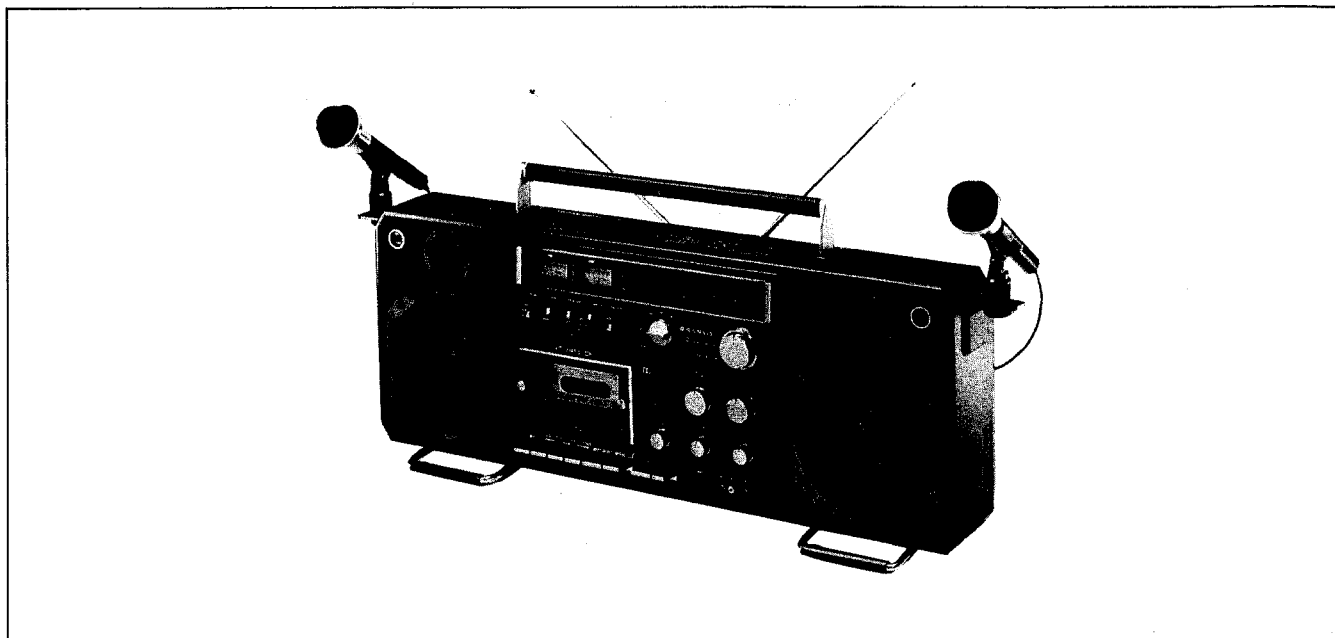


# SERVICE MANUAL



## CASSETTE RECORDER

# M9998K



### SPECIFICATIONS

Recording system	AC bias, 4-track stereo
Erasing system	AC erase, 2-track
Tape speed	4.75 cm/sec (1-7/8 i.p.s.)
Rewind and fast forward time	Rewind: 1 min. 35 sec. (C-60) Fast forward: 1 min. 50 sec. (C-60)
Frequency range	FM: 87.5 - 108MHz SW2: 7.0 - 22MHz SW1: 2.3 - 7.0MHz MW: 530 - 1,605kHz
Terminal impedance	MIC: 10 kohms (0.3mV) PHONO: (MM) 50 kohms (3mV) (CERAMIC) 1 Mohms (300mV) LINE IN: 22 kohms (50mV) LINE OUT: 1 kohm (0.775V) EXT SP: 4 - 8 ohms PHONES: 8 ohms
Frequency response	40 - 12,000Hz (NORMAL) 40 - 14,000Hz (FeCr) 40 - 15,000Hz (CrO <sub>2</sub> )
Signal to noise ratio	59 dB (Dolby NR ON) 50 dB (Dolby NR OFF)
Output power	12W x 2 maximum (music power)
Power source	DC: 15V "D" (UM-1) x 10 12-15V Car battery adaptor AC: 100/120/200/240V, 50/60Hz
Dimensions	664(W) x 175(D) x 267(H) mm (26-3/16" x 6-15/16" x 10-9/16")
Weight	Approx. 9 kg (19 lbs. 14 ozs.) including batteries

\* Specification subject to change without notice.

## DISMOUNTING OF CABINET AND CHASSIS

In the first place, take the batteries out of the battery case, or pull off the power cord.

### (1) Removing the back lid

Take off 8 screws (pan head tapping screws 3 x 40 mm) from the back lid (of which two are found in the battery case).

Open the back lid, with care not to break the leads inside. Disconnect the lead sockets of the set's PCBs from the back lid's PCBs.

Back lid side		Set side
Beat cancel	2P	- A Oscillation PCB (Brown socket)
Speaker selection	2P	- B Front socket PCB (Gray-brown socket)
External speaker	4P	- C Speaker (Red-black-brown-orange socket)
	2P	- D Amp PCB (Red-white socket)
Line out	4P	- E Amp PCB (Gray-brown socket)
Rod antenna socket	1Px2	- F Tuner, switch PCB (Blue-brown socket)
Bandy cord	2P	- G Amp PCB (Brown-white socket)
	7P	- H Tuner, switch PCB (Blue-gray-brown-red socket)
Power supply PCB		- I AMSS PCB

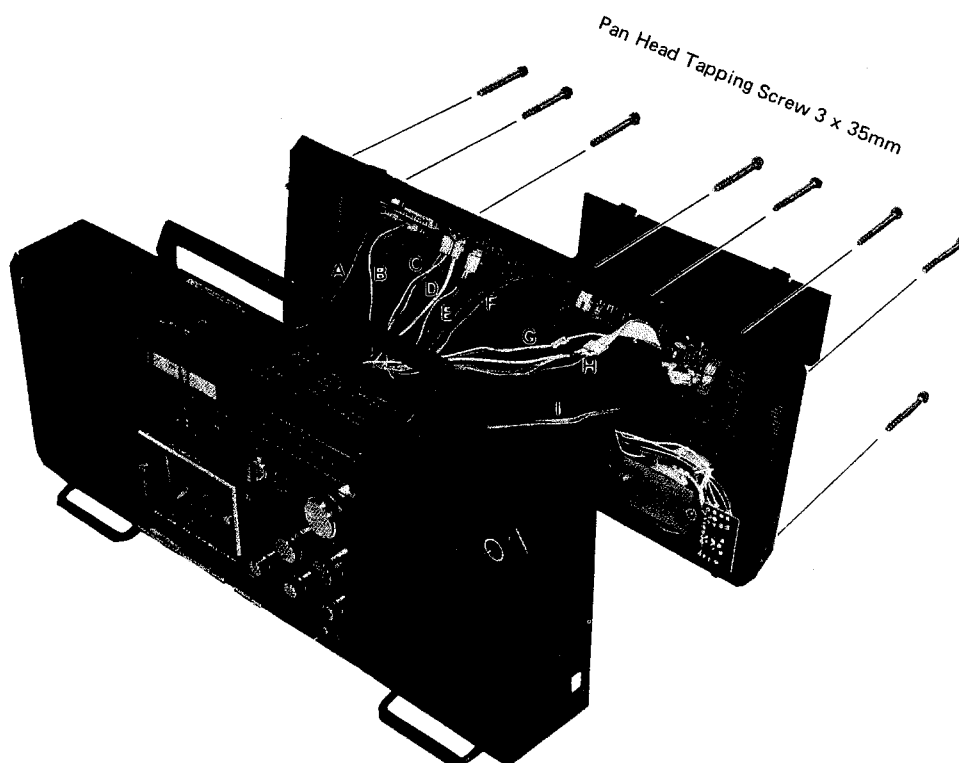
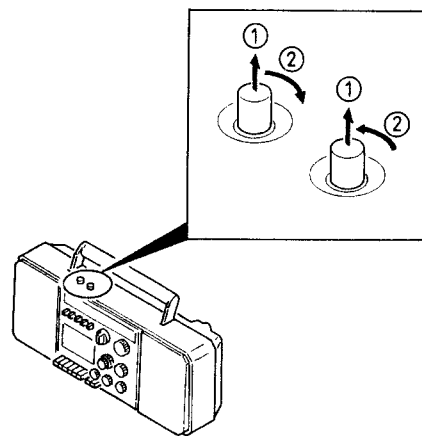
By removing these 10 sockets, the back lid can be taken off.

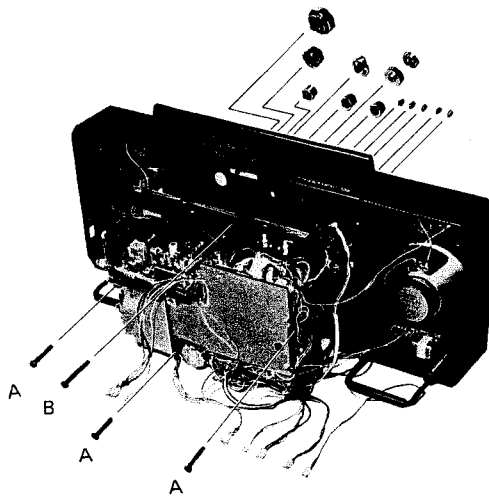
### (2) Removing the Cabinet

Remove all control knobs and levers. Pick up power button and battery check/dial light button, and turn them clockwise and counterclockwise (sketch) respectively, then these buttons will be locked in raised positions.

Take off 4 red screws (3 pan head tapping screws 3 x 30 mm, 1 pan head tapping screw 3 x 40 mm) which are joining the chassis and the cabinet together. Separate the microphone socket from the amplifier PCB, and remove screw 209 (pan head tapping screw 3 x 8 mm) from the oscillation PCB (110). Disconnect the three sockets of LED PCB (106) from the AMSS PCB (107).

Lifting the chassis a little, dismount the chassis from the cabinet. Now, the chassis and the cabinet are separated from each other.





A ..... Pan Head Tapping Screw 3 x 30mm  
 B ..... Pan Head Tapping Screw 3 x 40mm

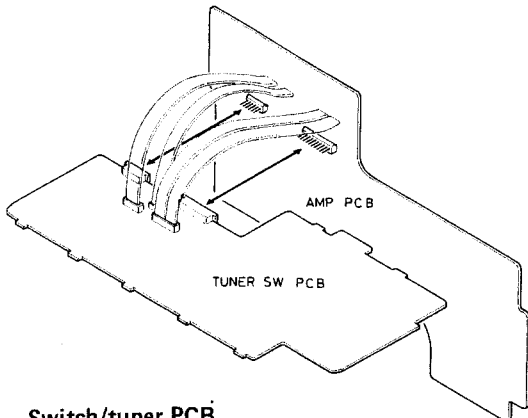
**(3) Removing the printed circuit board**  
 (Referring only the AMP PCB and tuner/switch PCB)

**Amplifier PCB**

To dismount the AMP PCB, take off 5 screws (pan head tapping screw w/washer 3 x 12 mm) and 2 lugs, 136 and 138 (for shaping up the leads), from the chassis. Since the AMP PCB is connected to the tuner/switch PCB with plugs, it can be separated off by pulling it toward you.

**NOTE:**

When mounting the AMP PCB, assemble with care so that the AMP side plug may be fitted well with the tuner side socket.



**Switch/tuner PCB**

After dismounting the AMP PCB, take off three screws (a pan head tapping screw w/washer 3 x 8 mm, two pan head tapping screws 3 x 8 mm) from the tuner/switch PCB. Remove the hexagon head bolt (2.6 x 16 mm) from the dial drum (66) and separate the spring coil (67) for rope threading from the drum. Glue with adhesive cellophane tape, and pull toward the outside, then the switch/tuner PCB will come out loose. Pull out the PCB along the chassis groove with care not to damage the leads, then the disassembly is complete.

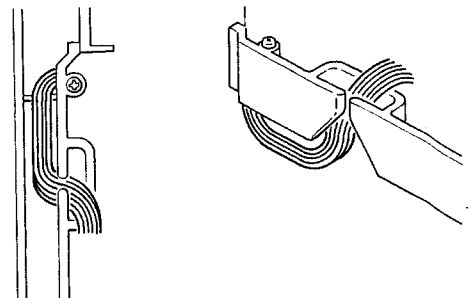
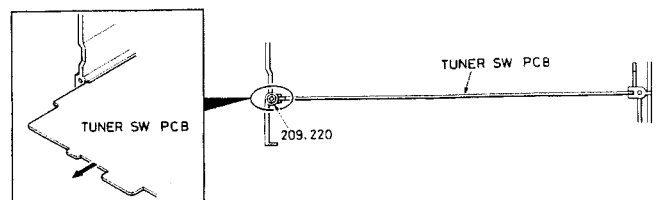
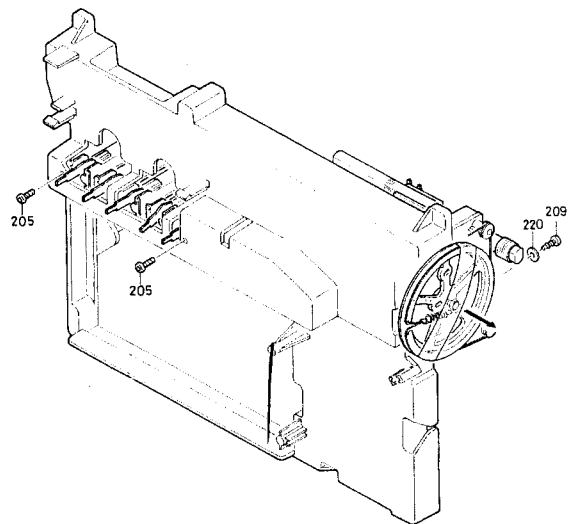
**NOTE:**

When dismounting the tuner/switch PCB, be careful not to separate the connection bandy cord from the amplifier PCB.

**NOTE:**

When reassembling the chassis into cabinet, arrange the leads aming from the VR PCB as illustrated above. Unless arranged as specified, the cahssis may not settle home in the cabinet or the leads may be pinched and cut by the chassis and cabinet.

\* Before checking or repairing the AMP PCB or tuner/switch PCB, make sure other smaller PCBs (INPUT PCB, OUTPUT PCB, OSCILLATION PCB, AMSS PCB, VR PCB) are properly connected.

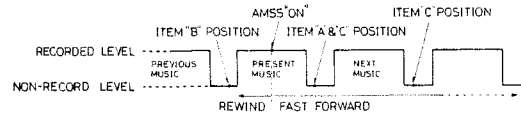


## AMSS: HOW DOES IT WORK?

AMSS stands for Automatic Music Select System, and it is intended to search for the start of a desired music automatically by making use of the unrecorded (no-signal) segment between recorded tunes in a pre-recorded music tape.

### Method of use

- A. In playback mode, to skip the tune being reproduced and play back the next tune:
- (1) Press AMSS button. (The button is locked.)
  - (2) Press FF-Cue/AMSS button. (This button is locked to fast-forward the tape. At this time AMSS indicator flickers to tell the tape running direction.)
  - (3) Reaching the end of the tune being reproduced, the FF-Cue/AMSS button only is reset automatically, and the playback of the next tune is started after running through the unrecorded segment.
- B. In playback mode, to repeat the tune being reproduced:
- (1) Press AMSS button. (The button is locked.)
  - (2) Press REW-Review/AMSS button. (This button is locked to rewind the tape. At this time, the other AMSS indication flickers to tell the tape running direction.)
  - (3) Returning to the start of the tune being reproduced, the REW-Review/AMSS button only is reset automatically, and the playback of the same tune is repeated immediately.
- C. In playback mode, to skip several tunes to search for a desired one:
- (1) Manipulate as in A-(1).
  - (2) Manipulate as in A-(2) and A-(3) repeatedly until the desired tune is located.



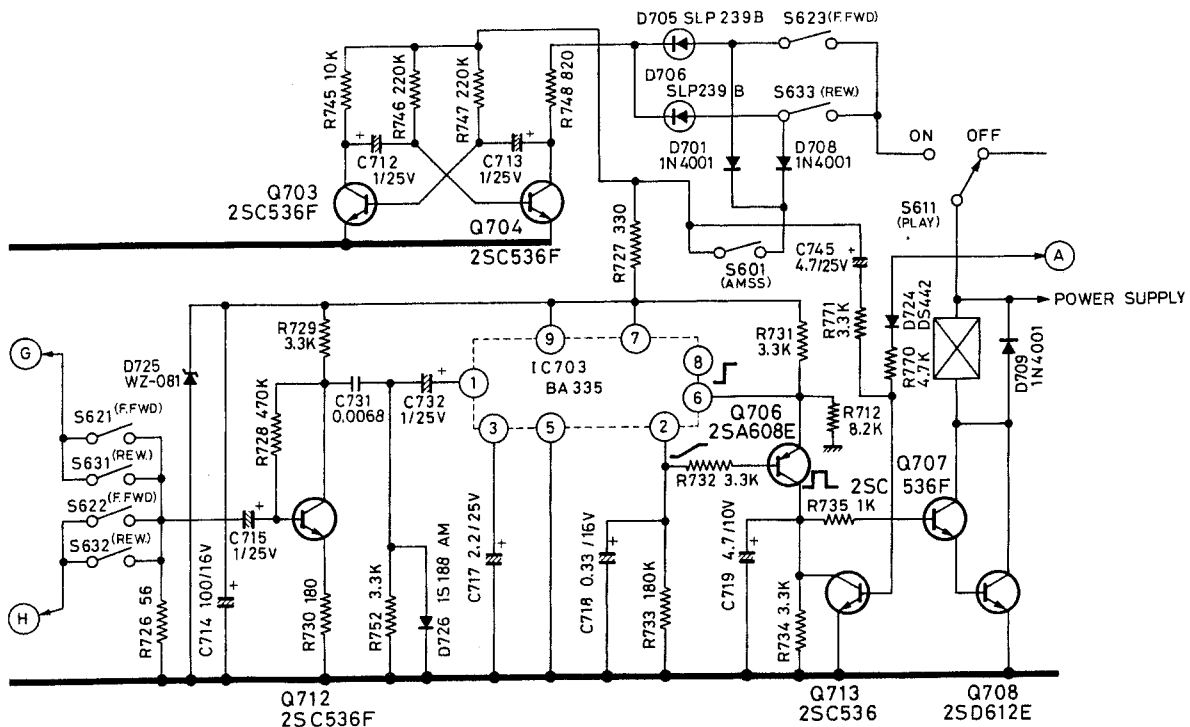
### Circuit description

#### Main behavior

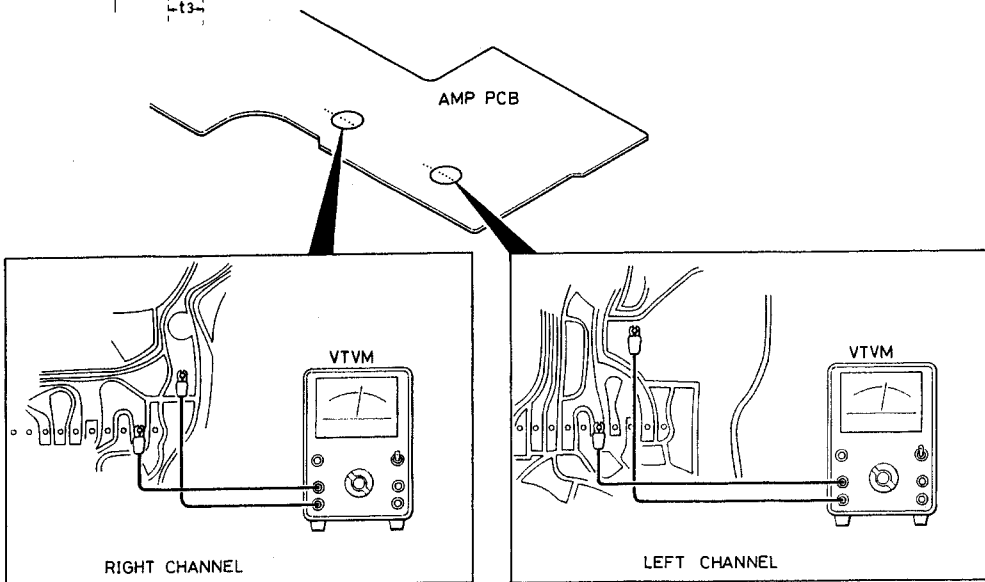
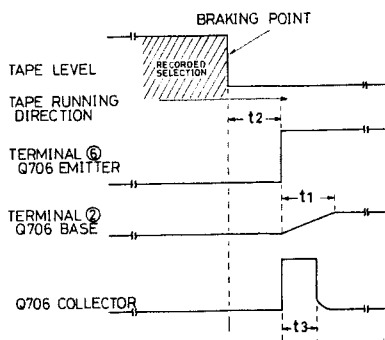
Playback signals from the head are detected in the level detector circuit. When unrecorded level is found, a single shot pulse is generated to operate the plunger.

#### Briefing on circuits

- (1) Pressing of play button will cause switch S611 to turn on.  
Pressing of AMSS button will cause switch S601 to close.  
When FF-Cue/AMSS or REW-Review/AMSS button is pressed, switch S623 or S633 will close.  
Then, voltage  $V_{CC}$  is supplied into circuits.
- (2) Transistors Q703, Q704 are astable multivibrator circuits; when switch S623 or S633 is closed, the power is supplied, and the circuit is activated to be in oscillating state, while either LED (D705 or D706) of tape running direction indicator flickers according to the switch operation. Diodes D707, D708 are intended to prevent over-current.



- (3) In playback mode, the audio sources (playback signals) detected by right and left heads are fed into (G) and (H) by way of tape equalizer amplifier and Dolby amplifier.
- (4) When FF-Cue/AMSS or REW-Review/AMSS button is pushed in, switches S621, S622, or S631, S632 are closed.
- (5) Transistor Q712 amplifies the audio sources in the AF (audio frequency) amplifier.
- (6) Capacitor C731 and resistor R730 compose a low-cut filter in order to eliminate the low frequency components of audio sources.
- (7) IC703 comprises circuits for AM amplifier, AC-DC converter, comparator and others, being designed to amplify the audio sources again, detect the level, and form pulses.
- The following waveforms are delivered to terminals No. 2 (C, R) and No. 6 (Tr-Out).
- (8) Transistor Q706 is switched on and off due to the differential voltage of emitter and base, composing single-shot pulse in the collector. Times  $t_1$ ,  $t_2$ ,  $t_3$  are set by the time constant of capacitor C718 and resistor R733.
- (9) Transistor Q713 prevents erroneous actions in switch operations in the muting circuit.
- (10) Transistors Q707 and Q708 are linked by Darlington connection, of which single-shot pulses of small current are used to drive the plunger.
- (11) When the plunger starts to move, the slide (123) of the mechanism is pulled, so that the FF-Cue/AMSS or REW-Review/AMSS button locked in item (1) will be reset.
- Diode D709 is designed to prevent counter-electromotive current during plunger movement.



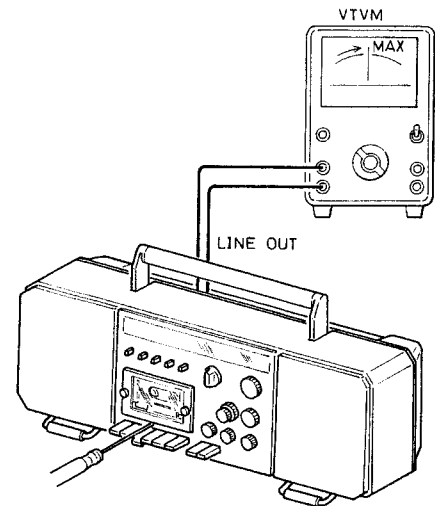
## AMPLIFIER ADJUSTMENTS

### Prepare

Power source	DC 15V
Mode switch	STEREO
Dolby NR/ALC switch	OFF
Selector switch	TAPE
Tape switch	NORMAL
Loudness switch	OFF

### Head azimuth

Tape to be used; (10 kHz, -10 dB)  
 Load a test tape and press the PLAY button.  
 Adjust the head azimuth screw so the LINE OUT level becomes maximum.  
 Repeat the adjustment on both channels and both sides of



### Adjustment of playback level

Play back Dolby test tape MTT-115 0dB (TEAC Dolby level calibration tone 200 nWb/m).

Adjust controls SVR801 (L-ch) and SVR901 (R-ch) until the output level from measuring test point becomes 0.58 V.

\* Measuring test point means ...

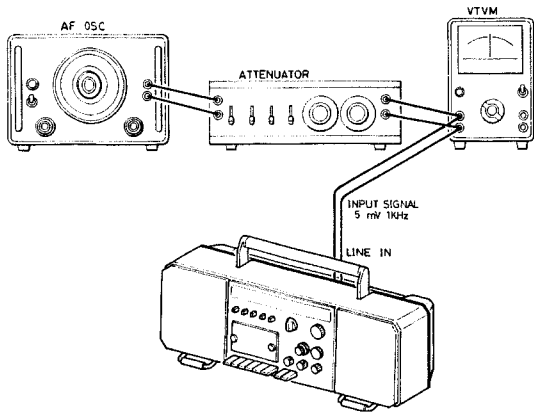
The line (common terminals of record/playback switch of S806 and S906) on point 7 of Dolby IC (LM1011N Dolby), IC801, IC901, and the ground.

**Adjustment of record/playback frequency response  
(Bias adjustment)**

Feed input signal of 5 mV (-46 dB) 1 kHz into the line input terminal. Turn the input control knob until the output at measuring test points (see above) becomes 40 mV. Under this condition, turn SVR701 and SVR702 until the difference between record output playback output becomes 0 whether the signal is 1 kHz or 10 kHz.

**NOTE:**

When adjusting, set the signal of line input at "OFF" state.



**Adjustment of ALC balance**

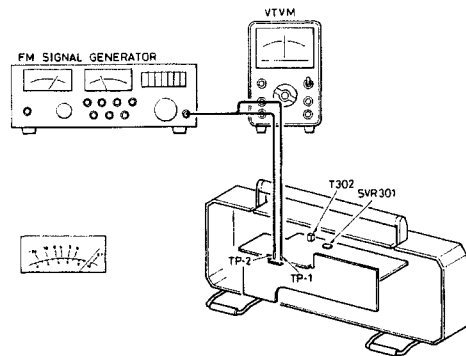
Turn on ALC switch.

Feed input signal of 500 mV (-6 dB) into the line input terminal. Set in record mode. Adjust by turning SVR703 until levels at measuring test points become uniform.

**Adjustment of tuning meter**

Feed input signal of 98 MHz, 66 dB into the set. Tune in the reception frequency of the set. Adjust SVR301 (10 kB) so that the meter swings up to graduation 9.5.

- (1) If the meter swing becomes larger as the input is being increased, adjust after raising the input until the meter is stabilized.
- (2) If the maximum point of meter swing does not coincide with the maximum output point, turn off AFC switch (to short-circuit TP4 and shield case), and tune in to the maximum point of meter swing. In this setting, adjust T303 to obtain the maximum output. At this time, keep the input at 50 dB.

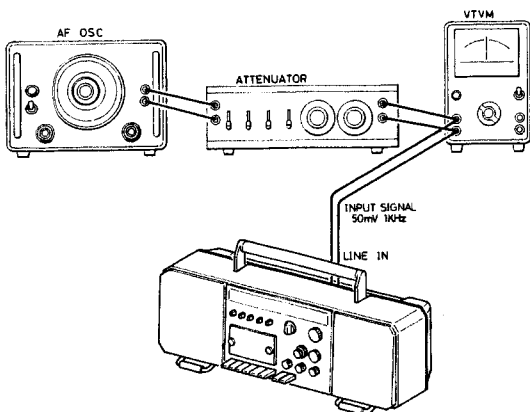


**Adjustment of record and playback levels**

Feed input signal of 50 mV (-26 dB) 1 kHz into the line input terminal. Turn the input control knob until the output at measuring test points (see above) becomes 0.58 V. Record, Adjust SVR802 and SVR902 so that the record input becomes equal to the playback output.

**NOTE:**

When playing back, set the signal of line input at "OFF" state.



**Adjustment of FM MPX (multiplex)**

- (1) Set SVR501 (10 kB) in the central position.
- (2) Apply modulation input into FM SG through stereo modulator. (\* Modulation frequency is 400 Hz.)
  - Pilot signal 7.5 kHz dev. (10% mod.)
  - Stereo signal 22.5 kHz dev. with "main" signal (30% mod.)

**NOTE:**

Since the method of adjusting the modulation differs from one instrument to another, learn the method for the instrument you are going to use.

- (3) Keeping the output signal switch of stereo modulator at MAIN (L + R), set the radio's reception frequency to 98 MHz, and tune in with FM SG. (\* Output of FM SG is 66 dB.)

- (4) 19 kHz adjustment (V.C.O. adjustment)

In FM stereo mode, connect frequency counter to TP6, and cut the output of stereo modulator to set in no-modulation state. Turn SVR501 (10 kB) to adjust to 19 kHz ± 50 Hz.

\* No-modulation state: Turn off PILOT and MAIN & SUB of output signal switch.

Adjustment in no-input state is difficult because 19 kHz signals fluctuate due to noise component, but it is possible to adjust in away that the average of indications be 19 kHz ± 50 Hz.

- (5) Adjustment of separation
- Turn tone controls to minimum. Set the balance control in the middle point.
  - Turn on MAIN & SUB signal switch and PILOT signal switch, and set the output signal switch to "MAIN" position.
  - Connect VTVM to external speaker terminal. (Connect to right and left jacks of external speaker terminal recording to the adjustment or right and left channels.)
  - Turning volume controls, adjust the output of both right and left channel to the standard output (50 mW).
  - Turn on the RIGHT side and turn off the LEFT side of output signal switch. Adjust SVR502 (1 kB) so as to minimize the LEFT side leakage output.
  - Turn on the LEFT side and turn off the RIGHT side of output signal switch. Adjust SVR502 so as to minimize the RIGHT side leakage output. If the position of adjustment coincides with that in item 5) above, this is the completion of adjustment.
  - If the position of adjustment of SVR502 differs from the right channel to the left channel, adjust so that the separation of both channels becomes nearly equal to each other.

**NOTE:**

Separation, in both channels, should be:

More than 20 dB at 400 Hz, 1 kHz

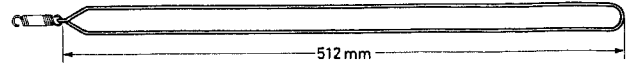
More than 10 dB at 10 kHz

Adjust the separation after adjusting the meter.

**THREADING OF DIAL ROPE**

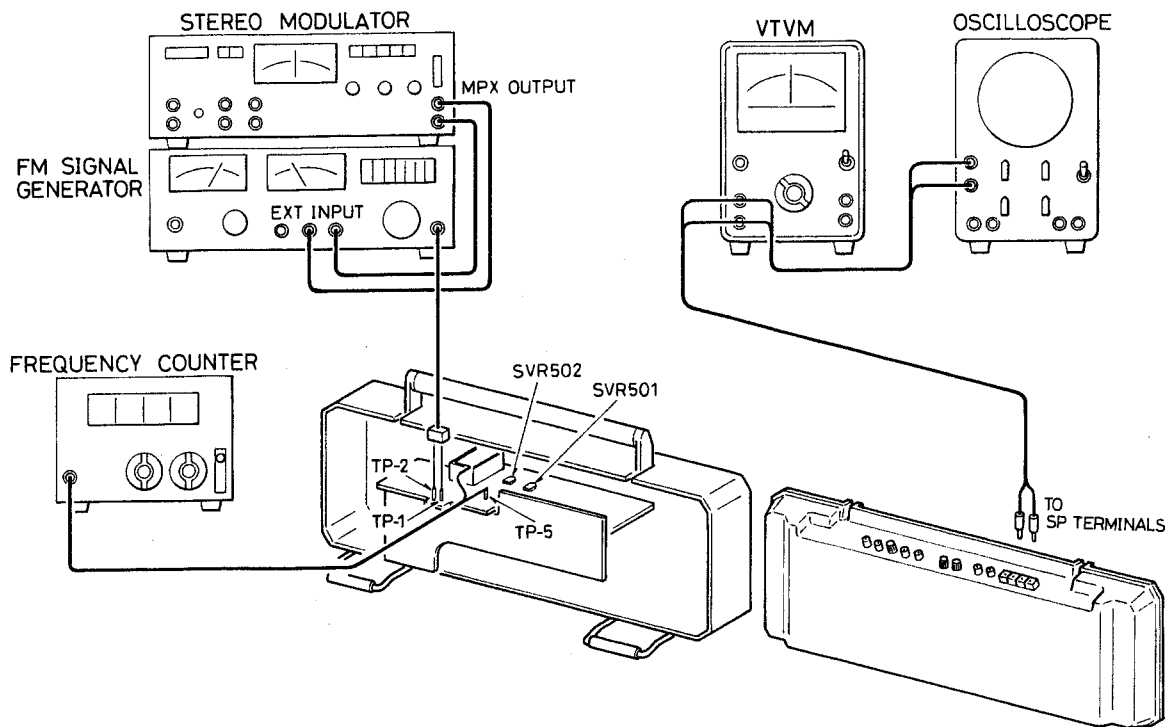
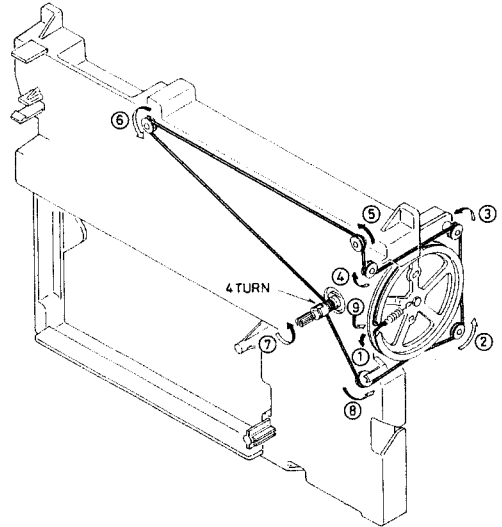
**Preparation**

Tie the rope to spring coil (67) of drum (66) in a folded length of 512 mm.



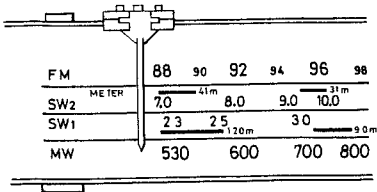
**Procedure**

Mount the spring coil with rope on the drum, and thread the rope in the direction of arrows (in the numerical sequence). After winding four turns on the tuning shaft, return to the spring coil of the drum.

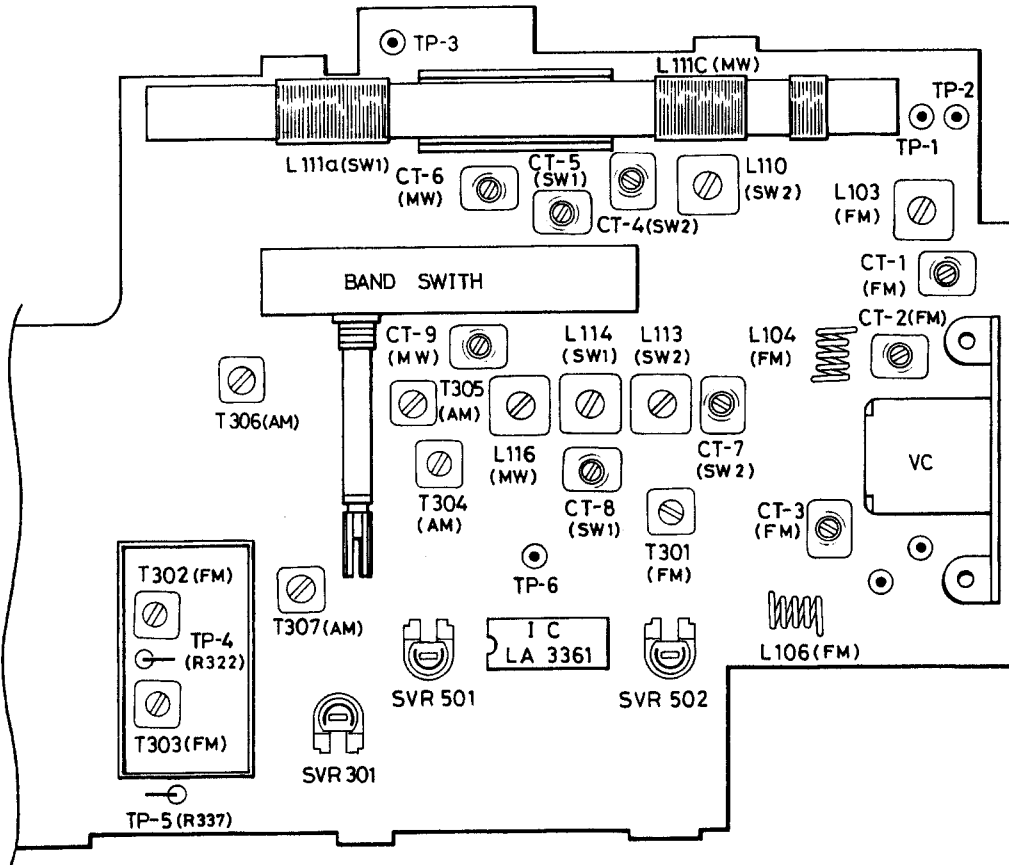
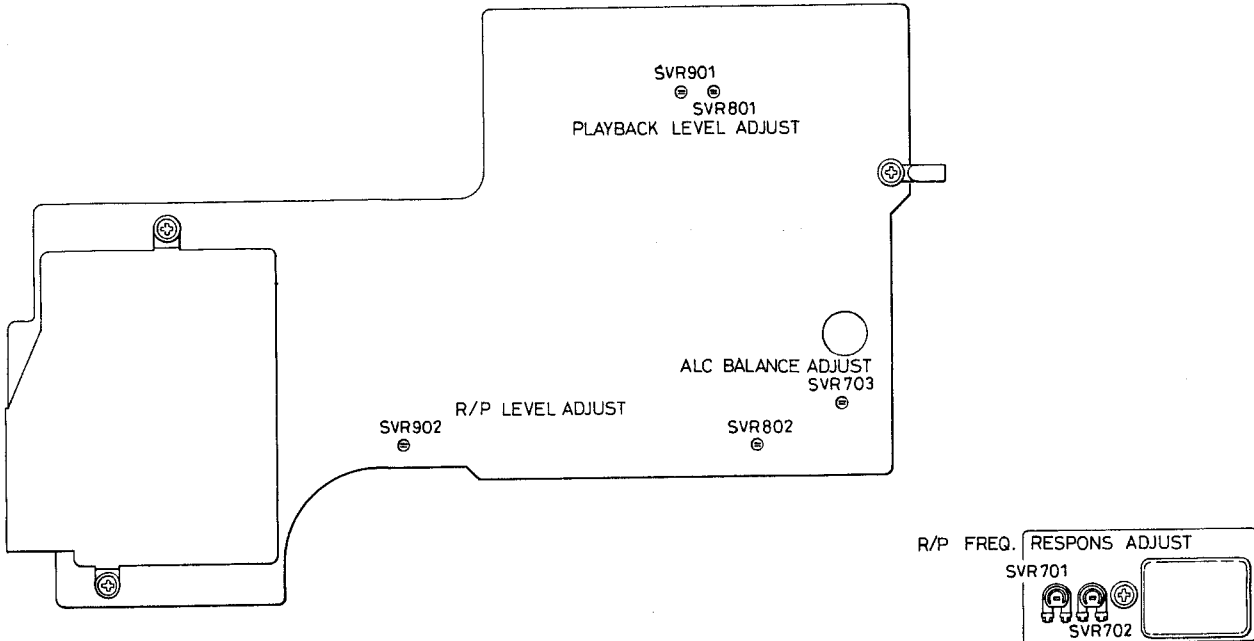


**Pointer position adjustment**

Rotate the tuning shaft counterclockwise until it turns idle, fit the pointer to the left end point, and secure it firmly.



**PARTS LOCATION**





## TUNER ADJUSTMENT

\* DC voltage is 15V and Speaker Impedance 3 ohms. Output Power 50mW.

### MW ADJUSTMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F.T.	Connect sweep generator to Test Loop	Connect oscilloscope to EXT. SP terminals.	455 KHz (400 Hz 30% modulation)	Low end of dial scale under no station signal.	T304~T307	MAX.
2	OSC.	Connect AM SG to Test Loop	Connect VTVM to speaker terminals.	505 KHz (400 Hz 30% modulation)	Low end of dial scale.	L116	MAX.
3				1650 KHz (400 Hz 30% modulation)	High end of dial scale.	CT9	
4	ANT.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	600 KHz (400 Hz 30% modulation)	600 KHz on dial scale.	L111c	MAX.
5				1400 KHz (400 Hz 30% modulation)	1400 KHz on dial scale.	CT6	
6	Repeat adjustments.						

- PREPARE: 1. Set the dial pointer to very left line of dial scale. 2. Connect sweep generator, AM SG, VTVM and oscilloscope. 3. Selector switch to "MW". 4. Use a screwdriver with plastic grip for all adjustments. 5. Use a dummy of back lid and Rod antenna, adjust tracking points.

### SW1 ADJUSTMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	OSC.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	2.2 MHz (400 Hz 30% modulation)	Low end of dial scale.	L114	MAX.
2				7.3 MHz (400 Hz 30% modulation)	High end of dial scale.	CT8	
3	ANT.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	2.5 MHz (400 Hz 30% modulation)	2.5M Hz on dial scale.	L111a	MAX.
4				6.8 MHz (400 Hz 30% modulation)	6.8M Hz on dial scale.	CT5	
5	Repeat adjustments.						

- PREPARE: 1. Set the dial pointer to very left line of dial scale. 2. Connect sweep generator, AM SG, VTVM and oscilloscope. 3. Selector switch to "SW1". 4. Use a screwdriver with plastic grip for all adjustments. 5. Set the Fine Tuning to mechanical center. 6. Use a dummy of back lid and Rod antenna, adjust tracking points.

### SW2 ADJUSTMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	OSC.	Connect AM SG. to ANT terminal through dummy.	Connect VTVM to EXT. SP. terminals.	6.8 MHz (400 Hz 30% modulation)	Low end of dial scale.	L113	MAX.
2				22.7 MHz (400 Hz 30% modulation)	High end of dial scale.	CT7	
3	ANT.	Connect AM SG. to ANT terminal through dummy.	Connect VTVM to EXT. SP. terminals.	8.0 MHz (400 Hz 30% modulation)	8.0 MHz on dial scale.	L110	MAX.
4				21.0 MHz (400 Hz 30% modulation)	21.0 MHz on dial scale.	CT4	
5	Repeat adjustments.						

- PREPARE: 1. Set the dial pointer to very left line dial scale. 2. Connect signal generator to dummy antenna. 3. Use screwdriver with plastic grip for all adjustments. 4. Selector switch to "SW2" 5. Set the Fine Tuning to mechanical center. 6. Use a Dummy antenna as follow.

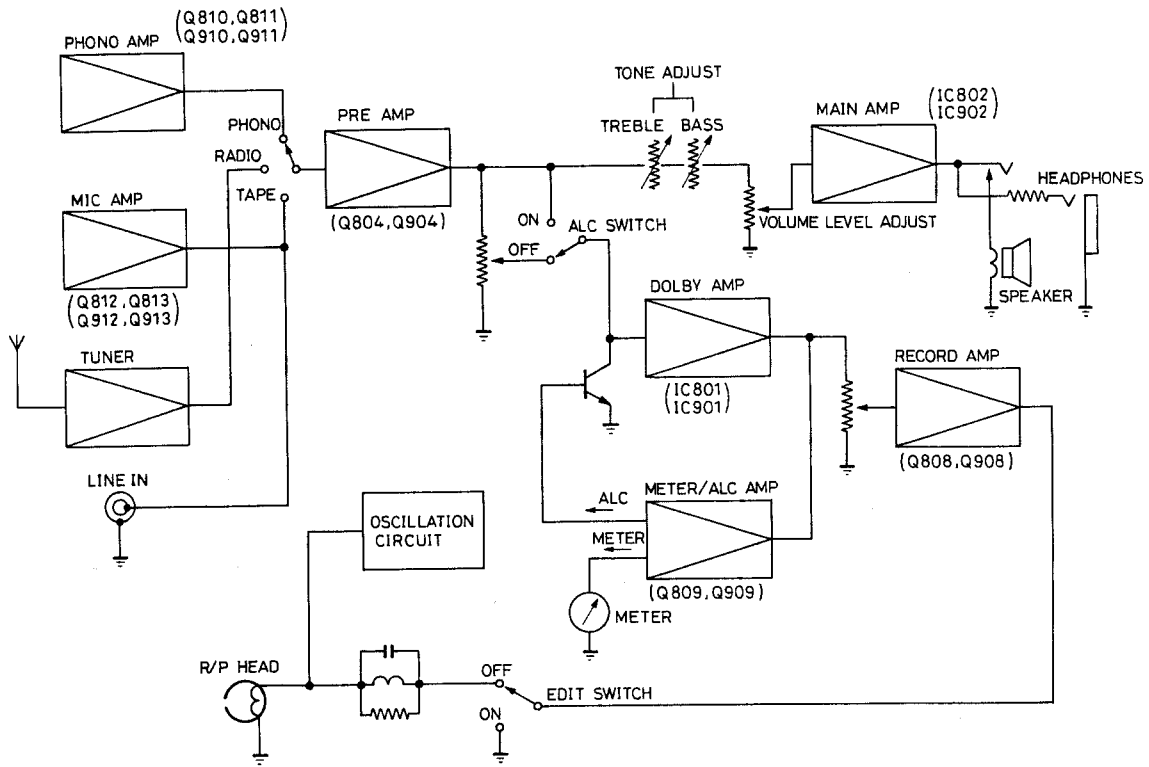
### FM ADJUSTMENT

Step	Adjusting Circuit	Connections		SG frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F.	Connect sweep generator to FM TP1 (H) & TP2 (E)	Connect oscilloscope to TP4 (H) & shield plate (E).	10.7 MHz (0% modulation)	Near max. capacitance tuning gang under no station signal.	T301, T302	Set a ceramic filter center.
2	Ratio Det.		Connect oscilloscope to TP5 (H) & shield plate (E).			T303	
3	OSC.	Connect FM SG to TP-1 (H) & TP-2 (E)	Connect VTVM to speaker terminal.	87.0 MHz (400 Hz 30% modulation)	Low end of dial scale.	L106	MAX.
4				109.0 MHz (400 Hz 30% modulation)	High end of dial scale.	CT3	
5	ANT.	Connect FM SG to TP-1 (H) & TP-2 (E)	Connect VTVM to speaker terminal.	90.0 MHz (400 Hz 30% modulation)	90.0 MHz on dial scale.	L103, L104	MAX.
6				106.0 MHz (400 Hz 30% modulation)	106.0 MHz on dial scale.	CT1, CT2	
7	Repeat adjustments.						

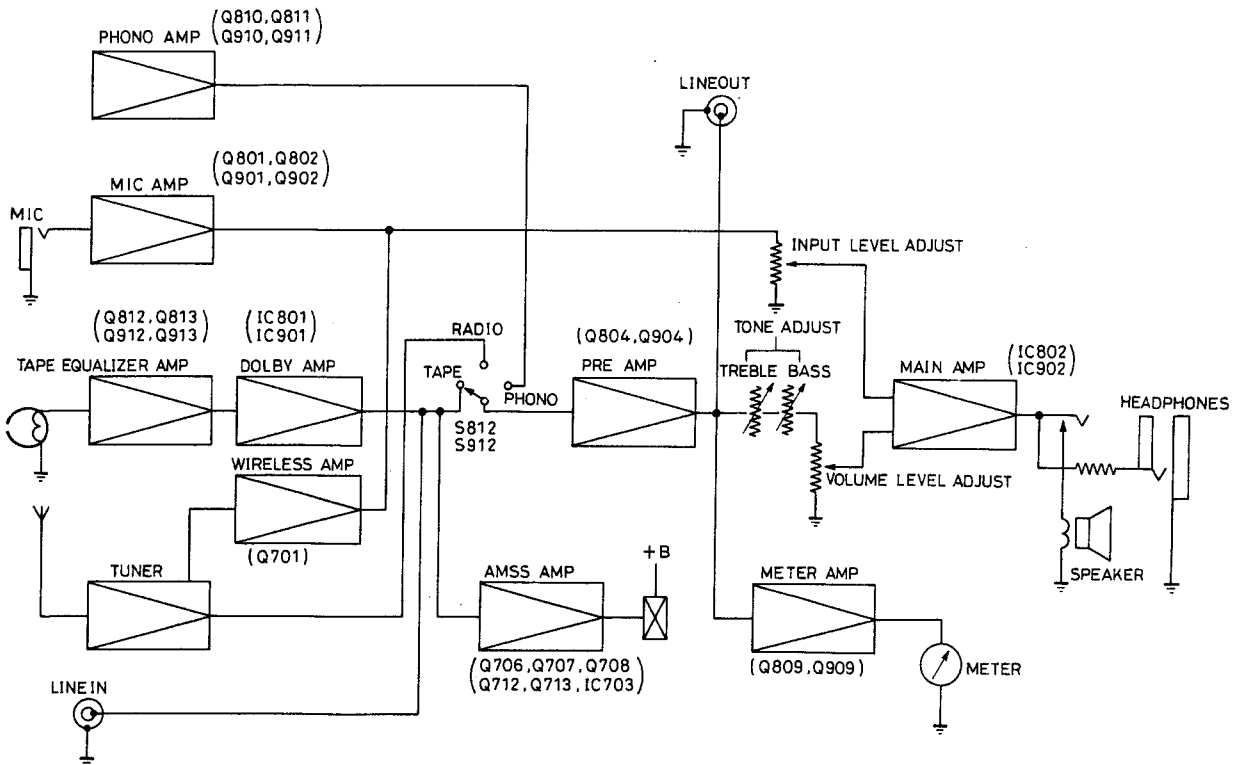
- PREPARE: 1. Set the dial pointer to very left line of dial scale. 2. Connect sweep generator, FM SG, VTVM and oscilloscope. FM antenna input impedance is 300 ohm. 3. Use a screwdriver with plastic grip for all adjustments. 4. AFC switch OFF.

# BLOCK DIAGRAM

## RECORD BLOCK DIAGRAM



## PLAYBACK BLOCK DIAGRAM



## MECHANISM ADJUSTMENT

### 1. TAKE-UP TORQUE

Set the unit to PLAY, F.FWD or REW mode.

Measure each torque with a torque gauge.

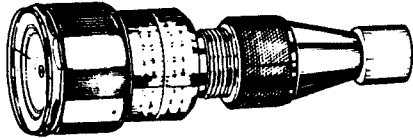
Each torque should be as follows;

PLAY 35 – 60 g/cm

FAST FORWARD 70 – 130 g/cm

REWIND 70 – 130 g/cm

If each torque fails to reach the standard value, clean the drive belt, flywheel, motor pulley, take-up reel idler and rewind roller with a cotton swab soaked in alcohol.



### 2. BACK TENSION

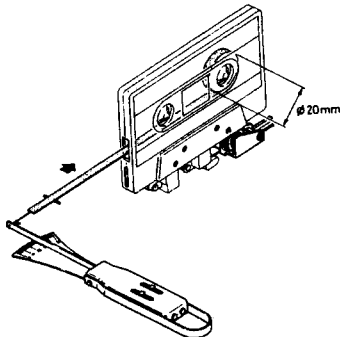
To measure back tension with tension gauge, make a hole in the side of the cassette as shown in figure two.

Be sure the tape does not rub against the edge of the cassette, or correct measurement will be impossible.

PLAY Less than 5 g/cm

FAST FORWARD Less than 5 g/cm

REWIND Less than 5 g/cm



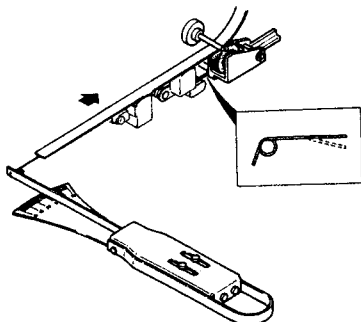
### 3. TAPE TENSION

Cut off a length of tape. Tie one end to a thread connected to the tension gauge, and leave the other end hanging loose as shown in figure three.

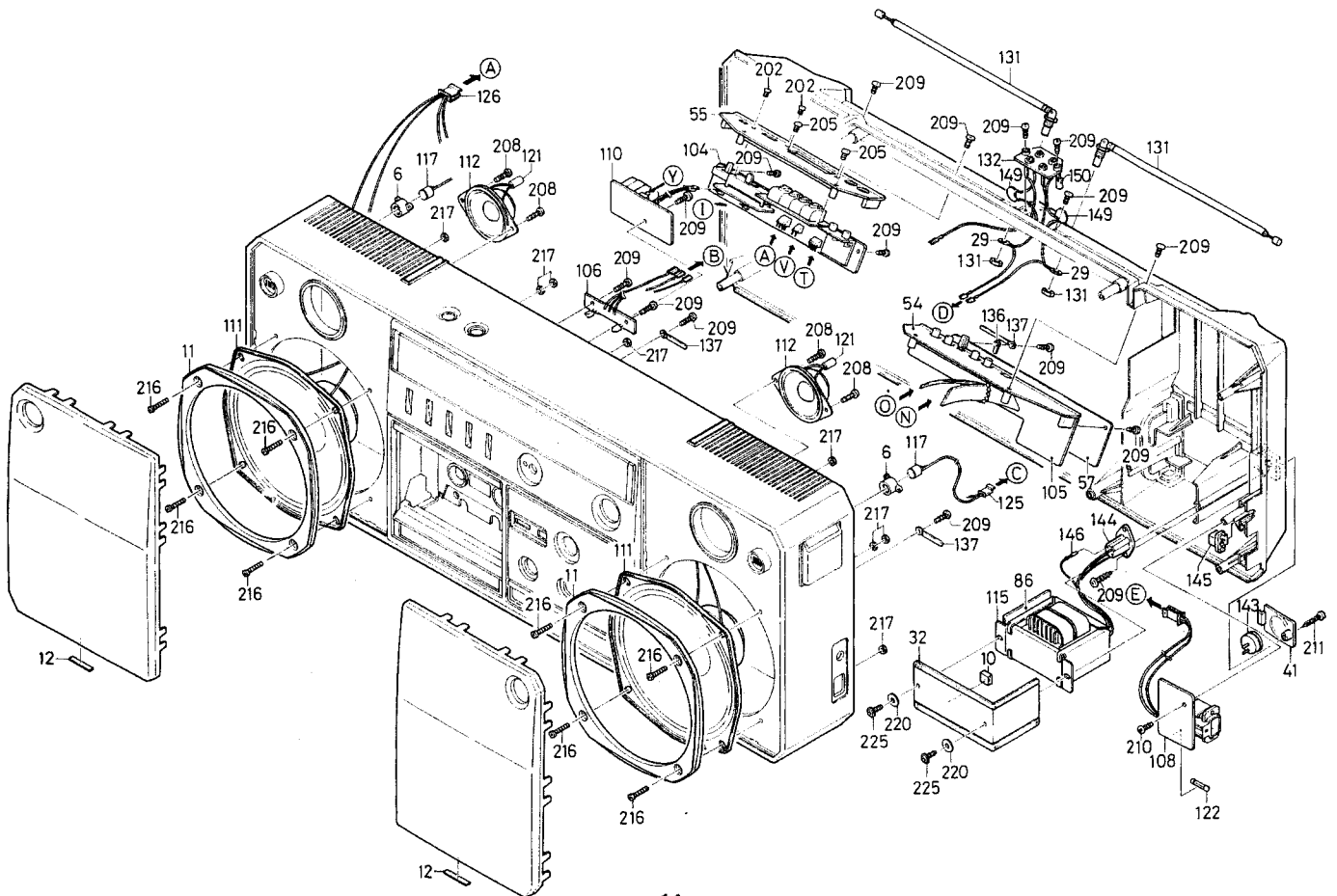
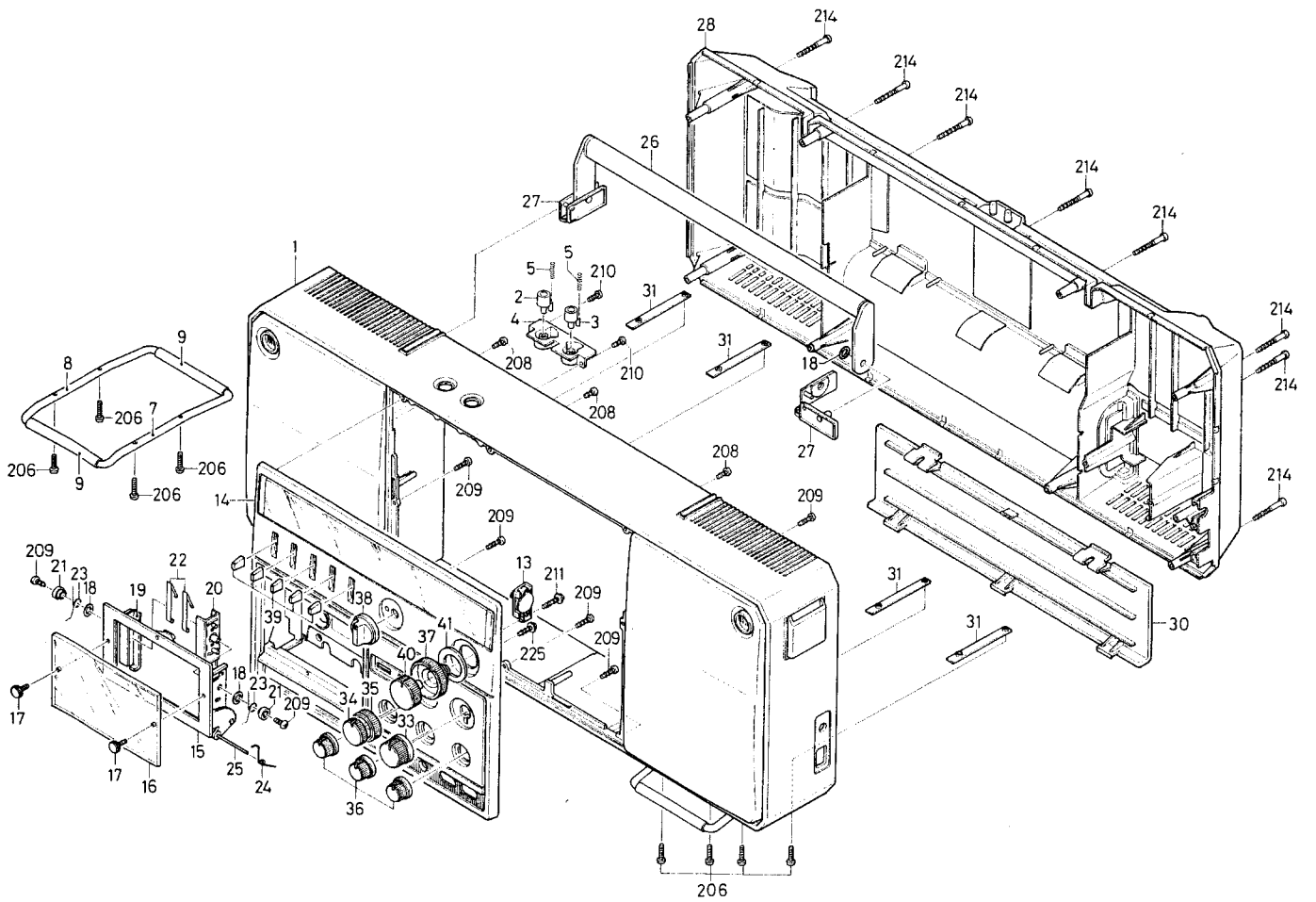
Operate the unit in PLAY mode and hold the tension gauge steady.

When the tape stops, read the tension gauge. If this reading is over 120 gram, no adjustment is needed.

If it is under 120 gram, adjust the pinch-roller pressure. This is done by bending the spring wire 32 (141-2-852T-55700) shown in the mechanism exploded view. Clean the pinch roller with alcohol so the tape will not slip.



# CABINET EXPLODED VIEW



**PARTS LIST**

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
<b>PACKING</b>				<b>CHASSIS</b>			
	141-6-133T-02300	Individual Carton	1	51	141-2-742T-36200	Lever, REC	1
	141-6-410T-30600	Instruction Manual	1	52	123-2-566R-12000	Tuning Shaft	1
	141-6-144T-56800	Form Plastic Case, Left	1	53	141-2-363T-09800	Bracket, VC	1
	141-6-144T-56900	Form Plastic Case, Right	1	54	141-0-367T-32001	Bracket Ass'y, Socket	1
	141-6-144T-54100	Form Plastic Case, Center	1	55	141-2-367T-32100	Bracket, SP Socket	1
	141-2-171T-15400	Handle	1	56	141-2-368T-17800	Heat Sink, IC	1
	141-2-273T-02100	Handle Base	1	57	141-2-322T-52300	Shield Plate	1
	141-2-447T-03500	Cushion, Handle	2	58	141-2-311T-31300	Chassis	1
	141-6-231T-90600	Inner Poly Cover, Set	1	59	141-0-146T-22600	Dial Scale Ass'y	1
	141-6-231T-20350	Inner Poly Cover, Inst. B	1	60	141-2-245T-07101	Back Plate	1
	141-2-332T-00300	Sleeve, Battery	2	61	141-2-661T-24600	Pulley	6
	141-2-135T-62100	Cover, Jack	3	62	141-2-567T-02000	Pulley Shaft	5
	141-6-317T-10900	Pad	1	63	141-2-567T-02100	Pulley Shaft	1
	141-0-385T-02900	Bracket Assy, Mic	2	66	141-2-538T-03900	Drum	1
	141-6-231T-15300	Inner Poly Cover, Mic	2	67	141-2-851T-06300	Spring Coil, Rope	1
	141-6-231T-10200	Inner Poly Cover, Mic Stand	2	68	141-2-340T-00500	Rope	1
	141-6-479T-08300	Label, Dolby	1	69	141-0-511T-13301	Pointer Ass'y	1
	141-6-132T-90300	Individual Carton, Mic	1	70	141-2-521T-10500	Flywheel	1
	141-6-176T-00200	Band, Carton	1	71	141-2-361T-16100	Bracket, VR	1
<b>ACCESSORY</b>				72	141-2-367T-32200	Bracket, Socket	1
	4-241T-10891	Cassette Tape C-12	1	73	141-0-715T-05300	Bracket Lever Ass'y, REC	1
	4-153T-10700	Microphone, W/O Remote Switch	1	74	141-2-742T-36300	Lever, REC	1
	4-153T-10800	Microphone, W/Remote Switch	1	75	141-2-853T-62200	Spring Plate, REC	1
	4-243T-13001	or Power Cord	1	77	141-2-374T-14600	Bracket, Pilot	1
	4-243T-11500			78	141-2-365T-42400	Bracket, Edit Switch	1
	4-243T-76401			79	141-2-365T-42500	Bracket, AMSS Switch	1
	4-243T-79100			80	141-2-253T-16300	Joint, Band Select Switch	1
	4-236T-11201	Plug Ass'y	1	84	141-2-322T-53000	Shield Plate, AMP	1
<b>CABINET</b>				85	141-2-322T-53100	Shield Plate, Mechanism	1
1	141-0-111T-39301	Cabinet Ass'y	1	86	141-2-246T-42700	Sheet, Fiber, 35 x 40mm, PT	1
2	141-2-161T-61800	Push Button, Power	1	88	141-2-453T-20200	Washer, 8.2 x 11 x 0.5mm, Flywheel	1
3	141-2-161T-61830	Push Button, Dial	1	89	141-2-447T-15200	Cushion	1
4	141-2-210T-11300	Bracket, Push Button	1	90	141-2-453T-01200	Washer, 3 x 8 x 1mm, Rec Shaft	1
5	141-2-855T-34000	Spring Coil, Push Button	2	136	123-2-472R-00401	Lug	1
6	141-2-385T-02200	Bracket, Mic	2	137	141-2-472T-01001	Lug	3
7	141-2-174T-08001	Stand, Leg	2	138	141-2-472T-01201	Lug	1
8	141-2-174T-08101	Stand, Leg	2	139	141-2-464T-08700	Fixer	7
9	141-2-461T-34400	Pipe, Leg	4	140	141-2-464T-20671	Fixer	8
10	141-2-447T-66100	Cushion, 5 x 10 x 10mm, PT	1	141	141-2-453T-00800	Washer, 3 x 8 x 0.5mm	2
11	141-2-153T-50030	Escutcheon, Speaker	2	142	141-2-453T-01700	Washer, 3 x 10 x 1mm, Fiber	1
12	141-2-246T-61800	Sheet, 4 x 30 x 1mm, Fiber	2	<b>HARDWARE</b>			
13	141-0-581T-10901	Gear Ass'y	1	201		Pan Hd. Screw, 2.6 x 4mm	2
14	141-0-122T-28901	Front Panel Ass'y	1	202		Pan Hd. Screw, 2.6 x 6mm	4
15	141-0-124T-24100	Top Lid Ass'y	1	203		Pan Hd. Screw, 2.6 x 8mm	6
16	141-2-131T-19800	Clear Window, Top Lid	1	204		Pan Hd. Screw, 3 x 6mm	5
17	141-2-421T-27700	Special Screw, Clear Window	2	205		Pan Hd. Screw, 3 x 8mm	6
18	141-2-453T-31001	Washer, 8.2 x 12 x 0.5mm, Nylon	3	206		Pan Hd. Screw, 3 x 16mm	8
19	141-2-210T-10600	Bracket, Cassette Holder	1	207		Pan Hd. Tapping Screw, 2.6 x 6mm	1
20	141-2-210T-10700	Bracket, Cassette Holder	1	208		Pan Hd. Tapping Screw, 3 x 6mm	8
21	141-2-135T-59200	Cover, Bracket	2	209		Pan Hd. Tapping Screw, 3 x 8mm	34
22	141-2-853T-61100	Spring Plate, Cassette Pres	2	210		Pan Hd. Tapping Screw, 3 x 10mm	3
23	141-2-852T-53100	Spring Wire, Bracket	2	211		Pan Hd. Tapping Screw, 3 x 16mm	2
24	141-2-852T-56800	Spring Wire, Top Lid	1	212		Pan Hd. Tapping Screw, 3 x 30mm	3
25	141-2-753T-63700	Shaft, Top Lid	1	213		Pan Hd. Tapping Screw, 2.6 x 8mm	2
26	141-0-171T-15101	Handle Ass'y	1	214		Pan Hd. Tapping Screw, 3 x 40mm	9
27	141-2-271T-14600	Bracket, Handle	2	215		Hexagon Bolt, 2.6 x 16mm	1
28	141-0-126T-28901	Back Lid Ass'y	1	216		Hexagon Bolt, 3 x 18mm	8
29	123-2-472R-11100	Lug, Rod ANT	2	217		Hexagon Nut, 3mm	9
30	141-0-128T-14000	Battery Lid Ass'y	1	219		Washer, 3 x 8 x 0.5mm	3
31	141-2-411T-10600	Plate Nut, Leg	4	220		Washer, 3 x 13 x 1mm	3
32	141-2-322T-51900	Shield Plate, PT	1	221		Special Washer, E Ring, 2mm	1
33	141-2-163T-60100	Rotary Knob, Main VR	1	222	141-2-457T-23100	Special Washer	1
34	141-2-163T-60200	Rotary Knob, Mic VR	1	233	141-2-457T-23401	Special Washer	1
35	141-2-163T-60300	Rotary Knob, Mic VR	1	225		Pan Hd. Tapping Screw, W/Washer, 3 x 10mm	3
36	141-2-163T-60400	Rotary Knob, Bass/Treble	3	226		Pan Hd. Tapping Screw, W/Washer, 3x12mm	5
37	141-2-163T-65800	Rotary Knob, Tuning	1				
38	141-2-163T-60600	Rotary Knob, Band Select	1				
39	141-0-162T-16100	Lever Knob Ass'y	5				
40	141-2-163T-65700	Rotary Knob, Fine Tuning	1				
41	141-2-132T-03800	Sign Window, Voltage Select	1				
42	141-2-453T-61901	Washer	1				



PARTS LIST

Ref. No.		Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
<b>ELECTRICAL PARTS</b>				<b>TUNER/PRE/SWITCH PCB ASS'Y</b>			
111	4-151T-32700	Speaker 16cm, Woofer	2	<b>RESISTORS</b>			
112	4-151T-30000	Speaker 5cm, Tweeter	2	R724		Carbon 2.7K ohm ±10% ¼W	1
113	4-511T-09271	Meter, VU/Tuning	1	R405,605		Carbon 1.5K ohm ±10% ¼W	2
114	4-511T-09272	Meter, VU/Battery	1	R896,996, 897,997		Carbon 8.2K ohm ±10% ¼W	4
115	4-300T-02300	Power Trans	1	R723		Carbon 220 ohms ±10% 1W	1
116	4-612T-12500	Indicator Lamp, Cassette	1	R837,937		Carbon 2.7K ohm ±10% ¼W	2
117	4-153T-10500	Microphone	2	<b>CAPACITORS</b>			
118	4-612T-12600	Indicator Lamp, Dial	1	C729		Electrolytic 4.7µF 16V	1
119	4-231T-76271	Switch, Power	1	C889,989, 826,926		Mylar 0.068µF 50V ±20%	4
120	4-231T-53771	Switch, Dial	1	C820,920		Ceramic 82pF 50V ±10%	2
121		Electrolytic Cap. Nonpolar 4.7µF, 16V (C891, 991)	2	.....			
122	4-234T-08400	Fuse 2.5A	1	VC1~5	4-224T-14300	Variable Capacitors	1
123	4-231T-51373	Switch, Edit/AMSS	2	L111A,	4-257T-35601	ANT Coil Ass'y	1
124	4-243T-12800	Lead	1	B,C			
125	4-235T-66300	Socket, Mic	1	L103	4-257T-33100	ANT Coil	1
126	4-235T-62900	Socket, Speaker	1	CT-1,2, 4,5	4-224R-01400	Trimmer	4
127	4-235T-63200	Socket, Edit	1	CT-3	4-224R-01400	Trimmer	1
128	4-235T-66500	Socket, Meter	1	CT-6,7, 8,9	4-224R-01400	Trimmer	4
129	4-235T-66600	Socket, Pilot	1	L101,102	4-265R-11800	VHF Coil	2
131	4-244T-02600	Rod ANT	2	L104	4-265R-01300	VHF Coil	1
132	4-237T-08900	Terminal Board	1	L105	4-265R-05000	VHF Coil	1
133	4-235T-34600	Socket, Ext ANT	6	L106	4-265T-02600	VHF Coil	1
143	4-236T-09911	Plug Ass'y	1	L113	4-258T-07540	OSC Coil	1
144	4-235T-33200	Socket	1	L114	4-258T-07640	OSC Coil	1
145	4-235T-33000	Socket	1	L116	4-258T-05640	OSC Coil	1
146	141-2-382T-03100	Terminal	5	L110	4-257T-28630	ANT Coil	1
148	4-224T-14400	Variable Capacitor, Fine Tuning	1	L108	4-253R-11160	RF Choke Coil 1µH ) or	1
149		Ceramic Cap. 10pF, ±10%, 50V (C145, C113)	2	L108	4-253T-10800	RF Choke Coil 1µH ) or	1
150	4-253R-11160	RF Choke Coil (L107)	1	L112	4-255R-10700	Choke Coil 15µH ) or	1
<b>TUNER/PRE/SWITCH PCB ASS'Y</b>				L112	4-253T-10814	Choke Coil 15µH ) or	1
101	141-4-233T-11700	P.C Board Ass'y, Tuner/Pre/ Switch	1	T301	4-256R-20831	IFT	1
	4-237T-00171	Terminal Board	1	T302	4-256R-15131	IFT	1
	4-231T-86200	Switch, T/R/P	1	T303	4-256R-02331	IFT	1
	4-231T-86300	Switch, N/F/CR	3	T304,305, 306	4-256R-00131	IFT	3
Q804,904 D728	4-231T-86500	Switch, Loudness	1	T307	4-256R-00231	IFT	1
		Transistor 2SC1571 G	2		4-256T-80400	IF Filter	
		Diode DS442	1	CF301, 302	4-256T-80471	IF Filter	} or
					4-256T-80472	IF Filter	
					4-256T-80473	IF Filter	
					4-256T-80474	IF Filter	
	<b>CAPACITORS</b>			SVR301	4-222T-39576	Semifixed Variable Resistor	1
C890,990		Electrolytic, 100µF, 6.3V	2	SVR501	4-222T-39575	Semifixed Variable Resistor	1
C818,918		Electrolytic, 1µF, 25V	4	SVR502	4-222T-39572	Semifixed Variable Resistor	1
821,921		Electrolytic, 220µF, 16V	1	CR501, 502	4-227T-02300	CR Pack	2
	<b>RESISTORS</b>			S101-108	4-238T-04900	Switch, Band Select	1
R830,930		Carbon 680K ohm ±10% ¼W	2	B102	123-2-471R-10400	Core	1
R775		Carbon 22K ohm ±10% ¼W	1	B101	123-2-471R-10900	Core	1
R831,931		Carbon 2.7K ohm ±10% ¼W	2		141-2-322T-18900	Shield Plate	1
R829,929		Carbon 22K ohm ±10% ¼W	2		141-2-322T-18100	Shield Plate	1
R406,606		Carbon 3.3K ohm ±10% ¼W	2	Q102,104		Transistor 2SC930 D2 Conv	2
R832,932		Carbon 470 ohm ±10% ¼W	2	Q101		Transistor FET 2K49 H1	1
R403,603		Carbon 220 ohm ±10% ¼W	2	Q103		Transistor 2SC930 D Conv	1
R404,604		Carbon 47 ohm ±10% ¼W	2	Q301,302, 303		Transistor 2SC930 E IF	3
R749		Carbon 120K ohm ±10% ¼W	1	Q304		Transistor 2SC930 D IF	1
R869,969		Carbon 82K ohm ±10% ¼W	2	Q718		Transistor 2SC536 G	1
R855,955		Carbon 4.7K ohm ±10% ¼W	2	IC501		IC LA3361	1
R856,956		Carbon 3.3K ohm ±10% ¼W	2	D102,103, 101,105, 106,108, 109,301, 302,303, 304,313, 314,316		Diode DS442 X or 1S2473	14
		Carbon 220 ohm ±10% ¼W	1	D305,306, 307,308		Diode 1N60 AM	4
	4-235T-38793	Socket, 6P	1	D309,310		Diode 1N60 FM1	2
	4-235T-38797	Socket, 10P	1	D104		Diode 1S553	1
	4-235T-65372	Socket, 4P	1	D312		Diode RD8. 2EB	1
	4-235T-65374	Socket, 6P	1	D311		Diode MV-11T	1
	4-235T-65378	Socket, 8P	1				
	4-235T-65378	Socket, 2P	1				
	4-235T-66900	Socket, 7P	1				
	4-235T-67471	Plug, 3P	1				
	4-236T-10200	Plug, 6P	1				
	4-236T-10273		1				

## PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
TUNER/PRE/SWITCH PCB ASS'Y				TUNER/PRE/SWITCH PCB ASS'Y			
	<b>CAPACITORS</b>				<b>RESISTORS</b>		
C128		Ceramic 3pF ±0.25pF 50V	1	C314,504		Al Electrolytic 0.47μF +40-20% 10V	2
C123		Ceramic 3pF ±0.25pF 50V	1	C505,506		Al Electrolytic 1μF +40-20% 10V	2
C107		Ceramic 5pF ±0.5% 50V	1				
C115		Ceramic 5pF ±0.5% 50V	1				
C126		Ceramic 4pF ±0.25pF 50V	1				
C101		Ceramic 16pF ±10% 50V	1				
C110		Ceramic 7pF ±0.25pF 50V	1	R111		Carbon 33 ohm ±10% ¼W	1
C135		Ceramic 7pF ±0.25pF 50V	1	R116		Carbon 10 ohm ±10% ¼W	1
C122		Ceramic 10pF ±10% 50V	1	R123		Carbon 100 ohm ±10% ¼W	1
C106		Ceramic 12pF ±10% 50V	1	R102		Carbon 220 ohm ±10% ¼W	1
C119		Ceramic 12pF ±10% 50V	1	R114		Carbon 220 ohm ±10% ¼W	1
C130		Ceramic 12pF ±10% 50V	1	R119		Carbon 270 ohm ±10% ¼W	1
C113		Ceramic 10pF ±10% 50V	1	R103		Carbon 1K ohm ±10% ¼W	1
C136,137		Ceramic 15pF ±10% 50V	2	R109,110		Carbon 1.2K ohm ±10% ¼W	2
C132		Ceramic 15pF ±10% 50V	1	R113		Carbon 1.5K ohm ±10% ¼W	1
C118		Ceramic 15pF ±10% 50V	1	R104		Carbon 1K ohm ±10% ¼W	1
C102		Ceramic 20pF ±10% 50V	1	R120		Carbon 33K ohm ±10% ¼W	1
C108		Ceramic 30pF ±10% 50V	1	R124		Carbon 10K ohm ±10% ¼W	1
C116		Ceramic 100pF ±10% 50V	1	R117		Carbon 68K ohm ±10% ¼W	1
C120		Ceramic 30pF ±10% 50V	1	R105		Carbon 15K ohm ±10% ¼W	1
C104,105, 111,139, 513		Ceramic 0.022μF +80-20% 50V	5	R108		Carbon 15K ohm ±10% ¼W	1
C103		Ceramic 0.01μF +80-20% 50V	1	R112		Carbon 15K ohm ±10% ¼W	1
C117		Ceramic 0.01μF +80-20% 50V	1	R107		Carbon 3.9K ohm ±10% ¼W	1
C109		Ceramic 220pF ±20% 50V	1	R126		Carbon 22 ohm ±10% ¼W	1
C114,331		Ceramic 0.047μF +80-20% 50V	2	R127		Carbon 5.6K ohm ±10% ¼W	1
C112		Ceramic 0.001μF +80-20% 50V	1	R128		Carbon 3.3K ohm ±10% ¼W	1
C141		Ceramic 100pF ±10% 50V	1	R122		Carbon 100K ohm ±10% ¼W	1
C142,143, 144		Ceramic 0.022μF +80-20% 50V	3	R121		Carbon 100K ohm ±10% ¼W	1
C317		Ceramic 1pF ±0.25pF 50V	1	R118		Carbon 470K ohm ±10% ¼W	1
C303,309		Ceramic 2pF ±0.25pF 50V	2	R101		Carbon 470K ohm ±10% ¼W	1
C315		Ceramic 30pF ±10% 50V	1	R125		Carbon 5.6 ohm ±10% ¼W	1
C318		Ceramic 30pF ±10% 50V	1	R337		Carbon 3.3K ohm ±10% ¼W	1
C322,323, 325		Ceramic 220pF ±10% 50V	3	R340		Carbon 1K ohm ±10% ¼W	1
C301		Ceramic 0.001μF ±20% 50V	1	R327		Carbon 3.9K ohm ±10% ¼W	1
C340,312		Ceramic 0.022μF +80-20% 50V	2	R325,326		Carbon 5.6K ohm ±10% ¼W	2
C335,337, 338		Ceramic 0.022μF +80-20% 50V	3	R329		Carbon 6.8K ohm ±10% ¼W	1
C305		Ceramic 0.01μF +80-20% 50V	1	R330		Carbon 8.2K ohm ±10% ¼W	1
C307		Ceramic 0.01μF +80-20% 50V	1	R309,310		Carbon 10K ohm ±10% ¼W	2
C316		Ceramic 0.01μF +80-20% 50V	1	R307		Carbon 470K ohm ±10% ¼W	1
C314,329, 330		Ceramic 0.047μF +80-20% 50V	3	R314		Carbon 270K ohm ±10% ¼W	1
C302		BC Con 0.047μF ±20% 25V	1	R319		Carbon 15K ohm ±10% ¼W	1
C304,127		BC Con 0.0022μF ±20% 25V	2	R328		Carbon 15K ohm ±10% ¼W	1
C310		BC Con 0.015μF ±20% 25V	1	R331		Carbon 56K ohm ±10% ¼W	1
C311,121, 508,509		BC Con 0.01μF ±20% 25V	4	R332		Carbon 33K ohm ±10% ¼W	1
C319,320, 321		BC Con 0.022μF ±20% 25V	3	R336		Carbon 1K ohm ±10% ¼W	1
C306,131		BC Con 0.0047μF ±20% 25V	2	R335		Carbon 1M ohm ±10% ¼W	1
C308		BC Con 0.022μF ±20% 25V	1	R316		Carbon 560 ohm ±10% ¼W	1
C129		BC Con 0.0033μF ±20% 25V	1	R342		Carbon 820K ohm ±10% ¼W	1
C125		Styrol 350pF ±5% 50V	1	R344		Carbon 56 ohm ±10% ¼W	1
C503		Styrol 0.001μF ±5% 50V	1	R346		Carbon 10K ohm ±10% ¼W	1
C124		Styrol 0.001μF ±5% 50V	1	R345		Carbon 10K ohm ±10% ¼W	1
C138		Mylar 0.0022μF ±20% 50V	1	R301		Carbon 33 ohm ±10% ¼W	1
C502		Mylar 0.047μF ±20% 50V	1	R302		Carbon 33 ohm ±10% ¼W	1
C333		Mylar 0.039μF ±20% 50V	1	R318		Carbon 33 ohm ±10% ¼W	1
C510,511		Electrolytic 1μF 25V	2	R313		Carbon 33 ohm ±10% ¼W	1
C507		Electrolytic 1μF 25V	1	R341		Carbon 33 ohm ±10% ¼W	1
C501		Electrolytic 2.2μF 25V	1	R338		Carbon 220 ohm ±10% ¼W	1
C512		Electrolytic 470μF 16V	1	R322		Carbon 270 ohm ±10% ¼W	1
C313		Electrolytic 10μF 16V	1	R315		Carbon 100 ohm ±10% ¼W	1
C324		Electrolytic 1μF 25V	1	R320		Carbon 330 ohm ±10% ¼W	1
C332		Electrolytic 1000μF 10V	1	R308		Carbon 220 ohm ±10% ¼W	1
C747		Electrolytic 100μF 25V	1	R311		Carbon 560 ohm ±10% ¼W	1
C748		Electrolytic 220μF 25V	1	R312		Carbon 560 ohm ±10% ¼W	1
C334		Al Electrolytic 0.1μF +40-20% 10V	1	R304		Carbon 560 ohm ±10% ¼W	1
				R303		Carbon 470 ohm ±10% ¼W	1
				R321		Carbon 560 ohm ±10% ¼W	1
				R339		Carbon 330 ohm ±10% ¼W	1
				R306		Carbon 1K ohm ±10% ¼W	1
				R317		Carbon 1K ohm ±10% ¼W	1
				R323,324		Carbon 1K ohm ±10% ¼W	2
				R516		Carbon 180 ohm ±10% ¼W	1
				R506		Carbon 1K ohm ±10% ¼W	1
				R507		Carbon 1K ohm ±10% ¼W	1
				R515		Carbon 1K ohm ±10% ¼W	1
				R502		Carbon 1K ohm ±10% ¼W	1
				R508		Carbon 560 ohm ±10% ¼W	1
				R513		Carbon 2.7K ohm ±10% ¼W	1
				R504,505		Carbon 3.3K ohm ±10% ¼W	2
				R509,510		Carbon 12K ohm ±10% ¼W	2
				R511,512		Carbon 3.3K ohm ±10% ¼W	2



PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty	
<b>TUNER/PRE/SWITCH PCB ASS'Y</b>				<b>INPUT SOCKET PCB ASS'Y</b>				
R514		Carbon 3.9K ohm ±10% ¼W	1	105	141-4-233T-13800	P.C Board Ass'y, Input Socket	1	
R501		Carbon 6.8K ohm ±10% ¼W	1		4-235T-65500	Socket, Line In	1	
R503		Carbon 47K ohm ±10% ¼W	1		4-235T-65600	Socket, RCAx2, 1 PHONO	1	
R776		Carbon 1 ohm ±10% ¼W	1		4-231R-16600	Slide Switch	1	
R777		Carbon 5.6K ohm ±10% ¼W	1		4-236T-10274	Plug, 7P	1	
R778		Carbon 68 ohm ±10% ¼W	1		4-236T-10293	Plug, 2P	1	
					Q810,910, 811,911		Transistor 2SC1571G	4
<b>VOLUME PCB ASSY</b>					<b>CAPACITORS</b>			
102	141-4-230T-89602	P.C Board Ass'y, Volume	1		C877,977, 411,611 C873,973 C874,974 C805,905 C806,906 C875,975 C808,908, 898,998 C801,901 C703		Ceramic 470pF ±10% 50V	4
	4-222T-78900	Variable Resistor 50K-B, Volume	1				Ceramic 100pF ±10% 50V	2
	4-222T-78400	Variable Resistor 50K-W, Balance	1				Ceramic 180pF ±10% 50V	2
	4-222T-78500	Variable Resistor 50K-A, Bass/Treble	2				Mylar 0.1µF ±20% 50V	2
	4-222T-72100	Variable Resistor 10K-A, Input	1				Mylar 0.022µF ±20% 50V	2
	4-236T-10293	Plug, 2P	1				Mylar 0.033µF ±20% 50V	2
	4-236T-10272	Plug, 5P	1				Electrolytic 1µF 25V	4
	4-236T-10273	Plug, 6P	1				Electrolytic 4.7µF ±20% 50V	2
	4-235T-67500	Socket, 3P	1				Electrolytic 1000µF 10V	1
	<b>CAPACITORS</b>					<b>RESISTORS</b>		
C401,601		Ceramic 0.0022µF ±10% 50V	2		R882,982 R886,986 R884,984 R880,980, 413,613 R808,908 R888,985 R803,903 R411,611 R412,612, 883,983 R825,925 R709 R879,979 R802,902 R881,981		Carbon 22 ohm ±10% ¼W	2
C412,612		Ceramic 100pF ±10% 50V	2			Carbon 3.3K ohm ±10% ¼W	2	
C823,923		Mylar 0.01µF ±20% 50V	2			Carbon 4.7K ohm ±10% ¼W	2	
C824,924		Mylar 0.022µF ±20% 50V	2			Carbon 10K ohm ±10% ¼W	4	
C822,922, 826,926		Mylar 0.068µF ±20% 50V	4			Carbon 100K ohm ±10% ¼W	2	
C825,925		Al Electrolytic 0.33µF +40-20% 16V	2			Carbon 27K ohm ±10% ¼W	2	
C899,999		Al Electrolytic 0.15µF +40-20% 16V	2			Carbon 47K ohm ±10% ¼W	2	
						Carbon 1K ohm ±10% ¼W	2	
						Carbon 1M ohm ±10% ¼W	4	
						Carbon 22K ohm ±10% ¼W	2	
						Carbon 1.2K ohm ±10% ¼W	1	
						Carbon 820K ohm ±10% ¼W	2	
						Carbon 2.2K ohm ±10% ¼W	2	
						Carbon 150 ohm ±10% ¼W	2	
R835,935		Carbon 10K ohm ±10% ¼W	2					
R878,978		Carbon 1.5K ohm ±10% ¼W	2					
R407,607		Carbon 5.6K ohm ±10% ¼W	2					
<b>FRONT SOCKET PCB ASS'Y</b>				<b>AMSS LED PCB ASS'Y</b>				
103	141-4-230T-89700	P.C. Board Ass'y, Front Socket	1	106	141-4-230T-90000	P.C Board Ass'y, AMSS LED	1	
	4-235T-60600	Socket, Headphone	1		4-235T-34600	Socket	3	
	4-235T-60700	Socket, Mic w/Switch	1	D705,706		LED SLP239B, Green	2	
	4-235R-15700	Socket, Remote	1	<b>AMSS PCB ASS'Y</b>				
	123-2-411R-10900	Plate Nut, Remote	1	107	141-4-230T-90172	P.C Board Ass'y, AMSS	1	
	4-235T-60800	Socket, Mic w/o Switch	1		4-231T-43072	Switch, F F/REW	2	
	4-235T-63300	Socket, 3P	1		4-231T-51372	Switch, Play/Stop	2	
	4-235T-66700	Socket, 7P	1		4-252T-04700	Choke Coil	1	
	4-235T-64600	Socket, 2P	1		4-236T-10571	Plug 4P	1	
	C811,911, 812,912		Al Electroic Cup. 0.1µF +40-20% 16V		4	IC703	IC BA 335	1
R818,918		Carbon Res. 1.5K ohm ±10% ¼W	2		Q707,712, 713,803	Transistor 2SC536F	4	
R720,721		Solid Res. 100 ohm ±10% ¼W	2		Q708	Transistor 2SD612E	1	
<b>OUTPUT SOCKET PCB ASS'Y</b>					Q706	Transistor 2SA608G	1	
104	141-4-230T-90200	P.C Board Ass'y Input Socket	1		Q710	Transistor 2SD400F	1	
	4-231T-86700	Switch, Speaker	1	Q903	Transistor 2SC536F	1		
	4-230T-97100	P.C Board, Speaker Switch	1	Q703,704, 814,914	Transistor 2SC536F or 2SC945Q	4		
	141-2-382T-11700	Terminal	1	D717,718, 806,906, 724	Diode DS442	5		
	4-231T-65200	Switch, Beat Switch	1	D709,707, 708	Diode 1N4001	3		
	4-236T-10293	Plug, 2P	1	D710	Diode WZ130	1		
	4-236T-10271	Plug, 4P	1	D725	Diode WZ081	1		
	4-235T-65600	Socket, Line Out	1	D726	Diode 1S188 AM	1		
	4-236T-10593	Plug, 2P	1					
	4-236T-10571	Plug, 4P	2					
C711		Mylar Cap. 0.0022µF ±20% 50V	1					

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
<b>AMSS PCB ASS'Y</b>			
<b>CAPACITORS</b>			
C712,713,715		Electrolytic 1 $\mu$ F 25V	3
C727		Electrolytic 47 $\mu$ F 16V	1
C728,714,743		Electrolytic 100 $\mu$ F 16V	3
C733		Electrolytic 1000 $\mu$ F 16V	1
C705		Electrolytic 33 $\mu$ F 16V	1
C745		Electrolytic 4.7 $\mu$ F 25V +40-20% 16V	1
C732		Al Electrolytic 1 $\mu$ F +40-20% 16V	1
C717		Al Electrolytic 2.2 $\mu$ F +40-20% 16V	1
C718		Al Electrolytic 0.33 $\mu$ F $\pm$ 10% 10V	1
C719		Al Electrolytic 4.7 $\mu$ F $\pm$ 10% 10V	1
C749,750		Ceramic 0.022 $\mu$ F +80-20% 50V	2
C731		Mylar 0.0047 $\mu$ F $\pm$ 10% 50V	1
<b>RESISTORS</b>			
R726		Carbon 56 ohm $\pm$ 10% 1/4W	1
R743		Carbon 150 ohm $\pm$ 10% 1/4W	1
R727		Carbon 33 ohm $\pm$ 10% 1/4W	1
R750		Carbon 1K ohm $\pm$ 10% 1/4W	1
R715,735		Carbon 1K ohm $\pm$ 10% 1/4W	2
R732,734,729		Carbon 3.3K ohm $\pm$ 10% 1/4W	3
R712,713,770		Carbon 4.7K ohm $\pm$ 10% 1/4W	3
R731		Carbon 3.3K ohm $\pm$ 10% 1/4W	1
R745		Carbon 10K ohm $\pm$ 10% 1/4W	1
R733		Carbon 180K ohm $\pm$ 10% 1/4W	1
R745,747		Carbon 220K ohm $\pm$ 10% 1/4W	2
R728		Carbon 470K ohm $\pm$ 10% 1/4W	1
R722		Carbon 10 ohm $\pm$ 10% 1/4W	1
R748		Carbon 820 ohm $\pm$ 10% 1/4W	1
R752		Carbon 3.3K ohm $\pm$ 10% 1/4W	1
R714		Carbon 3.9K ohm $\pm$ 10% 1/4W	1
R736		Carbon 120 ohm $\pm$ 10% 2W	1
R739		Carbon 1.5K ohm $\pm$ 10% 1/4W	1
R742		Carbon 3.3 ohm $\pm$ 10% 1/4W	1
R730		Carbon 180 ohm $\pm$ 10% 1/4W	1
R772		Carbon 8.2K ohm $\pm$ 10% 1/4W	1
R771		Carbon 3.3K ohm $\pm$ 10% 1/4W	1
<b>DG PCB ASS'Y</b>			
108	141-4-233T-16600	P.C Board Ass'y, DG	1
	4-235T-57100	Socket, AC Input	1
	141-2-135T-44900	Cover	1
	141-2-381T-04200	Bracket, Fuse	2
	4-235T-62700	Socket, 4P	1
D713,714		Diode GP20D	4
715,716			
C720,721		Ceramic Cap. 0.023 $\mu$ F +80-20% 50V	4
722,723			

Ref. No.	Part No.	Description	Q'ty
<b>MAIN AMP PCB ASS'Y</b>			
109	141-4-233T-06072	P.C. Board Ass'y, Main AMP	1
L802,902	4-235T-01600	MPX Coil, Dolby	2
L801,901	4-252T-08300	Choke Coil, 15mH	2
SVR801,901,802,902	4-252T-03700	Choke Coil	2
SVR703	4-222T-39575	Semidixed Variable Resistor	4
	4-222T-39575	Semidixed Variable Resistor	1
	4-237T-03000	Terminal Board	1
	4-231T-86100	Switch, R/P	1
	4-231T-86171	Switch, R/P Muting	1
	4-236T-10200	Plug, 3P	3
	4-236T-10271	Plug, 4P	2
	4-236T-10273	Plug, 6P	2
	4-236T-10274	Plug, 7P	1
	4-236T-10277	Plug, 10P	1
	4-235T-66800	Socket, 5P	1
	4-235T-67000	Socket, 6P	1
	4-235T-67171	Socket, 2P	1
	4-235T-67200	Socket, 6P	1
	4-235T-64700	Socket, 2P	1
	4-235T-67300	Socket, 4P	1
	4-235T-34600	Socket,	1
IC802,902		IC BA532 S2	2
IC801,902		IC NE646BN	2
Q805,905,809,909		Transistor 2SC536 G	4
Q815,915,715,711		Transistor 2SC536 G	4
Q801,901,802,902		Transistor 2SC1571 G	4
Q812,912,813,913		Transistor 2SC1571 G	4
Q808,908		Transistor 2SC693 G	2
Q807,907		Transistor 2SC536 E ALC	2
Q714,715,716		Transistor 2SC536 F	3
Q816,916		Transistor 2SC536 G	2
Q814,914,717		Transistor 2SC536 G	3
Q814,914,717		Transistor 2SC945 P	3
D701,702,703,704,719,720,721,807,907,722,723,729,805,905,801,802,901,902		Diode DS442	18
D803,903,804,904		Diode 1S188 AM	4
<b>CAPACITORS</b>			
C846,946		Ceramic 390pF $\pm$ 10% 50V	2
C895,995		Ceramic 330pF $\pm$ 10% 50V	2
C831,931		Ceramic 150pF $\pm$ 10% 50V	2
C838,938,861,961		Ceramic 220pF $\pm$ 10% 50V	4
C882,982,816,916,879,979		Ceramic 180pF $\pm$ 10% 50V	6
C881,981,815,915,896,996		Ceramic 100pF $\pm$ 10% 50V	6
C809,908,894,994		Ceramic 82pF $\pm$ 10% 50V	4
C883,983		Ceramic 47pF $\pm$ 10% 50V	2
C403,603		Ceramic 0.001 $\mu$ F $\pm$ 10% 50V	2
C751		Ceramic 0.002 $\mu$ F +80-20% 50V	1



PARTS LIST

Ref. No.	Part No.	Description	Q'ty
<b>LED PCB ASS'Y</b>			
130 D501,712, 727	141-4-233T-15700	P.C Board Ass'y, LED LED PR5531K RE	1 3
	4-235T-34600	Socket	2
<b>VOLTAGE STABILIZE PCB ASS'Y</b>			
147  D711 Q709 C746  C726 R741  R740	141-4-233T-19400	P.C Board Ass'y, Voltage Stabilize	1
		Diode WZ120	1
		Transistor 2SD325 E	1
		Ceramic Cap. 0.022μF +80-20% 50V	1
		Electrolytic Cap. 100μF 16V	1
		Carbon Res. 1 ohm ±10% ½W	1
		Carbon Res. 100 ohm ±10% ½W	1
<b>MECHANISM</b>			
1	141-0-311T-31120	Chassis Ass'y	1
2	141-2-742T-25800	Lever	1
3	141-2-742T-18300	Lever	1
4	141-2-852T-47300	Spring Wire	1
5	141-2-852T-48400	Spring Wire	1
6	141-2-753T-41400	Shaft	1
7	141-2-747T-16400	Bracket, Lever	1
8	141-2-457T-23000	Special Washer	5
9	141-2-742T-14500	Lever	1
10	141-2-852T-47200	Spring Wire	1
11	141-2-322T-27100	Shield Plae	1
12	141-0-853T-48603	Spring Plate Ass'y	1
13	141-0-853T-48502	Spring Plate Ass'y	1
14	141-2-184T-03000	Tape	1
15	4-527T-13000	Motor	1
16	141-2-661T-72700	Pully, Motor	1
	141-2-661T-72701	Pully, Motor } or	
	141-2-661T-72702	Pully, Motor }	
17	141-2-445T-11801	Rubber Cushion, Motor	3
18	141-2-421T-16000	Special Screw, Motor	3
19	141-2-447T-36001	Cushion, Motor	3
20	141-2-378T-09900	Bracket, Motor	1
21	141-2-811T-06900	Counter	1
22	141-2-812T-08000	Bracket, Counter	1
23	141-2-564T-19100	Square Belt, Counter	1
24	141-0-521T-09700	Flywheel Ass'y	1
25	141-2-581T-15400	Gear	1
26	141-2-457T-04300	Special Washer	1
	141-2-453T-30200	Washer, 2.6 x 4.7 x 0.13mm, Nylon	
27	141-2-453T-30201	Washer, 2.6 x 4.7 x 0.13mm, Nylon	1
	141-2-453T-30202	Washer, 2.6 x 4.7 x 0.13mm, Nylon	
28	141-0-524T-07903	Bracket, Flywheel Ass'y	1
29	141-2-351T-48800	Bracket	1
30	141-2-561T-04501	Flat Belt, Main	1
31	141-0-545T-05800	Lever, Pinch Roller Ass'y	1
32	141-2-852T-55700	Spring Wire	1
33	141-2-472T-01201	Lug	2
34	141-2-731T-69300	Slide, Head	1
35	141-2-464T-27800	Fixer	1
36	141-2-457T-10301	Special Washer	2
37	4-242T-22500	Head, R/P	1
38	4-242T-18602	Head, E	1
39	141-2-851T-82700	Spring Coil	1
40	141-2-472T-05900	Lug	2
41	141-2-345T-00400	Steel Ball	4
42	141-2-853T-54900	Spring Plate	1
43	141-2-855T-38000	Spring Coil	1
44	141-0-531T-12200	Reel Plate Ass'y, Tackup	1
45	141-2-453T-30100	Washer, 2.1 x 4 x 0.13mm, Nylon	1
46	141-2-453T-30101	Washer, 2.1 x 4 x 0.25mm, Nylon	7
47	141-2-457T-23800	Special Washer	4
48	141-2-547T-02100	Roller	1
49	141-0-581T-15000	Gear Ass'y	1
50	141-2-853T-54500	Spring Plate	1
51	141-2-457T-13300	Special Washer	1

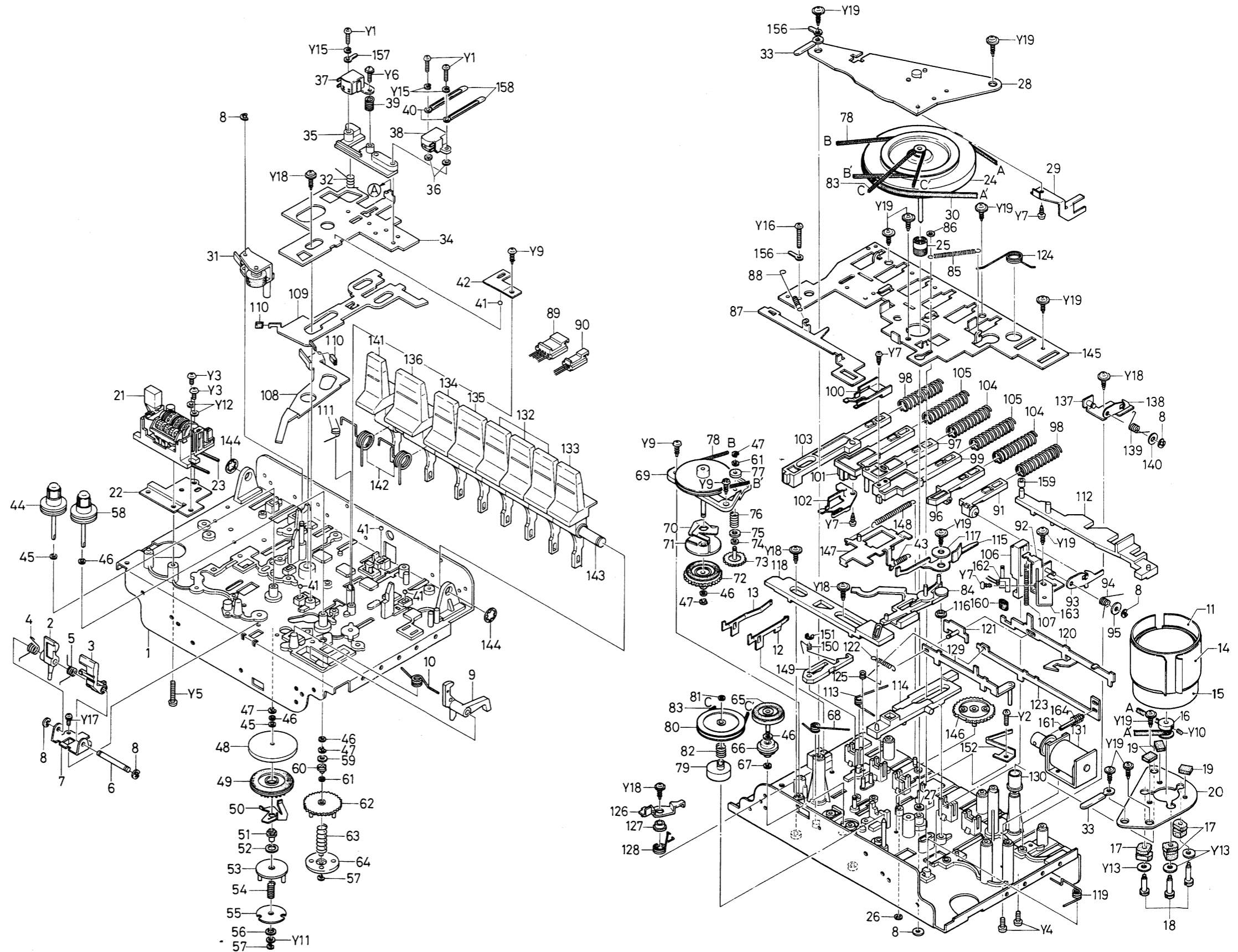
Ref. No.	Part No.	Description	Q'ty
<b>MECHANISM</b>			
52	141-2-453T-30500	Washer, 4.1 x 6.5 x 0.13mm, Nylon	1
53	141-2-671T-05500	Cum	1
54	141-2-855T-23500	Spring Coil	1
55	141-2-457T-13000	Special Washer	1
56	141-2-453T-30500	Washer, 4.1 x 6.5 x 0.13mm, Nylon	1
57	141-2-457T-23700	Special Washer	2
58	141-0-531T-12201	Reel Plate Ass'y, Supply	1
59	141-2-457T-06200	Special Washer	1
60	141-2-661T-74000	Pully, REW	1
61	141-2-457T-10200	Special Washer	2
62	141-2-581T-10700	Gear, REW	1
63	141-2-855T-65500	Spring Coil	1
64	141-2-661T-26500	Pulley	1
65	141-0-551T-01720	Idler Ass'y	1
66	141-2-661T-26600	Pulley	1
67	141-2-453T-31600	Washer, 1.6 x 4 x 0.25mm	1
68	141-2-852T-47800	Spring Wire	1
69	141-0-351T-48300	Bracket Mountig Ass'y	1
70	141-2-853T-54401	Spring Plate	1
71	141-2-457T-13100	Special Washer	1
72	141-0-581T-10400	Gear Ass'y, FF/REW	1
73	141-0-581T-10500	Gear Ass'y, FF	1
74	141-2-457T-11000	Special Washer, 0.25t	2
75	141-2-457T-14000	Special Washer, 0.2t	1
76	141-2-855T-23400	Spring Coil	1
77	141-2-457T-13600	Special Washer	1
78	141-2-564T-20600	Square Belt, Pulley	1
79	141-2-671T-05600	Cum	1
80	141-2-661T-26400	Pulley	1
81	141-2-453T-31600	Washer, 1.6 x 4 x 0.25mm	1
82	141-2-855T-30300	Spring Coil	1
83	141-2-564T-18400	Squar Belt, Auto Stop	1
84	141-0-742T-14101	Lever Ass'y	1
85	141-2-855T-23101	Spring Coil	1
86	141-2-457T-14300	Special Washer	1
87	141-2-742T-13900	Lever	1
88	141-2-855T-26300	Spring Coil	1
89	4-235T-62100	Socket, R/P Head	1
90	4-235T-62200	Socket, E Head	1
91	141-0-731T-71800	Slide Ass'y	1
92	141-0-747T-17200	Bracket Lever Ass'y	1
93	141-2-742T-13800	Lever	1
94	141-2-852T-47700	Spring Wire	1
95	141-2-453T-00800	Washer, 3 x 8 x 0.5mm	1
96	141-2-731T-59100	Slide, Stop Button	1
97	141-0-731T-69000	Slide Ass'y, Play Button	2
98	141-2-855T-29500	Spring Coil	1
99	141-2-731T-68900	Slide, FF	1
100	141-2-853T-61600	Spring Plate	1
101	141-2-731T-69100	Slide, REW Button	1
102	141-2-853T-61700	Spring Plate	1
103	141-2-731T-69200	Slide, REC Button	1
104	141-2-855T-23000	Spring Coil	1
105	141-2-855T-37200	Spring Coil	1
106	141-2-731T-64300	Slide, Eject	1
107	141-2-855T-30200	Spring Coil	1
108	141-2-742T-29700	Lever	1
109	141-2-731T-65600	Slide	1
110	141-2-712T-02700	Brake Shoe	2
111	141-2-852T-49000	Spring Wire	1
112	141-2-742T-14200	Lever	1
113	141-2-852T-55500	Spring Wire	1
114	141-2-731T-59200	Slide	1
115	141-2-853T-54600	Spring Plate	1
116	141-2-683T-34200	Ring	1
117	141-2-457T-33400	Special Washer	1
118	141-2-731T-59301	Slide	1
119	141-2-852T-47600	Spring Wire	1
120	141-2-731T-69700	Slide	1
121	141-0-731T-69400	Slide Ass'y	1
122	141-2-855T-34100	Spring Coil	1
123	141-2-731T-69500	Slide	1
124	141-2-853T-54300	Spring Plate	1
125	141-2-852T-54400	Spring Wire	1
126	141-2-742T-31700	Lever	1
127	141-2-683T-36600	Ring	1
128	141-2-852T-55400	Spring Wire	1
129	141-0-731T-69600	Slide Ass'y	1
130	141-2-461T-34600	Pipe	1
131	4-264T-07601	Magnetic Coil	1

PARTS LIST

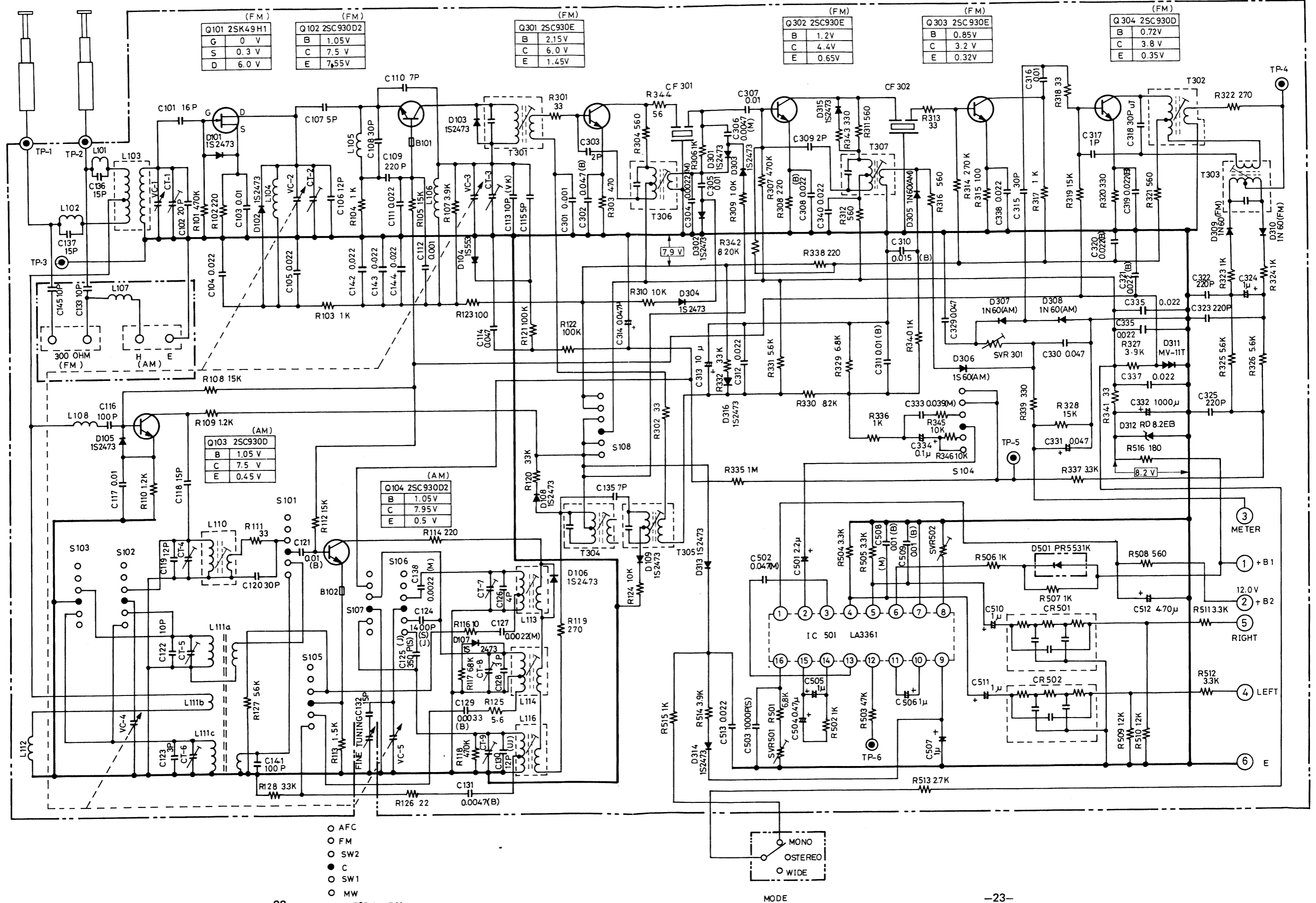
MECHANISM EXPLODED VIEW

Ref. No.	Part No.	Description	Q'ty
<b>MECHANISM</b>			
132	141-2-611T-12700	Lever, Push Button Play/REW/FF	3
133	141-2-611T-12701	Lever, Push Button REC	1
134	141-2-611T-12800	Lever, Push Button PAUSE	1
135	141-2-611T-12900	Lever, Push Button Stop	1
136	141-0-611T-13000	Lever, Push Button PSF	1
137	141-0-747T-17800	Bracket, Lever	1
138	141-2-742T-29800	Lever	1
139	141-2-852T-55300	Spring Wire	1
140	141-2-453T-00800	Washer, 3 x 8 x 0.5mm	1
141	141-2-611T-13100	Lever, Push Button Edit	1
142	141-2-852T-54200	Spring Wire	2
143	141-2-753T-57600	Shaft	1
144	141-2-457T-20300	Special Washer	2
145	141-2-737T-06700	Bracket, Slide	1
146	141-0-581T-11900	Gear Ass'y	1
147	141-0-731T-61000	Slide Ass'y	1
148	141-2-855T-25300	Spring Coil	1
149	141-2-742T-19600	Lever	1
150	141-2-852T-48900	Spring Wire	1
151	141-2-453T-30001	Washer, 1.7 x 3.2 x 0.25mm, Nylon	1
152	141-2-853T-56800	Spring Plate	1
157	123-2-472R-00200	Lug	1
158	141-2-490T-00600	Tube	1
159	141-2-490T-08301	Tube	5
160	141-2-490T-08000	Tube	3
161	141-2-488T-19000	Pin	1
162	4-231T-71200	Switch	1
163	141-2-365T-43800	Bracket, Switch	1
164	141-2-855T-39100	Spring Coil	1

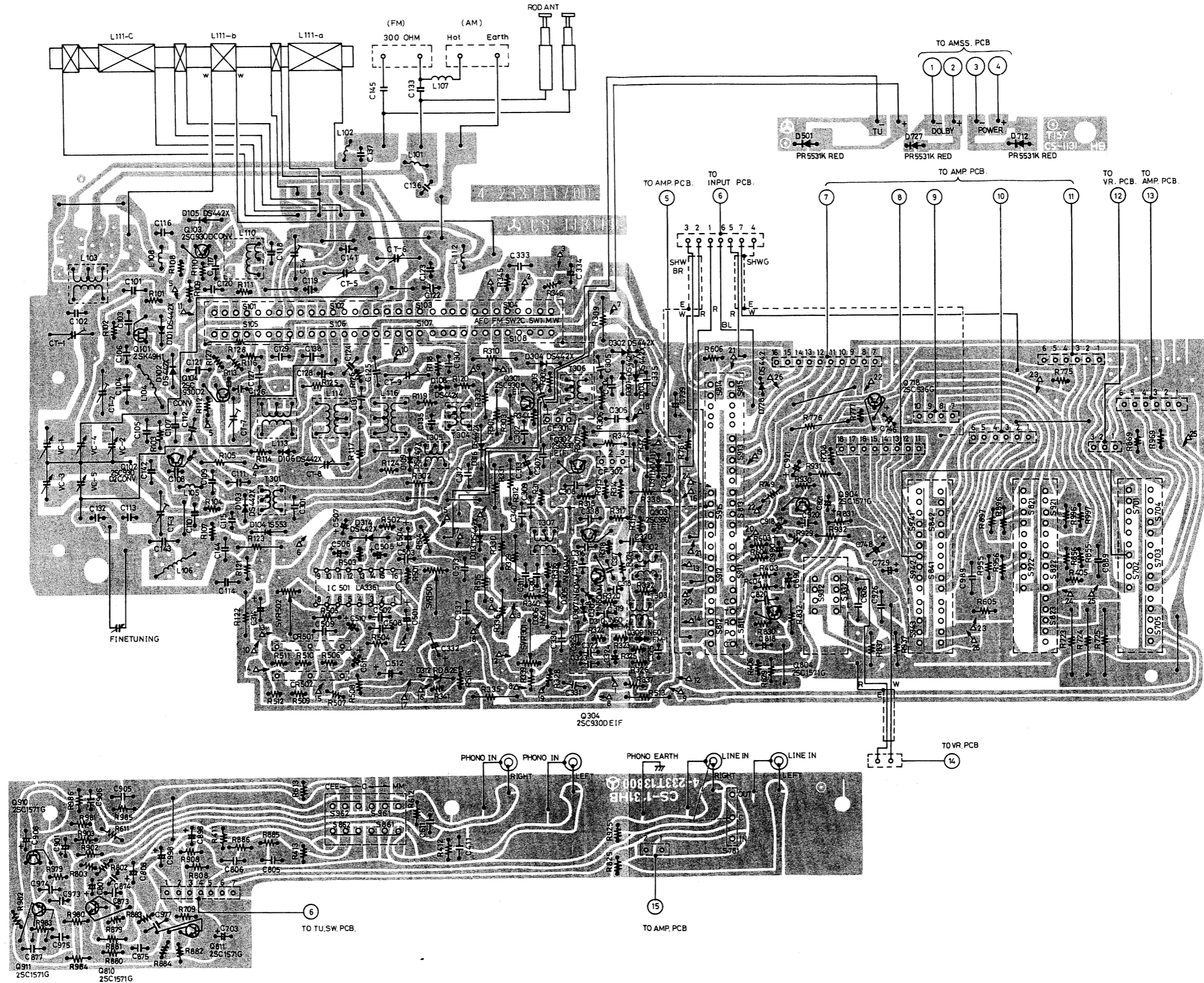
<b>MECHANISM HARDWARE</b>			
Y1		Pan Hd. Screw, 2 x 10mm	3
Y2		Pan Hd. Screw, 2.6 x 4mm	1
Y3		Pan Hd. Screw, 2.6 x 6mm	2
Y4		Pan Hd. Screw, 3 x 4mm	2
Y5		Pan Hd. Screw, 3 x 16mm	1
Y6		Pan Hd. Screw, W/Washer, 2 x 10mm	1
Y7		Pan Hd. Tapping Screw, 2.3 x 6mm	4
Y9		Binding Hd. Tapping Screw, 3 x 6mm	3
Y10		Headles Screw, 2 x 4mm	1
Y11		Washer, 2 x 6 x 0.4mm	1
Y12		Washer, 2.6 x 5 x 0.5mm	2
Y13		Washer, 3 x 8 x 0.5mm	3
Y15		Spring Washer, 2 x 4.4 x 0.5mm	3
Y16		Pan Hd. Forming Screw, 3 x 18mm	1
Y17		Pan Hd. Screw W/Sping Washer, 2.6 x 4mm	2
Y18		Pan Hd. Screw W/Washer, 3 x 6mm	4
Y19		Pan Hd. Tapping W/Washer, 3 x 8mm	11



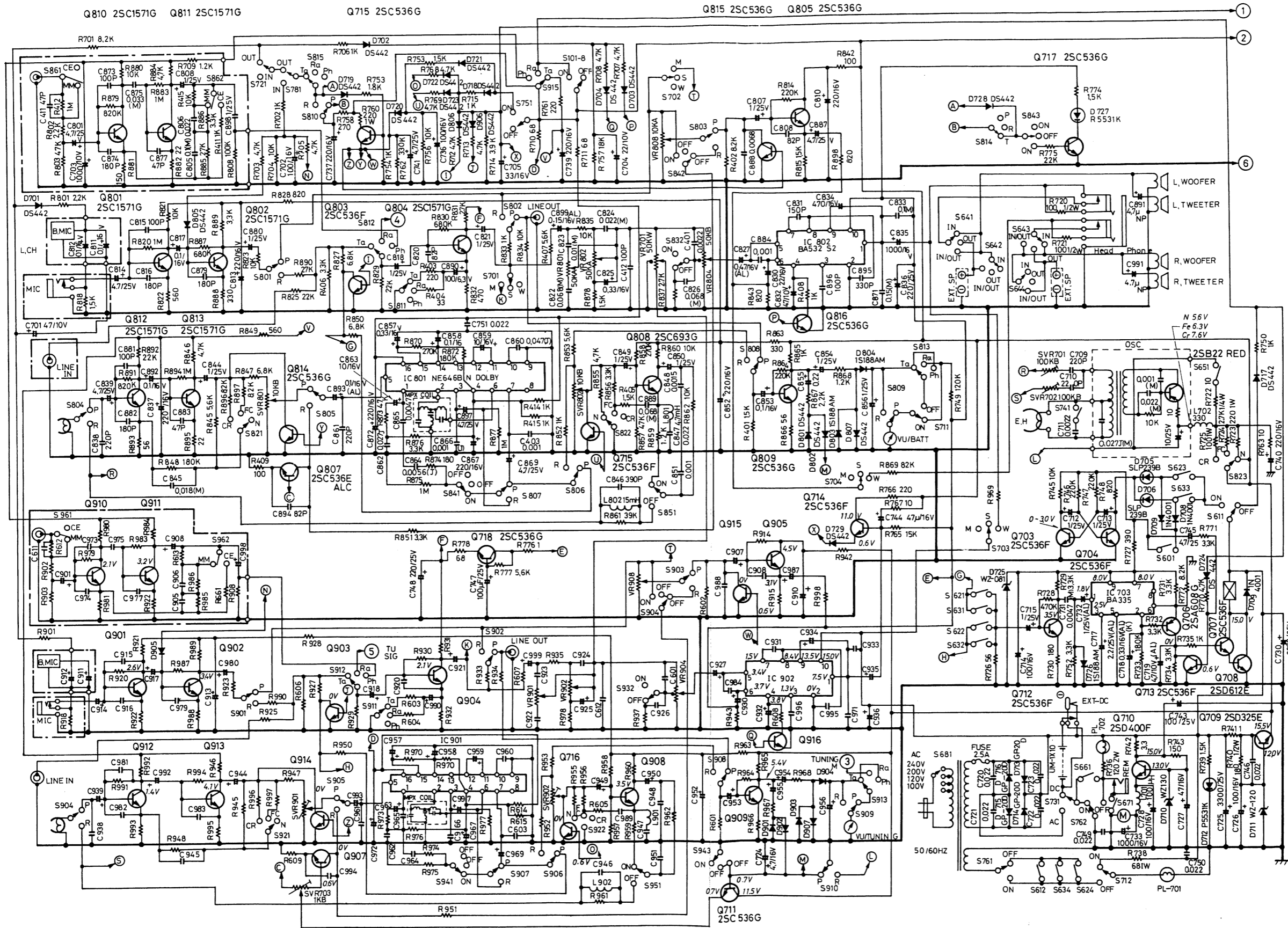
**SCHEMATIC DIAGRAM**





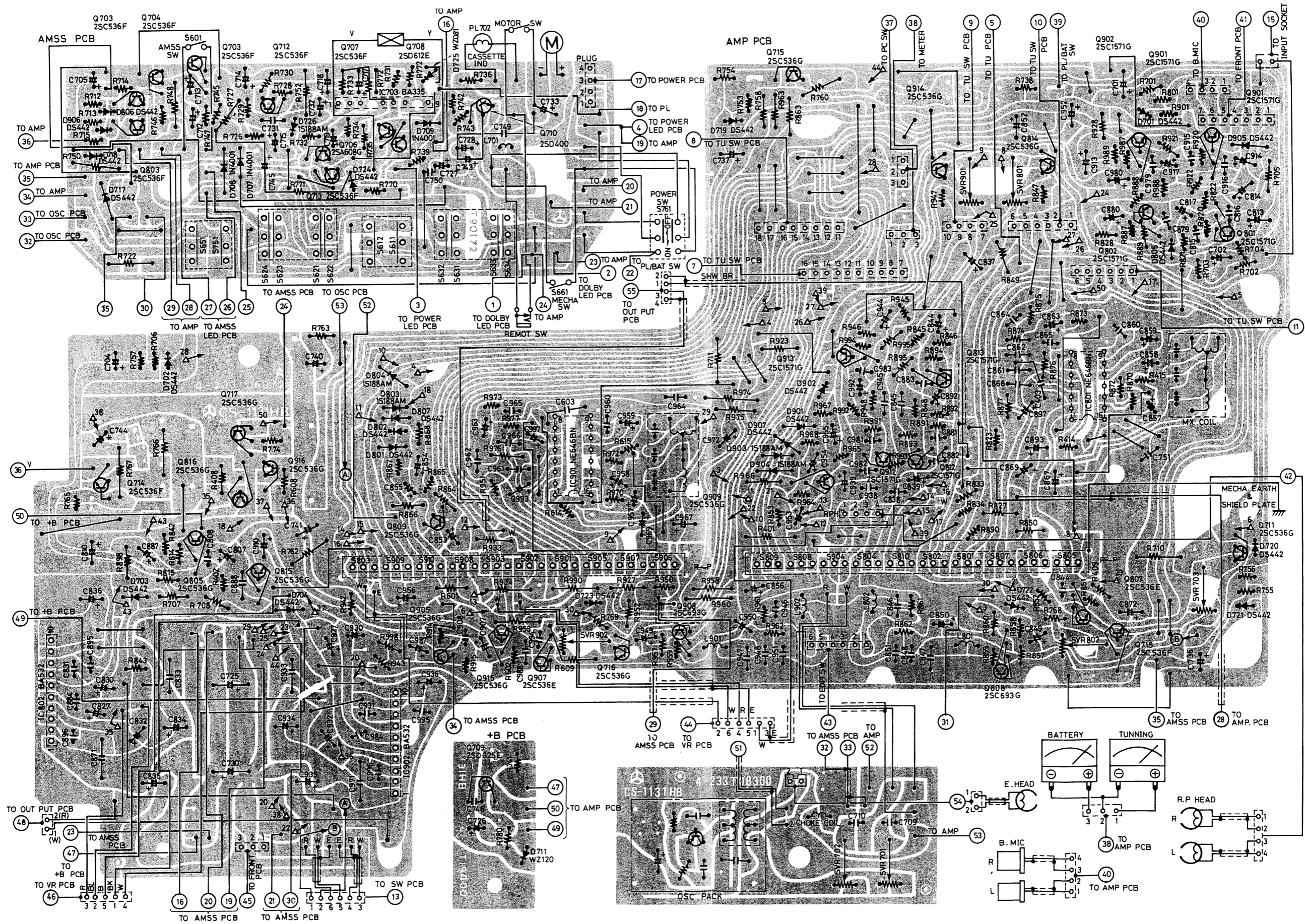


**SCHEMATIC DIAGRAM**



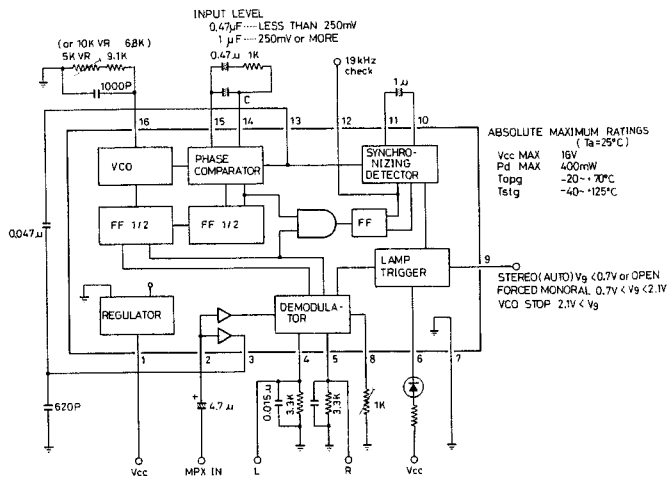
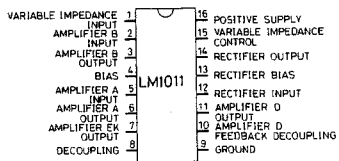
- S601 .....AMSS SWITCH
- S611 - S612 .....PLAY SWITCH
- S621 - S624 .....FAST FORWARD SWITCH
- S631 - S634 .....REWIND SWITCH
- S641 - S644 .....SPEAKER SWITCH
- S651 .....STOP MUTING SWITCH
- S661 .....MECHANISM SWITCH
- S671 .....MOTOR SWITCH
- S681 .....VOLTAGE SELECT SWITCH
  
- S701 - S704 .....MONO/STEREO/WIDE SWITCH
- S711 - S712 .....P.LAMP/ BATTERY SWITCH
- S721 .....MIC SWITCH
- S731 .....AC/DC SWITCH
- S741 .....BEAT CANCEL SWITCH
- S751 .....MUTING SWITCH
- S761 - S762 .....POWER SWITCH
- S781 .....RCA SWITCH
  
- S801 - S810 .....RECORD / PLAY SWITCH
- S901 - S910 .....TAPE / RADIO / PHONO SWITCH
- S911 - S915 .....TAPE SELECT SWITCH
- S921 - S922 .....LOUDNESS SWITCH
- S931 - S932 .....PHONO / LINE SWITCH
- S941 - S944 .....DOLBY SWITCH
- S942 - S943 .....ALC SWITCH
- S951 - S951 .....EDIT SWITCH
- S961 - S962 .....CARTRIDGE SELECT SWITCH











LM1011 DOLBY IC

