

REALISTIC[®]

Service Manual

ADDENDUM
for STA-235B
AM / FM STEREO RECEIVER
Catalog Number: 31-2065

This ADDENDUM covers the changes made for "B" version of the STA-235.
For complete coverage of this model, you must refer to both this ADDENDUM and the original Service Manual for the STA-235.



CUSTOM MANUFACTURED FOR RADIO SHACK  A DIVISION OF TANDY CORPORATION

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1. SPECIFICATIONS

The specifications of STA-235B are the same as STA-235 except for output voltage of FM section.

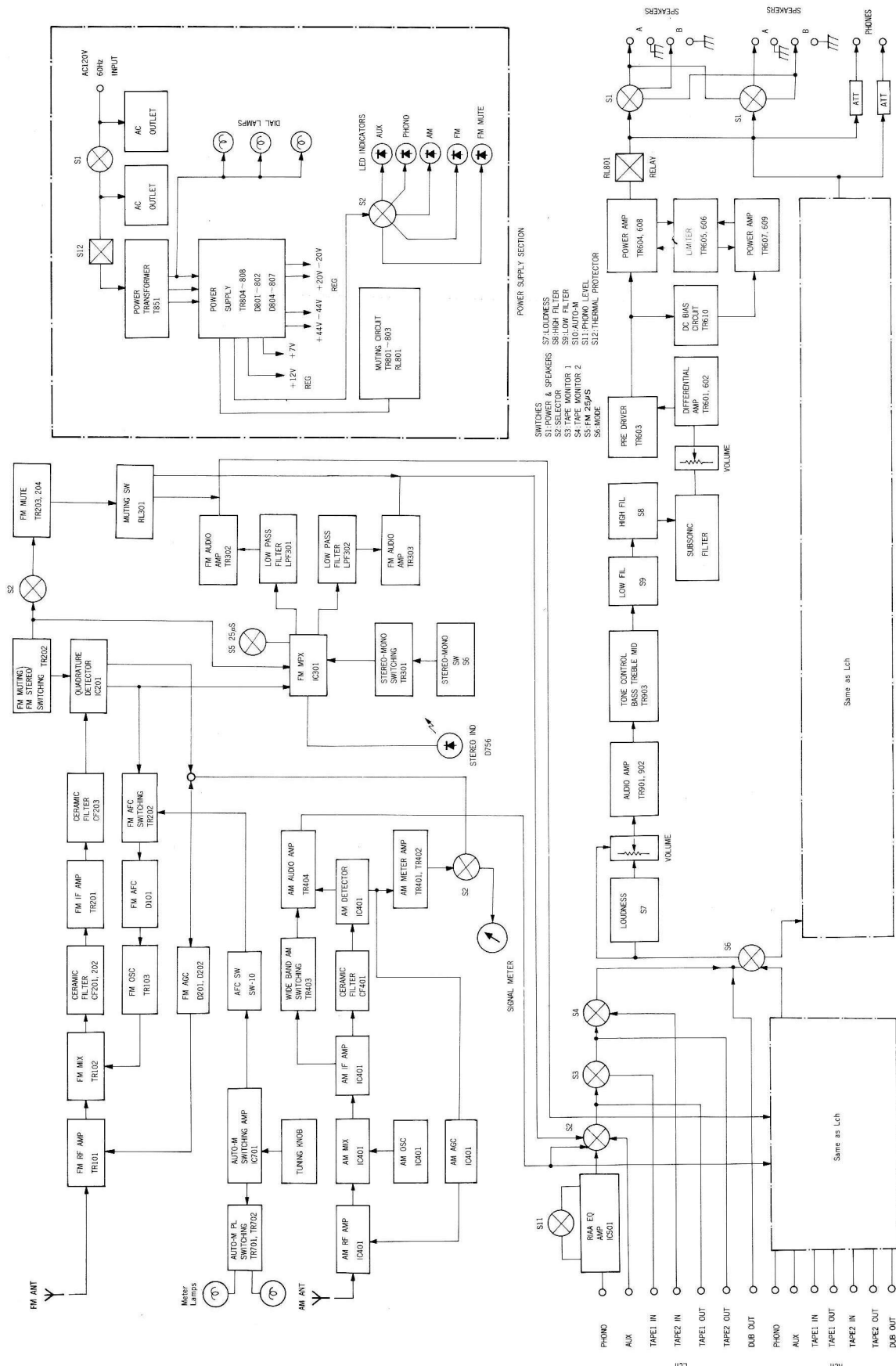
FM SECTION

13. OUTPUT VOLTAGE

(at 75 kHz dev., 400 Hz mod., 1 mV input)

	NOMINAL	LIMIT	UNIT
STA-235	0.9	0.9±3 dB	V
STA-235B	0.7	0.7±3 dB	V

2. BLOCK DIAGRAM



3. ALIGNMENT PROCEDURE

AM RF AND IF ALIGNMENT

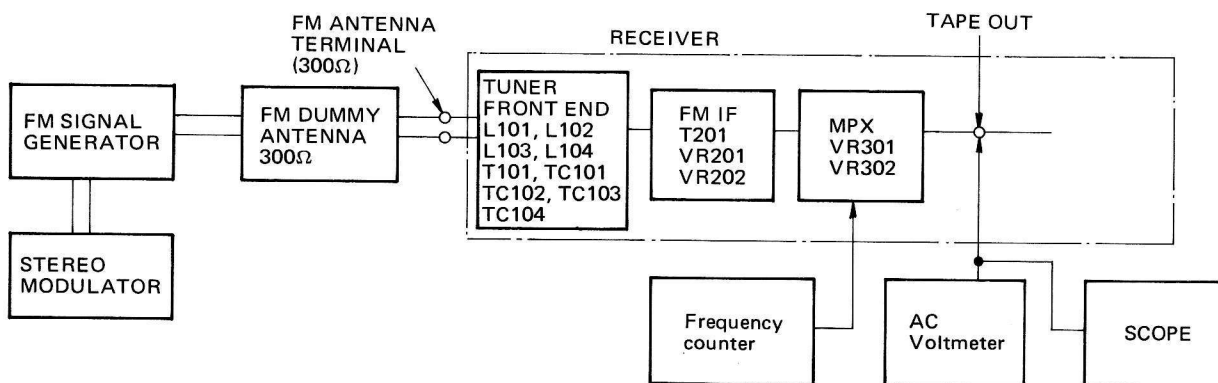
Not changed

FM RF AND IF ALIGNMENT

Adjustment points of Steps 4, 5, 6 and 7 should be changed.

STEP	ADJUSTMENT Refer to Fig. 4	
	STA-235	STA-235B
4	L203 (Pink core)	T201 (Bottom)
5	L203 (Blue core)	T201 (Top)
6	VR202	VR201
7	VR201	VR202

MPX ALIGNMENT



ALIGNMENT CONNECTION

Adjustment points of Steps 1, 3 and 4 should be changed.

STEP	ADJUSTMENT Refer to Fig. 4	
	STA-235	STA-235B
1	VR302	VR301
3	VR301	VR302
4	VR301	VR302

4. ALIGNMENT POINTS

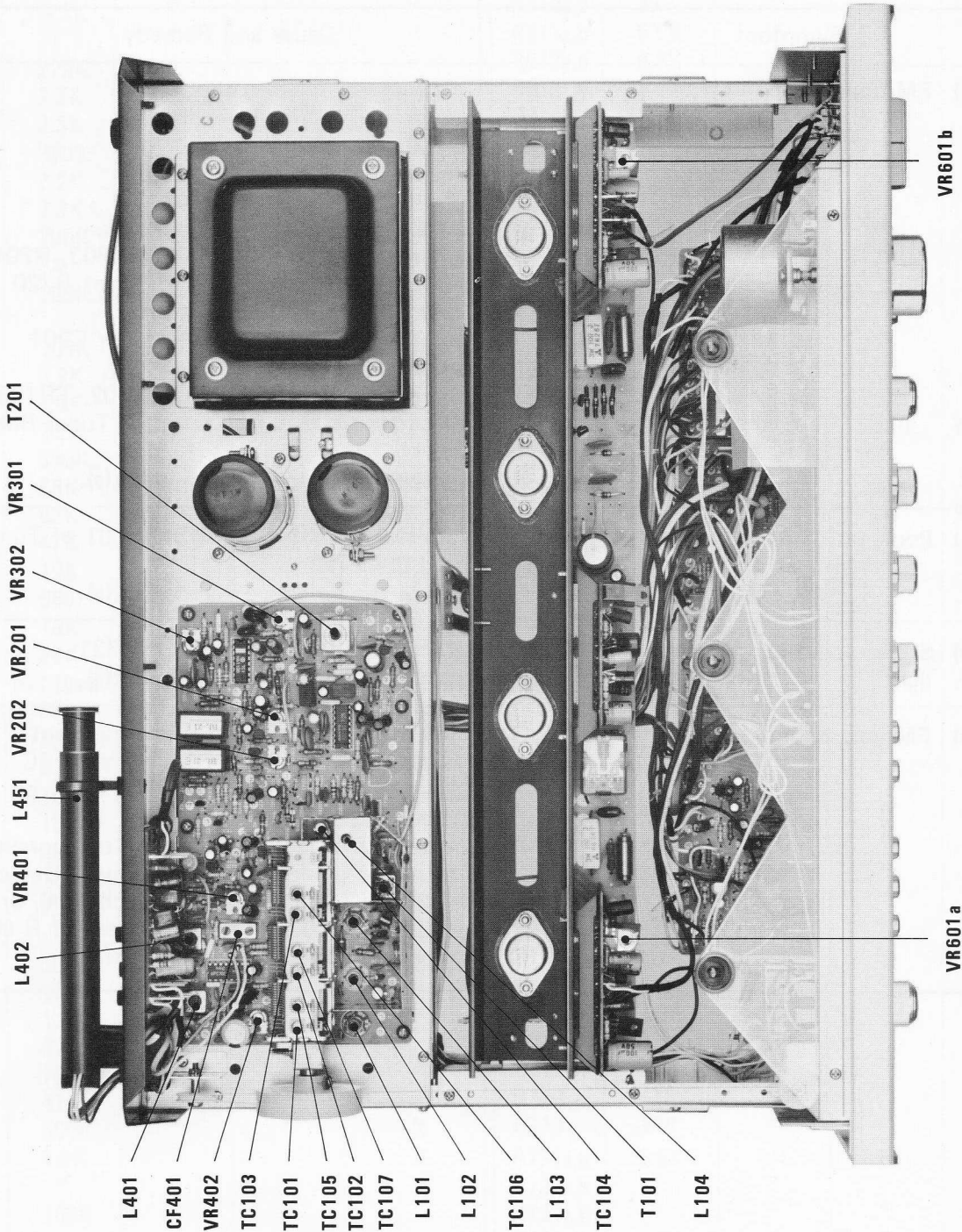


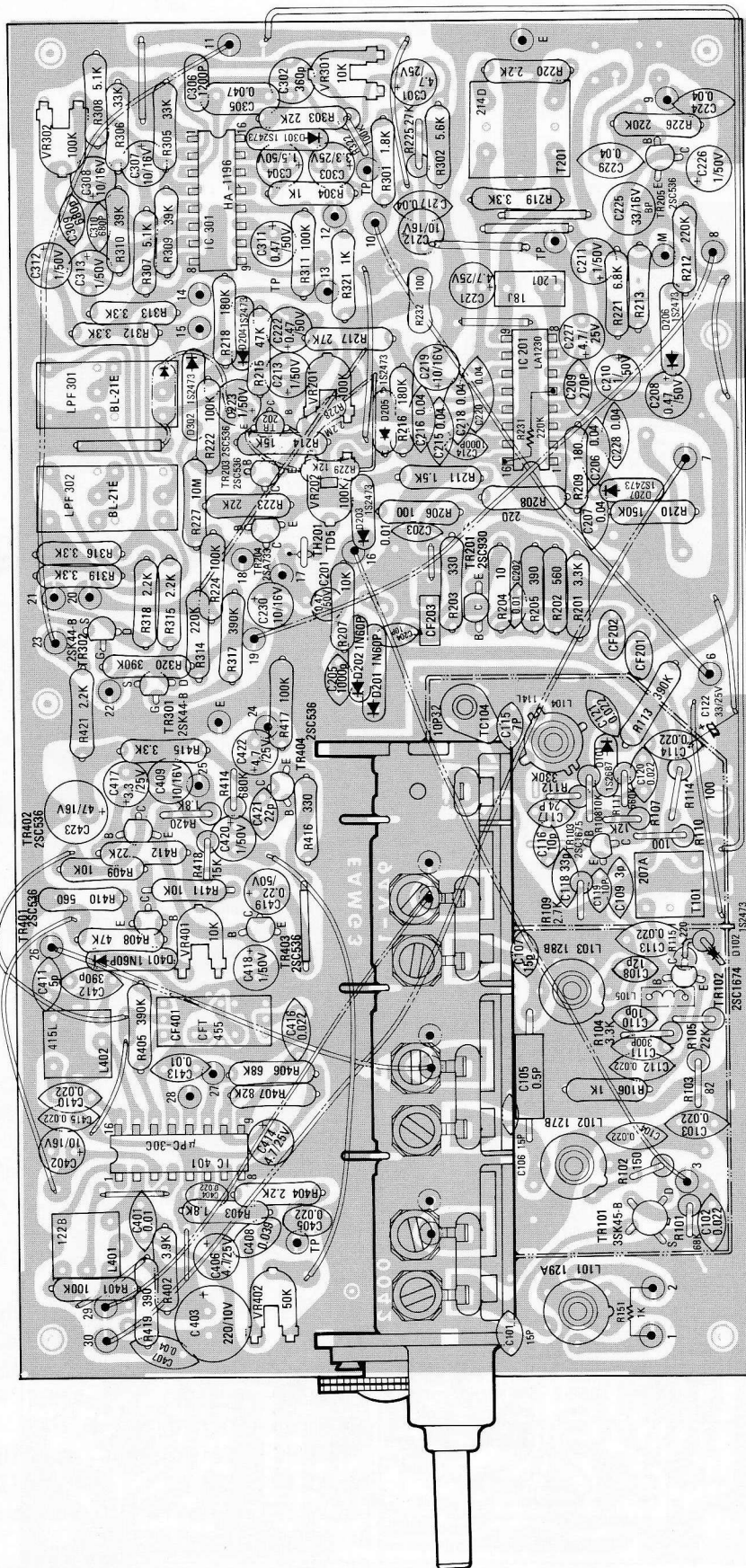
Fig.4

5. TROUBLESHOOTING

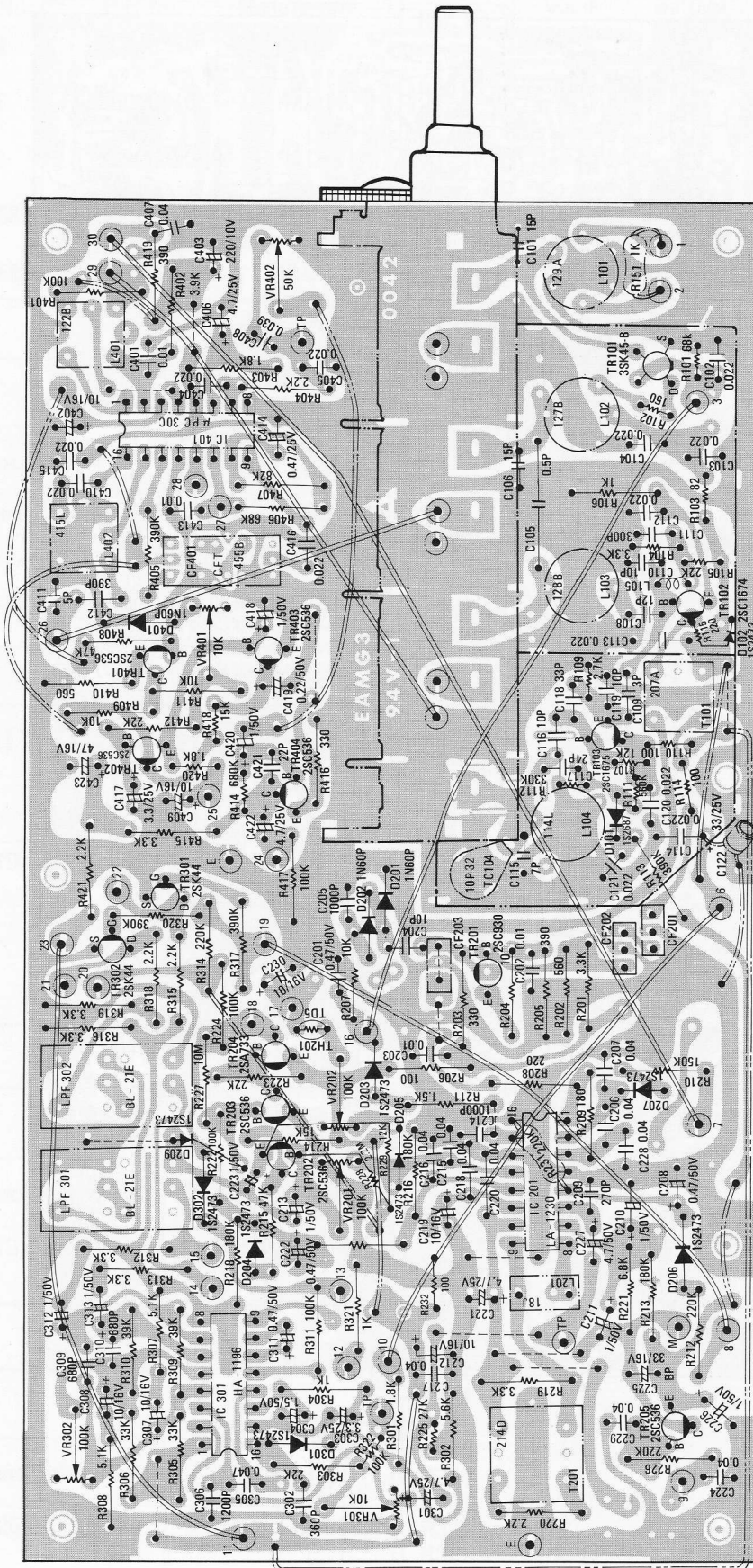
Refer to page 14 and 15 of STA-235 Service Manual.
The following items should be changed.

Symptom	Cause and Remedy
13) FM does not operate.	<p>E) Delete</p> <p>G) Delete</p> <p>H) Defective IC IC201 Replace the IC.</p> <p>I) Defective IFT T101 or T201 Replace the defective components.</p> <p>J) Defective resistor R201, R202, R203, R204, R205, R206, R208, R209, R213, R219 or R220 Replace the defective resistor(s).</p> <p>K) Defective capacitor C203, C112 or C201 Replace the defective capacitor(s).</p> <p>L) Defective transistor TR101, TR102, TR103 or coil L101, L102, L103, L104 of Tuner Board 0042 Replace the defective component(s).</p>
14) Poor multiplex separation.	<p>B) Transistor TR301, TR302 or IC301 of Tuner Board 0042 defective Replace the defective component(s).</p>
15) Stereo indicator does not light.	<p>C) Defective IC IC301 or resistor R321 Replace the defective component(s).</p>
16) FM volume not sufficient.	<p>A) If volume of both L and R channels not enough: Front-End defective or faulty IC IC201, IC301 or capacitor C227, C301 of Tuner Board 0042 Locate and replace the defective component(s).</p> <p>B) If sound of one channel not enough: Defective LPF301 or TR301 in case of L channel, or defective LPF302 or TR302 in case of R channel Replace the defective component(s).</p>

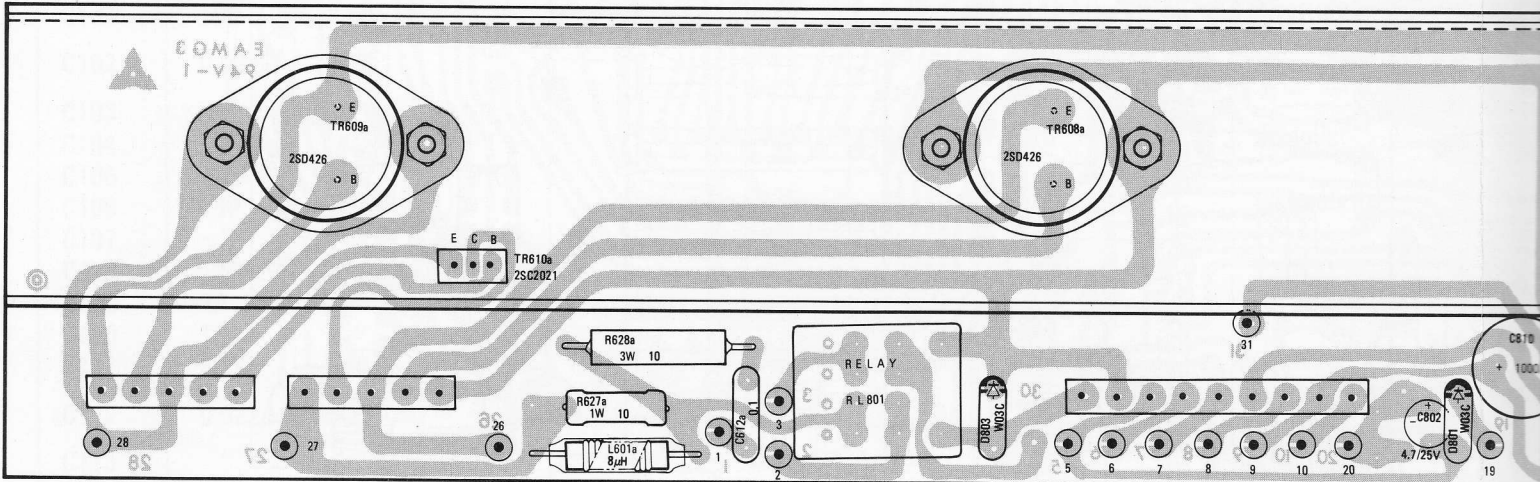
TUNER BOARD 0042 (TOP VIEW)



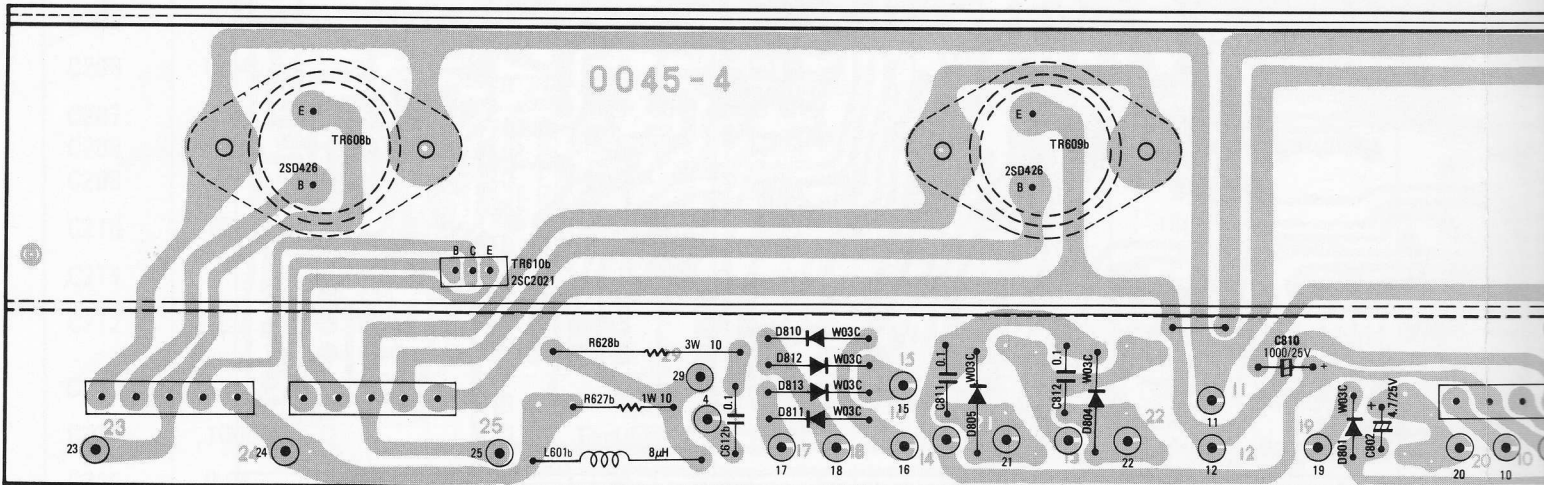
TUNER BOARD 0042 (BOTTOM VIEW)



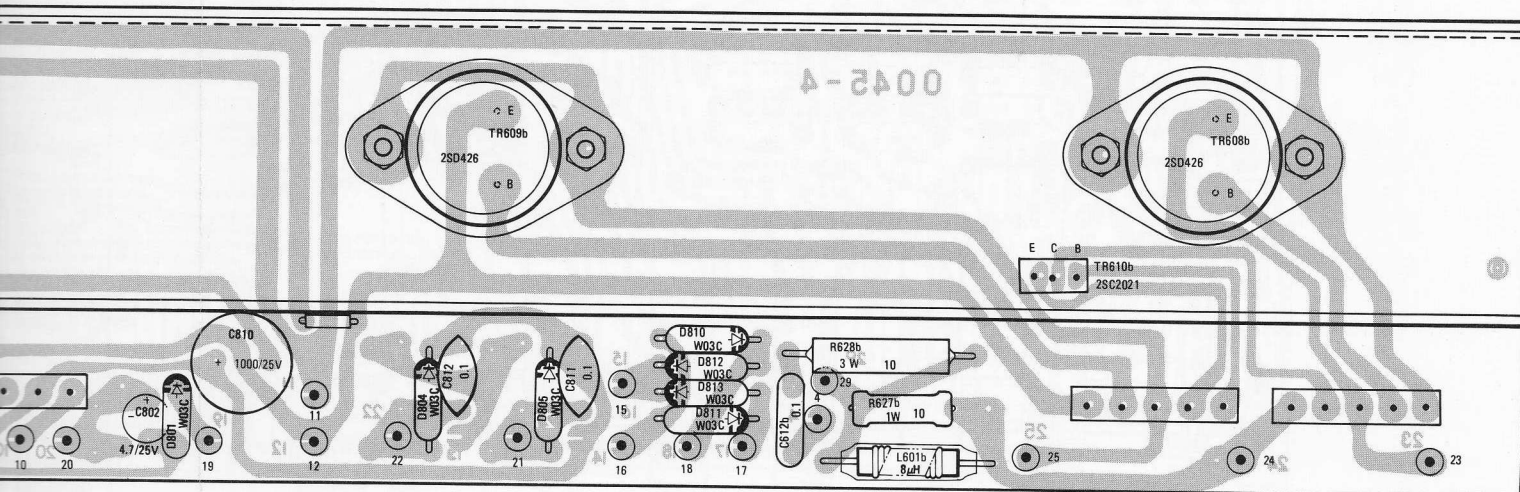
MAIN AMP BOARD 00



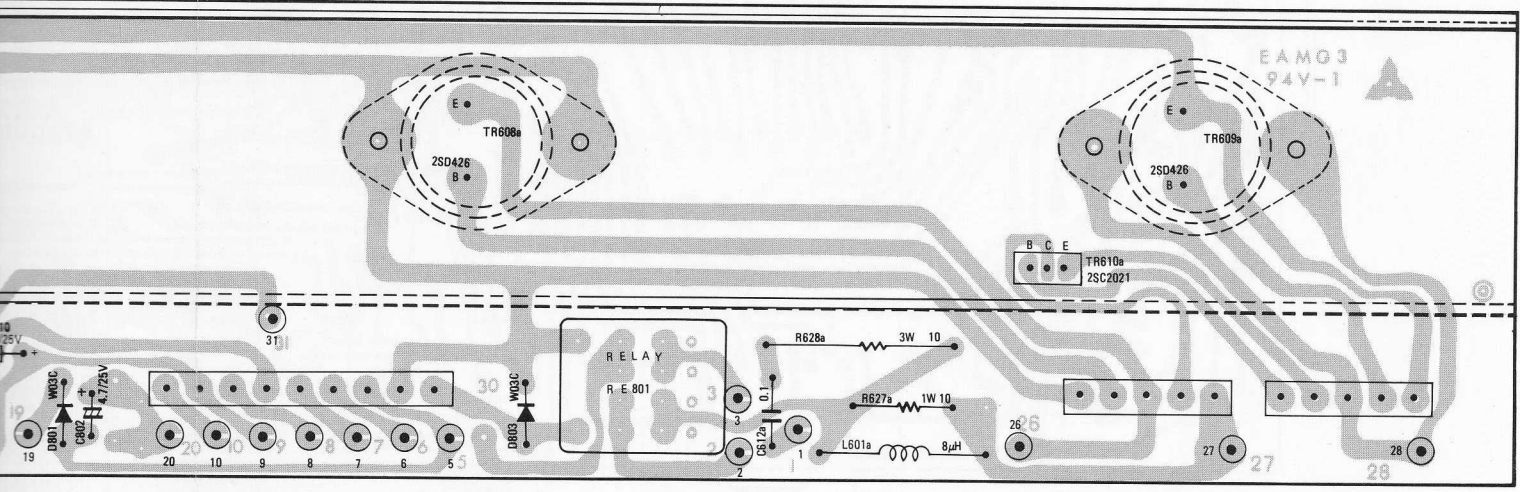
MAIN AMP BOARD 004



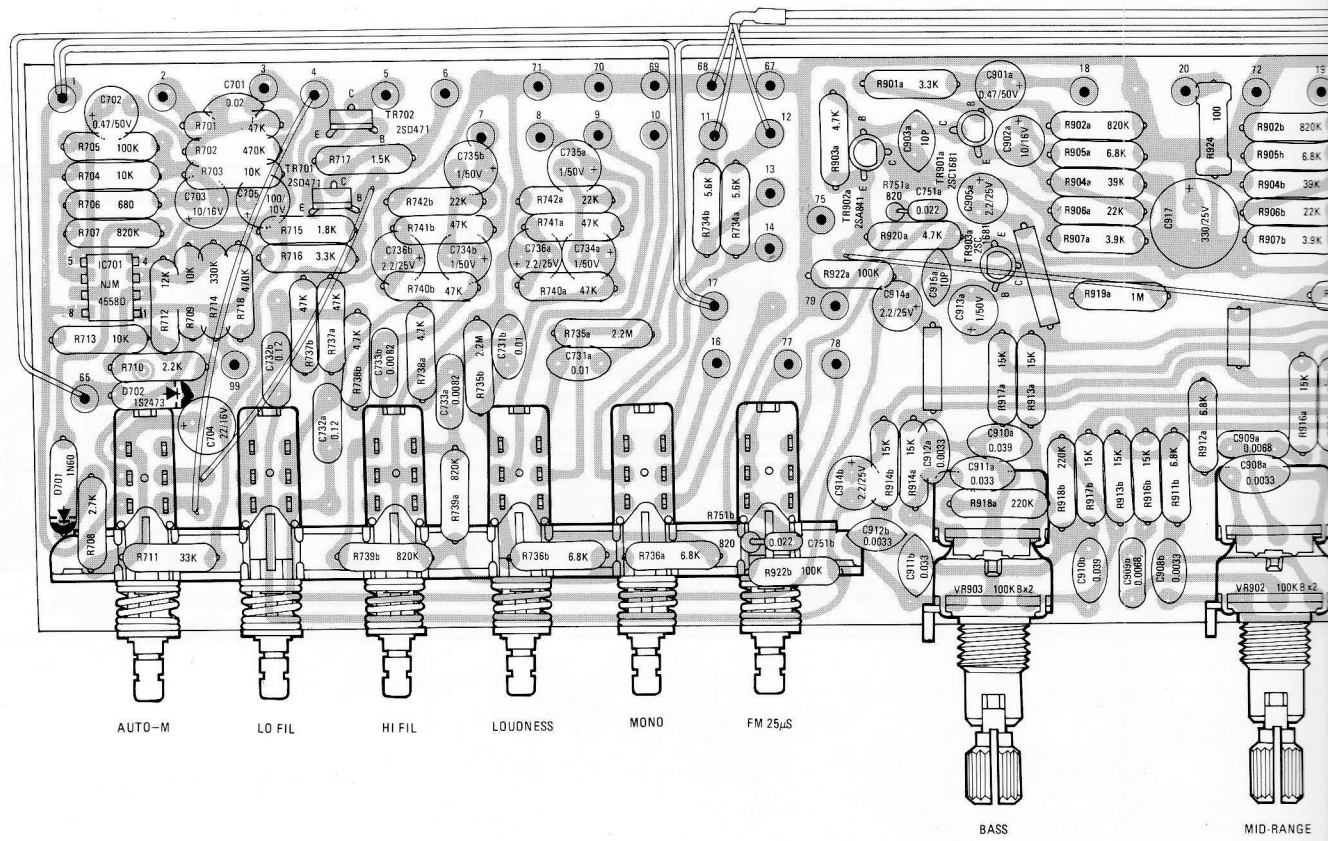
BOARD 0045 (TOP VIEW)



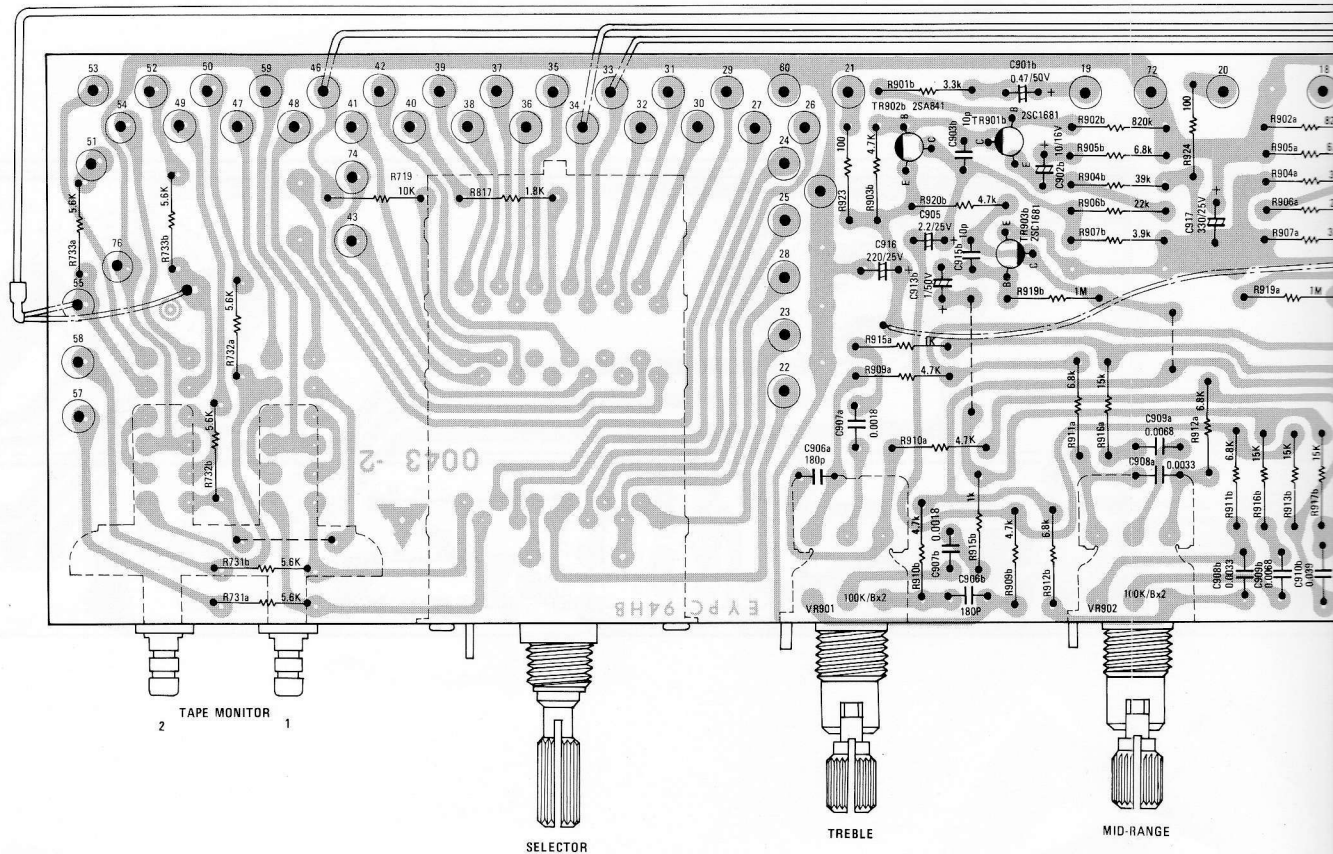
BOARD 0045 (BOTTOM VIEW)



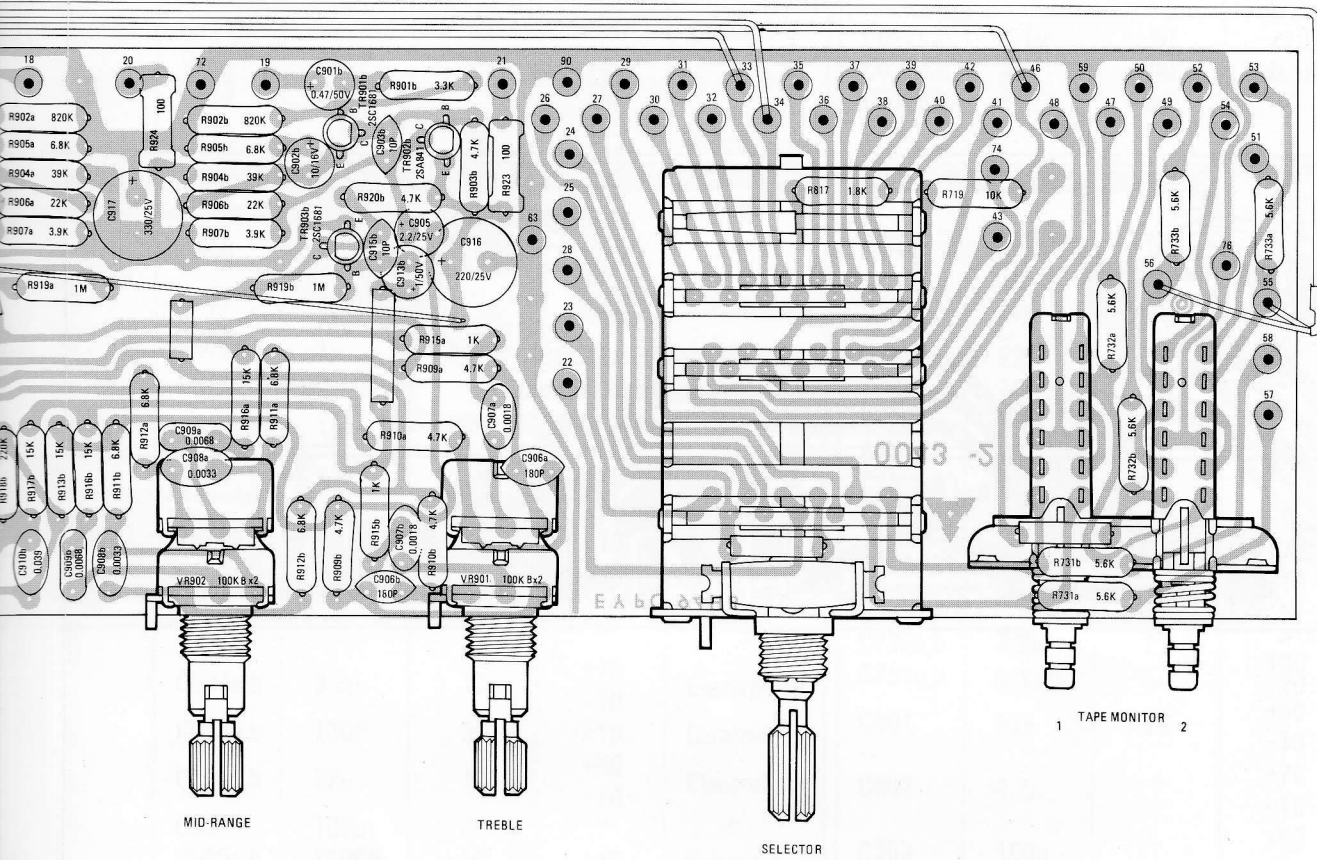
004 TONE AMP & AUTO-M BOARD



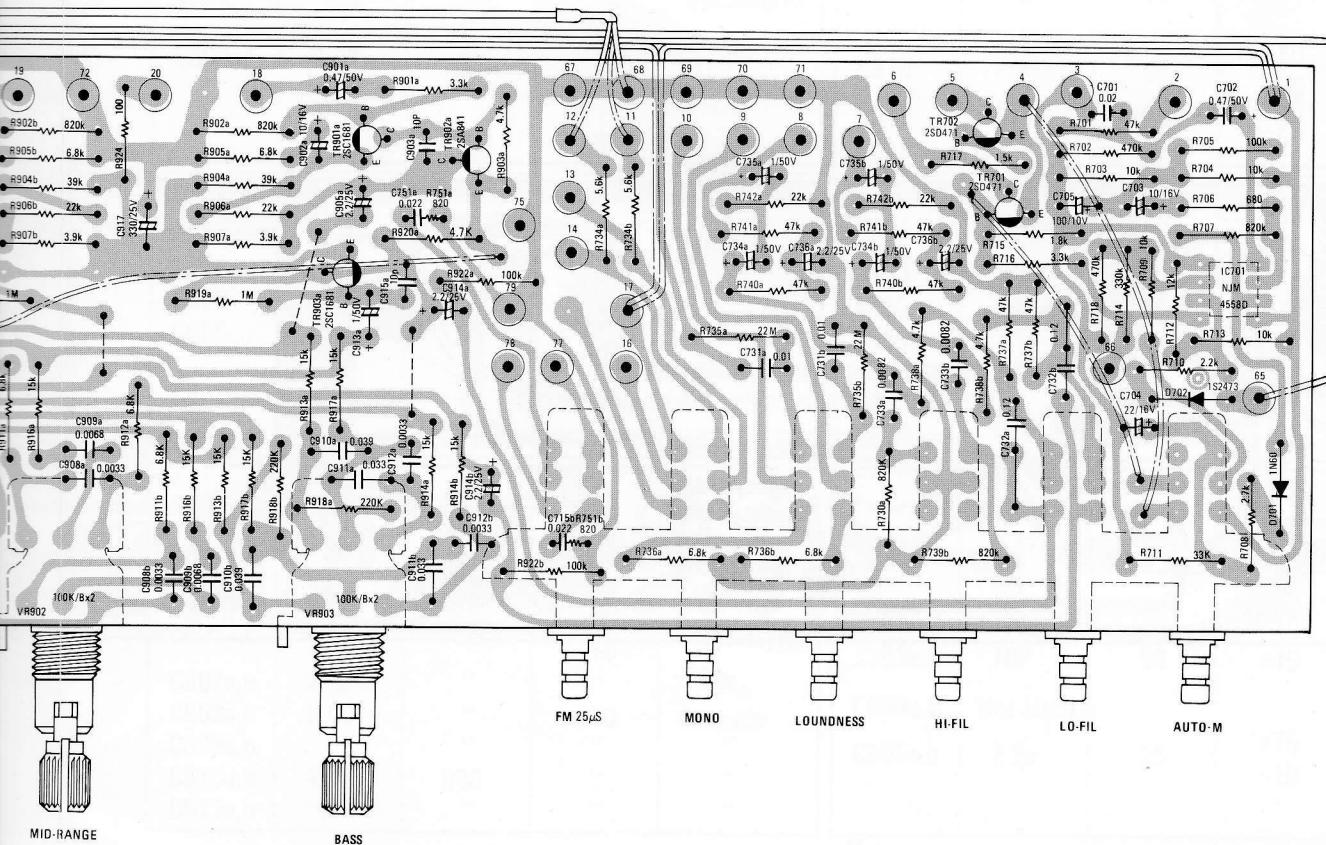
004 TONE AMP & AUTO-M BOARD



BOARD 0043 (TOP VIEW)



BOARD 0043 (BOTTOM VIEW)



ELECTRICAL PARTS LIST

CAPACITORS					Ref. No.	Value (F)	Voltage (V)	Tolerance (%)	Material
Ref. No.	Value (F)	Voltage (V)	Tolerance (%)	Material					
C101	15P	50	±10	Ceramic	C220	0.04μ	25	+80 -20	Ceramic
C102	0.022μ	25	+80 -20	"	C221	4.7μ	"	+75 -10	Electrolytic
C103	"	"	"	"	C222	0.47μ	50	"	"
C104	"	"	"	"	C223	1μ	"	"	"
C105	0.5P	12	±10	"	C224	0.04μ	25	+80 -20	Ceramic
C106	15P	50	"	"	C225	33μ	16	+50 -10	Electrolytic
C107	"	"	"	"	C226	1μ	50	+75 -10	"
C108	12P	"	"	"	C227	4.7μ	25	"	"
C109	3P	"	±0.25P	"	C228	0.04μ	"	+80 -20	Ceramic
C110	10P	"	±10	"	C229	"	"	"	"
C111	300P	"	"	"	C230	10μ	16	+50 -10	Electrolytic
C112	0.022μ	25	+80 -20	"					
C113	"	"	"	"	C301	4.7μ	25	+75 -10	Electrolytic
C114	"	"	"	"	C302	360P	50	±5	Ceramic
C115	7P(TH)	50	±0.5P	"	C303	3.3μ	25	+75 -10	Electrolytic
C116	10P	"	±10	"	C304	1.5μ	50	"	"
C117	24P(UJ)	"	±5	"	C305	0.047μ	"	±10	Polyester
C118	33P	"	±10	"	C306	1200P	"	"	Ceramic
C119	10P	"	"	"	C307	10μ	16	+50 -10	Electrolytic
C120	0.022μ	25	+80 -20	"	C308	"	"	"	"
C121	"	"	"	"	C309	680P	50	±10	Ceramic
C122	33μ	"	+50 -10	Electrolytic	C310	"	"	"	"
C201	0.47μ	50	+75 -10	"	C311	0.47μ	50	+75 -10	Electrolytic
C202	0.01μ	25	+80 -20	Ceramic	C312	1μ	"	"	"
C203	"	"	"	"	C313	"	"	+80 -20	Ceramic
C204	10P	50	±10	"	C401	0.01μ	25	+50 -10	Electrolytic
C205	1000P	"	"	"	C402	10μ	16	"	"
C206	0.04μ	25	+80 -20	"	C403	220μ	10	"	"
C207	"	"	"	"	C404	0.022μ	25	+80 -20	Ceramic
C208	0.47μ	50	+75 -10	Electrolytic	C405	"	"	"	"
C209	270P	50	±10	Ceramic	C406	4.7μ	"	+75 -10	Electrolytic
C210	1μ	"	+75 -10	Electrolytic	C407	0.04μ	"	+80 -20	Ceramic
C211	"	"	"	"	C408	0.039μ	50	±10	Polyester
C212	10μ	16	+50 -10	"	C409	10μ	16	+50 -10	Electrolytic
C213	1μ	50	+75 -10	"	C410	0.022μ	25	+80 -20	Ceramic
C214	1000P	"	±10	Ceramic					
C215	0.04μ	25	+80 -20	"					
C216	"	"	"	"					
C217	"	"	"	"					
C218	"	"	"	"					
C219	10μ	16	+50 -10	Electrolytic					

Ref. No.	Value (F)	Voltage (V)	Tolerance (%)	Material	Ref. No.	Value (F)	Voltage (V)	Tolerance (%)	Material
C411	5P	50	±0.5P	Ceramic	C612a,b	0.1μ	50	±10	Polyester
C412	390P	"	+5	"	C613a,b	2P	500	±0.5P	Ceramic
C413	0.01μ	"	+80 -20	"	C614a,b	5P	50	"	"
C414	4.7μ	25	+75 -10	Electrolytic	C701	0.02μ	25	+80 -20	Ceramic
C415	0.022μ	"	+80 -20	Ceramic	C702	0.47μ	50	+75 -10	Electrolytic
C416	"	"	"	"	C703	10μ	16	+50 -10	"
C417	3.3μ	"	+75 -10	Electrolytic	C704	22μ	"	"	"
C418	1μ	50	"	"	C705	100μ	10	"	"
C419	0.22μ	"	±20	"	C731a,b	0.01μ	50	±10	Polyester
C420	1μ	"	+75 -10	"	C732a,b	0.12μ	"	"	"
C421	22P	50	±10	Ceramic	C733a,b	8200P	"	"	"
C422	4.7μ	25	+75 -10	Electrolytic	C734a,b	1μ	"	+75 -10	Electrolytic
C423	47μ	16	+50 -10	"	C735a,b	"	"	"	"
C501a,b	3.3μ	16	+75 -10	Electrolytic	C736a,b	2.2μ	25	"	"
C502a,b	120P	50	±10	Ceramic	C751a,b	0.022μ	"	+80 -20	Ceramic
C503a,b	22μ	16	+50 -10	Electrolytic	C801	47μ	25	+50 -10	Electrolytic
C504	100μ	"	"	"	C802	4.7μ	"	+75 -10	"
C505a,b	1500P	50	±10	Polyester	C803	100μ	"	+50 -10	"
C506a,b	5600P	"	"	"	C804	"	"	"	"
C507	100μ	16	+50 -10	Electrolytic	C805	10μ	16	"	"
C508a,b	0.47μ	50	+75 -10	"	C810	1000μ	25	+50 -10	Electrolytic
C551	0.01μ	25	+80 -20	Ceramic	C811	0.01μ	50	+80 -20	Ceramic
C552	"	"	"	"	C812	"	"	"	"
C553	0.056μ	50	±10	Polyester	C851	8000μ	50	+50 -10	Electrolytic
C554	"	"	"	"	C852	"	"	"	"
C555	0.22μ	"	"	"	C853	0.0047μ	125	±20	Polyester
C556	0.01μ	25	+80 -20	Ceramic	C854	"	"	"	"
C601a,b	56P	50	±10	Ceramic	C855	0.01μ	500	±10	Ceramic
C602a,b	1μ	"	+75 -10	Electrolytic	C856	"	"	"	"
C603a,b	10μ	35	+50 -10	"	C857	"	"	"	"
C604a,b	"	25	"	"	C858	"	"	"	"
C605a,b	10P	500	±10	Ceramic	C901a,b	0.47μ	50	+75 -10	Electrolytic
C606a,b	100μ	50	+50 -10	Electrolytic	C902a,b	10μ	16	+50 -10	"
C607a,b	47μ	"	"	"	C903a,b	10P	50	±10	Ceramic
C608a,b	0.001μ	"	±10	Ceramic	C904a,b	Not Used			
C609a,b	"	"	"	"	C905a,b	2.2μ	25	+75 -10	Electrolytic
C610a,b	100P	500	"	"					
C611a,b	"	"	"	"					

Ref. No.	Value (F)	Voltage (V)	Tolerance (%)	Material
C906a,b	180P	50	±10	Ceramic
C907a,b	1800P	"	"	Polyester
C908a,b	3300P	"	"	"
C909a,b	6800P	"	"	"
C910a,b	0.039μ	"	"	"
C911a,b	0.033μ	"	"	"
C912a,b	3300P	"	"	"
C913a,b	1μ	"	+75 -10	Electrolytic
C914a,b	2.2μ	25	"	"
C915a,b	10P	50	±10	Ceramic
C916	220μ	25	+50 -10	Electrolytic
C917	330μ	"	"	"

CERAMIC FILTERS			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
CF201	FM IFT SFE10.7MA	C-0546	35300012
CF202	"	"	"
CF203	"	"	"
CF401	AM IFT CFT455B	C-0546	35704061

COILS & TRANSFORMERS			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
L101	FM ANT. Coil 129A	CA-3865	35501291
L102	FM RF Coil 127B	CA-4906	35501272
L103	" 128B	CA-4907	35501282
L104	FM OSC Coil 114L	CA-4565	35501146
L105	Choke Coil	CB-2121	35500070
L201	Choke Coil 180J	C-0713	35500310
L401	AM RF Coil 122B	CA-4753	35501222
L402	AM OSC Coil 415L	CA-4755	35504156
L451	AM Bar Antenna Coil	CA-0290	35400511
L601a,b	Choke Coil 8μH	CB-2299	35500170
L801	" 33μH	CA-3100	35500160
T101	FM IFT 207A	CA-7830	35702071
T201	FM IFT 221D	CA-7831	35702214
T851	Power Transformer (UL)	TA-0580	35900206
"	" (CSA)		35900217
"	" (Europe/Australia)		35900218

DIODES				
Ref. No.	Type No.	R/S Part No.	Mfr's Part No.	Manufacturer
D101	1S2687	DX-0302	30600560	JRC
D102	1S2473	DX-0299	30600410	Toyo Electronics
D201	1N60P	DX-0162	30600011	UNISON
D202	"	DX-0162	"	"
D203	1S2473	DX-0299	30600410	Toyo Electronics
D204	"	DX-0299	"	"
D205	KB162	DX-0685	30600500	UNISON
D206	1S2473	DX-0299	30600410	Toyo Electronics
D207	"	DX-0299	"	"
D209	"	DX-0299	"	"
D301	"	DX-0299	"	"
D302	"	DX-0299	"	"
D401	1N60P	DX-0162	30600011	UNISON
D601	Not Used			
D602a,b	1S2473	DX-0299	30600410	Toyo Electronics
D603a,b	"	DX-0299	"	"
D701	1N60	DX-0161	30600010	UNISON
D702	1S2473	DX-0299	30600410	Toyo Electronics
D801	W03C	DX-0525	30600871	Hitachi
D802	RD11E	DX-0405	30600752	NEC
D803	W03C	DX-0525	30600871	Hitachi
D804	"	DX-0525	"	"
D805	"	DX-0525	"	"
D806	STV-3H		30600881	Sanken
D807	Not Used			
D808	"			
D809	"			
D810	W03C	DX-0525	30600871	Hitachi
D811	"	DX-0525	"	"
D812	"	DX-0525	"	"
D813	"	DX-0525	"	"
D851	S5VB-20	DX-0447	30600981	Shindengen

FILTERS			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
LPF301	Low Pass Filter BL-21E	C-0864	35000080
LPF302	"	"	"

INTEGRATED CIRCUITS			
Ref. No.	Type No.	Part No.	Manufacturer
IC201	LA1230	30900380	Sanyo
IC301	HA1196	30900410	Hitachi
IC401	μ PC30C	30900350	NEC
IC501a,b	NJM4558D-D	30900363	JRC
IC701	NJM4558D	30900361	JRC

LAMPS			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
PL1	Dial Lamp 8V 0.3A	L-0718	37008041
PL2	"		"
PL3	"		"
PL4	Meter Lamp 8V 0.25A	X-7338	37008019
PL5	"		"

LIGHT EMITTING DIODES				
Ref. No.	Type No.	R/S Part No.	Part No.	Manufacturer
D751	GD-4-203RD	DX-0747	BA211-49064A	Stanley
D752	"	"	"	"
D753	"	"	"	"
D754	"	"	"	"
D755	"	"	"	"
D756	"	"	"	"

METER			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
M1	TUNING Meter	M-0315	60200018

RELAY			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
RL801	Relay 264D02404CS	R-8083	82000060

RESISTORS				
Ref. No.	Value (Ω)	Wattage (W)	Tolerance (%)	Material
R101	68K	1/4	± 5	Carbon
R102	150	"	"	"
R103	82	"	"	"
R104	3.3K	"	"	"
R105	22K	"	"	"
R106	1K	"	"	"
R107	12K	"	"	"
R108	10K	"	"	"
R109	2.7K	"	"	"
R110	100	"	"	"
R111	560K	"	"	"
R112	330K	"	"	"
R113	390K	"	"	"
R114	100	"	"	"
R115	220	"	"	"
R151	1K	"	"	"
R201	3.3K	1/4	± 5	Carbon
R202	560	"	"	"
R203	330	"	"	"
R204	10	"	"	"
R205	390	"	"	"
R206	100	"	"	"
R207	10K	"	"	"
R208	220	"	"	"
R209	180	"	"	"
R210	150K	"	"	"
R211	1.5K	"	"	"
R212	220K	"	"	"
R213	180K	"	"	"
R214	15K	"	"	"
R215	47K	"	"	"
R216	180K	"	"	"
R217	27K	"	"	"
R218	180K	"	"	"
R219	3.3K	"	"	"
R220	2.2K	"	"	"
R221	6.8K	"	"	"
R222	100K	"	"	"
R223	22K	"	"	"
R224	100K	"	"	"
R225	27K	"	"	"
R226	220K	"	"	"
R227	10M	"	"	"
R228	2.2M	"	"	"
R229	12K	"	"	"
R230	Not Used			
R231	220K	1/4	± 5	Carbon
R232	100	"	"	"
R301	1.8K	"	"	"
R302	5.6K	"	"	"
R303	22K	"	"	"
R304	1K	"	"	"
R305	33K	"	"	"
R306	"	"	"	"
R307	5.1K	"	"	"
R308	"	"	"	"
R309	39K	"	"	"
R310	"	"	"	"

Ref. No.	Value (Ω)	Wattage (W)	Tolerance (%)	Material	Ref. No.	Value (Ω)	Wattage (W)	Tolerance (%)	Material
R311	100K	1/4	±5	Carbon	R609a,b	100K	1/4	±5	Carbon
R312	3.3K	"	"	"	R610a,b	3K	"	"	"
R313	"	"	"	"	R611a,b	5.6K	"	"	"
R314	220K	"	"	"	R612a,b	6.8K	"	"	"
R315	2.2K	"	"	"	R613a,b	2.2K	"	"	"
R316	3.3K	"	"	"	R614a,b	100	"	"	"
R317	390K	"	"	"	R615a,b	1K	"	"	"
R318	2.2K	"	"	"	R616a,b	"	"	"	"
R319	3.3K	"	"	"	R617a,b	100	"	"	"
R320	390K	"	"	"	R618a,b	300	"	"	"
R321	1K	"	"	"	R619a,b	100	"	"	"
R322	100K	"	"	"	R620a,b	300	"	"	"
R401	100K	1/4	±5	Carbon	R621a,b	15	"	"	"
R402	3.9K	"	"	"	R622a,b	"	"	"	"
R403	1.8K	"	"	"	R623a,b	1.2K	"	"	"
R404	2.2K	"	"	"	R624a,b	"	"	"	"
R405	390K	"	"	"	R625a,b	0.47	5	±10	Wire Wound
R406	68K	"	"	"	R626a,b	"	"	"	"
R407	82K	"	"	"	R627a,b	10	1	±5	Metal
R408	47K	"	"	"	R628a,b	10	3	±5	Wire Wound
R409	10K	"	"	"	R651a,b	470	2	±5	Metal
R410	560	"	"	"	R701	47K	1/4	±5	Carbon
R411	10K	"	"	"	R702	470K	"	"	"
R412	22K	"	"	"	R703	10K	"	"	"
R413	Not Used				R704	"	"	"	"
R414	680K	1/4	±5	Carbon	R705	100K	"	"	"
R415	3.3K	"	"	"	R706	680	"	"	"
R416	330	"	"	"	R707	820K	"	"	"
R417	100K	"	"	"	R708	2.7K	"	"	"
R418	15K	"	"	"	R709	10K	"	"	"
R419	390	"	"	"	R710	2.2K	"	"	"
R420	1.8K	"	"	"	R711	33K	"	"	"
R421	2.2K	"	"	"	R712	12K	"	"	"
R501a,b	100K	1/4	±5	Carbon	R713	10K	"	"	"
R502a,b	100K	"	"	"	R714	330K	"	"	"
R503a,b	1.5K	"	"	"	R715	1.8K	"	"	"
R504a,b	820	"	"	"	R716	3.3K	"	"	"
R505a,b	750	"	"	"	R717	1.5K	"	"	"
R506a,b	47K	"	"	"	R718	470K	"	"	"
R507a,b	560K	"	"	"	R719	10K	"	"	"
R508	1.8K	"	"	"	R731a,b	5.6K	1/4	±5	Carbon
R509	"	"	"	"	R732a,b	"	"	"	"
R510a,b	100K	"	"	"	R733a,b	"	"	"	"
R601a,b	270K	1/4	±5	Carbon	R734a,b	"	"	"	"
R602a,b	2.2K	"	"	"	R735a,b	2.2M	"	"	"
R603a,b	220K	"	"	"	R736a,b	6.8K	"	"	"
R604a,b	1.8K	"	"	"	R737a,b	47K	"	"	"
R605a,b	"	"	"	"	R738a,b	4.7K	"	"	"
R606a,b	33K	"	"	"	R739a,b	820K	"	"	"
R607a,b	10K	"	"	"	R740a,b	47K	"	"	"
R608a,b	2.7K	"	"	"	R741a,b	"	"	"	"
					R742a,b	22K	"	"	"
					R751a,b	820	"	"	"

Ref. No.	Value (Ω)	Wattage (W)	Tolerance (%)	Material
R801	470	1	±5	Metal
R802	10K	1/4	"	Carbon
R803	220K	"	"	"
R804	27K	"	"	"
R805	39K	"	"	"
R806	27K	"	"	"
R807	"	"	"	"
R808	"	"	"	"
R809	220	"	"	"
R810	27K	"	"	"
R811	1.2K	"	"	"
R812	27K	"	"	"
R813	1.2K	"	"	"
R814	220	"	"	"
R815	2.2K	"	"	"
R816	10	1	"	Metal
R817	1.8K	1/4	"	Carbon
R851	2.2M	1/2	±10	Solid
R901a,b	3.3K	1/4	±5	Carbon
R902a,b	820K	"	"	"
R903a,b	4.7K	"	"	"
R904a,b	39K	"	"	"
R905a,b	6.8K	"	"	"
R906a,b	22K	"	"	"
R907a,b	3.9K	"	"	"
R908a,b	Not Used			
R909a,b	4.7K	1/4	±5	Carbon
R910a,b	"	"	"	"
R911a,b	6.8K	"	"	"
R912a,b	"	"	"	"
R913a,b	15K	"	"	"
R914a,b	"	"	"	"
R915a,b	1K	"	"	"
R916a,b	15K	"	"	"
R917a,b	"	"	"	"
R918a,b	220K	"	"	"
R919a,b	1M	"	"	"
R920a,b	4.7K	"	"	"
R921a,b	Not Used			
R922a,b	100K	1/4	±5	Carbon
R923	100	"	"	"
R924	"	"	"	"

SWITCHES			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
S1	POWER/SPEAKERS	S-0839	27100138
S2	SELECTOR	S-0781	27100137
S3	TAPE MONITOR 1	S-0782	27200088
S4	" 2	"	"
S5	FM 25μS	S-0783	27200089
S6	MONO	"	"
S7	LOUDNESS	"	"
S8	FILTER-HI	"	"
S9	FILTER-LO	"	"
S10	AUTO-M	"	"
S11	PHONO LEVEL	S-2231	27300008
S12	Thermal Protector (UL)	HB-5116	30700190
"	" (CSA)	"	30700160

THERMISTOR			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
TH201	SDT-1000		30700200

TRANSISTORS

Ref. No.	Type No.	Part No.	Manufacturer	Substitute	
				Type No.	Manufacturer
TR101	3SK45 (B or C)	30400071	Hitachi	3SK41 (Korl)	NEC
TR102	2SC1674	30201111	NEC		
TR103	2SC1675(L)	30201121	NEC		
TR201	2SC930(D)	30200271	Sanyo	2SC945(L-P)	NEC
TR202	2SC536(F)	30200131	Sanyo		
TR203	"	"	"		
TR204	2SA733 (P or Q)	30000425	NEC	2SC945 (L-P)	NEC
TR205	2SC536 (F)	30200131	Sanyo		
TR301	2SK44 (B or C)	30400103	Sanyo		
TR302	"	"	"		
TR401	2SC536(F)	30200131	Sanyo	2SC945(L-P)	NEC
TR402	"	"	"	"	"
TR403	"	"	"	"	"
TR404	"	"	"	"	"
TR601a,b	2SA841(BL)	30000422	Toshiba	2SA640(E)	NEC
TR602a,b	"	"	"	"	"
TR603a,b	2SC1951	30201261	SONY	2SC1124(2)	Sony
TR604a,b	21C1567(R)	30201023	Matsushita		
TR605a,b	2SC945(L-P)	30201031	NEC		
TR606a,b	2SA733(Q or P)	30000423	"	2SC536(F)	Sanyo
TR607a,b	2SA794(R)	30000413	Matsushita	2SA706(2)	Sony
TR608a,b	2SD426(O)	30300291	"		
TR609a,b	"	"	Sony		
TR610a,b	2SC2021	30201323	Toyo Electronics		
TR701	2SD471(K or I)	30300280	NEC		
TR702	"	"	"		
TR801	2SD438(E or F)	30300250	Sanyo	2SC1509(R)	Matsushita
TR802	2SC945(L-P)	30200522	NEC	2SC536(F)	Sanyo
TR803	"	"	"	"	"
TR804	2SB560(E or F)	30100041	Sanyo	2SA777(R)	Matsushita
TR805	2SA733(Q or P)	30000423	NEC		
TR806	2SC945(L-P)	30200522	"	2SC536(F)	Sanyo
TR807	2SD438(E or F)	30300250	Sanyo	2SC1509(R)	Matsushita
TR808	2SD330(E)	30300192	Sanyo	2SC1061(B)	Hitachi
TR901a,b	2SC1681(BL)	30201132	Toshiba	2SC1222(E)	NEC
TR902a,b	2SA841(BL)	30000442	"	2SA640(E)	"
TR903a,b	2SC1681(BL)	30201132	"	2SC1222(E)	"

VARIABLE CAPACITORS			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
VC101	Tuning Gang C774J118 (Includes TC101-TC103, TC105-TC107	C-4516	26370081
TC104	Trimmer ECV-1ZW10P32	C- 0424	26010023

VARIABLE RESISTORS			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
VR201	Auto Stereo & Muting Sensitivity 100k Ω /B	P-6368	28100063
VR202	FM Signal Meter Sensitivity 100k Ω /B	P- 6368	28100063
VR301	76kHz Frequency Adjust 10k Ω /B	P-6367	28100061
VR302	MPX Separation 100k Ω /B	P-6368	28100063

Ref. No.	Description	R/S Part No.	Mfr's Part No.
VR401	WIDE-BAND AM Sensitivity 10k Ω /B	P-6367	28100061
VR402	AM Output Level Control 50k Ω /B	P-6369	28100096
VR601a,b	Bias Control 1k Ω /B	P-6247	28100037
VR901a,b	TREBLE 100k Ω /B	P-5006	28000130
VR902a,b	MID 100k Ω /B	"	"
VR903a,b	BASS 100k Ω /B	"	"
VR951-1a	VOLUME-L channel 200k Ω /B	P-1699	28200020
VR951-2a	VOLUME-L channel 200k Ω /B	"	"
VR951-1b	VOLUME-R channel 200k Ω /B	"	"
VR951-2b	VOLUME-R channel 200k Ω /B	"	"

COMPLETE PCB ASSEMBLIES

Ref. No.	Description	R/S Part No.	Mfr's Part No.
5030	EQ AMP BOARD	X-7609	97503010
0042	TUNER BOARD	X-7608	97004240
0043	TONE AMP & AUTO-M BOARD	X-7611	97004320
0045	MAIN AMP BOARD	X-7610	97004540
6044	AUDIO DRIVER AMP BOARD	X-7614	97604410
8030	POWER SUPPLY BOARD	X-7612	97803020
7126	LED INDICATOR BOARD	X-7248	97712610
7127	METER LAMP BOARD	X-7338	97712710

MISCELLANEOUS PARTS LIST

Ref. No.	Description	R/S Part No.	Mfr's Part No.	Ref. No.	Description	R/S Part No.	Mfr's Part No.
1	Wire Wrap Pin 13mm	HB-0955	19044001	49	P.C. Board Support Rubber	HB-7159	74127002
2	" 19mm	HB-0945	19043001	50	Angle Bracket for Heat Sink (R)	HB-5121	63339001
3	Jumper Wire JPW-03		19000001	51	Angle Bracket for Heat Sink (L)	HB-5122	63340001
4	" JPW-02		19000002	52	Insulation Fiber (B)	HB-5127	75071002
5	P.C.B. Connector Socket 5P	J-6435	19074001	53	Wire Clumper		73075001
6	" " 9P	J-6436	19075001	54	Fiber Barrier (C)	HB-5128	75079001
7	Heat Sink	HH-0255	15079002	55	Terminal Strip 1 L1P Small		51027002
8	P.C. Board Bracket	HB-5118	63341002	56	" 1P1L1P Small	HB-3229	51041002
9	Thermal Protector UI2 90C	HB-5116	30700190	57	" 2P1L1P1L2P		51084002
10	Thermal Protector Bracket	HB-5117	63255001		Snap Bushing	HB-5125	74036001
11	P.C.B. Connector Plug 9P	J-6530	36011001	59	Front Panel Assembly	Z-3852	10757A03
12	Back Panel	Z-3851	11757A02	60	Tuning Knob	K-2303	29237001
13	12P RCA Jack	J-0721	33120240	61	SELECTOR Knob	K-2304	29238001
14	Fuseholder FH002 (UL)	F-1017	34032001	62	L Ch. Knob for Tone Control	K-2305	29239001
15	AC Outlet IRO2 (UL) Bar Antenna Clamper	J-6438 HB-7157	34048001 84290001	63	R Ch. Knob for Tone Control	K-2306	29240003
18	Fuse ST-2 4A 125V (UL)	HF-1087	38334140	64	VOLUME Knob (R ch.)	K-2394	29241003
19	4P Screw Terminal	J-4533	53032500	65	VOLUME Knob (L ch.)	K-2393	29242003
20	10P Speaker Terminal	J-4430	53100240	66	Push Switch Knob	K-2302	29206002
21	AC Cord Strain Relief SR4P-4	HB-0954	74089001	67	Wooden Cabinet	Z-2933	85071004
22	Cord Strain Relief SR4K-4	HB-3212	74035001	68	Bottom Plate	Z-2930	05049001
23	AC Cord with Plug	W-1460	62110004	69	Plastic Foot	F-0183	74074001
24	Phono Ground Terminal	HB-0953	53012300	70	Plastic Washer		84092001
25	Line Cord Antenna	H-3533	63101001	71	Acryl Board for Dial Lamps	HB-7160	71039001
26	Line Cord Antenna Fiber	H-1901	75017002	72	Metal Fitting for Acryl Board	HB-5130	63345001
27	Dial Scale	C-0325	20098003	73	Light Shield Fiber	HB-5132	73218001
28	Dial Shaft Assembly	D-3243	23048002	74	P.C.B. Connector Plug 5P	J-6494	36010001
29	Tuning Meter	M-0315	60200018	75	Screw M4x45		40340451
30	Pulley Shaft E	HB-5107	24003001	76	Flat Washer M4		42120421
31	Plastic Pulley	D-0250	84085001	77	Lock Nut		40000030
32	Fiber Washer	HO-8037	75048001	78	Binding Head Screw M3x8		40430085
33	Fiber Insulator for Dial Shaft	HB-0963	75047001	79	Binding Head TP Screw M3x8		40630085
34	Phone Jack	J-1722	33031300	80	Screw M3x6		40330061
35	Meter Filter (Red)	HB-5123	74122001	81	Nut M3	HD-7003	41113070
36	Plastic Rivet		84254001	82	Spring Washer M3	HD-8017	42250341
37	Wire Bundler 15D		84252001	83	Nut M4	HD-7004	41114010
38	" 11D		84250001	84	Flat Washer M4		42120421
39	" 8D		84249001	85	Spring Washer M4	HD-8019	42250441
40	Metal Bracket for Power Transformer	HB-5123	63342001	86	Tapping Screw B M3x8		40000086
41	Angle Bracket for Pulley	HB-5124	63343001	87	Tapping Screw B M3x10		40000087
42	Dial Drum	D-0365	21013001	88	Tapping Screw M4x15 Black	HD-3049	40640155
43	Spring Coil for Dial Drum	RB-5691	19070001	89	Screw M3x8 TH		40000086
44	Terminal Strip 1P1L1P	J-4438	51025002	90	Plastic Pulley (Small)	D-0243	84010001
45	Pulley Shaft G	D-3244	24004002	91	Screw M5x15	HD-2119	40350151
46	Metal Bracket for Wooden Cabinet	D-1193	63287001	92	Metal Fitting for Meter	HB-0958	19041002
47	Dial Pointer	HB-5127	25044001	93	Ground Lug M3	H3532	51036001
48	Mylar Sheet for Dial Pointer	RT-1194	84276001	94	Wired-in Fuse 2A 125V		38354120

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