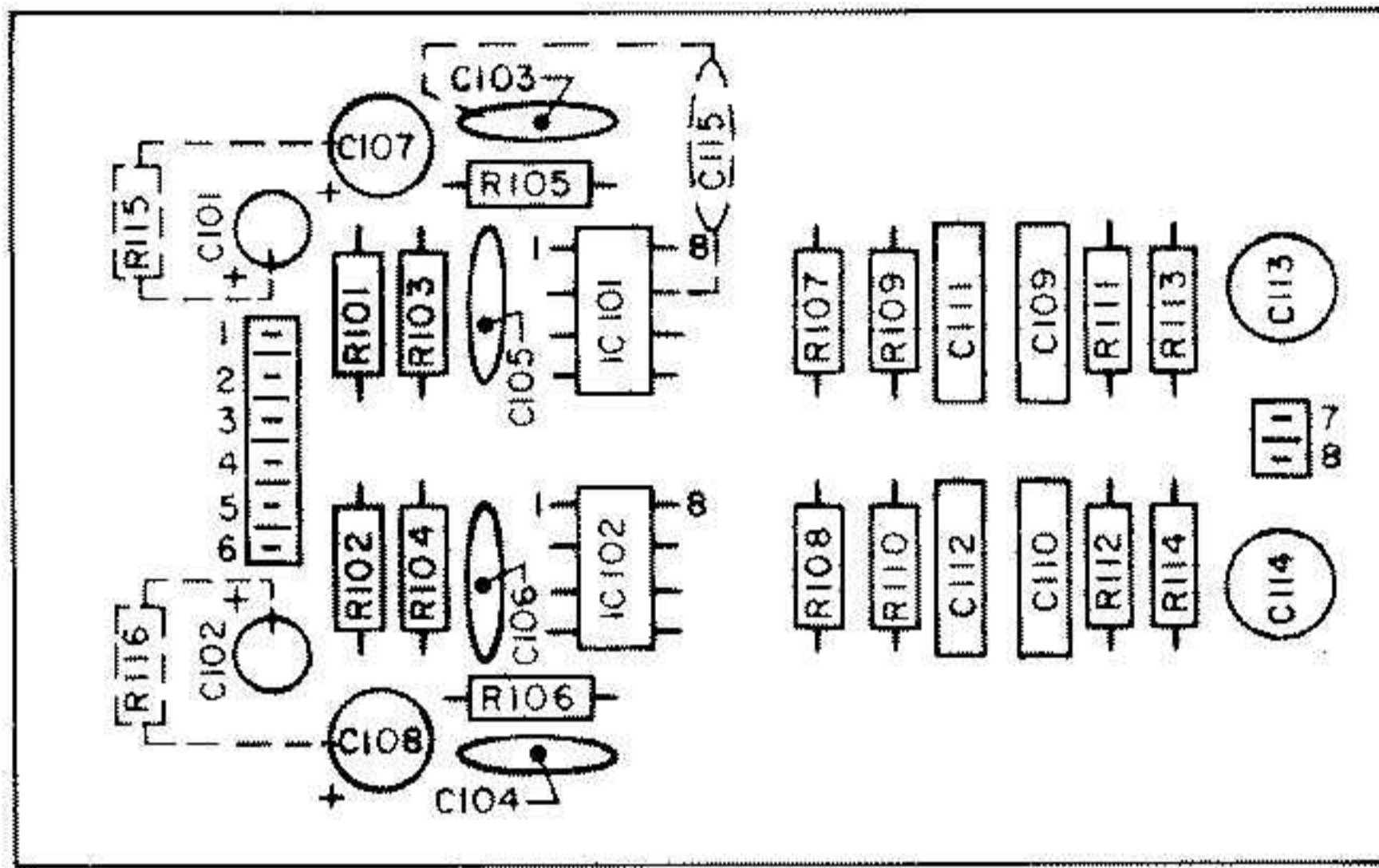


SCHEMATIC NOTES

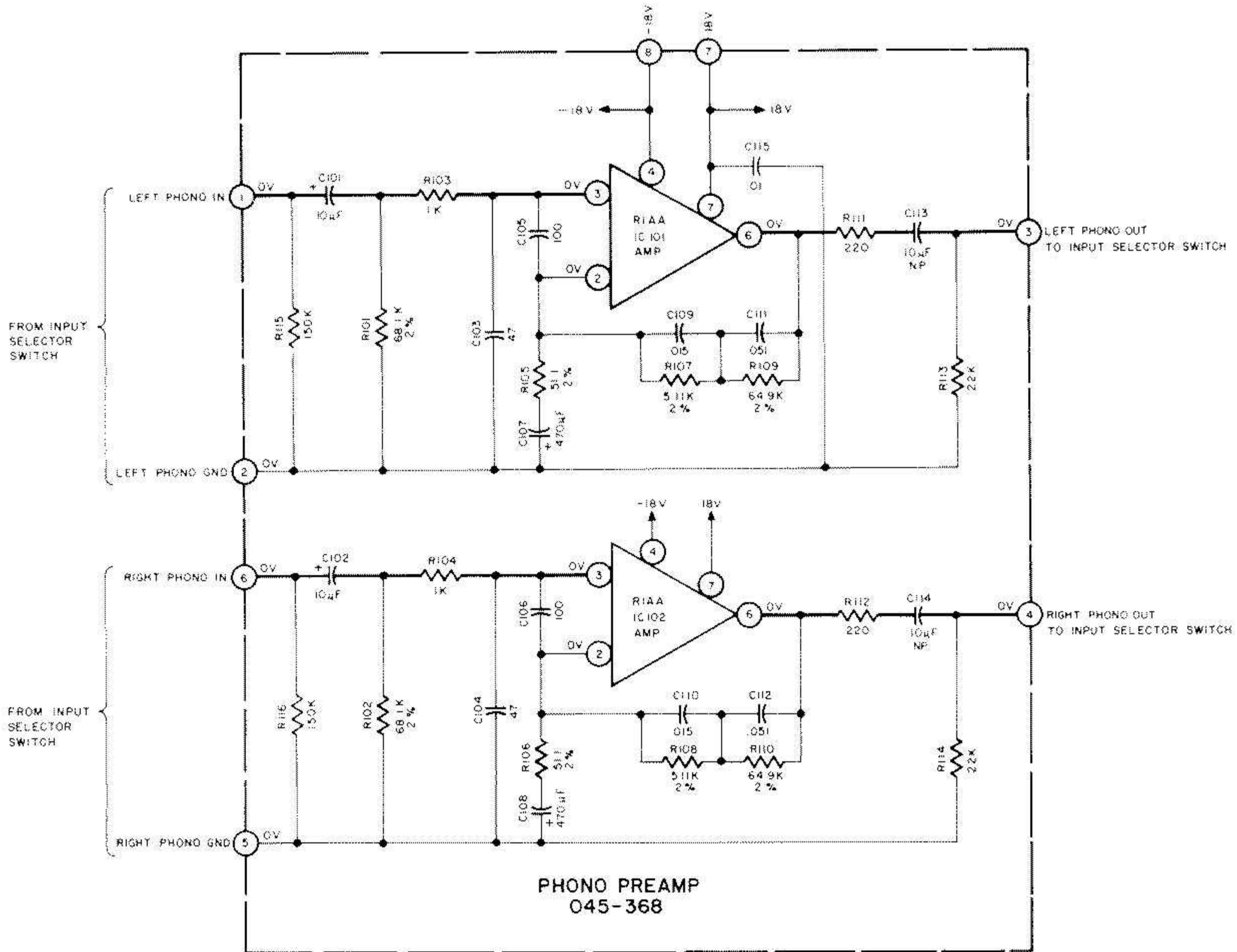
1. Printed circuit board assemblies are outlined on the schematics by dotted lines. The circled numbers on the dotted lines correspond to the numbers on the printed circuit board layouts.
2. The heavy lines on the schematics denote the primary signal path.
3. The terminal numbering of rotary switches is for reference only.
4. A dot on the rotor of a rotary switch indicates that there is an electrical connection between the front and rear rotor section.
5. Unless otherwise specified: Resistance values are in ohms, 1/4 watt, and 5% tolerance. Capacitance values smaller than 1 are in microfarads (μF); capacitance values greater than 1 are in picofarads (pF).
6. All voltages indicated on the schematics are measured under the following conditions:

Use of an 11 megohm input impedance VTVM.	All voltages $\pm 10\%$ with respect to ground.
No signal at input terminals.	AC input at 120 volts, 50/60 Hz.
Voltages not specified are "0" volts.	
7. Front panel controls at:

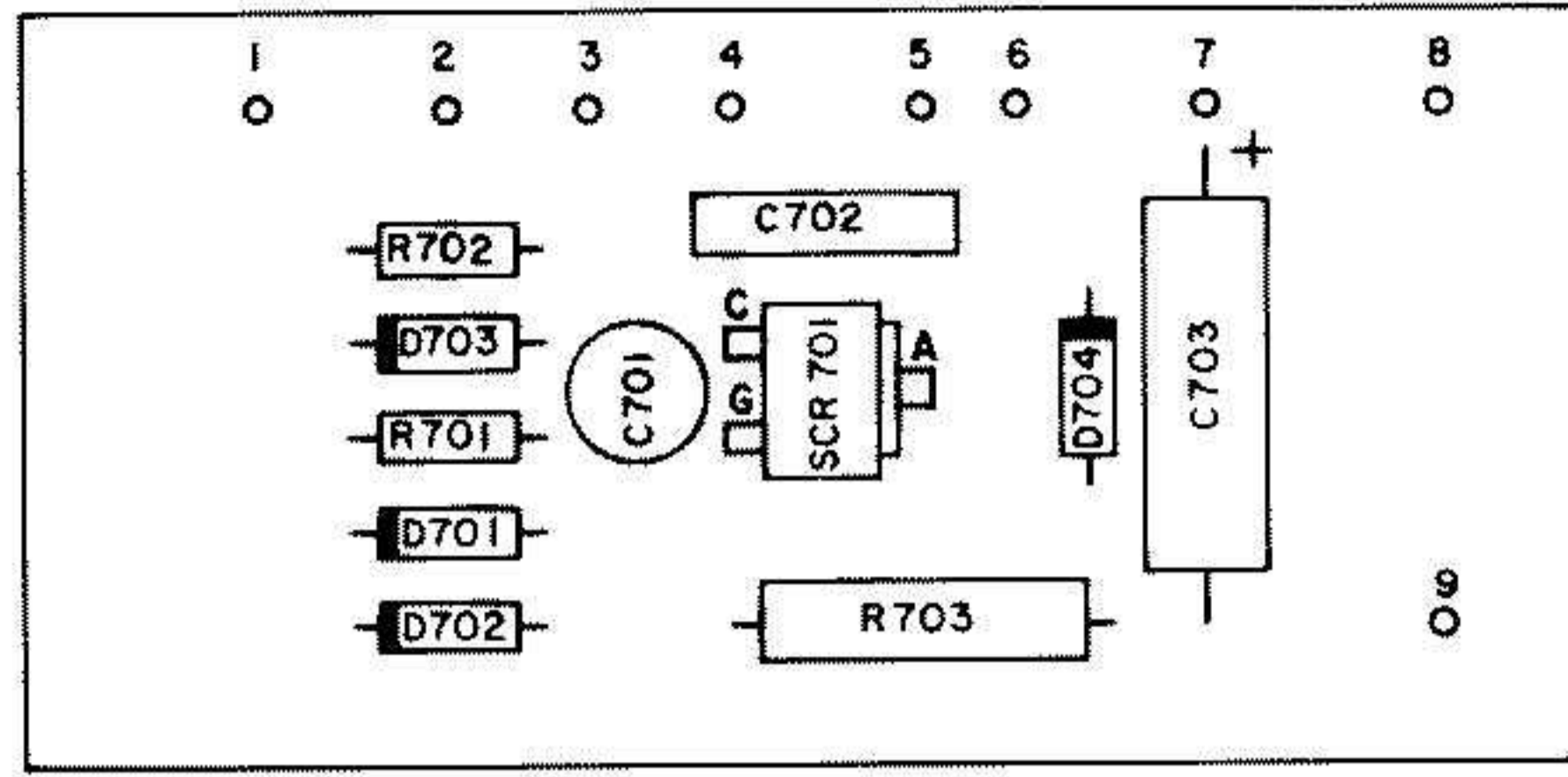
Mode Selector	Stereo	Loudness	ccw
Speaker switches	Out	Tape Monitors	Out
Volume control	Min	Tape 1 \rightarrow 2	Out
Balance control	Middle	Tape 2 \rightarrow 1	Out
Tone controls	Flat		
Input selector	Phono 2		
8. To adjust output stage bias, operate the MA6200 at 120 volts line input with no input signal. Measure the AC line input power (approximately 40 watts) or current (approximately .3A). The bias potentiometers R851 and R852 are located on the power output PC boards.
 - a. Turn both bias potentiometers full counterclockwise.
 - b. Rotate bias adjustment clockwise to the point where the line input power or current begins to increase, then back off slightly to the point where the line input just reaches its lowest value.
 - c. Repeat step b. for other channel independently.



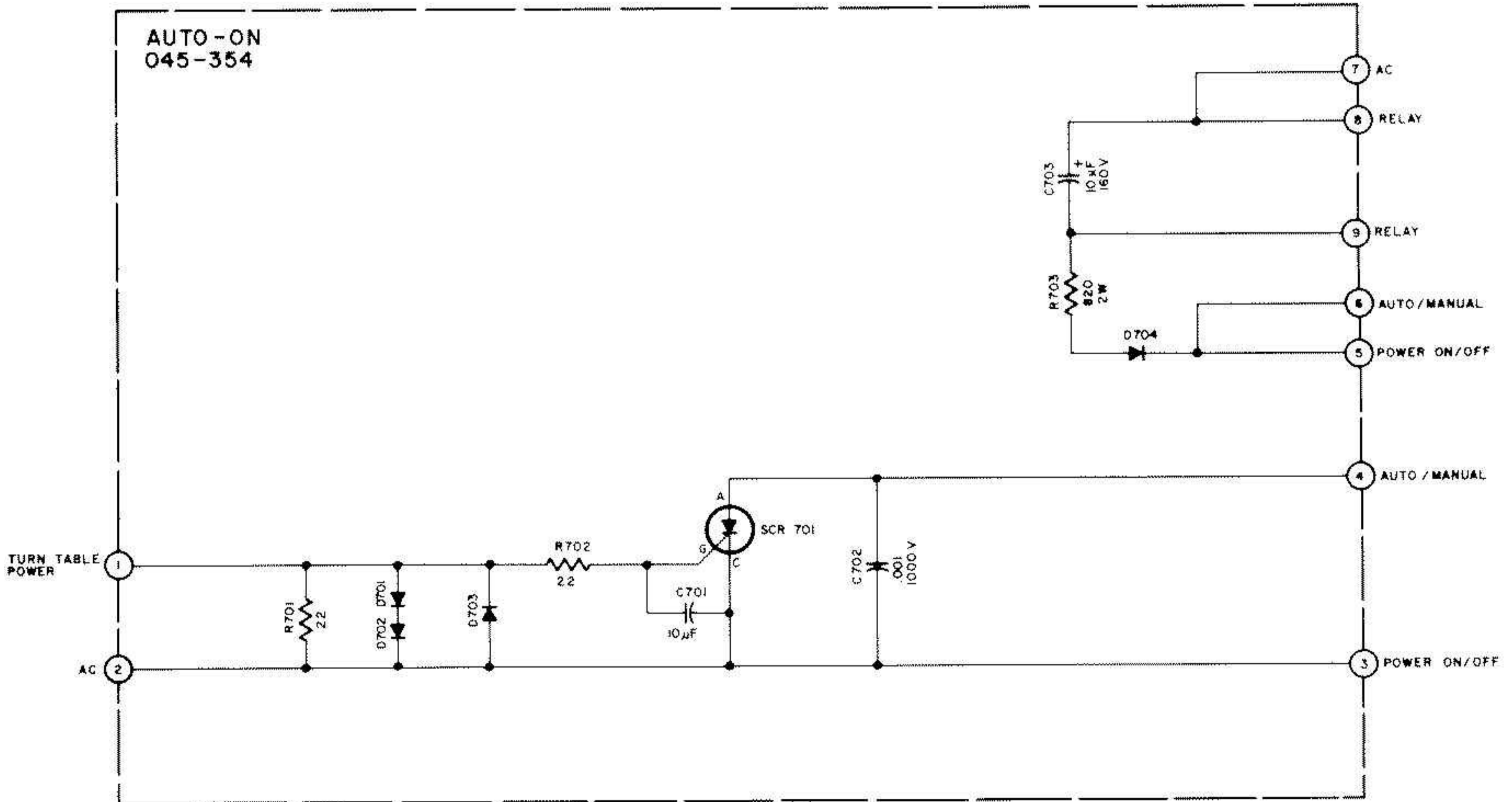
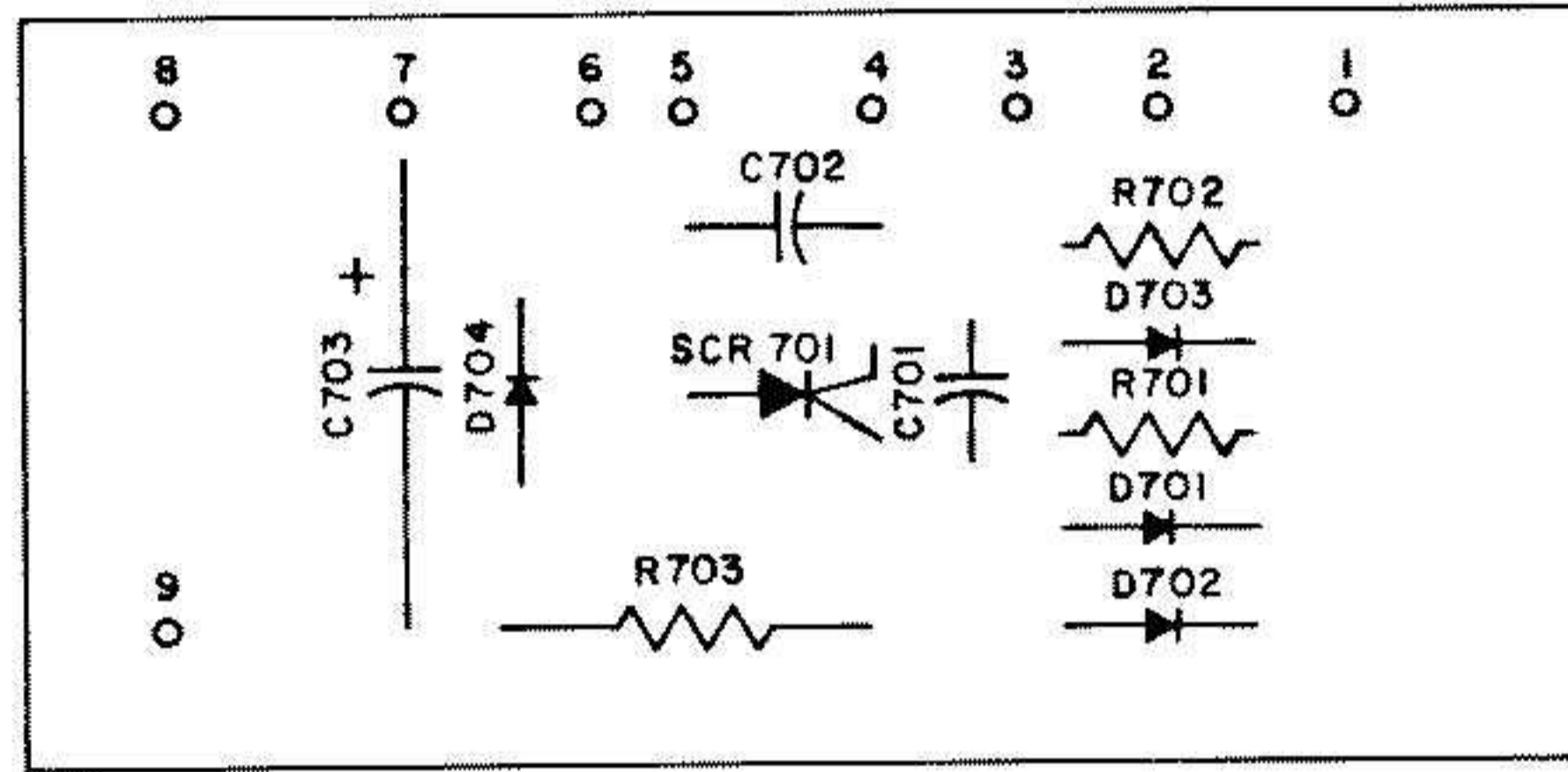
PHONO PREAMP PC BOARD
045-368

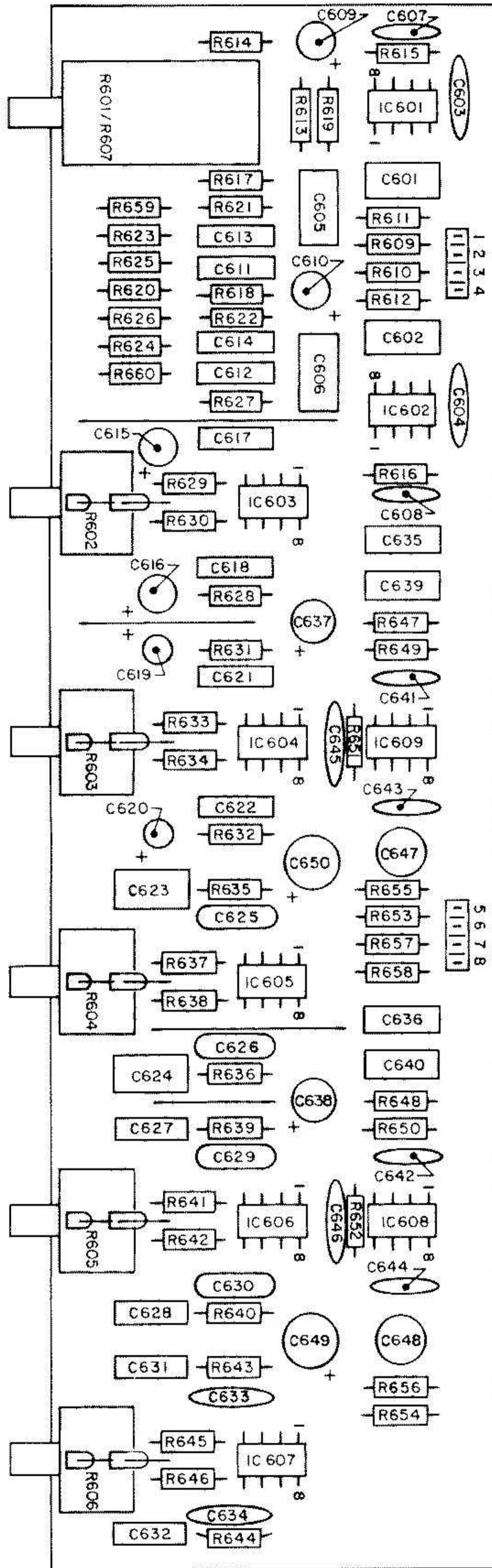


PHONO PREAMP
045-368

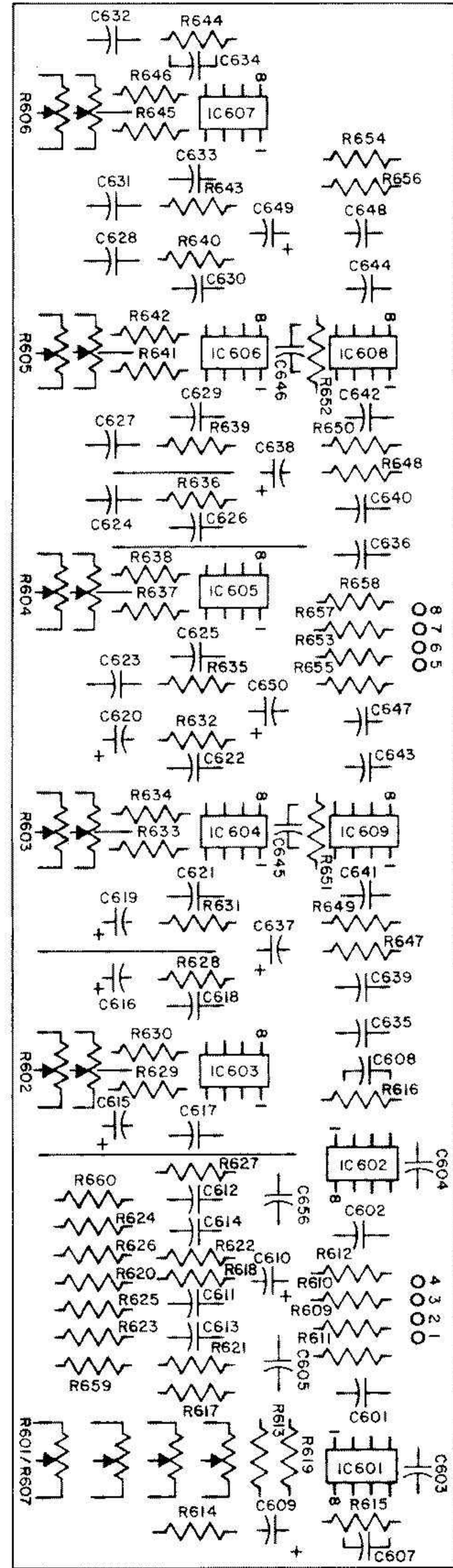


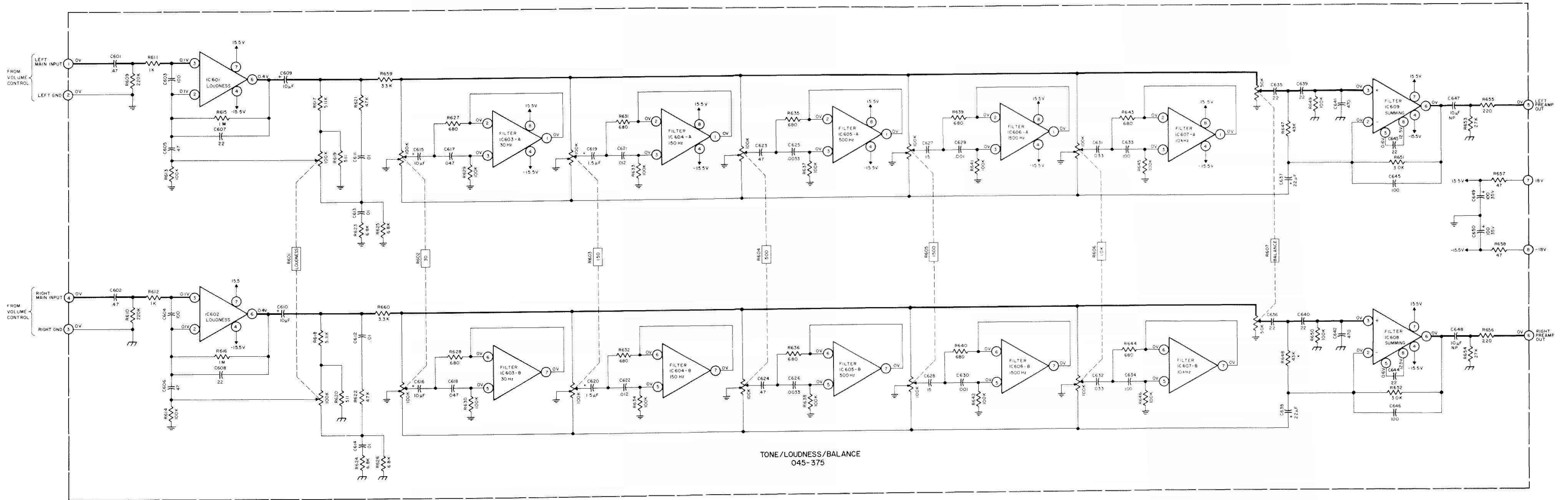
AUTO-ON PC BOARD 045-354



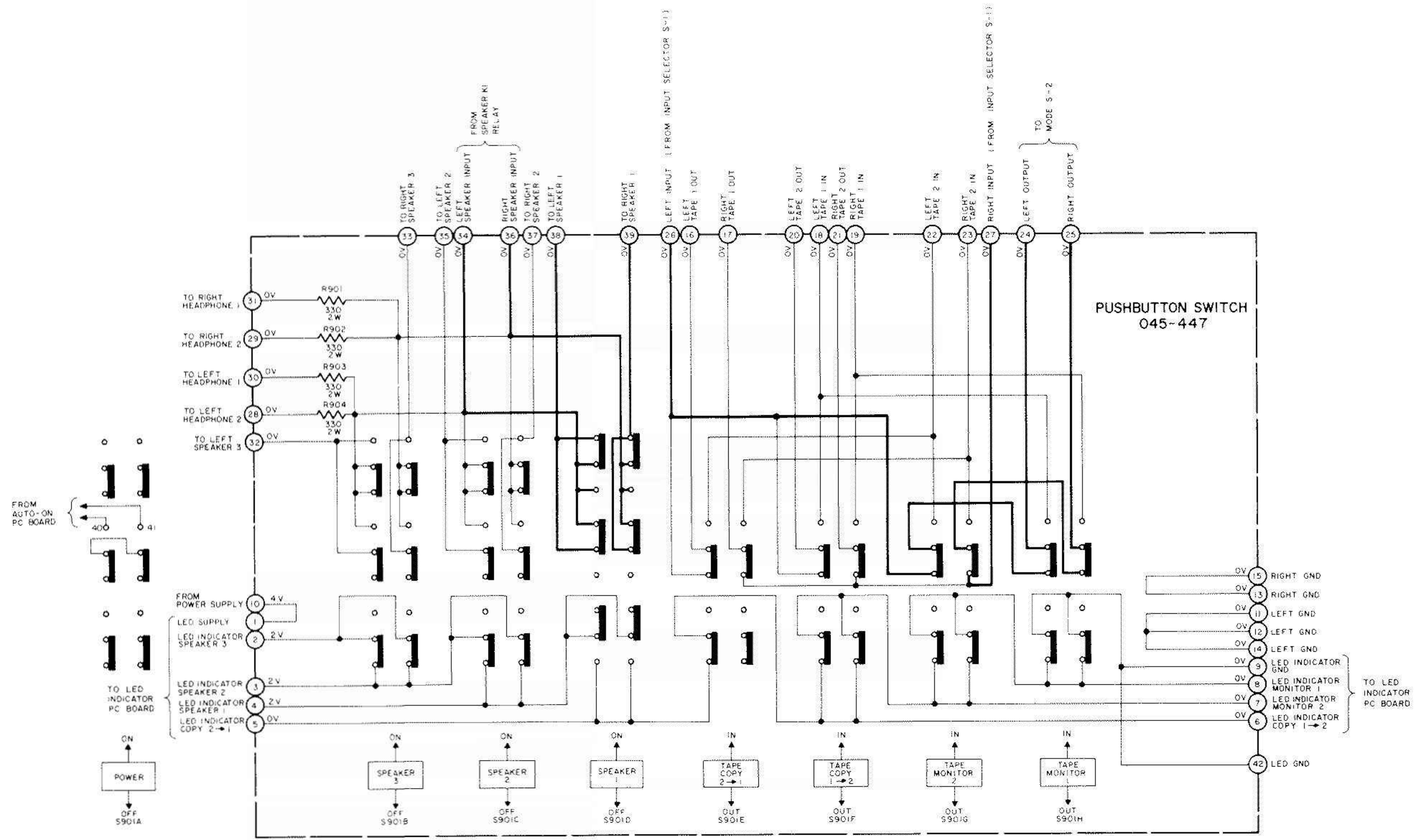


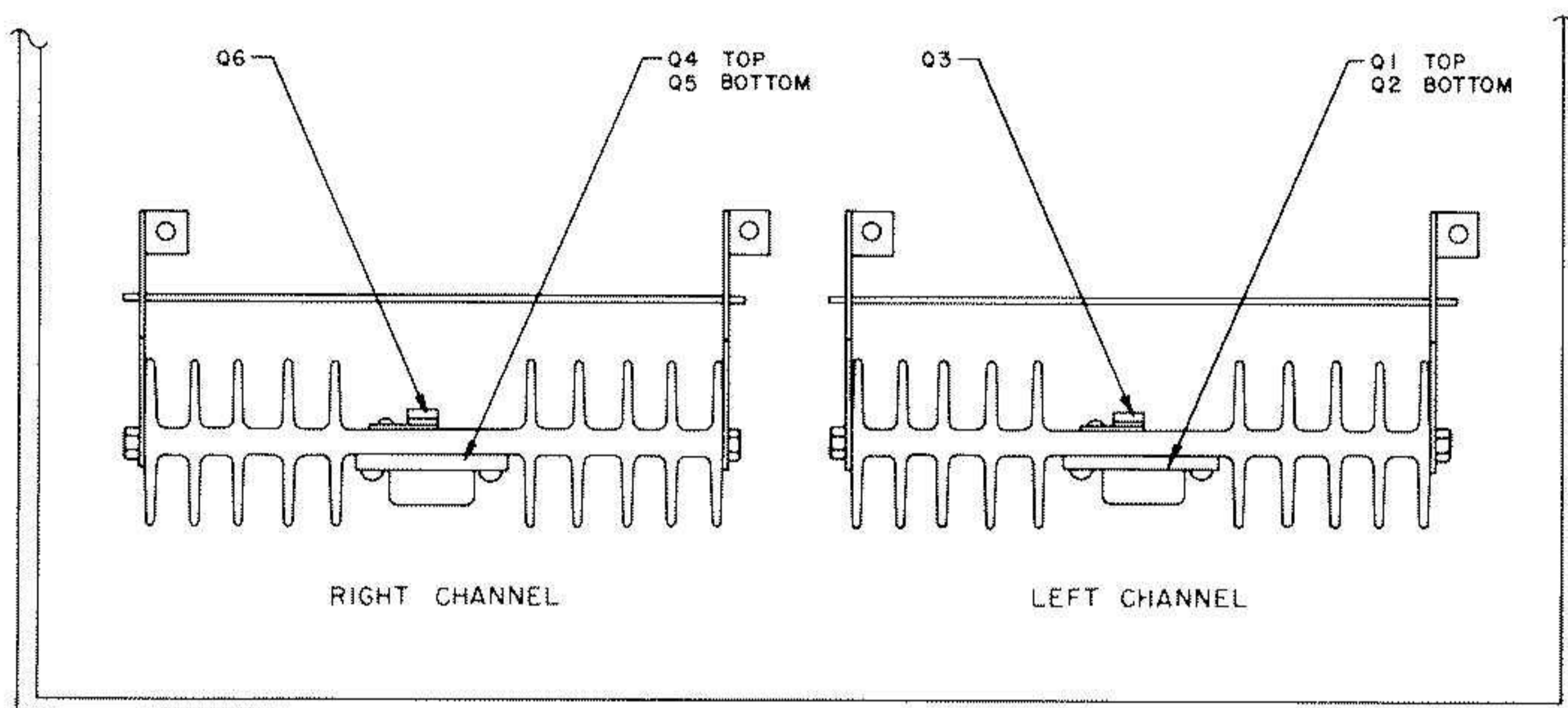
TONE/LOUDNESS/BALANCE PC BOARD
045-375



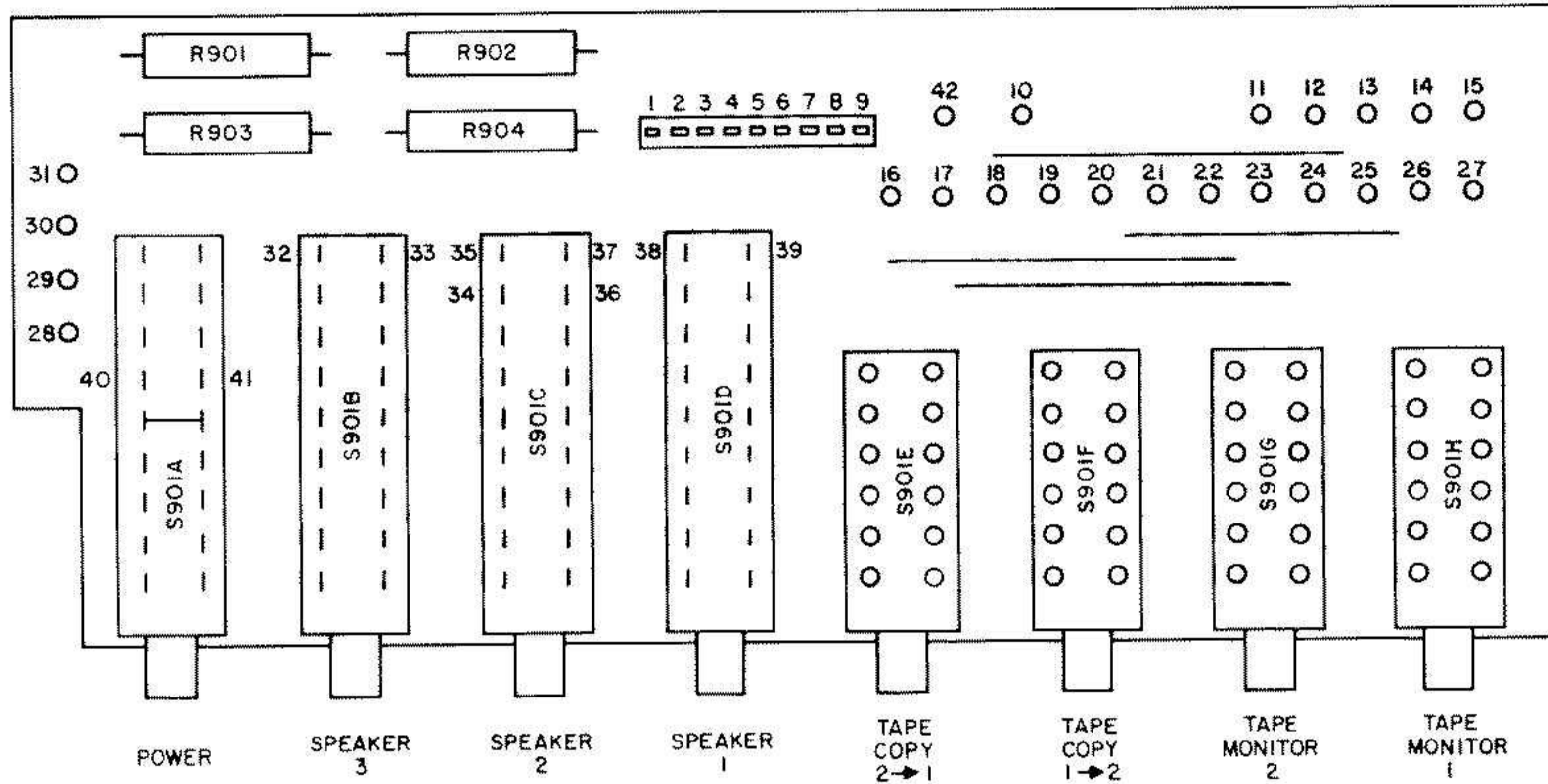


TONE/LOUDNESS/BALANCE
045-375

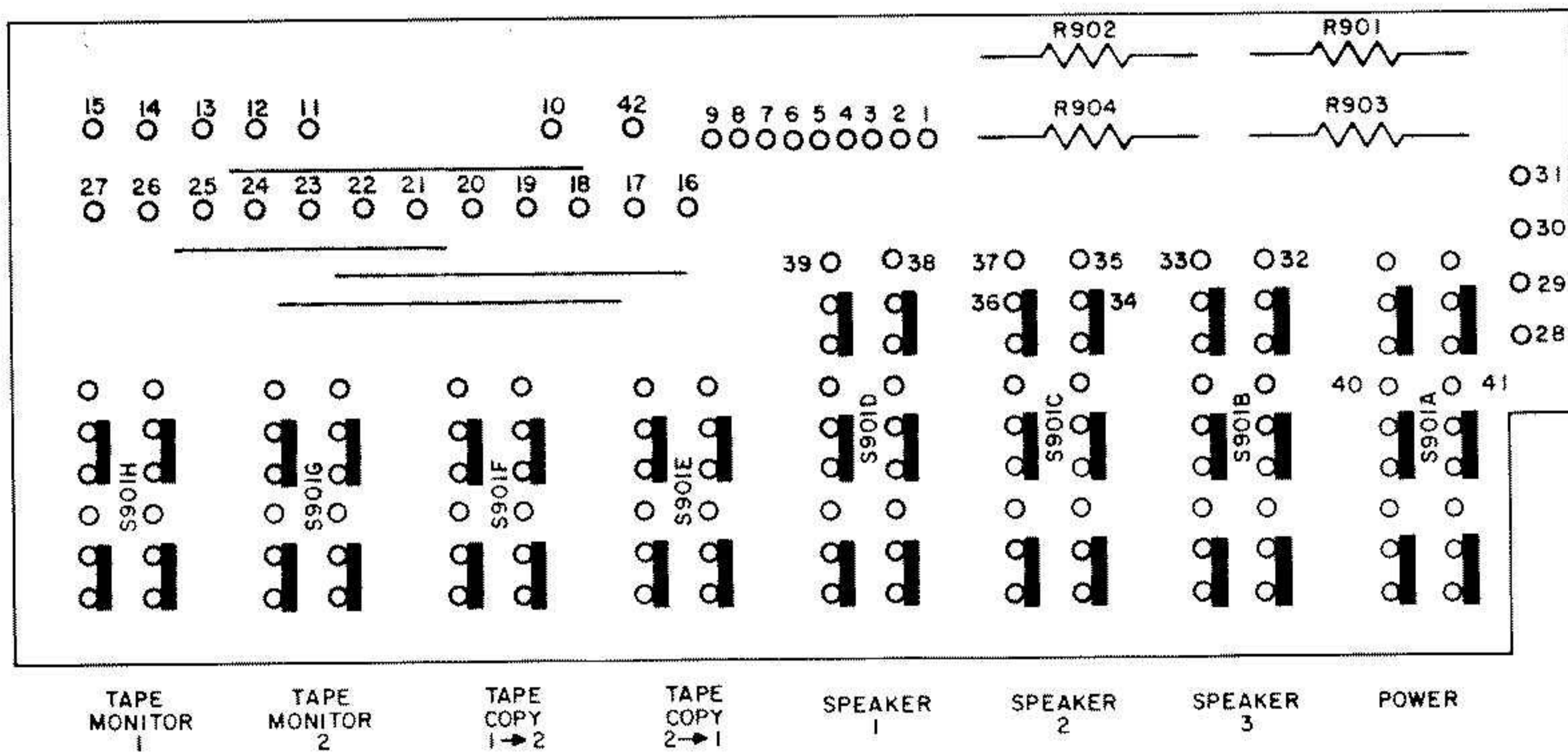


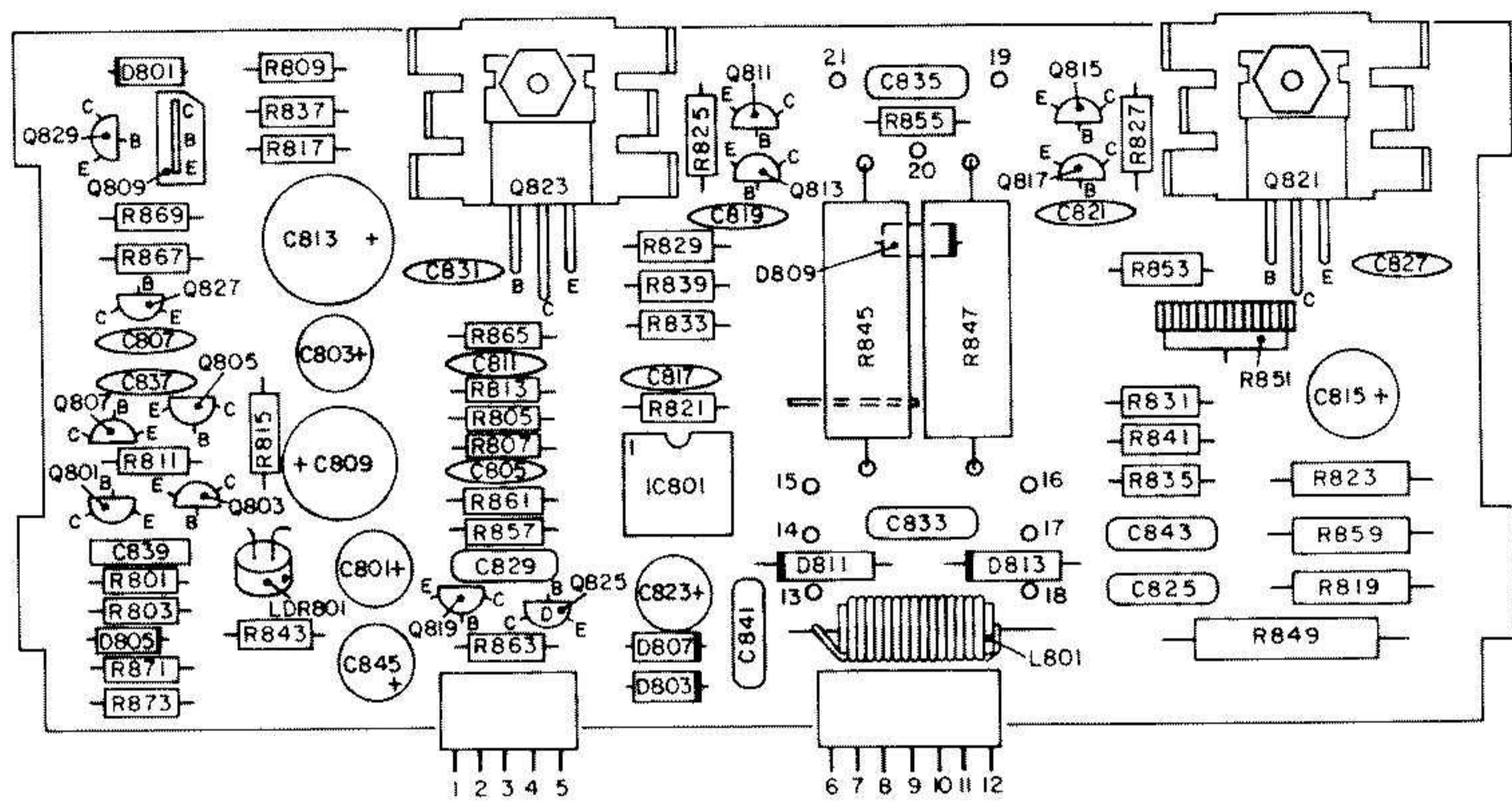


TOP-REAR
LOCATION OF TRANSISTORS NOT ON PC BOARDS

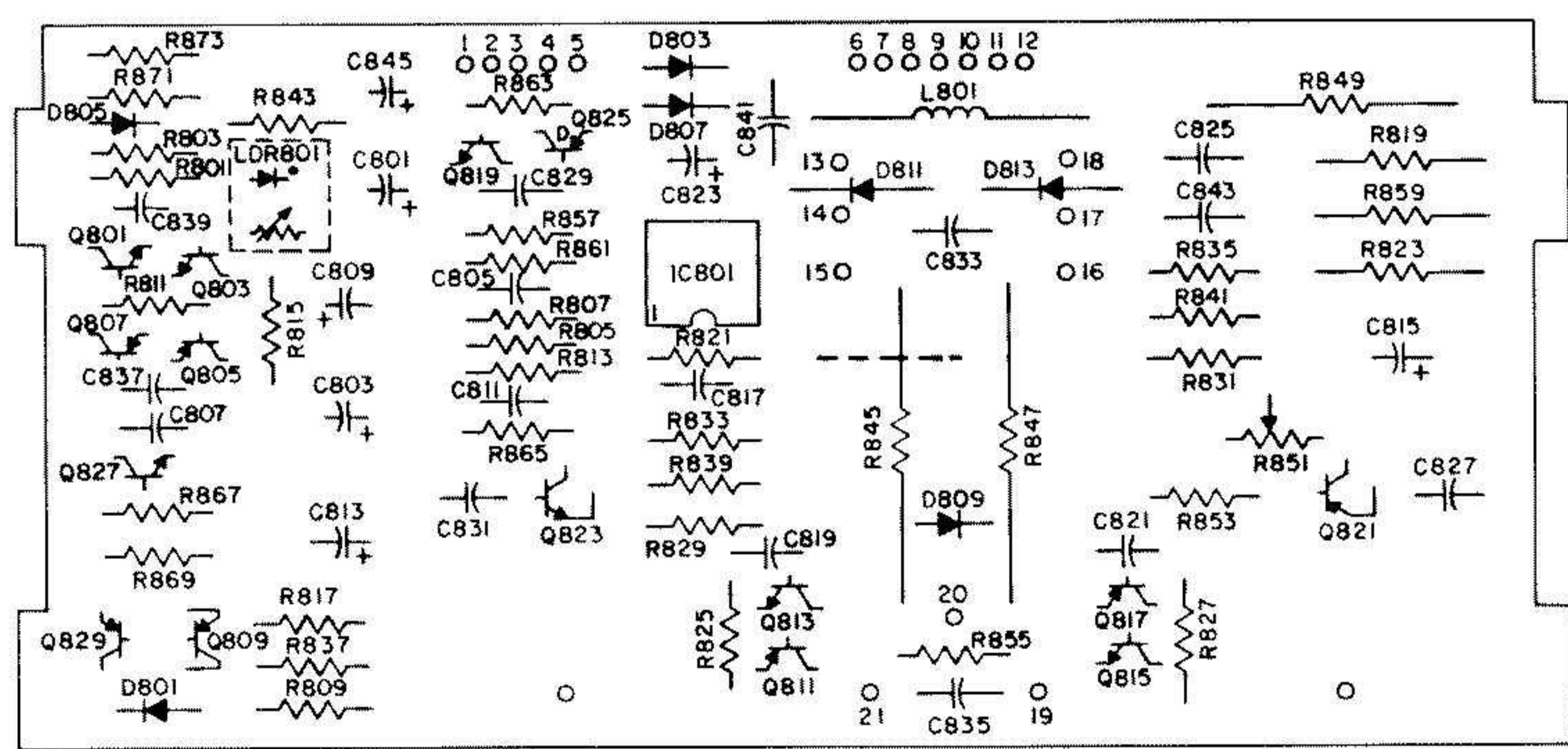


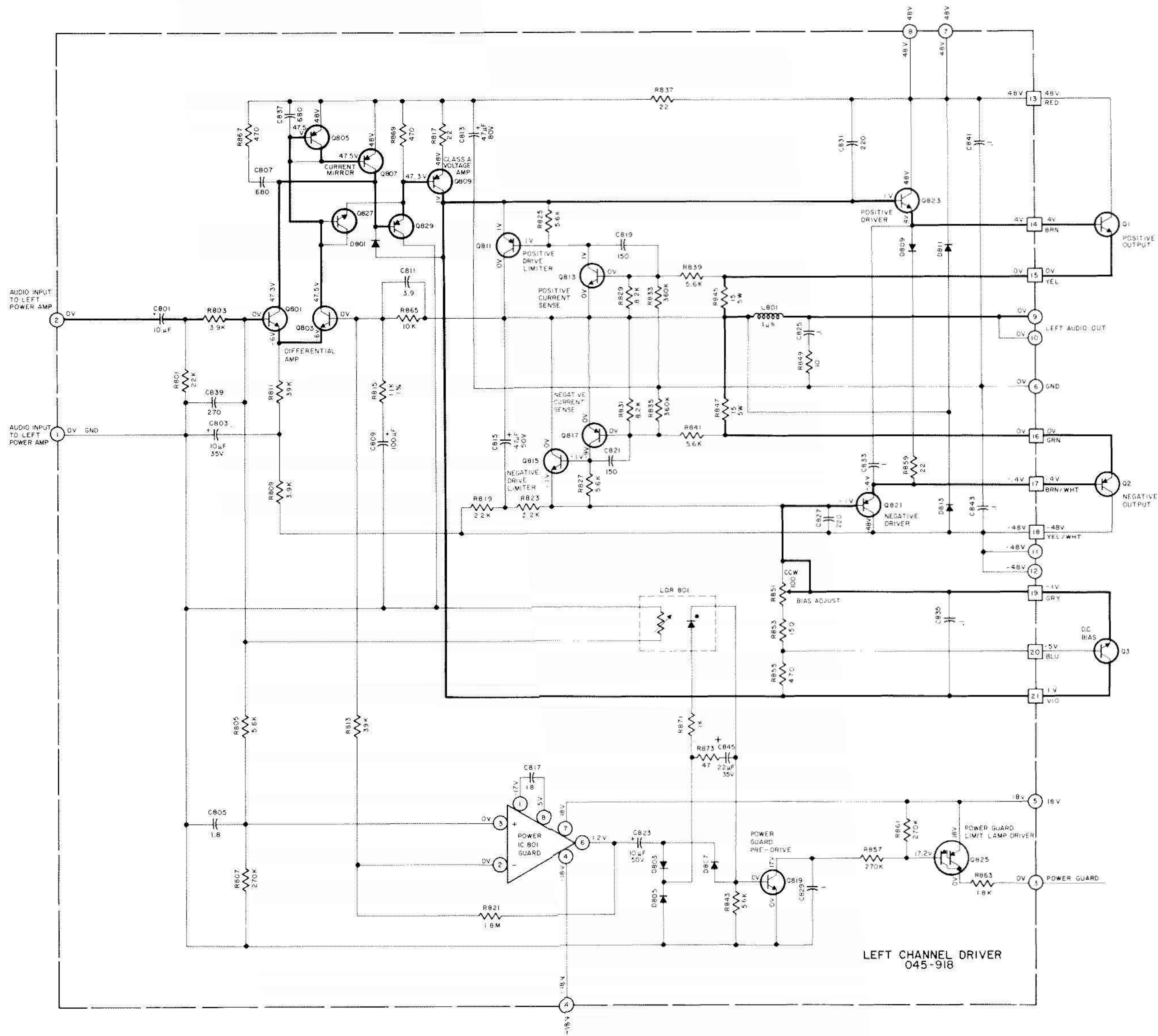
PUSHBUTTON PC BOARD
045-447



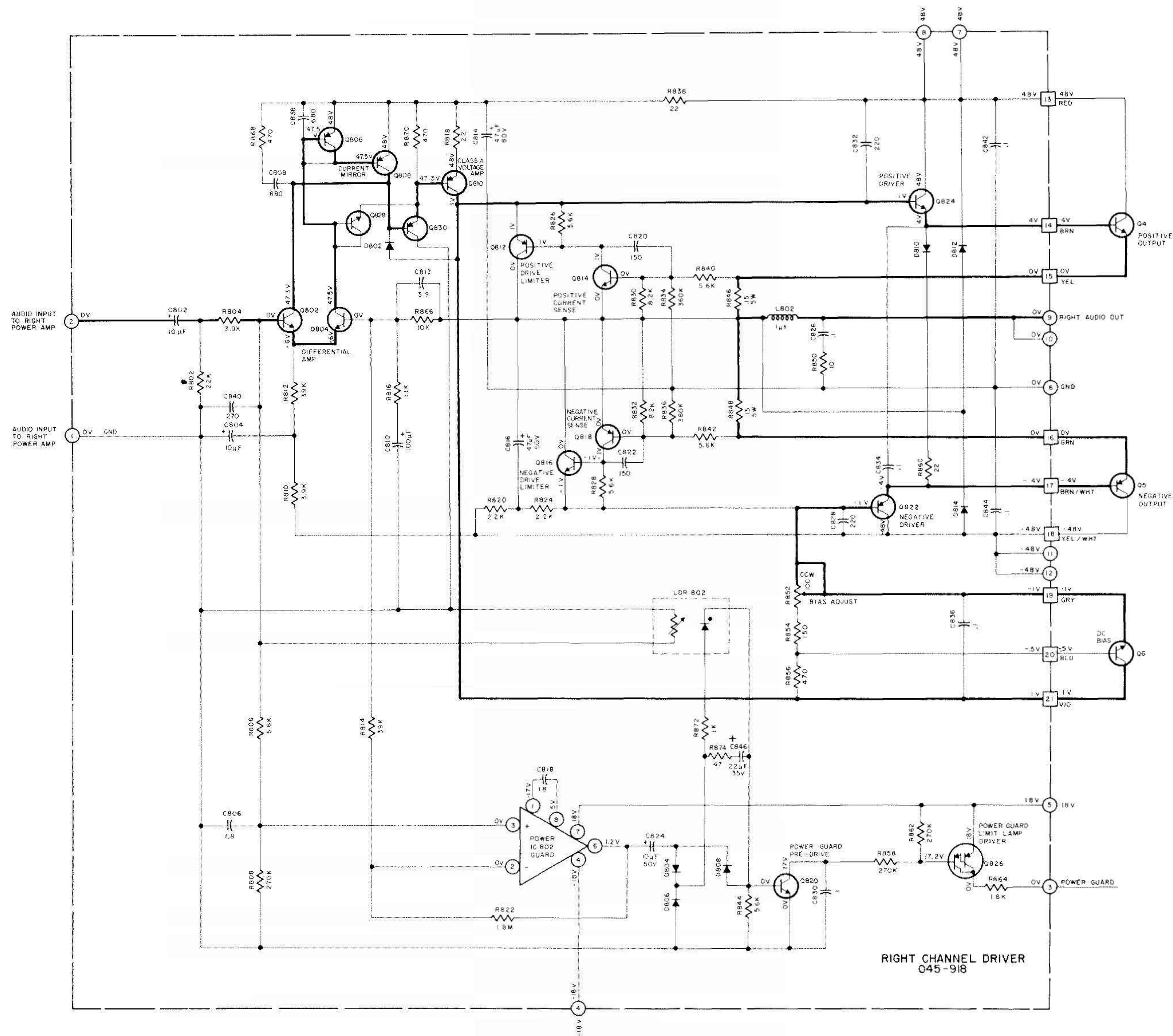


LEFT CHANNEL DRIVER
045918

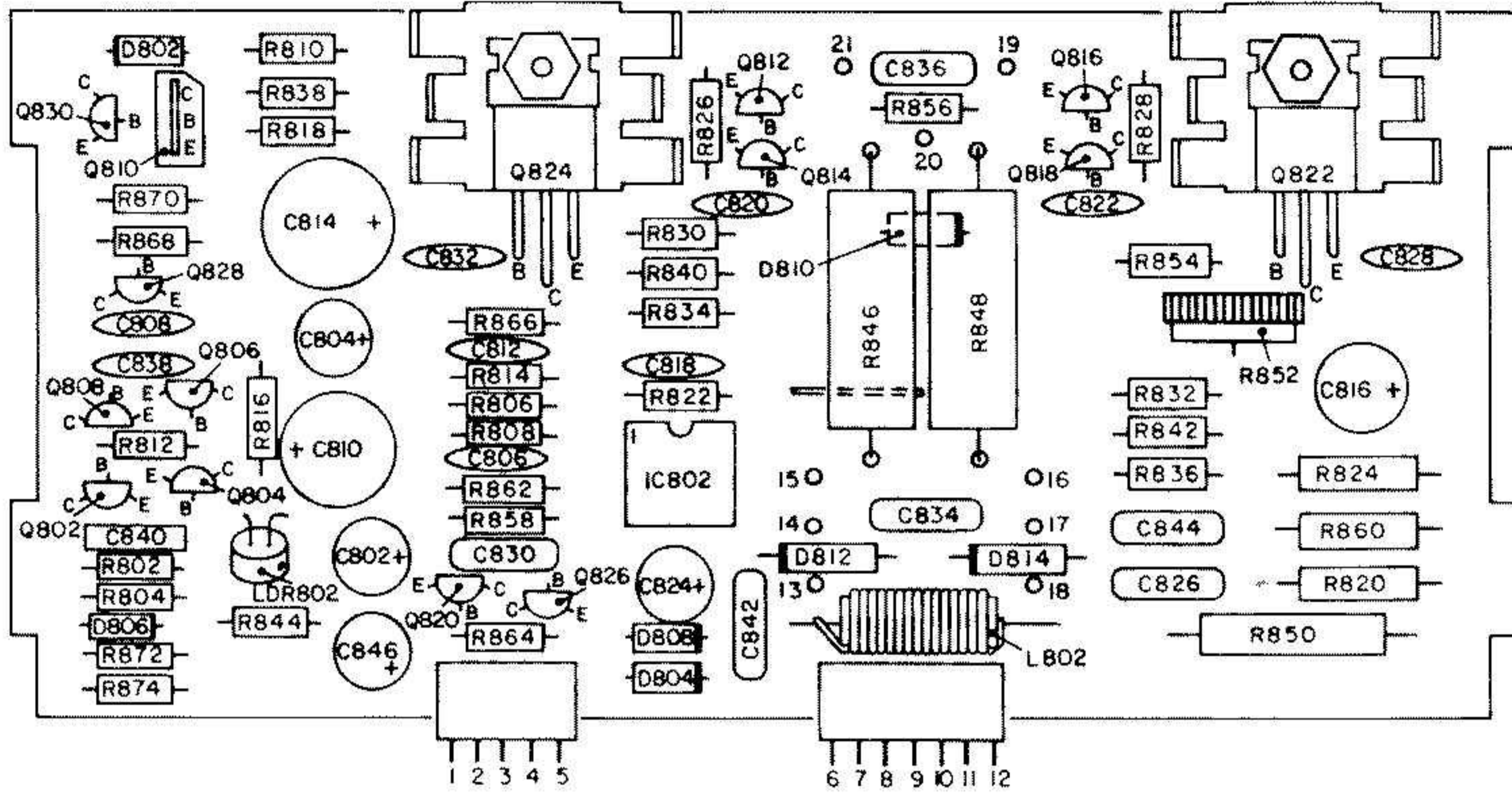




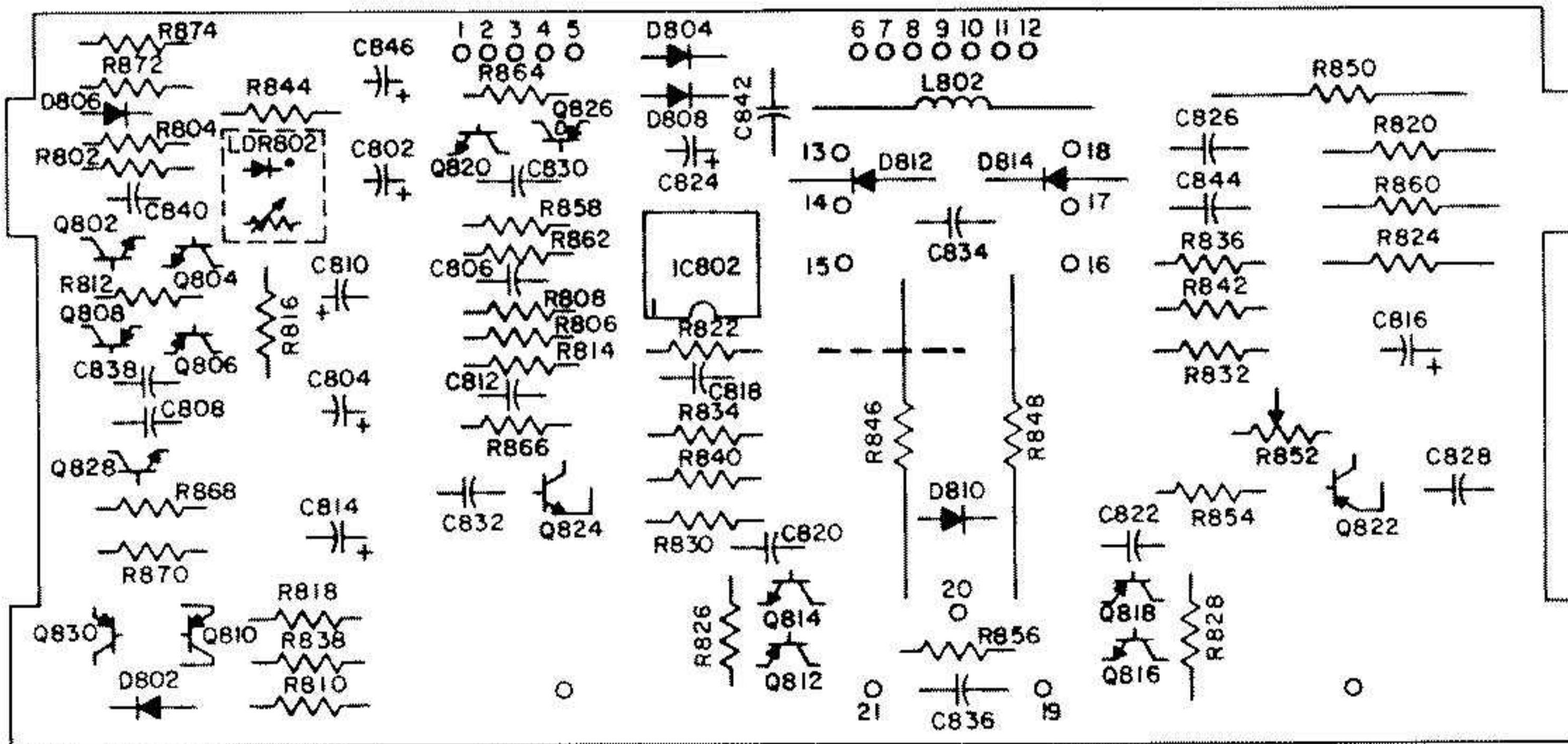
LEFT CHANNEL DRIVER
045-918

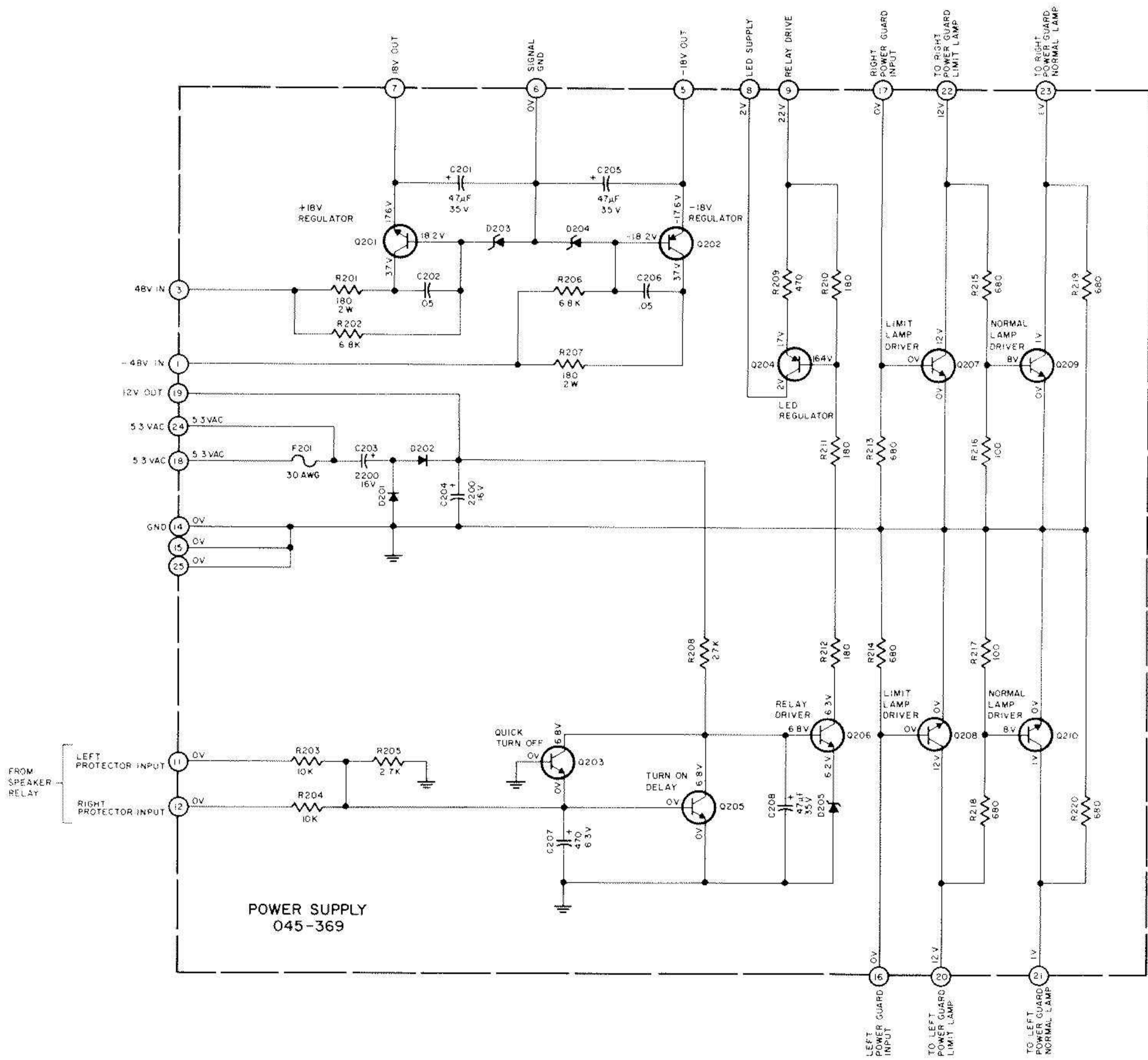


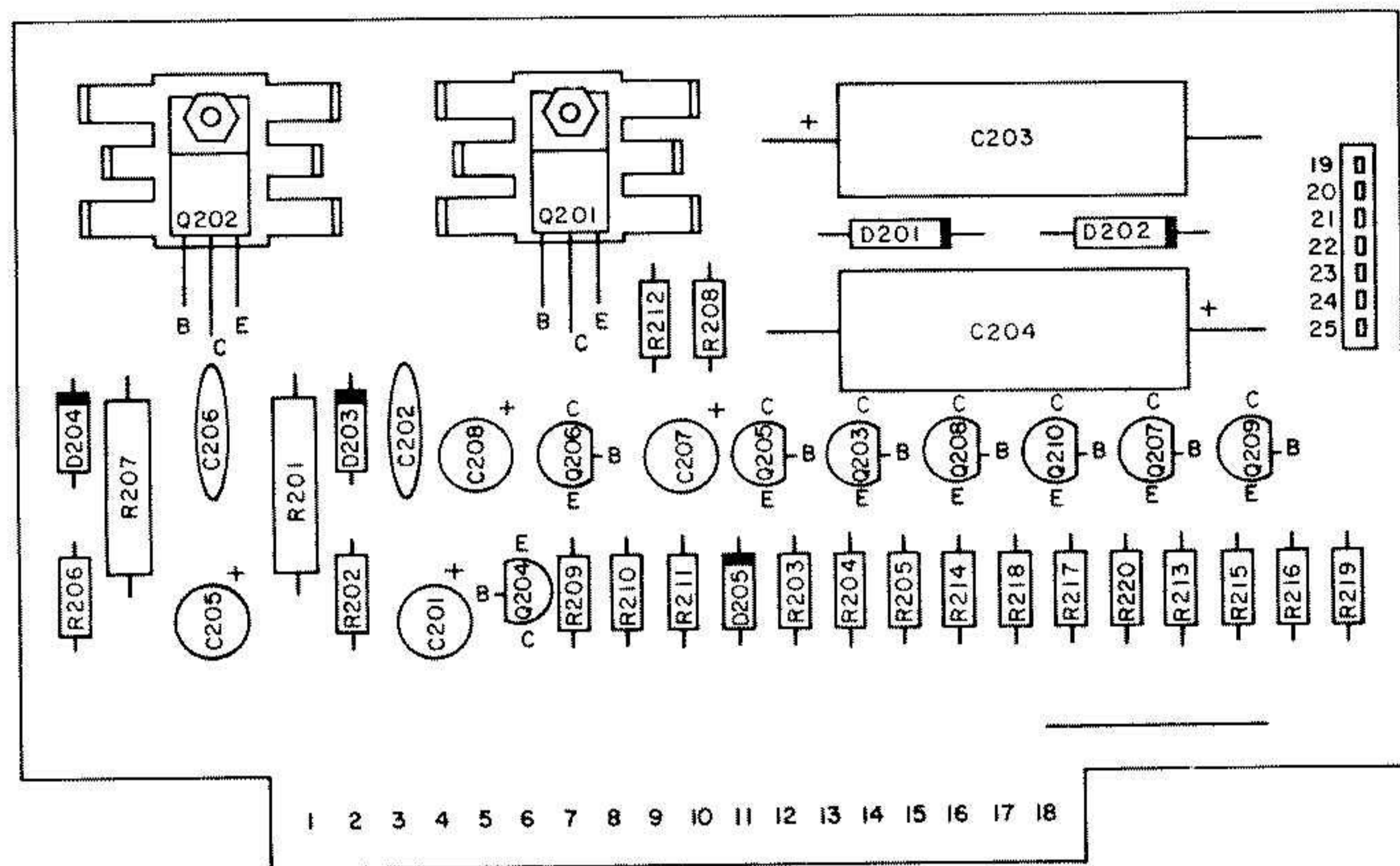
RIGHT CHANNEL DRIVER



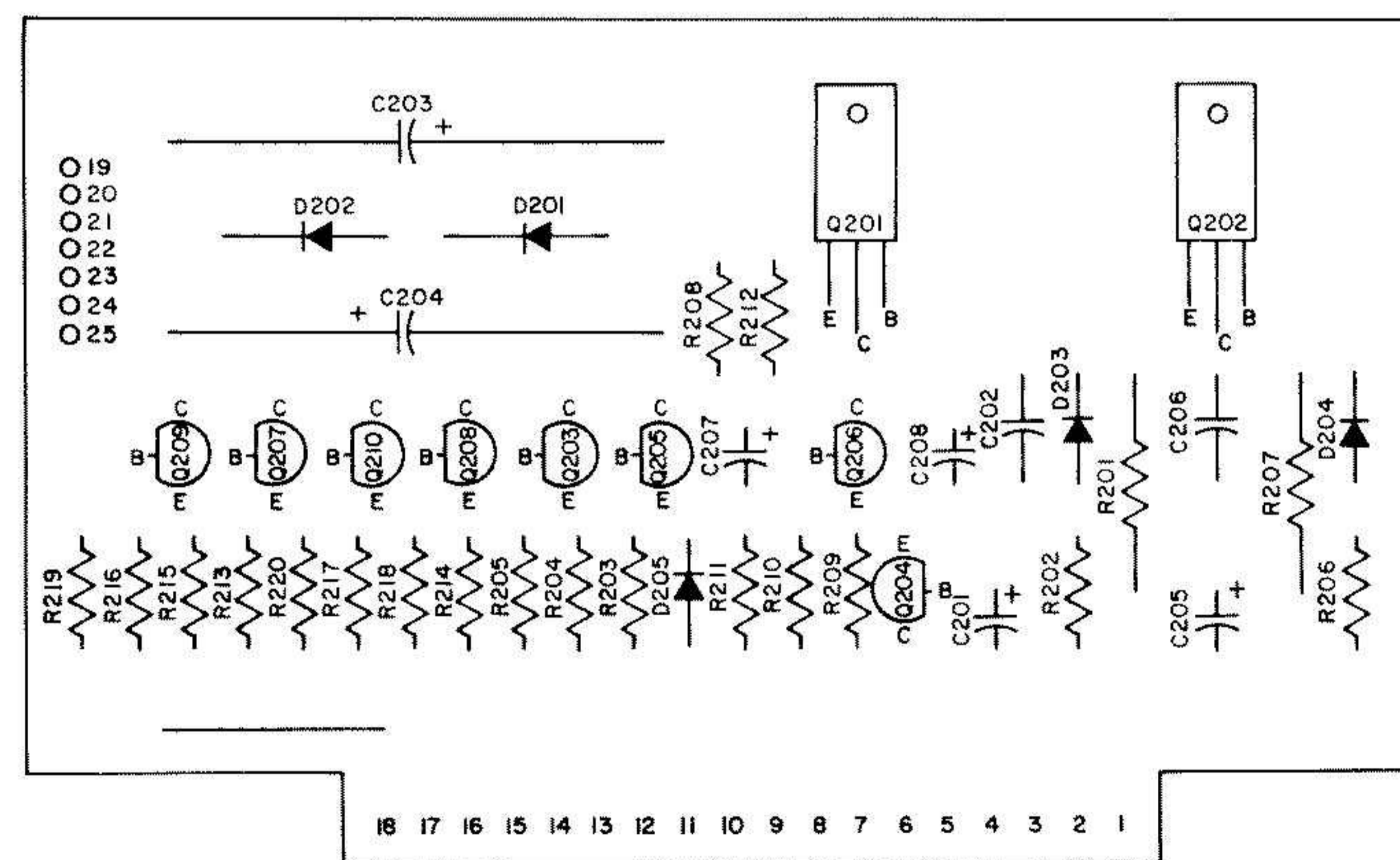
RIGHT CHANNEL DRIVER
045918

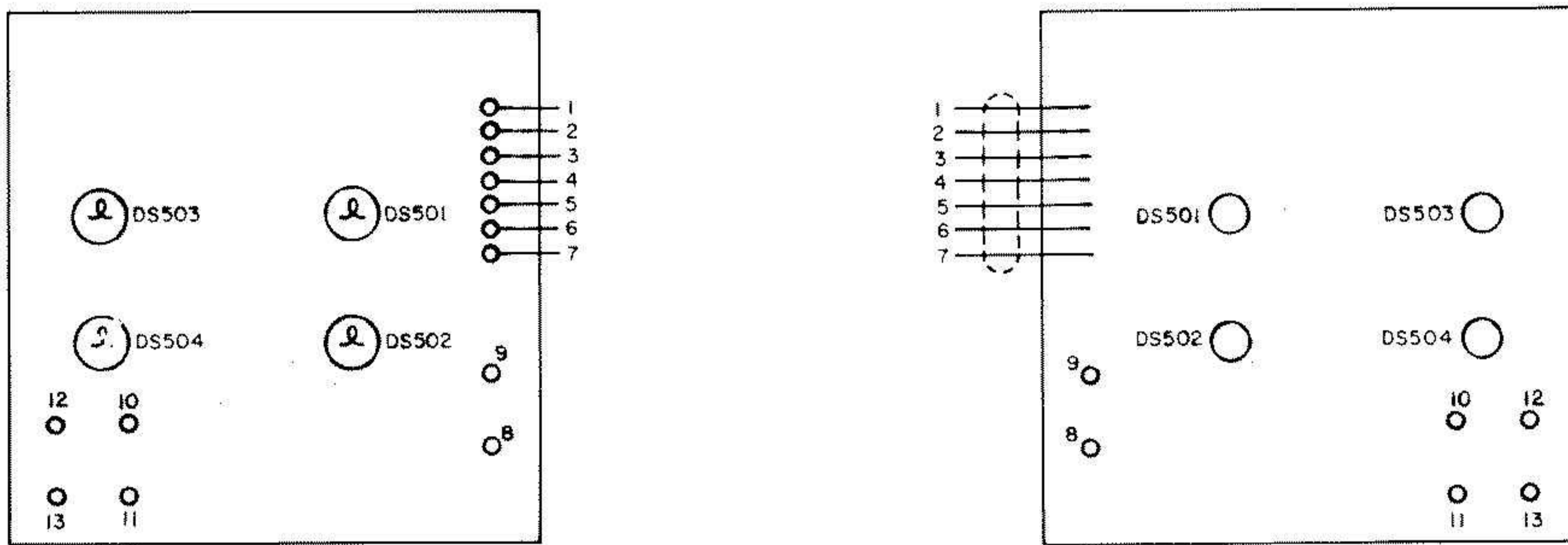




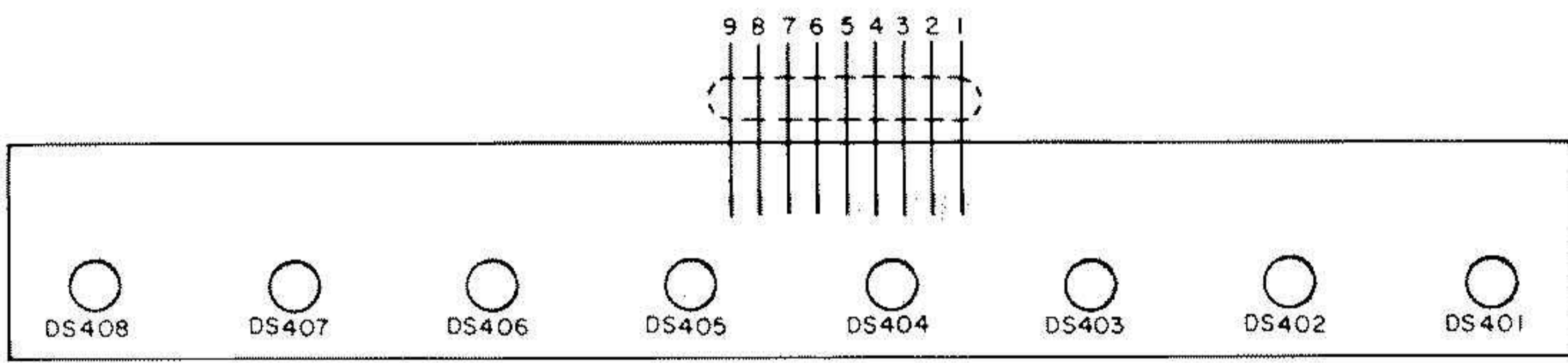


POWER SUPPLY PC BOARD
045-369

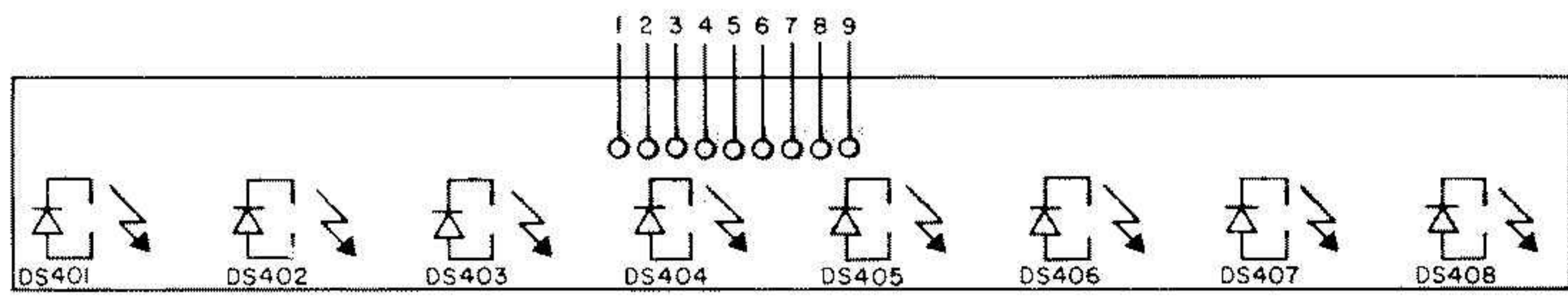


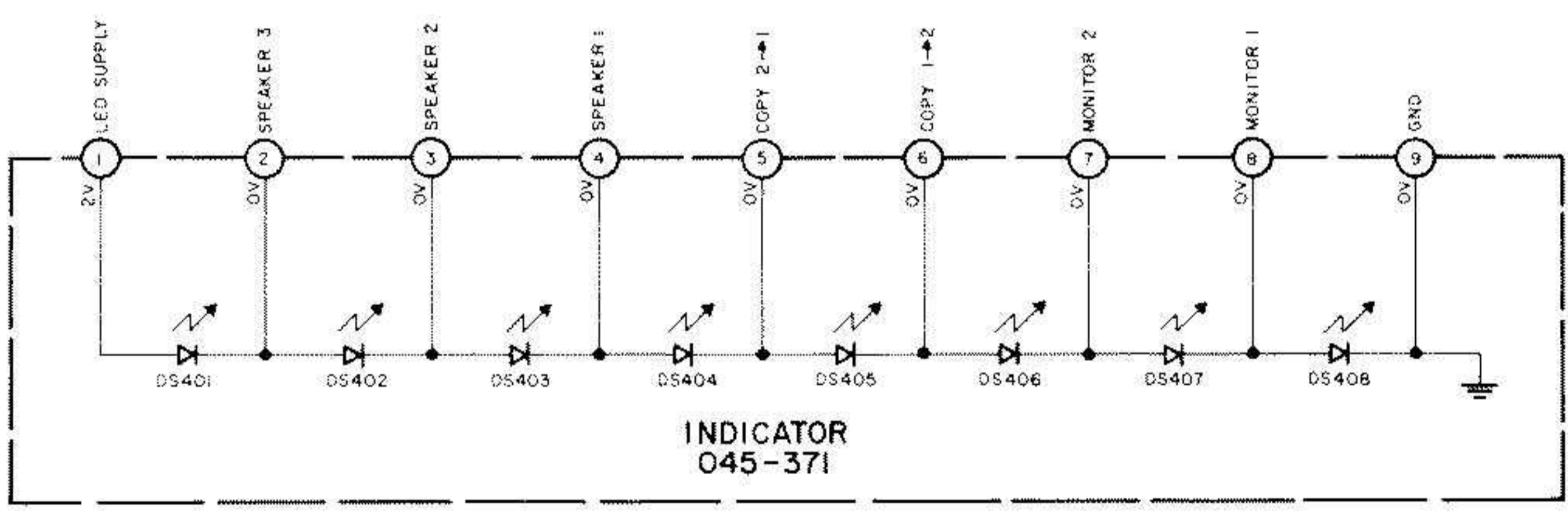
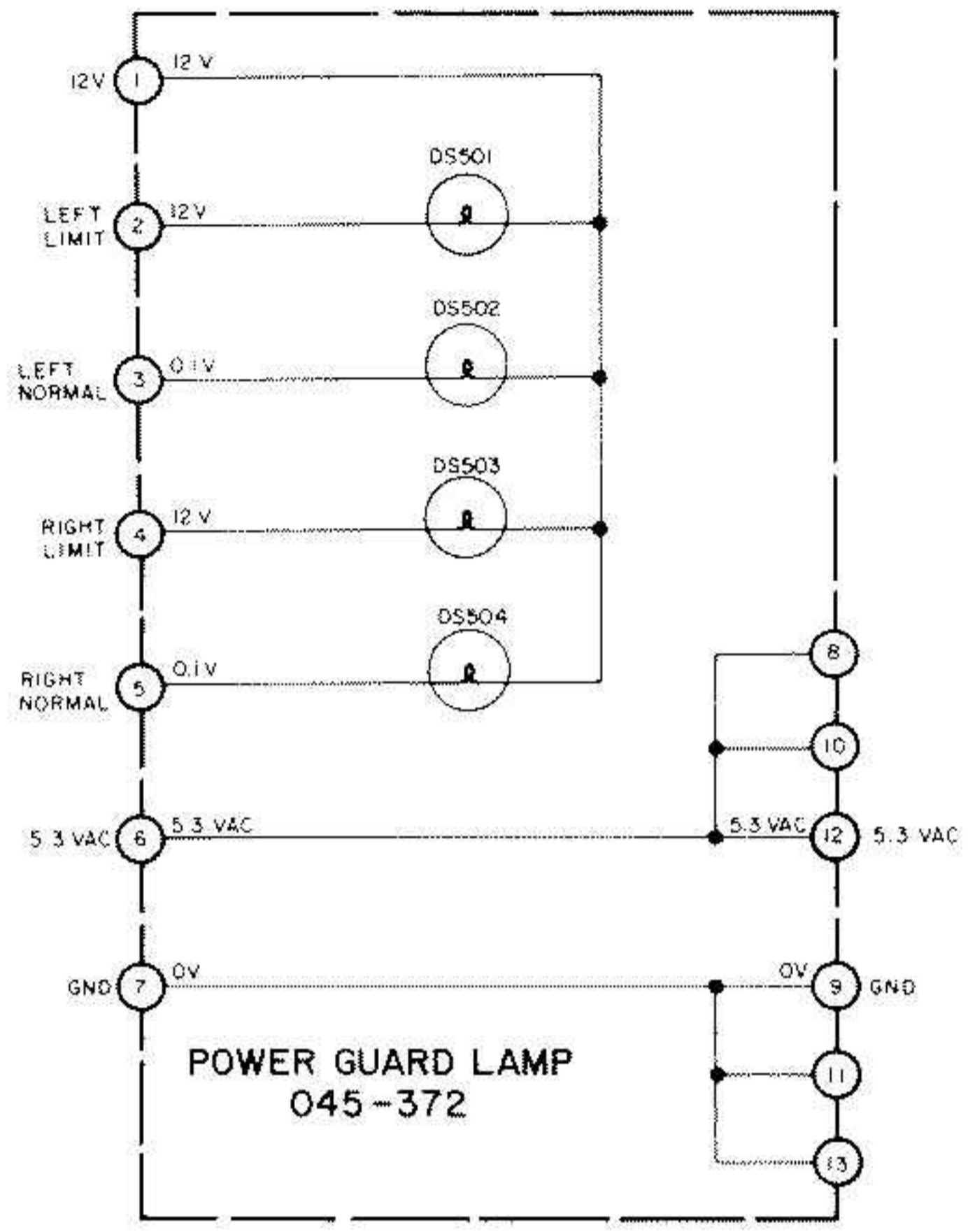


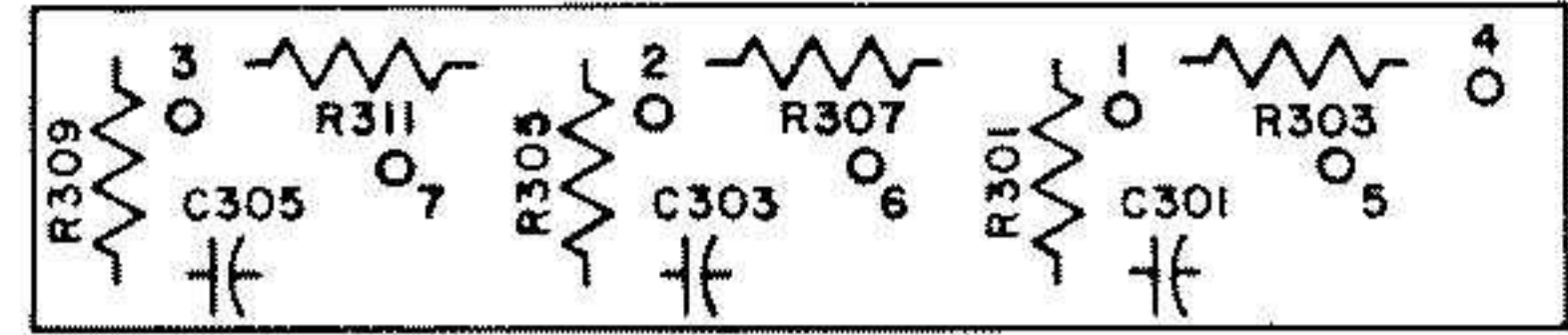
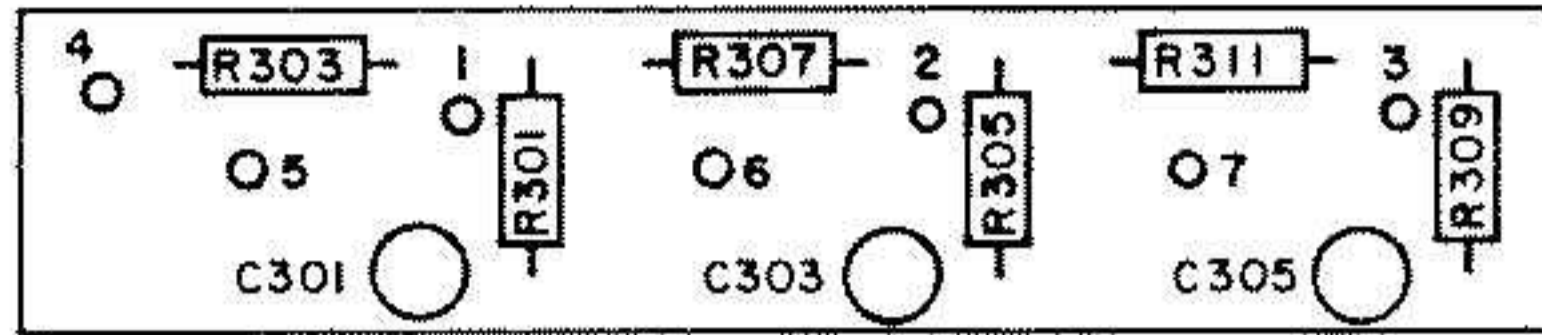
POWER GUARD LAMP PC BOARD
045-372



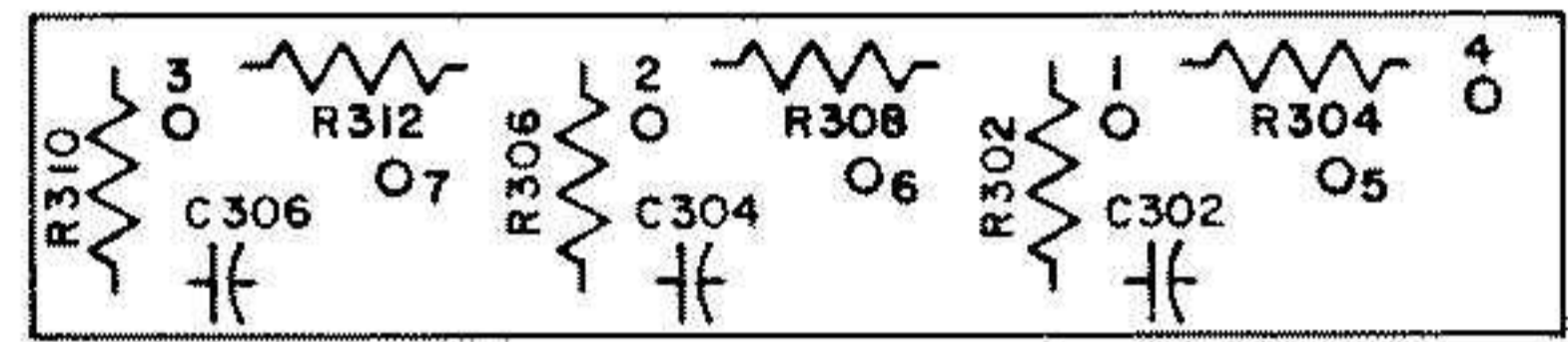
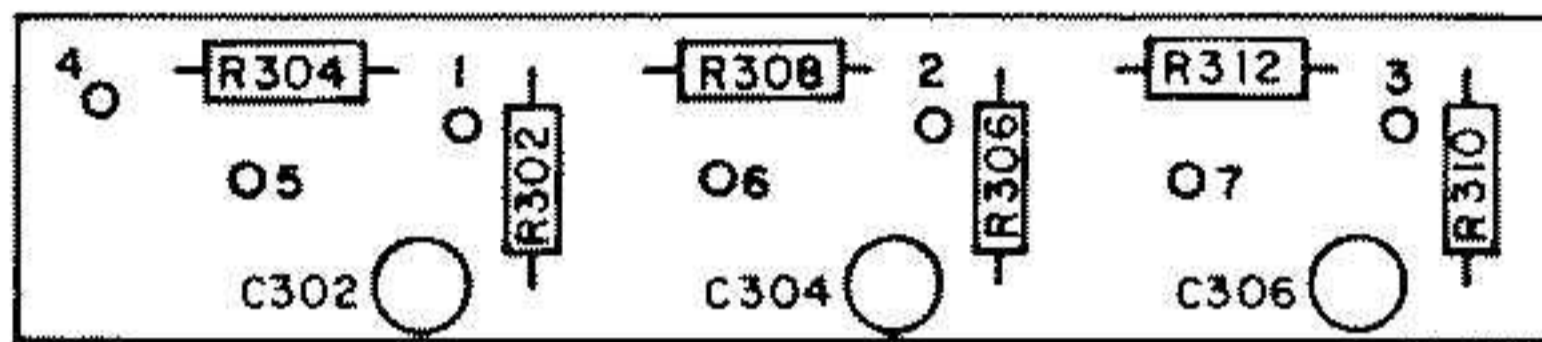
INDICATOR PC BOARD
045-371



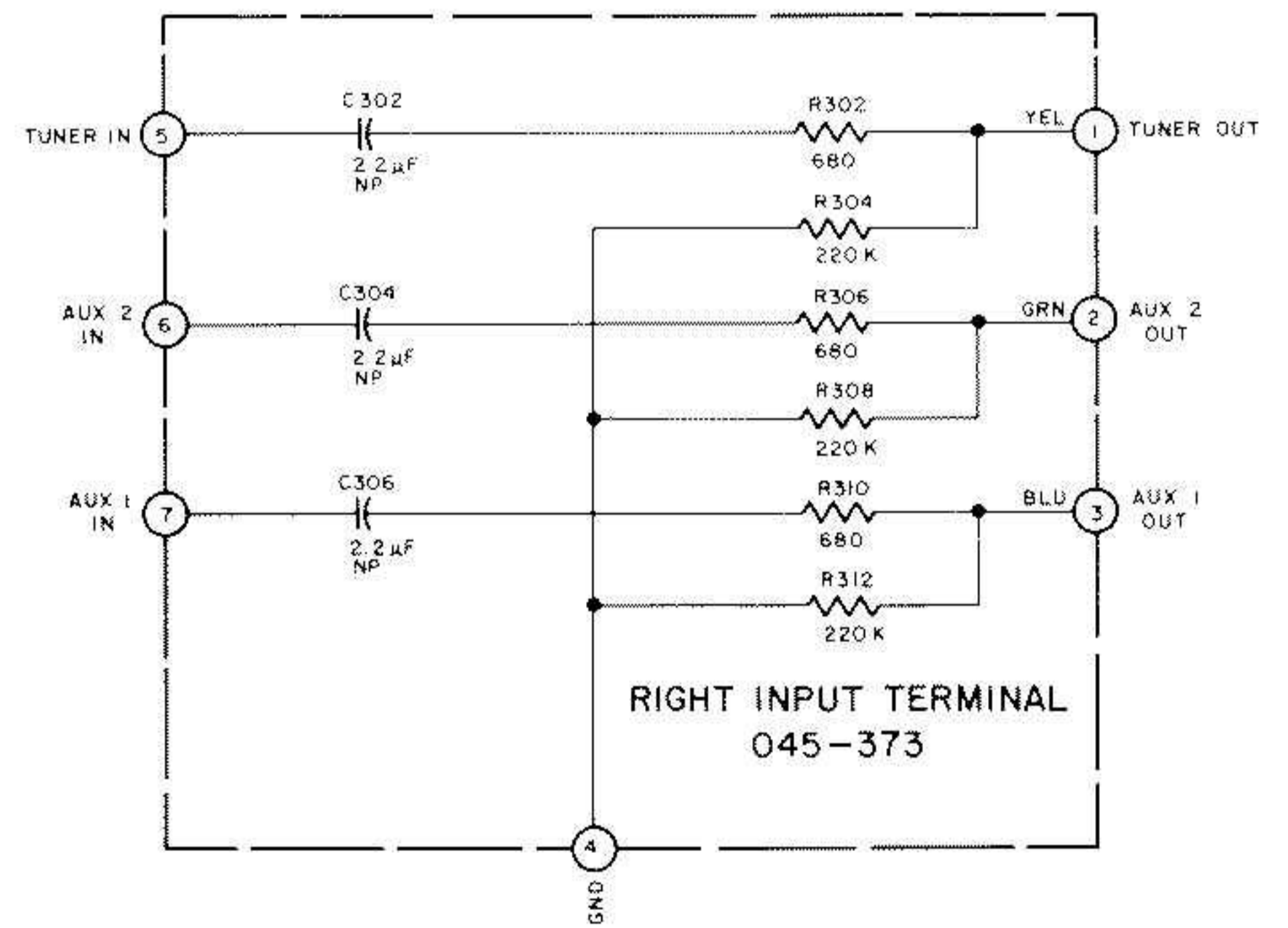
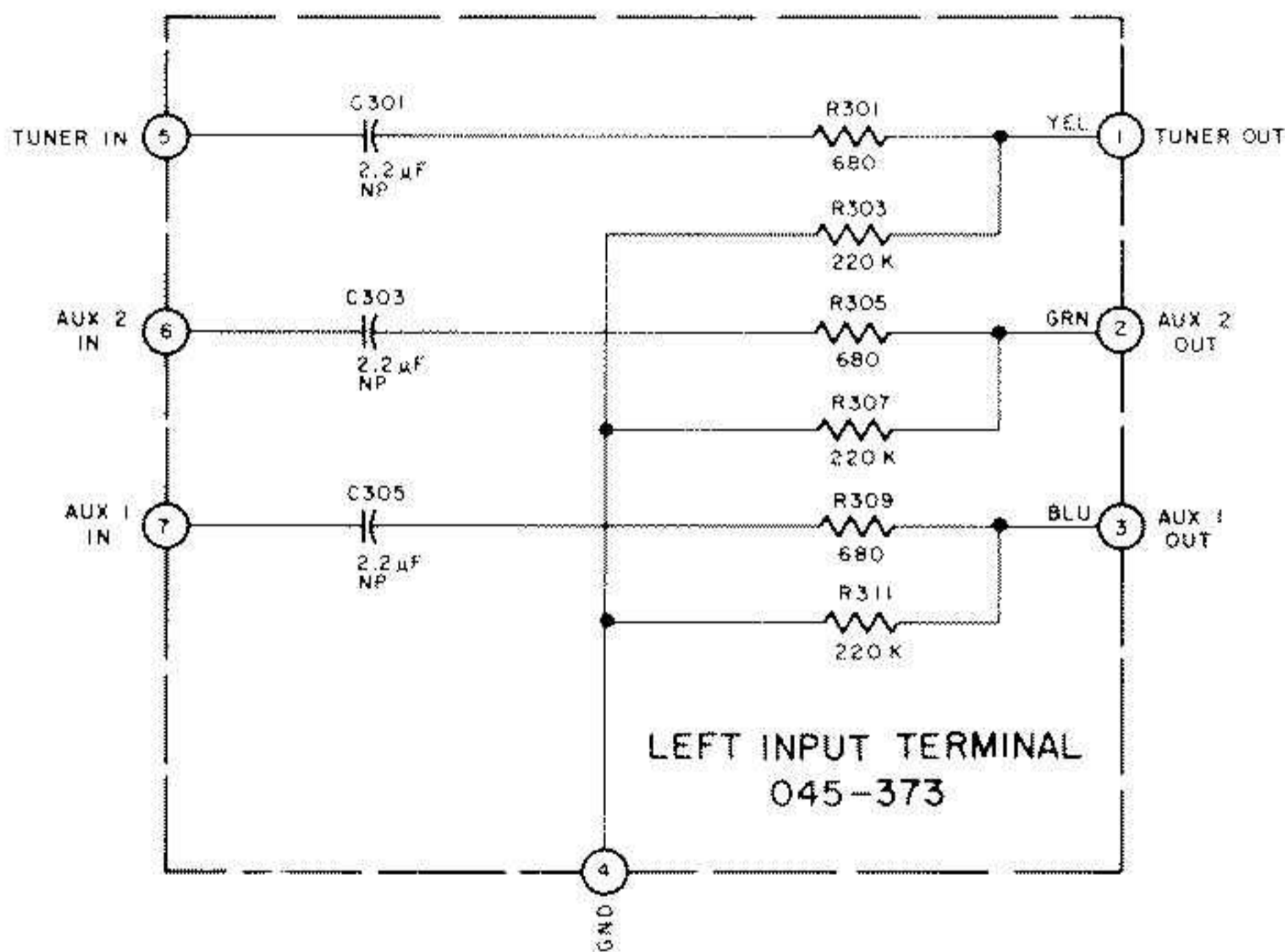




LEFT INPUT TERMINAL PC BOARD
045-373



RIGHT INPUT TERMINAL PC BOARD
045-373



PARTS LIST

* Parts marked with an asterisk (*) are replacement parts stocked by our Service Department and must be ordered from McIntosh. These parts must be ordered by part number. Parts not marked may be obtained from electronic parts suppliers.

FRONT PANEL and TRIM

Part No.	Description
*045770	Front Panel, Complete
*045388	Front Panel, Glass only
*045974	Pushbutton bezel, complete w/adhesive
*018160	End Cap, secure using 101035 screws
*017230	Pushbutton, black
*017244	Pushbutton, red
*090156	Input Selector Knob
*090156	Mode Selector Knob
*090170	Volume Knob
*090171	Equalizer Frequency Knobs
*090186	Loudness Knob (Front)
*090187	Balance Knob (Rear)
*104073	Knob felt washer, 5/8 dia.
*104017	Knob felt washer, 3/4 dia.
*018155	Top panel rail, secure using 100007 screws
*043410	Bottom panel rail, secure using 100103 screws
*101054	Tapping Screws, 6-32x1/4, Phillips, black
*100103	Machine Screw, 6-32x1/8
*101035	Tapping Screw, 4-40x5/16, Fillister
*100007	Machine Screw, 6-32x1/4

INSTALLATION HARDWARE

Part No.	Description
*045142	Hardware Package
*043401	Mounting Strips
*038179	Mounting Template
*043592	Panloc Shelf Bracket, Right
*045393	Panloc Shelf Bracket, Left
*017218	Plastic Feet, secure using 101072 Screws

SHIPPING CARTON

Part No.	Description
*033260	Shipping carton only
*101014	Wood Screw, 10x1 ³ / ₄ , used to mount bottom shipping pad
*104033	Washer, 10x1 ³ / ₄ , used with 101014 screws
*045975	Shipping carton, Complete (including mounting hardware)

INTERCONNECTION

Symbol No.	Part No.	Description
CAPACITORS (CD = Ceramic Disc, MPE = Metalized Polyester, ELECT = Electrolytic)		
C1	066314	ELECT, 12000 μ F, 60VDC
C2	066314	ELECT, 12000 μ F, 60VDC
C3	064267	MPE, 0.22 μ F, 400V
C4	061175	CD, .005 μ F, +80 - 20%, 150V, UL/CSA
C5	061175	CD, .005 μ F, +80 - 20%, 150V, UL/CSA
DIODES (BRID = Bridge, RECT = Rectifier, SIG = Signal, Si = Silicon)		
*D1	070098	Si, SIG, 175V, 500mW, FDH400
*D2	070092	Si, BRID, RECT, 35A, 200V, MDA3502
LIGHTING DEVICES (INC = Incandescent)		
*DS1	058069	INC, 6.3V, 200mA, 8610
*DS2	058069	INC, 6.3V, 200mA, 8610
*DS3	058069	INC, 6.3V, 200mA, 8610
*DS4	058069	INC, 6.3V, 200mA, 8610
*DS5	058069	INC, 6.3V, 200mA, 8610
FUSES AND FUSEHOLDERS (FA = Fast Acting, SB = Slo-Blo)		
*F1	089002	Fuse, FA, 1A, 250V, AGC-1
*F2	089013	Fuse, SB, 4A, 125V
	178114	Fuseholder, UL/CSA-Slot, Littlefuse 341-001
RELAYS		
*K1	087019	DPDT, 24VDC
*K2	087030	DPDT, 110VDC
TRANSISTORS (Si = Silicon)		
*Q1	132188	Si, NPN
*Q2	132189	Si, PNP
*Q3	132143	Si, NPN, MPS-D05
*Q4	132188	Si, NPN
*Q5	132189	Si, PNP
*Q6	132143	Si, NPN, MPS-D05
RESISTORS (CF = Carbon Film, POT = Potentiometer)		
R1	141072	CF, 10k Ω , 5%, 1/4W
R2	141072	CF, 10k Ω , 5%, 1/4W
*R3	134395	POT, 100k Ω , Volume Control
*R4	144012	Thermistor, 2.5 Ω
*R5	144012	Thermistor, 2.5 Ω
SWITCHES		
*S1	146193	Input Selector Switch
*S2	146196	Mode Selector Switch
*S3	153017	Thermal Cut-Out Switch
*S4	153017	Thermal Cut-Out Switch
*S5	148043	Auto-on Switch
TRANSFORMERS		
*T1	159141	Power Transformer
MISCELLANEOUS		
	015010	Jumper
	084038	Strain Relief (Line Cord)
	117009	AC Receptacle, Black
	117024	AC Receptacle, Green
*	117088	Headphone Jack, 3/8"
*	117162	Headphone Jack, 3/8"
	170119	Line Cord, 18 ga.

PHONO PREAMP PC BOARD 045368

Symbol No.	Part No.	Description
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CAPACITORS (CD = Ceramic Disc, MPE = Metalized Polyester, ELECT = Electrolytic)

C101	066239	ELECT, 10 μ F, 35V
C102	066239	ELECT, 10 μ F, 35V
C103	061019	CD, 47pF, 20%, 500V, N470
C104	061019	CD, 47pF, 20%, 500V, N470
C105	061022	CD, 100pF, 20%, 1000V, N1500
C106	061022	CD, 100pF, 20%, 1000V, N1500
C107	066327	ELECT, 470 μ F, 10V...(7489)
C108	066327	ELECT, 470 μ F, 10V...(7489)
C109	064176	MPE, .015 μ F, 5%, 63V
C110	064176	MPE, .015 μ F, 5%, 63V
C111	064273	MPE, .051 μ F, 5%, 250V
C112	064273	MPE, .051 μ F, 5%, 250V
*C113	066173	ELECT, 10 μ F, 35V, NP
*C114	066173	ELECT, 10 μ F, 35V, NP
C115	061043	CD, .01 μ F, + 80 - 20%

INTEGRATED CIRCUITS (AN = Analog, BP = Bipolar)

*IC101	133067	AN, BP, Operation Amp Low Noise and THD, NE-5534AN
*IC102	133067	AN, BP, Operation Amp Low Noise and THD, NE-5534AN

RESISTORS (CF = Carbon Film, MF = Metal Film)

*R101	144081	MF, 68.1k Ω , 1%, 1/4W
*R102	144081	MF, 68.1k Ω , 1%, 1/4W
R103	141049	CF, 1k Ω , 5%, 1/4W
R104	141049	CF, 1k Ω , 5%, 1/4W
*R105	144134	MF, 51.1, 2%, 1/4W
*R106	144134	MF, 51.1, 2%, 1/4W
*R107	144083	MF, 5.11k Ω , 2%, 1/4W
*R108	144083	MF, 5.11k Ω , 2%, 1/4W
*R109	144138	MF, 64.9k Ω , 2%, 1/4W
*R110	144138	MF, 64.9k Ω , 2%, 1/4W
R111	141033	CF, 220 Ω , 5%, 1/4W
R112	141033	CF, 220 Ω , 5%, 1/4W
R113	141080	CF, 22k Ω , 5%, 1/4W
R114	141080	CF, 22k Ω , 5%, 1/4W
R115	141100	CF, 150k Ω , 5%, 1/4W
R116	141100	CF, 150k Ω , 5%, 1/4W

AUTO-ON PC BOARD 045354

Symbol No.	Part No.	Description
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CAPACITORS (ELECT = Electrolytic, PCF = Polycarbonate Film, MPE = Metalized Polyester)

*C701	066173	ELECT, 10 μ F, 35V, NP
C702	064271	PCF, 1000pF, 1000VDC/250VAC
C703	066321	ELECT, 10 μ F, 160V

DIODES (Si = Silicon, RECT = Rectifier)

*D701	070031	Si, RECT, 400 PIV, 1.5A
*D702	070031	Si, RECT, 400 PIV, 1.5A
*D703	070031	Si, RECT, 400 PIV, 1.5A
*D704	070059	Si, RECT, 800V

SILICON CONTROLLED RECTIFIER

*SCR701 131010 SCR, C107M41

RESISTORS (CF = Carbon Film, WW = Wirewound)

R701	141144	CF, 22 Ω , 5%, 1/4W
R702	141144	CF, 22 Ω , 5%, 1/4W
*R703	139138	WW, 820 Ω , 10%, 2W

TONE/LOUDNESS/BALANCE PC BOARD 045375

Symbol No.	Part No.	Description
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CAPACITORS (MPE = Metalized Polyester, CD = Ceramic Disc, ELECT = Electrolytic, PF = Polyester Film)

C601	064194	MPE, 0.47 μ F, 5%, 63V
C602	064194	MPE, 0.47 μ F, 5%, 63V
C603	061023	CD, 100pF, 10%, 500V, N1500
C604	061023	CD, 100pF, 10%, 500V, N1500
C605	064194	MPE, 0.47 μ F, 5%, 63V
C606	064194	MPE, 0.47 μ F, 5%, 63V
C607	061015	CD, 22pF, 20%, N470
C608	061015	CD, 22pF, 20%, N470
C609	066239	ELECT, 10 μ F, 35V
C610	066239	ELECT, 10 μ F, 35V
C611	064174	MPE, .01 μ F, 5%, 63V
C612	064174	MPE, .01 μ F, 5%, 63V
C613	064174	MPE, .01 μ F, 5%, 63V
C614	064174	MPE, .01 μ F, 5%, 63V
C615	066239	ELECT, 10 μ F, 35V
C616	066239	ELECT, 10 μ F, 35V
C617	064182	MPE, .047 μ F, 5%, 63V
C618	064182	MPE, .047 μ F, 5%, 63V
*C619	066271	ELECT, 1.5 μ F, 50V
*C620	066271	ELECT, 1.5 μ F, 50V
C621	064175	MPE, .012 μ F, 5%, 63V
C622	064175	MPE, .012 μ F, 5%, 63V
C623	064194	MPE, 0.47 μ F, 5%, 63V
C624	064194	MPE, 0.47 μ F, 5%, 63V
C625	064167	PF, .0033 μ F, 5%, 100V
C626	064167	PF, .0033 μ F, 5%, 100V
C627	064188	MPE, 0.15 μ F, 5%, 63V
C628	064188	MPE, 0.15 μ F, 5%, 63V
C629	064161	PF, .001 μ F, 5%, 100V
C630	064161	PF, .001 μ F, 5%, 100V
C631	064180	MPE, .033 μ F, 5%, 63V
C632	064180	MPE, .033 μ F, 5%, 63V
C633	061023	CD, 100pF, 10%, 500V, N1500
C634	061023	CD, 100pF, 10%, 500V, N1500
C635	064190	MPE, 0.22 μ F, 5%, 63V
C636	064190	MPE, 0.22 μ F, 5%, 63V
C637	066240	ELECT, 22 μ F, 25V
C638	066240	ELECT, 22 μ F, 25V
C639	064190	MPE, 0.22 μ F, 5%, 63V
C640	064190	MPE, 0.22 μ F, 5%, 63V
C641	061128	CD, 470pF, 10%, 500V, Z5F
C642	061128	CD, 470pF, 10%, 500V, Z5F
C643	061015	CD, 22pF, 20%, N470
C644	061015	CD, 22pF, 20%, N470
C645	061023	CD, 100pF, 10%, 500V, N1500
C646	061023	CD, 100pF, 10%, 500V, N1500
*C647	066173	ELECT, 10 μ F, 35V, NP
*C648	066173	ELECT, 10 μ F, 35V, NP
C649	066312	ELECT, 100 μ F, 35V
C650	066312	ELECT, 100 μ F, 35V

INTEGRATED CIRCUITS (AN = Analog, BP = Bipolar)

*IC601	133066	AN, BP, Operation Amp., NE-5534N
*IC602	133066	AN, BP, Operation Amp., NE-5534N
*IC603	133028	AN, BP, Dual Hi-speed Operation Amp., MC-4558P
*IC604	133028	AN, BP, Dual Hi-speed Operation Amp., MC-4558P
*IC605	133028	AN, BP, Dual Hi-speed Operation Amp., MC-4558P
*IC606	133028	AN, BP, Dual Hi-speed Operation Amp., MC-4558P
*IC607	133028	AN, BP, Dual Hi-speed Operation Amp., MC-4558P
*IC608	133066	AN, BP, Operation Amp., NE-5534N
*IC609	133066	AN, BP, Operation Amp., NE-5534N

RESISTORS (POT = Potentiometer, CF = Carbon Film, MF = Metal Film)

*R601/607	134382	POT, Dual 50k Ω /100k Ω , Balance/Loudness
*R602	134316	POT, 100k Ω /100k Ω , Equalizer
*R603	134316	POT, 100k Ω /100k Ω , Equalizer
*R604	134316	POT, 100k Ω /100k Ω , Equalizer
*R605	134316	POT, 100k Ω /100k Ω , Equalizer
*R606	134316	POT, 100k Ω /100k Ω , Equalizer
*R607/601	134382	POT, Dual 50k Ω /100k Ω , Balance/Loudness
R608		(not used)
R609	141104	CF, 200k Ω , 5%, 1/4W
R610	141104	CF, 220k Ω , 5%, 1/4W
R611	141049	CF, 1k Ω , 5%, 1/4W
R612	141049	CF, 1k Ω , 5%, 1/4W
R613	141096	CF, 100k Ω , 5%, 1/4W
R614	141096	CF, 100k Ω , 5%, 1/4W
R615	141120	CF, 1M Ω , 5%, 1/4W
R616	141120	CF, 1M Ω , 5%, 1/4W
*R617	144083	MF, 5.11k Ω , 2%, 1/4W
*R618	144083	MF, 5.11k Ω , 2%, 1/4W
*R619	144123	MF, 511, 2%, 1/4W
*R620	144123	MF, 511, 2%, 1/4W
R621	141088	CF, 47k Ω , 5%, 1/4W
R622	141088	CF, 47k Ω , 5%, 1/4W
R623	141068	CF, 6.8k Ω , 5%, 1/4W
R624	141068	CF, 6.8k Ω , 5%, 1/4W
R625	141068	CF, 6.8k Ω , 5%, 1/4W
R626	141068	CF, 6.8k Ω , 5%, 1/4W
R627	141045	CF, 680 Ω , 5%, 1/4W
R628	141045	CF, 680 Ω , 5%, 1/4W
R629	141096	CF, 100k Ω , 5%, 1/4W
R630	141096	CF, 100k Ω , 5%, 1/4W
R631	141045	CF, 680 Ω , 5%, 1/4W
R632	141045	CF, 680 Ω , 5%, 1/4W
R633	141096	CF, 100k Ω , 5%, 1/4W
R634	141096	CF, 100k Ω , 5%, 1/4W
R635	141045	CF, 680 Ω , 5%, 1/4W
R636	141045	CF, 680 Ω , 5%, 1/4W
R637	141096	CF, 100k Ω , 5%, 1/4W
R638	141096	CF, 100k Ω , 5%, 1/4W
R639	141045	CF, 680 Ω , 5%, 1/4W
R640	141045	CF, 680 Ω , 5%, 1/4W
R641	141096	CF, 100k Ω , 5%, 1/4W
R642	141096	CF, 100k Ω , 5%, 1/4W
R643	141045	CF, 680 Ω , 5%, 1/4W
R644	141045	CF, 680 Ω , 5%, 1/4W
R645	141096	CF, 100k Ω , 5%, 1/4W

R646	141096	CF, 100k Ω , 5%, 1/4W
R647	141087	CF, 43k Ω , 5%, 1/4W
R648	141087	CF, 43k Ω , 5%, 1/4W
R649	141096	CF, 100k Ω , 5%, 1/4W
R650	141096	CF, 100k Ω , 5%, 1/4W
R651	141160	CF, 3k Ω , 5%, 1/4W
R652	141160	CF, 3k Ω , 5%, 1/4W
R653	141082	CF, 27k Ω , 5%, 1/4W
R654	141082	CF, 27k Ω , 5%, 1/4W
R655	141033	CF, 220 Ω , 5%, 1/4W
R656	141033	CF, 220 Ω , 5%, 1/4W
R657	141152	CF, 47 Ω , 5%, 1/4W
R658	141152	CF, 47 Ω , 5%, 1/4W
R659	141060	CF, 3.3k Ω , 5%, 1/4W
R660	141060	CF, 3.3k Ω , 5%, 1/4W

**PUSHBUTTON
PC BOARD 045447**

Symbol No.	Part No.	Description
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RESISTORS (WW = Wirewound)

*R901	139123	WW, 330 Ω , 5%, 2W
*R902	139123	WW, 330 Ω , 5%, 2W
*R903	139123	WW, 330 Ω , 5%, 2W
*R904	139123	WW, 330 Ω , 5%, 2W

SWITCHES

*S901	150030	Pushbutton Switch (8)
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**LEFT & RIGHT DRIVER
PC BOARD 045918**

Symbol No.	Part No.	Description
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CAPACITORS (ELECT = Electrolytic, CD = Ceramic Disc, MPE = Metalized Polyester, PF = Polyester Film)

C801	066239	ELECT, 10 μ F, 35V
C802	066239	ELECT, 10 μ F, 35V
C803	066239	ELECT, 10 μ F, 35V
C804	066239	ELECT, 10 μ F, 35V
*C805	061002	CD, 1.8pF, \pm .25pF, NPO
*C806	061002	CD, 1.8pF, \pm .25pF, NPO
C807	061034	CD, 680pF, 10%
C808	061034	CD, 680pF, 10%
C809	066226	ELECT, 100 μ F, 16V
C810	066226	ELECT, 100 μ F, 16V
*C811	061140	CD, 3.9pF, \pm .25pF, 100V, NPO
*C812	061140	CD, 3.9pF, \pm .25pF, 100V, NPO
C813	066313	ELECT, 47 μ F, 80VDC
C814	066313	ELECT, 47 μ F, 80VDC
C815	066278	ELECT, 47 μ F, 50V
C816	066278	ELECT, 47 μ F, 50V
*C817	061002	CD, 1.8pF, \pm .25pF, NPO
*C818	061002	CD, 1.8pF, \pm .25pF, NPO

C819	061024	CD, 150pF, 10%, 500V, Z5F
C820	061024	CD, 150pF, 10%, 500V, Z5F
C821	061024	CD, 150pF, 10%, 500V, Z5F
C822	061024	CD, 150pF, 10%, 500V, Z5F
C823	066221	ELECT, 10 μ F, 50V
C824	066221	ELECT, 10 μ F, 50V
C825	064254	MPE, 0.1 μ F, 10%, 63V
C826	064254	MPE, 0.1 μ F, 10%, 63V
C827	061027	CD, 220pF, 10%, 500V, Z5F
C828	061027	CD, 220pF, 10%, 500V, Z5F
C829	064254	MPE, 0.1 μ F, 10%, 63V
C830	064254	MPE, 0.1 μ F, 10%, 63V
C831	061027	CD, 220pF, 10%, 500V, Z5F
C832	061027	CD, 220pF, 10%, 500V, Z5F
C833	064254	MPE, 0.1 μ F, 10%, 63V
C834	064254	MPE, 0.1 μ F, 10%, 63V
C835	064254	MPE, 0.1 μ F, 10%, 63V
C836	064254	MPE, 0.1 μ F, 10%, 63V
C837	061034	CD, 680pF, 10%
C838	061034	CD, 680pF, 10%
*C839	064291	PF, 270pF, 10%, 160V
*C840	064291	PF, 270pF, 10%, 160V
C841	064254	MPE, 0.1 μ F, 10%, 63V
C842	064254	MPE, 0.1 μ F, 10%, 63V
C843	064254	MPE, 0.1 μ F, 10%, 63V
C844	064254	MPE, 0.1 μ F, 10%, 63V
C845	066214	ELECT, 22 μ F, 35V
C846	066214	ELECT, 22 μ F, 35V

DIODES (Si = Silicon, SIG = Signal, RECT = Rectifier)

*D801	070098	Si, SIG, 175V, 500mW, FDH400
*D802	070098	Si, SIG, 175V, 500mW, FDH400
*D803	070047	Si, SIG, 75V, 10mA, IN4148
*D804	070047	Si, SIG, 75V, 10mA, IN4148
*D805	070047	Si, SIG, 75V, 10mA, IN4148
*D806	070047	Si, SIG, 75V, 10mA, IN4148
*D807	070047	Si, SIG, 75V, 10mA, IN4148
*D808	070047	Si, SIG, 75V, 10mA, IN4148
*D809	070098	Si, SIG, 175V, 500mW, FDH400
*D810	070098	Si, SIG, 175V, 500mW, FDH400
*D811	070031	Si, RECT, 400 PIV, 1.5A
*D812	070031	Si, RECT, 400 PIV, 1.5A
*D813	070031	Si, RECT, 400 PIV, 1.5A
*D814	070031	Si, RECT, 400 PIV, 1.5A

CHOKES

*L801	122222	Choke, 1 μ H
*L802	122222	Choke, 1 μ H

LIGHT DEPENDENT RESISTORS

*LDR801	144159	LDR, CLM6500
*LDR802	144159	LDR, CLM6500

TRANSISTORS (Si = Silicon, DAR = Darlington)

*Q801	132185	Si, NPN, Selected 2N6429A
*Q802	132185	Si, NPN, Selected 2N6429A
*Q803	132185	Si, NPN, Selected 2N6429A
*Q804	132185	Si, NPN, Selected 2N6429A
*Q805	132096	Si, PNP, BC-416C
*Q806	132096	Si, PNP, BC-416C
*Q807	132096	Si, PNP, BC-416C
*Q808	132096	Si, PNP, BC-416C
*Q809	132187	Si, PNP, Selected MPS-U57
*Q810	132187	Si, PNP, Selected MPS-U57
*Q811	132150	Si, PNP, MPS-D55
*Q812	132150	Si, PNP, MPS-D55
*Q813	132143	Si, NPN, MPS-D05
*Q814	132143	Si, NPN, MPS-D05
*Q815	132143	Si, NPN, MPS-D05

*Q816	132143	Si, NPN, MPS-D05
*Q817	132150	Si, PNP, MPS-D55
*Q818	132150	Si, PNP, MPS-D55
*Q819	132092	Si, NPN, BC-238C
*Q820	132092	Si, NPN, BC-238C
*Q821	132184	Si, PNP, Selected FT417A
*Q822	132184	Si, PNP, Selected FT417A
*Q823	132183	Si, NPN, Selected FT317A
*Q824	132183	Si, NPN, Selected FT317A
*Q825	132182	Si, PNP, DAR, MPS-A64
*Q826	132182	Si, PNP, DAR, MPS-A64
*Q827	132143	Si, NPN, MPS-D05
*Q828	132143	Si, NPN, MPS-D05
*Q829	132172	Si, PNP, MPS-A55
*Q830	132172	Si, PNP, MPS-A55

INTEGRATED CIRCUITS (AN = Analog, BP = Bipolar)

*IC801	133068	AN, BP, Operation Amp., LM201AN
*IC802	133068	AN, BP, Operation Amp., LM201AN

RESISTORS (CF = Carbon Film, FP = Flameproof, WW = Wirewound, MF = Metal Film, POT = Potentiometer)

R801	141080	CF, 22k Ω , 5%, 1/4W
R802	141080	CF, 22k Ω , 5%, 1/4W
R803	141062	CF, 3.9k Ω , 5%, 1/4W
R804	141062	CF, 3.9k Ω , 5%, 1/4W
R805	141066	CF, 5.6k Ω , 5%, 1/4W
R806	141066	CF, 5.6k Ω , 5%, 1/4W
R807	141106	CF, 270k Ω , 5%, 1/4W
R808	141106	CF, 270k Ω , 5%, 1/4W
R809	141062	CF, 3.9k Ω , 5%, 1/4W
R810	141062	CF, 3.9k Ω , 5%, 1/4W
R811	141086	CF, 39k Ω , 5%, 1/4W
R812	141086	CF, 39k Ω , 5%, 1/4W
R813	141086	CF, 39k Ω , 5%, 1/4W
R814	141086	CF, 39k Ω , 5%, 1/4W
*R815	144091	MF, 1.1k Ω , 1%, 1/4W
*R816	144091	MF, 1.1k Ω , 1%, 1/4W
*R817	144160	FP, 22 Ω , 5%, 1/4W
*R818	144160	FP, 22 Ω , 5%, 1/4W
R819	141183	CF, 2.2k Ω , 5%, 1/2W
R820	141183	CF, 2.2k Ω , 5%, 1/2W
R821	141123	CF, 1.8M Ω , 5%, 1/4W
R822	141123	CF, 1.8M Ω , 5%, 1/4W
R823	141183	CF, 2.2k Ω , 5%, 1/2W
R824	141183	CF, 2.2k Ω , 5%, 1/2W
R825	141066	CF, 5.6k Ω , 5%, 1/4W
R826	141066	CF, 5.6k Ω , 5%, 1/4W
R827	141066	CF, 5.6k Ω , 5%, 1/4W
R828	141066	CF, 5.6k Ω , 5%, 1/4W
R829	141070	CF, 8.2k Ω , 5%, 1/4W
R830	141070	CF, 8.2k Ω , 5%, 1/4W
R831	141070	CF, 8.2k Ω , 5%, 1/4W
R832	141070	CF, 8.2k Ω , 5%, 1/4W
R833	141109	CF, 360k Ω , 5%, 1/4W
R834	141109	CF, 360k Ω , 5%, 1/4W
R835	141109	CF, 360k Ω , 5%, 1/4W
R836	141109	CF, 360k Ω , 5%, 1/4W
*R837	144160	FP, 22 Ω , 5%, 1/4W
*R838	144160	FP, 22 Ω , 5%, 1/4W
*R839	141066	CF, 5.6k Ω , 5%, 1/4W
*R840	141066	CF, 5.6k Ω , 5%, 1/4W
*R841	141066	CF, 5.6k Ω , 5%, 1/4W
*R842	141066	CF, 5.6k Ω , 5%, 1/4W
*R843	141066	CF, 5.6k Ω , 5%, 1/4W
*R844	141066	CF, 5.6k Ω , 5%, 1/4W

*R845	139125	WW, 0.15Ω, 5%, 5W, Noninductive
*R846	139125	WW, 0.15Ω, 5%, 5W, Noninductive
*R847	139125	WW, 0.15Ω, 5%, 5W, Noninductive
*R848	139125	WW, 0.15Ω, 5%, 5W, Noninductive
*R849	139131	WW, 10Ω, 10%, 2W
*R850	139131	WW, 10Ω, 10%, 2W
*R851	134359	POT, 100Ω, 20%, 1/4W
*R852	134359	POT, 100Ω, 20%, 1/4W
*R853	144147	FP, 150Ω, 5%, 1/4W
*R854	144147	FP, 150Ω, 5%, 1/4W
*R855	144144	FP, 470Ω, 5%, 1/4W
*R856	144144	FP, 470Ω, 5%, 1/4W
R857	141106	CF, 270kΩ, 5%, 1/4W
R858	141106	CF, 270kΩ, 5%, 1/4W
*R859	144066	FP, 22Ω, 10%, 1/2W
*R860	144066	FP, 22Ω, 10%, 1/2W
R861	141106	CF, 270kΩ, 5%, 1/4W
R862	141106	CF, 270kΩ, 5%, 1/4W
R863	141055	CF, 1.8kΩ, 5%, 1/4W
R864	141055	CF, 1.8kΩ, 5%, 1/4W
*R865	144053	MF, 10kΩ, 1%, 1/4W
*R866	144053	MF, 10kΩ, 1%, 1/4W
R867	141041	CF, 470Ω, 5%, 1/4W
R868	141041	CF, 470Ω, 5%, 1/4W
R869	141041	CF, 470Ω, 5%, 1/4W
R870	141041	CF, 470Ω, 5%, 1/4W
R871	141049	CF, 1kΩ, 5%, 1/4W
R872	141049	CF, 1kΩ, 5%, 1/4W
R873	141152	CF, 47Ω, 5%, 1/4W
R874	141152	CF, 47Ω, 5%, 1/4W

LEFT & RIGHT TERMINAL PC BOARDS 045373

Symbol No.	Part No.	Description
CAPACITORS (ELECT = Electrolytic)		
*C301	066302	ELECT, 2.2μF, 25V, NP
*C302	066302	ELECT, 2.2μF, 25V, NP
*C303	066302	ELECT, 2.2μF, 25V, NP
*C304	066302	ELECT, 2.2μF, 25V, NP
*C305	066302	ELECT, 2.2μF, 25V, NP
*C306	066302	ELECT, 2.2μF, 25V, NP
RESISTORS (CF = Carbon Film)		
R301	141045	CF, 680Ω, 5%, 1/4W
R302	141045	CF, 680Ω, 5%, 1/4W
R303	141104	CF, 220kΩ, 5%, 1/4W
R304	141104	CF, 220kΩ, 5%, 1/4W
R305	141045	CF, 680Ω, 5%, 1/4W
R306	141045	CF, 680Ω, 5%, 1/4W
R307	141104	CF, 220kΩ, 5%, 1/4W
R308	141104	CF, 220kΩ, 5%, 1/4W
R309	141045	CF, 680Ω, 5%, 1/4W
R310	141045	CF, 680Ω, 5%, 1/4W
R311	141104	CF, 220kΩ, 5%, 1/4W
R312	141104	CF, 220kΩ, 5%, 1/4W

POWER SUPPLY PC BOARD 045369

Symbol No.	Part No.	Description
CAPACITORS (CD = Ceramic Disc, ELECT = Electrolytic)		
C201	066274	ELECT, 47μF, 35V
C202	061048	CD, .05μF, +80 -20%, 100V, Z5V
C203	066247	ELECT, 2200μF, 16V
C204	066247	ELECT, 2200μF, 16V
C205	066274	ELECT, 2200μF, 16V
C206	061048	CD, .05μF, +80 -20%, 100V, Z5V
C207	066236	ELECT, 470μF, 6.3V
C208	066274	ELECT, 47μF, 35V
FUSES		
*F201	174188	#30 Solid Copper Wire, (Fusible Link)
DIODES (RECT = Rectifier, Si = Silicon, ZN = Zener)		
*D201	070031	Si, RECT, 400 PIV, 1.5A
*D202	070031	Si, RECT, 400 PIV, 1.5A
*D203	070103	Si, ZN, 18V, 5%, 500mW, IN5248B
*D204	070103	Si, ZN, 18V, 5%, 500mW, IN5248B
*D205	070085	Si, ZN, 6.2V, 5%, 500mW, IN5234B
TRANSISTORS (Si = Silicon)		
*Q201	132173	Si, PNP, Selected MJE2955
*Q202	132174	Si, NPN, Selected MJE3055
*Q203	132143	Si, NPN, MPS-D05
*Q204	132147	Si, PNP, MPS-A93
*Q205	132143	Si, NPN, MPS-D05
*Q206	132185	Si, NPN, Selected 2N6429A
*Q207	132143	Si, NPN, MPS-D05
*Q208	132143	Si, NPN, MPS-D05
*Q209	132143	Si, NPN, MPS-D05
*Q210	132143	Si, NPN, MPS-D05
RESISTORS (CF = Carbon Film, WW = Wirewound, FP = Flameproof)		
*R201	139157	WW, FP, 180Ω, 10%, 2W
R202	141068	CF, 6.8Ω, 5%, 1/4W
R203	141072	CF, 10kΩ, 5%, 1/4W
R204	141072	CF, 10kΩ, 5%, 1/4W
R205	141059	CF, 2.7kΩ, 5%, 1/4W
R206	141068	CF, 6.8kΩ, 5%, 1/4W
*R207	139157	WW, FP, 180Ω, 10%, 2W
R208	141082	CF, 27kΩ, 5%, 1/4W
R209	141041	CF, 470Ω, 5%, 1/4W
R210	141031	CF, 180Ω, 5%, 1/4W
R211	141031	CF, 180Ω, 5%, 1/4W
R212	141031	CF, 180Ω, 5%, 1/4W
R213	141045	CF, 680Ω, 5%, 1/4W
R214	141045	CF, 680Ω, 5%, 1/4W
R215	141045	CF, 680Ω, 5%, 1/4W
R216	141025	CF, 100Ω, 5%, 1/4W
R217	141025	CF, 100Ω, 5%, 1/4W
R218	141045	CF, 680Ω, 5%, 1/4W
R219	141045	CF, 680Ω, 5%, 1/4W
R220	141045	CF, 680Ω, 5%, 1/4W

POWER GUARD LAMP PC BOARD 045372

Symbol No.	Part No.	Description
LAMPS AND LIGHTING DEVICES (INC = Incandescent)		
*DS501	058061	INC, 14V, 80mA, 7382
*DS502	058061	INC, 14V, 80mA, 7382
*DS503	058061	INC, 14V, 80mA, 7382
*DS504	058061	INC, 14V, 80mA, 7382

INDICATOR PC BOARD 045371

Symbol No.	Part No.	Description
LAMPS AND LIGHTING DEVICES (LED = Light Emitting Diode)		
*DS401	070093	LED, Red, HP5082-4658
*DS402	070093	LED, Red, HP5082-4658
*DS403	070093	LED, Red, HP5082-4658
*DS404	070093	LED, Red, HP5082-4658
*DS405	070093	LED, Red, HP5082-4658
*DS406	070093	LED, Red, HP5082-4658
*DS407	070093	LED, Red, HP5082-4658
*DS408	070093	LED, Red, HP5082-4658

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McIntosh Laboratory Inc. 2 Chambers Street, Binghamton, NY 13903-9990