

SERVICE MANUAL

MODEL	JP	E3	E2	EK	EA	E1	E1K	E1C
DRA-F109			✓					
DRA-F109DAB				✓				

STEREO RECEIVER

• For purposes of improvement, specifications and design are subject to change without notice.

• Please use this service manual with referring to the operating instructions without fail.

• Some illustrations using in this service manual are slightly different from the actual set.

DENON

D&M Holdings Inc.

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ABOUT THIS MANUAL

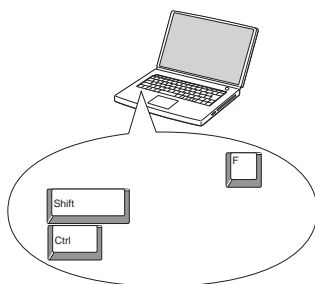
Read the following information before using the service manual.

What you can do with this manual

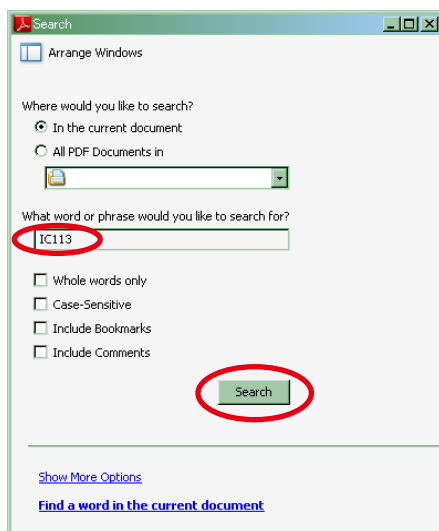
Search for a Ref. No. (phrase) (Ctrl+Shift+F)

You can use the search function in Acrobat Reader to search for a Ref. No. in schematic diagrams, printed wiring board diagrams, block diagrams, and parts lists.

1. Press **Ctrl+Shift+F** on the keyboard.
 - The Search window appears.



2. Enter the Ref. No. you want to search for in the Search window, and then click the **Search** button.
 - A list of search results appears.

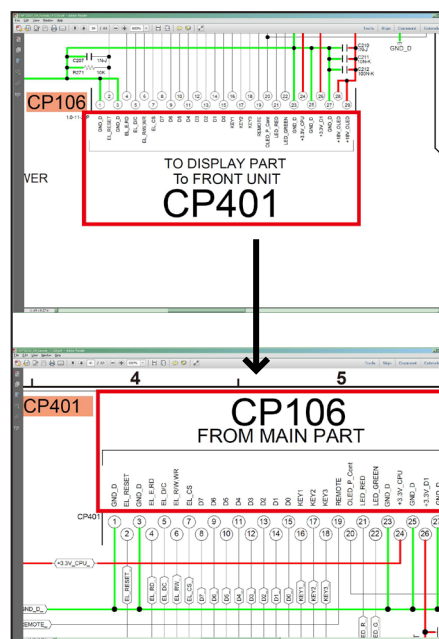


3. Click an item on the list.
 - The screen jumps to the page for that item, and the search phrase is displayed.

Jump to the target of a schematic diagram connector

Click the Ref. No. of the target connector in the red box around a schematic diagram connector.

- The screen jumps to the target connector.



- Page magnification stays the same as before the jump.

Using Adobe Reader (Windows version)

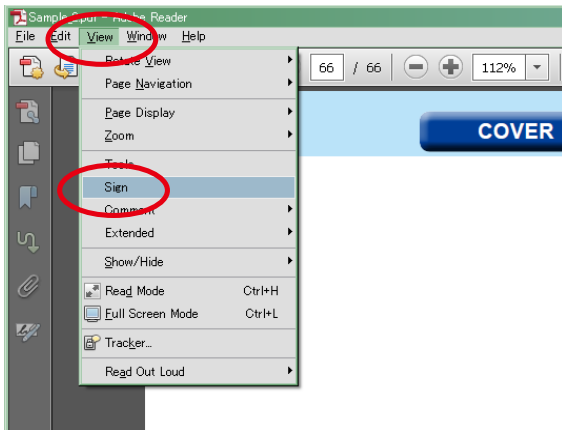
Add notes to this data (Sign)

The Sign function lets you add notes to the data in this manual.
Save the file once you have finished adding notes.

[Example using Adobe Reader X]

On the "View" menu, click "Sign".

- The Sign pane appears.



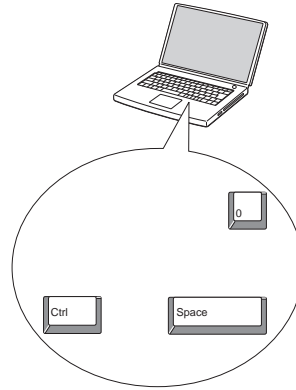
[Example using Adobe Reader 9]

On the "Document" menu, click "Sign".

Magnify schematic / printed wiring board diagrams - 1 (Ctrl+Space, mouse operation)

Press **Ctrl+Space** on the keyboard and drag the mouse to select the area you want to view.

- The selected area is magnified.



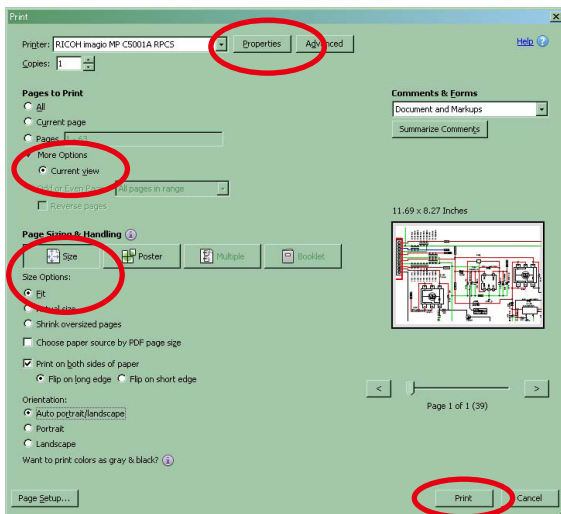
- When you want to move the area shown, hold down **Space** and drag the mouse.

- When you want to show a full page view, press **Ctrl+0** on the keyboard.

Print a magnified part of the manual

The Properties dialog box and functions will vary depending on your printer.

1. Drag the mouse to magnify the part you want to print.
2. On the "File" menu, click "Print".
3. Configure the following settings in the Print dialog box.



4. Click the **Print** button to start printing.

• Properties

Click this button and check that the printer is set to a suitable paper size.

• Page to print

Select the following checkbox.

"More Options" : "Current View"

• Page Sizing & Handling

Select the following checkbox.

"Size" / "Size Options" : "Fit"

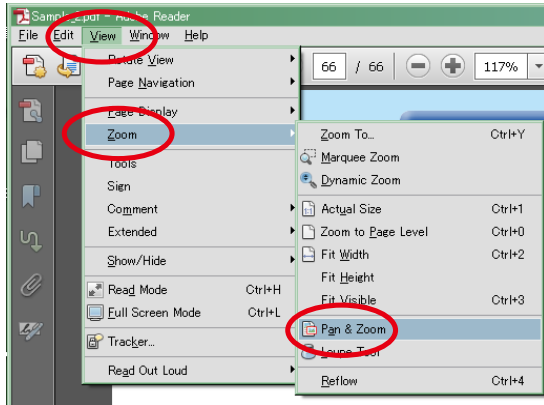
Magnify schematic / printed wiring board diagrams - 2

(Pan & Zoom function)

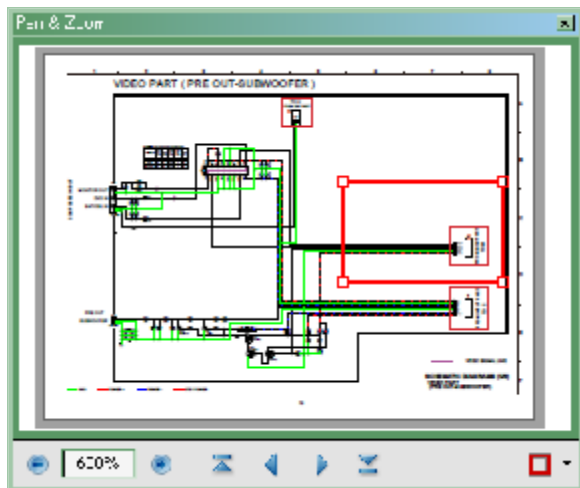
The Pan & Zoom function lets you see which part of a magnified diagram is being shown in a separate window.

[Example using Adobe Reader X]

On the "View" menu, point to "Zoom", and then click "Pan & Zoom".



- The Pan & Zoom window appears on the screen.



[Example using Adobe Reader 9]

On the "Tools" menu, point to "Select & Zoom", and then click "Pan & Zoom Window".

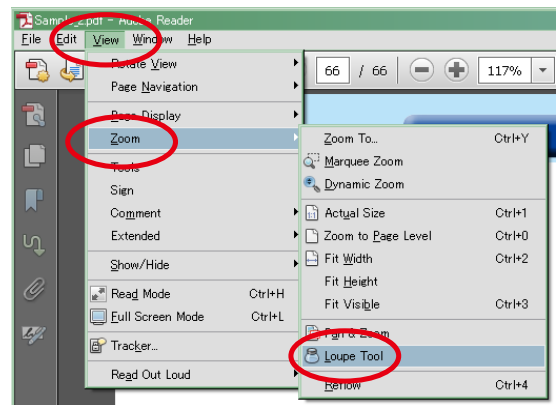
Magnify schematic / printed wiring board diagrams - 3

(Loupe Tool function)

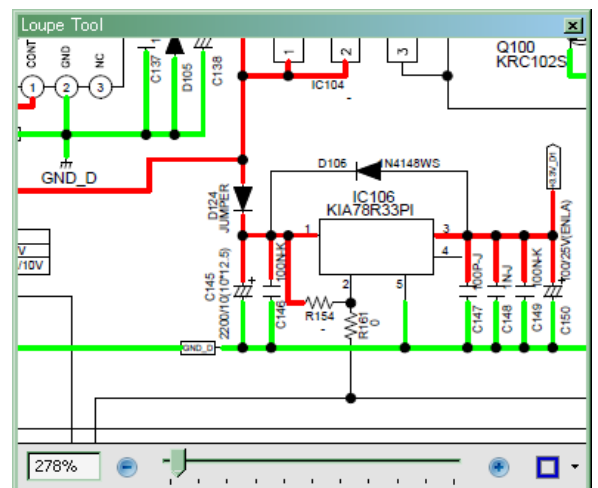
The Loupe Tool function lets you magnify a specific part of a diagram in a separate window.

[Example using Adobe Reader X]

On the "View" menu, point to "Zoom", and then click "Loupe Tool".



- The Loupe Tool window appears on the screen.



[Example using Adobe Reader 9]

On the "Tools" menu, point to "Select & Zoom", and then click "Loupe Tool Window".

SAFETY PRECAUTIONS

The following items should be checked for continued protection of the customer and the service technician.

LEAKAGE CURRENT CHECK

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.

Be sure to test for leakage current with the AC plug in both polarities, in addition, when the set's power is in each state (on, off and standby mode), if applicable.

CAUTION Please heed the following cautions and instructions during servicing and inspection.

⊙ Heed the cautions!

Cautions which are delicate in particular for servicing are labeled on the cabinets, the parts and the chassis, etc. Be sure to heed these cautions and the cautions described in the handling instructions.

⊙ Cautions concerning electric shock!

- (1) An AC voltage is impressed on this set, so if you touch internal metal parts when the set is energized, you may get an electric shock. Avoid getting an electric shock, by using an isolating transformer and wearing gloves when servicing while the set is energized, or by unplugging the power cord when replacing parts, for example.
- (2) There are high voltage parts inside. Handle with extra care when the set is energized.

⊙ Caution concerning disassembly and assembly!

Through great care is taken when parts were manufactured from sheet metal, there may be burrs on the edges of parts. The burrs could cause injury if fingers are moved across them in some rare cases. Wear gloves to protect your hands.

⊙ Use only designated parts!

The set's parts have specific safety properties (fire resistance, voltage resistance, etc.). Be sure to use parts which have the same properties for replacement. The burrs have the same properties. In particular, for the important safety parts that are indicated by the \triangle mark on schematic diagrams and parts lists, be sure to use the designated parts.

⊙ Be sure to mount parts and arrange the wires as they were originally placed!

For safety reasons, some parts use tapes, tubes or other insulating materials, and some parts are mounted away from the surface of printed circuit boards. Care is also taken with the positions of the wires by arranging them and using clamps to keep them away from heating and high voltage parts, so be sure to set everything back as it was originally placed.

⊙ Make a safety check after servicing!

Check that all screws, parts and wires removed or disconnected when servicing have been put back in their original positions, check that no serviced parts have deteriorate the area around. Then make an insulation check on the external metal connectors and between the blades of the power plug, and otherwise check that safety is ensured.

(Insulation check procedure)

Unplug the power cord from the power outlet, disconnect the antenna, plugs, etc., and on the power. Using a 500V insulation resistance tester, check that the insulation resistance value between the inplug and the externally exposed metal parts (antenna terminal, headphones terminal, input terminal, etc.) is 1M Ω or greater. If it is less, the set must be inspected and repaired.

CAUTION Concerning important safety parts

Many of the electric and the structural parts used in the set have special safety properties. In most cases these properties are difficult to distinguish by sight, and the use of replacement parts with higher ratings (rated power and withstand voltage) does not necessarily guarantee that safety performance will be preserved. Parts with safety properties are indicated as shown below on the wiring diagrams and the parts list in this service manual. Be sure to replace them with the parts which have the designated part number.

- (1) Schematic diagrams.....Indicated by the \triangle mark.
- (2) Parts lists.....Indicated by the \triangle mark.

The use of parts other than the designated parts could cause electric shocks, fires or other dangerous situations.

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

Parts indicated by the \triangle mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.

WARNING:

DO NOT return the set to the customer unless the problem is identified and remedied.

NOTICE:

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM / M=1,000,000 OHM

ALL CAPACITANCE VALUES ARE EXPRESSED IN MICRO FARAD, UNLESS OTHERWISE INDICATED. P INDICATES MICRO-MICRO FARAD. EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION. CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

NOTE FOR PARTS LIST

1. Parts indicated by "nsp" on this table cannot be supplied.
2. When ordering a part, make a clear distinction between "1" and "I" (i) to avoid mis-supplying.
3. A part ordered without specifying its part number can not be supplied.
4. Part indicated by "★" mark is not illustrated in the exploded view.
5. General-purpose Carbon Film Resistor in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)
6. General-purpose Carbon Chip Resistors are not included are not included in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING: Parts indicated by the \triangle mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

TECHNICAL SPECIFICATIONS

Receiver section

Rated output : 2-channel driving
65 W + 65 W (4 Ω, 1 kHz, T.H.D. 0.7 %)
Dynamic power : 80 W + 80 W (4 Ω)
High frequency distortion : 0.1 % (Rated output: -3 dB), 4 Ω, 1 kHz
Output terminals : Speaker 4 - 16 Ω
Suited for headphones/stereo headphones
Input sensitivity : 200 mV / 47 kΩ
Reception frequency range : FM : 87.50 MHz - 108.00 MHz
DAB : BAND III 170 MHz - 240 MHz
Reception sensitivity : FM : 1.2 μV / 75 Ω
DAB : -93 dBm / 50 Ω
FM channel separation : 30 dB (1 kHz)
FM S/N ratio : Monaural : 74 dB Stereo : 70 dB
FM harmonic distortion : Monaural : 0.3 % Stereo : 0.4 %
Tone control : SDB : 100 Hz + 8 dB
BASS : 100 Hz ± 10 dB
TREBLE : 10 kHz ± 10 dB
Frequency response : 10 Hz - 40 kHz (+0.5 dB, -3 dB)
(SOURCE DIRECT : ON)

Clock/Timer section

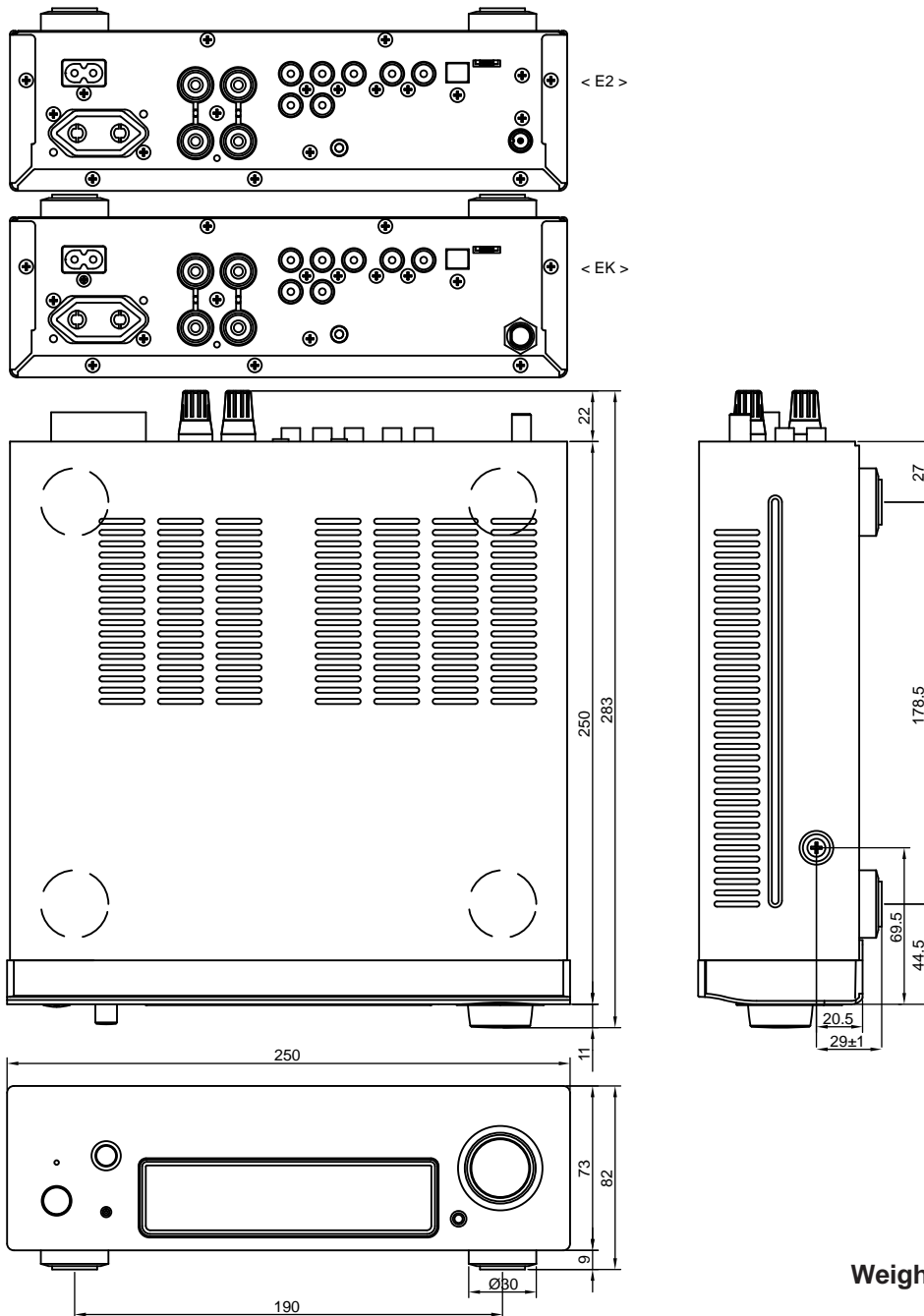
Clock type : Power line frequency synchronized method
(Within ±60 seconds per month)
Timer : Everyday alarm / Once alarm : One system each
Sleep timer : Max. 90 minutes

General

Power supply : AC 230 V, 50/60 Hz
Power consumption : 48 W
0.3 W (Standby)

* For purposes of improvement, specifications and design are subject to change without notice.

DIMENSION

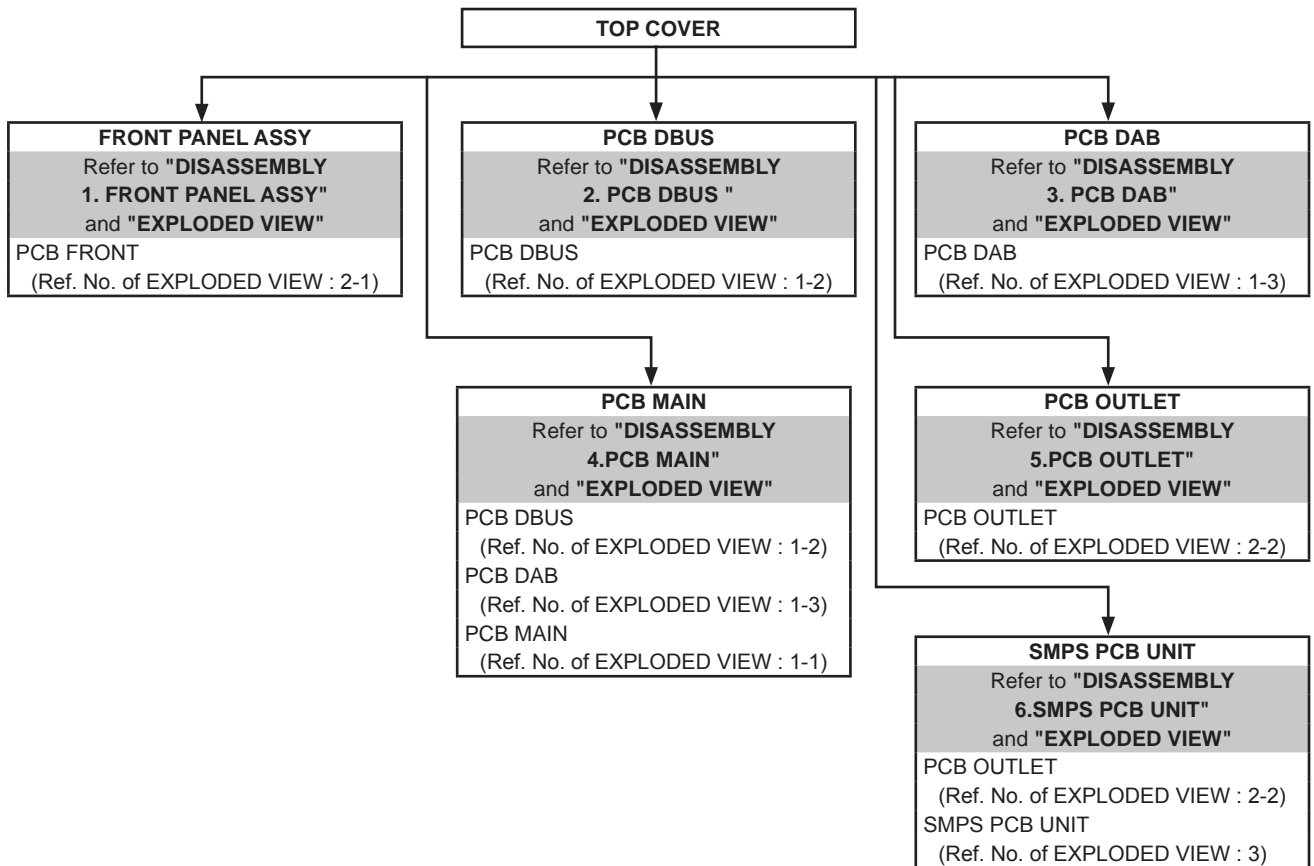


Weight : 2.6kg



DISASSEMBLY

- Disassemble in order of the arrow in the following figure.
- In the case of the re-assembling, assemble it in order of the reverse of the following flow.
- In the case of the re-assembling, observe "attention of assembling".
- If wire bundles are untied or moved to perform adjustment or replace parts etc., be sure to rearrange them neatly as they were originally bundled or placed afterward.
Otherwise, incorrect arrangement can be a cause of noise generation.

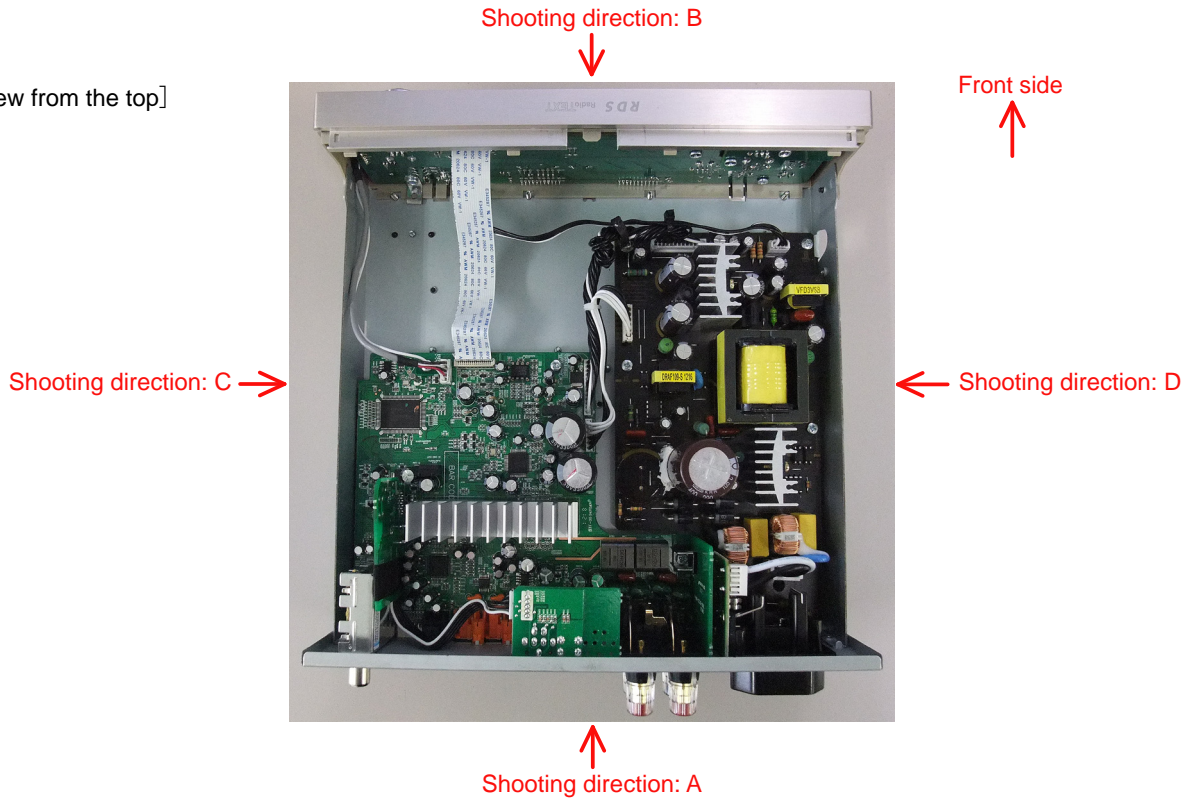


About the photos used for "descriptions of the DISASSEMBLY" section

- The shooting direction of each photograph used herein is indicated on the left side of the respective photograph as "Shooting direction: ****".
- Refer to the diagram below about the shooting direction of each photograph.
- Photographs with no shooting direction indicated were taken from the top of the set.

The viewpoint of each photograph (Shooting direction)

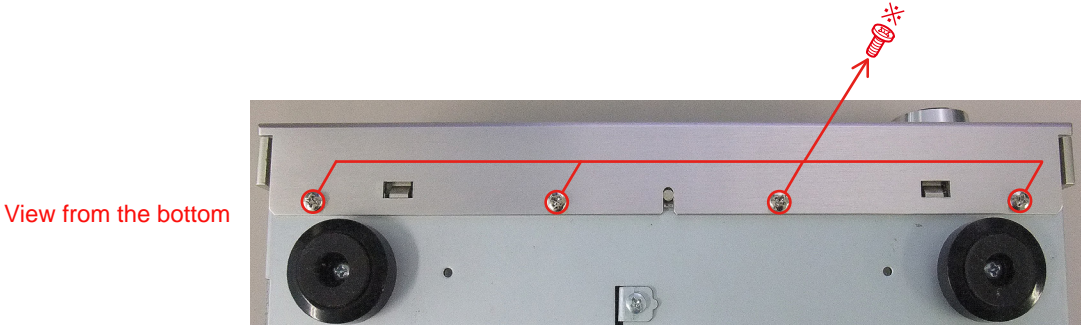
[View from the top]



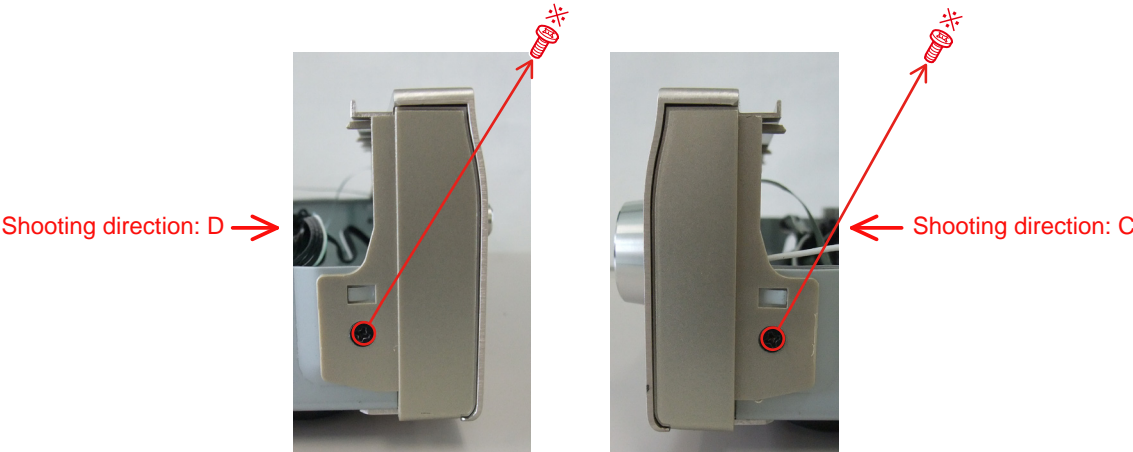
1. FRONT PANEL ASSY

Proceeding : **TOP COVER** → **FRONT PANEL ASSY**

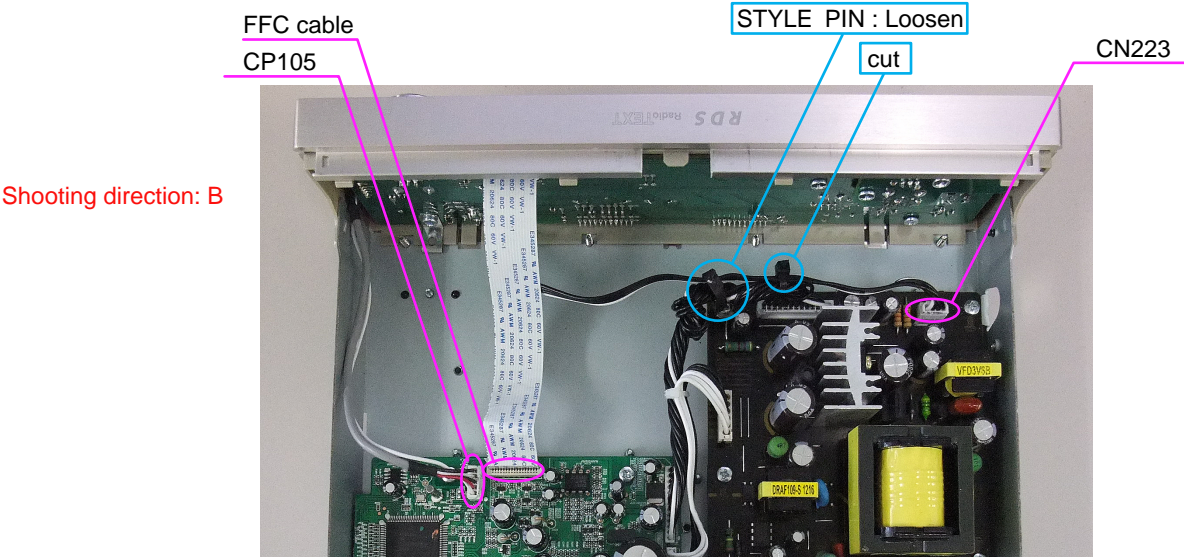
(1) Remove the screws.



(2) Remove the screws.



(3) Cut the wire clamp band, then disconnect the connector wire and FFC cable.



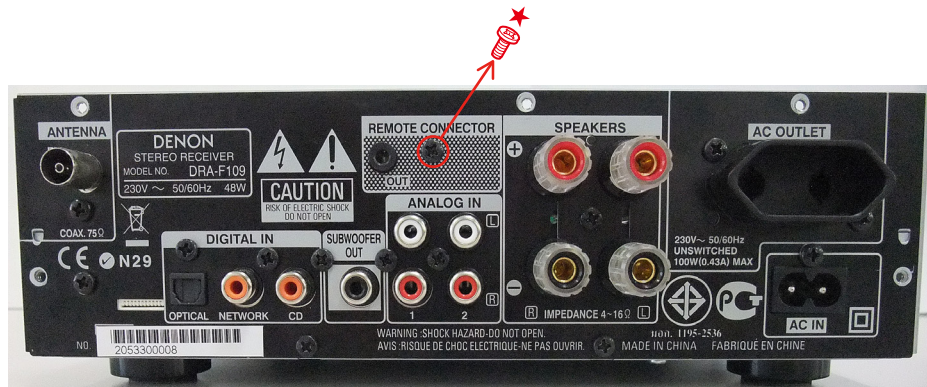
Please refer to "EXPLODED VIEW" for the disassembly method of each P.C.B included in FRONT PANEL ASSY.

2. PCB DBUS

Proceeding : **TOP COVER** → **PCB DBUS**

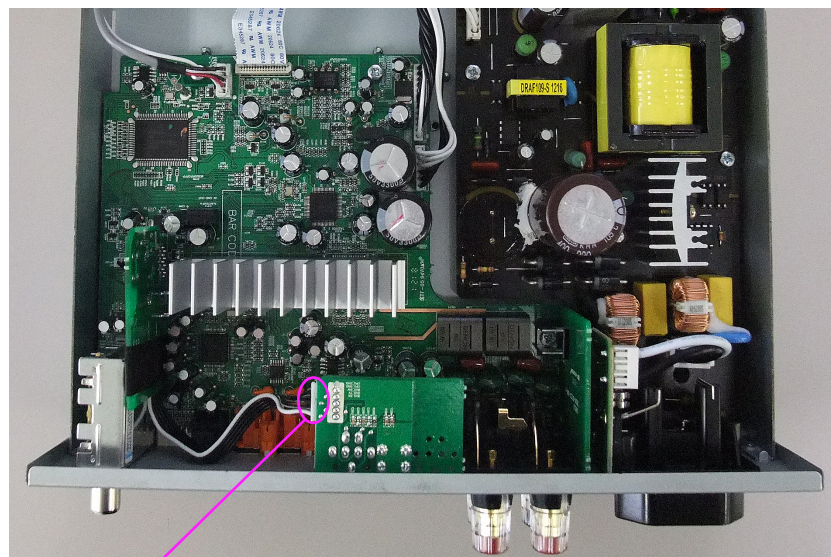
- (1) Remove the screw.

Shooting direction: A



- (2) Disconnect the connector wire.

Shooting direction: B



CP104

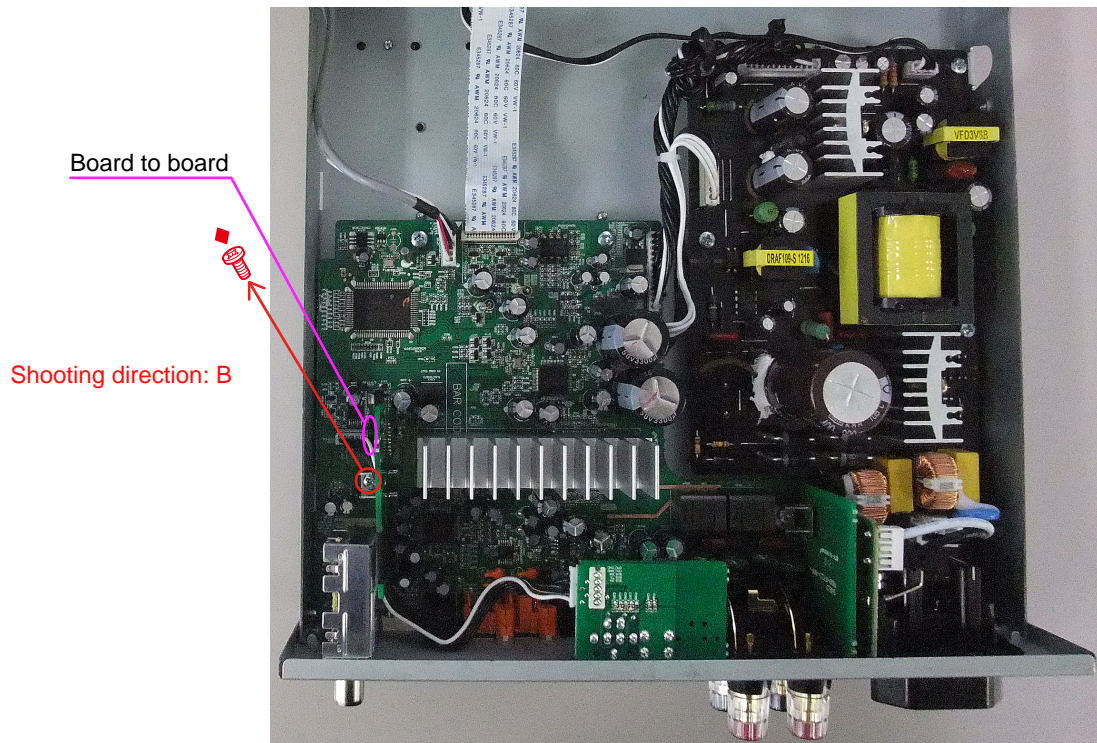
3. PCB DAB

Proceeding : **TOP COVER** → **PCB DAB**

(1) Remove the screws.



(2) Disconnect the connector board, then remove the screw.

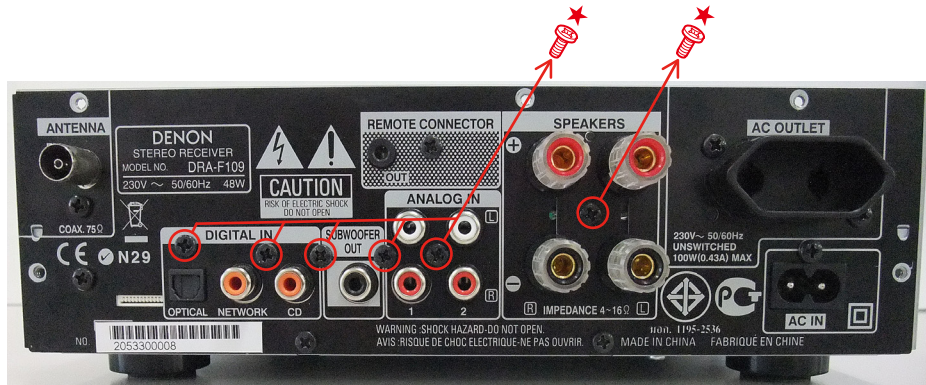


4. PCB MAIN

Proceeding : **TOP COVER** → **PCB DBUS** → **PCB DAB** → **PCB MAIN**

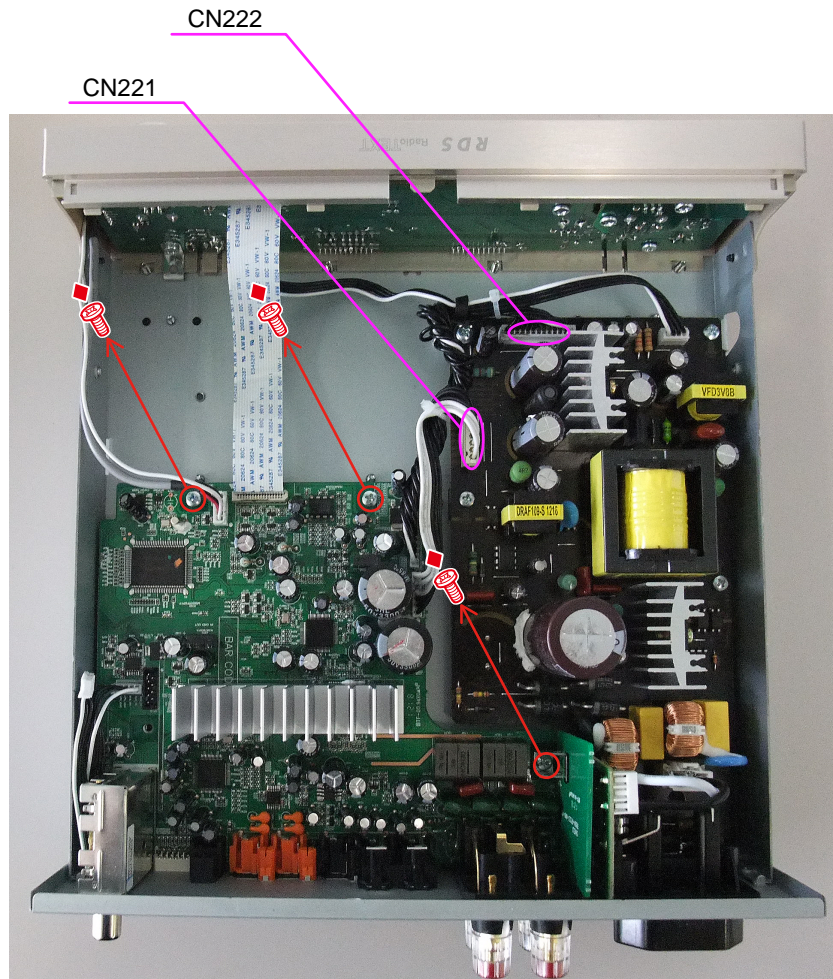
(1) Remove the screws.

Shooting direction: A



(2) Disconnect the connector wire, then remove the screws.

Shooting direction: B



5. PCB OUTLET

Proceeding : **TOP COVER** → **PCB OUTLET**

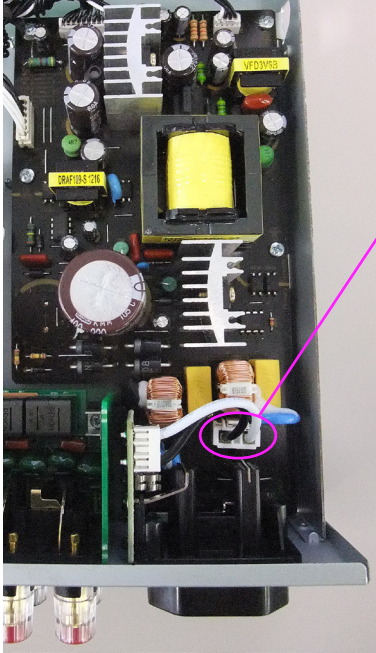
(1) Remove the screws.

Shooting direction: A



(2) Disconnect the connector wire.

Shooting direction: B



CN802

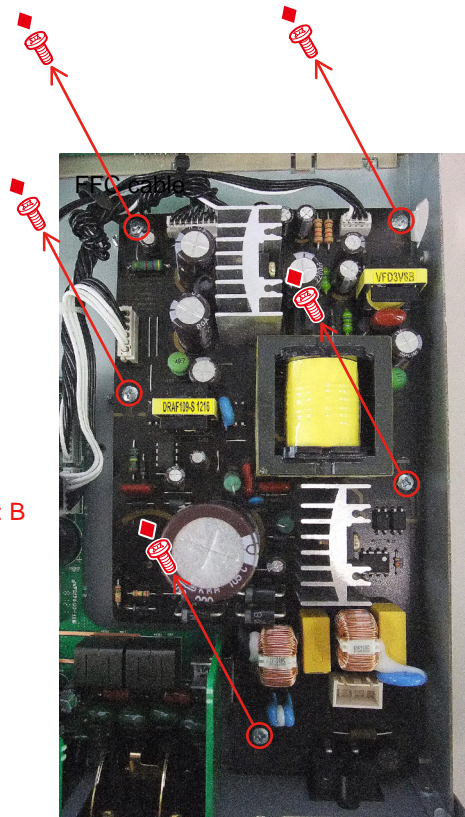


6. SMPS PCB UNIT

Proceeding : **TOP COVER** → **OUTLET PCB** → **SMPS PCB UNIT**

(1) Remove the screws.

Shooting direction: B



SPECIAL MODE

Special mode setting

Plug the AC cord into a power outlet while pressing the Power operation switch (X) and PRESET CALL button.
Turn the SOURCE knob to select the SPECIAL MODE item.

When the item is selected, press the PRESET CALL button.

- To cancel the SPECIAL MODE, unplug the AC cord from the power outlet.
- If an error is detected in the power supply, the mode switches to the PROTECTION history display mode.



Power operation switch (X) PRESET CALL SOURCE

No.	Mode	Contents
1	INITIALIZE	Initializes the u-com.
2	VERSION	Displays the u-com version.
3	VFD CHECK	Checks the display.
4	PRODUCT	Sets the volume level to 42 (-18dB). Receives the DAB service signal.
5	TIMER CHECK	Checks the Sleep Timer and Auto Standby.
6	PROTECTION	Displays the Protection history.
		Clears the Protection history display.

1. INITIALIZE

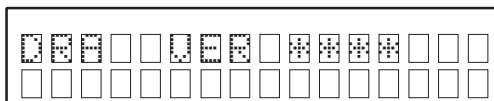
Backup data initialization is carried out. Refer to Initialization Items.
After initialization, move on to normal mode.

Initialization Items (Default setting)

	Default
source	CD/USB
SDB	OFF
BASS	0
TREBLE	0
BALANCE	CENTER
DIMMER	100%
VOLUME	5
TUNER PRESET FREQUENCY	0 (all)
clock	00:00 (blink)
TIMER (EVERYDAY / ONCE)	Timer function : TUNER
	ON : 0:00
	OFF : 0:00
Speaker Optimise	ON
TUNER PRESET FREQUENCY, Band	E2 model : FM 87.50MHz
	EK model : DAB (Auto Scan start)

2. VERSION

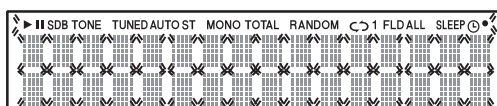
To exit this mode, unplug the power cord.
The version of the μ -com



(**** : Version number of μ -com)

3. VFD CHECK

To exit this mode, unplug the power cord.
The entire segment display repeatedly switches on and off.



4. PRODUCT

To exit this mode, unplug the power cord.
Sets the volume level to 42 (-18dB).

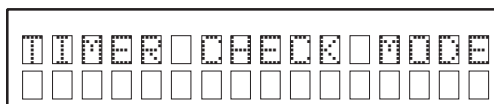
DAB signal

Sets the DAB service signal frequency to 12C (227.360MHz) so that the signal can be received without the use of AUTO SCAN.

The Signal Quality is displayed without needing to press the INFO button on the remote control.

5. TIMER CHECK

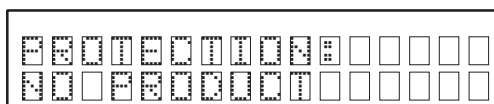
To exit this mode, unplug the power cord.
 Sleep Timer and Auto Standby time settings are set to 4 minutes.



6. PROTECTION

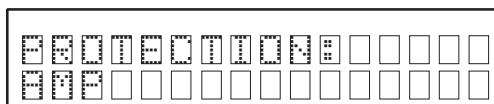
To exit this mode, unplug the power cord.
 The last detected PROTECTION is displayed.

(E.g.) When there is no detected history

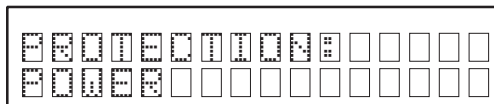


Plug the AC cord into the outlet while pressing the Power operation switch (X) and PRESET CALL button.
 If an error is detected in the power supply, the mode switches to the PROTECTION history display mode.

(E.g.) When an error is detected in the AMP system

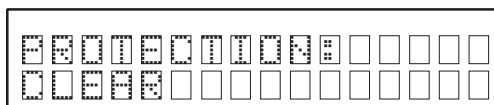


(E.g.) When an error is detected in the power supply system



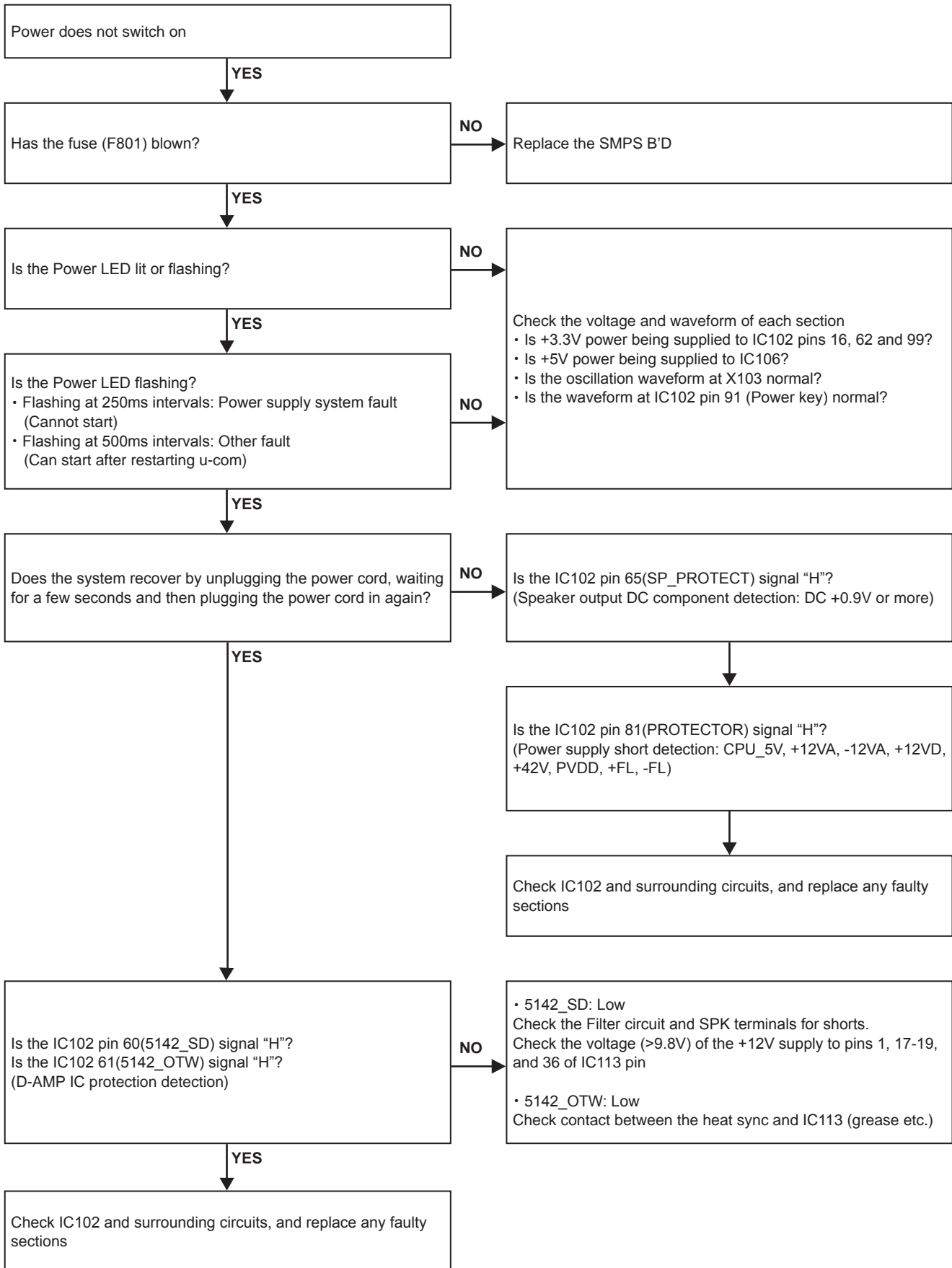
Clear Protection history display

Press the PRESET CALL button for more than 5 seconds when the Protection history is being displayed to clear the Protection history. "NO PROTECT" is then displayed in the screen.
 The Protection history cannot be cleared in the initialized state.



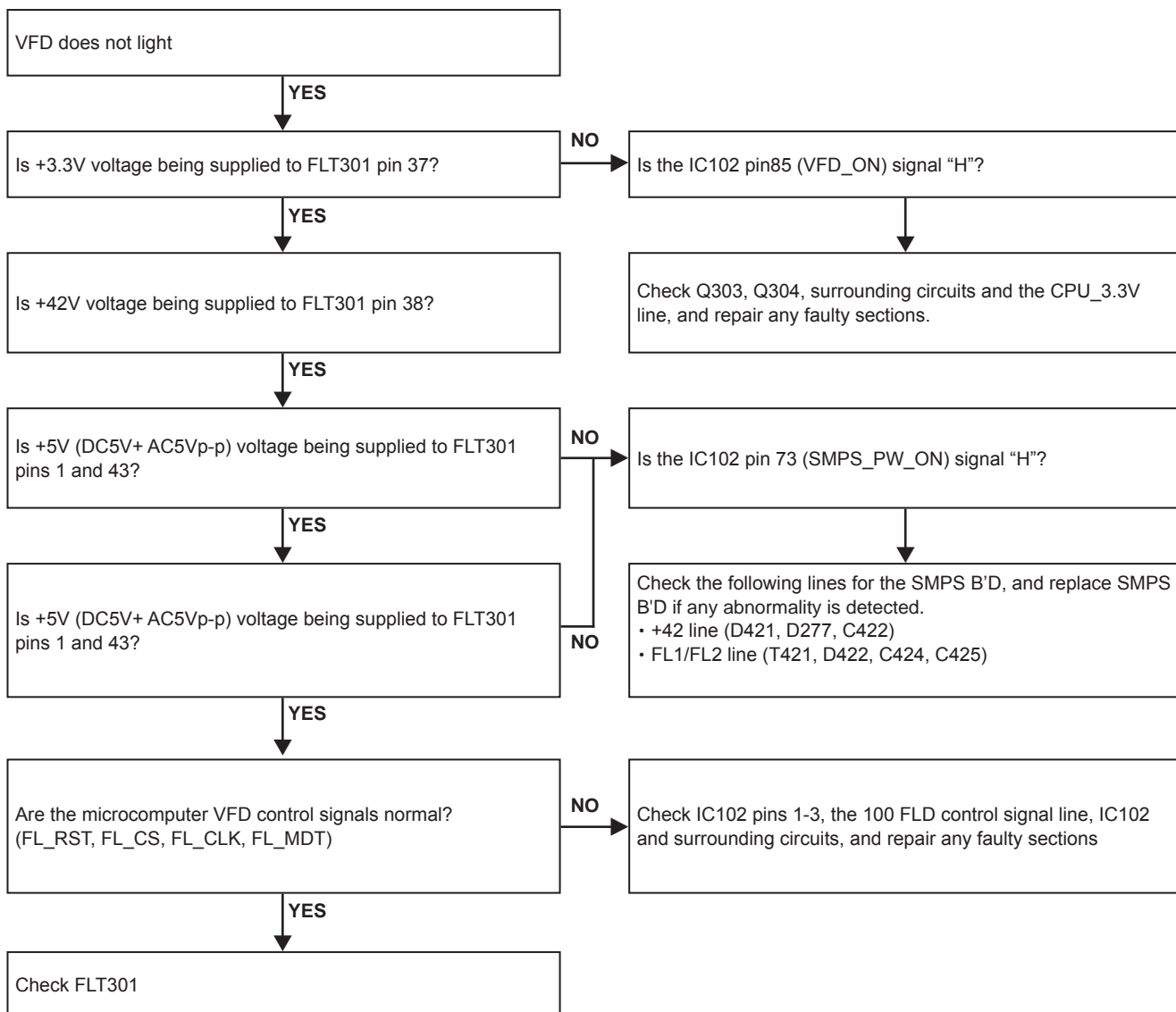
TROUBLE SHOOTING

1. Power Supply

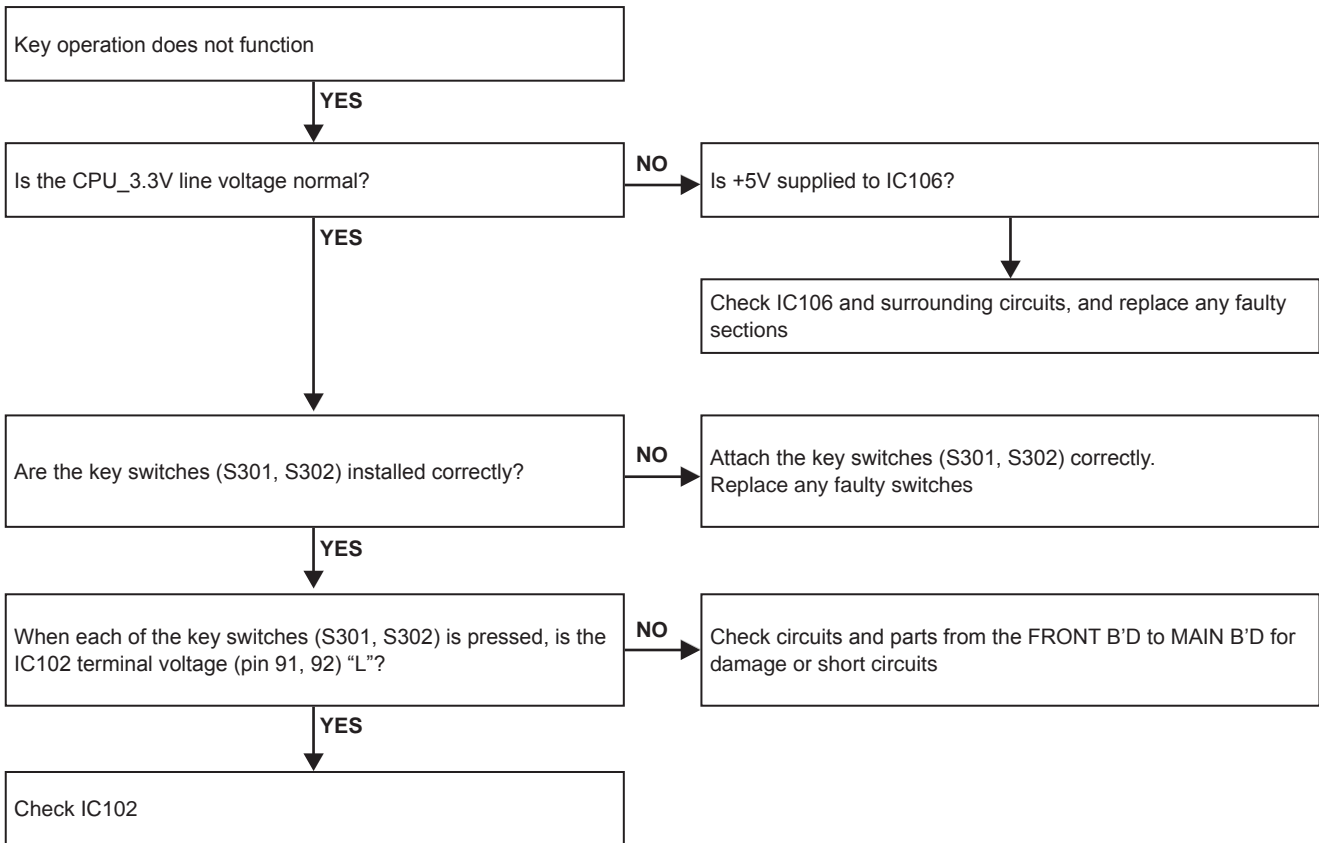


2. Operation System

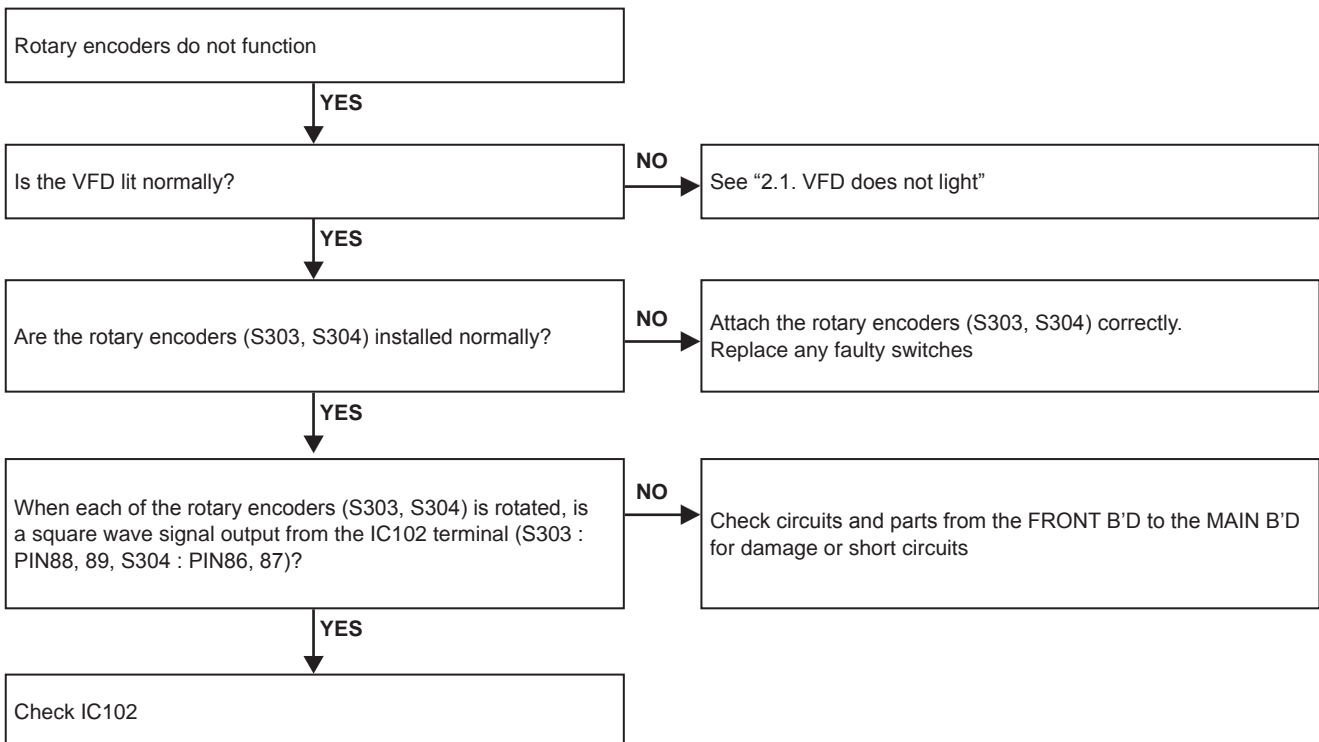
2.1. VFD does not light



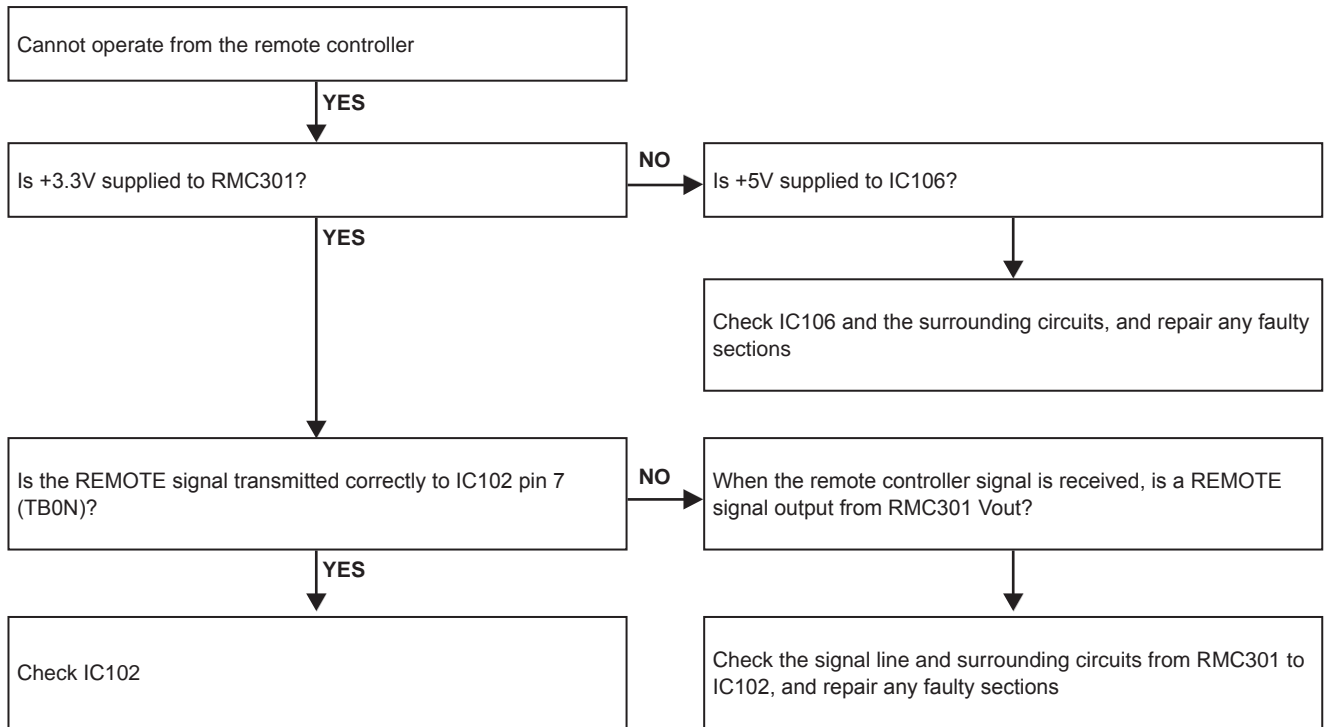
2.2. Key operation does not function



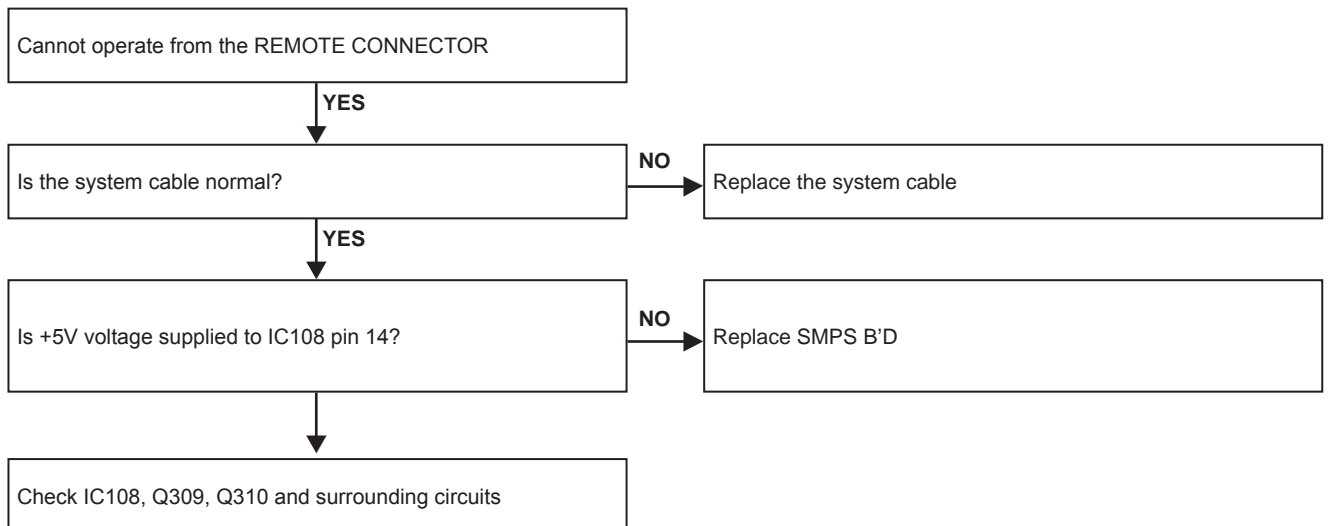
2.3. Rotary encoders do not function



2.4. Cannot operate from the remote controller

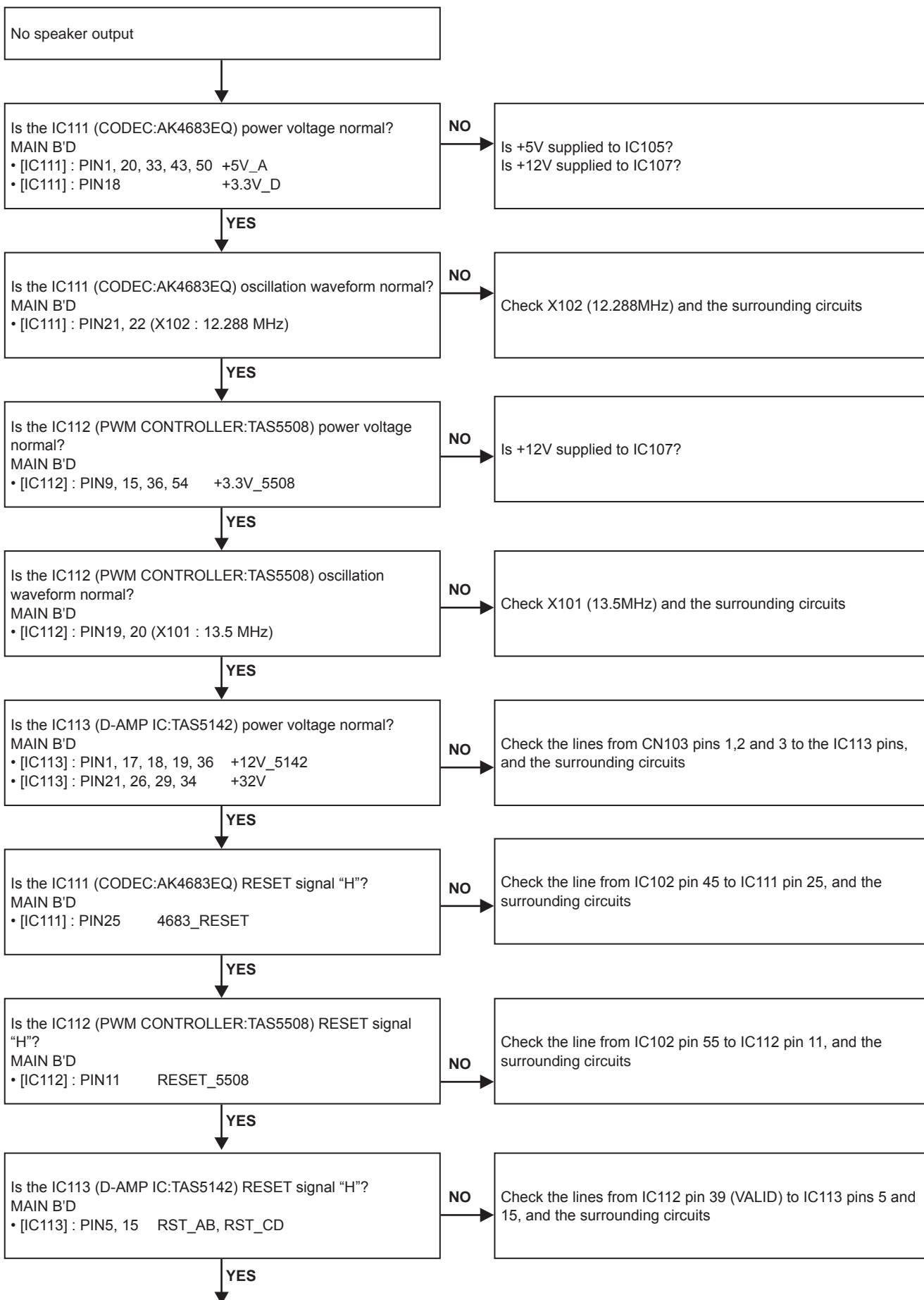


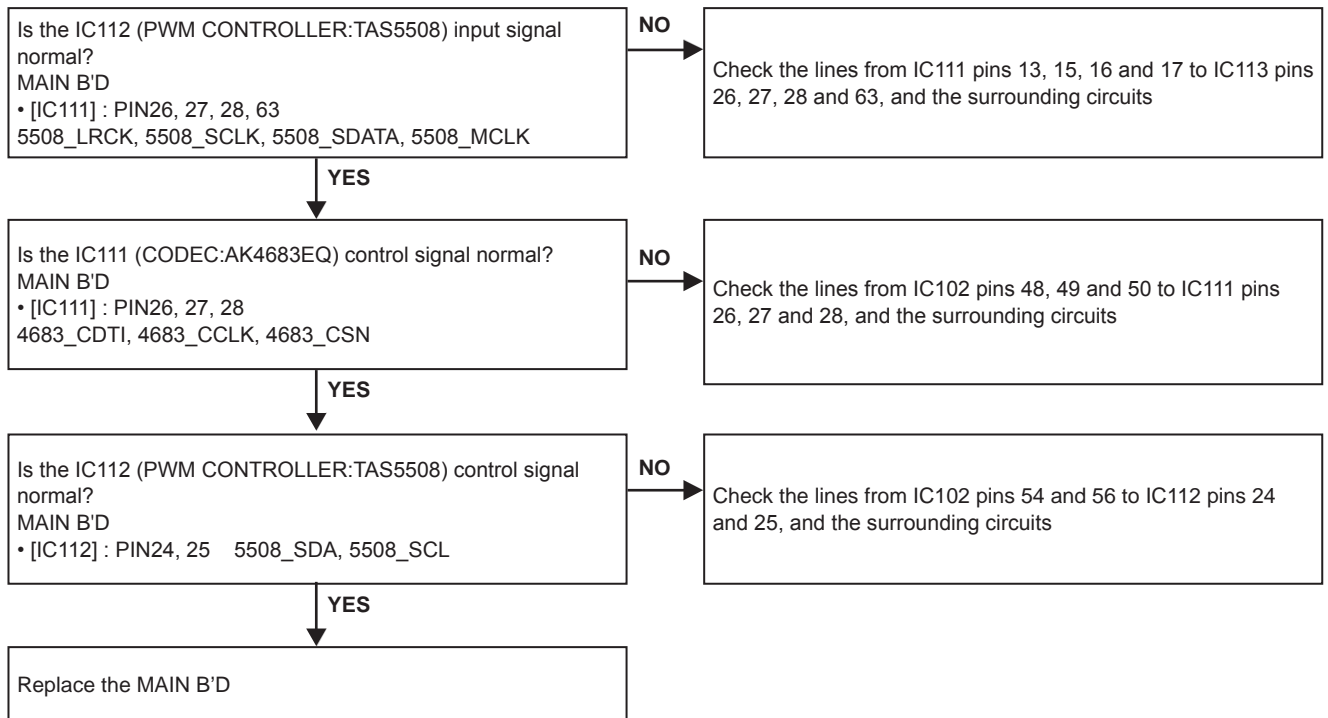
2.5. Cannot operate from the REMOTE CONNECTOR



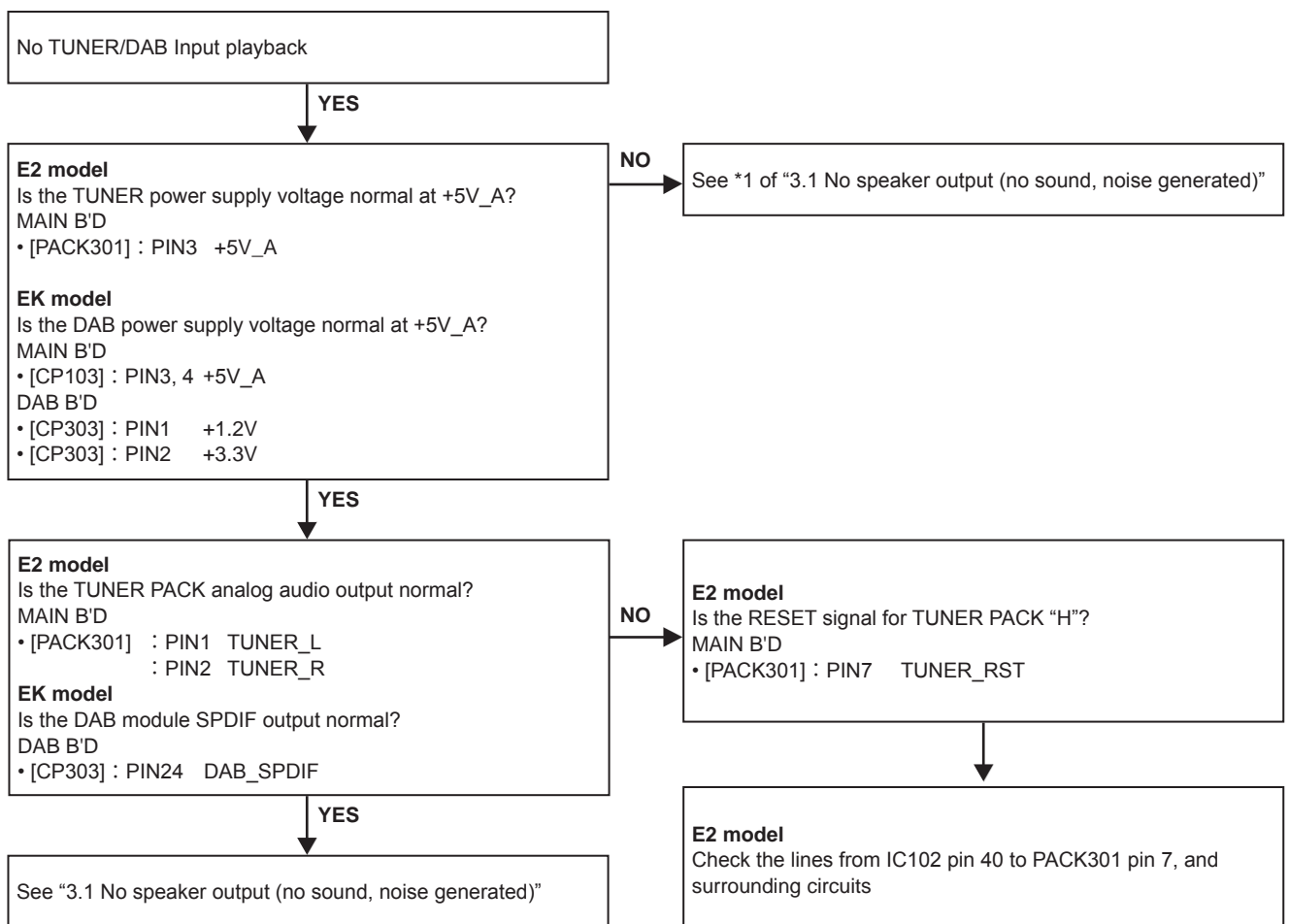
3. Audio Output

3.1. No speaker output (no sound, noise generated)

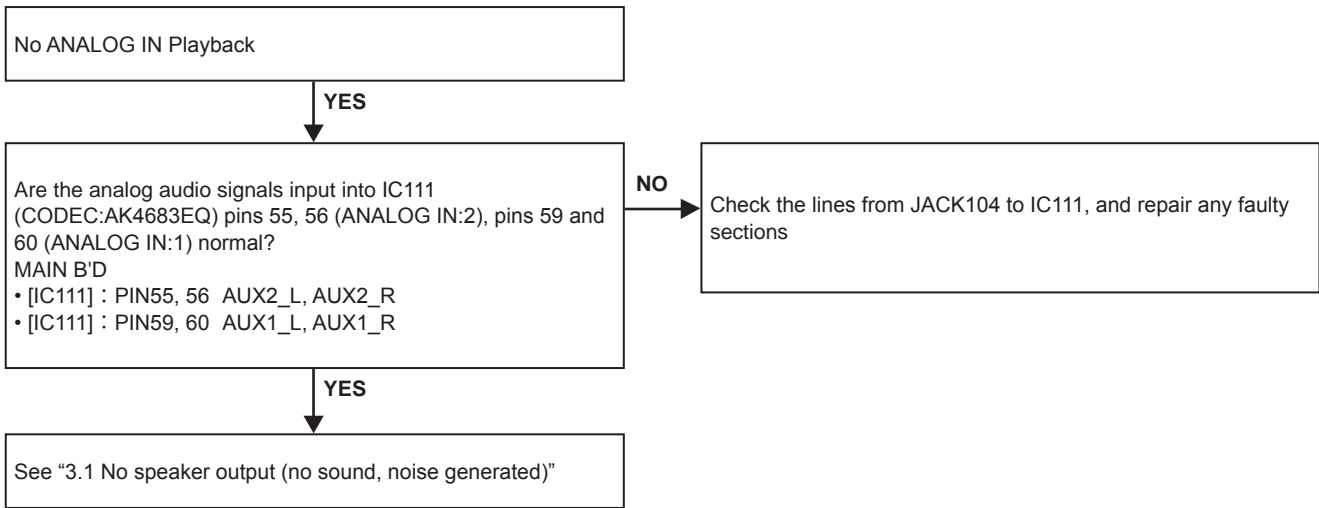




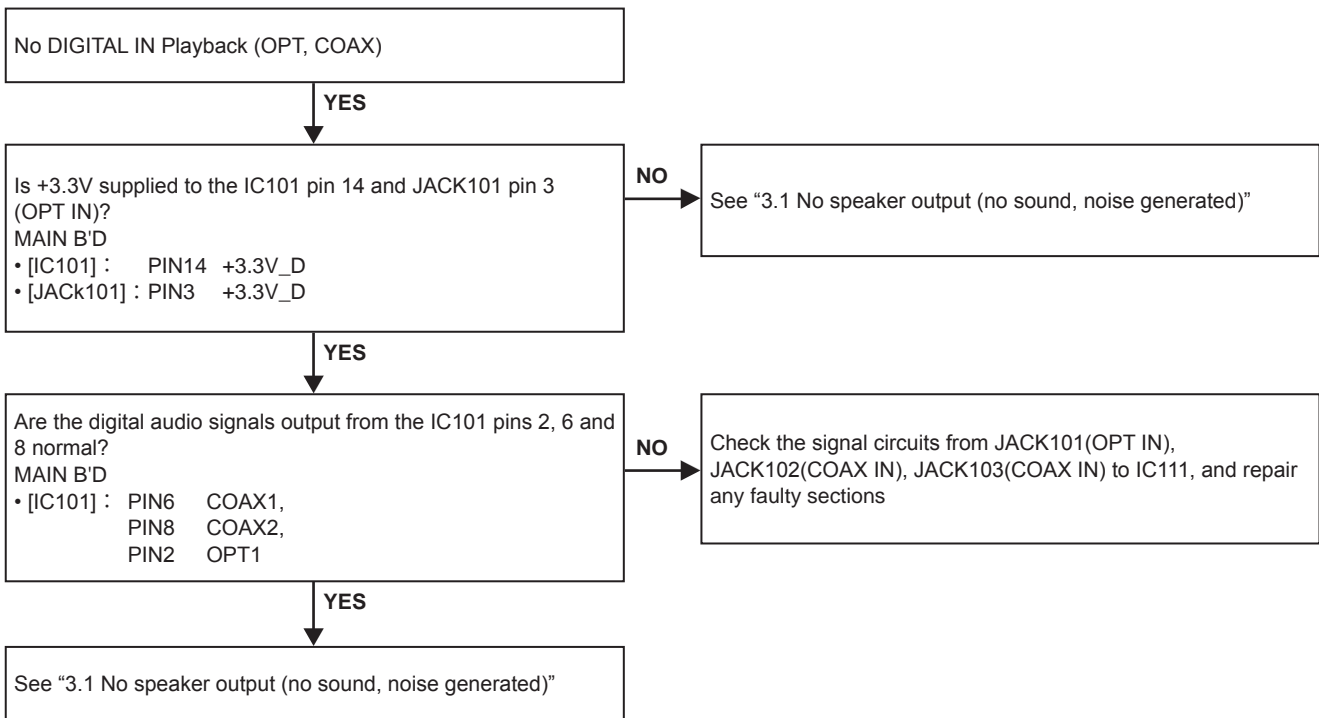
3.2 No TUNER/DAB Input playback (No sound, noise generated)



3.3. No ANALOG IN Playback (no sound, noise generated)



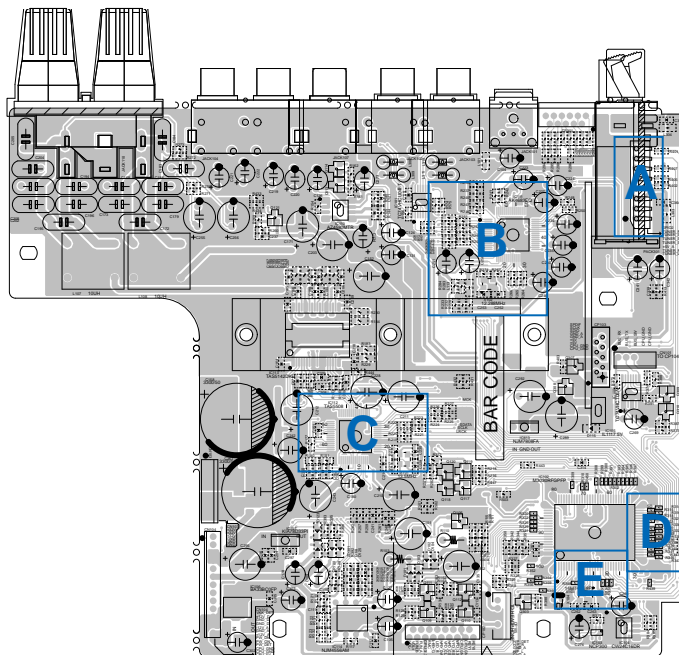
3.4. No DIGITAL IN Playback (no sound, noise generated)



MEASURING METHOD AND WAVEFORMS

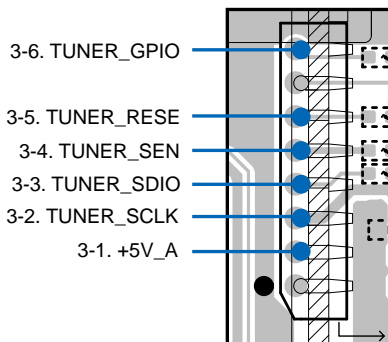
MEASURING POINT

1. MAIN PCB (Component side)

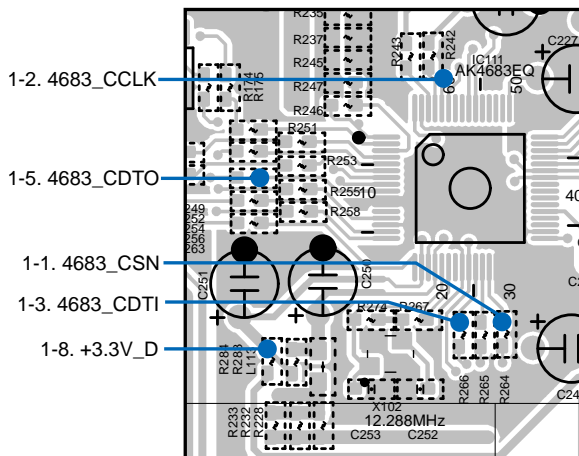


Component side

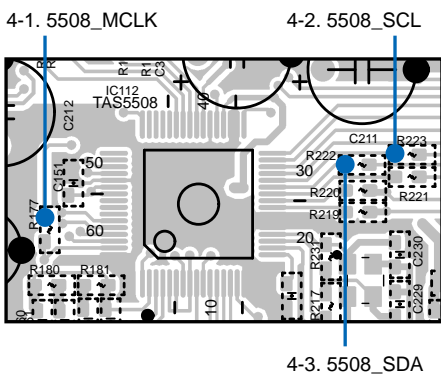
Detail A



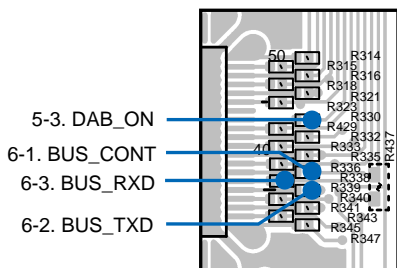
Detail B



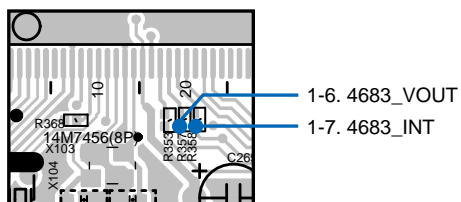
Detail C



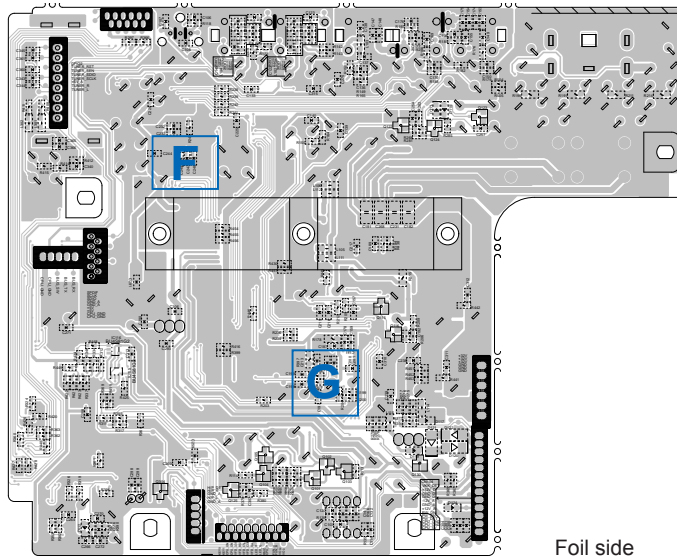
Detail D



Detail E



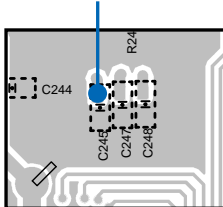
2. MAIN PCB (Foil side)



Foil side

Detail F

1-4. 4683_RESET(PDN)

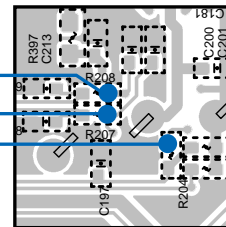


Detail G

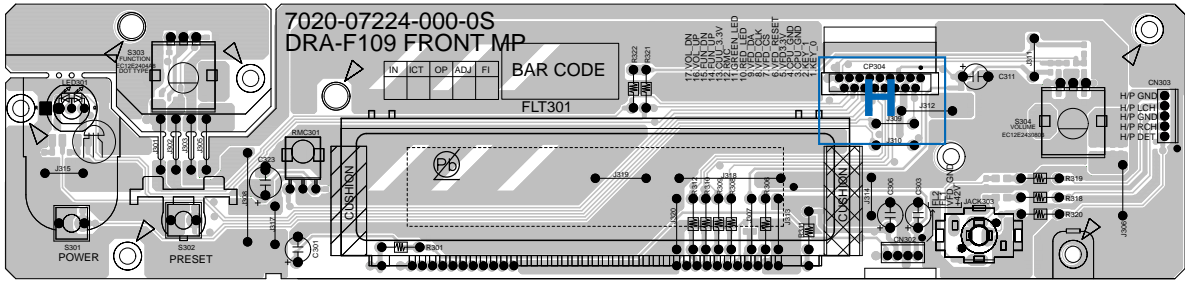
4-4. 5508_MUTE

4-5. 5508_PDN

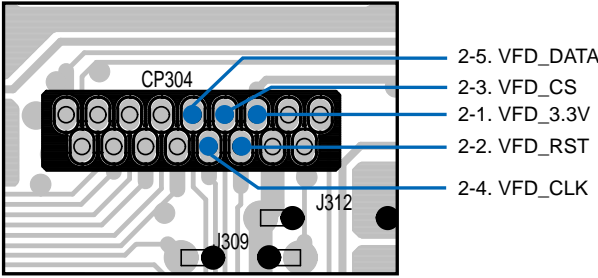
4-6. 5508_RST



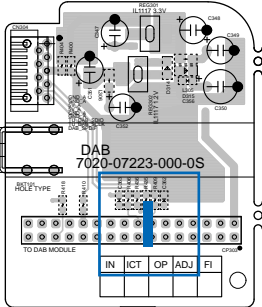
3. FRONT PCB



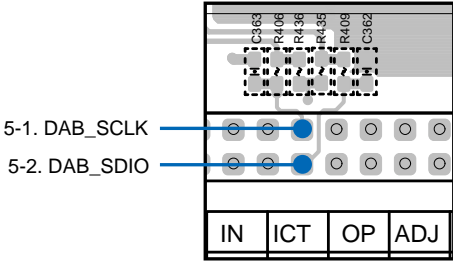
Detail H



4. DAB PCB



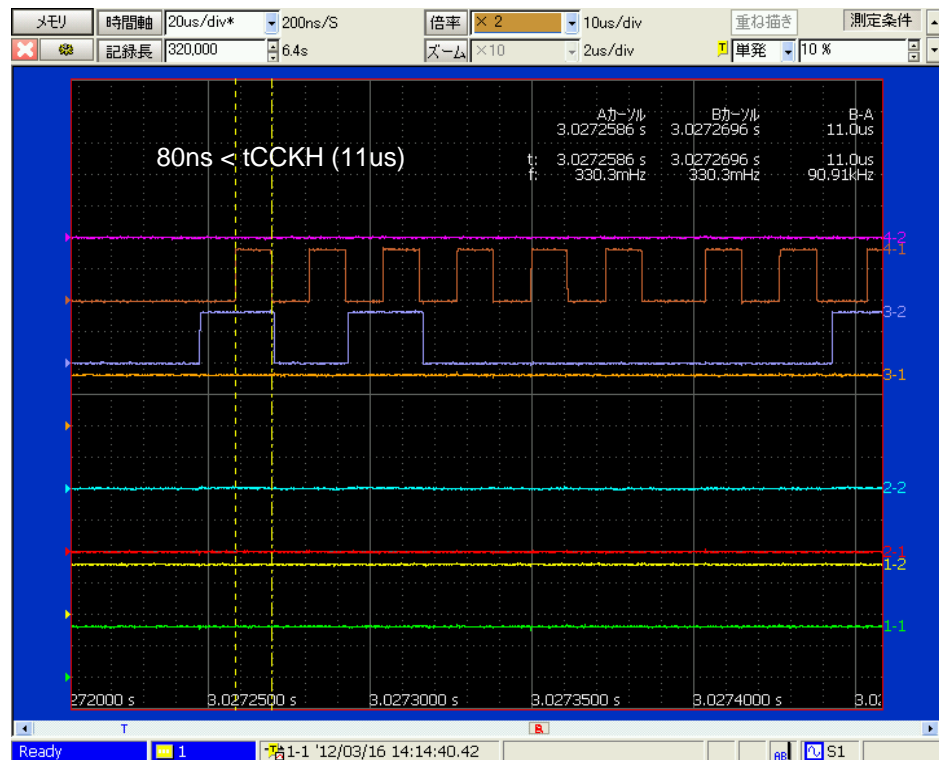
Detail I



WAVEFORMS

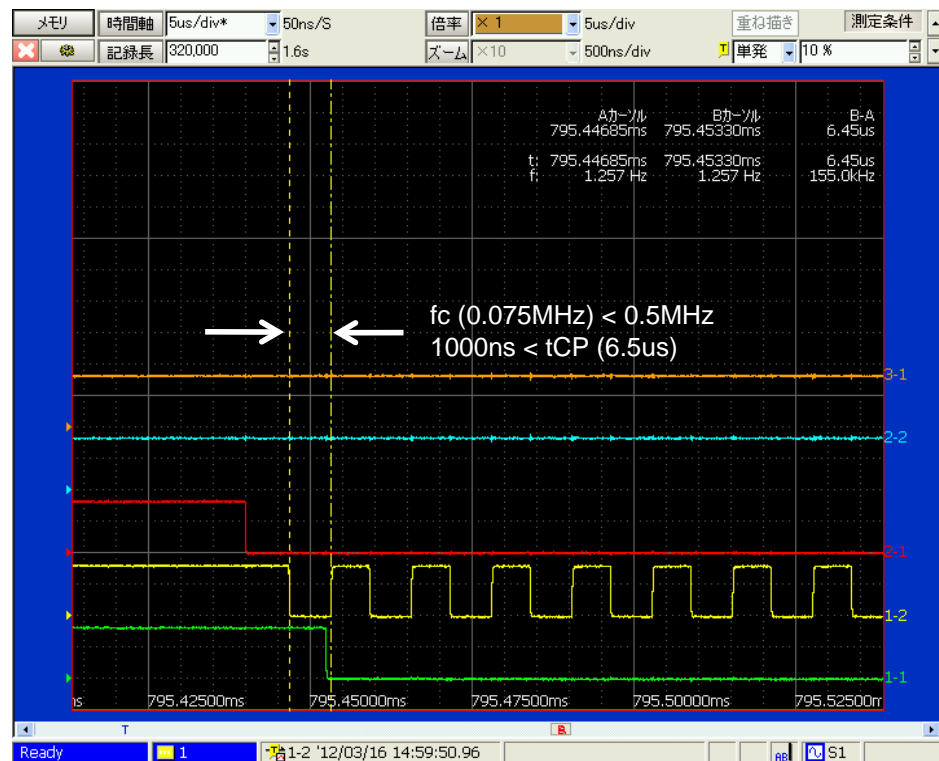
1. CODEC

- 1-1. 4683_CSN
- 1-2. 4683_CCLK
- 1-3. 4683_CDTI
- 1-4. 4683_RESET(PDN)
- 1-5. 4683_CDTO
- 1-6. 4683_VOUT
- 1-7. 4683_INT
- 1-8. +3.3V_D



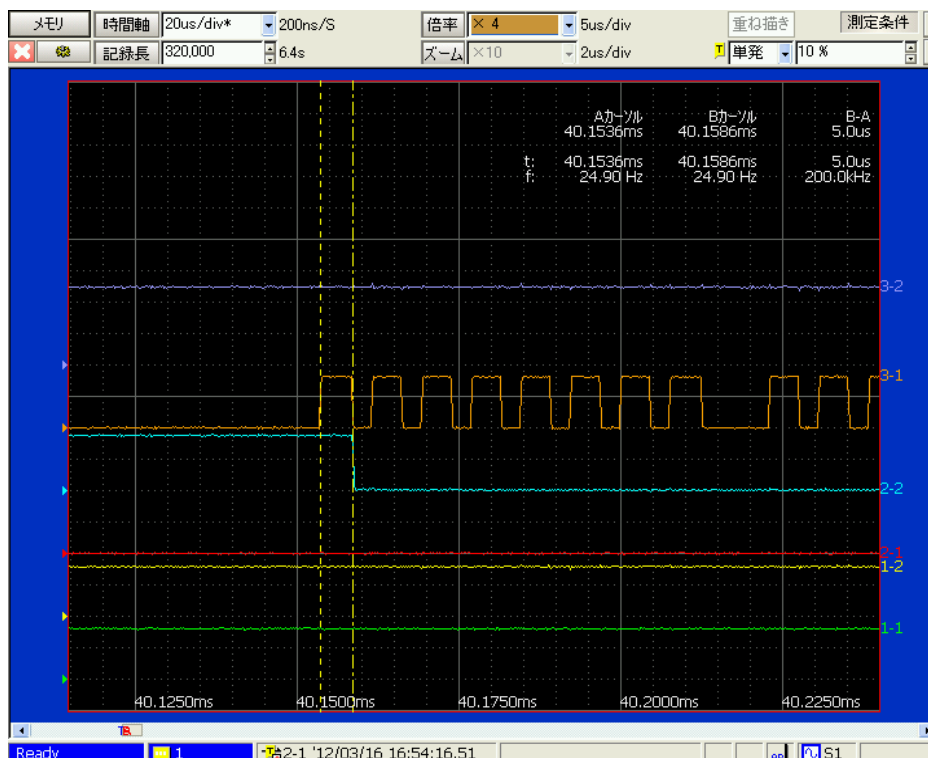
2. VFD DISPLAY

- 2-1. VFD_3.3V
- 2-2. VFD_RST
- 2-3. VFD_CS
- 2-4. VFD_CLK
- 2-5. VFD_DATA



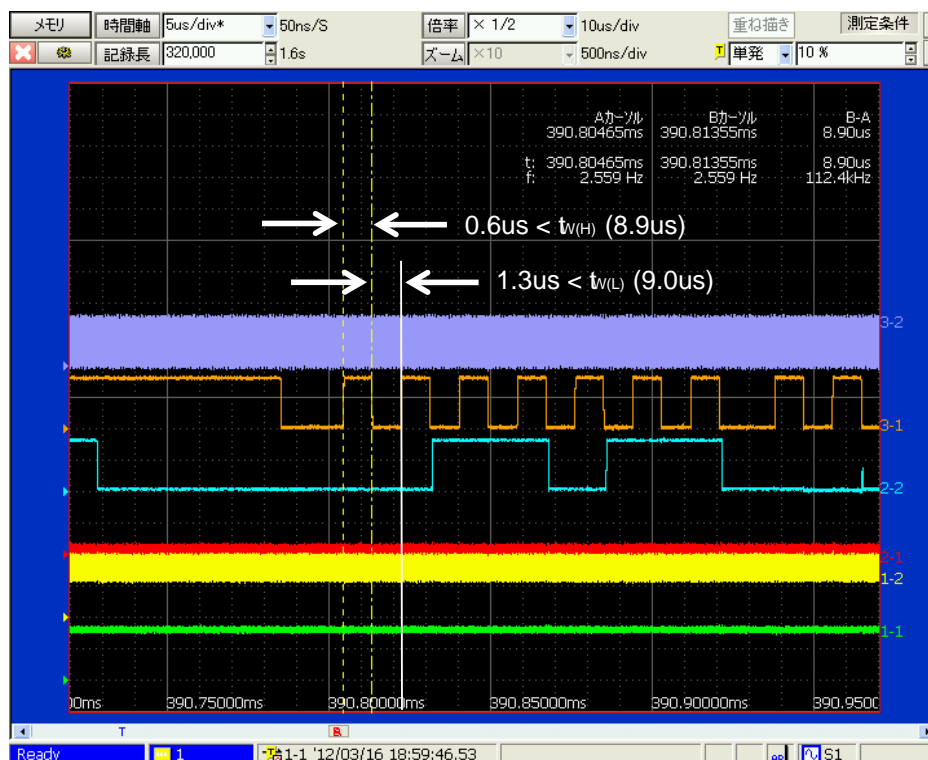
3. TUNER PACK

- 3-1. +5V_A
- 3-2. TUNER_SCLK
- 3-3. TUNER_SDIO
- 3-4. TUNER_SEN
- 3-5. TUNER_RESET
- 3-6. TUNER_GPIO



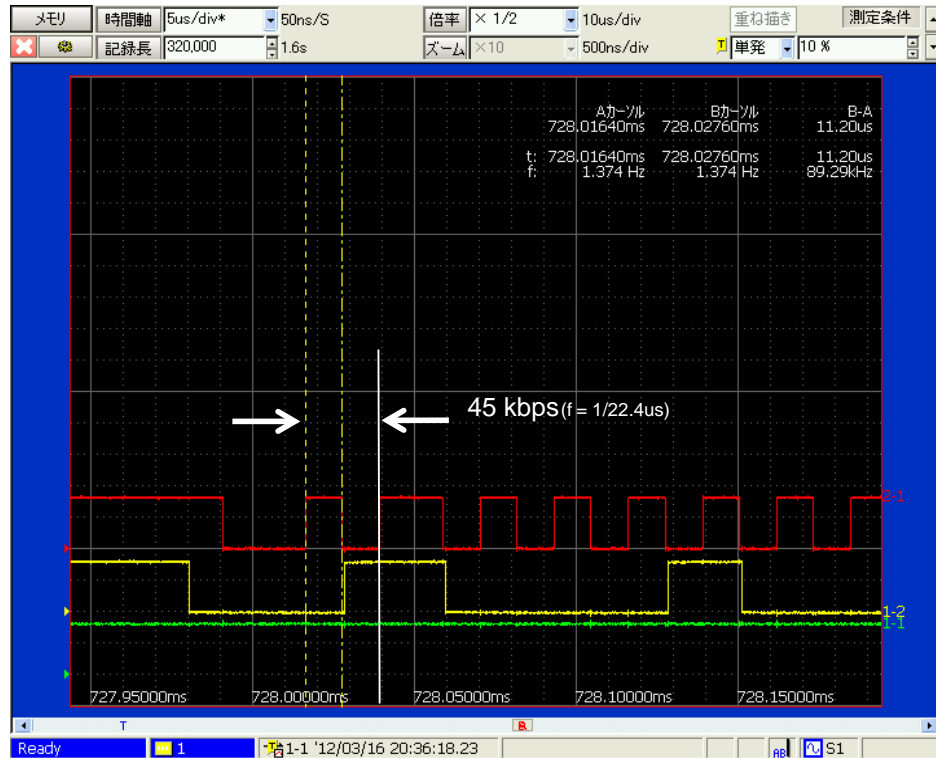
4. PWM CONTROLLER

- 4-1. 5508_MCLK
- 4-2. 5508_SCL
- 4-3. 5508_SDA
- 4-4. 5508_MUTE
- 4-5. 5508_PDN
- 4-6. 5508_RST



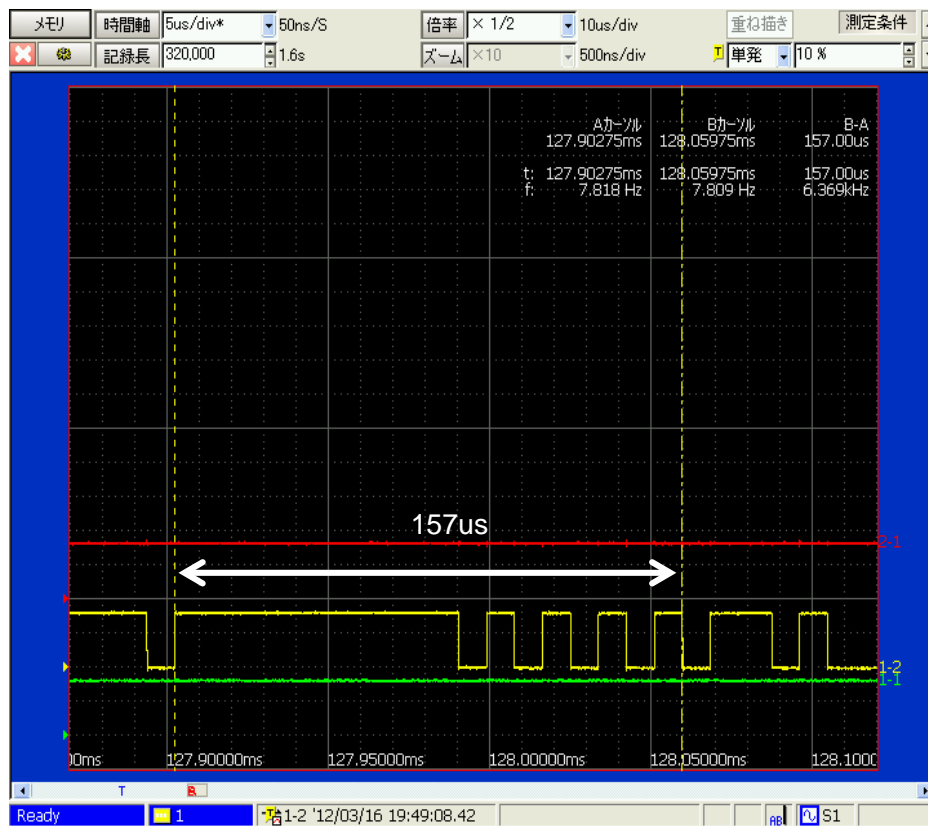
5. DAB

- 5-1. DAB_SCLK
- 5-2. DAB_SDIO
- 5-3. DAB_ON

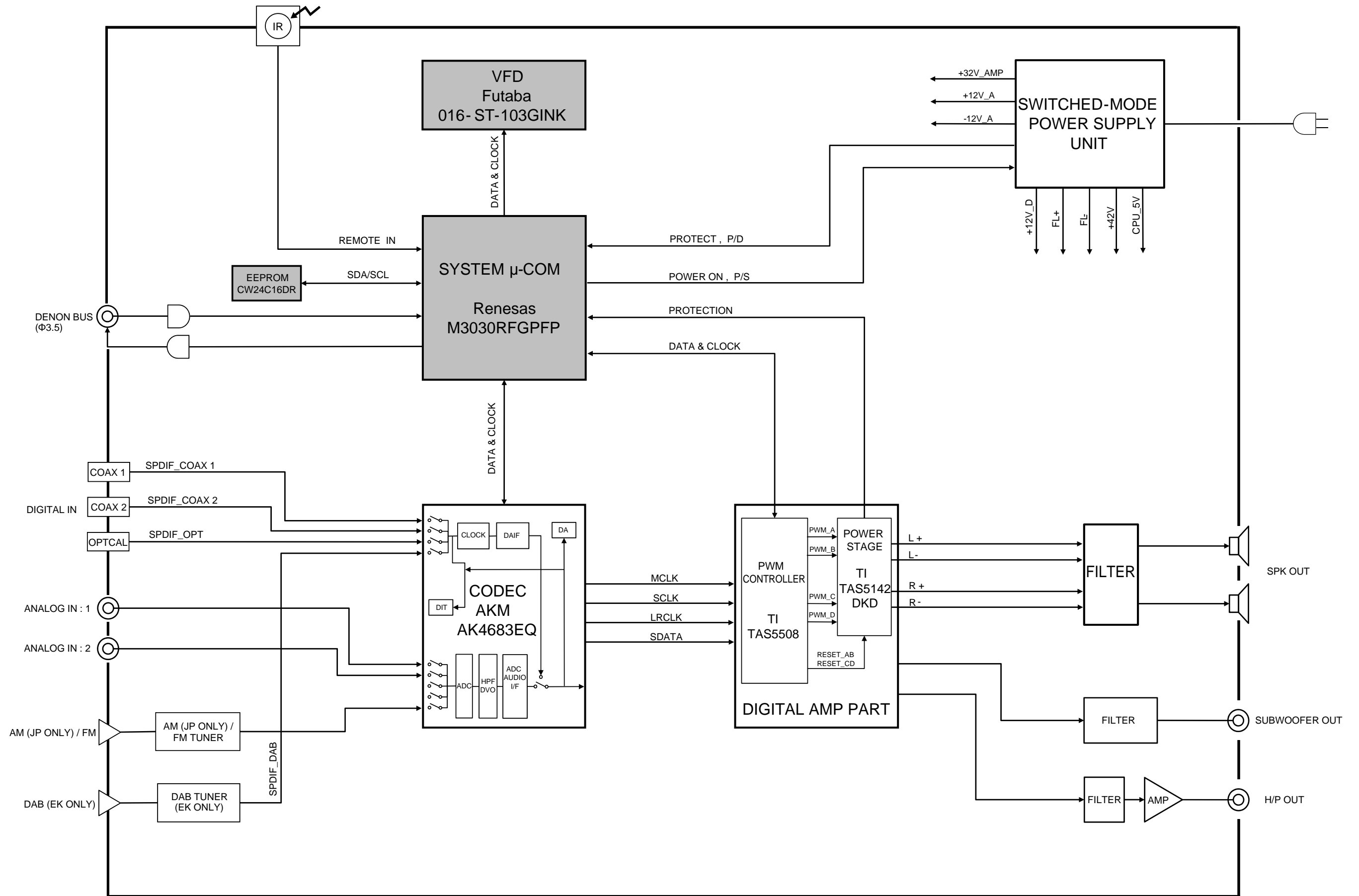


6. DENON BUS UART

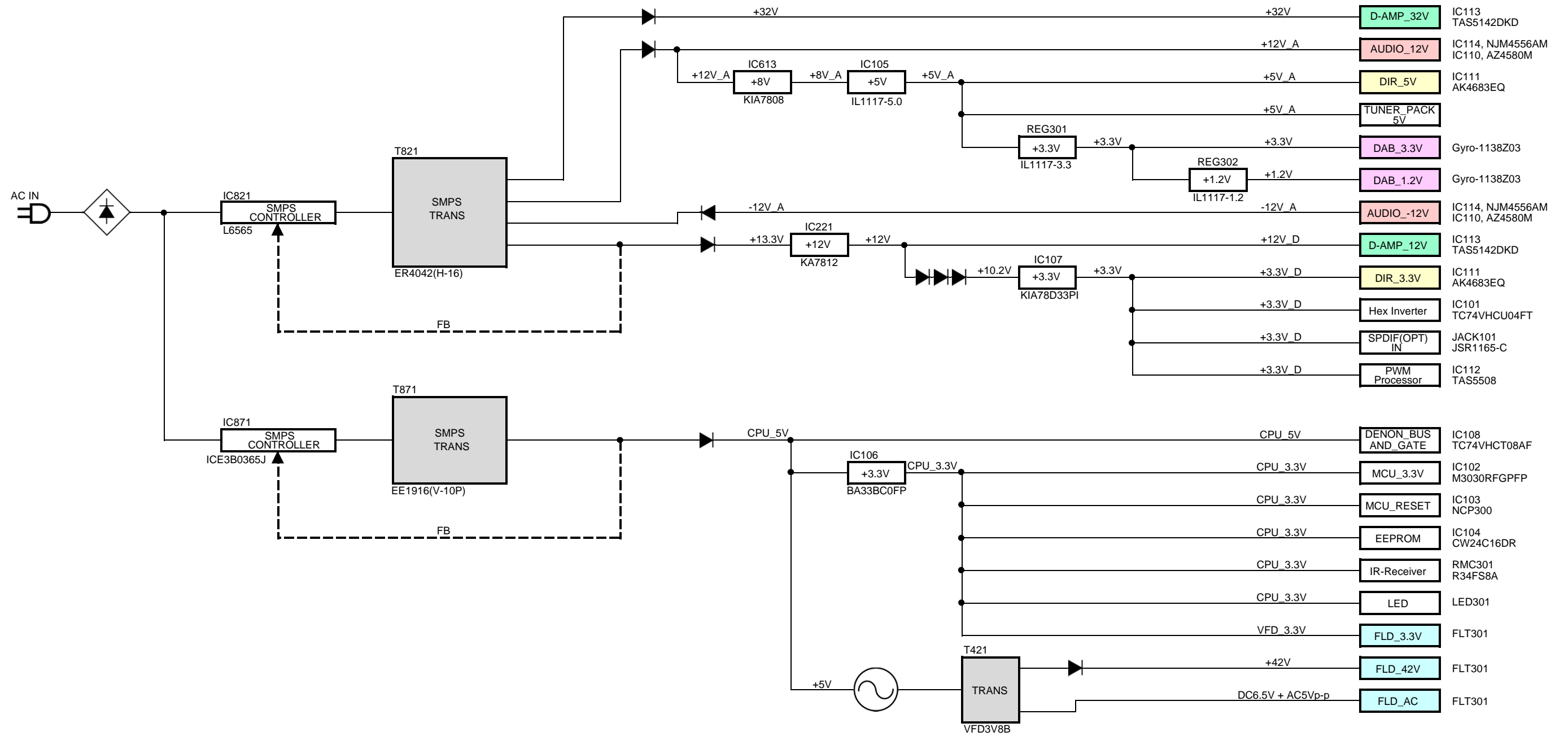
- 6-1. BUS_CONT
- 6-2. BUS_TXD
- 6-3. BUS_RXD



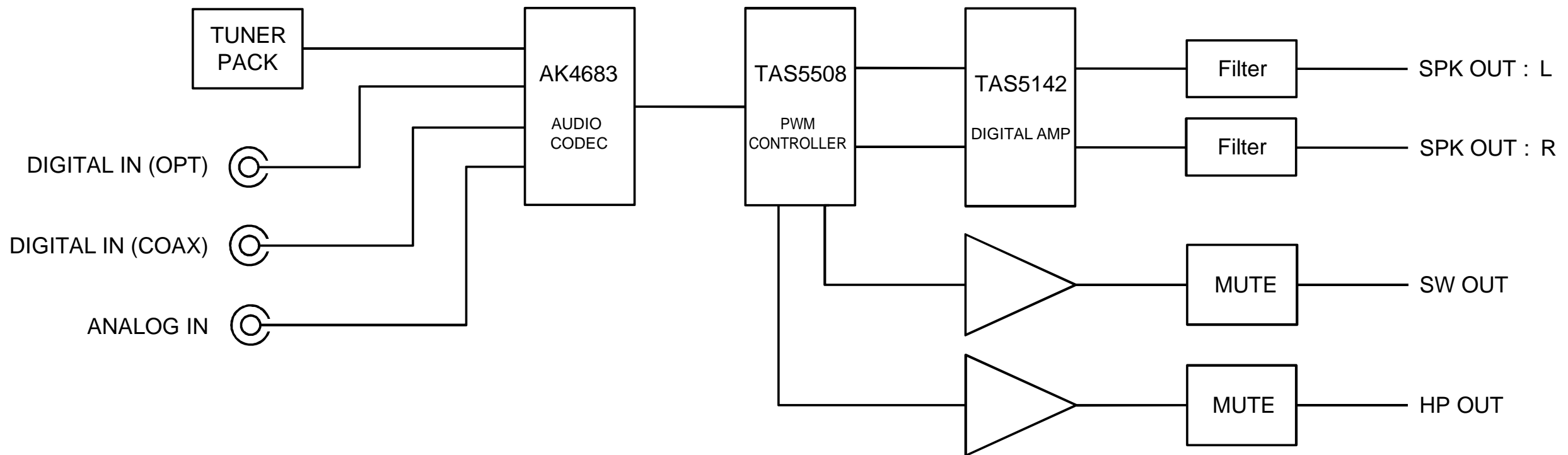
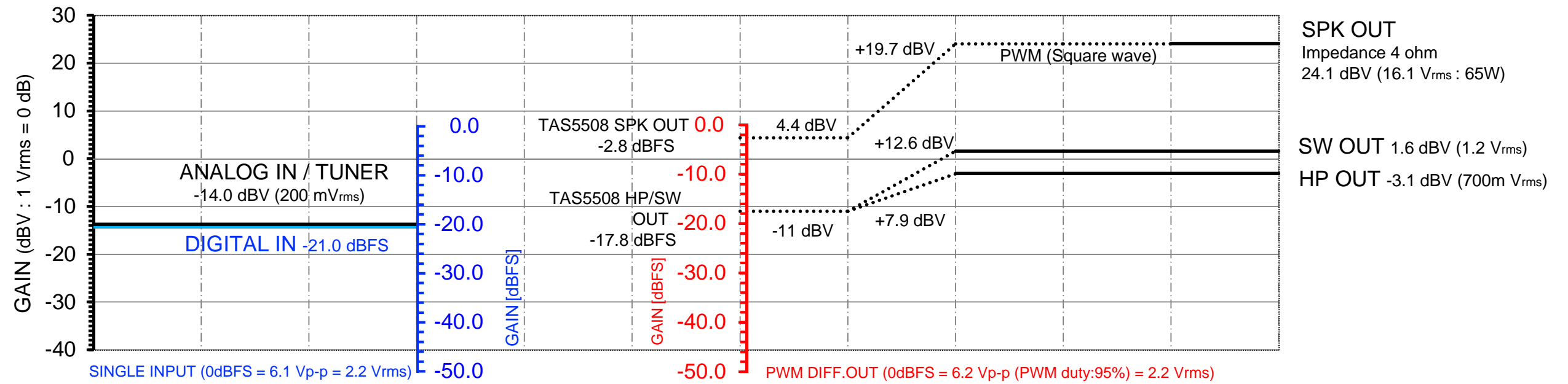
BLOCK DIAGRAM



POWER BLOCK DIAGRAM



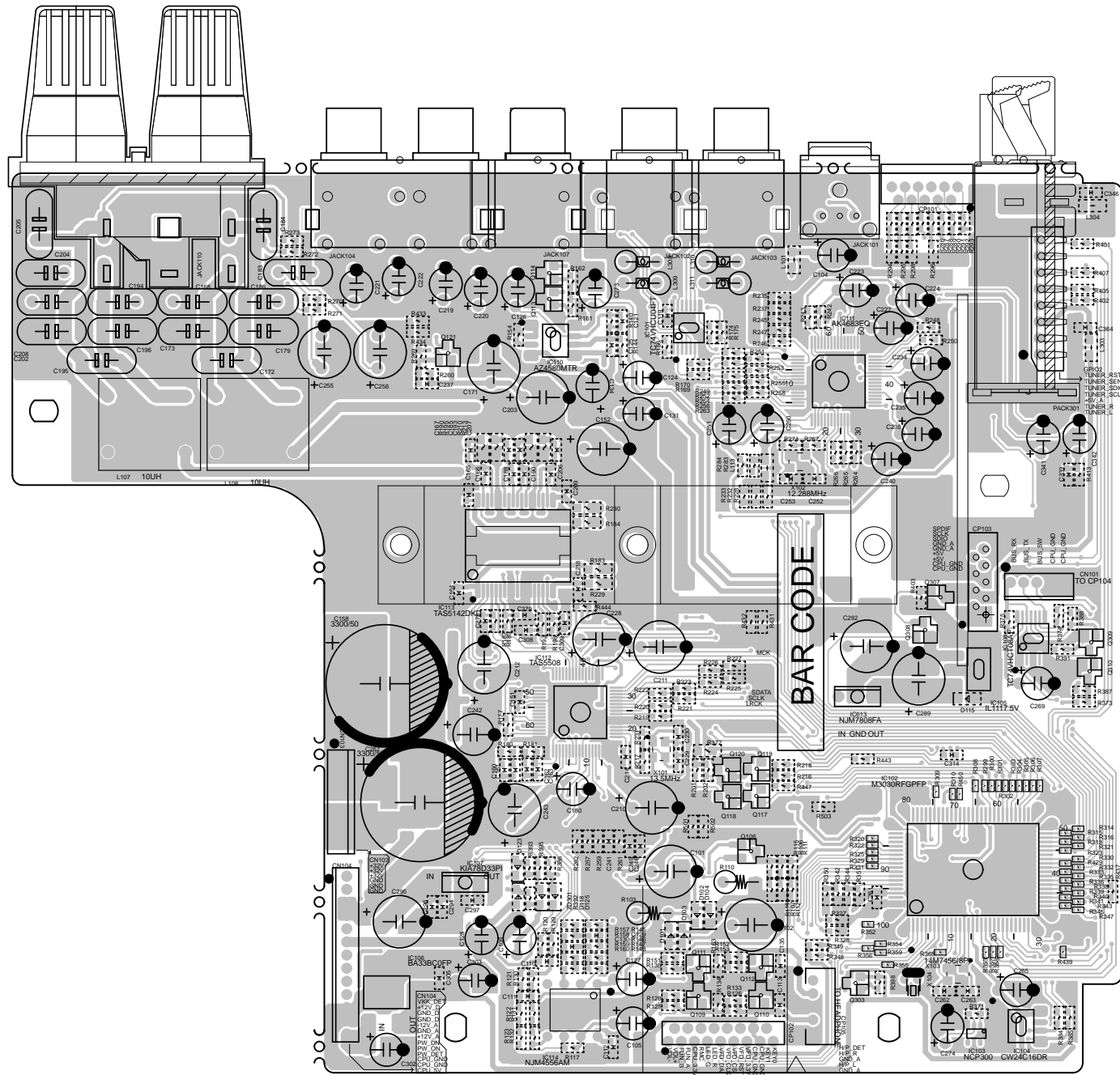
LEVEL DIAGRAM 



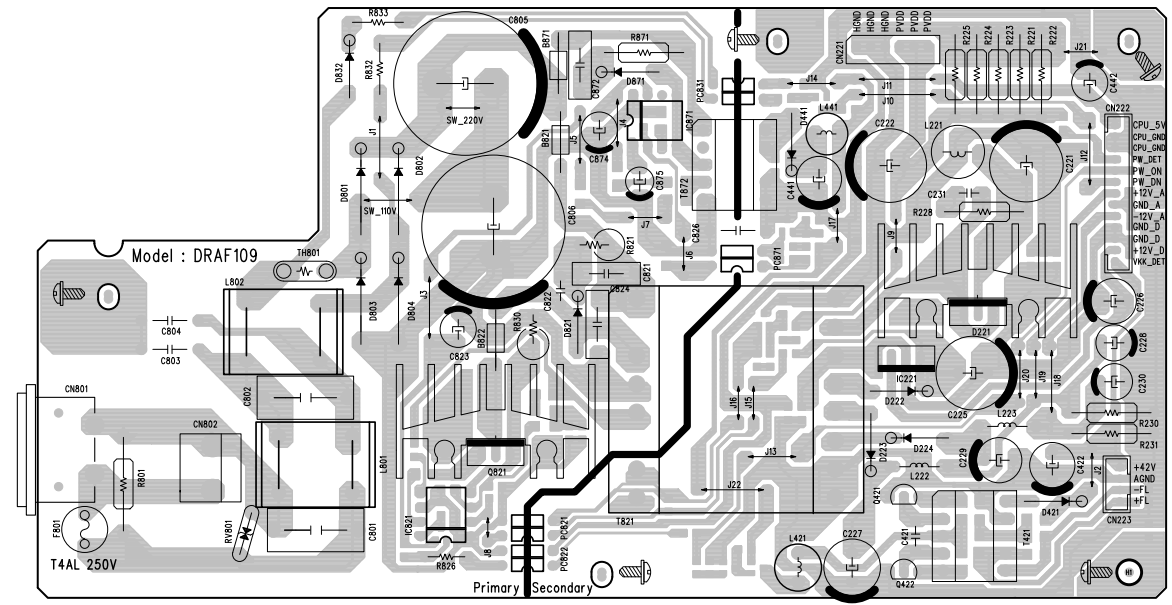
PRINTED WIRING BOARDS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

MAIN (COMPONENT SIDE)



SMPS (COMPONENT SIDE)



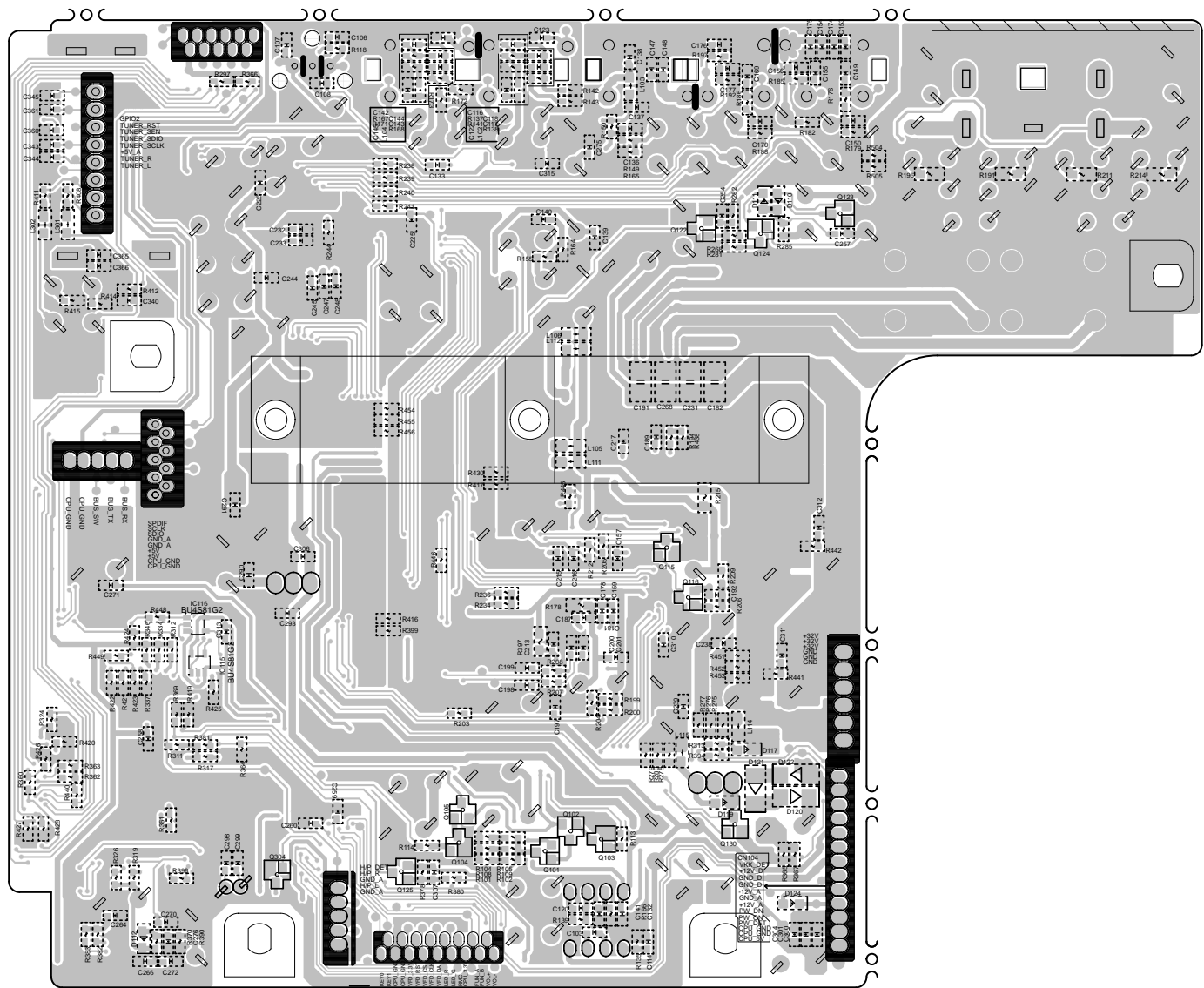
A
B
C
D
E
F
G
H
I
J
K
L
M

鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

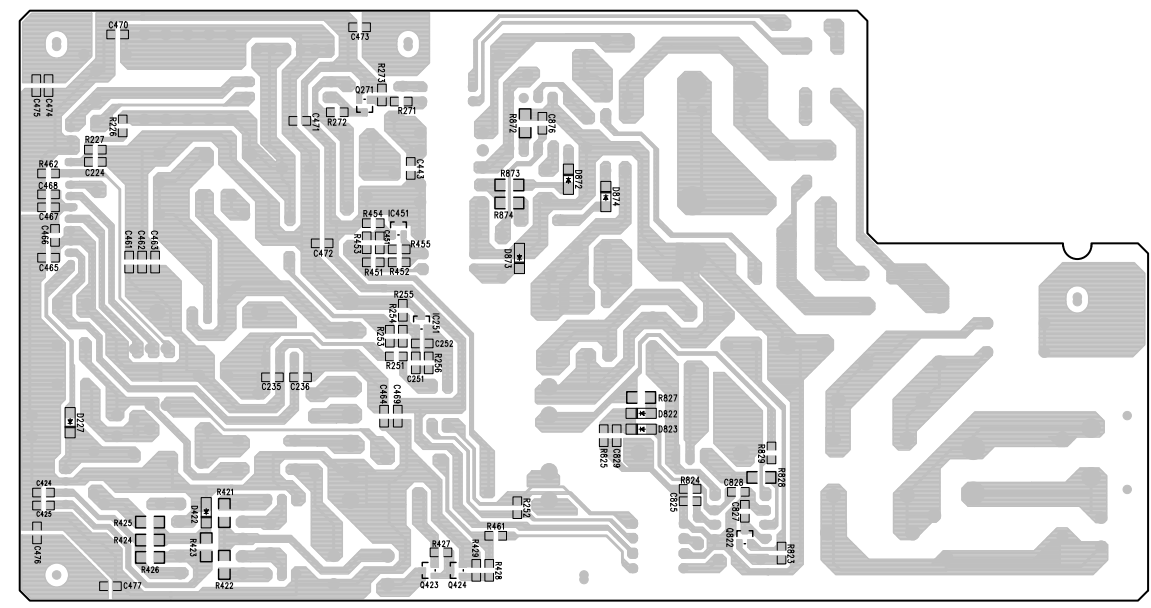
Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

**MAIN
(FOIL SIDE)**



**SMPS
(FOIL SIDE)**

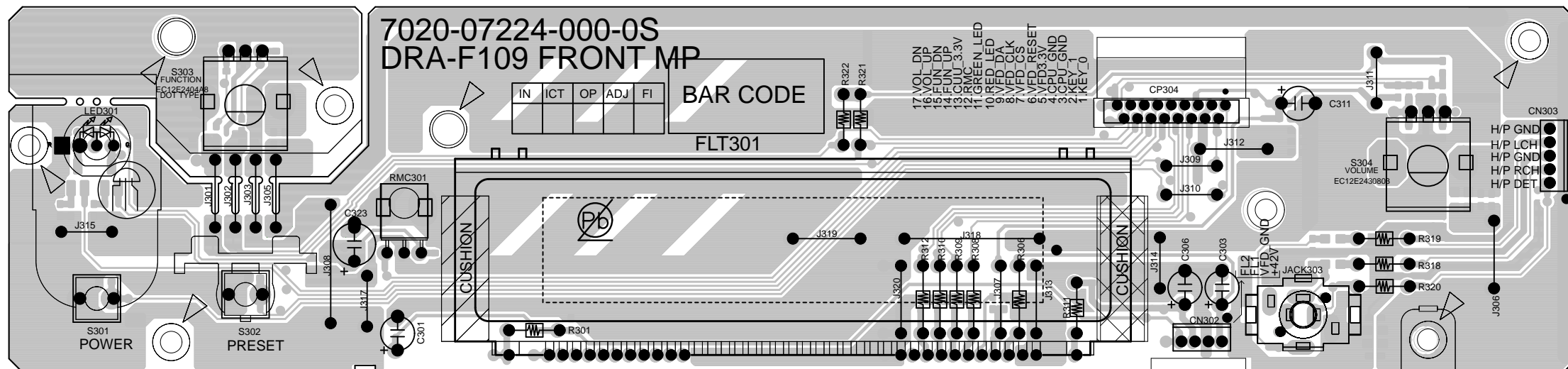


A
B
C
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G
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K
L
M

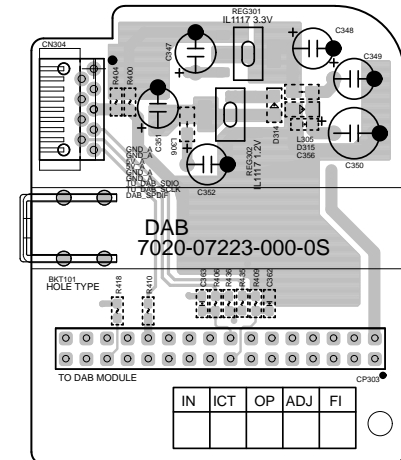
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

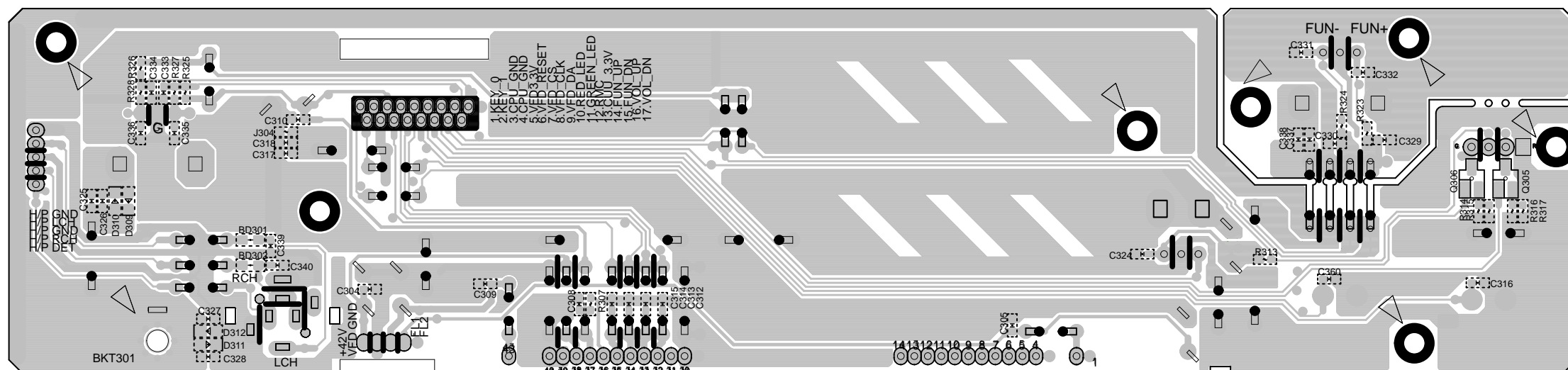
**FRONT
(COMPONENT SIDE)**



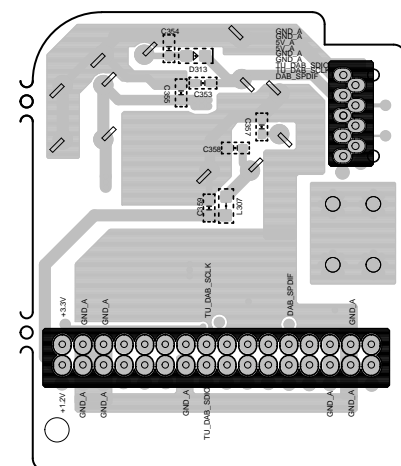
**DAB
(COMPONENT SIDE)**



**FRONT
(FOIL SIDE)**



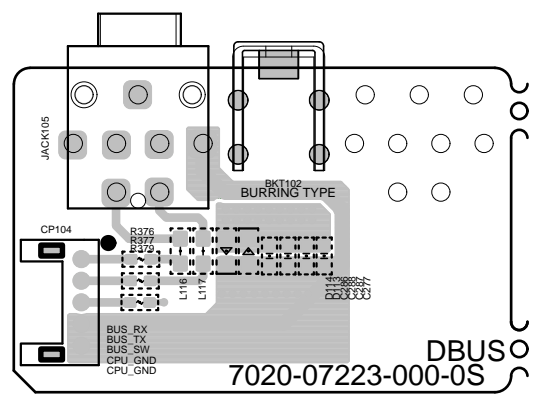
**DAB
(FOIL SIDE)**



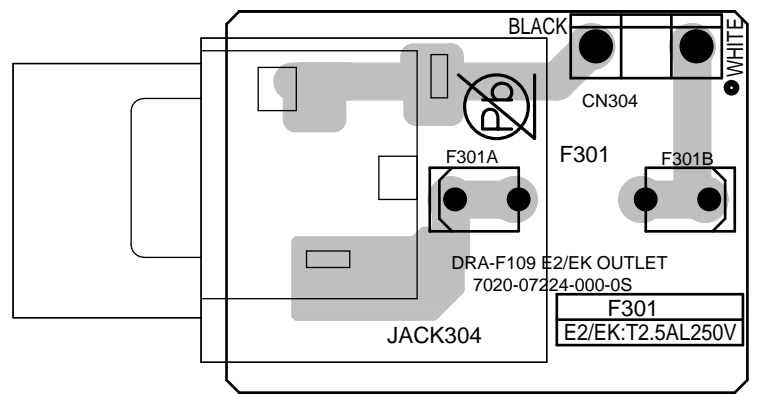
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

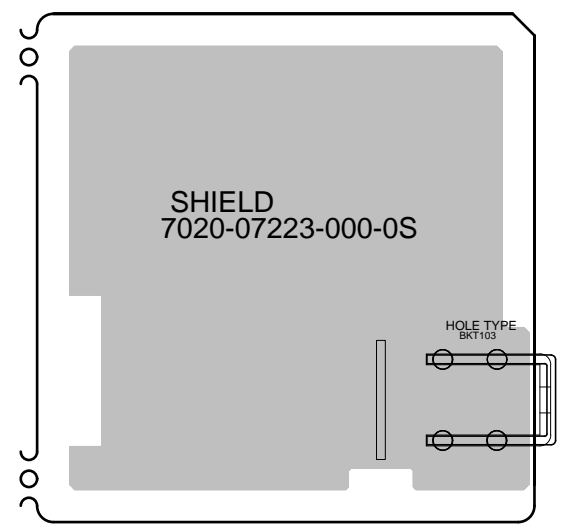
**DBUS
(COMPONENT SIDE)**



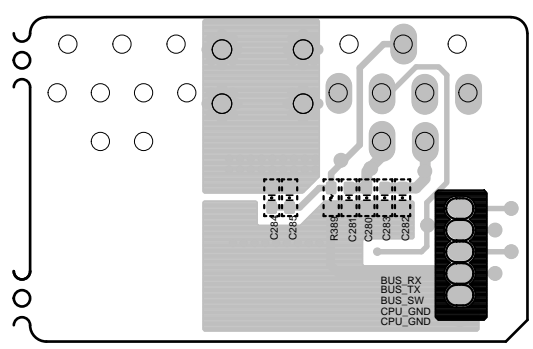
**OUTLET
(COMPONENT SIDE)**



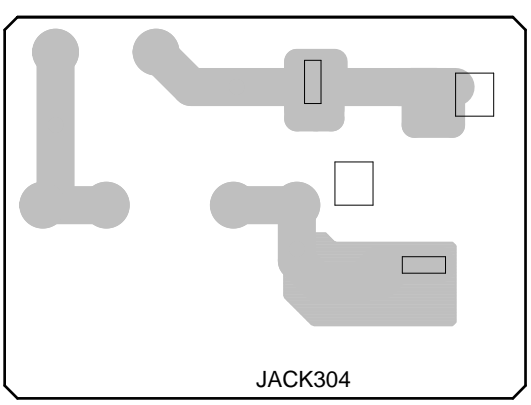
**SHIELD
(COMPONENT SIDE)**



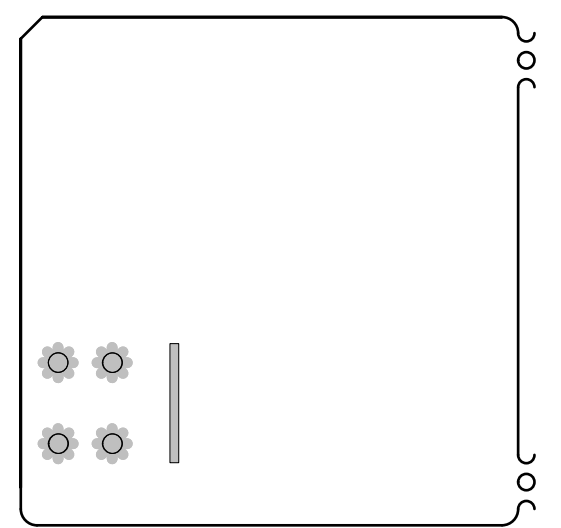
**DBUS
(FOIL SIDE)**



**OUTLET
(FOIL SIDE)**



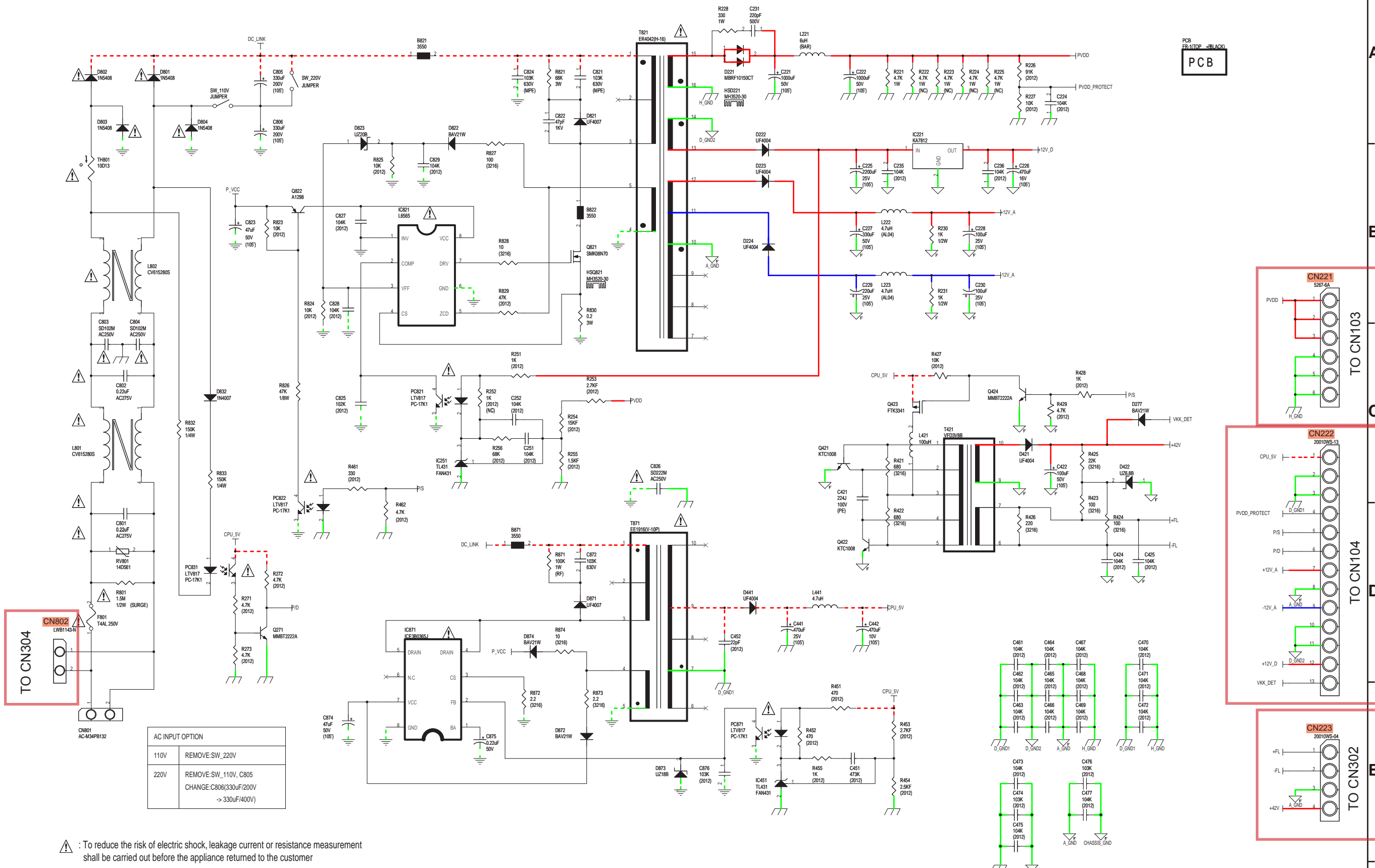
**SHIELD
(FOIL SIDE)**



鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

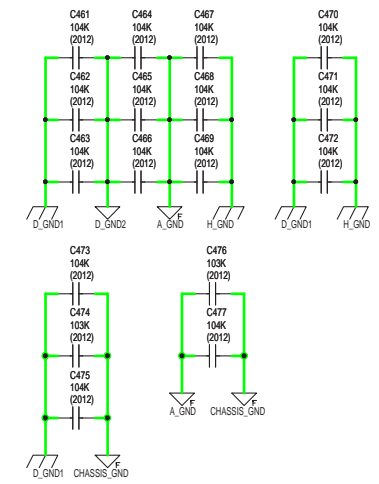
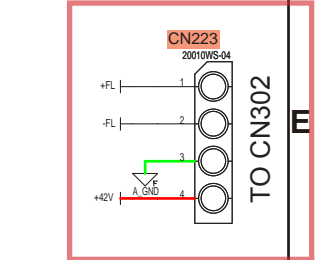
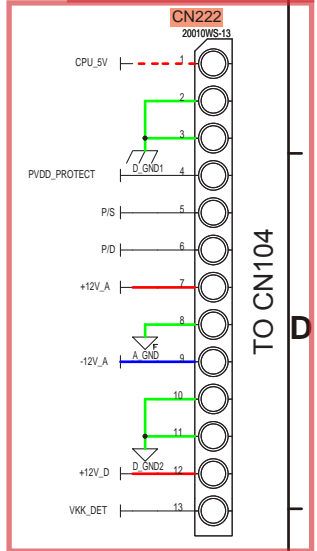
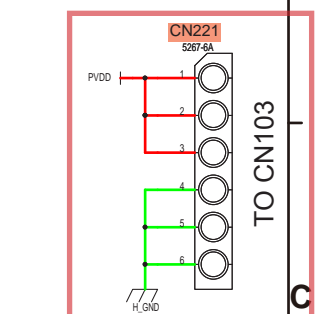
PCB
FR:1(TOP) -BLACK
PCB



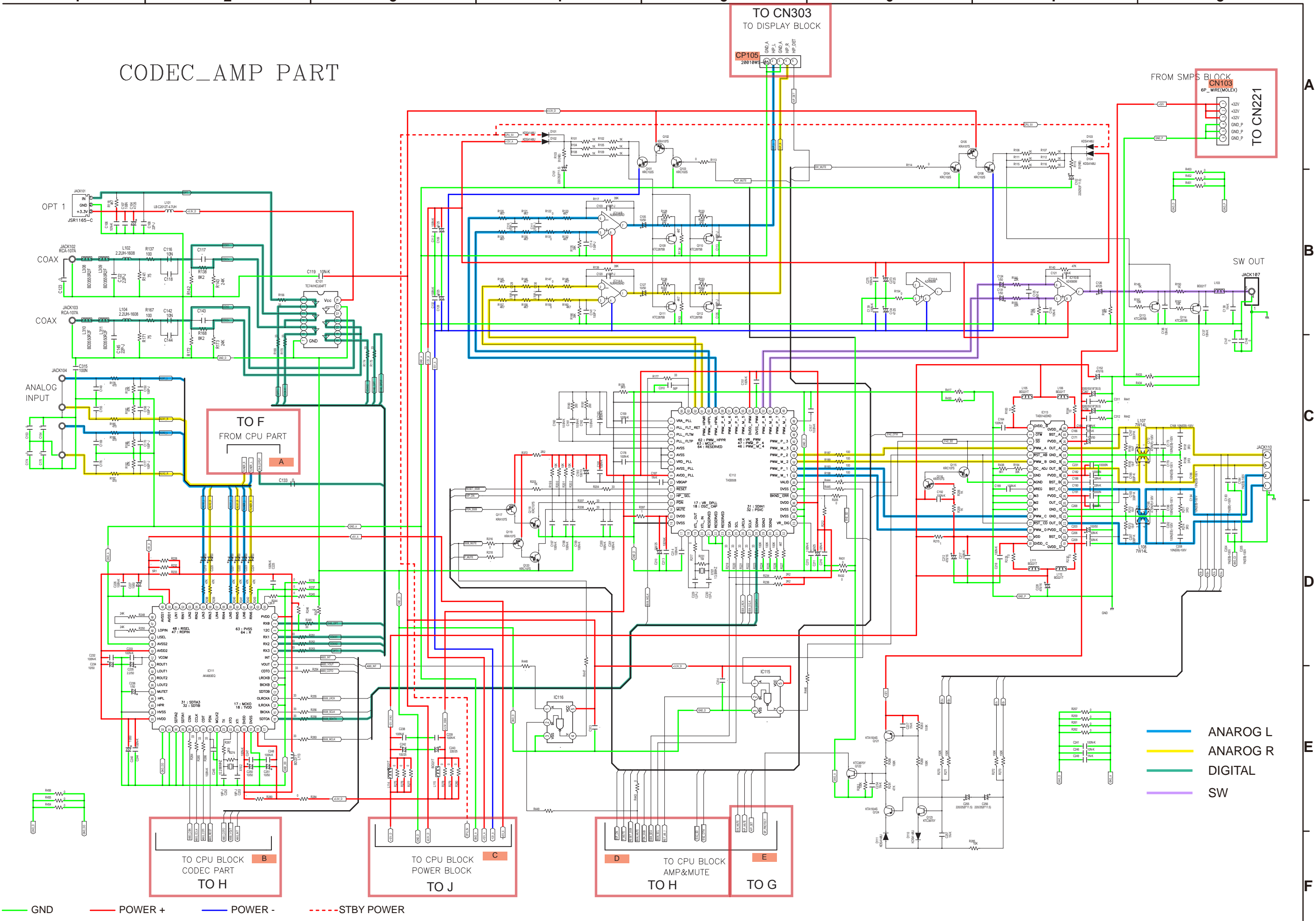
AC INPUT OPTION	
110V	REMOVE:SW_220V
220V	REMOVE:SW_110V, C805 CHANGE:C806(330uF/200V ->330uF/400V)

⚠ : To reduce the risk of electric shock, leakage current or resistance measurement shall be carried out before the appliance returned to the customer

— GND — POWER + — POWER - - - - STBY POWER - - - SMPS GND



CODEC_AMP PART



TO CN303
TO DISPLAY BLOCK

FROM SMP5 BLOCK
CN103
6P_WIRE(MOLEX)
TO CN221

TO F
FROM CPU PART

TO CPU BLOCK
CODEC PART
TO H

TO CPU BLOCK
POWER BLOCK
TO J

TO CPU BLOCK
AMP & MUTE
TO H

TO G

GND POWER + POWER - STBY POWER

ANAROG L
ANAROG R
DIGITAL
SW

CPU PART

TO FRONT TO CP304

CP102
D117TP

UP DATA ONLY

REGION OPTION

	R342	R350	R344	R351
UK	47K	OPEN	47K	OPEN
E2	47K	OPEN	OPEN	47K
JP	OPEN	47K	47K	OPEN

TO E
TO B
TO D

TO DIGITAL AMP TO CODEC

CP101
1.0-11S-10PW

TO A TO CODEC

CP103
C1521-08

BD TO BD DAB CNT TO CN304

TUNER PACK ONLY JP, E2 EK OPEN

BUS PART

DENON BUS

CP104

CODEC AMP PART TO C

J

FROM SMPS TO CN222

CN104

— GND — POWER + — POWER - - - - STBY POWER — POWER + (Tuner)

— ANAROG L
— ANAROG R
— DIGITAL

1

2

3

4

5

6

7

8

A

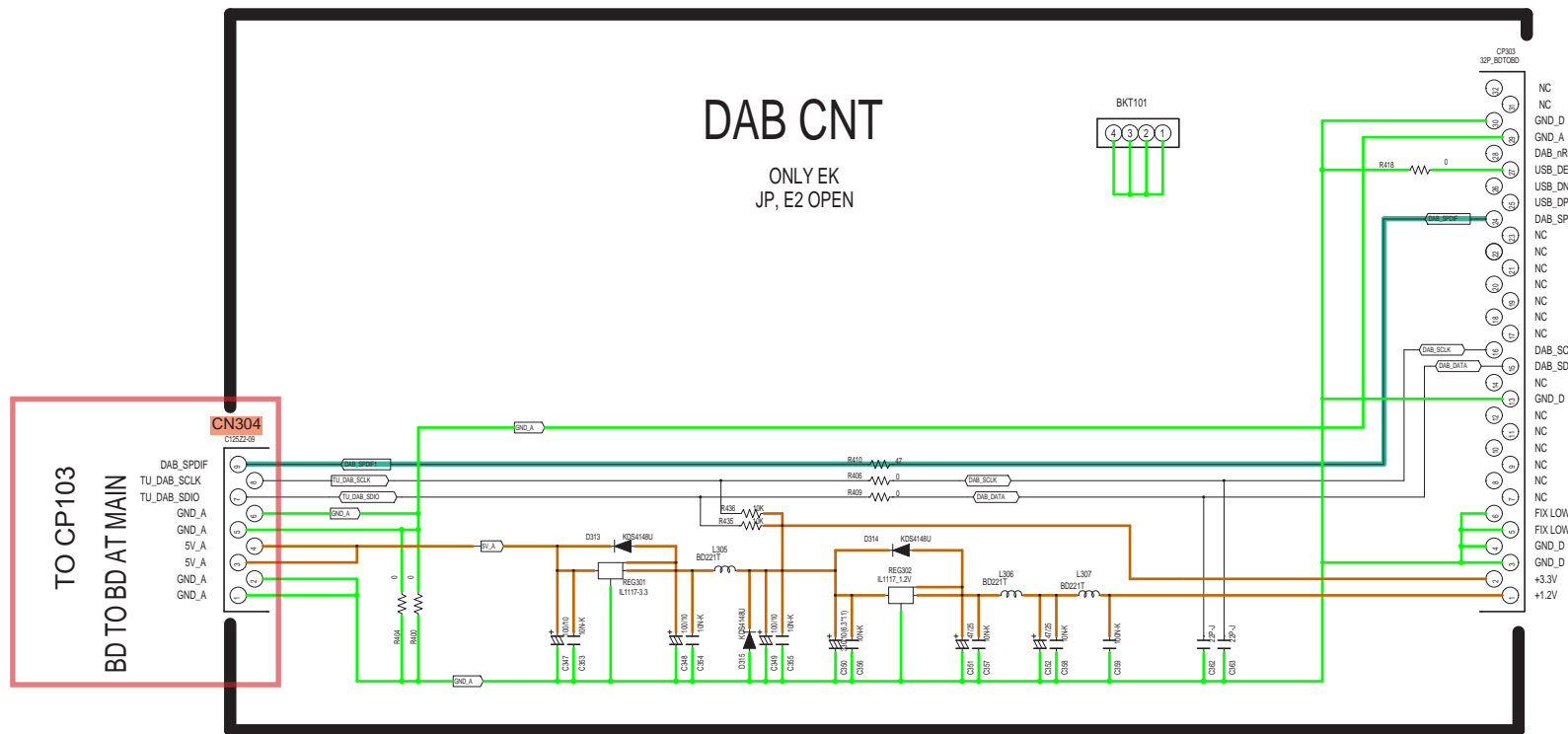
B

C

D

E

F



TO CP103
BD TO BD AT MAIN

TO:Gyro-1138Z03

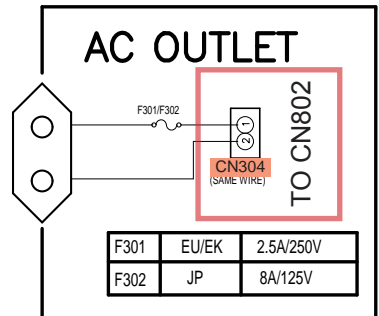
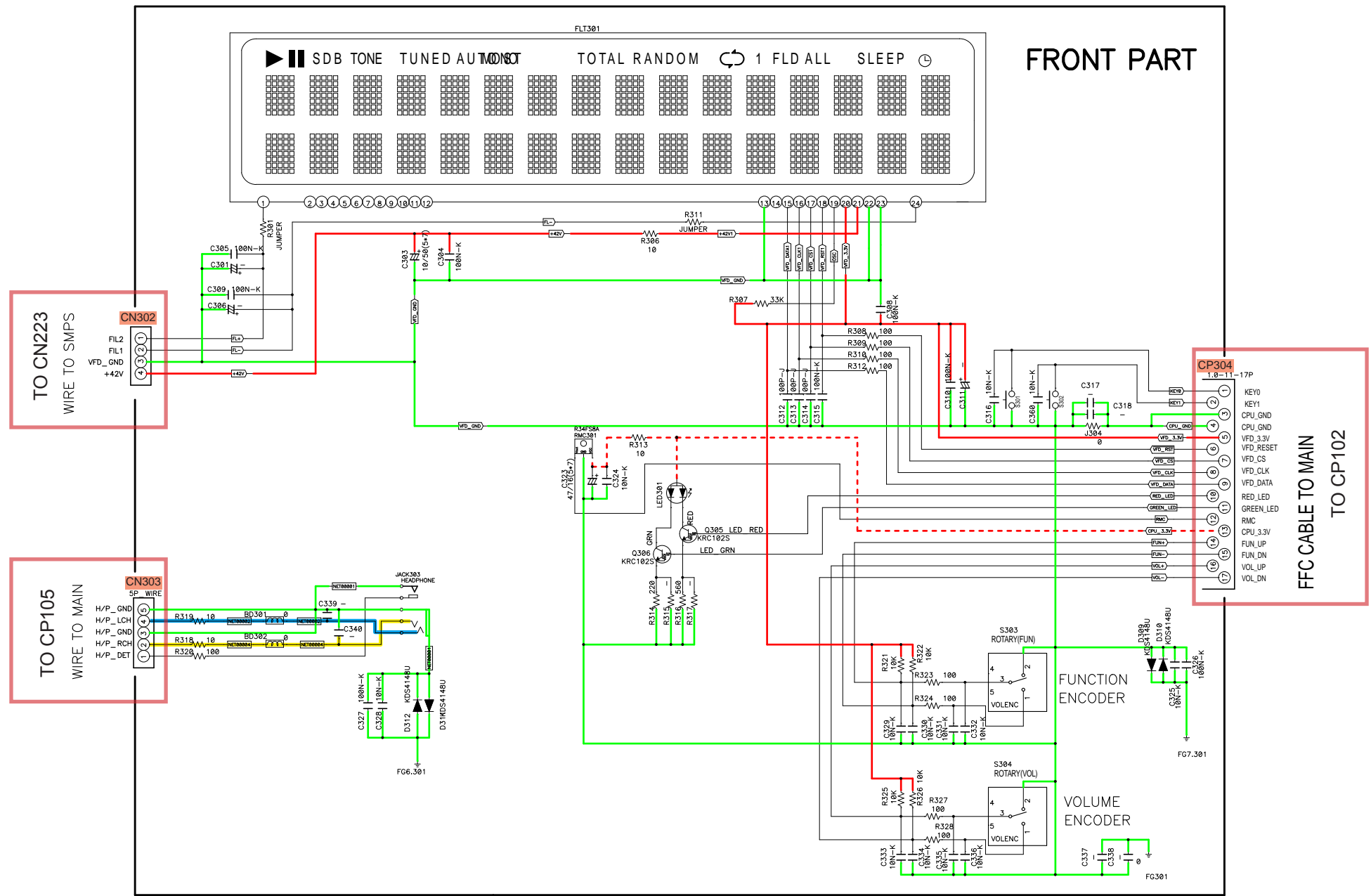
DAB CNT
ONLY EK
JP, E2 OPEN

BKT101
4 3 2 1

CP103
3P_8P10303

NC
NC
GND_D
GND_A
DAB_hRST
USB_DET
USB_DN
USB_DP
DAB_SPDIF
NC
NC
NC
NC
NC
NC
NC
DAB_SCLK
DAB_SDA
NC
GND_D
NC
NC
NC
NC
NC
NC
FIX LOW
FIX LOW
GND_D
+3.3V
+1.2V

— GND — POWER + — POWER - - - - STBY POWER — POWER + (Tuner) — DIGITAL

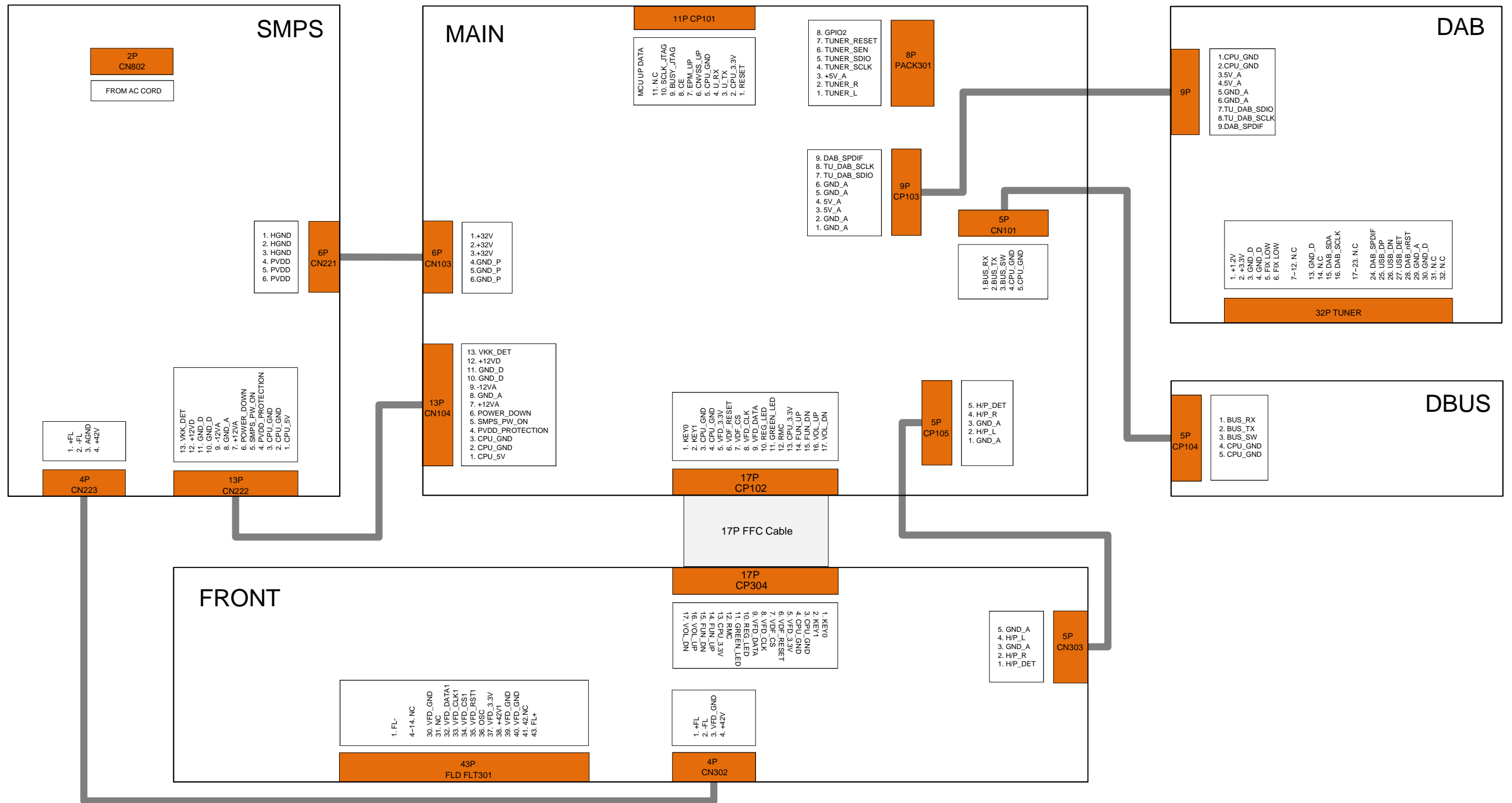


ANAROG L

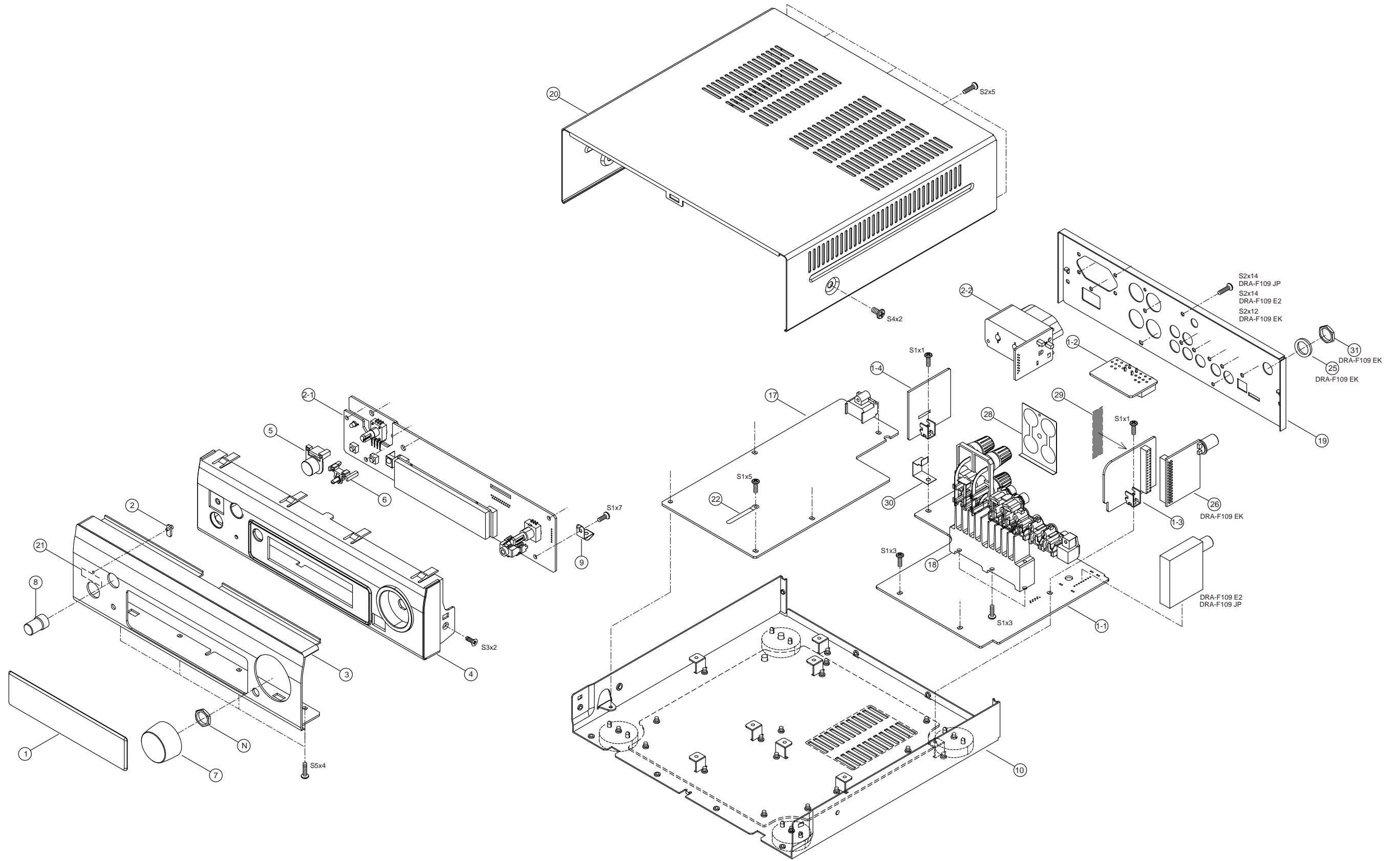
ANAROG R


GND POWER + POWER - STBY POWER

WIRING DIAGRAM



EXPLODED VIEW



WARNING:
Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST OF EXPLODED VIEW

* Parts indicated by "nsp" on this table cannot be supplied.

* P.W.B. ASS'Y indicated by "nsp" on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts list and order replacement parts.

* Parts indicated by the "★" mark are not illustrated in the exploded view.

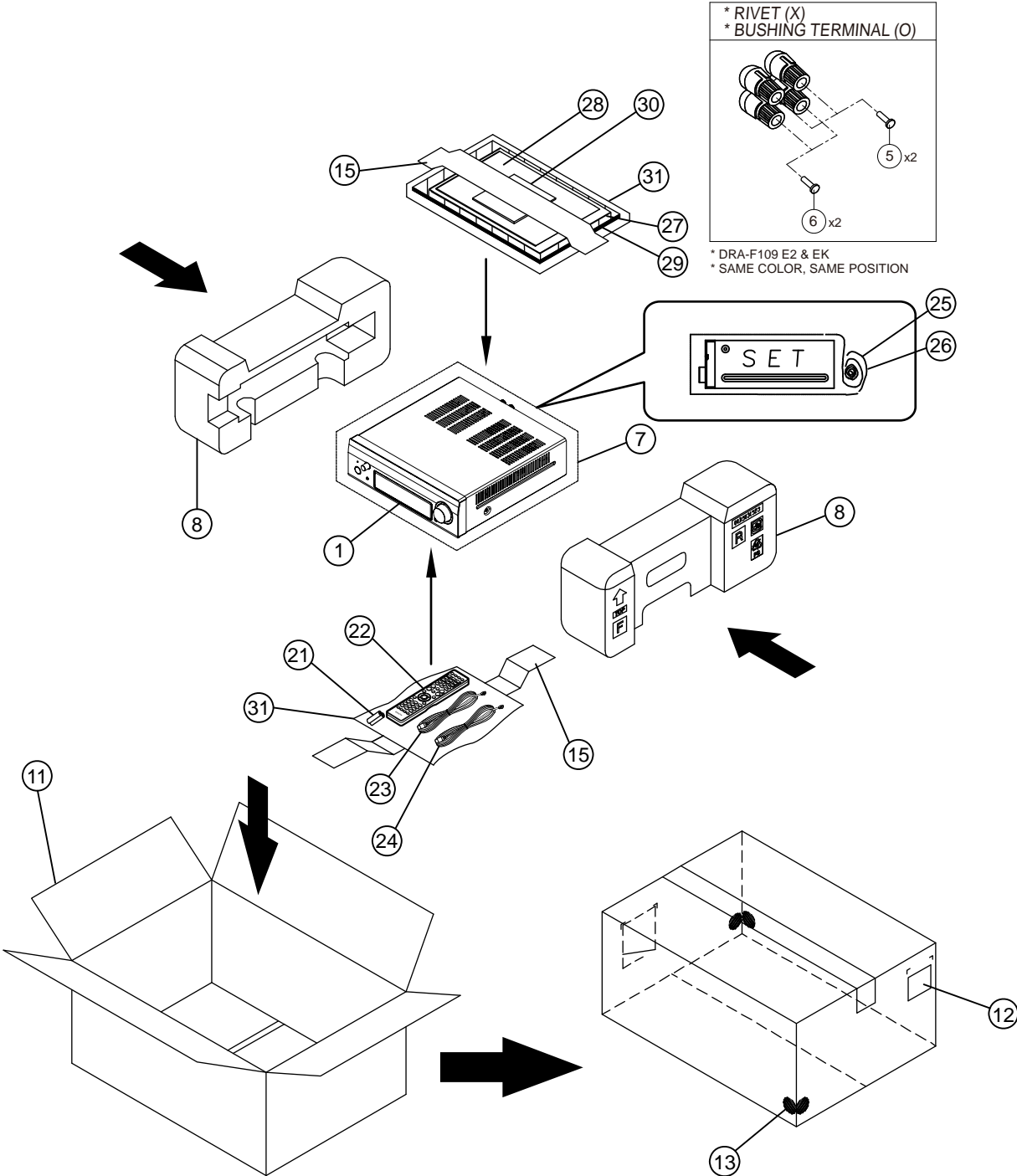
* The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.
 BKE2 : Black E2 model SPE2 : Premium Silver E2 model
 BKEK : Black EK model SPEK : Premium Silver EKmodel

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New	
1	nsp	MAIN PCB ASSY	E2	7025HK1120020	1	*	
1	nsp	MAIN PCB ASSY	EK	7025HK1120040	1	*	
1-1	-	PCB MAIN	E2	7028072231020	1		
1-1	-	PCB MAIN	EK	7028072231030	1		
1-2	-	PCB DBUS		7028072232010	1		
1-3	-	PCB DAB	E2	7028072233020	1		
1-3	-	PCB DAB	EK	7028072233030	1		
1-4	-	PCB SHIELD		7028072234010	1		
2	nsp	FRONT PCB ASSY	E2	7025HK1120021	1	*	
2	nsp	FRONT PCB ASSY	EK	7025HK1120041	1	*	
2-1	-	PCB FRONT		7028072241010	1		
2-2	-	PCB AC OUTLET		7028072242020	1		
△	3	963189100450S	SMPS PCB UNIT		8208000950020S	1	*
1	963416100800D	WINDOW			5077213353000S	1	*
2	00D9630051310	LENS			3710210023001S	1	
3	963402102880D	FRONT PANEL	BKE2		3067215618010S	1	*
3	963402102890D	FRONT PANEL	BKEK		3067215618020S	1	*
3	963402102900D	FRONT PANEL	SPE2		3067215618050S	1	*
3	963402102910D	FRONT PANEL	SPEK		3067215618030S	1	*
4	963402102930D	PANEL INNER	BKE2, BKEK		3067215621000S	1	*
4	963402102940D	PANEL INNER	SPE2, SPEK		3067215621100S	1	*
5	963411101840D	BUTTON ASSY POWER	BKE2, BKEK		5098215041000SZ	1	*
5	963411101850D	BUTTON ASSY POWER	SPE2, SPEK		5098215041100SZ	1	*
6	963411102400S	KNOB ASSY BUTTON 1KEY	BKE2, BKEK		5097215031000S	1	*
6	963411102410S	KNOB ASSY BUTTON 1KEY	SPE2, SPEK		5097215031010S	1	*
7	00D1120980119	KNOB ASSY VOLUME	BKE2, BKEK		5088212588010S	1	
7	00D1120980106	KNOB ASSY VOLUME	SPE2, SPEK		5088212588000S	1	
8	00D1120884228	KNOB ASSY SOURCE	BKE2, BKEK		5088212598010S	1	
8	00D1120884215	KNOB ASSY SOURCE	SPE2, SPEK		5088212598000S	1	
9	nsp	PLATE			4470212516000S	1	
10	nsp	CHASSIS ASSY			3208214366000S	1	*
18	nsp	HEAT SINK			2120212118000S	1	*
19	963406101210D	CHASSIS BACK	BKE2, SPE2		3207214346000S	1	*
19	963406101220D	CHASSIS BACK	BKEK, SPEK		3207214346100S	1	*
20	963401100720D	CABINET	BKE2, BKEK		3007212046000S	1	*
20	963401100730D	CABINET	SPE2, SPEK		3007212046010S	1	
21	nsp	DOUBLE FACE TAPE			A710000510000S	1	
22	nsp	CORD HOLDER (L50)			4330000310000S	1	

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
25	nsp	WASHER (POLYSLIDER)	BKEK, SPEK	1530210373000S	1	
26	943189100220S	TUNER ,DAB	BKEK, SPEK	E907113800010S	1	
28	nsp	PLATE		4470212666000S	1	
29	nsp	TAPE, ACETATE CLOTH		1220210059010S	1	
30	nsp	BRACKET		4010215722000S	1	
31	nsp	NUT	BKEK, SPEK	1520210335000S	1	
★	963407100330S	FOOT		4000210731000S	4	*
★	963407100220D	CUSHION FOOT		4050212815000S	4	*
★	963606501670S	CABLE,FLAT CARD		N711171512480S	1	*
★	nsp	BRACKET		4010215732000S	1	
★	nsp	CLAMP CABLE		4330040343010S	3	
★	nsp	POP LABEL	BKE2, SPE2	5507000009850S	1	*
★	nsp	POP LABEL	BKEK, SPEK	5507000009860S	1	*
★	nsp	SERIAL LABEL	BKE2, SPE2	5507000009750S	1	
★	nsp	SERIAL LABEL	BKEK, SPEK	5507000009770S	1	
SCREWS						
S1	nsp	"SCREW +2S 3X8 B-TYPE(DA CHENG) ZNW/BH"		B020030081B10S	19	
S2	nsp	"SCREW +2S 3X10 B-TYPE(DOT) BK/BH"		B020030103B11S	19	
S3	nsp	SCREW,TAP TITE +2S 3*6 B-TYPE BK/ FH		B020030063F10S	2	
S4	nsp	"SCREW +2S 4X8 B-TYPE(DOT)(DACHENG) BK/ BH"	BKE2, BKEK	1500040083B10S	2	
S4	nsp	SCREW(+2S 4X8 NI/BH DOT)	SPE2, SPEK	1500040084B10S	2	
S5	nsp	"SCREW +2S 3X10 B-TYPE(DOT) BK/BH"	BKE2, BKEK	B020030103B11S	4	
S5	nsp	SCREW (+2S 3*10 B-TYPE NI/BH)	SPE2, SPEK	B020030104B10S	4	

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

* Parts indicated by "nsp" on this table cannot be supplied.

* Parts indicated by the "★" mark are not illustrated in the exploded view.

* The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.

BKE2 : Black E2 model

SPE2 : Premium Silver E2 model

BKEK : Black EK model

SPEK : Premium Silver EKmodel

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New	
1	-	SET		-			
5	nsp	BUSHING RED		2410040353020S	2		
6	nsp	BUSHING BK		2410040353010S	2		
7	nsp	POLY BAG		6337210179000S	1		
8	963533101570D	CUSHION SNOW L/R		6230213234000S	1	* 	
11	963531102780D	GIFT BOX	BKE2, SPE2	6007212180010S	1	*	
11	963531102790D	GIFT BOX	BKEK, SPEK	6007212180020S	1	*	
12	nsp	LABEL CONTROL		5507000009680S	2		
13	nsp	LABEL COLOR	SPE2, SPEK	5507020170680S	2		
15	nsp	TAPE		1220210772000S	2		
21	nsp	BATTERY, DRY		G670001R50240S	2		
22	30701010800AD	REMOCON		8300116300010S	1	*	
23	963116100080S	ANTENNA, WIRE	BKE2, SPE2	E605010140010S	1		
24	963116100130S	ANTENNA, WIRE	BKEK, SPEK	E605010150020S	1	*	
	25	963611012960S	CORD ASSY	BKE2, SPE2	L068250251800S	1	
	26	963611500620S	CORD ASSY	BKEK, SPEK	L068250030010S	1	*
	27	54111087000AD	INSTRUCTION MANUAL	BKE2, SPE2	5707000007140S	1	*
	27	54111087000AD	INSTRUCTION MANUAL	BKEK, SPEK	5707000007150S	1	*
	28	54111093010AD	SAFETY INSTRUCTION		5227000007720S	1	
	29	nsp	S.S LIST		577700162001GS	1	
	30	35101000200AD	DISC	BKE2, SPE2	6517000000900S	1	*
	30	35101000200AD	DISC	BKEK, SPEK	6517000000910S	1	*
	31	nsp	POLY BAG		6337000240010S	2	

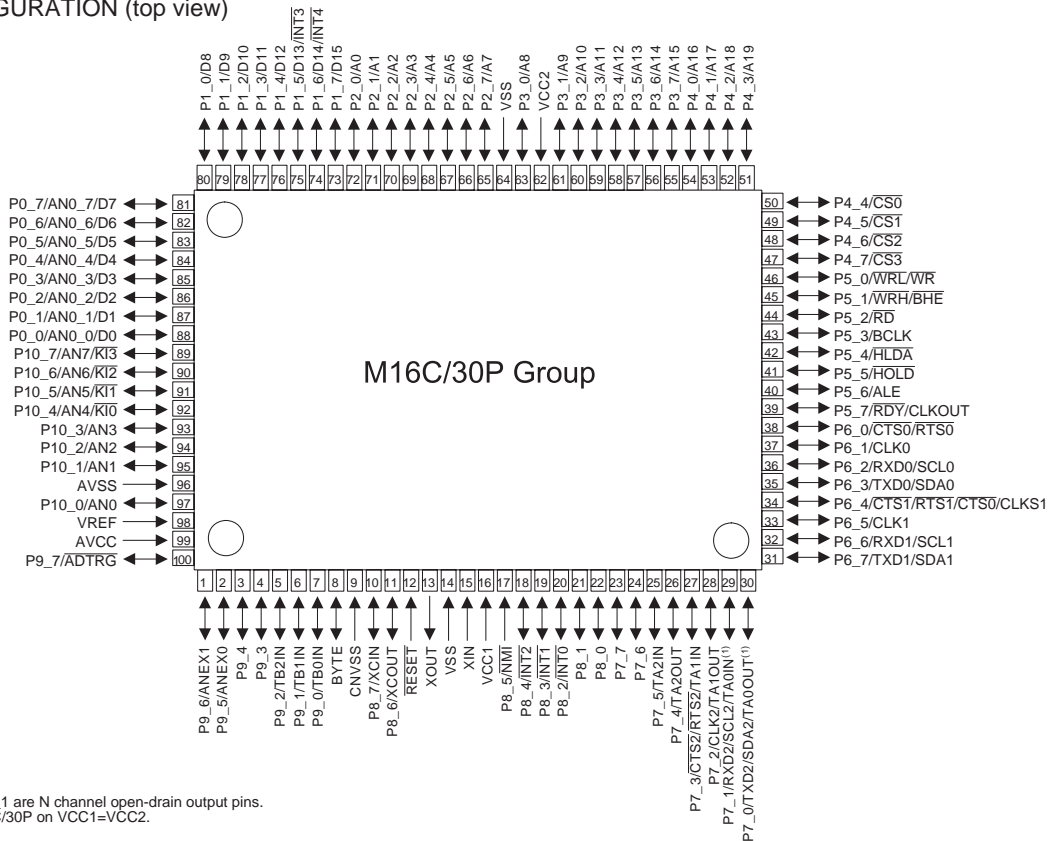
SEMICONDUCTORS

Only major semiconductors are shown. General semiconductors etc. are omitted from list.
The semiconductors which have a detailed drawing in a schematic diagram are omitted from list.

1. IC's

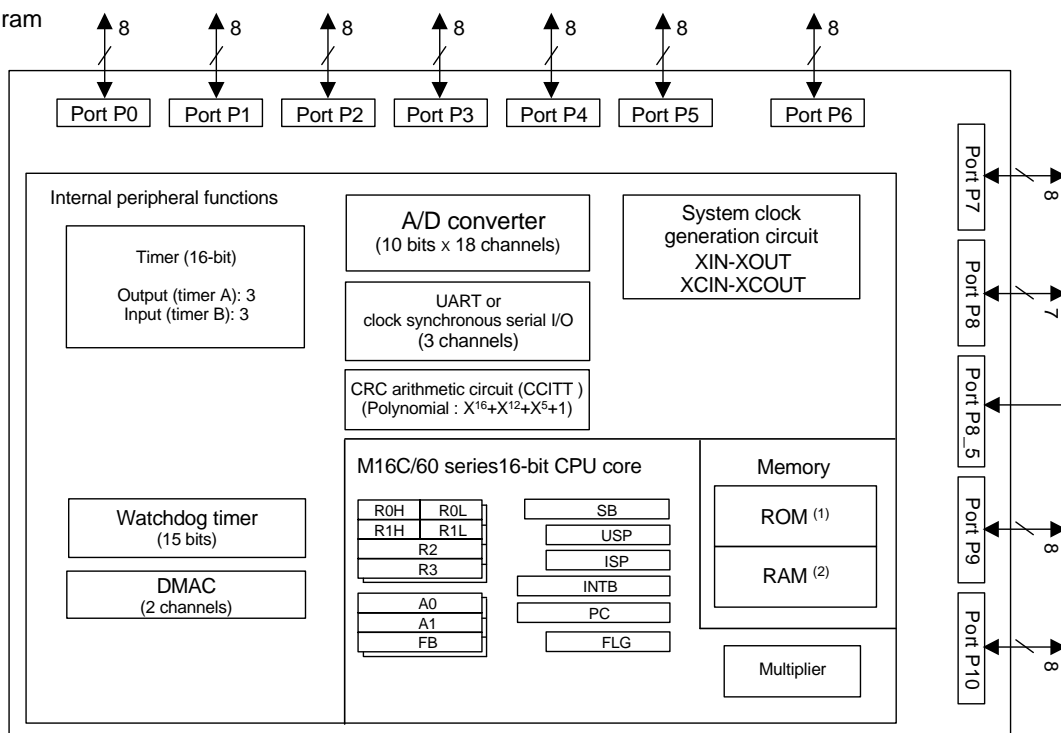
M3030RFGPFP (MAIN : IC102)

PIN CONFIGURATION (top view)



NOTES:
1. P7_0 and P7_1 are N channel open-drain output pins.
2. Use the M16C/30P on VCC1=VCC2.

Block Diagram



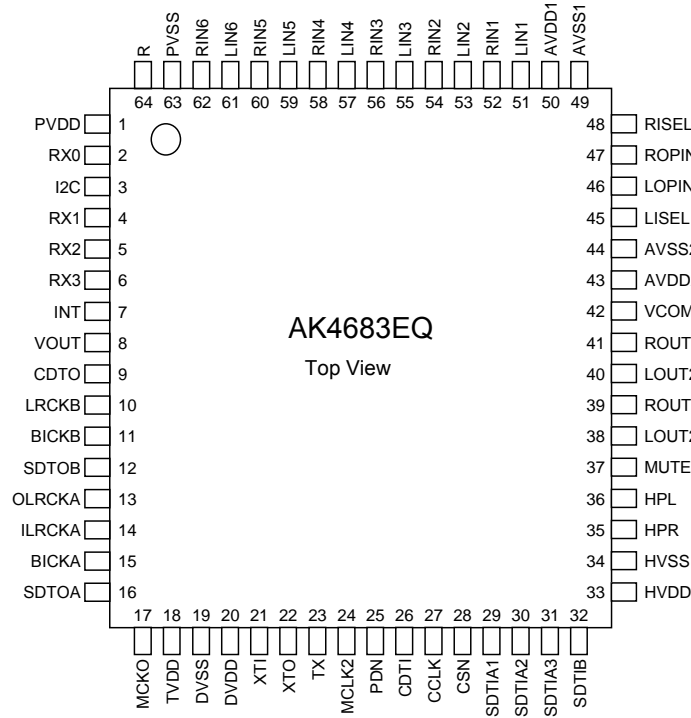
NOTES:
1. ROM size depends on microcomputer type.
2. RAM size depends on microcomputer type.

M3030RFGFPF Terminal Functions

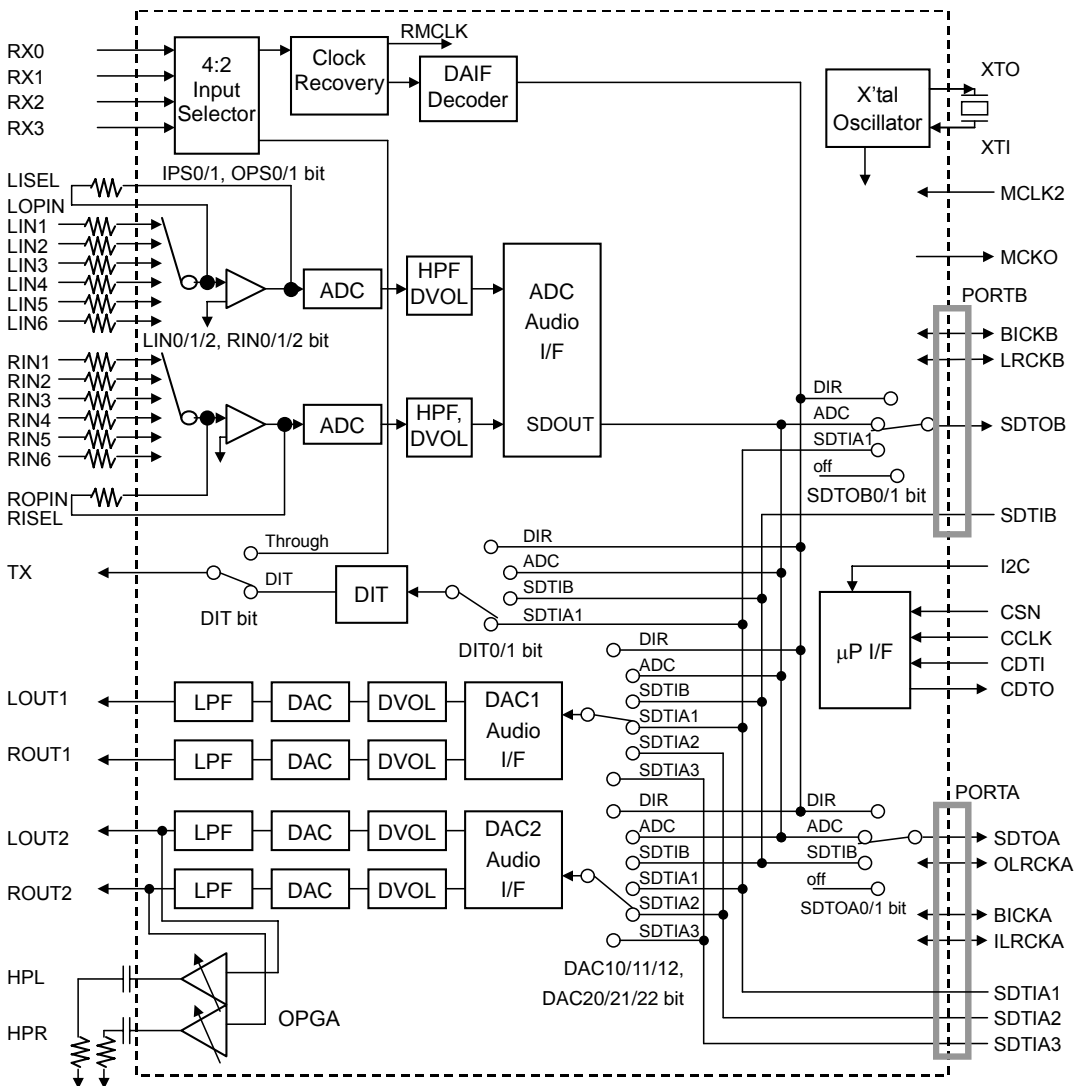
Pin	Port Name	I/O	Port setting in Standby mode	NOTE
1	VFD_CLK	O	L	VFD Internal drive logic control clock
2	VFD_RESET	O	L	Reset for VFD Internal drive logic control
3	VFD_CS	O	L	Chip select for VFD Internal drive logic control
4	LED_GREEN	O	L	LED control ON/OFF
5	LED_RED	O	L	LED control ON/OFF
6				
7	NC	O	L	NOT USED
8	RMC	I	L	Data signal input from Remote Control Input
9	BYTE	I		The data bus is 16 bits long when the this pin is held "L"(GND)
10	CNVSS_UP	I		Switches processor mode
11	XIN_Clock	I	L	Clock timer operation for frequency out (32.786MHz)
12	XOUT_Clock	O	L	Clock timer operation for frequency in (32.786MHz)
13	/RESET	I		Input for reset CPU (active at L)
14	XOUT	O		Output for 16MHz resonator
15	VSS	I		Ground
16	XIN	I		Input for 16MHz resonator
17	VCC	I		+3.3V power supply
18	/NMI	I	L	Input pin for the NMI interrupt
19	DENON BUS_RX	I	L	Wake up interrupt for DENON BUS
20	4683_VOUT	I	L	AK4683 vbit interrupt port
21	4683_INT	I	L	AK4683 interrupt port
22	DENON BUS_DET	I	L	Jack detect for DENON Bus
23	NC	O	L	NOT USED
24	24C16_SDA	I/O	H	Data signal input & output for data backup of main CPU
25	24C16_SCL	O	H	Clock signal output for data backup of main CPU
26	NC	O	L	NOT USED
27	NC	O	L	NOT USED
28	NC	O	L	NOT USED
29	NC	O	L	NOT USED
30	NC	O	L	NOT USED
31	NC	O	L	NOT USED
32	U_TX	O	L	Output for Upgrade (UART)
33	U_RX	I	L	Input for Upgrade (UART)
34	SCLK_JTAG	O	L	RS232 to MCU communication port
35	BUSY_JTAG	I	L	RS232 to MCU communication port
36	DENON BUS_TX	O	L	Output data for DENON BUS
37	DENON BUS_RX	I	L	Input data for DENON BUS
38	DENON BUS_CONT	O	L	Enable pin for DENON BUS
39	TU_DAB_SCLK	O	L	Clock signal for TUNER or DAB pack
40	TU_DAB_SDIO	I/O	L	Data for TUNER or DAB pack
41	TUNER_RESET	O	L	Reset for TUNER pack (active at L)
42	EPM_UP	I	L	Input for UPGRADE
43	TUNER_SEN	O	L	Output for TUNER pack (active at L)
44	DAB PW_ON	O	L	DAB or TUNER pack power on/off switch
45	NC	O	L	NOT USED
46	4683_RESET	O	L	Reset for AK4683 operation control
47	CE	I	L	CPU upgrade control port
48	4683_CDTO	I	L	Input data for AK4683 operation control
49	4683_CDTI	O	L	Output data for AK4683 operation control
50	4683_CCLK	O	L	Clock signal output for AK4683

Pin	Port Name	I/O	Port setting in Standby mode	NOTE
51	NC	O	L	NOT USED
52	NC	O	L	NOT USED
53	H/P_ON	O	L	TAS5088 Headphone out for port (active at Low)
54	5508_SCL	O	L	Output for audio mute (active at L)
55	5508_RESET	O	L	Output for TAS5508 operation control (active at L)
56	5508_SDA	I/O	L	Output data for TAS5508 operation control
57	NC	O	L	NOT USED
58	5508_MUTE	O	L	TAS5508 Mute
59	5508_PDN	O	L	Output for TAS5508 operation control
60	5142_SD	I	L	TAS5142 Error data (shut down)
61	5142_OTW	I	L	TAS5142 Error data (over temperature)
62	VCC2	I		+3.3V power supply
63	NC	O	L	NOT USED
64	VSS	I		Ground
65	SP_PROTECT	I	L	DC Dection of speaker out
66	NC	O	L	NOT USED
67	SW_MUTE	O	L	Port for Subwoofer mute
68	H/P_MUTE	O	L	Port for Headphone mute
69	NC	O	L	NOT USED
70	H/P_DET	I	L	Dection of Headphone jack input.
71	NC	O	L	NOT USED
72	NC	O	L	NOT USED
73	SMPS_PW_ON	O	L	Output for SMPS on/off port
74	TUNER_GPIO	I	L	Input for Tuner operation control
75	POWER DOWN	I	L	AC Power off dection port
76	NC	O	L	NOT USED
77	NC	O	L	NOT USED
78	NC	O	L	NOT USED
79	NC	O	L	NOT USED
80	NC	O	L	NOT USED
81	PVDD_PROTECTION	I	L	DC Power error dection port
82	NC	O	L	NOT USED
83	NC	O	L	NOT USED
84	NC	O	L	NOT USED
85	VFD_ON	O	L	VFD internal logic driver power on/off port
86	VOL_UP	I	L	Data input for VOLUME encoder (VOLUME UP)
87	VOL_DN	I	L	Data input for VOLUME encoder (VOLUME DOWN)
88	FUN_UP	I	L	Data input for INPUT encoder
89	FUN_DN	I	L	Data input for INPUT encoder
90	NC	O	L	NOT USED
91	KEY0	I	L	Data input for Key0 scan
92	KEY1	I	L	Data input for Key1scan
93	REGION_OPT1	I	L	INPUT for region option (EK,E2,JP) - 93,94pin HH: EK, HL: E2, LH:JP
94	REGION_OPT2	I	L	INPUT for region option (EK,E2,JP) - 93,94pin HH: EK, HL: E2, LH:JP
95	NC	O	L	NOT USED
96	GND	I		Ground
97	NC	O	L	NOT USED
98	VREF	I		Reference voltage(Connected to +3.3V)
99	AVCC	I		+3.3V power supply
100	VFD_DI	O	L	Output data signal for VFD operation control

AK4683 (MAIN : IC111)



AK4683 Block Diagram

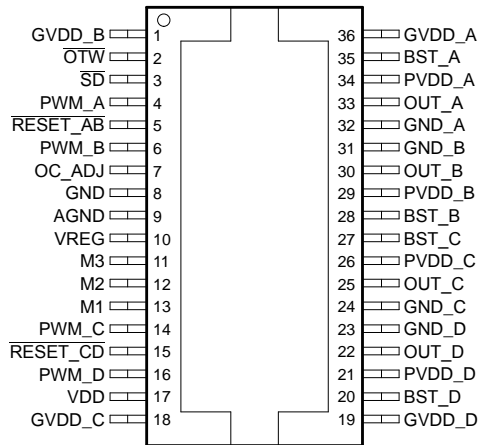


AK4683 Pin Discriptions

No.	Pin Name	I/O	Function
1	PVDD	-	PLL Power supply Pin, 4.5V~5.5V
2	RX0	I	Receiver Channel 0 Pin (Internal biased pin. Internally biased at PVDD/2)
3	I2C	I	Control Mode Select Pin. “L”: 4-wire Serial, “H”: I ² C Bus
4	RX1	I	Receiver Channel 1 Pin
5	RX2	I	Receiver Channel 2 Pin
6	RX3	I	Receiver Channel 3 Pin
7	INT	O	Interrupt Pin
8	VOUT	O	V-bit Output Pin for Receiver Input
	DZF	O	Zero Input Detect Pin When the input data of DAC follow total 8192 LRCK cycles with “0” input data, this pin goes to “H”. And when RSTN1 bit is “0”, PWDA bit is “0”, this pin goes to “H”.
	OVF	O	Analog Input Overflow Detect Pin This pin goes to “H” if the analog input of Lch or Rch overflows.
9	CDTO	O	Control Data Output Pin in Serial Mode and I2C pin = “L”.
10	LRCKB	I/O	Channel Clock B Pin
11	BICKB	I/O	Audio Serial Data Clock B Pin
12	SDTOB	O	Audio Serial Data Output B Pin
13	OLRCKA	I/O	Output Channel Clock A Pin
14	ILRCKA	I/O	Input Channel Clock A Pin
15	BICKA	I/O	Audio Serial Data Clock A Pin
16	SDTOA	O	Audio Serial Data Output A Pin
17	MCKO	O	Master Clock Output Pin
18	TVDD	-	Output Buffer Power Supply Pin, 2.7V~5.5V
19	DVSS	-	Digital Ground Pin, 0V
20	DVDD	-	Digital Power Supply Pin, 4.5V~5.5V
21	XTI	I	X’tal Input Pin
22	XTO	O	X’tal Output Pin
23	TX	O	Transmit Channel Output pin When DIT bit = “0”, RX0~3 Through. When DIT bit = “1”, Internal DIT Output.
24	MCLK2	I	Master Clock Input Pin
25	PDN	I	Power-Down Mode & Reset Pin When “L”, the AK4683 is powered-down, all registers are reset. And then all digital output pins go “L”. The AK4683 must be reset once upon power-up.
26	CDTI	I	Control Data Input Pin in Serial Mode and I2C pin = “L”.
	SDA	I/O	Control Data Pin in Serial Mode and I2C pin = “H”.
27	CCLK	I	Control Data Clock Pin in Serial Mode and I2C pin = “L”
	SCL	I	Control Data Clock Pin in Serial Mode and I2C pin = “H”
28	CSN	I	Chip Select Pin in Serial Mode and I2C pin = “L”.
	TEST	I	This pin should be connected to DVSS in Serial Mode and I2C pin = “H”.
29	SDTIA1	I	Audio Serial Data Input A1 Pin
30	SDTIA2	I	Audio Serial Data Input A2 Pin
31	SDTIA3	I	Audio Serial Data Input A3 Pin
32	SDTIB	I	Audio Serial Data Input B Pin
33	HVDD	-	HP Power Supply Pin, 4.5V~5.5V
34	HVSS	-	HP Ground Pin, 0V
35	HPR	O	HP Rch Output Pin
36	HPL	O	HP Lch Output Pin
37	MUTET	-	HP Common Voltage Output Pin 1μF capacitor should be connected to HVSS externally.

No.	Pin Name	I/O	Function
38	LOUT2	O	DAC2 Lch Positive Analog Output Pin
39	ROUT2	O	DAC2 Rch Positive Analog Output Pin
40	LOUT1	O	DAC1 Lch Positive Analog Output Pin
41	ROUT1	O	DAC1 Rch Positive Analog Output Pin
42	VCOM	-	DAC/ADC Common Voltage Output Pin 2.2 μ F capacitor should be connected to AVSS2 externally.
43	AVDD2	-	DAC Power Supply Pin, 4.5V~5.5V
44	AVSS2	-	DAC Ground Pin, 0V
45	LISEL	O	Lch Feedback Resistor Output Pin
46	LOPIN	O	Lch Feedback Resistor Input Pin, 0.5xAVDD1
47	ROPIN	O	Rch Feedback Resistor Input Pin. 0.5xAVDD1
48	RISEL	O	Rch Feedback Resistor Output Pin
49	AVSS1	-	ADC Ground Pin, 0V
50	AVDD1	-	ADC Power Supply Pin, 4.5V~5.5V
51	LIN1	I	Lch Input 1 Pin
52	RIN1	I	Rch Input 1 Pin
53	LIN2	I	Lch Input 2 Pin
54	RIN2	I	Rch Input 2 Pin
55	LIN3	I	Lch Input 3 Pin
56	RIN3	I	Rch Input 3 Pin
57	LIN4	I	Lch Input 4 Pin
58	RIN4	I	Rch Input 4 Pin
59	LIN5	I	Lch Input 5 Pin
60	RIN5	I	Rch Input 5 Pin
61	LIN6	I	Lch Input 6 Pin
62	RIN6	I	Rch Input 6 Pin
63	PVSS	-	PLL Ground pin
64	R	-	External Resistor Pin 12k Ω +/-1% resistor should be connected to PVSS externally.

TAS5142 (MAIN : IC113)

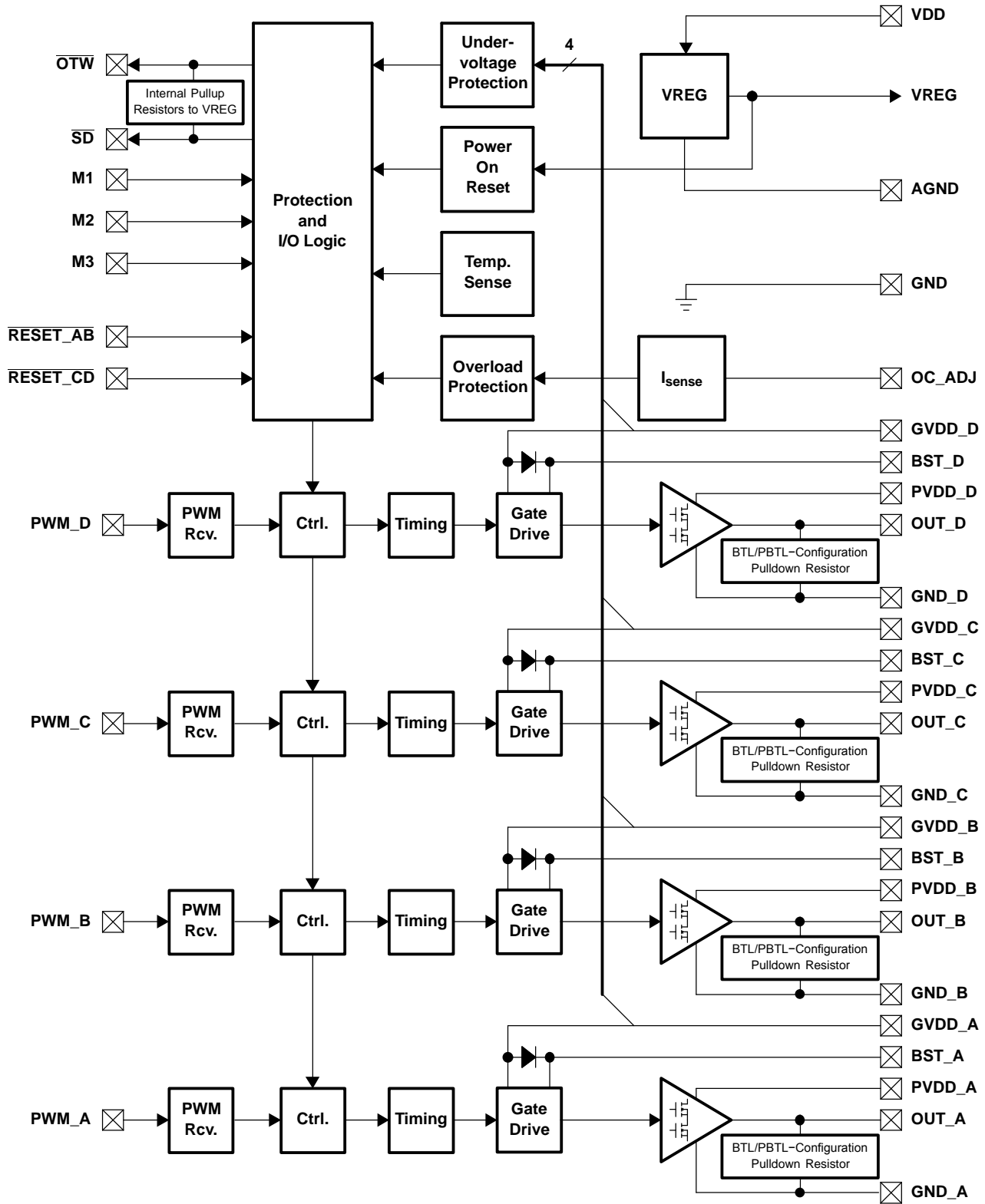


TAS5142 Pin Discriptions

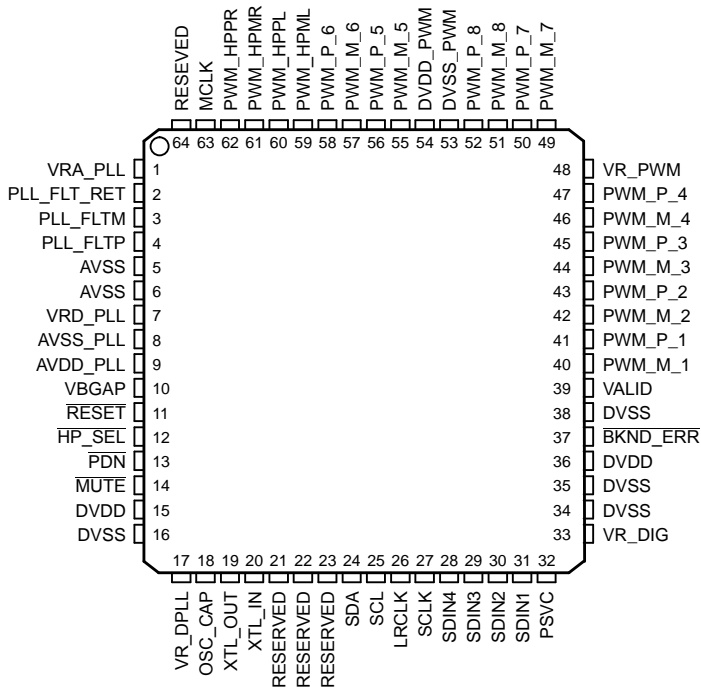
TERMINAL			FUNCTION (1)	DESCRIPTION
NAME	DKD NO.	DDV NO.		
AGND	9	11	P	Analog ground
BST_A	35	43	P	HS bootstrap supply (BST), external capacitor to OUT_A required
BST_B	28	34	P	HS bootstrap supply (BST), external capacitor to OUT_B required
BST_C	27	33	P	HS bootstrap supply (BST), external capacitor to OUT_C required
BST_D	20	24	P	HS bootstrap supply (BST), external capacitor to OUT_D required
GND	8	10	P	Ground
GND_A	32	38	P	Power ground for half-bridge A
GND_B	31	37	P	Power ground for half-bridge B
GND_C	24	30	P	Power ground for half-bridge C
GND_D	23	29	P	Power ground for half-bridge D
GVDD_A	36	44	P	Gate-drive voltage supply requires 0.1- μ F capacitor to AGND
GVDD_B	1	1	P	Gate-drive voltage supply requires 0.1- μ F capacitor to AGND
GVDD_C	18	22	P	Gate-drive voltage supply requires 0.1- μ F capacitor to AGND
GVDD_D	19	23	P	Gate-drive voltage supply requires 0.1- μ F capacitor to AGND
M1	13	15	I	Mode selection pin
M2	12	14	I	Mode selection pin
M3	11	13	I	Mode selection pin
NC	–	3, 4, 19, 20, 25, 42	–	No connect. Pins may be grounded.
OC_ADJ	7	9	O	Analog overcurrent programming pin requires resistor to ground
OTW	2	2	O	Overtemperature warning signal, open-drain, active-low
OUT_A	33	39	O	Output, half-bridge A
OUT_B	30	36	O	Output, half-bridge B
OUT_C	25	31	O	Output, half-bridge C
OUT_D	22	28	O	Output, half-bridge D
PVDD_A	34	40, 41	P	Power supply input for half-bridge A requires close decoupling of 0.1- μ F capacitor to GND_A.
PVDD_B	29	35	P	Power supply input for half-bridge B requires close decoupling of 0.1- μ F capacitor to GND_B.
PVDD_C	26	32	P	Power supply input for half-bridge C requires close decoupling of 0.1- μ F capacitor to GND_C.
PVDD_D	21	26, 27	P	Power supply input for half-bridge D requires close decoupling of 0.1- μ F capacitor to GND_D.
PWM_A	4	6	I	Input signal for half-bridge A
PWM_B	6	8	I	Input signal for half-bridge B
PWM_C	14	16	I	Input signal for half-bridge C
PWM_D	16	18	I	Input signal for half-bridge D
RESET_AB	5	7	I	Reset signal for half-bridge A and half-bridge B, active-low
RESET_CD	15	17	I	Reset signal for half-bridge C and half-bridge D, active-low
SD	3	5	O	Shutdown signal, open-drain, active-low
VDD	17	21	P	Power supply for digital voltage regulator requires 0.1- μ F capacitor to GND.
VREG	10	12	P	Digital regulator supply filter pin requires 0.1- μ F capacitor to AGND.

(1) I = input, O = output, P = power

TAS5142 Block Diagram



TAS5508 (MAIN : IC112)



P0010-01

TAS5508 Pin Discriptions

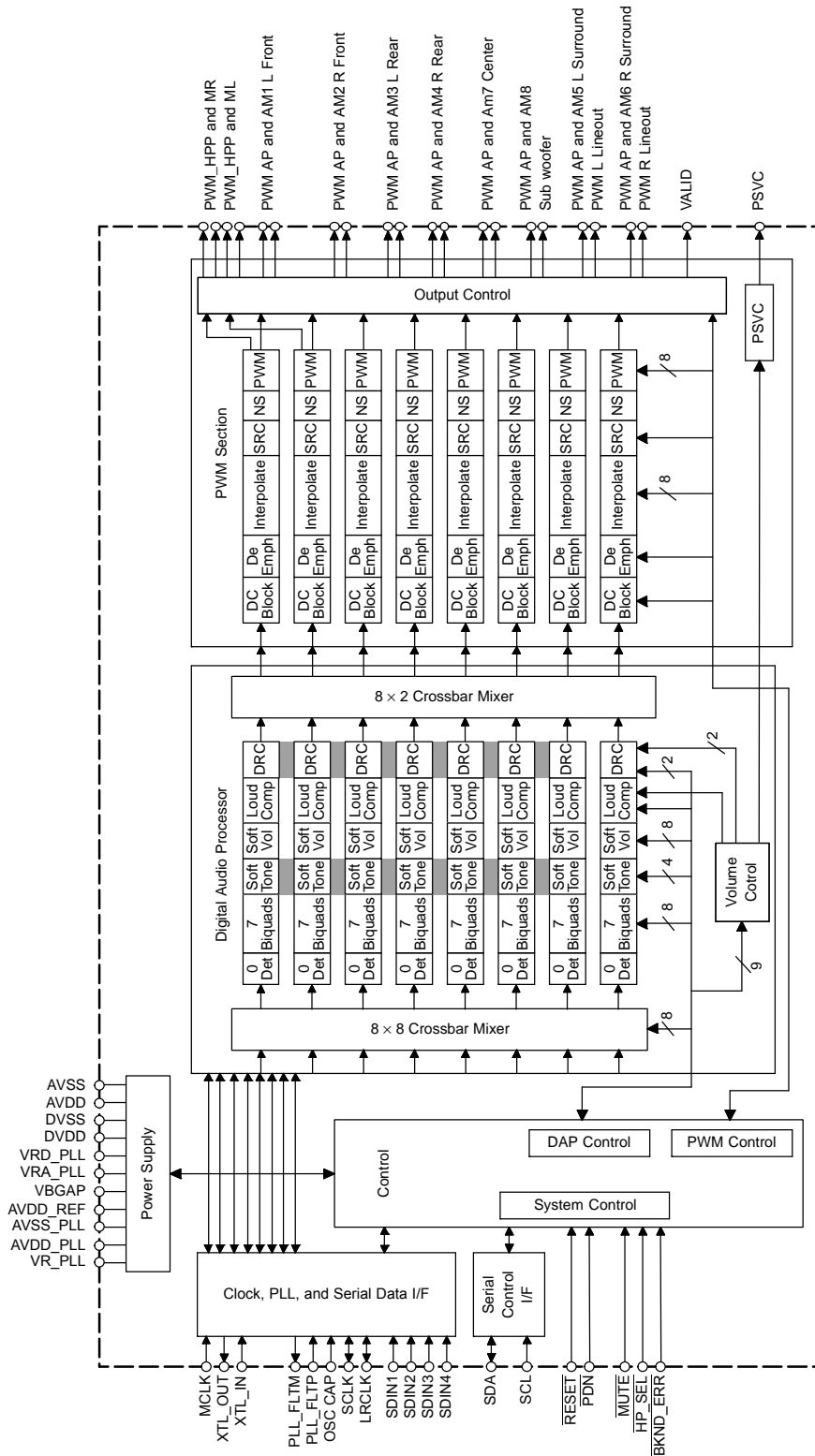
TERMINAL		TYPE ⁽¹⁾	5-V TOLERANT	TERMINATION ⁽²⁾	DESCRIPTION
NAME	NO.				
AVDD_PLL	9	P			3.3-V analog power supply for PLL. This terminal can be connected to the same power source used to drive power terminal DVDD, but to achieve low PLL jitter, this terminal should be bypassed to AVSS_PLL with a 0.1-µF low-ESR capacitor.
AVSS	5, 6	P			Analog ground
AVSS_PLL	8	P			Analog ground for PLL. This terminal should reference the same ground as terminal DVSS, but to achieve low PLL jitter, ground noise at this terminal must be minimized. The availability of the AVSS terminal allows a designer to use optimizing techniques such as star ground connections, separate ground planes, or other quiet ground-distribution techniques to achieve a quiet ground reference at this terminal.
BKND_ERR	37	DI		Pullup	Active-low. A back-end error sequence is generated by applying logic low to this terminal. The BKND_ERR results in no change to any system parameters, with all H-bridge drive signals going to a hard-mute (M) state.
DVDD	15, 36	P			3.3-V digital power supply
DVDD_PWM	54	P			3.3-V digital power supply for PWM
DVSS	16, 34, 35, 38	P			Digital ground
DVSS_PWM	53	P			Digital ground for PWM
HP_SEL	12	DI	5 V	Pullup	Headphone in/out selector. When a logic low is applied, the headphone is selected (speakers are off). When a logic high is applied, speakers are selected (headphone is off).
LRCLK	26	DI	5 V		Serial-audio data left/right clock (sampling-rate clock)
MCLK	63	DI	5 V	Pulldown	MCLK is a 3.3-V master clock input. The input frequency of this clock can range from 4 MHz to 50 MHz.
MUTE	14	DI	5 V	Pullup	Soft mute of outputs, active-low (muted signal = a logic low, normal operation = a logic high). The mute control provides a noiseless volume ramp to silence. Releasing mute provides a noiseless ramp to previous volume.
OSC_CAP	18	AO			Oscillator capacitor
PDN	13	DI	5 V	Pullup	Power down, active-low. PDN powers down all logic and stops all clocks whenever a logic low is applied. The internal parameters are preserved through a power-down cycle, as long as RESET is not active. The duration for system recovery from power down is 100 ms.
PLL_FLT_RET	2	AO			PLL external filter return
PLL_FLTM	3	AO			PLL negative input. Connected to PLL_FLT_RTIN via an RC network
PLL_FLTP	4	AI			PLL positive input. Connected to PLL_FLT_RTIN via an RC network
PSVC	32	O			Power-supply volume control PWM output
PWM_HPML	59	DO			PWM left-channel headphone (differential -)
PWM_HPMR	61	DO			PWM right-channel headphone (differential -)
PWM_HPPL	60	DO			PWM left-channel headphone (differential +)
PWM_HPPR	62	DO			PWM right-channel headphone (differential +)
PWM_M_1	40	DO			PWM 1 output (differential -)
PWM_M_2	42	DO			PWM 2 output (differential -)
PWM_M_3	44	DO			PWM 3 output (differential -)
PWM_M_4	46	DO			PWM 4 output (differential -)
PWM_M_5	55	DO			PWM 5 output (differential -)
PWM_M_6	57	DO			PWM 6 output (differential -)
PWM_M_7	49	DO			PWM 7 (lineout L) output (differential -)
PWM_M_8	51	DO			PWM 8 (lineout R) output (differential -)
PWM_P_1	41	DO			PWM 1 output (differential +)
PWM_P_2	43	DO			PWM 2 output (differential +)

(1) Type: A = analog; D = 3.3-V digital; P = power/ground/decoupling; I = input; O = output
 (2) All pullups are 200-mA weak pullups and all pulldowns are 200-mA weak pulldowns. The pullups and pulldowns are included to ensure proper input logic levels if the terminals are left unconnected (pullups => logic-1 input; pulldowns => logic-0 input). Devices that drive inputs with pullups must be able to sink 200 mA, while maintaining a logic-0 drive level. Devices that drive inputs with pulldowns must be able to source 200 mA, while maintaining a logic-1 drive level.

TERMINAL		TYPE ⁽¹⁾	5-V TOLERANT	TERMINATION ⁽²⁾	DESCRIPTION
NAME	NO.				
PWM_P_3	45	DO			PWM 3 output (differential +)
PWM_P_4	47	DO			PWM 4 output (differential +)
PWM_P_5	56	DO			PWM 5 output (differential +)
PWM_P_6	58	DO			PWM 6 output (differential +)
PWM_P_7	50	DO			PWM 7 (lineout L) output (differential +)
PWM_P_8	52	DO			PWM 8 (lineout R) output (differential +)
RESERVED	21, 22, 23, 64				Connect to digital ground
RESET	11	DI	5 V	Pullup	System reset input, active-low. A system reset is generated by applying a logic low to this terminal. RESET is an asynchronous control signal that restores the TAS5508 to its default conditions, sets the valid output low, and places the PWM in the hard mute (M) state. Master volume is immediately set to full attenuation. On the release of RESET, if PDN is high, the system performs a 4- to 5-ms device initialization and sets the volume at mute.
SCL	25	DI	5 V		I ² C serial-control clock input/output
SCLK	27	DI	5 V		Serial-audio data clock (shift clock) input
SDA	24	DIO	5 V		I ² C serial-control data-interface input/output
SDIN1	31	DI	5 V	Pulldown	Serial-audio data input 1 is one of the serial-data input ports. SDIN1 supports four discrete (stereo) data formats and is capable of inputting data at 64 Fs.
SDIN2	30	DI	5 V	Pulldown	Serial-audio data input 2 is one of the serial-data input ports. SDIN2 supports four discrete (stereo) data formats and is capable of inputting data at 64 Fs.
SDIN3	29	DI	5 V	Pulldown	Serial-audio data input 3 is one of the serial-data input ports. SDIN3 supports four discrete (stereo) data formats and is capable of inputting data at 64 Fs.
SDIN4	28	DI	5 V	Pulldown	Serial-audio data input 4 is one of the serial-data input ports. SDIN4 supports four discrete (stereo) data formats and is capable of inputting data at 64 Fs.
VALID	39	DO			Output indicating validity of PWM outputs, active-high
VBGAP	10	P			Band-gap voltage reference. A pinout of the internally regulated 1.2-V reference. Typically has a 1-nF low-ESR capacitor between VBGAP and AVSS_PLL. This terminal must not be used to power external devices.
VR_DIG	33	P			Voltage reference for 1.8-V digital core supply. A pinout of the internally regulated 1.8-V power used by digital core logic. A 4.7- μ F low-ESR capacitor ⁽³⁾ should be connected between this terminal and DVSS. This terminal must not be used to power external devices.
VR_DPLL	17	P			Voltage reference for 1.8-V digital PLL supply. A pinout of the internally regulated 1.8-V power used by digital PLL logic. A 0.1- μ F low-ESR capacitor ⁽³⁾ should be connected between this terminal and DVSS_CORE. This terminal must not be used to power external devices.
VR_PWM	48	P			Voltage reference for 1.8-V digital PWM core supply. A pinout of the internally regulated 1.8-V power used by digital PWM core logic. A 0.1- μ F low-ESR capacitor ⁽³⁾ should be connected between this terminal and DVSS_PWM. This terminal must not be used to power external devices.
VRA_PLL	1	P			Voltage reference for 1.8-V PLL analog supply. A pinout of the internally regulated 1.8-V power used by PLL logic. A 0.1- μ F low-ESR capacitor ⁽³⁾ should be connected between this terminal and AVSS_PLL. This terminal must not be used to power external devices.
VRD_PLL	7	P			Voltage reference for 1.8-V PLL digital supply. A pinout of the internally regulated 1.8-V power used by PLL logic. A 0.1- μ F low-ESR capacitor ⁽³⁾ should be connected between this terminal and AVSS_PLL. This terminal must not be used to power external devices.
XTL_IN	20	AI			XTL_OUT and XTL_IN are the only LVCMOS terminals on the device. They provide a reference clock for the TAS5508 via use of an external fundamental-mode crystal. XTL_IN is the 1.8-V input port for the oscillator circuit. A 13.5-MHz crystal (HCM49) is recommended.
XTL_OUT	19	AO			XTL_OUT and XTL_IN are the only LVCMOS terminals on the device. They provide a reference clock for the TAS5508 via use of an external fundamental-mode crystal. XTL_OUT is the 1.8-V output drive to the crystal. A 13.5-MHz crystal (HCM49) is recommended.

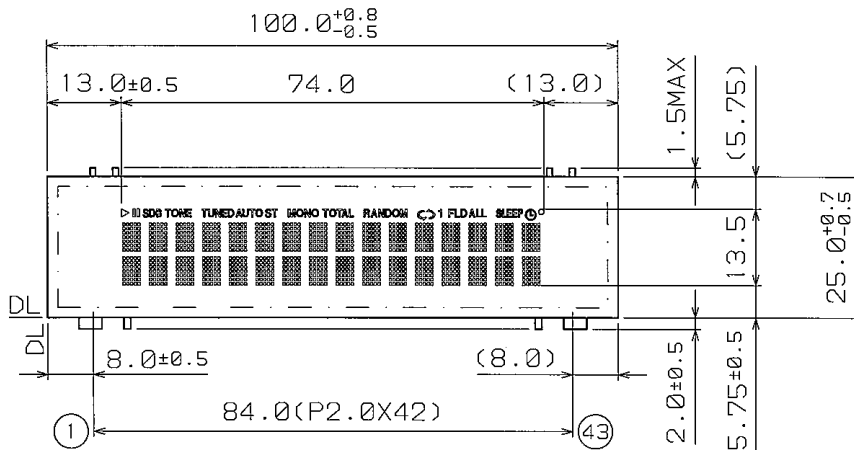
- (3) If desired, low-ESR capacitance values can be implemented by paralleling two or more ceramic capacitors of equal value. Paralleling capacitors of equal value provides an extended high-frequency supply decoupling. This approach avoids the potential of producing parallel resonance circuits that have been observed when paralleling capacitors of different values.

TAS5508 Block Diagram



2. FL DISPLAY

V.F.D (16-ST-103GINK) (FLT301)

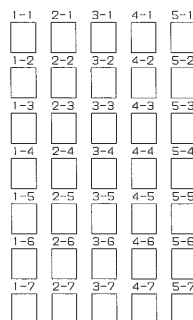
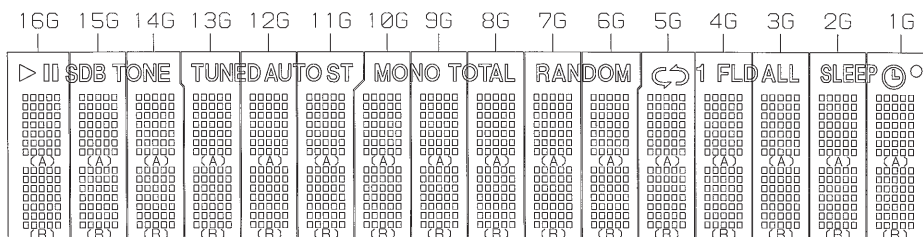


PIN CONNECTION

PIN NO.	1	2	3	4	~	45	~	90	1	2	3	3	3	3	3	3	3	3	3	4	4	4			
CONNECTION	F1	N1	N1			N				T	T	S	D	C	C	1	RES	OSC	OV	V	P	N	N	N	F
	1	PP	PP			C				B	A	A	A	A	S	T		C	D	H	D	D	P	P	2

- NOTE
- 1) F1, F2 ---- Filament
 - 2) NP ----- No pin
 - 3) NC ----- No connection
(NC pin should be electrically open on the PC board)
 - 4) NX ----- No extend pin
 - 5) DL ----- Datum Line
 - 6) LGND ---- Logic GND pin
 - 7) PGND ---- Power GND pin
 - 8) VH ----- High Voltage Supply pin
 - 9) VDD ---- Logic Voltage Supply pin
 - 10) CP ----- Shift Register Clock
 - 11) DA ----- Serial Data Input
 - 12) ISA, B --- Test pin
 - 13) CS ----- Chip Select Input pin
 - 14) RESET --- Reset Input
 - 15) OSC ----- Pin for self-oscillation
 - 16) Solder composition is Sn-3Ag-0.5Cu.

GRID ASSIGNMENT



GRID ASSIGNMENT

	T21	T20	T19	T18	T17	T16~T1
D0A	-	-	-	-	-	1-1A
D1A	-	-	-	-	-	2-1A
D2A	-	-	-	-	-	3-1A
D3A	-	-	-	-	-	4-1A
D4A	-	-	-	-	-	5-1A
D5A	-	-	-	-	-	1-2A
D6A	-	-	-	-	-	2-2A
D7A	-	-	-	-	-	3-2A
D8A	-	-	-	-	-	4-2A
D9A	-	-	-	-	-	5-2A
D10A	-	-	-	-	-	1-3A
D11A	-	-	-	-	-	2-3A
D12A	-	-	-	-	-	3-3A
D13A	-	-	-	-	-	4-3A
D14A	-	-	-	-	-	5-3A
D15A	-	-	-	-	-	1-4A
D16A	-	-	-	-	-	2-4A
D17A	-	-	-	-	-	3-4A
D18A	-	-	-	-	-	4-4A
D19A	-	-	-	-	-	5-4A
D20A	-	-	-	-	-	1-5A
D21A	-	-	-	-	-	2-5A
D22A	-	-	-	-	-	3-5A
D23A	-	-	-	-	-	4-5A
D24A	-	-	-	-	-	5-5A
D25A	-	-	-	-	-	1-6A
D26A	-	-	-	-	-	2-6A
D27A	-	-	-	-	-	3-6A
D28A	-	-	-	-	-	4-6A
D29A	-	-	-	-	-	5-6A
D30A	-	-	-	-	-	1-7A
D31A	-	-	-	-	-	2-7A
D32A	-	-	-	-	-	3-7A
D33A	-	-	-	-	-	4-7A
D34A	-	-	-	-	-	5-7A

	T21	T20	T19	T18	T17	T16~T1
D0B	-	-	-	-	-	1-1B
D1B	-	-	-	-	-	2-1B
D2B	-	-	-	-	-	3-1B
D3B	-	-	-	-	-	4-1B
D4B	-	-	-	-	-	5-1B
D5B	-	-	-	-	-	1-2B
D6B	-	-	-	-	-	2-2B
D7B	-	-	-	-	-	3-2B
D8B	-	-	-	-	-	4-2B
D9B	-	-	-	-	-	5-2B
D10B	-	-	-	-	-	1-3B
D11B	-	-	-	-	-	2-3B
D12B	-	-	-	-	-	3-3B
D13B	-	-	-	-	-	4-3B
D14B	-	-	-	-	-	5-3B
D15B	-	-	-	-	-	1-4B
D16B	-	-	-	-	-	2-4B
D17B	-	-	-	-	-	3-4B
D18B	-	-	-	-	-	4-4B
D19B	-	-	-	-	-	5-4B
D20B	-	-	-	-	-	1-5B
D21B	-	-	-	-	-	2-5B
D22B	-	-	-	-	-	3-5B
D23B	-	-	-	-	-	4-5B
D24B	-	-	-	-	-	5-5B
D25B	-	-	-	-	-	1-6B
D26B	-	-	-	-	-	2-6B
D27B	-	-	-	-	-	3-6B
D28B	-	-	-	-	-	4-6B
D29B	-	-	-	-	-	5-6B
D30B	-	-	-	-	-	1-7B
D31B	-	-	-	-	-	2-7B
D32B	-	-	-	-	-	3-7B
D33B	-	-	-	-	-	4-7B
D34B	-	-	-	-	-	5-7B
AD1	TONE	ST	RANDOM	ALL	○	-
AD2	SDB	AUTO	TOTAL	FLD	Ⓞ	-
AD3		TUNED	MONO	1	SLEEP	-
AD4	▶	-	-	↻	-	-

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
Q303	963229500120S	SEMI,FET CHIP KMA2D4P20SA P-CH TRENCH MOSFET SOT-23		J543242000010S	*
Q304	00D2690192902	TR 2SC KRC102S (NB)		J522010200210S	
Q307	963229500120S	SEMI,FET CHIP KMA2D4P20SA P-CH TRENCH MOSFET SOT-23		J543242000010S	*
Q308	00D2690192902	TR 2SC KRC102S (NB)		J522010200210S	
Q309,Q310	00D9600285006	CHIP TRKRC104S (ND)/SOT-23 REEL		J522104S00210S	
D101-D104	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
D110-D112	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
D115	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
D117-D119	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
D120-D122	963203500330S	D,RECTIFIER CHIP 1SR156-400 SOD-106		K045156000010S	*
D123-D125	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
RESISTORS GROUP					
R101,R102	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R103 R110	nsp	R,FIXED,M.O. RSD-R0-1WJ-91 3.2*8.5 P=5MM SMALL R.REEL		N113135691020S	
R104-R112	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R113,R114	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R115,R116	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R117	nsp	39K-J,1/16W-1608REEL		C20003936M160S	
R118	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R120,R121	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R122	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R123	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R125,R126	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R128	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R129,R130	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R131	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R132	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R133	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R134	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R135	nsp	39K-J,1/16W-1608REEL		C20003936M160S	
R136	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R137	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R138	nsp	CHIP RES. 8.2KJ 1/16W1608REEL		C20008226M160S	
R139	nsp	39K-J,1/16W-1608REEL		C20003936M160S	
R140	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R141	nsp	CHIP RES. 75-J 1/16W-1608REEL		C20007506M160S	
R143	nsp	CHIP RES. 24KJ 1/16W1608REEL		C20002436M160S	
R144	nsp	CHIP RES. 22K-J 1/16W-1608REEL		C20002236M160S	
R145,R146	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R147	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R148	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R149,R150	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R151-R153	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R154	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R155	nsp	CHIP RES. 22K-J 1/16W-1608REEL		C20002236M160S	
R156	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
R157,R158	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R159	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R160	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R161,R162	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R163	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R164	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R165	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R166	nsp	39K-J,1/16W-1608REEL		C20003936M160S	
R167	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R168	nsp	CHIP RES. 8.2KJ 1/16W1608REEL		C20008226M160S	
R169,R170	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R171	nsp	CHIP RES. 75-J 1/16W-1608REEL		C20007506M160S	
R173	nsp	CHIP RES. 24KJ 1/16W1608REEL		C20002436M160S	
R174,R175	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R176	nsp	470-J,1/16W-1608		C20004716M160S	
R177	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R178	nsp	R,CHIP THICK 3.3-J,1/10W-2012REEL		C2003R3060200S	
R179	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R180 R181	nsp	CHIP RES. 200-J 1/16W-1608REEL		C20002016M160S	
R182	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R183,R184	nsp	R,CHIP THICK 10-J,1/10W-2012REEL		C200010060200S	
R185,R186	nsp	470-J,1/16W-1608		C20004716M160S	
R187	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R188	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R189	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R190	nsp	R,CHIP THICK 18-F,1/10W-2012REEL		C200018040200S	
R191	nsp	R,CHIP THICK 3.3-J,1/10W-2012REEL		C2003R3060200S	
R192	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R193	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R194	nsp	CHIP RES. 30K-J 1/16W-1608REEL		C20003036M160S	
R195	nsp	R,CHIP THICK 18-F,1/10W-2012REEL		C200018040200S	
R196	nsp	R,CHIP THICK 3.3-J,1/10W-2012REEL		C2003R3060200S	
R197	nsp	470-J,1/16W-1608		C20004716M160S	
R198	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R200-R202	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R203	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R204	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R205	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R206	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R207,R208	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R209	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R210	nsp	R,CHIP THICK 18-F,1/10W-2012REEL		C200018040200S	
R211	nsp	R,CHIP THICK 3.3-J,1/10W-2012REEL		C2003R3060200S	
R213	nsp	R,CHIP THICK 18-F,1/10W-2012REEL		C200018040200S	
R214	nsp	R,CHIP THICK 3.3-J,1/10W-2012REEL		C2003R3060200S	
R215	nsp	R,CHIP THICK 1-J,1/10W-2012REEL		C200001060200S	
R216,R217	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R219-R223	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R224-R226	nsp	CHIP RES. 100K-J 1/16W-1608REEL		C20001046M160S	
R227	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R229,R230	nsp	R,CHIP THICK 10-J,1/10W-2012REEL		C200010060200S	
R231	nsp	CHIP RES. 1M-J 1/16W-1608REEL		C20001056M160S	
R233	nsp	R,CHIP THICK 2.2K-J,1/16W-1608REEL		C2005R101M160S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
R234	nsp	CHIP RES. 2.2K-J 1/16W-1608REEL		C20002226M160S	
R235	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R236	nsp	CHIP RES. 2.2K-J 1/16W-1608REEL		C20002226M160S	
R237	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R238-R243	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R244	nsp	12K-F,1/16W-1608REEL		C20001234M160S	
R245	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R247	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R248	nsp	CHIP RES. 24KJ 1/16W1608REEL		C20002436M160S	
R249	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R250	nsp	CHIP RES. 24KJ 1/16W1608REEL		C20002436M160S	
R251-R256	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R257	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R258	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R259	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R260	nsp	CHIP RES. 100K-J 1/16W-1608REEL		C20001046M160S	
R261,R262	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R263-R266	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R267	nsp	CHIP RES. 3.9K-J 1/16W-1608REEL		C20003926M160S	
R268,R269	nsp	CHIP RES. 100K-J 1/16W-1608REEL		C20001046M160S	
R270-R273	nsp	CHIP RES. 150K-J 1/16W-1608REEL		C20001546M160S	
R275-R280	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R281	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R282	nsp	CHIP RES. 100K-J 1/16W-1608REEL		C20001046M160S	
R284	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R285	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R286-R293	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R294	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R296-R298	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R299-R310	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R311,R312	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R313	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R314-R316	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R317	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R318	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R320-R323	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R325	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R327,R328	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R329-R333	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R334	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R335,R336	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R337	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R338-R341	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R342	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R343	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R344	nsp	CHIP RES. 47K-J 1/16W-1608REEL	EK	C20004736M160S	
R345	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R346	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R347	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R348,R349	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R351	nsp	CHIP RES. 47K-J 1/16W-1608REEL	E2	C20004736M160S	
R352-R359	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R360	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
R361	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R362-R364	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R366	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R368	nsp	CHIP RES. 100KJ 1/16W1005REEL		C20001046M101S	
R369	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R370	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R371	nsp	CHIP RES. 100K-J 1/16W-1608REEL		C20001046M160S	
R372	nsp	R,CHIP THICK 2.2-J,1/10W-2012REEL		C2002R2060200S	
R373,R374	nsp	470-J,1/16W-1608		C20004716M160S	
R375	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R378	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R380	nsp	CHIP RES. 1K-J 1/16W-1608REEL		C20001026M160S	
R381	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R382,R383	nsp	CHIP RES. 4.7K-J 1/16W-1608REEL		C20004726M160S	
R384,R385	nsp	CHIP RES. 33-J 1/16W-1608REEL		C20003306M160S	
R386	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R387	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R388	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R391	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R392	nsp	CHIP RES. 22K-J 1/16W-1608REEL		C20002236M160S	
R393-R395	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R396	nsp	CHIP RES. 1M-J 1/16W-1608REEL		C20001056M160S	
R397	nsp	R,CHIP THICK 1-J,1/10W-2012REEL		C200001060200S	
R398	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R401	nsp	CHIP RES. 47-J 1/16W-1608REEL		C20004706M160S	
R402	nsp	R,CHIP 0-J, 1/16W	E2	C20000006M160S	
R403	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R405	nsp	R,CHIP 0-J, 1/16W	E2	C20000006M160S	
R407	nsp	R,CHIP 0-J, 1/16W	E2	C20000006M160S	
R408	nsp	CHIP RES. 220-J 1/16W-1608REEL	E2	C20002216M160S	
R411	nsp	CHIP RES. 220-J 1/16W-1608REEL	E2	C20002216M160S	
R417	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R419-R423	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R428	nsp	CHIP RES. 47K-J 1/16W-1608REEL		C20004736M160S	
R429	nsp	CHIP RES. 47-J 1/16W-1005REEL		C20004706M101S	
R430-R434	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R437	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R438	nsp	R,CHIP THICK 5.1K-F,1/16W-1608REEL		C20005124M160S	
R439	nsp	R,CHIP 10K-J,1/16W		C20001036M111S	
R440	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R443,R444	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
R451-R456	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
CAPACITORS GROUP					
C101,C102	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	
C103	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C104	00D2544541939	C,ELECT 47UF-M/25V		D040470084070S	
C105	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C106	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C107	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C108	nsp	C,CERAMIC CHIP T.C COG22PF-J/50V-1608REEL		D010220167160S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C109	00D2544541939	C,ELECT 47UF-M/25V		D040470084070S	
C110,C111	nsp	CER. CAP. COG270PF-J/50V-1608REEL		D010271167160S	
C112	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C113,C114	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C116	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C119	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C120	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C121	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C122	nsp	C,CERAMIC CHIP T.C COG22PF-J/50V-1608REEL		D010220167160S	
C123	nsp	R,CHIP 0-J, 1/16W		C2000006M160S	
C124	00D9630293602	C,ELECT 1UF-M/50V (Pb Free)		D040010087150S	
C124	00D9630293602	C,ELECT 1UF-M/50V (Pb Free)		D040010087150S	
C125	nsp	C,CERAMIC 4700PF-K/50V		D011472777160S	
C126	00D2544541939	C,ELECT 47UF-M/25V		D040470084070S	
C127	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C128	00D2544541939	C,ELECT 47UF-M/25V		D040470084070S	
C129,C130	nsp	CER. CAP. COG270PF-J/50V-1608REEL		D010271167160S	
C131	00D9630293602	C,ELECT 1UF-M/50V (Pb Free)		D040010087150S	
C131	00D9630293602	C,ELECT 1UF-M/50V (Pb Free)		D040010087150S	
C132	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C133	nsp	R,CHIP 0-J, 1/16W		C2000006M160S	
C134	00D2544541939	C,ELECT 47UF-M/25V		D040470084070S	
C135	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C136,C137	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C138	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C139	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C140,C142	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C141	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C145	nsp	C,CERAMIC CHIP T.C COG22PF-J/50V-1608REEL		D010220167160S	
C147,C148	nsp	R,CHIP 0-J, 1/16W		C2000006M160S	
C150	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C151	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C152	963134001860S	C,ELECT 470UF-M/16V		D040471083080S	
C153,C154	nsp	R,CHIP 0-J, 1/16W		C2000006M160S	
C156	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C157	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C158	963134502140S	C,ELECT GE 85C 3300UF-M/50V 18*35.5L BLK SY		D040332087000S	*
C159-C165	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C166	nsp	CER. CAP. X7R 0.033UFK/25V1608REEL		D011333774161S	
C167	nsp	C,CERAMIC CHIP HIK X7R)330PF-K/100V-1608REEL		D01133177C161S	
C168	nsp	C,FILM ST-0.01UF-J/100V		D02010306C060S	
C170	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C171	00D2544574922	C,ELECT 100UF-M/50V (Pb Free)		D040101087060S	
C172	nsp	C,FILM POLYESTER RED-0.47UF-J/100V-5RE MPEAM474J10005 MPE TYPE(S&A)		D02047406C050S	
C173	nsp	C,FILM 0.1UF-J/100V		D02010406C060S	
C174,C175	nsp	R,CHIP 0-J, 1/16W		C2000006M160S	
C177	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C178	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C179	nsp	C,FILM 0.1UF-J/100V		D02010406C060S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C180	00D9630293709	C,ELECT 100UF-M/10V		D040101082070S	
C181	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C182	00MDK3810601Y	C,CERAMIC CHIP HIK Y5V)10UF-Z/50V-3225REEL GRM32DF51H106ZA01L MURATA		D011106597310S	
C183,C184	00D9630216304	C,FILM 0.001UF-J/100V		D02010206C060S	
C185	nsp	C,CERAMIC CHIP HIK X7R)330PF-K/100V-1608REEL		D01133177C161S	
C186	nsp	C,FILM ST-0.01UF-J/100V		D02010306C060S	
C187	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C188	nsp	CER. CAP. X7R 0.033UFK/25V1608REEL		D011333774161S	
C189	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C190	nsp	CER. CAP. X7R 0.033UFK/25V1608REEL		D011333774161S	
C191	00MDK3810601Y	C,CERAMIC CHIP HIK Y5V)10UF-Z/50V-3225REEL GRM32DF51H106ZA01L MURATA		D011106597310S	
C192	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C193	nsp	C,CERAMIC CHIP HIK X7R)330PF-K/100V-1608REEL		D01133177C161S	
C194	nsp	C,FILM ST-0.01UF-J/100V		D02010306C060S	
C195	nsp	C,FILM POLYESTER RED-0.47UF-J/100V-5RE MPEAM474J10005 MPE TYPE(S&A)		D02047406C050S	
C196	nsp	C,FILM 0.1UF-J/100V		D02010406C060S	
C197-C201	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C202	nsp	C,FILM 0.1UF-J/100V		D02010406C060S	
C203	00D2544574922	C,ELECT 100UF-M/50V (Pb Free)		D040101087060S	
C204,C205	00D9630216304	C,FILM 0.001UF-J/100V		D02010206C060S	
C206	nsp	CER. CAP. X7R 0.033UFK/25V1608REEL		D011333774161S	
C207	nsp	C,CERAMIC CHIP HIK X7R)330PF-K/100V-1608REEL		D01133177C161S	
C208	nsp	C,FILM ST-0.01UF-J/100V		D02010306C060S	
C209	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C210,C211	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	
C212	963134001860S	C,ELECT 470UF-M/16V		D040471083080S	
C213-C218	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C219-C224	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C225,C226	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C227	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C228	963134001860S	C,ELECT 470UF-M/16V		D040471083080S	
C229	nsp	C,CERAMIC T.C COG12PF-J/50V		D010120167160S	
C230	nsp	C,CERAMIC 15PF-J/50V		D010150167160S	
C231	00MDK3810601Y	C,CERAMIC CHIP HIK Y5V)10UF-Z/50V-3225REEL GRM32DF51H106ZA01L MURATA		D011106597310S	
C232,C233	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C234	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C235	00D9630294106	C,ELECT 2.2UF-M/50V (Pb Free)		D0402R2087160S	
C236	00D9630293602	C,ELECT 1UF-M/50V (Pb Free)		D040010087150S	
C236	00D9630293602	C,ELECT 1UF-M/50V (Pb Free)		D040010087150S	
C237	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C238,C239	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C240	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C241	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C242	00D9639005804	C,ELECT 100UF-M/25V		D040101084060S	
C243	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
C244,C245	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C246	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C247,C248	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C249	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C250,C251	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C252,C253	nsp	C,CERAMIC T.C COG18PF-J/50V		D010180167160S	
C254	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C255,C256	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	
C257	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C258	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C259,C260	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C261	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C262,C263	nsp	C,CERAMIC T.C COG6PF-D/50V		D010060117160S	
C264	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C265	00D9630293709	C,ELECT 100UF-M/10V		D040101082070S	
C266	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C267	963134502140S	C,ELECT GE 85C 3300UF-M/50V 18*35.5L BLK SY		D040332087000S	*
C268	00MDK3810601Y	C,CERAMIC CHIP HIK Y5V)10UF-Z/50V- 3225REEL GRM32DF51H106ZA01L MURATA		D011106597310S	
C269	00D9630224503	C,ELECT 22UF-M/50V		D040220087060S	
C270,C271	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C272	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C273	00D2544541939	C,ELECT 47UF-M/25V		D040470084070S	
C274	963134002740S	C,ELECT GE 85C 10UF-M/16V,5*11-5RE. SHL SY		D040100083100S	
C275	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C276	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C289	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	
C290,C291	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C292	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	
C293,C294	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C295	963134501660S	C,ELECT GE 85C 220UF-M/25V		D040221084060S	
C296,C297	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C298,C299	nsp	C,CERAMIC 20PF-J/50V		D010200167160S	
C300	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C301	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C302	00D9630293709	C,ELECT 100UF-M/10V		D040101082070S	
C303	00D2544573981	C,ELECT 10UF-M/50V		D040100087070S	
C304-C306	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C307	nsp	C,CERAMIC Y5V0.22UF-Z/16V		D011224593160S	
C310	nsp	C,CERAMIC CHIP T.C COG56PF-J/50V- 1608REEL		D010560167160S	
C315	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C341,C342	00D2544573981	C,ELECT 10UF-M/50V	E2	D040100087070S	
C346	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
C361	nsp	C,CERAMIC 0.1UF-K/50V	E2	D011104577160S	
C364	nsp	C,CERAMIC 0.1UF-K/50V	E2	D011104577160S	
C365,C366	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
CN101	nsp	CN,WIRE 2MM 140MM/5P 20010HS-05=CKM2002HV-05 WH1007#26		L002141052620S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
CN103	nsp	CN,WIRE 100MM/6P 5264-06=CKM2509HV-06 BK1007#22		L000101060190S	
CN104	nsp	CN,WIRE 2MM 160MM/13P 20010HS-13=CKM2002HV-13 WH1007#24 2.0MM		L002161130090S	
CP101	nsp	CN.FPC 1.0MM 1.0-11S-11PW 11P AN DIP TOP CONTACT		L130100111150S	
CP102	nsp	CN.FPC 1.0MM 1.0-11-17P ST DIP		L130100111710S	
CP103	nsp	CN.WAFER 9P C125Z1-09		L109012510910S	
CP105	nsp	CN.WAFER 5P 20010-05		L101200100510S	
OTHERS PARTS GROUP					
JACK101	00D9630237503	MODULE JSR1165-C		E100116500040S	
JACK102	963649008960S	TER RCA 1PIN RCA-107B0(OR)		G600107B0000YS	
JACK103	963643003580S	TER,RCA 1PIN		G600107C0020YS	
JACK104	00D9630132103	TER,RCA 4PIN RCA-405B-04		G602405B0400YS	
JACK107	00D9630146005	TER,RCA 1PIN		G600107A0000YS	
JACK110	963646100500S	TER,BOARD SCREW 4P(2RD/BK)		G612405EWG02YS	
L101	nsp	COIL,INDUCTOR LB C2012T4R7M 4.7UH INDUCTOR		D3104R7010200S	
L102	nsp	COIL,CHIP FI-B1608-222KJT 2.2UH SMD(1608)-REEL		D311160802220S	
L103	nsp	COIL,BEAD CBW201209U221T		D340201202210S	
L104	nsp	COIL,CHIP FI-B1608-222KJT 2.2UH SMD(1608)-REEL		D311160802220S	
L105,L106	nsp	COIL,BEAD CBW201209U221T		D340201202210S	
L107,L108	963115100320S	COIL,INDUCTOR POWER INDUCTOR 7W14L-100M-RE(10UH*2) SAGAMI		D310701401010S	*
L111-L115	nsp	COIL,BEAD CBW201209U221T		D340201202210S	
L301-L303	nsp	COIL,BEAD CBW201209U221T		D340201202210S	
L308-L311	00D9630126504	BEAD,COIL 3550R2F		7610035500030S	
PACK301	943183100210S	TUNER,FM,I9KST-MW104FV1-S63V	E2	E900104011630S	
X101	963141100770S	CRYSTAL CHIP 13.5MHz CL=10PF FA-238V/SMD3225 EPSON		E80513R500050S	*
X102	963141100780S	CRYSTAL CHIP 12.288MHz CL=12PF FA-238V/SMD3225 EPSON		E80512R288030S	*
X103	963141100790S	CRYSTAL CHIP 14.7456MHz CL=7PF FA-238V/SMD3225 EPSON		E80514R745610S	*
X104	963141100800S	CRYSTAL 32.768KHZ,MFS308(TUNING FORK) CL=12.5PF S.BULK		E80032R768020S	*
ZD301	00D2760683927	ZENER DIODE 0.2W 7.5V (UMD2 TYPE)		K06607R54P400S	

PCB FRONT ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
Q305,Q306	00D2690192902	TR 2SC KRC102S (NB)		J522010200210S	
D309-D312	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
RESISTORS GROUP					
R301	nsp	R,CARBON FILM 1-J,1/5W-52RE-AX		C00000106P520S	
R306	nsp	R,CARBON FILM 10-J,1/5W-52RE-AX		C00001006P520S	
R307	nsp	CHIP RES. 33K-J 1/16W-1608REEL		C20003336M160S	
R308-R310	nsp	100-J,1/5W-52RE-AX		C00001016P520S	
R311	nsp	R,CARBON FILM 1-J,1/5W-52RE-AX		C00000106P520S	
R312	nsp	100-J,1/5W-52RE-AX		C00001016P520S	
R313	nsp	R,CHIP 1/16W 10 OHM		C20001006M160S	
R314	nsp	CHIP RES. 220-J 1/16W-1608REEL		C20002216M160S	
R316	nsp	CHIP RES. 560-J 1/16W-1608REEL		C20005616M160S	
R318,R319	nsp	R,CARBON FILM 10-J,1/5W-52RE-AX		C00001006P520S	
R320	nsp	100-J,1/5W-52RE-AX		C00001016P520S	
R321,R322	nsp	10K-J,1/5W-52RE-AX		C00001036P520S	
R323,R324	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
R325,R326	nsp	CHIP RES. 10K-J 1/16W-1608REEL		C20001036M160S	
R327,R328	nsp	CHIP RES. 100-J 1/16W-1608REEL		C20001016M160S	
CAPACITORS GROUP					
C303	963134002720S	C,ELECT10UF-M/50V (Pb Free)		D040100087080S	
C304,C305	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C308-C310	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C312-C314	nsp	C,CERAMIC 100PF-J/50V		D010101167160S	
C315	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C316	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C323	963134010980S	C,ELECT 47UF-M/16V		D040470083060S	
C324,C325	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C326,C327	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C328-C336	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C360	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
CN302	nsp	CN,WIRE 2MM 220MM/4P 20010HS-04=CKM2002HV BK1007#24		L002221040090S	
CN303	nsp	CN,WIRE 2MM 160MM/5P 20010HS-05=CKM2002HV-05 WH2547#26 SHLD		L002161050090S	
CP304	nsp	CN.FPC 1.0MM 1.0-11-17P ST DIP		L130100111710S	
OTHERS PARTS GROUP					
BD301,BD302	nsp	R,THICK 0-J,1/10W		C200000060201S	
FLT301	943172007420D	DISPLAY,FLT 16-ST-103GINK GREEN/ RED 100*25 /DRAF109		K530161030010S	
J304	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
JACK303	963643102240S	JACK,D3.5 HTJ035-18AB(SILVER)		G401035180020S	*
LED301	963263100510S	LED WEJ3290W-R2H0-BA 3PI		K500032451010S	
RMC301	963262011220S	MODULE,REMOCON R34FS8A		E940348003810S	
S301,S302	963662100120S	SW,TACT THVV501BAA/KHV-901A 100G 5MM-REEL BK		G180501000010S	*
S303	00D2120486007	SW,ENCODER EC12E24204A8		G121122420010S	
S304	943667007540S	SW,ENCODER EC12E2430803		G121122400010S	

PCB DBUS ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
D113,D114	00D9630355401	D,SWITCHING KDS4148U		K005041480030S	
RESISTORS GROUP					
R376,R377	nsp	CHIP RES. 22J 1/16W1608REEL		C20002206M160S	
R379	nsp	CHIP RES. 22J 1/16W1608REEL		C20002206M160S	
R389	nsp	R,CHIP 0-J, 1/16W		C20000006M160S	
CAPACITORS GROUP					
C277 C288	nsp	C,CERAMIC 0.01UF-K/50V		D010103777160S	
C280	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C282	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C285	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C287	nsp	C,CERAMIC 1000PF-K/50V		D011102777160S	
C284	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
C286	nsp	C,CERAMIC 0.1UF-K/50V		D011104577160S	
OTHERS PARTS GROUP					
BKT102	nsp	BRACKET 0.8t/SCREW		4010210196100S	
JACK105	00D2048758008	MINIJACK(MSJ03510_A)SW		G401PJ323700YS	
CP104	nsp	CN.WAFER 2.0MM		L101200100520S	
CP303	nsp	CN.WAFER 2.5MM	EK	L102201320210S	
L116,L117	nsp	COIL,BEAD CBW201209U221T		D340201202210S	

PCB DAB ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
D313-D315	00D9630355401	D,SWITCHING KDS4148U	EK	K005041480030S	
RESISTORS GROUP					
R400	nsp	R,CHIP 0-J, 1/16W	EK	C20000006M160S	
R404	nsp	R,CHIP 0-J, 1/16W	EK	C20000006M160S	
R406	nsp	R,CHIP 0-J, 1/16W	EK	C20000006M160S	
R409	nsp	R,CHIP 0-J, 1/16W	EK	C20000006M160S	
R410	nsp	CHIP RES. 47-J 1/16W-1608REEL	EK	C20004706M160S	
R418	nsp	R,CHIP 0-J, 1/16W	EK	C20000006M160S	
R435,R436	nsp	CHIP RES. 10K-J 1/16W-1608REEL	EK	C20001036M160S	
CAPACITORS GROUP					
C347-C349	00D9630293709	C,ELECT 100UF-M/10V	EK	D040101082070S	
C350	nsp	C,ELECT GE 85C 330UF-M/10V,6.3*11-5RE,SHL-SY	EK	D040331082070S	
C351,C352	00D2544541939	C,ELECT 47UF-M/25V	EK	D040470084070S	
C353-C358	nsp	C,CERAMIC 0.01UF-K/50V	EK	D010103777160S	
C359	nsp	C,CERAMIC 0.1UF-K/50V	EK	D011104577160S	
C362,C363	nsp	C,CERAMIC CHIP T.C COG22PF-J/50V-1608REEL	EK	D010220167160S	
OTHERS PARTS GROUP					
BKT101	nsp	BRACKET SCREW		4010210196000S	
CN304	nsp	CN,WAFER 9P C125Z2-09	EK	L109012520910S	
CP303	nsp	CN.WAFER 2.5MMA FEMALE HEADER 2.54MM 32P(2*16) DUAL H=5.0MM	EK	L102201320210S	
L305-L307	nsp	COIL,BEAD CBW201209U221T	EK	D340201202210S	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
REG301	963239008820S	IC IL11173.3 SOT223 3.3V 1A	EK	J126111700041S	
REG302	963239007150M	IL1117_1.2 SOT-223 1.2V 1A LOW DROPOUT	EK	J126111712040S	

PCB SHIELD ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
OTHERS PARTS GROUP					
△ BKT103	nsp	BRACKET SCREW		4010210196000S	

PCB OUTLET ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
OTHERS PARTS GROUP					
JACK304	963641000810S	SOCKET,POWER RECEPTA A302D0061P AC OUTLET 1P(220V)		G435302D00610S	
CN304	nsp	CN,WIRE 60MM/2P CHB1143-03=B3951H02-3 WH1617#22 7.92MM		L000600022280S	
△ F301	963652500220S	FUSE GLASS TUBE 20MM,I9T2.5A/250V-IVBSUCPCcUR S506		N751502501160S	
F301A,F301B	nsp	HOLDER,FUSE CLIP		G645000050010S	