

235

# SERVICE MANUAL

## STEREO RECEIVER



# JCX 2100K

(U.S.A.)



### SPECIFICATIONS

#### Amplifier Section

Continuous minimum sine wave RMS power output per channel at 8 ohms from 20Hz to 20kHz with no more than 0.5% harmonic distortion. **13 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

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 (IHF, short-circuited, A network)

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

#### FM Tuner Section

- Frequency range 88 - 108MHz
- Usable sensitivity at Mono 2μV (11.2dbf)
- Signal-to-noise ratio (at 65dbf) at Mono 68dB
- at Stereo 65dB
- Harmonic distortion (at 65dbf) at Mono 0.3%
- at Stereo 0.4%
- AM suppression (30% 400Hz AM) 55dB
- Spurious response 70dB
- Alternate channel selectivity 60dB
- Image rejection at 980MHz 50dB
- IF rejection at 98MHz 55dB
- Capture ratio 1.2dB
- 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

#### General

- Power requirements AC: 120V, 60Hz
- Power consumption 100W
- Dimensions 16-3/4" W x 5-1/2" H x 11-3/4" D (420 x 140 x 300 mm)
- Weight Approx. 16 lbs. 8 ozs. (7.5kg)

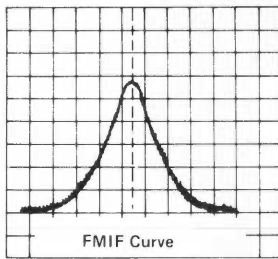
Specifications are subject to change without notice.

## FM IF ADJUSTMENT

### 1. V curve adjustment

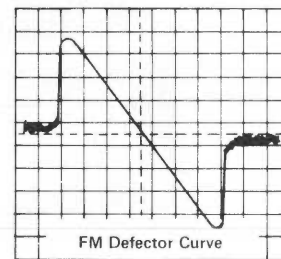
- 1) Connect TP3 (Hot) and TP6 (Eartch) to the output terminal of the sweep generator, and TP4 (H) and TP9 (E) to the input terminal.
- 2) Connect a resistance load of about 10 to 50 K-ohms to the input of the sweep generator and disconnect the tuning meter lead wires from the circuit board.
- 3) Cut off ceramic filter C213 (0.022 $\mu$ 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.



### 2. S curve adjustment

- 1) Connect TP3 (H) and TP6 (E) to the output 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 $\mu$ /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.



## 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.

- 3) Adjust the frequency output of FM SG so that the center meter needle stands at the zero point.

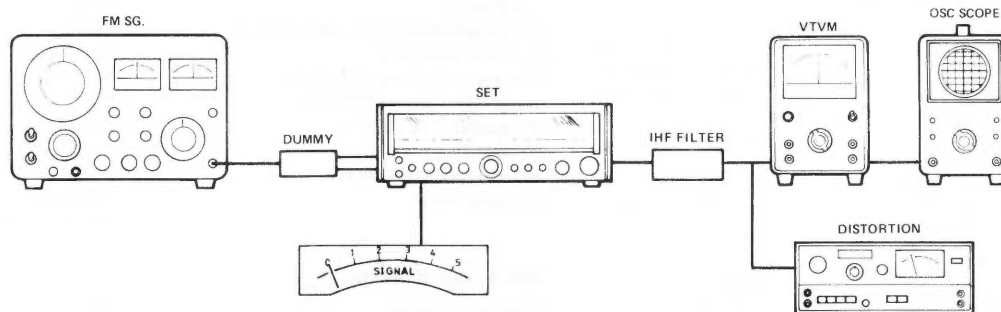
- 4) Reduce the distortion factor to a minimum by turning the secondary core (on the parts side) of T202. Make this adjustment at the FM SG output level of 40 - 60dB.

- 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).

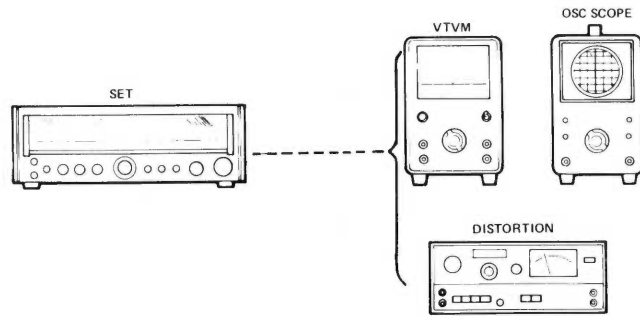
\* The total load impedance of the testers connected to the unit at the REC output terminal should be 100 K-ohms.

- 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%.

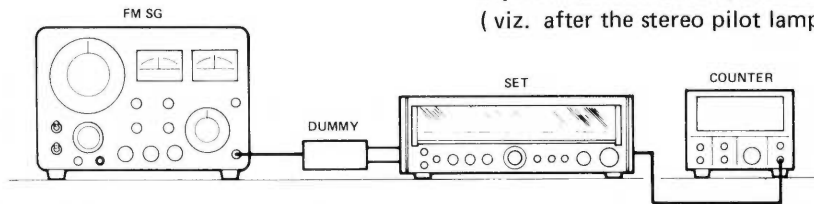


### FM MPX ADJUSTMENT

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 19,000Hz  $\pm$  19Hz.

- \* 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).

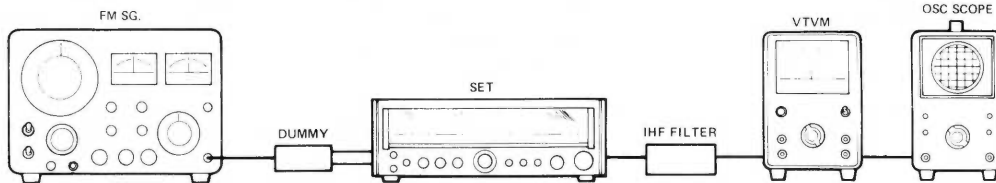


### FM MUTING LEVEL ADJUSTMENT

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 $\mu$ 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.

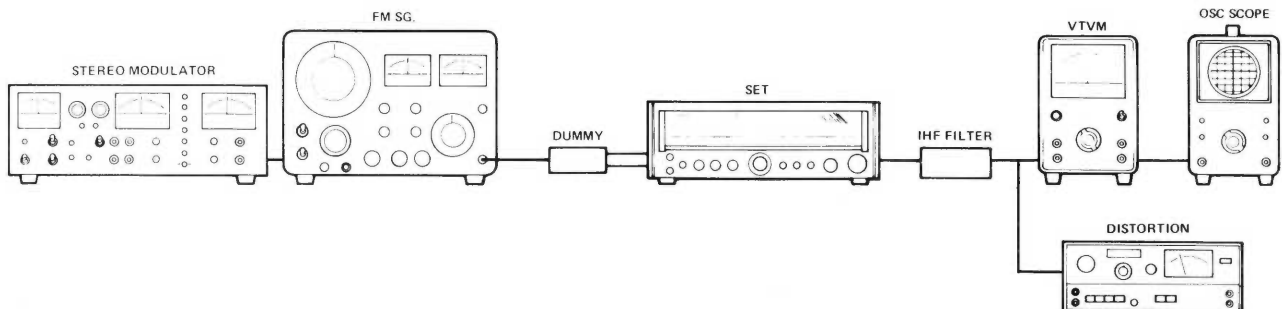


### SEPARATION


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.)

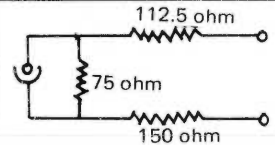
- 2) Generate L-R signals by the stereo modulator and tune the unit completely to their level. (In this state, the distortion factor is reduced to a minimum.)
  - 3) Switch the stereo modulator from R to L channels. Reduce signal output leakage of each channel to a minimum by adjusting SV306.
- \* When 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	$\approx 10.7\text{MHz}$ (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				
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 AC120V 60Hz.
  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.

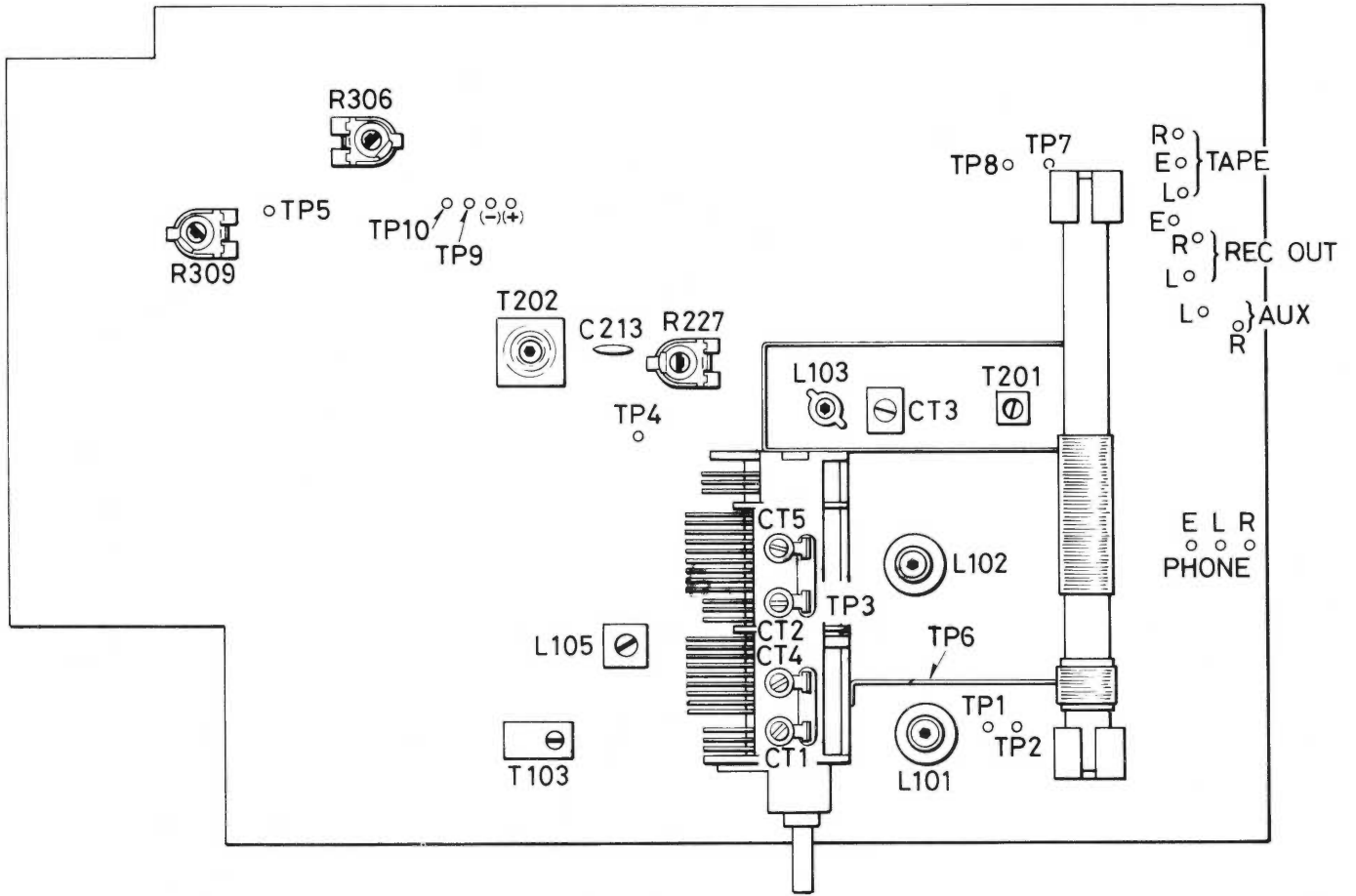


## AM ALIGNMENT

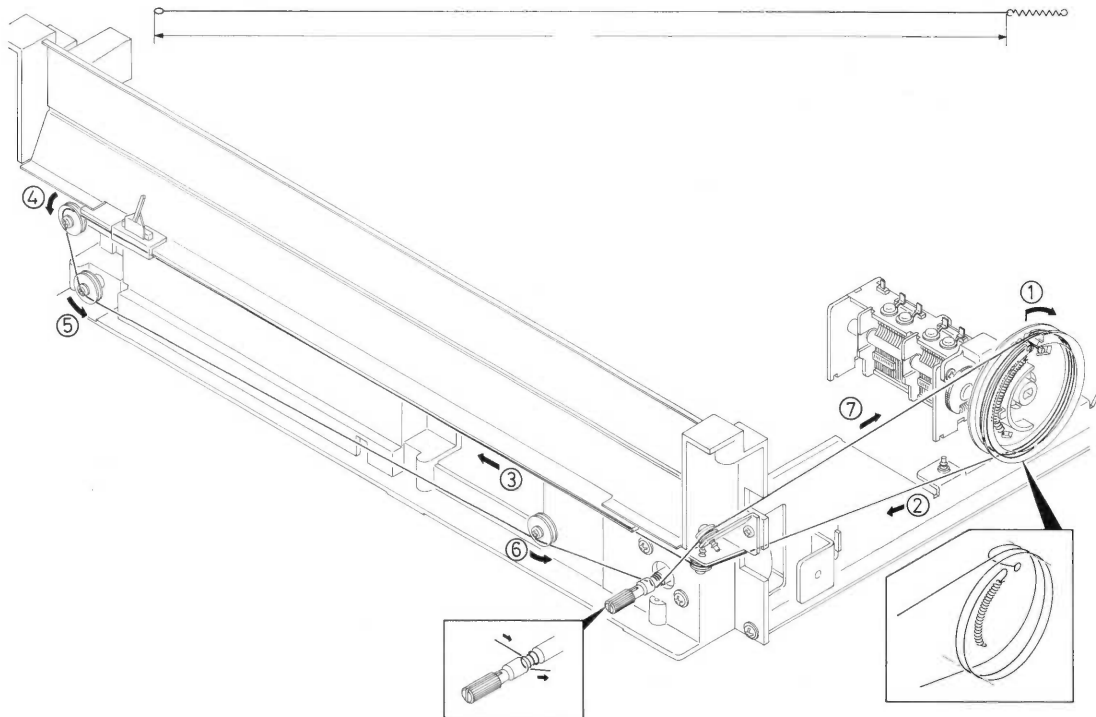
Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I. F.	Connect sweep generator to TEST LOOP.	Connect oscilloscope to EXT. SP.	455 KHz (400 Hz 30% modulation)	Low end of dial scale at position of no unrequired signal.	T202	Max.
2	O. S. C.	Connect AM 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 AM 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 120V 60 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 "AM".
  5. Connect sweep generator, AM SG, VTUM and oscilloscope.

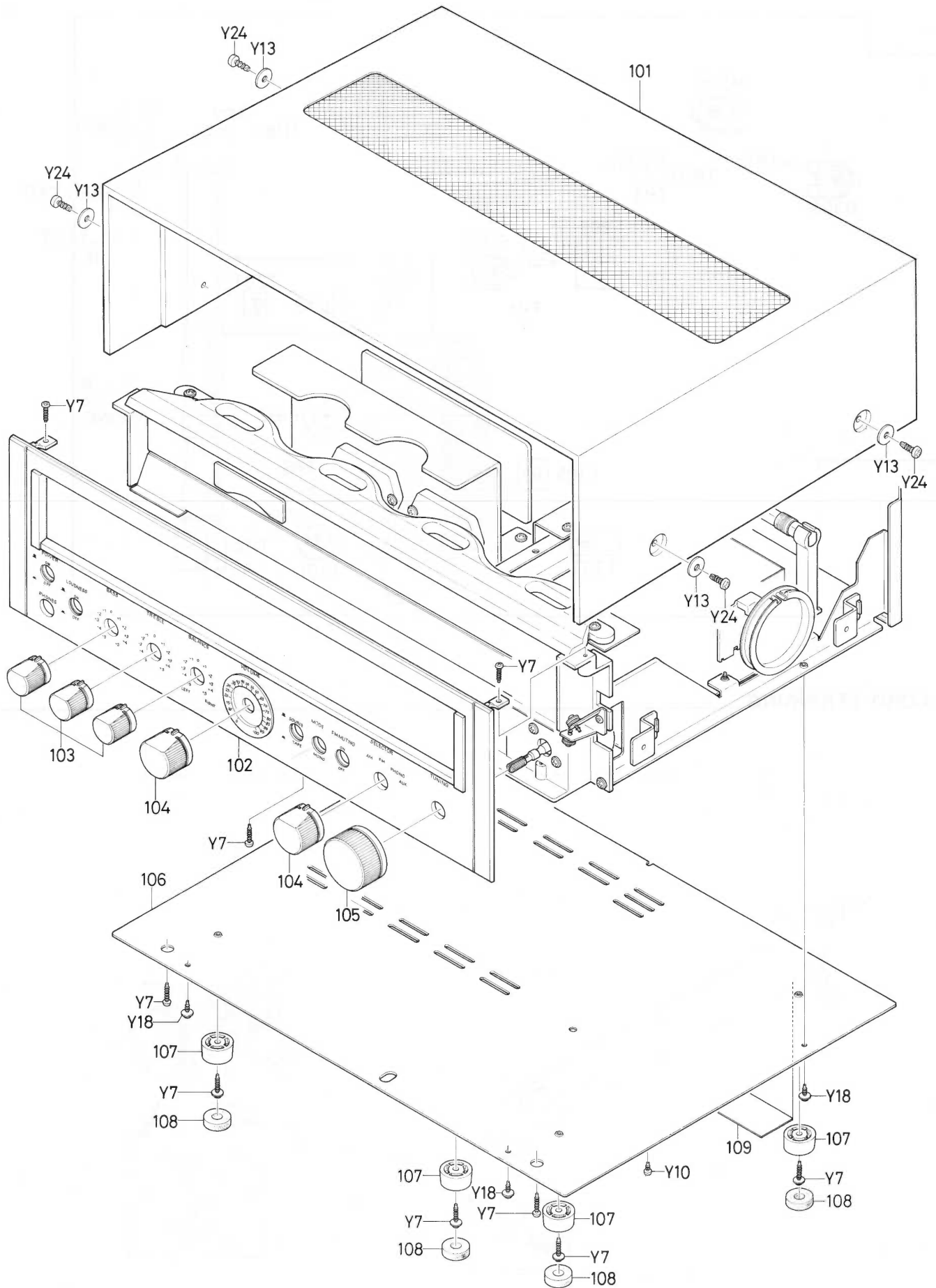
PARTS LOCATION



DIAL CORD STRINGING



# CARINET EXPLODED VIEW





**PARTS LIST**

Ref. No.	Part No.	Description	Q'ty
<b>AMP P.C.B. ASSY</b>			
202	141-2-368T-10900	Heat Sink, Power IC Mtg.	1
203	141-2-368T-11000	Heat Sink, Q902 Mtg.	1
204	141-2-361T-12600	Bracket, VR Mtg.	1
<b>TUNER P.C.B ASSY</b>			
205	140-9-230T-28400	Printed Circuit Board Assembly, TUNER	1
	4-237T-00100	Terminal	30
	141-2-382T-03000	Terminal, Stereo Lamp	2
	4-231T-63300	Switch, Function	1
S3	4-231T-63200	Switch, Monitor/Mode/Muting	1
S4,5,6	141-2-322T-35500	Shield Plate	1
	141-2-322T-35600	Shield Plate	1
L106,201	4-253T-08600	Filter 3μH	2
	4-256T-80500	10.7MHz Red	
	4-256T-80571	10.67MHz Blue	
CF201,202	4-256T-80572	or IF Filter 10.73MHz Orange	2
	4-256T-80573	10.64MHz Black	
	4-256T-80574	10.76MHz White	
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
L104	4-257T-22301	Antenna Coil Assembly	1
L105	4-258T-15500	OSC Coil	1
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
R227	4-222T-39577	Semi-fixed Resistor 50k (B)	1
R306	4-222T-39472	Semi-fixed Resistor 1k (B)	1
R309	4-222T-39474	Semi-fixed Resistor 5k (B)	1
CT3	4-224T-08800	Trimmer	1
VC	4-224T-08300	Variable Capacitor	1
	141-2-369T-05100	Bracket Coil, Antenna Mtg.	2
IC101		IC HA1138	1
IC201		IC LA1230	1
IC301		IC LA3350	1
IC701,801		IC TA7129P	2
Q101		FET 3SK59 GR	1
Q102		Transistor 2SC535B	1
Q103,201		Transistor 2SC930E	2
Q202		Transistor 2SC536F AUD	1
Q302,309		Transistor 2SC536F or G AUD	2
Q305,306		Transistor 2SC945P	2
Q303,304		Transistor 2SA702 F	2
Q307,308		Transistor 2SC945P or Q	2
D101,102		Diode 1S2473	5
104,201			
301			
D103,202		Diode 1S188 FM	2
D302,303		Diode 1S2472	4
304,306			
D305		Diode 1S188 AM or 1N60	1

Ref. No.	Part No.	Description	Q'ty
<b>CAPACITORS</b>			
C108		Ceramic 2pF ±0.25pF 50WV	1
C106,116		Ceramic 4pF ±0.25pF 50WV	2
C114		Ceramic 6pF ±0.25pF NPO 50WV	1
C112		Ceramic 15pF ±5% 50WV	1
C101		Ceramic 12pF ±10% 50WV	1
C105		Ceramic 12pF ±10% 50WV N750	1
C123		Ceramic 15pF ±10% 50WV N750	1
C115		Ceramic 20pF ±5% 50WV N330	1
C208		Ceramic 33pF ±10% 50WV	1
C113		Ceramic 33pF ±5% 50WV NPO	1
C216,702		Ceramic 47pF ±10% 50WV	5
705,802			
805			
C109		Ceramic 100pF ±10% 50WV	1
C222		Ceramic 220pF ±20% 50WV	1
C703,803		Ceramic 470pF ±20% 50WV	2
C311,314		Ceramic 560pF ±10% 50WV	2
C302,305		Ceramic 820pF ±20% 50WV	2
C103,107		Ceramic 0.001μF ±20% 50WV	2
C310,313		Ceramic 0.0022μF ±10% 50WV	2
C102,111		Ceramic 0.01μF +80 -20% 50WV	10
119,120			
125,201			
202,203			
218,231			
C110,124		Ceramic 0.022μF +80 -20% 50WV	4
213,217			
C204,205		Ceramic 0.047μF +80 -20% 50WV	6
206,210			
211,212			
C224		Ceramic 0.04μF +80 -20% 50WV	1
C122		Styrol 330pF ±5% 125WV	1
C309		Styrol 1500pF ±5% 125WV	1
C708,709		Mylar 0.001μF ±5% 50WV	4
808,809			
C707,807		Mylar 0.0068μF ±5% 50WV	2
C117,121		Mylar 0.01μF ±20% 50WV	3
221			
C303,304		Mylar 0.022μF ±10% 50WV	2
C219		Mylar 0.033μF ±20% 50WV	1
C316		Mylar 0.047μF ±20% 50WV	1
C225		Mylar 0.068μF ±20% 50WV	1
C306		Aluminum Electrolytic 0.22μF ±20% 10WV	1
C308		Aluminum Electrolytic 0.33μF ±20% 10WV	1
C307		Aluminum Electrolytic 0.47μF ±20% 10WV	1
C315,226		Electrolytic 0.47μF 16 to 50WV	3
312			
C207,230		Electrolytic 1μF 16 to 50WV	4
232,209			
C706,806		Electrolytic 1μF 50WV	2
C301		Electrolytic 4.7μF 16WV	1
C701,801		Electrolytic 4.7μF 25WV	2
C118		Electrolytic 10μF 16WV	1
C351,352		Electrolytic 10μF 35WV	2
C223		Electrolytic 33μF 16WV	1
C704,804		Electrolytic 47μF 16WV	2
C353		Electrolytic 100μF 6.3 to 10WV	1
C215		Electrolytic 100μF 16WV	1
C350		Electrolytic 100μF 35WV	1
C917		Electrolytic 220μF 50WV	1
C317		Electrolytic 470μF 16WV	1

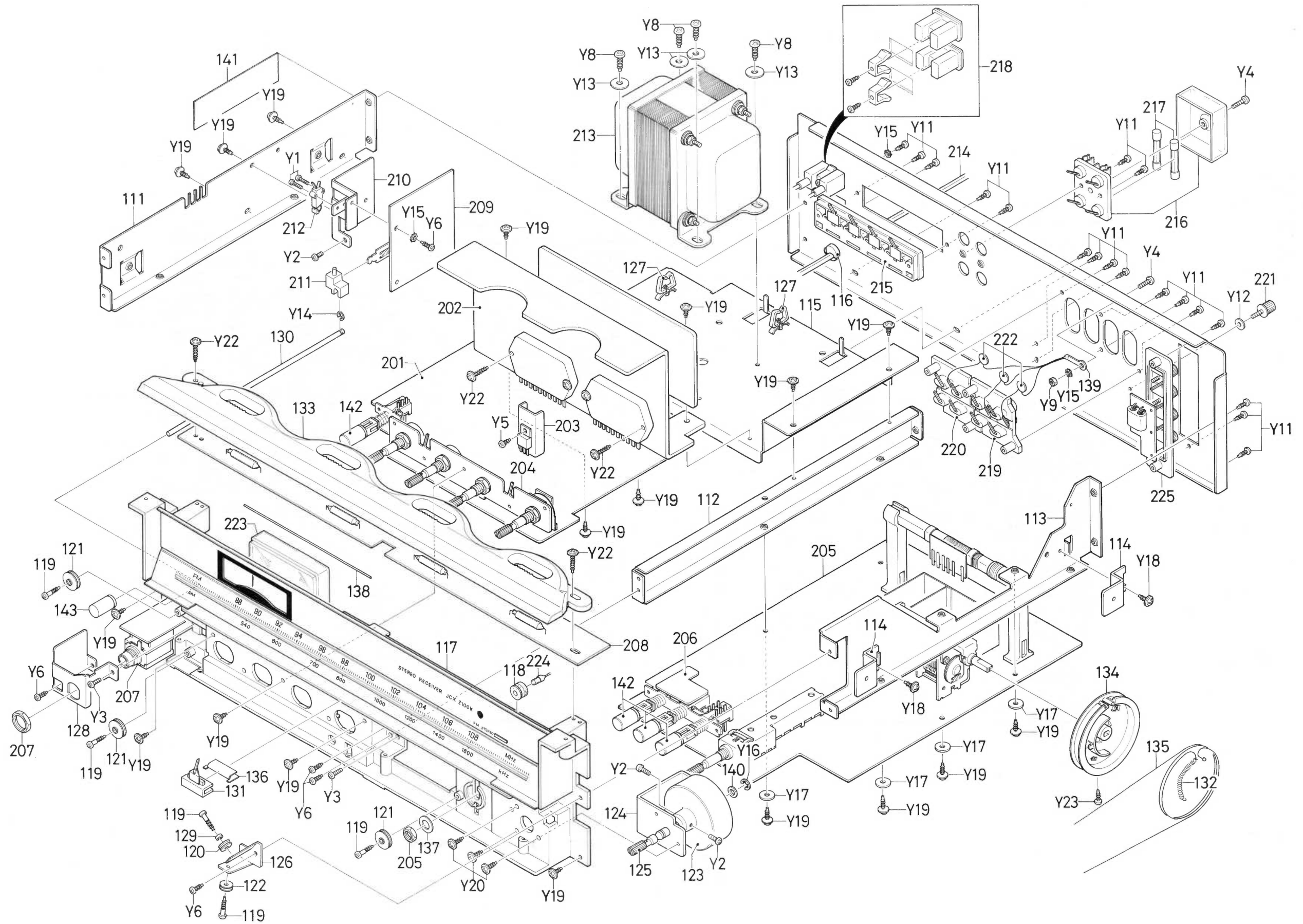
**PARTS LIST**

Ref. No.	Part No.	Description	Q'ty
<b>RESISTORS</b>			
R103		Carbon 10 ohm ±5% 1/4W	1
R110,214 234,312		Solid 56 ohm 1/2W ±5% or ±10%	4
R117,225 233,356		Carbon 100 ohm ±5% 1/4W	4
R106,111 206		Carbon 150 ohm ±5% 1/4W	3
R304		Carbon 220 ohm ±5% 1/4W	1
R351		Solid 220 ohm 1/2W ±5% or ±10%	1
R205,207 220		Carbon 330 ohm ±5% 1/4W	3
R201,350		Carbon 560 ohm ±5% 1/4W	2
R210,232		Carbon 680 ohm ±5% 1/4W	2
R315,321 705,805		Carbon 820 ohm ±5% 1/4W	4
R107,305		Carbon 1k ohm ±5% 1/4W	2
R230		Carbon 1.2k ohm ±5% 1/4W	1
R221		Carbon 1.5k ohm ±5% 1/4W	1
R203		Carbon 1.8k ohm ±5% 1/4W	1
R213,216 219,702 802		Carbon 2.2k ohm ±5% 1/4W	5
R112		Carbon 2.7k ohm ±5% 1/4W	1
R317,322 115		Carbon 2.7k ohm ±5% 1/4W	3
R217,302 303,308		Carbon 3.3k ohm ±5% 1/4W	4
R222		Carbon 3.9k ohm ±5% 1/4W	1
R360,711 811		Carbon 4.7k ohm ±5% 1/4W	3
R109		Carbon 5.6k ohm ±5% 1/4W	1
R211		Carbon 6.8k ohm ±5% 1/4W	1
R310,313 316,319 323,362 363,706 806		Carbon 8.2k ohm ±5% 1/4W	9
R113,202 307,314 320,353 355,359		Carbon 10k ohm ±5% 1/4W	8
R229,226		Carbon 12k ohm ±5% 1/4W	2
R114,215		Carbon 15k ohm ±5% 1/4W	2
R204		Carbon 18k ohm ±5% 1/4W	1
R209,311		Carbon 22k ohm ±5% 1/4W	2
R228,352 354		Carbon 27k ohm ±5% 1/4W	3
R105		Carbon 33k ohm ±5% 1/4W	1
R108,218 709,809		Carbon 39k ohm ±5% 1/4W	4
R357		Carbon 47k ohm ±5% 1/4W	1
R104,116 208		Carbon 56k ohm ±5% 1/4W	3
R701,801		Carbon 68k ohm ±5% 1/4W	2
R358		Carbon 82k ohm ±5% 1/4W	1
R101,212 223,224 318,224 361,710 810		Carbon 100k ohm ±5% 1/4W	9
R704,804		Carbon 180k ohm ±5% 1/4W	2
R703,803		Carbon 270k ohm ±5% 1/4W	2
R708,808		Carbon 470k ohm ±5% 1/4W	2
<b>SWITCH P.C.B. ASSY</b>			
206	140-9-230T-28500 4-237T-00100	Printed Circuit Board Assembly, SW Terminal	1 3
<b>HEADPHONE P.C.B. ASSY</b>			
207	140-9-230T-28800 4-235T-36772 4-237T-00171	Printed Circuit Board Assembly, Headphone Socket Terminal	1 1 5
R739,839		Solid Resistor 150 ohm ±10% 1/2W	2

Ref. No.	Part No.	Description	Q'ty
<b>DIAL LAMP P.C.B. ASSY</b>			
208	140-9-230T-29000 4-612T-07300 4-237T-00171	Printed Circuit Board Assembly, Dial Lamp Lamp Terminal	1 4 3
<b>POWER SWITCH P.C.B. ASSY</b>			
209	140-9-230T-28900 4-231T-61071 4-234T-06773 4-227T-01000 4-237T-00100 141-2-382T-07300 141-6-476T-07200	Printed Circuit Board Assembly, Power Switch Push switch Fuse CR Combination or Terminal Indication Label, FUSE 2A-125V Solid State 3.3M ohm ±10% 1/2W	1 1 1 1 5 1 1
S1			
R901			
<b>ELECTRICAL PARTS</b>			
210	141-2-365T-36500	Bracket, Power Switch Cover	1
211	141-2-253T-07500	Joint, Power Switch Mtg.	1
212	4-231T-37000	Switch, Power Muting S8	1
213	4-251T-62800	Power Transformer	1
214	4-243R-10192	Power Supply Cord	1
215	4-237T-07000	Terminal Board, SP Terminal	1
216	141-2-383T-04000	Fuse Holder & Cover	1
217	4-234T-06973 4-234T-06800	or Fuse	2
218	4-235T-43800	Socket, AC Outlet	2
219	4-235T-39600	Socket, PHONO & AUX	1
220	4-235T-39671	Socket, TAPE	1
221	141-2-382T-06900	Terminal, GND.	1
222		Ceramic Capacitor 0.01µF +80 -20% 50WV	3
223	4-511T-08200	Meter	1
224	4-612T-05500	Lamp 6V 30mA	1
225	140-9-230T-28600	Printed Circuit Board Assembly, Antenna	1
L100	4-268T-00100 141-2-382T-05900	V.H.F Coil Trans Terminal	(1) (1)
<b>SCREW MOUNTING</b>			
Y1		Pan Head Screw 2 x 8mm	2
Y2		Pan Head Screw 3 x 6mm	3
Y3		Pan Head Screw 3 x 8mm	2
Y4		Binding Head Pan Head Screw 3 x 8mm	2
Y5		Tapping Screw 3 x 6mm	1
Y6		Tapping Screw 3 x 8mm	5
Y7		Tapping Screw 3 x 12mm	5
Y8		Tapping Screw 4 x 8mm	4
Y9		Nut 3mm	1
Y10		Binding Head Tapping Screw 3 x 6mm	1
Y11		Binding Head Tapping Screw 3 x 8mm	18
Y12		Washer 3 x 10 x 0.5mm	1
Y13		Washer 4.5 x 13 x 1.2mm	8
Y14		External Tooth Lock Washer 2.5mm	1
Y15		External Tooth Lock Washer 3mm	3
Y16		External "E" Ring 3mm	1
Y17		Fiber Washer 3 x 10 x 1mm	4
Y18		Tapping Screw with Washer 3 x 6mm	8
Y19		Tapping Screw with Washer 3 x 8mm	17
Y20		Tapping Screw with Washer 3 x 10mm	3
Y21		Tapping Screw with Washer 3 x 12mm	4
Y22		Tapping Screw with Washer 3 x 16mm	6
Y23		Thread Rolling with Tapping Screw 3 x 12mm	1
Y24		Thread Rolling with Binding Head Tapping Screw 4 x 16mm	4

Item No.	Description	Quantity	Unit	Rate	Total
1	...	...	...	...	...
2	...	...	...	...	...
3	...	...	...	...	...
4	...	...	...	...	...
5	...	...	...	...	...
6	...	...	...	...	...
7	...	...	...	...	...
8	...	...	...	...	...
9	...	...	...	...	...
10	...	...	...	...	...
11	...	...	...	...	...
12	...	...	...	...	...
13	...	...	...	...	...
14	...	...	...	...	...
15	...	...	...	...	...
16	...	...	...	...	...
17	...	...	...	...	...
18	...	...	...	...	...
19	...	...	...	...	...
20	...	...	...	...	...
21	...	...	...	...	...
22	...	...	...	...	...
23	...	...	...	...	...
24	...	...	...	...	...
25	...	...	...	...	...
26	...	...	...	...	...
27	...	...	...	...	...
28	...	...	...	...	...
29	...	...	...	...	...
30	...	...	...	...	...
31	...	...	...	...	...
32	...	...	...	...	...
33	...	...	...	...	...
34	...	...	...	...	...
35	...	...	...	...	...
36	...	...	...	...	...
37	...	...	...	...	...
38	...	...	...	...	...
39	...	...	...	...	...
40	...	...	...	...	...
41	...	...	...	...	...
42	...	...	...	...	...
43	...	...	...	...	...
44	...	...	...	...	...
45	...	...	...	...	...
46	...	...	...	...	...
47	...	...	...	...	...
48	...	...	...	...	...
49	...	...	...	...	...
50	...	...	...	...	...
51	...	...	...	...	...
52	...	...	...	...	...
53	...	...	...	...	...
54	...	...	...	...	...
55	...	...	...	...	...
56	...	...	...	...	...
57	...	...	...	...	...
58	...	...	...	...	...
59	...	...	...	...	...
60	...	...	...	...	...
61	...	...	...	...	...
62	...	...	...	...	...
63	...	...	...	...	...
64	...	...	...	...	...
65	...	...	...	...	...
66	...	...	...	...	...
67	...	...	...	...	...
68	...	...	...	...	...
69	...	...	...	...	...
70	...	...	...	...	...
71	...	...	...	...	...
72	...	...	...	...	...
73	...	...	...	...	...
74	...	...	...	...	...
75	...	...	...	...	...
76	...	...	...	...	...
77	...	...	...	...	...
78	...	...	...	...	...
79	...	...	...	...	...
80	...	...	...	...	...
81	...	...	...	...	...
82	...	...	...	...	...
83	...	...	...	...	...
84	...	...	...	...	...
85	...	...	...	...	...
86	...	...	...	...	...
87	...	...	...	...	...
88	...	...	...	...	...
89	...	...	...	...	...
90	...	...	...	...	...
91	...	...	...	...	...
92	...	...	...	...	...
93	...	...	...	...	...
94	...	...	...	...	...
95	...	...	...	...	...
96	...	...	...	...	...
97	...	...	...	...	...
98	...	...	...	...	...
99	...	...	...	...	...
100	...	...	...	...	...

CHASSIS EXPLODED VIEW



WIRING DIAGRAM (TUNER)

