

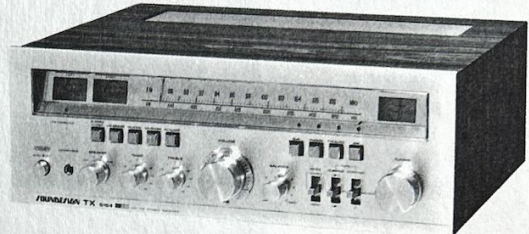
SERVICE MANUAL

 **Acoustic Dynamics**
by TANGLEWOOD

SOUNDESIGN



MODEL NO. SR-540



MODEL NO. 5164

EXAB X4209
millard TV
SPECIFICATIONS

SEMICONDUCTORS

- | | |
|------------------|--------------------|
| 1 FET | 4 Zener Diodes |
| 13 Silicon Trs | 5 LEDs |
| 7 ICs | 5 Rectifier Diodes |
| 2 Silicon Diodes | 6 Germanium Diodes |

ELECTRONICS

AMPLIFIER SECTION

- Power Sensitivity and Input Impedance

Phono	3mV	50K Ω
AUX	300mV	150K Ω
Tape monitor (1 and 2)	200mV	100K Ω
- U.O.P.
20Hz ~ 20,000Hz 8 Ω at 0.8% $\geq 40W$
- Tape Output

Phono	200mV
AUX	140mV
AM	200mV 5mV/m, 1,000Hz 50% mod.
FM	200mV 1.1mV/m, 1,000Hz 37.5KHz dev.
- Frequency Response

Phono (RIAA $\pm 3dB$)	50Hz - 15,000Hz
AUX/Tape Monitor ($\pm 3dB$)	20Hz - 25,000Hz
- Bass Control Effect (100Hz) $\pm 8dB$
Treble Control Effect (10,000Hz) $\pm 8dB$
- Loudness Effect (-30dB ATT. from Volume max.)

100Hz	+6dB
10KHz	+4dB
- Low Cut filter (30Hz) -3dB
High Cut filter (10,000Hz) -9dB
- Input Overload (at 1% THD)

Phono	$\geq 60mV$
AUX	$\geq 7V$

- Maximum Noise

Phono	$\leq 20mV$
AUX	$\leq 7mV$
- Channel Crosstalk (Input 600 ohm terminated) $\geq 40dB$

AM TUNER SECTION

- Frequency Range 535KHz - 1605KHz
- IF 455KHz
- Sensitivity for 20dB S/N $\leq 60dB/m$
- T.H.D. (at 1,000KHz 5mV/m, 1,000Hz 30% mod.) $\leq 3%$
- Modulation Hum (1,400KHz, 100mV/m 30% mod.) $\geq 40dB$

FM TUNER SECTION

- Frequency Range 88MHz ~ 108MHz
- IF 10.7MHz
- Sensitivity for 30dB S/N $\leq 11dB$
- THD at 98MHz 1.1mV

Mono	$\leq 0.6%$
Stereo	$\leq 1.0%$
- Modulation Hum (98MHz 1.1mV 22.5KHz dev.) $\geq 52dB$
- Muting Sensitivity $\leq 20dB$
- Stereo Indicator Sens. $\leq 20dB$
- Separation

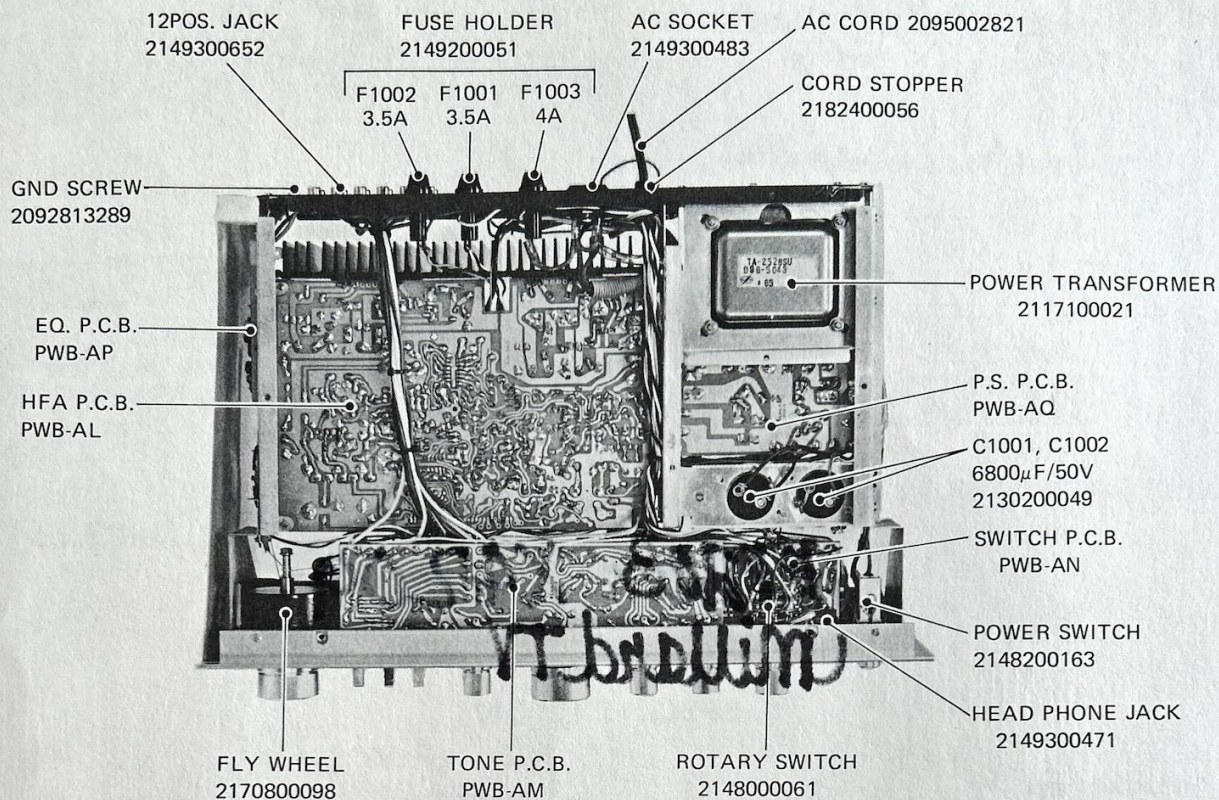
60dB	$\geq 30dB$
100dB	$\geq 30dB$
- 19KHz Leak Carrier $\geq 25dB$
- SCA Leak Carrier

67KHz	$\geq 50dB$
100KHz	$\geq 50dB$

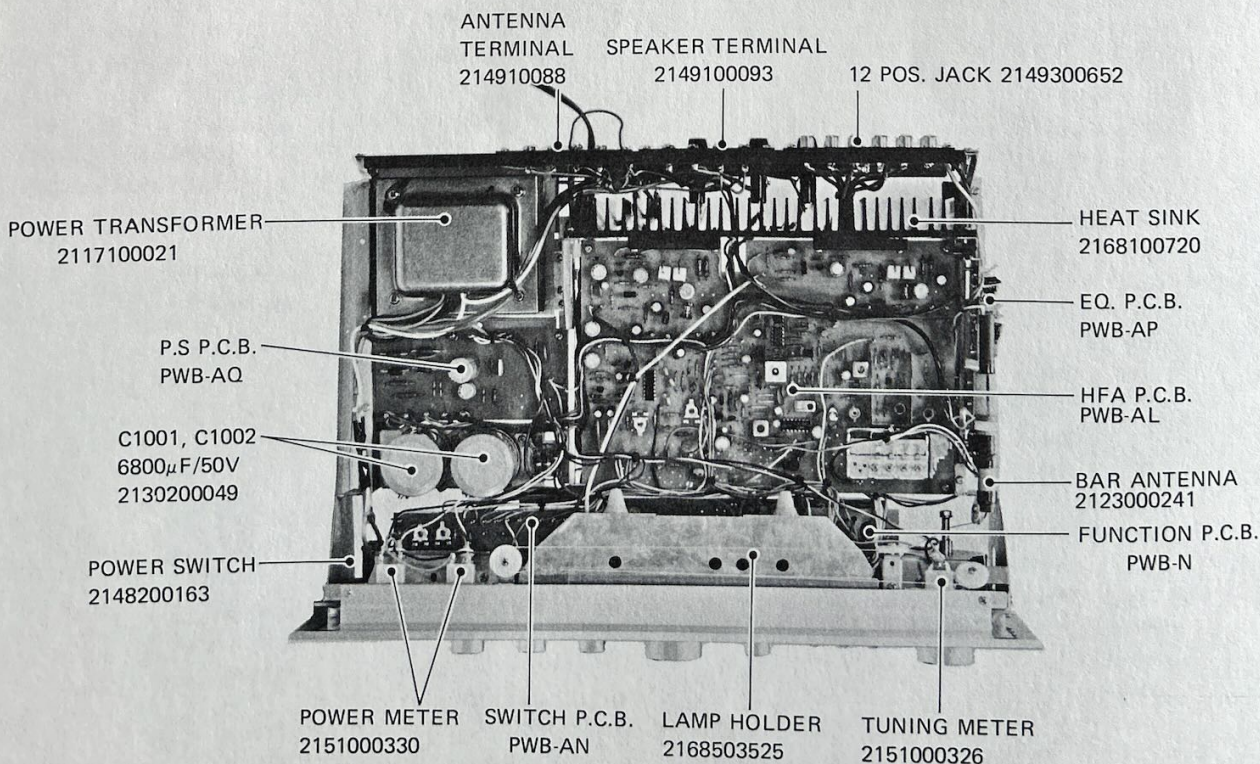
MECHANICAL

- | | |
|-----------------|--------------------------|
| Dimensions (mm) | 460(W) x 155(H) x 298(D) |
| Net Weight | 10Kg (22lbs.) |

PARTS LOCATION

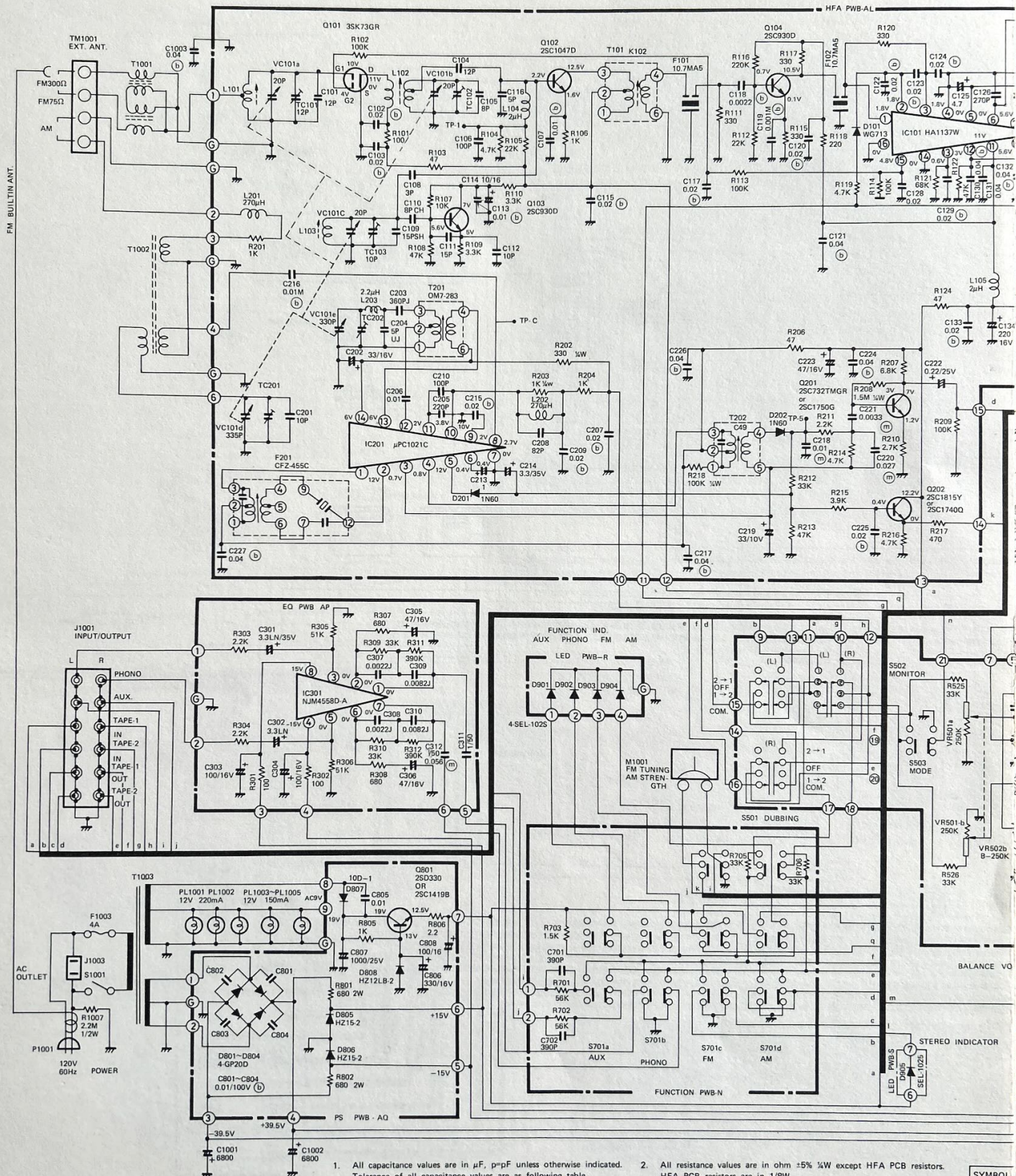


[BOTTOM]



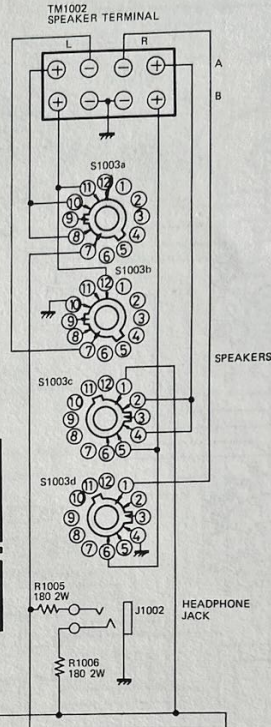
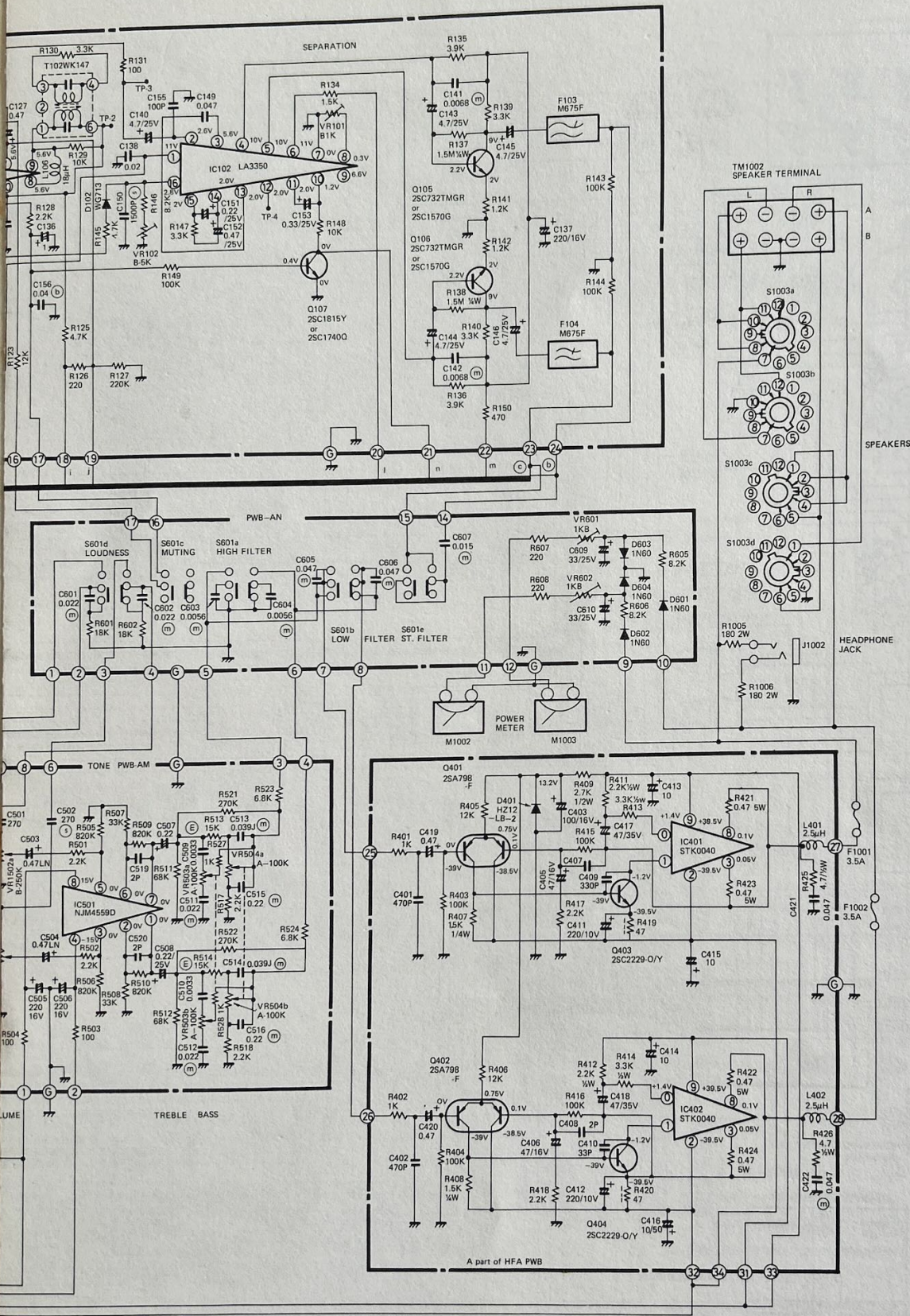
[TOP]

SCHEMATIC DIA



1. All capacitance values are in μF , pF unless otherwise indicated. Tolerance of all capacitance values are as following table.
 $J = \pm 5\%$ $K = \pm 10\%$ $M = \pm 20\%$ $P = +80, -20\%$
 $Z = +100, -0\%$
2. All resistance values are in ohm $\pm 5\%$ $\frac{1}{2}\text{W}$ except HFA PCB resistors. HFA PCB resistors are in $\frac{1}{8}\text{W}$.
 $K = 10^3 \text{ ohm}$ $M = 10^6 \text{ ohm}$
3. Switches (S701a ~ d, S601a ~ d, S503) are shown in OFF position.
4. Figures in switch S502 are shown, 1 = tape 1, 2 = Source, 3 = Tape 2.

SYMBOL	
Nothing	
CH	

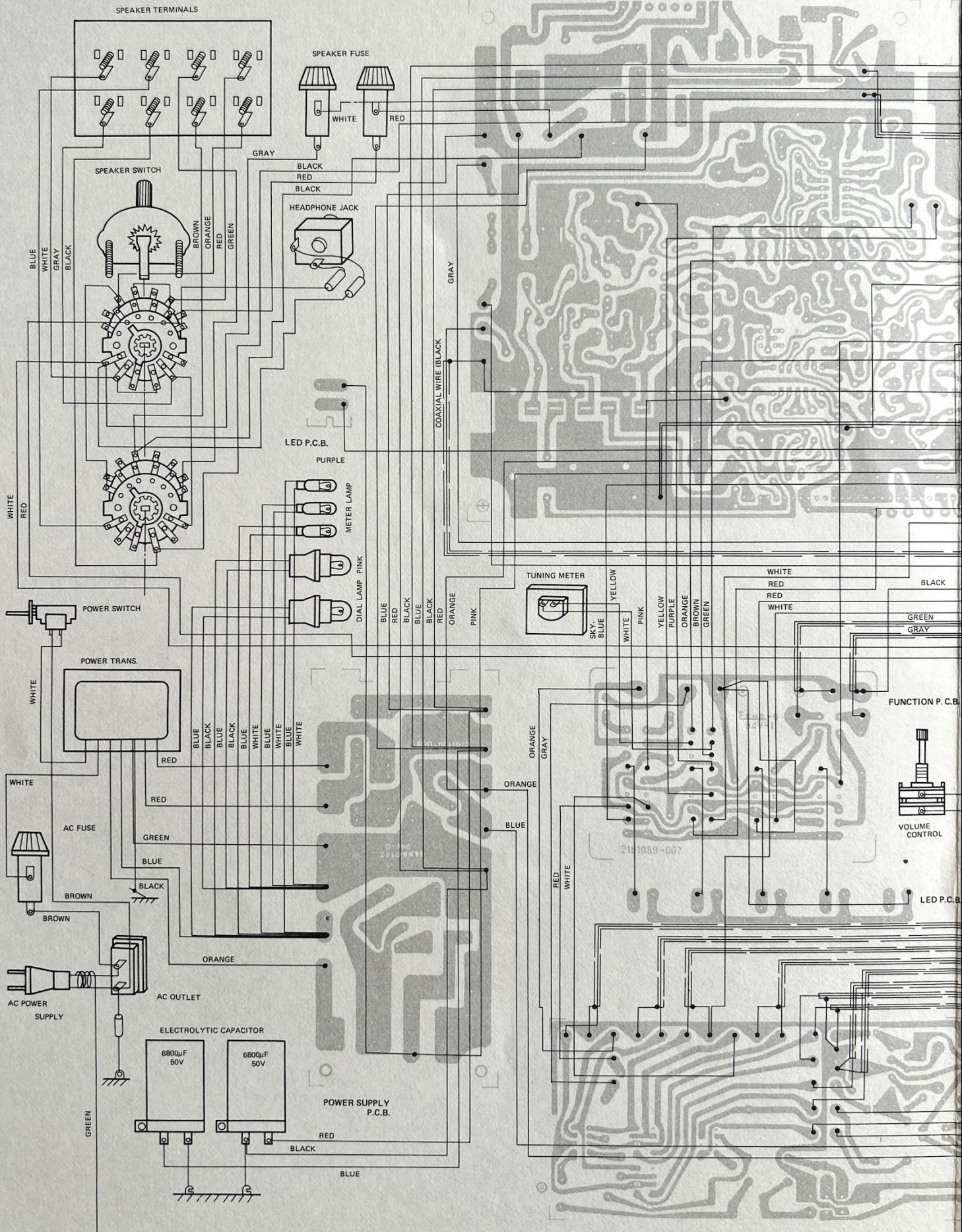


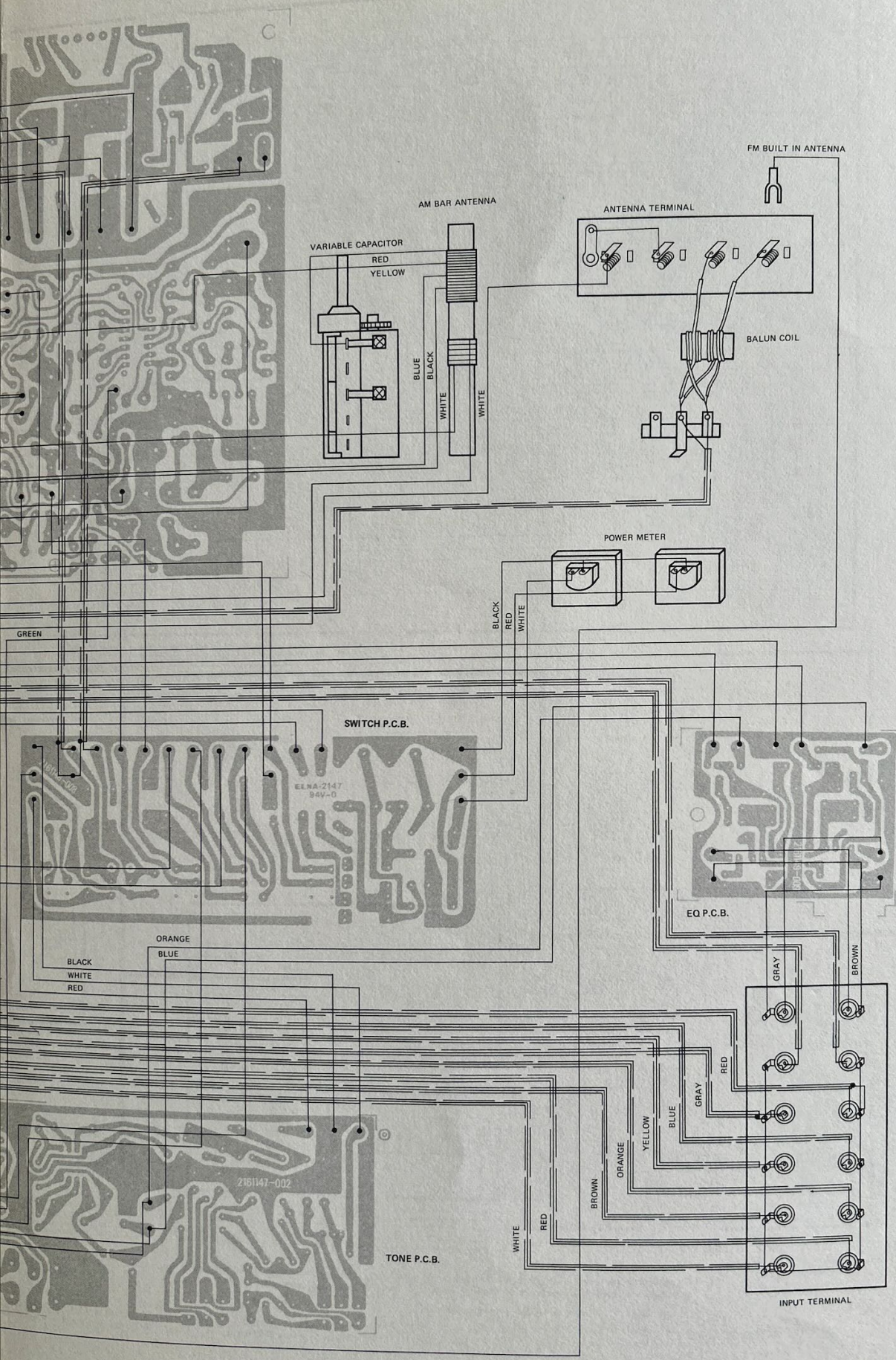
TYPE OF CAPACITOR	W.V.	TOLERANCE
Ceramic type I, SL	50V	K
Ceramic type I, CH (NPO)	50V	K
Electrolytic	50V	+150 -10%

SYMBOL	TYPE OF CAPACITOR	W.V.	TOLERANCE
(b)	Ceramic type I	50V	P or Z
(s)	Polystyrene	50V	J
(m)	Polyethylene	50V	K

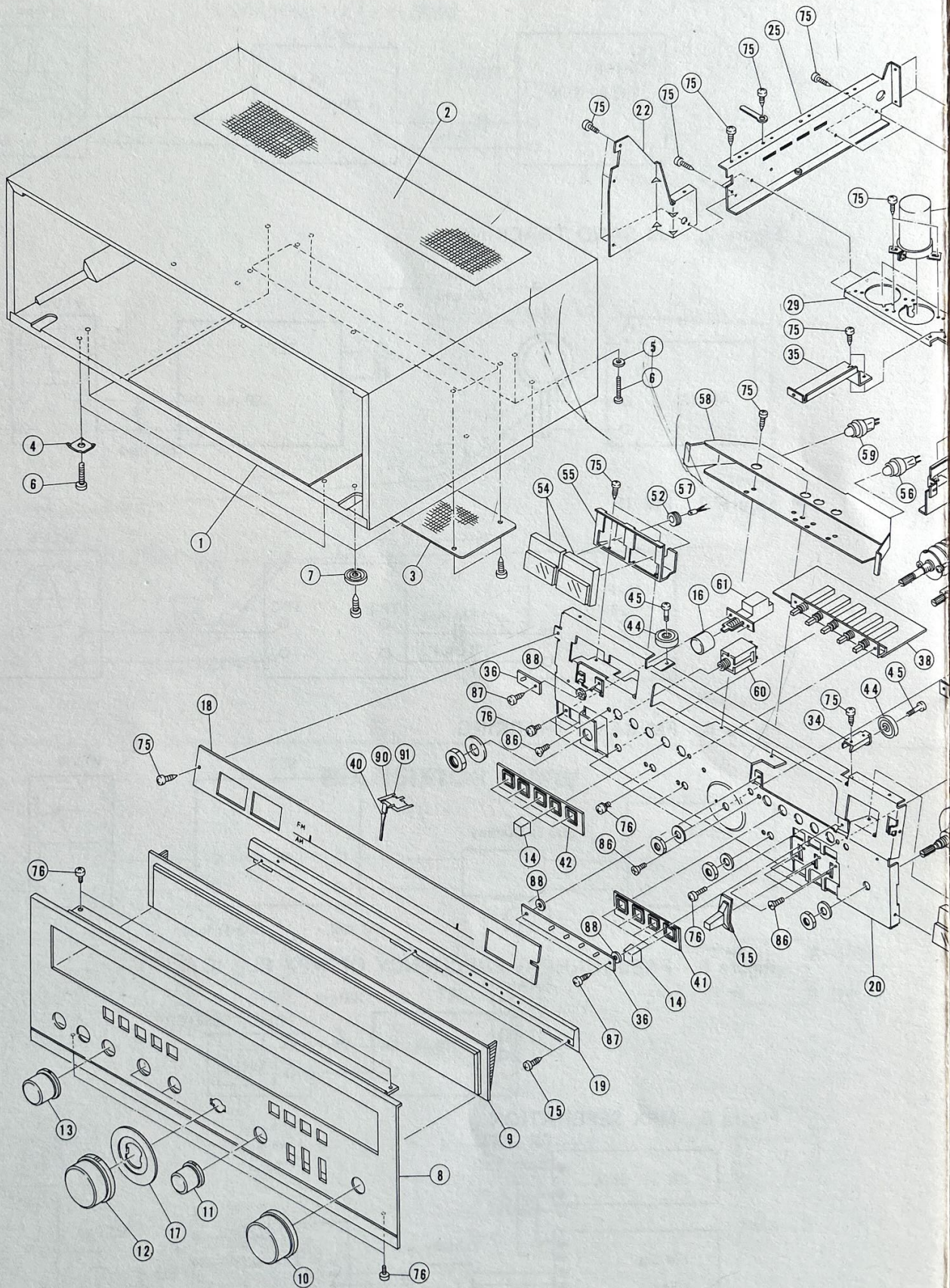
WIRING DI

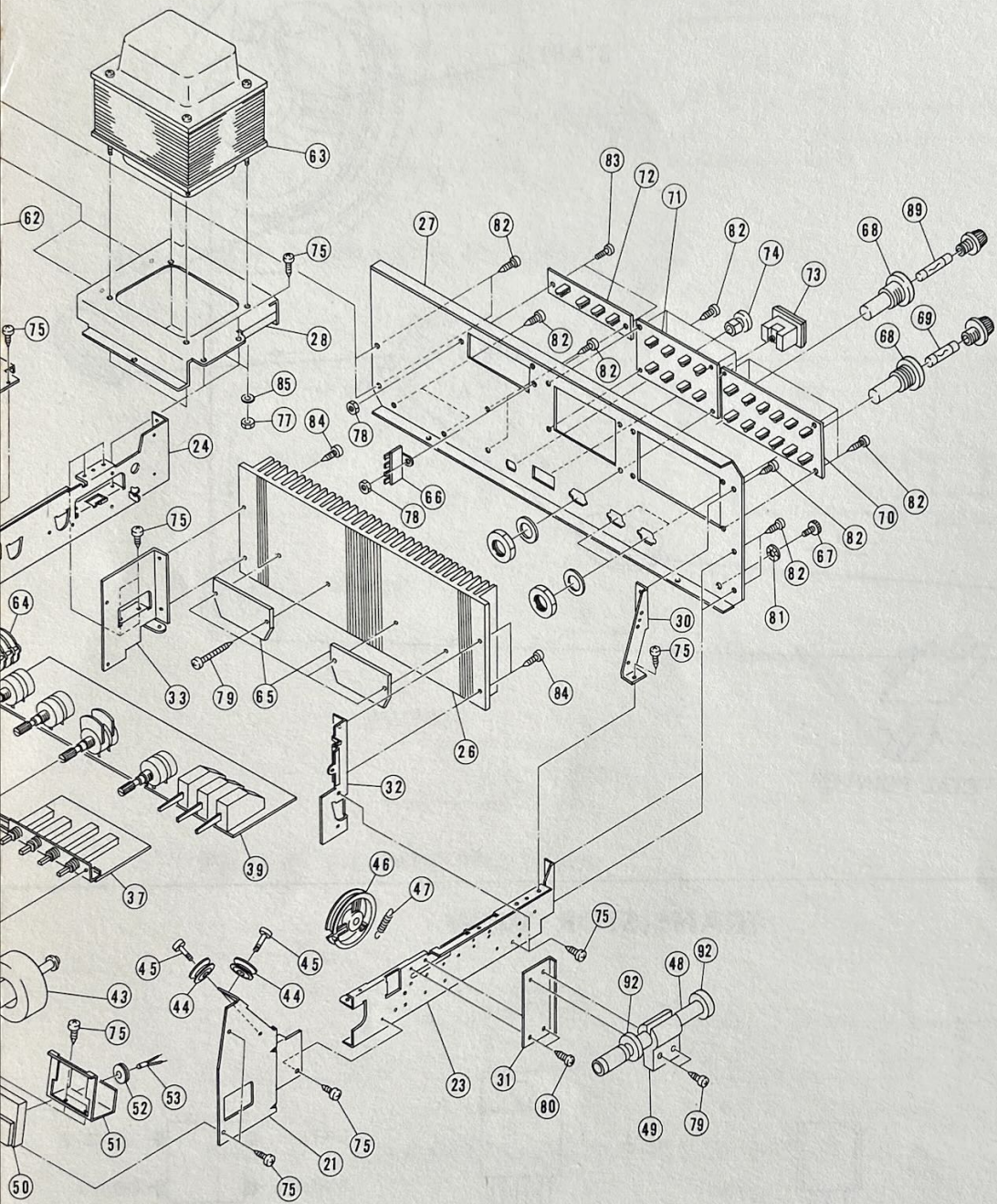
HFA P.C.B.



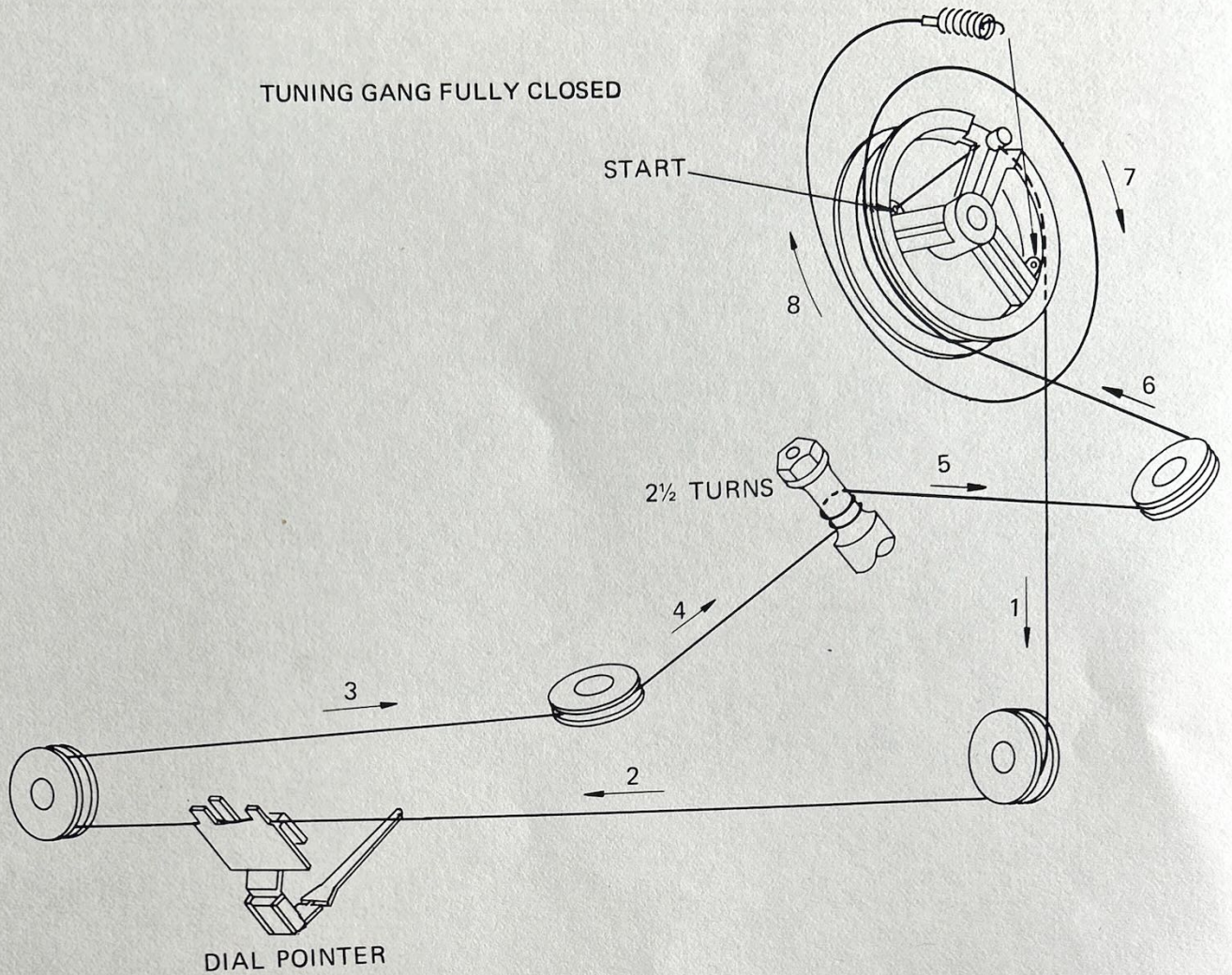


CABINET, CHASSIS EXPLODED VIEW

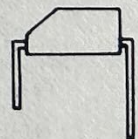
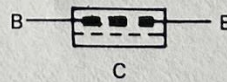
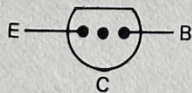
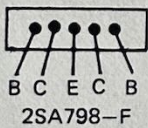
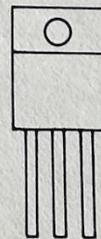
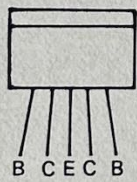




DIAL STRINGING



TRANSISTOR VIEW



2SC1047-D
2SC930-D
2SC1815-Y
2SC732TM-GR
2SC2229-O/Y

2SD330-D

3SK73-GR

EQUIPMENT CONNECTION

Figure 1. AM IF

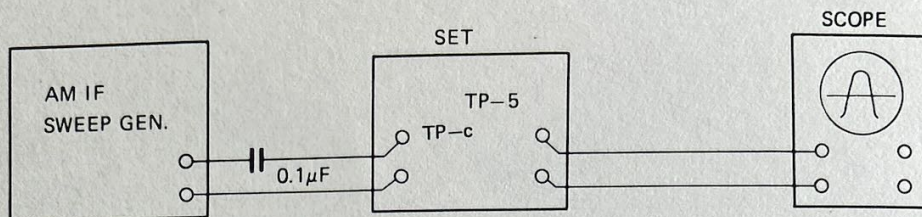


Figure 2. AM BAND TRACKING

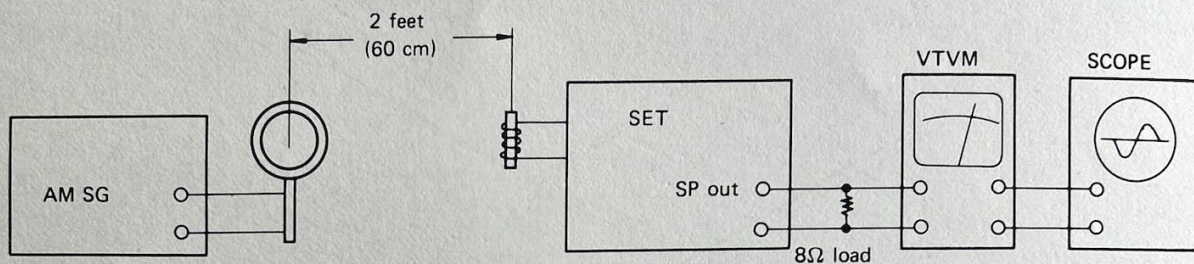


Figure 3. FM 1F

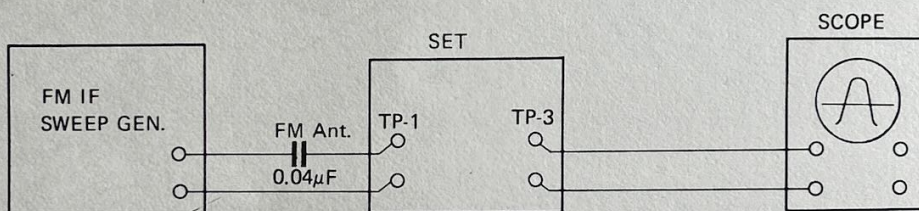


Figure 4. FM BAND TRACKING

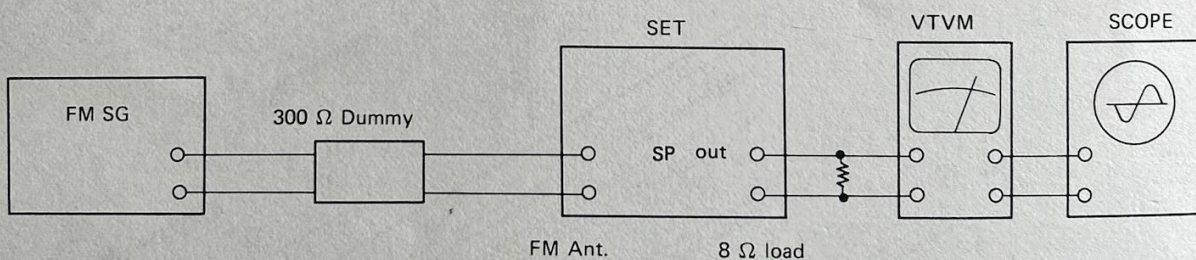


Figure 5. FREERUNNING FREQUENCY OF MPX PLL IC

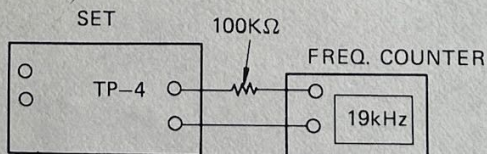
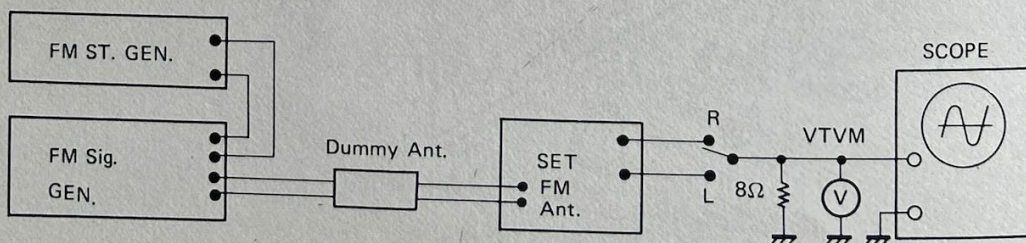


Figure 6. MPX SEPERATION



ALIGNMENT INSTRUCTIONS

AM

STEP	SIGNAL GENERATOR			RECEIVER	
	CONNECTION TO RECEIVER	INPUT SIGNAL CONDITION	DIAL SETTING	REMARKS	ADJUST
1	SWEEP GENESCOPE Sig. to TP-(C) thru 0.1 μ F Cap. Scope input to TP-(5)	Center 455 kHz Marker 450, 455, 460 kHz	Left end (Max. Capacity)	Max. gain with symmetrical curve centered at 455 kHz Fig. 1, Fig. 7	F201 T202
2	SIG. GEN. with IRE Loop or piece of wire place near AM antenna	600 kHz 30% AM MOD input 5 mV/m	600 kHz	Adjust for max. output meter Fig. 2	T201
3	Same as Step 2	1400 kHz 30% AM MOD input 1 mV/m	1400 kHz	Same as Step 2	TC202
4	Same as Step 2	600 kHz 30% AM MOD input 1 mV/m	600 kHz	Same as Step 2	T1002
5	Same as Step 2	1400 kHz 30% AM MOD input 1 mV/m	1400 kHz	Same as Step 2	TC201
6	Repeat Steps 2, 3, and 4 until no further improvement is obtained.				

FM

STEP	SIGNAL GENERATOR			RECEIVER	
	CONNECTION TO RECEIVER	INPUT SIGNAL CONDITION	DIAL SETTING	REMARKS	ADJUST
1	SWEEP GENESCOPE Sig. to TP-(1) thru 0.04 μ F Cap. Scope input to TP-(3)	Center 10.7 MHz Markers 10.6, 10.7, 10.8 MHz	Left end	Max. gain with symmetrical curve centered at 10.7 MHz Fig. 2	T102 (Bottom)
2	Same as Step 1	Same as Step 1	Left end	Max. gain with symmetrical S curve centered at 10.7 MHz Fig. 3	T101
3	SIG. GEN. Connected to FM 300 ohm terminal	90 MHz 22.5 kHz devi input more than 10 mV	90 MHz	Adjust for max. output output across speaker Fig. 4	L103
4	Same as Step 3	106 MHz 22.5 kHz devi input more than 10 mV	106 MHz	Adjust for max. output Fig. 4	TC103
5	Same as Step 3	90 MHz 22.5 kHz devi input less than 1 mV	90 MHz	Same as Step 4	TC101 TC102
6	Same as Step 3	106 MHz 22.5 kHz devi input less than 1 mV	106 MHz	Same as Step 4	TC101 TC102
7	Repeat Steps 2, 3 and 4 until no further improvement is obtained.				



Fig. 7



Fig. 8

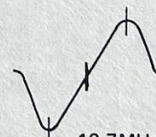


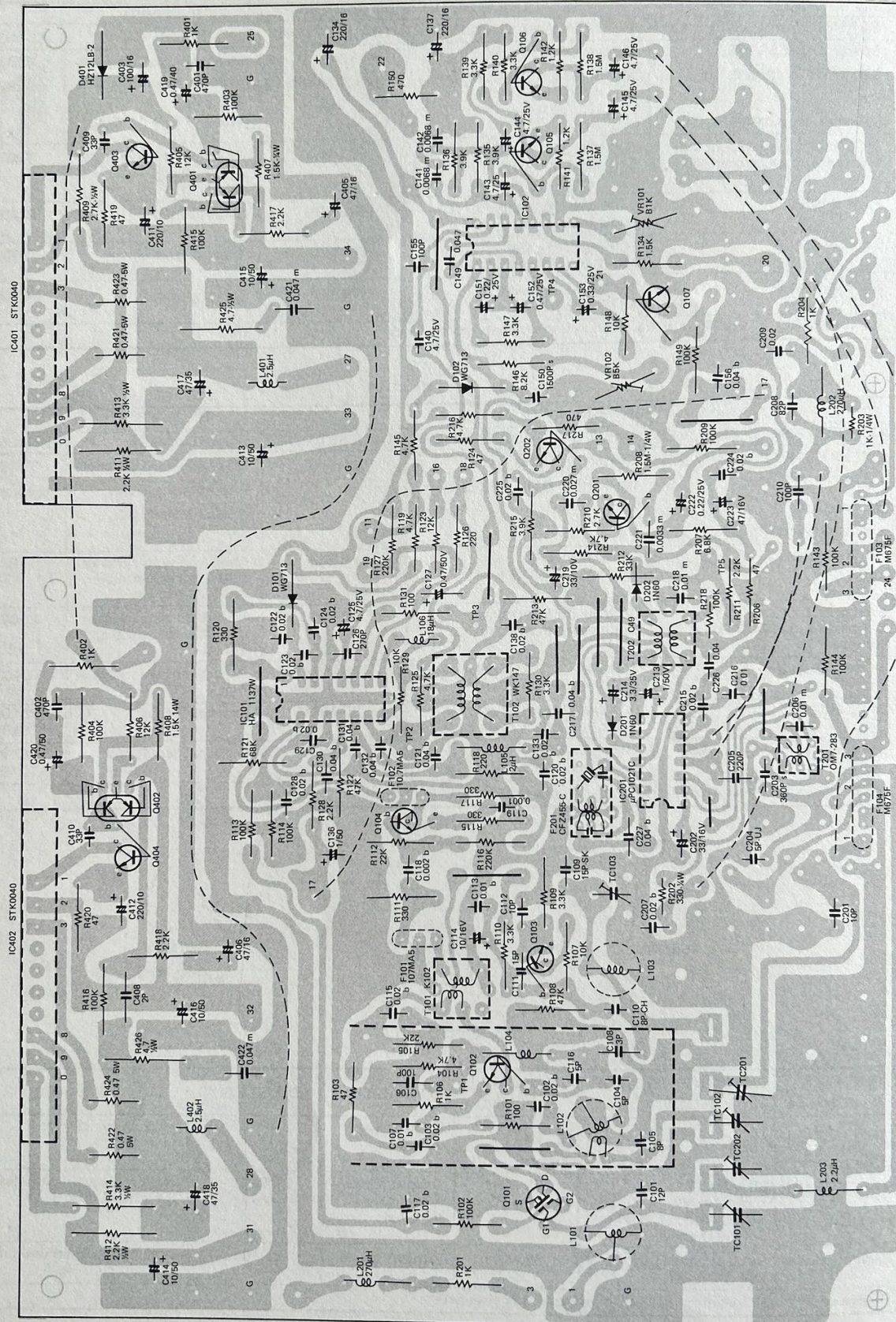
Fig. 9

FM STEREO

STEP	ALIGNMENT ON	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECTION	ADJUSTMENT	REMARKS
1	19 kHz		Turn away from Stereo station	Counter to TP- 4	VR102	Adjust for 19 kHz Fig. 5
2	Separation (R)	98 MHz Input 1 mV Stereo Mod. (1 kHz) 30% R channel	98 MHz	Output meter across sp. terminal	VR101	Adjust for Minimum deflection of left ch. Fig. 6
3	Separation (L)	Same as above but Left channel	98 MHz	Same as above	VR101	Adjust for Minimum deflection of right ch. Fig. 6
4	Repeat steps 2 and 3 until no further improvement is obtained.					

HFA SECTION P.C.B.

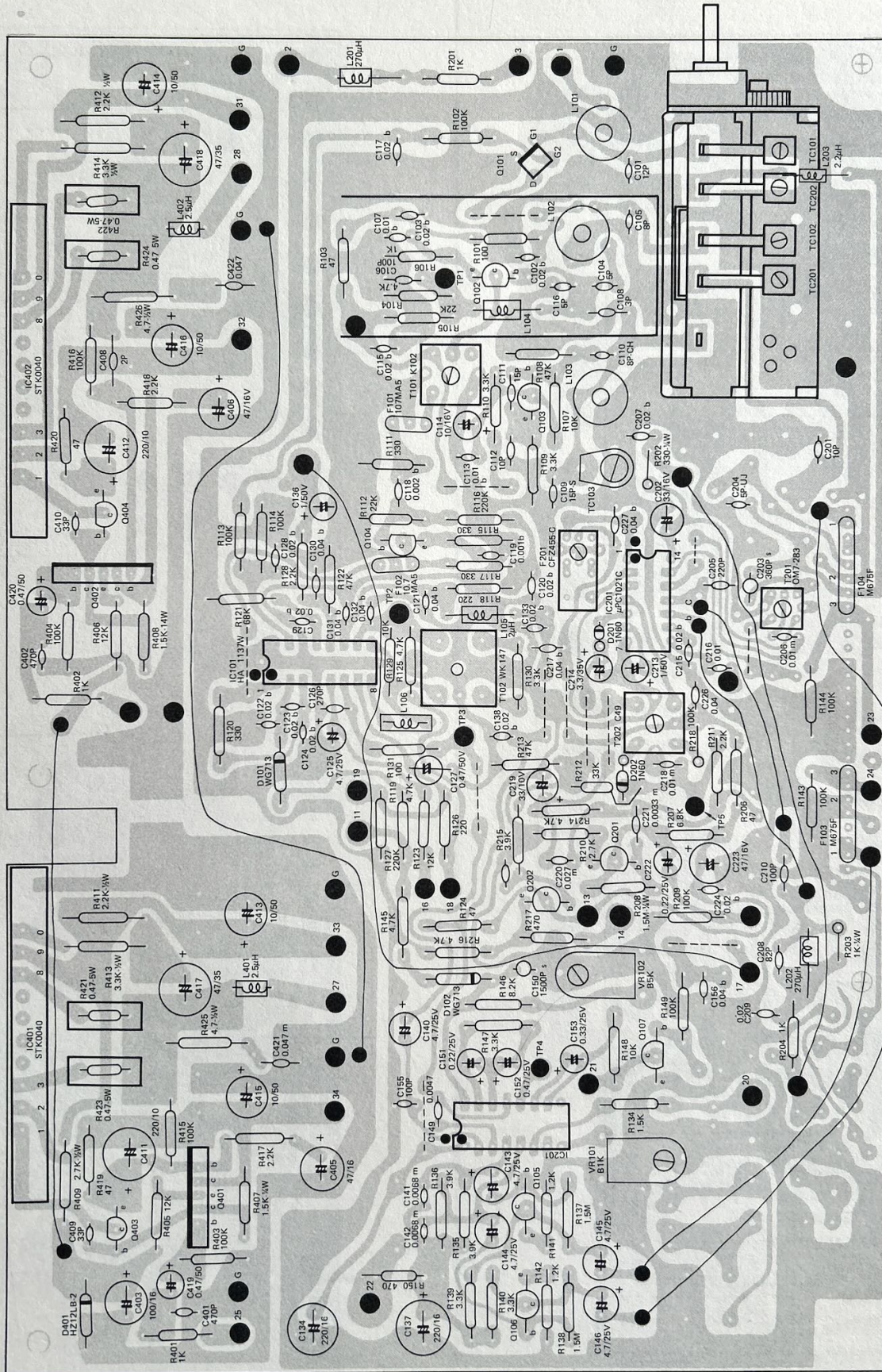
(BOTTOM VIEW)



Q101	36K736R	Q105	25C732TM GR	Q401	25A789F
Q102	25C1047D	Q106	25C1750G	Q402	25C1750G
Q103	25C1815Y	Q107	25C1815Y	Q403	25C2229-O/Y
Q104	25C930D		25C1740Q	Q404	25C2229-O/Y

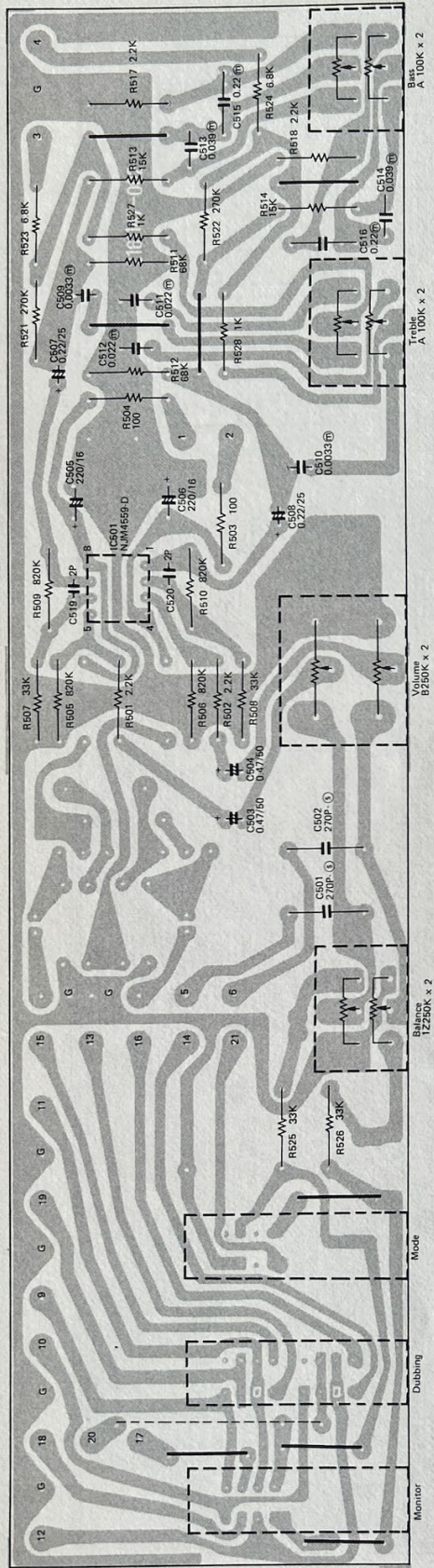
HFA SECTION P.C.B.

(TOP VIEW)

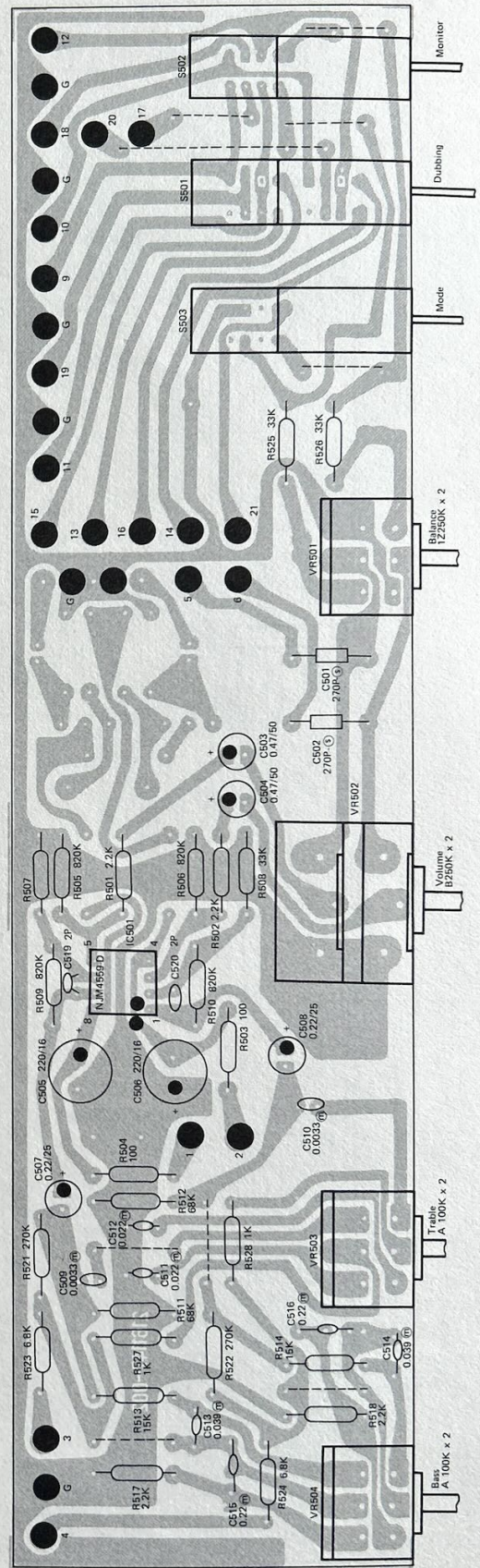


STONE SECTION P.C.B.

(BOTTOM VIEW)

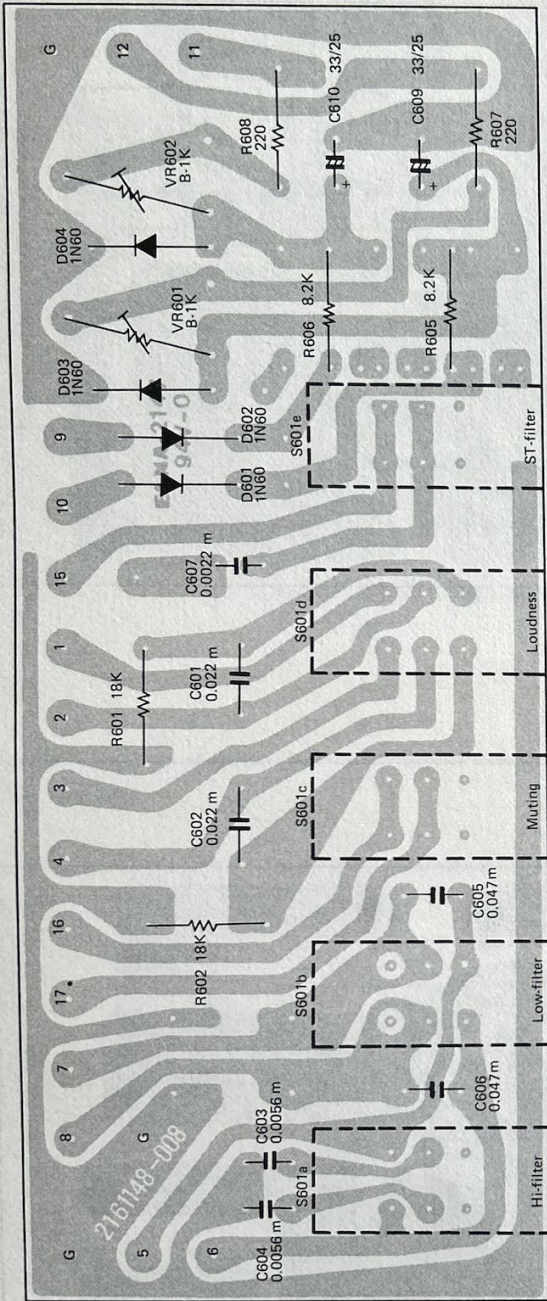


(TOP VIEW)

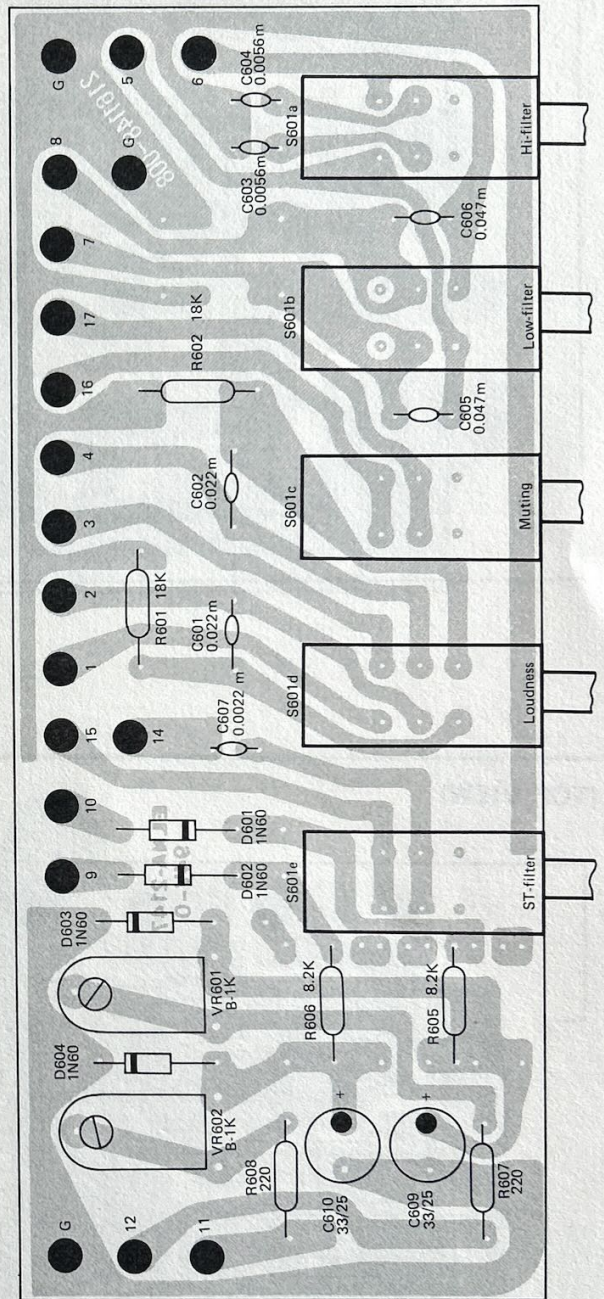


SW SECTION P.C.B.

(BOTTOM VIEW)

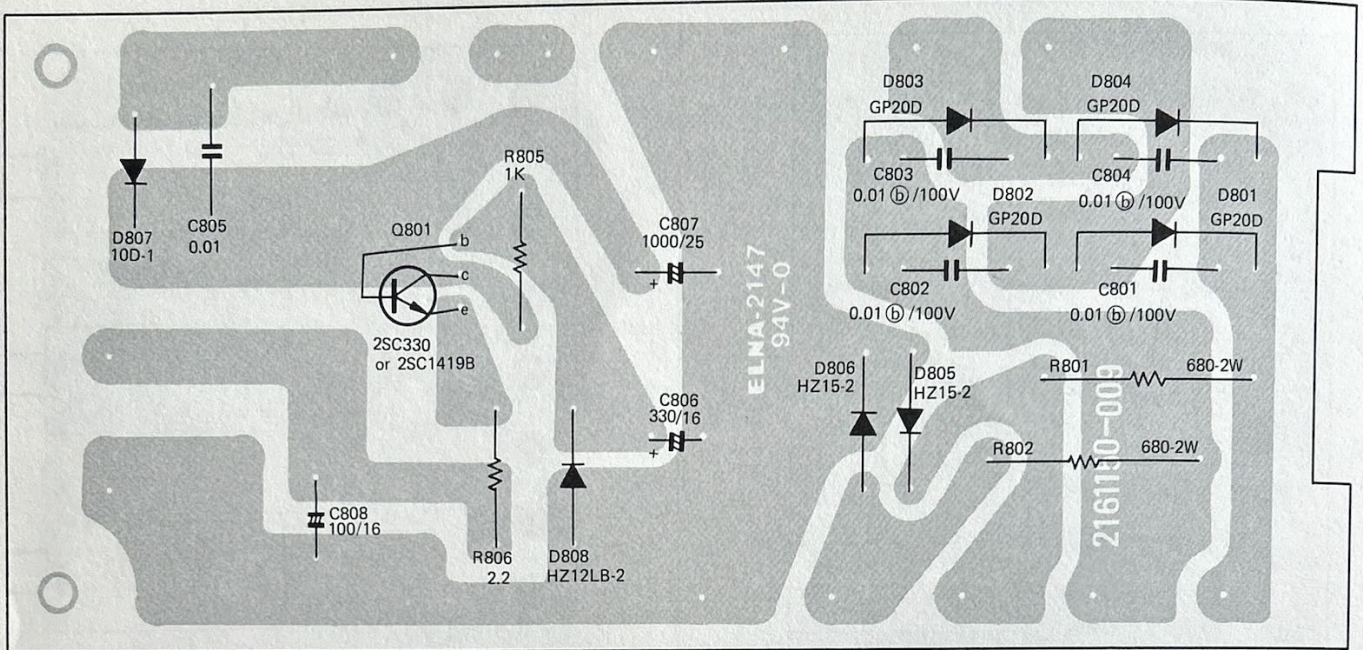


(TOP VIEW)

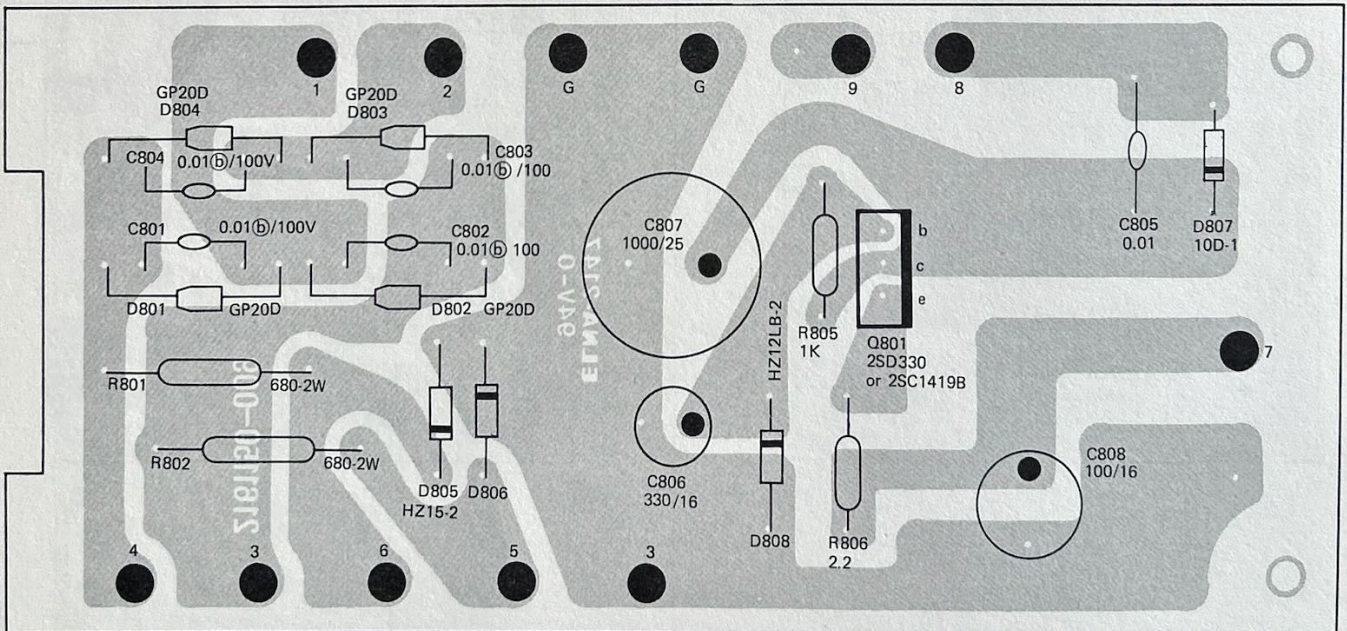


PS SECTION P.C.B.

(BOTTOM VIEW)

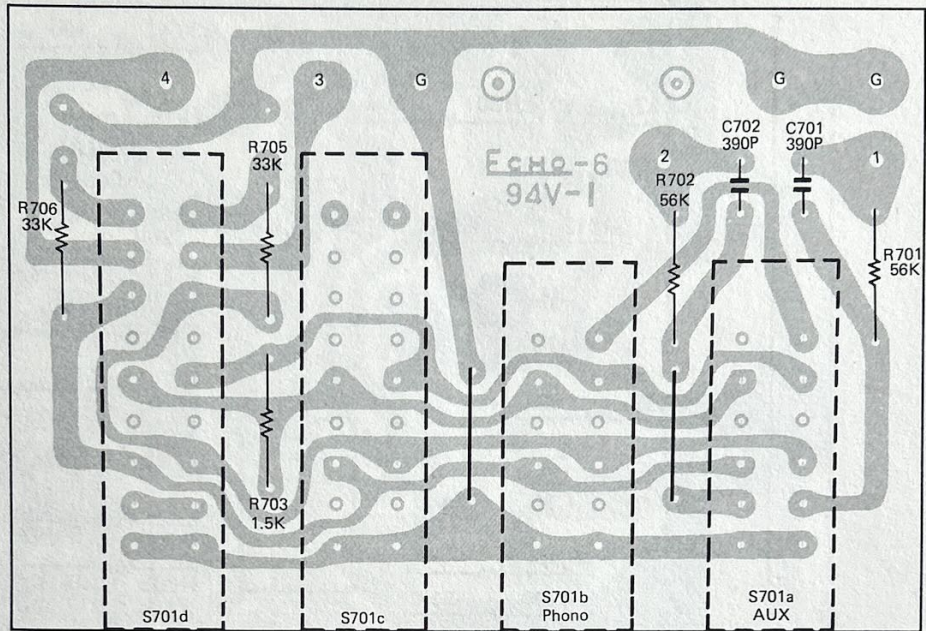


(TOP VIEW)

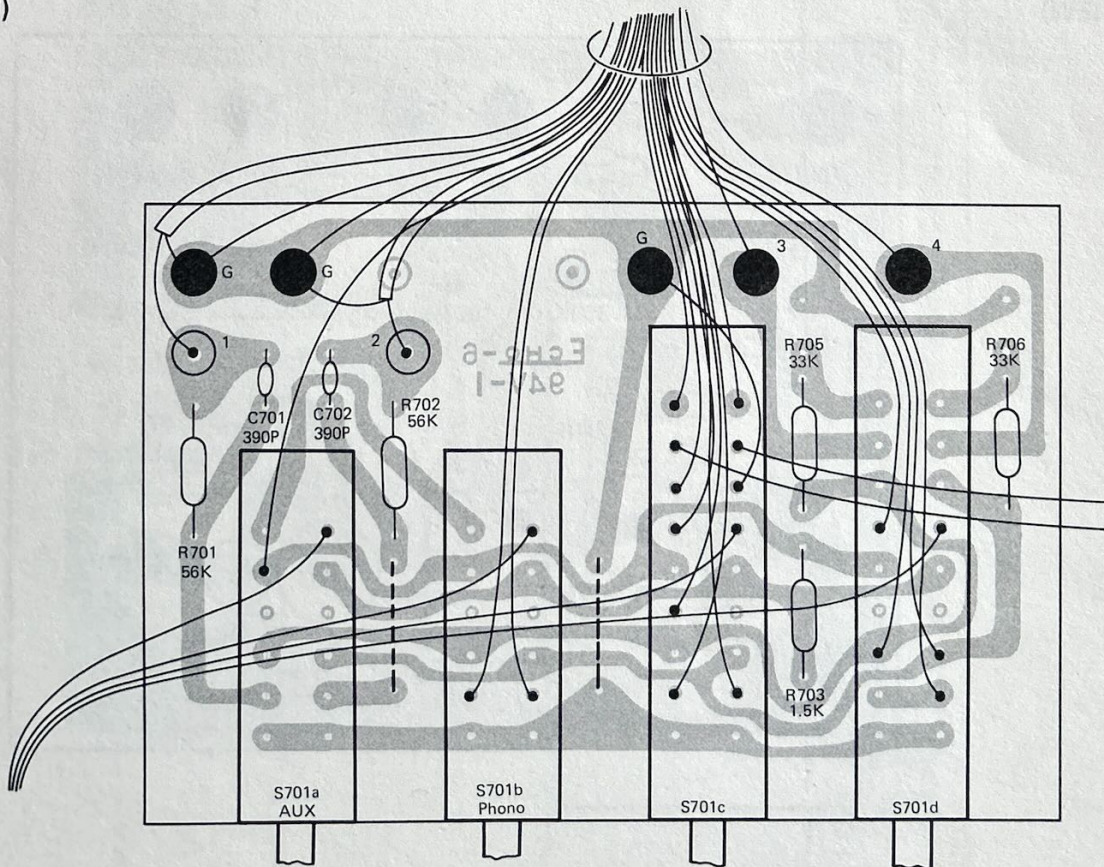


FUNCTION SECTION P.C.B.

(BOTTOM VIEW)

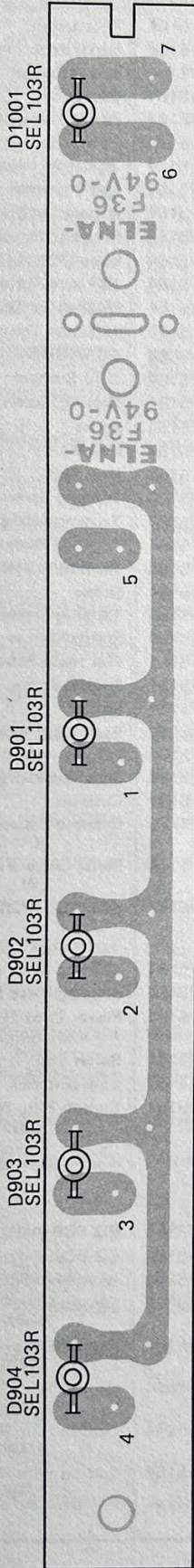


(TOP VIEW)



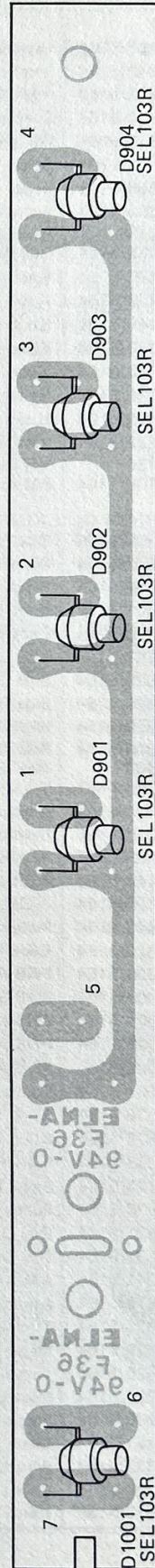
LEP SECTION P.C.B.

(BOTTOM VIEW)



LED - PWB (Bottom View)

(TOP VIEW)



PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
Cabinet					
1	2185000107/5164	Cabinet	59, PL1001	2111000242/5164	Pilot Lamp 12V 220mA
2	2171200842/5164	Ventilation Plate A (TOP)	60, J1002	2149300471/5164	Headphone Jack
3	2168505889/5164	Ventilation Plate B (BOTTOM)	61, S1001	2148200163/5164	Power Switch
4	2092800907/5164	Special Washer	62, C1001 } C1002 }	2130200049/5164	Capacitor 50V 6800μF
5	2092054110/5164	Washer ZS401	63, T1003	2117100021/5164	Power Transformer
6	2092444512/5164	Screw ⊕SB4016	64, S1003	2148000061/5164	Rotary Switch (SPEAKER)
7	2176300555/5164	Foot	65, IC401 } IC402 }	2102400211/5164	Power IC (Hybrid)(STK0040)
8	2171000384/5164	Front Panel	66	2149000261/5164	Lug Terminal ULR-201
8	2171000714	Front Panel†	67	2092813289/5164	Decoration Screw -4009
9	2176601035/5164	Dial Window	68	2149200051/5164	Fuse Holder with Washer
10	2187000176/5164	Knob CA4-1 (TUNING)	69, F1002 } F1002 }	2147100265/5164	Fuse 125V 3.5A (SPEAKER)
11	2187100150/5164	Knob EA5-1 (BAL, BASS, TREB)	70, J1001	2149300652/5164	12P Jack Terminal
12	2187100145/5164	Knob EA4 (CA4)(VOLUME)	71, TM1002	2149100093/5164	8P Speaker Terminal
13	2187200053/5164	Knob BA2 (EAB)(SPEAKER)	72, TM1001	2149100088/5164	4P Screw Terminal
14	2187300163/5164	Knob PA4 (PUSH BUTTON)	73, J1003	2149300483/5164	AC Outlet
15	2187600096/5164	Knob LA4 (LEVER)	74	2182400056/5164	Cord Stopper
16	2187300186/5164	Knob PA5-1 (POWER)	75	2092203115/5164	Tapping Screw +SN#2 TAP3008
17	2171200523/5164	VR Decoration Plate	76	2092810275/5164	Screw +ANS3006
17	2171201130	VR Decoration Plate†	77	2092014111/5164	Hex. Nut NMS401
	2165400109/5164	FM Antenna Model 91253	78	2092013114/5164	Hex. Nut NMS301
Chassis					
18	2176601391/5164	Dial Plate	79	2092203517/5164	Tapping Screw +SN#2 TAP3016
19	2171200537/5164	Decoration Plate	80	2092203016/5164	Tapping Screw +SN#2 TAP3006
20	2168000767/5164	Front Deck	81	2092074236/5164	Toothed Washer X S4
21	2168504105/5164	Deck Holder R	82	2092203136/5164	Tapping Screw +SN#2 TAP3008
22	2168504120/5164	Deck Holder L	83	2092403130/5164	Screw +SN3008
23	2168000847/5164	Side Deck R	84	2092203213/5164	Tapping Screw +SN#2 TAP3010
24	2168000820/5164	Side Deck M	85	2092064015/5164	Spring Washer VS402
25	2168000805/5164	Side Deck L	86	2092413012/5164	Flat Head Screw +SS3006
26	2168100720/5164	Heat Sink	87	2092800834/5164	Special Screw
27	2168001204/5164	Rear Deck	88	2176300886/5164	Spacer
27	2168001508	Rear Deck†	89, F1003	2147100276/5164	Fuse 125V 4.0A (POWER)
28	2168000780/5164	Trans. Holder	90	2168503946/5164	Pointer Holder
29	2168000623/5164	Capacitor Holder	91	2179000443/5164	Slide Paper (Pointer)
30	2168504228/5164	Reinforce Plate	92	2176300508/5164	Cushion
31	2168503483/5164	Antenna Holder Plate	C1003, 1004	2027010063/5164	Ceramic Capacitor +80 50V 0.04μF -20%
32	2168504147/5164	P.C.B. Holder R	R1005, 1006	2139100455/5164	Metal Oxide Film Resistor 2W 180Ω ±5%
33	2168504168/5164	P.C.B. Holder L	D901, 902 903, 904 905	2111300043/5164	LED SEL103R
34	2168503449/5164	Pulley Holder C		2176300910/5164	Shading Piece A, TA2525
35	2168505526/5164	Deck Holder M.		2176300756/5164	Shading Piece B,
36	2161092009/5164	PWB-R(S) 116 x 14	P1001	2095002821/5164	Power Cord 2P UL 125V 10A 6.5FT
36	2161093007/5164	PWB-S(R) 30 x 14		2118000017/5164	Balun Coil 75 - 300Ω
37	2161089007/5164	PWB-N 89 x 59	T1001	2165400091/5164	Line Antenna
38	2161148008/5164	PWB-AN 138 x 56	R1007	2136202027/5164	Carbon Film Resistor 1/2W 2.2MΩ ±5%
39	2161147002/5164	PWB-AM 245 x 63		EQ PCB Ass'y	
40	2168505501/5164	Pointer		2852000258/5164	EQ PCB Ass'y TA2528
41	2176601536/5164	Knob PA Guide B		2161149009/5164	EQ PCB, PWB-AP
42	2176601522/5164	Knob PA Guide A	IC301	2102400196/5164	IC NJM 4558D-A
43	2170800098/5164	Flywheel	R301, 302	2136100602/5164	Carbon Film Resistor 1/4W 100Ω ±5%
44	2176100173/5164	Small Pulley B	R303, 304	2136101087/5164	Carbon Film Resistor 1/4W 2.2KΩ ±5%
45	2092800778/5164	Pulley Screw	R305, 306	2136101588/5164	Carbon Film Resistor 1/4W 51KΩ ±5%
46	2176100621/5164	Dial Drum	R307, 308	2136100901/5164	Carbon Film Resistor 1/4W 680Ω ±5%
47	2174100533/5164	Dial Spring	R309, 310	2131001502/5164	Carbon Film Resistor 1/4W 33KΩ ±5%
48, T1002	2123000241/5164	AM Antenna Coil			
49	2176100575/5164	Antenna Holder			
50, M1001	2151000326/5164	Tuning Meter			
51	2168503929/5164	Meter Holder			
52	2168503525/5164	Lamp Holder (Grommet)			
53, PL1003	2111000257/5164	Pilot Lamp 12V 150mA			
54, M1002 } M1003 }	2151000330/5164	Power Meter			
55	2168504181/5164	Meter Holder A			
56, PL1002	2111000383/5164	Pilot Lamp 12V 220mA			
57, PL1004 } PL1005 }	2111000398/5164	Pilot Lamp 12V 150mA			
58	2168503525/5164	Lamp Holder (Reflector)			

†SR-540 Only

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
R311, 312	2136101895/5164	Carbon Film Resistor 1/4W 390K Ω \pm 5%	C601, 602	2131100576/5164	Mylar Film Capacitor 50V 0.022 μ F \pm 10%
C301, 302	2130801016/5164	Electrolytic Capacitor 35V 3.3 μ F LN	C603, 604	2131100334/5164	Mylar Film Capacitor 50V 5600pF \pm 10%
C303, 304	2130031047/5164	Electrolytic Capacitor 16V 100 μ F	C605, 606	2131100711/5164	Mylar Film Capacitor 50V 0.047 μ F \pm 10%
C305, 306	2130031034/5164	Electrolytic Capacitor 16V 47 μ F	C607	2131100157/5164	Mylar Film Capacitor 50V 0.0022 μ F \pm 10%
Tone PCB Ass'y			C609, 610	2130015009/5164	Electrolytic Capacitor 25V 33 μ F \pm
	2852000264/5164	Tone, PCB Ass'y TA2528	Function PCB Ass'y		
	2161147002/5164	Tone, PCB, PWB-AM		2852000287/5164	Function Assy TA2528
IC501	2102400203/5164	IC NJM4559D		2161089007/5164	Function PCB, PWB-N
S501	2148400180/5164	Lever Switch 4P3T(DUBBING)	S701	2148200272/5164	Push Switch
S502	2148400178/5164	Lever Switch 2P3T(MONITOR)	R701, 702	2136101593/5164	Carbon Film Resistor 1/4W 56K Ω \pm 5%
S503	2148400167/5164	Lever Switch 2P2T(MODE)	R703	2136101026/5164	Carbon Film Resistor 1/4W 1.5K Ω \pm 5%
VR501	2143000265/5164	Variable Resistor Z250K Ω x 2 (BALANCE)	R705, 706	2136101502/5164	Carbon Film Resistor 1/4W 33K Ω \pm 5%
VR502	2143100048/5164	Variable Resistor B250K Ω x 2 (VOLUME) Detent	C701, 702	2028000820/5164	Ceramic Capacitor 50V 390pF \pm 10%
VR503, 504	2143000259/5164	Variable Resistor A100K Ω x 2 (BASS, TREBLE) Detent	HFA PCB Ass'y		
R501, 502, 517, 518	2136101087/5164	Carbon Film Resistor 1/4W 2.2K Ω \pm 5%		2854000208/5164	HFA PCB Ass'y TA2528
R503, 504	2136100602/5164	Carbon Film Resistor 1/4W 100 Ω \pm 5%		2161146007/5164	HFA PCB, PWB-AL
R505, 506, 509, 510	2136102018/5164	Carbon Film Resistor 1/4W 820K Ω \pm 5%	IC101	2102100042/5164	IC HA1137W (FM IF)
R507, 508, 525, 526	2136101502/5164	Carbon Film Resistor 1/4W 33K Ω \pm 5%	IC102	2102300015/5164	IC LA3350 (MPX)
R511, 512	2136101622/5164	Carbon Film Resistor 1/4W 68K Ω \pm 5%	IC201	2102100109/5164	IC UPC 1021C (AM RF, IF)
R513, 514	2136101381/5164	Carbon Film Resistor 1/4W 15K Ω \pm 5%	Q101	2107100118/5164	Transistor 3SK73-GR (FM RF)
R521, 522	2136101833/5164	Carbon Film Resistor 1/4W 270K Ω \pm 5%	Q102	2103100044/5164	Transistor 2SC1047D (FM MIXER)
R523, 524	2136101261/5164	Carbon Film Resistor 1/4W 6.8K Ω \pm 5%	Q103, 104	2103000510/5164	Transistor 2SC930D (FM OSC, FM IF)
R527, 528	2136100964/5164	Carbon Film Resistor 1/4W 1K Ω \pm 5%	Q105, 106, 201	2103000649/5164	Transistor 2SC732TM-GR (AF)
C501, 502	2131010158/5164	Polystyrene Film Capacitor 50V 270pF \pm 5%	Q107, 202	2103100353/5164	Transistor 2SC1570G
C503, 504	2130801541/5164	Electrolytic Capacitor 50V 0.47 μ F LN		2003181516/5164	Transistor 2SC1815y (MUT, AM TUN)
C505, 506	2130031052/5164	Electrolytic Capacitor 16V 220 μ F		2003174006/5164	Transistor 2SC1740Q
C507, 508	2130513077/5164	Solid Al-Electrolytic Capacitor 25V 0.22 μ F	Q401, 402	2104000536/5164	Transistor 2SA798F(DIFF. AMP)
C509, 510	2131100223/5164	Mylar Film Capacitor 50V 3300pF \pm 10%	Q403, 404	2003222907/5164	Transistor 2SC2229-Q (DRIVER)
C511, 512	2131100576/5164	Mylar Film Capacitor 50V 0.022 μ F \pm 10%		2003222915/5164	Transistor 2SC2229-y
C513, 514	2131100683/5164	Mylar Film Capacitor 50V 0.039 μ F \pm 10%	D101, 102	2008010188/5164	Si-Diode WG713
C515, 516	2131100997/5164	Mylar Film Capacitor 50V 0.22 μ F \pm 10%	D201, 202	2008000001/5164	Ge-Diode 1N60
C519, 520	2028000088/5164	Ceramic Capacitor 50V 2pF \pm 0.5pF	D401	2108200267/5164	Zener Diode HZ12LB-2
SW PCB Ass'y			VR101	2142100046/5164	Semi-Fixed Variable Resistor B 1K Ω
	2852000275/5164	SW PCB Ass'y TA2528	VR102	2142100078/5164	Semi-Fixed Variable Resistor B 5K Ω
	2161148008/5164	SW PCB, PWB-AN	L101	2123000010/5164	FM Antenna Coil
D601, 602, 603, 604	2008000001/5164	Ge-Diode 1N60	L102	2123200013/5164	FM RF Coil
S601	2148200299/5164	Push Switch	L103	2123100032/5164	FM Osc. Coil
VR601, 602	2142100046/5164	Semi-Fixed Variable Resistor B 1K Ω	L104, 105	2114703591/5164	Coil with Core 2.2 μ H \pm 20%
R601, 602	2136101417/5164	Carbon Film Resistor 1/4W 18K Ω \pm 5%	L106	2114703253/5164	Peaking Coil 18 μ H \pm 10%
R605, 606	2136101299/5164	Carbon Film Resistor 1/4W 8.2K Ω \pm 5%	L201, 202	2114703844/5164	Coil with Core 270 μ H \pm 10%
R607, 608	2136100723/5164	Carbon Film Resistor 1/4W 200 Ω \pm 5%	L401, 402	2114100010/5164	Choke Coil 2.5 μ H \pm 20%
			T101	2123400041/5164	FM IFT K-102
			T102	2123400056/5164	FM Phase Coil WK-147
			T201	2123100200/5164	MW Osc. Coil OM7-283
			T202	2123300138/5164	AM IFT C-49
			F101, 102	2152200001/5164	Ceramic Filter SFE10.7MA5-A
			F103, 104	2144300008/5164	Low Pass Filter M675S
			F201	2123300117/5164	AM Filter IFT CFZ-455C
			R101, 131	2036500405/5164	Carbon Film Resistor 1/8W 100 Ω \pm 5%
			R102, 113, 114, 143, 144, 149, 209, 403, 404, 415, 416	2036501126/5164	Carbon Film Resistor 1/8W 100K Ω \pm 5%
			L203	2114703591/5164	Coil with Core 2.2 μ H \pm 20%

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
R103, 124 206, 419 420	2036500326/5164	Carbon Film Resistor 1/8W 47Ω ±5%	C104, 116 408	2028000143/5164	Ceramic Capacitor 50V 5pF ±0.5pF
R104, 119 125, 145 214, 216	2036500800/5164	Carbon Film Resistor 1/8W 4.7KΩ ±5%	C105	2028000209/5164	Ceramic Capacitor 50V 8pF ±0.5pF
R105, 112	2036500965/5164	Carbon Film Resistor 1/8W 22KΩ ±5%	C106, 155 210	2028000616/5164	Ceramic Capacitor 50V 100pF ±10%
R106, 201 204, 401 402	2036500645/5164	Carbon Film Resistor 1/8W 1KΩ ±5%	C107, 113	2027005531/5164	Ceramic Capacitor 50V 0.01μF +100 - 0%
R107, 129 148	2036500886/5164	Carbon Film Resistor 1/8W 10KΩ ±5%	C108	2028000093/5164	Ceramic Capacitor 50V 3pF ±0.25pF
R108, 122 213	2036501044/5164	Carbon Film Resistor 1/8W 47KΩ ±5%	C109	2028038104/5164	Ceramic Capacitor 50V 15pF ±5%
R109, 130 139, 140 147	2036500762/5164	Carbon Film Resistor 1/8W 3.3KΩ ±5%	C110	2028018064/5164	Ceramic Capacitor 50V 8pF ±0.5pF
R111, 117 120	2036500523/5164	Carbon Film Resistor 1/8W 330Ω ±5%	C111	2028000314/5164	Ceramic Capacitor 50V 15pF ±10%
R115	2036500523/5164	Carbon Film Resistor 1/8W 330Ω ±5%	C112, 201	2028000241/5164	Ceramic Capacitor 50V 10pF ±0.5pF
R116, 127	2036501209/5164	Carbon Film Resistor 1/8W 220KΩ ±5%	C114	2130031005/5164	Electrolytic Capacitor 16V 10μF
R118, 126	2036500481/5164	Carbon Film Resistor 1/8W 220Ω ±5%	C118	2027000331/5164	Ceramic Capacitor 50V 2200pF ±20%
R121	2036501088/5164	Carbon Film Resistor 1/8W 68KΩ ±5%	C119	2027000247/5164	Ceramic Capacitor 50V 1000pF ±10%
R123, 405 406	2036500902/5164	Carbon Film Resistor 1/8W 12KΩ ±5%	C121, 130 131, 132 156, 217 226, 227	2027015032/5164	Ceramic Capacitor 25V 0.04μF +80 -20%
R128, 211, 417, 418	2036500724/5164	Carbon Film Resistor 1/8W 2.2KΩ ±5%	C125, 140 143, 144 145, 146	2130031601/5164	Electrolytic Capacitor 25V 4.7μF
R134	2036500689/5164	Carbon Film Resistor 1/8W 1.5KΩ ±5%	C126	2028000767/5164	Ceramic Capacitor 50V 270pF ±10%
R135, 136 215	2036500785/5164	Carbon Film Resistor 1/8W 3.9KΩ ±5%	C127, 419 420	2130032505/5164	Electrolytic Capacitor 50V 0.47μF
R137, 138 208	2136102091/5164	Carbon Film Resistor 1/4W 1.5MΩ ±5%	C134, 137	2130031052/5164	Electrolytic Capacitor 16V 220μF
R141, 142	2036500666/5164	Carbon Film Resistor 1/8W 1.2KΩ ±5%	C136, 213	2130032513/5164	Electrolytic Capacitor 50V 1μF
R146	2036500863/5164	Carbon Film Resistor 1/8W 8.2KΩ ±5%	C141, 142	2131100368/5164	Mylar Film Capacitor 50V 6800pF ±10%
R150, 217	2036500565/5164	Carbon Film Resistor 1/8W 470Ω ±5%	C149, 421 422	2131100711/5164	Mylar Film Capacitor 50V 0.047μF ±10%
R202	2136103281/5164	Carbon Film Resistor 1/4W 330Ω ±5%	C150	2131030433/5164	Polystyrene Film Capacitor 50V 1500pF ±10%
R203	2136103469/5164	Carbon Film Resistor 1/4W 1KΩ ±5%	C151, 222	2130513077/5164	Solid Al-Electrolytic Capacitor 25V 0.22μF
R207	2036500842/5164	Carbon Film Resistor 1/8W 6.8KΩ ±5%	C152	2130513567/5164	Solid Al-Electrolytic Capacitor 25V 0.47μF
R212	2036501002/5164	Carbon Film Resistor 1/8W 33KΩ ±5%	C153	2130513551/5164	Solid Al-Electrolytic Capacitor 25V 0.33μF
R218	2136104180/5164	Carbon Film Resistor 1/4W 100KΩ ±5%	C202	2130031020/5164	Electrolytic Capacitor 16V 33μF
R407, 408	2136101026/5164	Carbon Film Resistor 1/4W 1.5KΩ ±5%	C203	2131030817/5164	Polystyrene Film Capacitor 50V 360pF ±5%
R409	2136200977/5164	Carbon Film Resistor 1/2W 2.7KΩ ±5%	C204	2028046175/5164	Ceramic Capacitor 50V 5pF ±0.25pF
R411, 412	2136200945/5164	Carbon Film Resistor 1/2W 2.2KΩ ±5%	C205	2028000733/5164	Ceramic Capacitor 50V 220pF ±10%
R413, 414	2036201003/5164	Carbon Film Resistor 1/2W 3.3KΩ ±5%	C206, 218	2131100438/5164	Mylar Film Capacitor 50V 0.01μF ±10%
R421, 422 423, 424	2141400017/5164	Cement Resistor 5W 0.47Ω ±10%	C208	2028000589/5164	Ceramic Capacitor 50V 82pF ±10%
R425, 426	2136202217/5164	Carbon Film Resistor 1/2W 4.7KΩ ±5%	C214	2130032103/5164	Electrolytic Capacitor 35V 3.3μF
R210	2036500741/5164	Carbon Film Resistor 1/8W 2.7KΩ ±5%	C216	2027005092/5164	Ceramic Capacitor 50V 0.01μF ±20%
C101	2028000285/5164	Ceramic Capacitor 50V 12pF ±10%	C219	2130030519/5164	Electrolytic Capacitor 10V 33μF
C102, 103 115, 117 120, 122 123, 124 128, 129 133, 138 207, 209 215, 224 225	2027015050/5164	Ceramic Capacitor 25V 0.02μF +80 -20%	C220	2131100615/5164	Mylar Film Capacitor 50V 0.027μF ±10%
			C221	2131100223/5164	Mylar Film Capacitor 50V 3300pF ±10%
			C223, 405 406	2130031034/5164	Electrolytic Capacitor 16V 47μF

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
C401, 402	2028000852/5164	Ceramic Capacitor 50V 470pF ±10%			
C403	2130031047/5164	Electrolytic Capacitor 16V 100μF			
C408	2028000088/5164	Ceramic Capacitor 50V 2pF ±0.5pF			
C409, 410	2028000439/5164	Ceramic Capacitor 50V 33pF ±10%			
C411, 412	2130030543/5164	Electrolytic Capacitor 10V 220μF			
C413, 414 415, 416	2130032552/5164	Electrolytic Capacitor 50V 10μF			
C417, 418	2130032046/5164	Electrolytic Capacitor 35V 47μF			
VC101	2132300009/5164	Variable Capacitor			
	2168100200/5164	Shield Board			
PS PBC Ass'y					
	2856000205/5164	PS PBC Ass.Y TA2528			
	2161150008/5164	PS PBC, PWB-AQ			
Q801	2104500163/5164	Transistor 2SD330D (REGULATOR)			
	2103100661/5164	Transistor 2SC1419-B			
D801, 802 803, 804	2109100055/5164	Si-Rectifier GP20D			
D805, 806	2108200251/5164	Sener Diode HZ15-2			
D807	2109100008/5164	Si-Rectifier 10D-1			
D808	2108200267/5164	Zener Diode HZ12LB-2			
R801, 802	2139100669/5164	Metal Oxide Film Resistor 2W 680Ω ±5%			
R805	2136100964/5164	Carbon Film Resistor 1/4W 1KΩ ±5%			
R806	2136100061/5164	Carbon Film Resistor 1/4W 2.2Ω ±5%			
C801, 802 803, 804 805	2027065048/5164	Ceramic Capacitor +100 500V 0.01μ - 0%			
C806	2130031068/5164	Electrolytic Capacitor 16V 330μF			
C807	2130034332/5164	Electrolytic Capacitor 25V 1000μF, BF			
C808	2130031047/5164	Electrolytic Capacitor 16V 100μF			

