

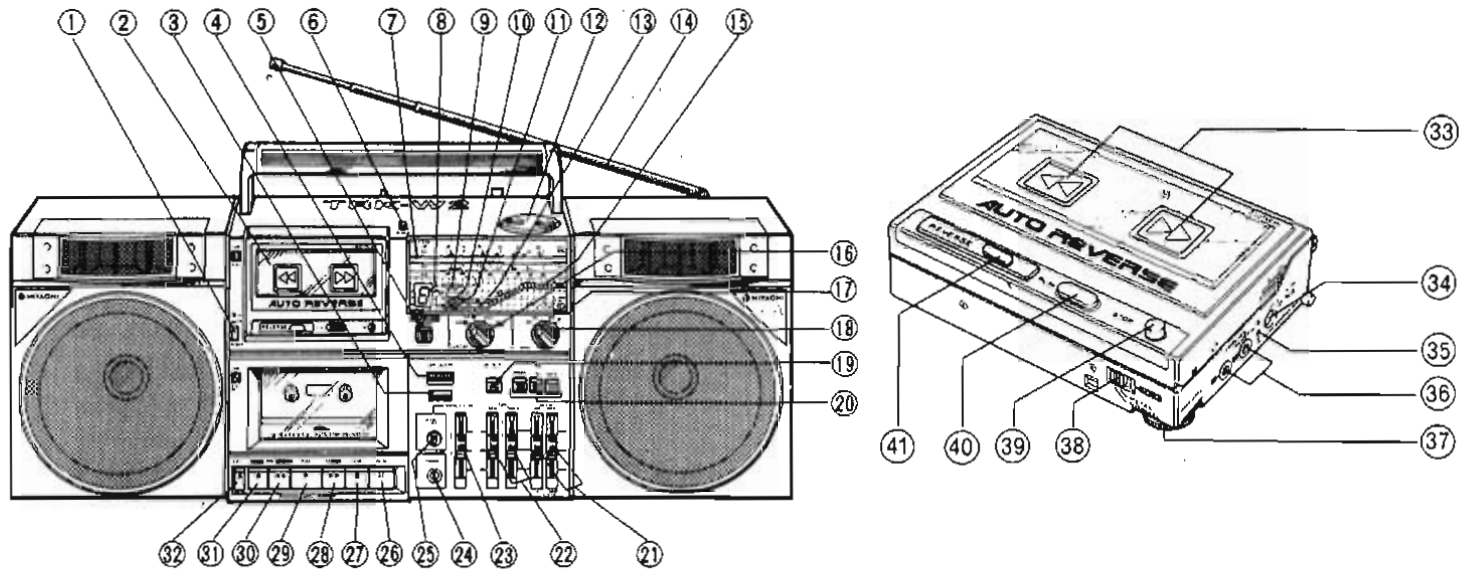
# HITACHI

## SERVICE MANUAL

TK

No. 2011E

# TRK-W2H



### KEY TO ILLUSTRATIONS

#### MAIN UNIT

- ① POWER SWITCH
- ② AUTO REVERSE CASSETTE PLAYER
- ③ COUNTER RESET BUTTON
- ④ TAPE COUNTER
- ⑤ PROGRAM BUTTON
- ⑥ CASSETTE PLAYER RELEASE BUTTON
- ⑦ FM STEREO INDICATOR
- ⑧ PROGRAM INDICATOR
- ⑨ TAPE 1 INDICATOR
- ⑩ TAPE 2 INDICATOR
- ⑪ RECORD INDICATOR
- ⑫ TUNING CONTROL
- ⑬ OPERATION INDICATOR
- ⑭ TELESCOPIC ANTENNA
- ⑮ LEVEL INDICATORS
- ⑯ FUNCTION SELECTOR
- ⑰ BUILT-IN MICROPHONE (MONAURAL)
- ⑱ BAND SELECTOR
- ⑲ RECORDING MUTE BUTTON
- ⑳ TAPE SELECT BUTTONS
- ㉑ VOLUME CONTROLS (LEFT and RIGHT)

- ㉒ TONE CONTROLS (BASS and TREBLE)
- ㉓ MIXING MIC. VOLUME CONTROL
- ㉔ HEADPHONES JACK
- ㉕ MIXING MIC. JACK
- ㉖ PAUSE BUTTON
- ㉗ STOP BUTTON
- ㉘ FAST FORWARD/CUE BUTTON
- ㉙ PLAYBACK BUTTON
- ㉚ REWIND/REVIEW BUTTON
- ㉛ RECORD BUTTON
- ㉜ EJECT BUTTON

#### AUTO REVERSE CASSETTE PLAYER

- ㉛ FAST FORWARD/REWIND BUTTON
- ㉜ DC 3V SOCKET
- ㉝ OPERATION INDICATOR
- ㉞ HEADPHONES JACKS (A, B)
- ㉟ VOLUME CONTROL
- ㊱ TAPE SELECTOR
- ㊲ STOP BUTTON
- ㊳ PLAYBACK BUTTON
- ㊴ REVERSE BUTTON

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

FM/SW<sub>2</sub>/SW<sub>1</sub>/AM RADIO CASSETTE TAPE RECORDER

Sept. 1983

TOKAI WORKS

**SAFETY PRECAUTIONS**

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes. Critical parts are marked with  $\Delta$  in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.
3. Before returning a repaired unit to the customer, the service technician must measure the leakage-current or resistance to determine that the exposed parts are acceptably insulated from the power circuit.

**SPECIFICATIONS**

**Main Unit**

**General Section**

Semiconductors :	ICs : 8 Transistors : 17 Diodes : 12 Zener diodes : 3 LEDs : 13 Varicap : 1
Power (Mains) Supply :	AC : 110-127V/200-220V/ 230-250V, 50/60 Hz DC : 12V ("D" Cell $\times$ 8 or equivalent) equivalent] Car : Use Hitachi car battery adaptor (D-73)
Power (Mains) Consumption :	18W
Power Output :	5W/CH (T.H.D. 10%)
Speakers :	Woofer : 16cm, 2.8 ohms $\times$ 2 Tweeter : 2cm, 500 ohms $\times$ 2
Dimensions :	600(W) $\times$ 215(H) $\times$ 169(D) mm
Weight :	6.5kg (with batteries and cassette player)

**Radio Section**

Circuit System :	FM/SW <sub>2</sub> /SW <sub>1</sub> /AM 4-band super-heterodyne
Tuning Range :	FM : 88 to 108 MHz SW <sub>2</sub> : 7 to 22 MHz SW <sub>1</sub> : 2.3 to 7 MHz AM : 530 to 1,605 kHz

**Intermediate**

Frequency :	FM : 10.7 MHz SW <sub>2</sub> /SW <sub>1</sub> /AM : 455 kHz
Sensitivity :	FM : 10 dB (pra.), 0 dB (max.) SW <sub>2</sub> : 25 dB (pra.), 18 dB (max.) SW <sub>1</sub> : 43 dB (pra.), 30 dB (max.) AM : 45 dB (pra.), 35 dB (max.)
Antennas (Aerials) :	FM/SW <sub>2</sub> : Telescopic antenna SW <sub>1</sub> /AM : Built-in ferrite-core antenna

**Tape Recorder Section (TAPE [2] )**

Tape :	Cassette tape (C-30, 60, 90)
Track System :	4 track 2 channel stereo
Tape Speed :	4.76cm/s
Recording System :	AC bias, 57 kHz
Erasing System :	AC erase
Frequency Response :	Metal : 30-17,000 Hz CrO <sub>2</sub> : 30-16,000 Hz Normal : 30-15,000 Hz
Signal to Noise Ratio :	50 dB
Wow and Flutter :	0.08% (WRMS)
Crosstalk :	Between tracks : 50 dB Between channels : 25 dB
Input Sensitivity and Impedance :	Mixing mic. : 2.5mV, 10 kohms Line in : 400mV, 70 kohms Phono : 6mV, 50kohms Line out : 450mV
Output Level :	Line out : 50kohms
Output Load Impedance :	Headphone : 8-100 ohms Ext. speaker : 2.8-8 ohms
Distortion :	2%
Erase Ratio :	60 dB
Fast Forwarding or Rewinding time :	90 sec. (using C-60)
Motor :	DC micromotor

**Stereo Cassette Player (TAPE [1] )**

Semiconductors :	ICs : 2 Transistors : 9 LED : 1 Varistor : 1 Hall element : 1
Power Supply :	DC : 3V ("AA" Cell $\times$ 2 or equivalent) AC : Use optional AC adaptor (3V)
Power Consumption :	145 mA (with no signal)
Power Output :	25mW/CH (T.H.D. 10%)
Tape :	Cassette tape (C-30, 60, 90)
Track System :	4 track 2 channel stereo

Tape Speed : 4.76 cm/s  
 Frequency Response : Metal : 40–16,000 Hz  
 Normal : 40–12,000 Hz  
 Signal to Noise Ratio : 50 dB  
 Wow and Flutter : 0.3% (WRMS)  
 Crosstalk : Between tracks : 50 dB  
 Between channels : 25 dB  
 Output Load Impedance : Headphone : 8–100 ohms

Distortion : 3%  
 Fast Forwarding or Rewinding time : 135 sec. (using C-60)  
 Motor : Electronically controlled DC motor  
 Dimensions : 108(W) × 77(H) × 28.5(D) mm  
 Weight : 290g (with batteries)

### DISASSEMBLY

#### Main Unit

#### 1. Cassette lid (TAPE 2)

- 1) Press the eject button to open the cassette lid.
- 2) Press the engaged section (left side) of the lid in using a  $\ominus$  screwdriver to release locking, and then release locking of the engaged section on the right in the same way.
- 3) Press the engaged section of the cassette lid a little and pull out the cassette lid.

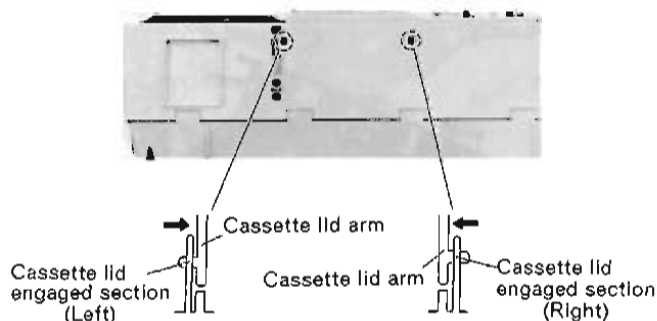


Fig. 1

#### 2. Front case

- 1) Remove eight knobs (Mix. volume, Bass, Treble, Volume L/R, Function, Band, Tuning).
  - When removing the tuning knob, hang the string as shown in the Fig. 3 and pull it out.
- 2) After removing the nine screws (A), remove the front case by carefully lifting it from the rear case.
  - When removing the front case, be careful that the speaker lead wires are not damaged.

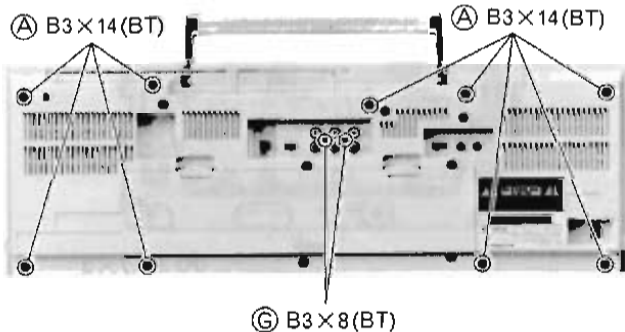


Fig. 2

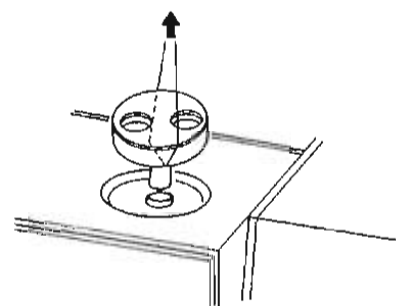


Fig. 3

#### 3. DRPS/Indicator P.C. Board

Remove three fixing screws (B).

\* When installing the P.C. Board, push the 2 connectors to secure the connection with the main P.C. Board.

#### 4. Cassette mechanism

Remove four fixing screws (C).

#### 5. Power P.C. Board

Remove three power transformer fixing screws (D) and one terminal holder fixing screw (E).

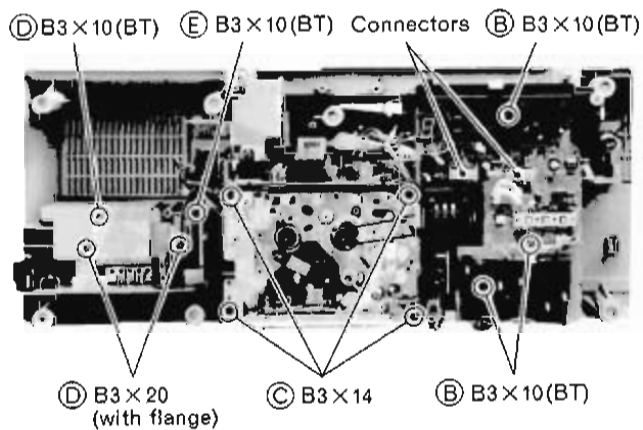


Fig. 4

6. Main P.C. Board

Remove the record arm spring (F) and four fixing screws (G) shown in Figs. 2, 5.

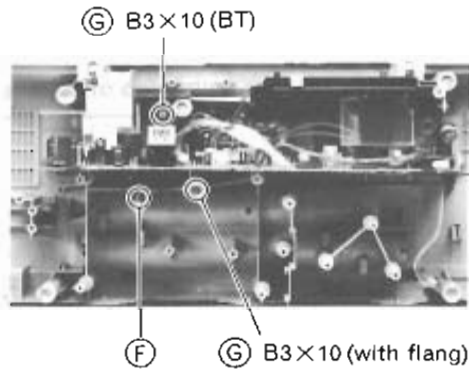


Fig. 5

2. Rear case

1) Remove nine fixing screws (J) shown in Figs. 7, 8 and remove the volume control knob fixing special screw. Then remove the rear case by pulling up the reverse switch side.

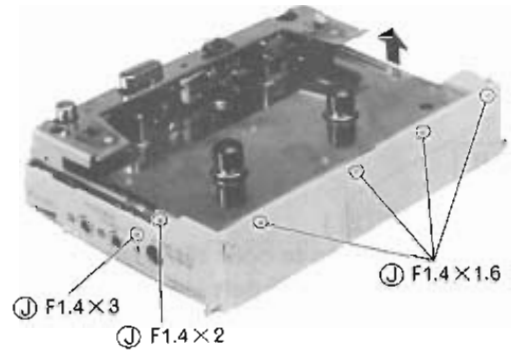


Fig. 8

**Stereo Cassette Player (TAPE 1)**

1. Cassette lid (TAPE 1)

Remove three fixing screws (H).

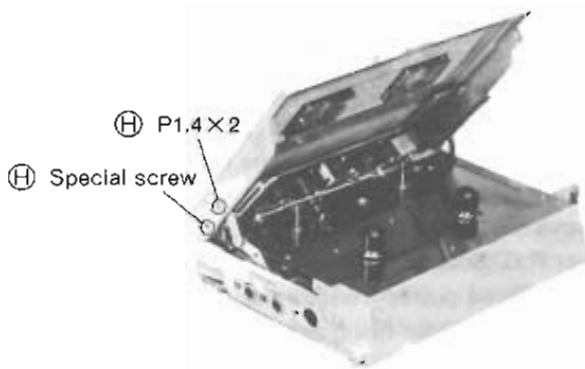


Fig. 6

3. Cassette support plate

Remove eight fixing screws (I).

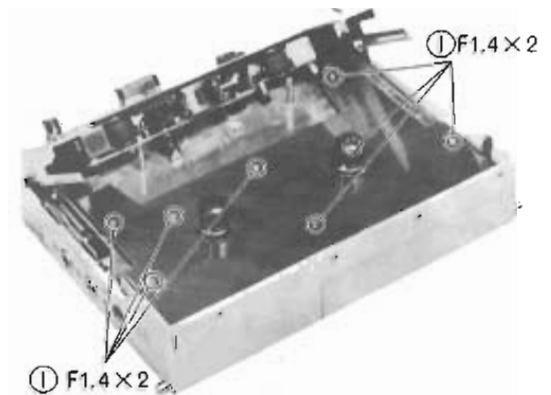


Fig. 9

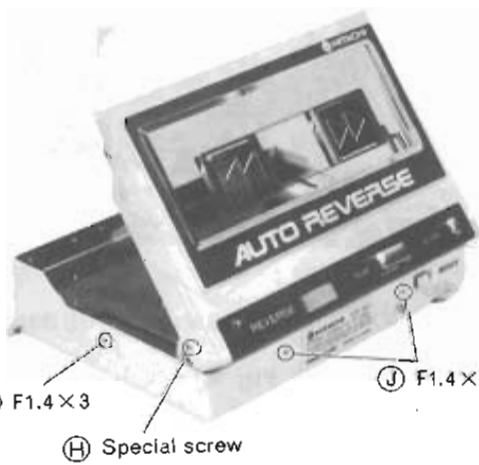


Fig. 7

4. Cassette holder

Remove fixing screw (K) and pull the cassette holder in the direction of the arrow.

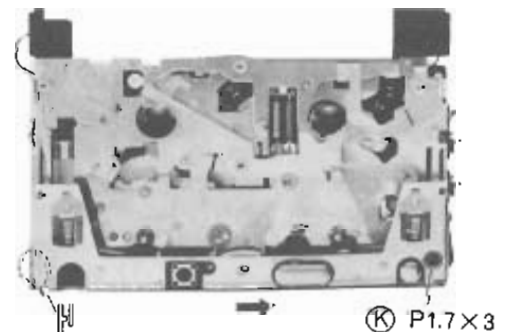


Fig. 10

### 5. Main, motor P.C. Board

Remove five fixing screws (L) and remove the P.C. Board in the direction of the arrow.

Install the P.C. Board so that 3 leaf switches (M) do not touch the switch lever of the cassette chassis.

\* Cut off the electrolytic capacitor leads after replacing the electrolytic capacitor so that the rear case and the soldered leads of the electrolytic capacitor do not come into contact.

### 6. Flywheel supporter

Remove three fixing screws (N).

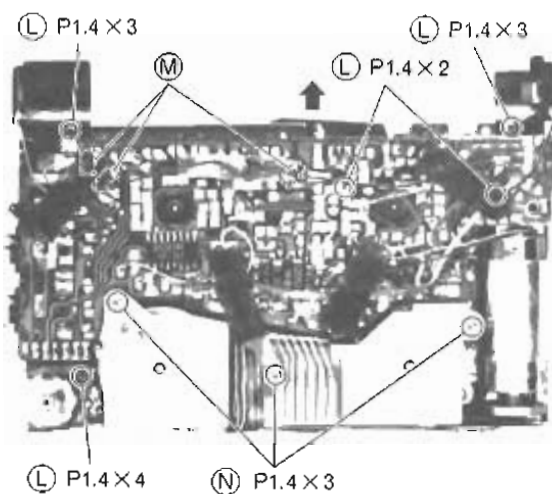


Fig. 11

### 7. Cautions after replacing variable resistor (RV1) and reverse switch (S5)

The gap between the soldered section and the mechanism chassis is too small after replacing the variable resistor and reverse switch, so grind off excess solder using a file (to set to approx. 0.5mm).

[Example]

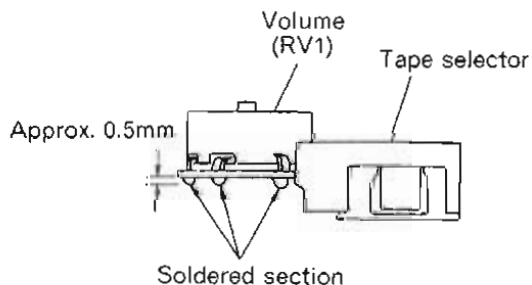


Fig. 12

### 8. Playback head

Remove the head plate ass'y fixing E ring and the pressure roller spring, lift the head plate ass'y towards you to remove it and then remove 2 head fixing screws (O). Apply the pressure roller spring to the head plate ass'y, arrange the wiring of the head as shown in the Fig. 14 and then install the head so that the wiring does not get caught between the rear case and cassette chassis.

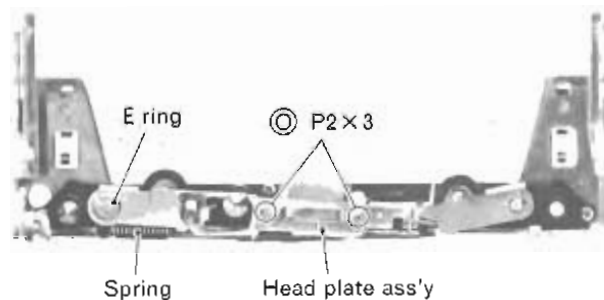


Fig. 13

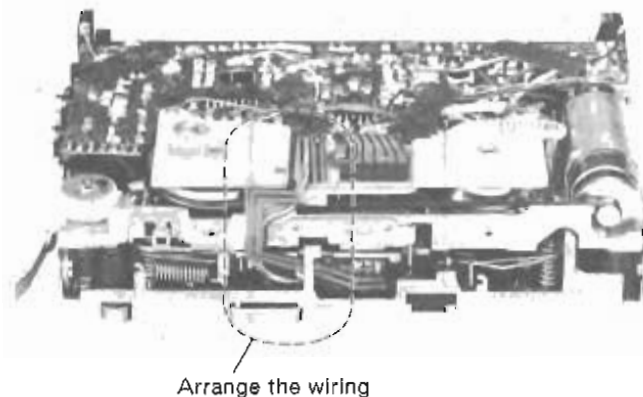
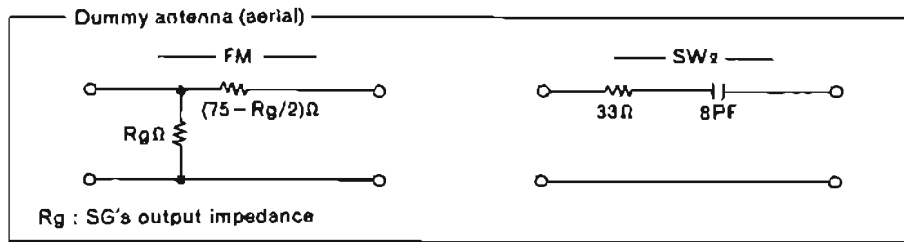


Fig. 14

ADJUSTMENT

Main Unit

1. Radio Section



Step	Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
		Measuring Instrument	Input Terminal	Output Terminal				
1	(1) FM IF	<ul style="list-style-type: none"> <li>FM signal generator (400 Hz, 30% mod.)</li> <li>Oscilloscope</li> <li>VTVM</li> </ul>	TP101	TP201	90 MHz	90 MHz	T101	Note 1
	(2) FM S-curve	<ul style="list-style-type: none"> <li>Genescope (10.7 MHz)</li> </ul>	TP102		10.7 MHz	Highest	—	Note 2
2	(1) FM OSC. (Covering)	<ul style="list-style-type: none"> <li>FM signal generator (400 Hz, 30% mod.)</li> <li>Oscilloscope</li> <li>VTVM</li> </ul>	TP101 (thru FM dummy antenna)	Speaker terminals (2.8Ω load)	87 MHz	Lowest	L102	Max.
					109 MHz	Highest	CT102	
					Repeat steps (1) and (2)			
3	(1) FM ANT. (Tracking)	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>VTVM</li> </ul>			90 MHz	90 MHz	L101	Max.
					106 MHz	106 MHz	CT101	
					Repeat steps (1) and (2)			
4	(1) FM MPX (Multiplex)	<ul style="list-style-type: none"> <li>Frequency counter</li> </ul>	Connect a 10μF 25V electrolytic capacitor between the No. 1 pin of IC301 and ground.	TP301	—	—	RT301	38 kHz ± 200 Hz (Note 3)
5	(1) AM IF	<ul style="list-style-type: none"> <li>Genescope (455 kHz)</li> </ul>	Ferrite-core antenna (thru loop antenna)	TP201	455 kHz	Highest	—	Note 4
6	(1) AM OSC. (Covering)	<ul style="list-style-type: none"> <li>AM signal generator (400 Hz, 30% mod.)</li> <li>VTVM</li> </ul>	Ferrite-core antenna (thru loop antenna)	Speaker terminals (2.8Ω load)	515 kHz	Lowest	L156	Max.
					1650 kHz	Highest	CT156	
					Repeat steps (1) and (2)			
7	(1) AM ANT. (Tracking)	<ul style="list-style-type: none"> <li>VTVM</li> </ul>			600 kHz	600 kHz	L153	Max.
					1400 kHz	1400 kHz	CT153	
					Repeat steps (1) and (2)			
8	(1) SW <sub>1</sub> OSC. (Covering)	<ul style="list-style-type: none"> <li>AM signal generator (400 Hz, 30% mod.)</li> <li>VTVM</li> </ul>	Ferrite-core antenna (thru loop antenna)	Speaker terminals (2.8Ω load)	2.2 MHz	Lowest	L155	Max.
					7.3 MHz	Highest	CT155	
					Repeat steps (1) and (2)			
9	(1) SW <sub>1</sub> ANT. (Tracking)	<ul style="list-style-type: none"> <li>VTVM</li> </ul>			2.7 MHz	2.7 MHz	L152	Max.
					6.3 MHz	6.3 MHz	CT152	
					Repeat steps (1) and (2)			
10	(1) SW <sub>2</sub> OSC. (Covering)	<ul style="list-style-type: none"> <li>AM signal generator (400 Hz, 30% mod.)</li> <li>VTVM</li> </ul>	TP101 (thru SW <sub>2</sub> dummy antenna)	Speaker terminals (2.8Ω load)	6.7 MHz	Lowest	L154	Max.
					23 MHz	Highest	CT154	
					Repeat steps (1) and (2)			
11	(1) SW <sub>2</sub> ANT. (Tracking)	<ul style="list-style-type: none"> <li>VTVM</li> </ul>			8 MHz	8 MHz	L151	Max.

**Note :**

1. Feed in a 90 MHz (400 Hz, 30% mod.) weak signal to TP101 from the FM signal generator. Adjust T101 for maximum amplitude of 400Hz signal shown in Figure 15.

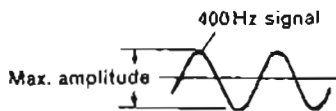


Fig. 15

2. Feed in a weak signal to TP102 from the genscope and confirm that the S-curve is obtained shown in Figure 16.

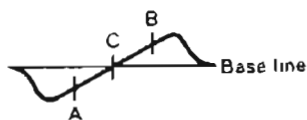
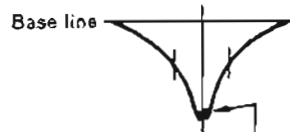


Fig. 16

3. Connect the frequency counter to TP301, via a resistor of 330 kΩ.
4. Feed in a weak signal from the genscope and confirm that the waveform is obtained shown in Figure 17.



Confirm that the genscope output so that there is a little noise riding on the leading edge.

Fig. 17

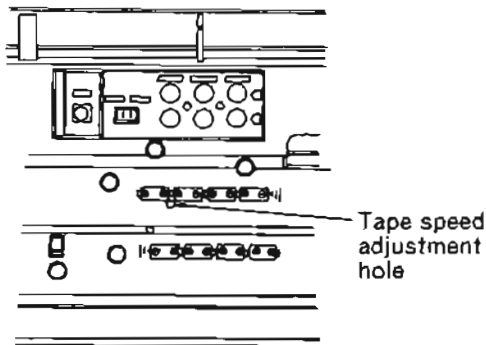
**2. Tape Recorder Section (TAPE [2] )**

Perform the following adjustments in the sequence stated after cleaning the head, pressure roller, and capstan with a head cleaning stick moistened in alcohol.

Step	Adjustment Item	Measuring Instrument and connection			Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
		Measuring Instrument	Input Terminal	Output Terminal					
1	Tape speed	Frequency counter	—	LINE OUT jacks	Tape speed test tape (3 kHz)	Playback	Semivariable resistor in the motor	3kHz ± 10Hz	Note 1
2	Head azimuth	VTVM	—	LINE OUT jacks	Head azimuth test tape (10 kHz)	Playback	Azimuth adjusting screw	Output Max.	Note 2
3	(1) Bias current	Set the tape select switch to METAL position and RIF switch to A position.							Note 3
		(2) VTVM	—	TP401	—	Record	RT401L, R	16~17V	
4	DRPS level	—	—	—	DRPS test tape (TMT-6261)	Playback	RT701	Program indication decreases by "1"	Note 4

**Note :**

1. Adjust within 30 sec. after heat-running for more than 20 minutes.



(Rear side)

Fig. 18

2. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.
3. 1) Set the tape select switch to METAL position and RIF switch to A position in the recording mode.  
2) Adjust RT401L, R so that the voltage of TP401 becomes 16~17V.
4. 1) Set the tape select switch to NORMAL position.  
2) Set RT701 fully clockwise.  
3) Playback the DRPS test tape (TMT-6261) and press the DRPS program button to set the unit to the DRPS operation mode.  
4) Turn RT701 counterclockwise to adjust so that the program indication decreases by "1" when the recording level changes from -35 dB to -40 dB.

**Stereo Cassette Player (TAPE 1 )**

Perform the following adjustments in the sequence stated after cleaning the head, pressure roller, and capstan with a head cleaning stick moistened in alcohol.

Step	Adjustment Item	Measuring Instrument and connection			Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
		Measuring Instrument	Input Terminal	Output Terminal					
1	Tape speed	Frequency counter	—	Headphone jacks	Tape speed test tape (3 kHz)	Playback	Semivariable resistor in the motor P.C. Board	3kHz ± 20Hz	Note 1
2	Head azimuth	VTVM	—	Headphone jacks	Head azimuth test tape (10 kHz)	Playback	Azimuth adjusting screw	Output max.	Note 2

**Note :**

1. Adjust within 30 sec. after heat-running for more than 20 minutes.
2. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.

**INSPECTION OF MECHANISM**

**1. Main Unit (TAPE 2 )**

Item	Checking item	Reference value	Remarks
1	Pressure of pressure roller	375g ± 75g	Note 1
2	Pressure of take-up roller	150g ± 30g	Note 2
3	Take-up torque	30 — 55g .cm	
4	Fast forward torque	75 — 115g .cm	
5	Rewind torque	75 — 115g .cm	
6	Back tension torque	Take-up	2.0 — 4.0g .cm Without counter
		Supply	2.0 — 4.5g .cm Without counter
7	PLAY, REC, FF, REW, STOP buttons	0.25 kg or less	
8	PAUSE button	0.3kg or less	
9	Flywheel thrust gap	0.05 — 0.5mm	

**Note :**

1. Set this unit in the playback mode and press the pressure roller in the direction of the arrow using a fan type tension gauge, and measure the pressure when the pressure roller is released from the capstan.
2. Set this unit in the playback mode and press the take-up roller in the direction of the arrow using a fan type tension gauge, and measure the pressure when the take-up roller is released from the take-up reel.

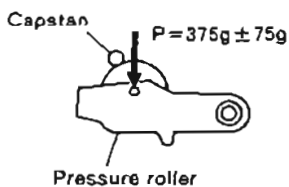


Fig. 19

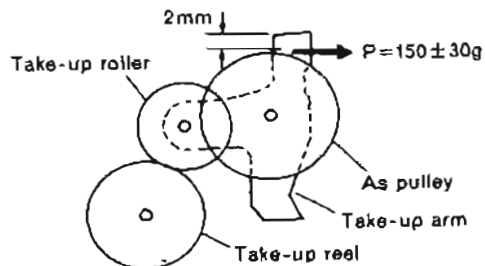


Fig. 20



## DIAL CORD STRINGING

## 2. Stereo Cassette Player (TAPE 1)

Item	Checking item	Reference value	Remarks
1	Pressure of pressure roller	FORWARD : 170~250g REVERSE : 220~300g	Note 1
2	Tape driving force	55g or more	Fig. 21
3	Take-up torque	30~50g·cm	
4	Fast forward torque	55g·cm or more	
5	Rewind torque	55g·cm or more	
6	Back tension torque	Take-up	5g·cm or less
		Supply	5g·cm or less
		Play button	1.0kg or less
7	Button operation force	Fast forward button	0.8kg or less
		Rewind button	0.8kg or less
		Stop button	0.5kg or less
			During play to stop
8	Flywheel thrust gap	0.1~0.2mm	

## Note :

1. Set this unit in the playback mode and press the pressure roller in the direction of the arrow using a fan type tension gauge, and measure the pressure when the pressure roller is released from the capstan.

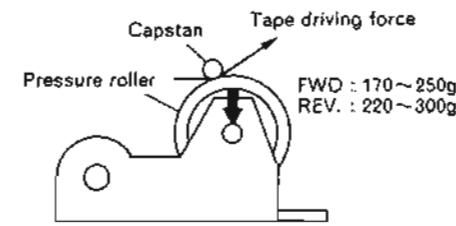


Fig. 21

## LUBRICATION

Lubricate one or two drops of oil to rotating point or lubricate grease to sliding point.

Lubricate the respective parts listed once every 1000 hours or once a year under normal conditions of use.

Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

	Lubrication point	Oil or Grease
Rotary section	Metal and metal	Pan motor oil (10W-40)
	Mold and metal	Sonic slider oil (#1600)
Sliding section	Metal and metal	Hitasol (MO-138)
	Mold and mold	White grease (FL-LUBE-A)
	Mold and metal	White grease (FL-LUBE-A)
Spring resonance prevention		Floil (GB-TS-1)

## Stringing method

1. Turn the dial pulley fully counterclockwise.
2. String the dial cord in the direction of the arrow (Nos. 1—11).
3. Set the pointer to setting position.

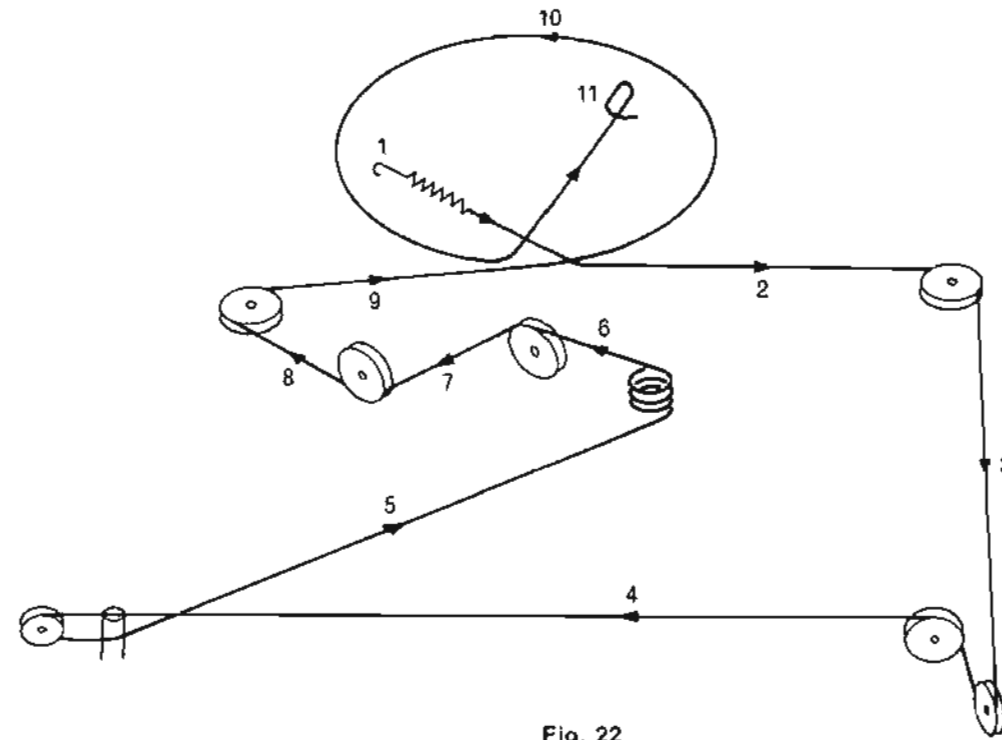
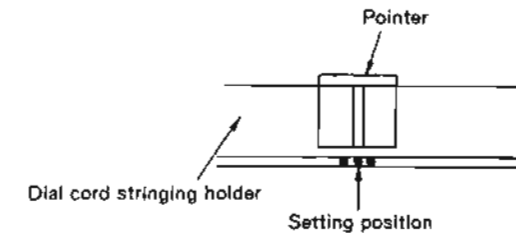


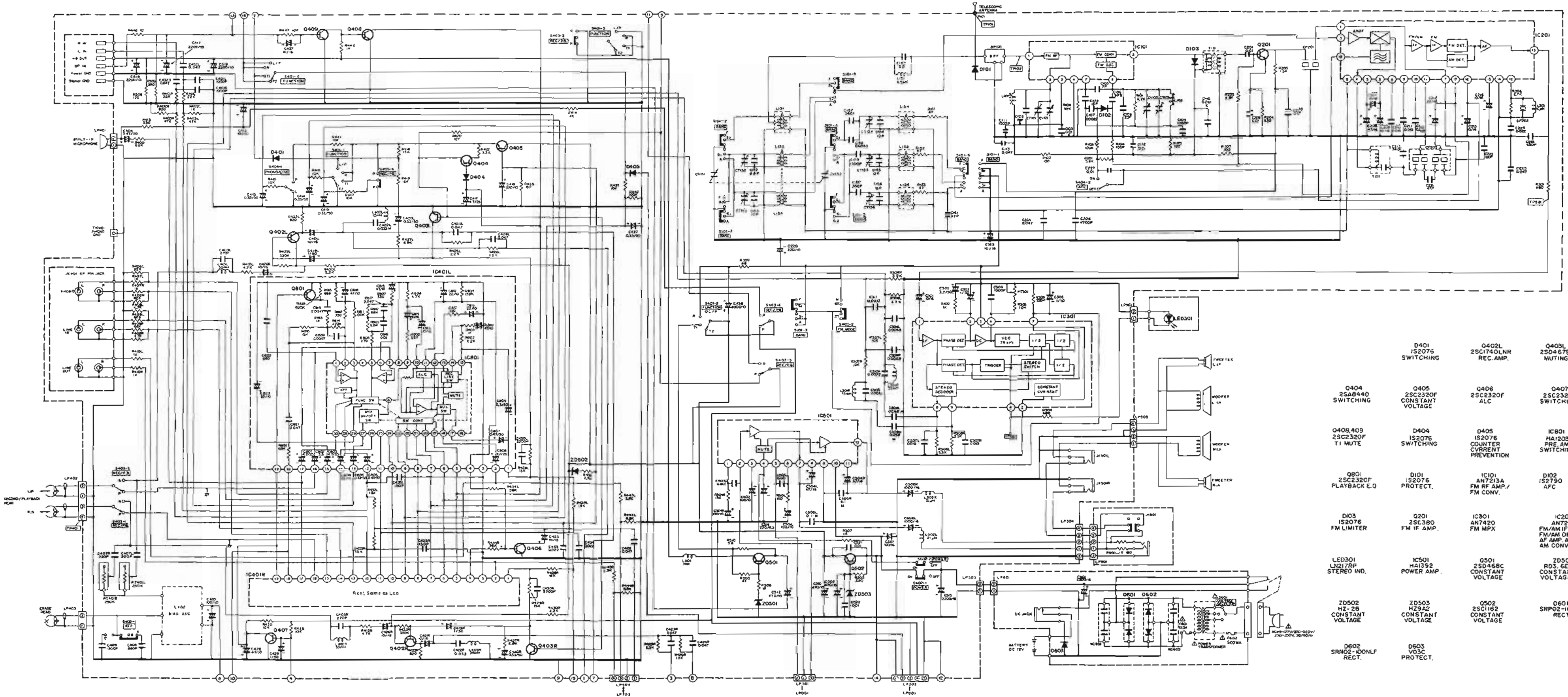
Fig. 22

## REPLACEMENT PARTS LIST

## 1. Main Unit Electrical Parts

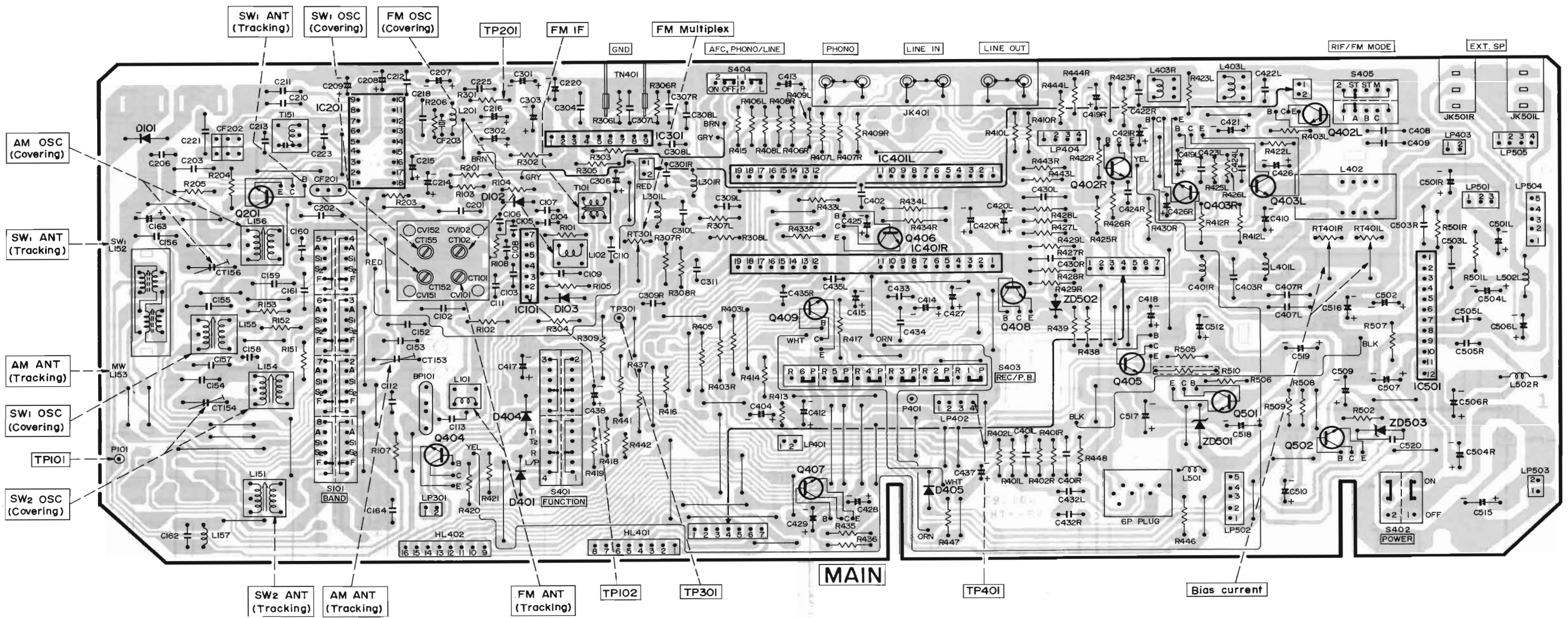
SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
CAPACITORS					
CT101-102	S052811	VARIABLE CAPACITOR	RY301	S007476	SEMI VARIABLE 5KOHM
CT152	S052811	VARIABLE CAPACITOR	RT401LR	S007482	SEMI VARIABLE 250KOHM
CT153-154	S058191	TRIMMER 7PF	RY701	S007435	SEMI VARIABLE 10KOHM
CT155	S052811	VARIABLE CAPACITOR	RV701	S020164	VARIABLE RESISTOR 10KOHM(B)
CT156	S058191	TRIMMER 7PF	RV702	S020153	VARIABLE RESISTOR 100KOHM(C)
CV101-102	S052811	VARIABLE CAPACITOR	RV703	S020152	VARIABLE RESISTOR 100KOHM(C)
CV151-152	S052811	VARIABLE CAPACITOR	RV704LR	S020163	VARIABLE RESISTOR 10KOHM(3B)
SEMI-CONDUCTORS					
C102	0208162	CERAMIC (RESISTOR SHAPE) 18PF+-10%	0001	5330573	DIODE 1S2473
C104	0246444	CERAMIC DISC 15PF+-5%	D101	5330131	DIODE 1S2076
C105	0246427	CERAMIC DISC 7PF+-0.5PF(NP-D)	D102	5330662	DIODE 1S2790TF
C106	0246476	CERAMIC DISC CAPACITOR 6PF+-0.5PF	D103	5330131	DIODE 1S2076
C108	0246448	CERAMIC DISC .22PF+-5%	D401	5330131	DIODE 1S2076
C109	0209010	CERAMIC (RESISTOR SHAPE) 1000P F+-10%	D404-405	5330131	DIODE 1S2076
C152	0208127	CERAMIC (RESISTOR SHAPE) 6.8PF+-5%	D601	5331451	DIODE SRP02-100NLF
C153	0208129	CERAMIC (RESISTOR SHAPE) 10PF+-5%	D602	5331452	DIODE SRN02-100NLF
C154	0248480	CERAMIC DISC 10PF+-0.5PF	D603	5330001	RECTIFIER SILICON V03C
C155	0208130	CERAMIC (RESISTOR SHAPE) 12PF+-5%	D701-702	5331592	DIODE 1S5133
C156	0208132	CERAMIC DISC (RESISTOR SHAPE) 18PF+-5%	IC101	5351902	IC AH7213A
C157	0209007	CERAMIC (RESISTOR SHAPE) 560PF+-10%	IC201	5355441	IC AN7223
C161	0208137	CERAMIC (RESISTOR SHAPE) 47PF+-5%	IC301	5369941	IC AN7420
C201-203	0209026	CERAMIC (RESISTOR SHAPE) 0.01MF+-30%	IC501	5352141	IC HA1392
C210-211	0209027	CERAMIC (RESISTOR SHAPE) 0.015MF+-30%	IC701	5355991	IC AH6882
C218	0209004	CERAMIC (RESISTOR SHAPE) 330PF+-10%	IC702	5352382	IC HA12054
C221	0208137	CERAMIC (RESISTOR SHAPE) 47PF+-5%	IC801	5369901	IC HA12037
C307LR	0209027	CERAMIC (RESISTOR SHAPE) 0.015MF+-30%	LE0301	5380593	LED LN217RP
C401LR	0209010	CERAMIC (RESISTOR SHAPE) 1000PF+-10%	LE0701	5380781	LED LN516RA
C403LR	0209003	CERAMIC (RESISTOR SHAPE) 270PF+-10%	LE0702	5381271	LED ASSEMBLY
C407LR	0209002	CERAMIC (RESISTOR SHAPE) 220PF+-10%	Q201	5323061	TRANSISTOR 2SC380TMD
C408	0209008	CERAMIC (RESISTOR SHAPE) 680PF+-10%	Q402LR	5321293	TRANSISTOR 2SC1740LN-R
C409	0209021	CERAMIC (RESISTOR SHAPE) 1500PF+-30%	Q403LR	5321194	TRANSISTOR 2S0467BC
C430LR	0209022	CERAMIC (RESISTOR SHAPE) 0.002 2HF+-30%	Q404	5321252	2SAB440
C503LR	0209010	CERAMIC (RESISTOR SHAPE) 1000P F+-10%	Q405-409	5322622	TRANSISTOR 2SC2320F
C717	0256362	TANTALUM 0.22MF, 35V	Q501	5321213	TRANSISTOR 2S0468C
RESISTORS					
RC601-602	0186451	CR PACK	Q502	5320643	TRANSISTOR 2SC1162C
			Q701	5321252	2SAB440
			Q702	5320643	TRANSISTOR 2SC1162C

SCHEMATIC DIAGRAM (Radio/Tape recorder - Audio)



- D401 IS2076 SWITCHING
- Q402L 2SD468C REC. AMP.
- Q403L 2SD4679C MUTING
- Q404 2SAB440 SWITCHING
- Q405 2SC2320F CONSTANT VOLTAGE
- Q406 2SC2320F ALC
- Q407 2SC2320F SWITCHING
- Q408,409 2SC2320F TI MUTE
- D404 IS2076 SWITCHING
- D405 IS2076 COUNTER CURRENT PREVENTION
- IC801 HA12037 PRE. AMP./ SWITCHING
- Q801 2SC2320F PLAYBACK E.O.
- D101 IS2076 PROTECT.
- IC101 AN7213A FM RF AMP./ FM CONV.
- D102 IS2790 AFC
- D103 FM LIMITER
- Q201 2SC380 FM IF AMP.
- IC301 AN7420 FM MPX
- IC201 AN7223 FM/AM IF AMP. FM/AM DET. AF AMP. AM RF AMP. AM CONV.
- LED301 LS217RP STEREO IND.
- IC501 HA1292 POWER AMP.
- Q501 2SD468C CONSTANT VOLTAGE
- R03, 6E-82 CONSTANT VOLTAGE
- ZD502 HZ-2B CONSTANT VOLTAGE
- ZD503 HZ9A2 CONSTANT VOLTAGE
- Q502 2SC1162 CONSTANT VOLTAGE
- D601 SRP02-100M.F RECT
- D602 SRP02-100M.F RECT.
- D603 V03C PROTECT.

CIRCUIT BOARD DIAGRAM



IC101		1	2	3	4	5	6	7
	FM	4.4V	5.2V	5.2V	0V	5.4V	5.4V	4.6V
	AM	0V	0V	0V	0V	0V	0V	0.6V

IC201		1	2	3	4	5	6	7	8	9
	FM	5.0V	0.2V	0.2V	0.2V	0V	0V	5.0V	5.0V	5.0V
	AM	5.3V	5.6V	5.6V	5.6V	1.0V	0.7V	5.3V	5.3V	5.3V
		10	11	12	13	14	15	16	17	18
	FM	4.7V	0V	5.4V	1.3V	5.4V	0V	1.4V	1.4V	0.2V
	AM	4.8V	0V	5.8V	1.4V	5.8V	0V	1.5V	1.5V	5.6V

IC301		1	2	3	4	5	6	7	8	9
	FM	3.2V	4.0V	5.4V	4.7V	0V	4.8V	4.8V	3.3V	3.3V
	AM	3.3V	4.3V	5.8V	4.1V	0V	4.2V	5.8V	3.5V	3.5V

IC501		1	2	3	4	5	6	7	8	9	10	11	12
	T2PLAY	0.6V	0V	4.8V	0.3V	0V	0.6V	6.0V	11.6V	0V	11.9V	11.5V	6.0V

IC801		1	2	3	4	5	6	7	8	9	10	11	12
	T2PLAY	2.0V	2.1V	4.7V	0V	4.6V	4.6V	4.5V	0V	4.7V	4.6V	0V	4.6V
		13	14	15	16	17	18	19		20			21
	T2PLAY	4.4V	4.6V	4.6V	0V	4.6V	4.6V	5.9V	DRPS 6.9V	MIX. T1 1.8V	etc 0V	PHONO 5.3V	LINE 0V
		22	23	24	25	26	27	28	29	30			
	T2PLAY	T1 RADIO 5.3V	L/P 2.2V	T2 0V	PLAY 0V	REC 5.3V	5.9V	7.4V	4.5V	4.4V	7.4V	4.5V	4.6V

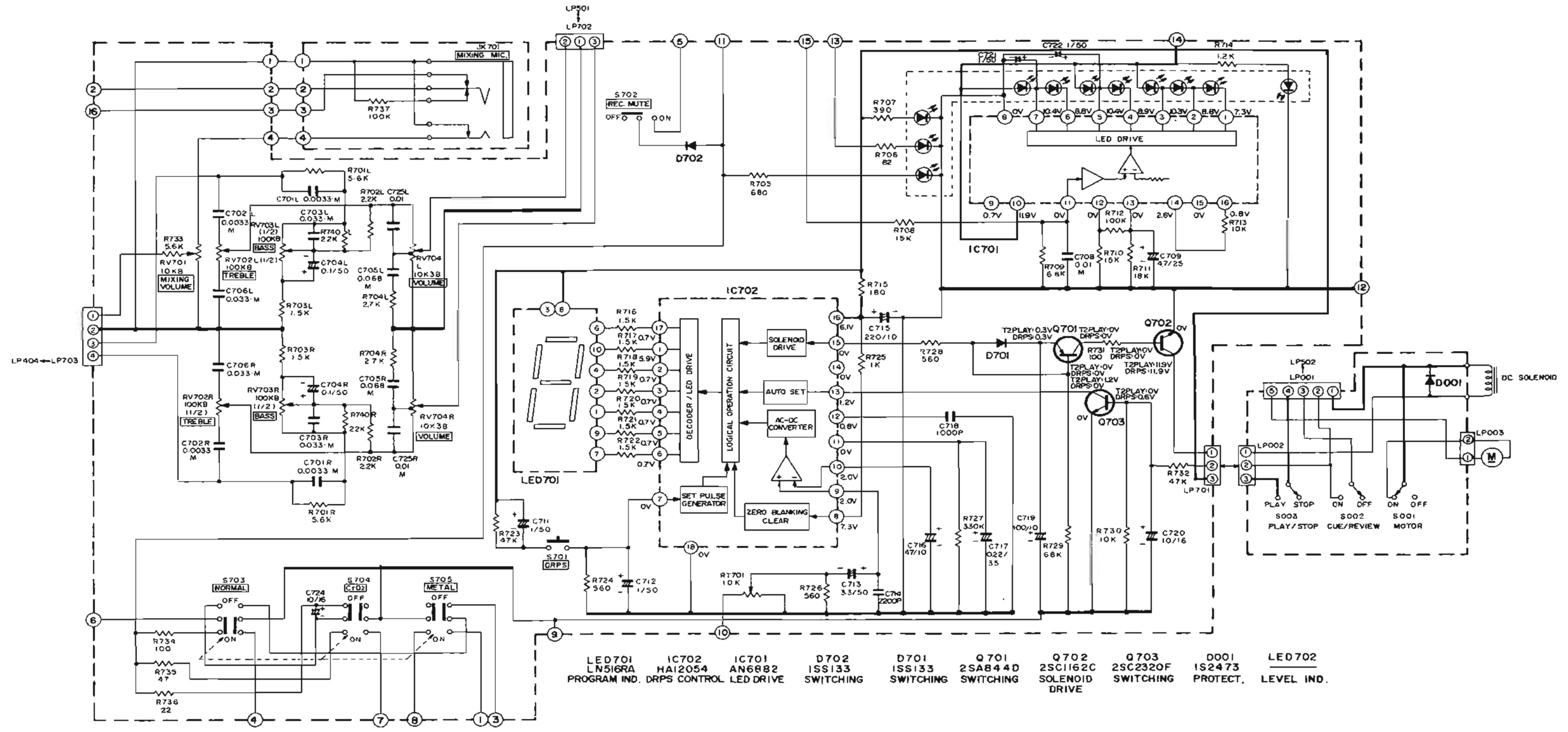
		Q402L,R		Q403L,R		Q404		Q405		Q406	
		T2PLAY	T2REC	T2PLAY	T2REC	T2PLAY	T2REC	T2PLAY	T2PLAY	T2PLAY	T2PLAY
E		1.2V	1.2V	0V	0V	5.3V	5.3V	5.3V	5.3V	0V	0V
C		4.0V	4.0V	0V	0V	0.6V	0V	7.4V	0V	0V	0V
B		1.9V	1.9V	0.6V	0V	4.3V	4.3V	5.9V	0V	0V	0V

		Q407			Q408		
		T2PLAY (NOR)	T2PLAY (METAL CrO2)	T2REC (NOR)	T1PLAY	T1STOP	T2PLAY
E		0V	0V	0V	0V	0V	0V
C		0.6V	0V	0V	5.9V	1.3V	5.9V
B		0V	0.7V	0V	0V	2.0V	0V

		Q409			Q801		
		T1PLAY	T1STOP	T2PLAY	T2PLAY (NOR)	T2PLAY (METAL CrO2)	T2REC (NOR)
E		0V	0V	0V	0V	0V	0V
C		0V	2.0V	0V	0V	0V	0V
B		0.6V	0V	0V	0.6V	0V	0V

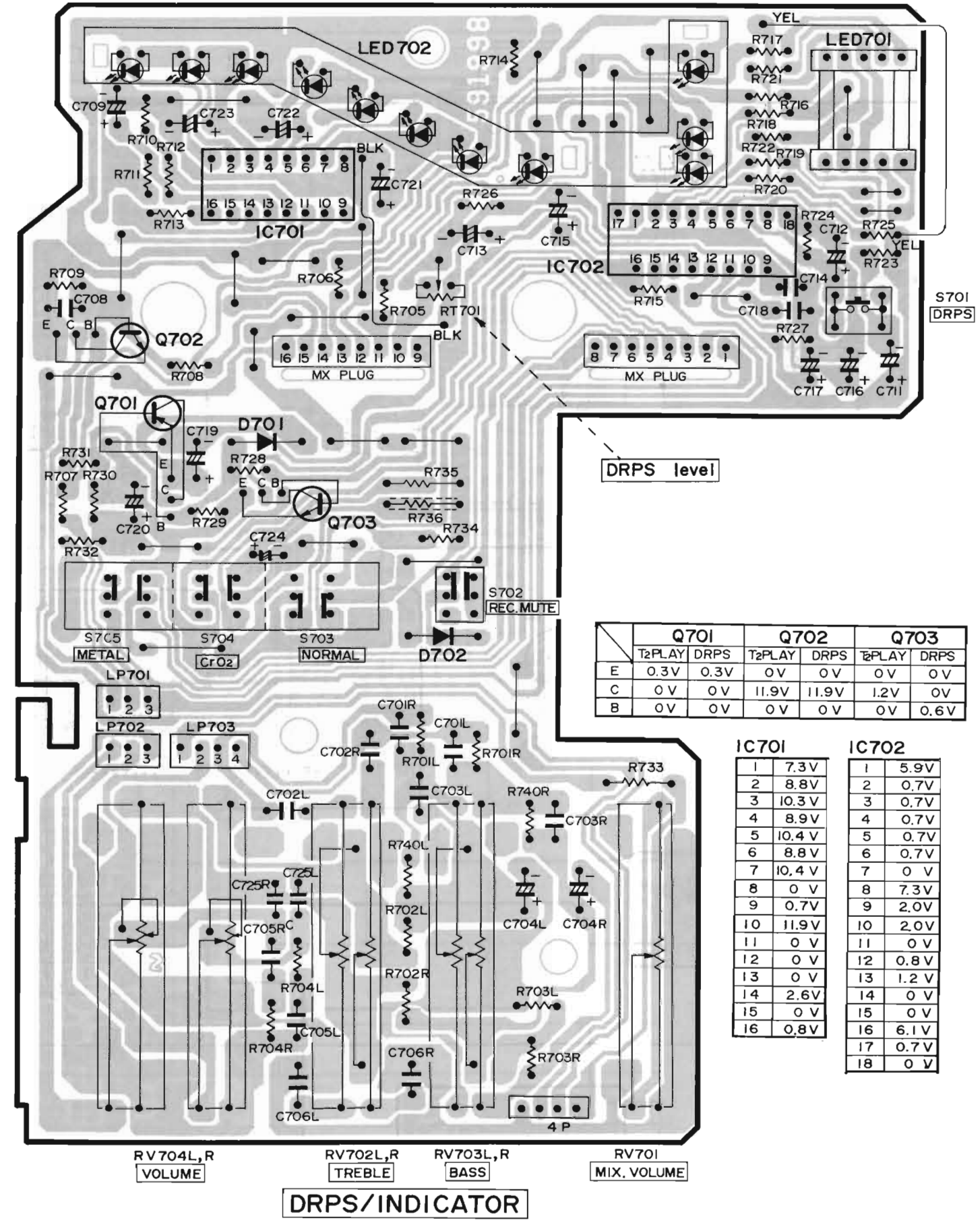
		Q201		Q502		Q501	
		FM	AM	T2PLAY	T1PLAY	T1STOP	T1STOP
E		0.6V	0V	7.4V	4.2V	4.2V	4.2V
C		2.4V	1.0V	11.9V	6.3V	7.2V	7.2V
B		1.3V	0.7V	8.1V	4.8V	4.9V	4.9V

SCHEMATIC DIAGRAM (DRPS/Indicator)





CIRCUIT BOARD DIAGRAM



Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.

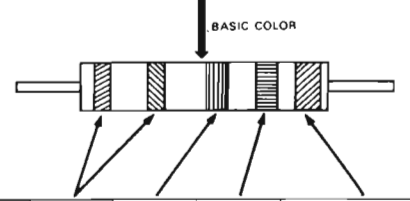
Circuit No.	
Value	No indicated Ω(Ohm) M : 1000kΩ
Tolerance	No indicated ±5% K : ±10% M : ±20%
Wattage	No indicated ¼W
Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film

Circuit No.	
Value	No indicated μF P : PF
Tolerance	No indicated ±10% J : ±5% M : ±20% Z : +80% -20% D : ±0.5pF C : ±0.25pF
Sort	Ceramic
	Electrolytic
	Mylar
	Polyester
	Styrol
Voltage	No indicated 50WV

3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with \*, use specified ones stated on parts list since required temperature characteristics.

HOW TO READ CAPACITY OF RESISTOR SHAPE CAPACITORS

COLOR	RATED VOLTAGE
Pink	25V
Light green	50V

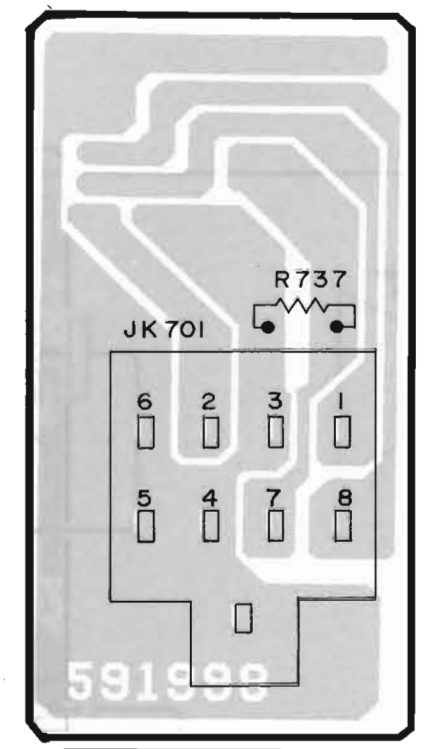


COLOR	CAPACITY	MULTIPLE	TOLERANCE	CHARACTERISTICS
Black	0	10 <sup>0</sup>	±20%	For temperature compensation
Brown	1	10 <sup>1</sup>		
Red	2	10 <sup>2</sup>		
Orange	3	10 <sup>3</sup>		
Yellow	4	10 <sup>4</sup>		
Green	5	10 <sup>5</sup>		
Blue	6			
Violet	7			
Grey	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10 <sup>1</sup>	±5%	
Silver			±10%	High dielectric constant type

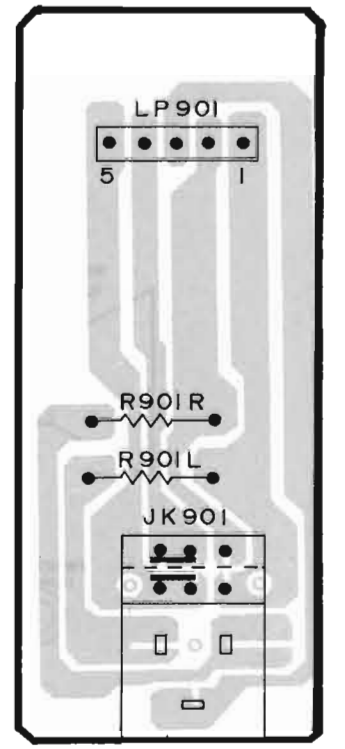
	Q701		Q702		Q703	
	T2PLAY	DRPS	T2PLAY	DRPS	T2PLAY	DRPS
E	0.3V	0.3V	0V	0V	0V	0V
C	0V	0V	11.9V	11.9V	1.2V	0V
B	0V	0V	0V	0V	0V	0.6V

IC701	
1	7.3V
2	8.8V
3	10.3V
4	8.9V
5	10.4V
6	8.8V
7	10.4V
8	0V
9	0.7V
10	11.9V
11	0V
12	0V
13	0V
14	2.6V
15	0V
16	0.8V

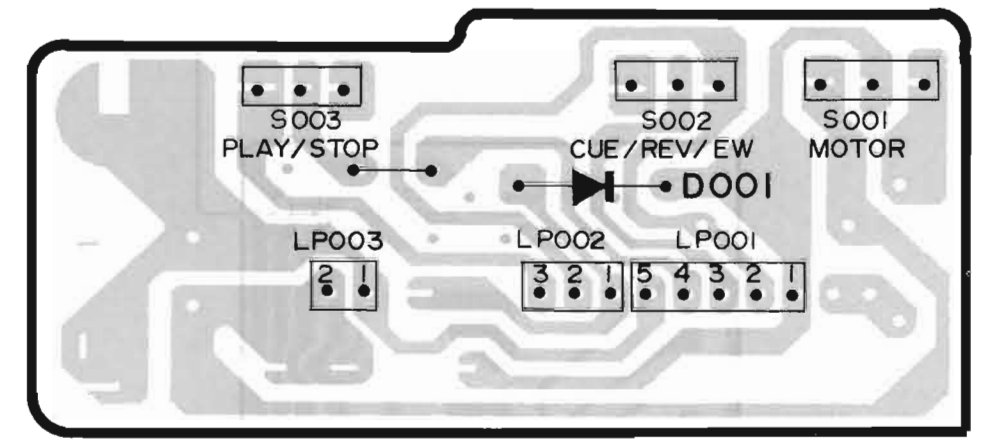
IC702	
1	5.9V
2	0.7V
3	0.7V
4	0.7V
5	0.7V
6	0.7V
7	0V
8	7.3V
9	2.0V
10	2.0V
11	0V
12	0.8V
13	1.2V
14	0V
15	0V
16	6.1V
17	0.7V
18	0V



MIXING MIC.



HEADPHONE

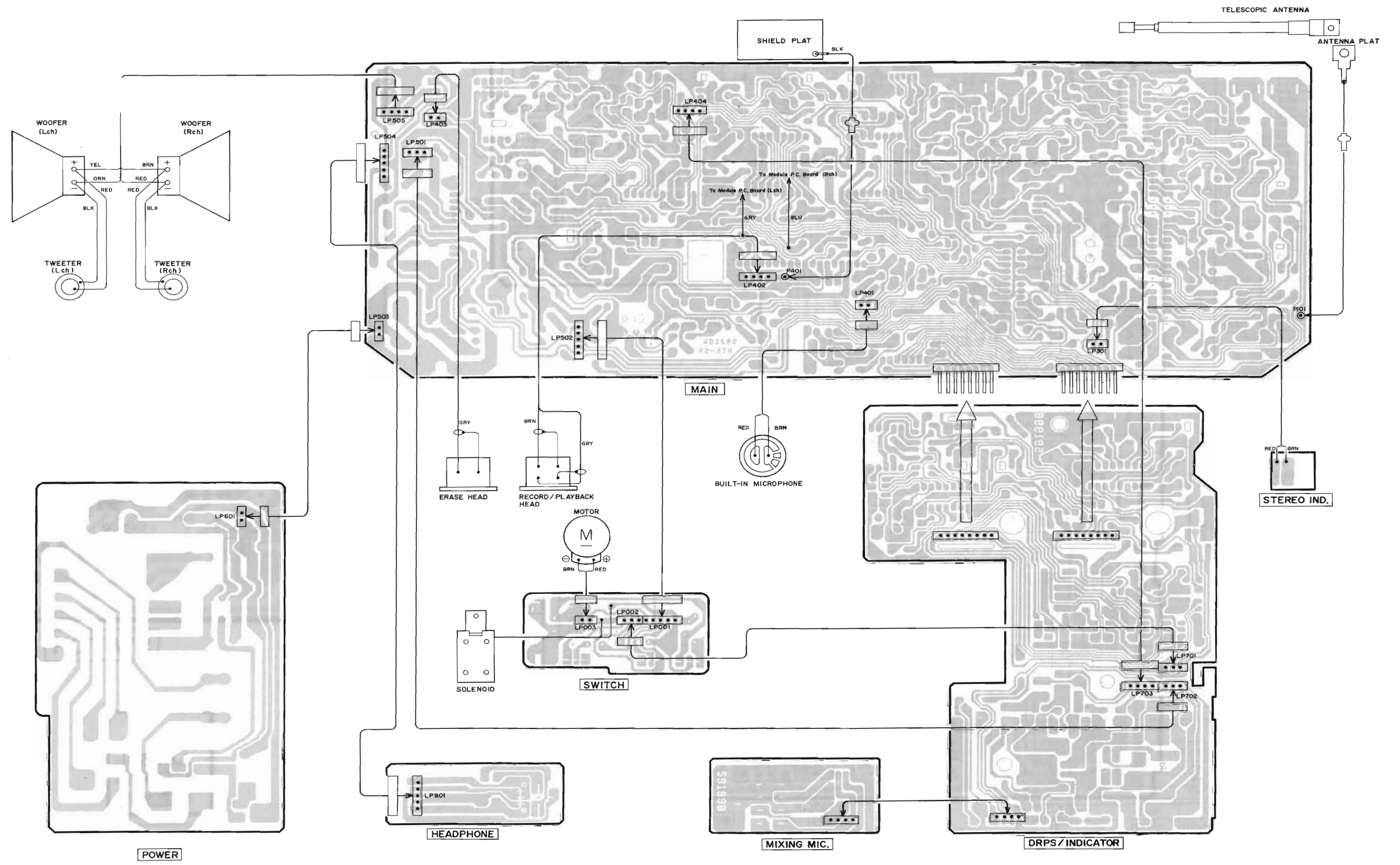


SWITCH

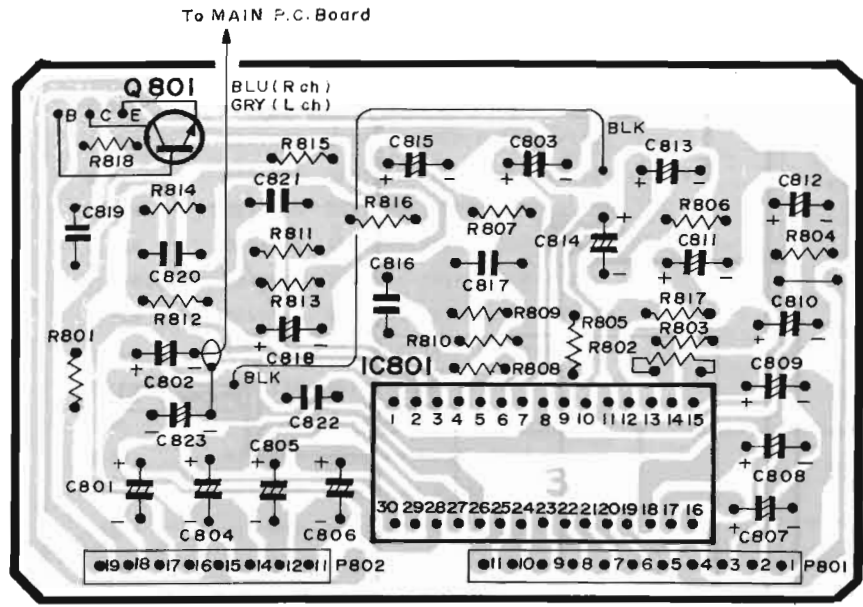


STEREO IND.

WIRING DIAGRAM



CIRCUIT BOARD DIAGRAM



MODULE

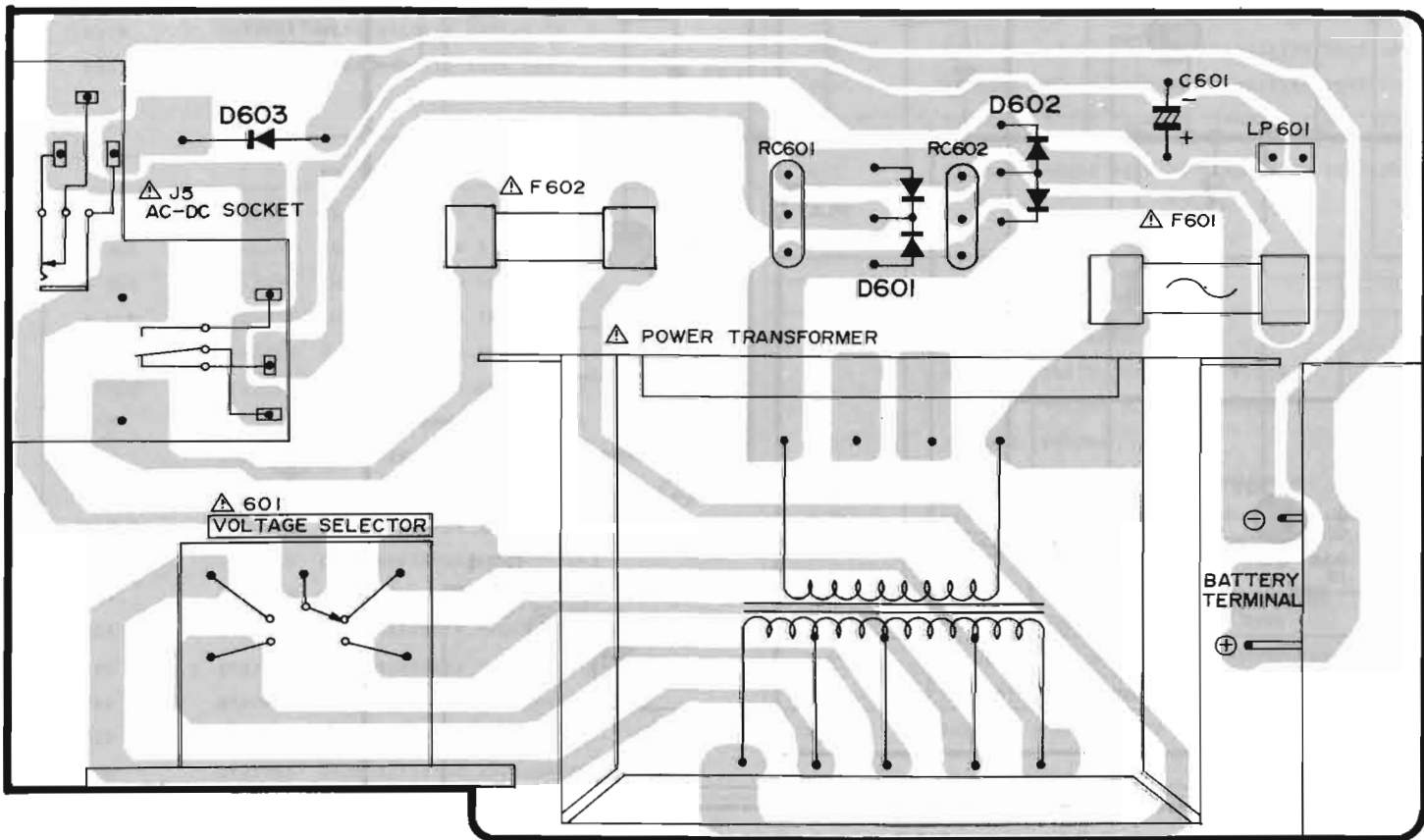
IC801

1	2.0 V	18	4.6 V
2	2.1 V	19	5.9 V
3	4.7 V	20	DRPS 6.9V
4	0 V	20	MIX, Tr 1.8V
5	4.6 V	20	etc. 0 V
6	4.6 V	21	PHONO 5.3V
7	4.5 V	21	LINE 0 V
8	0 V	22	TIRADIO 5.3V
9	4.7 V	22	L/P 2.2V
10	4.6 V	22	T2 0 V
11	0 V	23	PLAY 0 V
12	4.6 V	24	5.9V
13	4.4 V	25	7.4V
14	4.6 V	26	4.5 V
15	4.6 V	27	4.4 V
16	0 V	28	7.4 V
17	4.6V	29	4.5 V
		30	4.6V

	Q801		
	T2PLAY(NOR)	T2PLAY METAL CrO2	T2REC(NOR)
E	0 V	0V	0V
C	0 V	0V	0V
B	0.6V	0V	0V

REPLACEMENT PARTS LIST

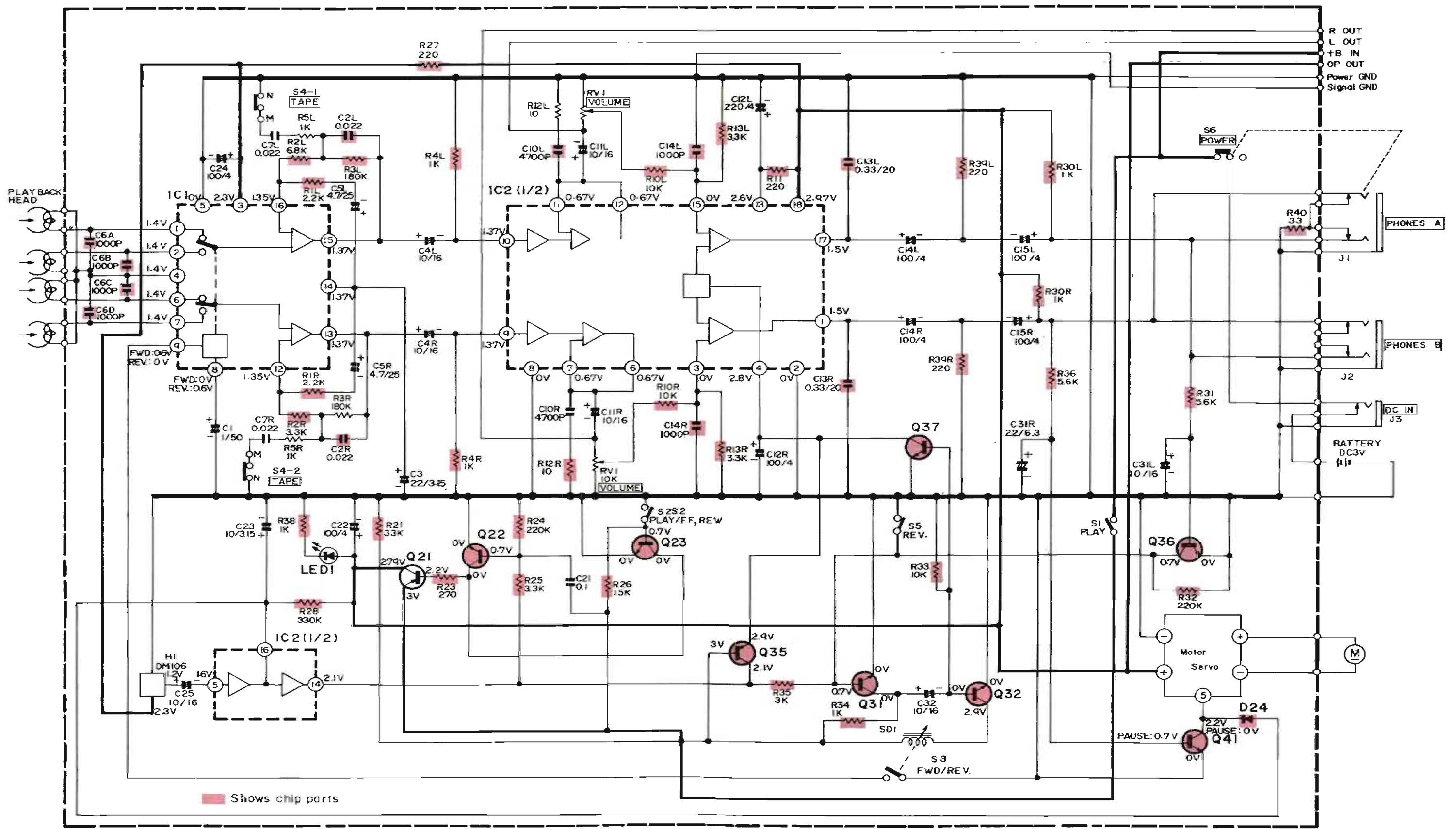
SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
SEMI-CONDUCTORS			MISCELLANEOUS		
Q703	5322622	TRANSISTOR 2SC2320F	△	5652341	AC-DC SOCKET
Q801	5322622	TRANSISTOR 2SC2320F		5659521	LED SOCKET
ZD501	5332091	ZENER DIODE RD3.6E2HF	BP101	5161551	FILTER
ZD502	5330715	ZENER DIODE HZ2B	CF201	5160303	CERAMIC FILTER 10.7MHZ
ZD503	5330325	ZENER DIODE HZ9A2	CF202	5160061	CERAMIC FILTER 455KHZ
			CF203	5160383	CERAMIC FILTER 10.7MHZ
TRANSFORMERS					
△ PT	5213261	POWER TRANSFORMER	△ F601	5721407	FUSE 2.5A
T101	5140071	FM IF TRANSFORMER	△ F602	5721475	FUSE 500MA
T151	5152372	AM IF TRANSFORMER	JK401	5676312	6P PIN JACK (PHONO, LINE IN, LINE OUT)
COILS			JK501LR	5673381	JACK-3.5MMD (EXT. SP.)
L101	5126362	FM RF COIL	JK701	5674481	MIC JACK
L102	5126915	FM OSCILLATOR COIL	JK901	5673432	JACK-3.5MMD (HEADPHONE)
L151	5123674	SW ANTENNA COIL	PG401	5664231	6P CONNECTOR PLUG
L152-153	5117892	FERRITE ANTENNA	S101	5613458	SLIDE ROTARY SWITCH (BAND)
L154	5123677	SW OSCILLATOR COIL	S401	5613457	SLIDE ROTARY SWITCH (FUNCTION)
L155	5120519	SW OSCILLATOR COIL	S403	5622301	SLIDE SWITCH (REC/P.B.)
L156	5120518	MW OSCILLATOR COIL	S404	5623081	SLIDE SWITCH (LINE/PHONO, AFC)
L157	5123271	FM TRAP COIL 0.5MH	S405	5624411	SLIDE SWITCH (FM MODE, RIF)
L201	5152324	CHOKE COIL 10μH±10%	△ S601	5605124	ROTARY SWITCH (VOLTAGE SELECTOR)
L301LR	5150571	CHOKE COIL 33MH	S602	5634418	PUSH SWITCH (POWER)
L401LR	5150571	CHOKE COIL 33MH	S701	5633911	SWITCH (PROGRAM)
L402	5260981	OSCILLATOR BLOCK	S702	5635033	PUSH SWITCH (REC MUTE)
L403LR	5120274	CHOKE COIL	S703-705	5634601	PUSH SWITCH (TAPE)
L501	5150575	CHOKE COIL 1000μH	TN401	5686201	TERMINAL PLATE (GND)
L502LR	5150761	CHOKE COIL			



POWER



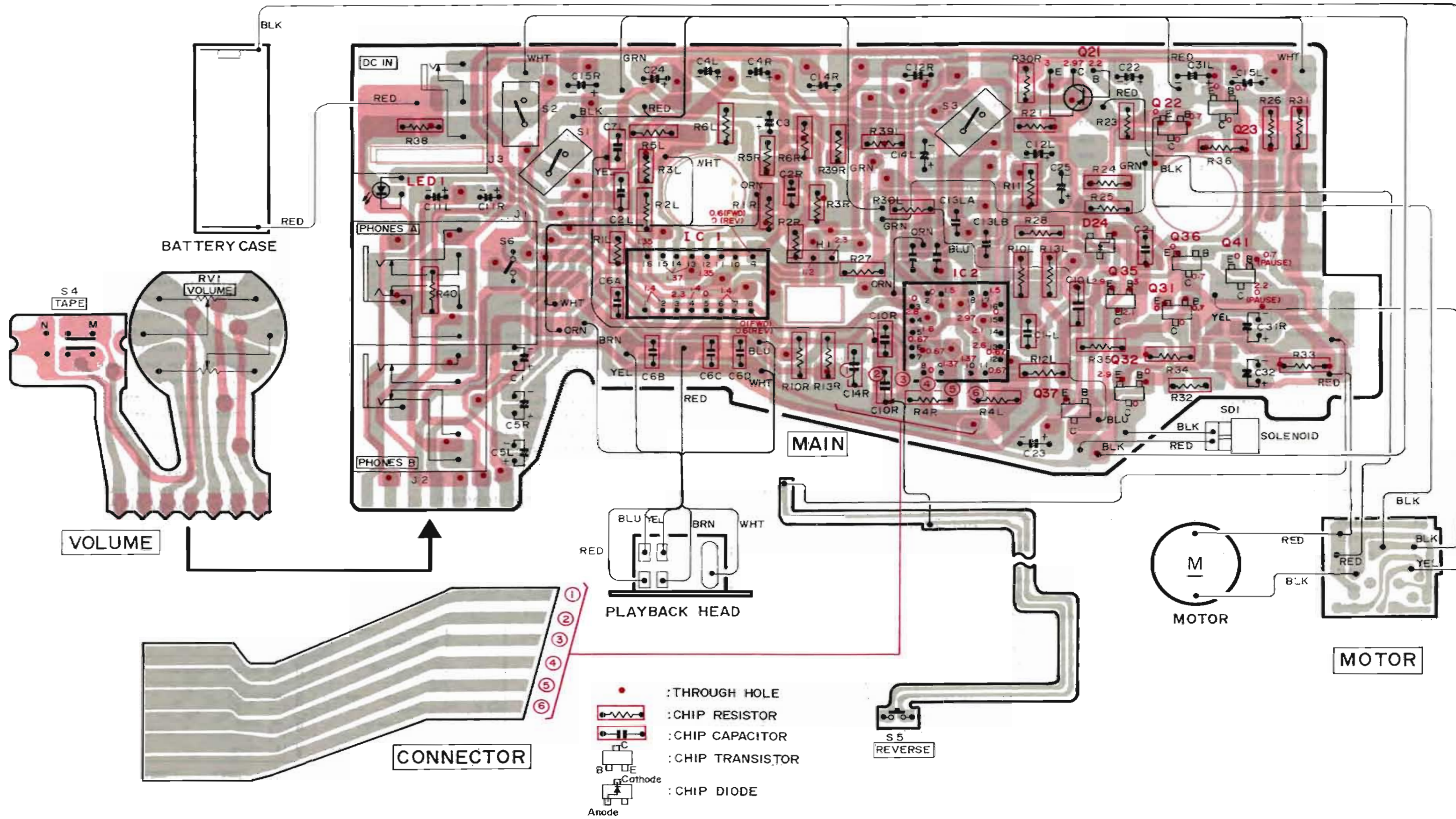
SCHEMATIC DIAGRAM [Stereo Cassette Player (TAPE 1) Section]



IC1	IC2	Q21	Q22	LED1	Q23	Q35	Q31	Q32	Q37	Q36	D24	Q41
BA3404F	HA12052C	2SB1001	2SC1623(L-5)	SLP114B	2SC1623(L-5)	2SA812	2SC1623(L-5)	2SC2618	2SC1623(L-5)	2SC1623(L-5)	MA152WA	2SD1306(L5-6)
PRE. AMP.	POWER AMP.	SWITCHING	SWITCHING	OPERATION IND.	SWITCHING	PROTECTOR	SWITCHING	SOLENOID DRIVE	SWITCHING	SWITCHING	SWITCHING	PAUSE SWITCHING



CIRCUIT BOARD DIAGRAM [Stereo Cassette Player (TAPE 1) Section]





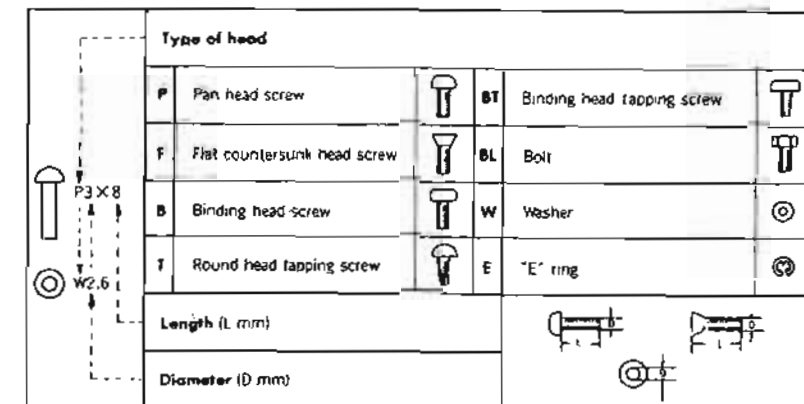
REPLACEMENT PARTS LIST

2. Stereo Cassette Player (TAPE 1) Electrical Parts

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
CAPACITORS					
C 1	0256151	ELECTROLYTIC 1.0UF 50V	R30LR	0127935	CHIP RESISTOR 1KOHM+-5%
C 2LR	0247065	CERAMIC CHIP 0.022MF+-10%	R31	0127944	CHIP RESISTOR 5.6KOHM+-5%
C 3	0256391	TANTALUM ELECTROLYTIC 22MF,3.15V	R32	0127963	CHIP RESISTOR 220KOHM+-5%
C 4LR	0256155	ELECTROLYTIC 10UF 16V	R33	0127947	CHIP RESISTOR 10KOHM+-5%
C 5LR	0256154	ELECTROLYTIC 4.7UF 25V	R34	0127935	CHIP RESISTOR 1KOHM+-5%
C 6ABCD	0247003	CERAMIC CHIP 100PF+-20%	R35	0127941	CHIP RESISTOR 3.3KOHM+-5%
C 7LR	0247065	CERAMIC CHIP 0.022MF+-10%	R36	0127944	CHIP RESISTOR 5.6KOHM+-5%
C10LR	0247061	CERAMIC CHIP 4700PF+-10%	R37	0127947	CHIP RESISTOR 10KOHM+-5%
C11LR	0256155	ELECTROLYTIC 10UF 16V	R38	0127935	CHIP RESISTOR 1KOHM+-5%
C12L	0256162	ELECTROLYTIC 220MF,4V	R39L	0127927	CHIP RESISTOR 220OHM+-5%
C12R	0256167	ELECTROLYTIC 100MF,4V	R39R	0142835	CHIP RESISTOR 220 OHM
C13LR	0256422	TANTALUM 0.33MF,20V	R40	0127917	CHIP RESISTOR 330OHM+-5%
C14LR	0247003	CERAMIC CHIP 1000PF+-20%	SEMI-CONDUCTORS		
C14LP	0256167	ELECTROLYTIC 100MF,4V	024	5329302	MICRO PACKAGE DIODE HA152WA
C15LR	0256167	ELECTROLYTIC 100MF,4V	IC 1	5369961	IC BA3404F
C21	0247069	CERAMIC CHIP 0.1MF+80-20%	IC 2	5369922	IC HA12052
C22	0256167	ELECTROLYTIC 100MF,4V	LEO 1	5380881	LED SLP-1148
C23	0256386	TANTALUM ELECTROLYTIC 10MF,3.15V	Q21	5329681	MICRO PACKAGE TRANSISTOR 25B1001
C24	0256167	ELECTROLYTIC 100MF,4V	Q22-23	5329043	MICRO PACKAGE TRANSISTOR 25C1623(L5-6)
C25	0256155	ELECTROLYTIC 10UF 16V	Q31	5329043	MICRO PACKAGE TRANSISTOR 25C1623(L5-6)
C31L	0256155	ELECTROLYTIC 10UF 16V	Q32	5329201	MICRO PACKAGE TRANSISTOR 25C2618
C31R	0256705	ELECTROLYTIC 22MF,6.3V	Q35	5329061	MICRO PACKAGE TRANSISTOR 25A812M
C32	0256155	ELECTROLYTIC 10UF 16V	Q36-37	5329043	MICRO PACKAGE TRANSISTOR 25C1623(L5-6)
RESISTORS					
R 1LR	0142847	CHIP RESISTOR 2.2KOHM	Q41	5329043	MICRO PACKAGE TRANSISTOR 25C1623(L5-6)
R 2LR	0142849	CHIP RESISTOR 3.3KOHM	MISCELLANEOUS		
R 3LR	0142870	CHIP RESISTOR 180KOHM+-5%	5920121	CONNECTOR P.C.B	
R 4LR	0127935	CHIP RESISTOR 1KOHM+-5%	5920332	SWITCH CONNECTOR P.C.B	
R 5LR	0142843	CHIP RESISTOR 1K OHM	5952181	VOLUME P.C.B ASSEMBLY	
R10LP	0127947	CHIP RESISTOR 10KOHM+-5%	H 1	5391082	OH106A
R11	0127927	CHIP RESISTOR 220OHM+-5%	J 1 (S6)	5673531	JACK-3.5MM (HEADPHONE A)
R12L	0127911	CHIP RESISTOR 100HM+-5%	J 2	5673361	JACK-3.5MM (HEADPHONE B)
R12R	0142819	CHIP RESISTOR 100HM+-5%	J 3	5677341	DC JACK
R13LR	0127941	CHIP RESISTOR 3.3KOHM+-5%	S 1	5603681	LEAF SWITCH (PLAY)
R21	0127953	CHIP RESISTOR 33KOHM+-5%	S 2	5603681	LEAF SWITCH (PLAY/FF, REW)
R23	0127928	CHIP RESISTOR 270HM+-5%	S 3	5603681	LEAF SWITCH (FORWARD/REVERSE)
R24	0127963	CHIP RESISTOR 220KOHM+-5%	S 4	5622561	SLIDE SWITCH (TAPE)
R25	0127941	CHIP RESISTOR 3.3KOHM+-5%	S 5	5633952	PUSH SWITCH (REVERSE)
R26	0127937	CHIP RESISTOR 1.5KOHM+-5%			
R27	0127927	CHIP RESISTOR 220OHM+-5%			
R28	0127965	CHIP RESISTOR 330KOHM+-5%			

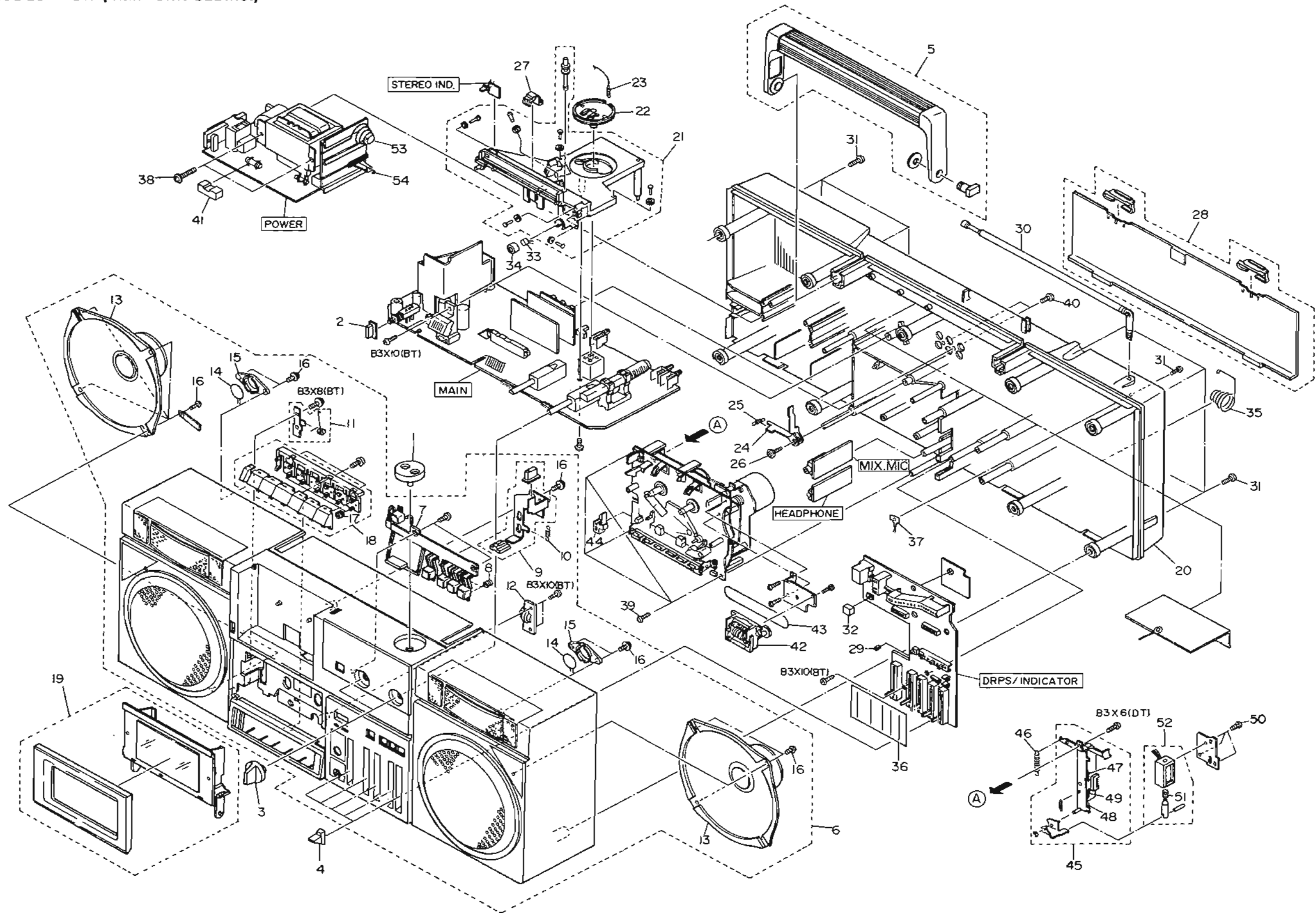
3. Main Unit Cabinet Parts

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
MISCELLANEOUS					
1	6284341	TUNING KNOB	31	8678414	BT BIND SCREW-3MMX14MM
2	6293971	PUSH BUTTON (POWER)	32	6591301	SWITCH COVER
3	6284052	KNOB (FUNCTION, BAND)	33	5421572	BUILT-IN MICROPHONE
4	6293931	SLIDE KNOB (VOLUME L/R, TONE, MIX, VOLUME)	34	6570291	MIC COVER
5	6772164	HANDLE ASSEMBLY	35	6308964	SPRING
6	6037786	FRONT CASE ASSEMBLY	36	7741282	SPACER
7	6060641	PUSH BUTTON	37	5651361	ANTENNA TERMINAL
8	6322164	SPRING	38	7781136	SPECIAL SCREW-3MMX20MM
9	6059131	RELEASE BUTTON ASSEMBLY	39	8699414	BT BIND HEAD SCREW-3MMX14MM
10	6300481	SPRING	40	8699403	BT BIND HEAD SCREW-3MMX8MM (BLACK)
11	6548931	LID SPRING ASSEMBLY	41	6753912	FUSE COVER
12	6768341	DAMPER	42	5559651	COUNTER
13	5407425	SPEAKER-16CM	43	6354473	COUNTER BELT
14	5419073	SPEAKER-TWEETER	44	6776383	SLIDE LEVER HOLDER
15	6774412	SPEAKER HOLDER	45	7354823	SWITCH HOLDER ASSEMBLY
16	7781132	BT SCREW	46	6542552	REC SPRING
17	6303777	SPRING	47	5633692	SWITCH (S003)
18	6059101	FUNCTION BUTTON ASSEMBLY	48	5633891	PUSH SWITCH (S001)
19	6094573	CASSETTE LID ASSEMBLY	49	5633691	PUSH SWITCH (S002)
20	6037766	REAR CASE ASSEMBLY	50	7783411	SPACIAL SCREW
21	6776282	DIAL CORD STRINGING HOLDER ASSEMBLY	51	6520811	SPRING FOR SOLENOID
22	6423201	PULLEY	52	5644071	OC SOLENOID
23	6316231	SPRING M	53	6547831	BATTERY TERMINAL
24	7354683	RECORD ARM	54	7790672	BATTERY TERMINAL
25	6300593	LOCK SPRING	FOR ACCESSORIES		
26	7781132	BT SCREW	△	5747262	POWER CORD
27	6398941	POINTER	△	5660212	SIEMENS PLUG
28	6771955	BATTERY LID ASSEMBLY		6776472	SHOULDER BELT HOLDER ASSEMBLY
29	6591381	SWITCH CAP		5732082	HEADPHONE (HD-111)
30	5752742	TELESCOPIC ANTENNA			



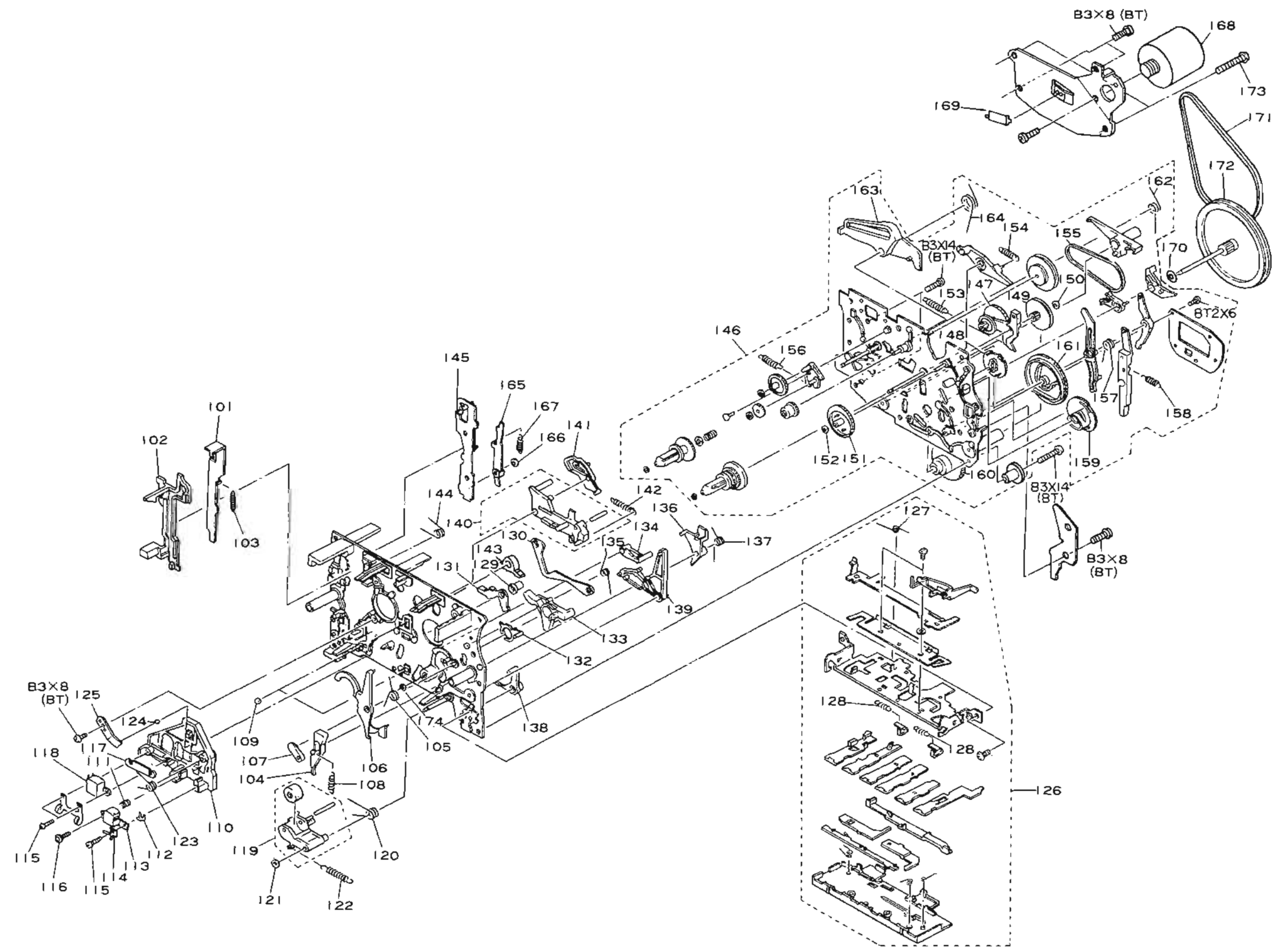
When ordering hardware excluding stated on these lists, be sure to make your orders with type and size

EXPLODED VIEW (Main Unit Cabinet)



Note : Components marked without numbers in this drawing are not specified as replacement parts.

EXPLODED VIEW [Main Unit Mechanism (TAPE 2)-FZ-11A]



Note : Components marked without numbers in this drawing are not specified as replacement parts.

## REPLACEMENT PARTS LIST

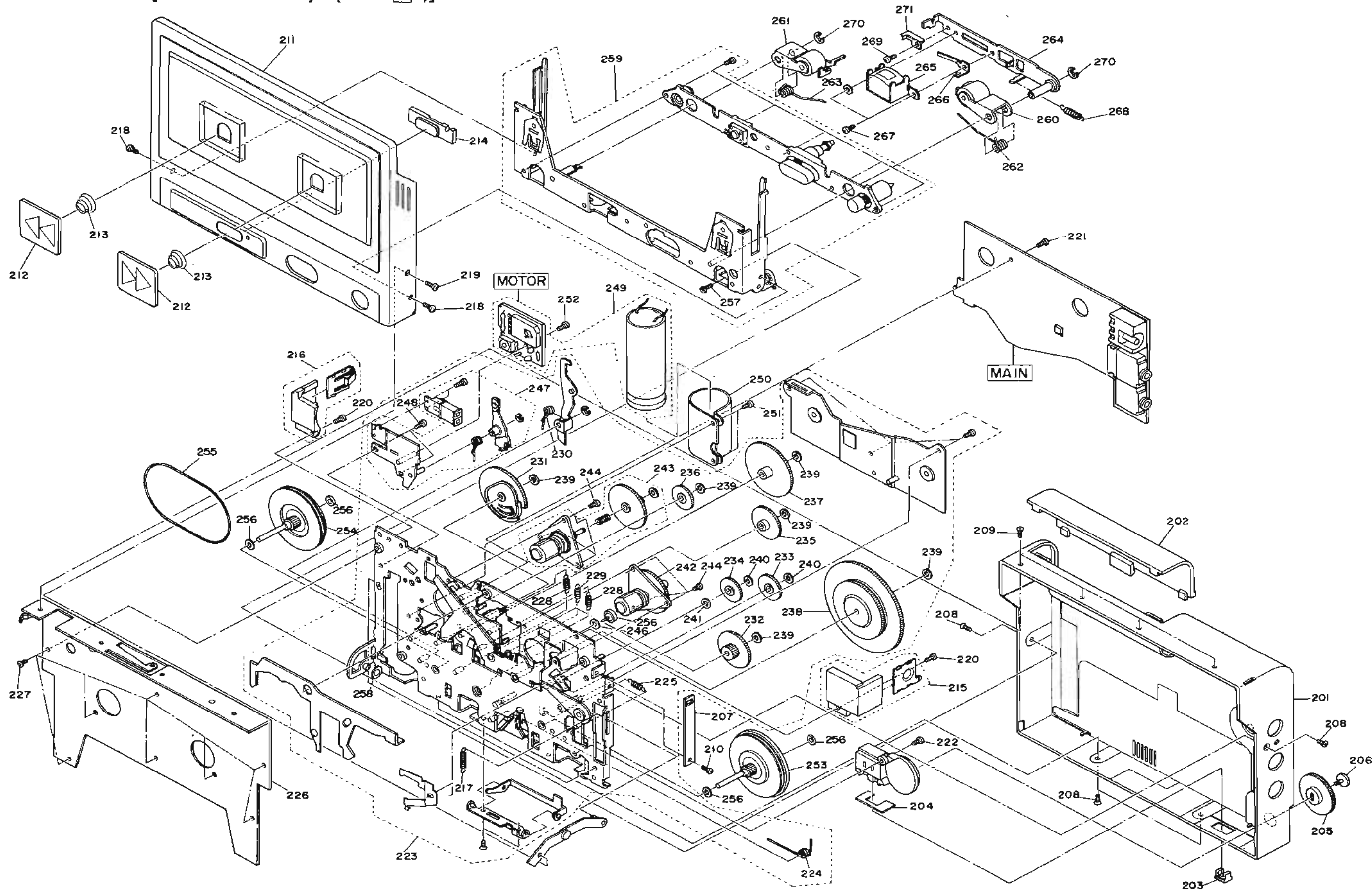
4. Main Unit Mechanical Parts ((TAPE 2 )-FZ-11A)

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
MECHANISM (FZ-11A)					
101	7345871	RECORD PREVENTION SLIDER	138	6774201	AUTO STOP ARM
102	6771344	EJECT SLIDER	139	6771474	FUNCTION ARM
103	6301011	LOCK LEVER SPRING	140	6771413	PLAY ARM ASSEMBLY
104	6773822	PAUSE SENSING ARM	141	6774231	SWITCH ARM
105	6547923	SPRING	142	6301233	SPRING
106	6773832	OPERATING ARM	143	6773333	SEARCH STOPPER
107	6772843	ARM HOLDER	144	6548281	SPRING
108	6300595	SPRING	145	7345807	RECORD SLIDER ASSEMBLY
109	0948492	BALL - 2MMØ	146	6777322	TURN TABLE HOLDER ASSEMBLY
110	6771336	HEAD PLATE	147	6771364	TAKE-UP ARM ASSEMBLY
111	6321733	HEAD SPRING C	148	6432212	PAUSE PA GEAR
112	7757042	SPACER	149	6422772	AUTO STOP PULLEY
113	5449032	RECORD PLAYBACK HEAD	150	7786115	POLYESTER WASHER
114	7330961	EARTH PLATE	151	6432073	AS CAM GEAR
115	7780913	TAPPING SCREW-2MMØX10MM	152	7786115	POLYESTER WASHER
116	7781004	SCREW	153	6301331	SPRING
117	7757052	SPACER	154	6301101	SPRING
118	5445531	ERASE HEAD	155	6355504	BELT
119	6771072	PRESSURE ROLLER ARM ASSEMBLY	156	6301331	SPRING
120	6547692	SPRING	157	6547561	SPRING
121	7778859	POLY SLIDER WASHER	158	6301001	SPRING
122	6301101	SPRING	159	6432053	FF PA GEAR
123	6547571	HEAD PLATE SPRING	160	6432061	REWIND PA GEAR
124	0948492	BALL - 2MMØ	161	6432042	PLAY PA GEAR
125	7345882	HEAD PLATE HOLDER	162	6548121	SPRING
126	6057978	BUTTON HOLDER ASSEMBLY	163	6771244	RECORD PA ARM
127	6547642	SPRING	164	6548112	SPRING
128	6300181	SPRING	165	7345994	RECORD LEVER
129	6772831	LEVER HOLDER	166	7778859	POLY SLIDER WASHER
130	7345892	TIMING LEVER	167	6300599	LOCK SPRING
131	7345913	RETURN LEVER	168	7043325	DC MOTOR ASSEMBLY
132	7345862	AS PREVENTION LEVER	169	6530922	FLYWHEEL SUPPORT SPRING
133	6774221	REVIEW/CUE ARM	170	7788067	POLY SLIDER WASHER
134	6771082	TENSION ARM	171	6355509	BELT
135	6547622	SPRING	172	6974174	FLYWHEEL ASSEMBLY
136	6774211	PAUSE TRIGGER	173	7781147	BT BIND HEAD SCREW-3MMØX30MM
137	6548261	SPRING	174	7786623	POLY SLIDER WASHER

## 5. Stereo Cassette Player (TAPE 1) Mechanical Parts

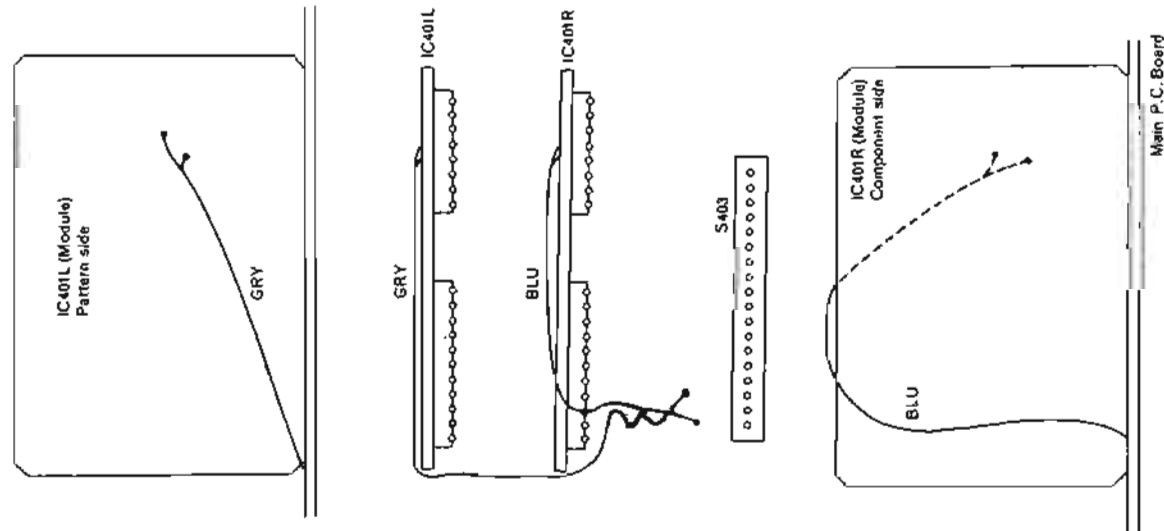
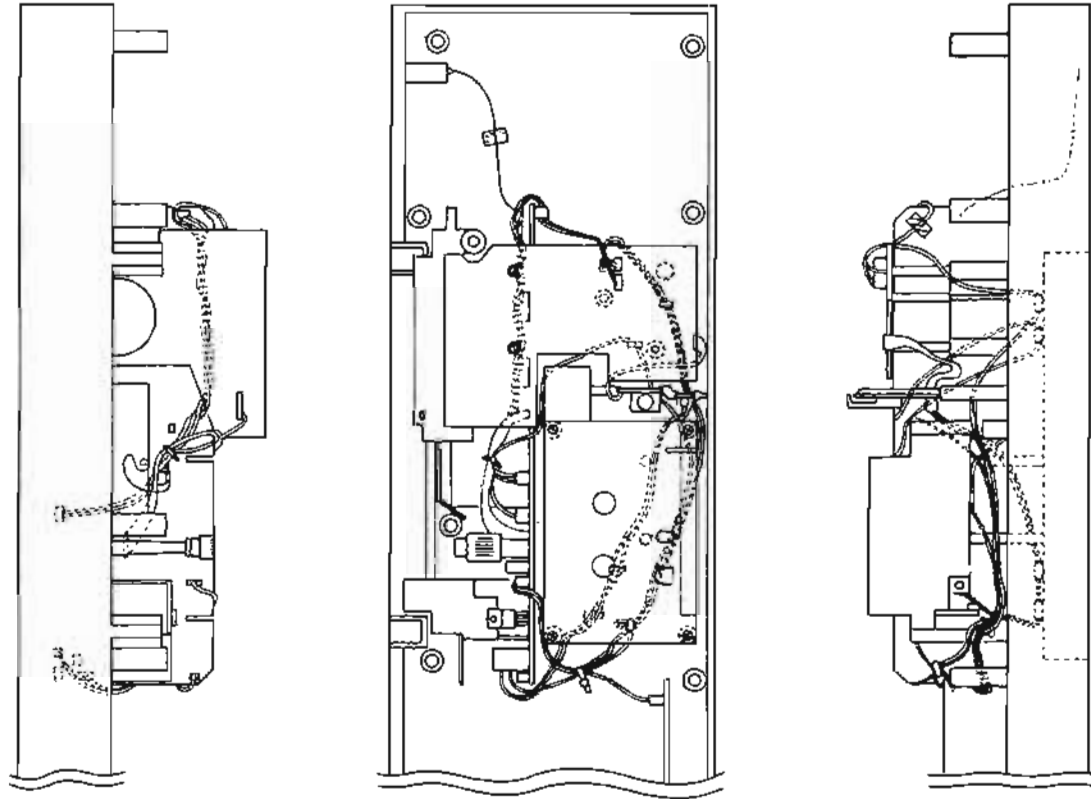
SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
CASE ASSEMBLY			237	6432042	REWIND GEAR
201	6038512	REAR CASE ASSEMBLY	238	6432894	TAKE-UP GEAR ASSEMBLY
202	6174722	BATTERY LID	239	7787739	WASHER
203	6295662	SLIDE KNOB (TAPE)	240	7787572	WASHER
204	7355971	KNOB STOPPER	241	7786119	POLY SLIDER WASHER
205	6293922	VOLUME KNOB	242	6414837	REEL BASE ASSEMBLY (FORWARD)
206	7783021	SPACIAL SCREW	243	6414887	REEL BASE ASSEMBLY (REVERSE)
207	7354632	STRAP HOLDER	244	8724022	FLAT SCREW-1.4MMX2.5MM
208	8722023	FLAT SCREW-1.4MMX3MM	245	6423331	PULLEY ASSEMBLY
209	8722002	FLAT SCREW-1.4MMX1.6MM	246	7787563	POLY SLIDER WASHER
210	8722004	FLAT SCREW-1.4MMX2MM	247	5643131	MAGNET ASSEMBLY
211	6094793	CASSETTE LID ASSEMBLY	248	7780902	PAN HEAD SCREW-1.7MMX2MM
212	6059092	FF/REWIND BUTTON	249	5577724	DC MOTOR
213	6521481	BUTTON SPRING	250	7357451	MOTOR BRNO
214	6591501	PUSH BUTTON	251	7780903	PAN HEAD SCREW-1.7MMX3MM
215	7354703	BATTERY TERMINAL ASSEMBLY (+)	252	8712023	PAN HEAD SCREW-1.4MMX2MM
216	7354712	BATTERY TERMINAL ASSEMBLY (-)	253	6374457	FLYWHEEL ASSEMBLY (FORWARD)
217	6543535	LID SPRING	254	6374473	FLYWHEEL ASSEMBLY (REVERSE)
218	7783032	SPACIAL SCREW	255	6355854	FLYWHEEL BELT
219	8712023	PAN HEAD SCREW-1.4MMX2MM	256	7788892	POLY SLIDER WASHER
220	8712024	PAN HEAD SCREW-1.4MMX3MM	257	7780903	PAN HEAD SCREW-1.7MMX3MM
221	8712023	PAN HEAD SCREW-1.4MMX2MM	258	7788891	POLY SLIDER WASHER
222	8712025	PAN HEAD SCREW-1.4MMX4MM	259	7354265	CASSETTE HOLDER ASSEMBLY
MECHANISM (CR-1A)			260	6383991	PRESSURE ROLLER ASSEMBLY (FORWARD)
223	7130132	SUB CHASSIS ASSEMBLY	261	6384005	PRESSURE ROLLER ASSEMBLY (REVERSE)
224	6548922	SPRING	262	6549191	SPRING
225	6543511	SPRING	263	6549174	SPRING
226	7354164	CASSETTE SUPPORT PLATE	264	7354073	HEAD PLATE ASSEMBLY
227	8722001	FLAT SCREW-1.4MMX1.4MM	265	5447312	HEAD
228	6543521	SPRING	266	6536722	HEAD SPRING
229	6543523	SPRING	267	8711103	PAN HEAD SCREW-2MMX3MM
230	6549182	SPRING	268	6543534	HEAD PLATE SPRING
231	6432906	POWER ASSIST GEAR	269	7783451	SCREW-1.4MMX3MM
232	6432951	POWER ASSIST IDLER GEAR	270	7778394	E RING 1.5MM
233	6433379	IDLER GEAR	271	7355961	HEAD PLATE HOLDER
234	6432981	FF IDLER GEAR			
235	6432991	REWIND IDLER GEAR			
236	6433011	REWIND IDLER GEAR			

EXPLODED VIEW [Stereo Cassette Player (TAPE 1 )]



Note : Components marked without numbers in this drawing are not specified as replacement parts.

WIRING LAY-OUT



HITACHI PARTS ORDERING INFORMATION

To receive original replacement parts, please contact your nearest HITACHI Parts Distributor or contact Hitachi Central Parts Warehouse listed below. Be sure to indicate part catalog number, part description and model number (located on back of product).

**THE ELECTRONIC DISTRIBUTION CO.**  
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Phone # 213-639-4120

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1921 N. Milwaukee Avenue  
Chicago, ILL 60647  
Phone # 312-235-6190

**REMCOR ELECTRONICS**  
10670 W. 9 Mile Rd.  
Oak Park, MI 48237  
Phone # 313-541-5866

**VANCE BALDWIN, INC.**  
7700 N.W. 7th Ave.  
Miami, FLA 33150  
Phone # 305-693-2921

**PANSON ELECTRONICS**  
28-14 Steinway St.  
Astoria, NY 11103  
Phone # 212-545-8888

**TEE-VEE SUPPLY CO.**  
3211 Washington St.  
Jamaica Plain, MA 02130  
Phone # 617-522-9330

**HITACHI SALES CORPORATION OF AMERICA**  
Central Parts Warehouse  
401 W. Artesia Blvd.  
Compton, CA 90220  
Phone # 213-537-8383

HITACHI SERVICE MANUALS

To order HITACHI Service Manuals contact :

**HITACHI SALES CORPORATION OF AMERICA**  
Central Parts Warehouse  
401 W. Artesia Blvd.  
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Phone # 213-537-8383

For information concerning repairs, operation or technical assistance, please contact the Service Manager of the nearest Hitachi Regional Office, Service Division listed :

**Southern Regional Office.**  
510 Plaza Dr.  
College Park, GA 30349  
Phone # 404-763-0360

**Mid-Western Regional Office**  
1600 Morse Avenue  
Elk Grove Village, ILL 60007  
Phone # 312-593-1550

**Eastern Regional Office**  
1200 Wall Street West  
Lyndhurst, NJ 07071  
Phone # 201-935-8980

**Western Regional Office**  
401 W. Artesia Blvd.  
Compton, CA 90220  
Phone # 213-537-8383



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1200 Wall Street West, Lyndhurst, New Jersey 07071,  
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Tel. 201-935-8980

**Mid-Western Regional Office**  
1400 Morse Ave., Elk Grove Village, Ill. 60007, U.S.A.  
Tel. 312-593-1550

**Southern Regional Office**  
510 Plaza Drive, College Park, Georgia 30349, U.S.A.  
Tel. 404-763-0360

**Western Regional Office**  
401 West Artesia Boulevard, Compton, California 90220  
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Tel. 213-537-8383

**HITACHI SALES CORPORATION OF HAWAII, INC.**  
3219 Koapaka Street, Honolulu, Hawaii 96819, U.S.A.  
Tel. 808-836-3621