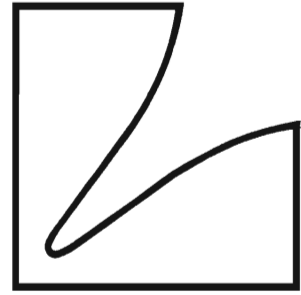


SERVICE MANUAL



AM/FM Stereo Receiver

R-113



Contents

Specifications	2
Parts Locations and Disassembly Instructions	3
Adjustment Procedures	4 to 6
Adjustment Locations	6 to 7
FM Tuner Schematic Diagram	8
Block Diagram	8
Parts Layout on P. C. Boards and Wiring Diagram (1/2)	9 to 11
Parts Layout on P. C. Boards and Wiring Diagram (2/2)	12 to 14
Schematic Diagram (1/2)	15 to 17
Schematic Diagram (2/2)	18 to 20
Electrical Parts List	21 to 31
Cabinet Assembly Parts List	32
Exploded View (Cabinet)	33 to 34
Packing Assembly Parts List	35
Packing Method View	35
Semi-Conductor Lead Identifications	36 to 39

Specifications

Audio Section

Rated Power Output/8 ohm (Input CD/AUX 1kHz)	Output : 35W 0.08%
Input Sensitivity (1kHz, at Po=40W Output)	Phono : 2.5±0.5mV
	CD/AUX : 150±20mV
	Tape-1/-2 : 150±20mV
	AV : 150±20mV
Input Impedance (1kHz)	Phono : 47k ohm +25-20%
	CD/AUX : 47k ohm +25-20%
	Tape-1/-2 : 47k ohm +25-20%
	AV : 47k ohm +25-20%
Frequency Response	Phono : 100Hz±0.5dB
	Phono : 10kHz±0.5dB
	CD/AUX : 10-50kHz±2dB
Phono Overload (1kHz, Rec. Output, 0.08% THD)	Phono : 120mV
Cross Talk (1kHz)	CD/AUX : 55dB
Signal to Noise Ratio (Input Shorted)	Phono : 80dB
	CD/AUX : 86dB
	Tape-1/-2 : 86dB
	AV : 86dB

FM Section

Intermediate Frequency	10.7MHz
Frequency Range	87.9 ~ 107.9MHz
Usable Sensitivity (Mono 3%)	17.2dBf
Signal to Noise Ratio (ST)	68dB
Image Response Ratio	32dB
Distortion (1kHz ST)	0.4%
Stereo Separation (1kHz)	40dB
Frequency Response (30Hz~15kHz)	+1-2.5dB
Quieting Sensitivity (ST, 50dB S/N)	44dBf
Output Level (ST)	610mV±3dB

AM Section

Intermediate Frequency	450kHz
Frequency Range	530 ~ 1,620kHz
Usable Sensitivity (20dB S/N)	57.5dB/m
Signal to Noise Ratio	45dB
Image Response Ratio (1,404kHz)	35dB
I.F. Response Ratio (603kHz)	50dB
Distortion	0.5%
Frequency Response (120Hz~2kHz)	±3dB
Output Level	240mV±3dB

GENERAL

Power Supply	AC120V, 60Hz
Power Consumption	200W
Semiconductors	12 IC's, 96 Transistors, 67 Diodes, 5 Zener Diodes, 9 FET's
Dimensions	438 (W) ×110 (H) ×343 (D) mm
Weight	6.1Kg

NOTE : Due to continuing product improvement, specifications and design are subject to change without notice.

Parts Locations and Disassembly Instructions

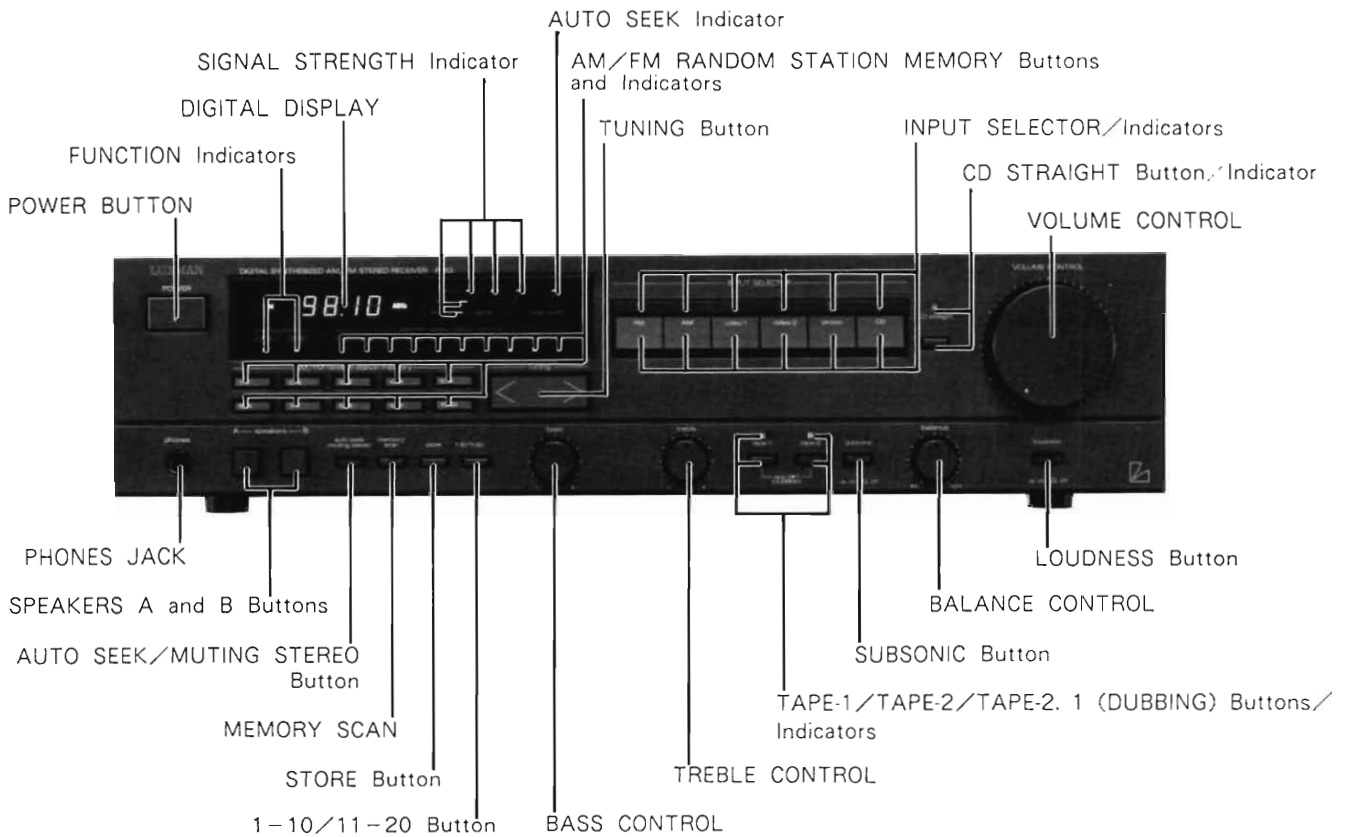


Figure 1

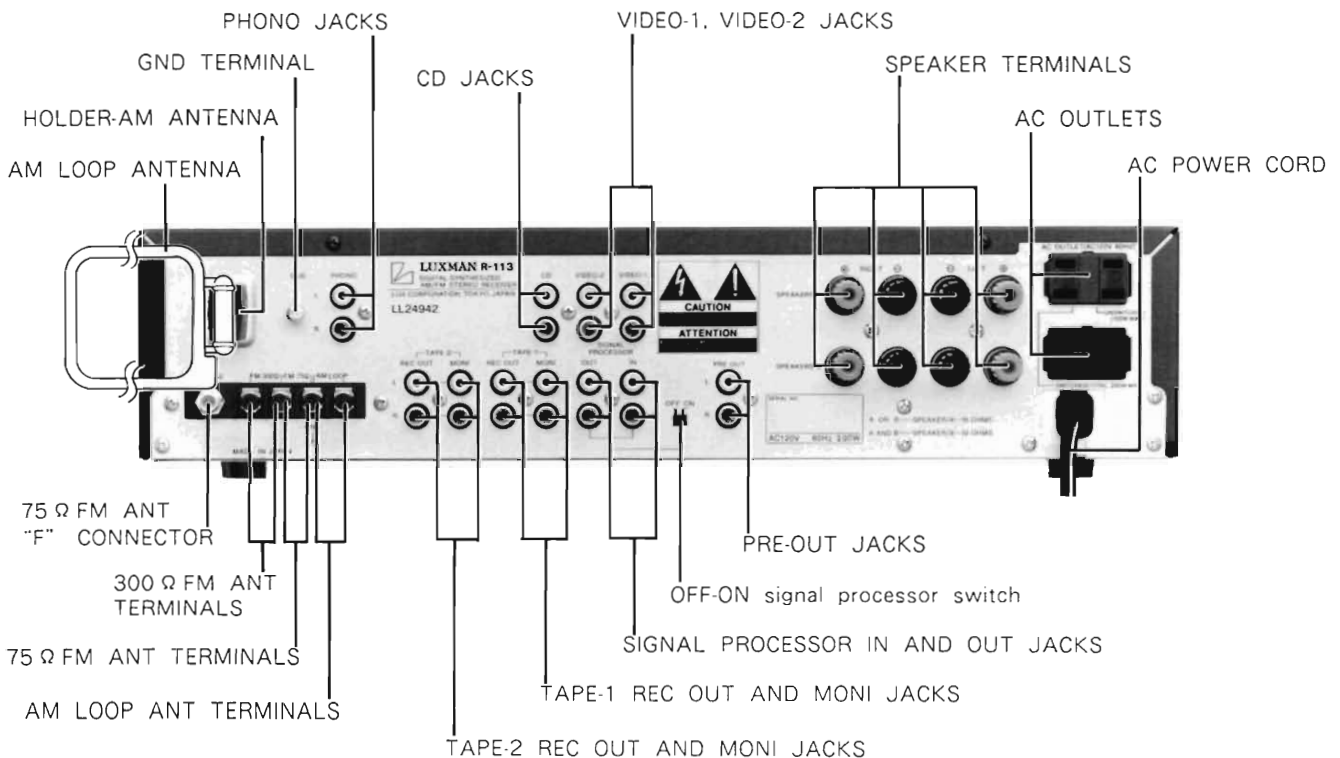


Figure 2

Adjustment Procedures

1. Audio Section

(1) Connection

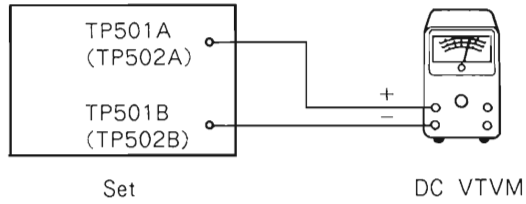


Figure 3

(2) Control Settings

Power Switch ON (■)
 Volume Control Minimum
 Treble Control Center Position

Bass Control Center Position
 Balance Control Center Position
 Other Switches OFF

(3) Procedures

Step	Description	Adjust Points	Test Points	Connection	Remark
1	Idling Adjustment	SVR 501 (L) SVR 502 (R)	TP501A (TP502A) L TP501B (TP502B) R	Figure 3	Push the power switch on and wait 5 minutes for warming-up. Adjust to $20 \pm 2\text{mV}$.

2. AM Radio

(1) Connections

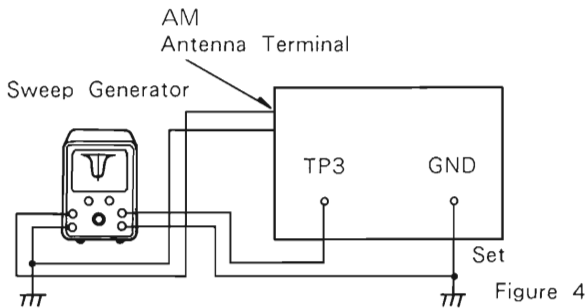


Figure 4

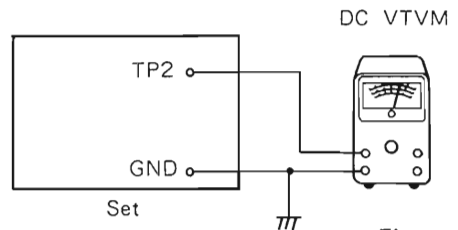


Figure 5

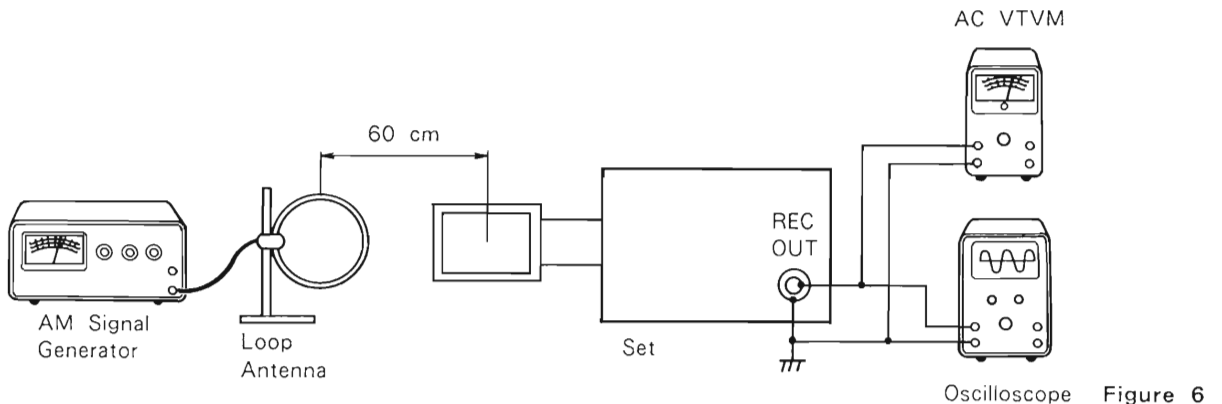
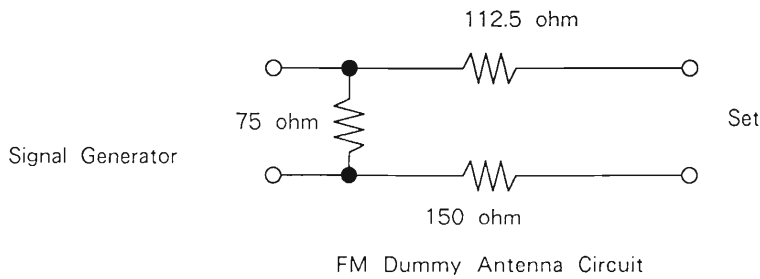


Figure 6

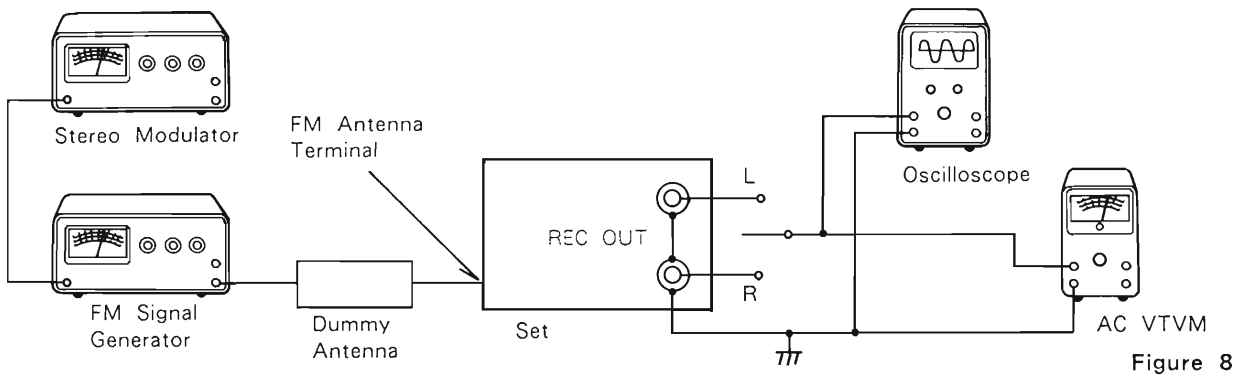
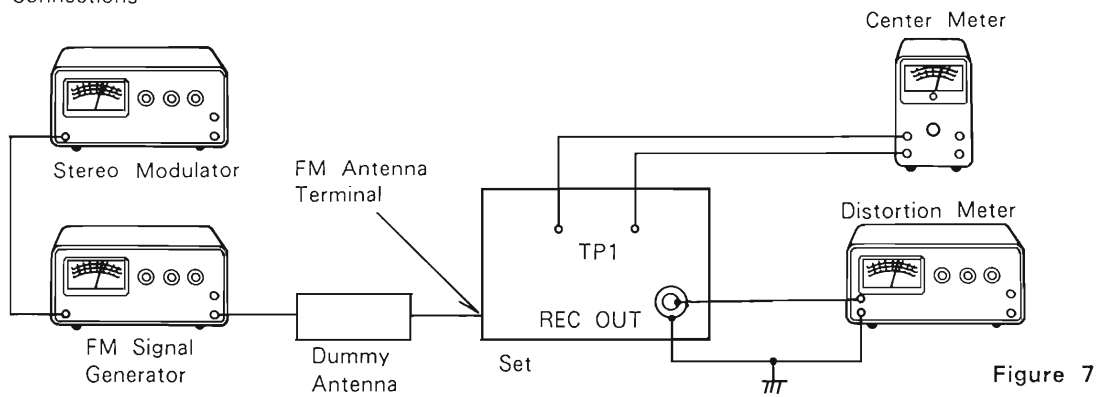
(2) Procedures

Step	Description	Signal Generator	Dial Control	Adjustment Points	Test Points	Connections	Remarks
1	IF Adjustment	IF Sweep Generator (450kHz)	530kHz	IT202	AM Loop Antenna Input Terminal TP3	Figure 4	450kHz waveform for maximum.
2	f Cover	—	(1) 530kHz	L201	TP2	Figure 5	1.2±0.03V 8.2±0.05V Repeat (1) and (2).
			(2) 1,620kHz	TC201			
3	Tracking	AM Signal Generator 400Hz 30% MOD.	(1) 600kHz	L202	REC OUT	Figure 6	Waveform for maximum. Repeat (1) and (2).
			(2) 1,400kHz	TC202			

3. FM Radio



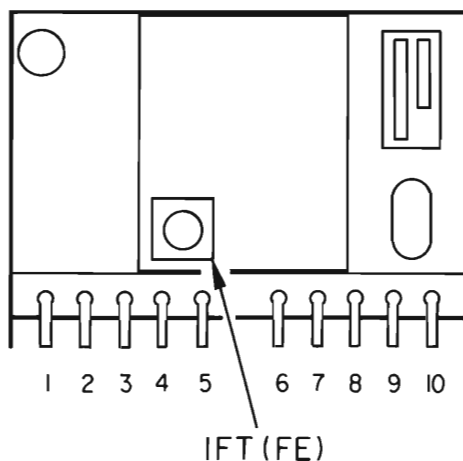
(1) Connections

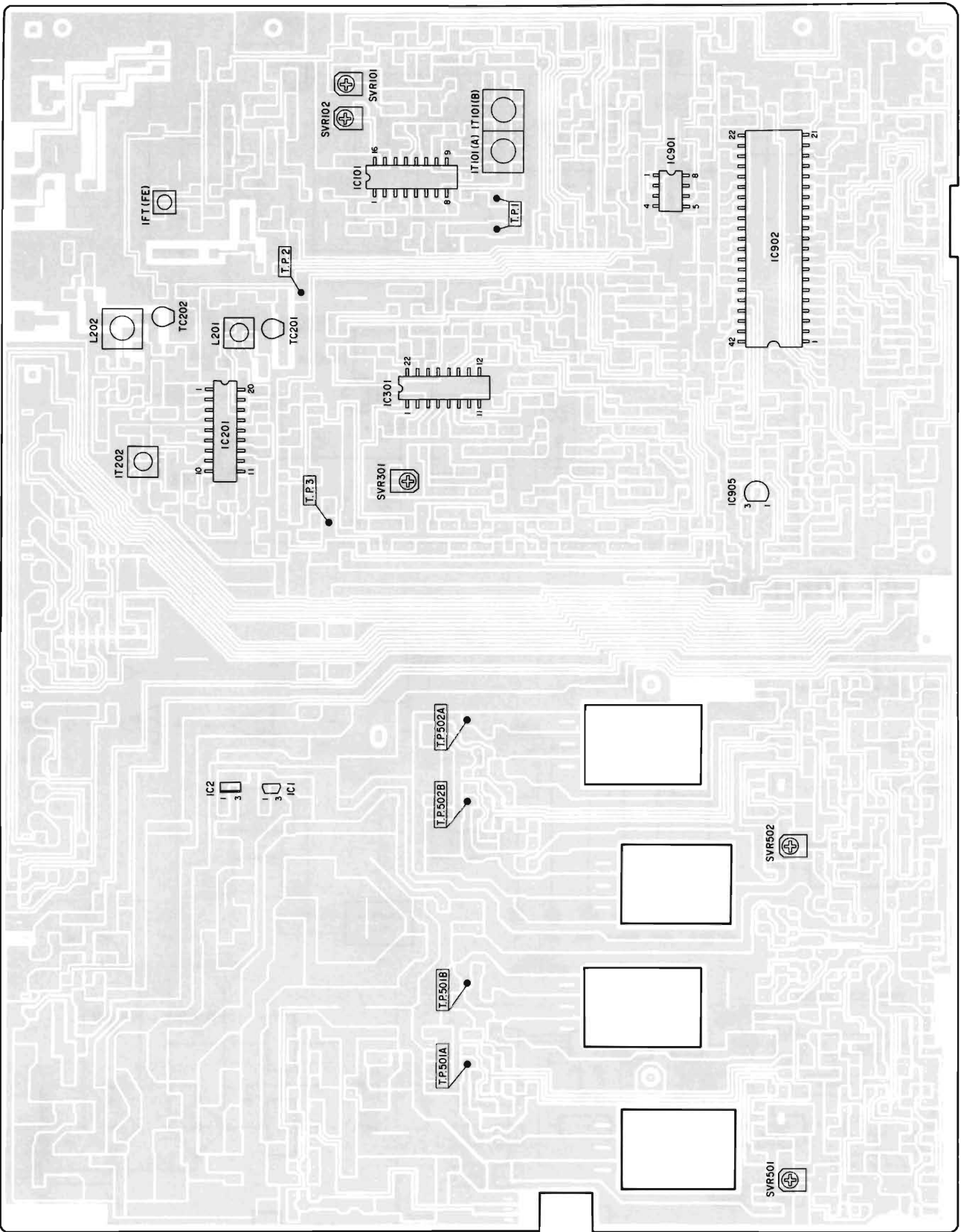


(2) Procedures

Step	Description	Signal Generator	Dial Control	Adjustment Points	Test Points	Connection	Remarks
1	IF Adjustment	FM Signal Generator 98.1MHz. 65dBf 1kHz. 100%	98.1MHz	IT101 (A)	TP1	Figure 7	Mute Switch : OFF Adjust so that the center meter shows 0V.
2	IF Adjustment			IT101 (B)	REC OUT		Adjust so that distortion is minimum.
3	IF Adjustment	FM Signal Generator, Stereo 98.1MHz. 65dBf 1kHz, 100%	98.1MHz	IFT (FE)	REC OUT	Figure 7	Mute Switch : ON (Stereo) Adjust so that distortion is minimum.
4	Muting Level Adjustment	98.1MHz. 32dBf \pm 3dB 1kHz. 100%	98.1MHz	SVR102	REC OUT	Figure 8	Mute Switch : ON Adjust so that the signal completely generates.
5	Signal Meter Adjustment	98.1MHz. 62dBf \pm 3dB 1kHz. 100%	98.1MHz	SVR101	Signal Meter	Figure 8	Adjust so that the fifth LED light up on signal strength indicator.
6	Separation Adjustment	98.1MHz. 65dBf Stereo 1kHz. 100%	98.1MHz	SVR301	REC OUT	Figure 8	Adjust so that signal leakage is minimum between the Right and Left channels.

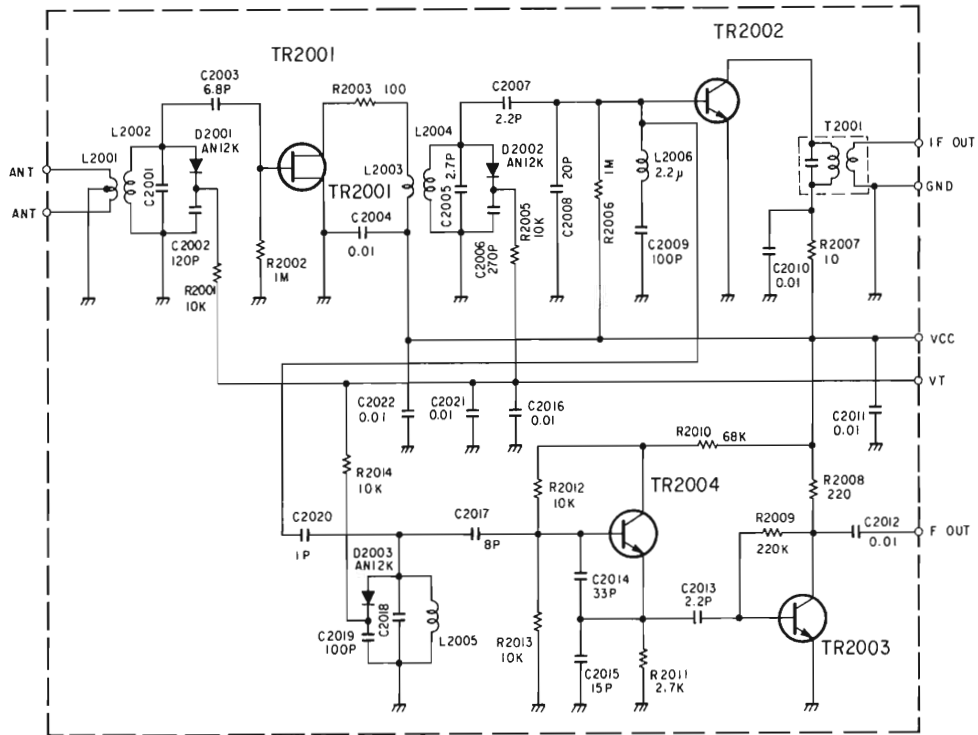
Adjustment Locations



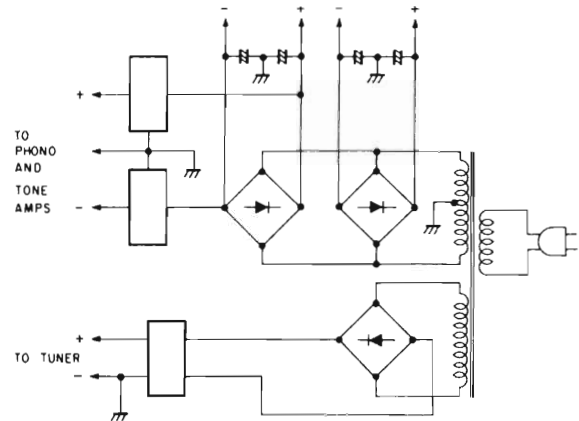
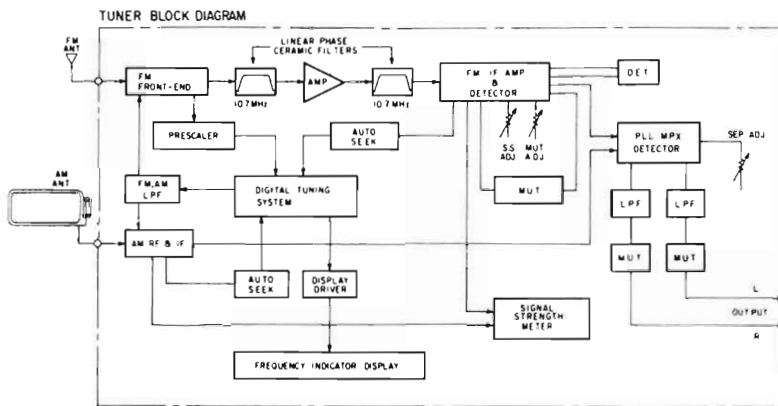
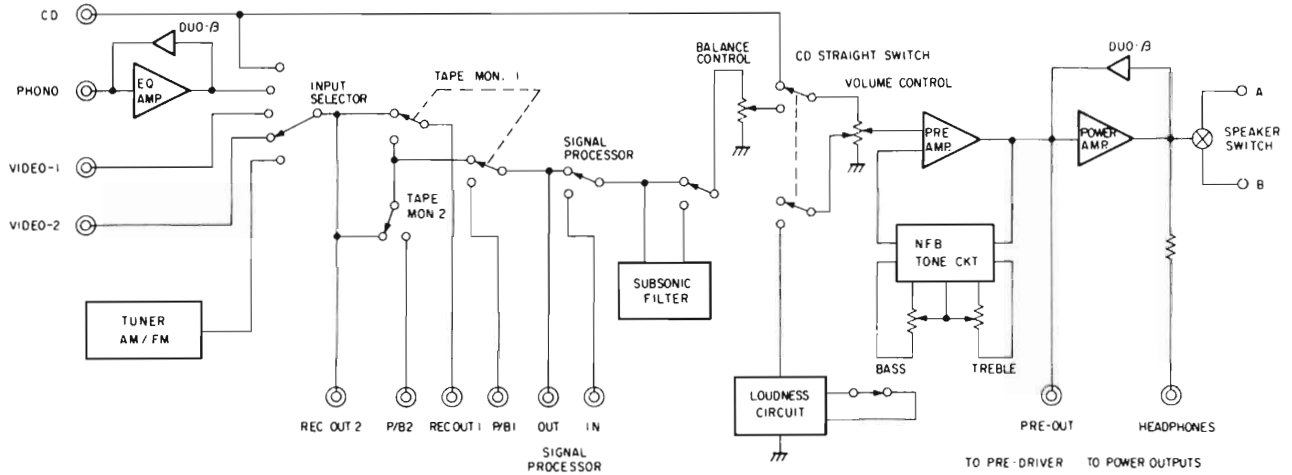


Main P. C. Board

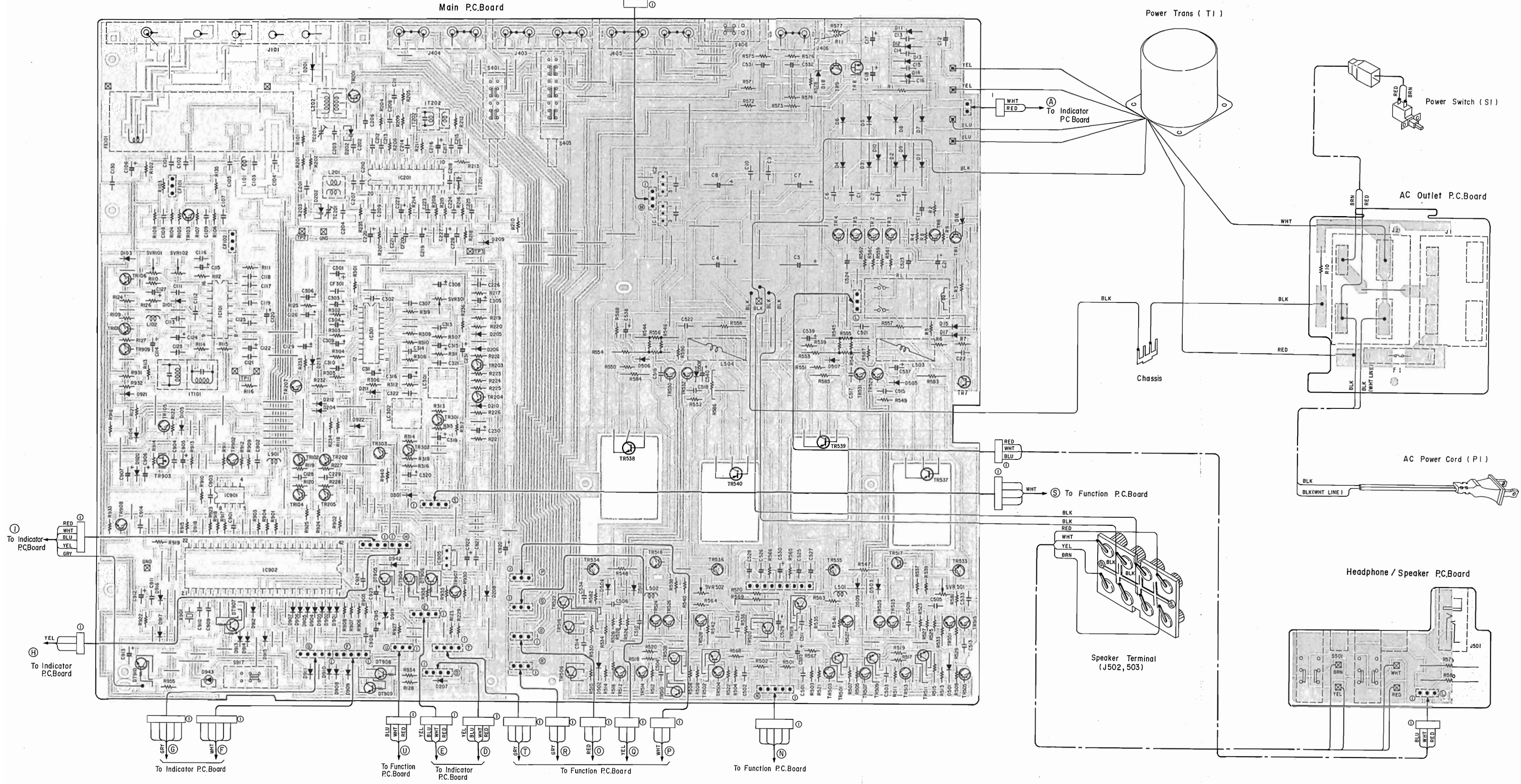
FM Tuner Schematic Diagram



Block Diagram

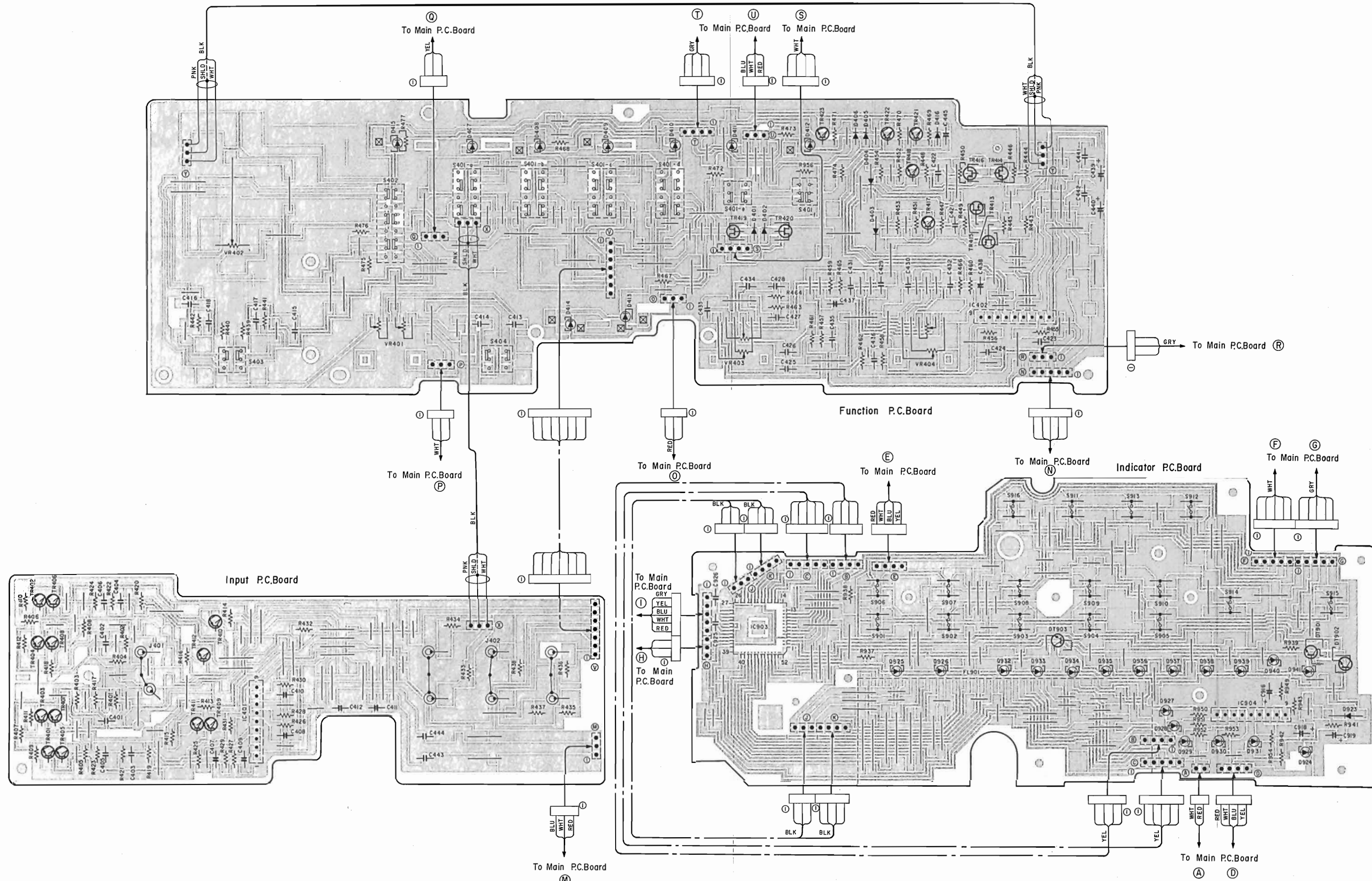


Parts Layout on P.C. Boards and Wiring Diagram (1/2)



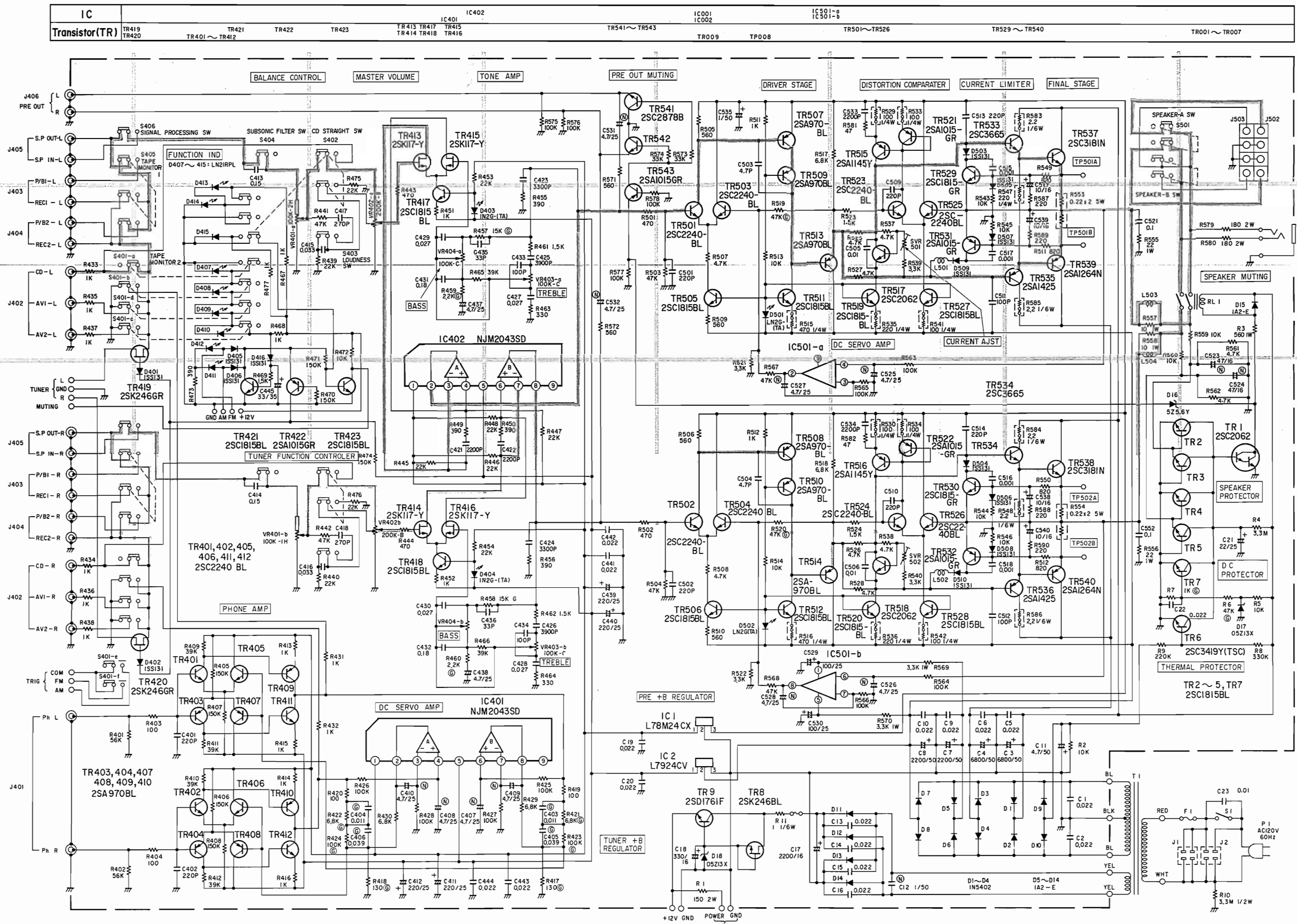
- BLU Blue
- GRN Green
- BLK Black
- GRY Gray
- WHT White
- RED Red
- BRN Brown
- ORG Orange
- YEL Yellow
- VIO Violet
- GRN/WHT Green/White
- GRY/WHT Gray/White
- GRY/YEL Gray/Yellow
- GRN/YEL Green/Yellow
- SHLD Shield

Parts Layout on P.C. Boards and Wiring Diagram (2/2)



- BLU Blue
- GRN Green
- BLK Black
- GRY Gray
- WHT White
- RED Red
- BRN Brown
- ORG Orange
- YEL Yellow
- VIO Violet
- GRN/WHT Green/White
- GRY/WHT Gray/White
- GRY/YEL Gray/Yellow
- GRN/YEL Green/Yellow
- SHLD Shield

Schematic Diagram (1/2)



IC	E	C	B
TR 1	0V	0.72V	1.28V
TR 2	0V	1.28V	0V
TR 3	0V	1.28V	0V
TR 4	0V	1.28V	0V
TR 5	0V	1.28V	0V
TR 6	0V	1.28V	0V
TR 7	0V	1.28V	0.28V
TR 8	18V	18.7V	18V
TR 9	12.4V	18.7V	18V

IC 2	E	C	B
TR 1	-0.55V	21.2V	0V
TR 2	0.55V	-21.7V	0V
TR 3	-0.55V	24V	0V
TR 4	0.55V	-24V	0V
TR 5	21.8V	0V	21.2V
TR 6	-22.8V	-0V	-21.7V
TR 7	0.2V	10.8V	0V
TR 8	0.2V	10.2V	0V
TR 9	-22.8V	0.2V	-22.2V
TR 10	0V	0V	-24V
TR 11	0V	0.1V	0.7V
TR 12	0.1V	-24V	0V
TR 13	0V	11.2V	0V
TR 14	-0.58V	38.4V	0V
TR 15	-0.54V	37V	0V
TR 16	-35.7V	-10.5V	-35.1V
TR 17	37V	30.8V	38.4V
TR 18	30.8V	-0.58V	30V
TR 19	-35.7V	-0.58V	-35.1V
TR 20	0V	-37V	-0.58V
TR 21	36.4V	1.17V	35.8V
TR 22	-1.15V	1.17V	0V
TR 23	-35.1V	-1.15V	-35.7V
TR 24	36.4V	35.8V	35.8V
TR 25	-0.58V	35.8V	0V
TR 26	-0.58V	37V	0V
TR 27	-35.7V	-0.58V	-35.1V
TR 28	0V	1V	0V
TR 29	0V	-1V	0V
TR 30	0.58V	37V	1.17V
TR 31	-0.58V	-37V	-1.15V
TR 32	0.01V	37V	0.58V
TR 33	-0.01V	-37V	-0.58V
TR 34	0V	0V	0V
TR 35	0V	0V	0V

IC 4 0 1	E	C	B
TR 1	18.5V	2V	0V
TR 2	0V	3V	0V
TR 3	0V	4V	0V
TR 4	0V	5V	0V
TR 5	0V	4V	0V
TR 6	0V	3V	0V
TR 7	0V	2V	0V
TR 8	0V	1V	0V
TR 9	0V	24V	0V

IC 5 0 1	E	C	B
TR 1	18.5V	2V	0V
TR 2	0V	3V	0V
TR 3	0V	4V	0V
TR 4	0V	5V	0V
TR 5	0V	4V	0V
TR 6	0V	3V	0V
TR 7	0V	2V	0V
TR 8	0V	1V	0V
TR 9	0V	24V	0V

IC 5 0 1	E	C	B
TR 1	18.5V	2V	0V
TR 2	0V	3V	0V
TR 3	0V	4V	0V
TR 4	0V	5V	0V
TR 5	0V	4V	0V
TR 6	0V	3V	0V
TR 7	0V	2V	0V
TR 8	0V	1V	0V
TR 9	0V	24V	0V

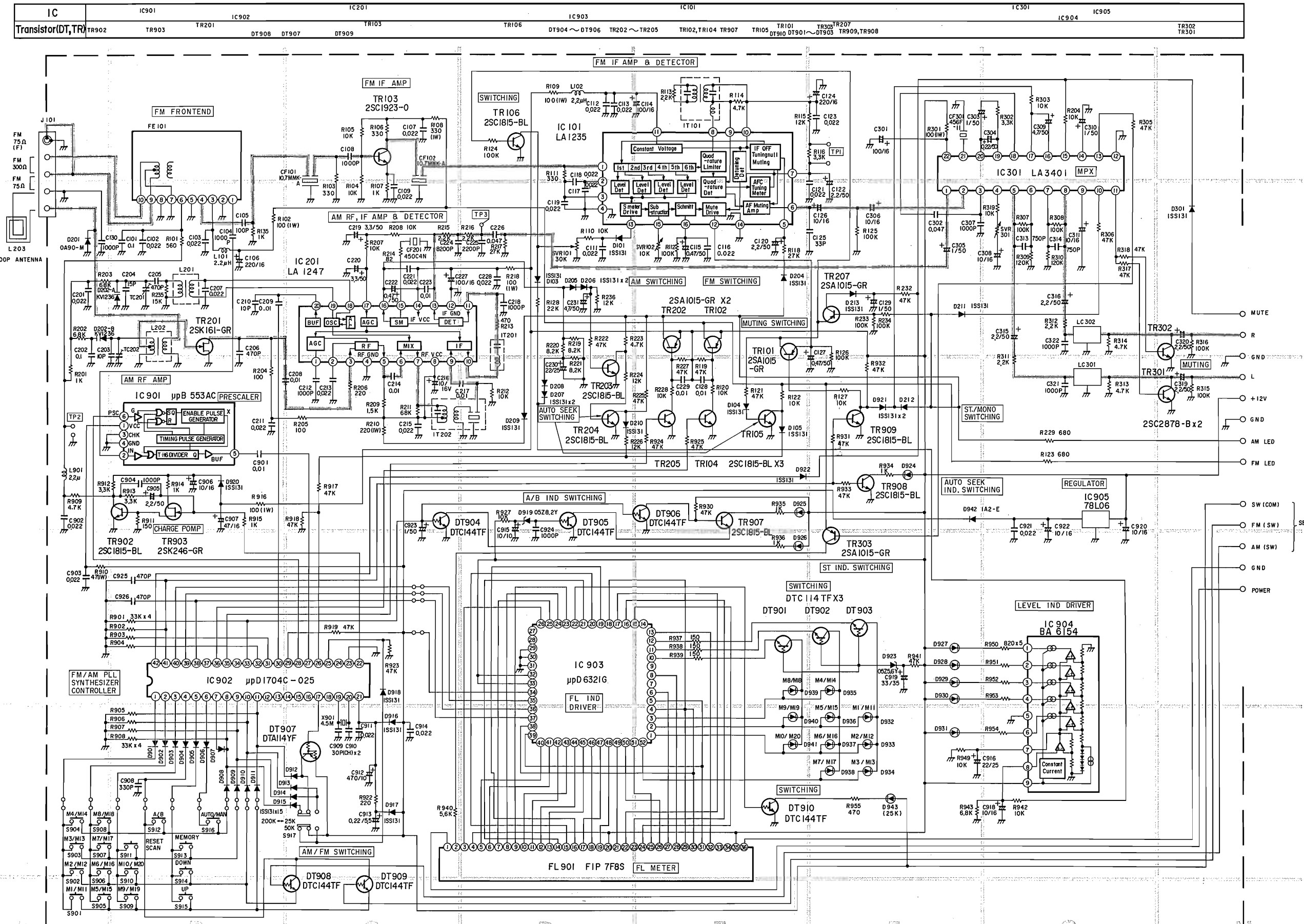
IC 5 0 1	E	C	B
TR 1	18.5V	2V	0V
TR 2	0V	3V	0V
TR 3	0V	4V	0V
TR 4	0V	5V	0V
TR 5	0V	4V	0V
TR 6	0V	3V	0V
TR 7	0V	2V	0V
TR 8	0V	1V	0V
TR 9	0V	24V	0V

IC 5 0 1	E	C	B
TR 1	18.5V	2V	0V
TR 2	0V	3V	0V
TR 3	0V	4V	0V
TR 4	0V	5V	0V
TR 5	0V	4V	0V
TR 6	0V	3V	0V
TR 7	0V	2V	0V
TR 8	0V	1V	0V
TR 9	0V	24V	0V

IC 5 0 1	E	C	B
TR 1	18.5V	2V	0V
TR 2	0V	3V	0V
TR 3	0V	4V	0V
TR 4	0V	5V	0V
TR 5	0V	4V	0V
TR 6	0V	3V	0V
TR 7	0V	2V	0V
TR 8	0V	1V	0V
TR 9	0V	24V	0V

NOTES:
 1. All resistance values are in ohms. K = 1,000
 2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Schematic Diagram (2/2)



NOTES:
 1. All resistance values are in ohms. K = 1,000
 2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

	E	C	B
TR101	0V(5.2V)	0V(5V)	0V(4.4V)
TR102	12.4V	0V(12V)	0V(12V)
TR103	4.4V	9.5V	5.1V
TR104	0V	0V(12V)	0V(4.5V)
TR105	0V	0V(10V)	0V(0.6V)
TR106	0V	0V(1.4V)	0V(0.6V)
TR201	(S)	(D)	(G)
	0V	6.8V	0V
TR202	12.4V	0V(12V)	0V(12V)
TR203	0V	2.9V(0V)	0V(0.6V)
TR204	0V	8.5V(0V)	0V(2.9V)
TR205	0V	0V(12V)	0V(4.5V)
TR207	0V(5V)	0V(4.6V)	0V(4.5V)
TR301	0V	0V	0V(0.6V)
TR302	0V	0V	0V(0.6V)
TR303	12.2V	1V(12.2V)	11V(0.6V)
TR902	0V	1V~8.2V	0.7V
TR903	(S)	(D)	(G)
	0.7V	7V	0.9V
TR907	0V	0.2V(10.8V)	0V(0.6V)
TR908	0V	11V(0V)	0V(0.7V)
TR909	0V	11V(0V)	0V(0.6V)

	E	C	B
DT901	3.5V(2.4V)	3.5V(2.4V)	1.8V
DT902	3.5V(2.4V)	3.5V(2.4V)	1.8V
DT903	3.5V(2.4V)	3.5V(2.4V)	1.8V
DT904	0V	10.8V(2V)	0V(4.2V)
DT905	0V	0.18V	3.5V
DT906	0V	10.8V(0V)	0V(4.2V)
DT907	5.2V	0.6V	4.5V
DT908	0V	4V	0V
DT909	0V	4V	0V
DT910	0V	4V	12V(0V)

IC 901			IC 904		
1	0.25V	7 0V	1	4.7V	1 10.8V
2	0V	8 0V	2	4V	2 1.4V
3	11V	9 0V	3	0V	3 10.8V
4	0V	10 0V	4	0V	4 1.4V
5	0V		5	3.5V	5 10.8V
6	1V		6	0.4V	6 1.4V
7	0V		7	0V	7 10.8V
8	0V		8	0V	8 1.4V

IC 101			IC 902		
1	2.9V	10 6.2V	1	3.9V	16 4.5V
2	2.9V	11 10.8V	2	3.9V	17 4.5V
3	2.9V	12 0V	3	3.9V	18 4.5V
4	0V		4	3.7V	19 34 0V
5	0.3V	13 0V	5	2.9V	20 2.2V
6	0.8V		6	3.5V	21 4.5V
7	0.2V	14 0V	7	1.7V	22 0.9V
8	0.2V	15 0.6V	8	1.7V	23 0V
9	0.2V	16 3.4V	9	0V	24 0V
10	0.2V	17 0.6V	10	0V	25 4.5V
11	0.2V	18 3.4V	11	0.2V	26 0V
12	4.5V	27 2.9V	12	4.5V	27 2.9V
13	4.5V	28 0V	13	4.5V	28 0V
14	4.5V	29 5V	14	4.5V	29 5V
15	4.5V	30 4.5V	15	4.5V	30 4.5V

IC 201			IC 903		
1	5.6V	12 0V	1	4.2V	14 12.2V
2	2.1V	13 2.2V	2	0.6V	15 0V
3	2.7V	14 11V	3	0.6V	16 0V
4	0V	15 1.6V	4	0.6V	17 2.1V
5	3.3V	16 0V	5	0.6V	18 5.6V
6	2V	17 2.1V	6	0.6V	19 5.6V
7	0V	18 2.8V	7	0.6V	20 5V
8	0.2V	19 5.6V	8	0.6V	21 5V
9	0.2V	20 5V	9	0.6V	22 5V
10	0.2V	21 5V	10	0.6V	23 5V
11	0.2V	22 5V	11	0.6V	24 5V
12	0.2V	23 5V	12	0.6V	25 5V
13	0.2V	24 5V	13	0.6V	26 5V
14	0.2V	25 5V	14	0.6V	27 5V
15	0.2V	26 5V	15	0.6V	28 5V
16	0.2V	27 5V	16	0.6V	29 5V
17	0.2V	28 5V	17	0.6V	30 5V
18	0.2V	29 5V	18	0.6V	31 5V
19	0.2V	30 5V	19	0.6V	32 5V
20	0.2V	31 5V	20	0.6V	33 5V
21	0.2V	32 5V	21	0.6V	34 5V
22	0.2V	33 5V	22	0.6V	35 5V
23	0.2V	34 5V	23	0.6V	36 5V
24	0.2V	35 5V	24	0.6V	37 5V
25	0.2V	36 5V	25	0.6V	38 5V
26	0.2V	37 5V	26	0.6V	39 5V
27	0.2V	38 5V	27	0.6V	40 5V
28	0.2V	39 5V	28	0.6V	41 5V
29	0.2V	40 5V	29	0.6V	42 5V
30	0.2V	41 5V	30	0.6V	43 5V
31	0.2V	42 5V	31	0.6V	44 5V
32	0.2V	43 5V	32	0.6V	45 5V
33	0.2V	44 5V	33	0.6V	46 5V
34	0.2V	45 5V	34	0.6V	47 5V
35	0.2V	46 5V	35	0.6V	48 5V
36	0.2V	47 5V	36	0.6V	49 5V
37	0.2V	48 5V	37	0.6V	50 5V
38	0.2V	49 5V	38	0.6V	51 5V
39	0.2V	50 5V	39	0.6V	52 5V
40	0.2V	51 5V	40	0.6V	53 5V
41	0.2V	52 5V	41	0.6V	54 5V
42	0.2V	53 5V	42	0.6V	55 5V
43	0.2V	54 5V	43	0.6V	56 5V
44	0.2V	55 5V	44	0.6V	57 5V
45	0.2V	56 5V	45	0.6V	58 5V
46	0.2V	57 5V	46	0.6V	59 5V
47	0.2V	58 5V	47	0.6V	60 5V
48	0.2V	59 5V	48	0.6V	61 5V
49	0.2V	60 5V	49	0.6V	62 5V
50	0.2V	61 5V	50	0.6V	63 5V
51	0.2V	62 5V	51	0.6V	64 5V
52	0.2V	63 5V	52	0.6V	65 5V
53	0.2V	64 5V	53	0.6V	66 5V
54	0.2V	65 5V	54	0.6V	67 5V
55	0.2V	66 5V	55	0.6V	68 5V
56	0.2V	67 5V	56	0.6V	69 5V
57	0.2V	68 5V	57	0.6V	70 5V
58	0.2V	69 5V	58	0.6V	71 5V
59	0.2V	70 5V	59	0.6V	72 5V
60	0.2V	71 5V	60	0.6V	73 5V
61	0.2V	72 5V	61	0.6V	74 5V
62	0.2V	73 5V	62	0.6V	75 5V
63	0.2V	74 5V	63	0.6V	76 5V
64	0.2V	75 5V	64	0.6V	77 5V
65	0.2V	76 5V	65	0.6V	78 5V
66	0.2V	77 5V	66	0.6V	79 5V
67	0.2V	78 5V	67	0.6V	80 5V
68	0.2V	79 5V	68	0.6V	81 5V
69	0.2V	80 5V	69	0.6V	82 5V
70	0.2V	81 5V	70	0.6V	83 5V
71	0.2V	82 5V	71	0.6V	84 5V
72	0.2V	83 5V	72	0.6V	85 5V
73	0.2V	84 5V	73	0.6V	86 5V
74	0.2V	85 5V	74	0.6V	87 5V
75	0.2V	86 5V	75	0.6V	88 5V
76	0.2V	87 5V	76	0.6V	89 5V
77	0.2V	88 5V	77	0.6V	90 5V
78	0.2V	89 5V	78	0.6V	91 5V
79	0.2V	90 5V	79	0.6V	92 5V
80	0.2V	91 5V	80	0.6V	93 5V
81	0.2V	92 5V	81	0.6V	94 5V
82	0.2V	93 5V	82	0.6V	95 5V
83	0.2V	94 5V	83	0.6V	96 5V
84	0.2V	95 5V	84	0.6V	97 5V
85	0.2V	96 5V	85	0.6V	98 5V
86	0.2V	97 5V	86	0.6V	99 5V
87	0.2V	98 5V	87	0.6V	100 5V
88	0.2V	99 5V	88	0.6V	101 5V
89	0.2V	100 5V	89	0.6V	102 5V
90	0.2V	101 5V	90	0.6V	103 5V
91	0.2V	102 5V	91	0.6V	104 5V
92	0.2V	103 5V	92	0.6V	105 5V
93	0.2V	104 5V	93	0.6V	106 5V
94	0.2V	105 5V	94	0.6V	107 5V
95	0.2V	106 5V	95	0.6V	108 5V
96	0.2V	107 5V	96	0.6V	109 5V
97	0.2V	108 5V	97	0.6V	110 5V
98	0.2V	109 5V	98	0.6V	111 5V
99	0.2V	110 5V	99	0.6V	112 5V
100	0.2V	111 5V	100	0.6V	113 5V

R-113

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
 uF = microfarads, pF = picofarads

Abbreviations					Symbol No.	Part No.	Description		
RES. = Resistor					CAP. = Capacitor				
C.F. = Carbon Film					ELY. = Electrolytic				
M.F. = Metal Film					CER. = Ceramic				
M.O. = Metal Oxide Film					MYL. = Mylar				
M.P. = Metal Plate					TAN. = Tantalum				
TR. = Transistor					POLY. = Polystyrol				
TRANS. = Transformer					PP. = Polypropylene				
CP. = Chip					PLT. = Polyethylene				
Symbol No.	Part No.	Description			Switches				
Indicator P. C. Board					S901	92196901	Tact. KEY01C1PE		
IC's					S902	92196901	Tact. KEY01C1PE		
IC903	92128033	UPD6321G			S903	92196901	Tact. KEY01C1PE		
IC904	92117628	BA6154			S904	92196901	Tact. KEY01C1PE		
Transistors					S905	92196901	Tact. KEY01C1PE		
DT901	92128028	DTC114TF			S906	92196901	Tact. KEY01C1PE		
DT902	92128028	DTC114TF			S907	92196901	Tact. KEY01C1PE		
DT903	92128028	DTC114TF			S908	92196901	Tact. KEY01C1PE		
Diode/LEDs					S909	92196901	Tact. KEY01C1PE		
D923	37110017	Zener. 05Z5.6Y			S910	92196901	Tact. KEY01C1PE		
D924	92119303	LED. LN210RP (RED)			S911	92196612	Tact. KEY1C1K-Y-E B3F-1152		
D925	92119312	LED. LN21RPL (RED)			S912	92196612	Tact. KEY1C1K-Y-E B3F-1152		
D926	92119312	LED. LN21RPL (RED)			S913	92196612	Tact. KEY1C1K-Y-E B3F-1152		
D927	92119303	LED. LN210RP (RED)			S914	92196901	Tact. KEY01C1PE		
D928	92119303	LED. LN210RP (RED)			S915	92196901	Tact. KEY01C1PE		
D929	92119303	LED. LN210RP (RED)			S916	92196612	Tact. KEY1C1K-Y-E B3F-1152		
D930	92119303	LED. LN210RP (RED)			Capacitors				
D931	92119303	LED. LN210RP (RED)			C916	90416220	ELY.. 22 μ F/25V		
D932	92119312	LED. LN21RPL (RED)			C919	90415330	ELY.. 33 μ F/16V		
D933	92119312	LED. LN21RPL (RED)			C925	90353471	Axial CER.. 470pF		
D934	92119312	LED. LN21RPL (RED)			C926	90353471	Axial CER.. 470pF		
D935	92119312	LED. LN21RPL (RED)			Resistors (All resistors are Carbon 1/6W \pm 5% unless otherwise noted.)				
D936	92119312	LED. LN21RPL (RED)			R937	90512151	150 ohm		
D937	92119312	LED. LN21RPL (RED)			R938	90512151	150 ohm		
D938	92119312	LED. LN21RPL (RED)			R939	90512151	150 ohm		
D939	92119312	LED. LN21RPL (RED)			R941	90512473	47k ohm		
D940	92119312	LED. LN21RPL (RED)			R942	90512103	10k ohm		
D941	92119312	LED. LN21RPL (RED)			R943	90512682	6.8k ohm		
					R949	90512103	10k ohm		
					R950	90512821	820 ohm		
					R951	90512821	820 ohm		
					R952	90512821	820 ohm		
					R953	90512821	820 ohm		
					R954	90512821	820 ohm		

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
Input P. C. Board									
IC									
IC401	92128047	NJM2043SD			R406	90512154	150k ohm		
Transistors					R407	90512154	150k ohm		
TR401	36325845	2SC2240NEW-BL			R408	90512154	150k ohm		
TR402	36325845	2SC2240NEW-BL			R409	90512393	39k ohm		
TR403	A6533645	2SA970NEW-BL			R410	90512393	39k ohm		
TR404	A6533645	2SA970NEW-BL			R411	90512393	39k ohm		
TR405	36325845	2SC2240NEW-BL			R412	90512393	39k ohm		
TR406	36325845	2SC2240NEW-BL			R413	90512102	1k ohm		
TR407	A6533645	2SA970NEW-BL			R414	90512102	1k ohm		
TR408	A6533645	2SA970NEW-BL			R415	90512102	1k ohm		
TR409	A6533645	2SA970NEW-BL			R416	90512102	1k ohm		
TR410	A6533645	2SA970NEW-BL			R417	90520014	M.F., 130 ohm ($\pm 1\%$)		
TR411	36325845	2SC2240NEW-BL			R418	90520014	M.F., 130 ohm ($\pm 1\%$)		
TR412	36325845	2SC2240NEW-BL			R419	90512101	100 ohm		
Capacitors					R420	90512101	100 ohm		
C401	90353221	Axial CER., 220pF			R421	92570733	M.F., 6.8k ohm ($\pm 1\%$)		
C402	90353221	Axial CER., 220pF			R422	92570733	M.F., 6.8k ohm ($\pm 1\%$)		
C403	90380005	PP., 0.011 μ F $\pm 2\%$			R423	90520037	M.F., 110k ohm ($\pm 1\%$)		
C404	90380005	PP., 0.011 μ F $\pm 2\%$			R424	90520037	M.F., 110k ohm ($\pm 1\%$)		
C405	90380006	PP., 0.039 μ F $\pm 2\%$			R425	90512104	100k ohm		
C406	90380006	PP., 0.039 μ F $\pm 2\%$			R426	90512104	100k ohm		
C407	90450019	ELY., Non Polar 4.7 μ F/16V			R427	90512104	100k ohm		
C408	90450019	ELY., Non Polar 4.7 μ F/16V			R428	90512104	100k ohm		
C409	90450019	ELY., Non Polar 4.7 μ F/16V			R429	90512682	6.8k ohm		
C410	90450019	ELY., Non Polar 4.7 μ F/16V			R430	90512682	6.8k ohm		
C411	90416470	ELY., 47 μ F/25V			R431	90512102	1k ohm		
C412	90416470	ELY., 47 μ F/25V			R432	90512102	1k ohm		
C443	90351223	Axial CER., 0.022 μ F			R433	90512102	1k ohm		
C444	90351223	Axial CER., 0.022 μ F			R434	90512102	1k ohm		
Resistors (All resistors are Carbon 1/6W \pm 5% unless otherwise noted.)					R435	90512102	1k ohm		
R401	90512563	56k ohm			R436	90512102	1k ohm		
R402	90512563	56k ohm			R437	90512102	1k ohm		
R403	90512101	100 ohm			R438	90512102	1k ohm		
R404	90512101	100 ohm			Function P. C. Board				
R405	90512154	150k ohm			IC/Transistors				
					IC402	92128047	IC. NJM2043SD		
					TR413	A6041840	Field Effect. 2SK117-Y		
					TR414	A6041840	Field Effect. 2SK117-Y		
					TR415	A6041840	Field Effect. 2SK117-Y		
					TR416	A6041840	Field Effect. 2SK117-Y		

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
TR417	36317480	2SC1815NEW-BL			C418	90353271	Axial CER.. 270pF		
TR418	36317480	2SC1815NEW-BL			C421	90329222	Axial CER.. 2200pF		
TR419	36044630	Field Effect. 2SK246-GR			C422	90329222	Axial CER.. 2200pF		
TR420	36044630	Field Effect. 2SK246-GR			C423	90329332	Axial CER.. 3300pF		
TR421	36317480	2SC1815NEW-BL			C424	90329332	Axial CER.. 3300pF		
TR422	36534060	2SA1015-GR			C425	90371392	Polyester Film, 3900pF		
TR423	36317480	2SC1815NEW-BL			C426	90371392	Polyester Film, 3900pF		
Diodes/LEDs					C427	90371273	Polyester Film, 0.027 μ F		
D401	92119223	1SS131			C428	90371273	Polyester Film, 0.027 μ F		
D402	92119223	1SS131			C429	90371273	Polyester Film, 0.027 μ F		
D403	92119311	LED, LN2G- (TA) (RED)			C430	90371273	Polyester Film, 0.027 μ F		
D404	92119311	LED, LN2G- (TA) (RED)			C431	92370329	T.F., 0.18 μ F		
D405	92119223	1SS131			C432	92370329	T.F., 0.18 μ F		
D406	92119223	1SS131			C433	90353101	Axial CER., 100pF		
D407	92119312	LED, LN21RPL (RED)			C434	90353101	Axial CER., 100pF		
D408	92119312	LED, LN21RPL (RED)			C435	90353330	Axial CER., 33pF		
D409	92119312	LED, LN21RPL (RED)			C436	90353330	Axial CER., 33pF		
D410	92119312	LED, LN21RPL (RED)			C437	90450019	ELY.. Non Polar, 4.7 μ F/16V		
D411	92119312	LED, LN21RPL (RED)			C438	90450019	ELY.. Non Polar, 4.7 μ F/16V		
D412	92119312	LED, LN21RPL (RED)			C439	90416470	ELY.. 47 μ F/25V		
D413	92119312	LED, LN21RPL (RED)			C440	90416470	ELY.. 47 μ F/25V		
D414	92119312	LED, LN21RPL (RED)			C441	90351223	Axial CER.. 0.022 μ F		
D415	92119312	LED, LN21RPL (RED)			C442	90351223	Axial CER.. 0.022 μ F		
D416	92119223	1SS131			C445	90417330	ELY.. 33 μ F/35V		
Switches					Resistors (All resistors are Carbon 1/6W \pm 5% unless otherwise noted.)				
S401	92190245	Push, SPEA 64			R439	90512223	22k ohm		
S402	92190247	Push, SPEC 12			R440	90512223	22k ohm		
S403	92190242	Push, SPEC 12			R441	90512473	47k ohm		
S404	92190242	Push, SPEC 12			R442	90512473	47k ohm		
Capacitors					R443	90512471	470 ohm		
C413	92370345	T.F., 0.15 μ F			R444	90512471	470 ohm		
C414	92370345	T.F., 0.15 μ F			R445	90512223	22k ohm		
C415	90371333	Polyester Film, 0.033 μ F			R446	90512223	22k ohm		
C416	90371333	Polyester Film, 0.033 μ F			R447	90512223	22k ohm		
C417	90353271	Axial CER., 270pF			R448	90512223	22k ohm		
					R449	90512391	390 ohm		
					R450	90512391	390 ohm		
					R451	90512102	1k ohm		
					R452	90512102	1k ohm		
					R453	90512223	22k ohm		

Symbol No.	Part No.	Description		
R454	90512223	22k ohm		
R455	90512391	390 ohm		
R456	90512391	390 ohm		
R457	92570737	M.F., 15k ohm ($\pm 1\%$)		
R458	92570737	M.F., 15k ohm ($\pm 1\%$)		
R459	92570727	M.F., 2.2k ohm ($\pm 1\%$)		
R460	92570727	M.F., 2.2k ohm ($\pm 1\%$)		
R461	90512152	1.5k ohm		
R462	90512152	1.5k ohm		
R463	90512331	330 ohm		
R464	90512331	330 ohm		
R467	90512102	1k ohm		
R468	90512102	1k ohm		
R469	90512152	1.5k ohm		
R470	90512154	150k ohm		
R471	90512154	150k ohm		
R472	90512103	10k ohm		
R473	90512391	390 ohm		
R474	90512154	150k ohm		
R475	90512223	22k ohm		
R476	90512223	22k ohm		
R477	90512102	1k ohm		
R956	90512473	47k ohm		
VR401	92650214	Variable Volume, 100k ohm - D		
VR402	92650213	Variable Volume, 200k ohm - D - T		
VR403	92650215	Variable Volume, 100k ohm - D		
VR404	92650215	Variable Volume, 100k ohm - D		
Headphone/Speaker P. C. Board				
Resistors				
R579	90524181	M.O., 180 ohm 2W		
R580	90524181	M.O., 180 ohm 2W		
AC Outlet P. C. Board				
Resistor				
R10	90516335	C.F., 3.3M ohm 1/2W		

Symbol No.	Part No.	Description		
Main P. C. Board				
IC's				
IC1	92128066	L78M24CX		
IC2	92128067	L7924CV		
IC101	92128029	LA1235		
IC201	92128031	LA1247		
IC301	92128030	LA3401		
IC901	92117452	UPB553AC		
IC902	92128032	UPD1704C - 025		
IC905	92128064	NJM78L06A		
Transistors				
TR1	92128068	2SC2062 - C		
TR2	36317480	2SC1815NEW - BL		
TR3	36317480	2SC1815NEW - BL		
TR4	36317480	2SC1815NEW - BL		
TR5	36317480	2SC1815NEW - BL		
TR6	36317480	2SC1815NEW - BL		
TR7	A6361300	2SC3419		
TR8	A6044640	Field Effect, 2SK246 - BL		
TR9	92128115	2SD1761 - F		
TR101	36534060	2SA1015 - GR		
TR102	36534060	2SA1015 - GR		
TR103	36319020	2SC1923 - O		
TR104	36317480	2SC1815NEW - BL		
TR105	36317480	2SC1815NEW - BL		
TR106	36317480	2SC1815NEW - BL		
TR201	36042640	Field Effect, 2SK161 - GR		
TR202	36534060	2SA1015 - GR		
TR203	36317480	2SC1815NEW - BL		
TR204	36317480	2SC1815NEW - BL		
TR205	36317480	2SC1815NEW - BL		
TR207	36534060	2SA1015 - GR		
TR301	36342210	2SC2878 - B		
TR302	36342210	2SC2878 - B		
TR303	36534060	2SA1015 - GR		
TR501	36325845	2SC2240NEW - BL		
TR502	36325845	2SC2240NEW - BL		
TR503	36325845	2SC2240NEW - BL		
TR504	36325845	2SC2240NEW - BL		
TR505	36317480	2SC1815NEW - BL		
TR506	36317480	2SC1815NEW - BL		

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
TR507	A6533645	2SA970NEW-BL			Diodes/LEDs				
TR508	A6533645	2SA970NEW-BL			D1	92119219	1N5402		
TR509	A6533645	2SA970NEW-BL			D2	92119219	1N5402		
TR510	A6533645	2SA970NEW-BL			D3	92119219	1N5402		
TR511	36317480	2SC1815NEW-BL			D4	92119219	1N5402		
TR512	36317480	2SC1815NEW-BL			D5	92119310	1A2-E		
TR513	A6533645	2SA970NEW-BL			D6	92119310	1A2-E		
TR514	A6533645	2SA970NEW-BL			D7	92119310	1A2-E		
TR515	A6540520	2SA1145-Y			D8	92119310	1A2-E		
TR516	A6540520	2SA1145-Y			D9	92119310	1A2-E		
TR517	92128068	2SC2062-C			D10	92119310	1A2-E		
TR518	92128068	2SC2062-C			D11	92119310	1A2-E		
TR519	36317480	2SC1815NEW-BL			D12	92119310	1A2-E		
TR520	36317480	2SC1815NEW-BL			D13	92119310	1A2-E		
TR521	36534060	2SA1015-GR			D14	92119310	1A2-E		
TR522	36534060	2SA1015-GR			D15	92119310	1A2-E		
TR523	36325845	2SC2240NEW-BL			D16	37110017	Zener. 05Z5.6Y		
TR524	36325845	2SC2240NEW-BL			D17	A7110461	Zener. 05Z13-X		
TR525	36325845	2SC2240NEW-BL			D18	A7110461	Zener. 05Z13-X		
TR526	36325845	2SC2240NEW-BL			D101	92119223	1SS131		
TR527	36317480	2SC1815NEW-BL			D103	92119223	1SS131		
TR528	36317480	2SC1815NEW-BL			D104	92119223	1SS131		
TR529	36317460	2SC1815NEW-GR			D105	92119223	1SS131		
TR530	36317460	2SC1815NEW-GR			D201	92115201	Gelma. 20A90		
TR531	36534060	2SA1015-GR			D202	92115848	Variable Capacitance, KV1236Z2		
TR532	36534060	2SA1015-GR			D204	92119223	1SS131		
TR533	A6363620	2SC3665-Y			D205	92119223	1SS131		
TR534	A6363620	2SC3665-Y			D206	92119223	1SS131		
TR535	A6548820	2SA1425-Y			D207	92119223	1SS131		
TR536	A6548820	2SA1425-Y			D208	92119223	1SS131		
TR537	A6358038	2SC3181N			D209	92119223	1SS131		
TR538	A6358038	2SC3181N			D210	92119223	1SS131		
TR539	A6545938	2SA1264N			D211	92119223	1SS131		
TR540	A6545938	2SA1264N			D212	92119223	1SS131		
TR541	36342210	2SC2878-B			D213	92119223	1SS131		
TR542	36342210	2SC2878-B			D301	92119223	1SS131		
TR543	36534060	2SA1015-GR			D501	92119311	LED. LN2G- (TA) (RED)		
TR902	36317480	2SC1815NEW-BL			D502	92119311	LED. LN2G- (TA) (RED)		
TR903	36044630	Field Effect, 2SK246-GR			D503	92119223	1SS131		
TR907	36317480	2SC1815NEW-BL			D504	92119223	1SS131		
TR908	36317480	2SC1815NEW-BL			D505	92119223	1SS131		
TR909	36317480	2SC1815NEW-BL			D506	92119223	1SS131		
DT904	92128062	TR.. DTC144TF			D507	92119223	1SS131		
DT905	92128062	TR.. DTC144TF			D508	92119223	1SS131		
DT906	92128062	TR.. DTC144TF			D509	92119223	1SS131		
DT907	92128069	TR.. DTA114YF			D510	92119223	1SS131		
DT908	92128062	TR.. DTC144TF							
DT909	92128062	TR.. DTC144TF							
DT910	92128062	TR.. DTC144TF							

Symbol No.	Part No.	Description		
D901	92119223	1SS131		
D902	92119223	1SS131		
D903	92119223	1SS131		
D904	92119223	1SS131		
D905	92119223	1SS131		
D906	92119223	1SS131		
D907	92119223	1SS131		
D908	92119223	1SS131		
D909	92119223	1SS131		
D910	92119223	1SS131		
D911	92119223	1SS131		
D912	92119223	1SS131		
D913	92119223	1SS131		
D914	92119223	1SS131		
D915	92119223	1SS131		
D916	92119223	1SS131		
D917	92119223	1SS131		
D918	92119223	1SS131		
D919	37110208	Zener, 05Z8.2Y		
D920	92119223	1SS131		
D921	92119223	1SS131		
D922	92119223	1SS131		
D942	92119310	1A2-E		
D943	92119312	LED, LN21RPL (RED)		
Coils				
L101	92211364	Choke-229-T, 2.2 μ H		
L102	92211364	Choke-229-T, 2.2 μ H		
L201	92245521	OSC-MW		
L202	92243122	ANT-MW		
L501	92211364	Choke-229-T, 2.2 μ H		
L502	92211364	Choke-229-T, 2.2 μ H		
L503	92211228	Choke-AF		
L504	92211228	Choke-AF		
L901	92211364	Choke-229-T, 2.2 μ H		
LC301	92232335	Low Pass Filter		
LC302	92232335	Low Pass Filter		
IT101	92267467	IFT-FM-D		
IT201	92266410	IFT-AM-M		
IT202	92266411	Cerasizer, IFT-AM-M-CE. 450kHz		

Symbol No.	Part No.	Description		
Relay/Switches/Crystal				
RL1	92148506	Relay		
S406	92190219	Switch Slide, SSSU 12		
S501	92190244	Switch Push, SPUL 24		
S917	92190219	Switch Slide, SSSU 12		
X901	92153470	Crystal, 4.5MHz		
Jacks				
J1	92169303	Outlet-2P		
J2	92169303	Outlet-2P		
J101	92186456	Terminal, Antenna		
J401	92198322	US-2P		
J402	92198321	US-6P		
J403	92163901	US4P		
J404	92163901	US4P		
J405	92163901	US4P		
J406	92163904	US2P		
J501	92198320	6.5ST		
Trimmers				
TC201	92309265	CER., 10pF		
TC202	92309265	CER., 10pF		
Filters				
FE101	92131272	FM-FRONTEND		
CF101	92153469	Filter CER., SFE10.7MMK-A		
CF102	92153469	Filter CER., SFE10.7MMK-A		
CF201	92153471	CER., Filter, BFU450C4N		
CF301	92153476	CER., Resonator, CSB456F11		
Capacitors				
C1	90341223	CER., 0.022 μ F		
C2	90341223	CER., 0.022 μ F		
C3	90410017	ELY., 6800 μ F/50V		
C4	90410017	ELY., 6800 μ F/50V		
C5	90341223	CER., 0.022 μ F		

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
C6	90341223	CER., 0.022 μ F			C204	90321120	Axial CER., 12pF		
C7	90410018	ELY., 2200 μ F/50V			C205	92321227	PP., 470pF		
C8	90410018	ELY., 2200 μ F/50V			C206	90353471	Axial CER., 470pF		
C9	90341223	CER., 0.022 μ F			C207	90351223	Axial CER., 0.022 μ F		
C10	90341223	CER., 0.022 μ F			C208	90328103	Axial CER., 0.01 μ F		
C11	90418479	ELY., 4.7 μ F/50V			C209	90328103	Axial CER., 0.01 μ F		
C12	92403077	ELY., Non Polar 1 μ F/50V			C210	90321100	Axial CER., 10pF		
C13	90351223	Axial CER., 0.022 μ F			C211	90351223	Axial CER., 0.022 μ F		
C14	90351223	Axial CER., 0.022 μ F			C212	90353102	Axial CER., 1000pF		
C15	90351223	Axial CER., 0.022 μ F			C213	90351223	Axial CER., 0.022 μ F		
C16	90351223	Axial CER., 0.022 μ F			C214	90328103	Axial CER., 0.01 μ F		
C17	90415222	ELY., 2200 μ F/16V			C215	90351223	Axial CER., 0.022 μ F		
C18	90415331	ELY., 330 μ F/16V			C216	90417100	ELY., 10 μ F/35V		
C19	90351223	Axial CER., 0.022 μ F			C217	90328103	Axial CER., 0.01 μ F		
C20	90351223	Axial CER., 0.022 μ F			C218	90353102	Axial CER., 1000pF		
C21	90416220	ELY., 22 μ F/25V			C219	90418339	ELY., 3.3 μ F/50V		
C22	90351223	Axial CER., 0.022 μ F			C220	90418339	ELY., 3.3 μ F/50V		
C23	92340228	CER., 0.01 μ F/250V			C221	90351223	Axial CER., 0.022 μ F		
C101	90351104	Axial CER., 0.1 μ F			C222	90418478	ELY., 0.47 μ F/50V		
C102	90351223	Axial CER., 0.022 μ F			C223	90328103	Axial CER., 0.01 μ F		
C103	90351223	Axial CER., 0.022 μ F			C224	90371822	Polyester Film, 8200pF		
C104	90353102	Axial CER., 1000pF			C225	90371222	Polyester Film, 2200pF		
C105	90353101	Axial CER., 100pF			C226	90371473	Polyester Film, 0.047 μ F		
C106	90415221	ELY., 220 μ F/16V			C227	90416101	ELY., 100 μ F/25V		
C107	90351223	Axial CER., 0.022 μ F			C228	90351223	Axial CER., 0.022 μ F		
C108	90353102	Axial CER., 1000pF			C229	90328103	Axial CER., 0.01 μ F		
C109	90351223	Axial CER., 0.022 μ F			C230	90416220	ELY., 22 μ F/25V		
C111	90351223	Axial CER., 0.022 μ F			C231	90418479	ELY., 4.7 μ F/50V		
C112	90351223	Axial CER., 0.022 μ F			C301	90416101	ELY., 100 μ F/25V		
C113	90351223	Axial CER., 0.022 μ F			C302	90371473	Polyester Film, 0.047 μ F		
C114	90416101	ELY., 100 μ F/25V			C303	90418109	ELY., 1 μ F/50V		
C115	90418478	ELY., 0.47 μ F/50V			C304	90418228	ELY., 0.22 μ F/50V		
C116	90351223	Axial CER., 0.022 μ F			C305	90418109	ELY., 1 μ F/50V		
C117	90351223	Axial CER., 0.022 μ F			C306	90417100	ELY., 10 μ F/35V		
C118	90351223	Axial CER., 0.022 μ F			C307	90353102	Axial CER., 1000pF		
C119	90351223	Axial CER., 0.022 μ F			C308	90417100	ELY., 10 μ F/35V		
C120	90418229	ELY., 2.2 μ F/50V			C309	90418479	ELY., 4.7 μ F/50V		
C121	90351223	Axial CER., 0.022 μ F			C310	90418109	ELY., 1 μ F/50V		
C122	90418229	ELY., 2.2 μ F/50V			C311	90417100	ELY., 10 μ F/35V		
C123	90351223	Axial CER., 0.022 μ F			C313	90380004	PP., 750pF		
C124	90415221	ELY., 220 μ F/16V			C314	90380004	PP., 750pF		
C125	90321330	Axial CER., 33pF			C315	90418229	ELY., 2.2 μ F/50V		
C126	90417100	ELY., 10 μ F/35V			C316	90418229	ELY., 2.2 μ F/50V		
C127	90418478	ELY., 0.47 μ F/50V			C319	90418229	ELY., 2.2 μ F/50V		
C128	90328103	Axial CER., 0.01 μ F			C320	90418229	ELY., 2.2 μ F/50V		
C129	90418109	ELY., 1 μ F/50V			C321	90371102	Polyester Film, 1000pF		
C130	90353102	Axial CER., 1000pF			C322	90371102	Polyester Film, 1000pF		
C201	90351223	Axial CER., 0.022 μ F			C501	90353221	Axial CER., 220pF		
C202	90351104	Axial CER., 0.1 μ F			C502	90353221	Axial CER., 220pF		
C203	90321100	Axial CER., 10pF			C503	90321479	Axial CER., 4.7pF		

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
C504	90321479	Axial CER., 4.7pF			C913	90400005	Electric Double Layer (FY) 0.22 μ F/5.5V		
C505	90328103	Axial CER., 0.01 μ F			C914	90351223	Axial CER., 0.022 μ F		
C506	90328103	Axial CER., 0.01 μ F			C915	90417100	ELY., 10 μ F/35V		
C509	90353221	Axial CER., 220pF			C918	90417100	ELY., 10 μ F/35V		
C510	90353221	Axial CER., 220pF			C920	90417100	ELY., 10 μ F/35V		
C511	90353101	Axial CER., 100pF			C921	90351223	Axial CER., 0.022 μ F		
C512	90353101	Axial CER., 100pF			C922	90417100	ELY., 10 μ F/35V		
C513	90353221	Axial CER., 220pF			C923	90418109	ELY., 1 μ F/50V		
C514	90353221	Axial CER., 220pF			C924	90353102	Axial CER., 1000pF		
C515	90353102	Axial CER., 1000pF							
C516	90353102	Axial CER., 1000pF			Resistors (All resistors are Carbon 1/6W \pm 5% unless noted.)				
C517	90353102	Axial CER., 1000pF			R1	90524151	M.O., 150 ohm 2W		
C518	90353102	Axial CER., 1000pF			R2	90512103	10k ohm		
C521	90351104	Axial CER., 0.1 μ F			R3	90523561	M.O., 560 ohm 1W		
C522	90351104	Axial CER., 0.1 μ F			R4	90512335	3.3M ohm		
C523	90450017	ELY., Non Polar 47 μ F/10V			R5	90512103	10k ohm		
C524	90450017	ELY., Non Polar 47 μ F/10V			R6	92570743	M.F., 47k ohm (\pm 1%)		
C525	90450019	ELY., Non Polar 4.7 μ F/16V			R7	92570723	M.F., 1k ohm (\pm 1%)		
C526	90450019	ELY., Non Polar 4.7 μ F/16V			R8	90512334	330k ohm		
C527	90450019	ELY., Non Polar 4.7 μ F/16V			R9	90512224	220k ohm		
C528	90450019	ELY., Non Polar 4.7 μ F/16V			R11	90530006	Carbon Fuse. 1 ohm 1/4W		
C529	90416101	ELY., 100 μ F/25V			R101	90512561	560 ohm		
C530	90416101	ELY., 100 μ F/25V			R102	90520015	M.O., 100 ohm 1W		
C531	90450019	ELY., Non Polar 4.7 μ F/16V			R103	90512331	330 ohm		
C532	90450019	ELY., Non Polar 4.7 μ F/16V			R104	90512103	10k ohm		
C533	90329222	Axial CER., 2200pF			R105	90512103	10k ohm		
C534	90329222	Axial CER., 2200pF			R106	90512331	330 ohm		
C535	90418100	ELY., 10 μ F/50V			R107	90512102	1k ohm		
C537	90418100	ELY., 10 μ F/50V			R108	90520018	M.O., 330 ohm 1W		
C538	90418100	ELY., 10 μ F/50V			R109	90520015	M.O., 100 ohm 1W		
C539	90418100	ELY., 10 μ F/50V			R110	90512103	10k ohm		
C540	90418100	ELY., 10 μ F/50V			R111	90512331	330 ohm		
C901	90328103	Axial CER., 0.01 μ F			R112	90512104	100k ohm		
C902	90351223	Axial CER., 0.022 μ F			R113	90512222	2.2k ohm		
C903	90351223	Axial CER., 0.022 μ F			R114	90512472	4.7k ohm		
C904	90353102	Axial CER., 1000pF			R115	90512123	12k ohm		
C905	90418229	ELY., 2.2 μ F/50V			R116	90512332	3.3k ohm		
C906	90417100	ELY., 10 μ F/35V			R118	90512273	27k ohm		
C907	90415470	ELY., 47 μ F/16V			R119	90512473	47k ohm		
C908	90353331	Axial CER., 330pF			R120	90512103	10k ohm		
C909	92360962	CER., (CH) 30pF			R121	90512473	47k ohm		
C910	92360962	CER., (CH) 30pF			R122	90512103	10k ohm		
C911	90351223	Axial CER., 0.022 μ F			R123	90512681	680 ohm		
C912	90414471	ELY., 470 μ F/10V			R124	90512104	100k ohm		
					R126	90512104	100k ohm		
					R127	90512103	10k ohm		

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
R128	90512223	22k ohm			R315	90512104	100k ohm		
R135	90512102	1k ohm			R316	90512104	100k ohm		
R201	90512102	1k ohm			R317	90512473	47k ohm		
R202	90512683	68k ohm			R318	90512473	47k ohm		
R203	90512683	68k ohm			R319	90512103	10k ohm		
R204	90512101	100 ohm			R501	90512471	470 ohm		
R205	90512101	100 ohm			R502	90512471	470 ohm		
R206	90512221	220 ohm			R503	90512473	47k ohm		
R207	90512103	10k ohm			R504	90512473	47k ohm		
R208	90512103	10k ohm			R505	90512561	560 ohm		
R209	90512152	1.5k ohm			R506	90512561	560 ohm		
R210	90520017	M.O., 220 ohm 1W			R507	90512472	4.7k ohm		
R211	90512683	68k ohm			R508	90512472	4.7k ohm		
R212	90512103	10k ohm			R509	90512561	560 ohm		
R213	90512471	470 ohm			R510	90512561	560 ohm		
R214	90512820	82 ohm			R511	90512102	1k ohm		
R215	90512222	2.2k ohm			R512	90512102	1k ohm		
R216	90512222	2.2k ohm			R513	90512103	10k ohm		
R217	90512273	27k ohm			R514	90512103	10k ohm		
R218	90520015	M.O., 100 ohm 1W			R515	90530005	Carbon Fuse, 47 ohm 1/4W		
R219	90512822	8.2k ohm			R516	90530005	Carbon Fuse, 47 ohm 1/4W		
R220	90512822	8.2k ohm			R517	90512682	6.8k ohm		
R221	90512822	8.2k ohm			R518	90512682	6.8k ohm		
R222	90512473	47k ohm			R519	92570743	M.F., 47k ohm ($\pm 1\%$)		
R223	90512473	47k ohm			R520	92570743	M.F., 47k ohm ($\pm 1\%$)		
R224	90512123	12k ohm			R521	92570729	M.F., 3.3k oh ($\pm 1\%$)		
R225	90512473	47k ohm			R522	92570729	M.F., 3.3k oh ($\pm 1\%$)		
R226	90512123	12k ohm			R523	90512152	1.5k ohm		
R227	90512473	47k ohm			R524	90512152	1.5k ohm		
R228	90512103	10k ohm			R525	90512472	4.7k ohm		
R229	90512681	680 ohm			R526	90512472	4.7k ohm		
R232	90512473	47k ohm			R527	90512472	4.7k ohm		
R233	90512104	100k ohm			R528	90512472	4.7k ohm		
R234	90512104	100k ohm			R529	90530003	Carbon Fuse, 10 ohm 1/4W		
R235	90512153	15k ohm			R530	90530003	Carbon Fuse, 10 ohm 1/4W		
R236	90512123	12k ohm			R533	90530003	Carbon Fuse, 10 ohm 1/4W		
R301	90520015	M.O., 100 ohm 1W			R534	90530003	Carbon Fuse, 10 ohm 1/4W		
R302	90512332	3.3k ohm			R535	90530004	Carbon Fuse, 22 ohm 1/4W		
R303	90512103	10k ohm			R536	90530004	Carbon Fuse, 22 ohm 1/4W		
R304	90512103	10k ohm			R537	90512472	4.7k ohm		
R305	90512473	47k ohm							
R306	90512473	47k ohm							
R307	90512104	100k ohm							
R308	90512104	100k ohm							
R309	90512124	120k ohm							
R310	90512124	120k ohm							
R311	90512222	2.2k ohm							
R312	90512222	2.2k ohm							
R313	90512472	4.7k ohm							
R314	90512472	4.7k ohm							

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
R538	90512472	4.7k ohm			R585	90530009	Carbon Fuse. 2.2 ohm		
R539	90512332	3.3k ohm			R586	90530009	Carbon Fuse. 2.2 ohm		
R540	90512332	3.3k ohm			R587	90512221	220 ohm		
R541	90530003	Carbon Fuse. 10 ohm 1/4W			R588	90512221	220 ohm		
R542	90530003	Carbon Fuse. 10 ohm 1/4W			R589	90512221	220 ohm		
R543	90512103	10k ohm			R590	90512221	220 ohm		
R544	90512103	10k ohm			R901	90512333	33k ohm		
R545	90512103	10k ohm			R902	90512333	33k ohm		
R546	90512103	10k ohm			R903	90512333	33k ohm		
R547	90530004	Carbon Fuse. 22 ohm 1/4W			R904	90512333	33k ohm		
R548	90530004	Carbon Fuse. 22 ohm 1/4W			R905	90512333	33k ohm		
R549	90512821	820 ohm			R906	90512333	33k ohm		
R550	90512821	820 ohm			R907	90512333	33k ohm		
R551	90512821	820 ohm			R908	90512333	33k ohm		
R552	90512821	820 ohm			R909	90512472	4.7k ohm		
R553	92134183	M.P., PEC-RR, 0.22 ohm x 2 5W			R910	90520016	M.O., 47 ohm 1W		
R554	92134183	M.P., PEC-RR, 0.22 ohm x 2 5W			R911	90512151	150 ohm		
R555	90523220	M.O., 220 ohm 1W			R912	90512332	3.3k ohm		
R556	90523220	M.O., 220 ohm 1W			R913	90512332	3.3k ohm		
R557	90523100	M.O., 10 ohm 1W			R914	90512102	1k ohm		
R558	90523100	M.O., 10 ohm 1W			R915	90512102	1k ohm		
R559	90512103	10k ohm			R916	90520015	M.O., 100 ohm 1W		
R560	90512103	10k ohm			R917	90512473	47k ohm		
R561	90512472	4.7k ohm			R918	90512473	47k ohm		
R562	90512472	4.7k ohm			R919	90512473	47k ohm		
R563	90512104	100k ohm			R922	90512221	220 ohm		
R564	90512104	100k ohm			R923	90512473	47k ohm		
R565	90512104	100k ohm			R924	90512473	47k ohm		
R566	90512104	100k ohm			R925	90512473	47k ohm		
R567	90512473	47k ohm			R927	90512103	10k ohm		
R568	90512473	47k ohm			R930	90512473	47k ohm		
R569	90523332	M.F., 3.3k ohm 1W			R931	90512473	47k ohm		
R570	90523332	M.F., 3.3k ohm 1W			R932	90512473	47k ohm		
R571	90512561	560 ohm			R933	90512473	47k ohm		
R572	90512561	560 ohm			R934	90512102	1k ohm		
R573	90512333	33k ohm			R935	90512102	1k ohm		
R574	90512333	33k ohm			R936	90512102	1k ohm		
R575	90512104	100k ohm			R940	90512562	5.6k ohm		
R576	90512104	100k ohm			R955	90513471	470 ohm 1/4W		
R577	90512104	100k ohm			R957	90512104	100k ohm		
R578	90512104	100k ohm			SVR101	92658993	Semi-Variable, 30k ohm(B)		
R581	90512470	47 ohm			SVR102	92658944	Semi-Variable, 10k ohm(B)		
R582	90512470	47 ohm			SVR301	92658947	Semi-Variable, 100k ohm(B)		
R583	90530009	Carbon Fuse. 2.2 ohm			SVR501	92658943	Semi-Variable, 5k ohm(B)		
R584	90530009	Carbon Fuse. 2.2 ohm			SVR502	92658943	Semi-Variable, 5k ohm(B)		

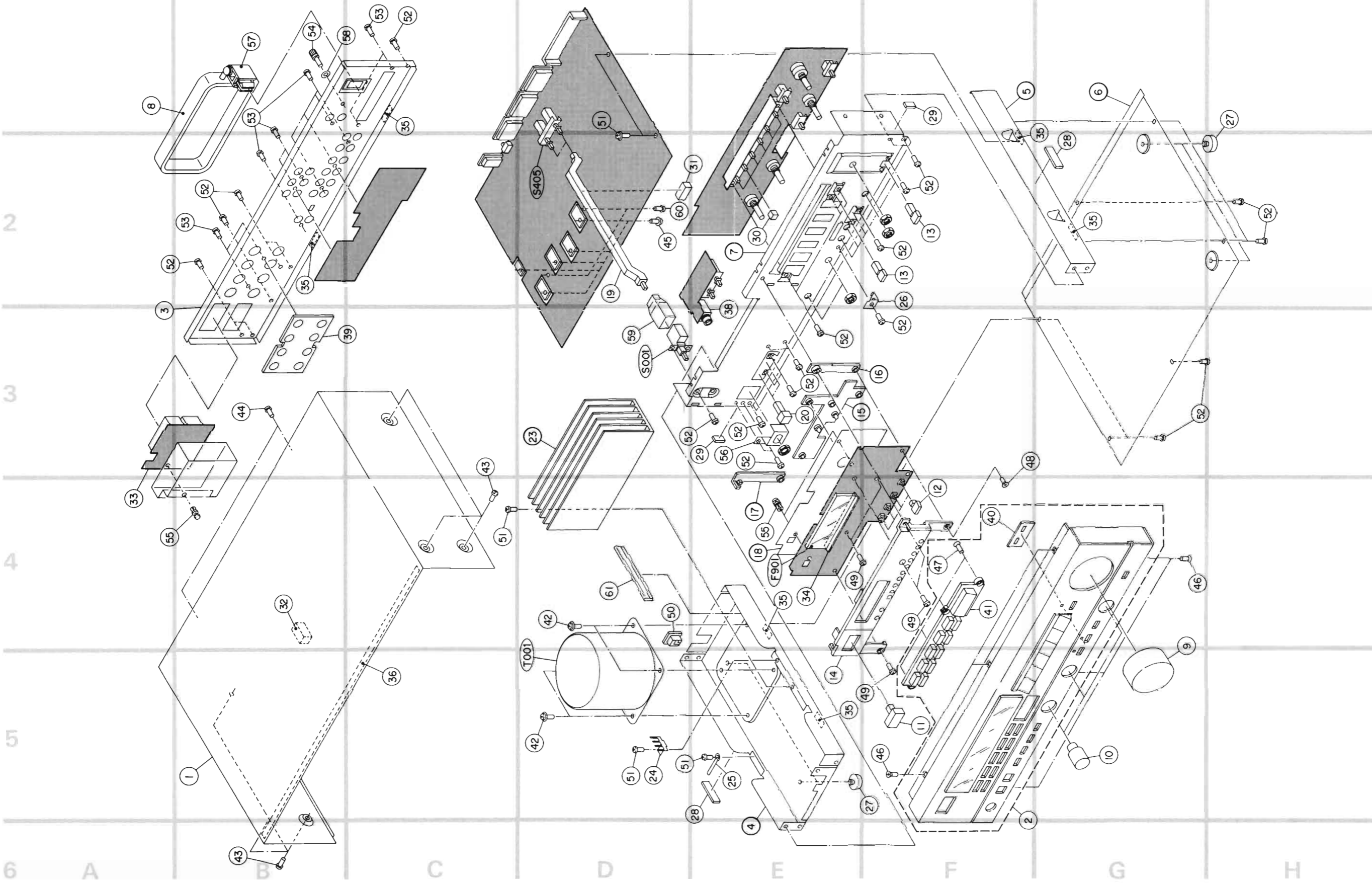
Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
Miscellaneous									
T001	92225633	Trans. Power							
S001	92190246	Switch. Push. SDDL							
S405	92190243	Switch, Push							
P001	92176751	AC Power Cord							
FL901	92104679	FL Tube, FIP7F85							

Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description			Symbol No.	Index	Part No.	Description		
1	5-B	92882649	Top - Cover			49		92701995	BID Tapping Screw (M3 x 14)		
2	6-F	95829760	Assy. Front Panel			50	4-D	95844322	Cord - Bush		
3	3-A	90826849	Plate - Lack			51		92708962	Flange, Tapping Screw (M3 x 8)		
8	1-A	92124825	Loop - Antenna			52		92707445	BID Tapping Screw (M3 x 6)		
9	4-G	90872720	Knob - Main - Volume			53		92707842	BID Tapping Screw (M3 x 8)		
10	5-G	90872728	Knob - Volume			54	1-B	90794122	Screw		
11	5-F	95826942	Knob - Power			55		90798769	Special - Rivet		
12	4-F	95826937	Button - Push			56	3-E	92755903	Bracket - Jack		
13	2-F	95826934	Knob - Push			57	1-B	92757549	Holder - Antenna		
14	5-E	92755900	Holder - FL			58	1-B	74001030	Washer (M3)		
19	2-D	92746739	Joint - Switch			59	3-D	92758261	Cover - Switch		
20	3-E	90872721	Knob - Push			60	2-D	92708279	Tapping Screw (M3 x 12)		
24	5-D	92186459	Pin - Terminal - 8P			61	4-D	92747668	Barrier		
25	5-E	92754981	Lug - Clamp								
26	2-F	90024231	Bracket - Panel - A								
28		92758622	Cushion - Rubber								
29		92756664	Cushion - Rubber								
30	2-E	92753803	Spacer - Switch								
31	2-D	92758624	Cushion - Rubber								
32	4-B	92766691	Cushion - Rubber								
33	4-A	92747667	Barrier								
34	4-E	92766692	Cushion - NF								
35		92766613	Cushion								
36	5-C	92766690	Cushion - NF								
38	3-E	92198320	JACK - 6.5ST								
39	3-C	92186458	Terminal - 8P								
40	4-F	92766701	Cushion - Joint								
41	4-F	92884899	Button - Preset								
42		92708961	Pan W/Washer, Tapping Screw (M4 x 8)								
43		92707040	BID Tapping Screw (M4 x 6) BLK								
44	3-B	92708330	BID Tapping Screw (M3 x 8) BLK								
45	2-D	92701744	Tapping Screw (M3 x 12)								
46		92707924	Counter Sink, Tapping Screw (2.6 x 6)								
47	4-F	92708349	Tapping Screw (M2.6 x 6)								
48	3-F	92708960	Counter Sink, Tapping Screw (M3 x 16)								

NOTE: The parts without part numbers are not supplied.

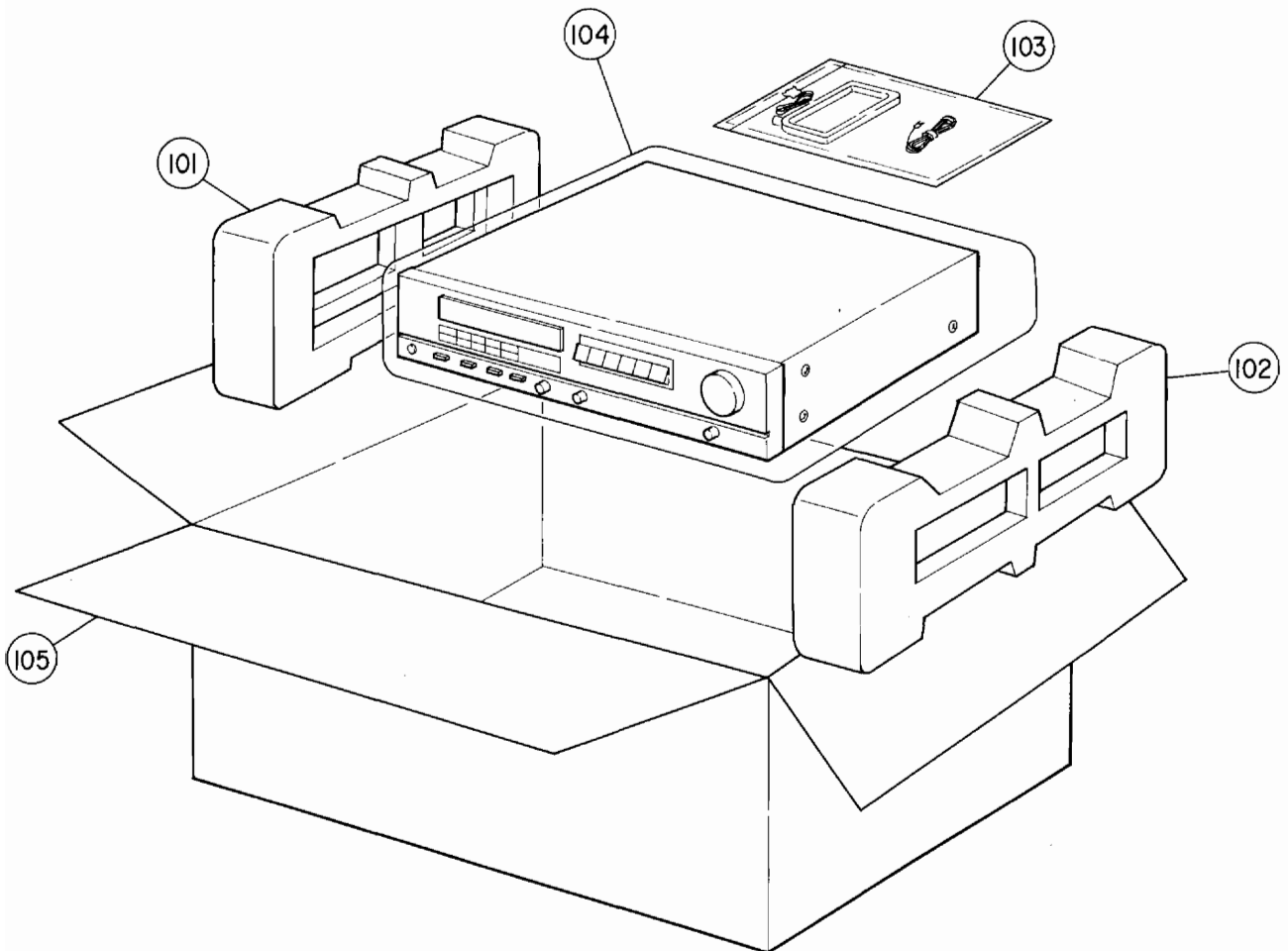
Exploded View (Cabinet)



Packing Assembly Parts List

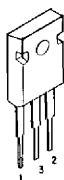
Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
101	90939601	Tray Packing (L)			103-4	92954796	Owners Manual		
102	90939602	Tray Packing (R)			103-5	92124825	Loop-Antenna		
103-1	92124972	FM-Antenna			103-6	90941655	Sack, Polyethylene		
103-2	92906880	Card, Warranty			104	92941840	Sack, Polyethylene		
103-3	92957646	Card-B-Reply			105	92929659	Carton-Package		

Packing Method View

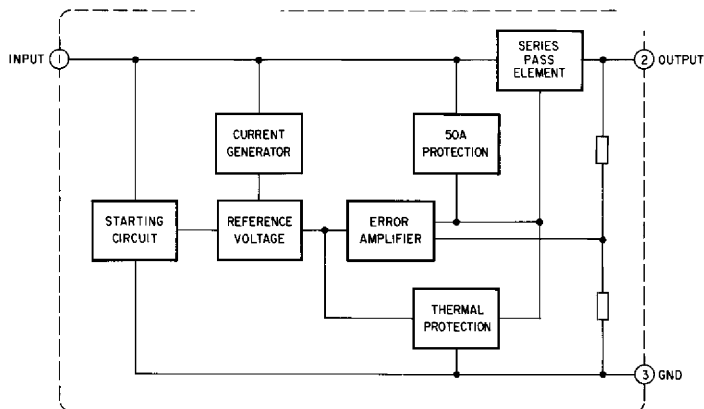


Semi-Conductor Lead Identifications

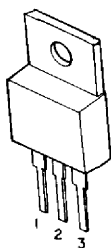
L78M24CX : IC1



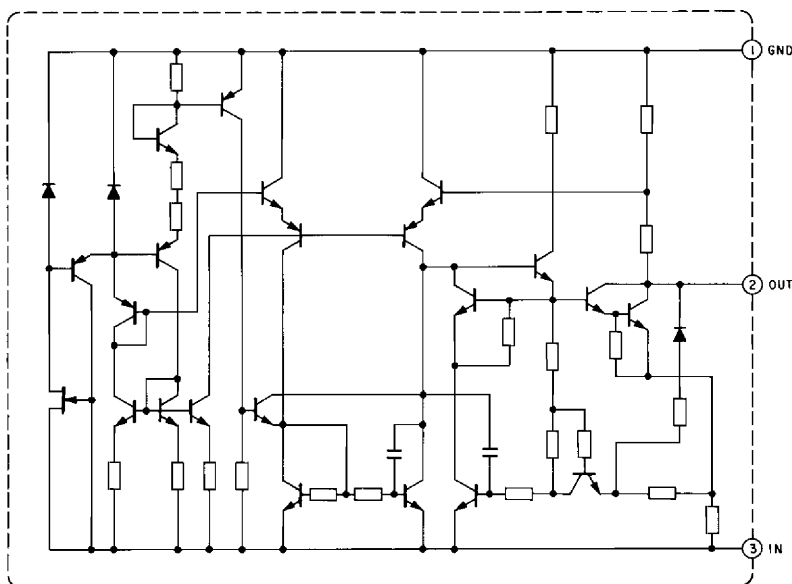
1 : INPUT
2 : OUTPUT
3 : GND



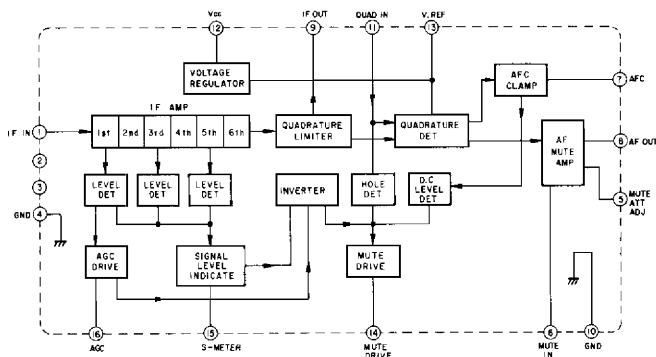
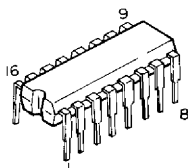
L7924CV : IC2



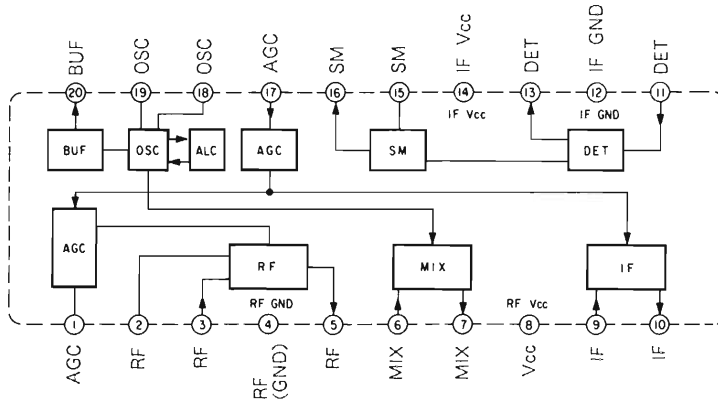
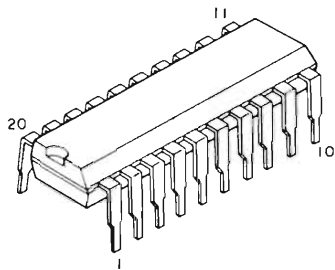
1 : GND
2 : INPUT
3 : OUTPUT



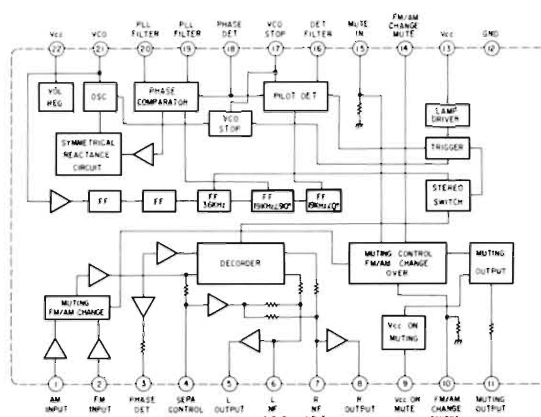
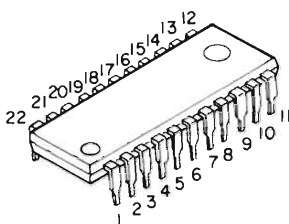
LA1235 : IC101



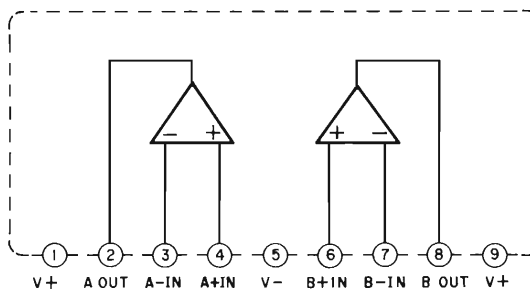
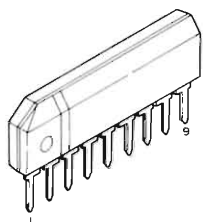
LA1247 : IC201



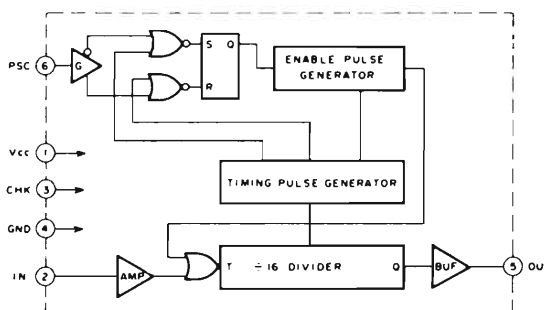
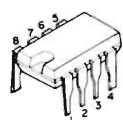
LA3401 : IC301



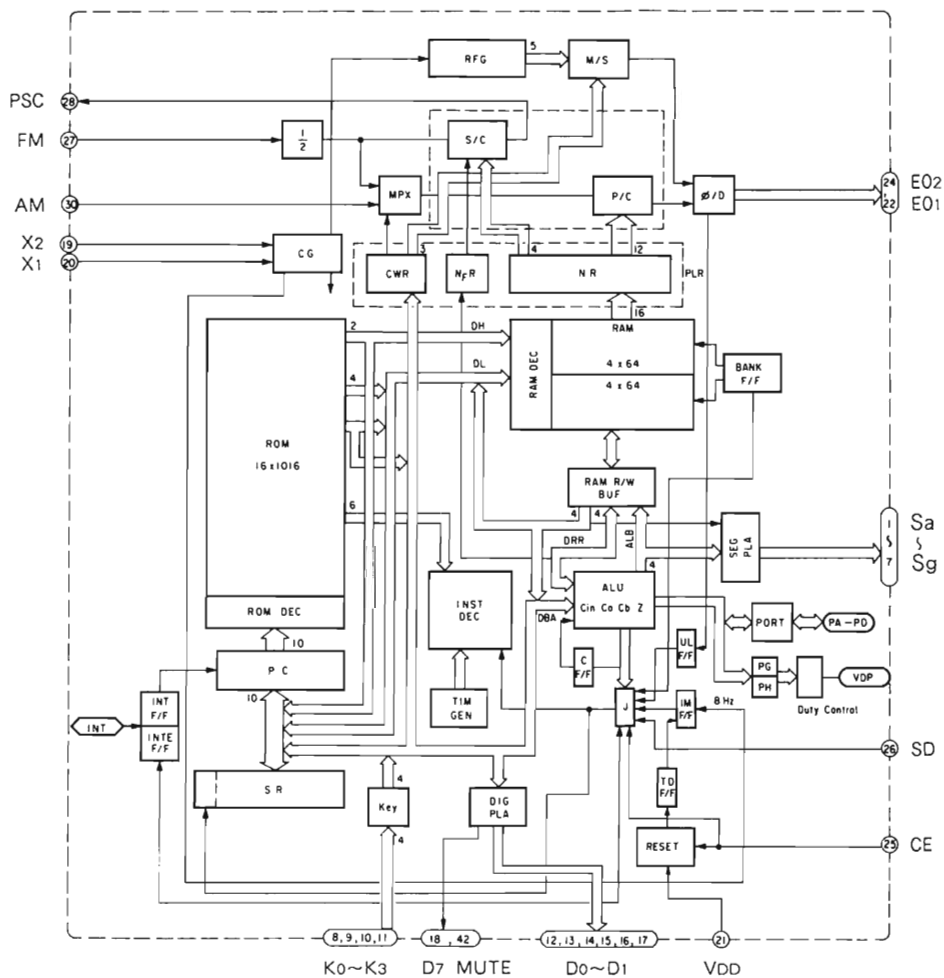
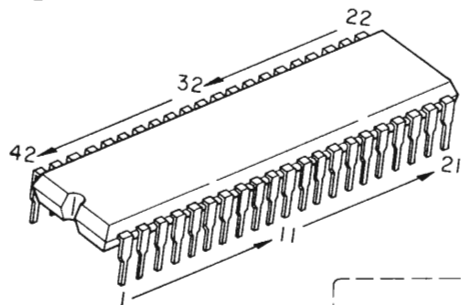
NJM2043 : IC401



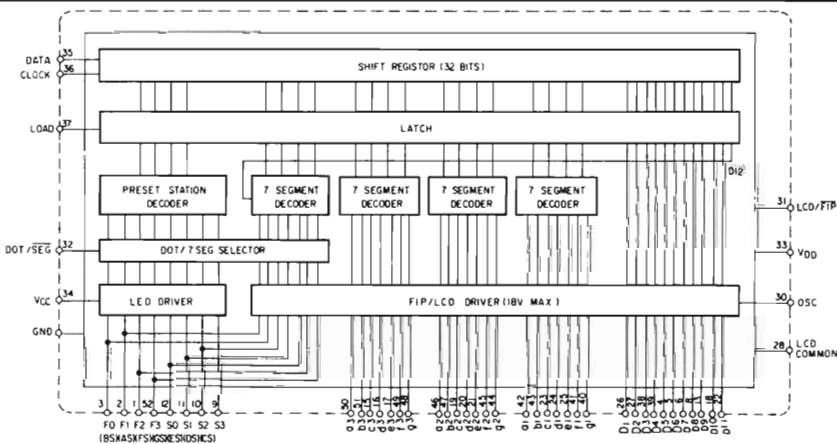
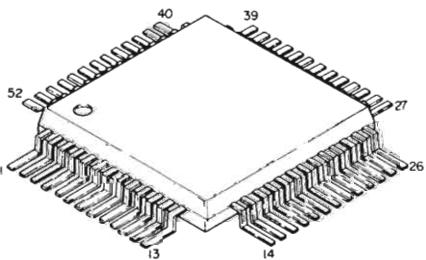
μ PB553AC : IC901



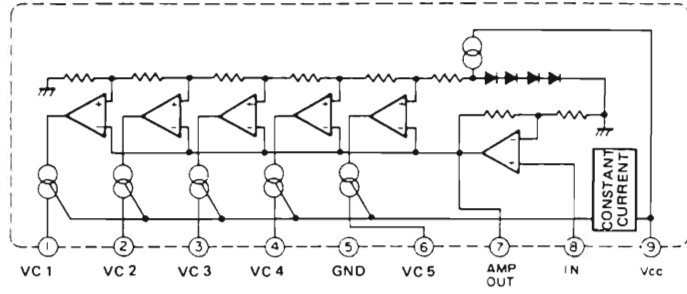
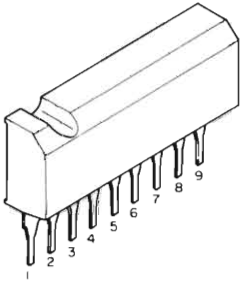
μ PD1704C : IC902



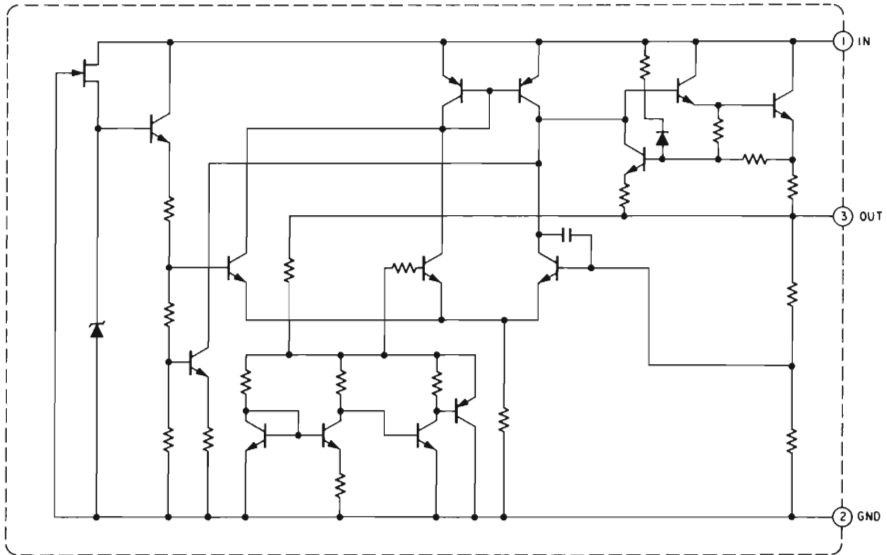
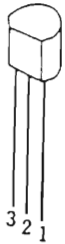
μ PD6321G : IC903



BA6154 : IC904



NJM78L06A : IC905





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