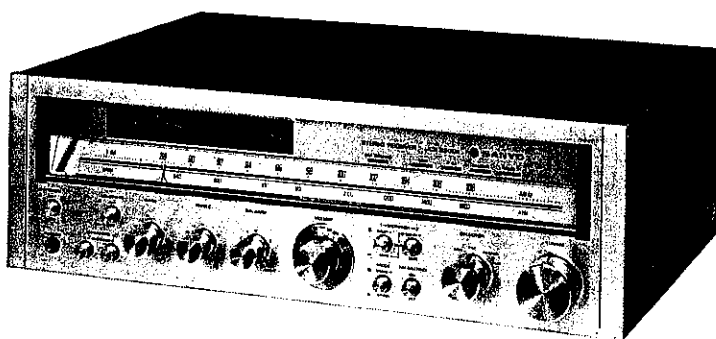


SERVICE MANUAL

STEREO RECEIVER

**SANYO****JCX 2300K**

(AUSTRALIA)



SPECIFICATIONS

Amplifier Section

Continuous minimum sine wave RMS power output per channel at 8 ohms from 20Hz to 20kHz with no more than 0.4% harmonic distortion.

26 watts

Input sensitivity for rated FTC power and impedance

Phono.	2.5mV/50k ohms
Aux.	150mV/50k ohms
Tape Play	150mV/50k ohms

Output for rated FTC power

Tape Rec.	150mV
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Overall frequency response

Phono. RIAA 30Hz–15kHz	±0.2dB
Aux. 20Hz–30kHz	±0.2dB
Tape Play 20Hz–30kHz	±0.2dB

Tone control response

Bass at 100Hz	±10dB
Treble at 10kHz	±10dB

Loudness control response

Volume set –30dB position at 100Hz	±8dB
Volume set –30dB position at 10kHz	±4dB

Hum and noise ratio with FTC power (1HF, short-circuited, A network)

Phono.	70dB
Aux.	90dB
Tape Play	90dB

FM Tuner Section

Frequency range	88 – 108MHz
Usable sensitivity	1.9µV (10.8dbf)
at Mono	
Signal-to-noise ratio (at 65dbf)	
at Mono	70dB
at Stereo	67dB
Harmonic distortion (at 65dbf)	
at Mono	0.3%
at Stereo	0.4%
AM suppression (30% 400Hz AM)	55dB
Spurious response	80dB
Alternate channel selectivity	60dB
Image rejection at 98MHz	50dB
IF rejection at 98MHz	55dB
Capture ratio	1.0dB
Stereo separation at 1kHz	40dB
Antenna input	300 ohms balanced 75 ohms unbalanced

AM Tuner Section

Frequency range	525 – 1620kHz
Sensitivity	300µV/m
Signal-to-noise ratio	50dB
Image rejection	48dB
IF rejection	50dB
Selectivity	33dB
Antenna	Built-in ferrite bar antenna
Antenna input	External antenna

General

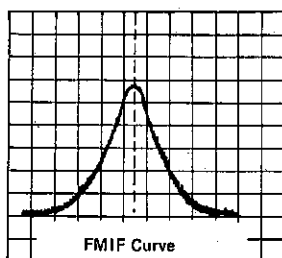
Power requirements	AC: 240V 50 Hz
Power consumption	130W
Dimensions	17-3/8"W x 5-7/8"H x 13"D (440 x 146 x 330 mm)
Weight	Approx. 19 lbs. 13 ozs. (9.0kg)

Specifications are subject to change without notice.

FM IF ADJUSTMENT

1. V curve adjustment

- 1) Connect TP3 (Hot) and TP6 (Earth) to the output terminal of the sweep generator, and TP4 (H) and TP9 (E) to the input terminal.
 - 2) Connect a resistance load of about 10 to 50 K-ohms to the input of the sweep generator and disconnect the tuning meter lead wires from the circuit board.
 - 3) Cut off ceramic filter C213 (0.022 μ F) at one end.
 - 4) Make adjustment while keeping the output from the sweep generator at the low level (where noise appears on the waveform).
 - 5) While watching the sweep waveform at T201, adjust the ceramic filter until the sweep waveform presents the pattern as in Fig.1.
- * TP6 is a shield plate.



ZERO-POINT ADJUSTMENT OF CENTER METER

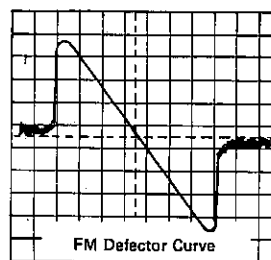
Set FM SG as follows: modulation frequency 1kHz, frequency deviation 75kHz DIV. (100% modulation).

Connect a balanced dummy of 300 ohms between FM SG and the unit (at the 300-ohm terminal of the external antenna). Then, connect the center meter to the unit at the center meter output terminal.

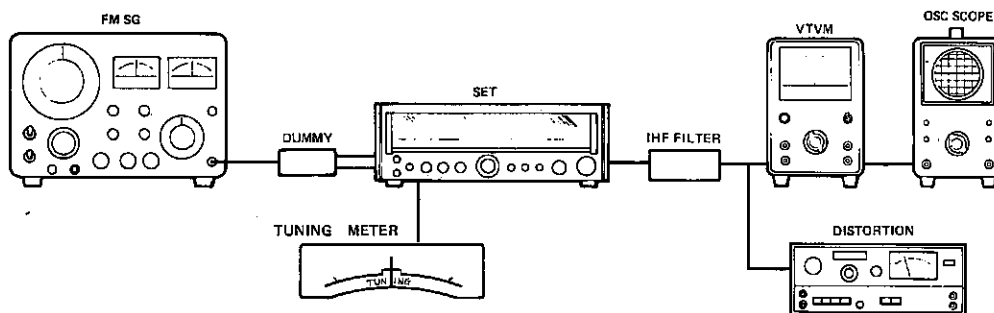
- 1) Set the tuning dial of the unit to 98MHz (where no broadcasting signal is coming in).
- 2) While keeping the FM SG output level to 0 (less than -10dB), adjust the primary core (on the pattern side) of T202 until the center meter needle stands at the zero point.

2. S curve adjustment

- 1) Connect TP3 (H) and TP6 (E) to the output of the sweep generator. Connect TP9 (E) and TP10 (H) to its input. NOTE: It is necessary to connect to the input of the sweep generator a capacitor (1 μ /16V) for cutting DC current.
- 2) Adjust the primary core (on the pattern side) of dual tuning coil T202 until the S curve presents the pattern as in Fig. 2. Avoid turning the secondary core (on the parts side) unless absolutely necessary.



- 3) Adjust the frequency output of FM SG so that the center meter needle stands at the zero point.
 - 4) Reduce the distortion factor to a minimum by turning the secondary core (on the parts side) of T202. Make this adjustment at the FM SG output level of 40 to 60dB.
 - 5) Repeat steps 2) and 3) above.
 - 6) Set the FM SG output level to 60dB. Turn T201 until the distortion factor becomes minimal.
- * T201 should be adjusted only slightly. If it has been turned more than necessary, go through the above steps from 1).
- 7) Repeat steps 2) and 3).



FM TRACKING

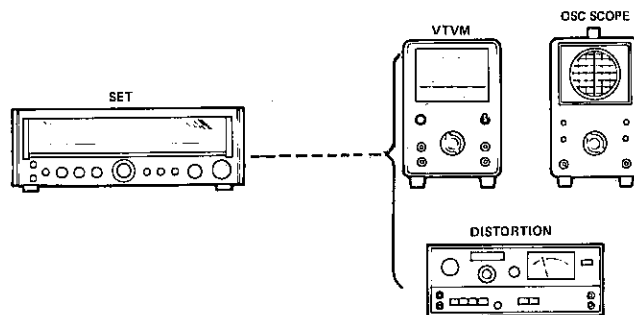
Set FM SG as follows: modulation frequency 1kHz, frequency deviation 75kHz DIV. (100% modulation).

Flip the MODE switch of the unit to "MONO". Connect FM SG and a dummy load as instructed in 3. Zero-point adjustment of center meter.

Such testers as VTVM should be connected to the unit at the TAPE REC output terminal (RCA pin).

* The total load impedance of the testers connected to the unit at the REC output terminal should be 100 K-ohms.

- 1) Make LOW TRACKING adjustment by means of L102 and L101. Use 90MHz FM signal for this purpose.
 - 2) Make HIGH TRACKING adjustment by means of CT2 and CT1. Use 106MHz FM signal for this purpose.
 - 3) Make complete TRACKING adjustment by repeating steps (1) and (2).
- * When properly adjusted, the distortion factor of the output from the unit is reduced to a minimum, provided that the distortion factor of the SG output is about 3%.



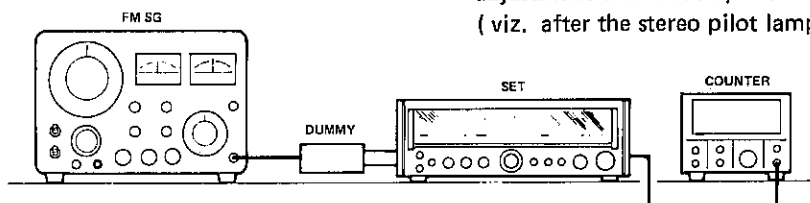
FM MPX ADJUSTMENT

For this adjustment, set the FM SG output to "0" (OFF) the muting switch of the unit to ON. The output from the unit to the frequency counter should be taken out at TP5 (H) and the tuner earth (E) (i.e. the switch case or the ground point near the tuner).

Adjust SVR309 until the frequency counter reading becomes $19,000\text{Hz} \pm 19\text{Hz}$.

* For this adjustment, use a frequency counter relatively high in input impedance.

* Do not make this adjustment immediately after setting to ON the POWER switch of the unit. First, stereo signal from FM SG, keep the stereo pilot lamp of the unit glowing (for more than 10 seconds) and make FM MPLX adjustment immediately after switching off the SG output (viz. after the stereo pilot lamp has gone out).



FM MUTING LEVEL ADJUSTMENT

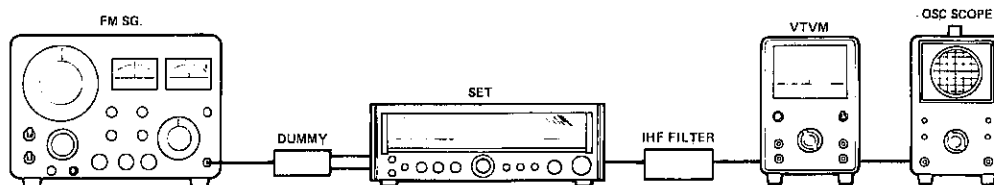
Set FM SG as follows: modulation frequency 1kHz, frequency deviation 75kHz DIV. (100% modulation). Then, set the muting switch of the unit to ON.

1) Set FM SG to 98MHz and tune the unit to that frequency level.

2) Apply $5\mu\text{V}$ to the 300-ohm terminal of the external antenna.

3) Turn SVR227 and set it at the position where the VTVM needle stops swinging or the wave pattern on the oscilloscope becomes very small.

* When the muting function is on, the waveform decreases in size, and weak signals and noise are cut off.



SEPARATION

Set FM SG as follows: modulation frequency 1kHz, frequency 98MHz. Set the pilot signal of the stereo modulator to a modulation degree of 9%. $PL + L + R = 75\text{kHz DIV. (9\% + 91\%)}$

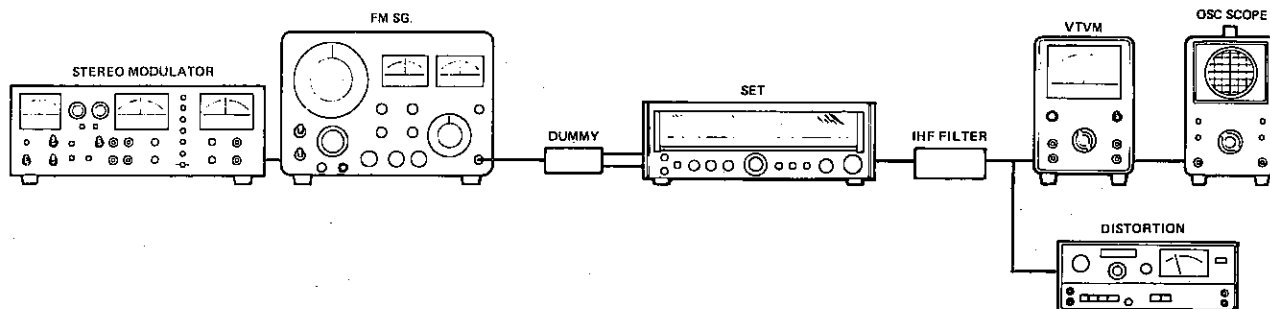
Select the "STEREO" mode by the mode switch of the unit.

1) Set the input to the unit (i.e. voltage at the 300-ohm terminal of the external antenna) to 60dB (This corresponds to 66dB in terms of FM SG output.)

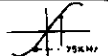
2) Generate L-R signals by the stereo modulator and tune the unit completely to their level. (In this state, the distortion factor is reduced to a minimum.)

3) Switch the stereo modulator from R to L channels. Reduce signal output leakage of each channel to a minimum by adjusting SV306.

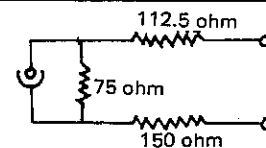
* When making this adjustment, use a filter (e.g. IHF filter 200 15kHz) and eliminate 19kHz and 38kHz carrier components.



FM ALIGNMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I. F.	Connect sweep generator to FM ANT terminal	Connect oscilloscope to test point	$\div 10.7\text{MHz}$ (0% modulation Tune to ceramic filter frequency)	Near max. capacity of VC. at position with no unrequired signal.	T201	Match waveform with Center of ceramic filter 
2	Ratio Det.		Connect oscilloscope to test point			T203	
3	O. S. C.	Connect FM SG. to FM aerial. Terminals	Connect VTVM to speaker terminal.	87 MHz (400 Hz 30% modulation)	Low end of dial scale	L103	Max.
4				109 MHz (400 Hz 30% modulation)	High end of dial scale	CT-3	
5	ANT.	Connect FM SG. to FM aerial. Terminals	Connect VTVM to speaker terminal.	90 MHz (400 Hz 30% modulation)	90 MHz on dial scale	L101 L102	Max.
6				108 MHz (400 Hz 30% modulation)	108 MHz on dial scale	CT-1 CT-2	
7	Repeat adjustments.						

- PREPARE:
1. Add to AC 240V 50 Hz
 2. Set the dial pointer to very left line of dial scale.
 3. Connect sweep generator, FM SG. VTVM and oscilloscope. FM aerial input impedance is 75 ohm.
 4. Use a screwdriver with plastic grip for all adjustments.
 5. Use a 300 ohm balanced dummy load.



MW ALIGNMENT

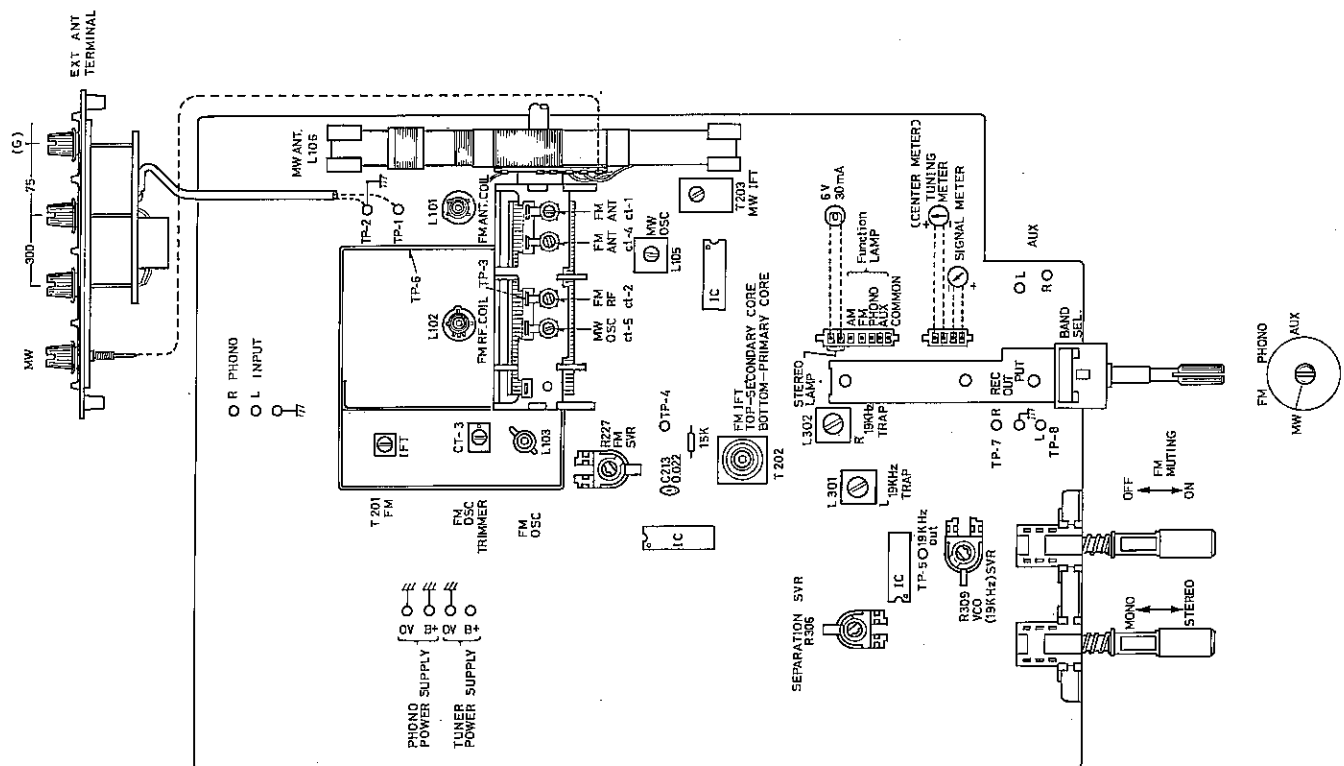
Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I. F.	Connect sweep generator to TEST LOOP.	Connect oscilloscope to EXT. SP.	455 KHz (400 Hz 30% modulation)	Low end of dial scale at position of no un-required signal.	T202	Max.
2	O. S. C.	Connect MW SG. to TEST LOOP.	Connect VTVM to EXT. SP. terminals	505 KHz (400 Hz 30% modulation)	Low end of dial scale	L105	Max.
3				1700 KHz (400 Hz 30% modulation)	High end of dial scale	CT-5	
4	ANT.	Connect MW SG. to TEST LOOP.	Connect VTVM to EXT. SP. terminals.	600 KHz (400 Hz 30% modulation)	600 KHz on dial scale	L106.	Max.
5				1400 KHz (400 Hz 30% modulation)	1400 KHz on dial scale	CT-4	
6	Repeat adjustment						

- PREPARE:
1. Add to AC 240V 50 Hz.
 2. Set the dial pointer to very left line on dial scale.
 3. Use a screwdriver with plastic grip for all adjustments.
 4. Selector switch to "MW".
 5. Connect sweep generator, MW SG, VTVM and oscilloscope.

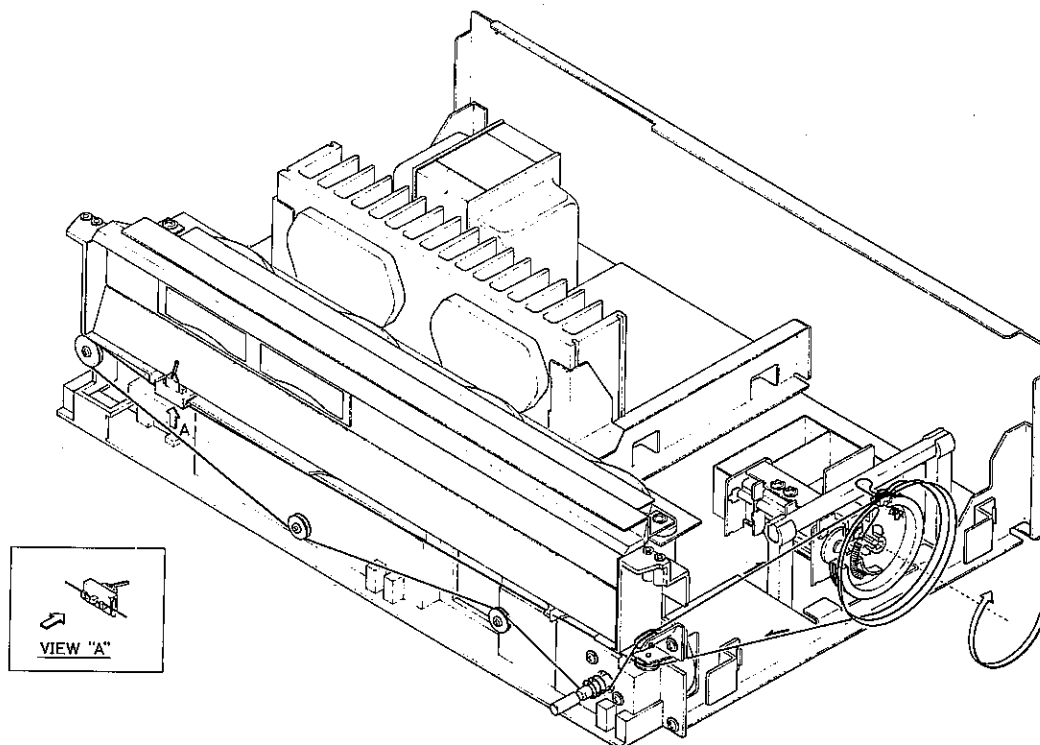
19 KHz TRAP ADJUSTMENT

Apply 19 KHz signal to FM SG from the audio frequency oscillator, adjust coil (L301, L302) to obtain an output of minimum at REC output terminals.

PARTS LOCATION



DIAL CORD STRINGING





PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKING & ACCESSORY			
	141-6-132T-79600	Individual Carton	1
	141-6-144T-38100	Styrol Filler	2
	141-6-479T-26000	Label	2
	141-6-479T-24701	Label, SEC	1
	141-6-411T-98102	Instruction Booklet	1
	141-6-231T-55700	Inner Polyethylene Bag, Set	1
	141-6-415T-15600	Notice, Fuse	1
	141-6-231T-06100	Inner Polyethylene Bag, Fuse	1
	4-245T-00171	Antenna, FM	1
	4-234T-06974	Fuse 250V 3A	2
	123-6-453R-00100	Inspection Sheet	1
	141-6-317T-10250	Inner Polyethylene Bag, AC cord	1
CABINET & CHASSIS			
101	141-0-111T-11800	Cabinet Assembly	1
102	141-2-125T-11200	Bottom Lid	1
103	141-9-122T-01901	Front Panel Assembly	1
104	141-0-174T-04701	Stand Assy	4
105	141-2-464T-08700	Fixer, Lead Retainer	5
107	141-0-163T-12300	Rotary Knob Assembly, Bass & Treble & Balance	3
108	141-0-163T-12400	Rotary Knob Assembly, Volume & Selector	2
109	141-0-163T-12500	Rotary Knob Assembly, Tuning	1
110	141-9-146T-00600	Dial Scale Assembly	1
111	141-2-329T-04500	Reflector, Dial	1
112	141-2-328T-05200	Shield Light	1
113	141-9-511T-00400	Pointer Assembly	1
114	141-2-246T-12900	Sheet, Pointer	1
115	141-2-329T-05000	Reflector, Stereo Lamp	1
116	141-2-126T-21402	Back Lid	1
117	141-2-315T-14100	Reinforcement, Right Side Mtg.	1
118	141-2-310T-05000	Bracket, Reinforcement (117) Mtg.	2
119	141-2-315T-13900	Reinforcement, Center Mtg.	1
120	141-2-371T-08000	Bracket, PT Mtg.	1
121	141-2-464T-21300	Fixer	5
122	141-2-310T-07600	Bracket, Power muting SW (203) Mtg.	1
123	141-2-253T-07500	Joint, Shaft (130) Mtg.	1
124	141-2-315T-14000	Reinforcement, Left Side	1
126	141-2-310T-04900	Bracket, Heat Sink (128) Left Side Mtg.	1
127	141-2-310T-04800	Bracket, Heat Sink (128) Right Side Mtg.	1
128	141-2-368T-11100	Heat Sink, IC	1
129	141-2-382T-07000	Terminal, 2 pin earth	2
130	141-2-753T-22000	Shaft, Power Switch Connection	1
131	141-2-521T-01600	Flywheel, Tuning	1
132	141-2-524T-07600	Bracket, Flywheel (131) Mtg.	1
133	141-2-566T-06600	Tuning Shaft	1
134	141-2-453T-30500	Graphite nylon Washer 4.1 x 6.5 x 0.13mm	2
135	141-2-421T-20900	Special Screw, Pulley Mtg.	5
136	141-2-661T-71300	Pulley	4
137	141-2-661T-71200	Pulley	1
138	141-2-310T-04700	Bracket, Pulley Mtg.	1
139	141-0-161T-02900	Push Button Assembly, Power Switch	1
140	141-2-538T-07300	Drum	1
141	141-2-340T-00200	Rope 0.5 x 2000 mm (Use length 1721 mm)	1

Ref. No.	Part No.	Description	Q'ty
CABINET & CHASSIS			
142	141-2-855T-14800	Coil Spring, Rope Fixer	1
143	123-2-472R-10700	Lug, Earth	2
144	141-2-457T-12100	Special Washer, Drum (140) Mtg.	1
145	123-2-457R-11700	Special Washer, Function Switch Mtg.	1
146	141-2-368T-11000	Heat Sink, PCB (214) Mtg.	1
147	141-0-161T-02800	Push Button Assembly, Function Button	7
148	141-2-464T-14400	Fixer, AC Cord	1
149	141-2-214T-01700	Bracket Frame	1
150	4-243T-76600	Power Supply Cord, AC	1
151	4-511T-08200	Meter, S Meter	1
152	4-511T-08300	Meter, Tuning Meter	1
153	4-235T-43900	Socket, Meter Connect	1
154		Ceramic 0.01μF 50WV, C710 C711 C712	3
155	141-2-382T-10600	Terminal, Earth	1
156	141-2-310T-05100	Bracket, VR Mtg.	1
ELECTRICAL PARTS			
201	140-9-230T-30300	Printed Circuit Board Assembly, Dial Lamp	1
	4-612T-07371	Lamp	4
	4-237T-00171	Terminal, Wire Wrapper Pin	5
202	140-9-230T-51000	Printed Circuit Board Assembly, Power Switch	1
	4-231T-60900	Push Switch, Power	1
	4-234T-05300	Fuse, AC 250V 1.25A	1
	4-237T-00100	Terminal, Wire Wrapper Pin	2
C953, 954	4-223T-04700	Capacitor	2
	141-6-476T-08500	Indication Label	1
203	4-231T-37000	Switch, Power Muting	1
204	141-2-383T-04000	Fuse Holder with Cover	1
205	4-234T-06974	Fuse AC250V 2A	2
206	141-2-327T-15700	Insulator, power switch PCB	1
207	4-237T-07000	Terminal Board, Speaker Terminal	2
208	4-235T-39700	Socket, Phono RCA x 6	1
209	4-235T-39771	Socket, Tape RCA x 6	1
210	140-9-230T-29200	Printed Circuit Board Assembly, Antenna	1
L100	4-268T-00100	V.H.F. Coil 75-300 ohms	1
	141-2-382T-05900	Terminal, 4pin	1
211	4-251T-70600	Power Transformer	1
TUNER PCB ASSY			
212	140-9-230T-29102	Printed Circuit Board, Tuner	1
L104	4-257T-22301	Antenna Coil Assembly	1
L101	4-265T-03700	V.H.F. Coil	1
L102	4-265T-03800	V.H.F. Coil	1
L103	4-265T-03900	V.H.F. Coil	1
		Fiber Washer 3 x 10 x 1 mm	2
		Tapping Screw with Washer 3 x 12 mm	2
T201	4-256T-05140	I.F.T.	1
T202	4-256T-07940	I.F.T.	1
T203	4-256T-07800	I.F.T.	1
L202	4-253T-09300	Filter 18μH	1
L105	4-258T-15500	OSC Coil	1
CT3	4-224T-08800	Trimmer	1
	4-224T-08300	Variable Capacitor	1

PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
TUNER PCB ASSY				TUNER PCB ASSY			
R227	141-2-369T-05100	Bracket, Antenna Coil Mtg.	2	C102,111		Ceramic 0.01 μ F +80 -20% 50WV	10
R306	4-222T-39477	Semi Fixed Resistor 50k(B)	1	119,120			
R309	4-222T-39472	Semi Fixed Resistor 1k(B)	1	125,201			
L106,201	4-222T-39474	Semi Fixed Resistor 5k(B)	1	202,203			
	4-253T-08600	Filter 3 μ H	2	218,231			
	4-256T-80500	Red 10.7MHz		C110,124		Ceramic 0.022 μ F +80 -20% 50WV	4
	4-256T-80571	Blue 10.67MHz		213,217			
		or *same use parts		C224		Electrolytic 47 μ F 16V	1
CF201,202	4-256T-80572	I.F Filter Orange 10.73MHz	2	C204,205		Ceramic 0.047 μ F +80 -20% 50WV	7
	4-256T-80573	Black 10.64MHz		206,210			
	4-256T-80574	White 10.76MHz		211,212			
L301,302	4-252T-02800	Choke Coil	2	324			
	141-2-322T-35500	Shield Plate	1	C122		Styrol 330pF $\pm$ 5% 125WV	1
	141-2-322T-35600	Shield Plate	1	C309		Styrol 1500pF $\pm$ 5% 125WV	1
S4,5	4-231T-63400	Switch, FM Muting & Mode	1	C708,709		Mylar 0.001 μ F $\pm$ 5% 50WV	4
S3	4-231T-63500	Switch, Function	1	808,809			
	4-237T-00100	Terminal	24	C302,304		Mylar 0.0015 μ F $\pm$ 10% 50WV	2
	4-236T-10271	Plug 4pin	1	C318,319		Mylar 0.0033 μ F $\pm$ 10% 50WV	2
	4-236T-10274	Plug 7pin	1	C707,807		Mylar 0.0068 μ F $\pm$ 5% 50WV	2
IC101		IC HA1138	1	C117,121		Mylar 0.01 μ F $\pm$ 20% 50WV	3
IC201		IC LA1230	1	221			
IC301		IC LA3350	1	C321,323		Mylar 0.0015 μ F $\pm$ 10% 50WV	2
IC701,801		IC TA7129P	2	C320,322		Mylar 0.022 μ F $\pm$ 10% 50WV	2
Q101		FET 3SK59 GR	1	C219		Mylar 0.033 μ F $\pm$ 20% 50WV	1
Q102		Transistor 2SC535 B	1	C316		Mylar 0.047 μ F $\pm$ 20% 50WV	1
Q103		Transistor 2SC930 E, Conv.	1	C225		Mylar 0.068 μ F $\pm$ 20% 50WV	1
Q201		Transistor 2SC930 E, IF	1	C306		Aluminum Electrolytic 0.22 μ F	1
Q202		Transistor 2SC536G, AUD	1			$\pm$ 20% 10WV	
Q302,309		Transistor 2SC536 F or G, AUD	2	C308		Aluminum Electrolytic 0.33 μ F	1
Q303,304		Transistor 2SA702 F	2			$\pm$ 20% 10WV	
Q305,306		Transistor 2SC945 P	3	C307		Aluminum Electrolytic 0.47 μ F	1
310						$\pm$ 20% 10WV	
Q307,308		Transistor 2SC945 Por Q	2	C226,312		Electrolytic 0.47 μ F +150 -10%	3
D101,102		Diode 1S2473	4	315		16 to 50WV	
201,301				C209		Electrolytic 1 μ F +150 -10% 25WV	1
D103,202		Diode 1S188 FM	2	C207,230		Electrolytic 1 μ F +150 -10%	3
D302,303		Diode 1S2472	4	232		16 to 50WV	
304,306				C301		Electrolytic 4.7 μ F +100 -10%	1
D305		Diode 1S188 AM or IN60 AM	1			16WV	
B101,102	123-2-471R-10900	Core	2	C118		Electrolytic 10 μ F +100 -10%	1
						16WV	
		CAPACITORS		C351,352		Electrolytic 10 μ F +100 -10%	2
C100		Ceramic 16pF $\pm$ 0.25pF 50WV	1			35WV	
C108		Ceramic 2pF $\pm$ 0.25pF 50WV	1	C223		Electrolytic 33 μ F +100 -10%	1
C106,116		Ceramic 4pF $\pm$ 0.25pF 50WV	2			16WV	
C114		Ceramic 6pF $\pm$ 0.25pF 50WV N.P.O.	1	C353		Electrolytic 100 μ F +100 -10%	1
C101		Ceramic 12pF $\pm$ 10% 50WV	1			10WV	
C105		Ceramic 12pF $\pm$ 10% 50WV N750	1	C215		Electrolytic 100 μ F +100 -10%	1
C112		Ceramic 15pF $\pm$ 5% N.P.O.	1			16WV	
C123		Ceramic 15pF $\pm$ 10% 50WV N750	1	C350		Electrolytic 100 μ F +100 -10%	1
C115		Ceramic 20pF $\pm$ 5% 50WV N330	1			35WV	
C113		Ceramic 33pF $\pm$ 5% 50WV N.P.O.	1	C317		Electrolytic 470 μ F +100 -10%	1
C208		Ceramic 33pF $\pm$ 10% 50WV	1			16WV	
C216,702		Ceramic 47pF $\pm$ 10% 50WV	5	C354		Electrolytic 1000 μ F +100 -10%	1
705,802						16WV	
805				C706,806		Electrolytic 1 μ F +75 -10% 50WV	2
C109		Ceramic 100pF $\pm$ 10% 50WV	1	C701,801		Electrolytic 4.7 μ F +75 -10%	2
C222		Ceramic 220pF $\pm$ 20% 50WV	1			25WV	
C311,314		Ceramic 560pF $\pm$ 10% 50WV	2	C704,804		Electrolytic 47 μ F +100 -10%	2
C703,803		Ceramic 470pF $\pm$ 20% 50WV	2			16WV	
C103,107		Ceramic 0.001 μ F $\pm$ 20% 50WV	2	C714		Electrolytic 220 μ F +100 -10%	1
C310,313		Ceramic 0.0022 μ F $\pm$ 10% 50WV	2			50WV	

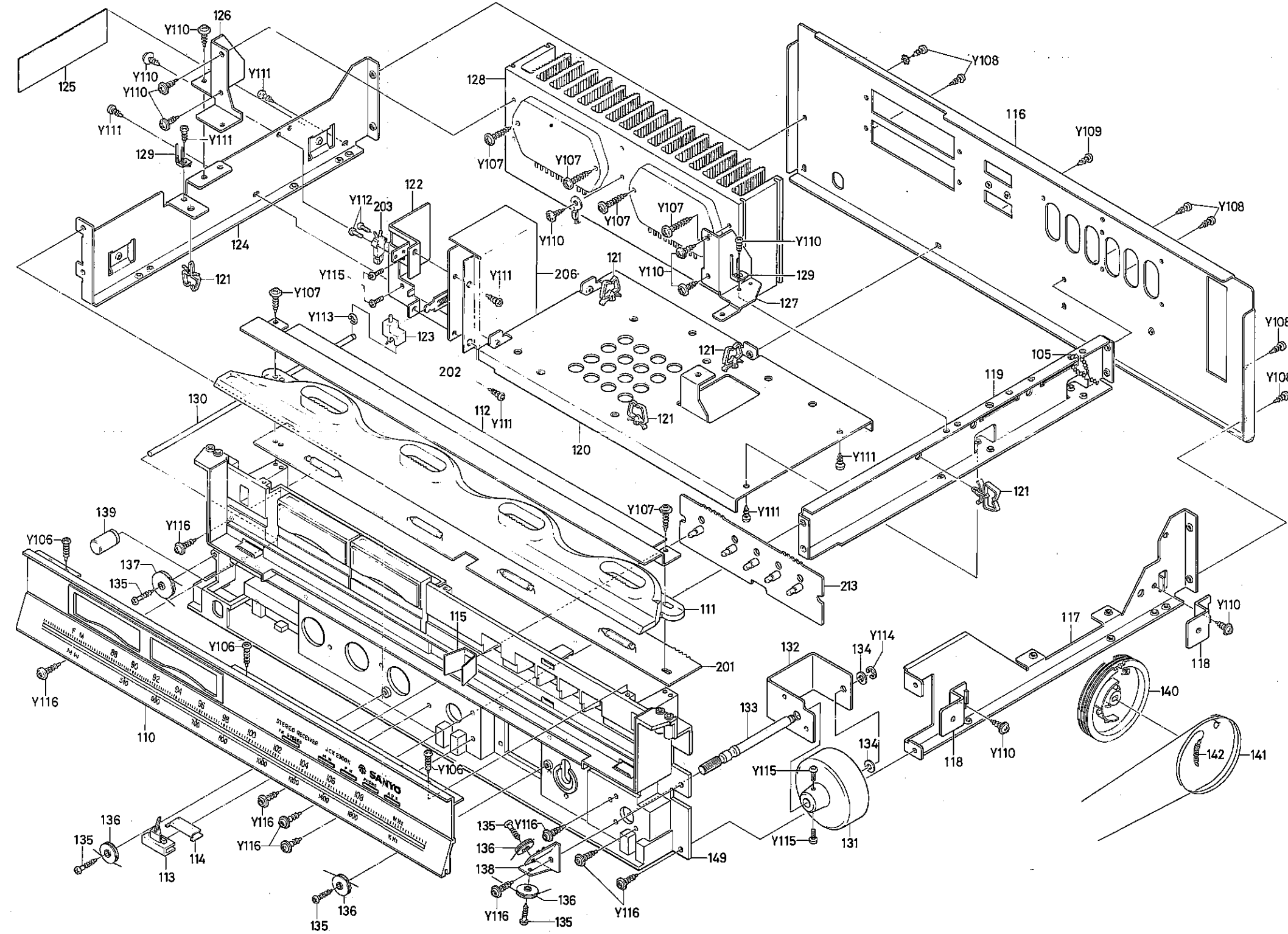
PARTS LIST

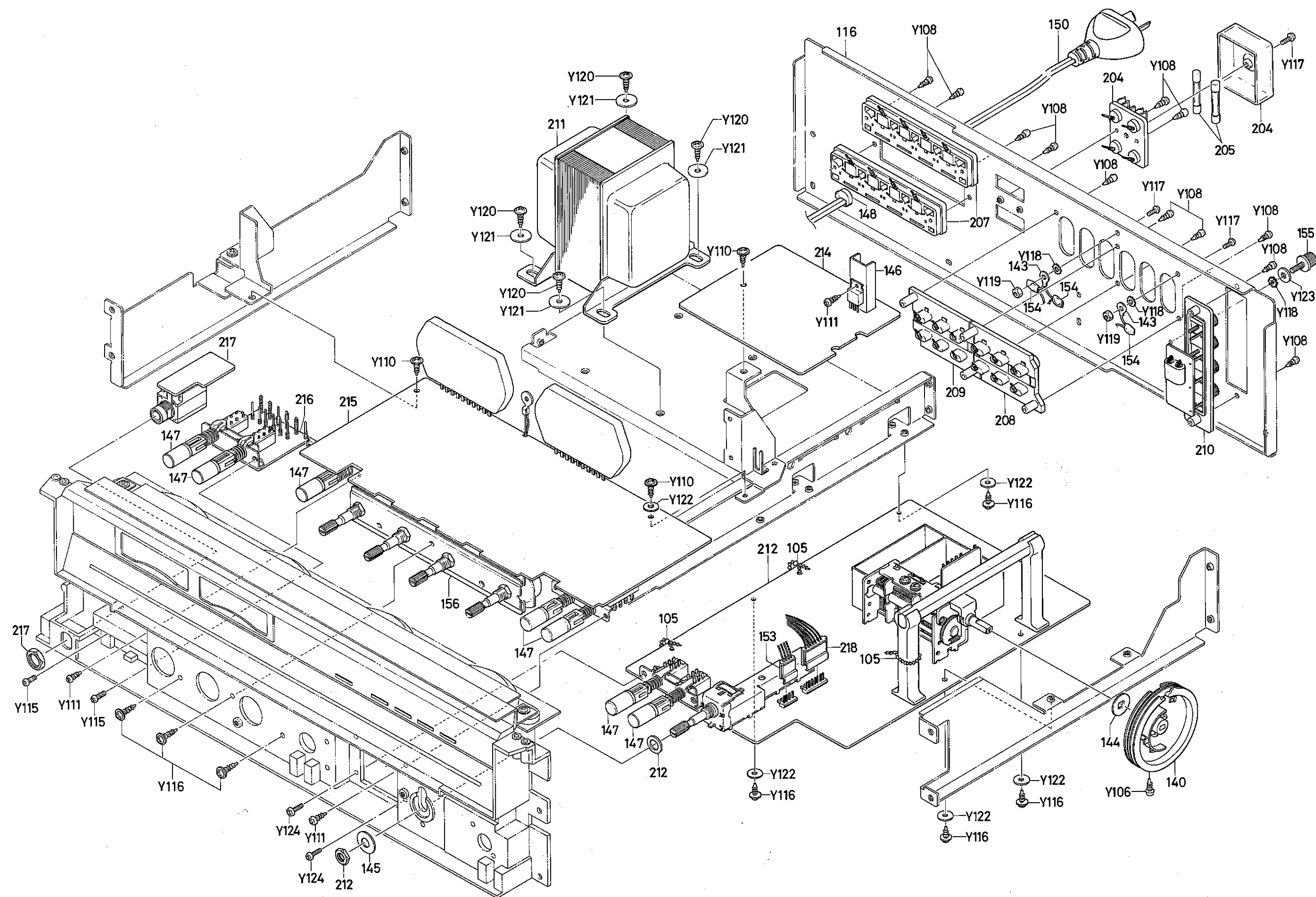
Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
TUNER PCB ASSY				TUNER PCB ASSY			
		RESISTORS		R105		Carbon Resistor 33k ohm $\pm 5\%$ 1/4W	1
R103		Carbon Resistor 10 ohm	1	R108,218		Carbon Resistor 39k ohm $\pm 5\%$ 1/4W	4
R110,214		Solid Resistor 56 ohm $\pm 5\%$ or $\pm 10\%$ 1/2W	4	709,809		Carbon Resistor 47k ohm $\pm 5\%$ 1/4W	3
R234,312		Carbon Resistor 100 ohm $\pm 5\%$ 1/4W	5	R236,354		Carbon Resistor 56k ohm $\pm 5\%$ 1/4W	3
R117,225		Carbon Resistor 150 ohm $\pm 5\%$ 1/4W	3	357		Carbon Resistor 68k ohm $\pm 5\%$ 1/4W	2
R233,237		Carbon Resistor 220 ohm $\pm 5\%$ 1/4W	1	R104,116		Carbon Resistor 82k ohm $\pm 5\%$ 1/4W	1
R356		Carbon Resistor 220 ohm $\pm 5\%$ or $\pm 10\%$ 1/4W	1	208		Carbon Resistor 100k ohm $\pm 5\%$ 1/4W	9
R106,111		Carbon Resistor 330 ohm $\pm 5\%$ 1/4W	3	R701,801		Carbon Resistor 180k ohm $\pm 5\%$ 1/4W	2
R206		Carbon Resistor 470 ohm $\pm 5\%$ 1/4W	1	R358		Carbon Resistor 270k ohm $\pm 5\%$ 1/4W	2
R304		Carbon Resistor 680 ohm $\pm 5\%$ 1/4W	1	R703,803		Carbon Resistor 470k ohm $\pm 5\%$ 1/4W	2
R351		Carbon Resistor 820 ohm $\pm 5\%$ 1/4W	4	R708,808			
R205,207		Carbon Resistor 1k ohm $\pm 5\%$ 1/4W	2	INDICATOR LAMP PCB ASSY			
R220		Carbon Resistor 1.2k ohm $\pm 5\%$ 1/4W	1	213	140-9-230T-30200	Printed Circuit Board Assembly, Indicator Lamp	1
R210		Carbon Resistor 1.5k ohm $\pm 5\%$ 1/4W	1		4-612T-08100	Lamp, Function 6.3V 65mA	4
R232		Carbon Resistor 1.8k ohm	1		4-612T-08200	Lamp, Stereo 6.0V 30mA	1
R315,321		Carbon Resistor 2.2k ohm $\pm 5\%$ 1/4W	5		4-237T-00100	Terminal, Wrapper Pin	9
R705,805		Carbon Resistor 2.7k ohm $\pm 5\%$ 1/4W	4	POWER AMP PCB ASSY			
R107,305		Carbon Resistor 3.3k ohm $\pm 5\%$ 1/4W	4	214	140-9-230T-30100	Printed Circuit Board Assembly, Power Supply	1
R230		Carbon Resistor 3.9k ohm $\pm 5\%$ 1/4W	1		141-2-382T-07300	Terminal, Wrapper Pin	14
R221		Carbon Resistor 4.7k ohm $\pm 5\%$ 1/4W	1	Q901		Transistor 2SC1384 R or 2SD438	1
R203		Carbon Resistor 5.6k ohm $\pm 5\%$ 1/4W	1	Q902		Transistor 2SD330 E	1
R213,216		Carbon Resistor 6.8k ohm $\pm 5\%$ 1/4W	1	D901,902		Diode DS150A or GP20D	4
R219,702		Carbon Resistor 8.2k ohm $\pm 5\%$ 1/4W	10	903,904		Diode IN4003	1
R802		Carbon Resistor 10k ohm $\pm 5\%$ 1/4W	8	D905		Diode WZ130	1
R112,115		Carbon Resistor 12k ohm $\pm 5\%$ 1/4W	2	D906			
R322,317		Carbon Resistor 15k ohm $\pm 5\%$ 1/4W	2	CAPACITORS			
R217,302		Carbon Resistor 18k ohm $\pm 5\%$ 1/4W	2	C901,902		Ceramic 0.01 μ F 50WV	5
R303,308		Carbon Resistor 22k ohm $\pm 5\%$ 1/4W	2	903,904		Electrolytic 6800 μ F 35WV	2
R222		Carbon Resistor 27k ohm $\pm 5\%$ 1/4W	2	905		Electrolytic 220 μ F 16WV	1
R360		Carbon Resistor 30k ohm $\pm 5\%$ 1/4W	2	C906,907	4-163T-00600	Electrolytic 220 μ F 50WV	2
R109		Carbon Resistor 33k ohm $\pm 5\%$ 1/4W	2	C910		Electrolytic 470 μ F 50WV	1
R211		Carbon Resistor 36k ohm $\pm 5\%$ 1/4W	2	C909,911			
R310,323		Carbon Resistor 39k ohm $\pm 5\%$ 1/4W	2	C908			
R313,316		Carbon Resistor 47k ohm $\pm 5\%$ 1/4W	2	RESISTORS			
R319,362		Carbon Resistor 56k ohm $\pm 5\%$ 1/4W	2	R901		Solid State Resistor 47 ohm $\pm 10\%$ 1/2W	1
R363,365		Carbon Resistor 68k ohm $\pm 5\%$ 1/4W	2	R902		Metal Oxide Film Resistor 150 ohm $\pm 5\%$ 3W	1
R706,806		Carbon Resistor 82k ohm $\pm 5\%$ 1/4W	2	R906		Solid State Resistor 820 ohm $\pm 10\%$ 1/2W	1
R113,202		Carbon Resistor 100k ohm $\pm 5\%$ 1/4W	2				
R307,314		Carbon Resistor 150k ohm $\pm 5\%$ 1/4W	2				
R320,353		Carbon Resistor 200k ohm $\pm 5\%$ 1/4W	2				
R359,364		Carbon Resistor 250k ohm $\pm 5\%$ 1/4W	2				
R226,229		Carbon Resistor 300k ohm $\pm 5\%$ 1/4W	2				
R114,215		Carbon Resistor 350k ohm $\pm 5\%$ 1/4W	2				
R204,228		Carbon Resistor 400k ohm $\pm 5\%$ 1/4W	2				
R209,311		Carbon Resistor 450k ohm $\pm 5\%$ 1/4W	2				
R352,355		Carbon Resistor 500k ohm $\pm 5\%$ 1/4W	2				

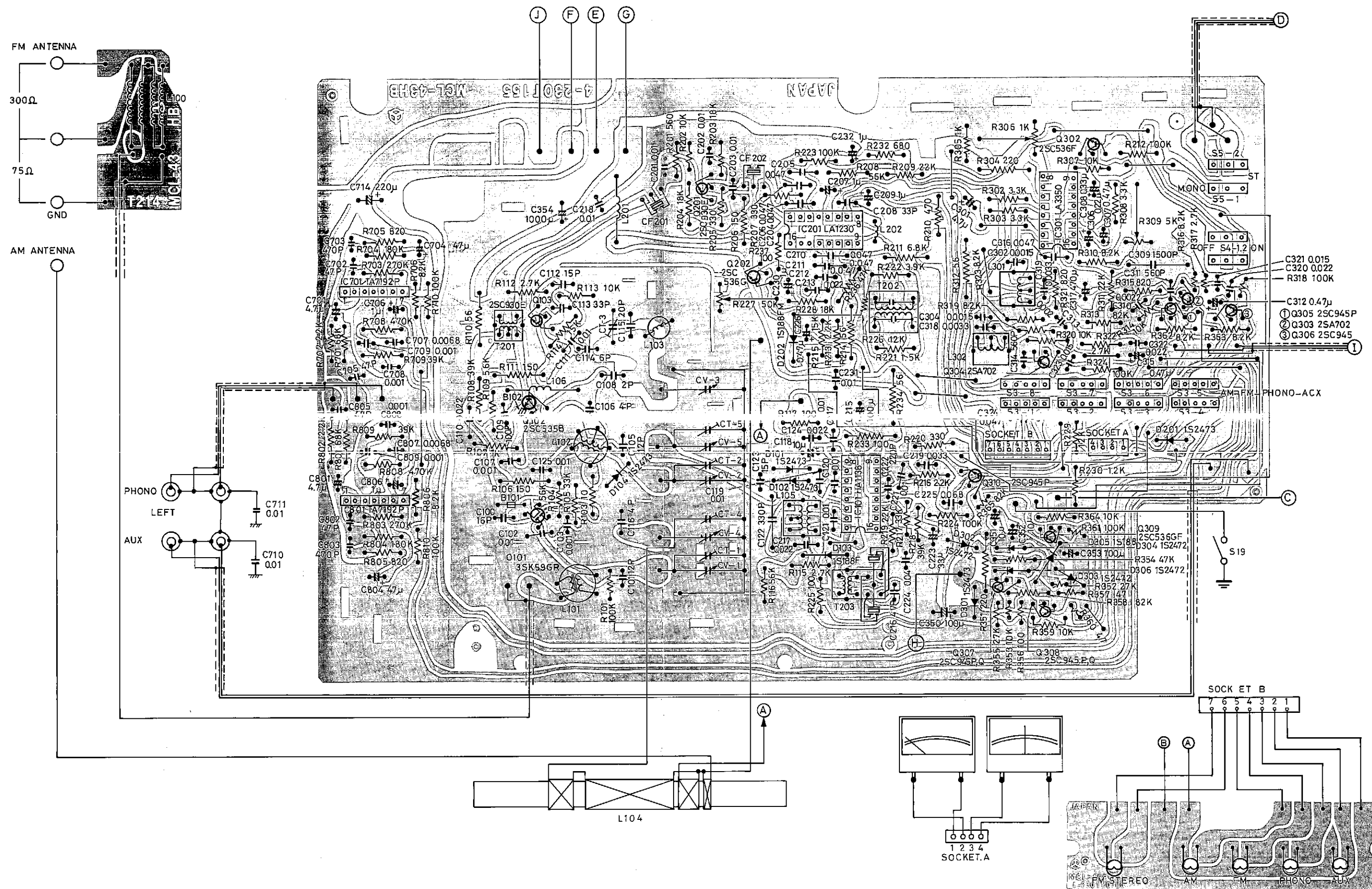
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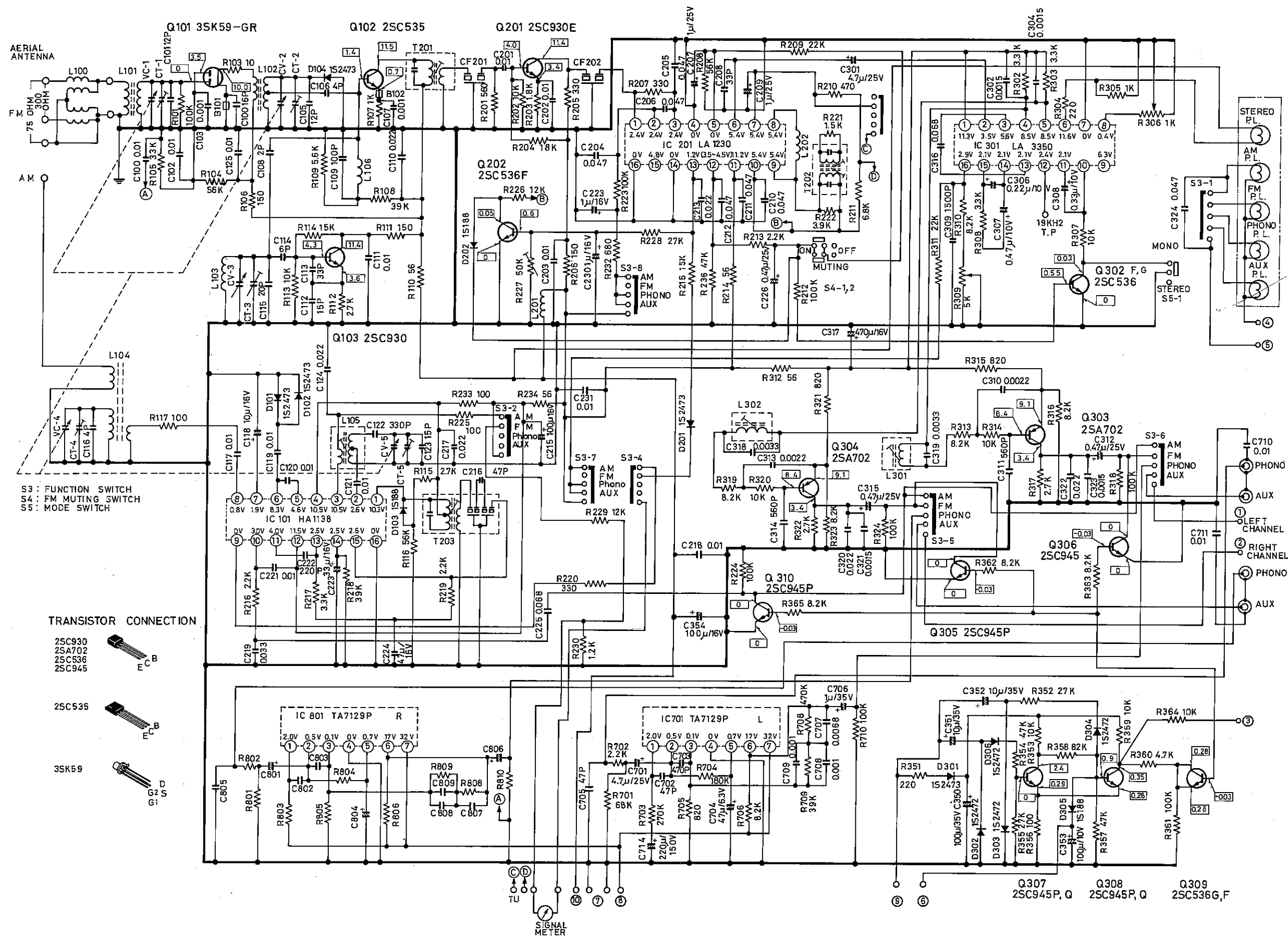
Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
POWER AMP PCB ASSY				MAIN AMP PCB ASSY			
R905		Solid State Resistor 1k ohm $\pm 10\%$ 1/2W	1	R752,753		Carbon Resistor 100 ohm $\pm 5\%$ 1/4W	4
R903,904		Carbon Resistor 4.7k ohm $\pm 5\%$ 1/4W	2	852,853		Carbon Resistor 680 ohm $\pm 5\%$ 1/4W	2
R910		Solid State Resistor 5.6k ohm $\pm 10\%$ 1/2W	1	R739,839		Carbon Resistor 1k ohm $\pm 5\%$ 1/4W	10
MAIN AMP PCB ASSY				R722,725		Carbon Resistor 2.2k ohm $\pm 5\%$ 1/4W	6
215	140-9-230T-30400	Printed Circuit Board Assembly, Main Amp	1	741,746		Carbon Resistor 2.7k ohm $\pm 5\%$ 1/4W	2
VR701	4-222T-54400	Variable Resistor 100k(N-M), Balance	1	748,822		Carbon Resistor 3.3k ohm $\pm 5\%$ 1/4W	2
VR702	4-222T-54300	Variable Resistor 100k(B), Volume	1	825,841		Carbon Resistor 3.9k ohm $\pm 5\%$ 1/4W	1
VR703,704	4-222T-54500	Variable Resistor 100k(B), Bass & Treble	2	846,848		Carbon Resistor 4.7k ohm $\pm 5\%$ 1/4W	2
S4	4-231T-63800	Push Switch, Loudness	1	R730,731		Carbon Resistor 6.8k ohm $\pm 5\%$ 1/4W	6
S11,12	4-231T-63700	Push Switch, Monitor 1-2	1	756,830		Carbon Resistor 12k ohm $\pm 5\%$ 1/4W	2
	141-2-382T-07300	Terminal, Wrapper Pin	28	831,856		Carbon Resistor 18k ohm $\pm 5\%$ 1/4W	6
	4-206T-01100	Power IC STK-078	2	R750,850		Carbon Resistor 22k ohm $\pm 5\%$ 1/4W	2
	4-209T-01100	Posistor, Temperature security	1	R721,821		Carbon Resistor 47k ohm $\pm 5\%$ 1/4W	2
Q701,702		PT4487A or BG471TS	6	R911		Carbon Resistor 56k ohm $\pm 5\%$ 1/4W	4
704,801		Transistor 2SC1571 G	2	R728,738		Carbon Resistor 82k ohm $\pm 5\%$ 1/4W	3
802,804		Transistor 2SC945 Por K	2	745,828		Carbon Resistor 100k ohm $\pm 5\%$ 1/4W	6
Q703,803		Transistor 2SC536 F or G	1	838,845		Carbon Resistor 150k ohm $\pm 5\%$ 1/4W	2
Q903		Diode DS442X	3	R723,823		Carbon Resistor 200k ohm $\pm 5\%$ 1/4W	2
D908,909				734,832		Carbon Resistor 250k ohm $\pm 5\%$ 1/4W	2
910				833,834		Carbon Resistor 300k ohm $\pm 5\%$ 1/4W	2
C737,837		Ceramic 2pF $\pm 20\%$ 50WV	2	R744,844		Carbon Resistor 350k ohm $\pm 5\%$ 1/4W	2
C729,829		Ceramic 20pF $\pm 20\%$ 50WV	2	R729,829		Carbon Resistor 400k ohm $\pm 5\%$ 1/4W	2
C722,822		Ceramic 330pF $\pm 20\%$ 50WV	2	R749,751		Carbon Resistor 450k ohm $\pm 5\%$ 1/4W	2
C743,843		Ceramic 0.01 μ F $\pm 20\%$ 50WV	2	849,851		Carbon Resistor 500k ohm $\pm 5\%$ 1/4W	2
C735,835		Mylar 470pF $\pm 20\%$ 50WV	2	R743,843		Carbon Resistor 550k ohm $\pm 5\%$ 1/4W	2
C725,825		Mylar 0.001 μ F $\pm 5\%$ 50WV	2	909		Carbon Resistor 600k ohm $\pm 5\%$ 1/4W	2
C726,727		Mylar 0.022 μ F $\pm 5\%$ 50WV	4	R736,740		Carbon Resistor 650k ohm $\pm 5\%$ 1/4W	2
826,827				747,836		Carbon Resistor 700k ohm $\pm 5\%$ 1/4W	2
C721,821		Mylar 0.033 μ F $\pm 5\%$ 50WV	2	840,847		Carbon Resistor 750k ohm $\pm 5\%$ 1/4W	2
C742,842		Mylar 0.047 μ F $\pm 5\%$ 50WV	2	R742,842		Carbon Resistor 800k ohm $\pm 5\%$ 1/4W	2
C723,823		Electrolytic 0.47 μ F +100 -10% 50WV	2	R726,826		Carbon Resistor 850k ohm $\pm 5\%$ 1/4W	2
C732,733		Electrolytic 1 μ F +100 -10% 35WV	6	R724,824		Carbon Resistor 900k ohm $\pm 5\%$ 1/4W	2
734,832				R727,737		Carbon Resistor 950k ohm $\pm 5\%$ 1/4W	2
833,834				827,837		Carbon Resistor 1.0M ohm $\pm 5\%$ 1/4W	5
C724,728		Electrolytic 1 μ F +100 -10% 50WV	6	SP SWITCH PCB ASSY			
731,824				216	140-9-230T-30600	Printed Circuit Board Assembly, SP Switch	1
828,831				S15,16	4-231T-63600	Push Switch	1
C740,741		Electrolytic 10 μ F +100 -10% 35WV	2		4-237T-00100	Terminal, Wrapper Pin	12
C736,836		Electrolytic 47 μ F +100 -10% 16WV	3	HEADPHONE PCB ASSY			
913		Electrolytic 100 μ F +100 -10% 6.3WV	2	217	140-9-230T-30500	Printed Circuit Board Assembly, Headphone	1
C730,830		Electrolytic 100 μ F +100 -10% 35WV	4		4-235T-36771	Socket, Headphone	1
C738,739		Electrolytic 100 μ F +100 -10% 35WV	1		4-237T-00100	Terminal, Wrapper Pin	3
838,839				R755,855		Metal Oxide Film Resistor 330 ohm $\pm 5\%$ 1W	2
C912				218	4-235T-44000	Socket, 7pin from Indicator P.C.B. (213)	1
R754,854		Metal Oxide Film Resistor 5.6 ohm $\pm 5\%$ 1W	2				

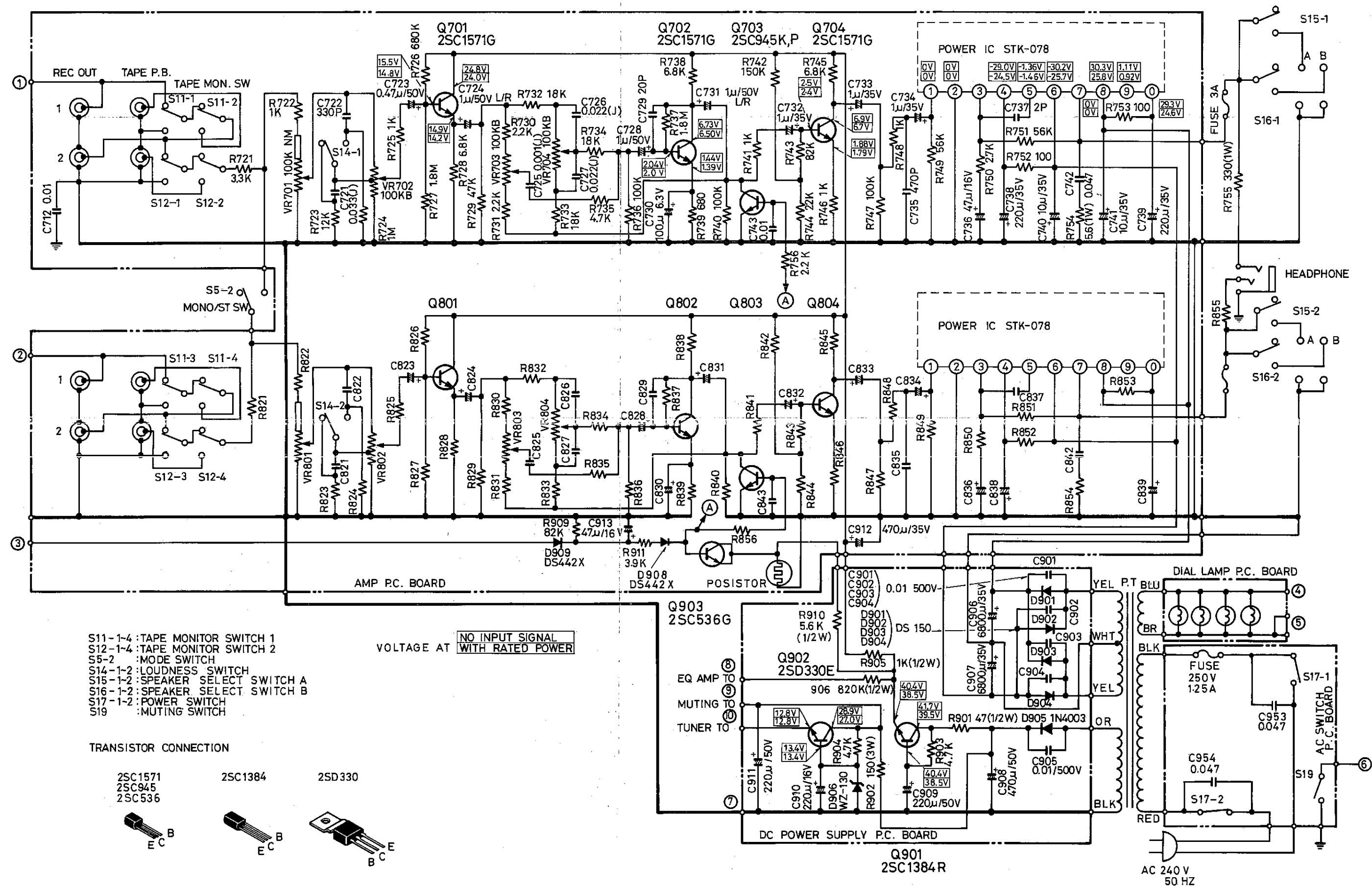
Ref. No.	Part No.	Description	Q'ty
SCREW MOUNTING			
Y101		Binding Head Tapping Screw 4 x 16 mm	4
Y102		Washer 4.5 x 13 x 1.2 mm	4
Y103		Tapping Screw with Washer 3 x 12 mm	9
Y104		Tapping Screw 3 x 6 mm	6
Y105		Binding Head Tapping Screw 3 x 6 mm	1
Y106		Tapping Screw 3 x 12 mm	4
Y107		Tapping Screw 3 x 16 mm	6
Y108		Binding Head Tapping Screw 3 x 10 mm	18
Y109		Binding Head Tapping Screw 3 x 8 mm	1
Y110		Tapping Screw with Washer 3 x 8 mm	12
Y111		Tapping Screw 3 x 8 mm	9
Y112		Pan Head Screw 2 x 8 mm	2
Y113		External "E" Ring 2.5 mm	1
Y114		External "E" Ring 3 mm	1
Y115		Pan Head Screw 3 x 6 mm	3
Y116		Tapping Screw with Washer 3 x 10 mm	16
Y117		Binding Head Pan Head Screw	3
Y118		External Tooth Lock Washer 3 mm	4
Y119		Nut 3 mm	2
Y120		Tapping Screw with Washer 4 x 8 mm	4
Y121	141-2-453T-01700	Washer 4.5 x 13 x 1.2 mm	4
Y122		Fiber Washer 3 x 10 x 1 mm	5
Y123		Washer 3 x 10 x 0.5 mm	1
Y124		Pan Head Screw 3 x 8 mm	2
Y125		Pan Head Screw with Hexagon Hole 3 x 6 mm	2

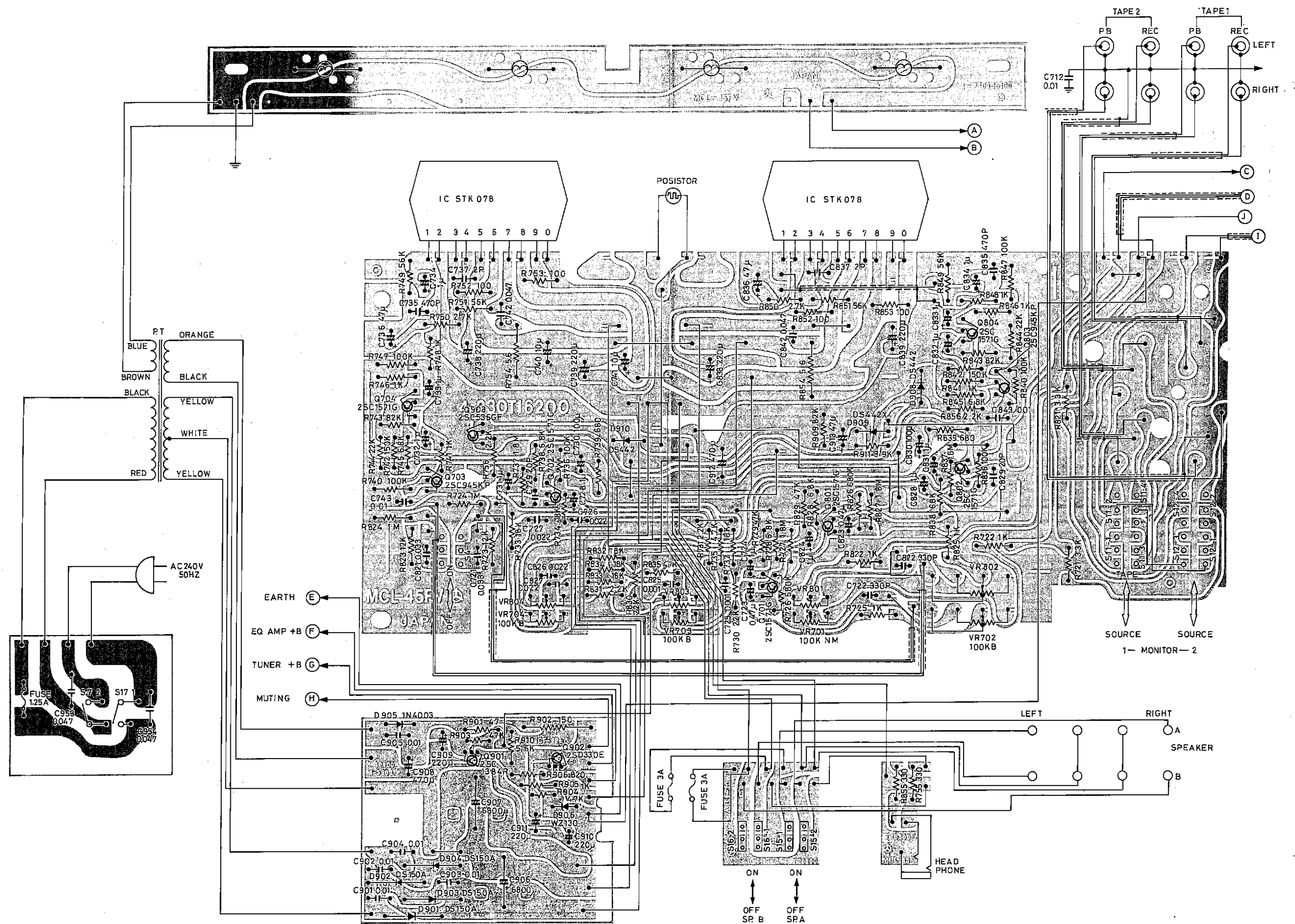


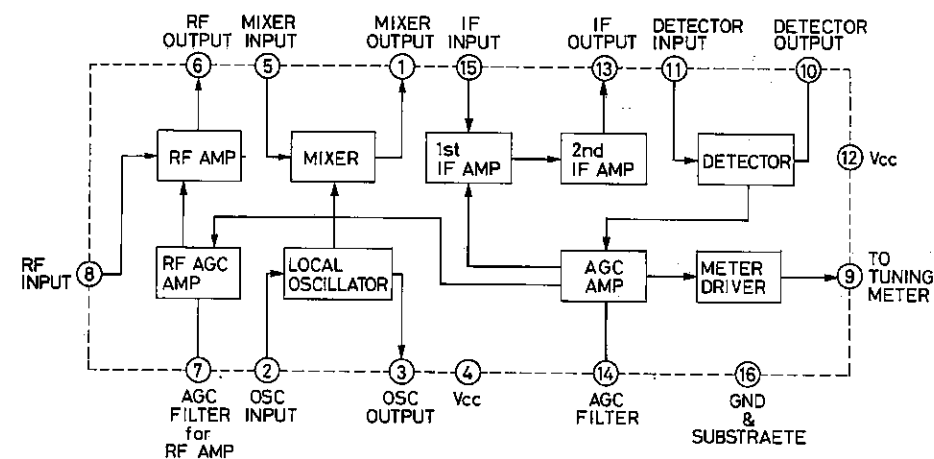
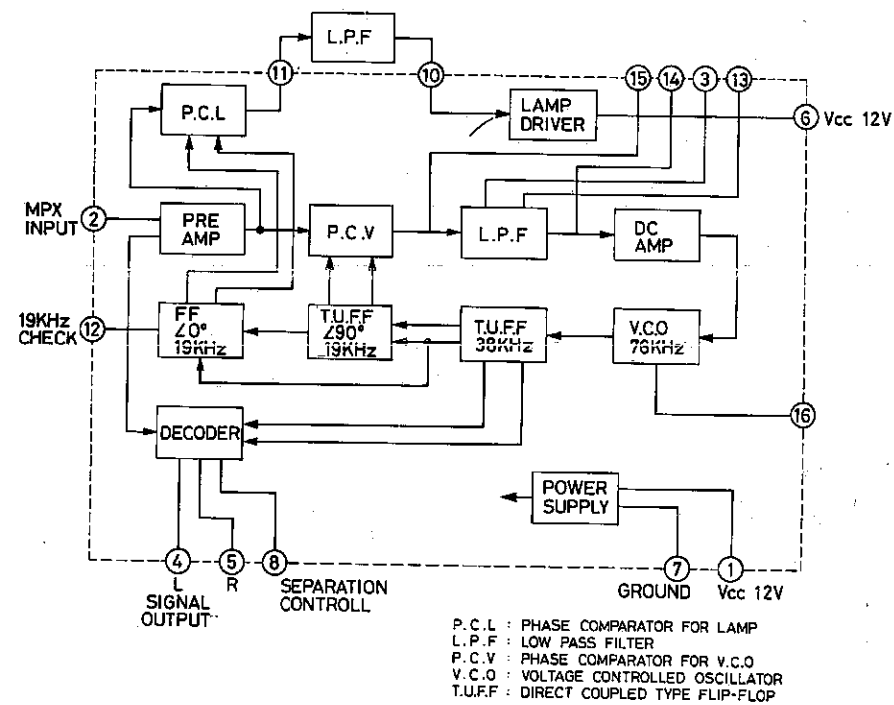
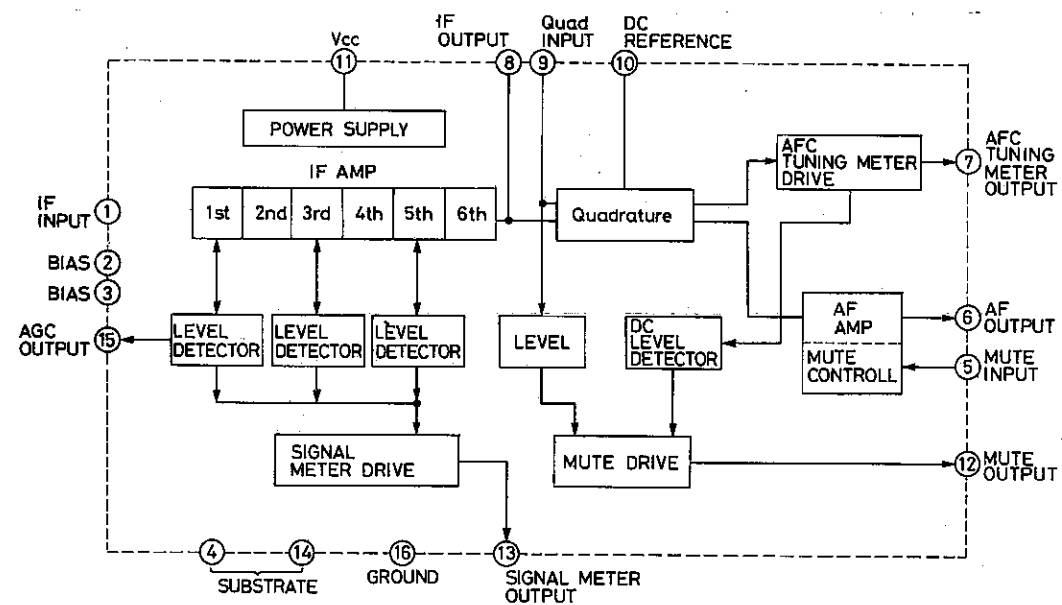












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