

ALIGNMENT PROCEDURE

NOTE: Before attempting any alignment, check to make sure that the dial pointer lines up with the 0 Log marker on the dial background when the tuning gang is completely closed. See Figure 1.

AM IF

1. Place the Function Selector in the AM position and close the tuning gang.
2. Connect an AC VTVM across either output and radiate a modulated 455 KHz signal to the AM antenna. To avoid overloading the receiver, keep the input signal as low as possible.
3. Adjust T102 for maximum deflection of the meter.

AM RF

1. Place the Function Selector in the AM position and connect an AC VTVM across one of the speaker terminals. Adjust the Volume Control for a usable level.
2. Set the RF generator for a modulated 600 KHz and loosely couple it to the AM antenna. Reduce the input signal to the lowest usable level.
3. Set the dial pointer of the radio to the 600 KHz calibration point on the dial background (see Figure 1).
4. Adjust the AM oscillator coil L109 for maximum meter deflection. If the AM antenna has been replaced, slide the smaller coil L108 along the ferrite rod until maximum deflection of the meter is obtained. After completion of the alignment procedure, L108 should be fixed in place with wax or rubber cement.
5. Set the RF generator for a modulated 1400 KHz signal and set the dial pointer to the 1400 KHz calibration point (see Figure 1).
6. Adjust the trimmers on tuning gang sections C100B and C100D for maximum deflection of the meter keeping the input signal at the lowest usable level.
7. Repeat steps 2 thru 6 until no further improvement can be obtained.

FM IF

1. Place the Function Selector in the FM position.
2. Connect an FM sweep generator to the collector of the FM Mixer, Q103, and connect an oscilloscope with a direct probe to pin 6 of IC101.
3. Adjust the sweep generator for 10.7 MHz and tune the radio so that no signal is received.
4. Adjust the FM Detector coil, T101, for best linearity of the waveform as shown in Figure 2.

FM RF

1. Place the Function Selector in the FM position and connect an AC VTVM across one of the speaker outputs.
2. Set the radio dial pointer to the 106 MHz calibration mark (see Figure 1).
3. Radiate a modulated 106 MHz signal to the FM antenna terminals.
4. Adjust the trimmers on tuning gang section C100A and C100C and C159 for maximum output, keeping the input signal at the lowest usable level.

19 KHz OSCILLATOR

1. Place the Function Selector in the FM position.
2. Connect a frequency counter to the 19 KHz test point (TP1) at pin 10 of IC102.
3. Tune the radio off station or to a monophonic FM broadcast.
4. Adjust R134 for 19 KHz.

MAINTENANCE

Cleaning

Clean all metal parts that contact the tape with methyl alcohol and a cotton swab.

Lubrication

Use light machine oil on bearings and bushings. Use a good grade of light, non-hardening grease on sliding surfaces. Use

only small amounts and avoid contamination of rubber parts and drive surfaces.

Head Demagnetization

Use a head demagnetizer after servicing the unit, after any head adjustment or after a DC resistance check of the head. Avoid using magnetized tools near the head.

ADJUSTMENTS

Head Height

Place the tape deck in the same position that it normally will be played. Connect an AC VTVM to the Line Out terminals of the left channel. Insert Magnavox Test Cartridge No. 171398-1 and set the program selector to program 2. Turn the head height adjustment screw (59) until a null in the output is observed. Make sure there is a peak on either side of the null.

If the test cartridge 171398-1 is not available, any other test tape having a head height adjustment track may be used. Follow the manufacturer's instructions. A pre-recorded tape may be used if a test cartridge is not available. Adjust for maximum output of the program material making sure that it appears on the correct channel.

Azimuth

Connect an AC VTVM across the Line Out terminals of the right channel. Insert Magnavox Test Cartridge No. 171398-1 and select program 2. Adjust the azimuth screw (19) for maximum output. Repeat the Head Height and Azimuth adjustments until no further improvement can be made.

If a test tape is not available, a pre-recorded tape may be used. Adjust the Azimuth screw until the best high frequency response is obtained.

Playback Level

Connect an AC VTVM across the Line Out terminals of the

left channel. Insert a test cartridge (RCA 339 or equivalent) having a 1 KHz standard reference signal. Adjust VR101 for an output of $120 \text{ mV} \pm 3\text{db}$. Connect the AC VTVM across the Line Out terminals of the right channel and adjust VR102 for an output of $120 \text{ mV} \pm 3\text{db}$.

Record Level Meter

Disable the bias oscillator by removing one end of L105 from the circuit board. Connect an AC VTVM across R101. Apply a 1 KHz, 60 mV signal to the left Line In terminal. Turn both Record Level controls fully clockwise. Depress the Record button and insert a tape cartridge just far enough to keep the tape unit in the record mode. Adjust the level of the input signal until the voltage drop across R101 is 1.5 mV. Adjust VR103 for a value of 0 vu on the left record level meter. Connect the AC VTVM across R102 and apply the input signal to the right Line In terminal. Adjust the level of the input signal until the voltage drop across R102 is 1.5 mV. Adjust VR104 for a value of 0 vu on the right record level meter. After making the adjustments replace L105.

Record Bias Trap

With no signal applied to the Mic jacks or the Line In terminals, depress the Record button and insert a blank tape cartridge. Connect a AC VTVM or an oscilloscope to the junction of C125 and C127 and adjust L103 for a minimum indication of the bias signal. Move the AC VTVM or oscilloscope to the junction of C126 and C128 and adjust L104 for a minimum indication of the bias signal.

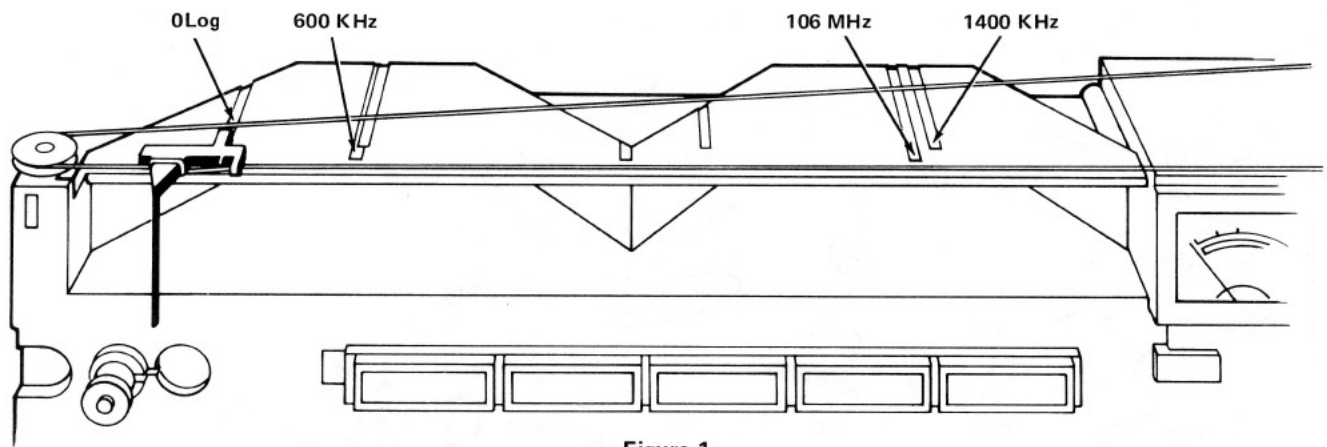


Figure 1

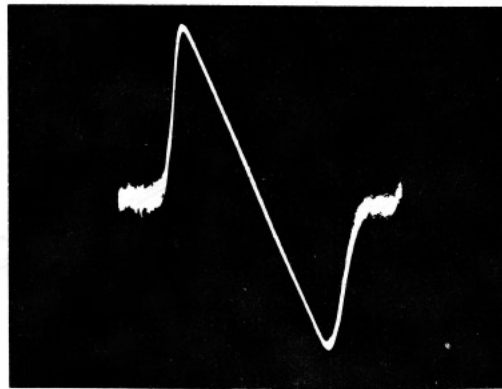
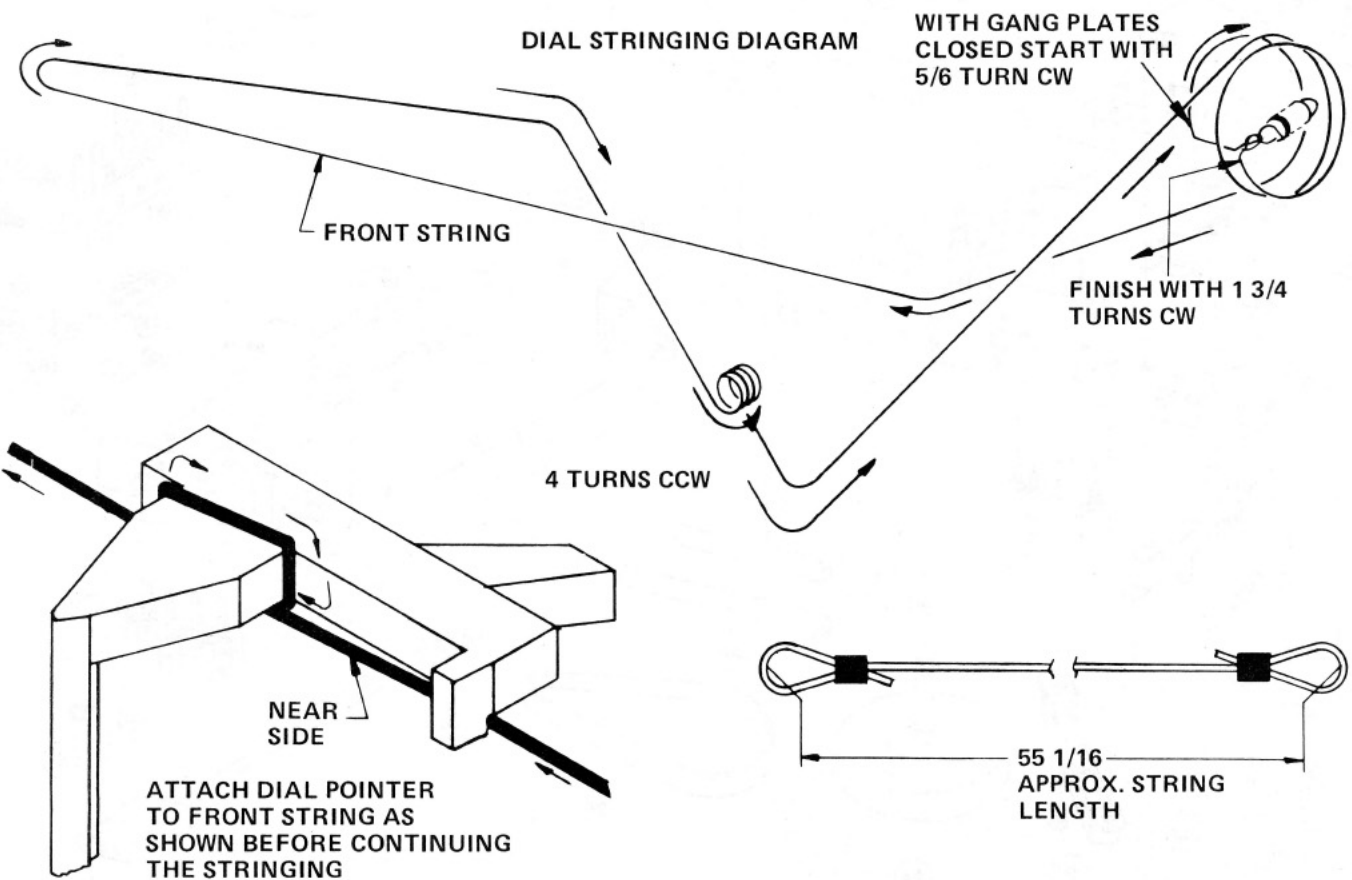


Figure 2



WARNING

For continued safety of this product, parts shown in the shaded areas of this Parts List must be used as replacements for those identified in the shaded areas of the schematic diagrams of this service manual. Use of substitute replacement parts which do not have the same safety characteristics as specified, may create shock, fire or other hazards.

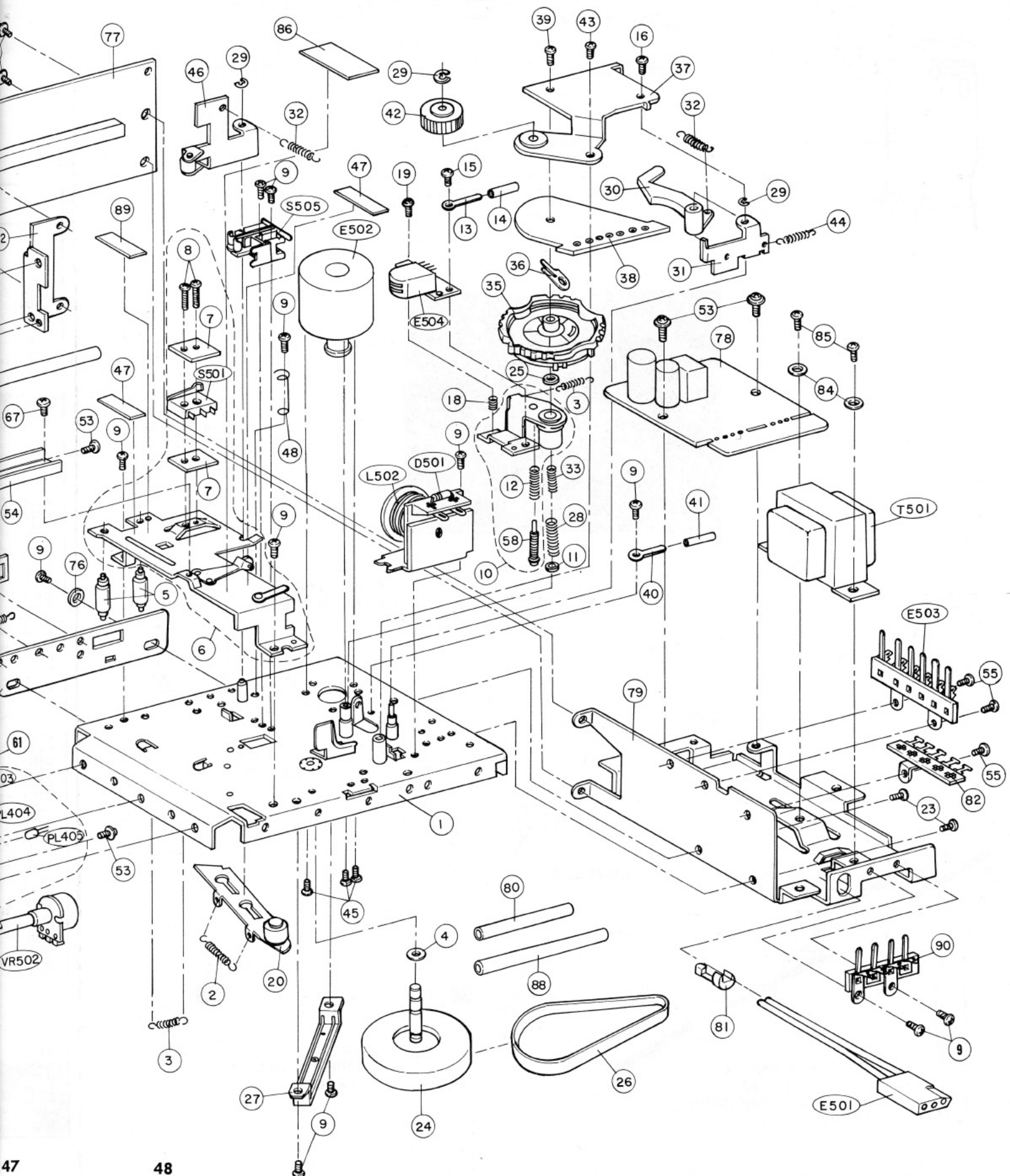
For maximum reliability and performance, all other parts must be replaced by those having identical specifications.

Under no circumstances may the original design be modified or altered without permission from the Magnavox Consumer Electronics Co.

R348 RADIO CHASSIS REPLACEMENT PARTS LIST

REF.	DESCRIPTION	PART NO.
COILS & TRANSFORMERS		
L101	Fixed Tuned Coil	361662-1
L102	Fixed Tuned Coil	361662-2
L103	Oscillator Coil	361101-18
L104	RF Choke Coil	360996-2
L105	Choke Coil	361425-339
L106	Peaking Coil (100 uH)	361475-220
L107	Peaking Coil (5.6 uH)	361444-5690
L108	AM Antenna Assembly	361165-24
L109	AM Oscillator Coil	361031-3
L110	Peaking Coil (68 uH)	361475-680
T101	IF Coil (10.7 MHz)	361433-1
T102	AM IF Transformer	361357-1
T401	Power Transformer	300355-1
FL101	Ceramic Filter	361479-7
FL102	Ceramic Filter	361479-7
CAPACITORS		
Values, tolerances & voltage ratings for capacitors not listed are shown on the schematic, or are 20%, 500V.		
C100	Variable Tuning Capacitor	260213-3
C101	Ceramic, 5.6 pf., 5%, 500V, NPO	250546-5695
C102	Ceramic, 5.6 pf., 5%, 500V, NPO	250546-5695
C107	Ceramic, 18 pf., 5%, 500V, NPO	250546-1805
C110	Ceramic, 18 pf., 10%, 500V, NPO	250546-1809
C115	Ceramic, 75 pf., 5%, 500V, NPO	250546-7505
C122	Electrolytic, 1 mfd., 50V	270109-1050
C125	Electrolytic, 4.7 mfd., 50V	270109-5050
C127	Electrolytic, 2.2 mfd., 50V	270109-2050
C132	Polystyrene, 470 pf., .25%, 100V	250637-4712
C133	Electrolytic, .22 mfd., 50V	270134-2240
C134	Electrolytic, 1 mfd., 50V	270109-1050
C136	Electrolytic, 1 mfd., 50V	270109-1050
C137	Electrolytic, 1 mfd., 50V	270109-1050
C138	Electrolytic, 1 mfd., 50V	270109-1050
C139	Electrolytic, 4.7 mfd., 50V	270109-5050
C143	Electrolytic, 4.7 mfd., 50V	270109-5050
C145	Electrolytic, 4.7 mfd., 50V	270109-5050
C146	Electrolytic, 1 mfd., 50V	270109-1050
C147	Electrolytic, 1 mfd., 50V	270109-1050
C148	Polystyrene, 1800 pf., .25%, 100V	250589-1822
C152	Electrolytic, 1 mfd., 50V	270109-1050
C154	Electrolytic, 4.7 mfd., 50V	270109-5050
C158	Polyester, .1 mfd., 20%, 100V	250555-183
C159	Trimmer, 21 pf.	260220-5
C163	Electrolytic, 10 mfd., 50V	270109-1150
C203	Electrolytic, 1 mfd., 50V	270109-1050
C204	Electrolytic, 1 mfd., 50V	270109-1050
C207	Electrolytic, 1 mfd., 50V	270109-1050
C208	Electrolytic, 1 mfd., 50V	270109-1050
C305	Electrolytic, 220 mfd., 25V	270109-2225
C306	Electrolytic, 220 mfd., 25V	270109-2225
C311	Electrolytic, 100 mfd., 25V	270109-1225
C312	Electrolytic, 100 mfd., 25V	270109-1225
C313	Electrolytic, 1000 mfd., 25V	270109-1325
C314	Electrolytic, 1000 mfd., 25V	270109-1325
C315	Electrolytic, 4.7 mfd., 50V	270109-5050
C401	Electrolytic, 2200 mfd., 35V	270109-2335
C402	Electrolytic, 470 mfd., 25V	270109-5225
C403	Electrolytic, 330 mfd., 25V	270109-3226
C404	Electrolytic, 470 mfd., 16V	270109-5215
RESISTORS		
Values, tolerances & wattage ratings for resistors not listed are shown on the schematic, or are 5%, 1/4W.		
R152	Wire Wound, 220, 10%, 2W	230164-78
R321	Deposited Carbon Film, 1, 5%, 1/4W	230223-1095
R322	Deposited Carbon Film, 1, 5%, 1/4W	230223-1095
R323	Deposited Carbon Film, 1, 5%, 1/4W	230223-1095
R324	Deposited Carbon Film, 1, 5%, 1/4W	230223-1095
R401	Metal Film, 82, 10%, 2W	230192-8209
R403	Metal Film, 100, 10%, 2W	230192-1019

REF.	DESCRIPTION	PART NO.
CONTROLS & SWITCHES		
R134	6.8K, 19 KHz Adjust	220299-6823
R213	200K, 1/10W, Balance	220368-1
R214	100K, 20%, Treble	220369-1
R219	100K, 20%, Bass	220369-1
R226	250K, 30%, Volume	220370-2
S101	AFC Switch	160588-2
S102	Mute Switch	160588-2
S201	Select Switch	160591-4
S202	Loudness Switch	160588-3
S301	Speaker Switch	160588-1
S401	Power Switch	160588-4
SEMICONDUCTORS		
D1	LED (Stereo Indicator)	530189-1
D101	Silicon Diode	530104-2
D102	Germanium Diode	530092-1001
D103	Silicon Diode	530181-1001
D104	Silicon Diode	530181-1001
D105	Silicon Diode	530181-1001
D106	Germanium Diode	530092-1001
D301	Silicon Diode	530135-1003
D302	Silicon Diode	530135-1003
D401	Silicon Diode, 1A, 200V	530171-1001
D402	Silicon Diode, 1A, 200V	530171-1001
D403	Silicon Diode, 1A, 200V	530171-1001
D404	Silicon Diode, 1A, 200V	530171-1001
D405	Silicon Diode	530181-1001
Z401	Zener Diode, 12V	530192-120
IC101	Integrated Circuit (FM Detector)	612077-2
IC102	Integrated Circuit (Stereo Demodulator)	612075-3
Q101	NPN Silicon Transistor	610249-1
Q102	NPN Silicon Transistor	610150-3
Q103	NPN Silicon Transistor	610041-2
Q104	NPN Silicon Transistor	610232-2
Q105	NPN Silicon Transistor	610094-1
Q106	NPN Silicon Transistor	610232-2
Q107	NPN Silicon Transistor	610232-2
Q201	NPN Silicon Transistor	610094-1
Q202	NPN Silicon Transistor	610094-1
Q301	PNP Silicon Transistor	610083-1
Q302	PNP Silicon Transistor	610083-1
Q303	NPN Silicon Transistor	610232-2
Q304	NPN Silicon Transistor	610232-2
Q305	NPN Silicon Transistor	610228-1
Q306	NPN Silicon Transistor	610228-1
Q307	NPN Silicon Transistor	610149-2
Q308	NPN Silicon Transistor	610149-2
Q309	PNP Silicon Transistor	610149-1
Q310	PNP Silicon Transistor	610149-2
MISCELLANEOUS		
F401	Fuse, 1/4A, 125V, Slo-Blo	180865-5050
J301	Headphone Jack	181129-1
J401	3 Pin Connector (Tape Power)	180979-10
FB401	Ferrite Bead	364005-3
	Dial Spring	102315-5
	Dial Pointer	143953-1
	Dial Cord	643941-1
	Level Meter	701646-5
	Spring, f/S101,102,202,301,401	733270-1
	Ball Bearing, f/S101,102,202,301,401	102472-3
	Pulley Pin	103024-5
	Switch Pivot Shaft	110682-1
	Idler Pulley	141028-5
	Tuning Shaft Bushing	142734-3
	Dial Background	143952-1
	Tuning Pulley	143954-1
	Pilot Lamp	180931-2
	Lamp Socket	181009-3
	AC Line Cord	461276-12
	Flywheel Support Bracket	733262-1
	Heat Sink (Q305)	731665-2
	Heat Sink (Q307,308,309,310)	733279-1
	Shield Can	636734-17



VE20-04 MECHANICAL REPLACEMENT PARTS LIST

REF.	DESCRIPTION	PART NO.
1	Tape Deck Chassis Assembly	Y1D42765J13
2	Coil Spring	10Y003-22
3	Coil Spring	10Y001-24
4	Plastic Washer	14Y001-16
5	Side Roller	14Y001-15
6	Hold Down Assembly	70Y003-5
7	Switch Insulator	64Y001-3
8	Machine Screw, 2.3 x 12mm	10X1002312
9	Machine Screw, 3 x 6mm	10X5003006
10	Head Mtg. Bracket w/Bushing	Y1C43462P01
11	Spring Guide Washer	10Y003-30
12	Coil Spring (Azimuth)	10Y001-25
13	Wire Wrap	20K001-4
14	Plastic Tubing	Y37S44468G05
15	Machine Screw, 3 x 6mm	10X5283006
16	Machine Screw, 2.6 x 5mm	10X1282605
18	Coil Spring	10Y001-27
19	Azimuth Adjust Screw	10Y002-5
20	Delatch Bracket & Roller Assembly	70Y003-6
23	Machine Screw	10X5003008
24	Flywheel & Capstan Assembly	70Y001-13
25	Washer	14Y002-22
26	Drive Belt	44Y001-4
27	Support Bracket & Bearing Ass'y.	70Y001-21
28	Head Tension Spring	10Y001-28
29	C-Clip	10X2303070
30	Cam Drive Lever	14Y001-17
31	Cam Actuator Lever	Y45B44702J01
32	Coil Spring	10Y001-30
33	Coil Spring	10Y001-29
35	Track Select Cam	14Y001-18
36	Track Indicator Contact	16Y001-24
37	Cam P.C.B. Mounting Bracket	Y1C42769J01
38	Cam P.C. Board	21Y001-2
39	Machine Screw, 2.6 x 8mm	10X1282608
40	Wire Wrap	Y29A41233G01
41	Plastic Sleeve	Y37S44468G11
42	Drive Roller	11Y001-3
43	Machine Screw, 3 x 6mm	10X5283006
44	Coil Spring	10Y001-31
45	Machine Screw, 2.6 x 4mm	10X1282604
46	Bracket & Roller Assembly	70Y002-27
47	Label	Y54B42124G02
48	Wire Wrap Spring	10Y003-26
49	Front Frame	14Y002-25

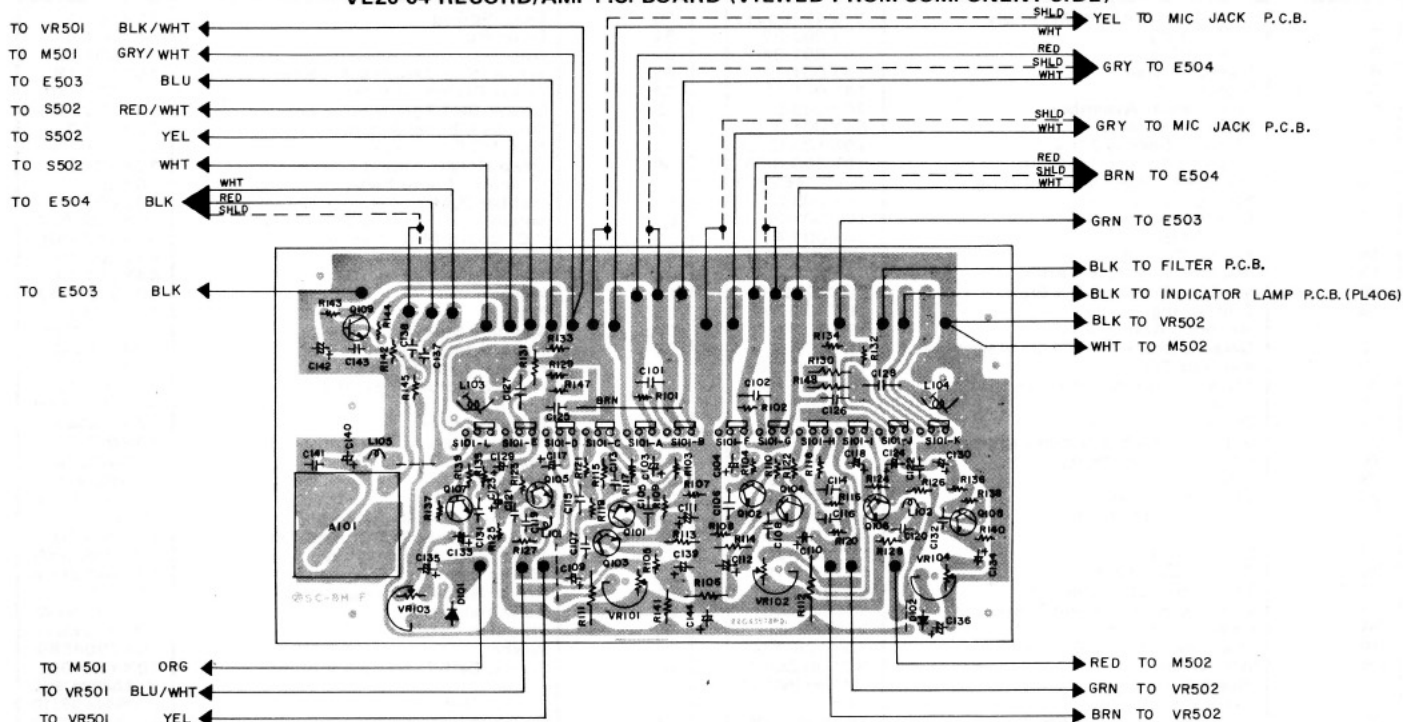
REF.	DESCRIPTION	PART NO.
50	Door Spring	10Y002-1
51	Door Rod	67Y001-8
52	Door	73Y001-25
53	Screw, Self Tapping 3 x 8mm	10Y001-18
54	Front Frame Support	Y7A44723J01
55	Screw, Self Tapping 3 x 6mm	10X1343006
56	Mic Jack Panel Assembly	70Y003-7
57	Nut, f/3.5mm Jack	10Y001-17
58	Head Height Adjust Screw	10Y003-31
59	Indicator Lamp Panel	70Y003-8
60	Rubber Pad	44Y001-18
61	Screw, Self Tapping 3.5 x 8mm	10X1353508
62	P.C. Board Mtg. Bracket	Y7A43641P01
63	Level Meter Cushion	44Y001-19
64	Lamp Bushing	44Y001-17
65	Washer	10X2207012
66	Nut	10X210-7
67	Machine Screw	10X5283005
68	Record Lever Bracket	Y7B44767J01
69	Record Lock Spring	10Y001-32
70	Record Actuator Spring	10Y003-18
71	Stand-Off	Y47A43644P01
72	Record Lever	Y45A43640P01
73	Machine Screw, 3 x 8mm	10Y003-27
74	Spacer	Y43A43059J01
75	Bracket	Y7A43060J01
76	Spacer	Y43A43066J01
77	R/P Amp P.C.B. Assembly	70Y003-9
78	Power Supply P.C.B. Assembly	70Y003-10
79	Reap Mounting Bracket	Y27C43639P03
80	Plastic Sleeve	Y37S44468G18
81	Strain Relief Bushing	102454-2
82	Terminal Strip	Y1D41014G02
83	Shielded Cable	Y30C44673J11
84	Washer	10X2204580
85	Screw, Self-Tapping 4 x 6mm	10X1354006
86	Label	Y54A43647P02
87	Plastic Sleeve	Y37S44468G18
88	Plastic Sleeve	Y37S44468G18
89	Label	Y54C40654J07
90	Terminal Strip	Y1V44168P01
91	Shielded Cable	Y30C44673J07
92	Shielded Cable	Y30C44673J09
93	Auto Stop P.C.B.	84B43581P01
94	Indicator P.C.B.	84C43580P01

VE20-04 ELECTRICAL REPLACEMENT PARTS LIST

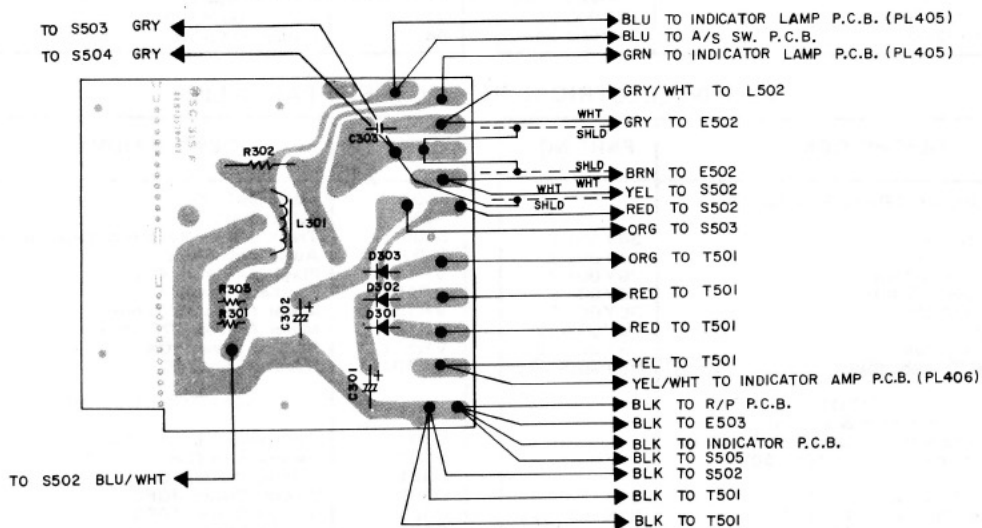
REF.	DESCRIPTION	PART NO.
COILS & TRANSFORMERS		
L101	Coil, 390 uH	36Y001-2
L102	Coil, 390 uH	36Y001-2
L103	Trap Coil, 27 mH	36Y001-5
L104	Trap Coil, 27 mH	36Y001-5
L105	Coil, 390 uH	36Y001-2
L301	Relay	16Y001-32
L502	Solenoid Coil	16Y001-22
T501	Power Transformer	30Y001-6
CAPACITORS		
Values, tolerances & voltage ratings for capacitors not listed are shown on the schematic, or are 10%, 50V.		
C103	Electrolytic, 4.7 mfd., 25V	27X1095025
C104	Electrolytic, 4.7 mfd., 25V	27X1095025
C109	Electrolytic, 4.7 mfd., 25V	27X1095025
C110	Electrolytic, 4.7 mfd., 25V	27X1095025
C11	Electrolytic, 22 mfd., 10V	27X1092110
C112	Electrolytic, 22 mfd., 10V	27X1092110
C117	Electrolytic, .47 mfd., 50V	27Y001-1
C118	Electrolytic, .47 mfd., 50V	27Y001-1
C123	Electrolytic, .47 mfd., 50V	27Y001-1
C124	Electrolytic, .47 mfd., 50V	27Y001-1
C129	Electrolytic, .47 mfd., 50V	27Y001-1
C130	Electrolytic, .47 mfd., 50V	27Y001-1
C133	Electrolytic, 4.7 mfd., 25V	27X1095025
C134	Electrolytic, 4.7 mfd., 25V	27X1095025
C135	Electrolytic, 4.7 mfd., 25V	27X1095025
C136	Electrolytic, 4.7 mfd., 25V	27X1095025
C139	Electrolytic, 4.7 mfd., 16V	27X1095115
C140	Electrolytic, 4.7 mfd., 25V	27X1095025
C142	Electrolytic, 22 mfd., 35V	27X1092135
C144	Electrolytic, 4.7 mfd., 25V	27X1095025
C301	Electrolytic, 1000 mfd., 35V	27X1091335
C302	Electrolytic, 2000 mfd., 16V	27X1092315
CONTROLS & SWITCHES		
S101	Record/Play Switch	16Y001-15
S501	Power Switch	16Y001-33
S502	Fast Forward Switch	16Y001-38

REF.	DESCRIPTION	PART NO.
S503	Pause Switch	16Y001-37
S504	Select Switch	16Y001-31
S505	Track Sensor Switch & Tape Guide	16Y001-34
S507	Auto Stop Switch	16Y002-1
VR101	Playback Level, 47K	22Y001-4
VR102	Playback Level, 47K	22Y001-4
VR103	Meter Adjust, 470 ohm	22Y001-5
VR104	Meter Adjust, 470 ohm	22Y001-5
VR501	Record Level, 20K	22Y001-6
VR502	Record Level, 20K	22Y001-6
SEMICONDUCTORS		
D101	Germanium Diode, 1N60	53B010-1
D102	Germanium Diode, 1N60	53B010-1
D301	Silicon Diode, 10E2	53Y001-1
D302	Silicon Diode, 10E2	53Y001-1
D303	Silicon Diode, 10E2	53Y001-1
D501	Silicon Diode, 10E2	53Y001-1
Q101	NPN Silicon	2SC732BL
Q102	NPN Silicon	2SC732BL
Q103	NPN Silicon	2SC733BL
Q104	NPN Silicon	2SC733BL
Q105	NPN Silicon	2SC733BL
Q106	NPN Silicon	2SC733BL
Q107	NPN Silicon	2SC733BL
Q108	NPN Silicon	2SC373
Q109	NPN Silicon	2SC373
MISCELLANEOUS		
A101	Oscillator Block	70Y002-20
E501	Molex Connector, 3 Pin Male	Y1C44060P01
E502	D.C. Motor	50Y001-13
E503	Terminal Strip	Y1B44168P01
E504	Record/Play Head	32Y001-9
J201	Mic Jack	18Y001-10
J202	Mic Jack	18Y001-10
M501	Level Meter	70Y002-32
M502	Level Meter	70Y002-32
PL401 thru 406	Pilot Lamp	18Y001-13
PL501	Lamp f/Meter, Orange Leads	18Y001-14
PL502	Lamp f/Meter, Yellow Leads	18Y001-15

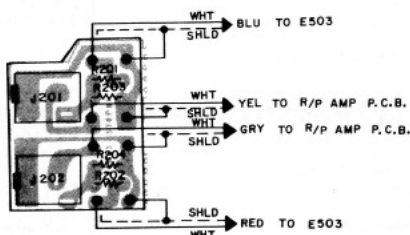
VE20-04 RECORD/AMP P.C. BOARD (VIEWED FROM COMPONENT SIDE)



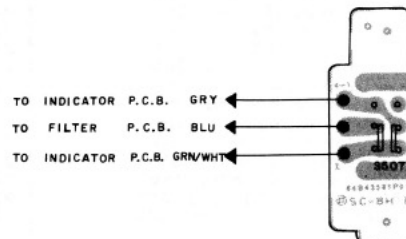
FILTER P.C. BOARD (VIEWED FROM COPPER SIDE)



MIC JACK P.C. BOARD (VIEWED FROM COPPER SIDE)



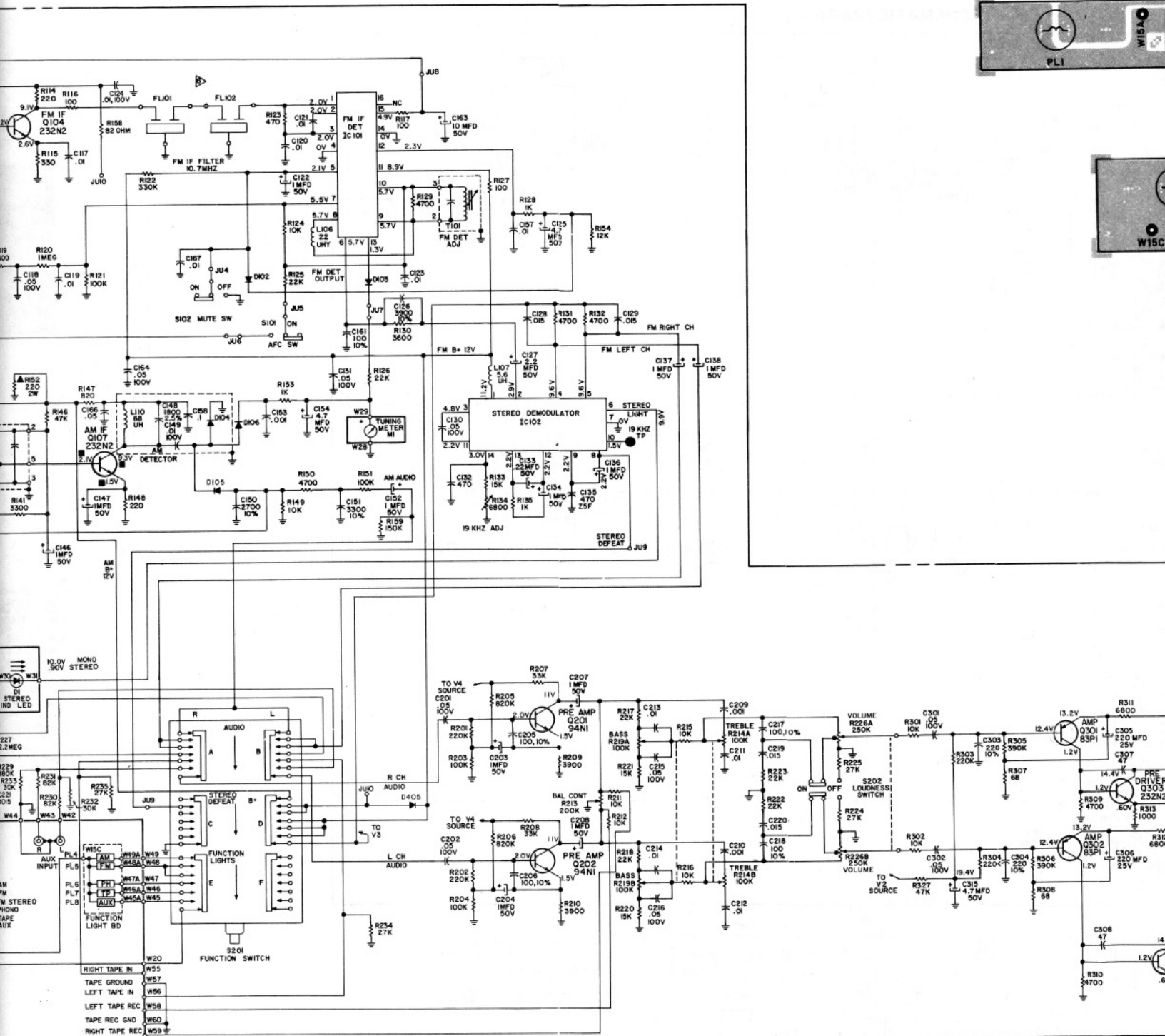
AUTO STOP SWITCH P.C. BOARD (VIEWED FROM COPPER SIDE)



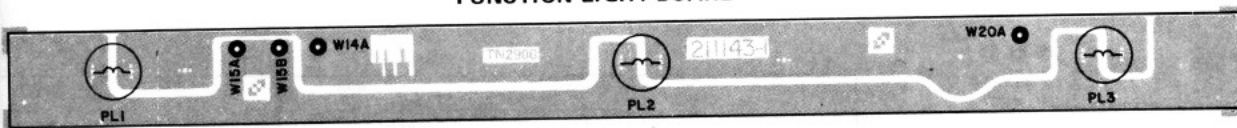


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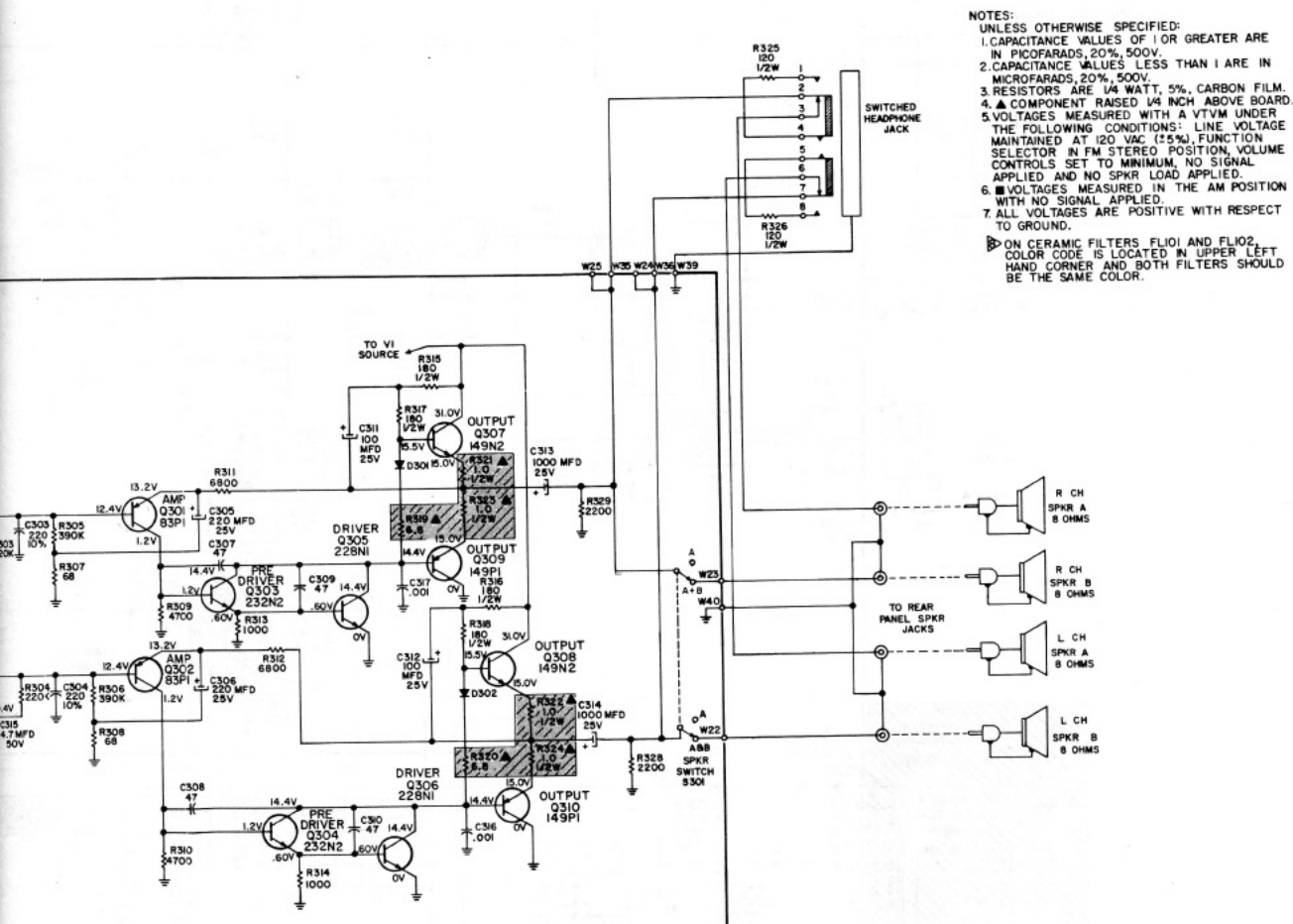
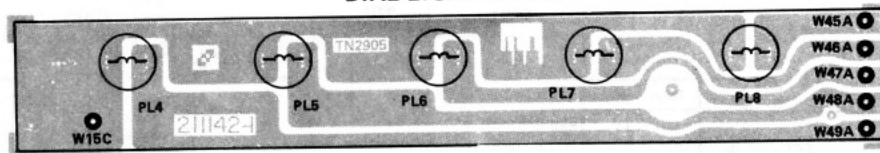
R348-01 SCHEMATIC DIAGRAM



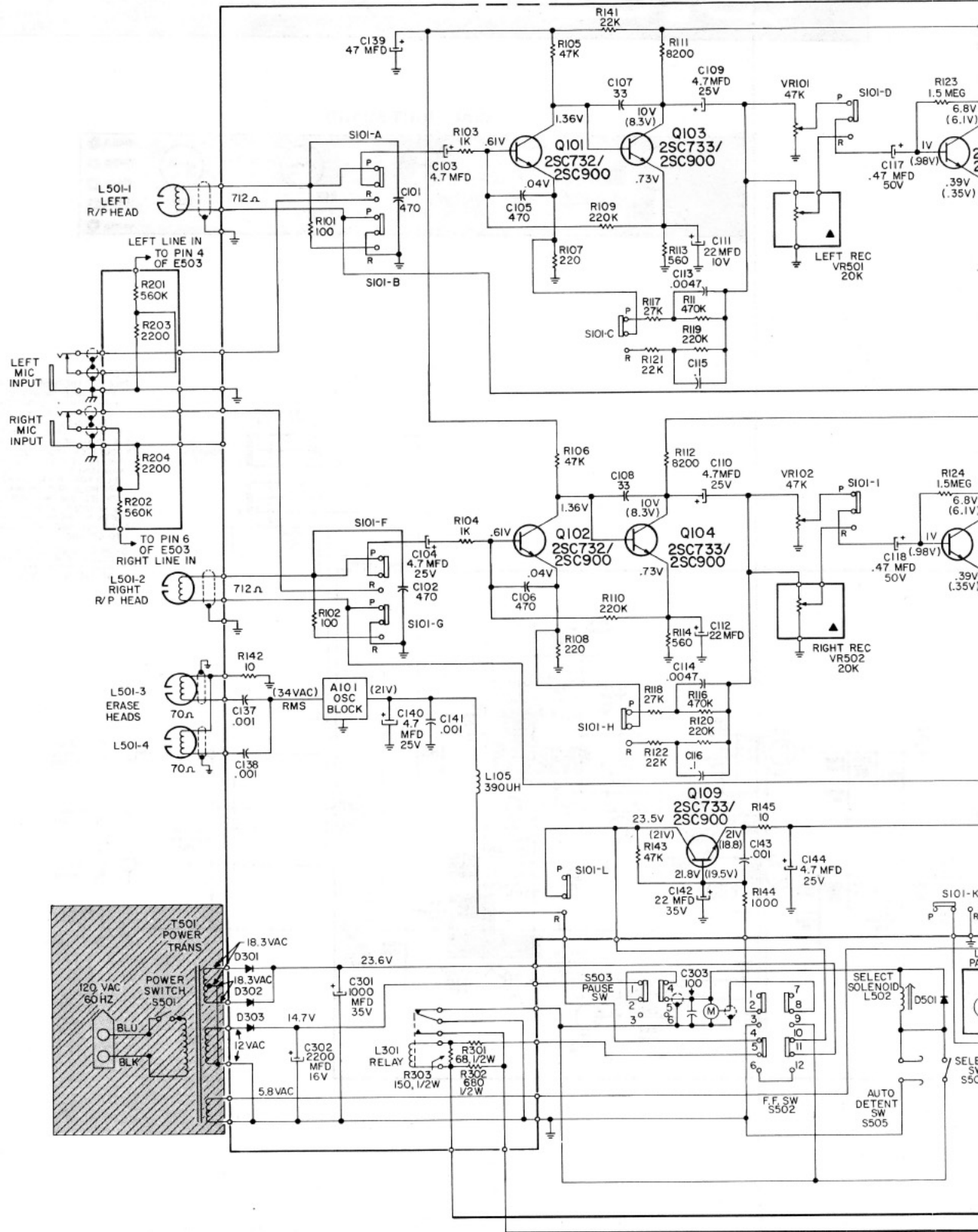
FUNCTION LIGHT BOARD



DIAL LIGHT BOARD



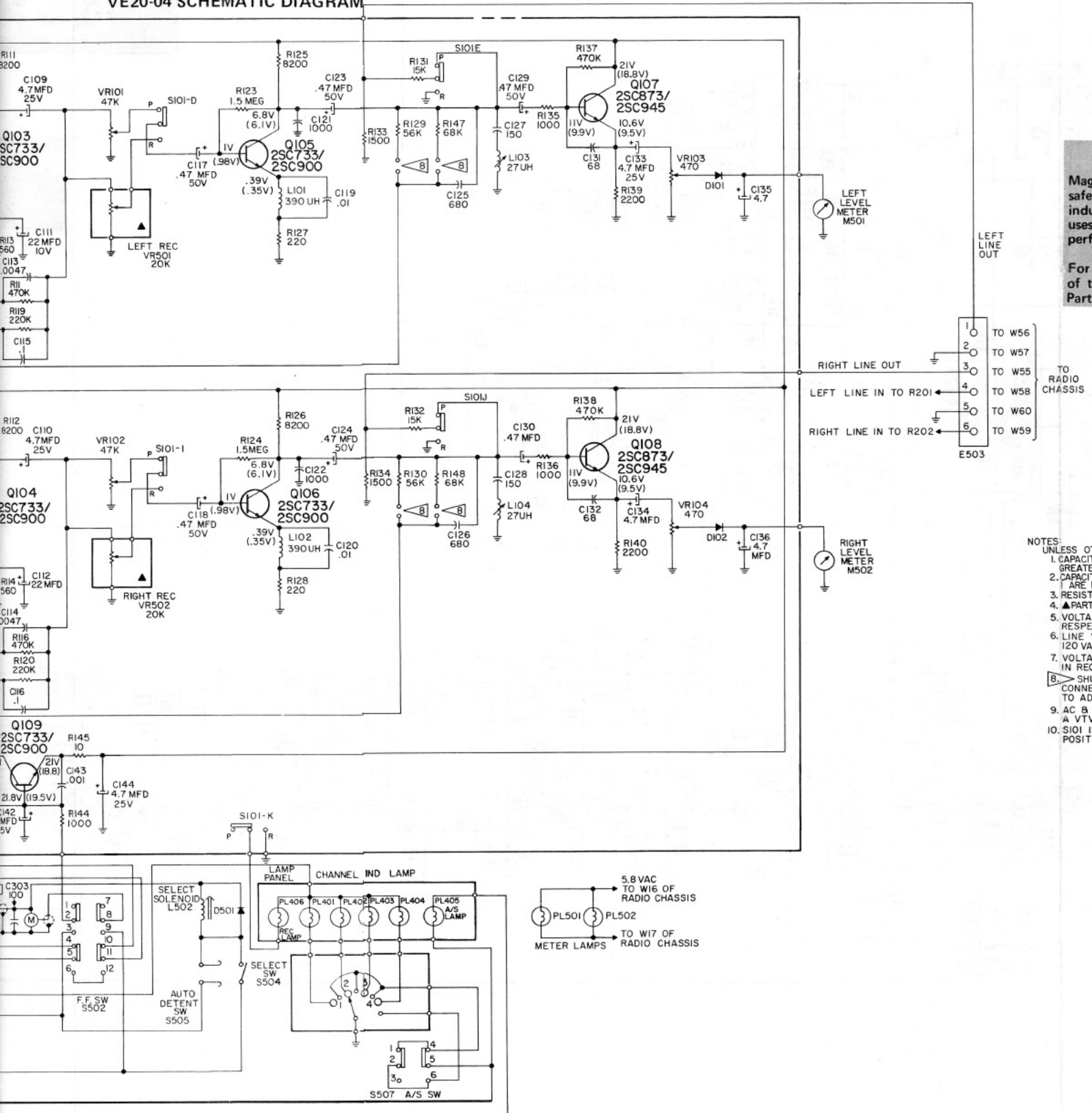
- NOTES:
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICO FARADS, 20%, 500V.
 2. CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, 20%, 500V.
 3. RESISTORS ARE 1/4 WATT, 5%, CARBON FILM.
 4. ▲ COMPONENT RAISED 1/4 INCH ABOVE BOARD.
 5. VOLTAGES MEASURED WITH A VTVM UNDER THE FOLLOWING CONDITIONS: LINE VOLTAGE MAINTAINED AT 120 VAC (±5%), FUNCTION SELECTOR IN FM STEREO POSITION, VOLUME CONTROLS SET TO MINIMUM, NO SIGNAL APPLIED AND NO SPKR LOAD APPLIED.
 6. ■ VOLTAGES MEASURED IN THE AM POSITION WITH NO SIGNAL APPLIED.
 7. ALL VOLTAGES ARE POSITIVE WITH RESPECT TO GROUND.
- ON CERAMIC FILTERS FL101 AND FL102, COLOR CODE IS LOCATED IN UPPER LEFT HAND CORNER AND BOTH FILTERS SHOULD BE THE SAME COLOR.



**Magnavox BH1833/35 (ch. R348-01AA,
ch. VE20-04AA)**

1545-10

VE20-04 SCHEMATIC DIAGRAM



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Parts Li

NOTES:
UNLESS OTHERWISE SPECIFIED:
1. CAPACITANCE GREATER THAN 1000 P.F. ARE IN MICROFARADS.
2. CAPACITANCE ARE IN MICROFARADS.
3. RESISTORS ARE IN OHMS.
4. PARTS LIST.
5. VOLTAGES ARE IN VOLTS.
6. LINE VOLTAGE IS 120 VAC, NO. 1.
7. VOLTAGES IN RECORD.
8. SHUNT CONNECTED TO ADJUST.
9. AC & DC VOLTAGE.
10. SIO1 IS SHUNT POSITION.

A,

LEFT
LINE
OUT

TO W56
TO W57
TO W55
TO W58
TO W60
TO W59
TO RADIO
CHASSIS

WARNING

Magnavox Consumer Electronics Company is committed to marketing safe products which meet or exceed applicable safety standards of industry, government agencies and independent laboratories. It therefore uses parts in its products designed for maximum safety, reliability and performance.

For continued safety of this product, parts shown in the shaded areas of this schematic must be replaced with only those identified in the Parts List of this manual. Use of substitute replacement parts which do

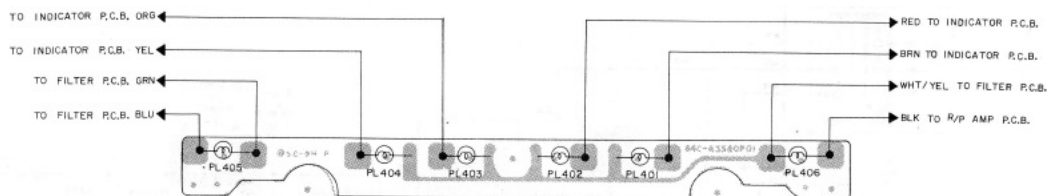
not have the same safety characteristics as specified, may create shock, fire or other hazards.

For maximum reliability and performance, all other parts must be replaced by those having identical specifications.

Under no circumstances may the original design be modified or altered without permission from the Magnavox Consumer Electronics Co., otherwise the consumer may be exposed to fire and/or shock hazards.

- NOTES:
1. UNLESS OTHERWISE SPECIFIED: CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
 2. CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS.
 3. RESISTORS ARE 1/4 WATT 10%.
 4. ▲ PARTS LOCATED OFF BOARD.
 5. VOLTAGES ARE POSITIVE WITH RESPECT TO GROUND.
 6. LINE VOLTAGE MAINTAINED AT 120 VAC, NO SIGNAL APPLIED.
 7. VOLTAGES IN BRACKETS TAKEN IN RECORD MODE.
 8. > SHUNT RESISTORS MAY BE CONNECTED HERE IN PRODUCTION TO ADJUST GAIN.
 9. AC & DC VOLTAGES TAKEN WITH A VTVM.
 10. SIO1 IS SHOWN IN THE PLAY POSITION.

VE20-04 INDICATOR LAMP BOARD (VIEWED FROM COPPER SIDE)



**Magnavox BH1833/35 (ch. R348-01AA,
ch. VE20-04AA)**

