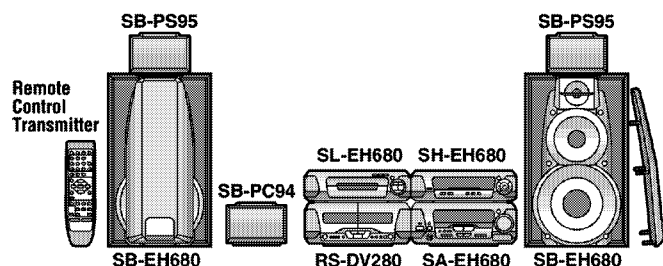


Service Manual

Tuner/Amplifier



SA-EH680EG SA-EH680EP

Colour

(N).....Gold Type

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

System	SC-EH680
Sound Processor	SH-EH680
Tuner/Amplifier	SA-EH680
CD Player	SL-EH680
Cassette Deck	RS-DV280
Front Speakers*	SB-EH680
Center Speaker*	SB-PC94
Surround Speakers*	SB-PS95

* : Made in Spain.

Specifications

Amplifier section

Power output (L/R both channel driven):

Stereo mode;

DIN 1 kHz, THD 1 %;

RMS 1 kHz, THD 10 %;

2 × 60 W (6 Ω)

2 × 80 W (6 Ω)

PRO LOGIC mode;

DIN FRONT 1 kHz, THD 1 %;

2 × 60 W (6 Ω)

SURROUND 1 kHz, THD 1 %;

2 × 15 W (8 Ω)

CENTER 1 kHz, THD 1 %;

30 W (8 Ω)

RMS FRONT 1 kHz, THD 10 %;

2 × 80 W (6 Ω)

SURROUND 1 kHz, THD 10 %;

2 × 20 W (8 Ω)

CENTER 1 kHz, THD 10 %;

40 W (8 Ω)

Total harmonic distortion:

Rated power at 1 kHz;

1 % (6 Ω)

Half power at 1 kHz;

0.1 % (6 Ω)

Load impedance:

FRONT;

6 Ω

SURROUND;

8 Ω

CENTER;

8 Ω

FM tuner section

Frequency range: 87.50 – 108.00 MHz (0.05 MHz steps)

Sensitivity: 1.8 μV (IHF usable)

S/N 26 dB: 1.5 μV

S/N (MONO): 70 dB (75 dB, IHF)

Antenna terminal(s): 75 Ω (unbalanced)

AM tuner section

Frequency range:

522 – 1629 kHz (9 kHz steps)

520 – 1630 kHz (10 kHz steps)

Sensitivity (S/N 20 dB):

500 μV/m

Timer section

Clock:

Quartz - lock type

Function:

Play timer (1 time, daily),

Rec timer (1 time, daily),

Sleep (120 min, 30 min intervals)

Setting intervals (Play/Rec):

1 minute – 23 hours 59 minutes

(1 min intervals)

General

Power supply:

AC 230 V, 50 Hz

Power consumption:

170 W

Standby;

0.5 W

Dimensions (W×H×D):

293×118.5×345 mm

Mass:

5.2 kg

Notes: Specifications are subject to change without notice.

Mass and dimensions are approximate.

Total harmonic distortion is measured by the digital spectrum analyzer.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics

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1 Before Repairs

1. Turn off the power supply. Using a 10 Ω , 10 W resistor, connect both ends of power supply capacitors (C701, C703 and C702, C704) in order to discharge the voltage.
2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V.

Power supply voltage	AC 230 V
Consumed current 50 Hz	70 - 300 mA

2 Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The functions of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are shorted, or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedures outlined below.

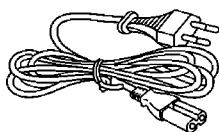
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

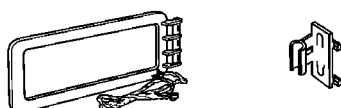
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

3 Accessories

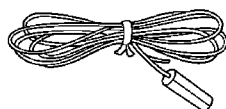
- AC power supply cord
(RJA0019-2X).....1 pc.



- AM loop antenna set
(RSA0022-L).....1 pc.



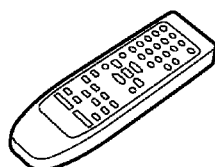
- FM indoor antenna
(RSA0007).....1 pc.



- Speaker cords
(REE1057).....2 pcs.

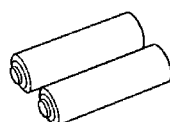


- Remote control transmitter
(EUR7702170).....1 pc.

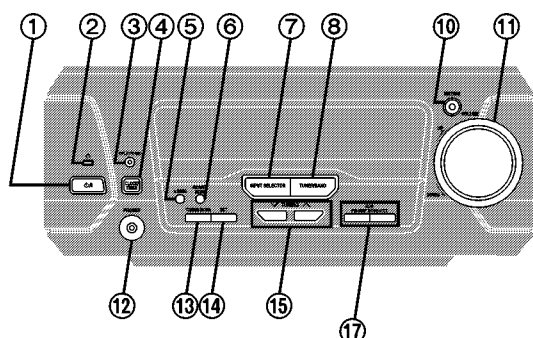
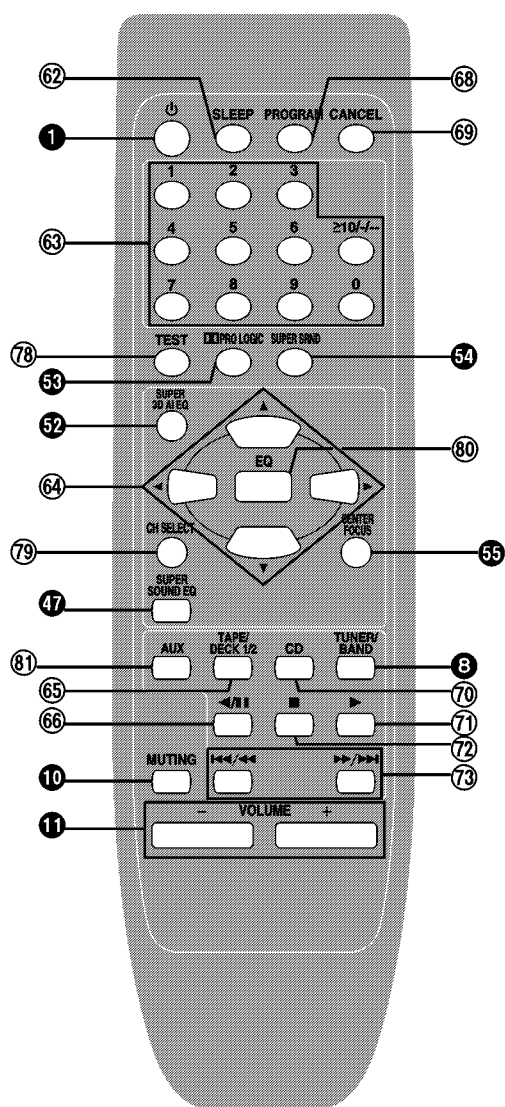


- Remote control batteries
(R6/LR6, "AA", UM-3).....2 pcs.

Note: These are available on sales route.



4 Location of Controls

A

B


A Tuner/amplifier

- ① **Standby/on switch (⏻/I)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② **Standby indicator (⏻)**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ **Play timer/record timer button and indicator (⏻PLAY/⏻REC)**
- ④ **Clock/timer button (CLOCK/TIMER)**
- ⑤ **Demo button (DEMO)**
- ⑥ **FM mode button (FM AUTO/MONO)**
- ⑦ **Source input button (INPUT SELECTOR)**
- ⑧ **Tuner/band button (TUNER/BAND)**
- ⑩ **Muting button and indicator (MUTING)**
- ⑪ **Volume control (VOLUME)**
- ⑫ **Headphone jack (PHONES)**
- ⑬ **Tuning mode button (TUNING MODE)**
- ⑭ **Set button (SET)**
- ⑮ **Tuning buttons (V, ^ TUNING)**
- ⑰ **RDS display mode button (RDS, PS-DISP MODE-PTY)**

B Remote control

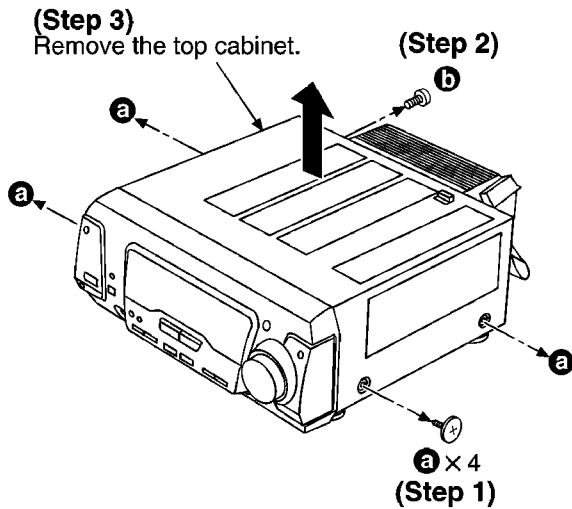
Buttons such as ❶ function in the same way as the controls on the main unit.

- ⑥② **Sleep timer button (SLEEP)**
- ⑥③ **Numbered buttons (1-9, 0, ≥10/--)**
- ⑥④ **Cursor buttons (←, →, ▲, ▼)**
- ⑥⑤ **Tape select, deck 1/deck 2 select button (TAPE/DECK 1/2)**
- ⑥⑥ **CD pause/tape reverse playback button (⏮/II)**
- ⑥⑧ **Program button (PROGRAM)**
- ⑥⑨ **Cancel button (CANCEL)**
- ⑦⑩ **CD button (CD)**
- ⑦① **CD play/tape forward playback button (▶)**
- ⑦② **CD/tape stop button (■)**
- ⑦③ **CD skip/search, tape fast forward/rewind buttons (⏮/⏮, ⏭/⏭)**
- ⑦⑧ **Test button (TEST)**
- ⑦⑨ **Channel select button (CH SELECT)**
- ⑧① **EQ/AI EQ/Manual button (EQ/AI EQ/M.EQ)**
- ⑧① **AUX button (AUX)**

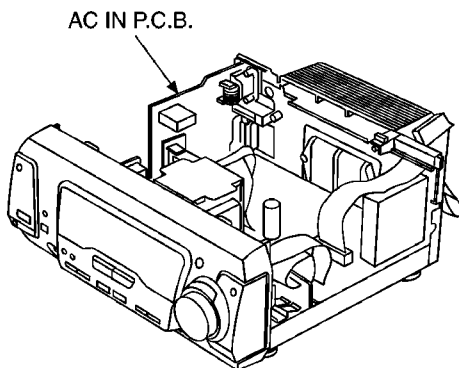
5 Operation Checks and Component Replacement Procedures

- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

5.1. Checking for the AC IN P.C.B.

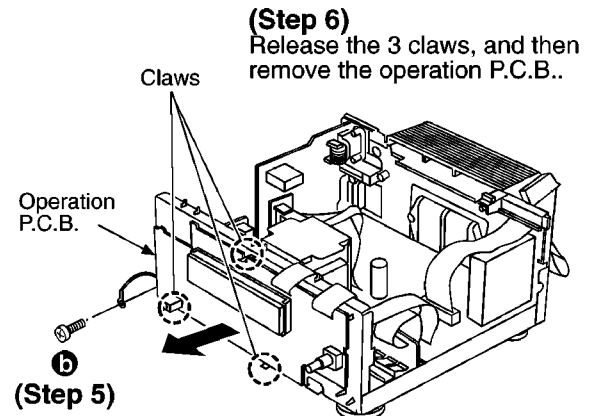
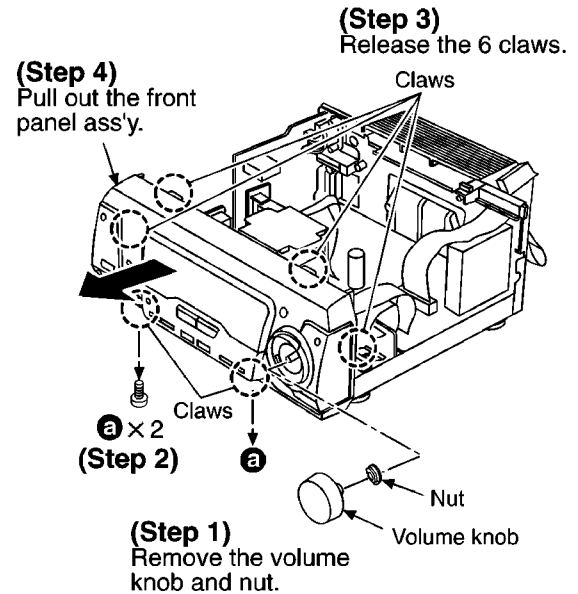


- Check the AC IN P.C.B. as shown below.

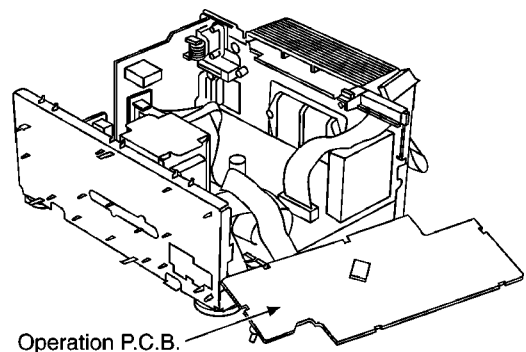


5.2. Checking for the operation P.C.B.

- Follow the **(Step 1) - (Step 3)** of item 5.1.

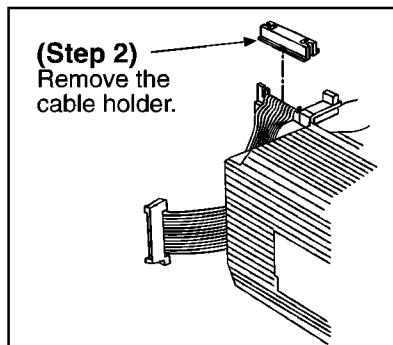


- Check the operation P.C.B. as shown below.



5.3. Checking for the main P.C.B.

- Follow the (Step 1) - (Step 3) of item 5.1.
- Follow the (Step 1) - (Step 6) of item 5.2.



(Step 1)

a × 7

a

a

a

a

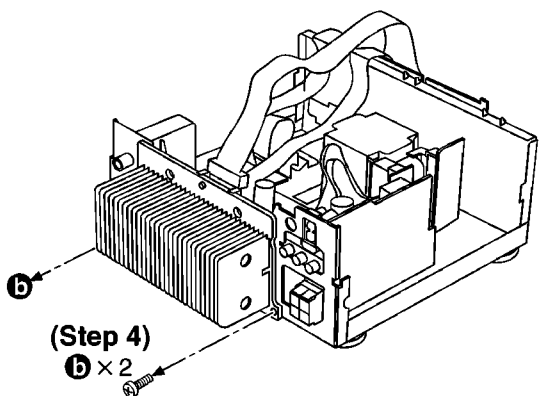
a

(Step 3)

Release the 2 claws, and then remove the rear grille ass'y.

Claws

Rear grille ass'y

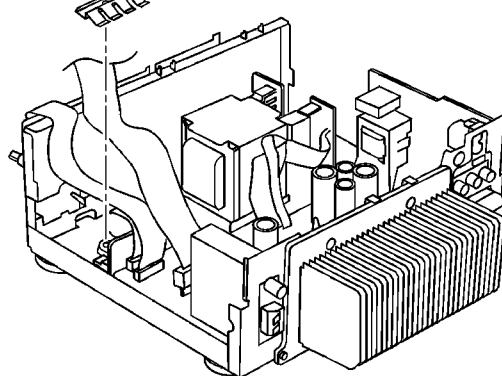


(Step 5)

c

(Step 6)

Remove the transistor holder.



(Step 7)

d × 5

d

d

d

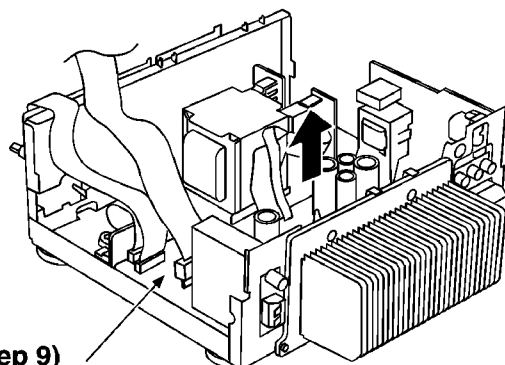
(Step 8)

e

d

d

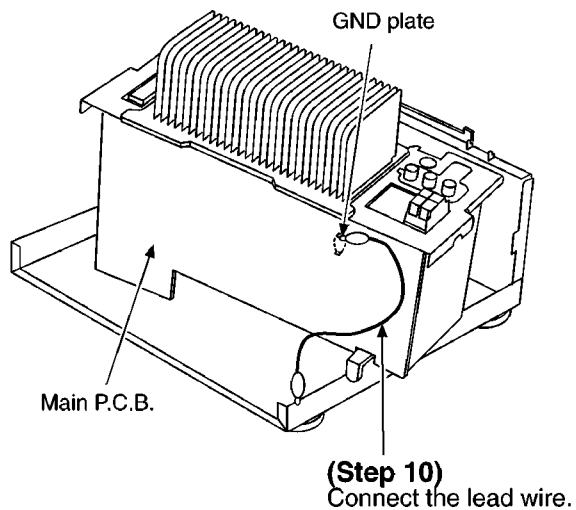
d



(Step 9)

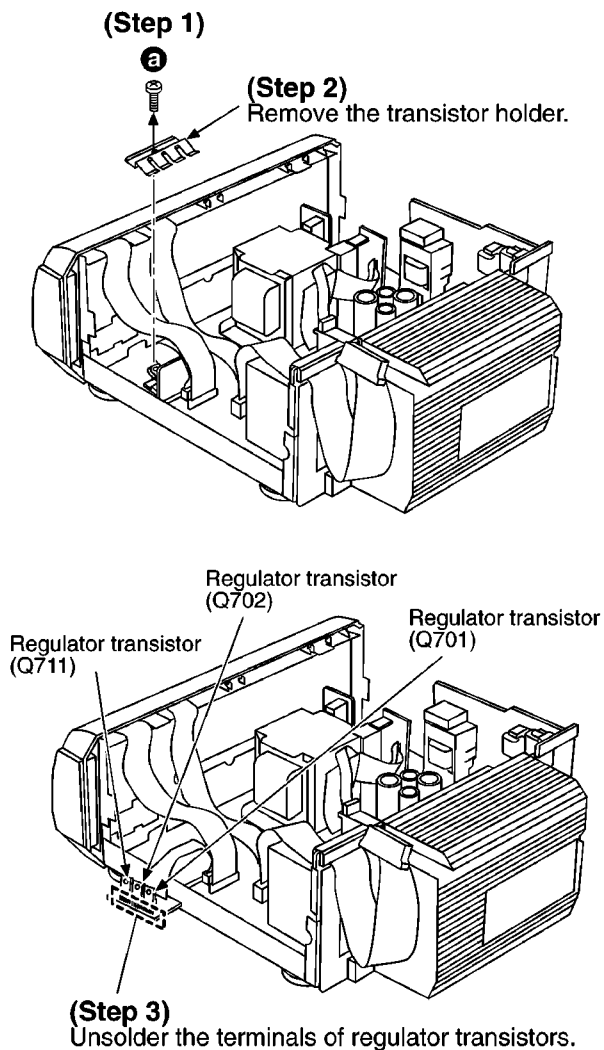
Lift up the main P.C.B..

- Check the main P.C.B. as shown below.



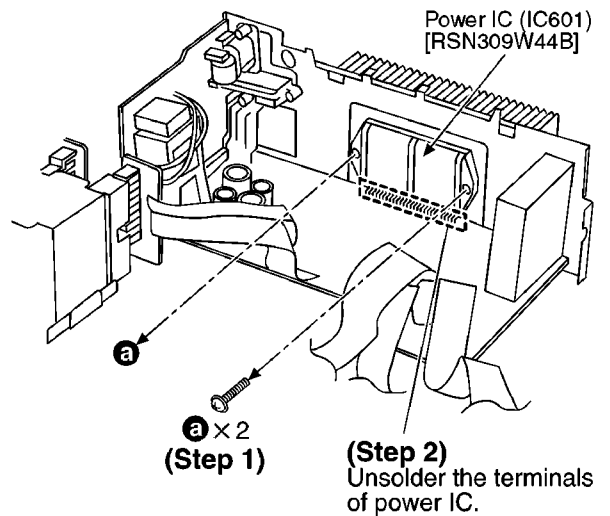
5.4. Replacement for the regulator transistor

- Follow the (Step 1) - (Step 3) of item 5.1.



5.5. Replacement for the power IC

- Follow the (Step 1) - (Step 3) of item 5.1.
- Follow the (Step 1) - (Step 6) of item 5.2.
- Follow the (Step 1) - (Step 10) of item 5.3.



NOTE:

When mounting the power IC apply silicone compound (RFKX0002) to the rear side of power IC.

6 To Supply Power Source

This unit is designed to operate on power supplied from system connected.
For system connection, refer to Fig. 6-1.

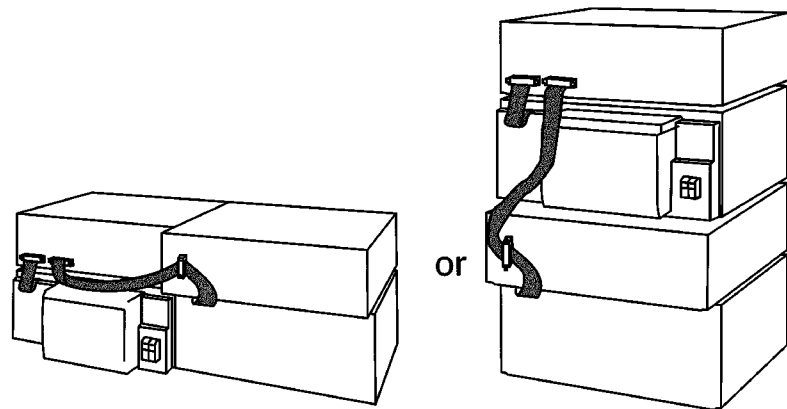


Fig. 6-1.

When the unit has to test and service alone, use the following method to supply power source.

1. Short the section between **W902A Pin 3** and **C740 (-) (GND)**. (Refer to Fig. 6-2.)
2. Connect this unit to an AC power supply cord.
(This unit come to stand-by mode.)
3. Turn the unit ON.

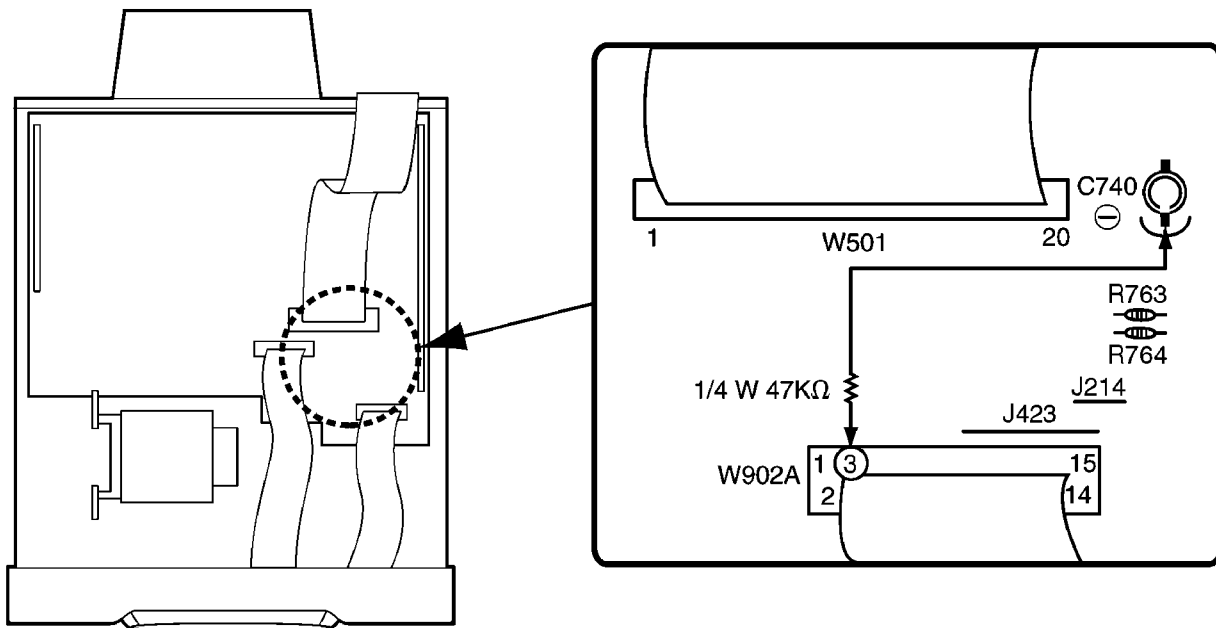


Fig. 6-2.

Notes:

Use only this method when checking the voltage etc..

In case of checking the operations, use the system connections to supply power source.

7 Self-Diagnostic Function

This unit is equipped with a self-diagnostic function which, in the event of a malfunction, automatically displays a code indicating the nature of the malfunction.

Use this self-diagnostic function when servicing the unit.

7.1. To display the malfunction code

- U70 CD:** Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.
- U70 DECK:** Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.
- F61:** Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.

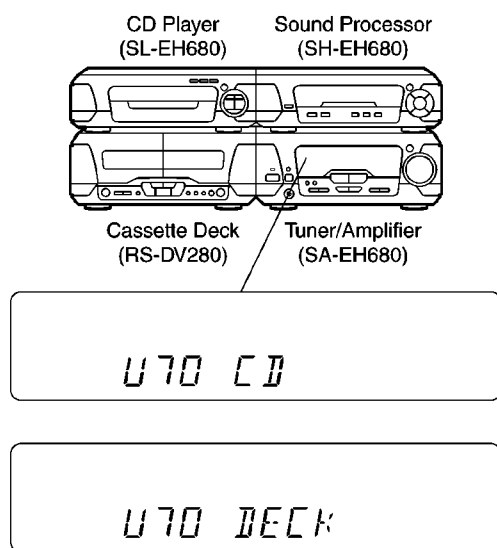


Fig. 7-1.

7.2. To return to the normal display

1. For U70 CD/U70 DECK

- Press any operation button on the tuner/amplifier.
- To re-display the code, switch the power off (POWER STANDBY button), and then switch power back on again.

2. For F61

- If F61 is displayed, the power will automatically be switched off and the standby indicator will light up.
- F61 will be displayed for 3 seconds, and then the clock will be displayed.
- To re-display the code, switch the power on. F61 will be re-displayed, and then after 3 seconds the clock will be displayed and the power will automatically switch off.

7.3. Display contents

7.3.1. U70 CD/U70 DECK (displayed automatically)

• Problem or condition

A bus-line communications error has occurred as a result of the flat cables being inserted incorrectly, thus preventing the system from operating.

- If U70 is displayed on the tuner/amplifier, the tape deck or CD Player cannot be operated by remote control.

• Correction Procedure

1. To check for correct insertion of flat cables.
 - Insert each connector until you hear a click.
 - Insert the flat cables at the back of the unit in the order indicated. Refer to Fig. 7-2.

Make sure the white side of the cables is on your right side. Refer to Fig. 7-3.

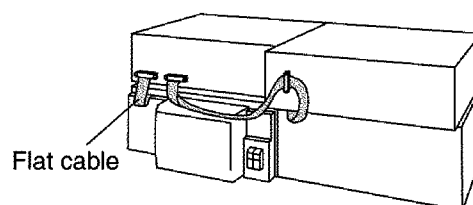


Fig. 7-2.

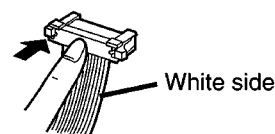


Fig. 7-3.

2. Breakage of flat cables. (Check and replace.)
3. If the problem is not corrected by items 1 and 2 above, this indicates a faulty IC.

SA-EH680:

IC901 (C2BBFD000317)

SL-EH680:

IC451 (C2BBFD000256)

RS-DV280:

IC701 (M38503M2406F)

Check these ICs and replace.

7.3.2. F61

• Problem or condition

When the power switch is switched on, it automatically switches back off, making it impossible to switch power on.

• Correction procedure

Faulty Tuner/Amplifier (SA-EH680) output IC (IC601). (When a DC voltage is applied to speaker terminals.)

8 Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

S901:	Power standby/on switch ()
S902:	Clock/timer switch (CLOCK/TIMER)
S903:	Demo switch ( DEMO)
S904:	Play timer/record timer switch ( PLAY/  REC)
S905:	FM mode switch (FM AUTO/MONO)
S906:	Tuning mode switch (TUNING MODE)
S907:	Set switch (SET)
S908:	Source input switch (INPUT SELECTOR)
S910:	Tuning down switch (TUNING, )
S911:	Tuning up switch (TUNING, )
S912:	Tuner/band switch (TUNER/BAND)
S913:	Muting switch (MUTING)
S914:	RDS display mode PS switch (RDS DISP MODE-PS)
S915:	RDS display mode PTY switch (RDS DISP MODE-PTY)
VR901:	Volume control VR (VOLUME)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark : Power ON (FM or AM)

- Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- The supply part number is described alone in the replacement parts list.

- Voltage and signal line

	: Positive voltage line
	: Negative voltage line
	: AM signal line
	: AM OSC signal line
	: FM signal line
	: FM OSC signal line
	: Audio signal line

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

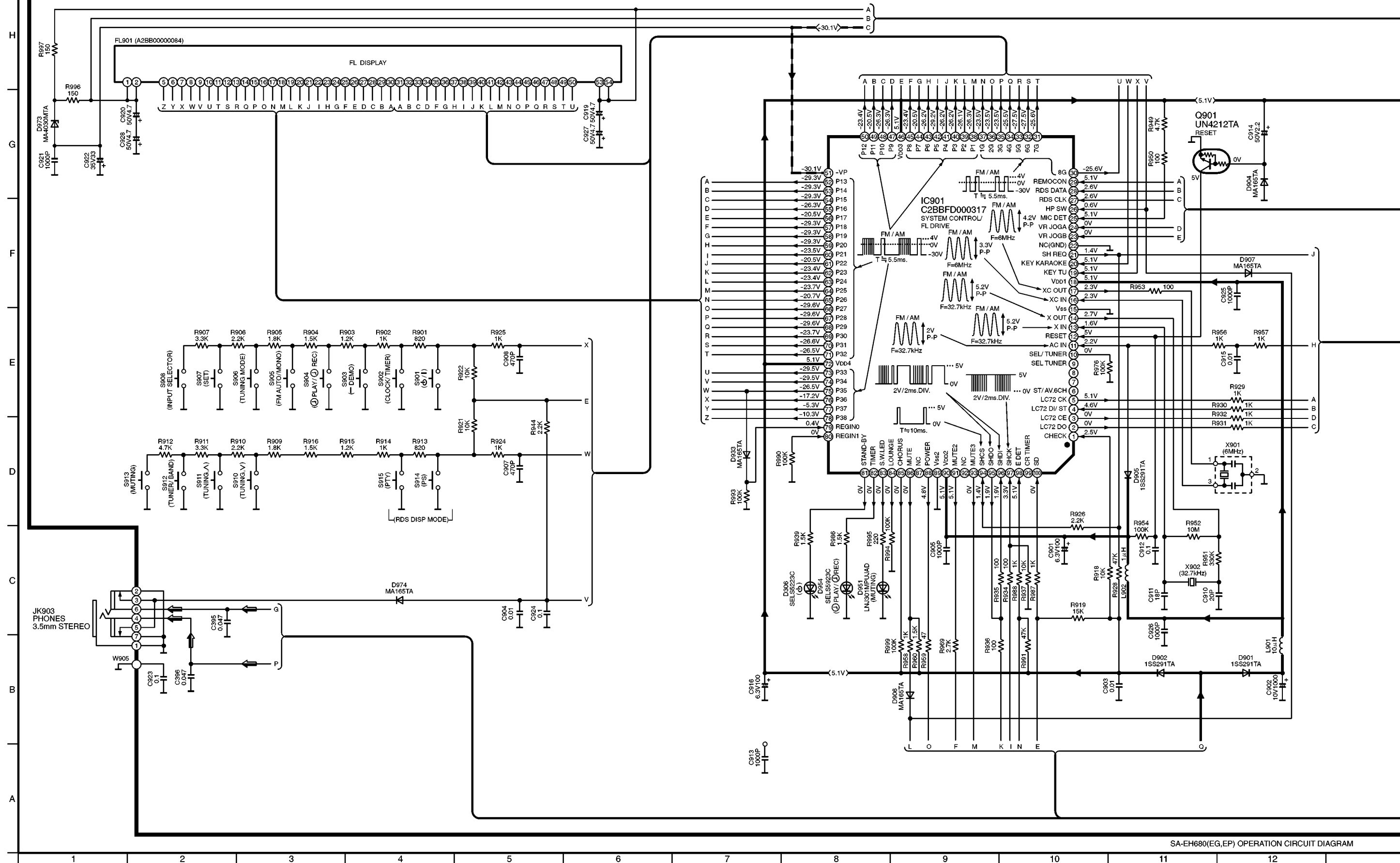
9 Schematic Diagram

SCHEMATIC DIAGRAM-1

A OPERATION CIRCUIT

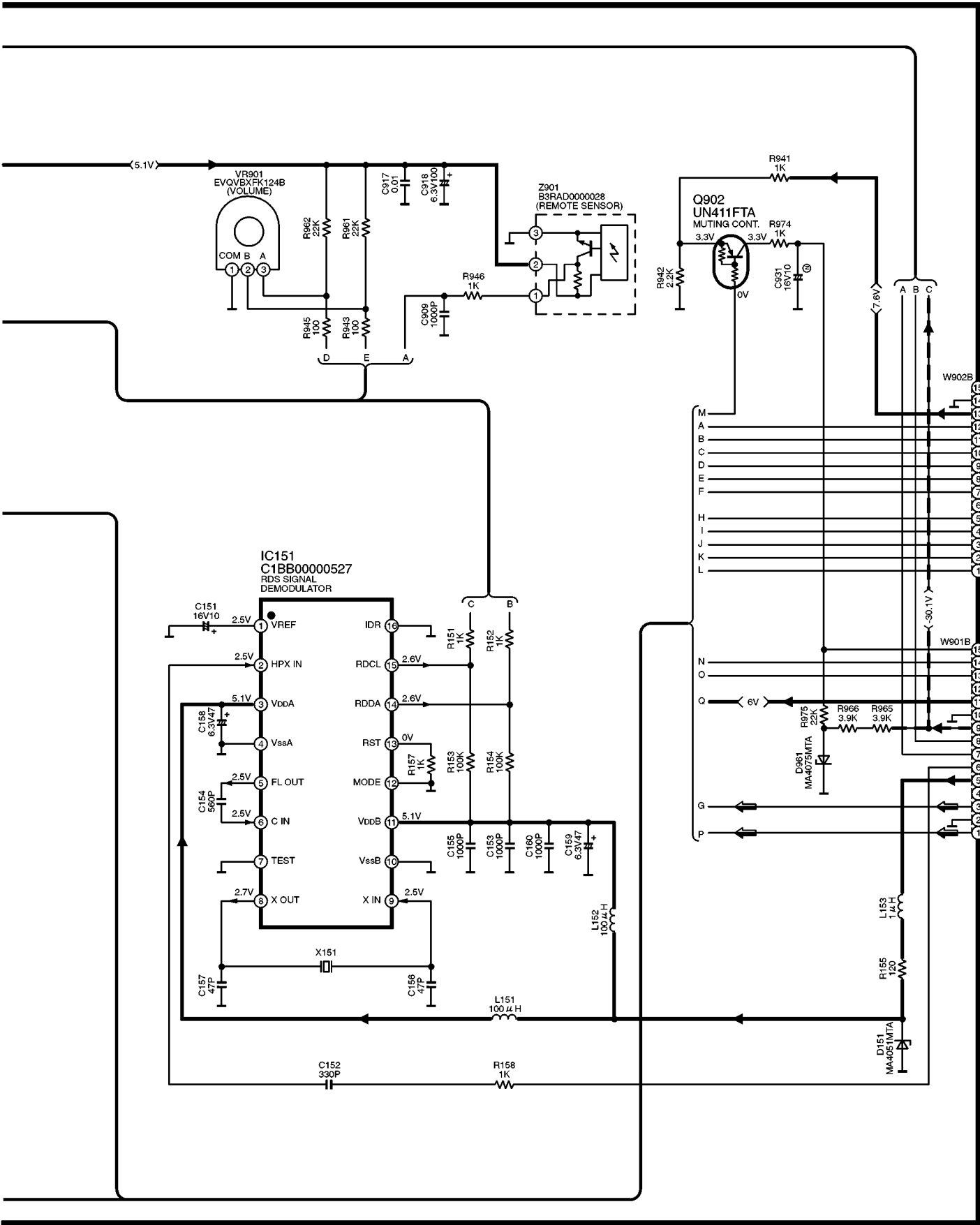
NOTE: The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

→ : POSITIVE VOLTAGE LINE → : NEGATIVE VOLTAGE LINE ⇨ : AUDIO SIGNAL LINE

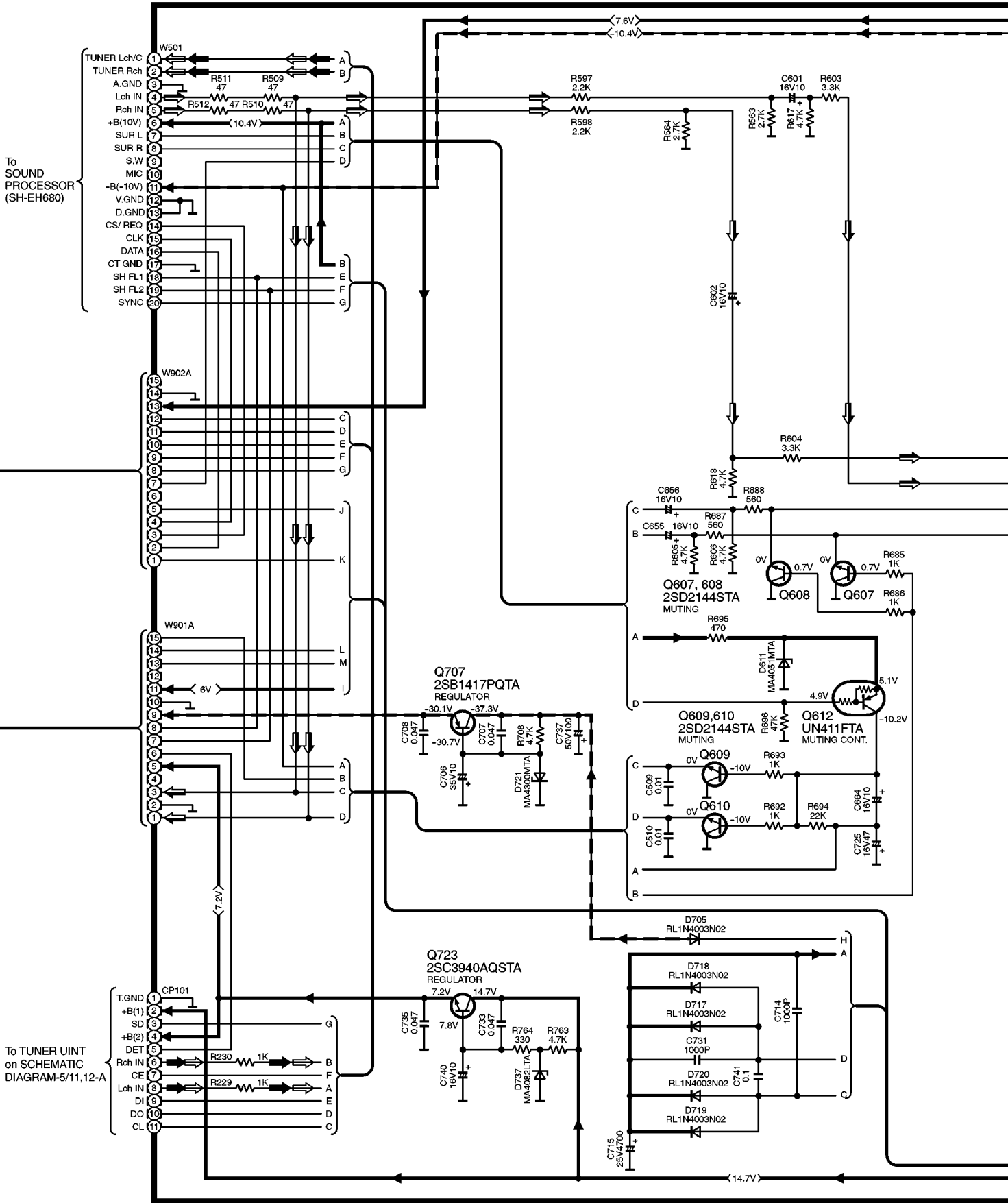


SCHEMATIC DIAGRAM-2
A OPERATION CIRCUIT

→ : POSITIVE VOLTAGE LINE → : FM SIGNAL LINE
- - - : NEGATIVE VOLTAGE LINE → : AM SIGNAL LINE → : AUDIO SIGNAL LINE

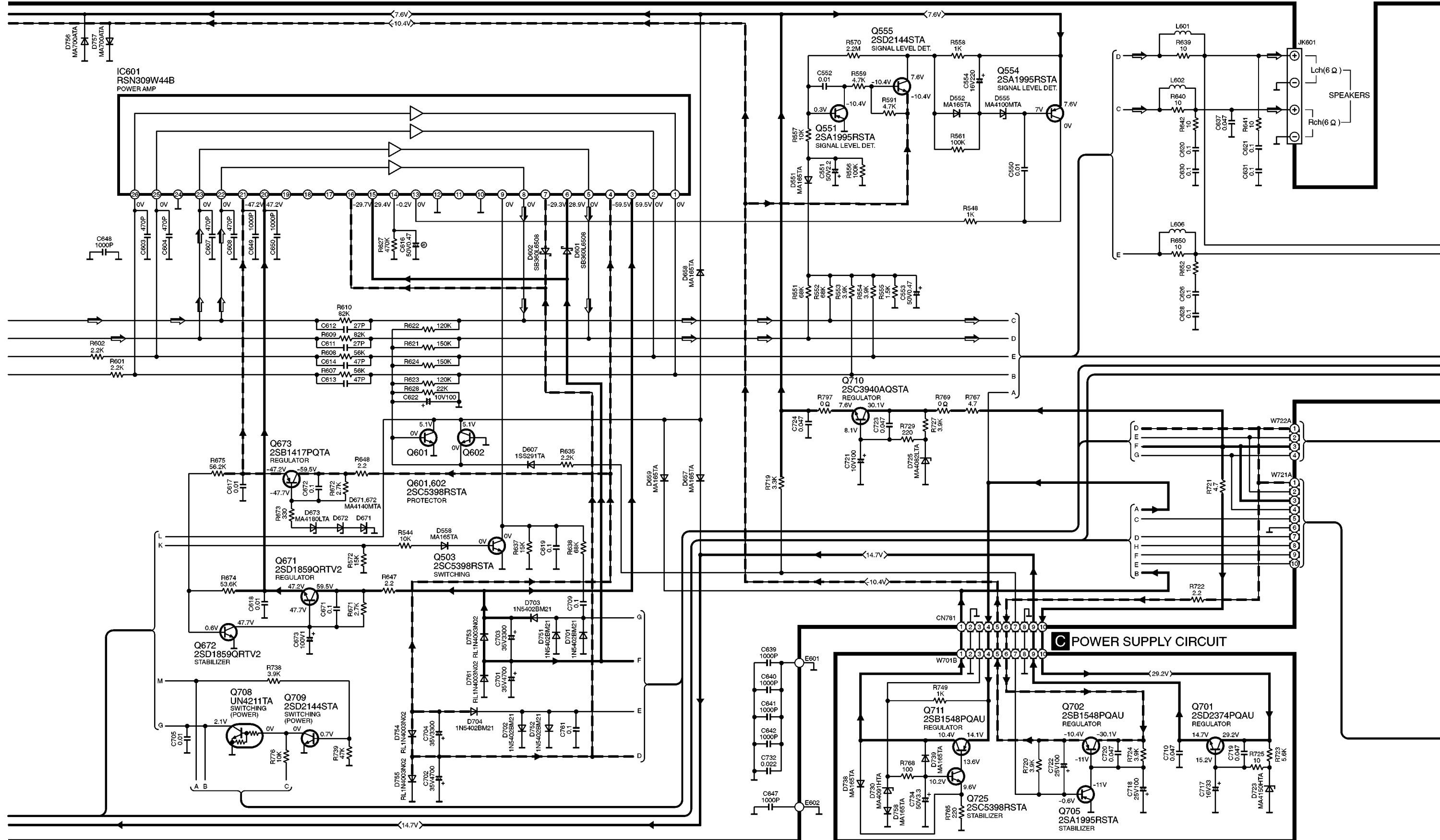


B MAIN CIRCUIT



SCHEMATIC DIAGRAM-3
B MAIN CIRCUIT

— : POSITIVE VOLTAGE LINE
 - - - : NEGATIVE VOLTAGE LINE ➡ : AUDIO SIGNAL LINE



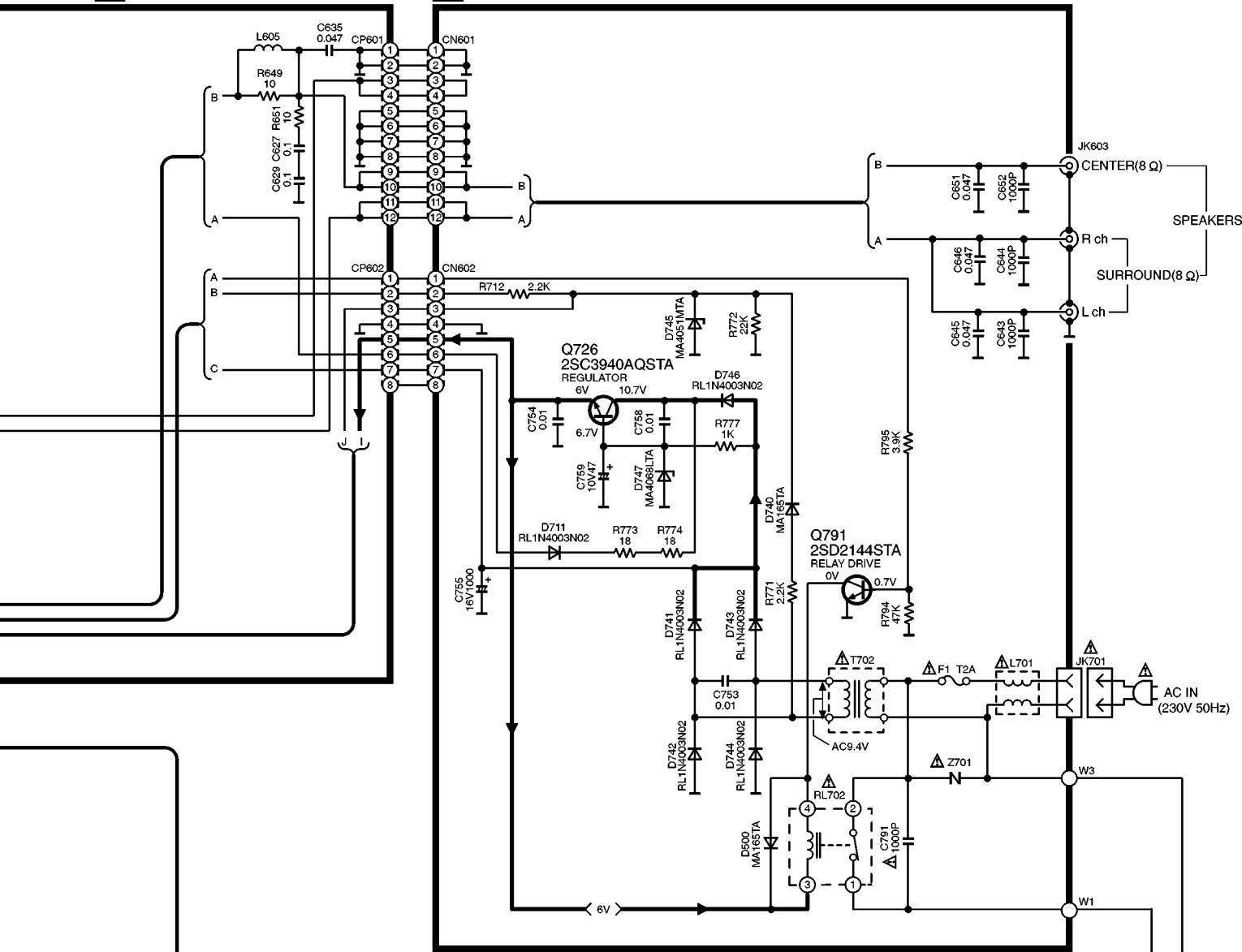
SA-EH680(EG,EP) MAIN. POWER SUPPLY CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

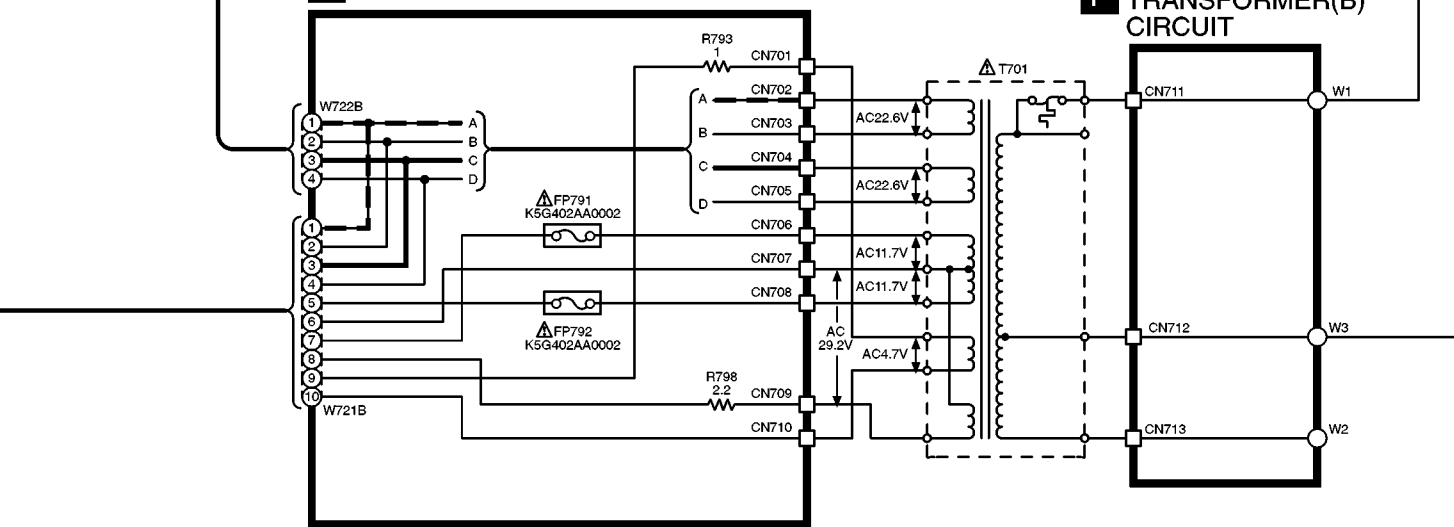
D AC IN CIRCUIT

→ : POSITIVE VOLTAGE LINE
→ : NEGATIVE VOLTAGE LINE



E POWER TRANSFORMER(A) CIRCUIT

F POWER TRANSFORMER(B) CIRCUIT

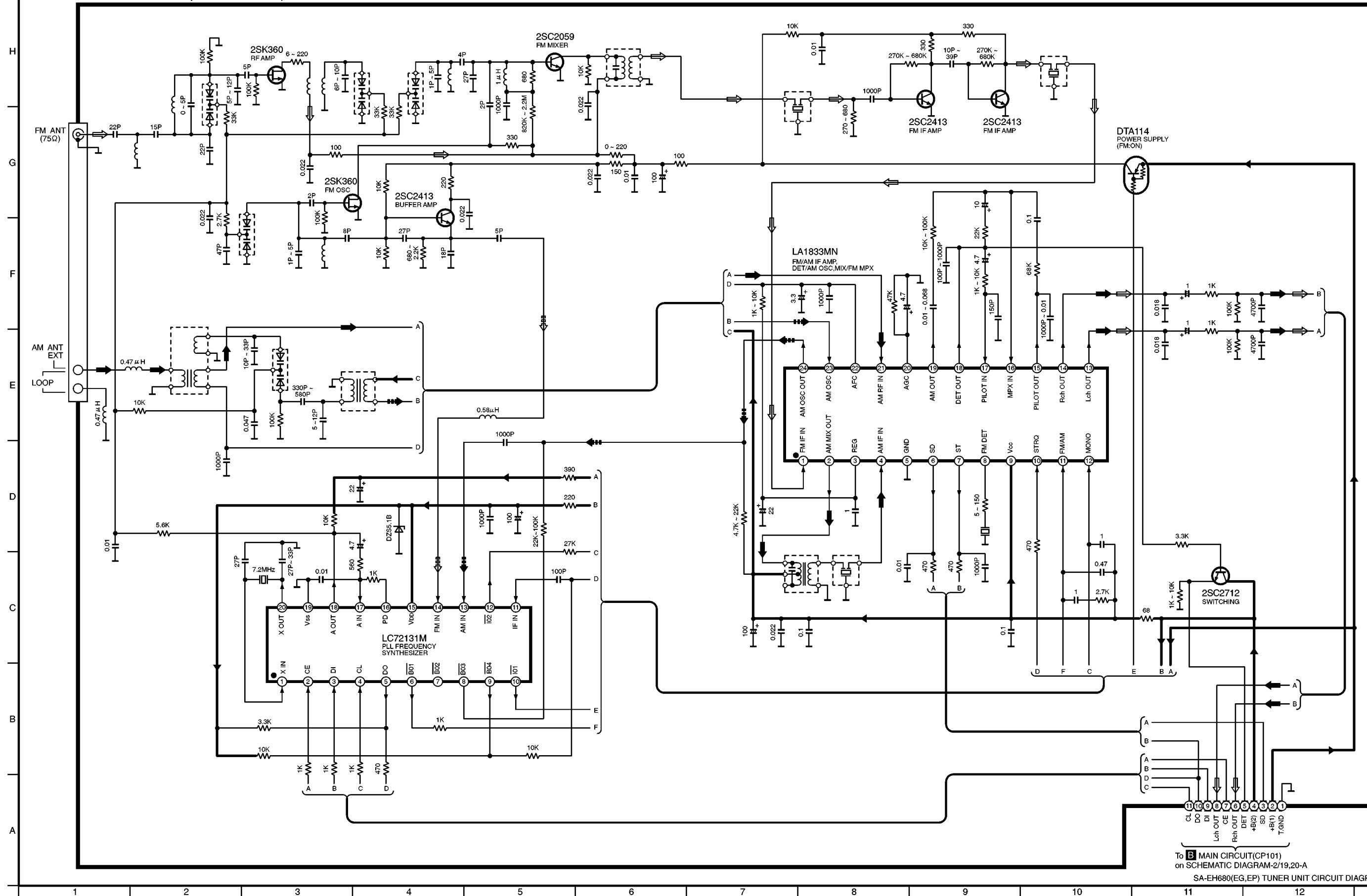


SA-EH680(EG,EP) MAIN,AC IN,POWER TRANSFORMER(A),(B) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-5

Z120 TUNER UNIT(RAN0005EM-2)

→ : FM SIGNAL LINE → : AM SIGNAL LINE
 ⇄ : FM OSC SIGNAL LINE ⇄ : AM OSC SIGNAL LINE
 — : POSITIVE VOLTAGE LINE



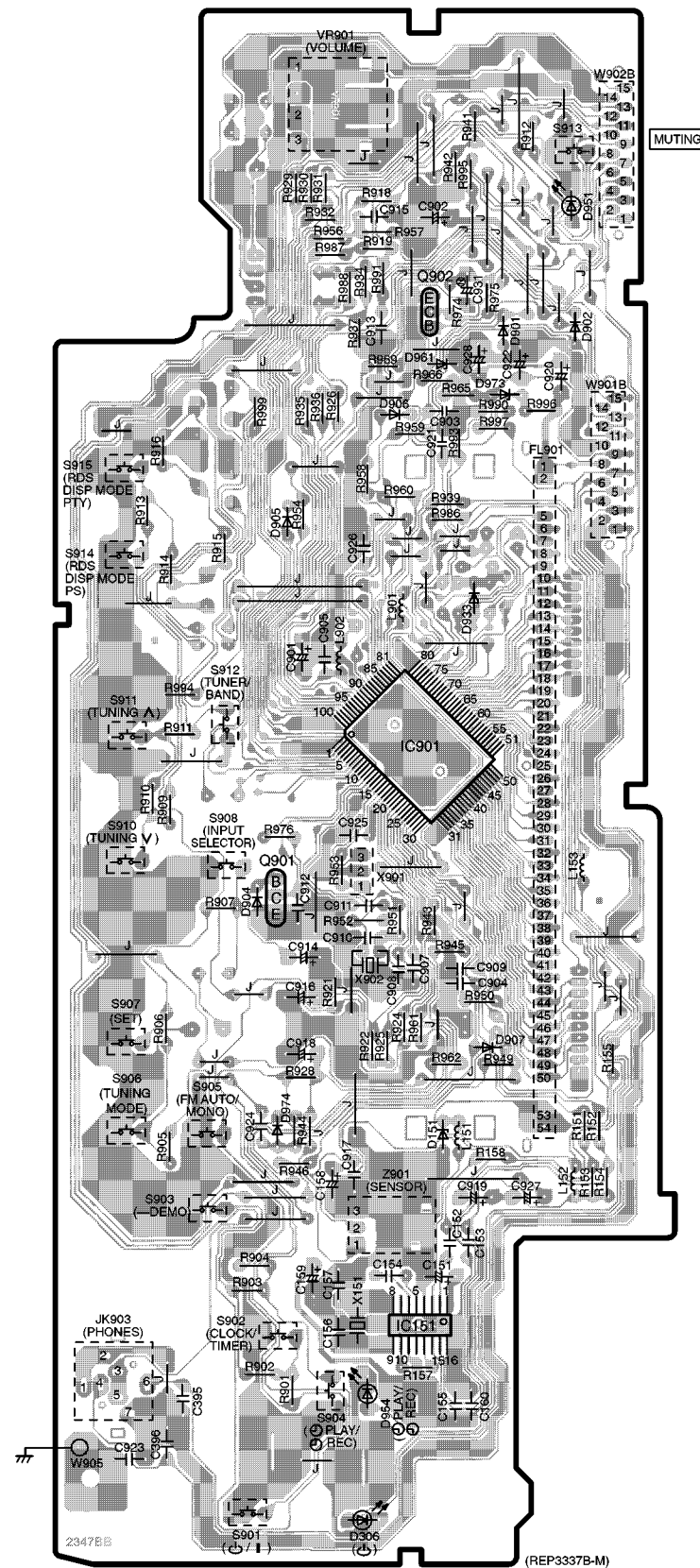
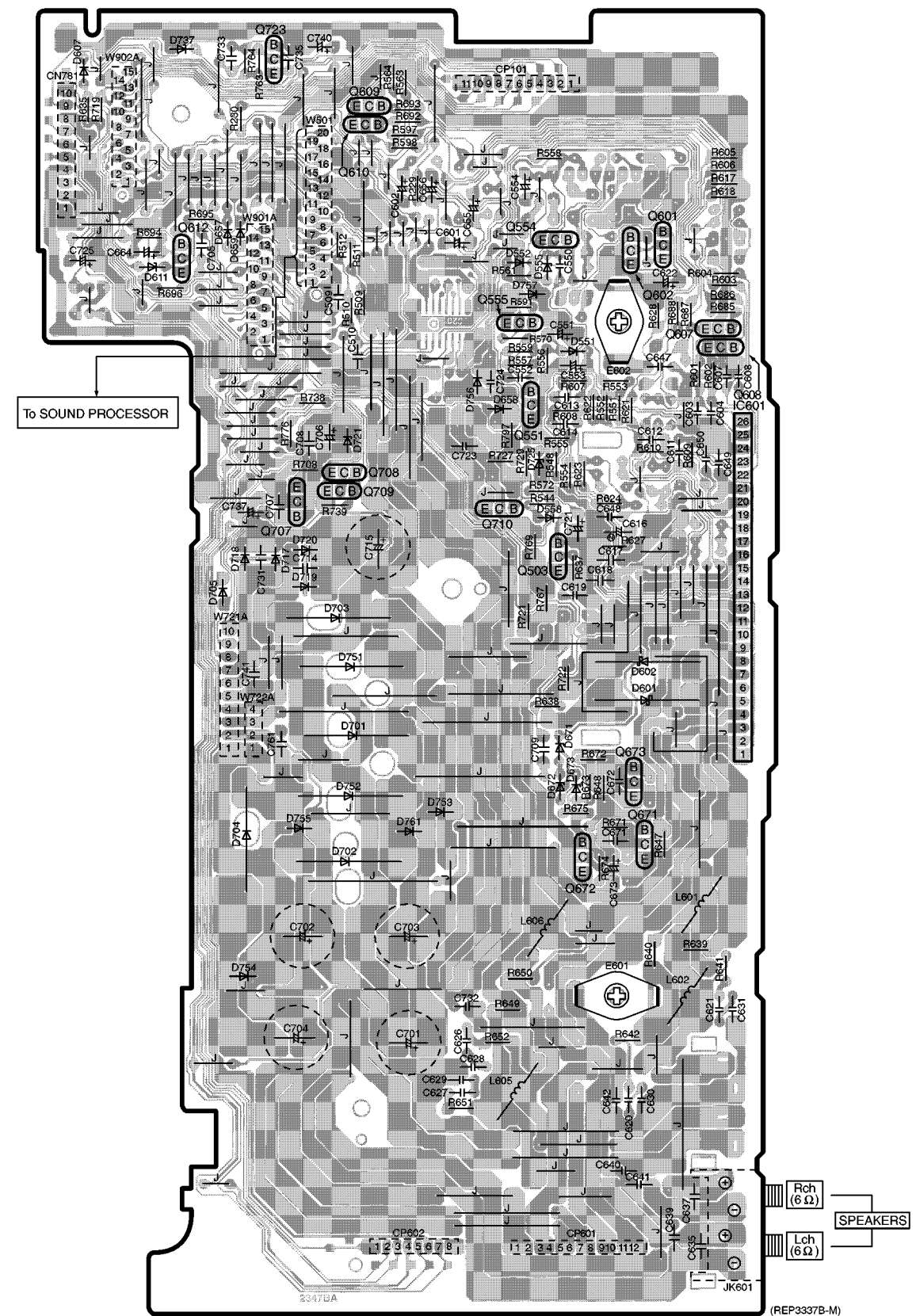
To MAIN CIRCUIT (CP101)
 on SCHEMATIC DIAGRAM-2/19,20-A

SA-EH680(EG,EP) TUNER UNIT CIRCUIT DIAGRAM

10 Printed Circuit Board Diagram

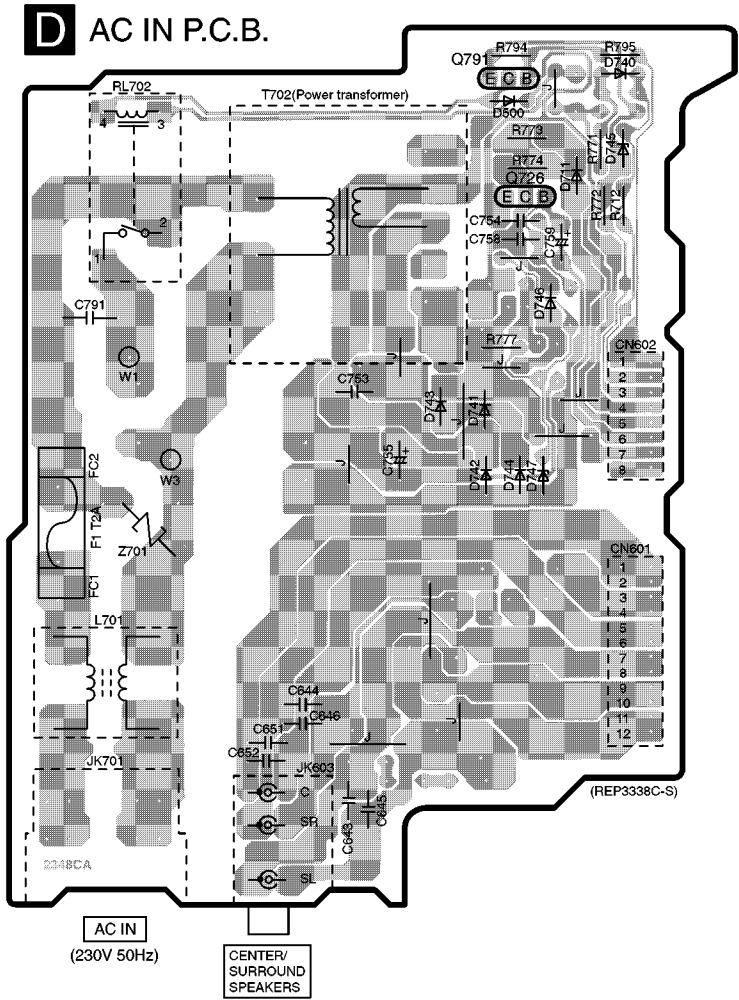
Note: This printed circuit board diagram may be modified at any time with the development of new technology.

A OPERATION P.C.B.

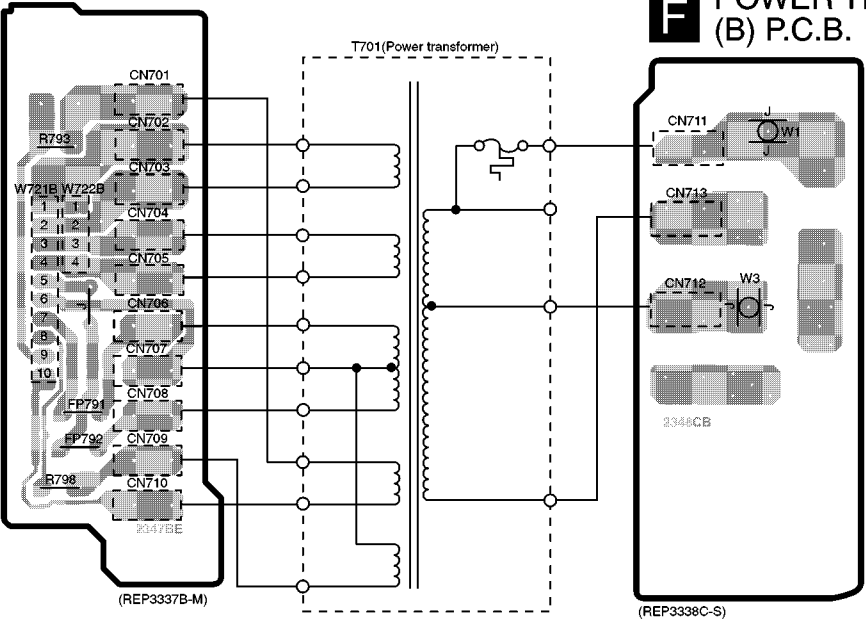
**B** MAIN P.C.B.

SA-EH680(EG,EP) OPERATION, MAIN P.C.B.

Note: This printed circuit board diagram may be modified at any time with the development of new technology.

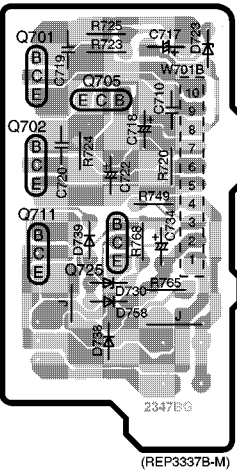


E POWER TRANSFORMER
(A) P.C.B.

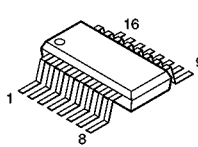
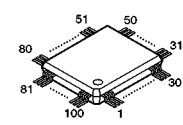
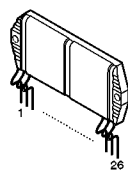
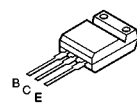
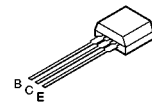
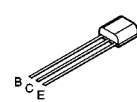
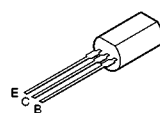
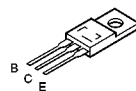
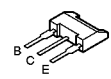
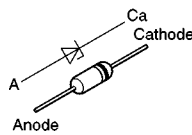
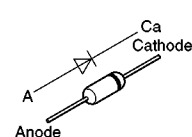
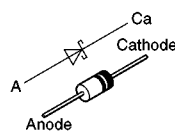
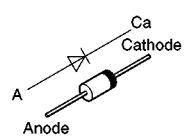
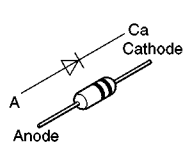
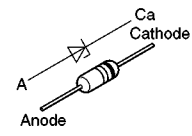
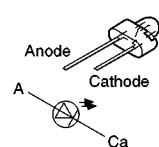
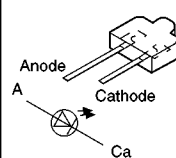


F POWER TRANSFORMER
(B) P.C.B.

C POWER SUPPLY P.C.B.



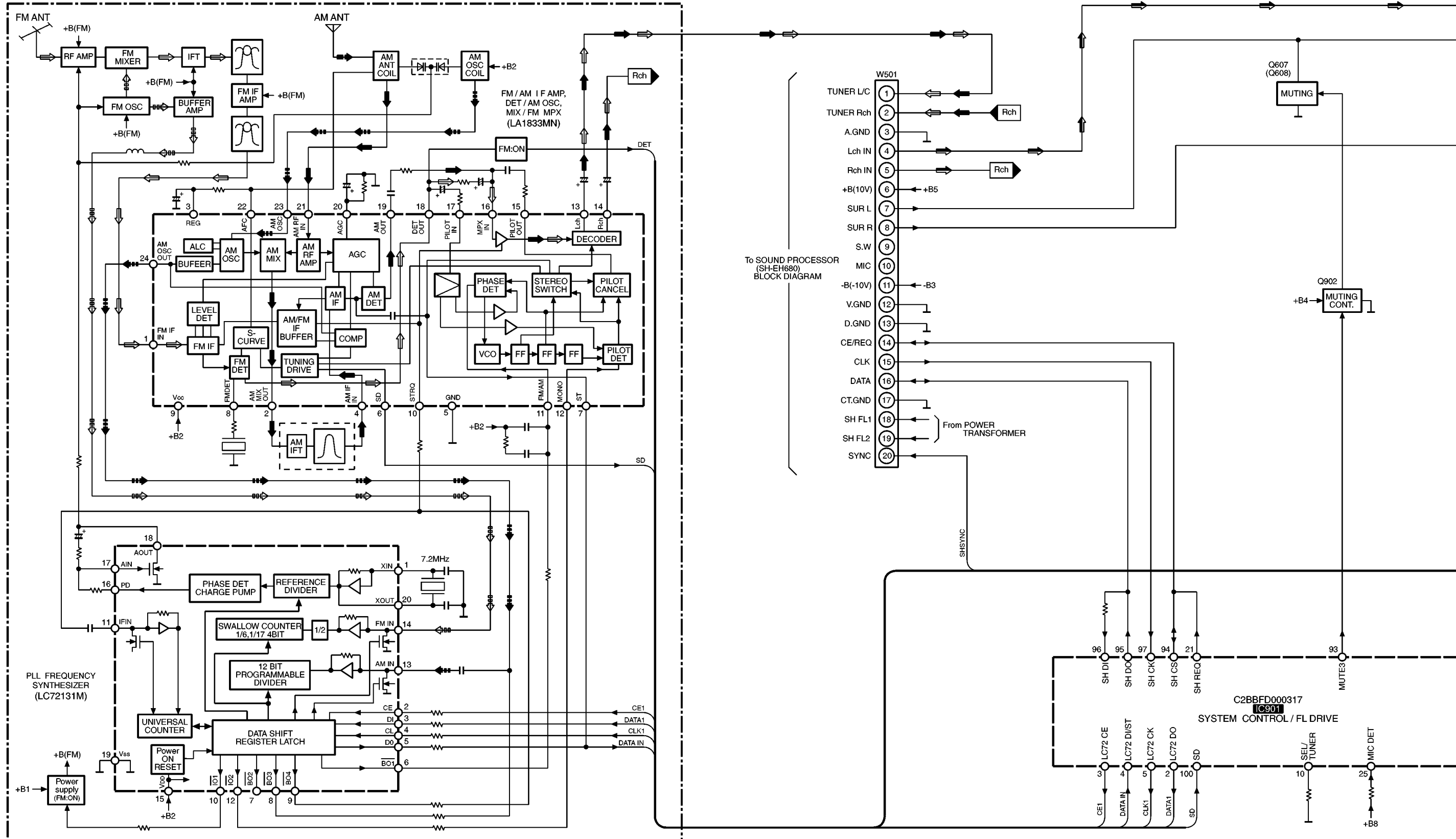
11 Type Illustration of ICs, Transistors and Diodes

C1BB00000527 	C2BBFD000317 	RSN309W44B 	UN411FTA UN4211TA UN4212TA 	2SB1417PQTA 	2SD2144STA 
2SA1995RSTA 2SC5398RSTA 	2SC3940AQSTA 	2SB1548PQAU 2SD2374PQAU 	2SD1859QRTV2 	 MA4100MTA MA4150HTA MA4300MTA MA4140MTA MA4180LTA	
MA165TA 	SB360L6508 	1N5402BM21 RL1N4003N02 	1SS291TA MA700ATA 	 MA4030MTA MA4051MTA MA4068LTA MA4075MTA MA4082LTA MA4091HTA	
LNJ301MPUJAD 	SELS5223C SELS5923C 				

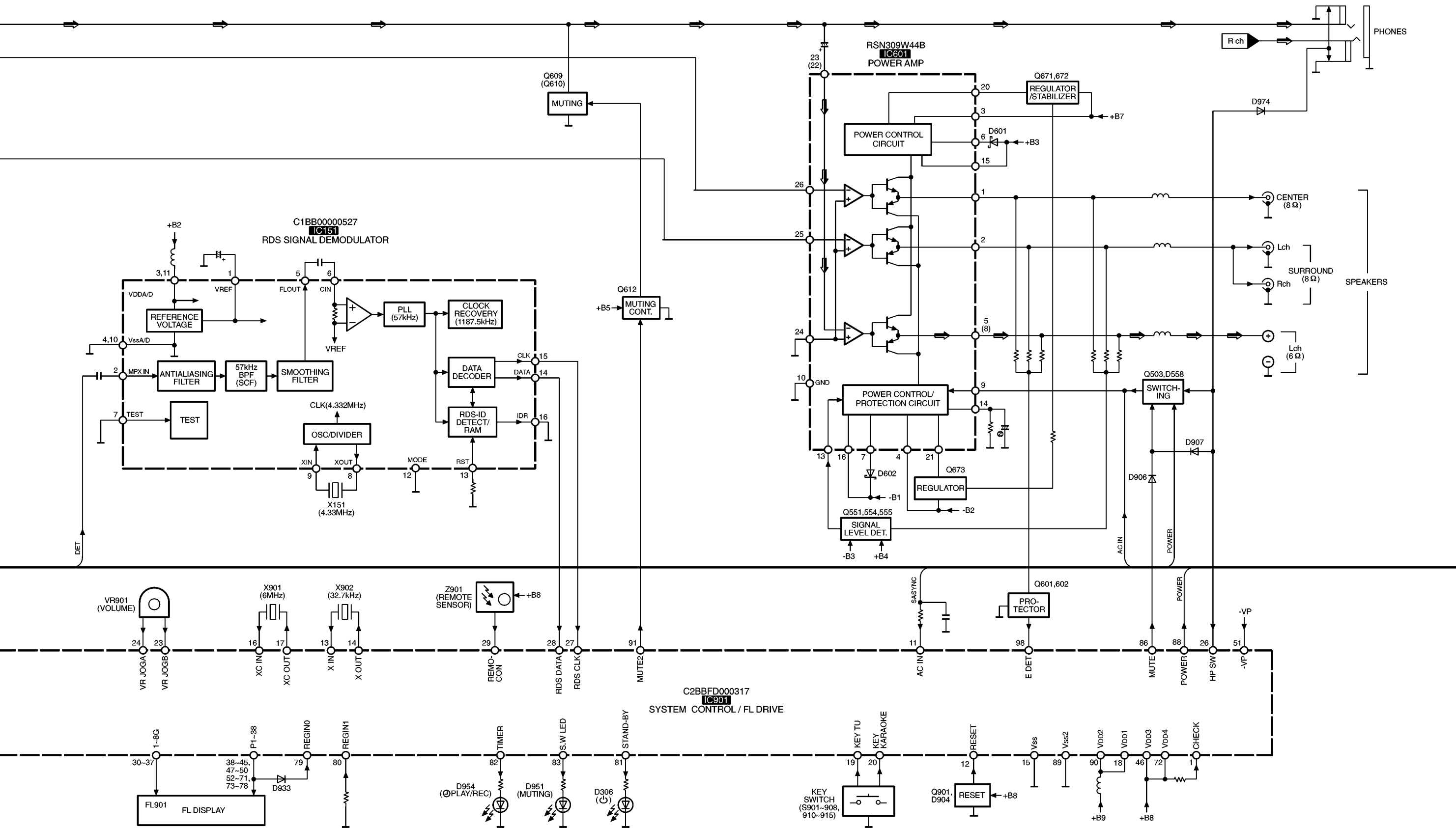


13 Block Diagram

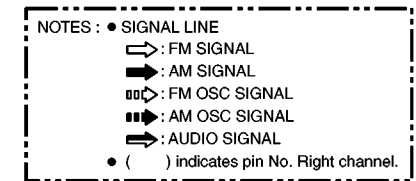
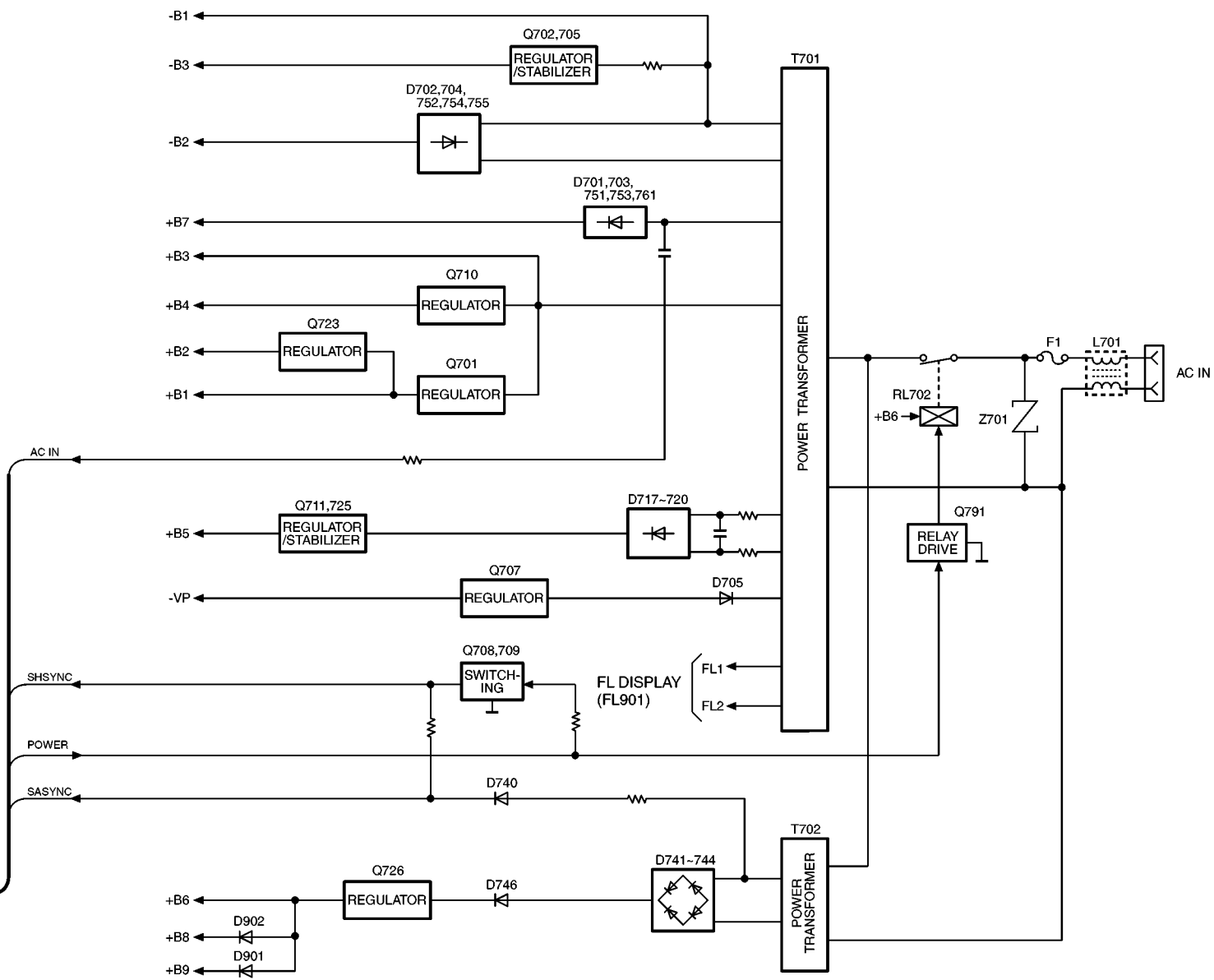
Z120 TUNER UNIT (RAN0005EM-2)



SA-EH680(EG,EP) BLOCK DIAGRAM



SA-EH680(EG,EP) BLOCK DIAGRAM



14 Terminal Function of ICs

14.1. IC901 (C2BBFD000317): System Control/FL Drive

Pin No.	Terminal Name	I/O	Function
1	CHECK	I	Clock check signal input
2	LC72 DO	O	PLL data signal output for tuner unit (Z120)
3	LC72 CE	O	Chip enable signal output for tuner unit (Z120)
4	LC72 DI/ST	I	IF count data/stereo detect signal input from tuner unit (Z120)
5	LC72 CK	O	Clock signal output for tuner unit (Z120)
6	ST/AV. 6CH	-	Not used, open
7	NC	-	Not used, open
8			
9	SEL TUNER	-	Not used, open
10	SEL/ TUNER	-	Not used, connected to GND
11	AC IN	I	Power failure detect signal input
12	RESET	I	Reset signal input
13	X IN	I	Oscillator connected terminal (32.7 kHz)
14	X OUT	O	
15	V _{SS}	-	GND terminal
16	XC IN	I	Oscillator connected terminal (6 MHz)
17	XC OUT	O	
18	V _{DD} 1	I	Power supply terminal
19	KEY TU	I	Operation key signal input
20	KEY KARAOKE	I	Operation key signal input
21	SH REQ	O	Request signal output for Sound Processor
22	NC(GND)	-	Not used, connected to GND
23	VR JOGB	I	Volume control signal input
24	VR JOGA		
25	MIC DET	I	Microphone connecting detect signal input (Not used, connected to V _{DD})
26	HP SW	I	Headphone connecting detect signal input
27	RDS CLK	I	RDS clock signal input
28	RDS DATA	I	RDS data signal input
29	REMO CON	I	Remote control signal input
30 37	8G 1G	O	Grid signal output
38 45	P1 P8		
46	V _{DD} 3	I	Power supply terminal
47 50	P9 P12	O	Segment signal output
51	-VP		
52 71	P13 P32	O	Segment signal output
72	V _{DD} 4		
73 78	P33 P38	O	Segment signal output
79	REGIN0		
80	REGIN1	-	Not used, connected to GND
81	STANDBY	O	LED (STANDBY) drive signal output
82	TIMER	O	LED (TIMER) drive signal output
83	S.W.LED	O	LED (MUTING) drive signal output
84	LOUNGE	-	LED (LOUNGE) drive signal output (Not used, connected to GND)
85	CHORUS	-	LED (CHORUS) drive signal output (Not used, connected to V _{DD})
86	MUTE	O	Muting signal output

Pin No.	Terminal Name	I/O	Function
87	NC	-	Not used, open
88	POWER	O	Power control signal output
89	V _{SS} 2	-	GND terminal
90	V _{DD} 2	I	Power supply terminal
91	MUTE2	O	Muting signal output
92	NC	-	Not used, open
93	MUTE3	O	Muting signal output
94	SH CS	I/O	Chip select signal input/output for Sound Processor
95	SH DO	O	Serial communication signal to Sound Processor (Data signal output)
96	SH DI	I	Serial communication signal to Sound Processor (Data signal input)
97	SH CK	I	Serial communication signal to Sound Processor (Clock signal input)
98	E DET	I	Unusual condition detect signal input
99	CR TIMER	-	Not used, open
100	SD	I	Station detector signal input from tuner unit (Z120)

15 Replacement Parts List

Notes:

- Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

- The <IA> <IB> <IC> marks in Remarks indicate language of instruction manual.

<IA>: German, Italian, French, Netherlands, Danish, Swedish

<IB>: English

<IC>: Russian, Polish, Czech

- The parenthesized indications in the Remarks columns specify the areas.

(EG): SA-EH680EG

(EP): SA-EH680EP

- The marking [RTL] indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

- All parts are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RKM0395F-1S	TOP CABINET	1	
2	RHD30007-1S	SCREW	4	
3	XTBS3+10JFZ1	SCREW	1	
4	REX0967	SYSTEM CONNECT. ASS'Y (20P)	1	
5	RMQ1018	GASKET	1	
6	RGW0386-S	KNOB, VOLUME	1	
7	RHN90001	NUT	1	
8	RKA0106-N	FOOT RING	4	
9	RKF0606T-K	BACK COVER	1	
10	RKW0581-1V	FL WINDOW	1	
11	RMN0427A	CABLE HOLDER	1	
12	RYP1088-N	FRONT PANEL UNIT	1	
12-1	RGB0025-A	TECHNICS BADGE	1	
13	SHG1654	RUBBER	4	
14	XTB3+10JFZ	SCREW	10	
15	XTB3+8JFZ	SCREW	11	
16	XTW3+15T	SCREW	2	
17	XTBS3+8JFZ1	SCREW	2	
18	RLBT4001-N	FERRITE CORE	1	J0KD00000028
19	RMN0582	HOLDER	1	
20	XTB3+12FFZ	SCREW	1	
21	XTB3+20JFZ	SCREW	1	
22	RGN2214-K	NAME PLATE	1	(EP)
A1	EUR7702170	REMOTE CONTROL UNIT	1	
A1-1	UR64EC2337E	BATTERY COVER	1	
A2	REE1057	SP CORD (RED/BLUCK)	2	
A3	RSA0022-L	AM LOOP ANTENNA	1	N1DAEYA00008
A4	RSA0007	FM INDOOR ANTENNA	1	N1EAYY000002
A5	RJA0019-2X	AC POWER SUPPLY CORD	1	Δ
A6	RQCA0801	DEMO GUIDE	1	
A7	RQCB0169	SERVICE CENTER LIST	1	
A8	RQT6299-D	OPERATING INSTRUCTIONS	1	<IA> (EG)
A8	RQT6301-B	OPERATING INSTRUCTIONS	1	<IB> (EP)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A8	RQT6302-R	OPERATING INSTRUCTIONS	1	<IC> (EP)
C151	ECA1CAK100XB	16V 10U	1	
C152	ECBT1H331KB5	50V 330P	1	F1D1H331A012
C153	ECBA1H102KB5	50V 1000P	1	
C154	ECBT1H561KB5	50V 560P	1	F1D1H561A012
C155	ECBA1H102KB5	50V 1000P	1	
C156, 57	ECBT1H470J5	50V 47P	2	ECBT1H470J3
C158, 59	RCE0JKA470BG	6.3V 47U	2	F2A0J470A014
C160	ECBA1H102KB5	50V 1000P	1	
C395, 96	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C509, 10	ECBT1H103KB5	50V 0.01U	2	
C550	ECBT1H103KB5	50V 0.01U	1	
C551	ECA1HAK2R2XB	50V 2.2U	1	
C552	ECBT1H103KB5	50V 0.01U	1	
C553	RCE1HKAR47BG	50V 0.47U	1	F2A1HR47A015
C554	ECA1CAM221XB	16V 220U	1	
C601, 02	ECA1CAK100XB	16V 10U	2	
C603, 04	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C607, 08	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C611, 12	ECBT1H270J5	50V 27P	2	ECBT1H270J3
C613, 14	ECBT1H470J5	50V 47P	2	ECBT1H470J3
C616	ECEA1HKNR47B	50V 0.47U	1	
C617, 18	ECKR2H103ZU	100V 0.01U	2	
C619-21	ECBT1H104KB5	50V 0.1U	3	F1D1H1040002
C622	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C626-31	ECBT1H104KB5	50V 0.1U	6	F1D1H1040002
C635	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C637	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C639-44	ECBA1H102KB5	50V 1000P	6	
C645, 46	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C647-50	ECBA1H102KB5	50V 1000P	4	
C651	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C652	ECBA1H102KB5	50V 1000P	1	
C655, 56	ECA1CAK100XB	16V 10U	2	
C664	ECA1CAK100XB	16V 10U	1	
C671, 72	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C673	ECA2AM010	100V 1U	1	
C701, 02	F2B1V4720004	35V 4700U	2	
C703, 04	ECA1VM332	35V 3300U	2	
C705	ECBT1H103KB5	50V 0.01U	1	
C706	RCE1VKA100BG	35V 10U	1	F2A1V1000011
C707, 08	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C709	ECQV1H104JM3	50V 0.1U	1	
C710	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C714	ECBA1H102KB5	50V 1000P	1	
C715	ECA1EAM472XE	25V 4700U	1	
C717	ECA1CAK330XB	16V 33U	1	
C718	ECA1EAM101XB	25V 100U	1	
C719, 20	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C721	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C722	ECA1EAM101XB	25V 100U	1	
C723, 24	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C725	ECA1CAK470XB	16V 47U	1	
C731	ECBA1H102KB5	50V 1000P	1	
C732	ECBT1H223KB5	50V 0.022U	1	F1D1H223A012
C733	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C734	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C735	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C737	ECA1HAM101XB	50V 100U	1	
C740	ECA1CAK100XB	16V 10U	1	
C741	ECQEL104KF3	100V 0.1U	1	
C753	ECKR1H103ZF5	50V 0.01U	1	F1B1H1030001
C754	ECBT1H103KB5	50V 0.01U	1	
C755	ECA1CAM102X	16V 1000U	1	ECA1CAM102XB
C758	ECBT1H103KB5	50V 0.01U	1	
C759	RCE1AKA470BG	10V 47U	1	F2A1A470A011
C761	ECQEL104KF3	100V 0.1U	1	
C791	ECKWRS102MBC	1000P	1	Δ
C901	EZAF00J101B	6.3V 100U	1	

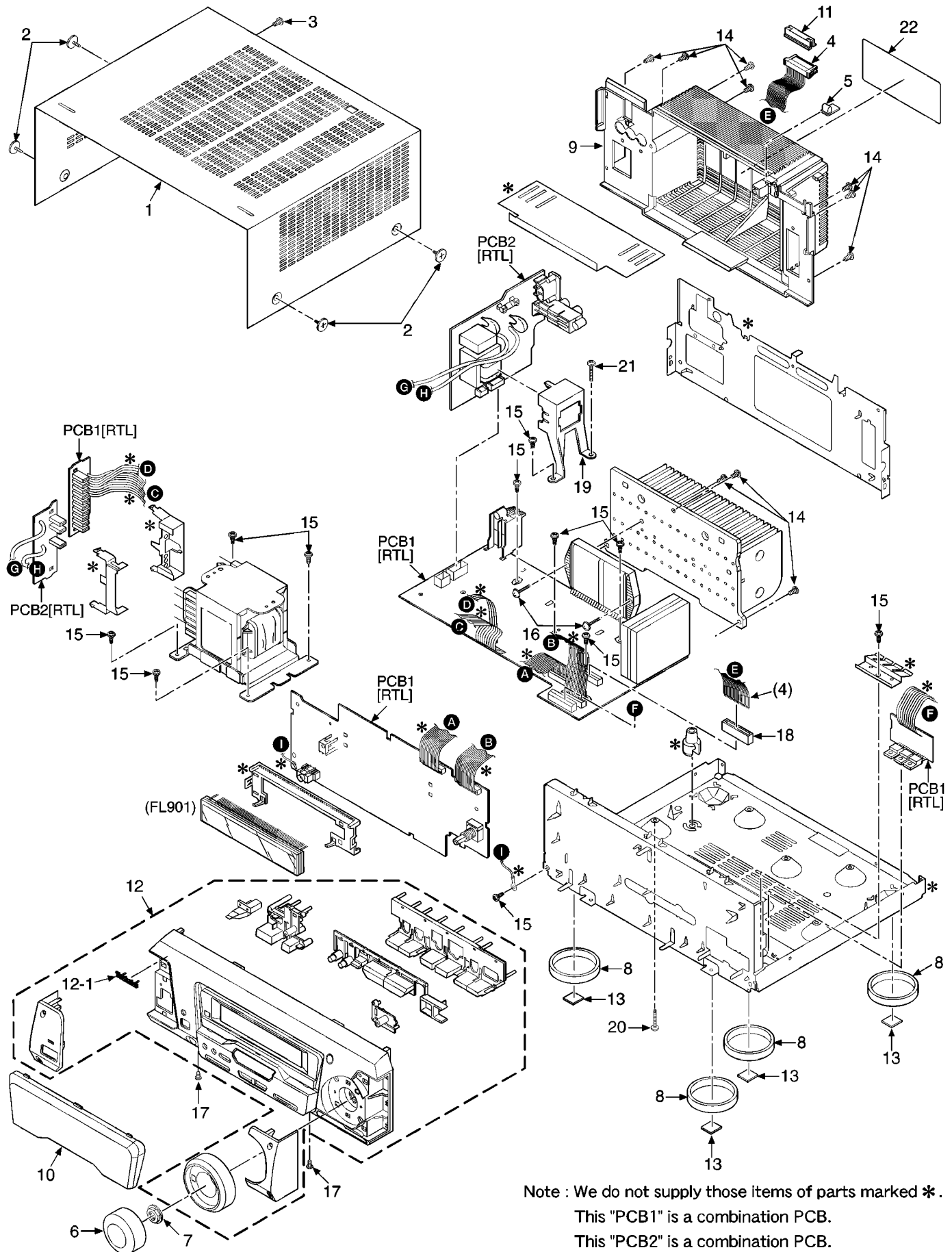
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C903,04	ECBT1H103KB5	50V 0.01U	2	
C905	ECBA1H102KB5	50V 1000P	1	
C907,08	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C909	ECBA1H102KB5	50V 1000P	1	
C910	ECBT1H200JC5	50V 20P	1	F1D1H200A015
C911	ECBA1H180J5	50V 18P	1	F1D1H180A006
C912	ECBT1H104KB5	50V 0.1U	1	F1D1H1040002
C913	ECBA1H102KB5	50V 1000P	1	
C914	ECA1HAK2R2XB	50V 2.2U	1	
C915	ECBT1H103KB5	50V 0.01U	1	
C916	EEAFC0JL01B	6.3V 100U	1	
C917	ECBT1H103KB5	50V 0.01U	1	
C918	ECA0JAK101XB	6.3V 100U	1	
C919,20	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C921	ECBA1H102KB5	50V 1000P	1	
C922	ECA1VAK330XB	35V 33U	1	
C923,24	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C925,26	ECBA1H102KB5	50V 1000P	2	
C927,28	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C931	ECA1CKN100B	16V 10P	1	
CN601	RJU057W012	CONNECTOR (12P)	1	K1KB12B00033
CN602	RJU057W008	CONNECTOR (8P)	1	K1KB08B00034
CN701-13	RJS1A1101T1	CONNECTOR (1P)	13	
CN781	RJS10T5ZA	CONNECTOR (10P)	1	K1MP10A00007
CP101	RJT100W11	CONNECTOR (11P)	1	K1KA11A00093
CP601	RJT057W012-1	CONNECTOR (12P)	1	K1KA12A00160
CP602	RJT057W008-1	CONNECTOR (8P)	1	K1KA08A00187
D151	MA4051M	DIODE	1	MAZ40510M
D306	SELS5223C	LED	1	B3AAA0000486
D500	MA165	DIODE	1	MA2C165
D551,52	MA165	DIODE	2	MA2C165
D555	MA4100M	DIODE	1	MAZ41000MF
D558	MA165	DIODE	1	MA2C165
D601,02	SB360L6508	DIODE	2	B0JAPG000014
D607	1SS291TA	DIODE	1	
D611	MA4051M	DIODE	1	MAZ40510M
D657-59	MA165	DIODE	3	MA2C165
D671,72	MA4140M	DIODE	2	MAZ41400M
D673	MA4180L	DIODE	1	MAZ41800L
D701-04	1N5402BF	DIODE	4	
D705	RL1N4003N02	DIODE	1	B0AAMM000009
D711	RL1N4003N02	DIODE	1	B0AAMM000009
D717-20	RL1N4003N02	DIODE	4	B0AAMM000009
D721	MA4300M	DIODE	1	MAZ43000M
D723	MA4150-M	DIODE	1	MAZ41500M
D725	MA4082LTA	DIODE	1	MAZ40820LF
D730	MA4091H	DIODE	1	MAZ40910H
D737	MA4082LTA	DIODE	1	MAZ40820LF
D738-40	MA165	DIODE	3	MA2C165
D741-44	RL1N4003N02	DIODE	4	B0AAMM000009
D745	MA4051M	DIODE	1	MAZ40510M
D746	RL1N4003N02	DIODE	1	B0AAMM000009
D747	MA4068L	DIODE	1	MAZ40680L
D751,52	1N5402BF	DIODE	2	
D753-55	RL1N4003N02	DIODE	3	B0AAMM000009
D756,57	MA700	DIODE	2	MA2C700
D758	MA165	DIODE	1	MA2C165
D761	RL1N4003N02	DIODE	1	B0AAMM000009
D901,02	1SS291TA	DIODE	2	
D904	MA165	DIODE	1	MA2C165
D905	1SS291TA	DIODE	1	
D906,07	MA165	DIODE	2	MA2C165
D933	MA165	DIODE	1	MA2C165
D951	LNJ301MPUJAD	LED	1	
D954	SELS5923C	LED	1	B3ADA0000083
D961	MA4075M	DIODE	1	MAZ40750M
D973	MA4030M	DIODE	1	MAZ40300M
D974	MA165	DIODE	1	MA2C165

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
F1	XBA2C20TB0	FUSE, T2A	1	△ K5D202BL0004
FL901	A2BB00000084	FL DISPLAY	1	
FP791,92	K5G402AA0002	FUSE PROTECTOR	2	△
IC151	C1BB00000527	IC	1	
IC601	RSN309W44B	IC	1	
IC901	C2BBFD000317	IC	1	
JK601	RJR0054G	JACK, SP	1	K4BC04B00018
JK603	K2HA103B0015	JACK, SPEAKERS	1	
JK701	SJS9236-1	JACK, AC INLET	1	△ K2AA2B000002
JK903	RJJ37TN02-C	JACK, HEADPHONES	1	K2HC103A0009
L151,52	ELEXT101KA9	COIL	2	
L153	RLQA1R0JT1-Y	COIL	1	G0C1R0JA0019
L601,02	RLQYR73MW1-0	COIL	2	G0ZZ00001606
L605,06	RLQYR73MW1-0	COIL	2	G0ZZ00001606
L701	RLQZ371	COIL	1	△ ELF15N035AN
L901	RLQA100JT1-Y	COIL	1	G0C100JA0019
L902	RLQA1R0JT1-Y	COIL	1	G0C1R0JA0019
P1	RPG5863	PACKING CASE	1	(EG)
P1	RPG5865	PACKING CASE	1	(EP)
P2	RPQ0951	PAD (SYSTEM)	1	
P3	RPG4396	PACKING CASE (SA)	1	
P3	RPG4397	PACKING CASE (RS)	1	
P3	RPG4398	PACKING CASE (SH)	1	
P3	RPG4399	PACKING CASE (SL)	1	
P4	RPN1194	PAD (SA)	1	
P4	RPN1195-2	PAD (RS)	1	
P4	RPN1196	PAD (SH)	1	
P4	RPN1197	PAD (SL)	1	
P5	RPF0139-1	PROTECTION BAG	1	
P6	SPP740-1	SHEET	4	
PCB1	REP3337B-M	PCB ASS'Y	1	[RTL]
PCB2	REP3338C-S	PCB ASS'Y	1	[RTL]
Q503	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q551	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q554	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q555	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q601,02	2SC5398RSTA	TRANSISTOR	2	B1AACF000059
Q607-10	2SD2144S	TRANSISTOR	4	B1AAGC000006
Q612	UN411FTA	TRANSISTOR	1	UNR411F00A
Q671,72	2SD1859QRTV2	TRANSISTOR	2	B1BAAJ000003
Q673	2SB1417PQTA	TRANSISTOR	1	2SB14170JA
Q701	2SD2374PQAU	TRANSISTOR	1	2SD23740J1AU
Q702	2SB1548PQAU	TRANSISTOR	1	2SB15480J1AU
Q705	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q707	2SB1417PQTA	TRANSISTOR	1	2SB14170JA
Q708	UN4211	TRANSISTOR	1	UNR4211
Q709	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q710	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q711	2SB1548PQAU	TRANSISTOR	1	2SB15480J1AU
Q723	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q725	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q726	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q791	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q901	UN4212TA	TRANSISTOR	1	UNR421200A
Q902	UN411FTA	TRANSISTOR	1	UNR411F00A
R151,52	ERDS2FJ102	1/4W 1K	2	
R153,54	ERDS2FJ104	1/4W 100K	2	ERDS2TJ104T
R155	ERDS2FJ121	1/4W 120	1	ERDS2TJ121T
R157,58	ERDS2FJ102	1/4W 1K	2	
R229,30	ERDS2FJ102	1/4W 1K	2	
R509-12	ERDS2FJ470	1/4W 47	4	
R544	ERDS2FJ103	1/4W 10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R548	ERDS2FJ102	1/4W 1K	1	
R551,52	ERDS2FJ683	1/4W 68K	2	ERDS2TJ683T
R553,54	ERDS2TJ392T	1/4W 3.9K	2	
R555	ERDS2FJ152	1/4W 1.5K	1	
R556	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R557	ERDS2FJ103	1/4W 10K	1	
R558	ERDS2FJ102	1/4W 1K	1	
R559	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R561	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R563,64	ERDS2TJ272T	1/4W 2.7K	2	
R570	ERDS2TJ225	1/4W 2.2M	1	
R572	ERDS2FJ153	1/4W 15K	1	ERDS2TJ153T
R591	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R597,98	ERDS2FJ222	1/4W 2.2K	2	ERDS2TJ222T
R601,02	ERDS2FJ222	1/4W 2.2K	2	ERDS2TJ222T
R603,04	ERDS2FJ332	1/4W 3.3K	2	
R605,06	ERDS2FJ472	1/4W 4.7K	2	ERDS2TJ472T
R607,08	ERDS2FJ563	1/4W 56K	2	ERDS2TJ563T
R609,10	ERDS2TJ823T	1/4W 82K	2	
R617,18	ERDS2FJ472	1/4W 4.7K	2	ERDS2TJ472T
R621	ERDS2FJ154	1/4W 150K	1	
R622,23	ERDS2TJ124	1/4W 120K	2	
R624	ERDS2FJ154	1/4W 150K	1	
R627	ERDS2FJ474	1/4W 470K	1	
R628	ERDS2FJ223	1/4W 22K	1	
R635	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R637	ERDS2FJ153	1/4W 15K	1	ERDS2TJ153T
R638	ERDS2FJ683	1/4W 68K	1	ERDS2TJ683T
R639,40	ERDS1FJ100	1/2W 10	2	ERDS1FVJ100T
R641,42	ERDS2FJ100	1/4W 10	2	
R647,48	ERDS2FJ2R2	1/4W 2.2	2	ERDS2FVJ2R2T
R649-52	ERDS1FJ100	1/2W 10	4	ERDS1FVJ100T
R671,72	ERDS2TJ272T	1/4W 2.7K	2	
R673	ERDS2FJ331	1/4W 330	1	
R674	ERDS2TKF5362	1/2W 53.6K	1	ERDS2TKF5362
R675	ERDS2TKG5622	1/2W 56.2K	1	ERDS2TKG5622
R685,86	ERDS2FJ102	1/4W 1K	2	
R687,88	ERDS2FJ561	1/4W 560	2	
R692,93	ERDS2FJ102	1/4W 1K	2	
R694	ERDS2FJ223	1/4W 22K	1	
R695	ERDS2FJ471	1/4W 470	1	
R696	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R708	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R712	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R719	ERDS2FJ332	1/4W 3.3K	1	
R720	ERDS2TJ392T	1/4W 3.9K	1	
R721	ERD2FCJ4R7	1/4W 4.7	1	ERD2FCVJ4R7T
R722	ERQ16NKG2R2E	1/6W 2.2	1	
R723	ERDS2FJ562	1/4W 5.6K	1	
R724	ERDS2TJ392T	1/4W 3.9K	1	
R725	ERDS2FJ100	1/4W 10	1	
R727	ERDS2TJ392T	1/4W 3.9K	1	
R729	ERDS2FJ221	1/4W 220	1	
R738	ERDS2TJ392T	1/4W 3.9K	1	
R739	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R749	ERDS2FJ102	1/4W 1K	1	
R763	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R764	ERDS2FJ331	1/4W 330	1	
R765	ERDS1FJ221	1/2W 220	1	ERDS1FVJ221T
R767	ERD2FCJ4R7	1/4W 4.7	1	ERD2FCVJ4R7T
R768	ERDS2FJ101	1/4W 100	1	
R769	ERD25V0R00T	1/4W 0	1	
R771	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R772	ERDS2FJ223	1/4W 22K	1	
R773,74	ERDS1FJ180	1/2W 18	2	
R776	ERDS2FJ103	1/4W 10K	1	
R777	ERDS2FJ102	1/4W 1K	1	
R793	ERDS2TJ1R0	1/4W 1.0	1	
R794	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R795	ERDS2TJ392T	1/4W 3.9K	1	
R797	ERDS2T0T	1/4W 0	1	
R798	ERQ16NKG2R2E	1/6W 2.2	1	
R901	ERDS2FJ821	1/4W 820	1	ERDS2TJ821T

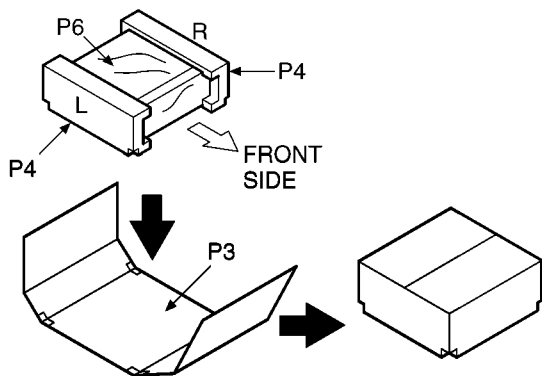
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R902	ERDS2FJ102	1/4W 1K	1	
R903	ERDS2FJ122	1/4W 1.2K	1	ERDS2TJ122T
R904	ERDS2FJ152	1/4W 1.5K	1	
R905	ERDS2FJ182	1/4W 1.8K	1	
R906	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R907	ERDS2FJ332	1/4W 3.3K	1	
R909	ERDS2FJ182	1/4W 1.8K	1	
R910	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R911	ERDS2FJ332	1/4W 3.3K	1	
R912	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R913	ERDS2FJ821	1/4W 820	1	ERDS2TJ821T
R914	ERDS2FJ102	1/4W 1K	1	
R915	ERDS2FJ122	1/4W 1.2K	1	ERDS2TJ122T
R916	ERDS2FJ152	1/4W 1.5K	1	
R918	ERDS2FJ103	1/4W 10K	1	
R919	ERDS2FJ153	1/4W 15K	1	ERDS2TJ153T
R921,22	ERDS2FJ103	1/4W 10K	2	
R924,25	ERDS2FJ102	1/4W 1K	2	
R926	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R928	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R929-32	ERDS2FJ102	1/4W 1K	4	
R934-36	ERDS2FJ101	1/4W 100	3	
R937	ERDS2FJ103	1/4W 10K	1	
R939	ERDS2FJ152	1/4W 1.5K	1	
R941	ERDS2FJ102	1/4W 1K	1	
R942	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R943	ERDS2FJ101	1/4W 100	1	
R944	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R945	ERDS2FJ101	1/4W 100	1	
R946	ERDS2FJ102	1/4W 1K	1	
R949	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R950	ERDS2FJ101	1/4W 100	1	
R951	ERDS2FJ334	1/4W 330K	1	ERDS2TJ334T
R952	ERDS2TJ106T	1/4W 10M	1	
R953	ERDS2FJ101	1/4W 100	1	
R954	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R956-58	ERDS2FJ102	1/4W 1K	3	
R959	ERDS2FJ470	1/4W 47	1	
R960	ERDS2FJ152	1/4W 1.5K	1	
R961,62	ERDS2FJ223	1/4W 22K	2	
R965,66	ERDS2TJ392T	1/4W 3.9K	2	
R969	ERDS2TJ272T	1/4W 2.7K	1	
R974	ERDS2FJ102	1/4W 1K	1	
R975	ERDS2FJ223	1/4W 22K	1	
R976	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R986	ERDS2FJ152	1/4W 1.5K	1	
R987,88	ERDS2FJ102	1/4W 1K	2	
R990	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R991	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R993,94	ERDS2FJ104	1/4W 100K	2	ERDS2TJ104T
R995	ERDS2FJ221	1/4W 220	1	
R996,97	ERDS2FJ151	1/4W 150	2	ERDS2TJ151T
R999	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
RL702	RSY0040M-0	RELAY	1	△
S901-08	EVQ11G05R	SW, OPERATION	8	
S910-15	EVQ11G05R	SW, OPERATION	6	
T701	RTP2N5B012	POWER TRANSFORMER	1	△ ETP76VST71SA
T702	RTP1H3E001	POWER TRANSFORMER	1	△ ETP28KBZ21BG
VR901	EVQVBXFK124B	V.R., VOLUME	1	
X151	RSXC4M33S02T	OSCILLATOR	1	H0H433400001
X901	EF0EC6004T4	OSCILLATOR	1	EF0EC6004T4
X902	RSXD32K7S02	OSCILLATOR	1	H0A327200027
Z120	RAN0005EM-2	TUNER PACK	1	
Z701	ENC471D5A	ZNR	1	△ J0LG00000008
Z901	B3RAD0000028	REMOTE SENSOR	1	

16 Cabinet Parts Location

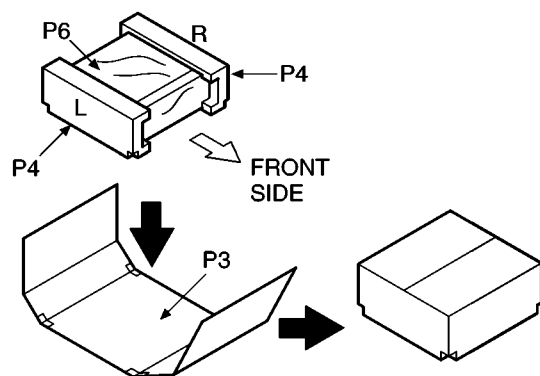


17 Packaging

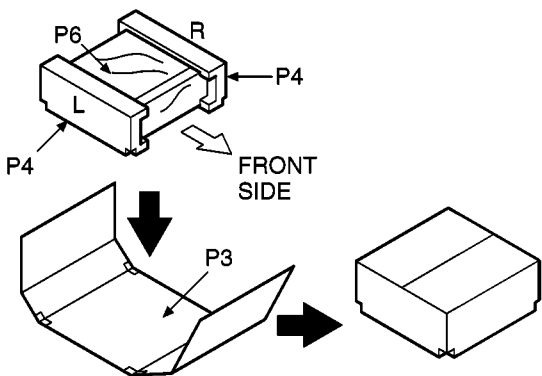
Sound Processor: SH-EH680



CD Player : SL-EH680



Cassette deck : RS-DV280



Tuner/Amplifier : SA-EH680

