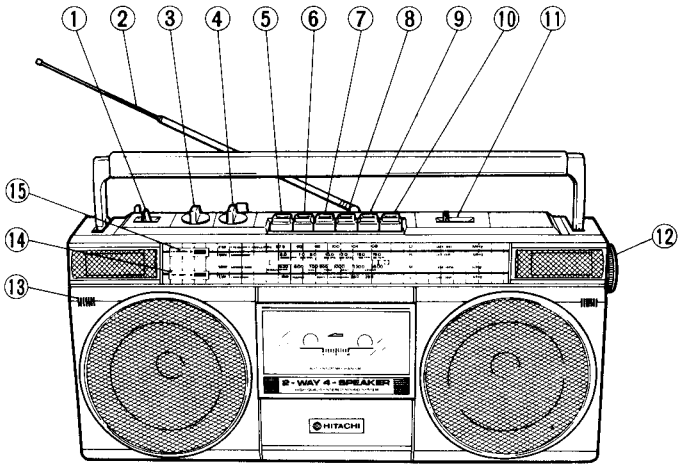
HITACHI
SERVICE MANUAL

TY	No. 581E

TRK-6835
(E, E(BS))

TN-33ZV-968 chassis



CONTENTS

KEY TO ILLUSTRATIONS

① FUNCTION SELECTOR
② ROD ANTENNA (AERIAL)
③ TONE CONTROL
④ VOLUME CONTROL
⑤ PAUSE BUTTON
⑥ STOP/EJECT BUTTON
⑦ FAST FORWARD BUTTON
⑧ REWIND BUTTON
⑨ PLAYBACK BUTTON
⑩ RECORD BUTTON
⑪ BAND SELECTOR
⑫ TUNING CONTROL
⑬ BUILT-IN MICROPHONE (MONAURAL)
⑭ RECORD/BATTERY INDICATOR
⑮ FM STEREO INDICATOR

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 makers. Critical parts are marked with ⚠ 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 AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

RADIO CASSETTE TAPE RECORDER

October 1987 YOKOHAMA WORKS

SPECIFICATIONS

GENERAL SECTION

Semi-conductors :	IC's : 5
	Transistors : 5 (E)
	4 [E(BS)]
	Diodes : 5
	LED's : 2
	Zener diode : 1
Power (Mains) Supply :	AC : 220V, 50Hz (E)
	240V, 50Hz [E(BS)]
	DC : 9V
	(IEC R20 × 6 or equivalent)
Power (Mains) Consumption :	8W
Dimensions :	454(W) × 209(H) × 121(D) mm
Weight :	3.3kg (with batteries)
Power output :	5W P.M.P. (AC operation)
	1.2W/ch (10% THD, DC)
Speakers :	100mm, 8ohms × 2
	20mm, 300ohms × 2

TUNER SECTION

Circuit System :	FM/SW/MW/LW 4-band superheterodyne
Tuning Range :	FM : 87.5 to 108MHz
	SW : 6 to 18MHz
	MW : 530 to 1605kHz
	LW : 150 to 285kHz
Antennas (Aerials) :	FM/SW : Rod antenna (aerial)
	MW/LW : Built-in ferrite-core antenna (aerial)

TAPE RECORDER SECTION

Tape :	Cassette tape
Tape Speed :	4.75cm/s
Recording System :	AC bias
Erasing System :	Magnet
Track System :	4 track 2 channel
Frequency Response :	Normal : 80Hz to 10kHz
S/N (Signal to Noise Ratio) :	43 dB
Wow and Flutter :	0.25% (WRMS)
Crosstalk :	65 dB (Between tracks)
	40 dB (Between channels)
Erase Ratio :	60 dB
Input Sensitivity Impedance :	EXT. Mic in 0.6mV 2.2kohms
Output Impedance :	Headphones : 8 to 300ohms
Distortion :	3%
Motor :	DC micromotor

Specifications are subject to change for performance improvement without notice.

MAINTENANCE

■ **Clean cabinet and panels when dirty**

Clean off dirt on the surfaces with a dry cloth. Never use thinners, benzene or alcohol since these will damage the surface finish.

DISASSEMBLY

1. **Removing Cassette lid (Fig. 1)**
   Push the tab with minus ⊖ screwdriver in the direction of arrow and pull out the cassette lid.

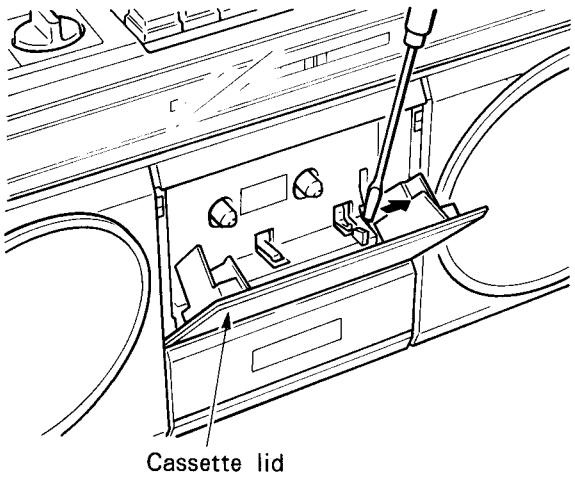


Fig. 1

2. **Removing Rear case (Fig. 2)**
   Remove 6 screws Ⓐ.

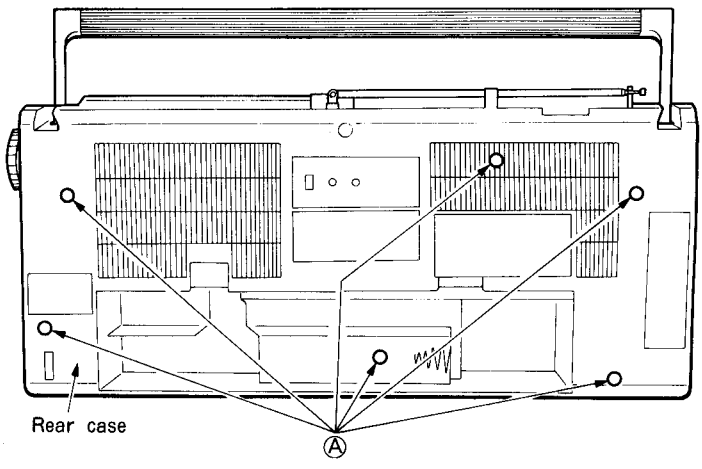


Fig. 2

3. **Removing Main P.W.B.**
   (1) Remove the VOLUME and TONE CONTROL knobs. (Fig. 3)
   (2) Remove the FUNCTION and BAND SELECTOR knobs. (Fig. 3)
   (3) Remove the 2 screws Ⓑ. (Fig. 4)

• When install the Main P.W.B., confirm that the coupling position of record/playback switch and record arm.

4. **Removing the HEADPHONES JACK P.W.B. (Fig. 4)**
   Remove the 1 screw Ⓒ.

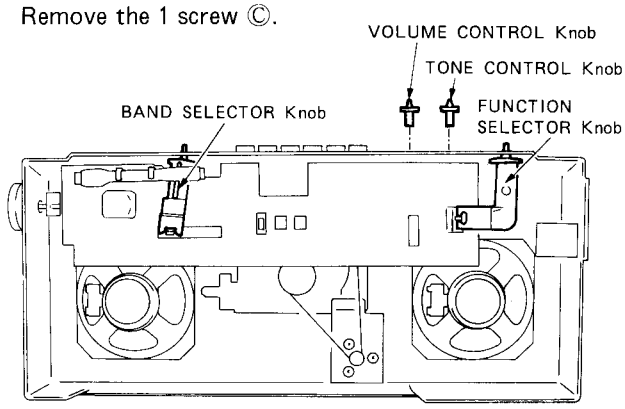


Fig. 3

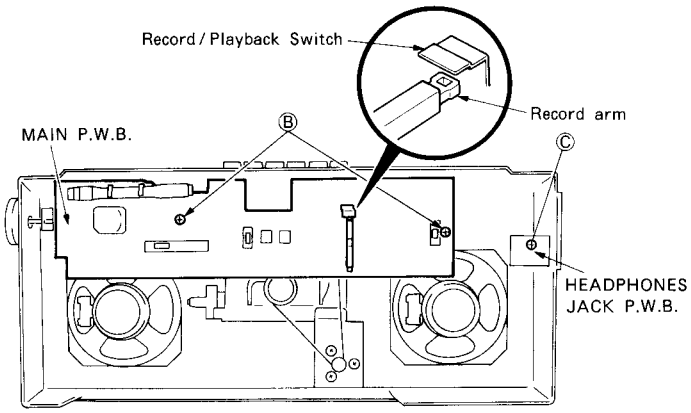


Fig. 4

5. **Removing Power P.W.B. (Fig. 5)**
   Remove the 2 screws Ⓓ.

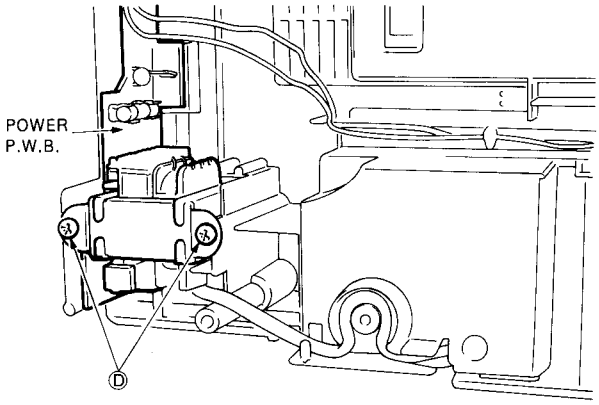


Fig. 5

6. **Removing Cassette deck mechanism (Fig. 6)**
   Remove the 3 screws Ⓔ.

7. **Removing speakers (Fig. 6)**
   Remove the 8 screws Ⓕ.

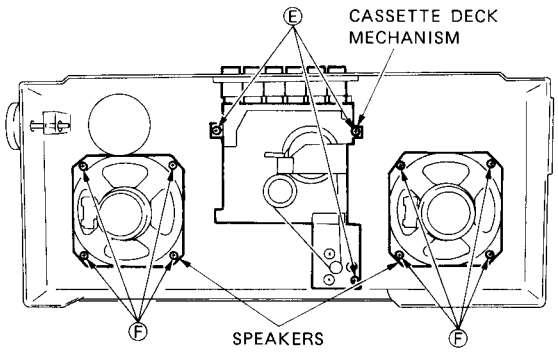


Fig.6

INSPECTION OF MECHANISM

Mode	Item	Pressure or Torque
Playback	Pressure of pinch roller	300 g — 500 g
	Auto stop sensor pressing force	40 g — 75 g
	Take-up torque	40 g - cm — 70 g - cm
	Supply reel back tension	2 g - cm — 6 g - cm
Rewind	Rewind torque	65 g - cm — 140 g - cm
Fast forward	Fast forward torque	65 g - cm — 140 g - cm

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

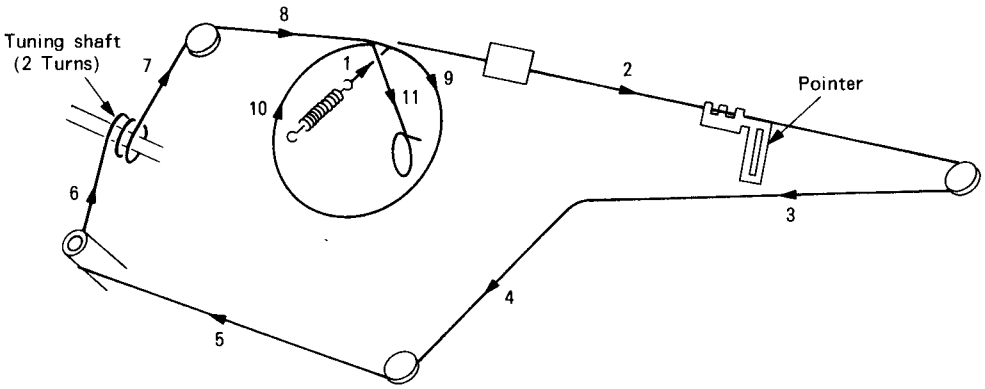
Lubrication point		Oil or Grease
Rotary section	Metal and metal	Pan motor oil (10W-40)
	Mold and metal	Sonic slider oil (# 1600)
Sliding section	Metal and metal	Hitasol(MO-138)
	Mold and mold Mold and metal	White grease (FL-LUBE-A)
Spring resonance prevention		Floil (GB-TS-1)

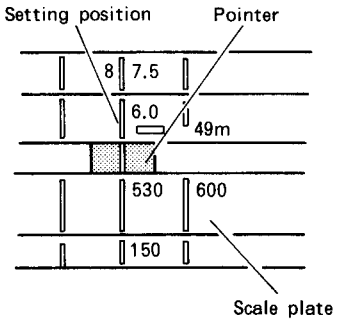
DIAL CORD STRINGING

String the dial cord as shown in the diagram below after removing the MAIN P.W.B. and cassette chassis.

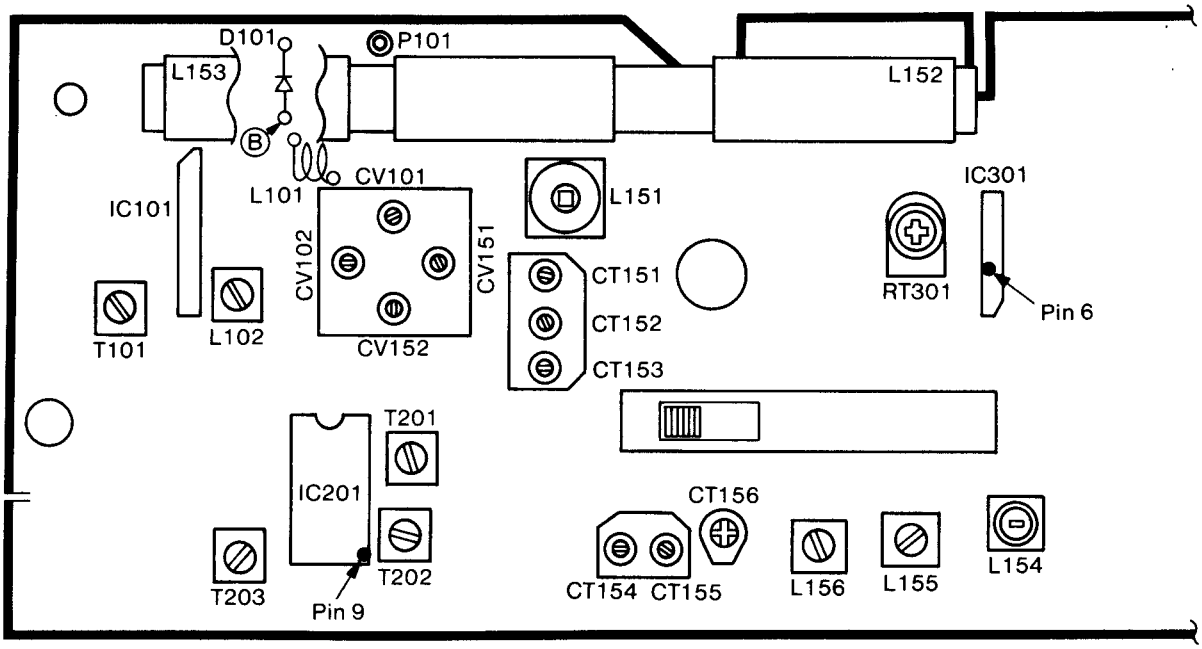
Stringing method

1. Turn the pulley fully clockwise.
2. String the dial cord in the direction of arrow. (Nos. 1-11)
3. After installing the MAIN P.W.B. move the pointer to the setting position.





ADJUSTMENT



1. Radio Section

FM Section

* W. Germany and Italy

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)	IC101 Body	IC201 Pin ⑨	10.7 MHz	Highest	T101	Note 1
								T202	Note 2
2	(1)	FM OSC (Covering)	● FM signal generator (400 Hz, 30% dev.) ● Oscilloscope ● VTVM	P101 (thru FM dummy antenna) (Note 3) GND : point Ⓑ	IC201 Pin ⑨	87 MHz *(87.5 MHz)	Lowest	L102	Max.
	(2)					109 MHz *(108 MHz)	Highest	CV102	
	(3)					Repeat steps (1) and (2)			
3	(1)	FM ANT. (Tracking)				90 MHz	90 MHz	L101	Max
	(2)					106 MHz	106 MHz	CV101	
	(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	IC301 Pin ⑥	—	—	RT301	38 kHz ±20 Hz (Note 4)

AM 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)	AM IF	● Genescope (465 kHz)	Ferrite-core antenna (Note 5)	IC201 Pin ⑨	465 kHz	Highest	T201 T203	Note 6
	(2)					Repeat step (1)			
2	(1)	LW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.) ● VTVM ● Oscilloscope	Ferrite-core antenna (Note 5)		145 kHz	Lowest	L156	Max.
	(2)					290 kHz	Highest	CT156	
	(3)					Repeat steps (1) and (2)			
3	(1)	LW ANT. (Tracking)				160 kHz	160 kHz	L153	Max.
	(2)					270 kHz	270 kHz	CT153	
	(3)					Repeat steps (1) and (2)			
4	(1)	MW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.) ● VTVM ● Oscilloscope	Ferrite-core antenna (Note 5)		515 kHz	Lowest	L155	Max.
	(2)					1650 kHz	Highest	CT155	
	(3)					Repeat steps (1) and (2)			
5	(1)	MW ANT. (Tracking)				600 kHz	600 kHz	L152	Max.
	(2)					1400 kHz	1400 kHz	CT152	
	(3)					Repeat steps (1) and (2)			
6	(1)	SW OSC. (Covering)	● AM signal generator (400 Hz, 30 % mod.) ● VTVM ● Oscilloscope	P101 (thru SW. dummy antenna) (Note 7) GND : point Ⓑ		5.8 MHz	Lowest	L154	Max.
	(2)					18.5 MHz	Highest	CT154	
	(3)					Repeat steps (1) and (2)			
7	(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 :

1. Feed in a weak signal to L104 from the genescope. Adjust T101 for maximum gain and the waveform indicated in Fig. 1. If the center of the waveform cannot be lined up on the maker, adjust the right/left balance.

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

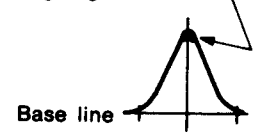


Fig.1

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

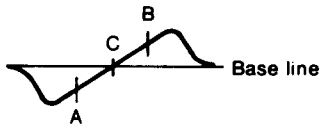


Fig.2

3. FM dummy antenna is shown in Fig. 3.

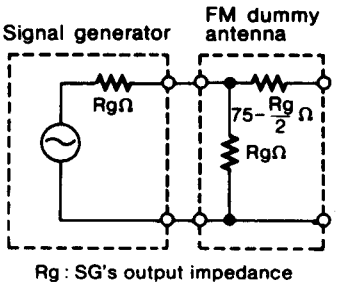
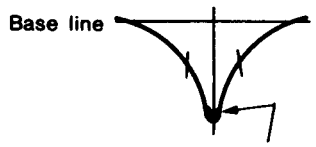


Fig.3

4. Connect the frequency counter to No.6 pin of IC301 and connect a 100 kΩ resistor parallel with the frequency counter.

5. Connect the output of AM signal generator to the loop antenna, and put it near to the ferrite antenna.

6. Feed in a weak signal from the genescope. Adjust T201, T203 for maximum gain and the waveform of Fig. 4.



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

Fig.4

7. SW. dummy antenna is shown in Fig. 5.

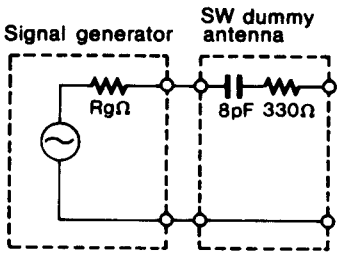


Fig.5

2. Tape Recorder Section

Perform the following adjustments in the sequence stated after cleaning the head, pinch 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	———	Speaker terminal (8Ω load)	Tape speed adjustment tape (3 kHz)	Playback	Semivariable resister in the motor	3kHz ± 20Hz (Note 1)
2	Head azimuth	• VTVM	———	Speaker terminal (8Ω load)	Head azimuth adjustment tape (10kHz)	Playback	Azimuth adjusting screw	Output max. (Note 2)

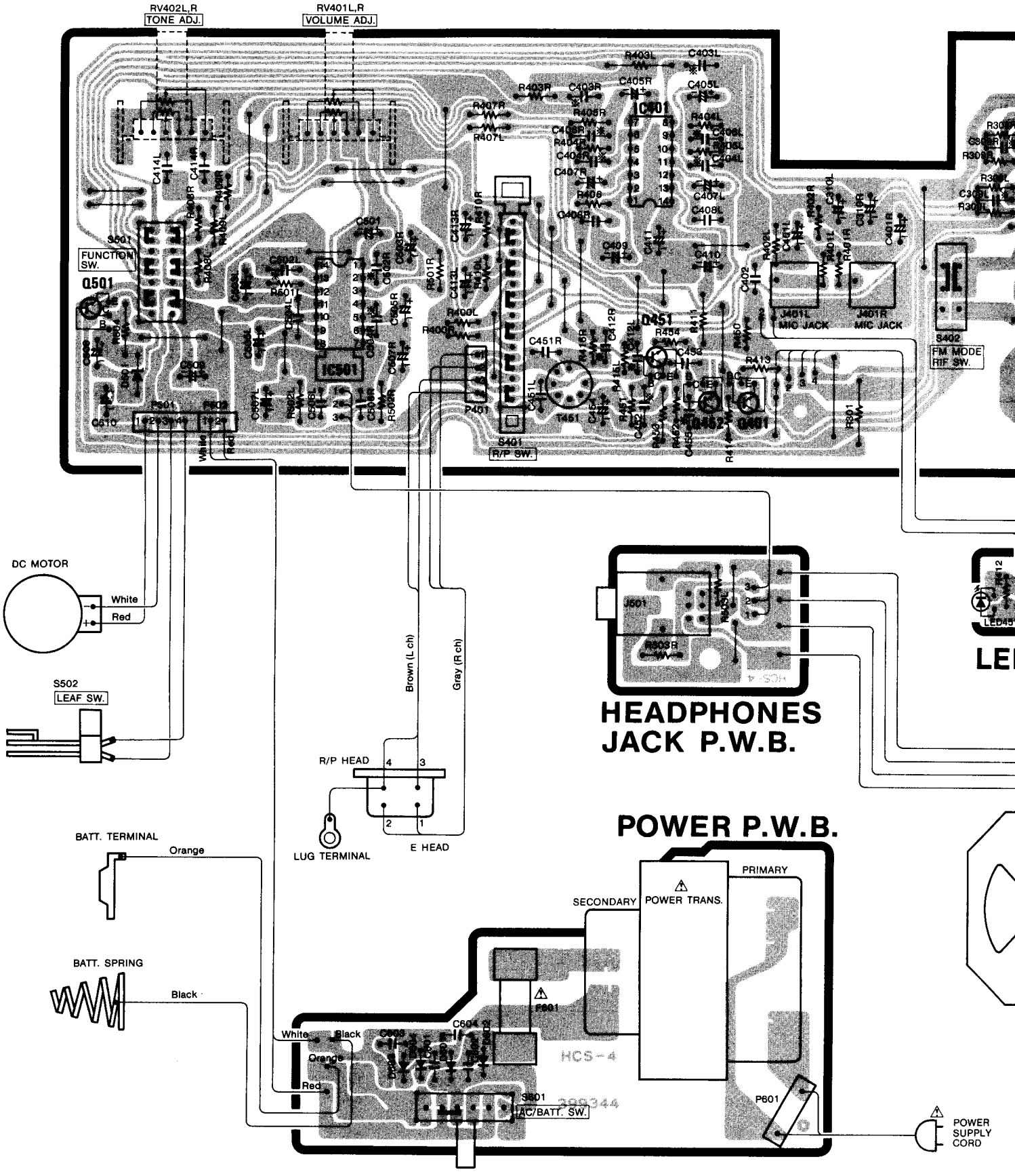
Note :

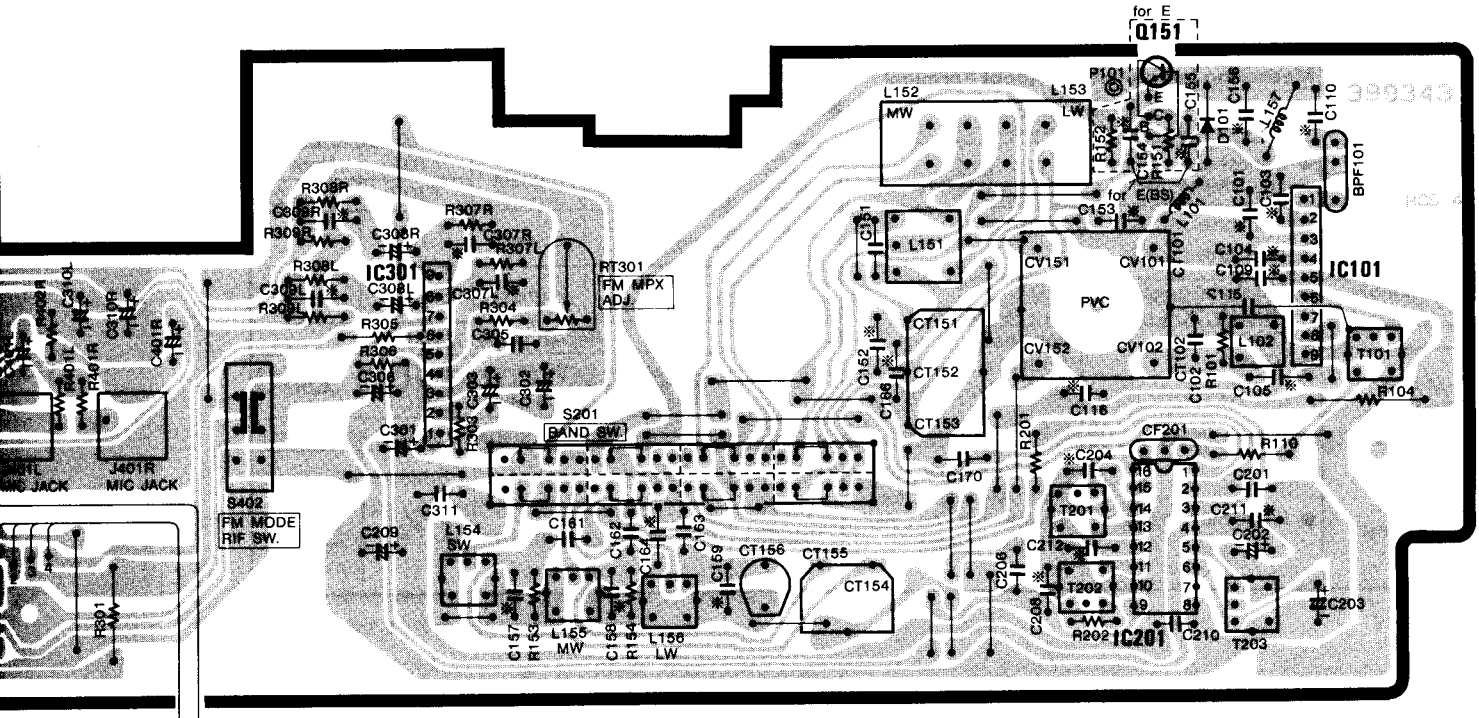
1. Adjust within 30 sec. after heat-running for more than 20 minutes.
2. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.

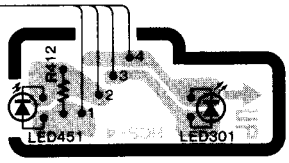
PRINTED WIRING BOARD

※ : Axial lead cylindrical ceramic capacitor

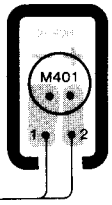
MAIN P.W.B.







LED P.W.B.



CON MIC P.W.B.

IC101	
1	1V
2	1.7V
3	4.5V
4	1.7V
5	0V
6	4.5V
7	—
8	4.4V
9	4.5V

IC201			
1	0V(1.5V)	9	1.4V
2	0V(1.5V)	10	4.5V(4.7V)
3	1.7V(2.3V)	11	4.5V(4.7V)
4	2.3V	12	1.4V
5	0.8V(1V)	13	1.4V
6	0.8V(1V)	14	1.4V
7	—	15	1.4V
8	0V	16	4.5V(4.7V)

IC301	
1	2.7V
2	3.1V(3.3V)
3	4.5V(4.7V)
4	3.7V(2.9V)
5	0V
6	3.9V
7	3.8V(4.7V)
8	2.3V(2.5V)
9	2.3V(2.5V)

IC401			
1	0V	8	0V
2	0V	9	1.3V
3	0V	10	—
4	2.6V	11	2.6V
5	—	12	0V
6	1.5V	13	5.1V
7	0V	14	5.2V

IC501			
1	5.4V	8	4.5V
2	0V	9	8.8V
3	0.5V	10	9V
4	0.7V	11	0.7V
5	8.8V	12	0.5V
6	4.5V	13	0V
7	0V	14	0V

Q151	
E	(0.8V)
C	(4.7V)
B	(1.1V)

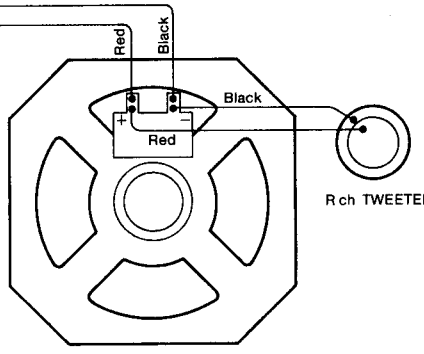
Q401	
E	0V
C	9V[0V]
B	0V[0.7V]

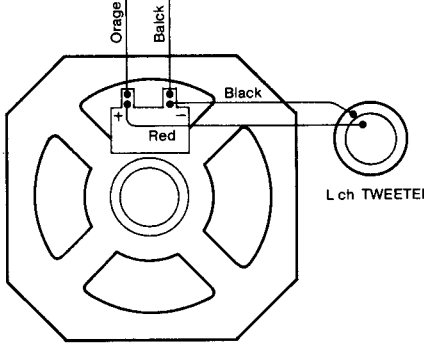
Q451	
E	0V
C	5.3V[3.7V]
B	0V[0.7V]

Q452	
E	0V
C	0V
B	0.7V

Q501	
E	5.3V
C	9V
B	6V

( ) VOLTAGE : AM MODE
[ ] VOLTAGE : REC MODE





A B C D E

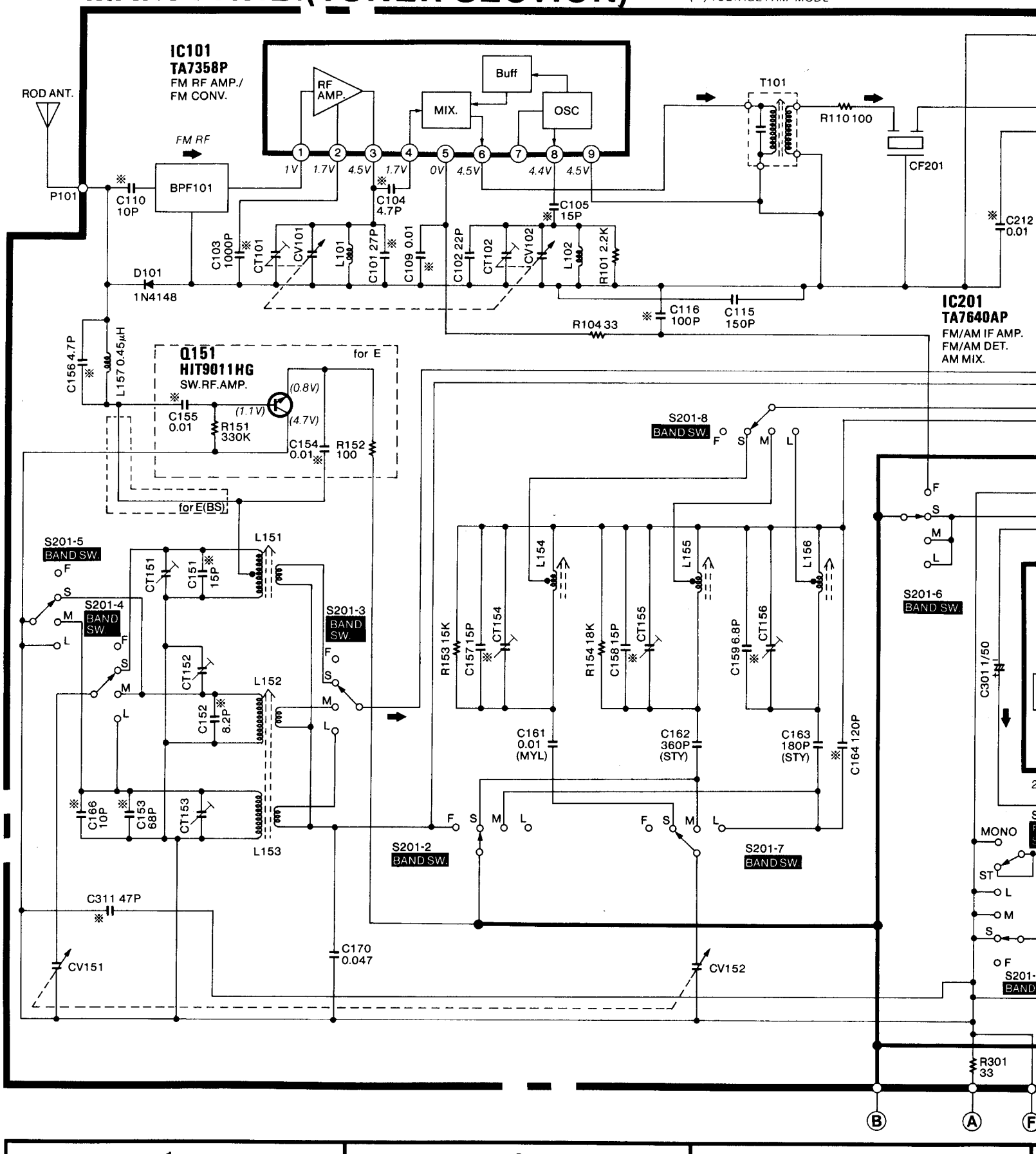
4 5 6 7

CIRCUIT DIAGRAM

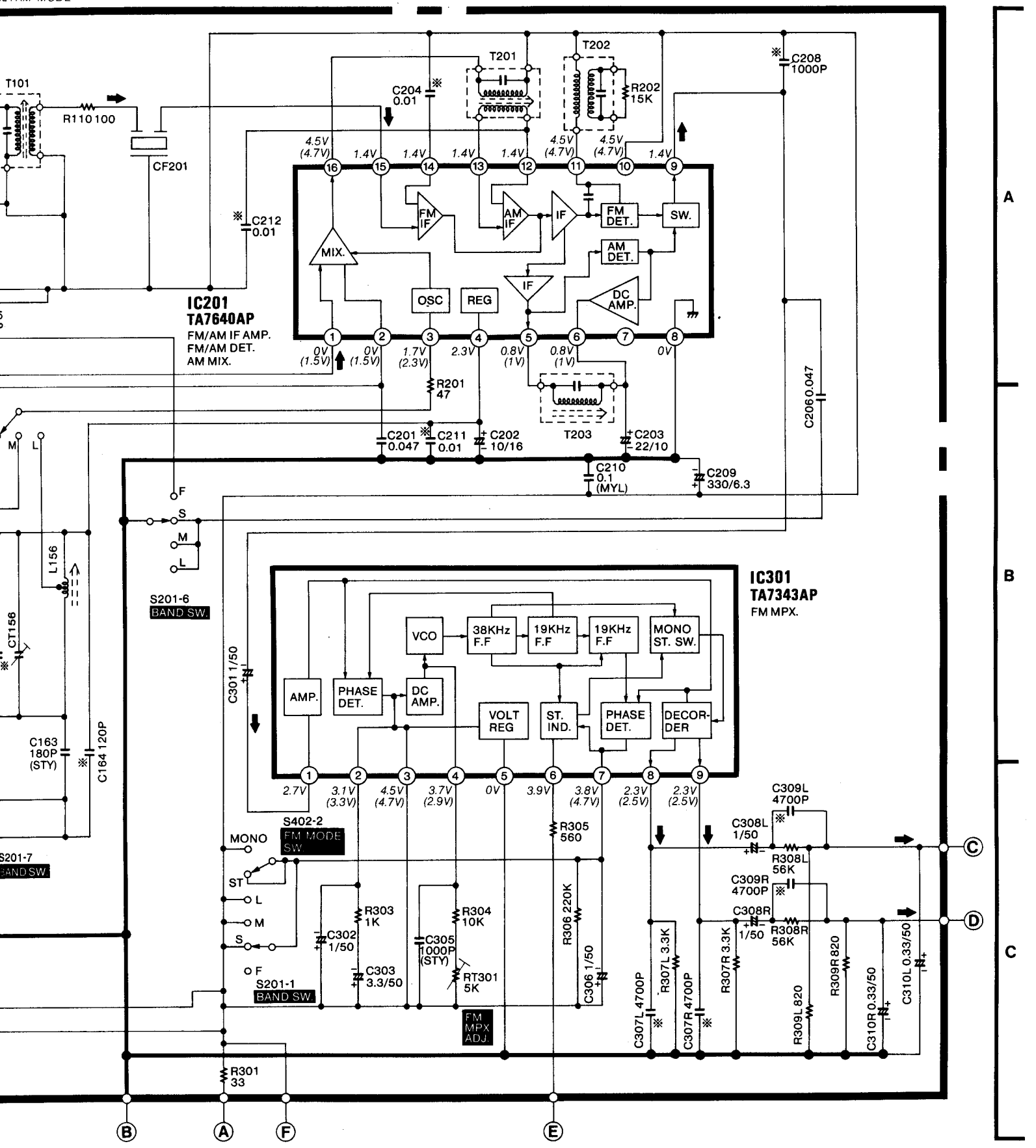
※ : Axial lead cylindrical ceramic capacitor

MAIN P.W.B.(TUNER SECTION)

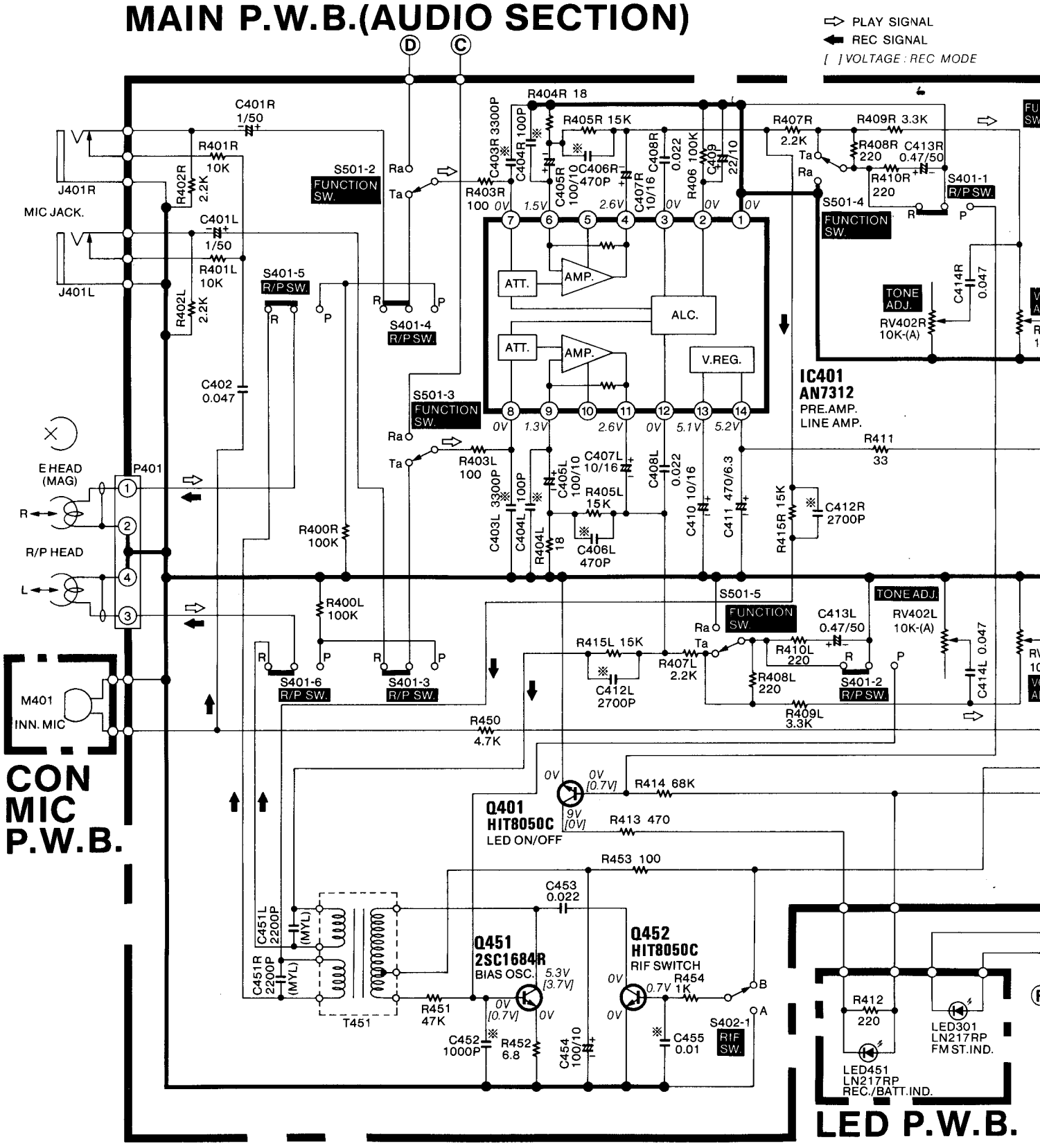
( ) VOLTAGE : AM MODE

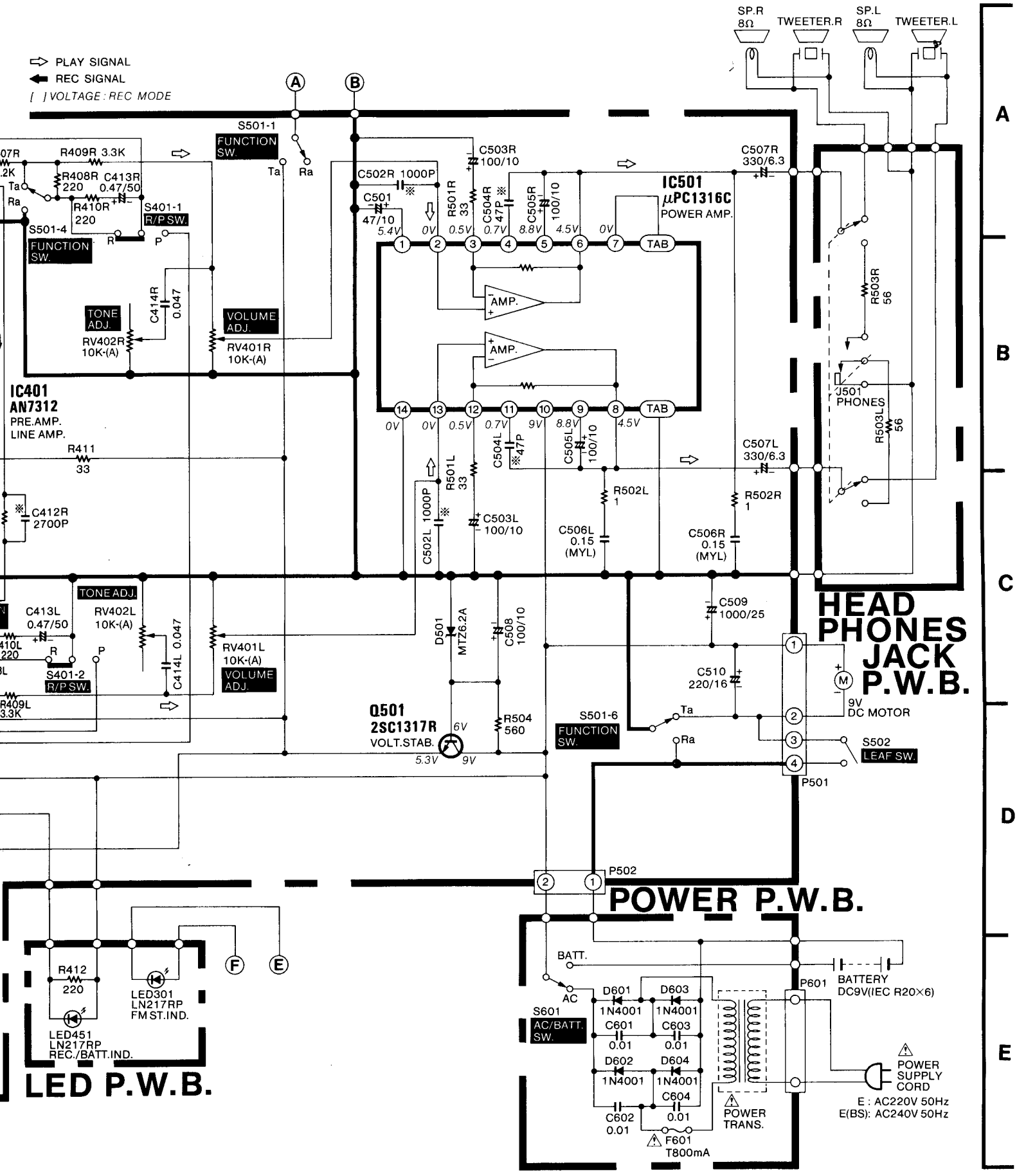


GE : AM MODE

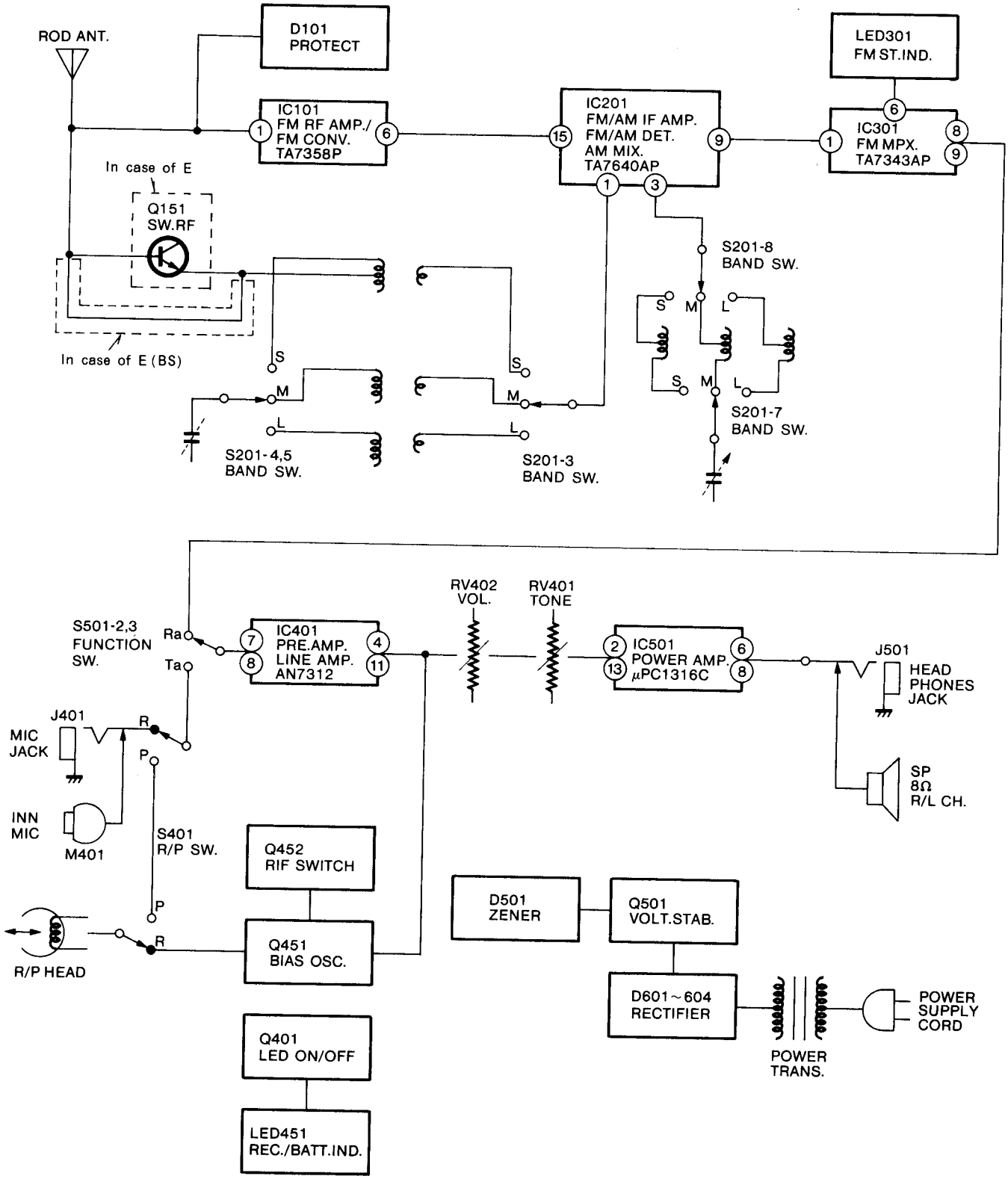

T101
R110 100
CF201
C212 0.01
T201
T202
C204 0.01
R202 15K
C208 1000P
4.5V (4.7V)
1.4V
IC201
TA7640AP
FM/AM IF AMP.
FM/AM DET.
AM MIX.
FM IF
AM IF
IF
FM DET.
SW.
AM DET.
MIX.
OSC
REG
DC AMP.
0V (1.5V)
1.7V (2.3V)
2.3V
0.8V (1V)
0V
R201 47
C201 0.047
C211 0.01
C202 10/16
T203
C203 22/10
C206 0.047
C210 0.1 (MYL)
C209 330/6.3
S201-6 BAND SW.
L156
CT156
C163 180P (STY)
C164 120P
S201-7 BAND SW.
IC301
TA7343AP
FM MPX.
VCO
38KHz F.F
19KHz F.F
19KHz F.F
MONO ST. SW.
AMP.
PHASE DET.
DC AMP.
VOLT REG
ST. IND.
PHASE DET.
DECOR-DER
C301 1/50
2.7V
3.1V (3.3V)
4.5V (4.7V)
3.7V (2.9V)
0V
3.9V
3.8V (4.7V)
2.3V (2.5V)
2.3V (2.5V)
S402-2 FM MODE SW.
MONO
ST
L
M
S
F
S201-1 BAND SW.
R303 1K
R304 10K
C302 1/50
C303 3.3/50
C305 1000P (STY)
RT301 5K
FM MPX ADJ.
R305 560
R306 220K
C306 1/50
R301 33
C309L 4700P
C308L 1/50
R308L 56K
C309R 4700P
C308R 1/50
R308R 56K
C307L 4700P
R307L 3.3K
C307R 4700P
R307R 3.3K
R309L 820
R309R 820
C310R 0.33/50
C310L 0.33/50

MAIN P.W.B.(AUDIO SECTION)



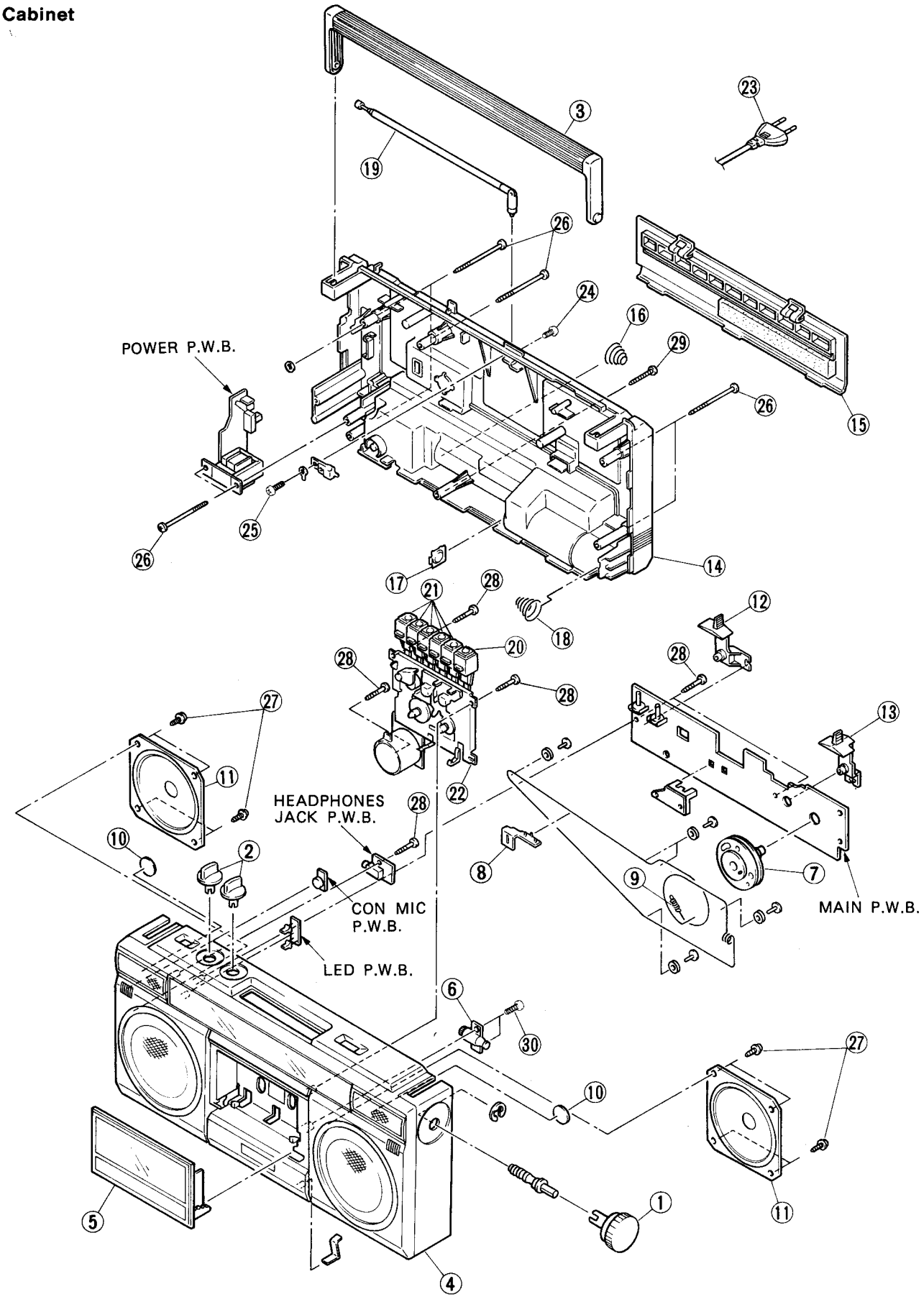

PLAY SIGNAL
REC SIGNAL
[ ] VOLTAGE : REC MODE
SP.R 8Ω
TWEETER.R
SP.L 8Ω
TWEETER.L
S501-1
FUNCTION SW.
R409R 3.3K
R408R 220
C413R 0.47/50
R410R 220
S401-1 R/P SW.
S501-4 FUNCTION SW.
TONE ADJ.
RV402R 10K-(A)
C414R 0.047
VOLUME ADJ.
RV401R 10K-(A)
IC401
AN7312
PRE.AMP.
LINE AMP.
R411 33
C412R 2700P
C502R 1000P
C501 47/10
R501R 33
C503R 100/10
C504R 47P
C505R 100/10
IC501
μPC1316C
POWER AMP.
C507R 330/6.3
R503R 56
J501 PHONES
R503L 56
C507L 330/6.3
C504L 47P
C505L 100/10
R502L 1
R502R 1
C502L 1000P
R501L 33
C503L 100/10
C506L 0.15 (MYL)
C506R 0.15 (MYL)
HEAD PHONES JACK P.W.B.
C509 1000/25
C510 220/16
9V DC MOTOR
S502 LEAF SW.
P501
S501-6 FUNCTION SW.
Q501
2SC1317R
VOLT.STAB.
D501 MTZ6.2A
C508 100/10
R504 560
S401-2 R/P SW.
C413L 0.47/50
RV402L 10K-(A)
C414L 0.047
RV401L 10K-(A)
VOLUME ADJ.
R409L 3.3K
P502
POWER P.W.B.
R412 220
LED301 LN217RP FM ST.IND.
LED451 LN217RP REC./BATT.IND.
LED P.W.B.
BATT.
AC
S601 AC/BATT. SW.
D601 1N4001
D603 1N4001
D602 1N4001
D604 1N4001
C601 0.01
C603 0.01
C604 0.01
C602 0.01
F601 T800mA
POWER TRANS.
P601
BATTERY DC9V(IEC R20×6)
POWER SUPPLY CORD
E : AC220V 50Hz
E(BS): AC240V 50Hz

BLOCK DIAGRAM

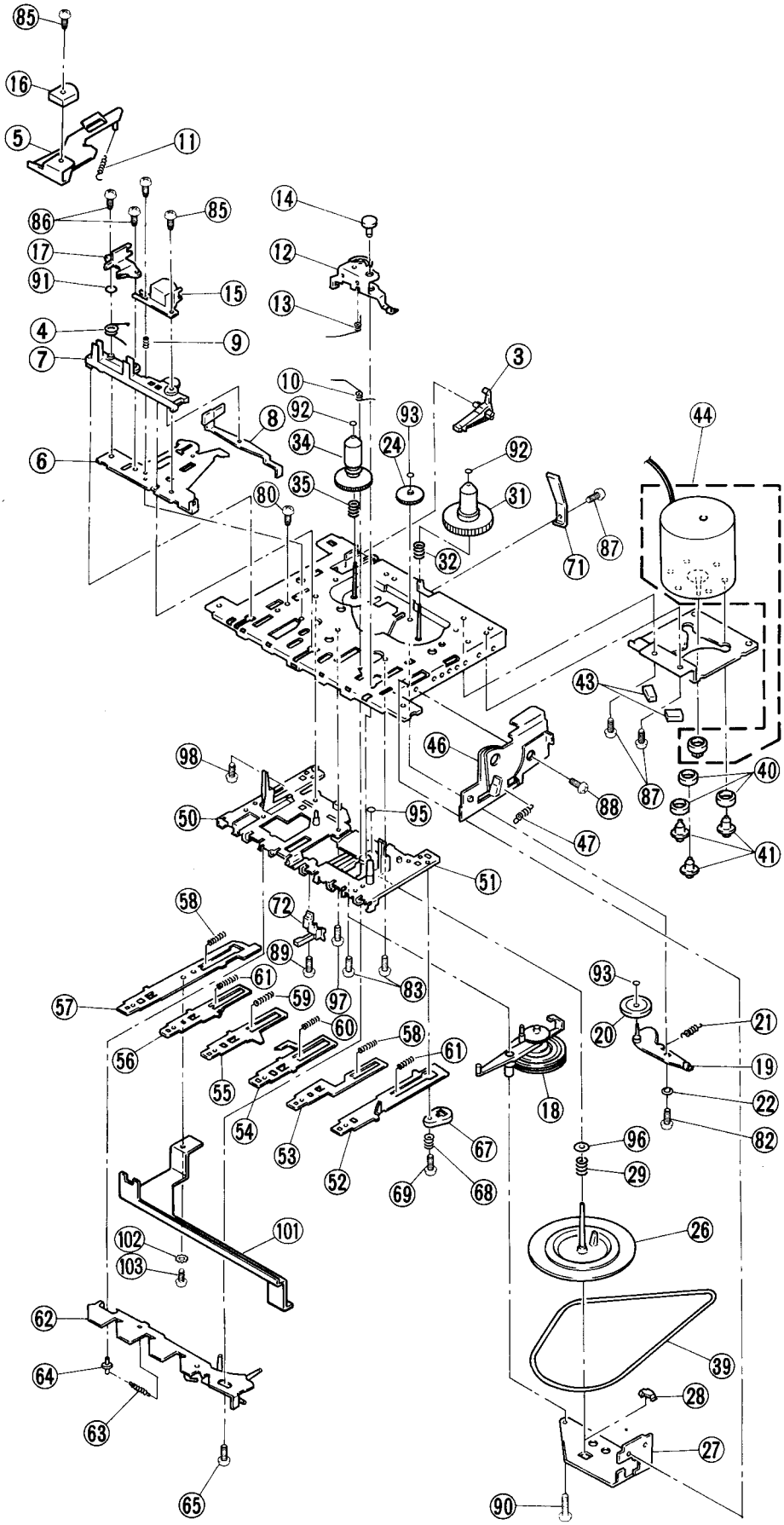


EXPLODED VIEW

● **Cabinet**



● **Cassette chassis (TN-33ZV-968)**



REPLACEMENT PARTS LIST

CD.....Ceramic discal EL..... Electrolytic ST..... Styrol ME ..... Metal CO..... Composition
CC..... Cylindrical ceramic MF ..... Mylar, film CF ..... Carbon film MO..... Metal, oxide FR ..... Fuse resistor

SYMBOL No.	PART No.	DESCRIPTION
CAPACITORS		
C101	0230622	CC 27pF ±5% 50V
C102	0208038	CD 22pF ±5% 50V
C103	0240045	CC 1000pF ±10% 50V
C104	0230608	CC 4.7pF ±10% 50V
C105	0230616	CC 15pF ±5% 50V
C109	0240061	CC 0.01μF ±30% 16V
C110	0230612	CC 10pF ±5% 50V
C115	0248728	CD 150pF ±10% 50V
C116	0240033	CC 100pF ±10% 50V
C151	0230616	CC 15pF ±5% 50V
C152	0230611	CC 8.2pF ±10% 50V
C153	0230632	CC 68pF ±5% 50V
C154	0240061	CC 0.01μF ±30% 16V [for E]
C155	0240061	CC 0.01μF ±30% 16V [for E]
C156	0230608	CC 4.7pF ±10% 50V
C157	0230616	CC 15pF ±5% 50V
C158	0230616	CC 15pF ±5% 50V
C159	0230610	CC 6.8pF ±10% 50V
C161	0275011	MF 0.01μF ±10% 50V
C162	1221393	ST 360pF ±5% 50V
C163	1221391	ST 180pF ±5% 50V
C164	0240034	CC 120pF ±10% 50V
C166	0230612	CC 10pF ±5% 50V
C170	0249765	CD 0.047μF ±20% 25V
C201	0209765	CD 0.047μF ±20% 25V
C202	0252521	EL 10μF 16V
C203	0252322	EL 22μF 10V
C204	0240061	CC 0.01μF ±30% 16V
C206	0209765	CD 0.047μF ±20% 25V
C208	0240045	CC 1000pF ±10% 50V
C209	0252233	EL 330μF 6.3V
C210	0276011	MF 0.1μF ±10% 50V
C211	0240061	CC 0.01μF ±30% 16V
C212	0240061	CC 0.01μF ±30% 16V
C301	0252811	EL 1μF 50V
C302	0252811	EL 1μF 50V
C303	0252813	EL 3.3μF 50V
C305	1221395	ST 1000pF ±5% 50V
C306	0252811	EL 1μF 50V
C307L,R	0240057	CC 4700pF ±30% 16V
C308L,R	0252811	EL 1μF 50V
C309L,R	0240057	CC 4700pF ±20% 16V
C310L,R	0252803	EL 0.33μF 50V
C311	0230628	CC 47pF ±5% 50V
C401L,R	0252811	EL 1μF 50V
C402	0209765	CD 0.047μF ±20% 25V
C403L,R	0240055	CC 3300pF ±20% 16V
C404L,R	0240033	CC 100pF ±10% 50V
C405L,R	0252331	EL 100μF 10V
C406L,R	0240041	CC 470pF ±10% 50V
C407L,R	0252521	EL 10μF 16V
C408L,R	0209763	CD 0.022μF ±20% 25V
C409	0252322	EL 22μF 10V
C410	0252521	EL 10μF 16V
C411	0252235	EL 470μF 6.3V
C412L,R	0240054	CC 2700pF ±20% 16V
C413L,R	0252805	EL 0.47μF 50V
C414L,R	0209765	CD 0.047μF ±20% 25V
C451L,R	0274013	MF 2200pF ±10% 50V
C452	0240045	CC 1000pF ±10% 50V
C453	0209763	CD 0.022μF ±20% 25V
C454	0252331	EL 100μF 10V
C455	0240061	CC 0.01μF ±30% 16V
C501	0252325	EL 47μF 10V
C502L,R	0240045	CC 1000pF ±10% 50V
C503L,R	0252331	EL 100μF 10V
C504L,R	0230628	CC 47pF ±5% 50V
C505L,R	0252331	EL 100μF 10V
C506L,R	0276012	MF 0.15μF ±10% 50V
C507L,R	0252233	EL 330μF 6.3V
C508	0252331	EL 100μF 10V
C509	0256643	EL 1000μF 16V
C510	0252532	EL 220μF 16V
C601	0244171	CD 0.01μF 50V
C602	0244171	CD 0.01μF 50V
C603	0244171	CD 0.01μF 50V
C604	0244171	CD 0.01μF 50V
RESISTORS		
R101	0113623	CF 2.2kΩ ±5% SRD1/6P
R104	0113579	CF 33Ω ±5% SRD1/6P
R110	0113591	CF 100Ω ±5% SRD1/6P
R151	0113675	CF 330kΩ ±5% SRD1/6P [for E]
R152	0113591	CF 100Ω ±5% SRD1/6P [for E]
R153	0113643	CF 15kΩ ±5% SRD1/6P
R154	0113645	CF 18kΩ ±5% SRD1/6P
R201	0113583	CF 47Ω ±5% SRD1/6P
R202	0113643	CF 15kΩ ±5% SRD1/6P
R301	0129543	CF 33Ω ±5% SRD1/4P
R303	0113615	CF 1kΩ ±5% SRD1/6P
R304	0113639	CF 10kΩ ±5% SRD1/6P
R305	0113609	CF 560Ω ±5% SRD1/6P
R306	0113671	CF 220kΩ ±5% SRD1/6P
R307L,R	0113627	CF 3.3kΩ ±5% SRD1/6P
R308L,R	0113657	CF 56kΩ ±5% SRD1/6P
R309L,R	0113613	CF 820Ω ±5% SRD1/6P
R400L,R	0113663	CF 100kΩ ±5% SRD1/6P
R401L,R	0113639	CF 10kΩ ±5% SRD1/6P
R402L,R	0113623	CF 2.2kΩ ±5% SRD1/6P
R403L,R	0113591	CF 100Ω ±5% SRD1/6P
R404L,R	0113573	CF 18Ω ±5% SRD1/6P
R405L,R	0113643	CF 15kΩ ±5% SRD1/6P
R406	0113663	CF 100kΩ ±5% SRD1/6P
R407L,R	0113623	CF 2.2kΩ ±5% SRD1/6P
R408L,R	0113599	CF 220Ω ±5% SRD1/6P
R409L,R	0113627	CF 3.3kΩ ±5% SRD1/6P
R410L,R	0113599	CF 220Ω ±5% SRD1/6P
R411	0129543	CF 33Ω ±5% SRD1/4P
R412	0113599	CF 220Ω ±5% SRD1/6P
R413	0113607	CF 470Ω ±5% SRD1/6P
R414	0113659	CF 68kΩ ±5% SRD1/6P
R415L,R	0113643	CF 15kΩ ±5% SRD1/6P
R450	0113631	CF 4.7kΩ ±5% SRD1/6P
R451	0113655	CF 47kΩ ±5% SRD1/6P
R452	0113563	CF 6.8Ω ±5% SRD1/6P
R453	0113591	CF 100Ω ±5% SRD1/6P
R454	0113615	CF 1kΩ ±5% SRD1/6P
R501L,R	0113579	CF 33Ω ±5% SRD1/6P
R502L,R	0129802	CF 1Ω ±5% SRD1/4P
R503L,R	0113585	CF 56Ω ±5% SRD1/6P
R504	0113609	CF 560Ω ±5% SRD1/6P
ICS & TRANSISTORS		
IC101	2398201	TA7358P
IC201	2389511	TA7640AP
IC301	2301041	TA7343AP
IC401	2300881	AN7312
IC501	2302071	μPC1316C
Q151	2319083	HIT9011HG [for E]
Q401	2319052	HIT8050C
Q451	2319101	2SC1684R
Q452	2319052	HIT8050C
Q501	2318011	2SC1317R
DIODES		
D101	2398082	1N4148
D501	2397261	MTZ6.2A
D601	2398063	1N4001
D602	2398063	1N4001
D603	2398063	1N4001
D604	2398063	1N4001
LED301	2397753	LN217RP
LED451	2397753	LN217RP
VARIABLE REISITORS		
RT301	0199332	5kΩ FM MPX ADJ.
RV401L,R	0189532	10kΩ-(A) VOLUME ADJ.
RV402L,R	0189532	10kΩ-(A) TONE ADJ.
COILS &TRANSFORMERS		
L101	2137683	FM RF coil
L102	2135253	FM OSC coil
L151	2137661	SW ANT coil [for E(BS)]
L151	2137662	SW ANT coil [for E]
L152	2757992	Ferrite antenna
L153	2757992	Ferrite antenna
L154	2137671	SW OSC coil
L155	2137631	MW OSC coil
L156	2137642	LW OSC coil
L157	2137684	Choke coil
T101	2154962	FM IF Transformer
T201	2154952	AM IF Transformer
T202	2154964	FM IF Transformer
T203	2154951	AM IF Transformer
T451	2136891	REC OSC Transformer
MISCELLANEOUS		
CV101	0282182	Capacitor variable
CV102		
CV151		
CV152		
CT101		
CT102		
CT151	0283130	Capacitor semi variable
CT152		
CT153		
CT154	0283557	Capacitor semi variable
CT155		

SYMBOL No.	PART No.	DESCRIPTION
CT156	0282148	Capacitor semi variable
S201	2629282	Slide switch BAND
S401	2628361	Slide switch (6-2) REC/PLAY
S402	2629331	Slide switch FM MODE/RIF
S501	2628372	Slide switch (6-2) FUNCTION
S601	2629261	Slide switch AC/BATT
BPF101	2137191	FM band pass filter
CF201	2135321	Ceramic filter
J401L,R	2679441	Jack
J501	2678761	Stereo jack
M401	2737102	Microphone
P601	2689461	2P terminal
	2527371	Main PWB assy [for E]
	2527372	Main PWB assy [for E(BS)]
⚠	5213432	Power transformer (4.8 VA 190G) [for E]
⚠	5213433	Power transformer (4.8 VA 190G) [for E(BS)]
⚠F601	2728071	Fuse (T800mA)
	2527381	Power PWB assy [for E]
	2527382	Power PWB assy [for E(BS)]

CABINET CHASSIS ASSEMBLY

SYMBOL No.	PART No.	DESCRIPTION
1	3303491	Knob
2	3303171	Select knob
3	4441871	Handle assy
4	4044211	Front case assy (BLACK)
	4044212	Front case assy (WHITE)
	4044213	Front case assy (RED)
5	3807221	Cassette lid
6	3970221	Gear damper assy
7	3348711	Puiley
8	3388243	Pointer
9	3340321	Spring
10	2403353	Piezo tweeter
11	2403392	Speaker 10 cm
12	4477891	Function lever (A)
13	4442031	Function lever
14	4044241	Rear case assy [for E]
	4044242	Rear case assy [for E(BS)]
15	3973521	Battery lid assy
16	3369849	Spring
17	4436666	Terminal
18	3390071	Battery spring
19	2758012	Rod antenna
20	3303163	Cassette button
21	3303164	Cassette button
22	2589371	Mechanism TN-33ZV-968
⚠ 23	2707709	Power supply cord [for E]
⚠	2717902	Power supply cord [for E(BS)]
24	4592528	Flange head screw (3×8)
25	8691408	BT bind screw (3×8)
26	7981148	BT screw (3×50)
27	4578972	BT flange screw (3×10)
28	4577816	BT screw (3×20)
29	8691414	BT bind head screw (3×14)
30	8691410	BT screw (3×10)

Cassette chassis (TN-33ZV-968 mecha. assembly)

SYMBOL No.	PART No.	DESCRIPTION
3	3959031	Record prevention lever
4	4817021	Spring
5	4856452	EH base plate
6	4815003	Head panel
7	3959051	Head base
8	4815004	Sensing plate assy
9	3365081	Head spring
10	4815005	Head panel spring
11	4856453	Spring
12	4815006	Pinch roller assy
13	3365101	Spring
14	3959061	Pinch roller arm stopper
15	4856454	R/P head
16	4856455	Erase head
17	4856456	EH base
18	4856457	RF pulley arm assy
19	4815008	Take up roller arm assy
20	4856458	Take up roller assy
21	3365121	Spring
22	4586351	Collar
24	3959111	FF gear
26	4815011	Flywheel assy
27	4815012	Flywheel holder
28	3959151	Flywheel plate
29	3365131	Spring
31	4815013	Take up reel assy
32	3365151	Back tension spring
34	3959381	Supply reel assy
35	4856459	Back tension spring
39	4689791	Main belt
40	4689851	Motor rubber
41	4586421	Special screw
43	4747991	Mat
44	4816991	Motor assy
46	4471881	Eject assy
47	3390651	Eject slide lever spring
50	4815021	Button base (R)
51	4817009	Button base (L)
52	4815023	PAUSE button lever assy
53	4815024	STOP button lever
54	4815025	F.F. button lever
55	4815026	RWD button lever
56	4815027	PLAY button lever
57	4815028	REC button lever
58	3365171	Button lever spring
59	3365181	Spring
60	3365191	Button lever spring
61	3365211	Spring
62	4471751	Push button actuator assy
63	3365201	Spring
64	3959221	Actuator shaft
65	3959231	Actuator shaft
67	3959271	Pause lever
68	4815032	Pause lever spring
69	4815033	Pause lever stopper
71	3390571	Pack spring
72	2629251	Leaf switch (S502)
80	4817010	Arm lever collar screw
82	8691104	BT screw (2×4)
83	8691105	BT screw (2×5)
85	8691128	+ − Cap screw (2×8)
86	8691108	BT screw (2×8)
87	4578281	DT screw (2.6×4)
88	8711305	Pan head screw (2.6×5)
89	4592014	PT screw (2×6)
90	8691110	Bind tapping screw (2×10)
91	4701927	Washer (2.4)
92	4701925	Polyslider washer (1.6)
93	4701926	Polyslider washer (1.2)
95	4701921	Nylon washer (1.85)
96	4701924	Nylon washer (2.05)
97	8691106	BT screw (2×6)
98	4586481	Collar screw
101	7363851	Record plate
102	8815113	Lock washer (2.6)
103	0741304	Bind screw (2.6×4)

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