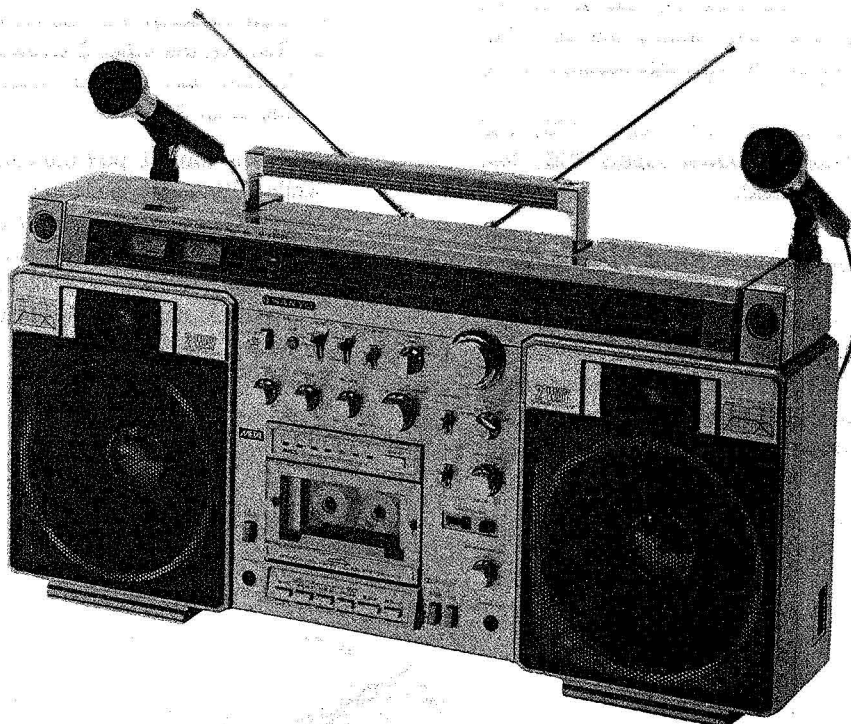


SERVICE MANUAL

CASSETTE RECORDER

**SANYO****M-X920LU****(EUROPE)**

SPECIFICATIONS

Recording system	AC bias, 4-track stereo	Frequency response	30 – 14,000Hz (normal)
Erasing system	AC erase, 2-track		30 – 16,000Hz (CrO ₂)
Tape speed	4.75 cm/sec (1-7/8 i.p.s.)		30 – 17,000Hz (metal)
Rewind and fast forward time	1 min. 40 sec. (C-60)	Output power	13 W x 2 maximum at 2.5 ohms load
Frequency range	FM: 87.5 – 108 MHz	Power source	DC: 15V, "D" (UM-1) x 10
	SW: 5.95 – 18 MHz		12–15V Car battery adaptor
	MW: 525 – 1,605 kHz		AC: 115/230V, 50/60Hz
	LW: 150 – 285 kHz	Dimensions	651(W) x 190(D) x 320(H) mm
	MIC: 10k ohms		(21-3/4" x 7-1/2" x 12-5/8")
Terminal impedance	MIXING MIC: 4k ohms	Weight	Approx. 10.5 kg (23 lbs.) including batteries
	PHONO: 50k ohms		
	REC/PB: (input) 4.5k ohms		
	(output) 2.6k ohms		
	EXT SP: 2.5 – 8 ohms		
	PHONES: 8 ohms		

* Specification subject to change without notice.

HOW TO DISASSEMBLE THE SET

Empty the battery case, and pull off the power cord before setting about disassembling works.

1. Removing the back lid

- (1) Remove 8 screws in all which are securing the back lid.
 - a. Remove 4 corner screws (pan head tapping 3x30 mm).
 - b. Lift rod antenna, and remove 2 screws (pan head tapping 3x14 mm) from upper central part of the set.
 - c. Take out 2 screws (pan head tapping 3x40 mm) from the battery case.
 - d. Set down the handle, if raised.
- (2) Hold the lower part of the back lid, and detach the fitting. Then lift parallel and remove the back lid, which is slightly heavy on the right side because of the power transformer.
- (3) Detach FM antenna socket from tuner PCB, and remove the socket from the power supply PCB, then the back lid can be dismantled.

2. Removing the chassis

- (1) Take out all knobs and buttons. If heavy, use a strong string or the like.
- (2) Remove 2 screws (round head tapping 3x12 mm) which are securing the chassis and cabinet near the root of the handle of the set. Then, remove another 2 screws (round head tapping 3x12 mm) securing the chassis to the bottom of the cabinet.

- (3) Pull out condenser microphone socket (150) 4P fitted to the left side above the preamplifier PCB, remove speaker socket (149) 4P fitted to the right side above the preamplifier PCB, draw out 3 leads for mechanism LED from the power amplifier PCB, and finally pull out lead wire (black) for AMSS from the socket near the middle part of the right side of the preamplifier PCB.
- (4) Remove 5 screws in all securing the chassis.
 - a. Take out a screw (pan head tapping w/washer 3x40 mm) from the lower right side of the tuner PCB.
 - b. Remove a screw (pan head tapping 3x40 mm) from the boss (65) which is inserted into the preamplifier PCB. (Loosen screw, pick up the head of the boss, then the screw and boss come out together.)
 - c. Remove the other 3 screws from the chassis central bottom part and the chassis beneath the left end of the tuner PCB.
- (5) Open the top lid, pull the chassis slightly to your side while lifting the lower part of the chassis, then the chassis can be disconnected from the cabinet. Now, the chassis and cabinet are separate.

* When checking the operating condition in the separate state, fit all sockets removed so far (see above).

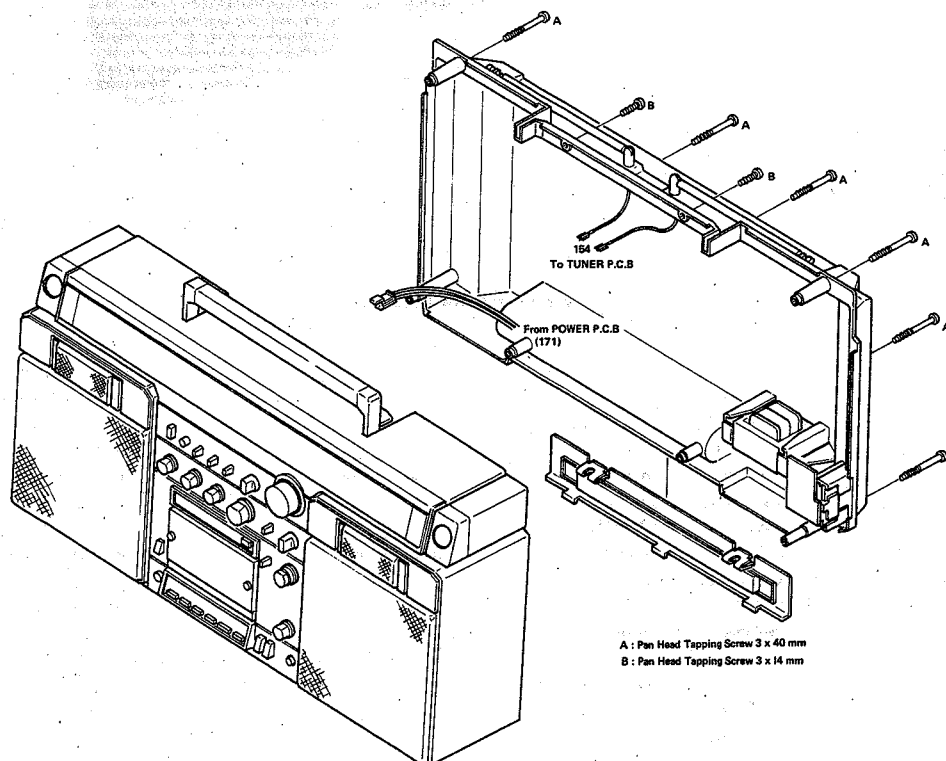


Fig. 1

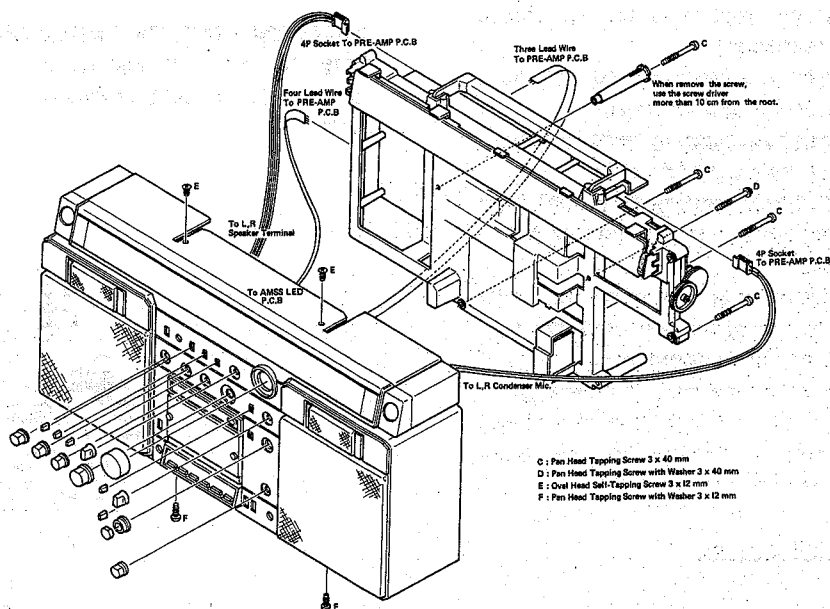


Fig. 2

3. Removing the preamplifier PCB

- (1) Remove 8 screws and 2 washers which are securing the preamplifier PCB.
 - a. Take out 4 screws (pan head tapping 3x30 mm) from bracket sockets (53, 64).
 - b. Take out 4 screws (pan head tapping w/washer 3x12 mm) and 2 fiber washers (3x10x1 mm) which are fastening the PCB and chassis.
- (2) Remove 2 screws (pan head tapping 3x10 mm) securing bracket switch (63) and chassis, from the pre-amplifier PCB side, by using a long-stem Phillips screwdriver.

Then, direct to the surface side (parts side), while paying attention to the sockets, jumper wires and lead wires, and the face and back of the preamplifier PCB will be sufficiently visible.

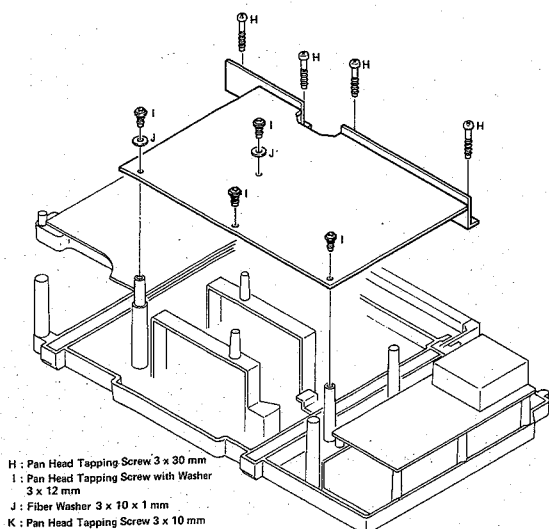


Fig. 3

REFERENCE

The wire used in connection between switches may be easily removed by prying off the two pawls on one side as shown. In this case, however, be careful not to damage the pawls.

When fitting the wire to switches, put the lead of the slide part of the wire into the switch hole or groove, and set up after making sure switching action of each switch is smooth and correct.

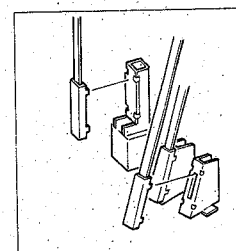
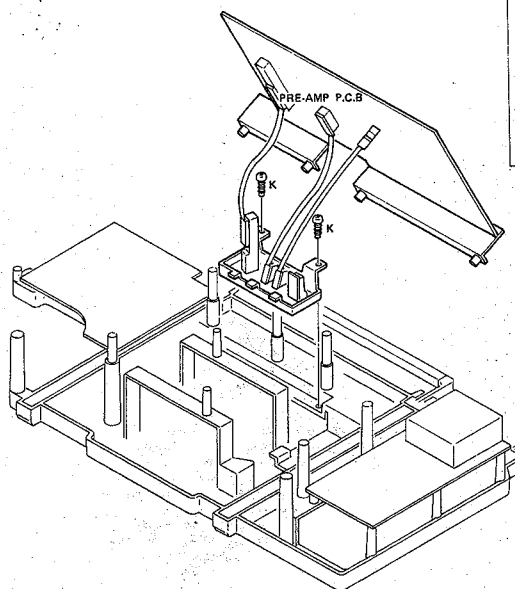


Fig. 4



4. Removing the mechanism

- (1) With the chassis front side faced towards you, remove 5 screws securing the mechanism.
 - a. Take out a screw (pan head tapping 3x10 mm) from the upper right side of the counter bracket.
 - b. Take out a screw (pan head tapping 3x10 mm) from the upper left side of the counter bracket.
 - c. Remove 3 screws (pan head tapping 3x10 mm) from the lower right side, upper left side and lower left side of the mechanism.
 - (2) Pull the mechanism towards you, and draw out, while paying attention to the sliding motion of AMSS buttons, then the mechanism can be dismantled.
- When replacing the belt, or the like, it is enough to detach the jumper wires of the auto-stop PCB (173). But, for easier replacement, remove the lead wires connected to the mechanism from the PCB.

ADJUSTMENT OF MECHANISM

Item	Tack up torque	Back tension	Pinch roller pressure
Used gauge	Cassett torque meter	Cassette torque meter	Tension gauge
Playback	35~60gr.cm	2~6gr.cm	350gr±50gr.
F. FWD	80~130gr.cm	2~6gr.cm	
REW	80~130gr.cm	2~6gr.cm	

REPLACEMENT OF HEADS

Detach and attach the heads as shown when replacing them. Note the color of lead wires. Also, when soldering, be careful not to apply intensive heat to the head terminal parts.

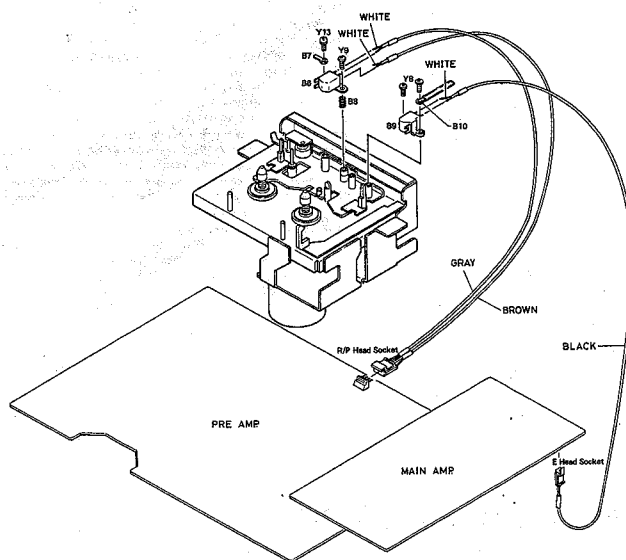
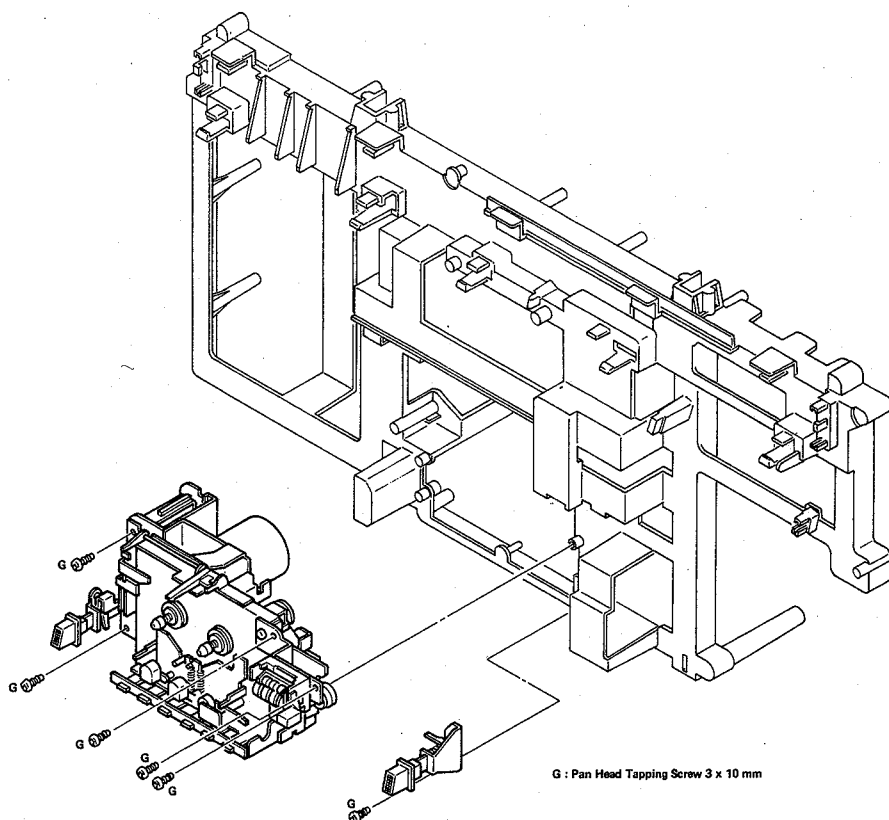


Fig. 6



G : Pan Head Tapping Screw 3 x 10 mm

Fig. 5

REPLACEMENT OF BELTS

- (1) Remove 3 screws (flat head tapping 3x6 mm) which are fastening the parts of eject mechanism.
- (2) Remove 2 screws (pan head taptight 3x5 mm) which are securing the flywheel bracket assembly.
- (3) Main belt and take-up belt can be replaced after steps (1) and (2). Counter belt, which is found on the cassette loading side, is threaded around the counter and reel plate, so that it can be replaced without loosening or removing any screw or part.

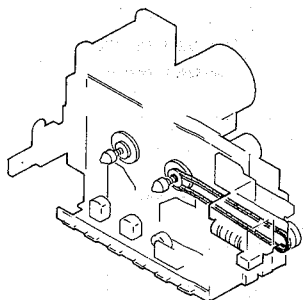


Fig. 7

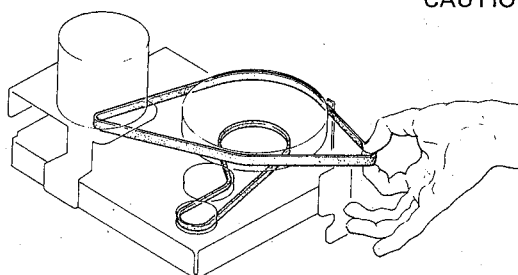


Fig. 8

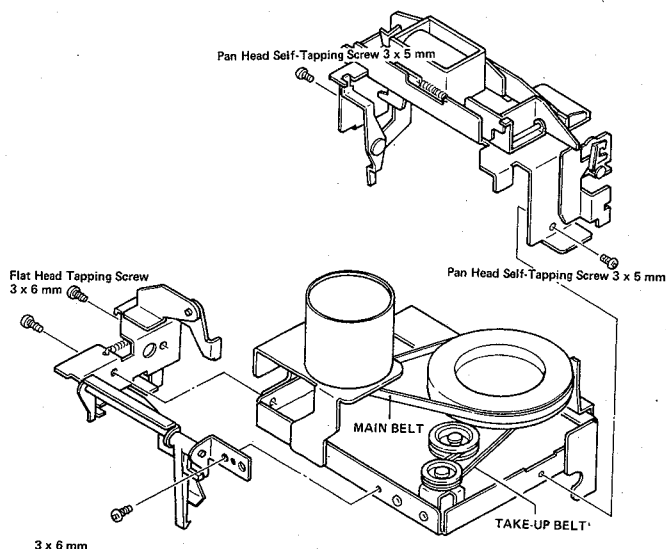


Fig. 9

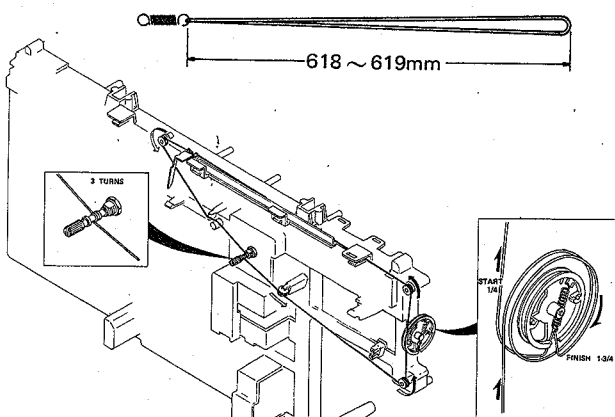


Fig. 10

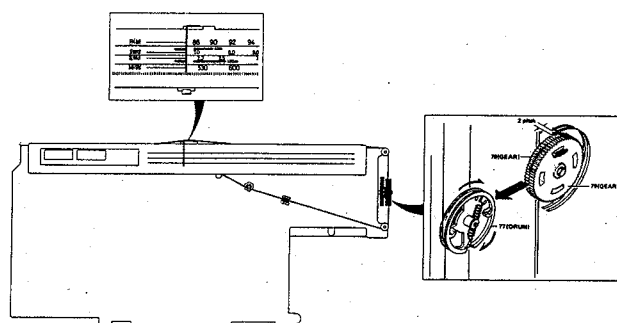


Fig. 11

THREADING OF DIAL ROPE

- (1) Tie the dial rope to the spring coil so that the length when folded in double may be 609 to 610 mm.
- (2) Start threading the rope in the direction of arrow from the start point as shown in the sketch.

Adjustment of base point position

- (1) Turn drum (77) clockwise to limit position, and stop.
- (2) Have gears (78, 79) of tuner PCB engaged with the gear of the drum.
 - a. Rotate gears (78, 79) to counterclockwise limit.
 - b. Keeping the pitch difference of the two gears (78, 79) by two threads, with gear (79) being advanced to gear (78), engage them with the gear of the drum (77).
- (3) Set the needle in place, stretch the rope taut a couple of times, and adjust the needle to the "0" marker line on the dial scale.

CAUTION: When fitting a new gear (79), since a boss is provided near the position of threading the spring coil (81) on the gear (79) side, get the two gears (78, 79) meshed with the drum gear, disregarding the pitch difference of the two in this case, and then cut off the boss by means of nippers. This ends complete fitting of a new gear.

ADJUSTMENT OF AMPLIFIER SECTION

When adjusting, set the switches and knobs in the following positions.

Mode selector: STEREO

ALC switch: OFF

Bass, treble controls: Center

Dolby NR switch: OFF

Band selector: FM

Volume control: MIN

Recording level control knob: MAX

Mixing MIC volume control: MIN

Tape selector: NORMAL

Selector switch: TAPE

Balance control: Center

Loudness control: OFF

Step	Adjustment	Tape used	Measuring point	Input terminal	Frequency	Input level	Switch	Adjusting point	Procedure and target value
1	Azimuth adjustment	10kHz -10dB	Ext. speaker terminal					Azimuth adj. screw of head	Adjust to obtain max. p/b output.
2	p/b gain adjustment	MTT-150 (DOLBY tape)	*Dolby output					SVR801 SVR901	Adjust to obtain Dolby output of 580mV.
3	p/b meter adjustment	1kHz 0dB (VTT663, etc.)	Meter					SVR701	Turn volume control until meter of R channel becomes 0 VU, and adjust until L channel meter reads 0 VU.
4	Bias coarse adjustment	Blank tape (T308S)	Dolby output	LINE IN	1kHz	-46dB (5mV)		REC level control	Change to LINE IN, set in record mode, and adjust to obtain Dolby output of 30mV.
					1kHz 10kHz	—		SVR803 SVR093	Taking record signal of 1kHz as 0dB, record 10kHz, and adjust so that p/b signal of 10kHz may be 0dB±1dB.
5	Record gain adjustment	Blank tape (T308S)	Dolby output	LINE IN	1kHz	-26dB (50mV)		REC level control	In record mode, adjust Dolby output to 0.58V.
								SVR802 SVR902	Record signal, and adjust so that p/b output level becomes 0.58V.
6	Bias adjustment	Blank tape (T308S)	Dolby output	LINE IN	1kHz	-46dB (5mV)	DOLBY SW ON	REC level control	In record mode, adjust Dolby output to 30mV.
					1kHz 10kHz	—	DOLBY SW ON	SVR803 SVR903	Taking record signal of 1kHz as 0dB, record 10kHz, and adjust so that p/b signal of 10kHz becomes 0dB±1.5dB.
7	ALC adjustment	—	Dolby output	LINE IN		-6dB (500mV)		SVR702	In record mode, adjust so that Dolby output may be the same in both L and R channels.

* Dolby output refers to the output between pin 7 side (H) of Dolby IC and earth side (E) of R/P switch.

TUNER ADJUSTMENT

MW ADJUSTMENT

DC Voltage is 12 Volts. Speaker Impedance is 3 ohm.

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	460 KHz	Low end of dial scale. At position of unrequired signal.	T302, T303	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	L114	MAX.
3					1650 KHz (400 Hz 30% modulation)	High end of dial scale	CT-7	
4		ANT.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	600 KHz (400 Hz 30% modulation)	600 KHz on dial scale	L112-a	MAX.
5					1400 KHz (400 Hz 30% modulation)	1400 KHz on dial scale	CT-6	
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.

LW ADJUSTMENT

LW 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.	145 KHz (400 Hz 30% modulation)	Low end of dial scale.	L115	MAX.
2				295 KHz (400 Hz 30% modulation)	High end of dial scale.	CT-9	
3	ANT.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	160 KHz (400 Hz 30% modulation)	160 KHz on dial scale.	L112-b	MAX.
4				280 KHz (400 Hz 30% modulation)	280 KHz on dial scale.	CT-8	
5	Repeat adjustment.						

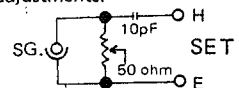
- PREPARE: 1. Set the dial pointer to very left line of dial scale.
 2. Connect sweep generator, AM SG, VTVM and oscilloscope.
 3. Selector switch to "LW".
 4. Use a screwdriver with plastic grip for all adjustments.

SW ADJUSTMENT

SW ADJUSTMENT.

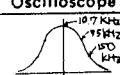
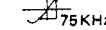
Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	OSC.	Connect AM SG. to ANT terminal through IRE dummy.	Connect VTVM to EXT. SP. terminals.	5.8 MHz (400 Hz 30% modulation)	Low end of dial scale.	L113	MAX.
2				19.0 MHz (400 Hz 30% modulation)	High end of dial scale.	CT-5	
3	ANT.	Connect AM SG. to ANT terminal through IRE dummy.	Connect VTVM to EXT. SP. terminals.	7.0 MHz (400 Hz 30% modulation)	7.0 MHz on dial scale.	L110	MAX.
4				18.0 MHz (400 Hz 30% modulation)	18.0 MHz on dial scale.	CT-4	
5	Repeat adjustments.						

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

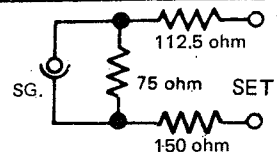


FM ADJUSTMENT

FM ADJUSTMENT

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F.	Connect sweep generator to TP-1(H) & TP-2(E)	Connect oscilloscope to TP4 (H) & shield case (E).	10.7 MHz (0% modulation)	Near max. capacitance tuning gang under no station signal.	T301	
2	Ratio Det.		Connect oscilloscope to TP5 (H) & shield case (E).			T304	
3	OSC.	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminals.	87.25 MHz (400 Hz 30% modulation)	Low end of dial scale	L108	MAX.
4				109 MHz (400 Hz 30% modulation)	High end of dial scale	CT-3	
5	ANT.	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminal.	90 MHz (400 Hz 30% modulation)	90 MHz on dial scale	L103, L105 L106	MAX.
6				106 MHz (400 Hz 30% modulation)	106 MHz on dial scale	CT-1,CT-2	
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.



Cautions for FM adjustment

- * Input points of FM
 - IF hot side (H): TP1
 - IF earth side (E): TP2
- Output points
 - IF hot side (H): V-curve ... base of R324
 - S-curve ... base of R330
 - IF earth side (E): earth near T302 case
- * FM antenna dummy is of 300-ohm balanced type.
- * Coverage adjustment should be based on the graduations of the dial scale.
- * Remove the socket (1) at V curve adjustment.

Adjustment of FM IF Gain

This adjustment should be done after adjustment of FM IF. Set the dial to maximum position of random noise at non signal condition.

Connect the tester to TP4 (Q302 base) and earth. Adjust the SVR301 (10K-B) until the tester reads 0.3 ~ 0.4V.

Adjustment of tuning meter

1. Tune in to 98 MHz in FM band, and set the SG input to 66 dB, 22.5 kHz dev.
2. Turn SVR302 until the meter reads 9.5.

Adjustment of FM multiplex

This adjustment should be done after adjustment of FM tuner.

Carrier signal modulation frequency:

1000 Hz 22.5 kHz dev.

Pilot signal (19 kHz): ± 7.5 kHz dev.

Adjustment	Tuning frequency	Connection method of instruments		Freq. of sig. gen.	Adj. point	Traget value	Method of adjustment
		Input side	Output side				
VCO (19 kHz)	98 MHz		Connect hot side of freq. counter to TP3, earth side to shield case.	98 MHz	SVR501	19 kHz ± 100 Hz	(1) In FM stereo mode, set output of FM-SG to 66 dB, and tune in. (2) * Adjust with no modulation
Separation	98 MHz	Connect hot side of FM-SG to TP1, earth side to TP2.	Connect DVTVM and oscilloscope to output speaker terminals, adjust volume control to standard output in both L and R channels.	98 MHz		Balance in L and R channels, 1,000 Hz: above 30 dB	(1) In FM stereo mode, set FM-SG to 66 dB, and tune in. (2) With tone controls at MIN and balance control in the center, adjust volume control to standard output. (3) By changing over the channels* on stereo modulator, adjust the leakage current of opposite channel to minimum.

- * "No modulation" means to set MAIN & SUB signal and PILOT signal of stereo modulator to "OFF" position.
- * When changing over the channels, exchange the connections of the external speaker terminals at the same time.
- * Set band selector to FM, and mode selector to STEREO.

CIRCUIT DESCRIPTION

The block diagram of the AMSS section is shown in Fig. 15.

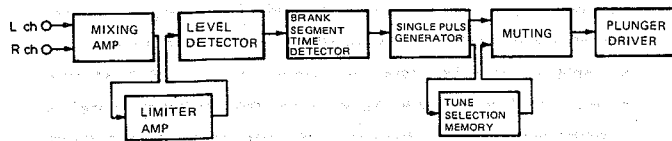


Fig. 15. AMSS block diagram.

(1) Description of block diagram (summary)

- The mixing amplifier mixes the L ch and R ch outputs from the playback equalizer.
- The limiter amplifier amplifies the signal linearly until arrested by the limiter.
- The level detection part detects presence or absence of signal by means of switching transistor.
- The blank segment detection part detects the duration of blank segment by means of integrating circuit and comparator.
- The single shot pulse generation part delivers and output for a specified time by means of monostable multi-vibrator.
- The tune selection memory and muting part determine which single shot pulse should be transmitted to the plunger driving part.
- The plunger driving part releases FF or REW key by driving the plunger with single shot pulse, and sets in playback mode.

(2) Description of AMSS parts

(a) Limiter amplifier part

In M-X920F, IC LA3210 for equalizer amplifier with ALC is used. The equivalent circuit of LA3210 is shown in Fig. 2.

C607, C608, C612 are low-cut capacitors.

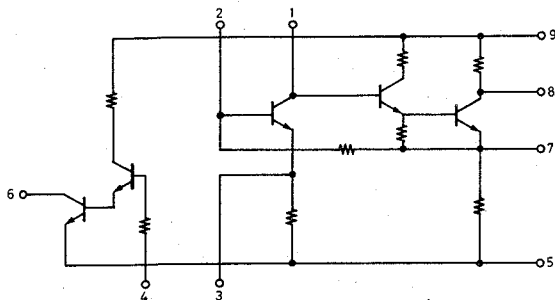


Fig. 16. Equivalent circuit (LA3210).

(b) Level detection circuit

Level is detected by switching of transistor of Q603.

(c) Blank segment detection part

In MR-X920, non-inverting input of comparator is V_{ref} , and inverting input is V_i .

When $V_{ref} > V_i$, $V_o = \text{high}$;

when $V_{ref} < V_i$, $V_o = \text{low}$,

thus, Schmitt circuit is constituted with R_4

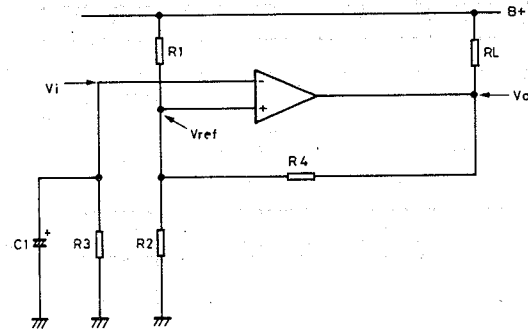


Fig. 17. Blank segment detection circuit.

V_{refH} and V_{refL} are:

$$V_{refH} = V_{oc} \frac{R_2(R_1 + R_4 + R)}{R_1(R_4 + R) + R_2(R_1 + R_4 + R)}$$

$$V_{refL} = V_{oc} \frac{R_2 R_4}{R_2 R_4 + R_1(R_2 + R_4)}$$

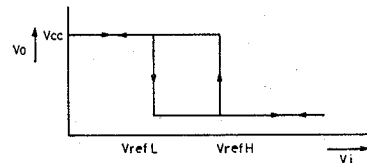


Fig. 18. Characteristic curve.

(d) Single shot pulse generation part

The single shot pulse generation part is composed of monostable multivibrator as shown in Fig. 5. Time to when V_o is high is determined in the equation, below.

$$t = CR \cdot \ln \frac{V_{cc}}{V_{cc} - V_{ref}} \text{ (Sec)}$$

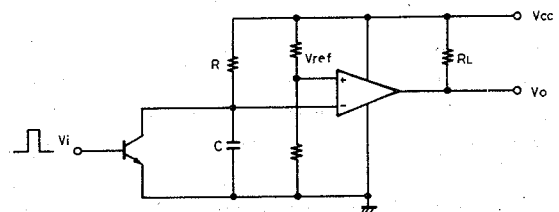


Fig. 19. Single shot pulse generation circuit.

(e) Muting part

The output from single shot pulse generation part is muted by the muting transistor by receiving signal from tune selection memory part, and blocks transmission to the plunger driving part.

(f) Plunger driving part

Darlington transistor is used so as to enable driving with small signal current. Diodes for surge absorption are used at both ends of the plunger.

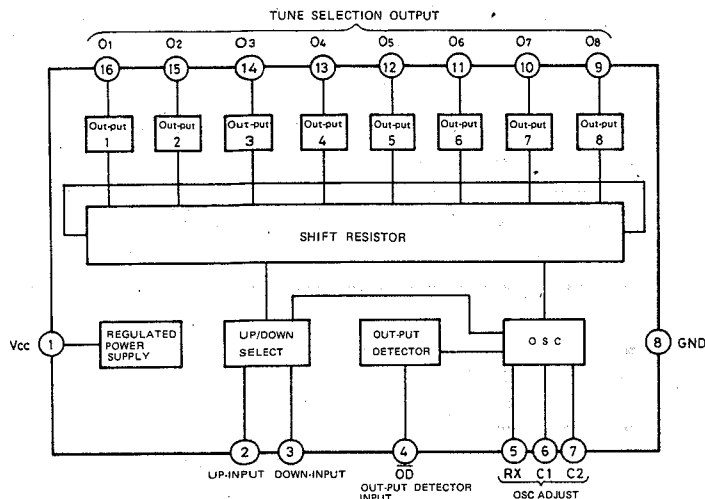


Fig. 20. Functional block diagram (M54832P).

(g) Tune selection memory part

The functional block diagram of M54832P is shown in Fig. 20.

With CR oscillator built in, this is an IC for channels capable of selecting 8 channels directly or selecting a desired channel by up/down operation. When power is supplied, a fixed channel (Q_1) is selected. When UP or DOWN input is set to H, the channels are sequentially shifted in either UP or DOWN direction depending on the input, by one channel each. If, however, both UP and DOWN inputs are set to H, up/down operation is not effected, and the channel remains unchanged. The up/down feed speed can be adjusted by means of the external resistor (R_x) and capacitors ($C_1 + C_2$) of CR oscillator. The feed speed is the period of $1/64$ of the CR oscillating circuit. In the case of direct selection, a desired channel can be selected instantly by short-circuiting the output terminal of the tune to be selected and the output detection circuit. At this time, the tune selection speed can be set by means of the resistor (R_x) and capacitor (C_2) in the oscillating circuit.

The timing chart of the tune selection memory part is shown in Fig. 21.

(3) Circuit behavior

The M-X 920 relies on the UP selection system by means of the tune selector switch. Besides, as blank detection signal, a single shot pulse is fed in DOWN input. When power is supplied, pin 16 of IC becomes L, and the LED to indicate the first tune lights up.

D613 is cut off at this time, and muting signal is not transmitted to the muting part. Therefore, at this time, the output from the single shot pulse generation part is transmitted to the plunger driving part directly without muting. When the tune selector switch is pressed once, pin 16 of IC becomes H, while pin 15 is set to L. That is, lighting of LED changes from "1" to "2." At this time, D613 is in ON state, and the muting signal is transmitted to the muting part, and the output from the single short pulse generation part is muted so as not to be transmitted to the plunger driving part. When the tune selector switch is pressed again, pin 15 changes from L to H, and pin 14 from H to L. Therefore, muting is released only while LED "1" is lighting (when pin 16 is L), and is effective when other LEDs, "2" to "7," are lighting (pin 16 is H). If the tune selector switch is pressed once while LED "7" is lighting, pin 9 of IC changes from H to L, and pin 2 from H to L by means of C629. As the potential, however, climbs by the time constant due to $R656$ and $R629$, pin 9 changes from L to H whereas pin 16 from H to L, to the contrary. Since this level switching is completed in an instant when the tune selector switch is pressed once, it appears that LED lighting has been changed from 7 to 1. Even when the tune selector switch is kept depressed, since the oscillator is built in, the channels shift by auto-scanning as if the switch were pushed intermittently. As blank detection signal, single shot pulse is fed in pin 3 of DOWN input. Therefore, suppose LED "2" is lighting (when pin 15 is L), when a single shot pulse is fed, the diode of D614 becomes ON because pin 16 is L, and the current is attracted by pin 16. (Threshold value of pin 2 and pin 3 is 2 V.)

So, if single shot pulses enter the DOWN input as blank segment detection repeatedly while LED "1" is lighting, this lighting is not changed. The up/down feed speed T_1 is determined by $R651$, $C622$, $C628$ in the following formula.

$$\begin{aligned} T_1 &= R \times (C_1 + C_2) \times 0.445 \\ &= 47K \text{ ohm} \times 0.47\mu F \times 0.445 \\ &= 9.83 \text{ msec.} \end{aligned}$$

Since the scanning speed T_2 is 64 times the speed T_1 , it follows that

$$T_2 = 46T_1 = 629 \text{ msec.}$$

Although 10 V power supply is used as the power source, it is stabilized by 6 V zener diode because M54832P works off 6 V power supply.

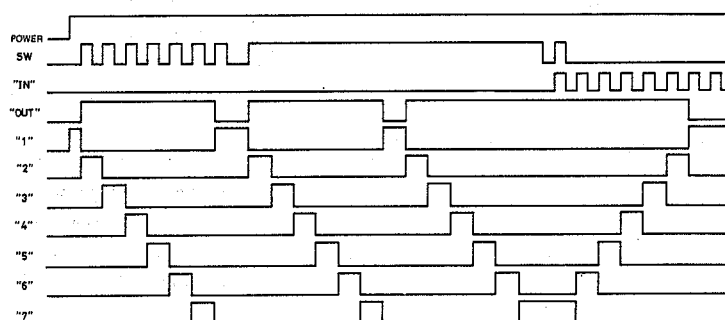
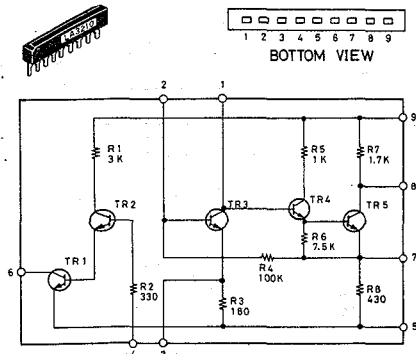


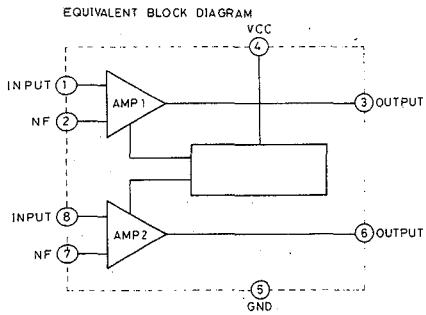
Fig. 21. Time chart.

IC BLOCK DIAGRAM

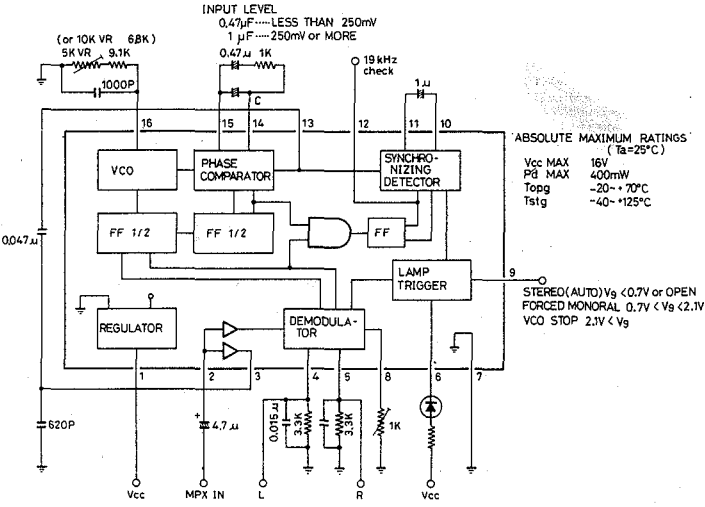
LA3210



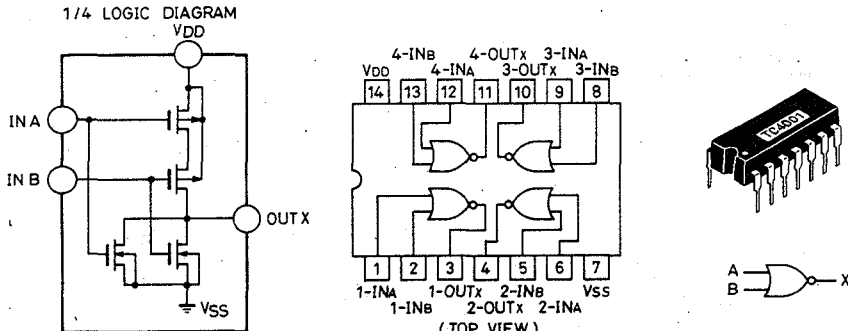
LA3161 (2 CHANNEL PRIAMPRIFIER)



LA3361 (FM DEMODULATOR)



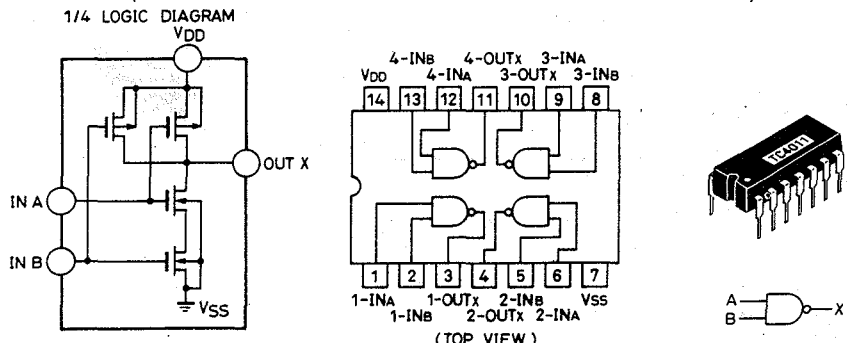
TC4001 (QUAD 2-INPUT POSITIVE NOR GATE)



TRUTH VALUE TABLE

INPUT	OUTPUT
A B	X
L L	H
L H	L
H L	L
H H	L

TC4011 (QUAD 2-INPUT POSITIVE NAND GATE)

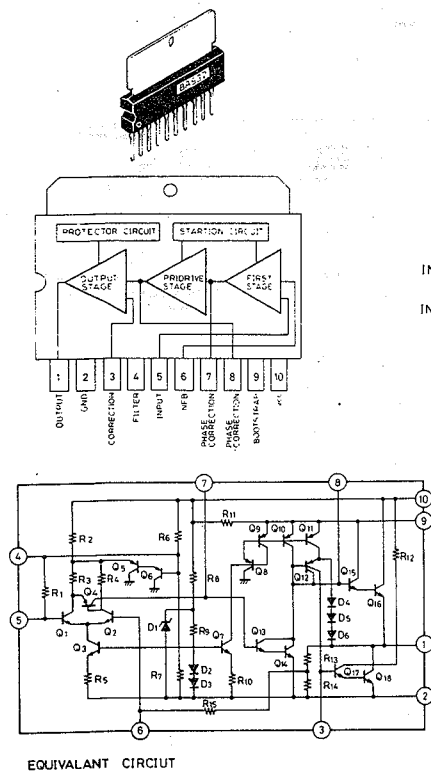


TRUTH VALUE TABLE

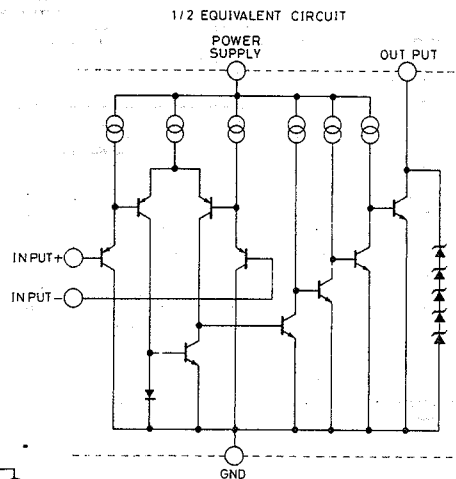
INPUT	OUTPUT
A B	X
L L	H
L H	H
H L	H
H H	L

IC BLOCK DIAGRAM

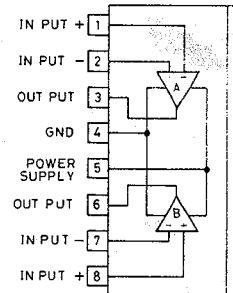
BA-532 (13.2-5.8W POWER AMPLIFIER)



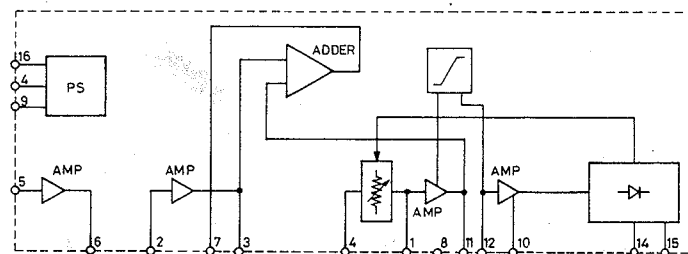
M51207L (DUAL COMPAPATOR)



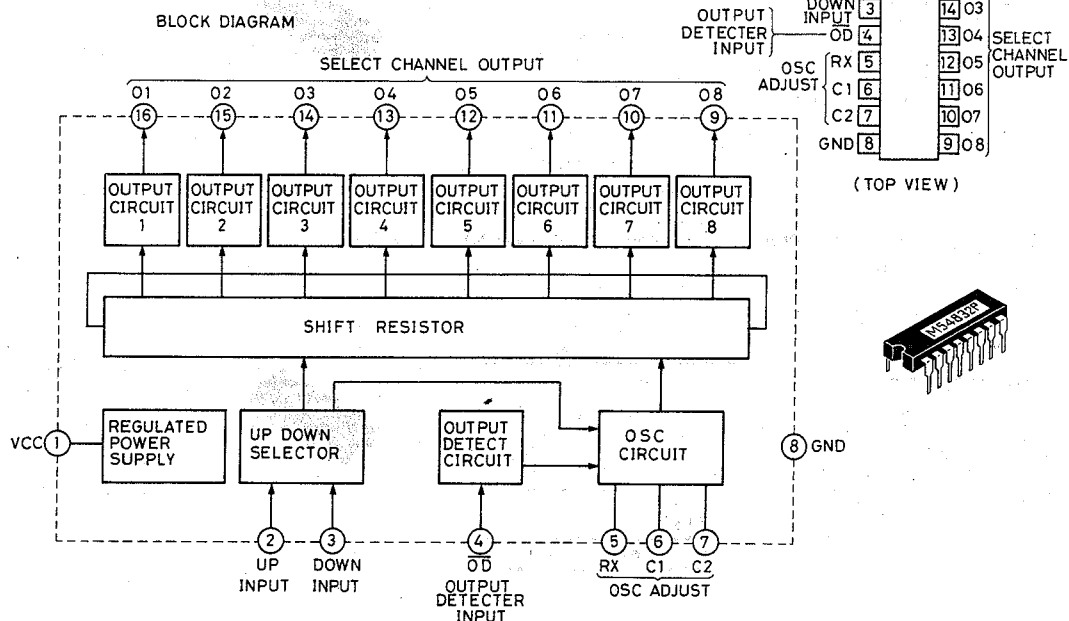
BLOCK DIAGRAM



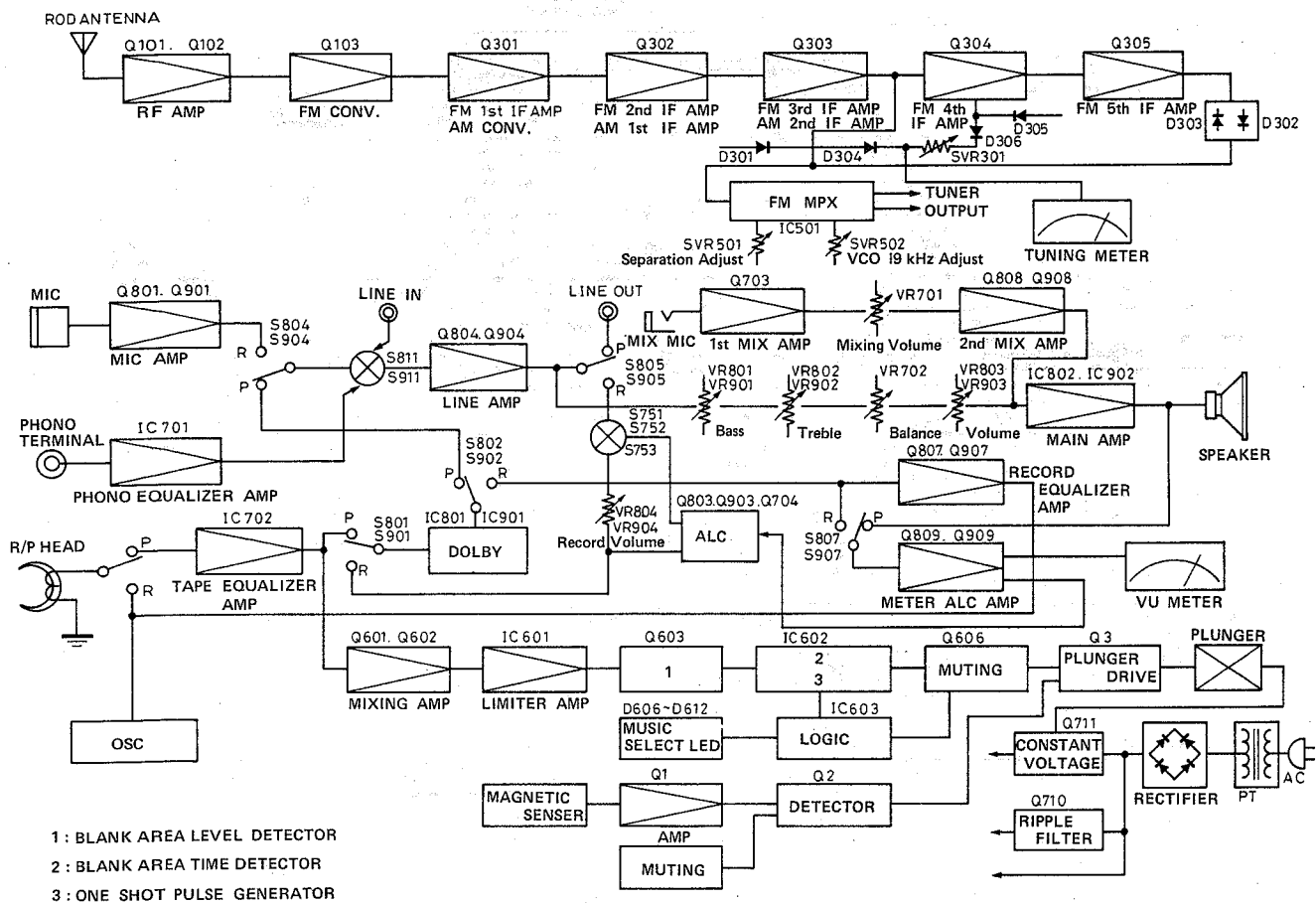
NE646B-N



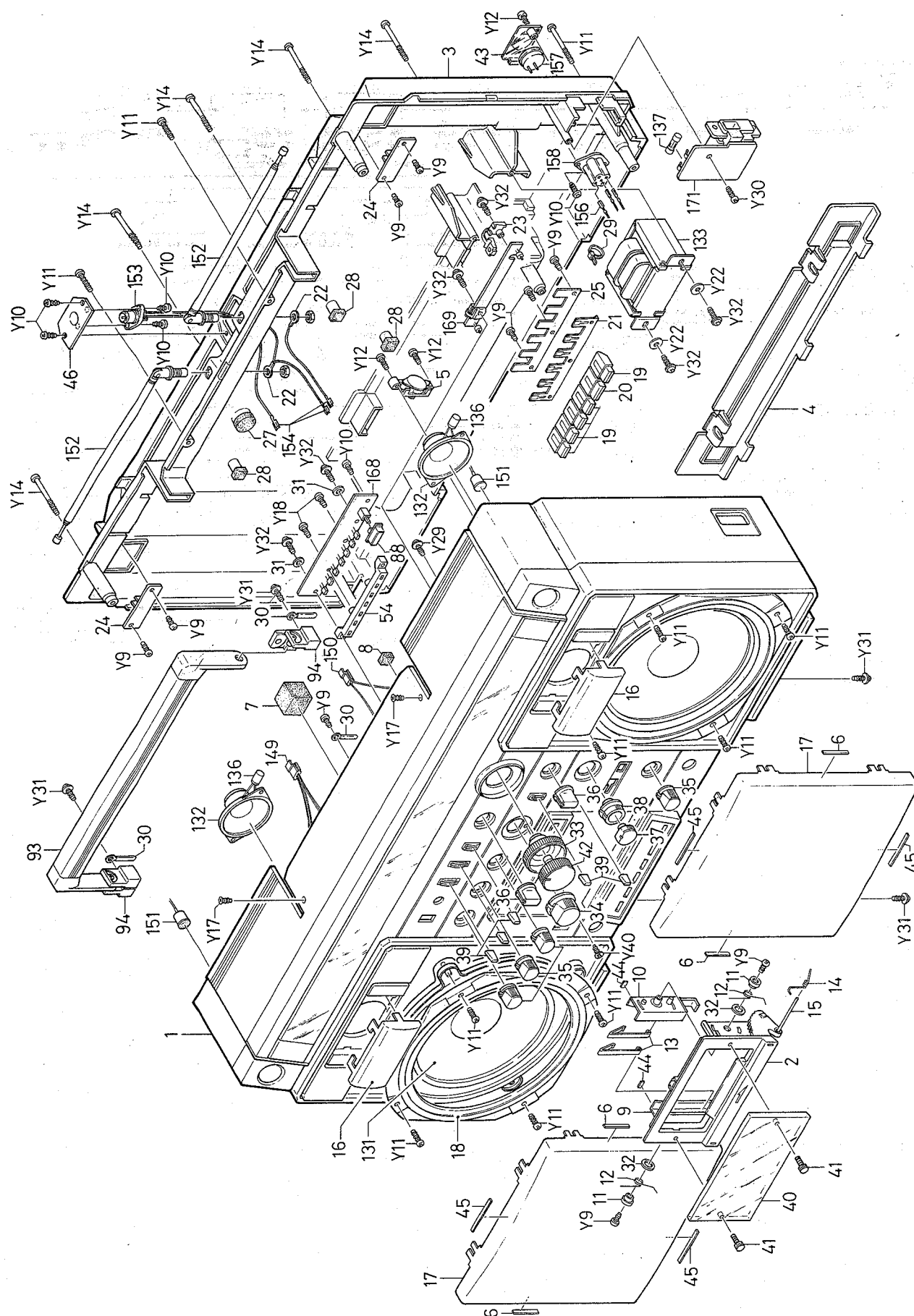
M54832P (8-CHANNEL SELECTOR)



BLOCK DIAGRAM



CABINET EXPLODED VIEW



PARTS LIST

Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
PACKING				CHASSIS			
	141-6-133T-15304	Individual Carton	1	59	141-2-472T-10200	Lug	1
	141-6-144T-63500	Form Plastic Case, Right	1	60	141-2-146T-24404	Dial Scale	1
	141-6-144T-63600	Form Plastic Case, Left	1	61	141-2-311T-34901	Chassis	1
	141-2-135T-62100	Cover, RCA Jack	3	62	141-0-245T-09500	Back Plate Ass'y	1
	141-6-479T-08300	Label, Dolby	1	63	141-2-365T-52500	Bracket, Lever Switch	1
	141-6-231T-90605	Inner Polycover, Set	1	64	141-2-367T-34200	Bracket, Mic Socket	1
	141-6-231T-20350	Inner Polycover, Inst. M	1	65	141-2-462T-61800	Boss	1
	141-6-141T-14800	Carton, Microphone	1	66	141-2-742T-51900	Lever, Rec	1
	141-6-231T-10200	Inner Polycover, Mic	2	67	141-2-747T-19800	Bracket, Rec Lever	1
				68	141-2-855T-57800	Spring Coil, Rec Lever	1
				69	141-2-853T-62201	Spring Plate, Rec	1
ACCESSORY				71	141-2-329T-07000	Reflector, PL	1
	141-6-410T-59100	Instruction Manual	1	72	141-2-747T-19900	Bracket, AMSS Lever	1
	4-241T-10891	Cassette Tape C12	1	73	141-2-742T-52000	Lever, AMSS	1
	4-153T-10700	Microphone	2	74	141-2-855T-58000	Spring Coil, AMSS	1
	4-243T-77980	Power Cord	1	75	141-0-566T-10500	Tuning Shaft Ass'y	1
	4-236T-17000	Plug	1	76	141-0-511T-19500	Pointer Ass'y	1
	141-0-385T-02900	Bracket Ass'y, Microphone	2	77	141-2-538T-08900	Drum	1
CABINET				78	141-2-581T-11001	Gear, VC	1
1	141-0-111T-43604	Cabinet Ass'y	1	79	141-2-581T-11100	Gear, VC	1
2	141-0-124T-28300	Top Lid Ass'y	1	80	141-2-753T-90500	Shaft, Drum	1
3	141-0-126T-33404	Back Lid Ass'y	1	81	141-2-855T-26100	Spring Coil, Gear	1
4	141-0-128T-16200	Battery Lid Ass'y	1	82	141-2-851T-06300	Spring Coil, Rope	1
5	141-0-581T-10900	Gear Ass'y	1	83	141-2-340T-05003	Rope	1
6	141-2-246T-29101	Sheet 3x30x0.5 Fiber	8	84	141-2-567T-02000	Pulley Shaft	3
7	141-2-447T-18200	Cushion 20x20x20	1	85	141-2-567T-02100	Pulley Shaft	1
8	141-2-447T-62500	Cushion 11x11x6t	1	86	141-2-661T-24600	Pulley	4
9	141-2-210T-10631	Bracket, Cassette Holder	1	87	141-2-161T-78230	Push Button, Power	1
10	141-2-210T-10731	Bracket, Cassette Holder	1	88	141-2-161T-78330	Push Button, AMSS Switch	1
11	141-2-135T-59230	Cover, Bracket	2	89	141-2-161T-78800	Push Button, PL Switch	1
12	141-2-852T-53101	Spring Wire	2	90	141-2-161T-78900	Push Button, Eject Switch	2
13	141-2-853T-61100	Spring Plate	2	91	141-2-161T-79000	Push Button, Edit Switch	1
14	141-2-852T-56800	Spring Wire	1	92	141-2-855T-57900	Spring Coil	1
15	141-2-753T-91200	Shaft	1	93	141-0-171T-16800	Handle Ass'y	1
16	141-2-153T-59700	Escutcheon, Tweeter	2	94	141-2-271T-17000	Bracket, Handle	2
17	141-2-153T-59800	Escutcheon, Woofer	2	95	141-2-464T-24100	Fixer	2
18	141-2-153T-60000	Escutcheon	2	96	141-2-453T-01700	Washer 3x10x1t	3
19	141-2-161T-78000	Push Button	5	97	141-2-447T-15101	Cushion 15x15x15t	2
20	141-2-161T-78100	Push Button	1	98	141-2-310T-45700	Bracket, Fine Tuning	1
21	141-2-853T-67900	Spring Plate	1	99	141-2-253T-23000	Joint, Fine Tuning	1
22	123-2-472R-11100	Lug, Rod ANT	2	100	141-2-453T-05500	Washer 10.2x14x1t	1
23	141-2-352T-45100	Spacer, LED	2	101	141-0-747T-20500	Bracket Lever Ass'y	1
24	141-2-385T-04400	Bracket, Mic	2	102	141-2-731T-83600	Slide, Eject Button	1
25	141-2-352T-47300	Spacer	1	103	141-2-855T-62700	Spring Coil	1
26	141-2-447T-50000	Cushion 6x10x14T	2	104	141-2-742T-54500	Lever	1
27	141-2-447T-62701	Cushion 19x6t	1	105	141-2-731T-83500	Slide, Eject	1
28	141-2-447T-62500	Cushion 11x11x6t	2	106	141-2-742T-54600	Lever, Eject	1
29	141-2-464T-20671	Fixer	6	107	141-2-462T-64200	Boss	1
30	141-2-472T-01001	Lug	4	108	141-2-855T-62800	Spring Coil	1
31	141-2-453T-00800	Washer 3x8x0.5	2	109	141-2-742T-54800	Lever	1
32	141-2-453T-31001	Washer 8.2x12x0.5	2	110	141-2-747T-20600	Bracket, Lever	1
33	141-2-163T-69801	Rotary Knob, Tuning	1	111	141-2-462T-64100	Boss	1
34	141-2-163T-69930	Rotary Knob, Main VR	1	112	141-2-464T-36600	Fixer	1
35	141-2-163T-70030	Rotary Knob, Balance, Bass, Treble, Mic	4	113	141-2-742T-54700	Lever	1
36	141-2-163T-70130	Rotary Knob, Function, Band	2	114	141-2-852T-65000	Spring Wire	1
37	141-2-163T-70230	Rotary Knob, Input Top	1	115	141-2-753T-93900	Shaft	1
38	141-2-163T-70330	Rotary Knob, Input Bottom	1	116	141-2-742T-54400	Lever	1
39	141-0-162T-16100	Lever Knob Ass'y	5	117	141-2-747T-20401	Bracket, Lever	1
40	141-2-131T-25800	Clear Window	1	118	141-2-852T-64900	Spring Wire	1
41	141-2-421T-29800	Special Screw	2	119	141-2-853T-68400	Spring Plate	1
42	141-2-163T-65730	Rotary Knob, Fine Tuning	1	120	141-0-811T-08200	Counter Ass'y	1
43	141-2-132T-03800	Sign Window, Voltage Select	1	121	141-2-564T-23300	Square Belt	1
44	141-2-447T-69100	Cushion 8x4x2, Cassette Holder	2	122	141-2-812T-09500	Bracket, Counter	1
45	141-2-246T-61800	Sheet, Fiber 4x30x1, SP	4	123	4-235T-94200	Socket, 7P	1
46	141-2-367T-33600	Bracket Socket, Ext Antenna	1	124	4-235T-94300	Socket, 2P	1
CHASSIS				125	141-2-447T-16901	Cushion, Felt 10x15x15t	2
51	141-2-363T-09800	Bracket, VC	1	126	141-2-447T-46200	Cushion 15x25x3t	1
52	141-2-368T-19800	Heat Sink	1	HARD WARE			
53	141-2-367T-34101	Bracket, Socket	1	Y1		Pan Head Screw 2.6x4mm	3
54	141-2-352T-45000	Spacer, AMSS LED	1	Y2		Pan Head Screw 2.6x8mm	2
55	123-2-382R-11100	Terminal	1	Y3		Pan Head Forming Screw 3x5mm	1
56	123-2-382R-10900	Terminal	1	Y4		Pan Head Screw 3x8mm	2
57	141-2-421T-28800	Special Screw	1	Y5		Pan Head Screw 2.6x3mm	1
58	141-2-464T-20700	Fixer, Lead Retainer	1	Y6		Flat Head Screw 3x8mm	8
				Y7		Pan Head Tapping Screw 2.6x5mm	2
				Y8		Pan Head Tapping Screw 2.6x8mm	3
				Y9		Pan Head Tapping Screw 3x8mm	12
				Y10		Pan Head Tapping Screw 3x10mm	15
				Y11		Pan Head Tapping Screw 3x14mm	12

PARTS LIST

Key No.	Part No.	Description	Q'ty
MAIN AMP PCB ASS'Y			
161	141-4-233T-55001	P.C Board Ass'y, Main Amp	1
	4-258T-26700	O.S.C Coil, Bias	1
	4-235T-65300	Socket, 2P	1
	4-235T-65371	Socket, 3P	4
	4-235T-65372	Socket, 4P	3
	4-235T-69472	Socket, 7P	1
	4-235T-76400	Socket, 1P Wire Post	6
	4-236T-10293	Plug, 2P	2
	4-236T-10200	Plug, 3P	2
	4-236T-10293	Plug, 2P	1
	4-236T-10274	Plug, 7P	1
IC802,902		IC BA532S2, Power IC	2
IC1		IC TC4011BP	1
IC2		IC TC4001BP	1
Q1,2,5		Transistor 2SC536 or 2SC1740 or 2SC945 or 2SC1815	3
Q3		Transistor 2SD549	1
Q608,609		Transistor 2SA608 or 2SA1015	2
Q705,707		Transistor 2SC536	6
805,905			
708,709			
D1,2,4,5		Diode DS442X or 1S2473	10
7,8,9			
603,604			
605			
D10		Diode SR1K2 or DS135E	1
D709,711		Diode DS442X	5
712,734			
735			
V1,2		Varistor MA26W	2
D808,908		Zener Diode GZA15U	2
D737		Diode DS135C	1
RESISTORS			
R21		Carbon 100 ohm ±10% ¼W	1
R1		Carbon 120 ohm ±10% ¼W	1
R3,7		Carbon 3.3K ohm ±10% ¼W	2
R11		Carbon 8.2K ohm ±10% ¼W	1
R20		Carbon 6.8K ohm ±10% ¼W	1
R5,12		Carbon 10K ohm ±10% ¼W	7
14,17			
19,22			
634			
R6		Carbon 22K ohm ±10% ¼W	1
R9		Carbon 47K ohm ±10% ¼W	1
R13		Carbon 100K ohm ±10% ¼W	1
R2		Carbon 330K ohm ±10% ¼W	1
R18		Carbon 1.5M ohm ±10% ¼W	1
R635,636		Carbon 10K ohm ±10% ¼W	3
637			
R10		Carbon 2.2K ohm ±10% ¼W	1
R16		Carbon 220K ohm ±10% ¼W	1
R15		Carbon 1.5M ohm ±10% ¼W	1
R8		Carbon 18K ohm ±10% ¼W	1
R739		Carbon 4.7 ohm ±10% ¼W	1
R737		Carbon 10 ohm ±10% ¼W	1
R864,964		Carbon 390 ohm ±10% ¼W	2
R713		Carbon 1K ohm ±10% ¼W	1
R716,717		Carbon 4.7K ohm ±10% ¼W	2
R738,767		Carbon 12K ohm ±10% ¼W	2
R735		Carbon 3.9K ohm ±10% ¼W	1
R715		Carbon 33K ohm ±10% ¼W	1
R869,969		Carbon 82K ohm ±10% ¼W	2
R730		Carbon 22K ohm ±10% ¼W	1
R768		Flame Proof Carbon 5.6 ohm ±5% ¼W	1
R772,773		Carbon 100K ohm ±10% ¼W	4
879,979			
R774,775		Carbon 2.2M ohm ±10% ¼W	2
R751		Metal 12 ohm ±10% 1W	1
R779,780		Carbon 1 ohm ±10% ¼W	2
CAPACITORS			
C868,968		Ceramic 100pF 50V ±10%	2
C866,966		Ceramic 150pF 50V ±10%	2
C869,969		Ceramic 470pF 50V ±10%	2
C863,963		Ceramic 0.001µF 50V ±10%	2
C722,733		Ceramic 0.0033µF 50V ±10%	2
C735		Ceramic 0.0047µF 50V ±10%	1

ey No.	Part No.	Description	Q'ty
ARD WARE			
Y12		Pan Head Tapping Screw 3x16mm	3
Y13		Pan Head Tapping Screw 3x30mm	4
Y14		Pan Head Tapping Screw 3x40mm	11
Y15		Flat Head Tapping Screw 3x6mm	5
Y16		Flat Head Tapping Screw 3x10mm	1
Y17		Oval Head Self-Tapping Screw 3x14mm	2
Y18		Regular Hexagon Bolt 2.6x12mm	1
Y19		Regular Hexagon Nut 3mm	1
Y20		Regular Hexagon Nut 9øx0.75mm	1
Y21		Washer 3x8x0.5mm	2
Y22		Washer 3x13x1mm	2
Y23		Washer 2.6x6x0.5mm	1
Y24	141-2-210T-25700	External Tooth Lock Washer 3mm	3
Y25	141-2-457T-23000	External "E" Ring 1.2mm	1
Y26	141-2-457T-25100	External "E" Ring 2.5mm	2
Y27		Flat Head Screw 2.6x4mm	1
Y28		Tapping Screw with Washer 3x6mm	2
Y29		Tapping Screw with Washer 3x8mm	9
Y30		Tapping Screw with Washer 3x10mm	1
Y31		Tapping Screw with Washer 3x12mm	16
Y32		Tapping Screw with Washer 3x14mm	6
Y34		Spring Washer 2.6mm	1
Y35		Pan Head Screw with Spring Washer 2.6x4mm	2
Y37		Pan Head Screw with Washer & Spring Washer 2.6x6mm	1
Y38		Washer 2.6x7.5x0.5	1
Y39		Washer 4x10x0.8	1
Y40		Flat Head Tapping 3x8mm	1
ELECTRICAL PARTS			
131	4-151T-34971	Speaker 18cm Woofer	2
132	4-151T-35100	Speaker 5cm Tweeter	2
133	4-300T-28800	Power Trans	1
134	4-231T-76271	Switch, Power	1
135	4-238T-16500	Switch, Dial Light	1
136		Electrolytic Cap. Nonpolar 4.7µF 10V	2
137	4-234T-09990, 4-234T-06271 }	or Fuse 3A	1
138	4-238T-16600	Switch, Edit	1
139	4-235T-84800	Socket 3P	1
140	4-235T-84900	Socket 6P	1
141	4-511T-09274	Meter, VU/Tuning	1
142	4-511T-09275	Meter, VU/Battery	1
143	4-238T-15600	Switch, Function	1
144	4-238T-15800	Switch, Dolby	1
145	4-238T-16000	Switch, Tape	1
146	4-540T-00500	Remote Wire, Function	2
147	4-540T-00600	Remote Wire, Dolby	1
148	4-540T-00700	REmote Wire, Tape	1
149	4-235T-87500	Socket, 4P, Speaker	1
150	4-235T-87600	Socket, 4P, Mic	1
151	4-153T-11771 4-153T-11772	for Microphone	2
152	4-244T-04800	Rod Ant	2
153	4-235T-56500	Socket, Ext. Coaxial	1
154	4-235T-34600	Socket Rod ANT	6
155	4-238T-21200	Switch, Band Select	1
156	141-2-382T-03100	Terminal	3
157	4-236T-09914	Plug Ass'y, 115/230V	1
158	4-235T-33200	Socket, Voltage Select	1
159	4-222T-88900	Variable Resistor, Fine Tuning	1
160	4-540T-00800	Remote Wire	1
		Carbon Res. 56K ohm ±10% ¼W	1

7777

PARTS LIST

Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
MAIN AMP PCB ASS'Y				PRE AMP PCB ASS'Y			
	CAPACITORS						
C870,970		BC CON 0.1μF 25V ±10%	2	Q702,704		Transistor 2SC536	24
C734		BC CON 0.015μF 25V ±10%	1	706,710			
C871,971		Mylar 0.15μF 50V ±20%	2	801,901			
C721		Mylar 0.018μF 50V ±5%	1	802,902			
C7		Electrolytic Nonpolar 1μF 50V	1	803,903			
C6		Electrolytic Nonpolar 10μF 16V	1	804,904			
C8		Ceramic 0.01μF 50V +80-20%	1	806,906			
C3,4		Electrolytic 33μF 16V	2	807,907			
C1,10		Electrolytic 470μF 10V	4	808,908			
761,762				809,909			
C2		Electrolytic 10μF 16V	1	810,910			
C5		Electrolytic 220μF 10V	1	811,911			
C862,962		Electrolytic 1μF 25V	2	D801,901		Diode 1S188 AM	4
C864,964		Electrolytic 22μF 16V	2	802,902			
C865,965		Electrolytic 220μF 10V	2	D805,905		Diode 1S188 AM or 1N60 AM	4
C867,967		Electrolytic 470μF 16V	2	807,907			
C872,972		Electrolytic 1000μF 16V	2	D706,707		Diode DS442X	21
C716,756		Electrolytic 100μF 50V	2	708,710			
C717		Electrolytic 220μF 16V	1	714,724			
C736		Electrolytic 10μF 16V	1	725,726			
C745		Electrolytic 470μF 25V	1	727,728			
C704		Electrolytic 47μF 10V	1	729,730			
C747		Electrolytic 3300μF 25V	1	731,733			
C746		Electrolytic 2200μF 25V	1	803,903			
				804,904			
				806,906			
				736			
				D718		Zener Diode WZ100 or GZA10μ	1
PRE AMP PCB ASS'Y				RESISTORS			
162	141	4-233T-55173 P.C Board Ass'y, Pre Amp.	1	R631		Carbon 1 ohm ±10% ¼W	1
		4-231T-86172 Switch, R/P	1	R613,658		Carbon 100 ohm ±10% ¼W	2
		4-231T-86173 Switch, R/P	1	R639		Carbon 220 ohm ±10% ¼W	1
		4-238T-15700 Switch, Function	1	R633		Carbon 1.2K ohm ±10% ¼W	1
		4-238T-15900 Switch, Dolby	1	R628		Carbon 1.8K ohm ±10% ¼W	1
		4-238T-16100 Switch, Tape Select	1	R645,657		Carbon 2.2K ohm ±10% ¼W	2
		4-236T-10571 Plug, 4P	3	R630		Carbon 3.3K ohm ±10% ¼W	1
		4-236T-10573 Plug, 6P	1	R644		Carbon 3.9K ohm ±10% ¼W	1
		4-236T-10593 Plug, 2P	2	R603,607		Carbon 8.2K ohm ±10% ¼W	2
		4-255T-01673 MX Coil, Dolby	2	R604,608		Carbon 10K ohm ±10% ¼W	5
		4-235T-65600 Socket, Phono, Line IN, OUT	3	624,627			
		4-235T-38000 Socket, MIC, Ext Speaker	3	640			
		4-235T-37900 Socket, Mic	1	R617		Carbon 12K ohm ±10% ¼W	1
		4-231T-65200 Switch, Beat Cancel	1	R614		Carbon 15K ohm ±10% ¼W	1
		4-252T-05600 Choke Coil	2	R623		Carbon 27K ohm ±10% ¼W	1
		4-253T-01006 Hi-frequency Choke Coil	1	R616,625		Carbon 56K ohm ±10% ¼W	3
		4-253T-13600 Filter	1	642			
		4-253T-01014 Hi-frequency Choke Coil	1	R601,605		Carbon 82K ohm ±10% ¼W	2
L701		4-222T-39479 Jor Semifixed Variable	2	R622		Carbon 100K ohm ±10% ¼W	1
SVR803		4-222T-81479 Resistor 200K-B	2	R629		Carbon 120K ohm ±10% ¼W	1
903				R621		Carbon 150K ohm ±10% ¼W	1
SVR801		4-222T-39475 Jor Semifixed Variable	4	R624,643		Carbon 180K ohm ±10% ¼W	2
901,802		4-222T-81475 10K-B	4	R638,615		Carbon 680K ohm ±10% ¼W	2
902				R602,606		Carbon 270K ohm ±10% ¼W	2
SVR702		4-222T-39472 Jor Semifixed Variable	1	R641		Carbon 1M ohm ±10% ¼W	1
		4-222T-81472 Resistor 1K-B	1				
		4-235T-92671 Socket, 3P VR Meter LED	2	R612		Carbon 2.2K ohm ±10% ¼W	1
		4-235T-92672 Socket, 4P Logic	1	R618		Carbon 100 ohm ±10% ¼W	1
		4-235T-92674 Socket, 6P Input	1	R619		Carbon 10K ohm ±10% ¼W	1
		4-235T-92677 Socket, 8P Mic VR	1	R620		Carbon 220 ohm ±10% ¼W	1
IC601		IC NE646BN, Dolby	2	R752		Carbon 22 ohm ±10% ¼W	1
IC602		IC LA3210 SIP09	1	R824,924		Carbon 56 ohm ±10% ¼W	2
IC701,702		IC M51207L SIP08	1	R812,912		Carbon 10 ohm ±10% ¼W	2
Q603,604		IC LA3161 SIP08	2	R814,914		Carbon 56 ohm ±10% ¼W	4
Q601,602		Transistor 2SA608 or 2SA1015	2	864,964			
607,605		Transistor 2SC536 or 2SC1740	5	R726,747		Carbon 68 ohm ±10% ¼W	2
606		or 2SC945 or 2SC1815		R818,918		Carbon 100 ohm ±10% ¼W	2
Q701,712		Transistor 2SA1015 or 2SA608	2	R836,936		Carbon 180 ohm ±10% ¼W	2
Q711		Transistor 2SD325	1	R710,725		Carbon 220 ohm ±10% ¼W	2
SVR701		4-222T-81478 Jor Semifixed Variable	1				
		4-222T-39478 Resistor 100K-B	1	R825,925		Carbon 390 ohm ±10% ¼W	2
		4-235T-32900 Socket, DIN 5P	1	R718		Carbon 270 ohm ±10% ¼W	1
				R859,959		Carbon 330 ohm ±10% ¼W	4
				761,762			
				R827,927		Carbon 470 ohm ±10% ¼W	2
				R805,905		Carbon 820 ohm ±10% ¼W	2
				R808,908		Carbon 1.8K ohm ±10% ¼W	2
				R840,940		Carbon 1K ohm ±10% ¼W	6
				841,941			
				868,968			

ARTS LIST

Key No.	Part No.	Description	Q'ty
PRE AMP PCB ASS'Y			
	RESISTORS		
R753		Carbon 1K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R863,963		Carbon 1.5K ohm $\pm 10\%$ $\frac{1}{4}W$	6
802,902			
850,950			
R734		Carbon 1.5K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R801,901		Carbon 2.2K ohm $\pm 10\%$ $\frac{1}{4}W$	4
806,906			
R844,944		Carbon 2.7K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R854,954		Carbon 2.2K ohm $\pm 10\%$ $\frac{1}{4}W$	6
862,962			
865,965			
R744,746		Flame Proof Carbon 1 ohm $\pm 10\%$ $\frac{1}{4}W$	2
R826,926		Carbon 3.3K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R816,916		Carbon 2.7K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R871,971		Carbon 3.3K ohm $\pm 10\%$ $\frac{1}{4}W$	4
835,935			
R842,942		Carbon 4.7K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R817,917		Carbon 5.6K ohm $\pm 10\%$ $\frac{1}{4}W$	4
858,958			
R743		Carbon 5.6K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R843,819		Carbon 6.8K ohm $\pm 10\%$ $\frac{1}{4}W$	4
919,943			
R813		Carbon 15K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R866,966		Carbon 1.2K ohm $\pm 10\%$ $\frac{1}{4}W$	3
745			
R703,704		Carbon 8.2K ohm $\pm 10\%$ $\frac{1}{4}W$	3
706			
R701,702		Carbon 8.2K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R804,904		Carbon 10K ohm $\pm 10\%$ $\frac{1}{4}W$	6
809,909			
849,949			
R857,957		Carbon 10K ohm $\pm 10\%$ $\frac{1}{4}W$	5
760,846			
946			
R707,709		Carbon 12K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R873,973		Carbon 47K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R759,714		Carbon 15K ohm $\pm 10\%$ $\frac{1}{4}W$	4
755,763			
R757,758		Carbon 4.7K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R764		Carbon 15K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R708,820		Carbon 22K ohm $\pm 10\%$ $\frac{1}{4}W$	4
920,732			
R848,948		Carbon 39K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R807,907		Carbon 47K ohm $\pm 10\%$ $\frac{1}{4}W$	4
833,933			
R821,921		Carbon 2.2K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R810,910		Carbon 82K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R874,974		Carbon 100K ohm $\pm 10\%$ $\frac{1}{4}W$	4
856,956			
R811,911		Carbon 10K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R845,945		Carbon 15K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R712		Carbon 47K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R705,815		Carbon 100K ohm $\pm 10\%$ $\frac{1}{4}W$	3
915			
R728		Carbon 120K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R838,938		Carbon 180K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R867,967		Carbon 220K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R834,934		Carbon 270K ohm $\pm 10\%$ $\frac{1}{4}W$	4
847,947			
R822,922		Carbon 820K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R803,903		Carbon 820K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R837,937		Carbon 1M ohm $\pm 10\%$ $\frac{1}{4}W$	4
839,939			
R749		Carbon 1.5K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R876,976		Carbon 12K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R877,977		Carbon 820K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R913		Carbon 15K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R769,727		Carbon 470 ohm $\pm 10\%$ $\frac{1}{4}W$	2
R729		Carbon 27K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R770		Carbon 39K ohm $\pm 10\%$ $\frac{1}{4}W$	1
R872,972		Carbon 3.3K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R740		Metal 47 ohm $\pm 10\%$ 1W	1
R741		Metal 180 ohm $\pm 10\%$ 1W	1
R742		Metal 270 ohm $\pm 10\%$ 1W	1
R884,984		Carbon 100K ohm $\pm 10\%$ $\frac{1}{4}W$	2
R883,983		Carbon 470K ohm $\pm 10\%$ $\frac{1}{4}W$	2
	CAPACITORS		
C702,754		Ceramic 0.0022 μ F 50V $\pm 10\%$	2
C856,956		Ceramic 100pF 50V $\pm 10\%$	2
C819,919		Ceramic 82pF 50V $\pm 10\%$	2
C848,948		Ceramic 100pF 50V $\pm 10\%$	4
860,960			

Key No.	Part No.	Description	Q'ty
PRE AMP PCB ASS'Y			
C804,904		Ceramic 180pF 50V $\pm 10\%$	2
C880,980		Ceramic 100pF 50V $\pm 10\%$	2
C718,719		Ceramic 220pF 50V $\pm 10\%$	2
C878,978		Ceramic 220pF 50V $\pm 10\%$	2
C813,913		Ceramic 330pF 50V $\pm 10\%$	2
C807,907		Ceramic 0.001 μ F 50V $\pm 10\%$	2
C858,958		Ceramic 470pF 50V $\pm 10\%$	2
C814,914		Ceramic 0.001 μ F 50V $\pm 10\%$	4
881,981			
C845,945		Ceramic 0.0015 μ F 50V $\pm 10\%$	2
C831,931		Ceramic 680pF 50V $\pm 10\%$	2
C760,763		Ceramic 330pF 50V $\pm 10\%$	2
C833,933		Ceramic 0.022 μ F 50V $\pm 10\%$	4
765,766		+80-20%	
C611		Ceramic 10pF 50V $\pm 10\%$	1
C613		Ceramic 470pF 50V $\pm 10\%$	1
C607		BC CON 0.0022 μ F 25V $\pm 20\%$	1
C612		BC CON 0.0068 μ F 25V $\pm 20\%$	1
C608,616		BC CON 0.022 μ F 25V $\pm 20\%$	2
C816,916		BC CON 0.033 μ F 25V $\pm 10\%$	4
810,910			
C618		Mylar 0.1 μ F 50V $\pm 5\%$	1
C849,949		Mylar 0.033 μ F 50V $\pm 5\%$	2
C614		Tantal 3.3 μ F 16V $\pm 10\%$	1
C836,936		Mylar 0.027 μ F 50V $\pm 5\%$	4
854,954			
C837,937		Mylar 0.0047 μ F 50V $\pm 5\%$	2
C840,940		Mylar 0.001 μ F 50V $\pm 5\%$	2
C838,938		Mylar 0.0056 μ F 50V $\pm 5\%$	2
C842,942		Mylar 0.047 μ F 50V $\pm 5\%$	2
C801,901		Electrolytic 0.1 μ F 50V	4
873,973			
C802,902		BC CON 0.047 μ F 25V $\pm 10\%$	2
C830,930		Electrolytic 0.1 μ F 50V	4
839,939			
C874,974		AL Electrolytic 0.22 μ F 16V	2
C834,934		Electrolytic 0.33 μ F 50V	2
C805,905		Electrolytic 0.47 μ F 10V	2
C818,918		Electrolytic 1 μ F 10V	6
843,943			
821,921			
C853,953		Electrolytic 1 μ F 10V	6
847,947			
861,961			
C859,959		Electrolytic 1 μ F 10V	6
875,975			
876,976			
C832,932		Electrolytic 4.7 μ F 10V	4
846,946			
C715		Electrolytic 4.7 μ F 25V	1
C817,917		Electrolytic 10 μ F 10V	6
806,906			
811,911			
C835,935		Electrolytic 10 μ F 10V	4
841,941			
C750		Electrolytic 10 μ F 10V	1
C739,751		Electrolytic 33 μ F 10V	3
752			
C701,748		Electrolytic 47 μ F 10V	3
749			
C617		AL Electrolytic 1 μ F 10V	1
C820,920		Electrolytic 100 μ F 6.3V	2
C703		Electrolytic 100 μ F 10V	1
C747		Electrolytic 100 μ F 16V	1
C713,757		Electrolytic 100 μ F 25V	2
C712,844		Electrolytic 220 μ F 10V	3
944			
C764		Electrolytic 330 μ F 10V	1
C879,979		Electrolytic 1 μ F 10V	2
C732,710		Electrolytic 470 μ F 10V	2
C803,903		Electrolytic 4.7 μ F 10V	2
C812,912		Electrolytic 1 μ F 50V	2
C808,908		Electrolytic 47 μ F 25V	3
737			
C815,915		Electrolytic 100 μ F 16V	2
C601,602		Electrolytic 1 μ F 25V	5
603,604			
624			
C711		Electrolytic 220 μ F 10V	1
C740		Electrolytic 470 μ F 16V	1
C886,986		Electrolytic 1 μ F 25V	2
C887,987		Electrolytic 100 μ F 10V	2
C809,909		BC CON 0.068 μ F 25V $\pm 10\%$	2
C885,985		Ceramic 470pF 50V $\pm 10\%$	2

PARTS LIST

Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
PRE AMP PCB ASS'Y				MIX MIC VR PCB ASS'Y			
	CAPACITORS				CAPACITORS		
C615		Electrolytic 4.7μF 25V	1	C705,707		Electrolytic 1μF 25V	2
C620,626		Electrolytic 10μF 16V	2	C709		Electrolytic 47μF 16V	1
C606,625		Electrolytic 33μF 16V	2	C708		Ceramic 180pF 50V ±10%	1
C605,610		Electrolytic 100μF 16V	3	C706		Ceramic 100pF 50V ±10%	1
627				C758		Electrolytic 0.1μF 50V ±20%	1
VOLUME PCB ASS'Y				MODE SWITCH PCB ASS'Y			
163	141-4-233T-55271	P.C. Board Ass'y, Volume	1	166	141-4-233T-55500	P.C Board Ass'y, Mode Switch	1
	4-222T-83900	Variable Resistor 50K-B, VR	1	S701 ~ 4	4-238T-16800	Switch, Mono/Stereo/Wide	1
	4-222T-84000	Variable Resistor 50K-W, Balance	1	POWER LED PCB ASS'Y			
	4-222T-84100	Variable Resistor 50K-A, Bass/Treble	2	167	141-4-233T-55600	P.C Board Ass'y, Power LED	1
	4-238T-16200	Switch, Loudness	1	D716,723		LED SLP155B Red	3
	4-235T-65300	Socket, 2P	1	AMSS LED PCB ASS'Y			
Q812,912		Transistor 2SC536	2	168	141-4-233T-55700	P.C Board Ass'y, AMSS LED	1
	RESISTORS				4-238T-16400	Switch	1
R829,929		Carbon 10K ohm ±10% ¼W	2	D606,607		LED SLP155B Red	7
R828,928		Carbon 5.6K ohm ±10% ¼W	6	608,609			
878,978				610,611			
880,980				612			
R931,931		Carbon 2.7K ohm ±10% ¼W	2	D601		Zener Diode GZA5.6μ or XZ060	1
R830,930		Carbon 1.5K ohm ±10% ¼W	2	IC603		IC M54832P	1
R879,979		Carbon 680K ohm ±10% ¼W	2	D613,614		Diode DS442X or 1S2473	2
R881,981		Carbon 1.8K ohm ±10% ¼W	2		RESISTORS		
R778		Carbon 560 ohm ±10% ¼W	1	R653		Carbon 12K ohm ±10% ¼W	1
	CAPACITORS			R647		Carbon 560 ohm ±10% ¼W	1
C829,929		BC CON 0.068μF 25V ±20%	4	R656		Carbon 680 ohm ±10% ¼W	1
824,924				R655		Carbon 1.2K ohm ±10% ¼W	1
C825,925		BC CON 0.022μF 25V ±20%	2	R652,648		Carbon 2.2K ohm ±10% ¼W	2
C823,923		BC CON 0.01μF 25V ±20%	2	R650		Carbon 6.8K ohm ±10% ¼W	1
C828,928		Ceramic 0.0022μF 50V ±10%	2	R649		Carbon 10K ohm ±10% ¼W	1
C827,927		Ceramic 100pF 50V ±10%	2	R654		Carbon 12K ohm ±10% ¼W	1
C882,982		Electrolytic 4.7μF 10V	2	R651		Carbon 47K ohm ±10% ¼W	1
C883,983		Electrolytic 10μF 10V	2		CAPACITORS		
C826,926		Electrolytic 0.33μF 50V	2	C621		Ceramic 470pF 50V ±10%	1
C822,922		Electrolytic 0.15μF 50V	2	C628		Ceramic 680pF 50V ±10%	1
C767		Electrolytic 47μF 16V	1	C622		AL Electrolytic 0.47μF 10V ±10%	1
C884,888		Electrolytic 1μF 25V	4	C623		Electrolytic 10μF 10V	1
984,988				C629		BC CON 0.0047μF 25V ±20%	1
C889,989		Ceramic 82pF 50V ±10%	2				
INPUT VR PCB ASS'Y				MECHANISM LED PCB ASS'Y			
164	141-4-233T-55301	P.C Board Ass'y, Input VR	1	169	141-4-233T-55800	P.C Board Ass'y, Mechanism	1
	4-222T-84200	Variable Resistor 10K-A	1	D715,717		LED	2
	4-238T-16300	Switch, ALC	1		RESISTORS		
	RESISTORS			R731,736		Carbon 1.5K ohm ±10% ¼W	2
R832,932		Carbon 6.8K ohm ±10% ¼W	2	DIAL LIGHT PCB ASS'Y			
R875,975		Carbon 1.5K ohm ±10% ¼W	2	170	141-4-233T-55900	P.C Board Ass'y, Dial Light	1
MIX MIC VR PCB ASS'Y					4-612T-15400	Lamp 150mA 12V	1
165	141-4-233T-55401	P.C Board Ass'y Mix Mic VR	1				
Q703		Transistor 2SC536	1				
	4-222T-84300	Variable Resistor 10K-A	1				
	4-235T-60672	Socket	1				
	RESISTORS						
R771		Carbon 5.6K ohm ±10% ¼W	1				
R720		Carbon 820K ohm ±10% ¼W	1				
R721		Carbon 10K ohm ±10% ¼W	1				
R719,723		Carbon 1.5K ohm ±10% ¼W	3				
765							
R722		Carbon 27 ohm ±10% ¼W	1				
R724		Carbon 100 ohm ±10% ¼W	1				

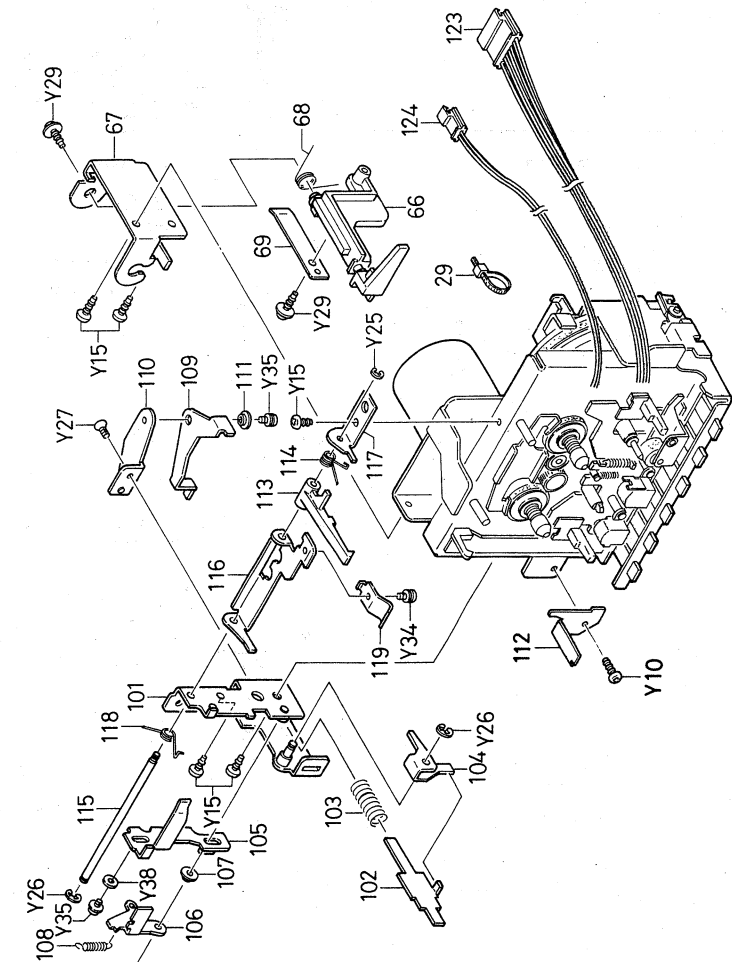
PARTS LIST

Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
POWER SUPPLY PCB ASS'Y				TUNER PCB ASS'Y			
171	141-4-233T-56073	P.C Board Ass'y, Power Supply	1	RESISTOR	R101	Carbon 470K ohm ±10% ¼W	1
D719,720 721,722	4-235T-35900	Socket, AC	1		R102	Carbon 220 ohm ±10% ¼W	1
	4-235T-87400	Socket, 2P	1		R103	Carbon 1K ohm ±10% ¼W	1
C741,742 743,744	141-2-135T-44900	Cover, AC Socket	1		R104	Carbon 820K ohm ±10% ¼W	1
	141-2-381T-04200	Bracket, Fuse	1		R105	Carbon 1K ohm ±10% ¼W	1
		Ceramic Cap 0.022µF 50V +80-20%	4		R106	Carbon 6.8K ohm ±10% ¼W	1
HEADPHONE PCB ASS'Y					R107	Carbon 22 ohm ±10% ¼W	1
172	141-4-233T-56100	P.C Board Ass'y, Headphone	1		R108	Carbon 560 ohm ±10% ¼W	1
R870,970	4-235T-60600	Socket	1		R110	Carbon 100 ohm ±10% ¼W	1
	4-235T-85600	Socket, 2P	1		R111	Carbon 100K ohm ±10% ¼W	1
	4-235T-85700	Socket, 3P	1		R112	Carbon 10K ohm ±10% ¼W	1
	RESISTORS	Solid 100 ohm ± 10% ¼W	2		R113	Carbon 1.2K ohm ±10% ¼W	1
					R114	Carbon 3.3K ohm ±10% ¼W	1
					R115	Carbon 33 ohm ±10% ¼W	1
					R116	Carbon 15K ohm ±10% ¼W	1
					R117	Carbon 100 ohm ±10% ¼W	1
					R118	Carbon 220 ohm ±10% ¼W	1
	AUTOSTOP PCB ASS'Y				R119	Carbon 2.2K ohm ±10% ¼W	1
173	141-4-233T-56600	P.C Board Ass'y, Auto Stop	1		R120	Carbon 10 ohm ±10% ¼W	1
		Magnet Sensor DM101A	1		R121	Carbon 56 ohm ±10% ¼W	1
TUNER PCB ASS'Y					R122	Carbon 10 ohm ±10% ¼W	1
174	141-2-233T-67871	P.C. Board Ass'y Tuner	1		R123	Carbon 270 ohm ±10% ¼W	1
L101,102 L103 L105,106 L107 L108 L109 L110 L112A,B L113 L114 L115	4-224T-15200	Variable Capacitor	1		R124	Carbon 5.6 ohm ±10% ¼W	1
	4-265R-11800	VHF Coil	2		R125	Carbon 330K ohm ±10% ¼W	1
	4-257T-39240	Antenna Coil, FM	1		R127	Carbon 270K ohm ±10% ¼W	1
	4-265R-11900	VHF Coil, FM	2		R128	Carbon 1.8K ohm ±10% ¼W	1
	4-265R-11200	VHF Coil	1		R130	Carbon 5.6K ohm ±10% ¼W	1
	4-265T-51310	VHF Coil, FM OSC	1		R132	Carbon 3.9K ohm ±10% ¼W	1
	4-253T-13200	Filter	1		R133	Carbon 100K ohm ±10% ¼W	1
	4-257T-29930	Antenna Coil, SW	1		R134	Carbon 27K ohm ±10% ¼W	1
	4-257T-41401	Antenna Coil Ass'y, LW MW	1		R135	Carbon 27K ohm ±10% ¼W	1
	4-258T-08340	OSC Coil, SW	1		R136	Carbon 39K ohm ±10% ¼W	1
4-258T-22940	OSC Coil, MW	1	R137		Carbon 100 ohm ±10% ¼W	1	
4-258T-14410	OSC Coil, LW	1	R301		Carbon 15K ohm ±10% ¼W	1	
T301	4-256R-20810	IFT, FM V Curve	1		R302	Carbon 2.2K ohm ±10% ¼W	1
T302	4-256T-11210	IFT, MW	1		R303	Carbon 330 ohm ±10% ¼W	1
T303	4-256T-21510	IFT, MW	1		R304	Carbon 33 ohm ±10% ¼W	1
T304	4-256T-21410	IFT, FM Phase Shifter	1		R305	Carbon 220 ohm ±10% ¼W	1
CT1 ~ 7	4-224R-01400	Trimmer	7		R306	Carbon 330 ohm ±10% ¼W	1
CF301, 302	4-256T-80474	IF Filter	2		R307	Carbon 10K ohm ±10% ¼W	1
CF303	4-256T-81171	IF Filter 460KHz	1		R308	Carbon 33 ohm ±10% ¼W	1
SVR302	4-222T-39574	Semifixed Variable Resistor 5K	1		R309	Carbon 10K ohm ±10% ¼W	1
SVR501	4-222T-39575	Semifixed Variable Resistor 10K	1		R310	Carbon 10 ohm ±10% ¼W	1
S101-1 ~ 9	4-238T-21300	Switch	1		R311	Carbon 1K ohm ±10% ¼W	1
B101	123-2-471R-10900	Core	1		R312	Carbon 2.2K ohm ±10% ¼W	1
B102	123-2-471R-10400	Core	1		R313	Carbon 3.3K ohm ±10% ¼W	1
	4-227T-02300	CR Pack	2		R314	Carbon 33K ohm ±10% ¼W	1
	4-235T-69471	Socket, 6P	1		R315	Carbon 5.6K ohm ±10% ¼W	1
	4-235T-65300	Socket, 2P	2		R316	Carbon 5.6K ohm ±10% ¼W	1
	141-2-322T-66200	Shield Plate	1		R317	Carbon 220 ohm ±10% ¼W	1
	141-2-322T-34800	Shield Plate	1		R318	Carbon 5.6K ohm ±10% ¼W	1
IC301		IC HA12421A	1		R319	Carbon 15K ohm ±10% ¼W	1
IC501		IC LA3361	1		R320	Carbon 150 ohm ±10% ¼W	1
Q101		Transistor FET 2SK195	1		R321	Carbon 33 ohm ±10% ¼W	1
Q102		Transistor 2SC535	1		R322	Carbon 1M ohm ±10% ¼W	1
Q103,104, 105,301		Transistor 2SC930	4		R323	Carbon 1K ohm ±10% ¼W	1
Q302		Transistor 2SC536	1		R324	Carbon 22K ohm ±10% ¼W	1
D101,102, 103,105, 301,303, 304,501, 107		Diode DS442X	9	R325	Carbon 56K ohm ±10% ¼W	1	
D104,106		Diode SD115	2	R326	Carbon 1.2K ohm ±10% ¼W	1	
SVR502	4-222T-39572	Semifixed Variable Resistor 1K	1	R327	Carbon 470K ohm ±10% ¼W	1	
CT8,9	4-224T-15400	Trimmer, LW	2	R501	Carbon 1K ohm ±10% ¼W	1	
				R503	Carbon 6.8K ohm ±10% ¼W	1	
				R504	Carbon 1K ohm ±10% ¼W	1	
				R507,508	Carbon 3.3K ohm ±10% ¼W	2	
				R509	Carbon 680 ohm ±10% ¼W	1	
				R510	Carbon 1.8K ohm ±10% ¼W	1	
				R511,512	Carbon 47K ohm ±10% ¼W	2	
				R515	Carbon 270 ohm ±10% ¼W	1	
				R516	Carbon 1.2K ohm ±10% ¼W	1	
				R518,519	Carbon 1K ohm ±10% ¼W	2	
				CAPACITORS			
				C103	Ceramic 15pF 50V ±10%	1	
				C104	Ceramic 15pF 50V ±10%	1	

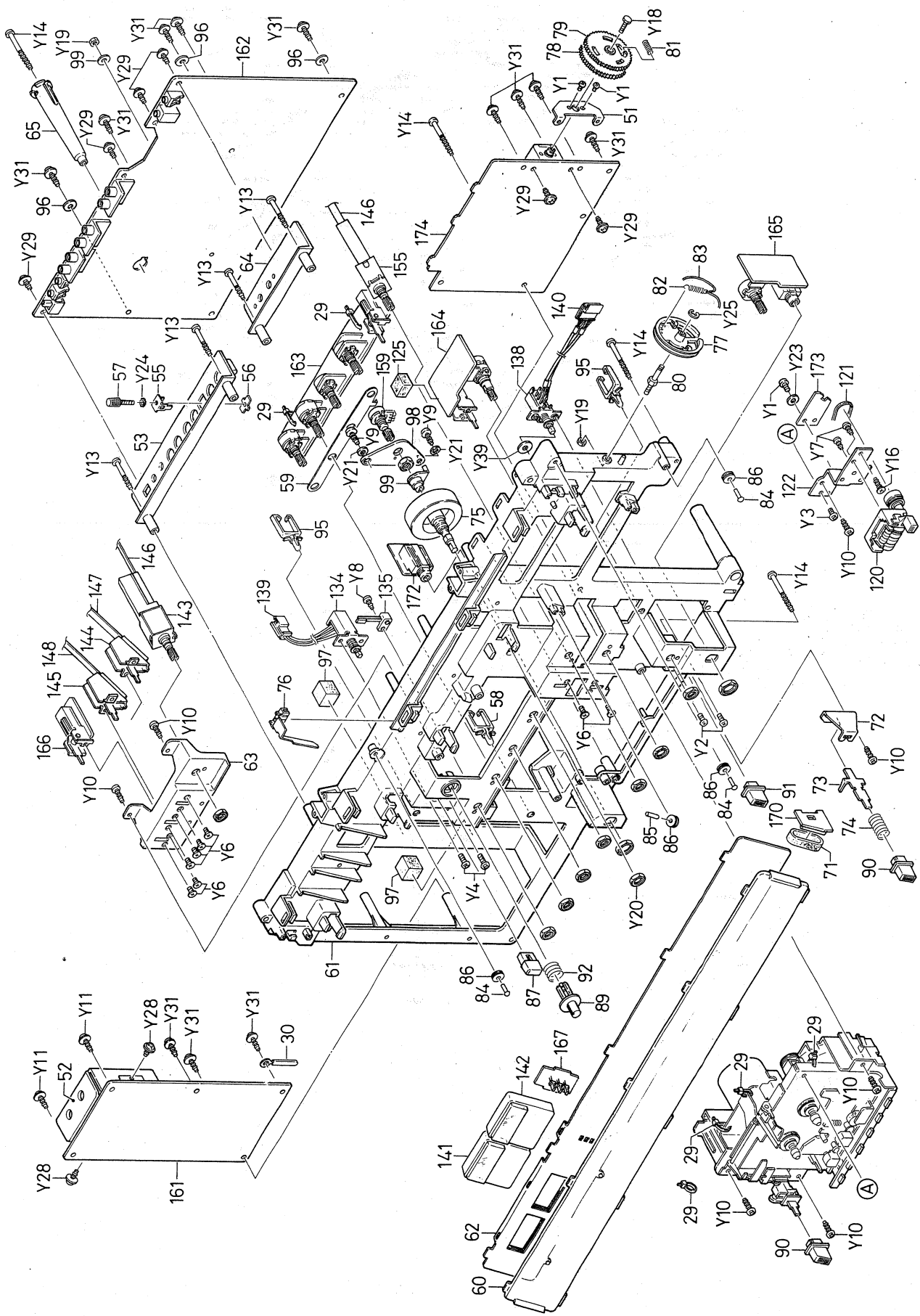
PARTS LIST

Key No.	Part No.	Description	Q'ty
TUNER PCB ASS'Y			
C105		Ceramic 24pF 50V ±10%	1
C106		Ceramic 16pF 50V ±10%	1
C110		Ceramic 20pF 50V ±10%	1
C111		Ceramic 4pF 50V ±10%	1
C112		±0.25pF 50V	1
C113		Ceramic 220pF 50V ±20%	1
C117		Ceramic 12pF 50V ±10%	1
C118		Ceramic 12pF 50V ±10%	1
C119		Ceramic 15pF 50V ±10%	1
C120		Ceramic 18pF 50V ±10%	1
C121		Ceramic 4pF 50V ±10%	1
C123		Ceramic 47pF 50V ±10%	1
C125		Ceramic 10pF 50V ±10%	1
C126		Ceramic 12pF 50V ±10%	1
C127		Ceramic 30pF 50V ±10%	1
C131		Ceramic 10pF 50V ±10%	1
C139		Ceramic 150P N220 50V ±5%	1
C107		Ceramic 0.022μF 50V +80-20%	1
C108		Ceramic 0.047μF 50V +80-20%	1
C109		Ceramic 0.047μF 50V +80-20%	1
C114,143		Ceramic 0.022μF 50V +80-20%	2
C115,147		Ceramic 0.022μF 50V +80-20%	2
C116		Ceramic 0.022μF 50V +80-20%	1
C122		Ceramic 0.047μF 50V +80-20%	1
C124		Ceramic 0.022μF 50V +80-20%	1
C142		Ceramic 0.047μF 50V +80-20%	1
C144		Ceramic 0.022μF 50V +80-20%	1
C145		Ceramic 0.01μF 50V +80-20%	1
C128		BC CON 0.01μF 25V ±20%	1
C132		Styrol 3600pF 50V ±5%	1
C134		BC CON 0.0022μF 25V ±20%	1
C135		Styrol 350pF 50V ±5%	1
C136		Styrol 250pF 50V ±5%	1
C138		BC CON 0.0047μF 25V ±20%	1
C140		BC CON 0.01μF 25V ±20%	1
C141		Electrolytic 0.47μF 25V	1
C313		Electrolytic 100μF 10V	1
C317		Electrolytic 10μF 16V	1
C320		Electrolytic 1μF 25V	1
C324		Electrolytic Nonpolar 2.2μF 16V	1
C326		Electrolytic 470μF 16V	1
C328		Electrolytic 22μF 25V	1
C301		Ceramic 220pF 50V ±10%	1
C311		Ceramic 220pF 50V ±10%	1
C315		Ceramic 220pF 50V ±10%	1
C327		Ceramic 100pF 50V ±10%	1
C302		BC CON 0.022μF 25V ±20%	1
C307		BC CON 0.022μF 25V ±20%	1
C309		BC CON 0.022μF 25V ±20%	1
C312		BC CON 0.022μF 25V ±20%	1
C318		BC CON 0.022μF 25V ±20%	1
C319		BC CON 0.018μF 25V ±20%	1
C321		BC CON 0.022μF 25V ±20%	1
C322		BC CON 0.015μF 25V ±20%	1
C325		BC CON 0.022μF 25V ±20%	1
C303		Ceramic 0.047μF 50V +80-20%	1
C305		Ceramic 0.047μF 50V +80-20%	1
C308		Ceramic 0.022μF 50V +80-20%	1
C310		Ceramic 0.022μF 50V +80-20%	1
C314		Ceramic 0.022μF 50V +80-20%	1
C146		Ceramic 56pF 50V ±5%	1

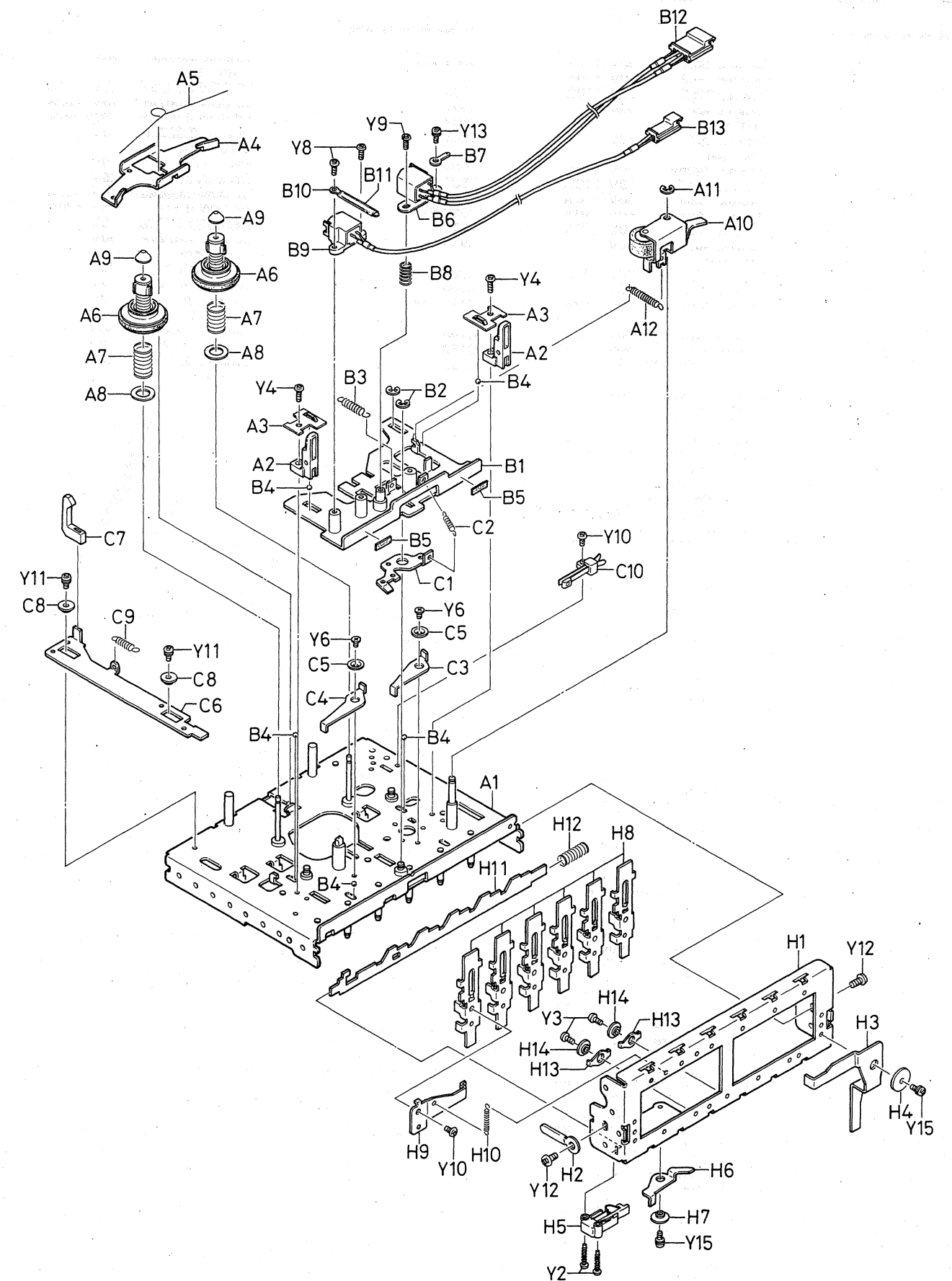
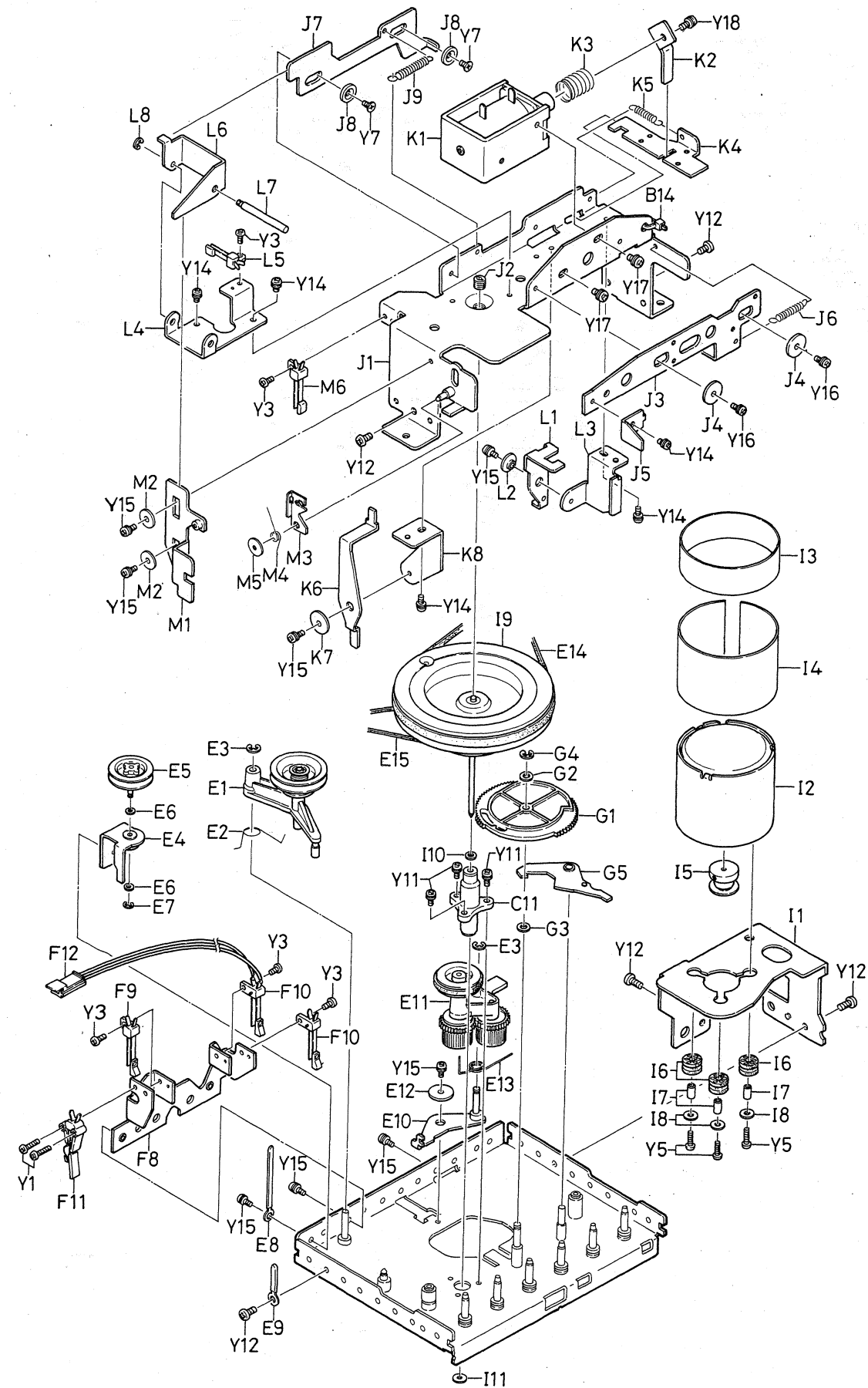
Key No.	Part No.	Description	Q'ty
TUNER PCB ASS'Y			
C329,331		Ceramic 0.022μF 50V +80-20%	2
C330		BC CON 0.047μF 25V ±20%	1
C501		BC CON 0.047μF 25V ±20%	1
C502		P P CON 0.001μF 100V ±5%	1
C503		Ceramic 0.022μF 50V +80-20%	1
C504		Electrolytic 0.47μF 10V	1
C507		Electrolytic 1μF 25V	1
C508,509		BC CON 0.0068μF 25V ±20%	2
C510,511		BC CON 0.1μF 25V ±20%	2
C512		Electrolytic 470μF 16V	1
C513		Ceramic 0.022μF 50V +80-20%	1
C506		Electrolytic 1μF 25V	1
C505		Electrolytic 1μF 25V	1
C151,149		Ceramic 3pF 50V ±0.25%	2
C148		Ceramic 100pF 50V ±10%	1
C152		Ceramic 10pF 50V ±10%	1
C150		Ceramic 6pF 50V ±0.5pF	1



CHASSIS EXPLODED VIEW



MECHANISM EXPLODED VIEW.

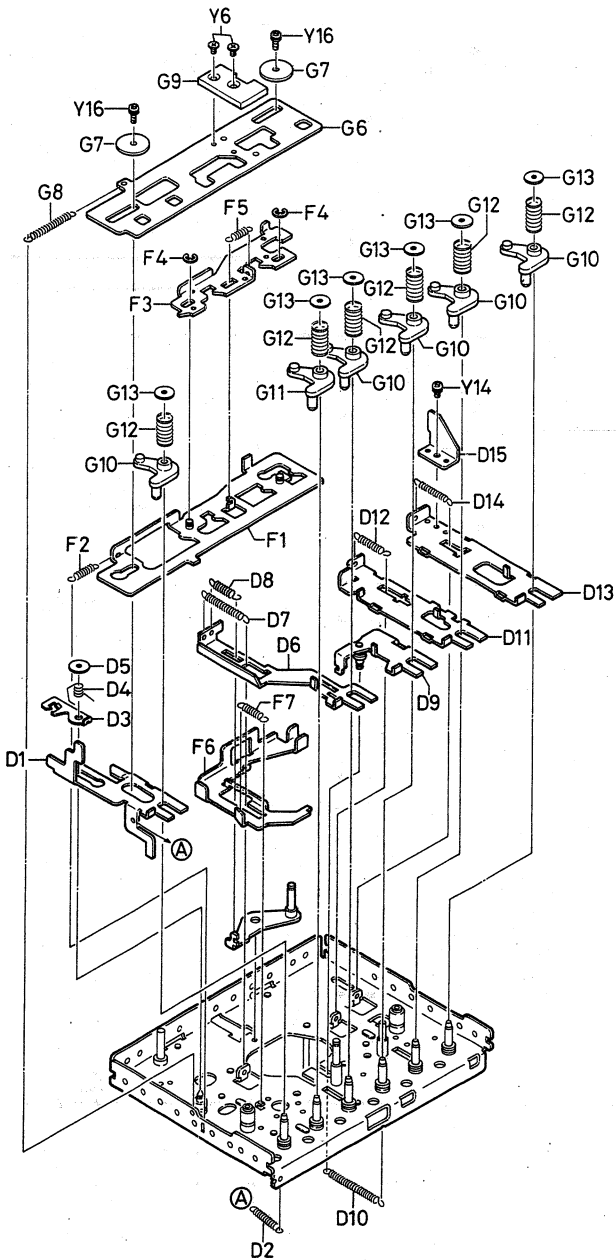


PARTS LIST

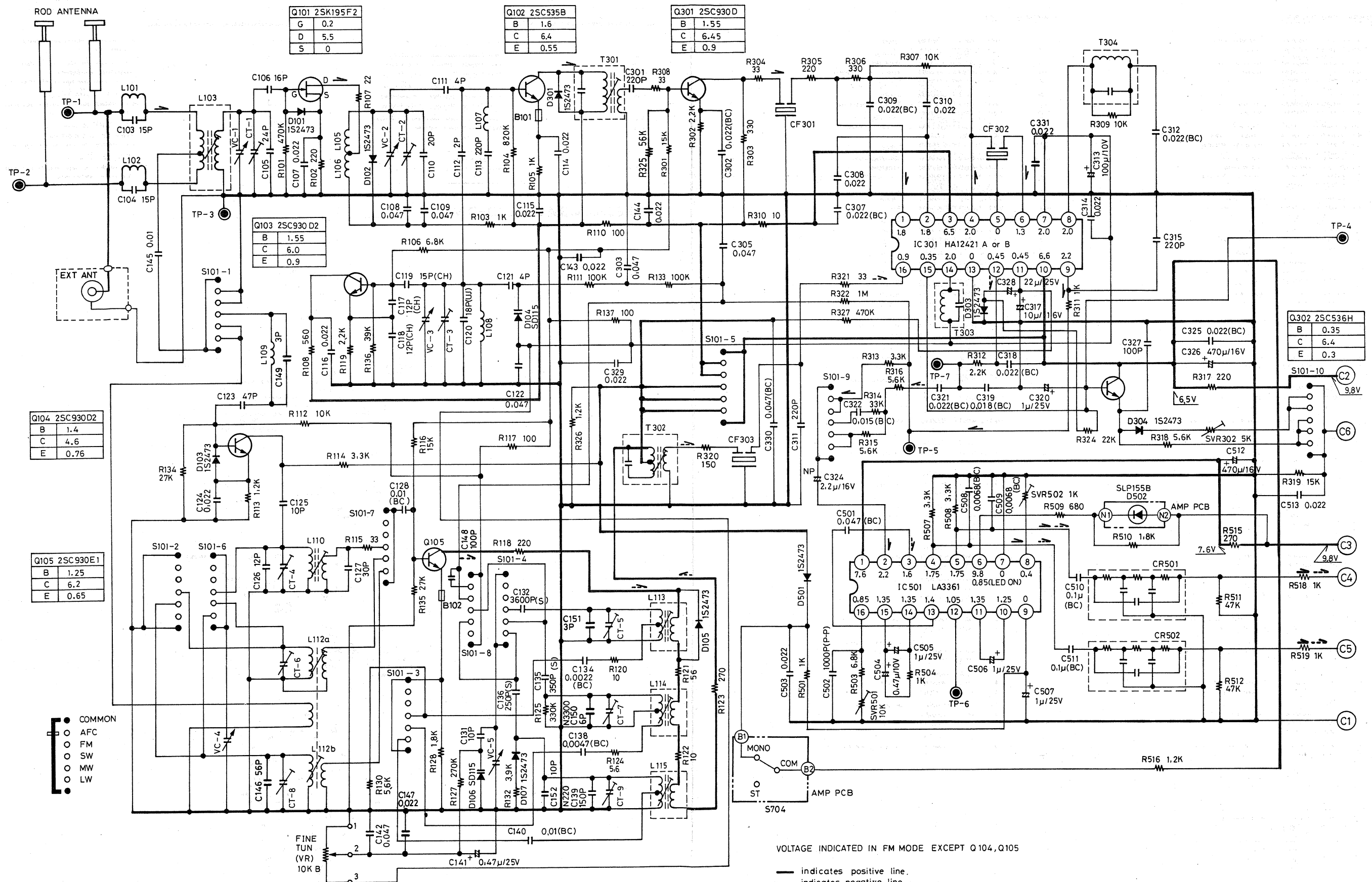
Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
MECHANISM (T.M-X920)				MECHANISM			
A1	141-0-311T-36200	Chassis Ass'y	1	G1	141-2-581T-18500	Gear	1
A2	141-2-464T-36200	Fixer	2	G2	141-2-453T-30301	Washer	1
A3	141-2-853T-69300	Spring Plate	2	G3	141-2-453T-30302	Washer	1
A4	141-2-731T-82300	Slide	1	G4	141-2-457T-25100	Special Washer	1
A5	141-2-852T-63900	Spring Wire	1	G5	141-0-742T-57300	Lever Ass'y	1
A6	141-0-531T-13211	Reel Plate Ass'y	2	G6	141-2-731T-85000	Slide	1
A7	141-2-855T-63500	Spring Coil	2	G7	141-2-457T-35900	Special Washer	2
A8	141-2-453T-30800	Washer	2	G8	141-2-855T-65200	Spring Coil	1
A9	141-2-465T-18400	Stopper	2	G9	141-2-823T-02100	Lever Guide	1
A10	141-0-545T-07000	Lever Pinch Roller Ass'y	1	G10	141-2-742T-57400	Lever	5
A11	141-2-457T-25100	Special Washer	1	G11	141-2-742T-57500	Lever	1
A12	141-2-852T-68900	Spring Coil	1	G12	141-2-855T-65300	Spring Coil	6
B1	141-0-731T-84200	Slide Ass'y	1	G13	141-2-465T-18700	Stopper	6
B2	141-2-457T-25100	Special Washer	2	H1	141-2-613T-03600	Frame Push Button Lever	1
B3	141-2-855T-63800	Spring Coil	1	H2	123-2-472R-00601	Lug	1
B4	141-2-345T-00700	Steel Ball	4	H3	141-2-742T-57600	Lever	1
B5	141-2-441T-08100	Felt Cushion	2	H4	141-2-462T-65200	Boss	1
B6	4-242T-24671	R/P Head	1	H5	4-238T-22300	Switch	1
B7	141-2-472T-10300	Lug	1	H6	141-2-742T-57700	Lever	1
B8	141-2-855T-63900	Spring Coil	1	H7	141-2-462T-65300	Boss	1
B9	4-242T-24700	E Head	1	H8	141-2-731T-85100	Slide	6
B10	141-2-472T-08800	Lug	1	H9	141-2-742T-57800	Lever	1
B11	141-2-490T-08230	Tube	1	H10	141-2-855T-65400	Spring Coil	1
B12	4-235T-94400	Socket	1	H11	141-2-673T-04000	Slide Cum	1
B13	4-235T-94500	Socket	1	H12	141-2-855T-66100	Spring Coil	1
B14	141-2-464T-20671	Fixer	1	H13	141-2-742T-57900	Lever	2
C1	141-2-742T-56900	Lever	1	H14	141-2-462T-65400	Boss	2
C2	141-2-855T-64000	Spring Coil	1	I1	141-2-378T-10700	Bracket Motor	1
C3	141-2-742T-57000	Lever	1	I2	4-527T-13000	Motor	1
C4	141-2-742T-57100	Lever	1	I3	141-2-184T-07600	Tape	1
C5	141-2-462T-64900	Boss	2	I4	141-2-322T-27100	Shield Plate	1
C6	141-2-731T-84300	Slide	1	I5	141-0-661T-76100	Pulley Motor Ass'y	1
C7	141-2-823T-02000	Lever Guide	1	I6	141-2-445T-25200	Rubber Cushion	3
C8	141-2-462T-65000	Boss	2	I7	141-2-461T-39200	Pipe	3
C9	141-2-855T-64100	Spring Coil	1	I8	141-2-457T-36000	Special Washer	3
C10	4-238T-21800	Switch	1	I9	141-0-521T-11800	Flywheel Ass'y	1
C11	141-0-571T-19200	Bearing Axis Ass'y	1	I10	141-2-453T-30201	Washer	1
D1	141-0-731T-84400	Slide Ass'y	1	I11	141-2-457T-35200	Special Washer	1
D2	141-2-855T-64200	Spring Coil	1	J1	141-0-524T-09500	Bracket Flywheel Ass'y	1
D3	141-2-614T-05800	Lever Lock	1	J2	141-2-573T-11500	Bearing	1
D4	141-2-852T-65500	Spring Wire	1	J3	141-0-731T-85200	Slide Ass'y	1
D5	141-2-457T-35800	Special Washer	1	J4	141-2-462T-65500	Boss	2
D6	141-2-731T-84500	Slide	1	J5	141-2-853T-69200	Spring Plate	1
D7	141-2-855T-64300	Spring Coil	1	J6	141-2-855T-65600	Spring Coil	1
D8	141-2-855T-64400	Spring Coil	1	J7	141-2-731T-85300	Slide	1
D9	141-0-731T-84600	Slide Ass'y	1	J8	141-2-462T-65600	Boss	2
D10	141-2-855T-64500	Spring Coil	1	J9	141-2-855T-65700	Spring Coil	1
D11	141-2-731T-84700	Slide	1	K1	4-264T-09800	Magnetic Coil	1
D12	141-2-855T-64600	Spring Coil	1	K2	141-2-742T-58000	Lever	1
D13	141-2-731T-84800	Slide	1	K3	141-2-855T-65800	Spring Coil	1
D14	141-2-855T-64700	Spring Coil	1	K4	141-2-731T-85400	Slide	1
D15	141-2-742T-57200	Lever	1	K5	141-2-855T-65900	Spring Coil	1
E1	141-0-742T-52900	Lever Ass'y	1	K6	141-2-742T-58100	Lever	1
E2	141-2-852T-65600	Spring Wire	1	K7	141-2-462T-65200	Boss	1
E3	141-2-457T-25100	Special Washer	2	K8	141-2-747T-21600	Bracket Lever	1
E4	141-0-571T-19300	Bearing Axis Ass'y	1	L1	141-2-742T-58200	Lever	1
E5	141-0-661T-31600	Pulley Ass'y	1	L2	141-2-462T-65800	Boss	1
E6	141-2-453T-30100	Washer	2	L3	141-2-747T-21700	Bracket Lever	1
E7	141-2-457T-23800	Special Washer	1	L4	141-2-365T-53600	Bracket Switch	1
E8	141-2-472T-01001	Lug	1	L5	4-238T-22400	Switch	1
E9	123-2-472R-00601	Lug	1	L6	141-2-742T-58300	Lever	1
E10	141-0-742T-52800	Lever Ass'y	1	L7	141-2-753T-96300	Shaft	1
E11	141-0-742T-52710	Lever Ass'y	1	L8	141-2-457T-23000	Special Washer	2
E12	141-2-462T-62700	Boss	1	M1	141-0-731T-85500	Slide Ass'y	1
E13	141-2-852T-66000	Spring Wire	1	M2	141-2-462T-65900	Boss	2
E14	141-2-561T-05000	Flat Belt	1	M3	141-2-614T-05900	Lever Lock	1
E15	141-2-564T-23700	Square Belt	1	M4	141-2-852T-65700	Spring Wire	1
F1	141-0-673T-03800	Slide Cum Ass'y	1	M5	141-2-457T-35800	Special Washer	1
F2	141-2-855T-64900	Spring Coil	1	M6	4-238T-22500	Switch	1
F3	141-2-673T-03900	Slide Cum	1				
F4	141-2-457T-25100	Special Washer	2				
F5	141-2-855T-65000	Spring Coil	1				
F6	141-2-731T-84900	Slide	1				
F7	141-2-855T-65100	Spring Coil	1				
F8	141-2-365T-53500	Bracket Switch	1				
F9	4-238T-21900	Switch	1				
F10	4-238T-22000	Switch	2				
F11	4-238T-22600	Switch	1				
F12	4-235T-94600	Socket	1				

Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
MECHANISM HARDWARE				MECHANISM HARDWARE			
Y1		Pan Head Screw 2x8mm		Y12		Pan Head Forming Screw 3x5mm	
Y2		Pan Head Screw 2x10mm		Y13		Pan Head Screw with Spring Washer 2x4mm	
Y3		Pan Head Screw 2.6x4mm		Y14		Pan Head Screw with Spring Washer 2.6x4mm	
Y4		Pan Head Screw 2.6x6mm		Y15		Pan Head Screw with Spring Washer 2.6x5mm	
Y5		Pan Head Screw 2.6x8mm		Y16		Pan Head Screw with Spring Washer 2.6x6mm	
Y6		Flat Head Screw 2.6x4mm		Y17		Pan Head Screw with Spring Washer 3x5mm	
Y7		Flat Head Screw 2.6x5mm		Y18		Pan Head Screw with Spring Washer 3x6mm	
Y8		Binding Head Screw 2x5mm					
Y9		Binding Head Screw 2x5mm					
Y10		Pan Head Forming Screw 2.6x4mm					
Y11		Pan Head Forming Screw 2.6x5mm					

MECHANISM EXPLODED VIEW



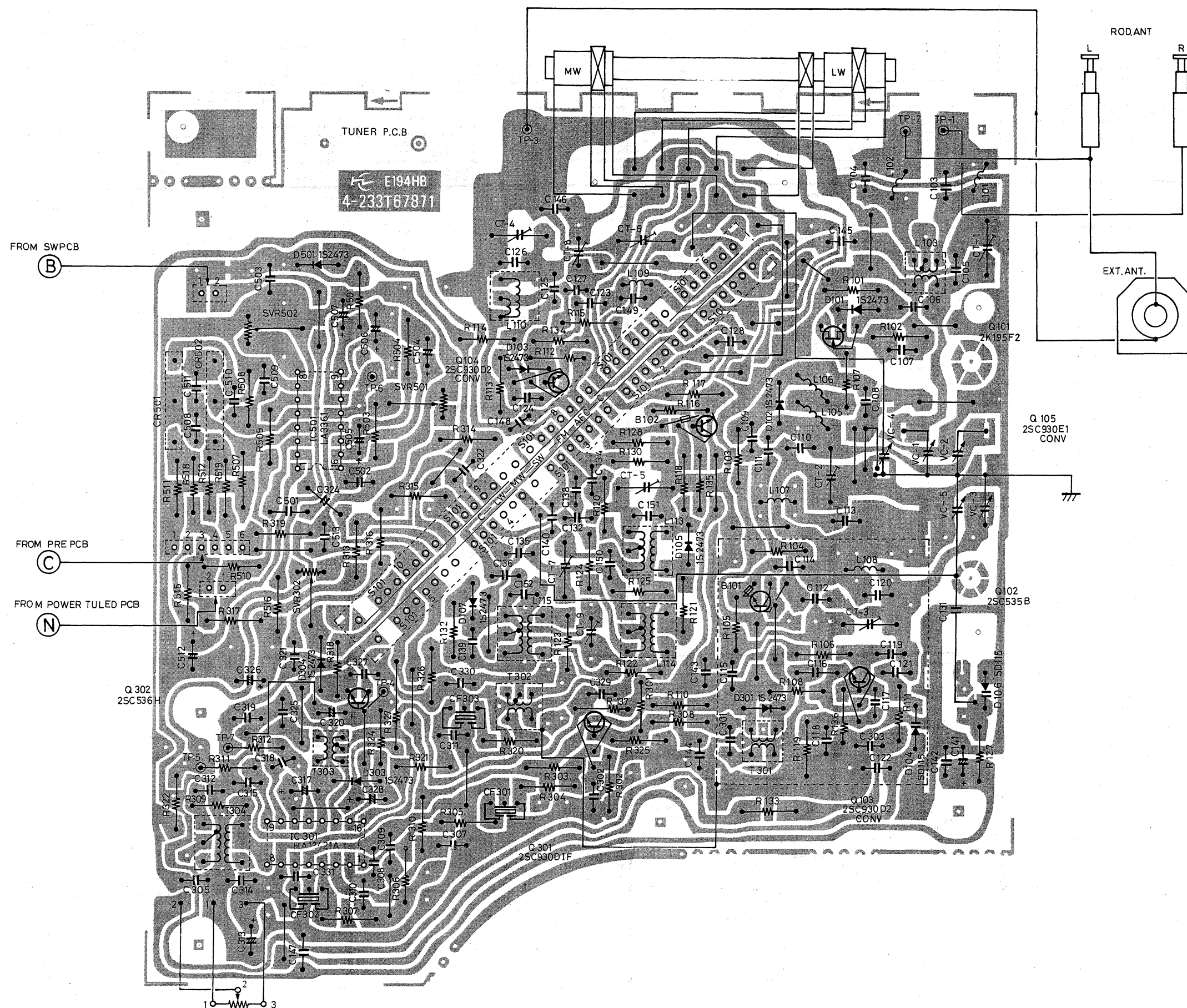
SCHEMATIC DIAGRAM (TUNER) _____



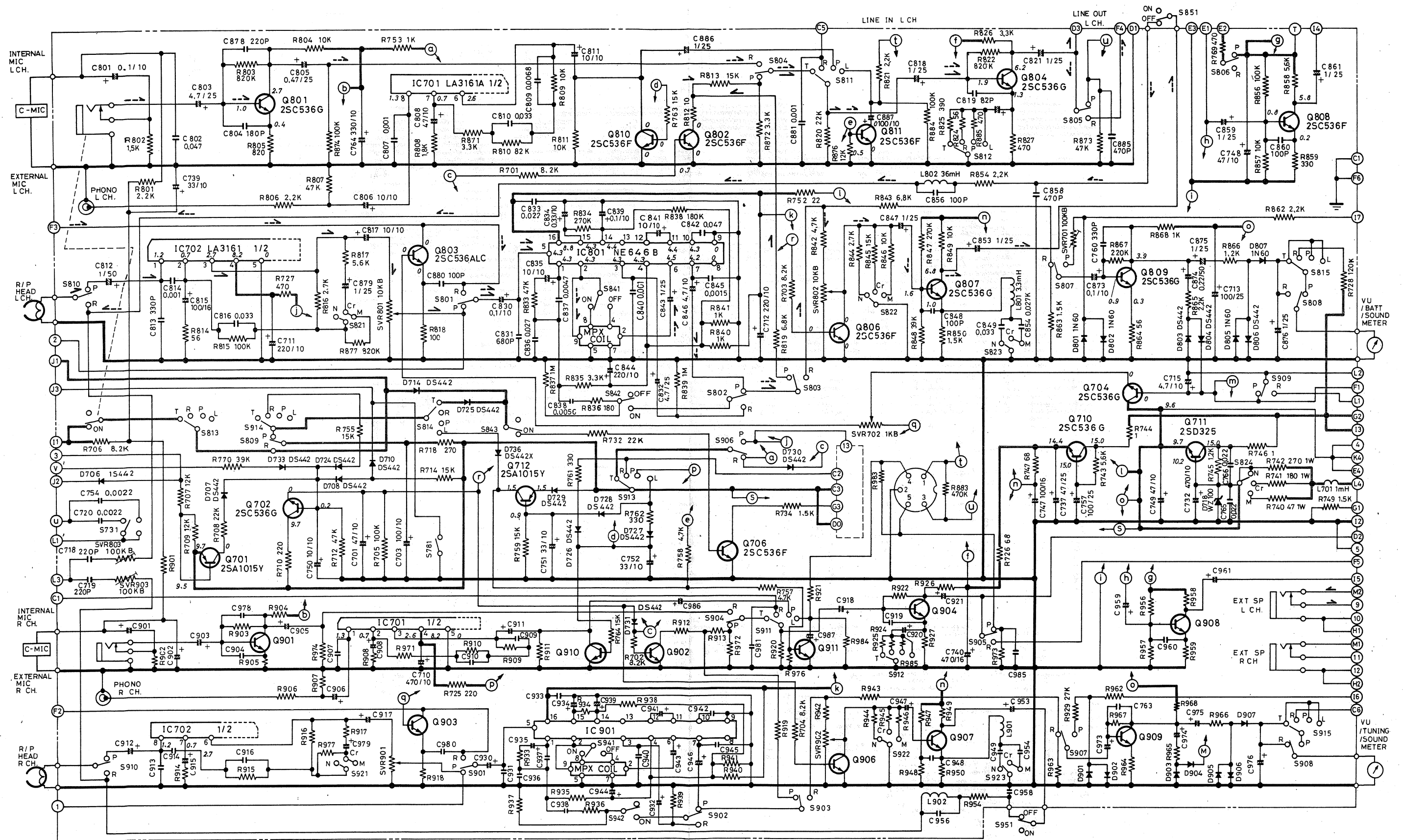
VOLTAGE INDICATED IN FM MODE EXCEPT Q104,Q105

- indicates positive line.
- - indicates negative line.
- indicates signal flow in FM mode.
- ↗ indicates signal flow in AM mode.

WIRING DIAGRAM(TUNER)



SCHEMATIC DIAGRAM (PRE AMP)



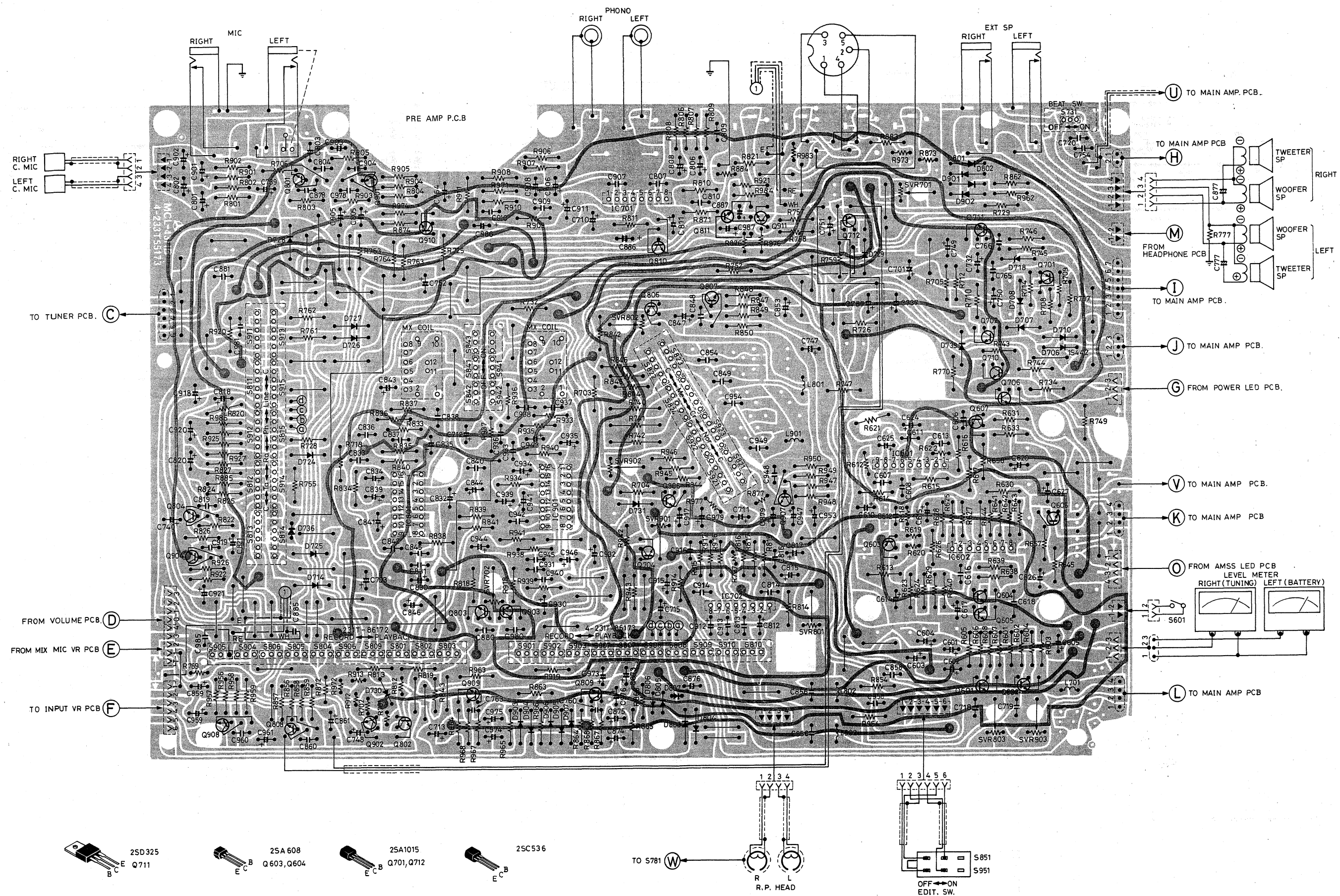
S731.....BEAT CANCEL SWITCH
S781.....MECHANISM PLAY SWITCH
S801~S810.....RECORD / PLAY SWITCH
S901~S910.....

S811~S815.....FUNCTION SWITCH (TAPE / RADIO / PHONO / LINE)
S911~S915.....
S821~S823.....TAPE SWITCH (METAL / CrO2 / NORMAL)
S921~S923.....

S841~S843.....DOLBY NR SWITCH
S941~S943.....
S851, S951.....EDIT SWITCH

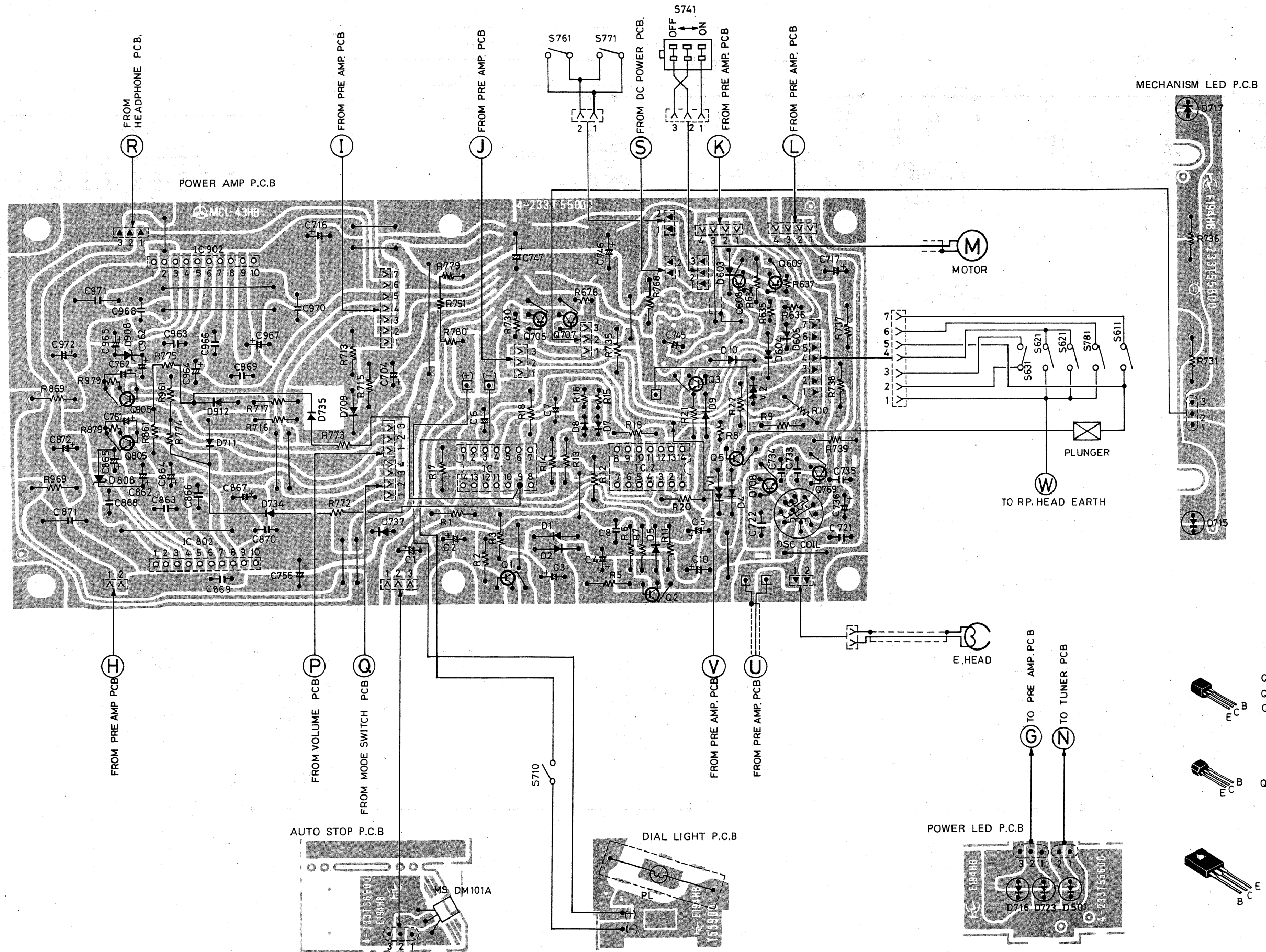
— indicates positive line.
— indicates negative line.
— indicates signal flow in PLAYBACK mode.
— indicates signal flow in RECORD mode.

WIRING DIAGRAM (PRE AMP)

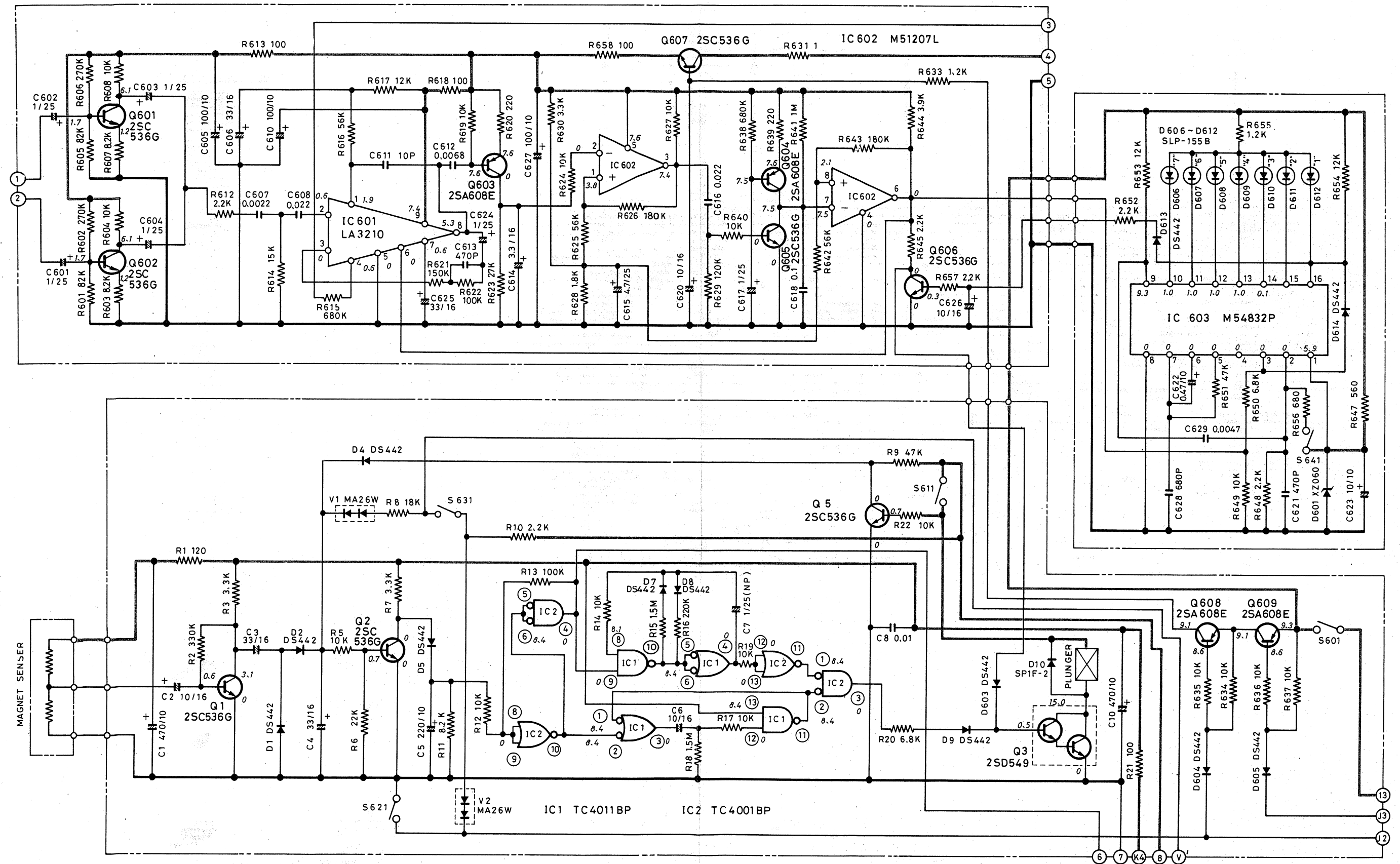




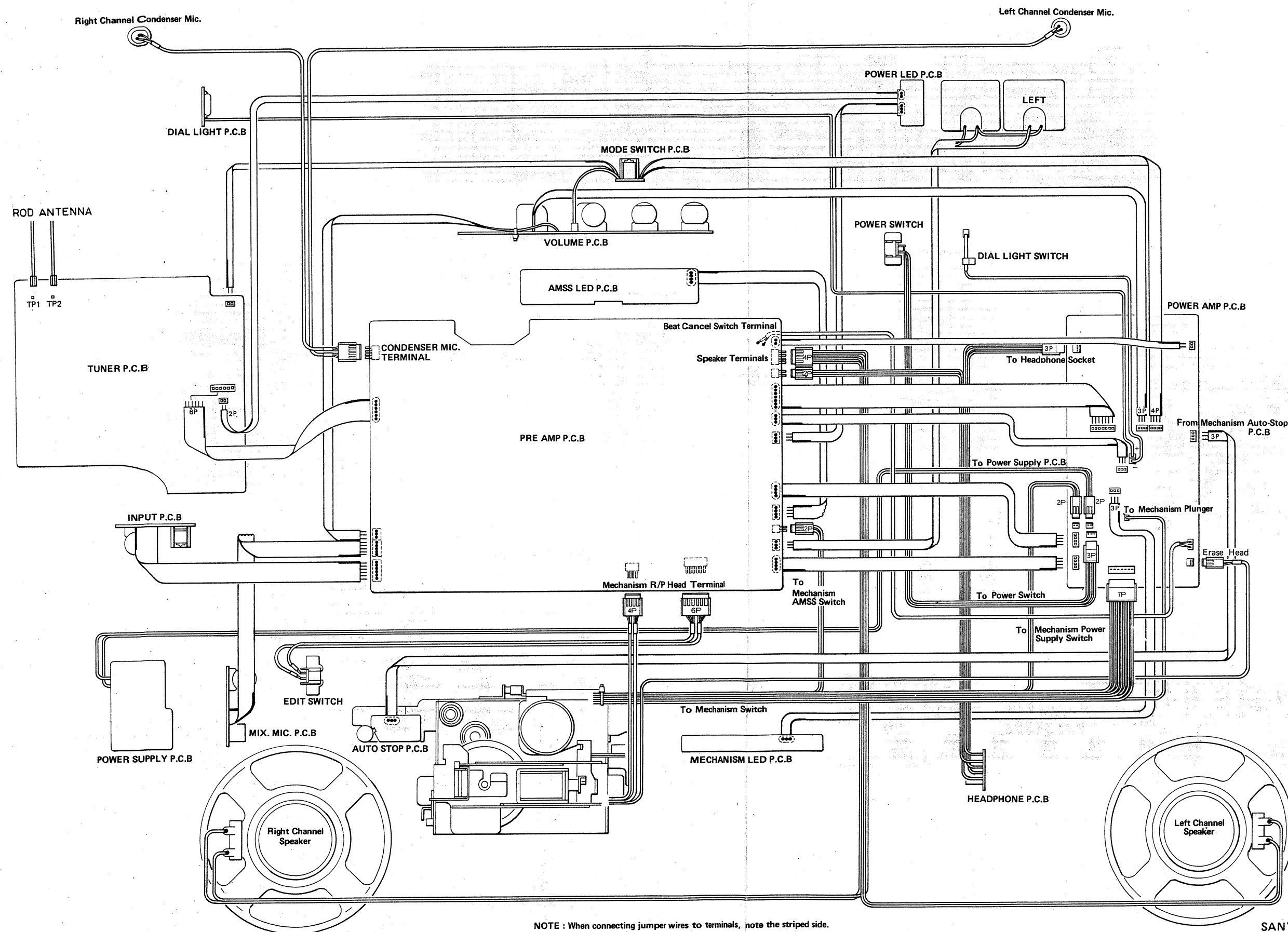
WIRING DIAGRAM (MAIN AMP)



SCHEMATIC DIAGRAM



CONNECTION



NOTE : When connecting jumper wires to terminals, note the striped side.

SANYO ELECTRIC TRADING CO., LTD.
33 Hiyoshi-cho 2-chome Moriguchi-shi,
Osaka-fu 570, Japan
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