

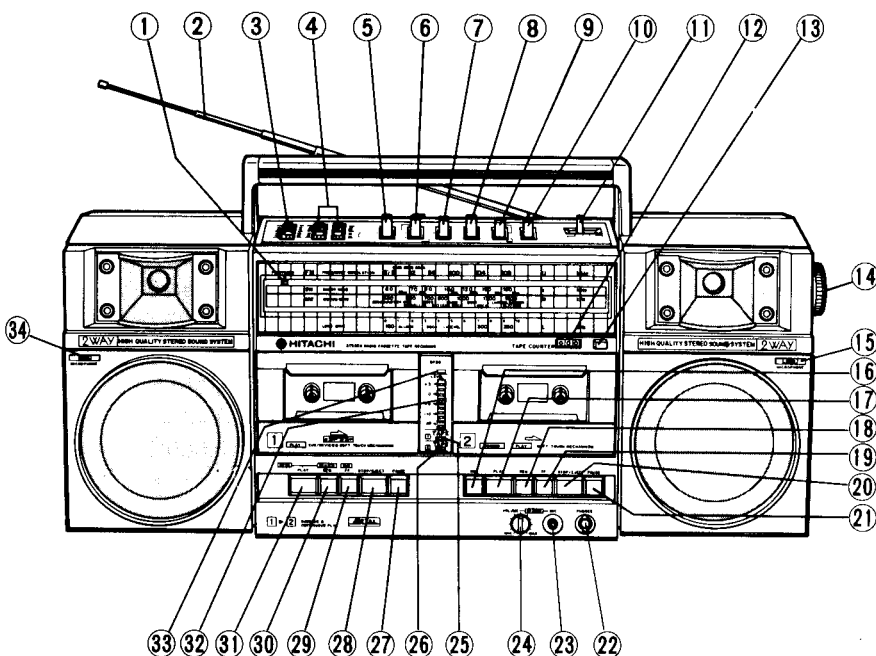
HITACHI

SERVICE MANUAL

TK

No.1959E

TRK-W55E/E(BS)



CONTENTS

SPECIFICATIONS	2
DISASSEMBLY	3
ADJUSTMENT	4
INSPECTION OF MECHANISM	7
LUBRICATION	7
DIAL CORD STRINGING	8
SCHEMATIC DIAGRAM	9
CIRCUIT BOARD DIAGRAM	14
REPLACEMENT PARTS LIST	17
EXPLODED VIEW	19

KEY TO ILLUSTRATIONS

- | | |
|-------------------------------|-------------------------------|
| ① FM STEREO INDICATOR | ②② HEADPHONES SOCKET |
| ② TELESCOPIC ANTENNA (AERIAL) | ②③ MIXING MICROPHONE SOCKET |
| ③ TONE CONTROL | ②④ MIXING MIC. VOLUME CONTROL |
| ④ VOLUME CONTROLS | ②⑤ TAPE ① INDICATOR |
| ⑤ FUNCTION SELECTOR | ②⑥ TAPE ② INDICATOR |
| ⑥ SPEAKER/INNER MIC. SELECTOR | ②⑦ PAUSE BUTTON |
| ⑦ SPSS SWITCH | ②⑧ STOP/EJECT BUTTON |
| ⑧ LOUDNESS SWITCH | ②⑨ FAST FORWARD/CUE BUTTON |
| ⑨ MODE SELECTOR | ②⑩ REWIND/REVIEW BUTTON |
| ⑩ TAPE SELECTOR | ②⑪ PLAYBACK BUTTON |
| ⑪ BAND SELECTOR | ②⑫ LEVEL INDICATORS |
| ⑫ TAPE COUNTER | ②⑬ SPSS INDICATOR |
| ⑬ COUNTER RESET BUTTON | ②⑭ BUILT-IN MICROPHONE (LEFT) |
| ⑭ TUNING CONTROL | |
| ⑮ BUILT-IN MICROPHONE (RIGHT) | |
| ⑯ RECORD BUTTON | |
| ⑰ PLAYBACK BUTTON | |
| ⑱ REWIND BUTTON | |
| ⑲ FAST FORWARD BUTTON | |
| ⑳ STOP/EJECT BUTTON | |
| ㉑ PAUSE BUTTON | |

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

FM/SW/MW/LW RADIO CASSETTE TAPE RECORDER

July 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  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.

SPECIFICATIONS**General Section**

Semiconductors:	ICs: 7 Transistors: 18 [For E] 17 [For E(BS)] Diodes: 16 LEDs: 9
Power Supply:	AC: 220V, 50Hz [For E] 240V, 50Hz [For E(BS)] DC: 12V (IEC R20 x 8 or equivalent) Car: Use car battery adaptor
Power Consumption:	18W
Power Output:	9W M.P.O. (AC operation) 3W/CH (T.H.D. 10% DC)
Speaker:	Woofer: 12cm, 4 ohms x 2 Tweeter: 2cm, 300 ohms x 2
Dimensions:	589(W)x240(H)x143(D)mm
Weight:	6.5kg (with batteries)

Radio Section

Circuit System:	FM/SW/MW/LW super-heterodyne
Tuning Range:	FM: 87.5 to 108MHz SW: 6 to 18MHz MW: 530 to 1,605kHz LW: 150 to 350kHz
Intermediate Frequency:	FM: 10.7MHz AM: 465kHz
Sensitivity:	FM: 11dB (pra.), 3dB (max.) SW: 30dB (pra.), 20dB (max.) MW: 47dB (pra.), 37dB (max.) LW: 52dB(pra.), 46dB (max.)
Antennas(Aerials):	FM/SW: Telescopic antenna MW/LW: Built-in ferrite core antenna

Tape Recorder Section

Tape:	Cassette tape (C-30,60,90)
Track System:	4 track 2 channel stereo
Recording System:	AC bias, 55kHz
Erasing System:	Quasi AC erase
Frequency Response:	Metal: 60 to 12,000Hz CrO ₂ : 60 to 11,000Hz Normal: 60 to 10,000Hz
Signal to Noise Ratio:	45dB
Wow and Flutter:	0.25% (WRMS)
Cross Talk:	Between tracks: 65dB Between channels: 40dB
Input Sensitivity and Impedance:	Mic: 0.6mV, 1.8k ohms DIN in: 0.5mV/k ohm, 47k ohms
Output Level and Load Impedance:	DIN out: 700 mV, 2k ohms Headphone: 8 ohms—2k ohms Ext. speaker: 4 ohms
Distortion:	3%
Erasing Ratio:	60dB
Fast Forwarding or Rewinding time:	105sec (using C-60)
Motor:	DC micromotor
Heads:	Permalloy

DISASSEMBLY

1. Cassette lids (TAPE 1 and TAPE 2) removal

- 1) Open cassette lid (TAPE 1) to remove the spring shown in Fig. 1.
- 2) Insert a (–) screwdriver between the cassette lid and the front case and pull the cassette lid toward you while pressing the screwdriver to outside. Fig. 2 shows the right side of the cassette lid. Perform same procedure for the left side.
- 3) Insert a (–) screwdriver between the cassette lid and the mechanism chassis, press it in the direction of the arrow to remove the projection of the cassette lid. (Fig. 3). Then, the cassette lid can be removed.
- 4) Remove cassette lid (TAPE 2) in the same way.

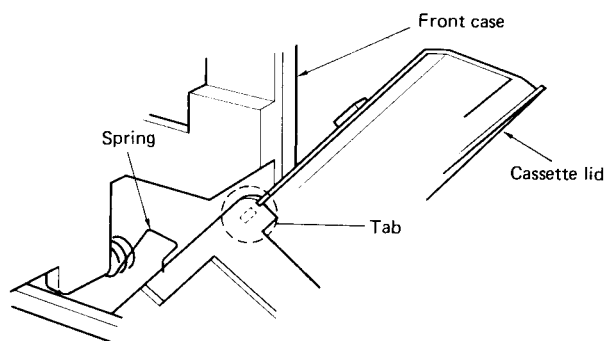


Fig. 1

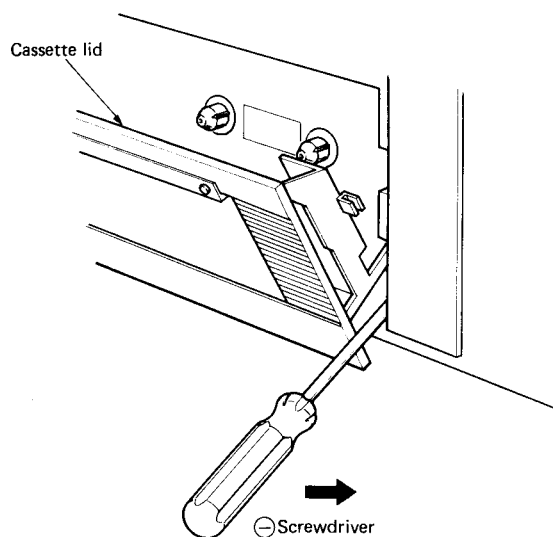


Fig. 2

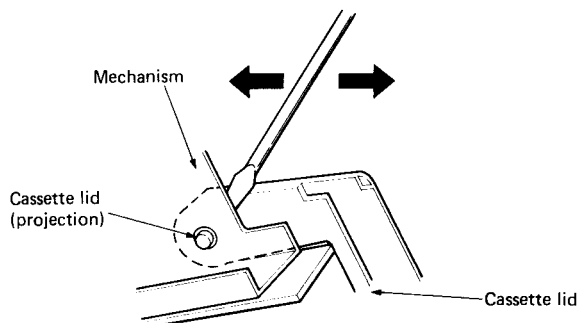


Fig. 3

2. Rear case removal

- 1) Remove the battery lid.
- 2) The rear case can be removed by removing 7 screws (A) shown in Fig. 4.
Remove Pin connectors P102, P103 of the main PC Board at that time.

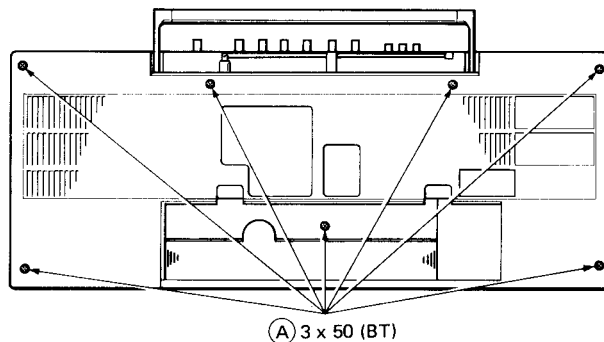


Fig. 4

3. Main and Switch PC Board removal (Fig. 5)

- 1) Pull out the BAND lever knob and FUNCTION, MIC/SP, SPSS, LOUDNESS, FM MODE, TAPE knobs.
- 2) Remove 5 main PC Board fixing screw (B), (C) shown in Fig. 5.
- 3) The switch PC Board is removed simultaneously when the main PC Board is removed from the front case.

4. Volume PC Board removal (Fig. 5)

- 1) Pull out the TONE, VOLUME L/R knobs.
- 2) Pull out the volume PC Board from the front case guide which fixes the volume PC Board.

5. Mixing volume PC Board removal (Fig. 5)

- 1) Pull out the mixing volume knob.
- 2) The mixing volume PC Board can be removed by removing the fixing screw (D) shown in Fig. 5

6. Jack PC Board removal (Fig. 5)

When the jack PC Board is turned to the left, locking is released and jack PC Board can be removed.

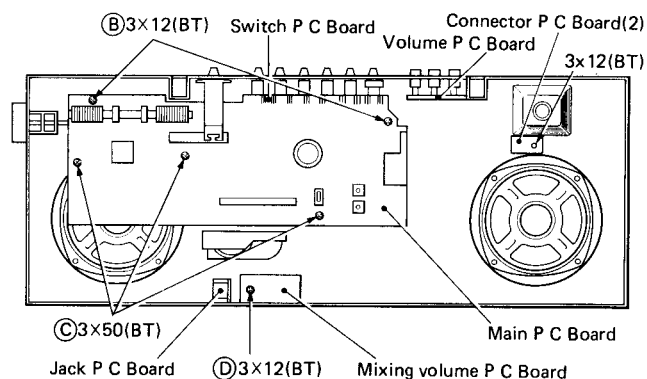


Fig. 5

ws (A)

ain PC



IC/SP,

shown

when

e guide

by re-

locking

Board(2)

x12(BT)



board

- 7. Level indicator PC Board removal (Fig. 6)**
The indicator PC Board can be removed by removing 2 fixing screws (E) shown in Fig. 6.
- 8. Stereo indicator PC Board removal (Fig. 6)**
Open the stopper fixing the stereo indicator PC Board to remove the PC Board.
- 9. Cassette mechanism (TAPE 1 and 2) removal (Fig. 6)**
The cassette mechanism (TAPE 1 and 2) are removed while they are assembled together by removing 6 screws (F) shown in Fig. 6.
- 10. POWER PC Board removal (Fig. 7)**
Remove 2 screws (G) shown in Fig. 7 and pull out the power PC Board toward the front.

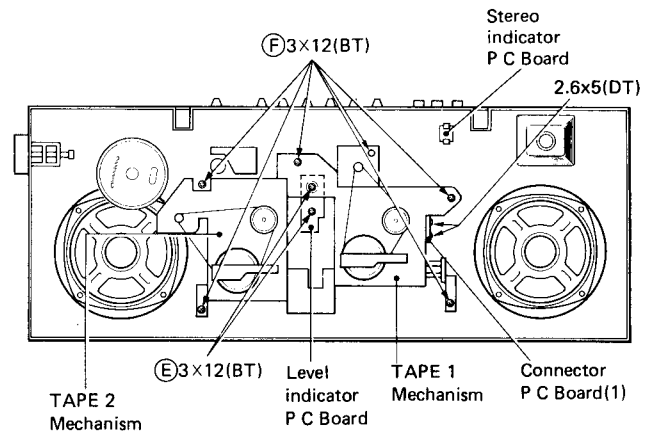


Fig. 6

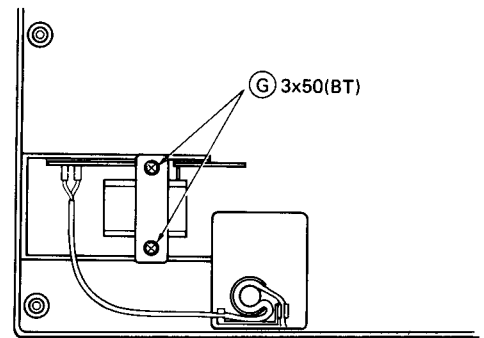
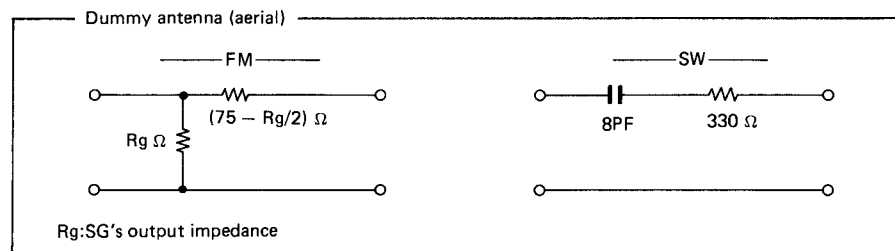


Fig. 7

ADJUSTMENT

1. Radio Section



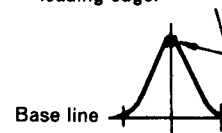
*For West Germany

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	Turn T202 fully counterclockwise.									
	(2)	S-Curve	• Genescope (10.7 MHz)	TP102	TP201	10.7 MHz	Highest	T101	Note 1			
								T202	Note 2			
2	(1)	FM OSC. (Covering)	• FM signal generator (400 Hz, 30% mod.) • Oscilloscope • VTVM	TP101 (thru FM dummy antenna)	Speaker terminals (4 Ω load)	87 MHz (87.5 MHz*)	Lowest	L102	Max.			
	(2)					109 MHz (108 MHz*)	Highest	CT102				
	(3)					Repeat steps (1) and (2)						
3	(1)	FM ANT. (Tracking)				90 MHz	90 MHz	L101	Max.			
	(2)					106 MHz	106 MHz	CT101				
	(3)					Repeat steps (1) and (2)						
4	(1)	FM MPX (Multiplex)				• Frequency counter	Connect a 10μF 25V electrolytic capacitor between the No. 1 pin of IC301 and ground	TP301	—	—	RT301	38 kHz ±50 Hz (Note 3)
5	(1)	AM IF				• Genescope (465 kHz)	Ferrite-core antenna (thru loop antenna)	TP201	465 kHz	Highest	T201 T203	Note 4
	(2)								Repeat step (1)			
6	(1)	LW OSC. (Covering)				• AM signal generator (400 Hz, 30% mod.) • VTVM	Ferrite-core antenna (thru loop antenna)	Speaker terminals (4 Ω load)	145 kHz	Lowest	L156	Max.
	(2)		360 kHz	Highest	CT156							
	(3)		Repeat steps (1) and (2)									
7	(1)	LW ANT. (Tracking)	160 kHz	160 kHz	L153				Max.			
	(2)		330 kHz	330 kHz	CT153							
	(3)		Repeat steps (1) and (2)									
8	(1)	MW OSC. (Covering)	• AM signal generator (400 Hz, 30% mod.) • VTVM	Ferrite-core antenna (thru loop antenna)	Speaker terminals (4 Ω load)				515 kHz	Lowest	L155	Max.
	(2)								1650 kHz	Highest	CT155	
	(3)								Repeat steps (1) and (2)			
9	(1)	MW ANT. (Tracking)							600 kHz	600 kHz	L152	Max.
	(2)					1400 kHz	1400 kHz	CT152				
	(3)					Repeat steps (1) and (2)						
10	(1)	SW OSC. (Covering)				• AM signal generator (400 Hz, 30% mod.) • VTVM	TP101 (thru SW dummy antenna)	Speaker terminals (4 Ω load)	5.8 MHz	Lowest	L154	Max.
	(2)								18.5 MHz	Highest	CT154	
	(3)								Repeat steps (1) and (2)			
11	(1)	SW ANT. (Tracking)							6.5 MHz	6.5 MHz	L151	Max.
	(2)		16 MHz	16 MHz	CT151							
	(3)		Repeat steps (1) and (2)									

Note:

- Feed in a weak signal to TP102 from the genescope. Adjust T101 for maximum gain and the waveform indicated in Fig. 8. If the center of the waveform cannot be lined up on the marker, adjust the right/left balance.

Adjust the genescope output so that there is a little noise riding on the leading edge.


Fig. 8

Germany
Reading

Note 1
Note 2

Max.

Max.

38 kHz
50 Hz
(Note 3)

Note 4

Max.

Max.

Max.

Max.

Max.

Max.

2. Use the T202 core to form the S-curve shown in Figure 9. Adjust the symmetry of A and B about point C for linearity.

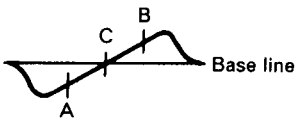
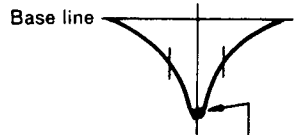


Fig. 9

3. Connect the frequency counter to TP301, via a resistor of 220 kΩ.
4. Feed in a weak signal from the genescope. Adjust T201, T203 for maximum gain and the waveform of Figure 10.



Adjust the genescope output so that there is a little noise riding on the leading edge.

Fig. 10

2. Tape Recorder Section

Perform the following adjustments in the sequence stated after cleaning the heads, 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	Head azimuth	• VTVM	—	Speaker terminal (4Ω load)	Head azimuth test tape (10 kHz)	Playback	Azimuth adjusting screw	Output Max.	Note 1

Note:

1. 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.

ADJUSTMENT PARTS LOCATION

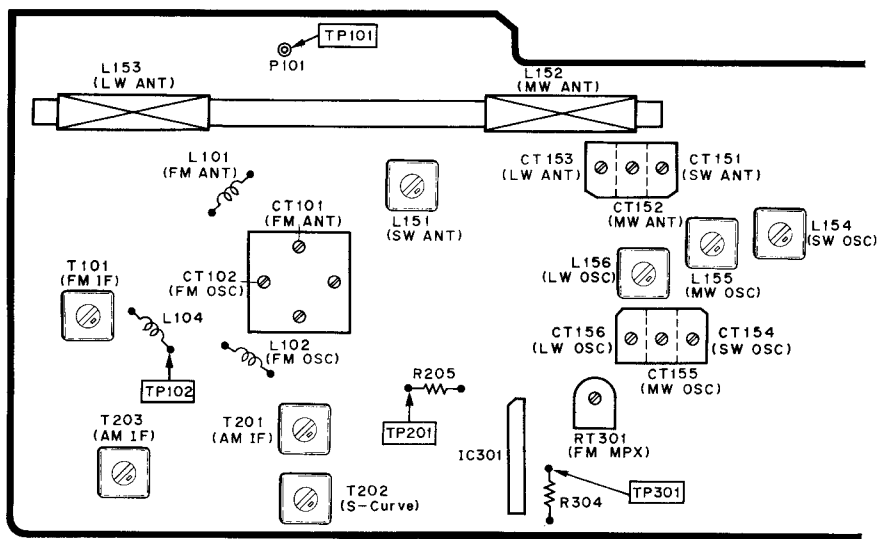


Fig. 11

INSPECTION OF MECHANISM

Item	Checking item		Reference value	Remarks
1	Pressure of pressure roller		300 – 550 g	Note 1
2	Take-up torque		35 – 75 g.cm	
3	Fast forward/Rewind torque		70 – 160 g.cm	TAPE 2
			90 – 150 g.cm	TAPE 1
4	Auto-Stop sensor operation force		40 – 75 g	
5	Brake torque		15 g.cm or more	Measured in stop mode
6	Back tension torque	Take-up	2 – 6.5 g.cm	TAPE 2
			1 – 6 g.cm	TAPE 1
		Supply	1 – 6 g.cm	
7	Flywheel thrust gap		0.05 – 0.3 mm	
8	Button operation force	Play button	0.4 kg or less	
		FF/CUE button	0.5 kg or less	
		Rewind/Rev button	0.6 kg or less	
		Eject button	0.4 kg or less	
		Record button	0.45 kg or less	
		Pause button	0.65 kg or less	

Note:

- 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.

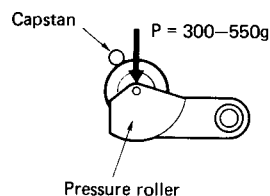


Fig. 12

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.

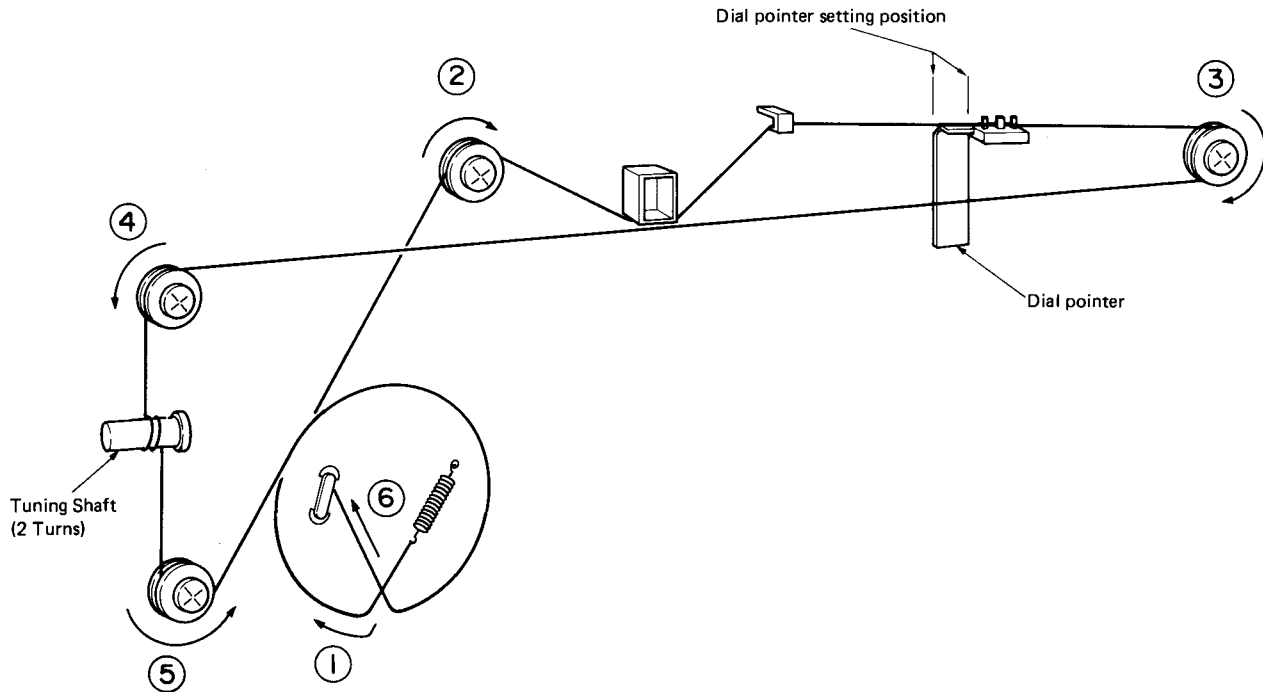
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

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	
Spring resonance prevention		Floil (GB-TS-1)

DIAL CORD STRINGING

Stringing method

- String the dial cord to each rollers according to the order from ① to ⑥ after turned the pulley to the end of clockwise direction.



Note:

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

Circuit No.	
Value	No indicated Ω (Ohm) M : 1000 k Ω
Tolerance	No indicated $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$
Wattage	No indicated 1/4 W
Sort	No indicated Carbon film RC: Composition RW: Wire wound RS: Oxide metal film RN: Fixed metal film

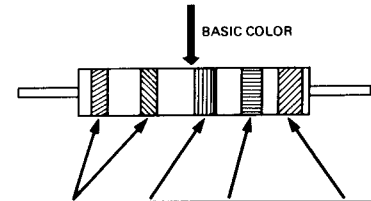
Circuit No.	
Value	No indicated μF P : PF
Tolerance	No indicated $\pm 10\%$ J : $\pm 5\%$ M : $\pm 20\%$ Z : $+80\%$, -20% D : $\pm 0.5PF$ C : $\pm 0.25pF$
Sort	Ceramic Electrolytic Mylar Polyester Styrol
Voltage	No indicated 50WV

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.

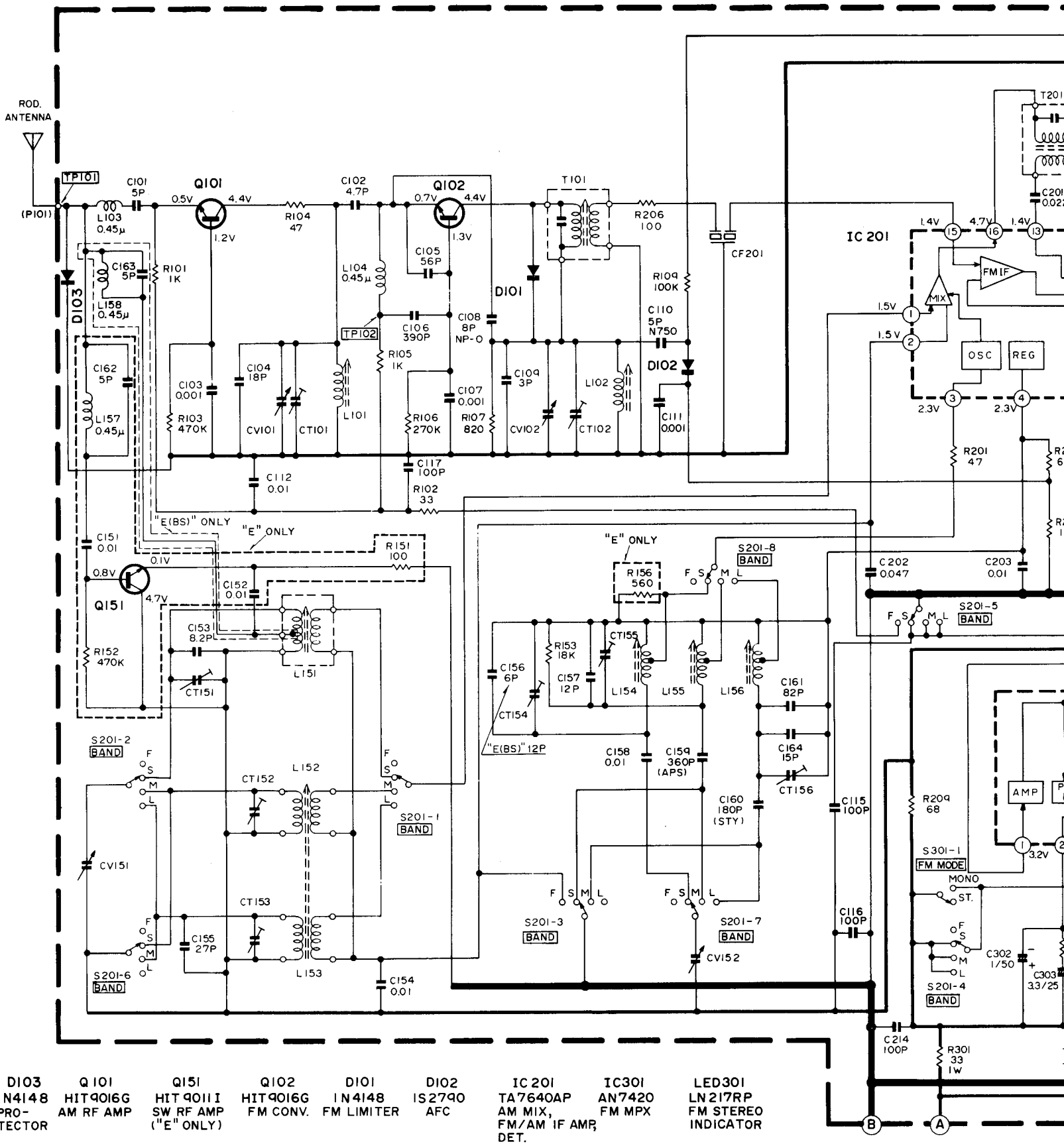
HOW TO READ CAPACITY OF RESISTOR SHAPE CAPACITORS

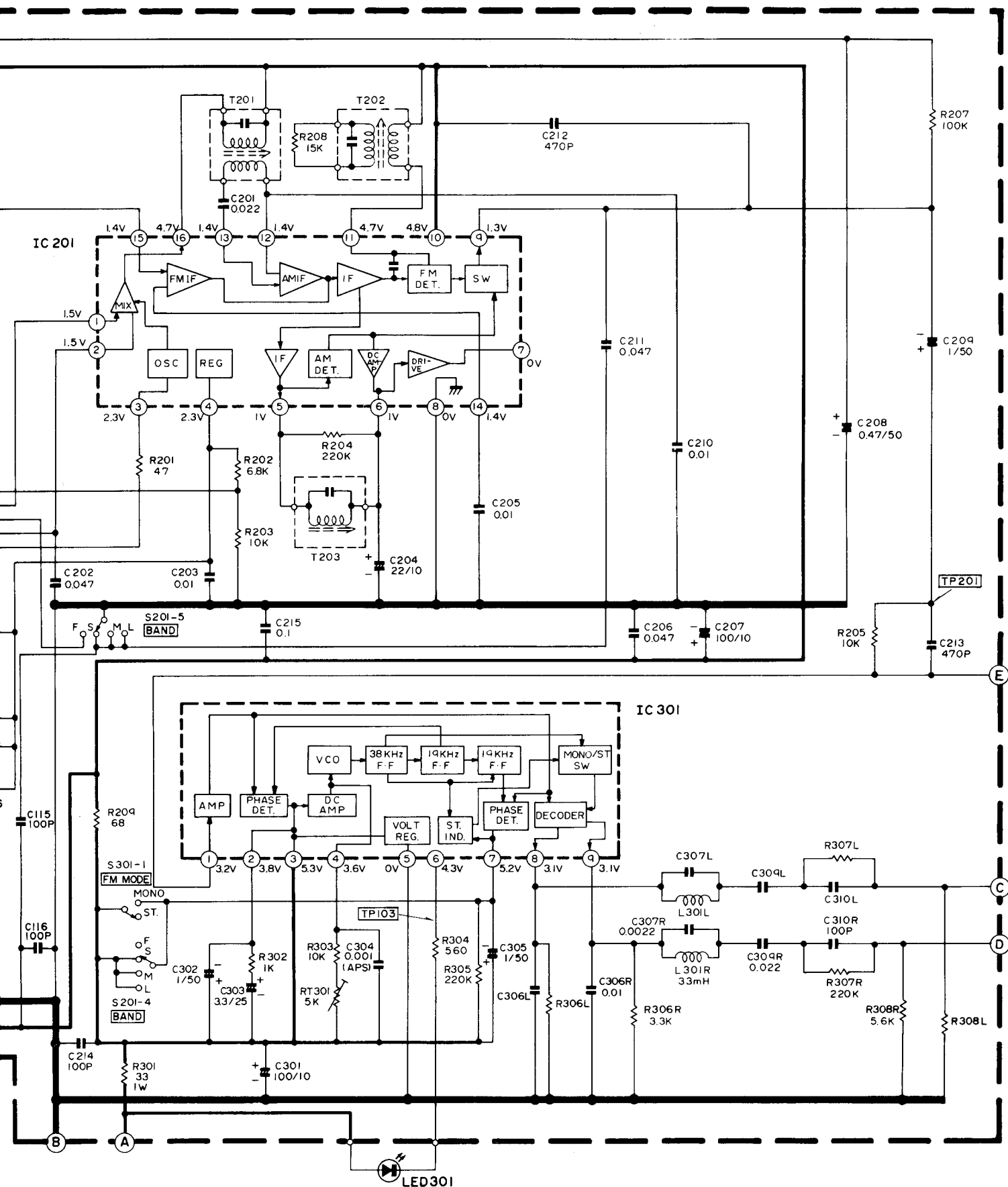
COLOR	RATED VOLTAGE
Pink	25V
Light green	50V



COLOR	CAPACITY	MULTIPLE	TOLERANCE	CHARACTERISTICS
Black	0	10^0	$\pm 20\%$	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Grey	8		$\pm 30\%$	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	$\pm 5\%$	
Silver			$\pm 10\%$	High dielectric constant type

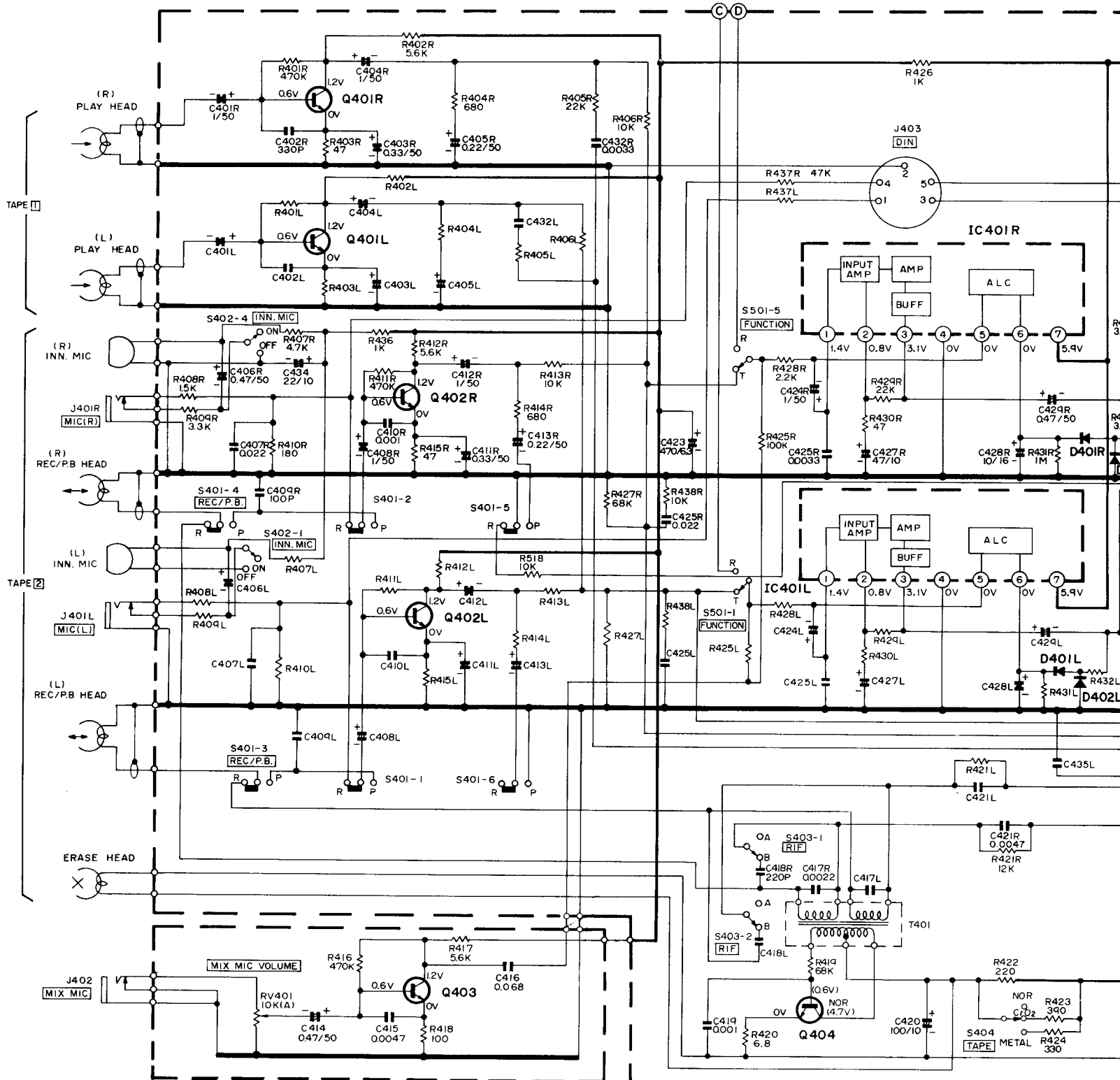
SCHEMATIC DIAGRAM (Radio Section)



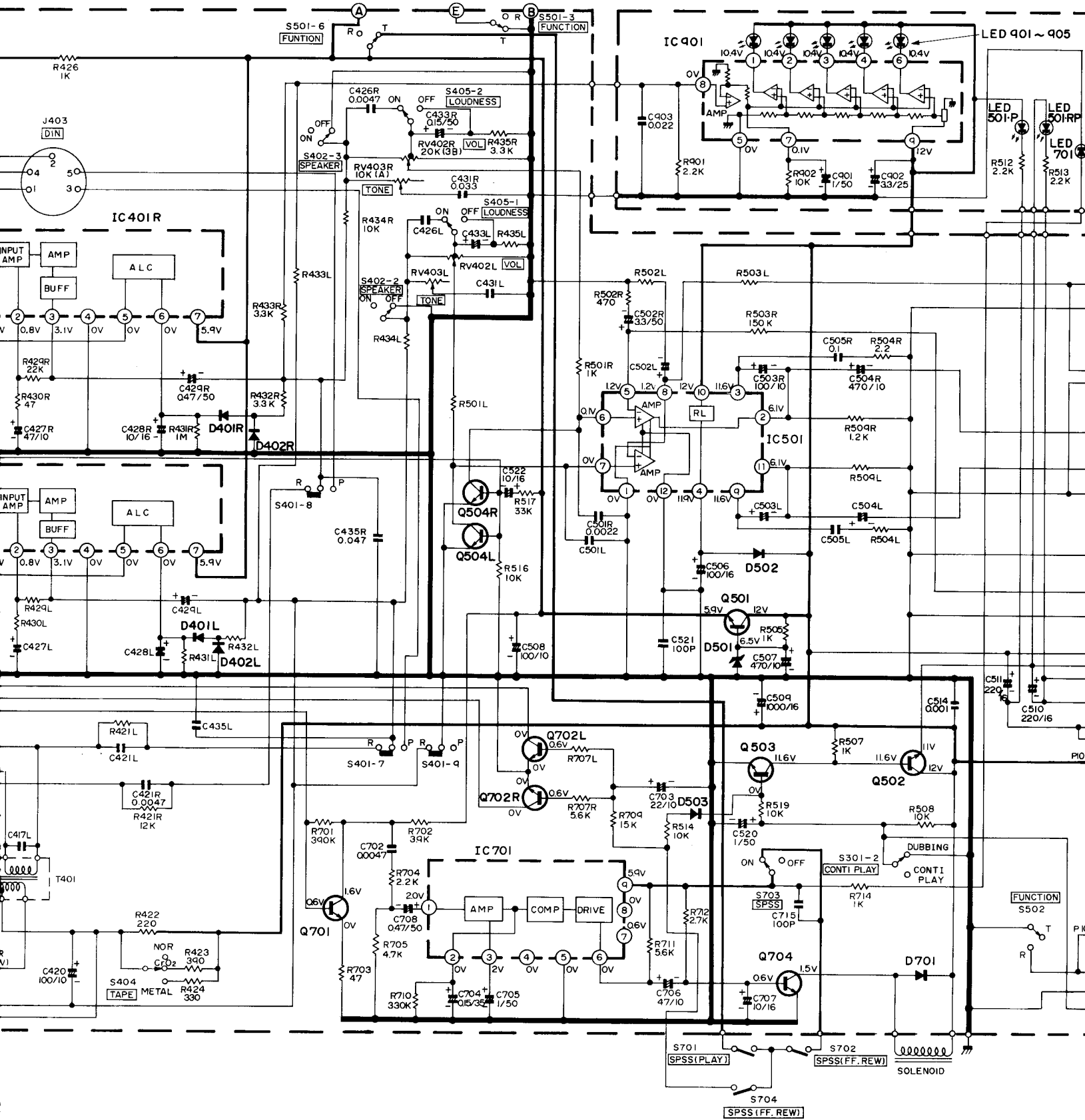


SCHEMATIC DIAGRAM (Tape/Audio Section)

Q401L, R HIT9014N.C PRE AMP	Q402L, R HIT9014N.C PRE AMP	Q403 HIT9014N.C MIC AMP	Q404 2SC945P BIAS OSC	IC401L, R AN 7320 AF AMP	D401L, R IN4148 ALC	Q701 HIT9014C PRE AMP	IC701 BA 335 SPSS	Q702L, R HIT9014C MUTING	IC501 µPCI278H POWER AMP	Q 501 HIT8050C VOLTAGE	D501 HZ7A-I STAB	H SV
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IC501 UPT278H POWER AMP	Q501 HIT8050C VOLTAGE	D501 HZ7A-1 STAB	Q502 HIT5609C SWITCHING	Q503 HIT4014C SWITCHING	D502 IN4148 PROT.	IC901 AN6884 LED DRIVER	LED901-905 LN05263P LEVEL INDICATOR	LED501P, RP LN217RP TAPE1 / TAPE2 INDICATOR	LED701 LN217RP SPSS INDICATOR	Q704 HIT8050C SWITCHING	D701 IN4148 PROT.
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LED 701
LN217RP
SPSS
INDICATOR

Q704
HIT8050C
SWITCHING

D701
IN4148
PROT.

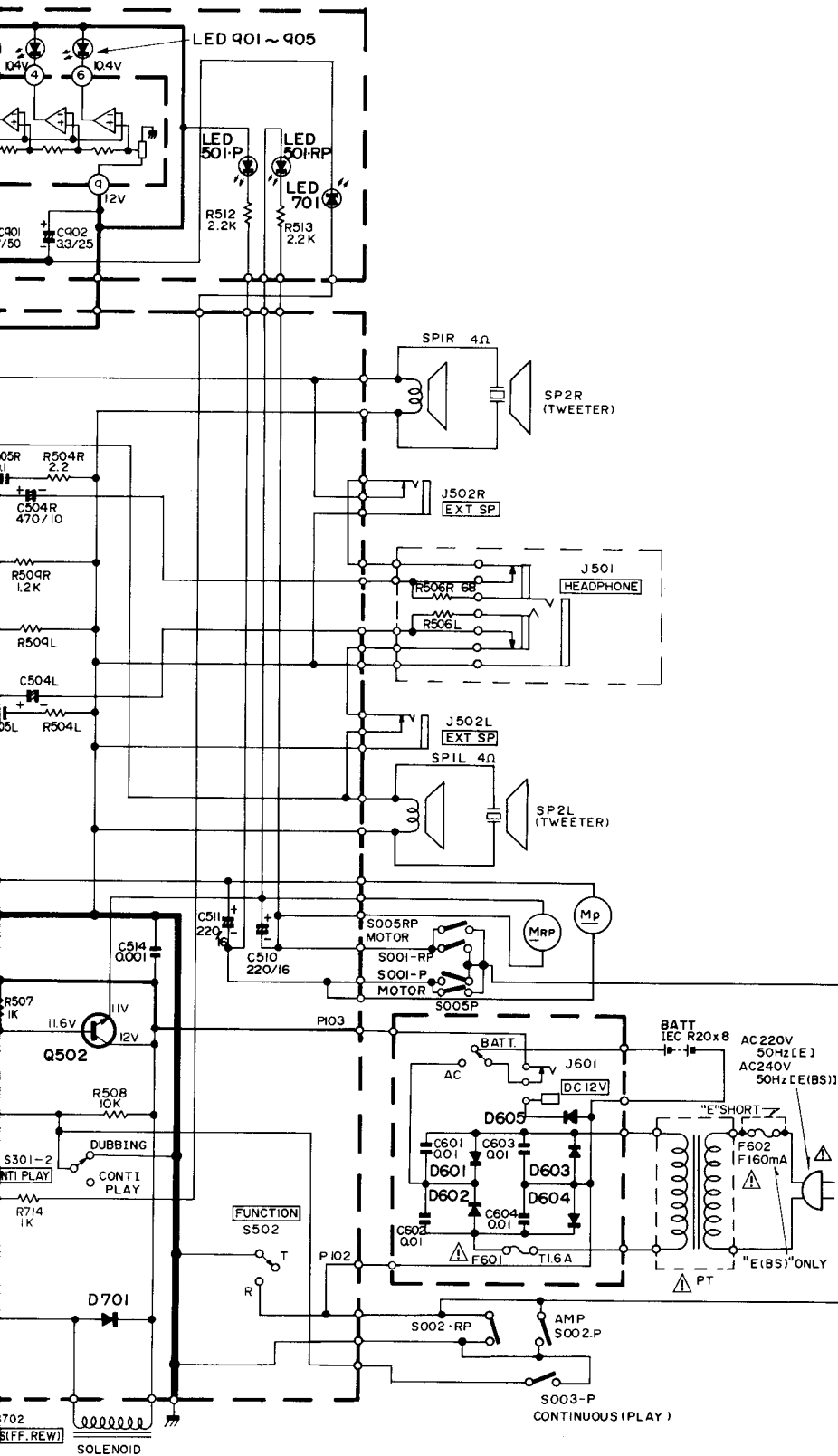
D601~604
IN4001
RECT.

D605
IN4001
PROT.

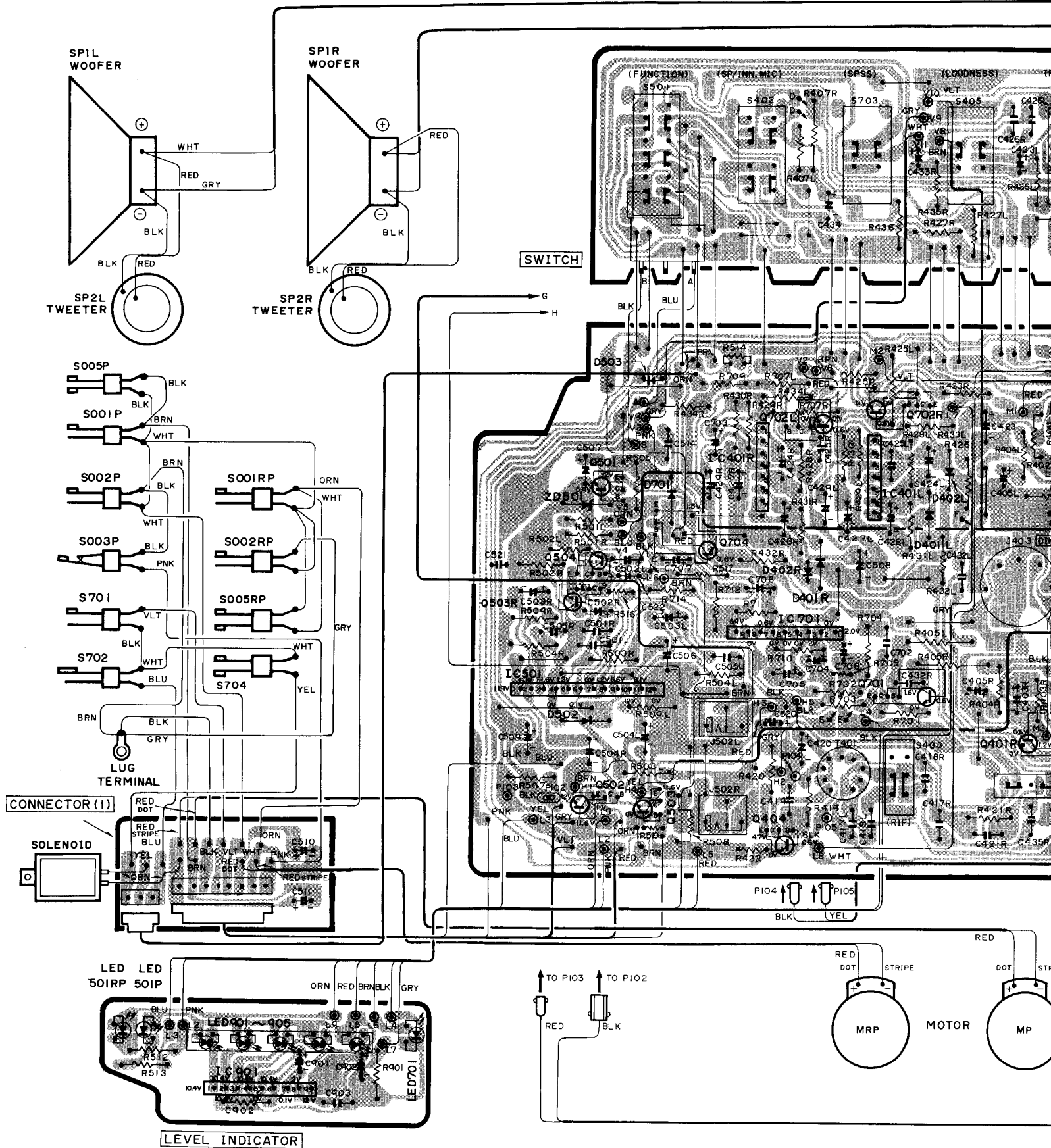
D402L,R
1S188
ALC

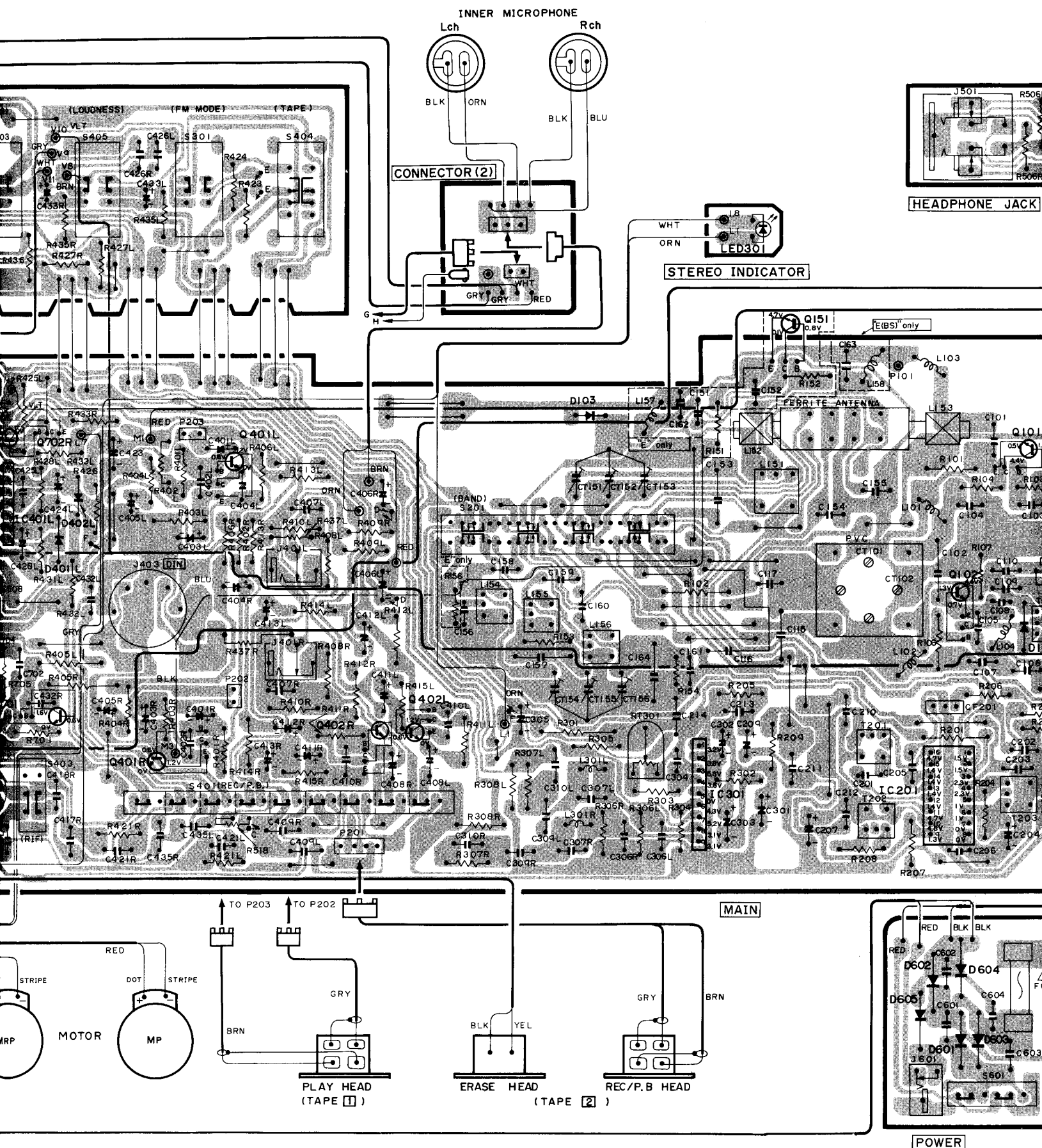
D503
IN4148
PAUSE

Q504L,R
HIT9014C
MUTING



CIRCUIT BOARD DIAGRAM





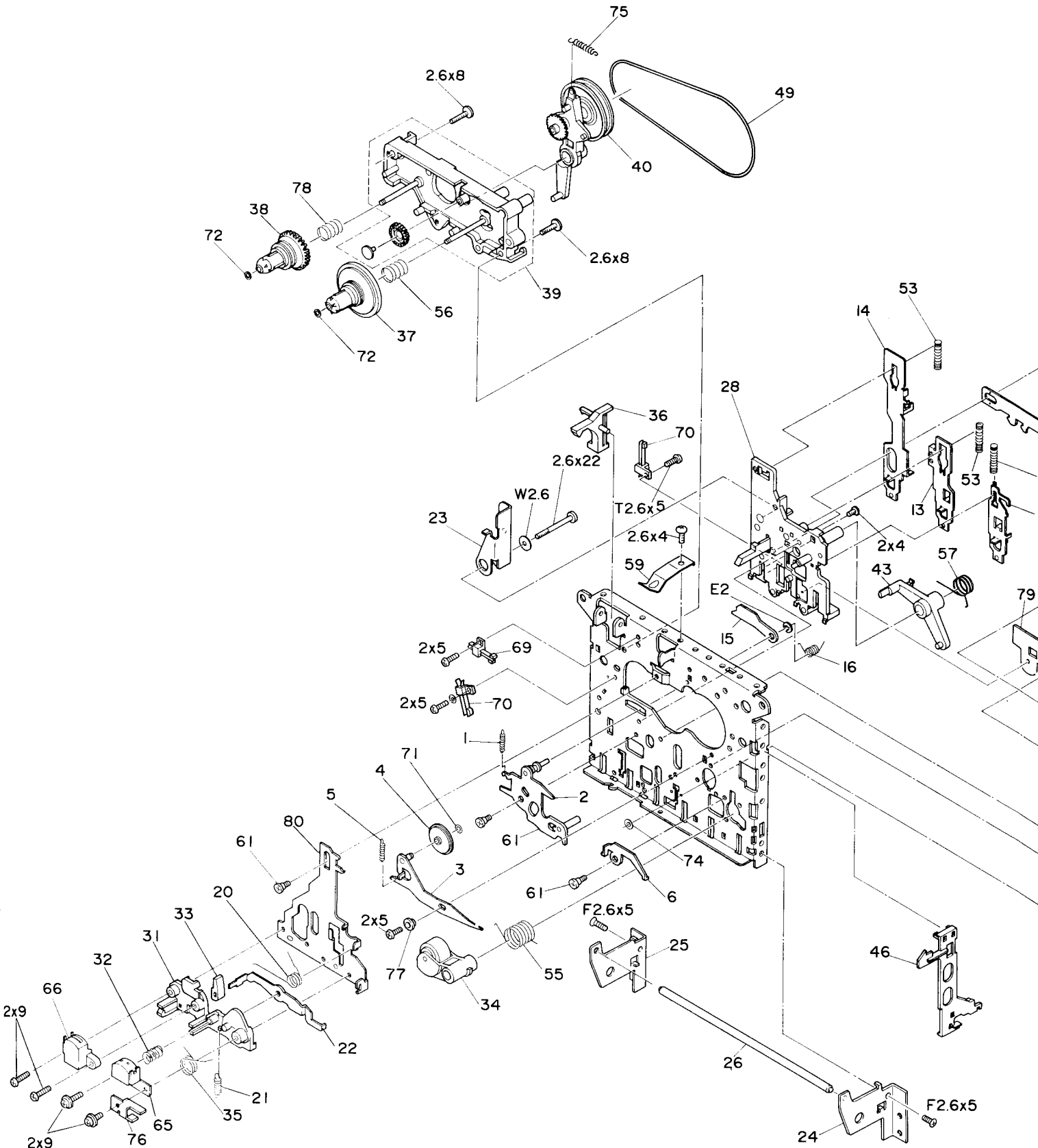
REPLACEMENT PARTS LIST

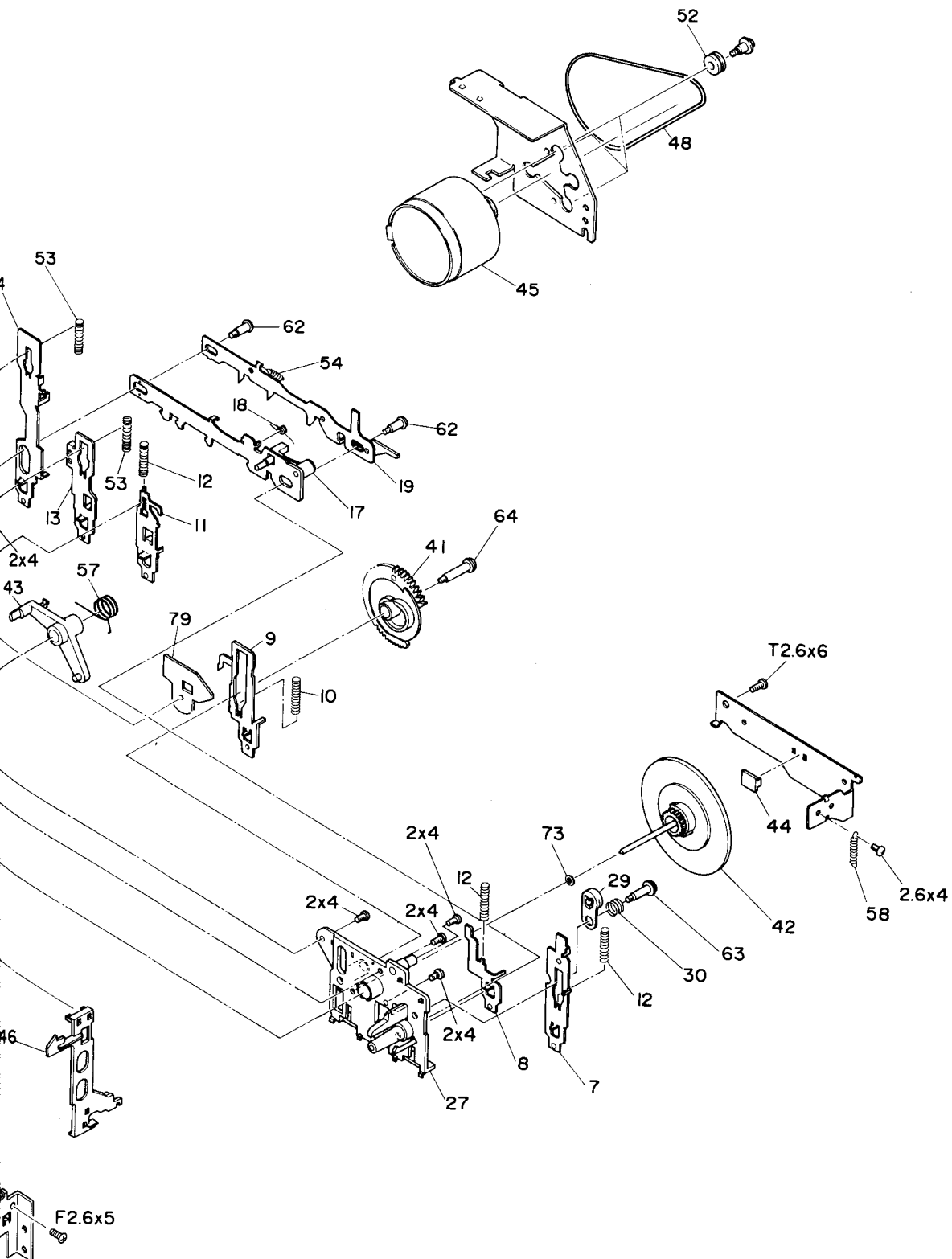
SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
CAPACITORS			TRANSFORMERS		
CF151-156	0283565	VARIABLE CAPACITOR	△ PT	5213451	POWER TRANSFORMER [FOR E]
C102	0208125	CERAMIC (RESISTOR SHAPE) 4.7PF+-5X	△ PT	5213452	POWER TRANSFORMER [FOR E(BS)]
C108	0246428	CERAMIC DISC CAPACITOR	T101	5148162	FM IF TRANSFORMER
C110	0248475	CERAMIC DISC CAPACITOR 5PF +- 0.5PF	T201	5132222	AM IF TRANSFORMER
C153	0208128	CERAMIC (RESISTOR SHAPE) 8.2PF+-5X	T202	5148164	FM IF TRANSFORMER
C157	0208130	CERAMIC (RESISTOR SHAPE) 12PF+-5X	T203	5132221	AM IF TRANSFORMER
C164	0208131	CERAMIC (RESISTOR SHAPE) 15PF+-5X	T401	5260481	OSCILLATOR COIL
C704	0256361	TANTALUM ELECTROLYTIC 0.15MF+-10% 35V	COILS		
PVC	5052682	VARIABLE CAPACITOR	L101	5127083	FM RF COIL
RESISTORS			L102	5127082	FM OSCILLATOR COIL
RT301	5007682	SEMI VARIABLE 5KOHM	L103-104	5127084	CHOKE COIL
RV401	5001091	VARIABLE RESISTOR 10KOHM(A)	L151	5124021	SW ANTENNA COIL [FOR E(BS)]
RV402LR	5020171	VARIABLE RESISTOR 20KOHM(B)	L151	5124022	SW ANTENNA COIL [FOR E]
RV403LR	5020181	VARIABLE RESISTOR 10KOHM(A)	L152-153	5110541	FERRITE ANTENNA
SEMI-CONDUCTORS			L154	5124031	SW OSCILLATOR COIL
D101	5331851	DIODE 1N4148	L155	5120881	MW OSCILLATOR COIL
D102	5330661	DIODE SILICON 1S2790	L156	5120882	LW OSCILLATOR COIL
D103	5331851	DIODE 1N4148	L157	5127084	CHOKE COIL [FOR E]
D401LR	5331851	DIODE 1N4148	L158	5127084	CHOKE COIL [FOR E(BS)]
D402LR	5331902	DIODE 1S188(FM)	L301LR	5152451	TRAP COIL
D501	5330317	ZENER DIODE HZ7A-1	MISCELLANEOUS		
D502	5331851	DIODE 1N4148	△	5746159	POWER CORD [FOR E]
D503	5331851	DIODE 1N4148	△	5746342	POWER CORD [FOR E(BS)]
D601-605	5331992	DIODE 1N4001	CF201	5160211	CERAMIC FILTER CF107A
D701	5331851	DIODE 1N4148	△ F601	5721374	FUSE 1.6A
IC201	5368011	IC TA7640AP	△ F602	5721375	FUSE 160MA [FOR E(BS)]
IC301	5369941	IC AN7420	J401LR	5673241	JACK-3.5MMD (MIC)
IC401LR	5369931	IC AN7320	J402	5673241	JACK-3.5MMD (MIX. MIC)
IC501	5355901	IC μ PC1278H	J403	5653711	DIN JACK
IC701	5352033	IC BA335	J501	5674245	HEADPHONE JACK
IC901	5355471	IC AN6884	J502LR	5673241	JACK-3.5MMD (EXT. SP)
LED301	5380593	LED LN417RP	J601	5671262	DC JACK
LED501P	5380593	LED LN417RP	S201	5620662	SLIDE SWITCH (BAND)
LED501RP	5380593	LED LN417RP	S301	5604601	LEVER SWITCH (FM MODE/CONTI. PLAY)
LED701	5380593	LED LN417RP	S401	5622471	SLIDE SWITCH (REC/P.B.)
LED901-905	5380951	LED LM05263P	S402	5604603	LEVER SWITCH (INNER MIC/SPEAKER)
Q101-102	5322551	TRANSISTOR HIT9016G	S403	5622441	SLIDE SWITCH (RIF)
Q151	5322572	TRANSISTOR HIT90111 [FOR E]	S404	5604602	LEVER SWITCH (TAPE)
Q401LR	5322591	TRANSISTOR HIT9014N-C	S405	5604601	LEVER SWITCH (LOUDNESS)
Q402LR	5322591	TRANSISTOR HIT9014N-C	S501	5604604	LEVER SWITCH (FUNCTION)
Q403	5322591	TRANSISTOR HIT9014N-C	S502	5601224	MICRO SWITCH (FUNCTION)
Q404	5320813	TRANSISTOR 2SC945P	S601	5622341	SLIDE SWITCH (AC/BATT.)
Q501	5322522	TRANSISTOR HIT8050C	S703	5604601	LEVER SWITCH (SPSS)
Q502	5322542	TRANSISTOR HIT5609C			
Q503	5322581	TRANSISTOR HIT9014C			
Q504LR	5322581	TRANSISTOR HIT9014C			
Q701	5322581	TRANSISTOR HIT9014C			
Q702LR	5322581	TRANSISTOR HIT9014C			
Q704	5322522	TRANSISTOR HIT8050C			

REPLACEMENT PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
MECHANISM (TAPE 2, GT-50FA)			40	6777901	CLUTCH ARM ASSEMBLY
1	6544141	SHIFT ARM SPRING	41	6433451	GEAR
2	7359271	SHIFT ARM ASSEMBLY	42	6374651	FLYWHEEL ASSEMBLY
3	7359211	IDLER ARM ASSEMBLY	43	6777831	LOCK ARM
4	6778041	PLAY IDLER	44	6777821	CAPSTAN SPACER
5	6544181	IDLER SPRING	45	5577911	DC MOTOR ASSEMBLY
6	7359111	PAUSE ARM	46	6777811	EJECT LEVER
7	7359121	PAUSE LEVER ASSEMBLY	47	6777961	BUTTON LEVER
8	7359141	STOP LEVER	48	6356041	BELT
9	7359151	FF LEVER	49	6356031	FR BELT
10	6521671	FF LEVER SPRING	50	5559401	COUNTER
11	7359161	REWIND LEVER	51	6355262	COUNTER BELT
12	6521661	REWIND LEVER SPRING	52	6587211	MOTOR CUSHION
13	7359171	PLAY LEVER	53	6521651	LEVER SPRING
14	7359251	REC LEVER	54	6544171	CAM SPRING
15	7359222	REC LEVER (BH)	55	6549471	PRESSURE ROLLER SPRING (B)
16	6549431	REC LEVER SPRING	56	6521641	BACK TENSION SPRING
17	7359101	LOCK CAM (A) ASSEMBLY	57	6549451	LOCK ARM SPRING
18	6549491	AUTO ARM SPRING	58	6544151	EJECT LEVER SPRING
19	7359061	LOCK CAM (B) ASSEMBLY	59	6537241	CASSETTE HOLDER SPRING
20	6549481	HEAD PLATE SPRING	60	7789011	HEAD SPACER (FOR HEAD HEIGHT ADJUSTMENT)
21	6544161	HEAD PLATE SPRING	61	7783501	SCREW
22	7359041	AUTO STOP ARM	62	7783511	SCREW
23	7359021	REC ARM	63	7783521	SCREW
24	7358991	BUTTON HOLDER (R)	64	7783531	SCREW
25	7358981	BUTTON HOLDER (L)	65	5449121	RECORD PLAYBACK HEAD
26	4500021	BUTTON SHAFT	66	5445371	ERASE HEAD
27	6777841	LEVER HOLDER (A) ASSEMBLY	67	_____	_____
28	6778011	LEVER HOLDER (B)	68	_____	_____
29	6777991	PAUSE CAM	69	5603791	LEAF SWITCH (AMP)
30	6521681	PAUSE CAM SPRING	70	5603801	LEAF SWITCH (MOTOR)
31	6777981	HEAD BASE	71	7787695	POLYSLIDER WASHER
32	6521682	HEAD SPRING	72	7787711	POLY SLIDER WASHER
33	6777861	SENSOR CAP	73	7787692	POLY SLIDER WASHER
34	6344701	PRESSURE ROLLER ASSEMBLY	74	7768234	NYLON WASHER
35	6549501	PRESSURE ROLLER SPRING	75	6544292	CLUTCH ARM SPRING
36	6777971	REC SENSOR	76	7360431	PRESSURE ROLLER SPRING HOLDER
37	6414951	TAKE UP REEL ASSEMBLY	77	7570841	COLLAR
38	6414961	SUPPLY REEL ASSEMBLY	78	6521642	TENSION SPRING
39	6777941	REEL BASE ASSEMBLY	79	7360351	INTERLOCK ARM
			80	7359301	HEAD PLATE

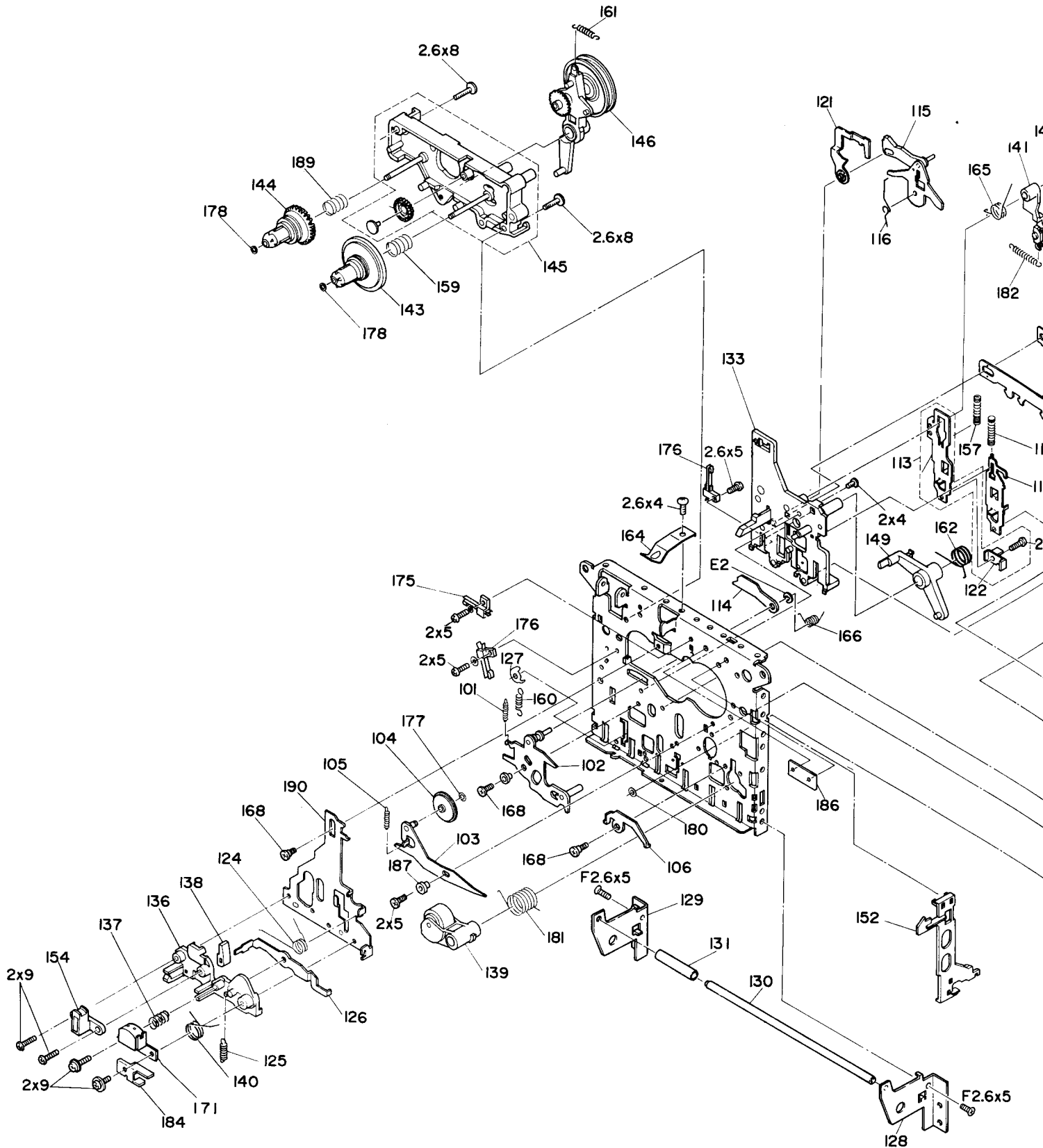
EXPLODED VIEW (TAPE 2 Mechanism, GT-50FA)



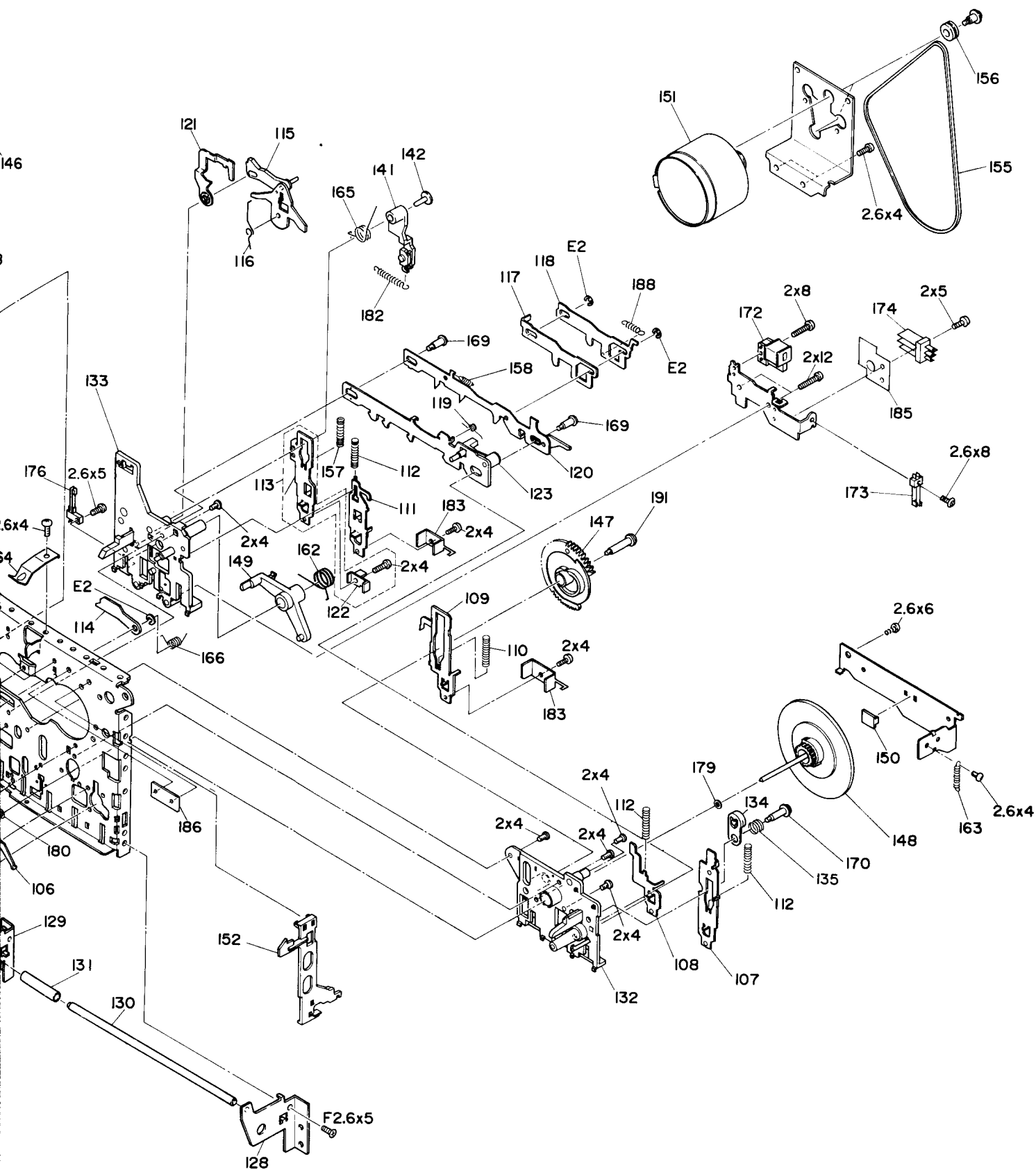


Note: Components marked without numbers in this drawing are not specified as replacement parts.

EXPLODED VIEW (TAPE 1 Mechanism, GT-50FB)



B)



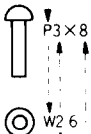
Note: Components marked without numbers in this drawing are not speci

REPLACEMENT PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
MECHANISM (TAPE 1, GT-50FB)					
101	6544141	SHIFT ARM SPRING	146	6777901	CLUTCH ARM ASSEMBLY
102	7359271	SHIFT ARM ASSEMBLY	147	6433451	GEAR
103	7359211	IDLER ARM ASSEMBLY	148	6374641	FLYWHEEL ASSEMBLY
104	6778041	PLAY IDLER	149	6777831	LOCK ARM
105	6544181	IDLER SPRING	150	6777821	CAPSTAN SPACER
106	7359111	PAUSE ARM	151	5577912	DC MOTOR ASSEMBLY
107	7359121	PAUSE LEVER ASSEMBLY	152	6777811	EJECT LEVER
108	7359141	STOP LEVER	153	6777961	BUTTON LEVER
109	7359151	FF LEVER	154	6777801	TAPE GUIDE
110	6521671	FF LEVER SPRING	155	888E886	BELT
111	7359161	REWIND LEVER	156	6356011	MOTOR CUSHION
112	6521661	REWIND LEVER SPRING	157	6521651	LEVER SPRING
113	7359191	PLAY LEVER ASSEMBLY	158	6544171	CAM SPRING
114	7359221	REC LEVER (B)	159	6521641	BACK TENSION SPRING
115	7359281	REVIEW/CUE ARM ASSEMBLY	160	6544152	FF GEAR SPRING
116	6549421	REVIEW/CUE ARM SPRING	161	6544291	CLUTCH ARM SPRING
117	7359231	LOCK CAM (S)	162	6549451	LOCK ARM SPRING
118	7359241	LOCK CAM (R)	163	6544151	EJECT LEVER SPRING
119	6549491	AUTO ARM SPRING	164	6537241	CASSETTE HOLDER SPRING
120	7359051	LOCK CAM (B) ASSEMBLY	165	6549441	TRIGGER ARM SPRING
121	7359071	TRIGGER ARM	166	6549431	REC LEVER SPRING
122	7359081	PLAY SWITCH LEVER	167	7789011	HEAD SPACER (FOR HEAD HEIGHT ADJUSTMENT)
123	7359091	LOCK CAM (C) ASSEMBLY	168	7783501	SCREW
124	6549481	HEAD PLATE SPRING	169	7783511	SCREW
125	6544161	HEAD PLATE SPRING	170	7783521	SCREW
126	7359041	AUTO STOP ARM	171	5449121	RECORD PLAYBACK HEAD
127	7358951	REVIEW/CUE LOCK ARM (N) ASSEMBLY	172	5644251	SOLENOID
128	7358991	BUTTON HOLDER (R)	173	5603781	LEAF SWITCH (FF/REW)
129	7358981	BUTTON HOLDER (L)	174	5603761	LEAF SWITCH (CONTI. PLAY)
130	4500021	BUTTON SHAFT	175	5603771	LEAF SWITCH (SPSS PLAY)
131	7570761	BUTTON COLLAR	176	5603801	LEAF SWITCH (MOTOR)
132	6777841	LEVER HOLDER (A) ASSEMBLY	177	7787695	POLYSLIDER WASHER
133	6778011	LEVER HOLDER (B)	178	7787711	POLY SLIDER WASHER
134	6777991	PAUSE CAM	179	7787692	POLY SLIDER WASHER
135	6521681	PAUSE CAM SPRING	180	7768234	NYLON WASHER
136	6777981	HEAD BASE	181	6549471	PRESSURE ROLLER SPRING (B)
137	6521682	HEAD SPRING	182	6544281	SOLENOID ARM SPRING
138	6777861	SENSOR CAP	183	7060441	SWITCH LEVER (FR)
139	6344701	PRESSURE ROLLER ASSEMBLY	184	7360431	PRESSURE ROLLER SPRING HOLDER
140	6549501	PRESSURE ROLLER SPRING	185	7684701	INSULATION SHEET
141	6777871	SOLENOID ARM	186	7684691	SPACER
142	6778051	BUSH	187	7570841	COLLAR
143	6414951	TAKE UP REEL ASSEMBLY	188	6544172	S CAM SPRING
144	6414961	SUPPLY REEL ASSEMBLY	189	6521642	TENSION SPRING
145	6777941	REEL BASE ASSEMBLY	190	7359301	HEAD PLATE
			191	7783531	SCREW

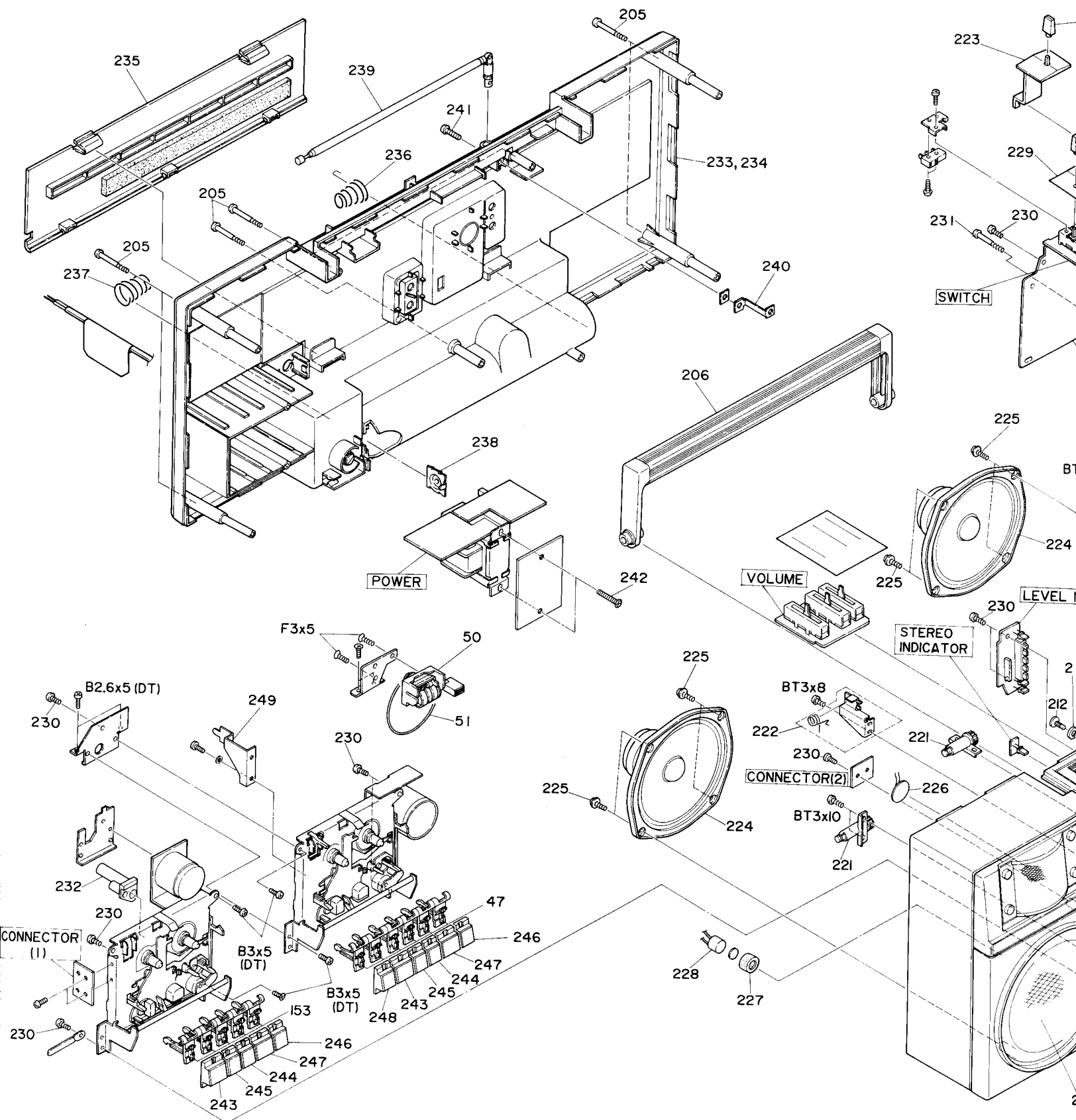
REPLACEMENT PARTS LIST

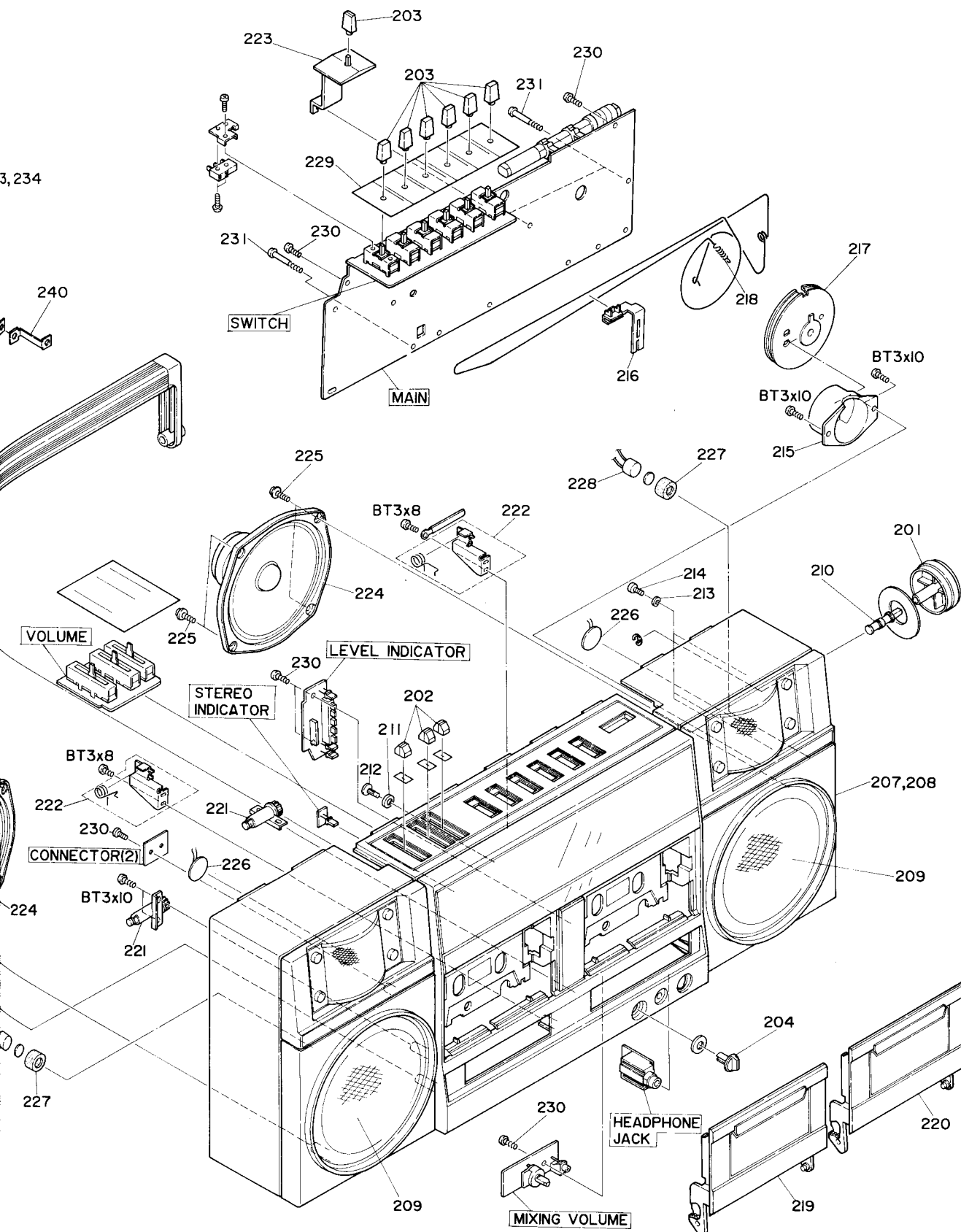
SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
MISCELLANEOUS					
201	6283882	TUNING KNOB	225	7781133	BT SCREW-3MM
202	6295741	SLIDE KNOB (VOLUME,TONE)	226	5419074	SPEAKER-TWEETER
203	6295751	LEVER KNOB	227	6570221	MICROPHONE HOLDER
204	6285861	KNOB (MIXING VOLUME)	228	5421501	BUILT IN MICROPHONE
205	7781148	BT SCREW-3MMDX50MM	229	7741481	SPACER
206	6334563	HANDLE ASSEMBLY	230	8699412	BIND TAPPING SCREW-3MMDX12MM(BLACK)
207	6038132	FRONT CASE ASSEMBLY [FOR E]	231	7777947	BIND TAPPING SCREW-3MMDX50MM
208	6038134	FRONT CASE ASSEMBLY [FOR E(BS)]	232	6777141	PCB STUD
209	6776721	SPEAKER GRILL	233	6038113	REAR CASE ASSEMBLY [FOR E]
210	7581971	TUNING SHAFT	234	6038114	REAR CASE ASSEMBLY [FOR E(BS)]
211	6344051	ROLLER	235	6174791	BATTERY LID ASSEMBLY
212	7564281	ROLLER PIN	236	6520871	BATTERY SPRING
213	0661058	8D ROLLER P	237	0681129	SPRING A
214	7777602	SPECIAL SCREW	238	7450344	BATTERY TERMINAL
215	6776521	PULLEY HOLDER	239	5752711	ROD ANTENNA
216	6398961	POINTER	240	7355121	ROD ANTENNA BRACKET
217	6423251	PULLEY	241	8744416	BIND SCREW-3MMDX16MM
218	6316231	SPRING M	242	7781148	BT SCREW-3MMDX50MM
219	6094591	CASSETTE LID (TAPE 1)	243	6060661	BUTTON (PLAY)
220	6094592	CASSETTE LID (TAPE 2)	244	6060671	BUTTON (F,F)
221	6763961	GEAR DAMPER ASSEMBLY	245	6060681	BUTTON (REWIND)
222	7355181	EJECT SPRING ASSEMBLY	246	6060691	BUTTON (PAUSE)
223	6776531	BAND LEVER	247	6060701	BUTTON (STOP)
224	5406772	SPEAKER-12CM	248	6060711	BUTTON (REC)
			249	7355092	RECORD PLATE

	Type of head					
	P	Pan head screw		BT	Binding head tapping screw	
	F	Flat countersunk head screw		BL	Bolt	
	B	Binding head screw		W	Washer	
	T	Round head tapping screw		E	"E" ring	
Length (L mm)				 		
Diameter (D mm)						

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

EXPLODED VIEW (Cabinet)





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

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