



# HITACHI

## SERVICE MANUAL

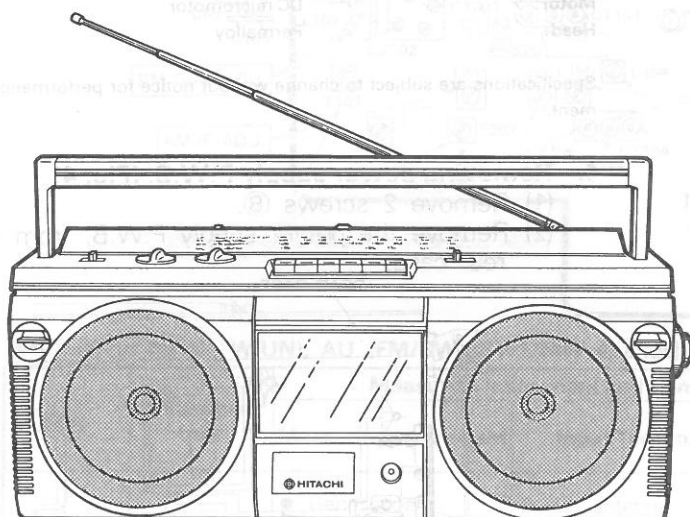
TY

No. 559 E

# TRK-720

[E, E(BS), W, W(UN), AU]

TN-21V-582 chassis



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### SAFETY PRECAUTION

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with  $\Delta$  in the circuit diagram and printed wiring board.
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

<b>Semiconductors:</b>	ICs: 5 Transistors: 2 [for E(BS), W, W(UN), AU] 3 [for E] Diodes: 7 [for E(BS), AU] 8 [for E, W, W(UN)] LEDs: 1 Varicap: 1
<b>Power Supply:</b>	AC: 220V, 50Hz [for E] AC: 240V, 50Hz [for E(BS), AU] AC: 110—127V/200—220V/230—250V, 50/60Hz [for W, W(UN)] DC: 12V [IEC R20 ("D" cell) x 8 or equivalent] Car: Use car battery adaptor (12V) [for W, W(UN)]
<b>Power (Mains)</b>	18W
<b>Consumption:</b>	25W P.M.P. (AC operation)
<b>Power Output:</b>	3.5W/CH (10% T.H.D. DC operation)
<b>Speakers:</b>	12cm, 4ohms x 2 2cm, 300ohms x 2
<b>Dimensions:</b>	505(W) x 209(H) x 156(D) mm
<b>Weight:</b>	4.0kg (with batteries)

#### ● TUNER SECTION

<b>Circuit System:</b>	FM/SW/MW/LW 4 bands superheterodyne [for E, E(BS)] FM/SW2/SW1/MW 4 bands superheterodyne [for W, W(UN), AU] FM: 87.5 to 108 MHz [for E, E(BS)] FM: 88 to 108 MHz [for W, W(UN), AU] SW: 6 to 18 MHz [for E, E(BS)] SW2: 7 to 22 MHz [for W, W(UN), AU] SW1: 2.3 to 7 MHz [for W, W(UN), AU] MW: 530 to 1,605 kHz LW: 150 to 285 kHz [for E, E(BS)]
<b>Tuning Range</b>	
<b>Sensitivity:</b>	FM: 13 dB (pra.), 5 dB (max.) SW: 30 dB (pra.), 20 dB (max.) [for E, E(BS)] SW2: 30 dB (pra.), 24 dB (max.) [for W, W(UN), AU] SW1: 46 dB (pra.), 38 dB (max.) [for W, W(UN), AU] MW: 50 dB (pra.), 40 dB (max.) LW: 55 dB (pra.), 48 dB (max.) [for E, E(BS)]

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

# RADIO CASSETTE TAPE RECORDER

May 1987

TOYOKAWA WORKS

Intermediate  
Frequency:

FM: 10.7 MHz  
SW/MW/LW: 465 kHz [for E, E(BS)]  
SW2/SW1/MW: 455 kHz [for W, W(UN), AU]  
FM/SW/SW2: Rod antenna (aerial)  
SW1/MW/LW: Ferrite antenna (aerial)

## Antennas (Aerials):

## ● TAPE RECORDER SECTION

Tape: Cassette tape  
Tape Speed: 4.75 cm/s  
Recording System: AC bias, 55 kHz  
Erasing System: Magnet  
Frequency Response: Normal: 60 to 10,000 Hz  
S/N (Signal to Noise Ratio): 40 dB

## DISASSEMBLY

## 1. Removing cassette lid (Fig. 1)

Open the cassette lid, and pull out it to the front while applying a force in the direction of the arrow.

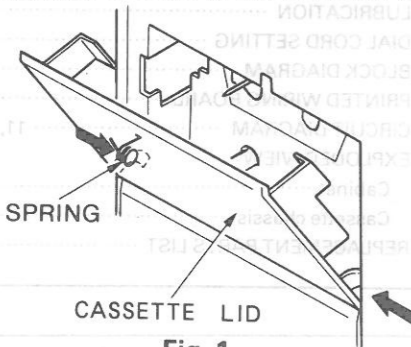


Fig. 1

## 2. Removing rear case (Fig. 2)

- (1) Remove the battery lid.
- (2) Remove 9 screws (A) and remove the rear case.

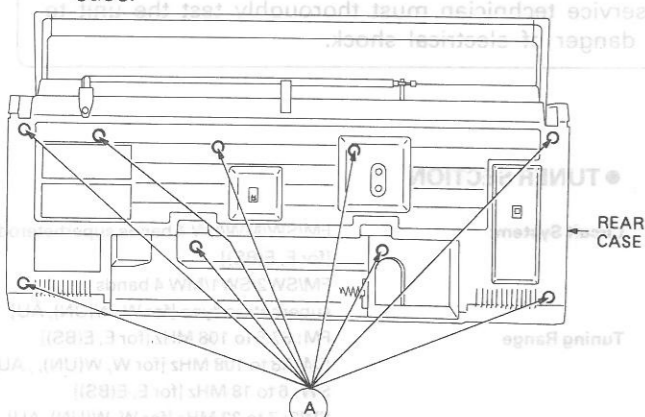


Fig. 2

## 3. Removing main P.W.B. (Fig. 3)

- (1) Remove the VOLUME and the TONE control knobs.
- (2) Remove the FUNCTION and the BAND SELECTOR knobs, then remove the main P.W.B.

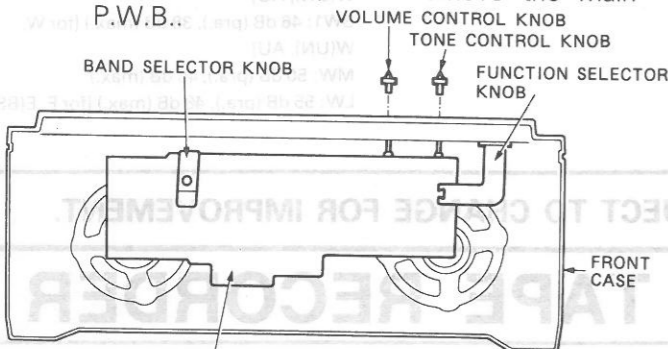


Fig. 3

Wow and Flutter:  
Crosstalk:

0.25% (WRMS)  
Between tracks: 60 dB  
Between channels: 30 dB  
60 dB

Erasing Ratio:  
Input sensitivity and  
impedance:  
Output load  
impedance:  
Distortion:  
Motor:  
Head:

CD/Line in: 600mV, 60kohms  
Headphones: 8 to 100ohms  
3%  
DC micromotor  
Permalloy

Specifications are subject to change without notice for performance improvement.

## 4. Removing power supply P.W.B. (Fig. 4)

- (1) Remove 2 screws (B).
- (2) Remove the power supply P.W.B. from the rear case.

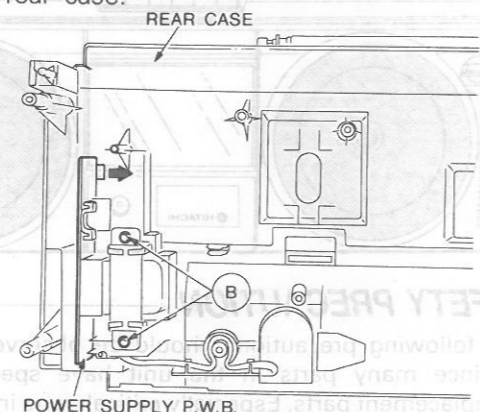


Fig. 4

## 5. Removing the cassette deck mechanism (Fig. 5)

Disengage 3 tabs (C) and remove the cassette deck mechanism.

## 6. Removing speakers (Fig. 5)

- (1) Remove 8 screws (D).
- (2) Remove the speakers.

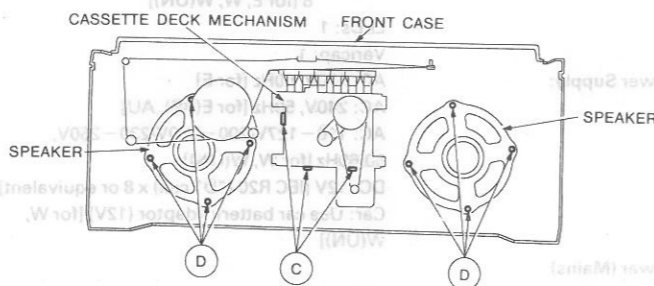


Fig. 5

## ADJUSTMENTS

## 1. Radio Section

## ● Adjustment point [for W, W(UN), AU]

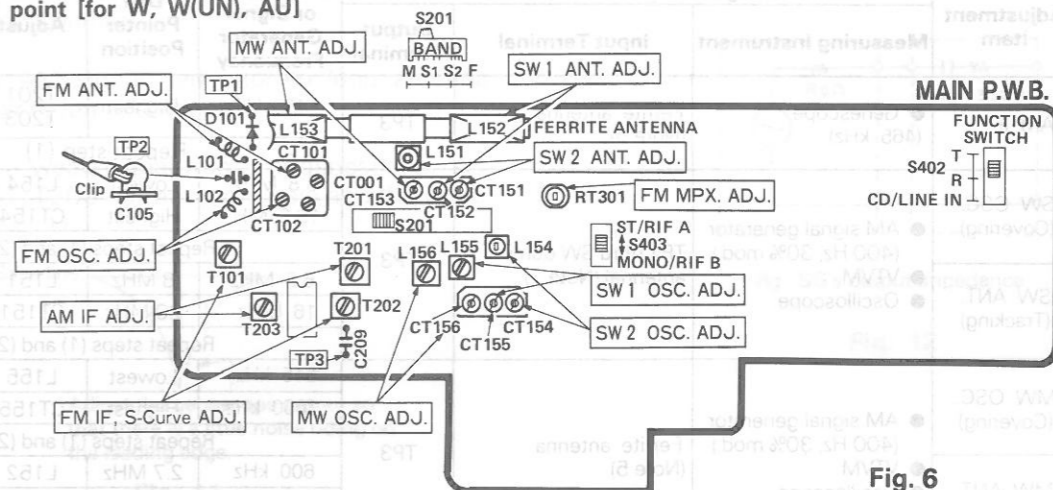


Fig. 6

## AM Section for W, W(UN), AU (FM/SW2/SW1/MW 4bands)

Step	Adjustment Item	Measuring Instrument and Connection	Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
1	(1) AM IF	● Genescope (455 kHz)	Ferrite antenna (Note 5)	TP3	455 kHz	Highest T201 T203
	(2)					
2	(1) SW2 OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	TP1 (thru SW dummy antenna) (Note 7)	TP3	6.7 MHz	Lowest L154
	(2)				23 MHz	Highest CT154
	(3)				Repeat steps (1) and (2)	
3	(1) SW2 ANT. (Tracking)				8 MHz	8 MHz L151
	(2)				20 MHz	20 MHz CT151
	(3)				Repeat steps (1) and (2)	
4	(1) SW1 OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	Ferrite antenna (Note 5)	TP3	2.2 MHz	Lowest L155
	(2)				7.3 MHz	Highest CT155
	(3)				Repeat steps (1) and (2)	
5	(1) SW1 ANT. (Tracking)				2.7 MHz	2.7 MHz L152
	(2)				6.3 MHz	6.3 MHz CT152
	(3)				Repeat steps (1) and (2)	
6	(1) MW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.) ● VTVM ● Oscilloscope	Ferrite antenna (Note 5)	TP3	515 kHz	Lowest L156
	(2)				1650 kHz	Highest CT156
	(3)				Repeat steps (1) and (2)	
7	(1) MW ANT. (Tracking)				600 kHz	600 kHz L153
	(2)				1400 kHz	1400 kHz CT153
	(3)				Repeat steps (1) and (2)	

## ● Adjustment point [for E, E(BS)]

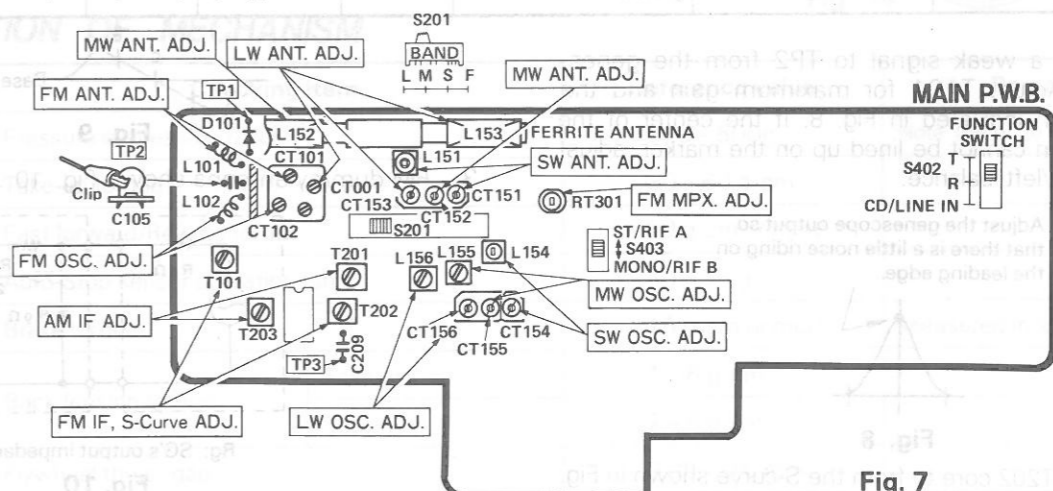


Fig. 7

AM Section for E, E(BS) (FM/SW/MW/LW 4bands)

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)	AM IF	● Genescope (465 kHz)	Ferrite antenna (Note 5)	TP3	465 kHz	Highest	T201 T203	Note 6
	(2)					Repeat step (1)			
2	(1)	SW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	TP1 (thru SW dummy antenna) (Note 7)	TP3	5.8 MHz	Lowest	L154	Max.
	(2)					18.5 MHz	Highest	CT154	
	(3)					Repeat steps (1) and (2)			
3	(1)	SW ANT. (Tracking)	● VTVM ● Oscilloscope			6.5 MHz	8 MHz	L151	Max.
	(2)					16 MHz	20 MHz	CT151	
	(3)					Repeat steps (1) and (2)			
4	(1)	MW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	Ferrite antenna (Note 5)	TP3	515 kHz	Lowest	L155	Max.
	(2)					1650 kHz	Highest	CT155	
	(3)					Repeat steps (1) and (2)			
5	(1)	MW ANT. (Tracking)	● VTVM ● Oscilloscope			600 kHz	2.7 MHz	L152	Max.
	(2)					1400 kHz	6.3 MHz	CT152	
	(3)					Repeat steps (1) and (2)			
6	(1)	LW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	Ferrite antenna (Note 5)	TP3	145 kHz	Lowest	L156	Max.
	(2)					290 kHz	Highest	CT156	
	(3)					Repeat steps (1) and (2)			
7	(1)	LW ANT. (Tracking)	● VTVM ● Oscilloscope			160 kHz	100 kHz	L153	Max.
	(2)					270 kHz	270 kHz	CT153 CT001	
	(3)					Repeat steps (1) and (2)			

FM Section \* ( ) : for E

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)	TP2	TP3	10.7 MHz	Highest	T101 T202	Note 1 Note 2	
2	(1)	FM OSC (Covering)	● FM signal generator (400 Hz, 30% dev.) ● Oscilloscope ● VTVM	TP1 (thru FM dummy antenna) (Note 3)	TP3	87MHz * (87.35 ± 0.15MHz)	Lowest	L102	Max.	
	(2)					109MHz	Highest	CT102		
	(3)					Repeat steps (1) and (2).				
3	(1)	FM ANT. (Tracking)			TP3	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 the ground.	TP5	—	—	RT301	38 kHz ± 50 Hz (Note 4)	

Note:

1. Feed in a weak signal to TP2 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.

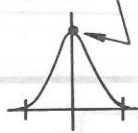


Fig. 8

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

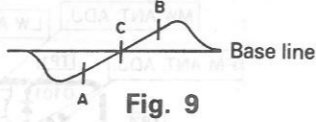
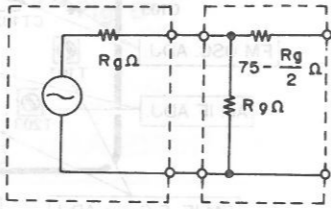


Fig. 9

3. FM dummy antenna shows Fig. 10 .



Rg: SG's output impedance

Fig. 10

4. Connect the frequency counter to TP5 and connect a 330 kohms resistor parallel with the frequency counter.
5. Connect AM signal generator to loop antenna, bring near to ferrite antenna.
6. Feed in a weak signal from the genescope. Adjust T201, T203 for maximum gain and the waveform of Fig. 11.

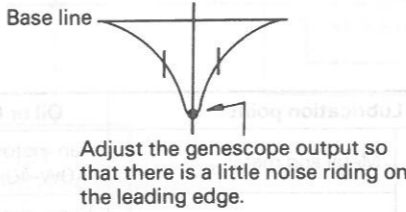


Fig. 11

2. Tape Recorder Section

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 & Connection			Check Tape	Mode	Adjust	Reading
		Measuring Instrument	Input Terminal	Output Terminal				
1	Tape speed	● Frequency counter	—	Headphones Jack	Tape speed adjustment tape (3 kHz)	Playback	Semivariable resistor in the motor (Fig. 14)	3 kHz ± 20 Hz (Note 1)
2	Head azimuth	● VTVM	—	Headphones Jack	Head azimuth adjustment 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.

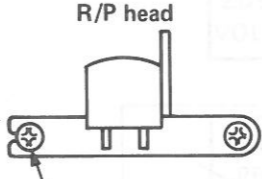
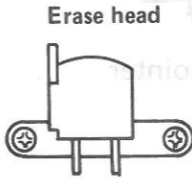


Fig. 13

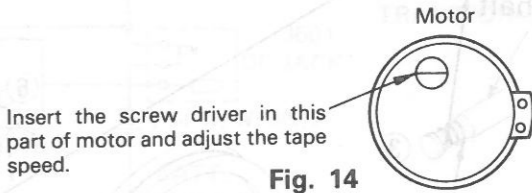


Fig. 14

INSPECTION OF MECHANISM

Item	Checking item		Reference value	Remarks
1	Pressure of pressure roller		300 – 500g	Note (Refer to page 6)
2	Take-up torque		30 – 60 g·cm	
3	Fast forward/Rewind torque		50 g·cm or more	
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	1 – 6 g·cm	
		Supply	2 – 6 g·cm	
7	Flywheel thrust gap		0.05 – 0.5 mm	

**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.

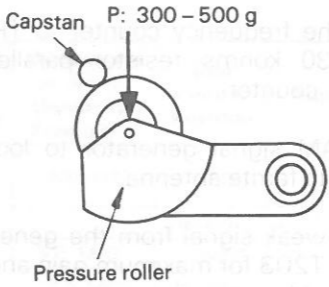


Fig. 15

**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 Mold and metal	White grease (FL-LUBE-A)
Spring resonance prevention		Floil (GB-TS-1)

**DIAL CORD SETTING**

**Stringing method**

- String the dial cord to each rollers according to the order from ① to ⑧ after turned the pulley to the end of clockwise direction.  
Set the pointer to setting position.

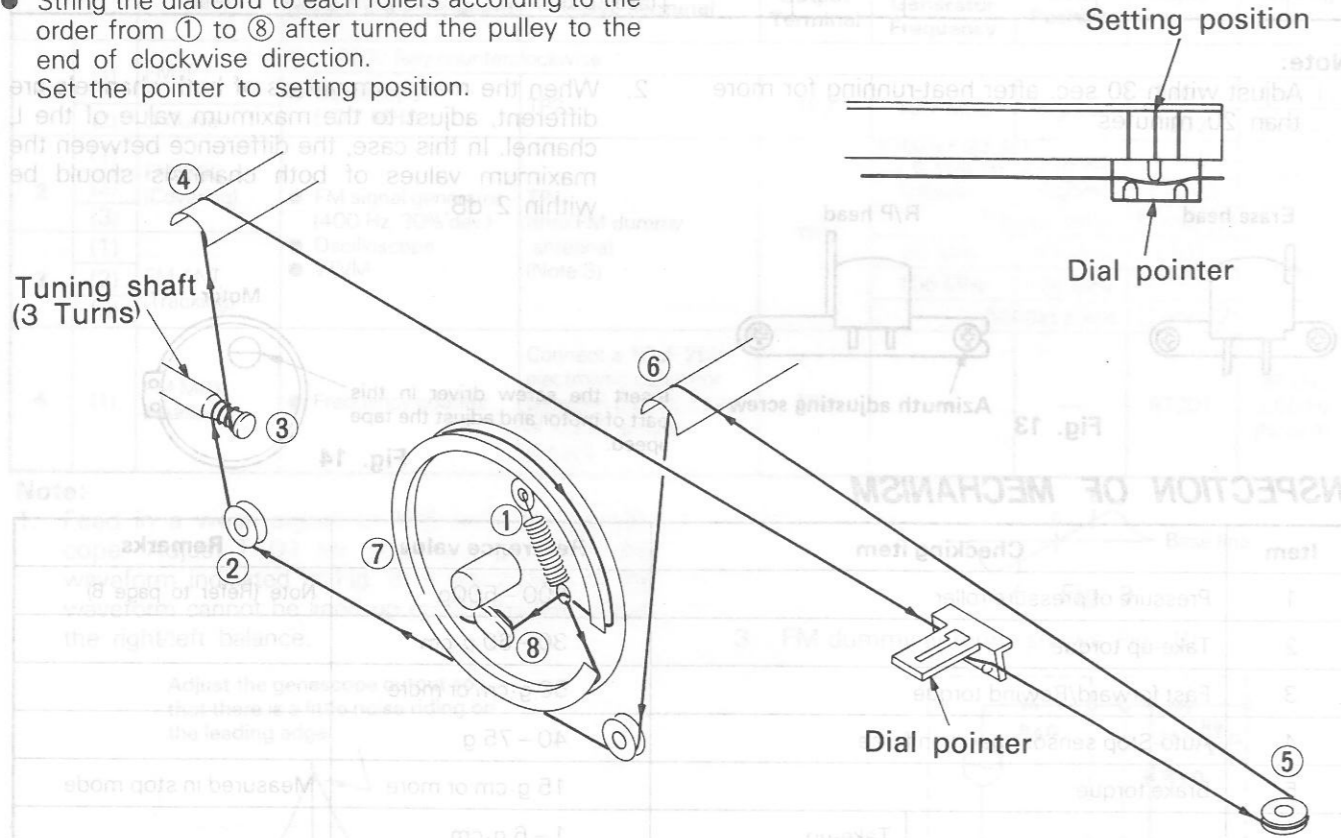
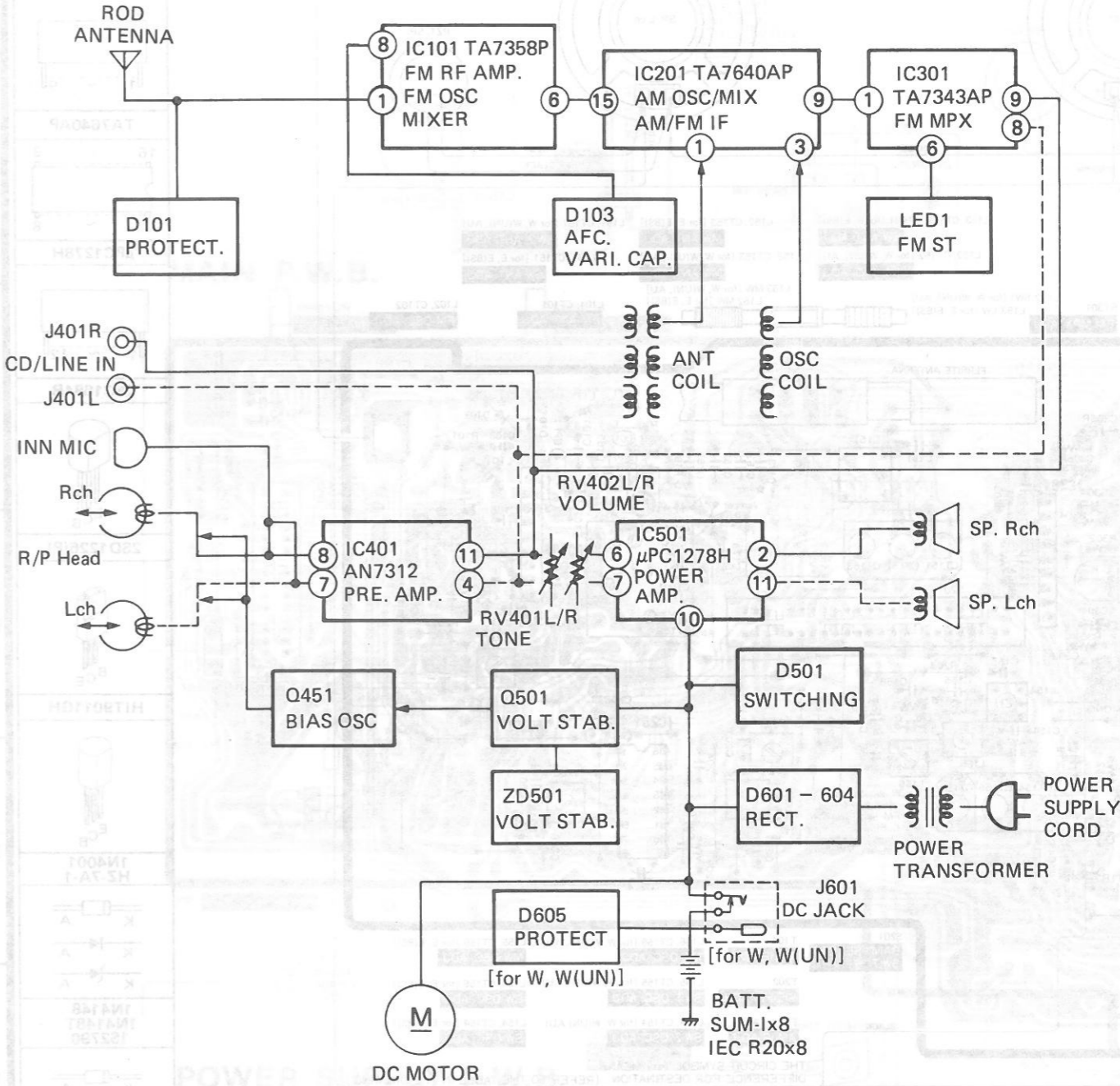
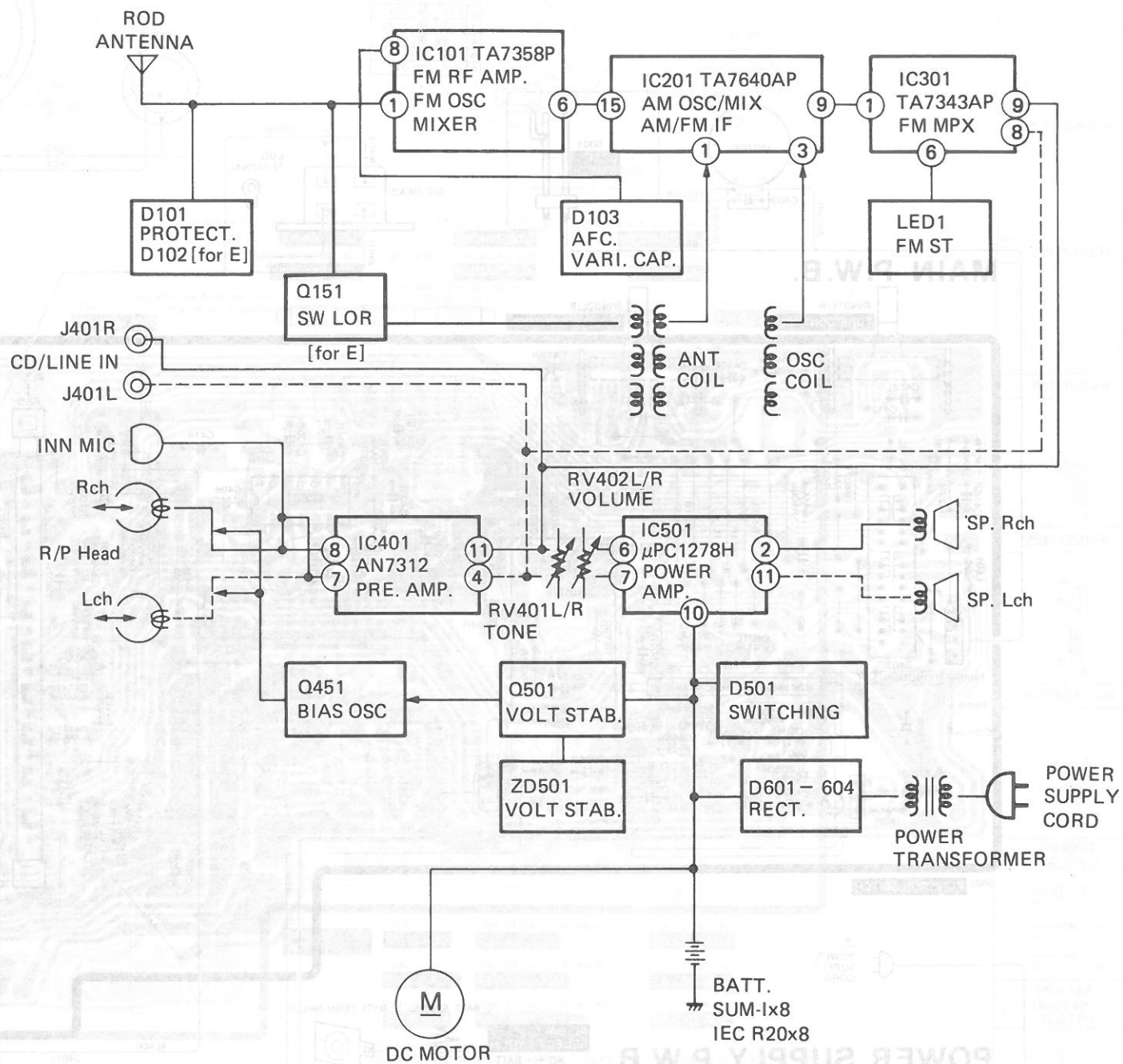


Fig. 16

**BLOCK DIAGRAM [for W, W(UN), AU]**



**BLOCK DIAGRAM [for E, E(BS)]**

IC101		
	FM	AM
1	0.7V	5.5V
2	1.5V	5.2V
3	4.1V	5.2V
4	1.4V	5.2V
5	0V	5.5V
6	4.1V	5.2V
7	3.3V	5.1V
8	4.0V	5.2V
9	4.1V	5.2V

IC201				
FM		AM		
1	0.7V	1.5V	9	1.4V
2	0.7V	1.5V	10	4.8V
3	1.8V	2.2V	11	4.8V
4	2.3V	2.3V	12	1.4V
5	0.8V	0.9V	13	1.4V
6	0.8V	0.9V	14	1.4V
7	0.7V	0.4V	15	1.4V
8	0V	0V	16	4.8V

IC301		
	FM	AM
1	2.7V	2.9V
2	3.4V	3.7V
3	4.8V	5.1V
4	4.0V	3.3V
5	0V	0V
6	4.2V	4.6V
7	4.1V	5.1V
8	2.3V	2.7V
9	2.3V	2.7V

IC481			
1	0V	8	0V
2	0V	9	1.3V
3	0V	10	1.3V
4	2.8V	11	2.8V
5	1.3V	12	0V
6	1.3V	13	5.5V
7	0V	14	5.5V

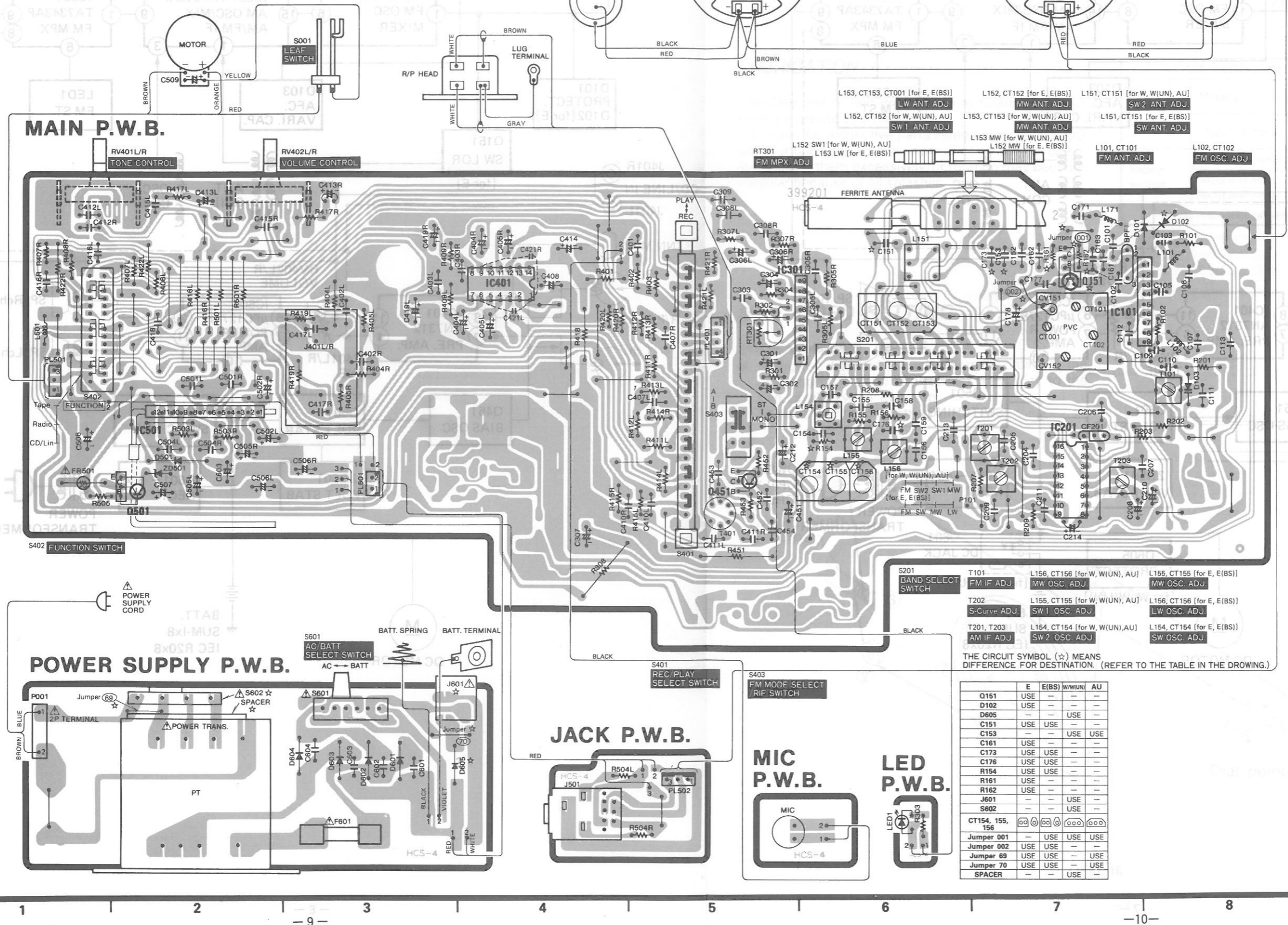
  

IC501			
1	0V	17	0V

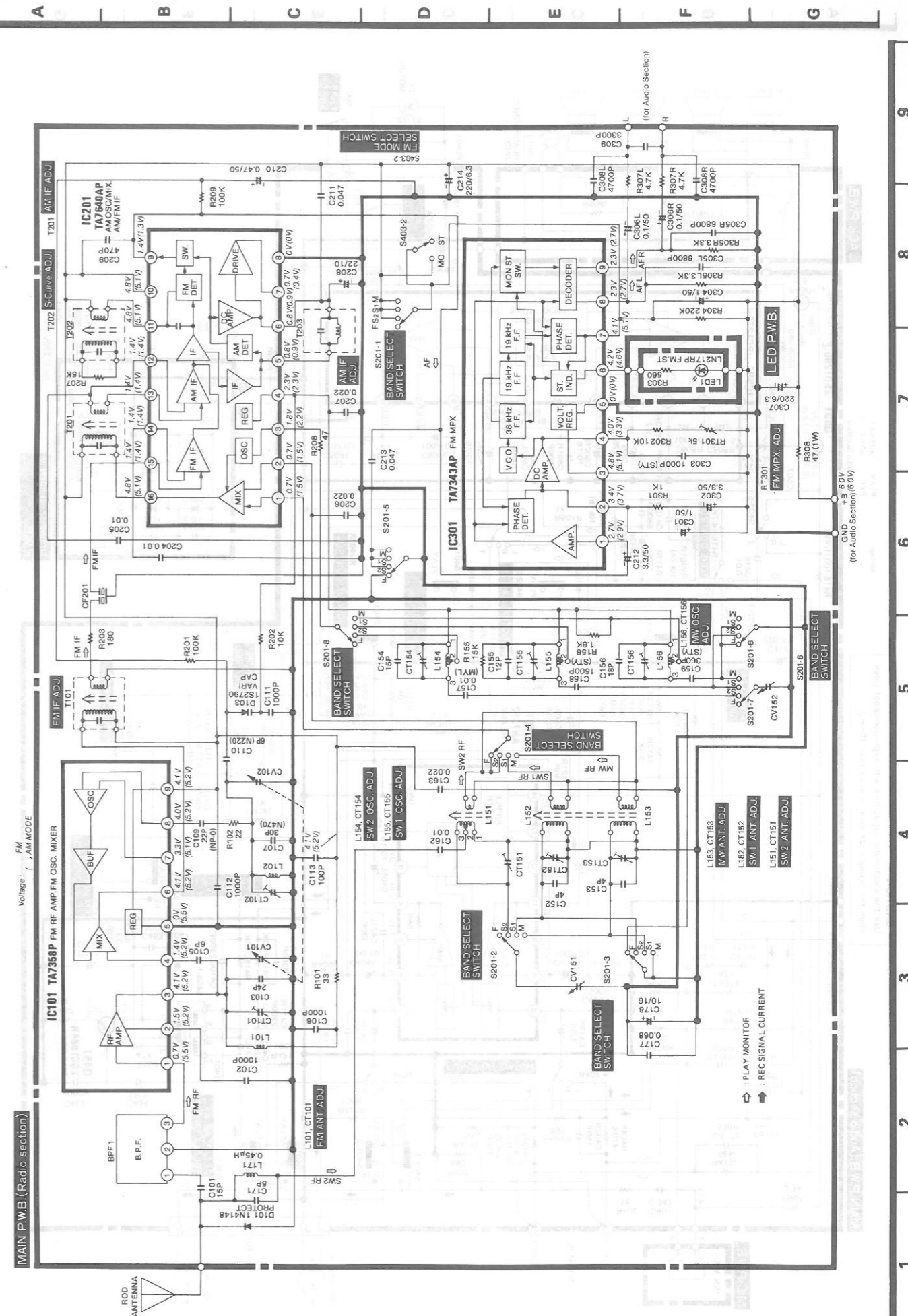
Q451		
	PLAY	REC
E	0V	0.1V
C	0V	5.1V
B	0V	0.8V

Q501	
	PLAY REC
E	6.0V 6.0V
C	12.0V 11.8V
B	6.6V 6.6V

IC501			
1	0V	7	0V
2	6.0V	8	1.2V
3	11.7V	9	11.7V
4	11.9V	10	12.0V
5	1.2V	11	6.0V
6	0V	12	0V



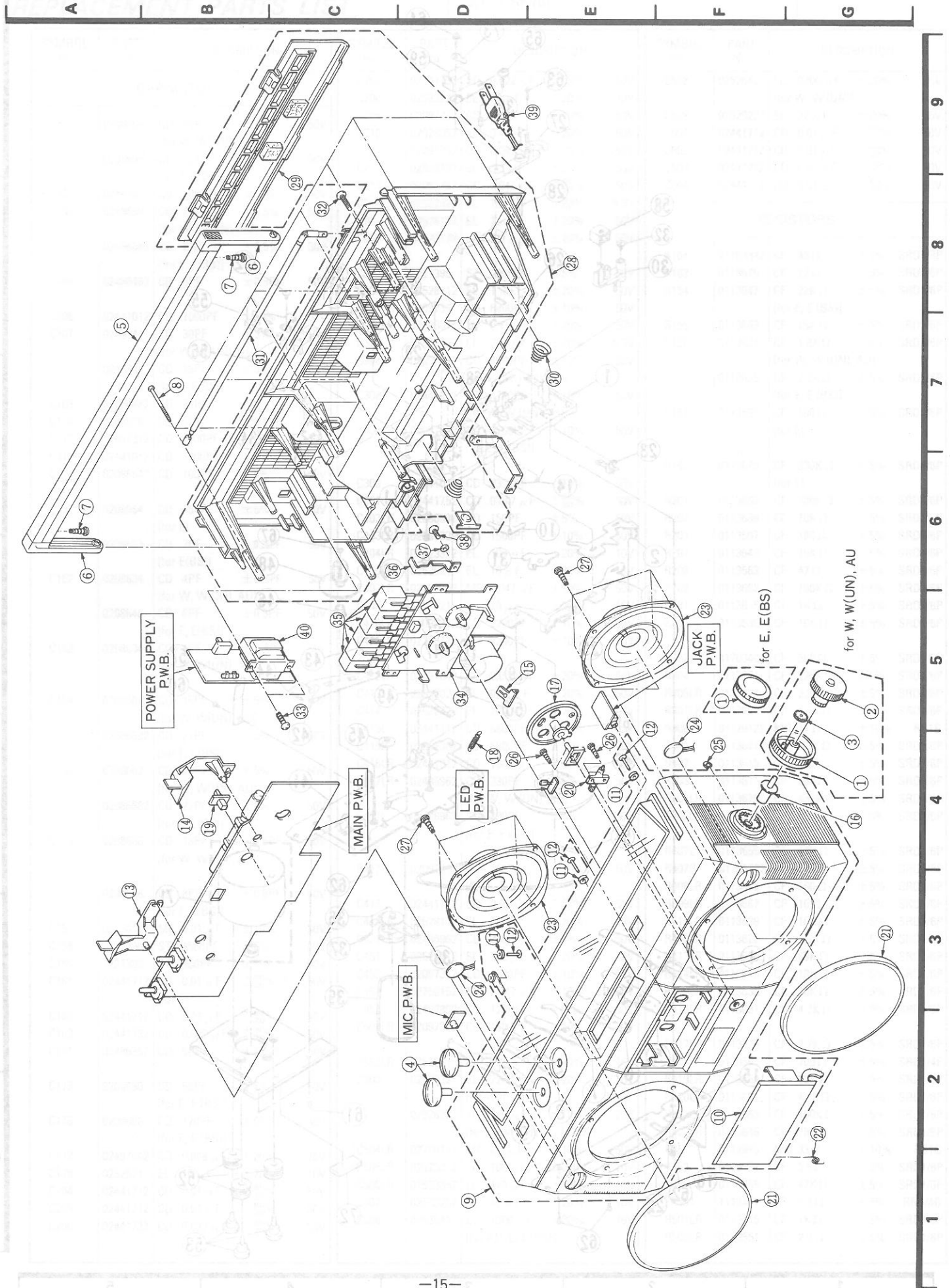
<p><b>AN7312</b></p>
<p><b>TA7343AP TA7358P</b></p>
<p><b>TA7640AP</b></p>
<p><b>μPC1278H</b></p>
<p><b>2SC1684R</b></p>
<p><b>2SD 1226(P)</b></p>
<p><b>HIT9011GH</b></p>
<p><b>1N4001 HZ-7A-1</b></p>
<p><b>1N4148 1N4148T 1S2790</b></p>



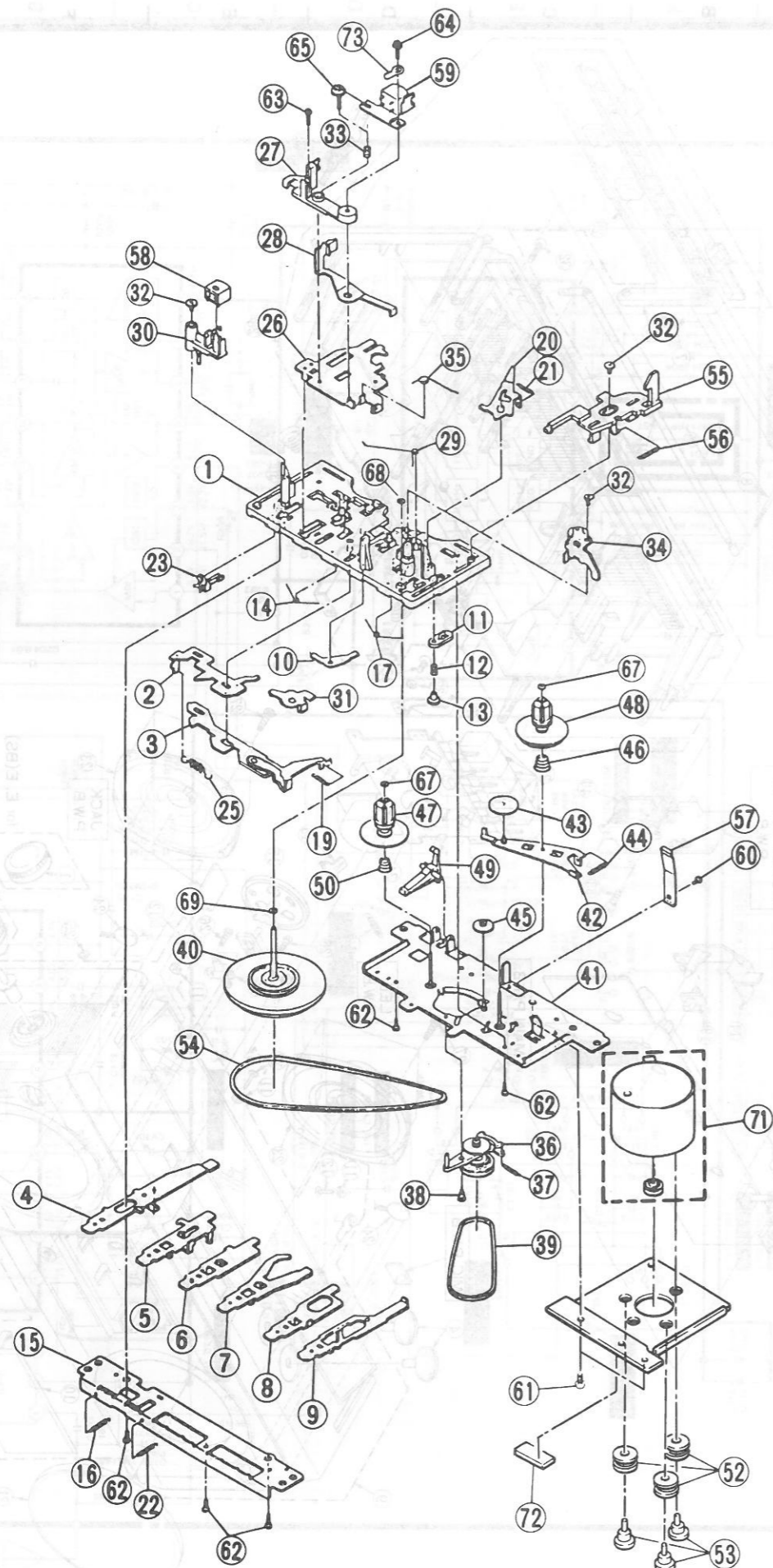


# EXPLODED VIEW (Cabinet)

● Nos. are reference Nos. of parts list.



## EXPLODED VIEW (Cassette chassis) ● Nos. are reference Nos. of parts list.



## REPLACEMENT PARTS LIST

CD : Ceramic discal    CF : Carbon film  
EL : Electrolytic    MO : Metal oxide  
MF : Mylar film    FR : Fuse resistor  
ST : Styrol

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
CAPACITORS								
C101	0208664	CD 15PF ±5% 50V [for W, W(UN), AU]	C207	02441732	CD 0.022 μF ±80% 50V	C508	0252642	EL 2200 μF ±20% 25V [for W, W(UN)]
	0208666	CD 18PF ±5% 50V [for E, E(BS)]	C208	02523222	EL 22 μF ±20% 10V	C509	02526222	EL 22 μF ±20% 25V
C102	02441012	CD 1000PF ±10% 50V	C209	02097232	CD 470PF ±10% 50V	C601	02441712	CD 0.01 μF ±80% 50V
C103	0248669	CD 24PF ±0.5% 50V [for W, W(UN), AU]	C210	02528052	EL 0.47 μF ±20% 50V	C602	02441712	CD 0.01 μF ±80% 50V
	02486682	CD 22PF ±0.5% 50V [for E, E(BS)]	C211	02091752	CD 0.047 μF ±80% 50V	C603	02441712	CD 0.01 μF ±80% 50V
C105	02486462	CD 6PF ±0.5PF 50V	C212	02528132	EL 3.3 μF ±20% 50V	C604	02441712	CD 0.01 μF ±80% 50V
C106	02441012	CD 1000PF ±10% 50V	C213	02091752	CD 0.047 μF ±80% 50V	RESISTORS		
C107	0248341	CD 30PF ±5% 50V [for W, W(UN), AU]	C214	02522322	EL 220 μF ±20% 6.3V	R101	01703342	CF 33Ω ±5% SRD1/8P
	0248334	CD 15PF ±5% 50V [for E, E(BS)]	C301	02528112	EL 1 μF ±20% 50V	R102	0113575	CF 22Ω ±5% SRD1/6P
C109	02464482	CD 22PF ±0.5% 50V	C302	02528132	EL 3.3 μF ±20% 50V	R154	0113647	CF 22KΩ ±5% SRD1/6P [for E, E(BS)]
C110	0248016	CD 6PF ±0.5PF 50V	C303	1221395	ST 1000PF ±5% 50V	R155	0113643	CF 15KΩ ±5% SRD1/6P
C111	02097312	CD 1000PF ±10% 50V	C304	02528112	EL 1 μF ±20% 50V	R156	0113621	CF 1.8KΩ ±5% SRD1/6P [for W, W(UN), AU]
C112	02441012	CD 1000PF ±10% 50V	C305LR	0209736	CD 6800PF ±10% 50V		0113623	CF 2.2KΩ ±5% SRD1/6P [for E, E(BS)]
C113	02086842	CD 100PF ±5% 50V	C306LR	0252801	EL 0.1 μF ±20% 50V	R161	0113591	CF 100Ω ±5% SRD1/6P [for E]
			C307	02522322	EL 220 μF ±20% 6.3V	R162	0113675	CF 330KΩ ±5% SRD1/6P [for E]
C151	0208664	CD 15PF ±5% 50V [for E]	C308L	02097352	CD 4700PF ±10% 50V [for W, W(UN), AU]	R201	0113663	CF 100KΩ ±5% SRD1/6P
	0208633	CD 3PF ±0.25PF 50V [for E(BS)]	C308R	02441092	CD 4700PF ±10% 50V [for W, W(UN), AU]	R202	0113639	CF 10KΩ ±5% SRD1/6P
C152	0208634	CD 4PF ±0.25PF 50V [for W, W(UN), AU]	C308LR	02097352	CD 4700PF ±10% 50V [for E, E(BS)]	R203	0113597	CF 180Ω ±5% SRD1/6P
	0208646	CD 6PF ±0.5PF 50V [for E, E(BS)]				R207	0113643	CF 15KΩ ±5% SRD1/6P
C153	0208634	CD 4PF ±0.25PF 50V [for W, W(UN), AU]	C309	02441072	CD 3300PF ±10% 50V	R208	0113583	CF 47Ω ±5% SRD1/6P
			C401	02441752	CD 0.047 μF ±80% 50V	R209	0113663	CF 100KΩ ±5% SRD1/6P
C154	0208664	CD 15PF ±5% 50V [for W, W(UN), AU]	C402LR	02086882	CD 150PF ±5% 50V	R301	0113615	CF 1KΩ ±5% SRD1/6P
	02086682	CD 22PF ±5% 50V [for E, E(BS)]	C403LR	02097322	CD 1500PF ±10% 50V	R302	0113639	CF 10KΩ ±5% SRD1/6P
C155	0208662	CD 12PF ±5% 50V [for W, W(UN), AU]	C404LR	02523312	EL 100 μF ±20% 10V	R303	01703492	CF 560Ω ±5% SRD1/8P
	02086682	CD 22PF ±5% 50V [for E, E(BS)]	C405LR	0252521	EL 10 μF ±20% 16V	R304	0113671	CF 220KΩ ±5% SRD1/6P
C156	0208666	CD 18PF ±0.5PF 50V [for W, W(UN), AU]	C407LR	02750152	MF 0.047 μF ±10% 50V	R305LR	0113627	CF 3.3KΩ ±5% SRD1/6P
	0208648	CD 8PF ±0.5PF 50V [for E, E(BS)]	C408	0252521	EL 10 μF ±20% 16V	R307LR	0113631	CF 4.7KΩ ±5% SRD1/6P
C157	02750112	MF 0.01 μF ±10% 50V	C410LR	02097332	CD 2200PF ±10% 50V	R308	01129122	MO 47Ω ±10% RS1B
C158	1221396	ST 1500PF ±5% 50V	C411LR	02740132	MF 2200PF ±10% 50V	R401	0113627	CF 3.3KΩ ±5% SRD1/6P
C159	1221393	ST 360PF ±5% 50V				R402	0113615	CF 1KΩ ±5% SRD1/6P
C161	02441712	CD 0.01 μF ±80% 50V [for E]	C412LR	02497642	CD 0.033 μF ±20% 50V	R403	0113611	CF 680Ω ±5% SRD1/6P
C162	02441712	CD 0.01 μF ±80% 50V	C413LR	0252802	EL 0.22 μF ±20% 50V	R404LR	0113679	CF 470KΩ ±5% SRD1/6P
C163	02441732	CD 0.022 μF ±80% 50V	C414	02522322	EL 220 μF ±20% 6.3V	R405LR	0113609	CF 560Ω ±5% SRD1/6P
C171	02486352	CD 5PF ±0.25PF 50V	C415L	02441112	CD 6800PF ±10% 50V	R407L	0113655	CF 47KΩ ±5% SRD1/6P
			C415R	02097362	CD 6800PF ±10% 50V	R407R	01703722	CF 47KΩ ±5% SRD1/8P
C173	0208680	CD 68PF ±5% 50V [for E, E(BS)]	C416LR	02441012	CD 1000PF ±10% 50V	R408LR	0113609	CF 560Ω ±5% SRD1/6P
C176	0208686	CD 120PF ±5% 50V [for E, E(BS)]	C417LR	02486962	CD 330PF ±5% 50V [for W, W(UN), AU]	R409LR	0113567	CF 10Ω ±5% SRD1/6P
C177	02497662	CD 0.068 μF ±20% 25V	C417L	02486962	CD 330PF ±5% 50V [for E, E(BS)]	R411LR	0113639	CF 10KΩ ±5% SRD1/6P
C178	0252521	EL 10 μF ±20% 16V				R412LR	0113629	CF 3.9KΩ ±5% SRD1/6P
C204	02441712	CD 0.01 μF ±80% 50V	C418	02441712	CD 0.01 μF ±80% 50V	R413LR	0113659	CF 68KΩ ±5% SRD1/6P
C205	02441712	CD 0.01 μF ±80% 50V	C419LR	02528112	EL 1 μF ±20% 50V	R414LR	0113645	CF 18KΩ ±5% SRD1/6P
C206	02441732	CD 0.022 μF ±80% 50V	C421LR	02486962	CD 330PF ±5% 50V	R415LR	0113639	CF 10KΩ ±5% SRD1/6P
			C451	02523312	EL 100 μF ±20% 10V	R416LR	0113631	CF 4.7KΩ ±5% SRD1/6P
			C452	02097312	CD 1000PF ±10% 50V	R417LR	0113625	CF 2.7KΩ ±5% SRD1/6P
			C453	02750152	MF 0.047 μF ±10% 50V	R418	0129561	CF 100Ω ±5% SRD1/4P
			C454	02486862	CD 120PF ±5% 50V	R419LR	0113659	CF 68KΩ ±5% SRD1/6P
			C501LR	02097312	CD 1000PF ±10% 50V	R420LR	0113631	CF 4.7KΩ ±5% SRD1/6P
						R421LR	0113663	CF 100KΩ ±5% SRD1/6P
			C502LR	0252521	EL 10 μF ±20% 16V	R422LR	0113645	CF 18KΩ ±5% SRD1/6P
			C503	0252532	EL 220 μF ±20% 16V [for AU]	R451	0112915	MO 33Ω ±10% RS1B
				02526322	EL 220 μF ±20% 25V [for W, W(UN), E, E(BS)]	R452	0113561	CF 5.6Ω ±5% SRD1/6P
			C504LR	02760112	MF 0.1 μF ±10% 50V	R453	0113655	CF 47KΩ ±5% SRD1/6P
			C505LR	02523312	EL 100 μF ±20% 10V	△FR501	1118447	FR 6.8Ω ±5% RN1/4B
			C506LR	02523352	EL 470 μF ±20% 10V	R501LR	0113615	CF 1KΩ ±5% SRD1/6P
			C507	02523252	EL 47 μF ±20% 10V	R503LR	0113551	CF 2.2Ω ±5% SRD1/6P
			C508	0252541	EL 1000 μF ±20% 16V [for AU, E, E(BS)]			

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
R504LR	01703382	CF 68Ω ±5% SRD1/8P	T201	2154952	AM IF transformer	CABINET		
R505	0113611	CF 680Ω ±5% SRD1/6P	T202	2154964	FM IF transformer			
ICs & TRANSISTORS			T203	2154951	AM IF transformer			
			T401	2136891	REC OSC transformer			
IC101	2398201	TA7358P	MISCELLANEOUS			1	3303331	Tuning knob (BLACK) [for W, W(UN), AU]
IC201	2389511	TA7640AP	J401LR	2678781	2P pin jack		3303333	Tuning knob (SILVER) [for W, W(UN), AU]
IC301	2301041	TA7343AP	J501	2678234	Headphones jack		3303183	Tuning knob (BLACK) [for E, E(BS)]
IC401	2300881	AN7312	△J601	2678282	DC jack [for W, W (UN)]	2	3303091	Fine knob (BLACK) [for W, W(UN), AU]
IC501	2389521	μ PC1278H	△P001	2689461	2P terminal		3303094	Fine knob (SILVER) [for W, W(UN), AU]
Q151	2319083	HIT9011GH [for E]	PVC	0282182	Capacitor variable (CT101, CT102, CT150, CV101, CV102, CV151, CV152)	3	3348613	Gear [for W, W(UN), AU]
Q451	2319101	2SC1684R	CT151-153	0283130	Capacitor semi variable	4	3801491	28 φ knob (BLACK) [for W, W(UN), AU, E, E(BS)]
Q501	2317803	2SD1266(P)	CT154-156	0283130	Capacitor semi variable [for W, W (UN), AU]		3801493	28 φ knob (SILVER) [for W, W(UN), AU]
DIODES			CT154, 155	0283557	Capacitor semi variable [for E, E (BS)]	5	3801771	Handle
D101	2398082	IN4148T	CT156	0282148	Capacitor semi variable [for E, E (BS)]	6	3801461	Handle arm
D102	2398081	IN4148 [for E]	BPF1	2137191	FM band pass filter	7	4577832	BT flat head screw (3 φ x 10) (handle)
D103	2338031	1S2790	CF201	2135321	Ceramic filter	8	4577818	Bind tapping screw (3 φ x 50) (rear case)
D501	2398081	IN4148	S201	2629282	Slide switch (BAND SELECT)	9	4042921	Front case assy (BLACK) [for W, W(UN), AU]
D601	2398062	IN4001	S401	2629293	Slide switch (REC/PLAY SELECT)		4042922	Front case assy (SILVER) [for W, W(UN), AU]
D602	2398062	IN4001	S402	2628581	Slide switch (FUNCTION)		4042923	Front case assy (BLACK) [for E, E(BS)]
D603	2398062	IN4001	S403	2629331	Slide switch (FM MODE SELECT)	10	3801582	Cassette lid
D604	2398062	IN4001	△S601	2629261	Slide switch (AC/BATT. SELECT)	11	3934271	Roller
D605	2398062	IN4001 [for W, W (UN)]	△S602	2618472	Switch (VOLTAGE SELECT) [for W, W (UN)]	12	4577661	Roller pin
ZD501	2337541	HZ-7A-1	△F601	2728073	Fuse T1.25A	13	3801531	Function lever (BLACK) [for W, W(UN), AU, E, E(BS)]
LED1	2397753	LN217RP		2737441	Mic.		3801532	Function lever (SILVER) [for W, W(UN), AU]
VARIABLE RESISTORS				8691406	BT bind head screw (3 φ x 6) (IC 501)	14	3801541	Band lever (BLACK) [for W, W(UN), AU, E, E(BS)]
RT301	0189331	5kΩ (FM MPX ADJ.)		86914082	BT bind head screw (3 φ x 8) (Q 501)		3801542	Band lever (SILVER) [for W, W(UN), AU]
RV401LR	0166932	10kΩ -(A) (TONE CONTROL)				15	3801551	Pointer
RV402LR	0166944	10kΩ -(B) (VOLUME CONTROL)				16	4594824	Tuning shaft
COILS&TRANSFORMERS						17	3801761	100 φ pulley
L101	2137683	FM RF coil				18	3340321	Spring
L102	2137687	Choke coil				19	3801501	Select knob
L151	2137662	SW ANT coil [for E, E (BS)]				20	3970221	Gear damper
	2137821	SW ANT coil [for W, W (UN), AU]				21	3801591	Speaker grille
	2757994	Ferrite antenna (L152, L153) [for E, E (BS)]				22	3368265	Lid spring
	2757982	Ferrite antenna (L152, L153) [for W, W (UN), AU]				23	2403841	12cm speaker
L154	2137671	SW OSC coil [for E, E (BS)]				24	2403353	Piezo tweeter
	2137672	SW OSC coil [for W, W (UN), AU]				25	4418013	E ring
L155	2137631	MW OSC coil [for E, E (BS)]				26	86914102	BT bind head screw (3 φ x 10) (gear damper, pulley holder)
	2137633	SW OSC coil [for W, W (UN), AU]				27	4578972	BT flange screw (3 φ x 10) (12cm speaker)
L156	2137642	LW OSC coil [for E, E (BS)]				28	4042941	Rear case assy (BLACK) [for W]
	2137631	MW OSC coil [for W, W (UN), AU]					4042942	Rear case assy (BLACK) [for W(UN)]
L171	2137684	Choke coil						
L501	2227748	Choke coil						
T101	2135651	FM IF transformer						

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
28	4042943	Rear case assy (BLACK) [for AU]	21	4819000	Auto lever spring
	4042945	Rear case assy (SILVER) [for W]	22	4820217	PLAY button lever spring
	4042946	Rear case assy (SILVER) [for W(UN)]	23	2789801	Leaf switch
	4042947	Rear case assy (SILVER) [for AU]	25	4820218	Switch actuator spring
	4042948	Rear case assy (BLACK) [for E, E(BS)]	26	4820219	Head panel
			27	4819014	Head base
29	3973501	Battery lid	28	4832412	Sensing plate assy
30	3369781	Bat. spring	29	4820221	Head panel spring
31	2758231	Rod antenna	30	4819018	MG arm
32	87444122	Bind head screw (3 φ x 12) (rod antenna)	31	4819006	PR stopper
33	4578976	BT bind head screw (3 φ x 20) (power transformer)	32	4819045	Screw
34	2588831	TN-21-582 mechanism assy	33	4819017	Spring
35	3801481	Cassette button (BLACK) [for W, W(UN), AU, E, E(BS)]	34	4820222	Pressure roller arm assy
	3801483	Cassette button (SILVER) [for W, W(UN), AU]	35	4820223	Pressure roller arm spring
36	4468611	Record plate	36	4832413	RF pulley arm
37	88151132	Lock washer	37	4820225	RF pulley arm spring
38	4578281	Screw (2.6 φ x 4) (record plate)	38	4832414	RF collar arm screw
△39	2706584	Power supply cord [for W, W(UN)]	39	4820227	Belt
△	2706251	Power supply cord [for AU]	40	4820231	Flywheel assy
△	2707709	Power supply cord [for E]	41	4819575	Reel P.W.B. assy
△	2717902	Power supply cord [for E(BS)]	42	4832415	Take up gear plate assy
△40	2249604	Power transformer [for W, W(UN)]	43	4832416	Take up roller gear
△	2249602	Power transformer [for AU, E(BS)]	44	4819020	TG plate spring
△	2249601	Power transformer [for E]	45	4832417	FF gear
			46	4819037	Spring
			47	4819033	Supply reel assy
			48	4819034	Take up reel assy
			49	4819035	Record safety lever
			50	4819032	Spring
			52	4819039	Motor rubber
			53	4819533	Motor collar screw
			54	4820235	Main belt
			55	4819043	Eject slide lever
			56	4819044	Eject slide lever spring
			57	4820242	Pack spring
			58	2557321	Erase head
			59	2555671	Record playback head
			60	4819063	Tapping screw (2 φ x 3)
			61	4819068	Tapping screw (2 φ x 4)
			62	4819607	Bind tapping screw (2 φ x 5)
for ACCESSORIES			63	4819069	Screw (2 φ x 6)
△	2667922	Siemens plug	64	4819060	Screw (2 φ x 7)
CASSETTE CHASSIS			65	4819600	Azimuth screw
1	4818991	Main base assy	67	4819077	Washer (1.2 φ x 3 x 0.4)
2	4818992	Switch plate	68	4819078	Washer (1.55 φ x 3.8 x 0.5)
3	4832411	Push button actuator assy	69	4832432	Washer (2.05 φ x 4 x 0.5)
4	4820212	REC button lever	71	4820366	Motor assy
5	4820213	PLAY button lever	72	4820241	Mat
6	4818996	RWD button lever	73	4819062	Lug
7	4818997	FF button lever			
8	4818998	STOP button lever			
9	4818999	PAUSE button lever assy			
10	4818990	RWD lever			
11	4819131	PAUSE lever			
12	4819132	PAUSE lever spring			
13	4819133	PAUSE stopper			
14	4820214	Button lever spring			
15	4820215	Sub chassis			
16	4819007	Button lever spring			
17	4819100	Button lever spring			
19	4819008	Actuator spring			
20	4819009	Auto lever			



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