

DENON

Ver. 9

Please refer to the
MODIFICATION NOTICE.

SERVICE MANUAL

MODEL	JP	E3	E2	EK	EA	E1	E1K	E1C
RCD-M39		✓	✓					✓
RCD-M39DAB				✓				

CD 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.

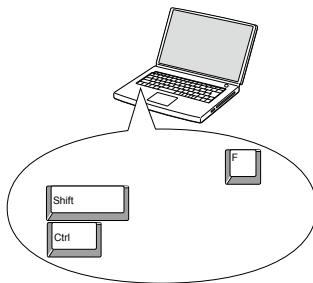
What you can do with this manual

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.

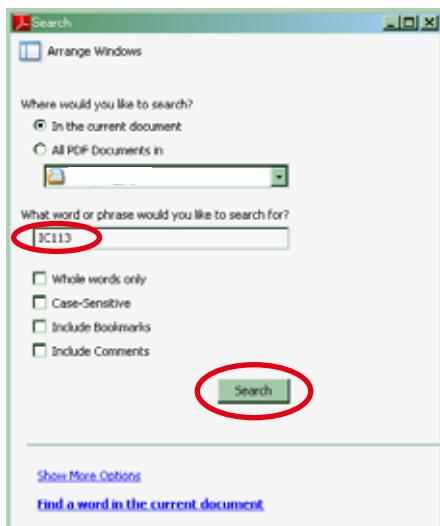
- 1.Press **Ctrl+Shift+F** on the keyboard.

- 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.



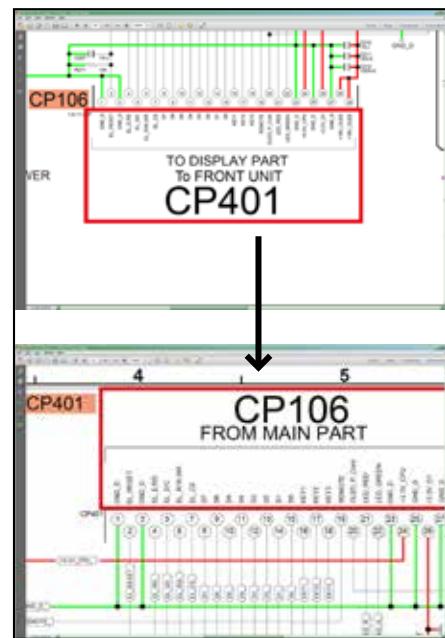
- 3.Click an item on the list.

- 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)

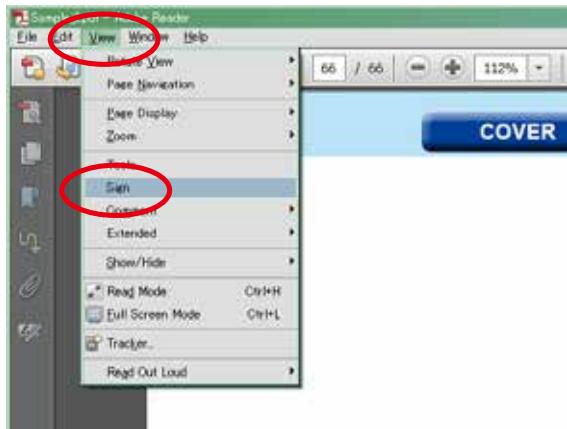
The Sign function lets you add notes to the data in this manual.

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]

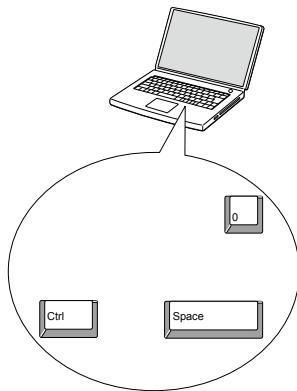
On the "Document" menu, click "Sign".

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.



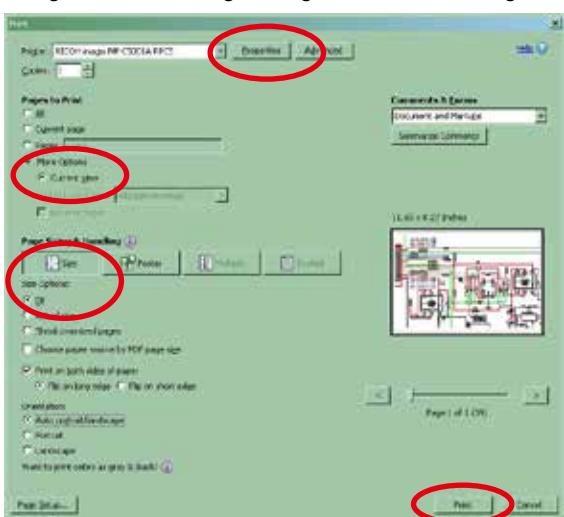
- When you want to move the area shown, hold down **Space** and drag the mouse.

- 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.



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"

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

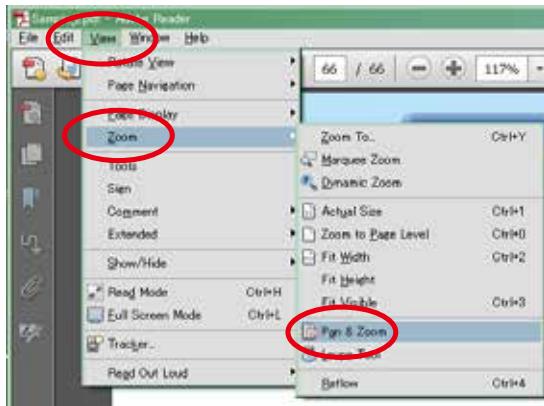
Magnify schematic / printed wiring board diagrams - 2

(Pan & Zoom function)

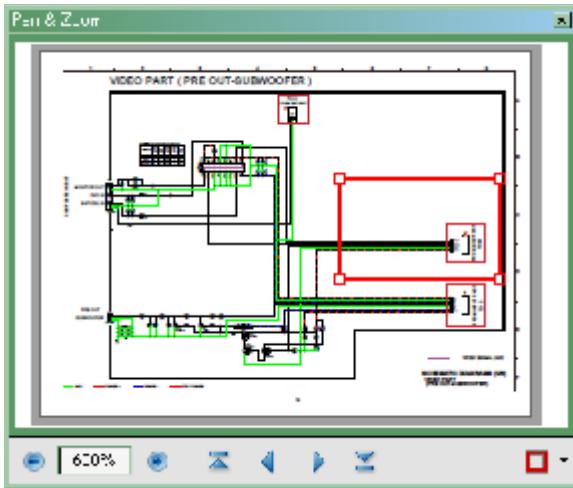
The Pan & Zoom function lets you see which part of a magnified diagram is being shown in a separate window.

[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".

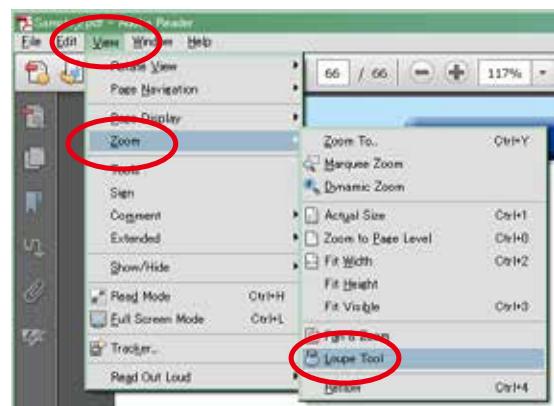
Magnify schematic / printed wiring board diagrams - 3

(Loupe Tool function)

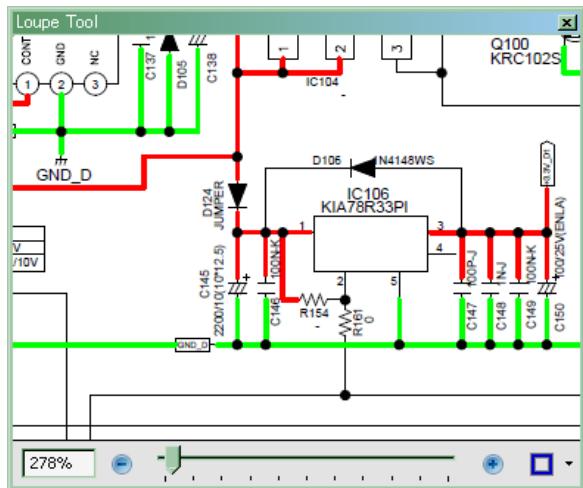
The Loupe Tool function lets you magnify a specific part of a diagram in a separate window.

[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 check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

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

Be sure to test for leakage current with the AC plug in both polarities, in addition, in each power ON, OFF and STANDBY mode, if applicable.

CAUTION Please heed the points listed below during servicing and inspection.

○ Heed the cautions!

Spots requiring particular attention when servicing, such as the cabinet, parts, chassis, etc., have cautions indicated on labels. Be sure to heed these cautions and the cautions indicated in the handling instructions.

○ Caution concerning electric shock!

- (1) An AC voltage is impressed on this set, so touching internal metal parts when the set is energized could cause electric shock. Take care to avoid electric shock, by for example using an isolating transformer and gloves when servicing while the set is energized, unplugging the power cord when replacing parts, etc.
- (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 manufacturing parts from sheet metal, there may in some rare cases be burrs on the edges of parts which could cause injury if fingers are moved across them. Use gloves to protect your hands.

○ Only use designated parts!

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

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

For safety reasons, some parts use tape, 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. Omsode and clamps are used to keep wires away from heating and high voltage parts, so be sure to set everything back as it was originally.

○ Inspect for safety after servicing!

Check that all screws, parts and wires removed or disconnected for servicing have been put back in their original positions, inspect that no parts around the area that has been serviced have been negatively affected, conduct 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 turn the power switch on. Using a 500V insulation resistance tester, check that the inplug and the externally exposed metal parts (antenna terminal, headphones terminal, input terminal, etc.) is $1M\Omega$ or greater. If it is less, the set must be inspected and repaired.

CAUTION Concerning important safety parts

Many of the electric and structural parts used in the set have special safety properties. In most cases these properties are difficult to distinguish by sight, and using 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 parts lists in this service manual. Be sure to replace them with parts with the designated part number.

(1) Schematic diagrams Indicated by the \triangle mark.

(2) Parts lists Indicated by the \triangle mark.

Using parts other than the designated parts could result in electric shock, fires or other dangerous situations.

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

Parts indicated by the  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 millamps, 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 for which "nsp" is indicated on this table cannot be supplied.
2. When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
3. Ordering part without stating its part number can not be supplied.
4. Part indicated with the mark "★" is not illustrated in the exploded view.
5. Not including General-purpose Carbon Film Resistor in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)
6. Not including General-purpose Carbon Chip Resistor in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

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

WARNING AND LASER SAFETY INSTRUCTIONS

GB

WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD



NL

WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor elektrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

F

ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D

WARNUNG

Alle IC und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD). Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern. Sorgen Sie dafür, dass Sie im Reparaturfall über ein Pulssarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

I

AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt terug gebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

F

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne."

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden. Für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago idetici a quelli specificati.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

LASER SAFETY

This unit employs a laser. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.



USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURE OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

AVOID DIRECT EXPOSURE TO BEAM

WARNING

The use of optical instruments with this product will increase eye hazard.

Repair handling should take place as much as possible with a disc loaded inside the player

WARNING LOCATION: INSIDE ON LASER COVERSHEILD

CAUTION VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN
WARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
VARO! AVATT AESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLÉ LASER SÄTEILYLLÉ. ÄLÄ KATSO SÄTEESEEN
VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG WENN ABECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN
DANGER VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
ATTENTION RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU

SPECIFICATIONS

Audio section

Power amplifier

Rated output:

30 W + 30 W (6 Ω, 1 kHz T.H.D 10 %)

Tuner section

Receiving range (E2,EK model):

FM: 87.50 MHz – 108.00 MHz

DAB (EK model): BAND3 170 MHz – 240 MHz

Receiving range (E3 model):

FM: 87.50 MHz – 107.90 MHz

Usable sensitivity:

FM: 1.2 µV/75 Ω

DAB (EK model): -93 dBm/50 Ω

FM stereo separation: 35dB (1kHz)

CD section

Playback frequency response: 2Hz ~ 20kHz

Wow & flutter: Below measurable limits (± 0.001%)

Sampling frequency: 44.1kHz

Clock/Timer section

Clock method: Crystal oscillator (Within 1 – 2 minutes per month)

Timer:

Everyday/Once timer: One each

Sleep timer: 90 minutes, maximum

General

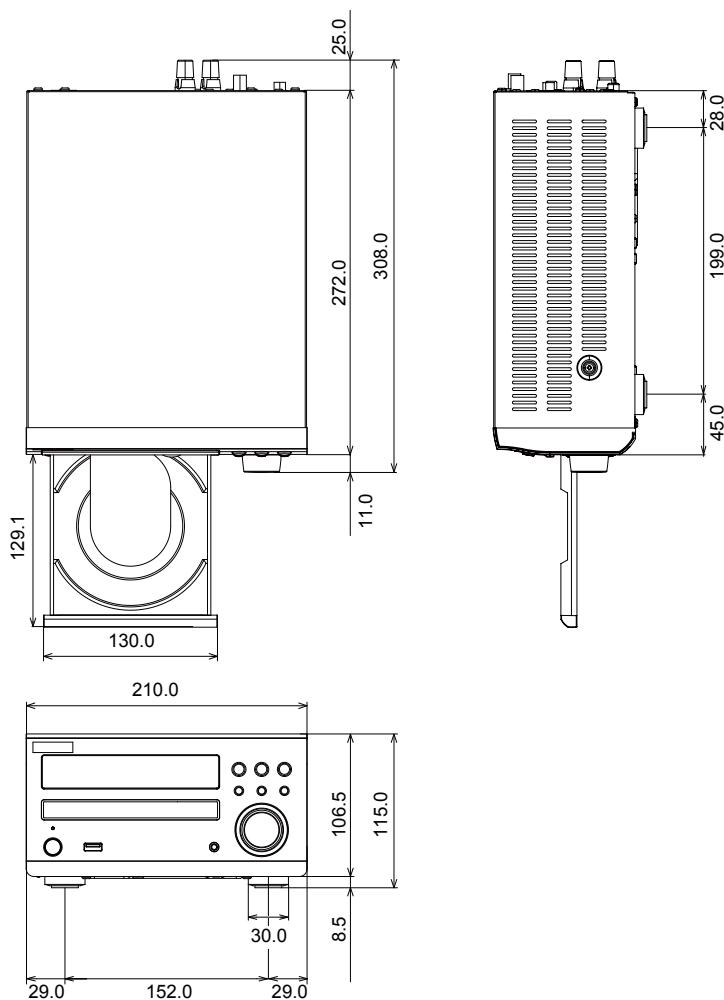
Power supply (E2,EK model): AC 230 V, 50/60 Hz

Power supply (E3 model): AC 120 V, 60 Hz

Power consumption: 70 W

Approx. 0.3 W (standby)

DIMENSION



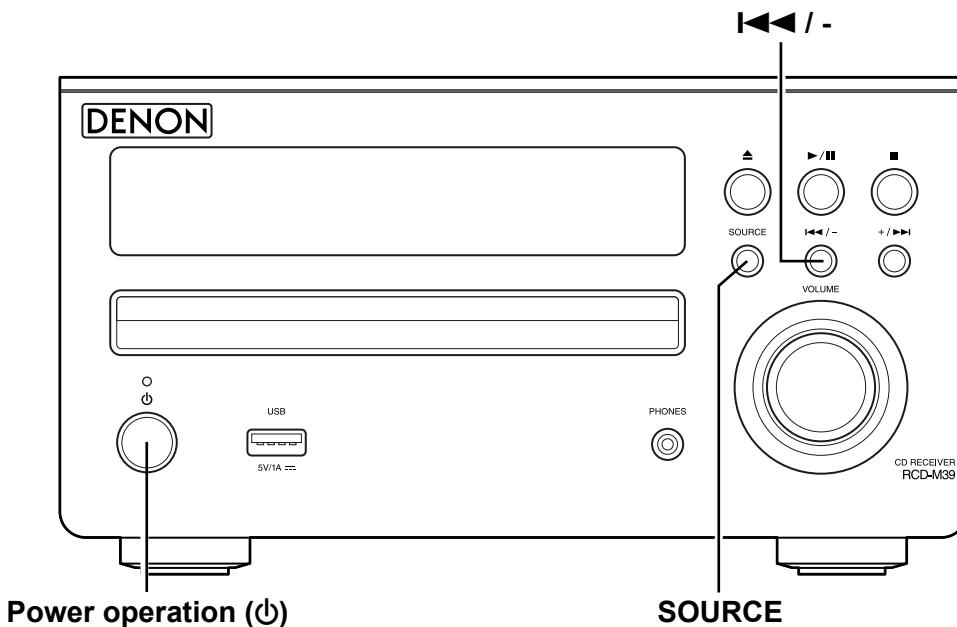
CAUTION IN SERVICING

Initializing STEREO CD RECEIVER

STEREO CD RECEIVER initialization should be performed when the µcom, peripheral parts of µcom, and Digital PCB. are replaced.

1. Turn off the power using "Power operation (⊕)" button, unplug the power cord.
2. Plug the power cord into a power outlet while pressing "◀◀ / -" and "SOURCE" button simultaneously.
* Initialize.

NOTE: All user settings will be lost and this factory setting will be recovered when this initialization mode. So make sure to memorize your setting for restoring after the initialization.



Support for Asia-Pacific tropical climate regions

Before selling this product, purchase and attach the tropical standard supporting part.

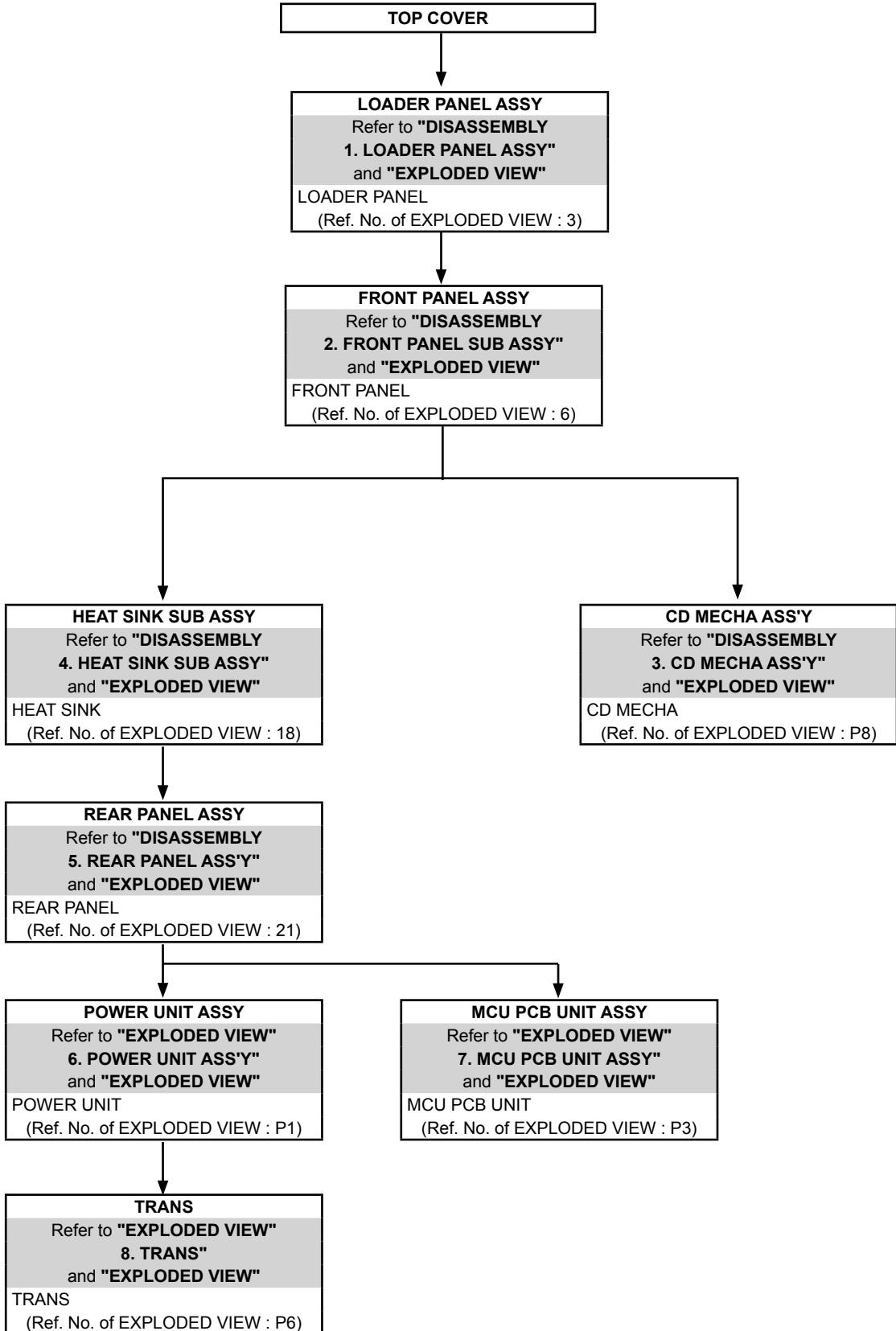
For this part, see the part list on page 67.

For where to attach the part, see the exploded view.

DISASSEMBLY

- Disassemble in order of the arrow of the figure of following flow.
- 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" it.
- If wire bundles are untied or moved to perform adjustment or parts replacement 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 in the DISASSEMBLY" section

- The direction from which the photographs used herein were photographed is indicated at "Direction of photograph: ***" at the left of the respective photographs.
- Refer to the table below for a description of the direction in which the photos were taken.
- Photographs for which no direction is indicated were taken from above the product.
- The photograph is RCD-M39 model.

**The viewpoint of each photograph
(Photografy direction)**

[View from above]

Direction of photograph: B



Front side



Direction of photograph: C →

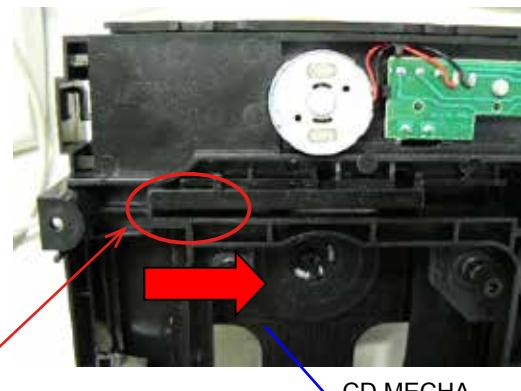
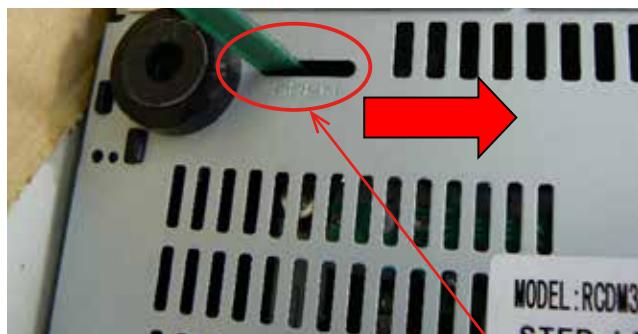
← Direction of photograph: D

↑
Direction of photograph: A

1. LOADER PANEL ASSY

Proceeding : **TOP COVER** → **LOADER PANEL**

(1) Detach the LOADER PANEL.

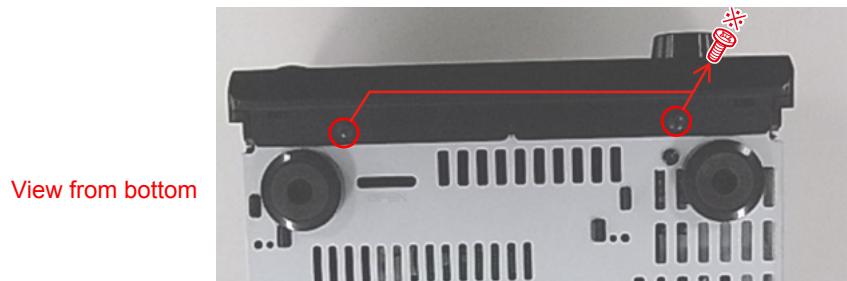


You can slide in the arrow direction to pull out the TRAY.

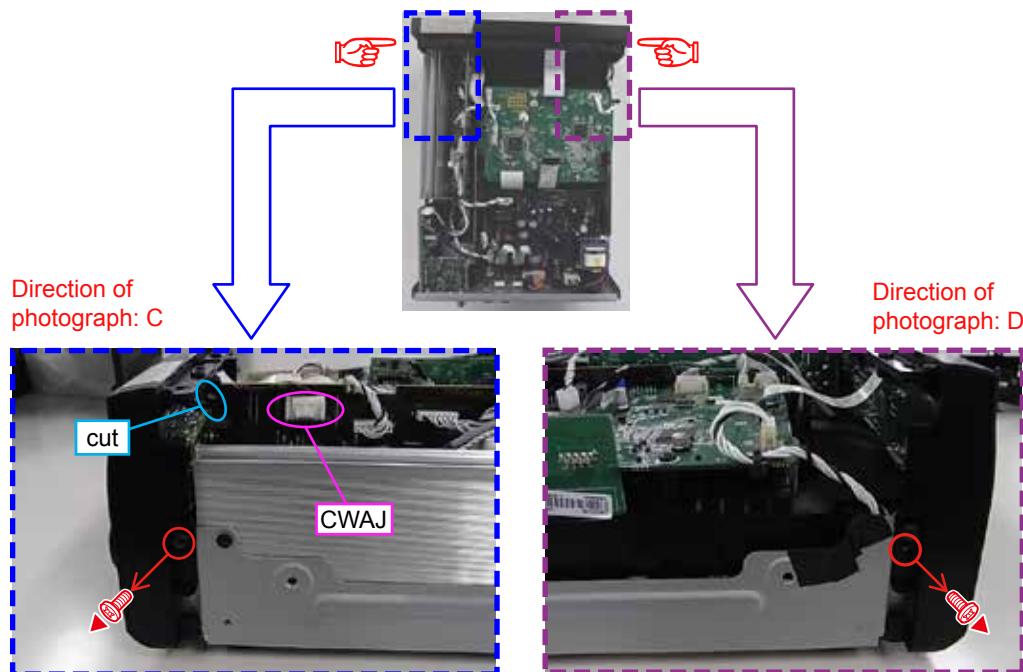
2. FRONT PANEL ASSY

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

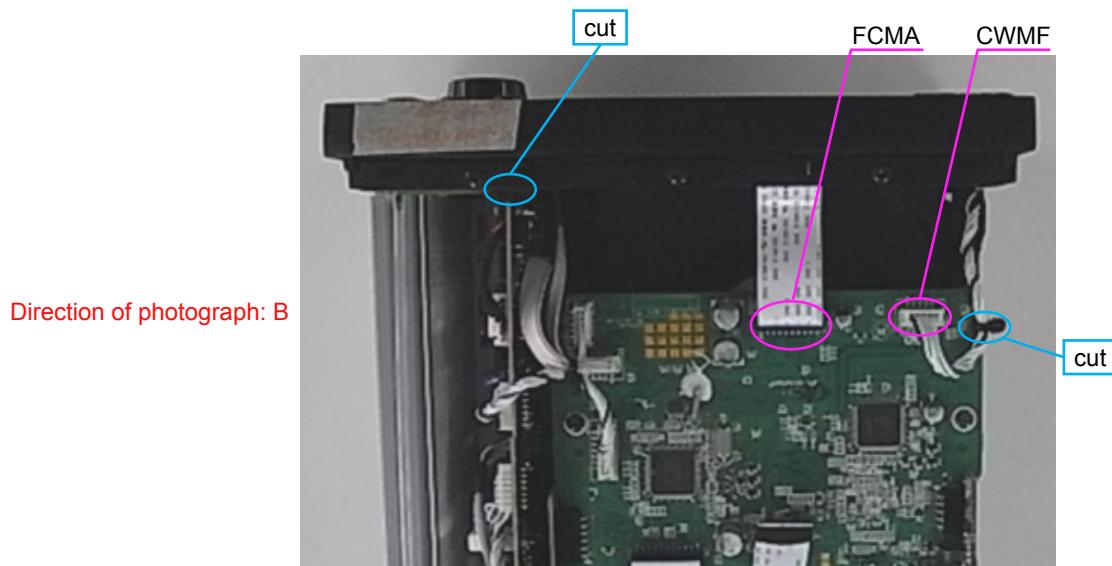
- (1) Remove the screws.



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



- (3) Cut the wire clamp band, then disconnect the connector wires.



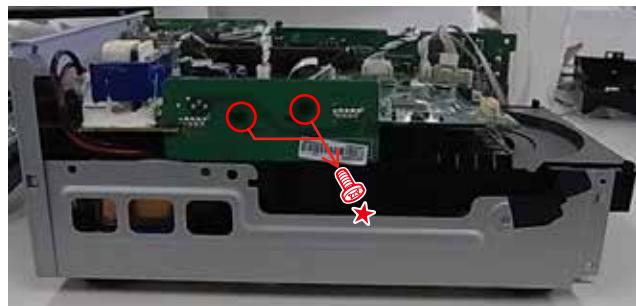
Please refer to "EXPLODED VIEW" for the disassembly method of each PCB included in FRONT PANEL ASSY.

3. CD MECHA

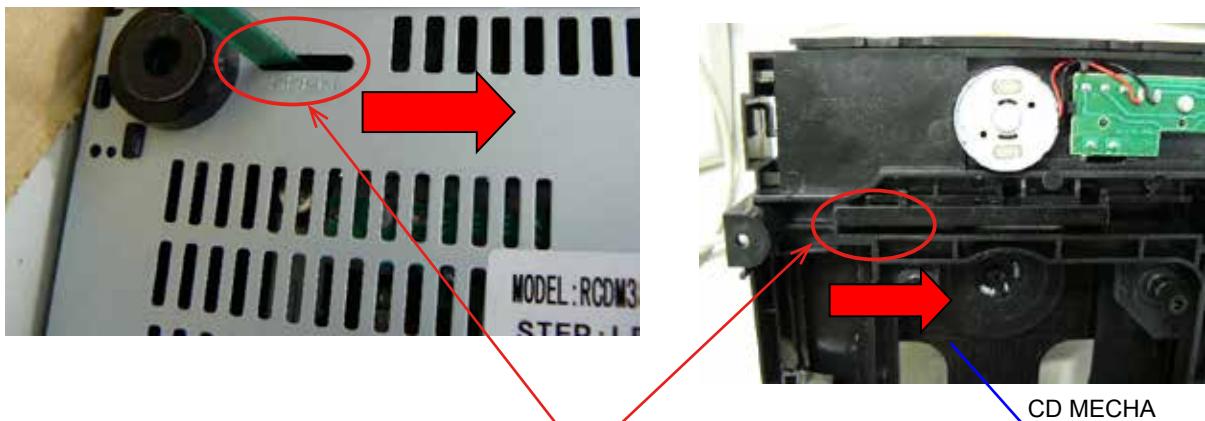
Proceeding : **TOP COVER** → **LOADER PANEL** → **FRONT PANEL ASS'Y**
→ **CD MECHANISM ASS'Y**

- (1) Remove the screws.

Direction of photograph: D



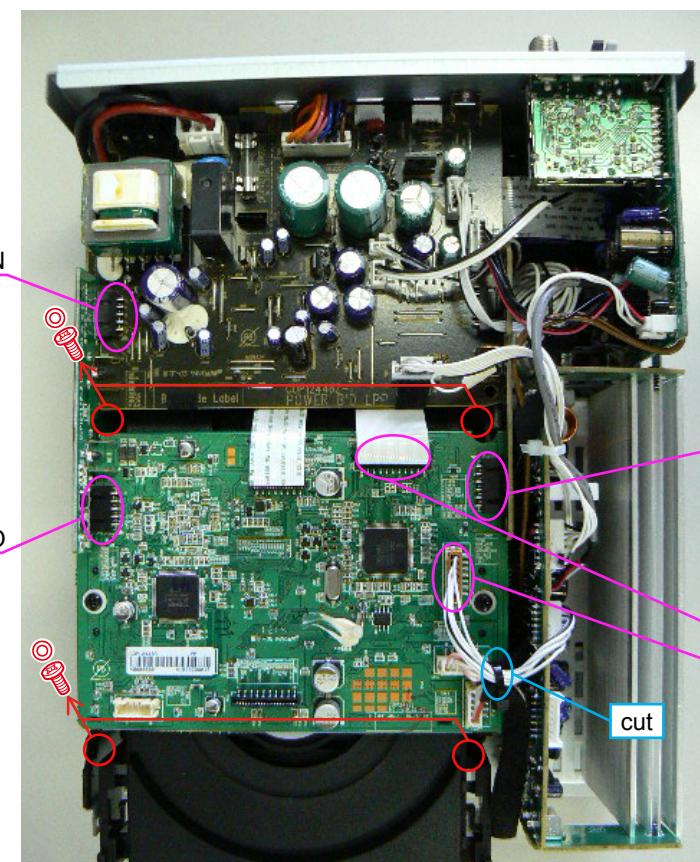
- (2) Pull out the TRAY.



You can slide in the arrow direction to pull out the TRAY.

- (3) Cut the wire clamp band, then disconnect the connector wires. Remove the screws.

Direction of photograph: B

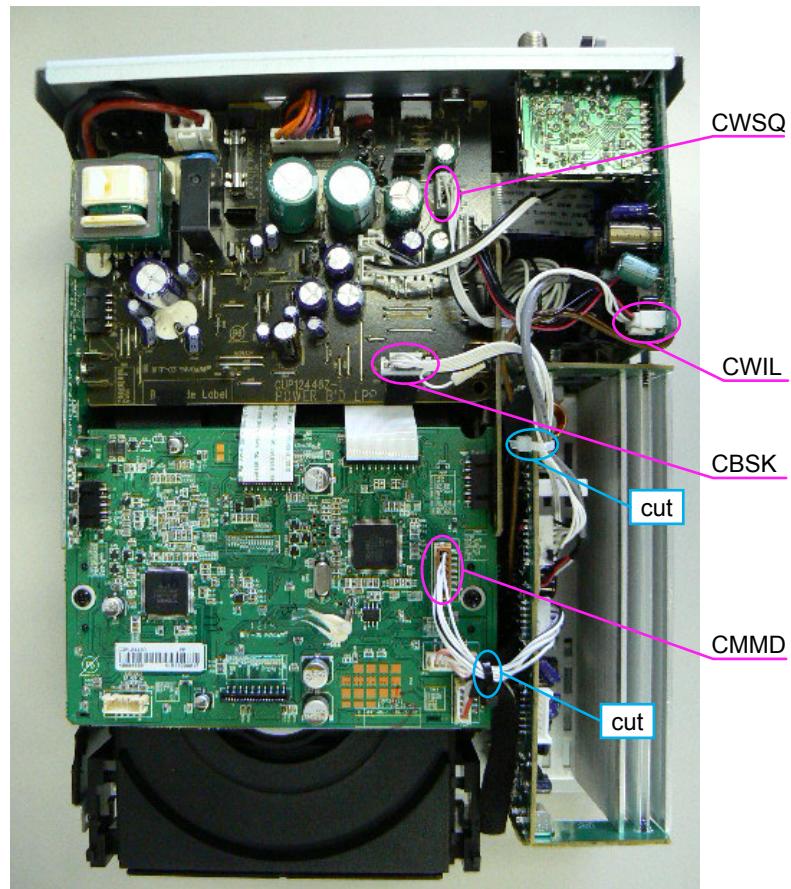


4. HEAT SINK SUB ASSY

Proceeding : **TOP COVER** → **LOADER PANEL** → **FRONT PANEL ASS'Y**
→ **HEAT SINK SUB ASSY**

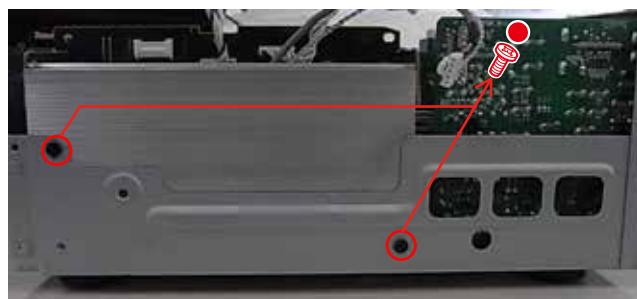
- (1) Cut the wire clamp band, then disconnect the connector wires.

Direction of photograph: B



- (2) Remove the screws.

Direction of photograph: C



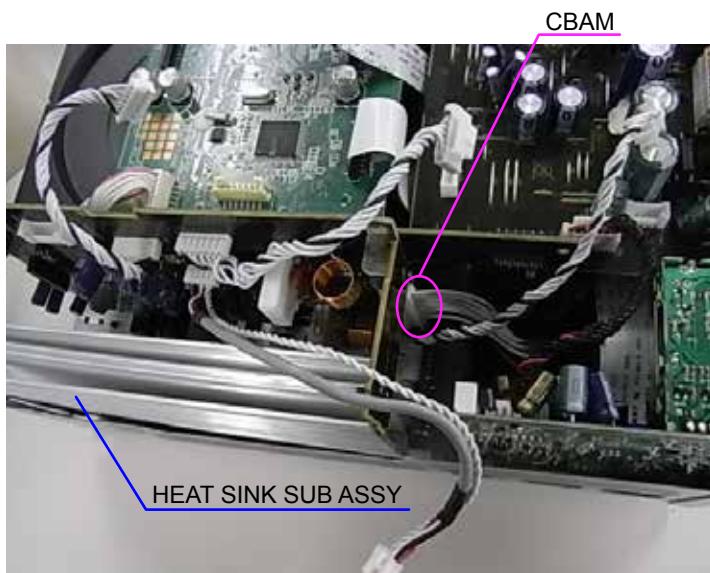
(3) Remove the screws.

View from bottom



(4) Disconnect the connector wires.

Direction of photograph: C



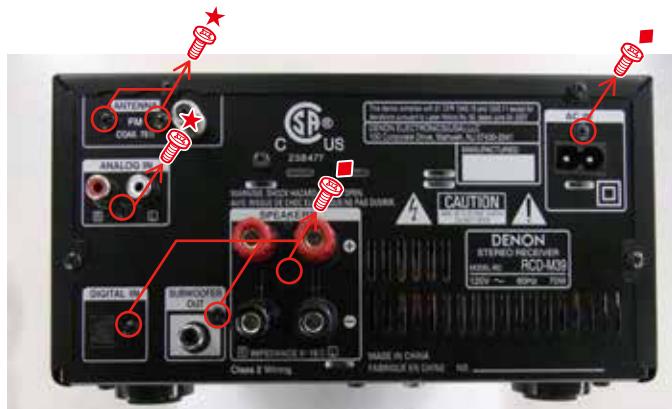
Please refer to "EXPLODED VIEW" for the disassembly method of each PCB included in HEAT SINK SUB ASSY.

5. REAR PANEL ASSY

Proceeding : **TOP COVER** → **LOADER PANEL** → **FRONT PANEL ASS'Y**
→ **HEAT SINK SUB ASSY** → **REAR PANEL ASSY**

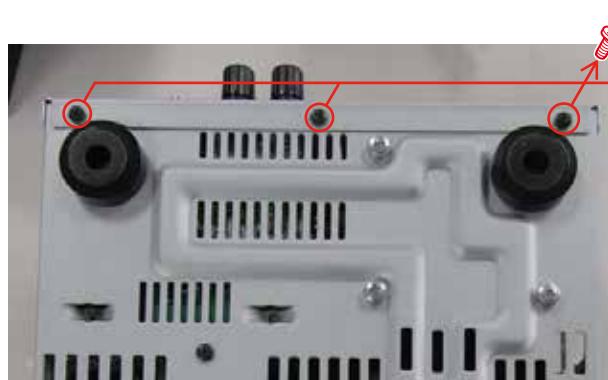
- (1) Remove the screws.

Direction of photograph: A



- (2) Remove the screws.

View from bottom

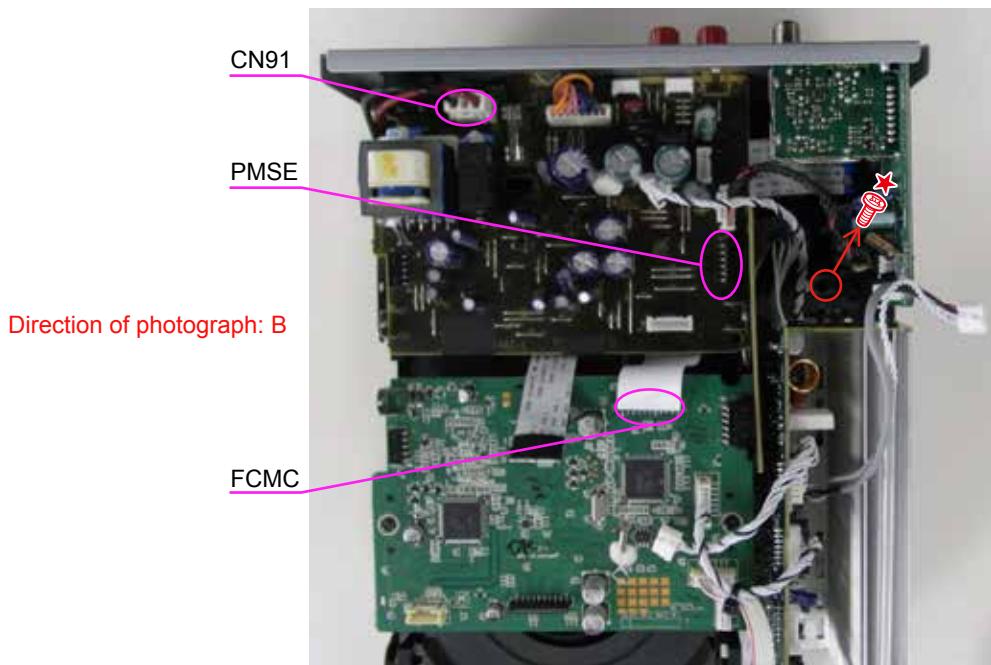


- (3) Remove the screws.

Direction of photograph: C

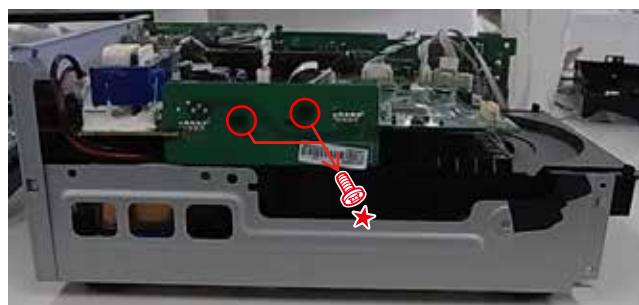


(4) Disconnect the connector wire, then remove the screws.



(5) Remove the screws.

Direction of photograph: D



Please refer to "EXPLODED VIEW" for the disassembly method of each PCB included in REAR PANEL SUB ASSY.

6. POWER UNIT ASSY

Proceeding : **TOP COVER** → **LOADER PANEL** → **FRONT PANEL ASS'Y**
→ **HEAT SINK SUB ASSY** → **REAR PANEL ASSY** → **POWER UNIT ASSY**

Please refer to "EXPLODED VIEW" for the disassembly method of POWER UNIT.

7. MCU PCB UNIT ASSY

Proceeding : **TOP COVER** → **LOADER PANEL** → **FRONT PANEL ASS'Y**
→ **HEAT SINK SUB ASSY** → **REAR PANEL ASSY** → **MCU PCB UNIT ASSY**

Please refer to "EXPLODED VIEW" for the disassembly method of MCU PCB UNIT.

8. TRANS

Proceeding : **TOP COVER** → **LOADER PANEL** → **FRONT PANEL ASS'Y**
→ **HEAT SINK SUB ASSY** → **REAR PANEL ASSY** → **POWER UNIT ASSY**
→ **TRANS**

Please refer to "EXPLODED VIEW" for the disassembly method of TRANS.

NOTE HANDLING AND REPLACEMENT OF THE LASER PICK-UP

1. Protection of the LD

Short a part of the LD circuit by soldering. After connection to a circuit, remove the short solder.

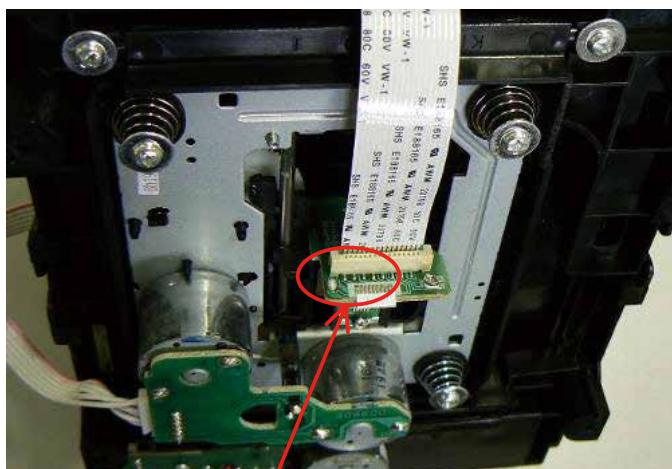
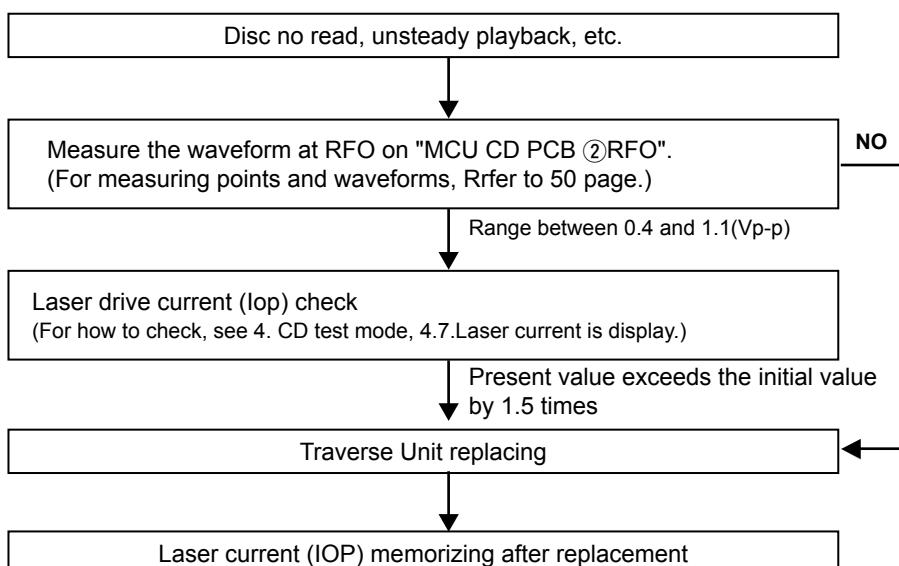
2. Precautions when handling the laser CD mechanism

- Handle the laser pick-up so that it is not exposed to dust.
- Do not leave the laser pick-up bare. Be sure to cover it.
- If dust adheres on lens of the pick-up, blow it off with a blower brush.
- Do not shock the laser pick-up.
- Do not watch the light of the laser pick-up.

3. Cautions on assembling and adjustment

- Be sure that to the bench, jig, head of soldering iron (with ceramic) and measuring instruments are well grounded.
- Workers who handle the laser pick-up must be grounded.
- The finished mechanism (prior to anchoring in the set) should be protected against static electricity and dust. The mechanism must be stored so that damaging outside forces are not received.
- When carrying the finished mechanism, hold it by the chassis body
- For proper operation, storage and operating environment should not contain corrosive gases. For example H₂S, SO₂, NO₂, Cl₂ etc. In addition storage environment should not have materials that emit corrosive gases especially from silicic, cyanic, formalin and phenol group. If the mechanism or the set, existence of corrosive gases may cause no rotation in motor.

4. Determining whether the laser pick-up is defective



Protective soldering place for laser diode.

SERVICE MODE

How to input

Plug AC cord into power outlet while pressing both the button A and the button B at the same time.

No.	Mode	Button A	Button B
1	Version display mode	■	◀◀ / -
2	VFD checking mode	▲	Power operation (⊕)
3	Cold start mode (initialization)	SOURCE	◀◀ / -
4	CD test mode	SOURCE	Power operation (⊕)
5	CD heat run mode	■	+ / ▶▶
6	Accumulated laser on time display mode	■	Power operation (⊕)
7	Displaying the protection history mode	SOURCE	+ / ▶▶

1. Version display mode

- (1) Plug AC cord into power outlet while pressing "■" and "◀◀ / -" button same time on Main Unit.
- (2) Press the "SDB/TONE" button to the display the 2nd item information on the Display.

【Main μ-com Ver.】 → 【USB μ-com Ver.】 → 【Main μ-com Ver.】 → · · ·

【Main μ-com Ver.】

U	E	R	1	2	0	6	0	8	0	2	V	E	2

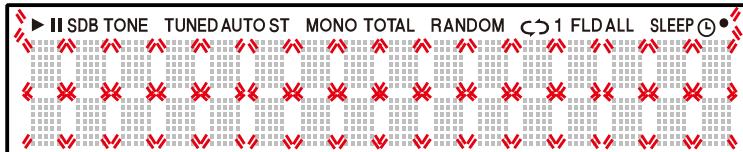
【USB μ-com Ver.】

U	S	B	V	E	R								
2	0	1	2	0	5	2	4	0	1				

- (3) Unplug AC cord to clear this mode.

2. VFD checking mode

- (1) Plug AC cord into power outlet while pressing "Power operation (⊕)" and "▲" button same time on Main Unit.
- (2) All segment of VFD is turning on and off every one second. MUTING ON.



- (3) Unplug AC cord to clear this mode.

3. Cold start mode (initialization)

- (1) Plug AC cord into power outlet while pressing "SOURCE" and "◀◀ / -" button same time on Main Unit.
Initialize.

	I	N	I	T	I	A	L	I	Z	E							

	Default
SOURCE	DISC
TUNER BAND	EK:DAB, other FM
TUNER frequency	Minimum reception frequency
TUNER PRESET	0
Set -/+	PRESET
SDB	OFF
BASS	0
TREBLE	0
BLANCE	CENTER
DIMMER	100%
VOLUME	8
Clock	E3:AM12:00, Other:0:00
ALARM SOURCE	DISC
ALARM ON	E3:AM12:00, Other:0:00
ALARM OFF	E3:AM12:00, Other:0:00
SPK OPTIMISE	ON
iPod MODE	REMOTE
AUTO STANDBY	E2/EK:ON, E3:OFF
DAB Module (EK)	Initialized Module
Protection memory	NO PROTECT

※ The following settings are not initialized.

- Laser ON TIME and Laser Current
- Power supply abnormal flag

- (2) After initialization, the unit will start in normal mode (Power On).

4. CD test mode

- (1) Plug AC cord into power outlet while pressing "Power operation (▷)" and "SOURCE" button same time on Main Unit.

"	▶	II	"													
0	0	C	D	T	E	S	T	M	O	D	E					

(▶, II flashing)

- (2) Move the slide to the initially set position (10 mm towards the outside from the innermost position).
(3) Check by performing key input. Refer to 4.2① ~ 4.2⑥.
(4) Cancel the mode by turning the power back on.
※ Do not push the button without the explanation.

4.1 Disc loading

- (1) Press the "▲" button to open the tray.
- (2) Set a disc on the tray, then press the "▲" button again to close the tray.
- (3) Move the slide to the initially set position (10 mm towards the outside from the innermost position) and stop in this status.

4.2 Servo check

- Press the "▲" button. Execute the following steps.
 - * Press "▶/■" button continuously for over 1second to switch directly to SUB CODE readout in step ⑤.
- ① LD ON (with servo still stopped)

"▶■"															
0	1							L	D	O	N				
0	1							L	D	O	N				

(▶, ■ flashing)

- ② FOCUS ON (disc rotation, tracking off)

* If no disc loaded, retry then stop.

"▶■"															
0	2							F	o	c	u	s	0	N	
0	2							F	o	c	u	s	0	N	

(▶, ■ flashing)

- ③ CLV ON

"▶■"															
0	3							C	L	V	0	N			
0	3							C	L	V	0	N			

(▶, ■ flashing)

- ④ TRACKING ON

"▶■"															
0	4	T	r	a	c	k	i	n	g	0	N				
0	4	T	r	a	c	k	i	n	g	0	N				

(▶, ■ flashing)

- ⑤ SUB CODE readout (playback sound output)

"▶■"																
0	5							a	0	T		X	X	:	X	X
0	5							a	0	T		X	X	:	X	X

(▶, ■ flashing / @@:T.No / XX:XX:Time)

- ⑥ When display is as in ⑤ and the "▶/■" button is pressed, conduct BER (Block Error Rate) display for 2 seconds.

"▶■"																
								E	R	R	#	#	#	#	#	#
								E	R	R	#	#	#	#	#	#

(▶, ■ flashing / #####:B.E.R)

4.3 Pickup movement

- (1) In the stop mode, pickup moves in REV (inwards) or FWD (outwards) direction when "◀◀ / -" or "+ / ▶▶" button pressed.
- (2) When "◀◀ / -" button pressed, move to stop operation after detection that inner switch has turned on.
- (3) Pickup movement stops when button released.

4.4 Stop

- (1) When "■" button is pressed, play operation and servo stop.
- (2) After stopping, conduct reading of auto adjust values.

4.5 All servo on

- Press and hold the "SOURCE" button for 5 seconds and longer to turn on all servos. The system is automatically adjusted and the playback operation starts. (Playback sound output)

"▶■"															

(▶, ■ flashing / @@:T.No / XX:XX:Time)

4.6 Adjustment value display

- (1) When "DIRECT" button is pressed, the adjustment values are displayed in the following order.

① FOCUS BALANCE

"▶■"															
X	X	X	X												
F	O	C	U	S		B	A	L	A	N	C	E			

(▶, ■ flashing / XXXX:Adjustment value)

② FOCUS GAIN

"▶■"															
X	X	X	X												
F	O	C	U	S		G	A	I	N						

(▶, ■ flashing / XXXX:Adjustment value)

③ TRACKING BALANCE

"▶■"															
X	X	X	X												
T	R	A	C	K	I	N	G		B	A	R	A	N	C	E

(▶, ■ flashing / XXXX:Adjustment value)

④ TRACKING GAIN

"▶■"															
X	X	X	X												
T	R	A	C	K	I	N	G		G	A	I	N			

(▶, ■ flashing / XXXX:Adjustment value)

⑤ FOCUS OFFSET

"▶■"															
X	X	X	X												
F	O	C	U	S		O	F	F	S	E	T				

(▶, ■ flashing / XXXX:Adjustment value)

⑥ TRACKING OFFSET

"▶■"															
X	X	X	X												
T	R	A	C	K	I	N	G		O	F	F	S	E	T	

(▶, ■ flashing / XXXX:Adjustment value)

⑦ RFRP

"►■"															
X	X	X	X												
R	F	R	P												
(►, ■ flashing / XXXX:Adjustment value)															

- (2) Press the "■" button, "4. CD test mode (1)" display reappears.

※ If auto adjustment is not completed, proper values are not displayed.

4.7 Laser current is display

- (1) When the "■" button is pressed for over 1 second while the RCD-M39 is in the stop mode(Display of "4. CD test mode (1)"), the laser turns on and the laser current is measured.

"►■"															
S	/	C	:			X	X	m	A	/		Y	Y	m	A
L	A	S	E	R		C	U	R	R	E	N	T			
(►, ■ flashing / XX:Stored data(stored in the EEPROM) / YY:Current value)															

- The first current value is measured 3 seconds after the laser turns on.
- The current value is updated every 3 seconds.
- The laser drive current undergoes A/D conversion for calculation. Decimal values are discarded.

- (2) Press the "■" button, "4. CD test mode (1)" display reappears.

※ Stored data is not cleared, initialazation of "3. Cold start mode".

4.7.1 Overwriting the stored data

- (1) When the "►/■" button is pressed for over 5 seconds while the laser current is displayed, the current value is stored in the EEPROM (overwriting the stored data).

"►■"															
S	T	O	R	E	D										
L	A	S	E	R		C	U	R	R	E	N	T			
(►, ■ flashing)															

- (2) Press the "►/■" button, the initial value is stored in the EEPROM.
(3) Once rewriting is completed, the display in No.4.7(1) reappears.

※ Rewriting is performed upon shipment from the factory and when the mechanism is replaced.

5. CD heat run mode

- (1) Plug AC cord into power outlet while pressing "■" and "+ / ►►■" button same time on Main Unit. (Be sure to insert the CD before this operation)

C	D														
1	1	T <small>E</small>					4	2	:	5	2				

(►, ■ lit / Normal display except when ►, ■ lit.)

- (2) Switches to mode according to button input. See No.5.1 and No.5.2.
(3) If an error occurs, display the error and stop operation at that point. Number of operations held. See No.5.3 to No.5.5.
(4) Heat run no. cleared when "■" button pressed.
(5) Mode canceled and tray opened after "▲" button pressed.
(6) Press the "Power operation (⊕)" button to clear this mode too.

5.1 Normal heat run mode

- After CD heat run mode has started, re-read TOC and press the "►/■" button. (Be sure to finish reading the TOC before push "►/■" button) Count this as the 0th heat run repetition.
 - Play from the first to last track on disc.
 - If disc being used has less than 20 tracks, play all tracks. If disc has 21 or more tracks, skip to final track after playback of first track has finished.
 - After disc playback has finished, move pickup to innermost position and open tray. The heat run repetition no. is incremented (increased by 1) when the tray is opened.
 - When loader open status detected, close tray again, re-read TOC and start playback from the first track on the disc.
 - Conduct ① to ④ repeatedly.

【During playback is display】

C	D														
0	1	T <small>E</small>					0	1	:	4	7				

(►, ■ lit / Normal display except when ►, ■ lit.)

【Number of heat run is display (No.5.1 ③)】

C	D														
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

(►, ■ lit / XXXX : No. of heat run repetitions)

5.2 Automatic mounting mode

- After CD heat run mode has started, re-read TOC and press the "■" button once in the stop mode.
- TOC reading ⇒ Search for first track on disc ⇒ tray open ⇒ tray close ⇒ TOC reading ⇒ repeat. No. heat run repetitions displayed on time display section.
- Increment the heat run repetition no. at the point when the loader has finished opening.

【When the tray is open】

C	D														
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

(►, ■ lit / XXXX : No. of heat run repetitions)

【When the tray is closed】

C	L	O	S	E											

(►, ■ lit)

[When TOC is read]

▶ II															
			R	E	A	D	I	N	G						

(▶, II lit)

5.3 Error display

▶ II															
C	D									E	X	-	X	X	

(▶, II lit / X-XX:Error cord)

Error code	
E1-00	Disc cannot be detected
E1-01	Tracking offset adjustment not possible
E1-02	Focus offset adjustment not possible
E2-00	Focus servo dropped during playback.
E2-01	Focus servo dropped during searching.
E2-03	Focus servo dropped during TOC reading.
E2-06	Focus servo dropped during manual search.
E2-10	Subcode can no longer be read during playback
E2-11	Subcode can no longer be read during searching
E2-12	Subcode can no longer be read during TOC reading
E2-14	Subcode cannot be read during pause
E2-15	Subcode cannot be read during manual search
E3-00	TOC could not be read within specified time
E3-01	PVD/SVD analysis could not be completed within specified time
E4-04	Search time out
E4-05	Error in communications with CD decoder
E5-00	Inner switch not on
E6-00	Inner switch not off
E9-00	Tray is not opened by the specified time.
E9-01	Other error

[Number of heat runs performed when error occurred]

- (1) Press the "+/▶▶" button while the error is displayed.
- (2) No. heat runs is displayed for 5 seconds, the error display reappears.

▶ II															
C	D									X	X	X	X		

(▶, II lit / XXXX : Number of heat runs repeated when error occurred)

[Track no. and elapsed time when error occurred]

- (1) Press the "◀◀/-" button while the error is displayed.
- (2) The track no. and time when the error occurred is displayed for 5 seconds, then error display reappears.

▶ II															
C	D									0	1	T	r	m	m

(▶, II lit / mm:ss : Number of heat runs repeated when error occurred)

6. Accumulated laser on time display mode

- (1) Plug AC cord into power outlet while pressing "Power operation (b)" and "■" button same time on Main Unit.

X	X	X	X	X		h	o	u	r					
L	A	S	E	R		O	N	T	I	M	E			

- The laser drive times are added and the result is displayed.
- One count corresponds to 10 minutes. (Values under 10 minutes are discarded.)
- Count values are stored in the EEPROM every 10 minutes.
- The accumulated laser on time is displayed in hours.
- The count values are not cleared, even when the set is initialized (3. Cold start mode).
- Minimum display specification.
 - No. digits stored in EPROM: 4, 0xFFFF
 - No. digits displayed: 5
 - When the time exceeds 10922 hours, the stored data is not updated and the value is fixed to 0xFFFF.
(The display is fixed to 10922 hours.)

- (2) Unplug AC cord to clear this mode.

6.1 Count value is reset

- (1) When the "▶/■" button is pressed for over 5 seconds while the accumulated laser on time is displayed, the count value is reset.

C	L	E	A	R										
L	A	S	E	R		O	N	T	I	M	E			

- (2) After resetting is completed, the display in "6. Accumulated laser on time display mode(1)" (00000 hours on the top line) reappears.

※ Count value is reset upon shipment from the factory and when the mechanism is replaced.

7. Displaying the protection history mode

- (1) Plug AC cord into power outlet while pressing "SOURCE" and "+/▶/■" button same time on Main Unit.
(2) The last protection incident.
(3) Unplug AC cord to clear this mode too.

【No protection incident】

P	R	O	T	E	C	T	I	O	N	:				
N	O		P	R	O	T	E	C	T					

【The last protection incident was AMP protection】

P	R	O	T	E	C	T	I	O	N	:				
A	M	P												

【The last protection incident was Power protection】

P	R	O	T	E	C	T	I	O	N	:				
P	O	W	E	R										

7.1 Clearing the protection history

- (1) Start up the error (protection history display) mode, display the error, then press and hold in the "▶/■" button over 5 seconds.

【Display of Clearing】

P	R	O	T	E	C	T	I	O	N	:				
C	L	E	A	R										

※ Protection history reset by initialization (3. Cold start mode), too.

VERSION UPGRADE PROCEDURE OF FIRMWARE

1. ABOUT REPLACE THE MICROPROCESSOR WITH A NEW ONE

When replaced of the U-PRO (Microprocessor) or the Flash ROM, confirm contents of the following.

PWB Name	Ref. No.	Description	After replaced	Remark
MCU	IC11	TMPM330FYFG	B	for E3,E2P model
MCU	IC11	CVIT5CN5	B	for EK model
MCU	IC41	TMP92FD28FG	B	

After replaced

- A :** Mask ROM (With software). No need write-in of software to the microprocessor.
- B :** Flash ROM (With software). Usually, no need write-in of software. But, when the software was updated, you should be write-in of the new software to the microprocessor or flash ROM. Please check the software version.
- C :** Empty Flash ROM (Without software). You should be write-in of the software to the microprocessor or flash ROM. Refer to "Update procedure" or "writing procedure", when you should be write-in the software.

2. UPDATE MODE

Software for MAIN CPU and USB CPU can be updated.

There are two mode of update, regarding to the target of software as below.

2.1. Update MAIN CPU's software to internal Flash-ROM

The target devise is internal flash ROM of CPU (IC11) on CUP12448 (MCU PCB).

The updating of software takes about 30 seconds.

Procedure of the MAIN CPU's Update and download

NECESSARY EQUIPMENT

The following items are required for updating/downloading.

- Windows PC (OS: Windows2000 or WindowsXP) with Serial port
- RS-232C Dsub-9 pin cable (female to female/straight type)
- 8U-210100S Writing Kit
- 606050028012P / 7P FFC(1.0)L=240
- Update tool (BootTool_M330.exe)
- Update data for MAIN CPU (RCDM39_yymmdd-0z.s32)

NOTE : The yy is two digits of year. The mm is month. The dd is date. The vv is release number.

Procedure of the MAIN CPU's Update

- (1) Double click the "BootTool_M330.zip" folder. Unzip the firmware to your PC.



- (2) Disconnect the mains cord from the unit.

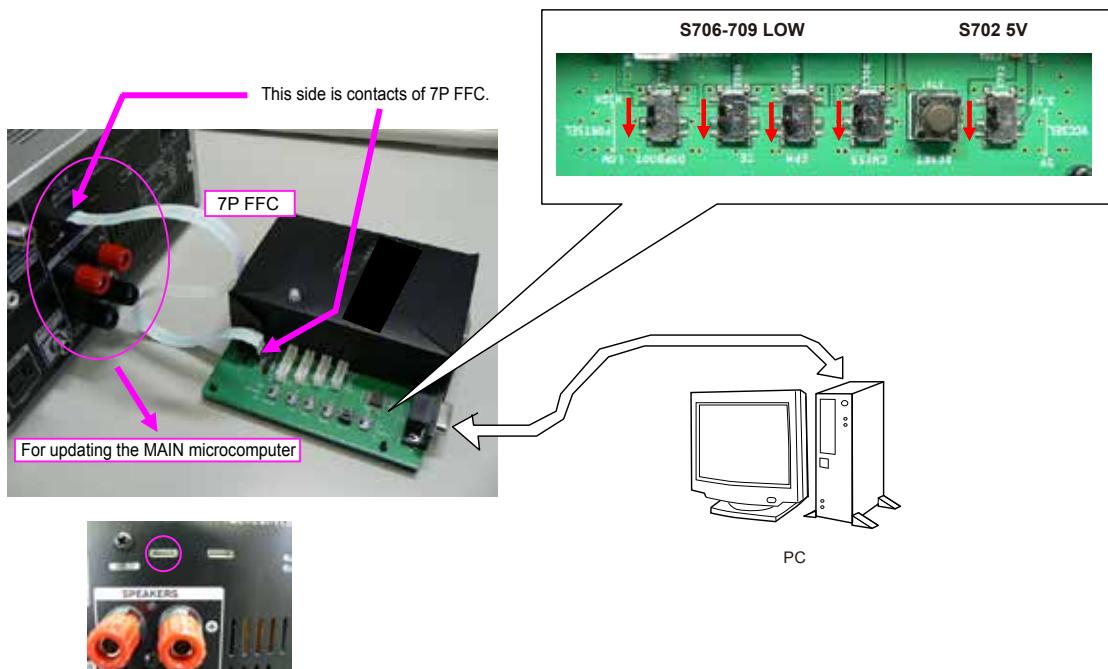
Caution : When you 7P FFC please disconnect the mains cord from the unit.

- (3) Connect the RS-232C on the DATA UPDATE KIT and the Serial Port of windows PC with RS-232C cable.

- (4) Connect the 7P FFC to the rear panel of the unit from DATA UPDATE KIT.

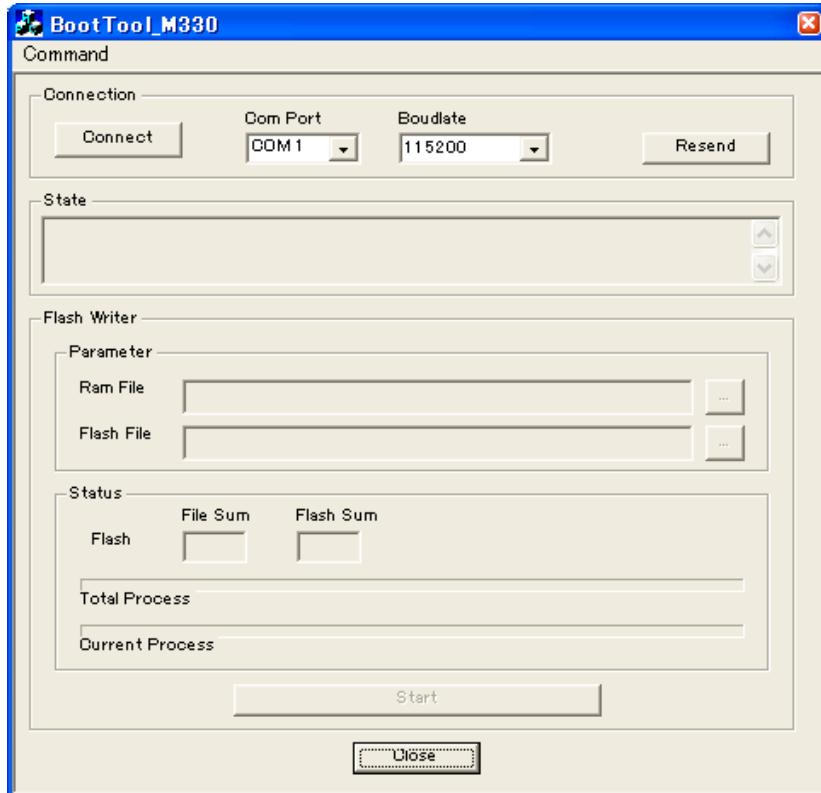
Caution : A FFC pin has the connection direction.

Refer to the photograph.



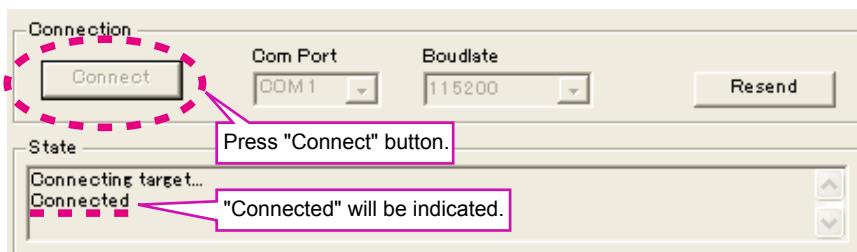
- (5) Connect the mains cord into the unit.

- (6) Unzip the "BootTool_M330.zip" and double click the icon of "BootTool_M330.exe".



- (7) Please confirm "Connected" on state space.

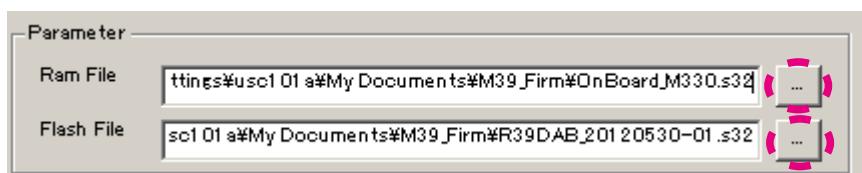
If "Connected" is not indicated, please check connection with unit or setting of ComPort or Boudlate.



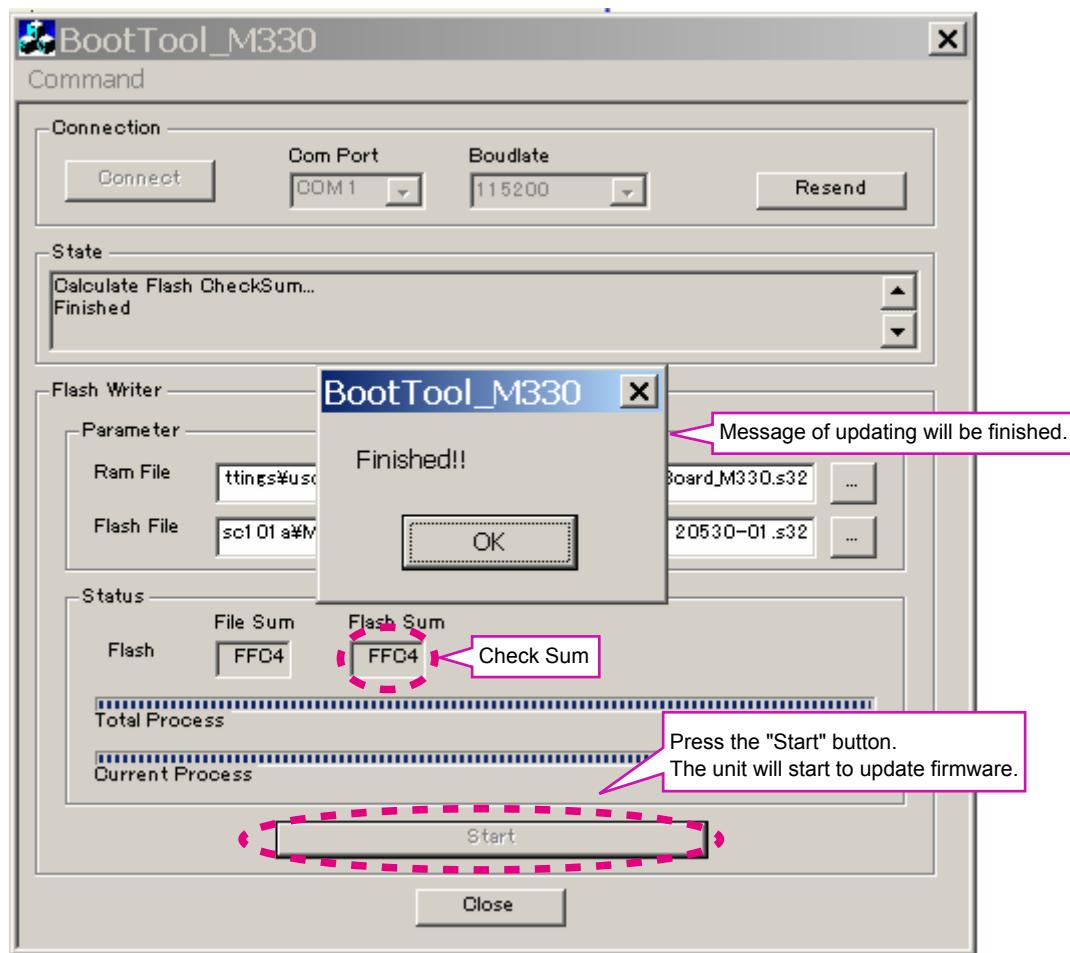
- (8) Select the Ram File and Flash File.

Press "... button on "Ram File" and choose "OnBoard_M330.s32" file.

Press "... button on "Flash File" and choose "RCDM39_yymmdd-0z.s32" file.



- (9) Press the "Start" button. The unit will start to update firmware.
Necessary time will be 30 seconds.



- (10) Disconnect the mains cord from the unit, and then disconnect the 7P FFC of DATA UPDATE KIT from the unit.
(11) UPDATE completion.
(12) Please check the version in "SERVICE MODE : 1. Version Display Mode" (Refer to 21 page).

2.2 Update USB CPU's software to internal Flash-ROM

The target device is internal flash ROM of CPU (IC41) on COP12284 (MCU PCB).
The updating of software takes about 30 seconds.

Procedure of the USB CPU's Update and download

NECESSARY EQUIPMENT

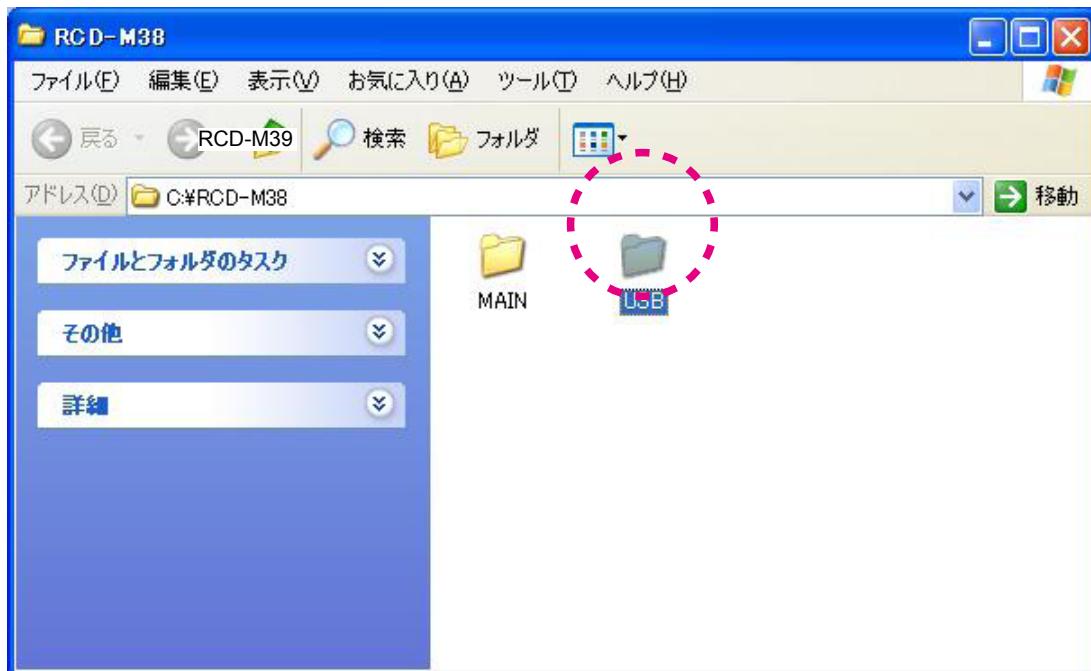
The following items are required for updating/downloading.

- Windows PC (OS: Windows2000 or WindowsXP) with Serial port.
- RS-232C Dsub-9 pin cable (female to female/straight type)
- 8U-210100S Writing Kit
- 606050028012P / 7P FFC(1.0)L=240
- Update tool (FlashProg.exe, other files and folders in Flash Programmer folder)
- Update data for USB CPU (Bolero_USB-20120524-01.s32)

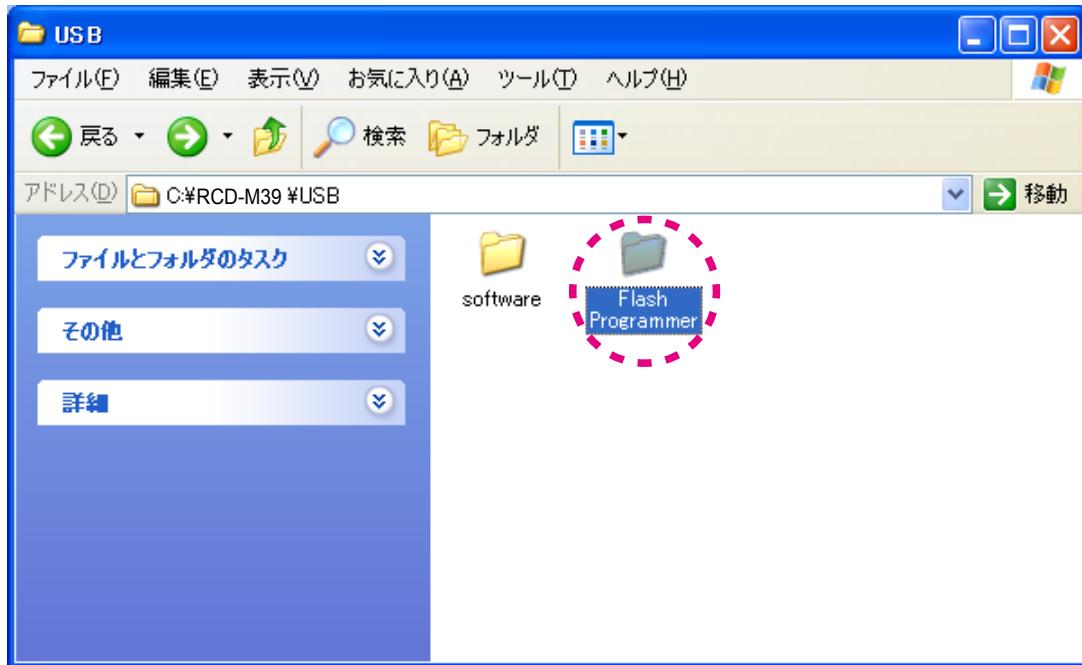
NOTE : The yy is two digits of year. The mm is month. The dd is date. The vv is release number.

Procedure of the UDSB CPU's Update

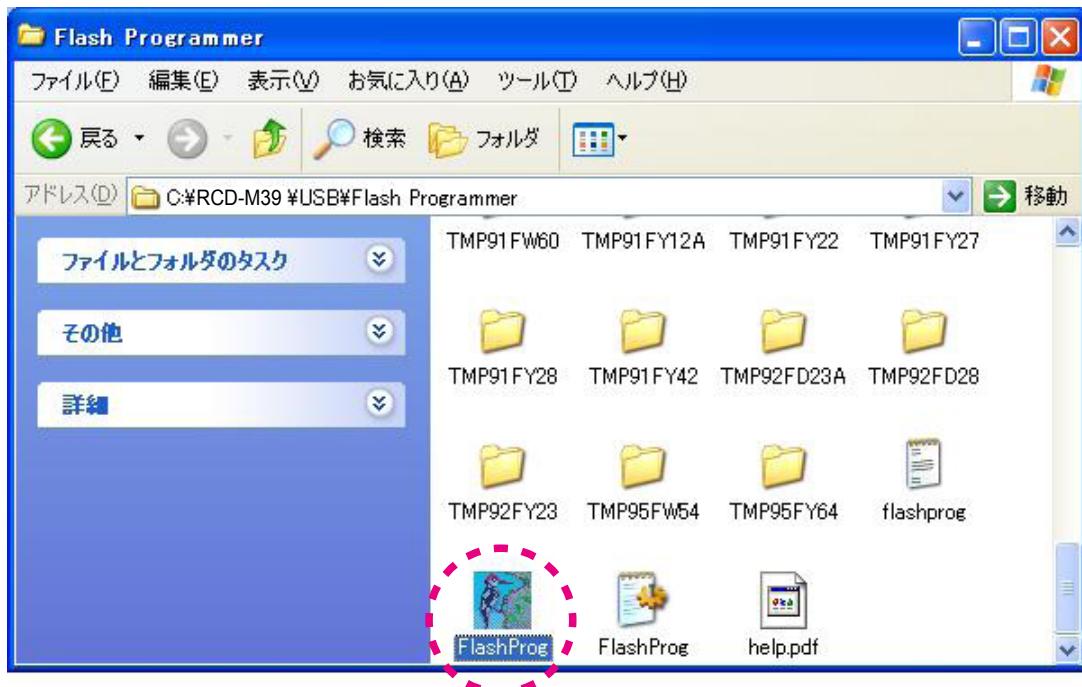
- (1) Create the MODEL NAME folder into anywhere on your PC's hard disk.
(Ex. : RCD-M39)
- (2) Put the "USB" folder into the MODEL NAME folder.
- (3) Double click the "USB" folder.



(4) Double click the "Flash Programmer" folder.



(5) Double click FlashProg_b35.exe, and launch the Flash Programmer.



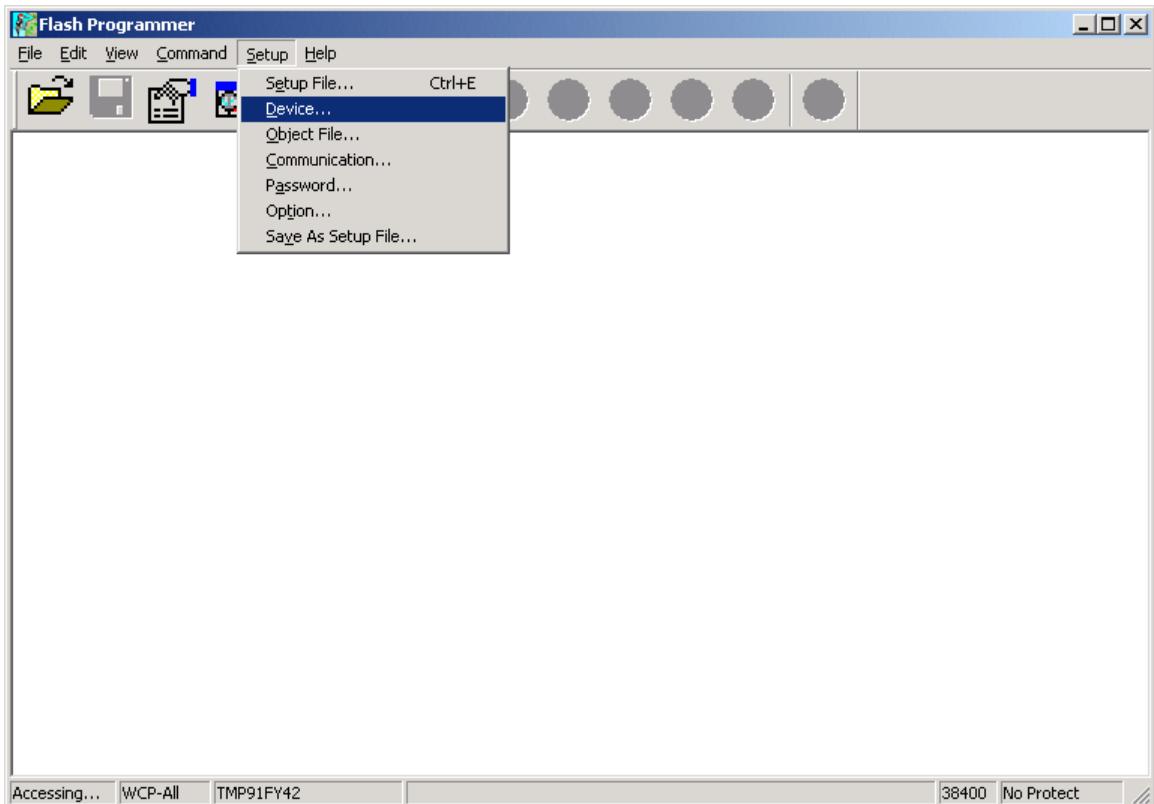
NOTE : When a Flash Programmer does not launch even if double-clicked FlashProg_b35.exe, please refer to "2.3. When a Flash Programmer did not launch".

- (6) The following dialog box appears several seconds later after the Flash Programmer launch.
Click OK.

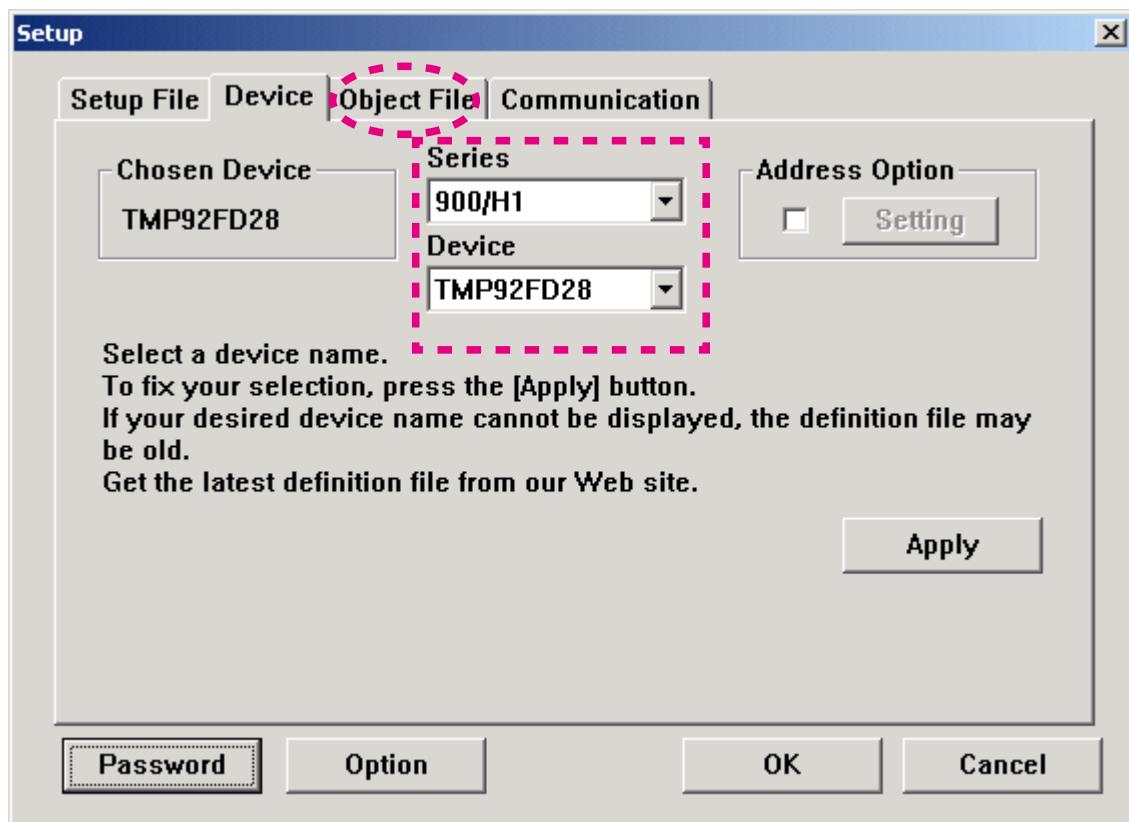


NOTE : Since Flash Programmer communicates with the unit automatically, the above dialog box appears when it fails in communication.

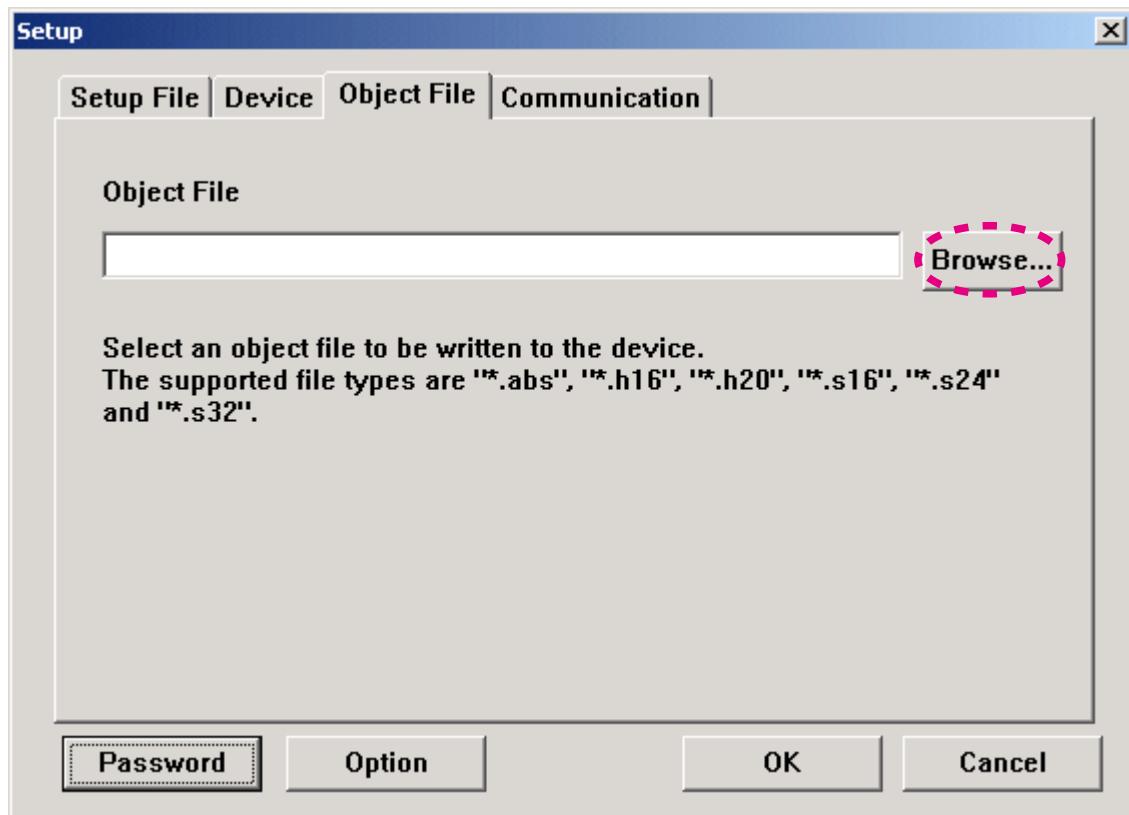
- (7) Click the Setup in the menu bar and select the Device.



- (8) Choose the TMP92FD28 in the Device, and choose the 900/H1 in the Series.
And click Object File tab.



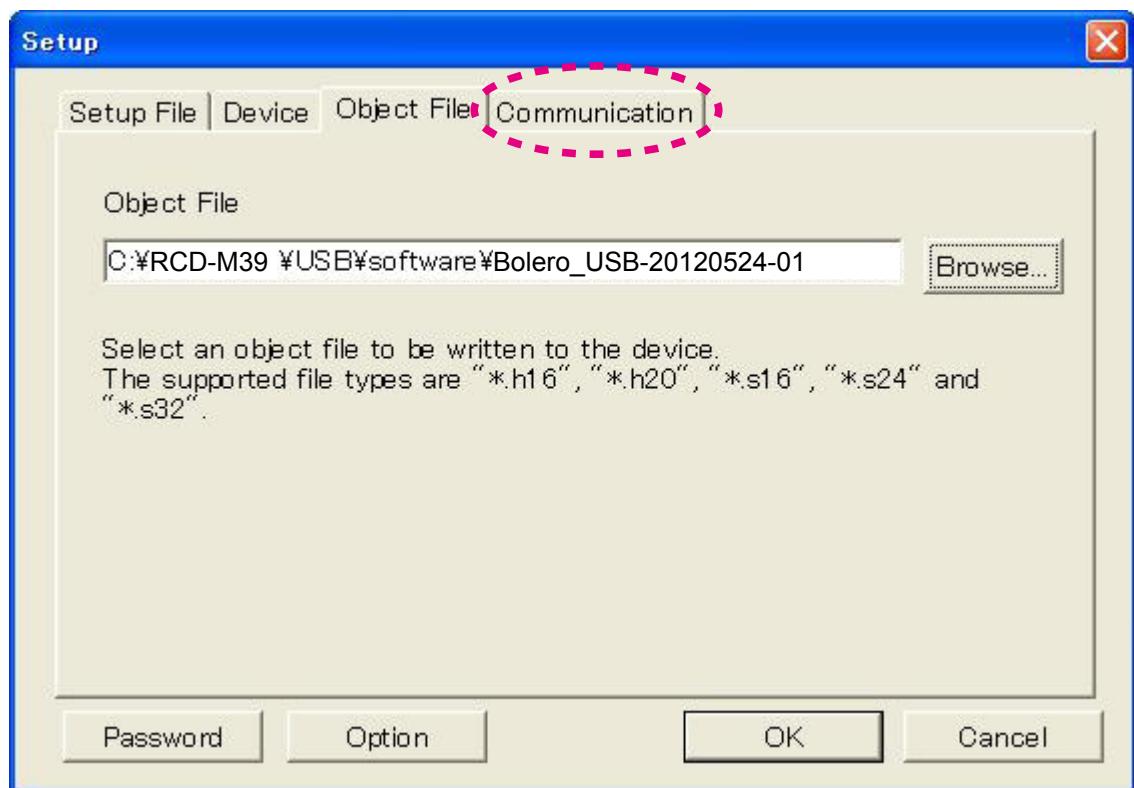
- (9) Click Browse.



(10) Choose the Motorola S Format (*.s16, *.s24, *.s32) in Files of type.
Bolero_USB-2012052401.s32, and click Open.



(11) Click Communication tab.

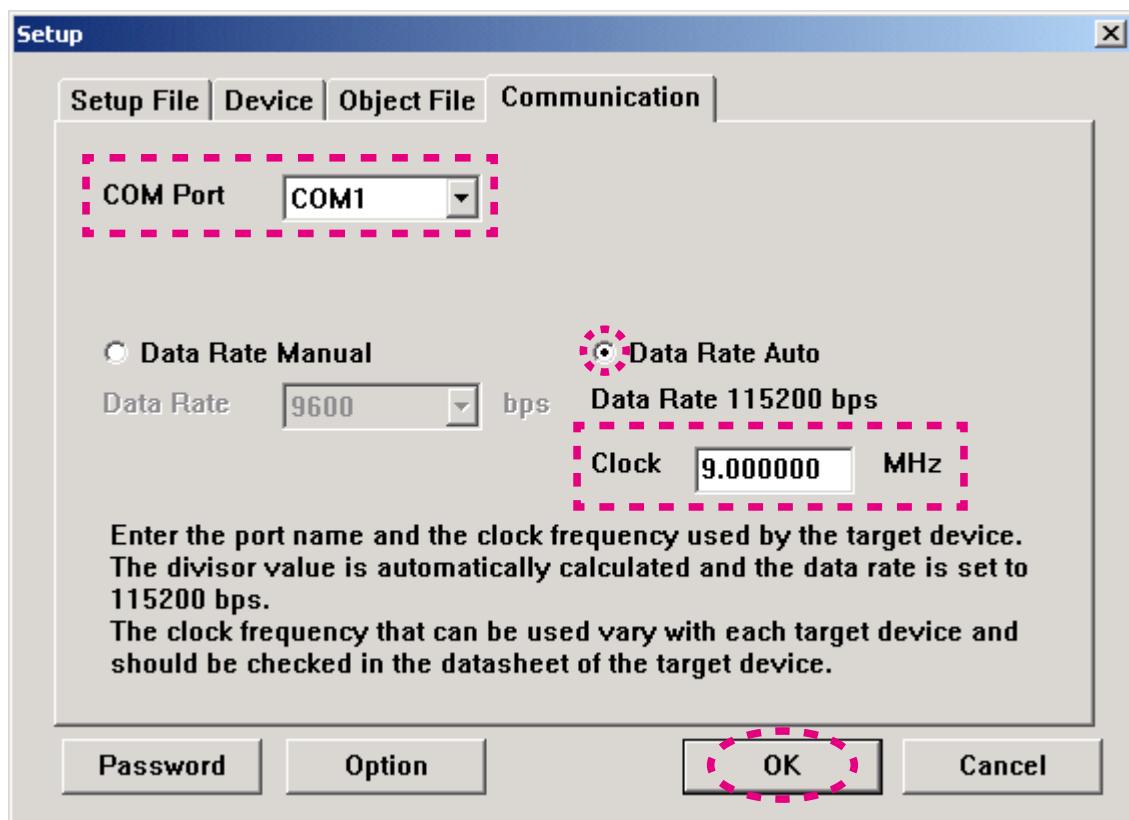


(12) Choose the Serial port number in the COM Port.

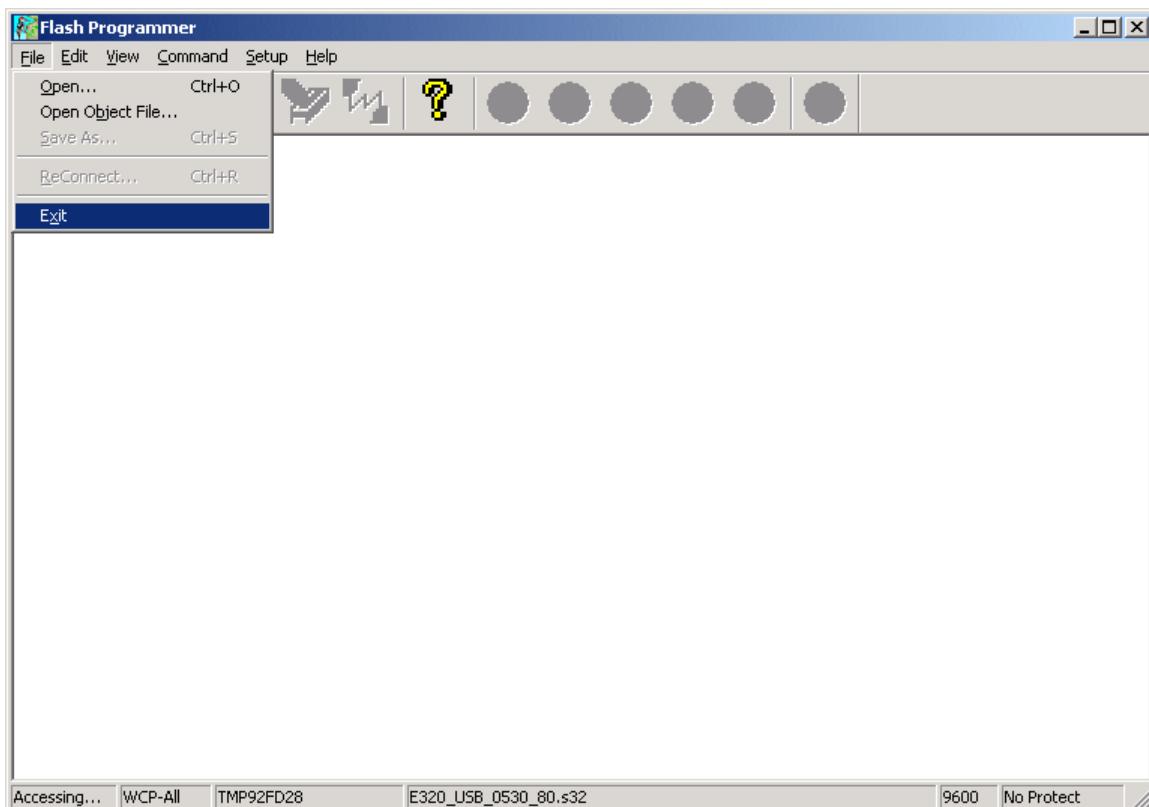
Check the Data Rate Auto.

Input the 9.00 in the Clock.

And Click OK.



(13) Click the File in the menu bar and select the Exit.

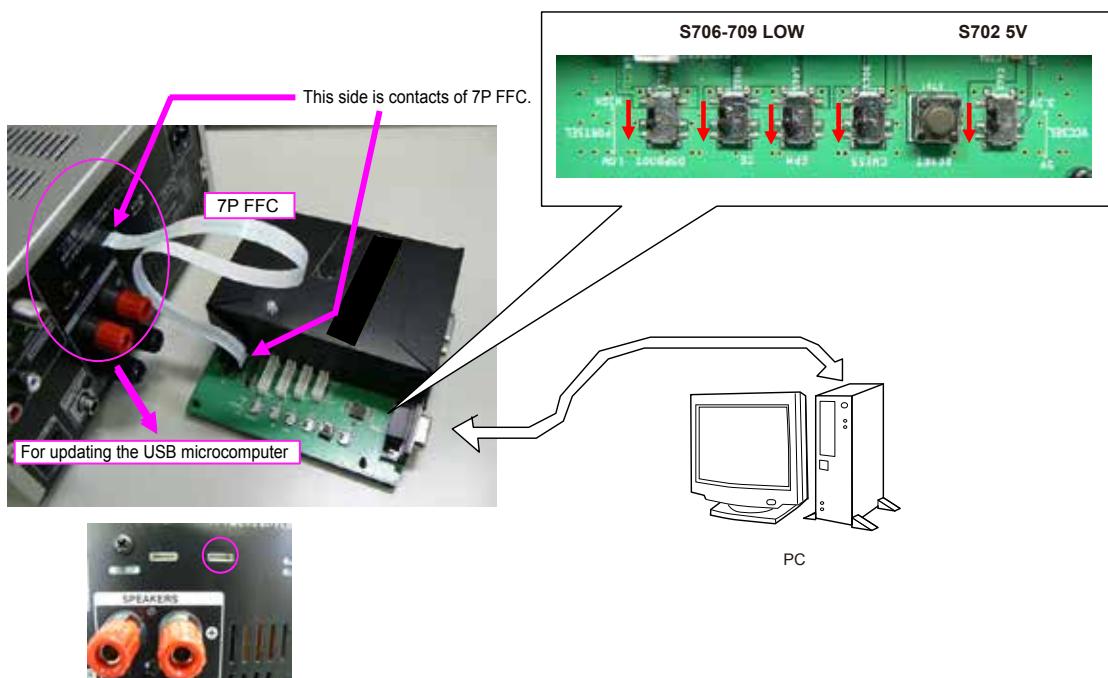


(14) Disconnect the mains cord from the unit.

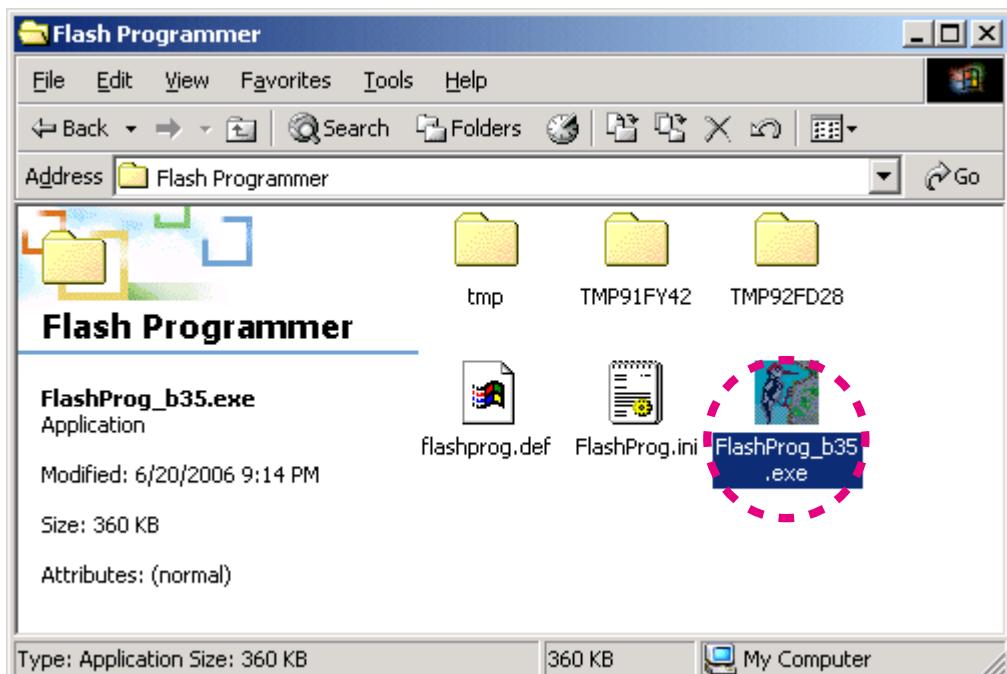
- (15) Connect the RS-232C on the DATA UPDATE KIT and the Serial Port of windows PC with RS-232C cable.
 (16) Connect the 7P FFC to the rear panel of the unit from DATA UPDATE KIT.

Caution : A FFC pin has the connection direction.

Refer to the photograph.

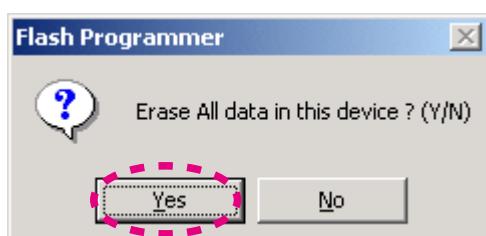


- (17) Connect the mains cord into the unit.
 (18) Press the "Power operation (b)" button to turn on the unit.
 (19) Double click FlashProg_b35.exe, and launch the Flash Programmer again.



- (20) The Flash Programmer communicates automatically.

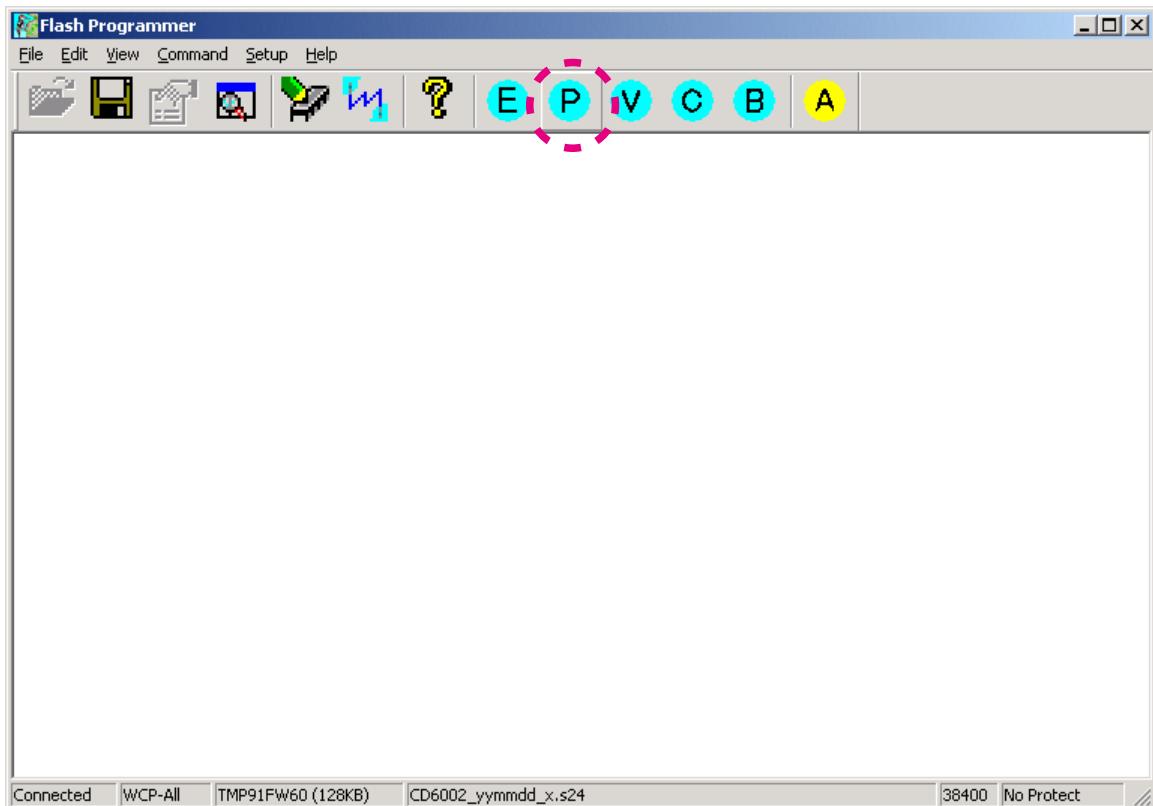
When communication succeeds between a unit and a program, a dialog box saying "Erase All data in this device? (Y/N)" appears.
 Click Yes.



(21) Click OK.



(22) Click P (Program) to start update.

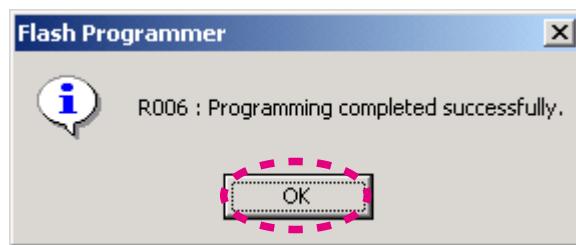


(23) Software is written into the microprocessor.

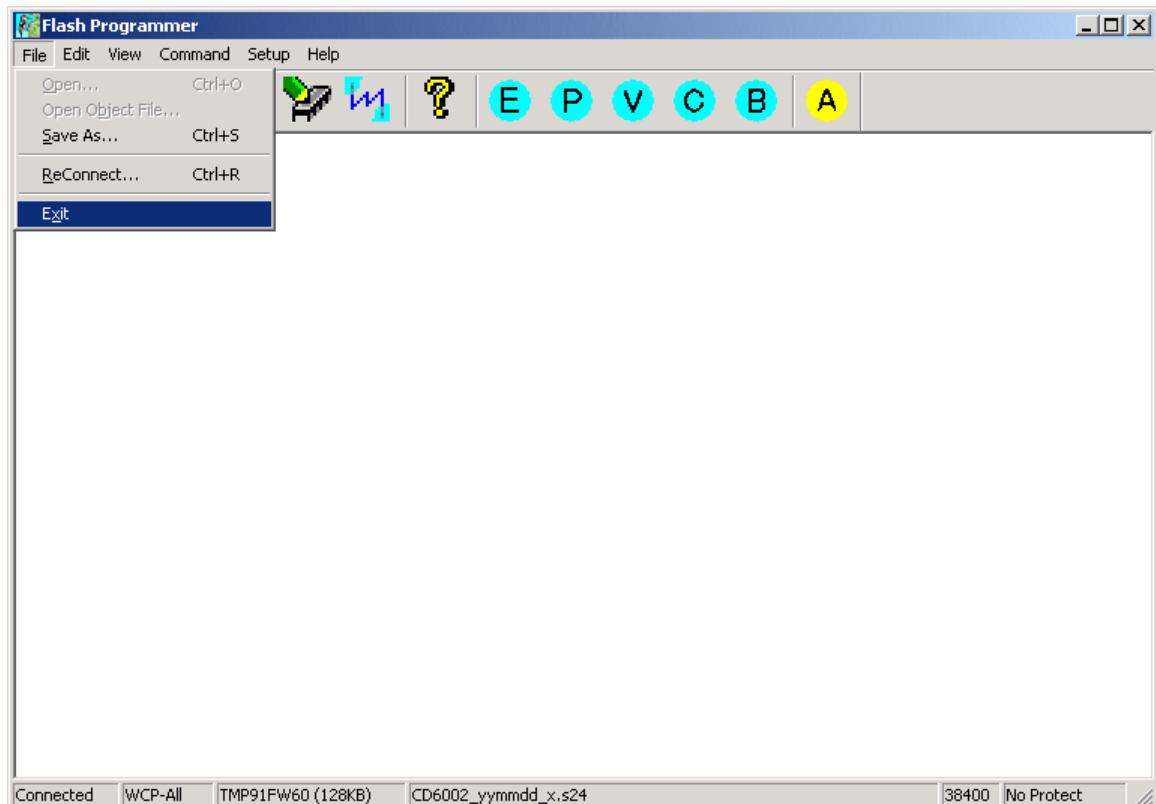
The writing of software takes about 30 seconds.



(24) If the software is updated successfully, a dialog box saying "R006: Programming completed successfully." appears. Click OK.



(25) Click the File in the menu bar and select the Exit.



(26) Press the "Power operation (⊕)" button to turn off the unit.

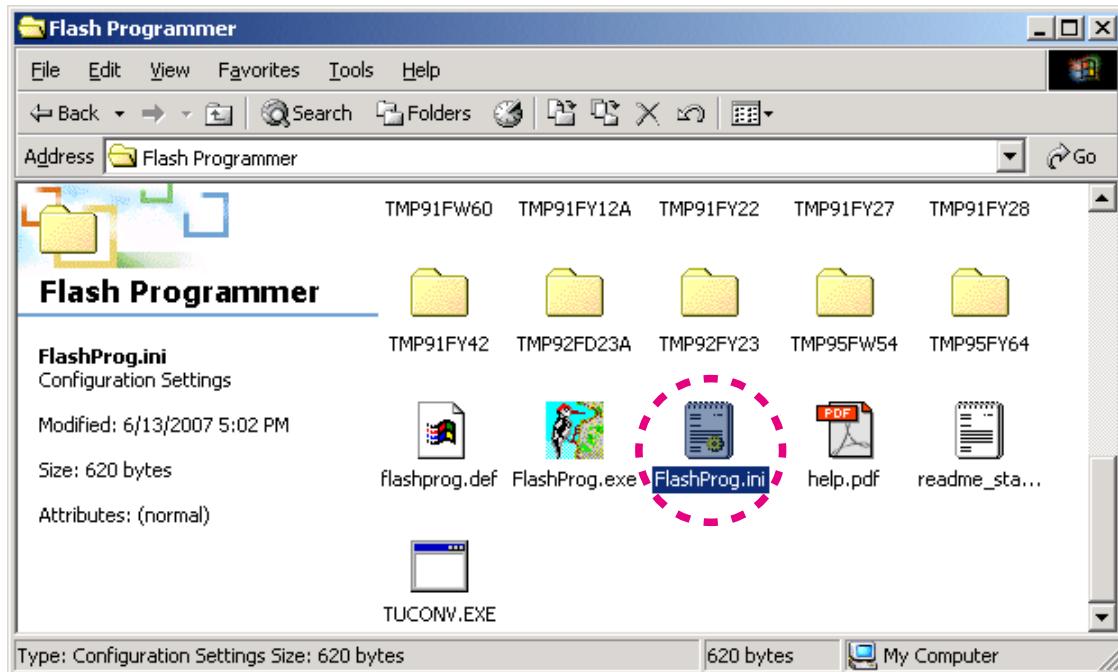
(27) Disconnect the mains cord from the unit, and then disconnect the 7P FFC of DATA UPDATE KIT from the unit.

(28) UPDATE completion

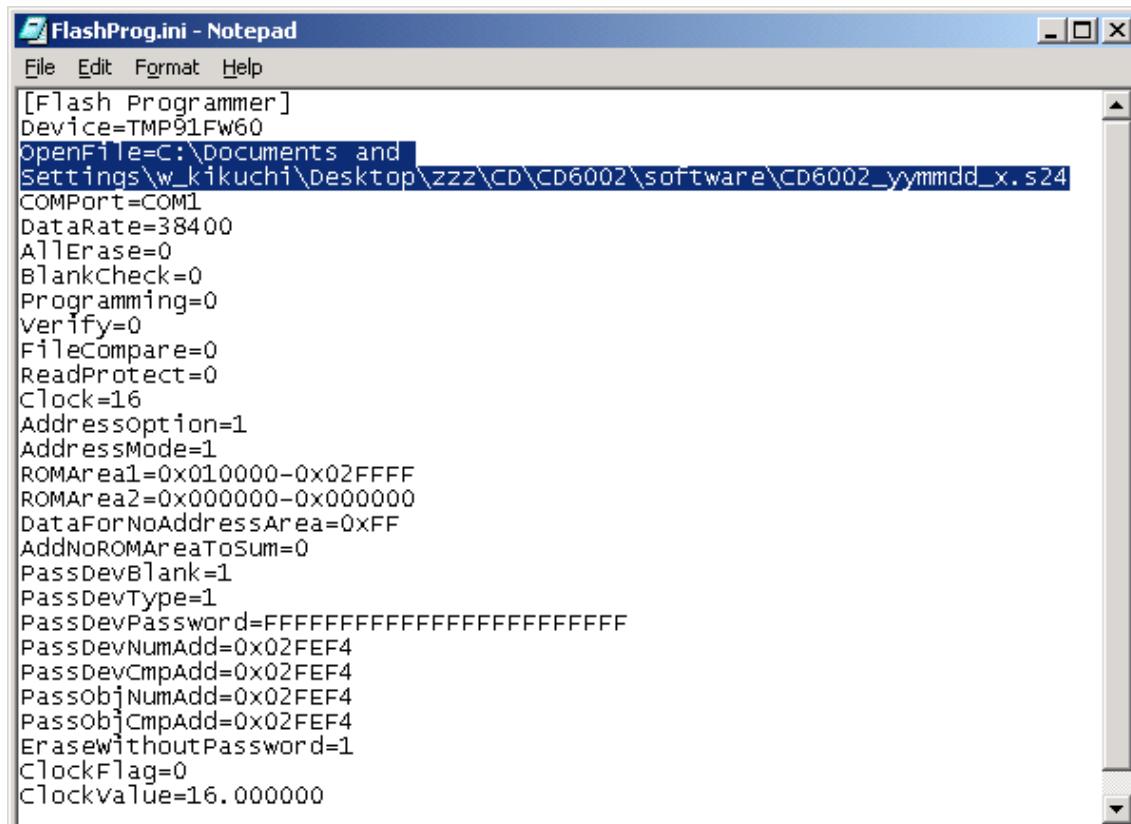
(29) Please check the version in "SERVICE MODE : 1. Version Display Mode". (Refer to 21 page)

2.3. When a Flash Programmer did not launch

- (1) Open the FlashProg.ini in the Flash Programmer folder by text editor. (EX.: Notepad, etc)



- (2) Delete the text "OpenFile=C:\... (your PC setting)... \???.s32".

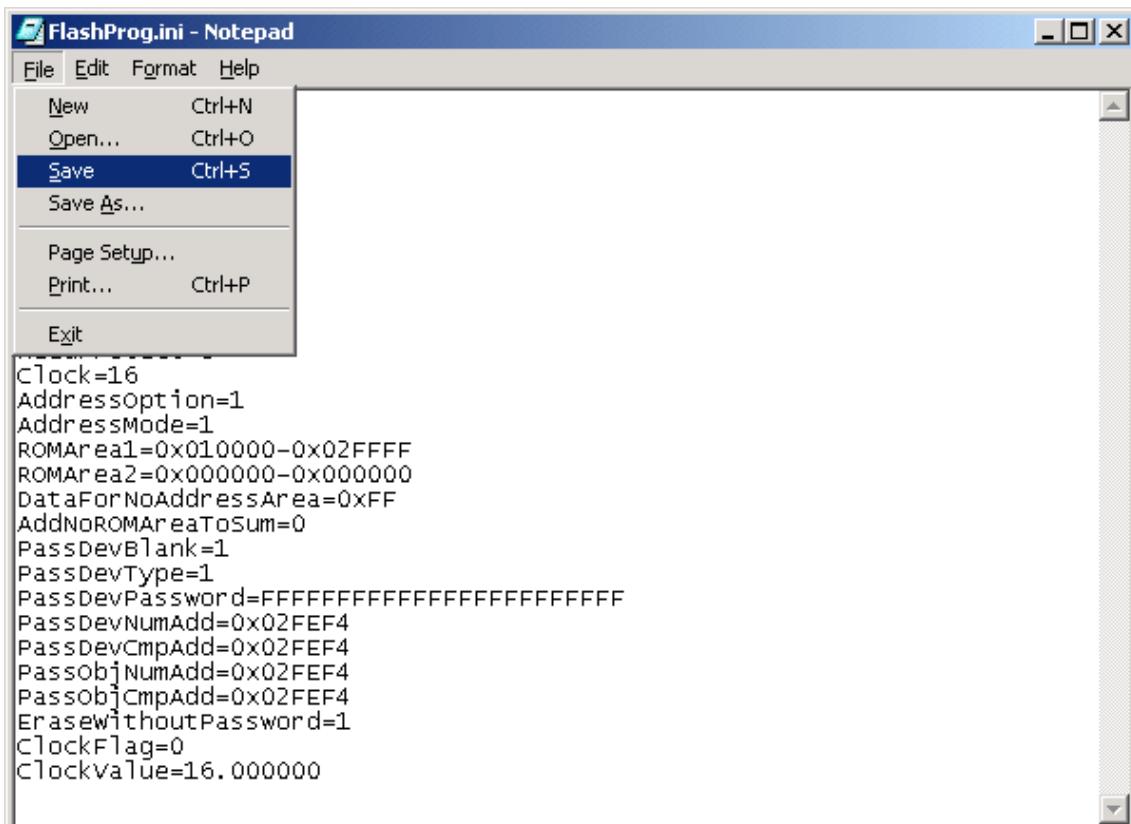


The screenshot shows a Windows Notepad window titled "FlashProg.ini - Notepad". The menu bar includes "File", "Edit", "Format", and "Help". The main content area contains the following configuration file:

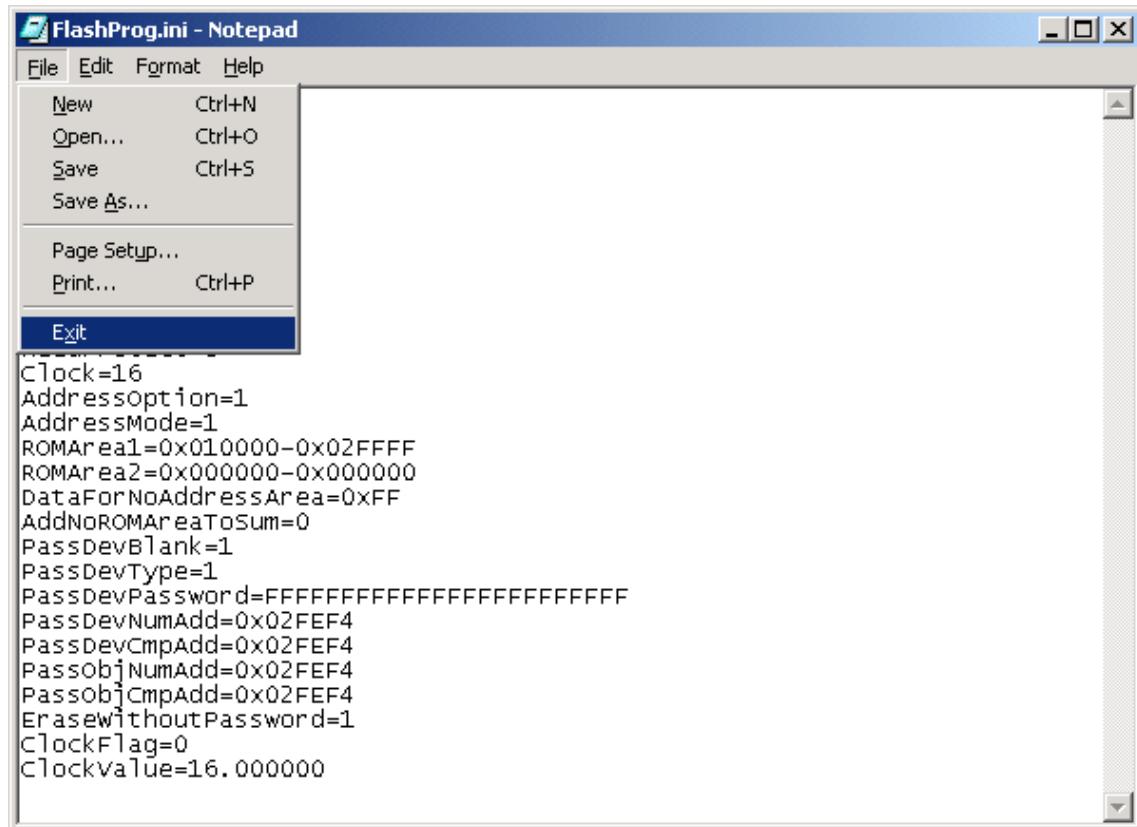
```
[Flash Programmer]
Device=TMP91FW60

COMPort=COM1
DataRate=38400
AllErase=0
BlankCheck=0
Programming=0
Verify=0
FileCompare=0
ReadProtect=0
Clock=16
AddressOption=1
AddressMode=1
ROMArea1=0x010000-0x02FFFF
ROMArea2=0x000000-0x000000
DataForNoAddressArea=0xFF
AddNoROMAreaToSum=0
PassDevBlank=1
PassDevType=1
PassDevPassword=FFFFFFFFFFFFFF
PassDevNumAdd=0x02FEF4
PassDevCmpAdd=0x02FEF4
PassObjNumAdd=0x02FEF4
PassObjCmpAdd=0x02FEF4
EraseWithoutPassword=1
ClockFlag=0
ClockValue=16.000000
```

(3) Save the FlashProg.ini.



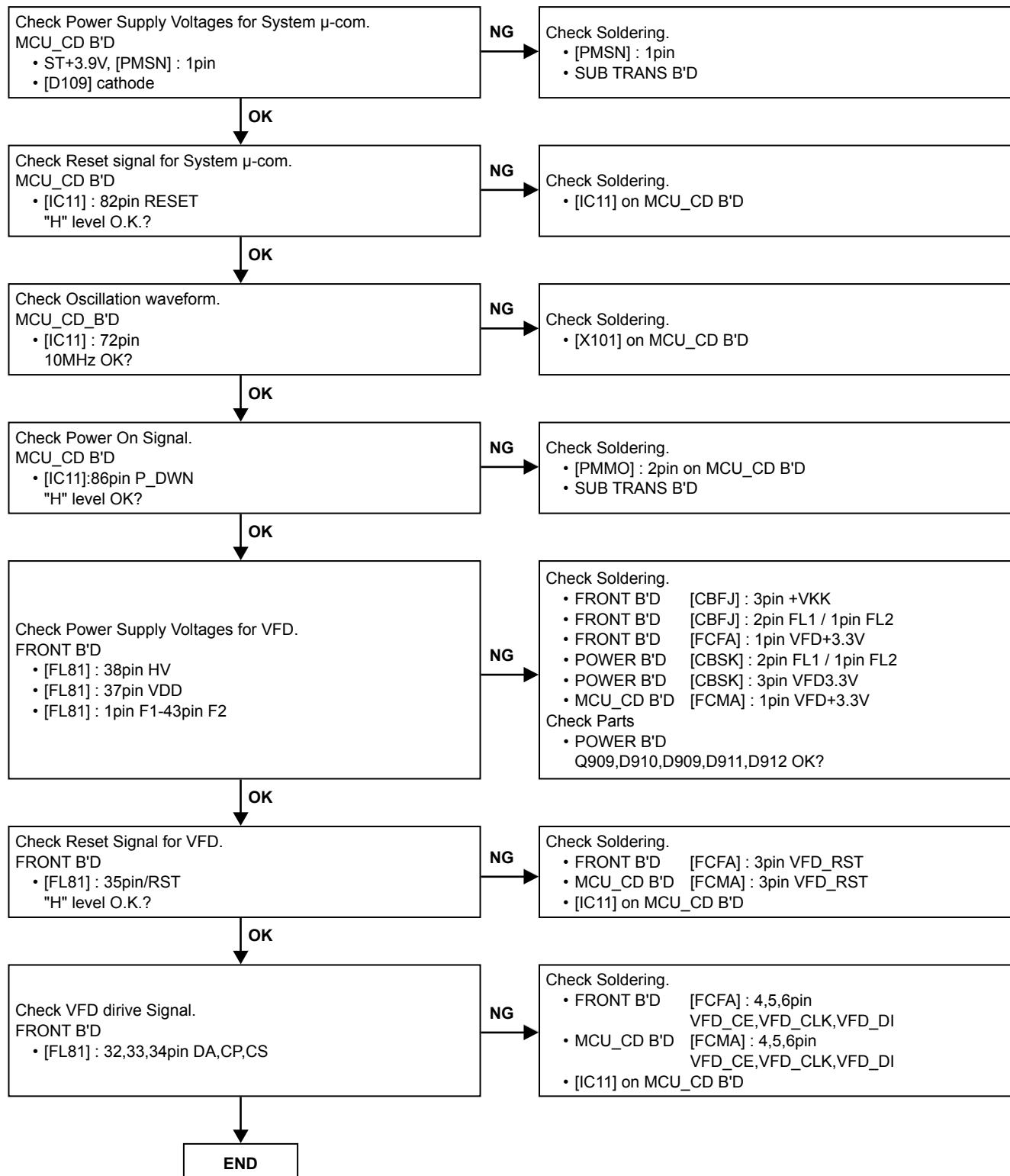
(4) Close the text editor.



(5) Probably you can launch the Flash Programmer. Go to the "Procedure of the UDSB CPU's Update" step 5.

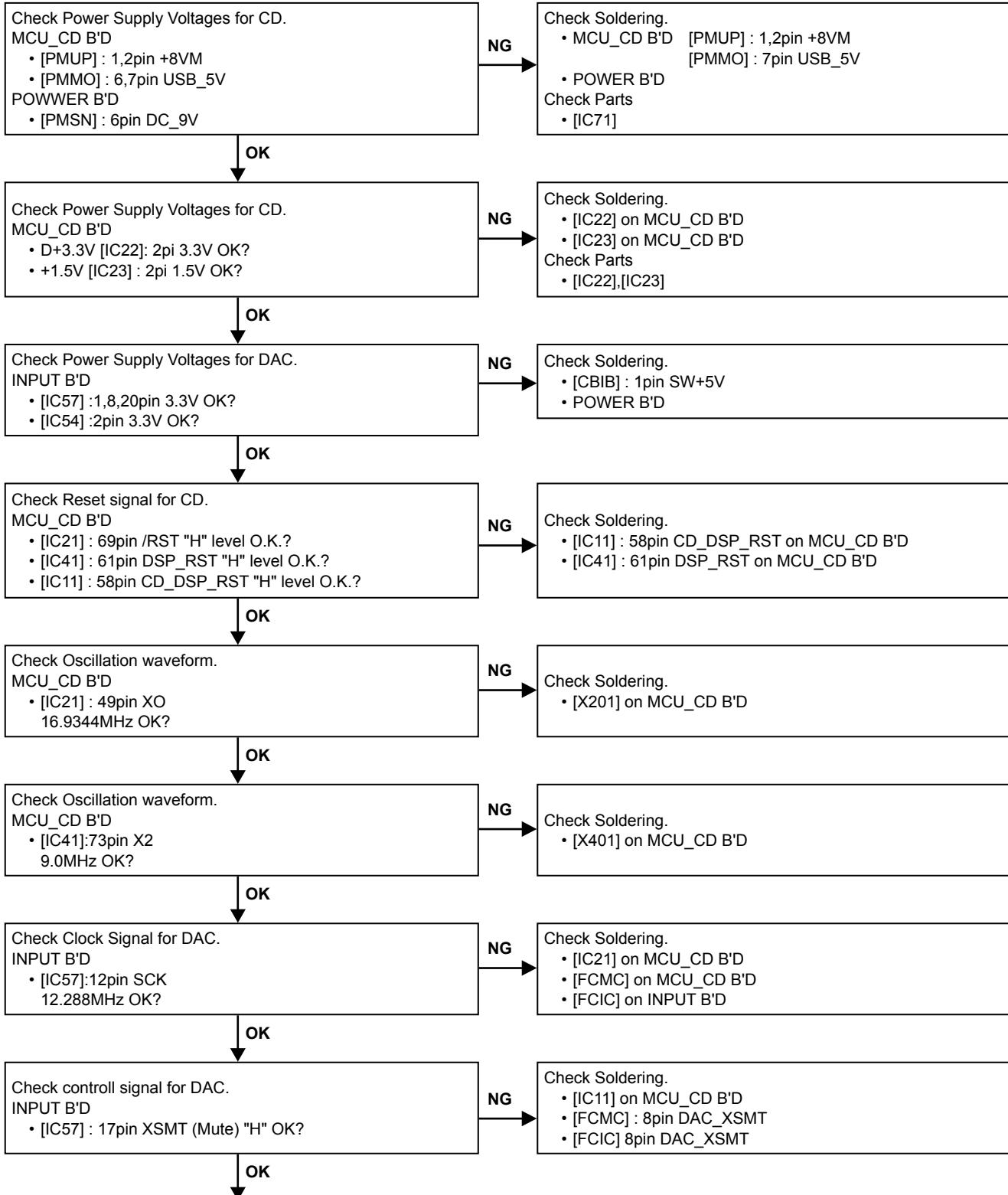
TROUBLE SHOOTING

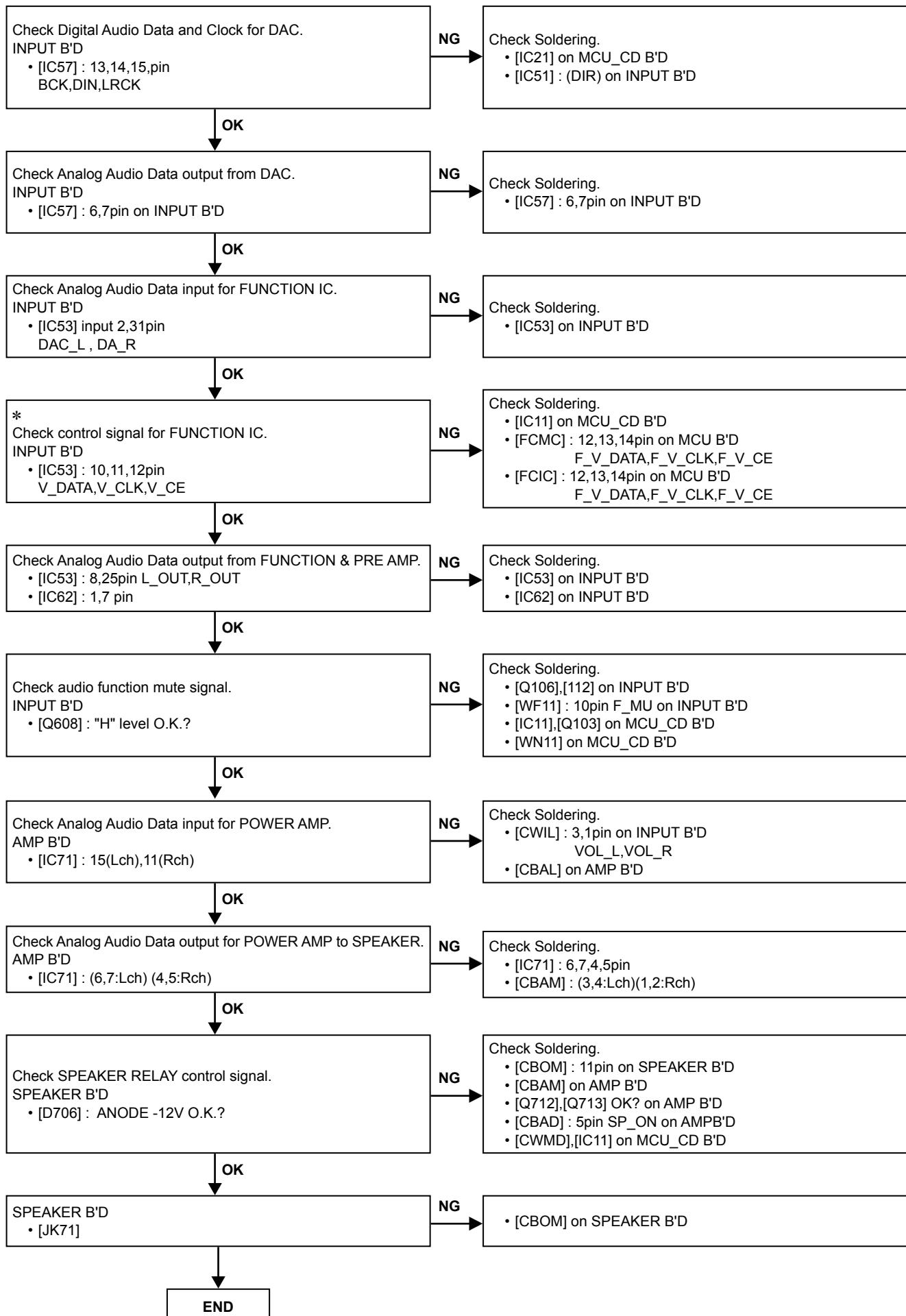
1. VFD dosen't light



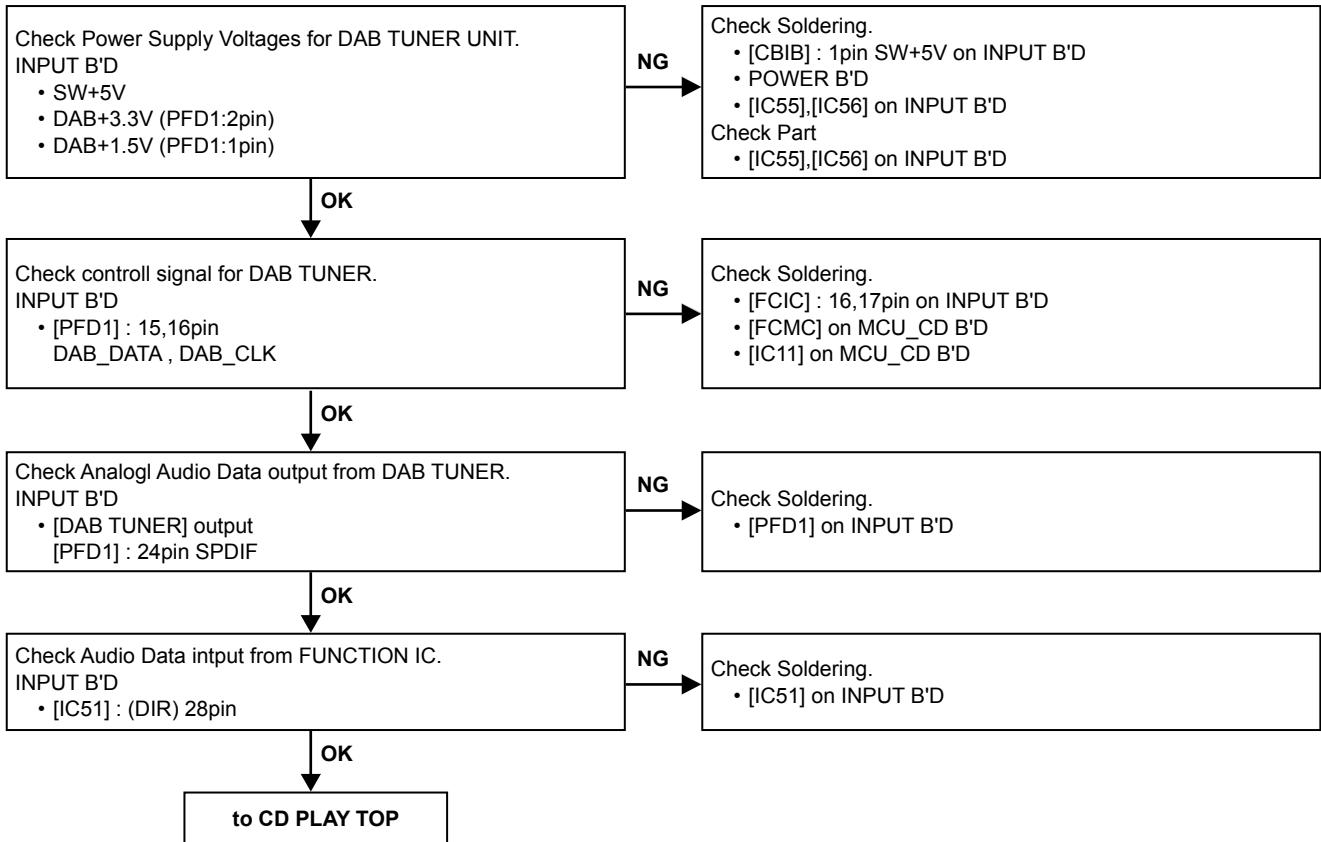
2. No Sound, Noise generated

2.1. CD PLAY

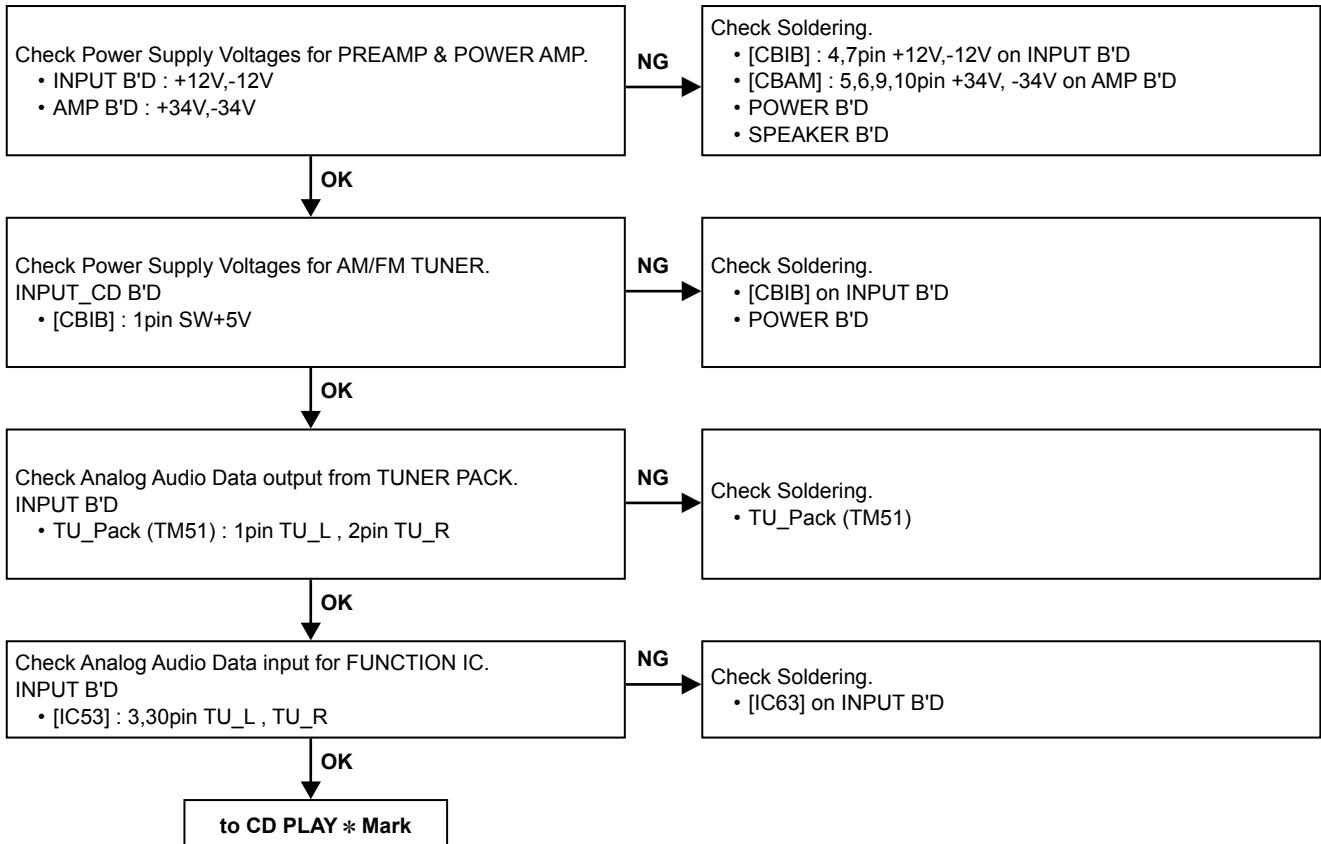




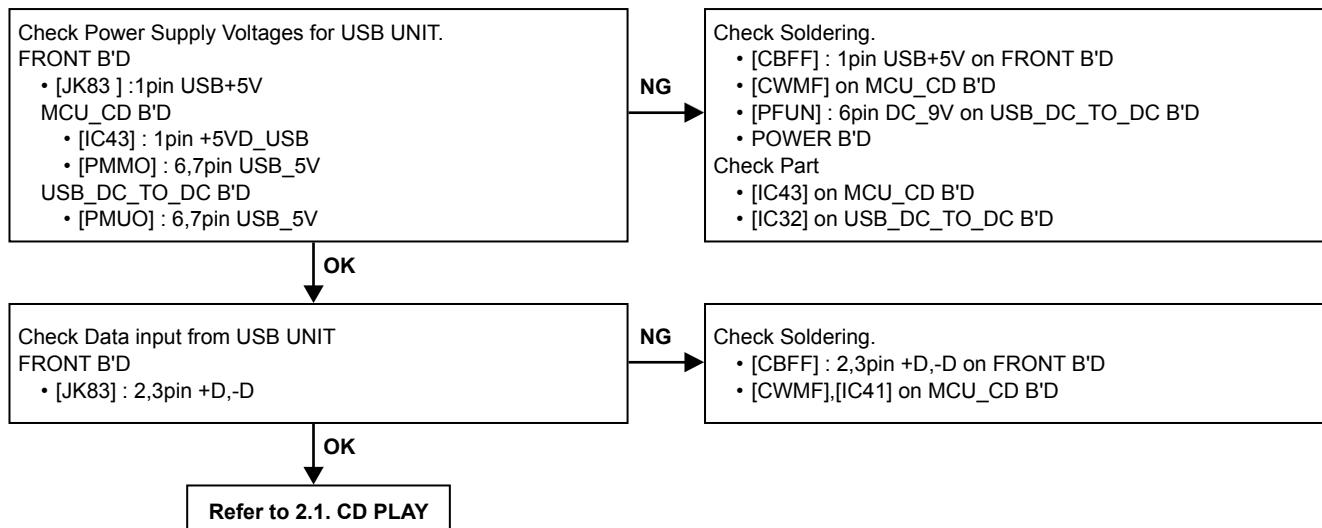
2.2. DAB TUNER-in (EK model)



2.3. FM TUNER-in (E2, E3 model)



2.4. iPod/USB PLAY



MEASURING METHOD AND WAVEFORMS

To check the waveforms, the GND (-) probe of the oscilloscope to specified reference voltage.
(Except for Inner SW, TRVSW)

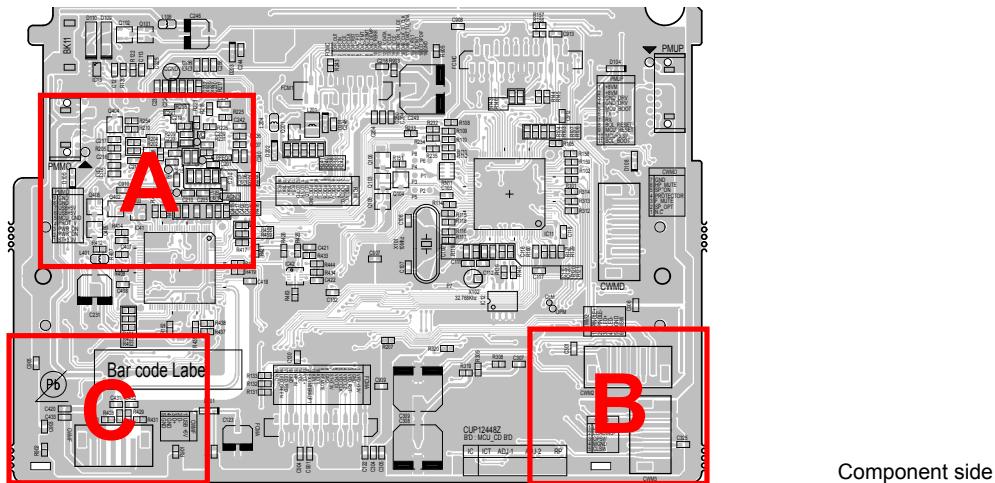
NOTES

Measuring Disc:
CD/TCD-784
CD-R/TCD-R082W
CD-RW/TCD-W082W

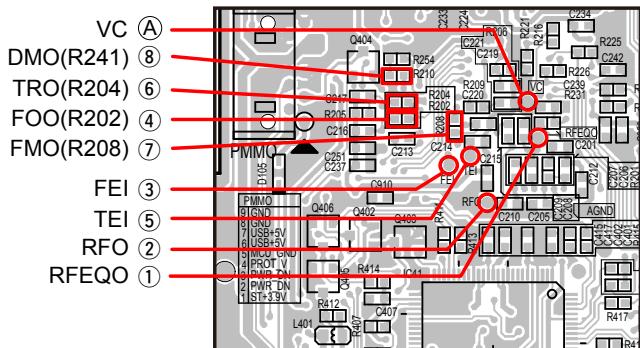
(It is better to use wires for extending between the probe and test points.)

- When watching the HF waveform, use the extending wire as short as possible.
- When HF waveform is noisy or cannot discriminate the eye-pattern, replace the Traverse Unit after measuring the lop.
- Point ① ~ ⑯ is measured with the point shown below.

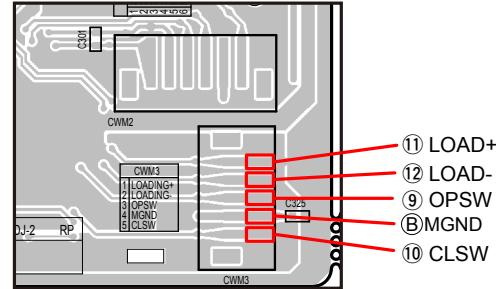
1. MCU CD PCB : TEST POINT



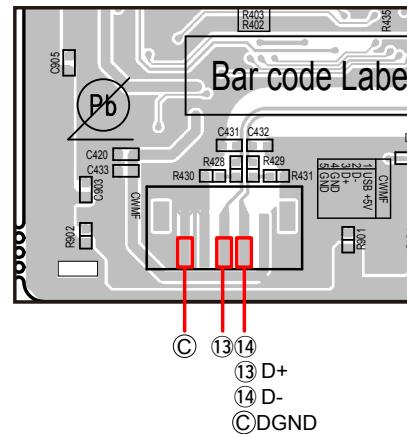
Detail A



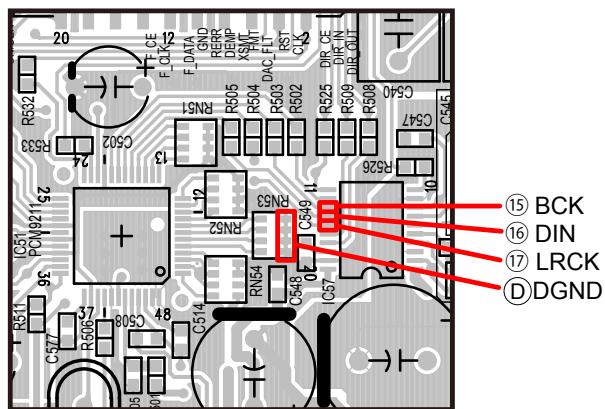
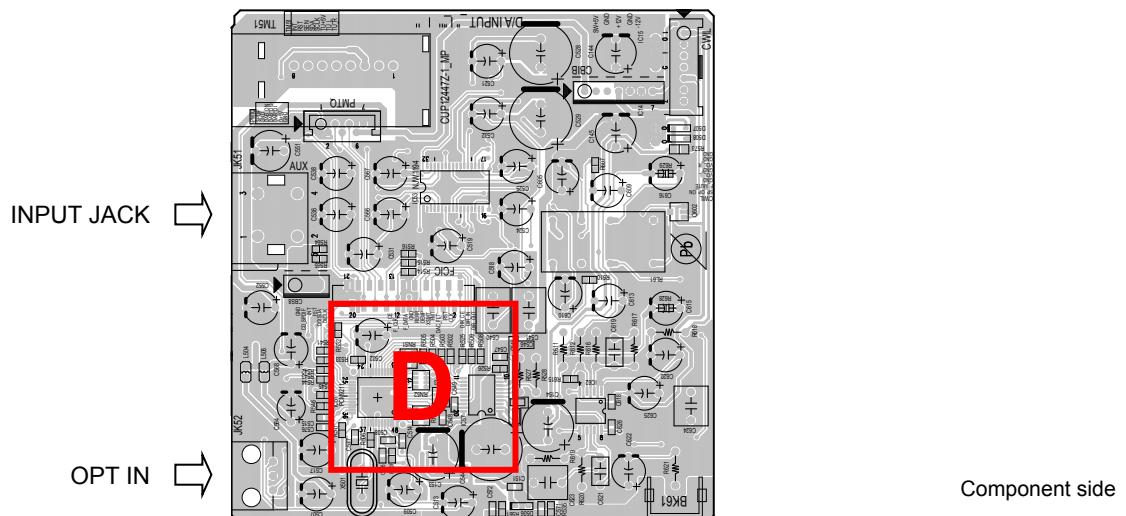
Detail B



Detail C



2. INPUT PCB : TEST POINT



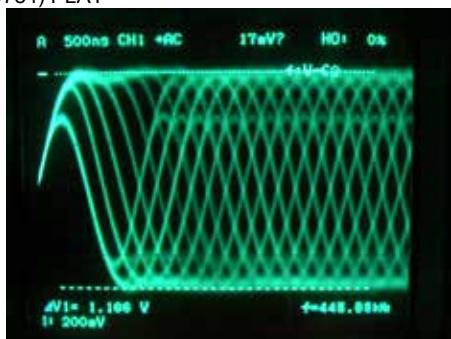
No.	Symbol	
①	TP	RFEQO
②	TP	RFO
③	TP	FEI
④	R202(0Ω)	FOO
⑤	TP	TEI
⑥	R204(0Ω)	TRO
⑦	R208(0Ω)	FMO
⑧	R210(0Ω)	DMO
⑨	CWM3(3)	OPSW
⑩	CWM3(5)	CLSW
⑪	CWM3(1)	LOAD+
⑫	CWM3(2)	LOAD-
⑬	CWMF(3)	D+
⑭	CWMF(2)	D-
⑮	IC57(13)	BCK
⑯	IC57(14)	DIN
⑰	IC57(15)	LRCK

No.	Symbol	Reference voltage
Ⓐ	TP	VC : ① ~ ⑧
Ⓑ	CWM3(4)	MGND : ⑨ ~ ⑫
Ⓒ	CWMF(5)	DGND : ⑬, ⑭
Ⓓ	RN53	DGND : ⑮ ~ ⑰

3. WAVEFORMS

1. DISC PLAY RF WAVEFORM (EYE-PATTERN)

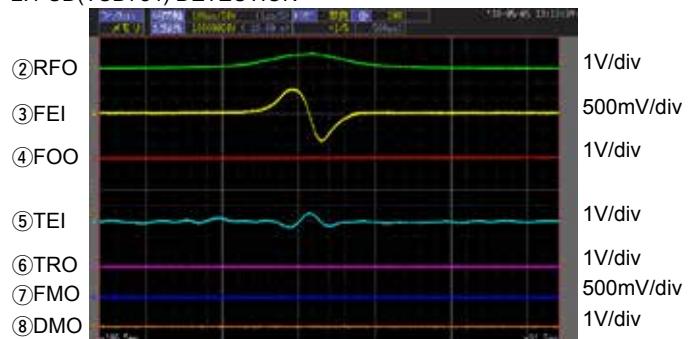
1.1 CD(TCD784) PLAY



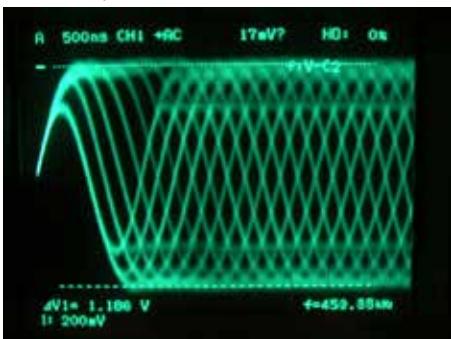
①RFEQO

2. DISC DETECTION

2.1 CD(TCD784) DETECTION

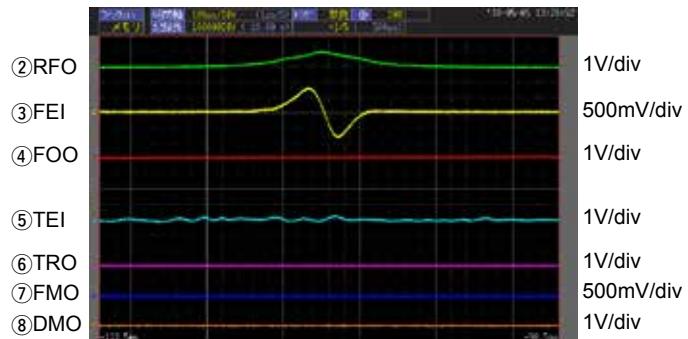


1.2 CD-R (TCDR082W) PLAY

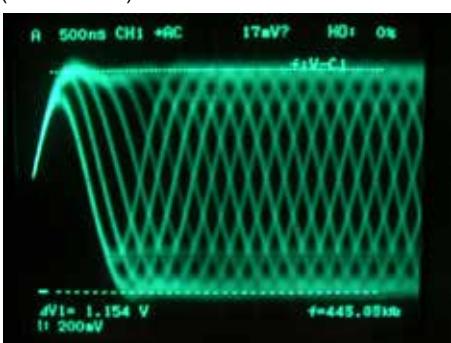


①RFEQO

2.2 CD-R (TCDR082W) DETECTION

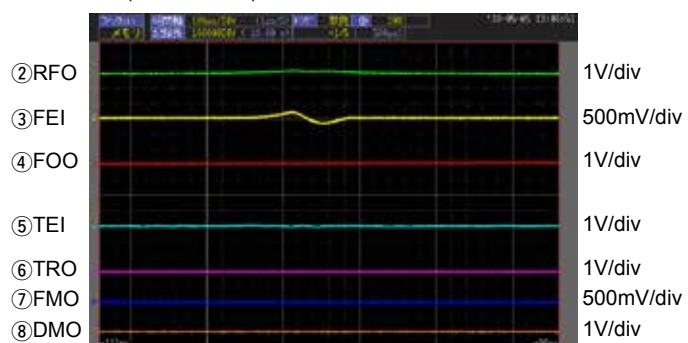


1.3 CD-RW (TCDW082W) PLAY



①RFEQO

2.3 CD-RW (TCDW082W) DETECTION



3. TOC READ

3.1 CD(TCD784) READ



4. FOCUS ADJUSTMENT

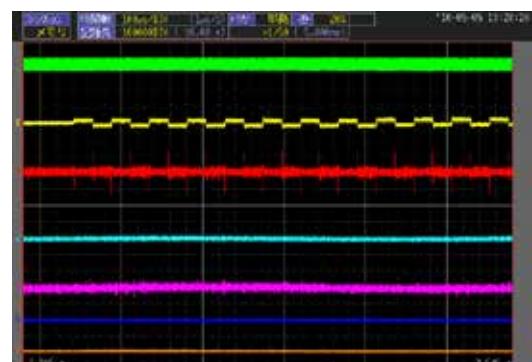
4.1 CD(TCD784) FOCUS ADJUSTMENT



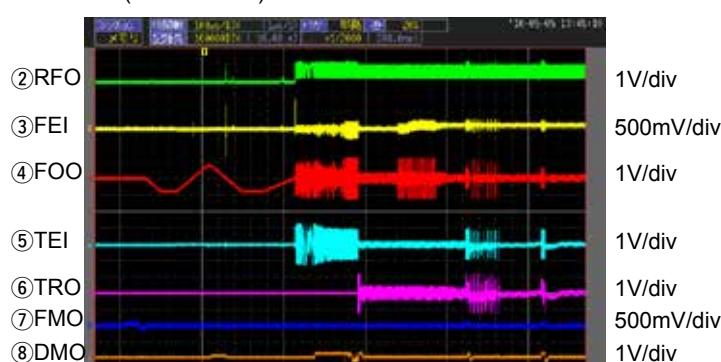
3.2 CD-R (TCDR082W) READ



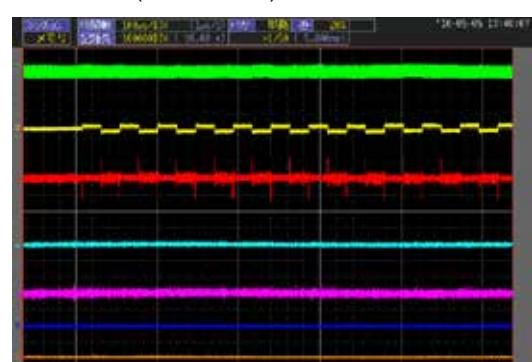
4.2 CD-R (TCDR082W) FOCUS ADJUSTMENT



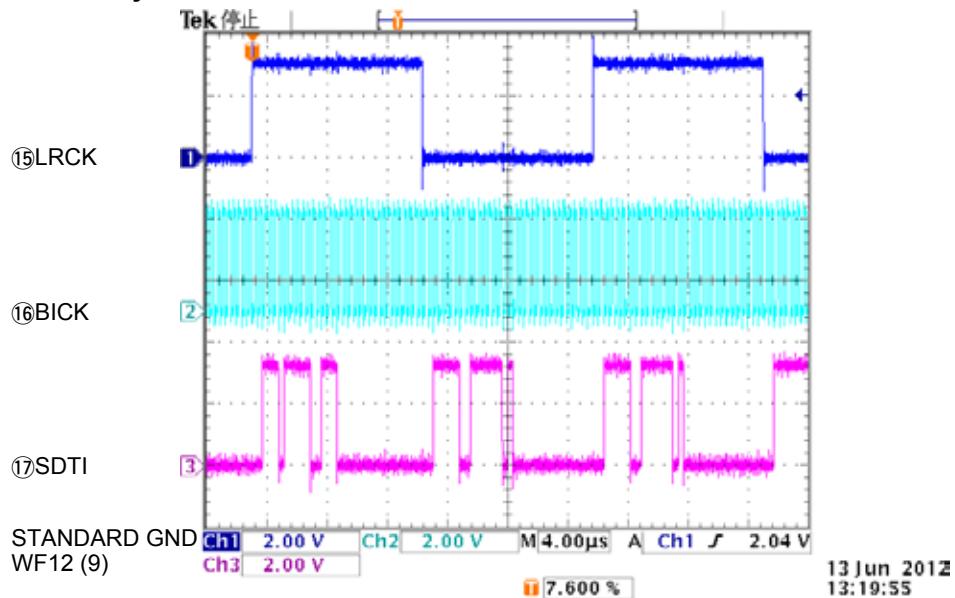
3.3 CD-RW (TCDW082W) READ



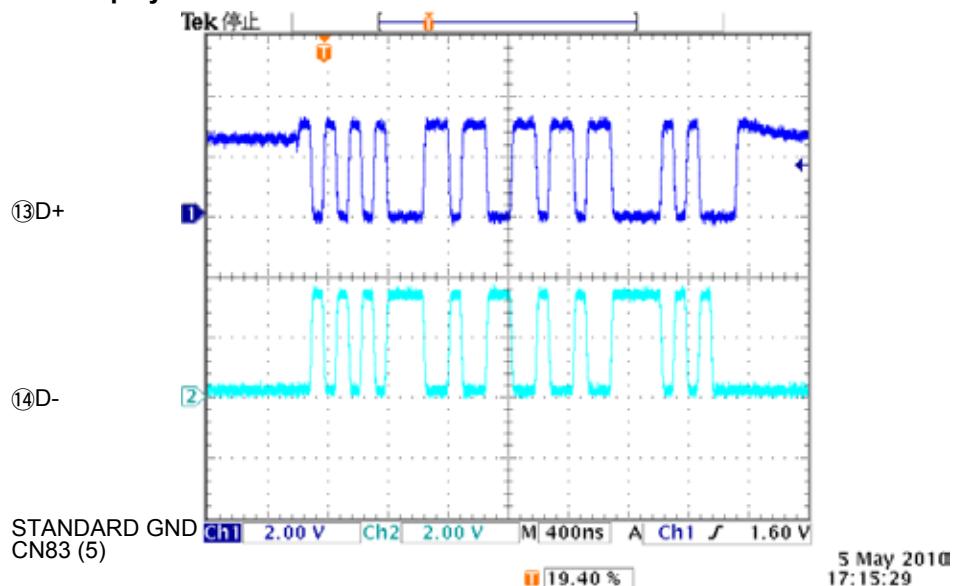
4.3 CD-RW (TCDW082W) FOCUS ADJUSTMENT



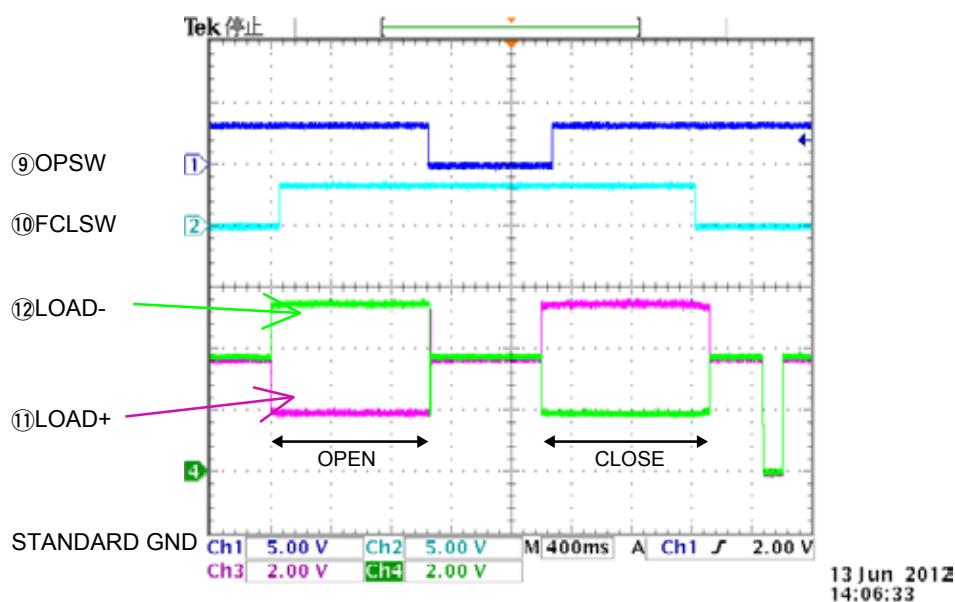
5. CD Playback



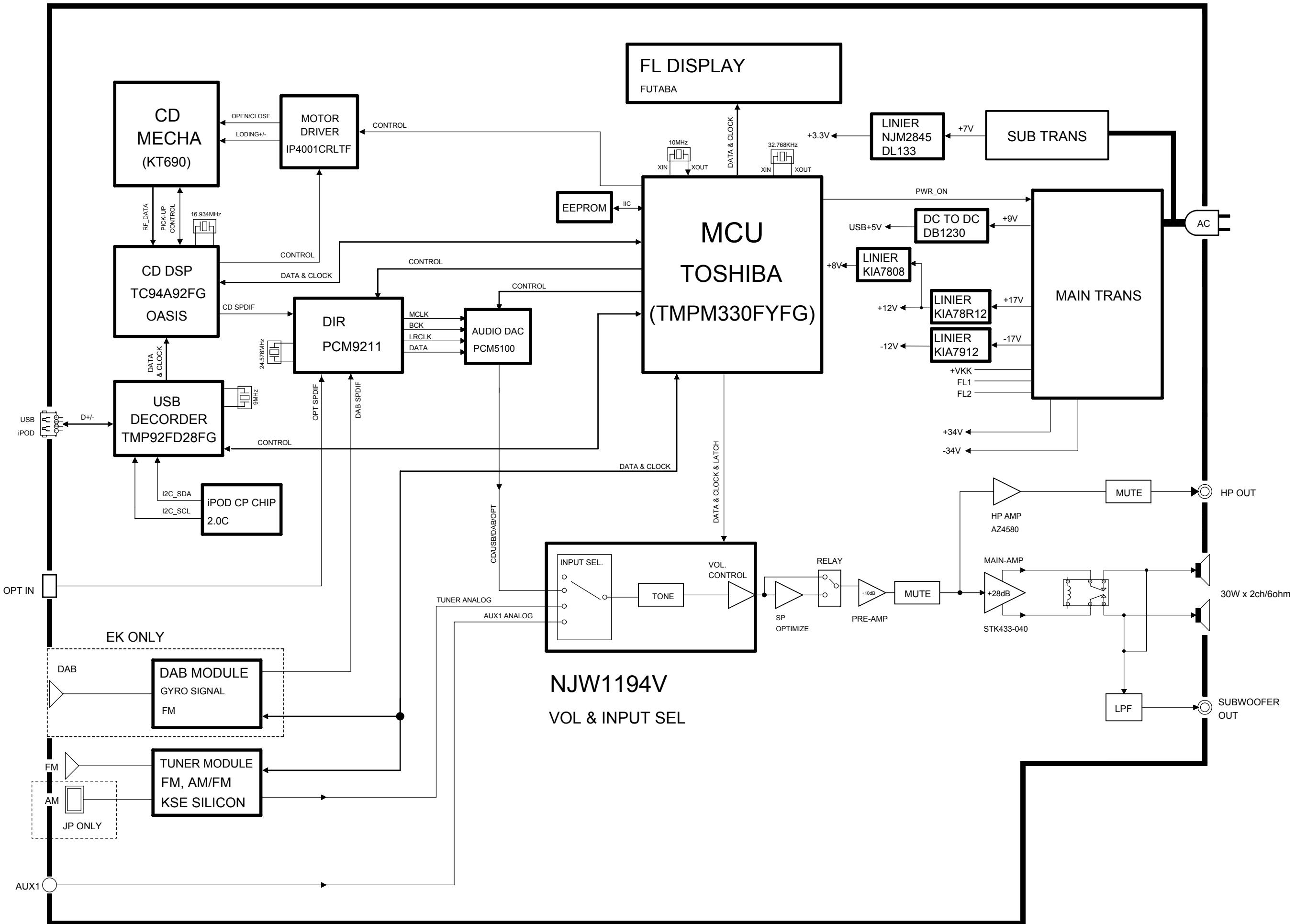
6. USB playback



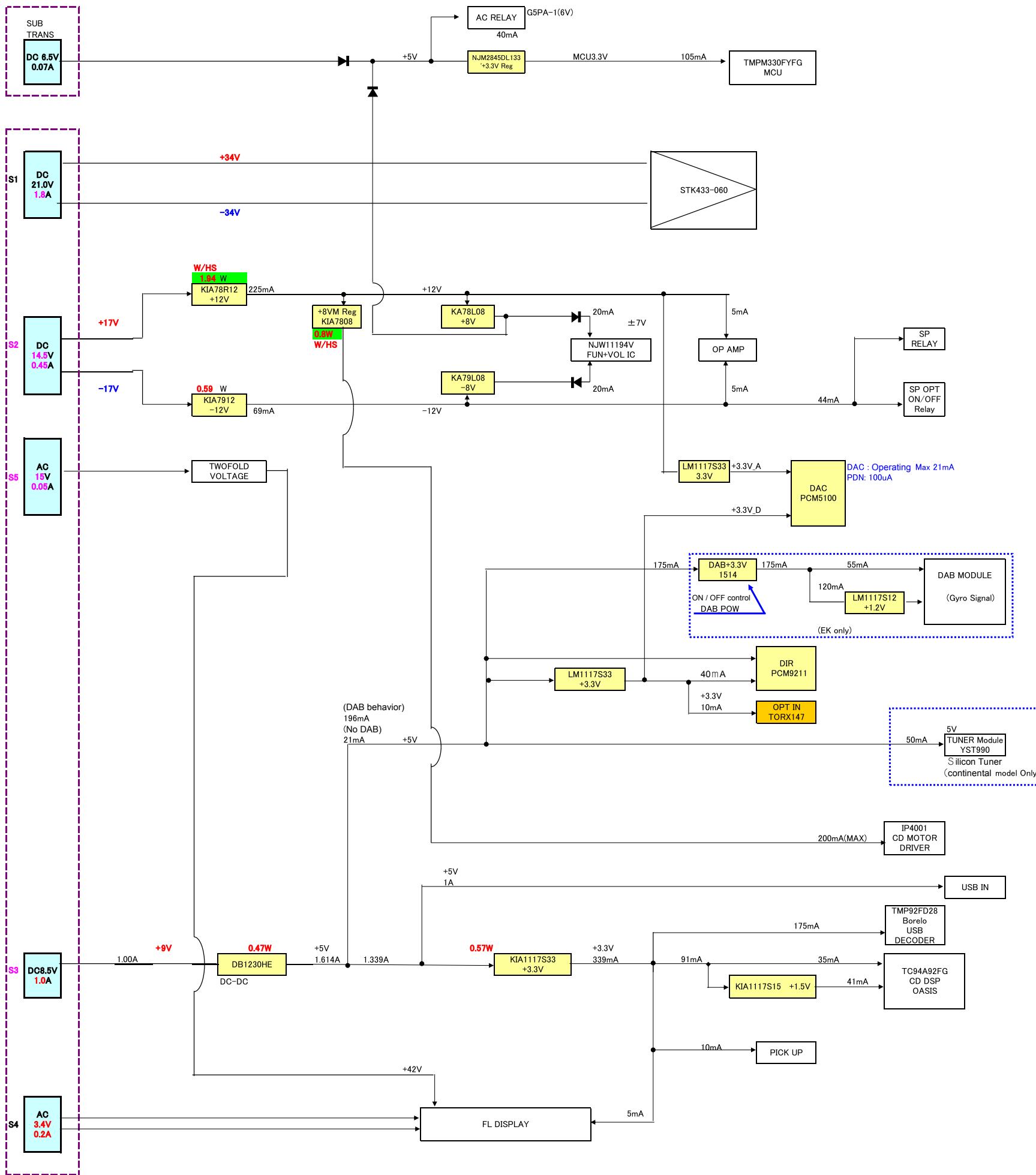
7. LOADER OPEN-CLOSE



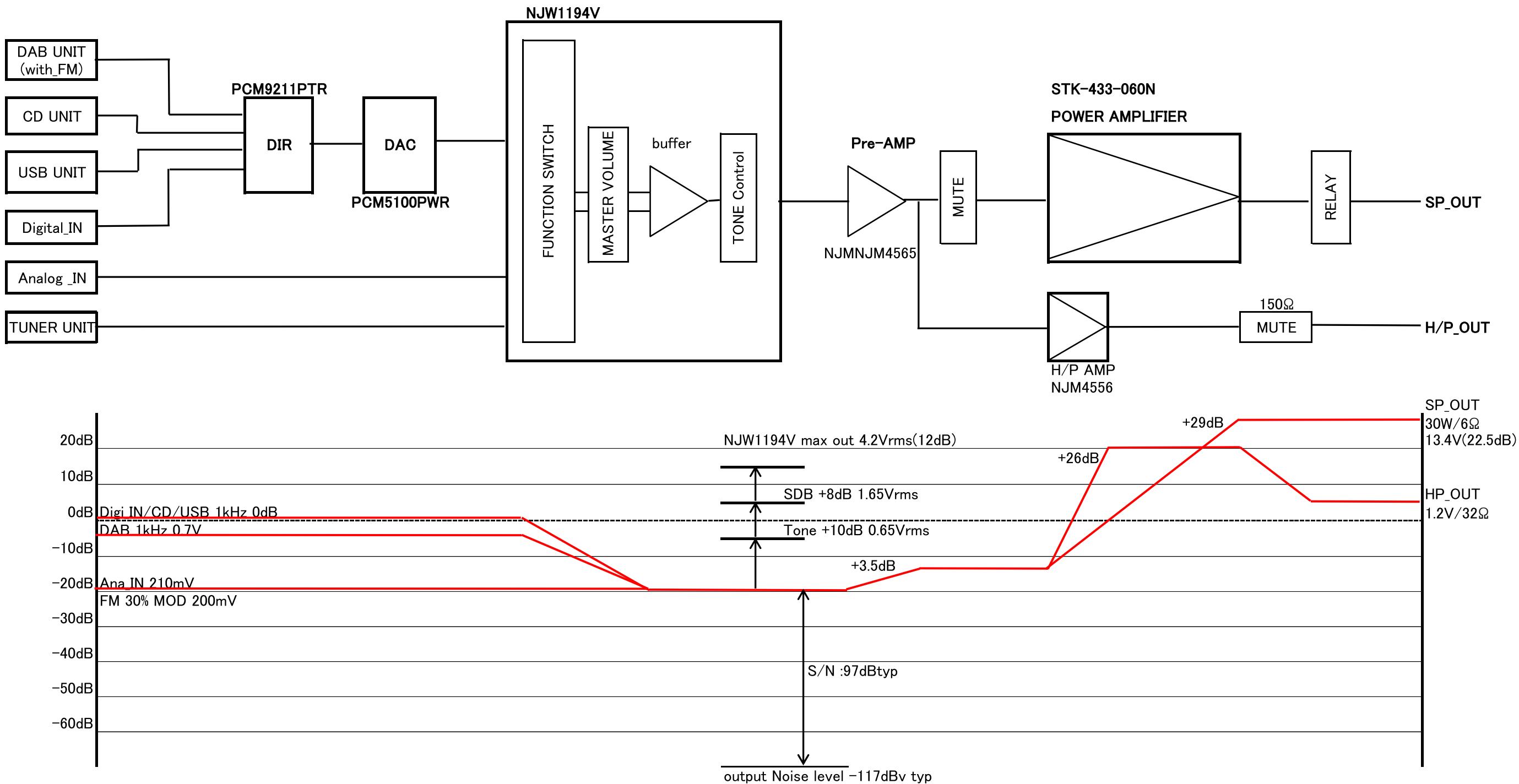
BLOCK DIAGRAM



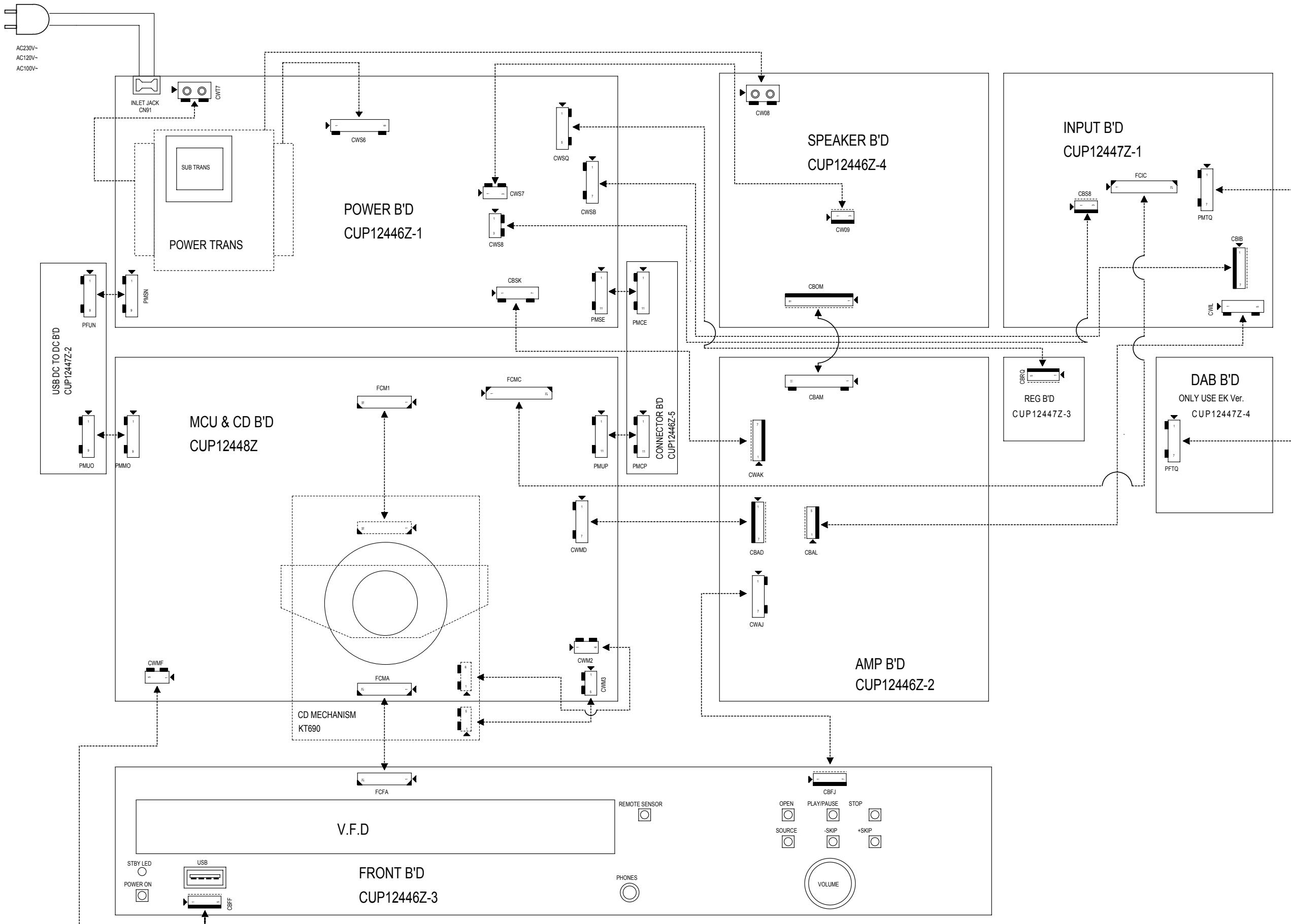
CURRENT BLOCK DIAGRAM



LEVEL DIAGRAM

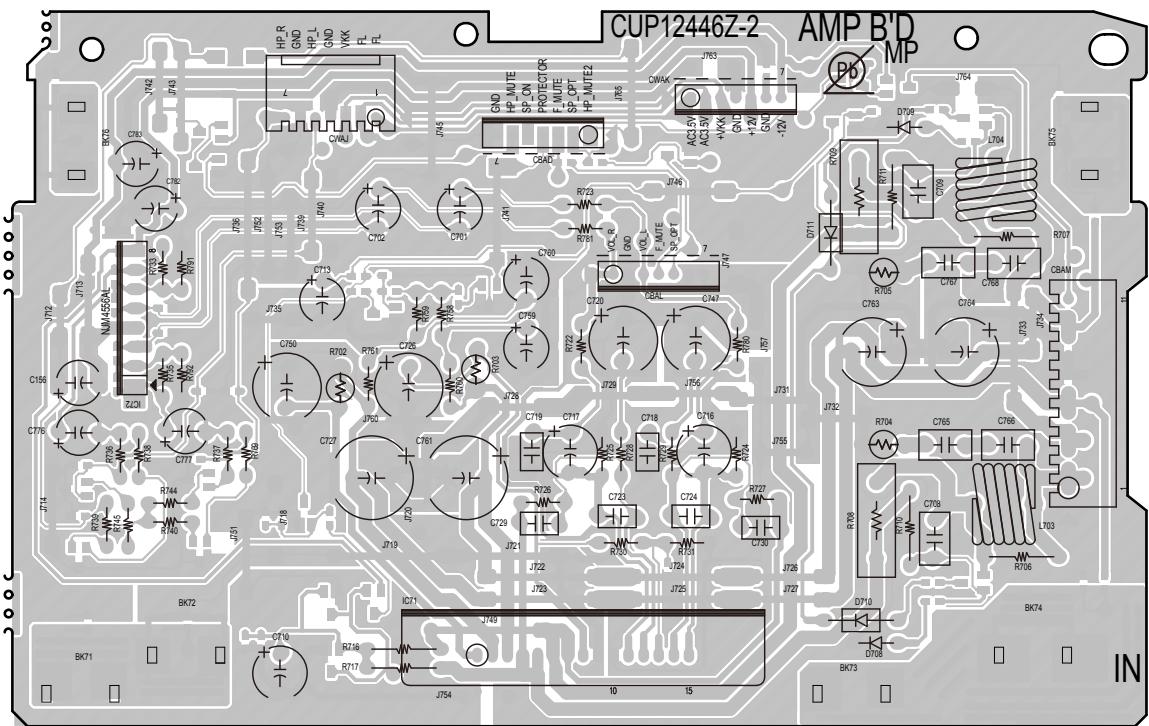


WIRING DIAGRAM

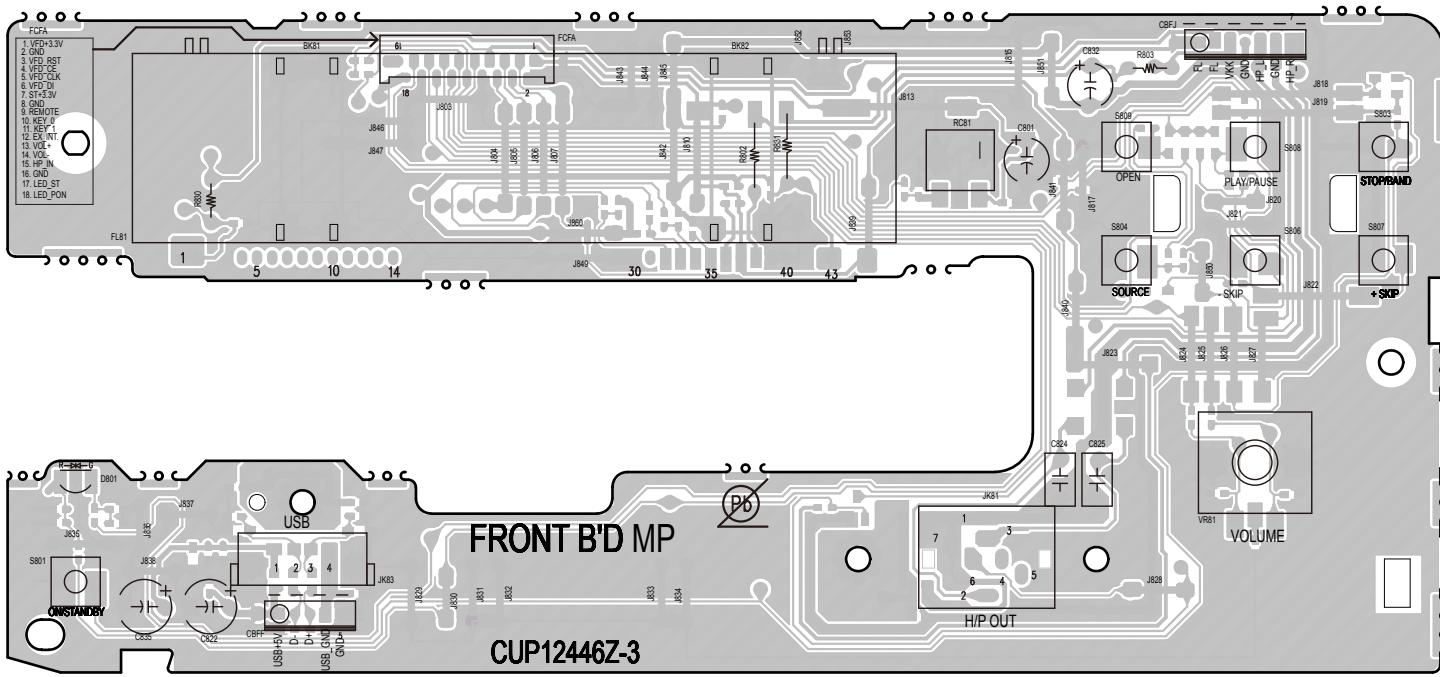


PRINTED WIRING BOARDS

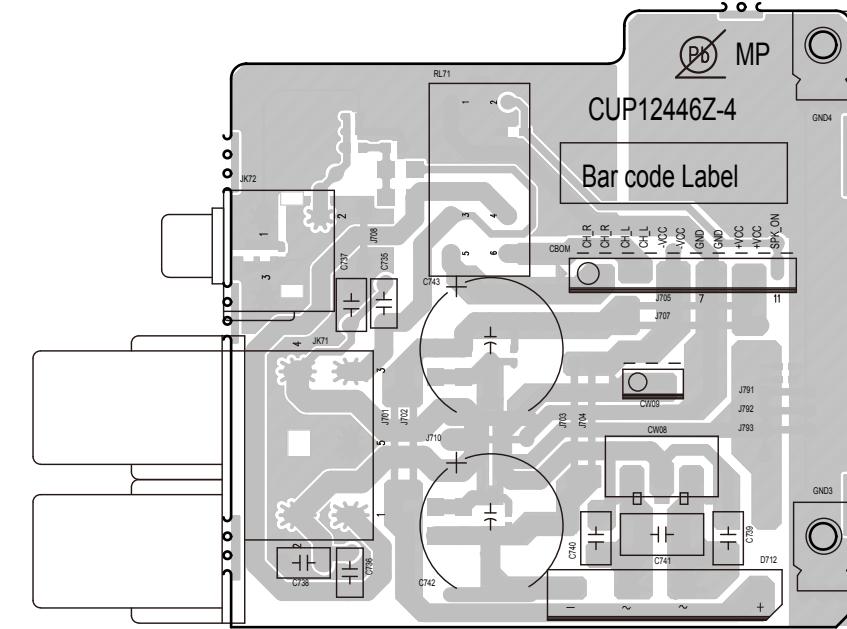
AMP (COMPONENT SIDE)



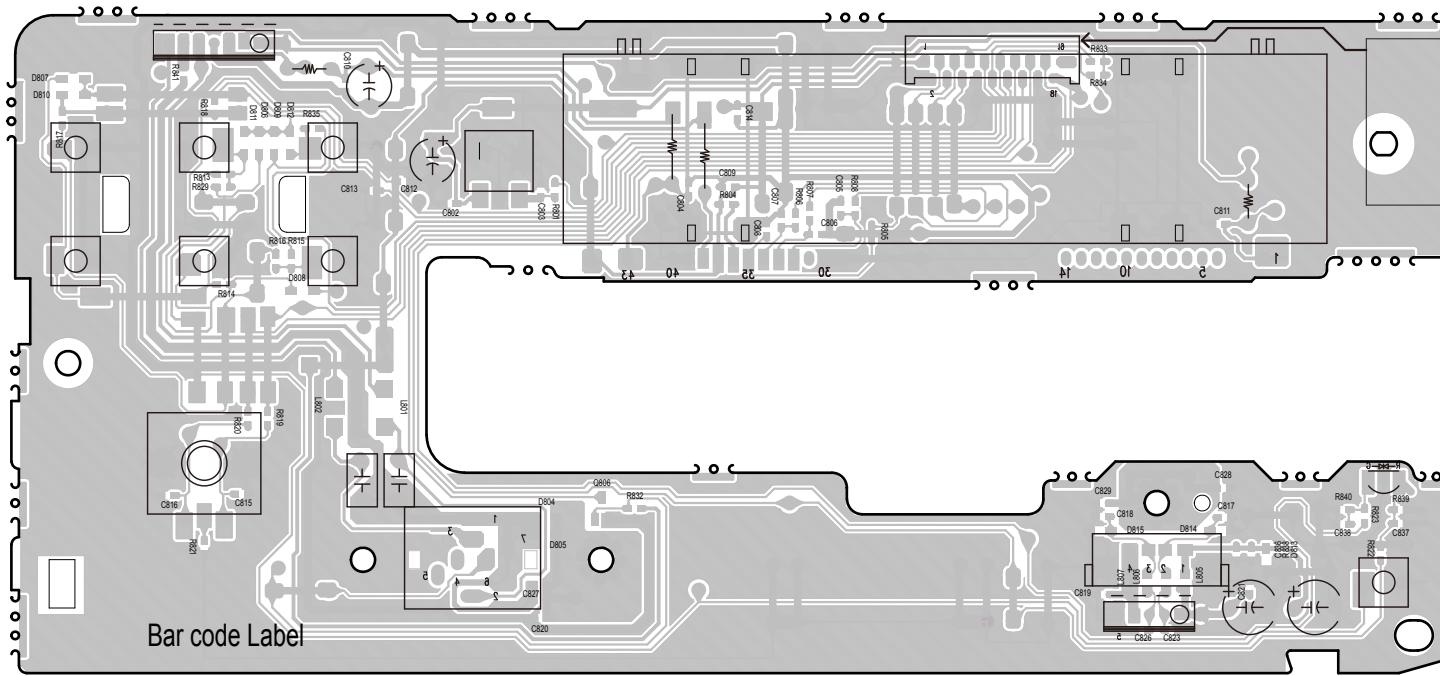
FRONT (COMPONENT SIDE)



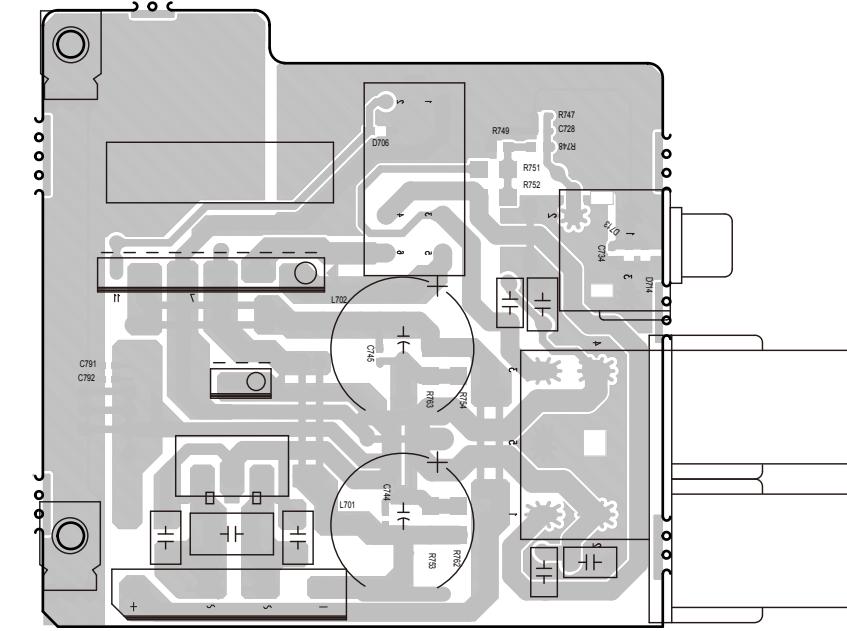
SPEAKER (COMPONENT SIDE)



**FRONT
(FOIL SIDE)**



**SPEAKER
(FOIL SIDE)**



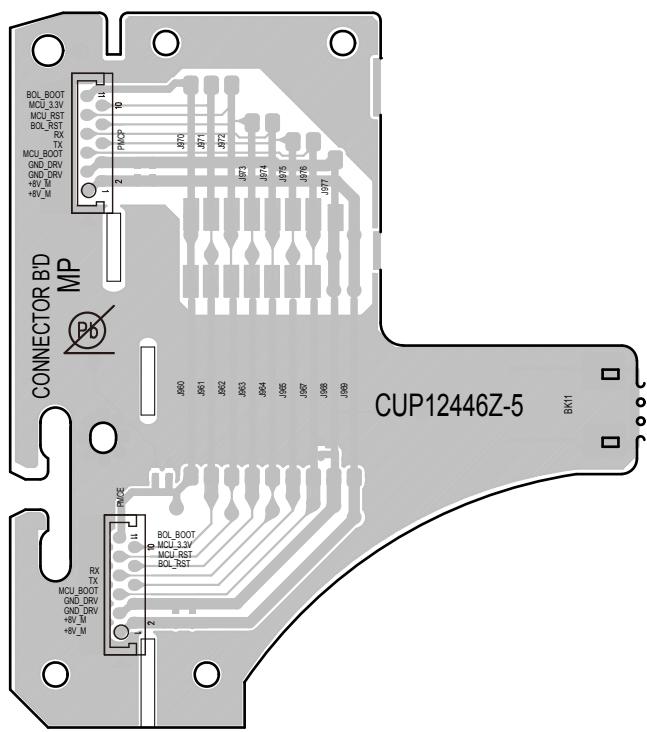
鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

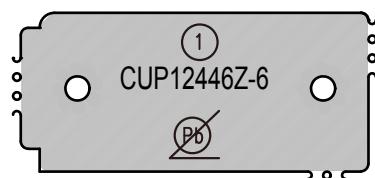
Lead-free Solder

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

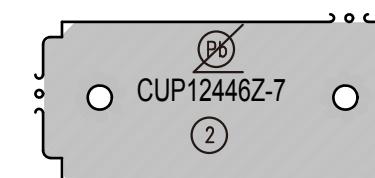
**CONNECTOR
(COMPONENT SIDE)**



**CONNETER
(COMPONENT SIDE)**



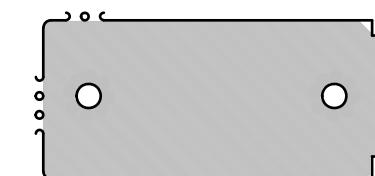
**CONNETER
(COMPONENT SIDE)**



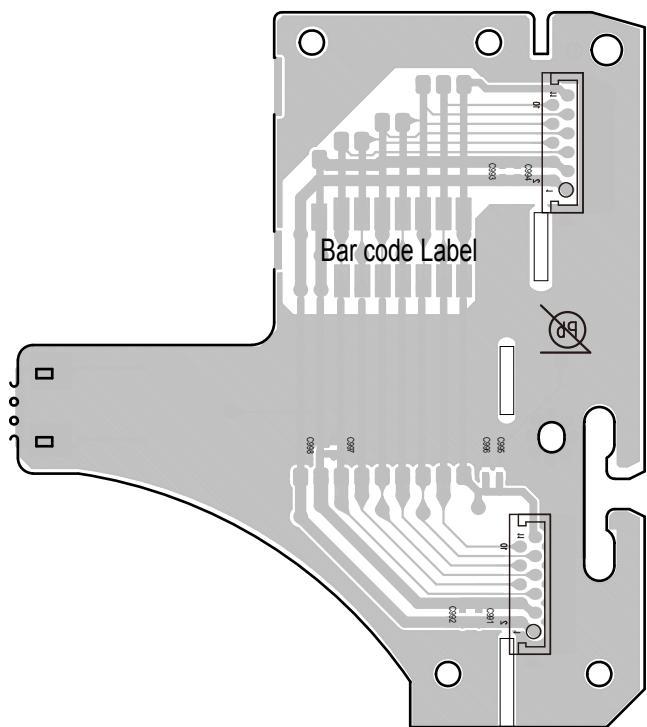
**CONNETER
(FOIL SIDE)**



**CONNETER
(FOIL SIDE)**



**CONNECTOR
(FOIL SIDE)**



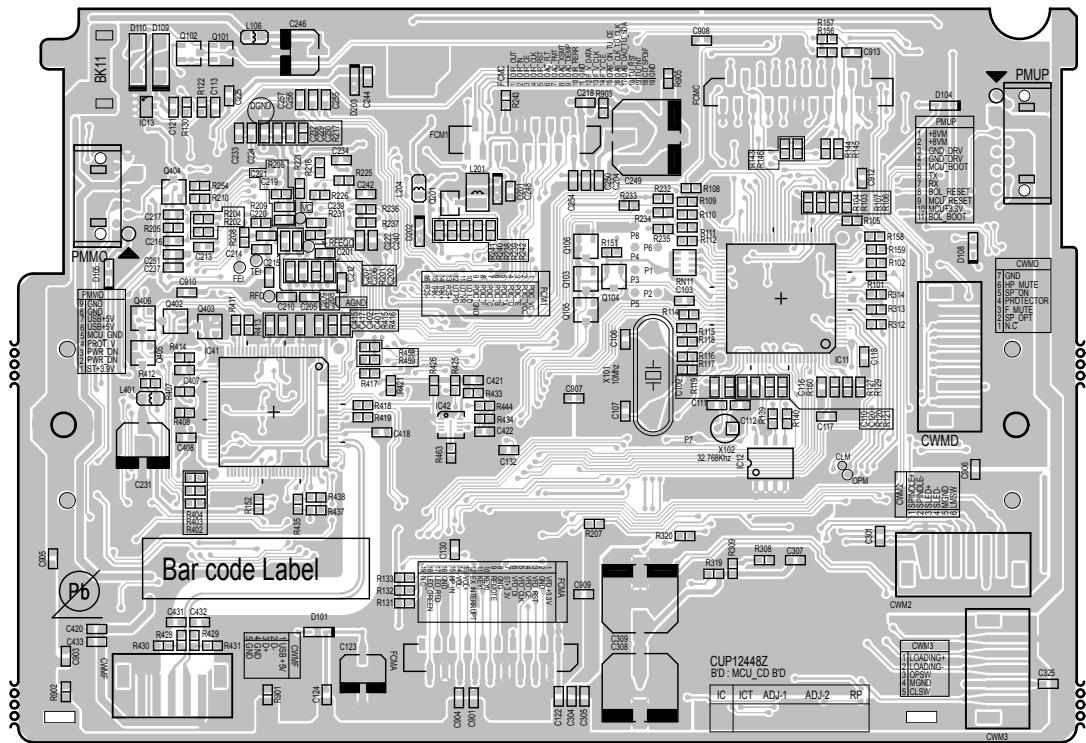
鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

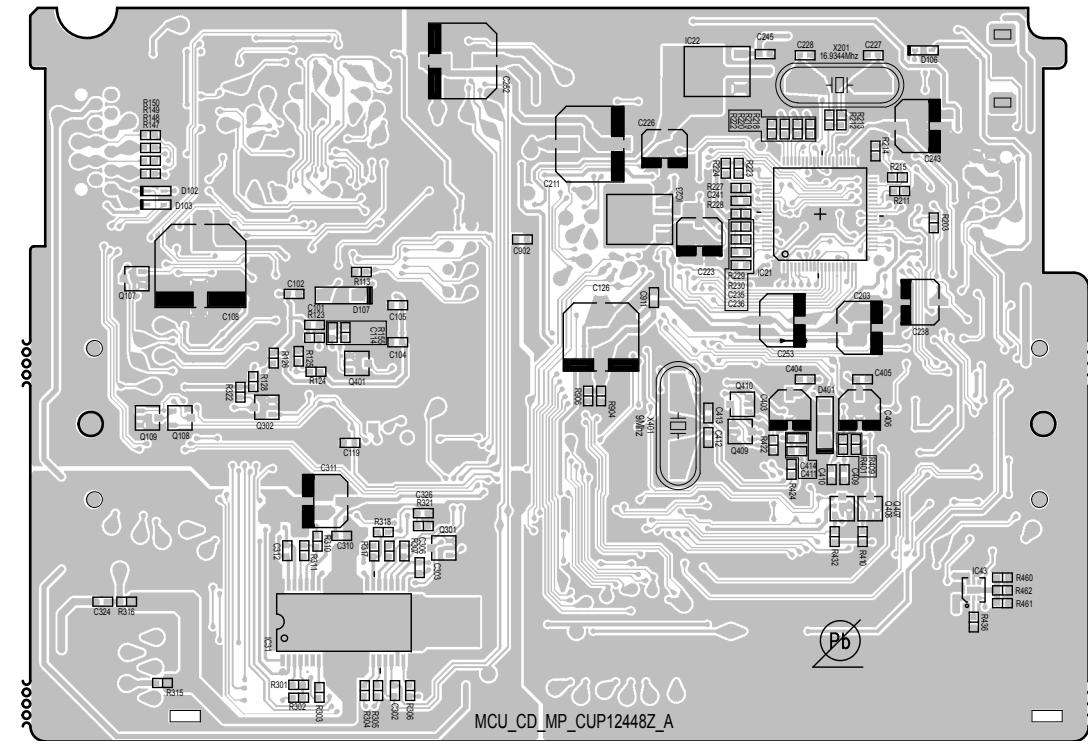
Lead-free Solder

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

**MCU
(FOIL SIDE)**



**MCU
(COMPONENT SIDE)**



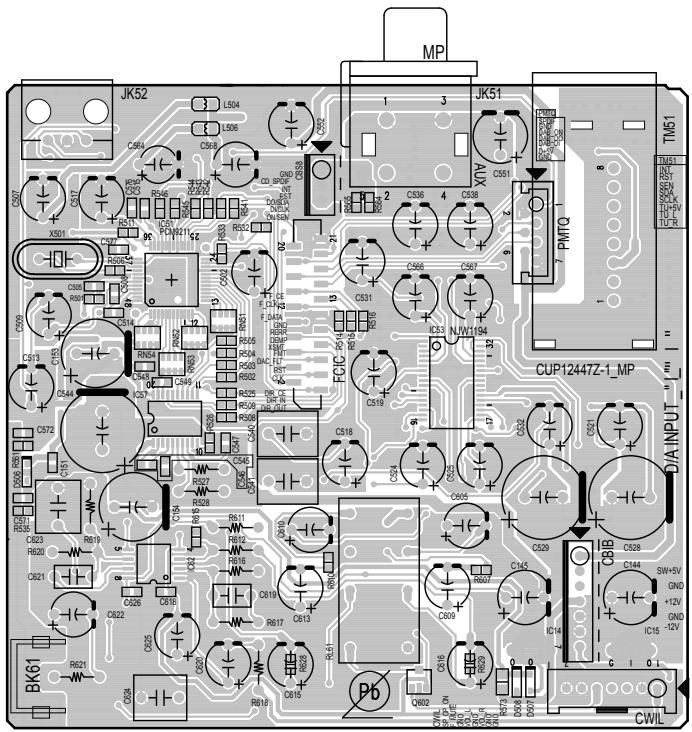
鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

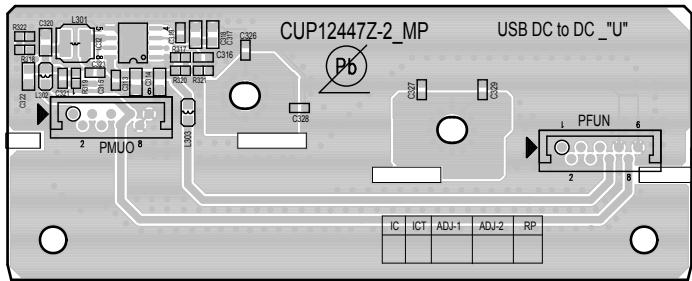
Lead-free Solder

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

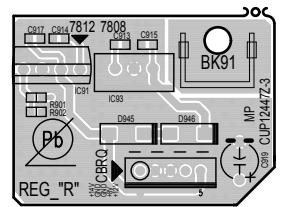
DIGITAL INPUT (FOIL SIDE)



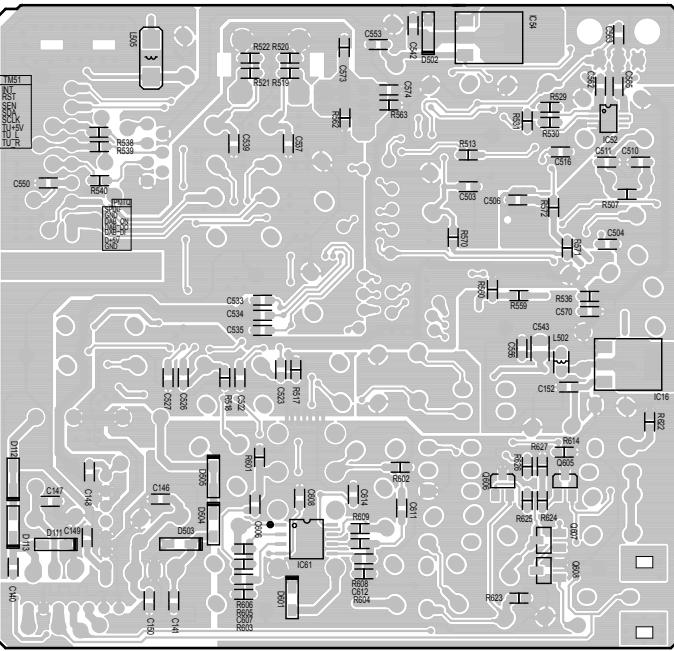
**DC-DC
(FOIL SIDE)**



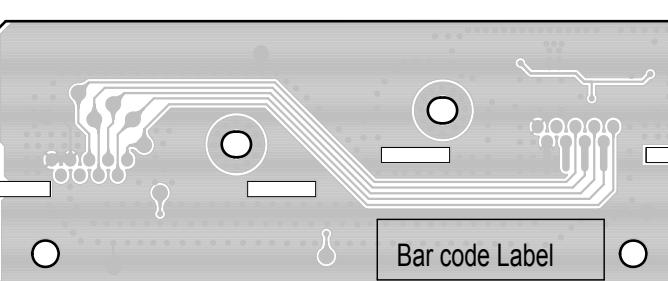
REGULATOR (FOIL SIDE)



DIGITAL INPUT (COMPONENT SIDE)



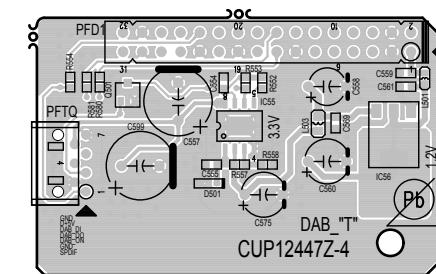
DC-DC (COMPONENT SIDE)



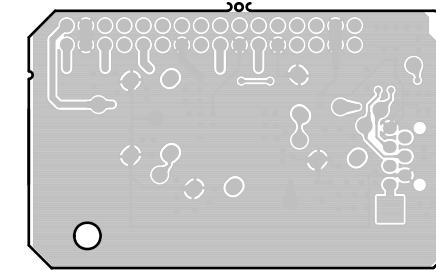
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

**DAB
(FOIL SIDE)**



**DAB
(COMPONENT SIDE)**



Lead-free Solder

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

A

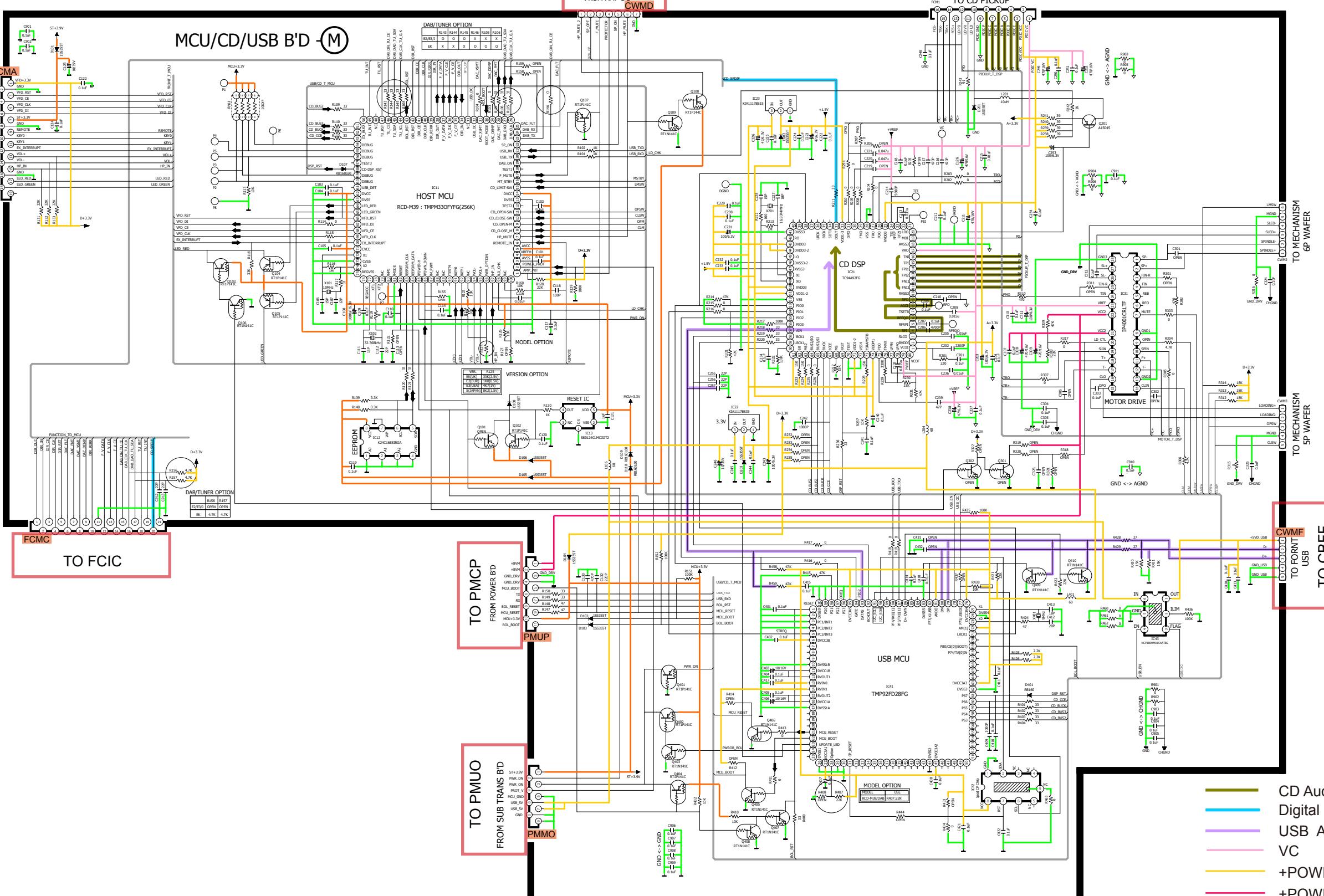
B

C

D

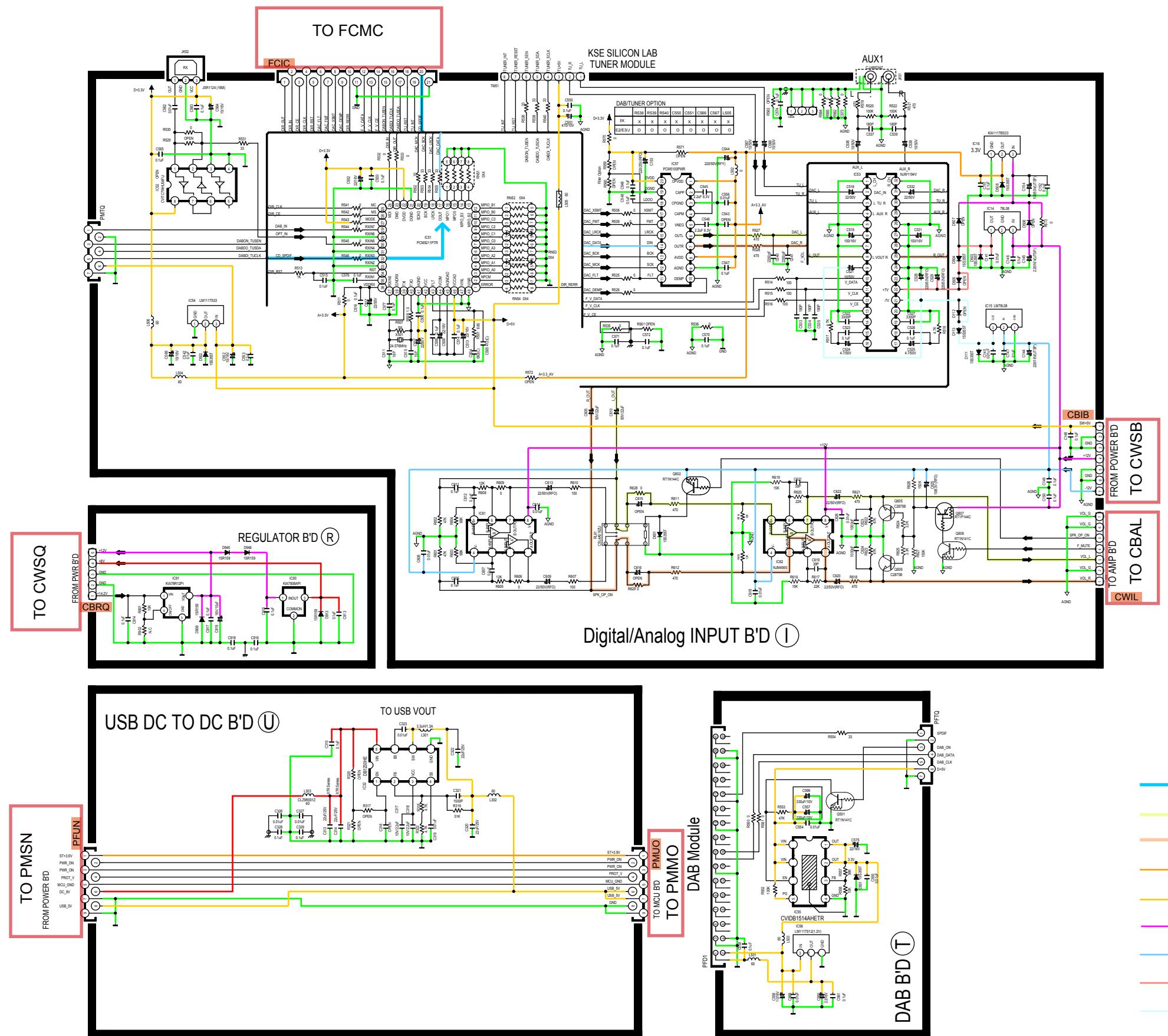
E

F



SCHEMATIC DIAGRAMS (1/3)
MCU&CD

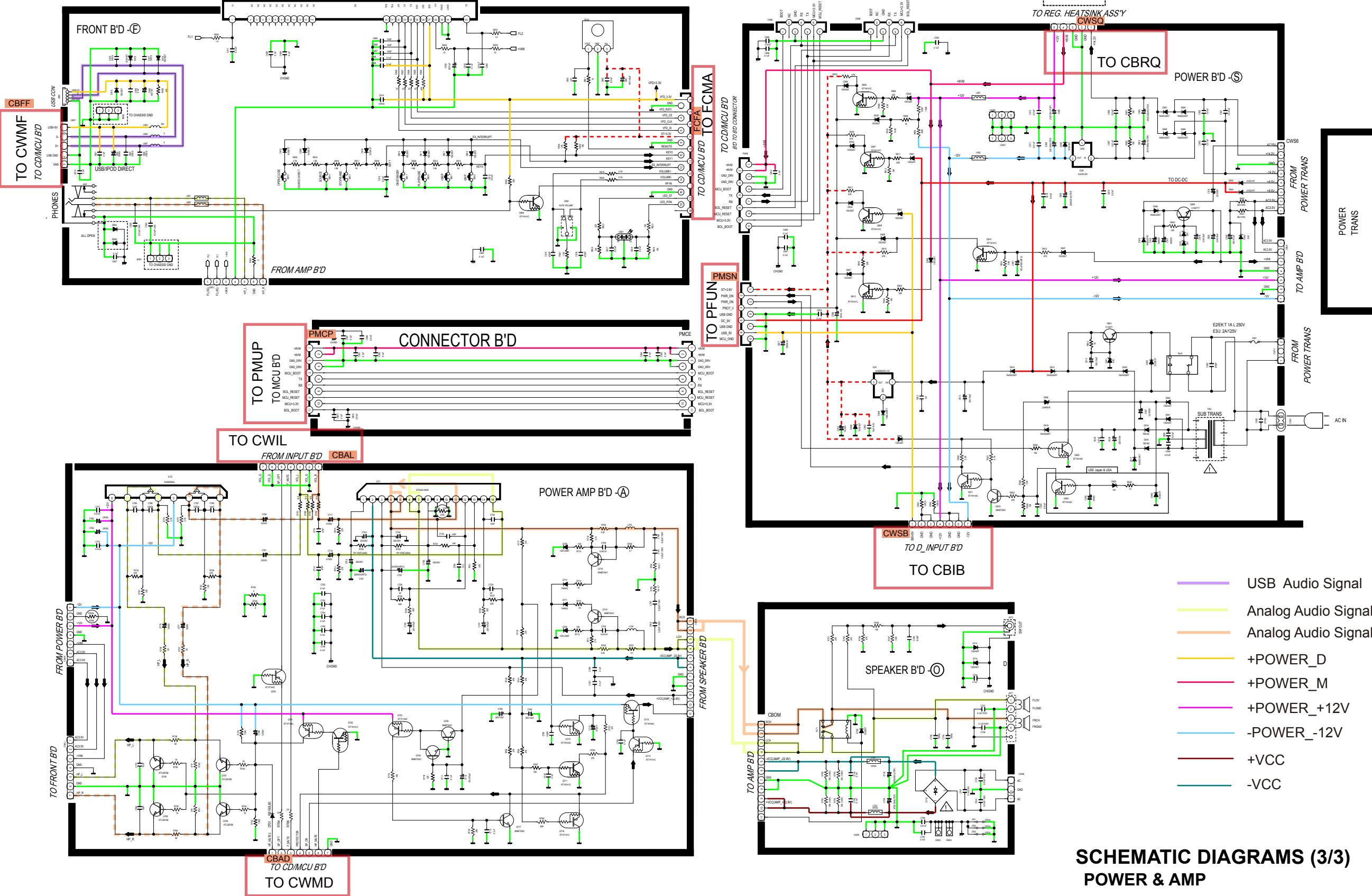
GND — POWER + — POWER - ----- STBY POWER



SCHEMATIC DIAGRAMS (2/3)
DIGITAL INPUT

GND — POWER + — POWER - — STBY POWER

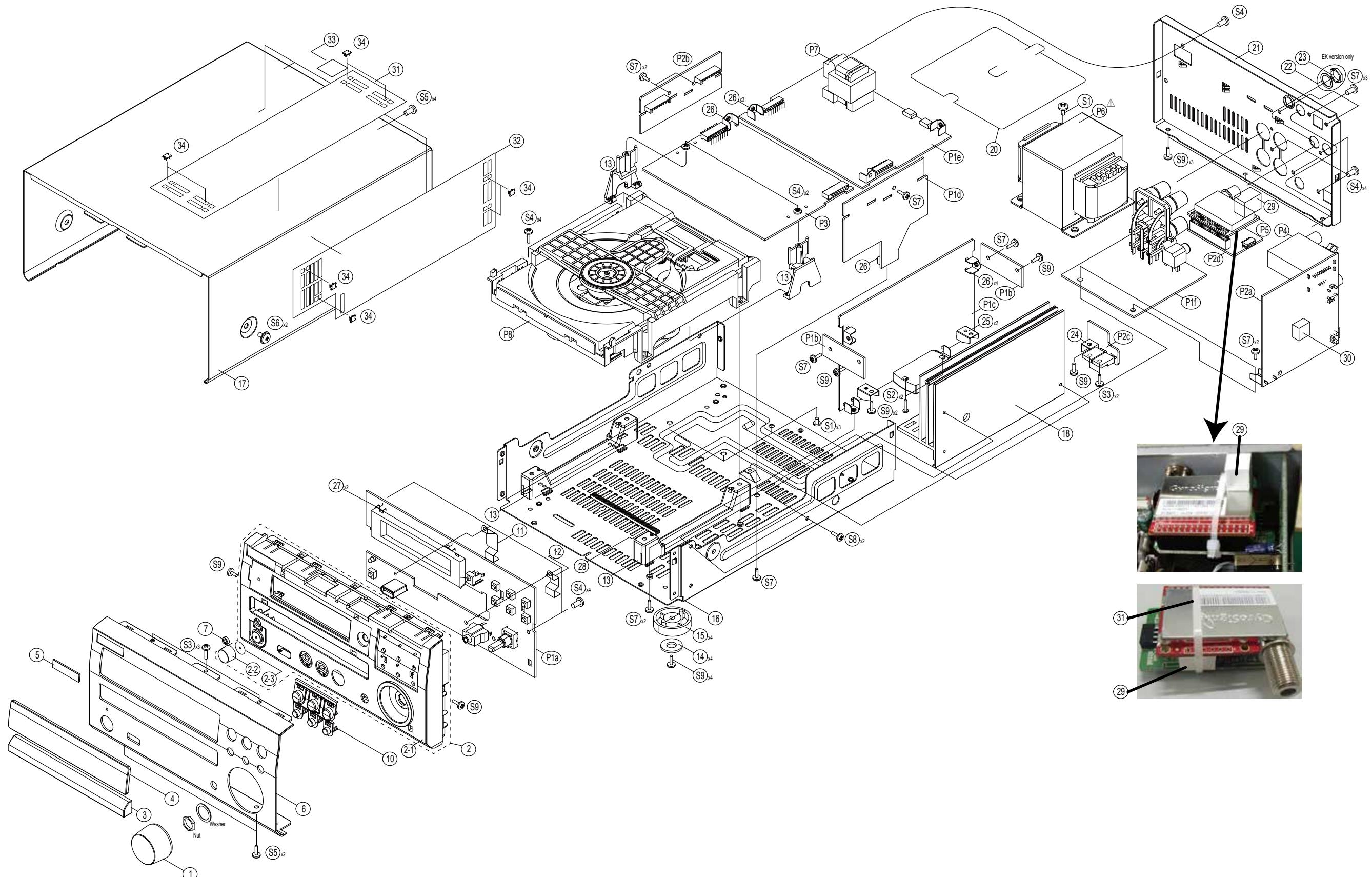
FRONT/POWER/AMP
Part



SCHEMATIC DIAGRAMS (3/3)
POWER & AMP

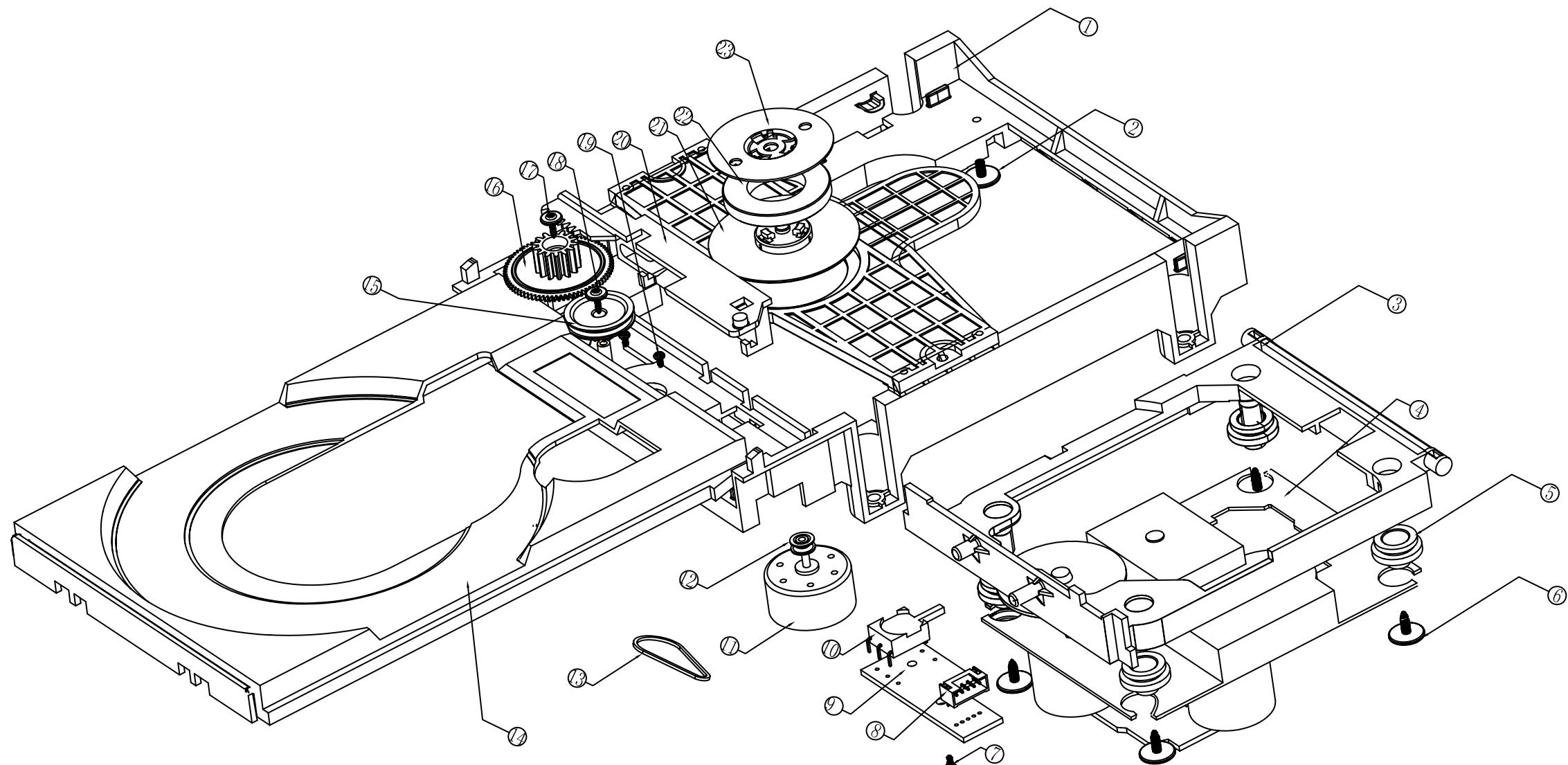
EXPLODED VIEW ▲

Please refer to the last chapter for the part list.



EXPLODED VIEW OF CD MECHANISM UNIT

Please refer to the last chapter for the part list.



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

PARTS LIST OF EXPLODED VIEW

Please refer to the last chapter for the part list.

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

*PCB ASS'Y indicated by "nsp" on this table cannot be supplied. When repairing the PCB 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.

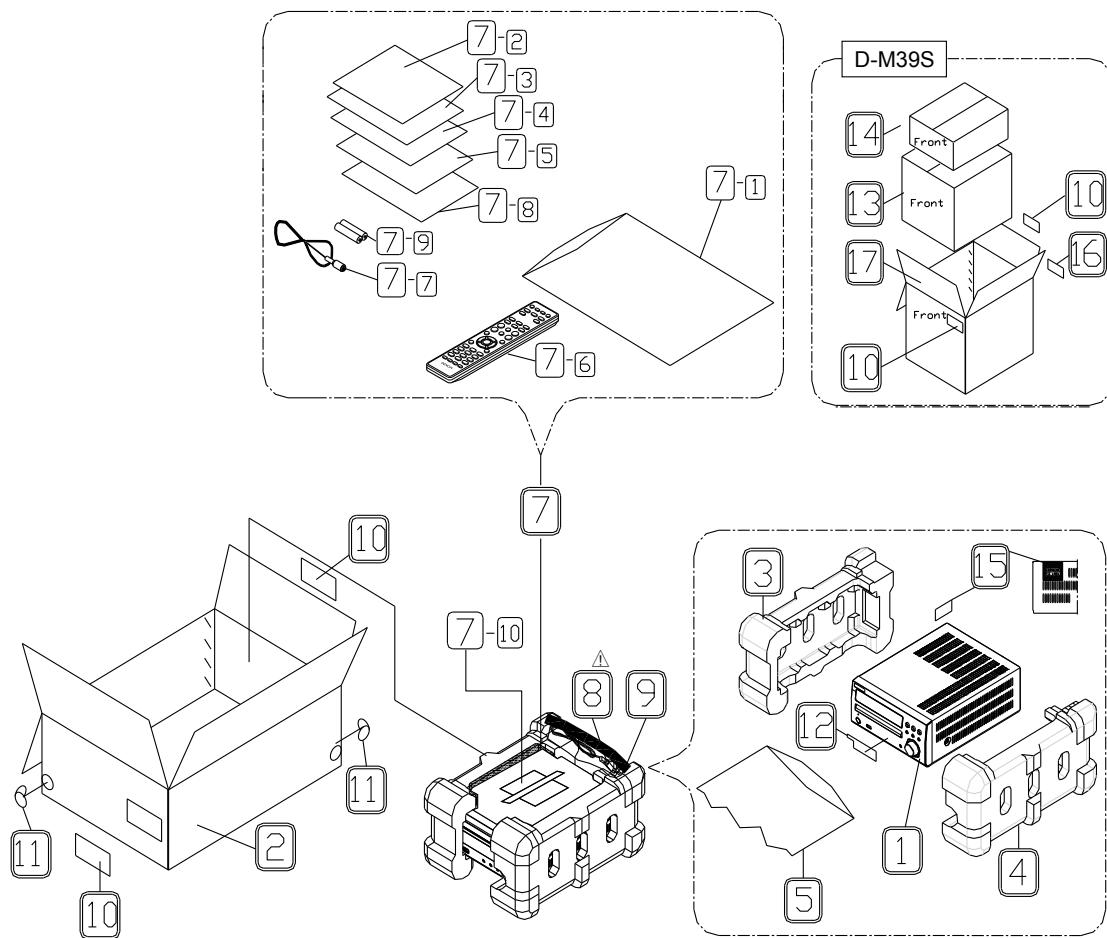
PARTS LIST OF CD MECHANISM UNIT

Please refer to the last chapter for the part list.

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

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

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

Please refer to the last chapter for the part list.

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

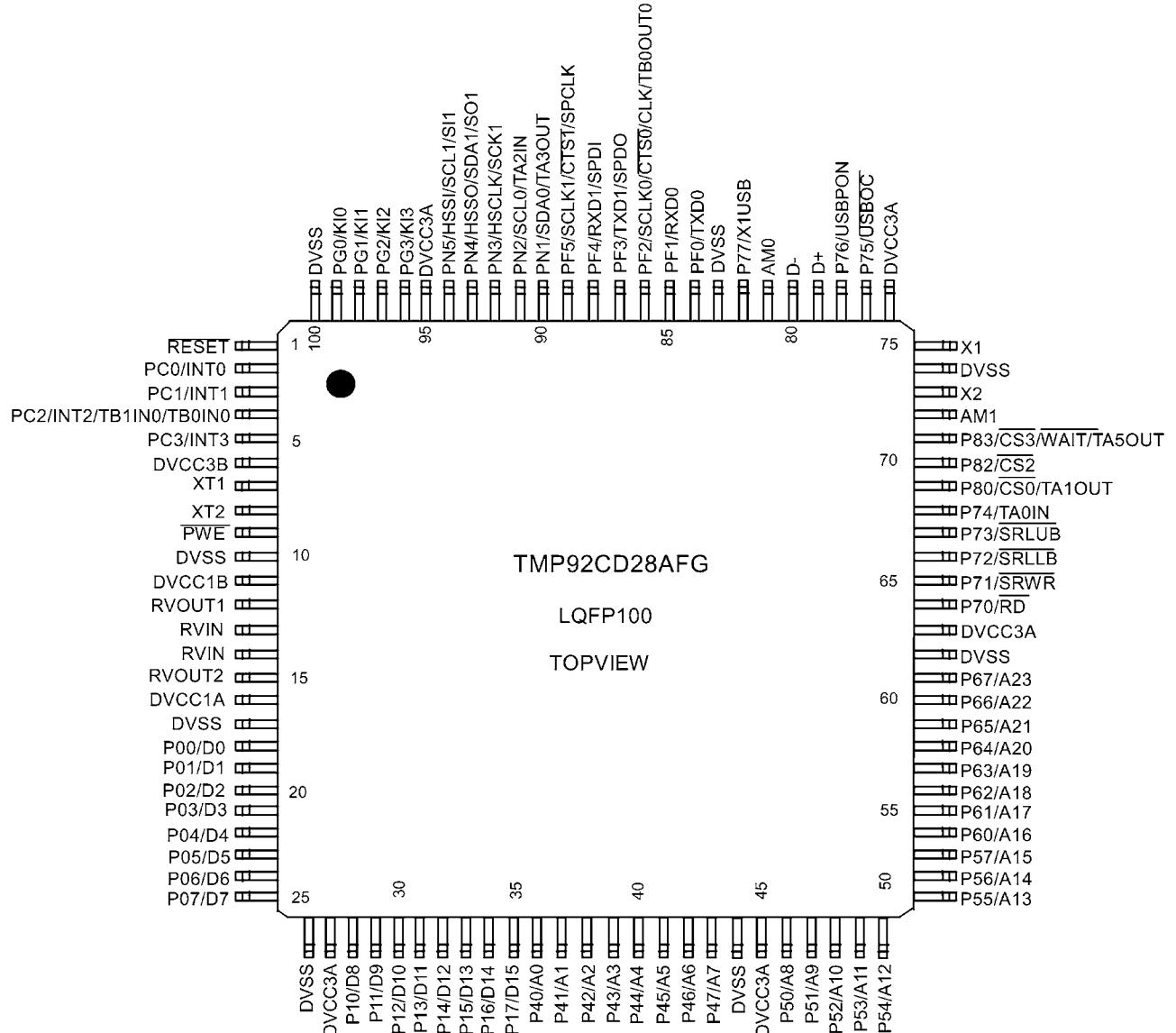
*The parts listed below are only for maintenance. Therefore they might differ from the parts used in the unit in appearances or dimensions.

SEMICONDUCTORS

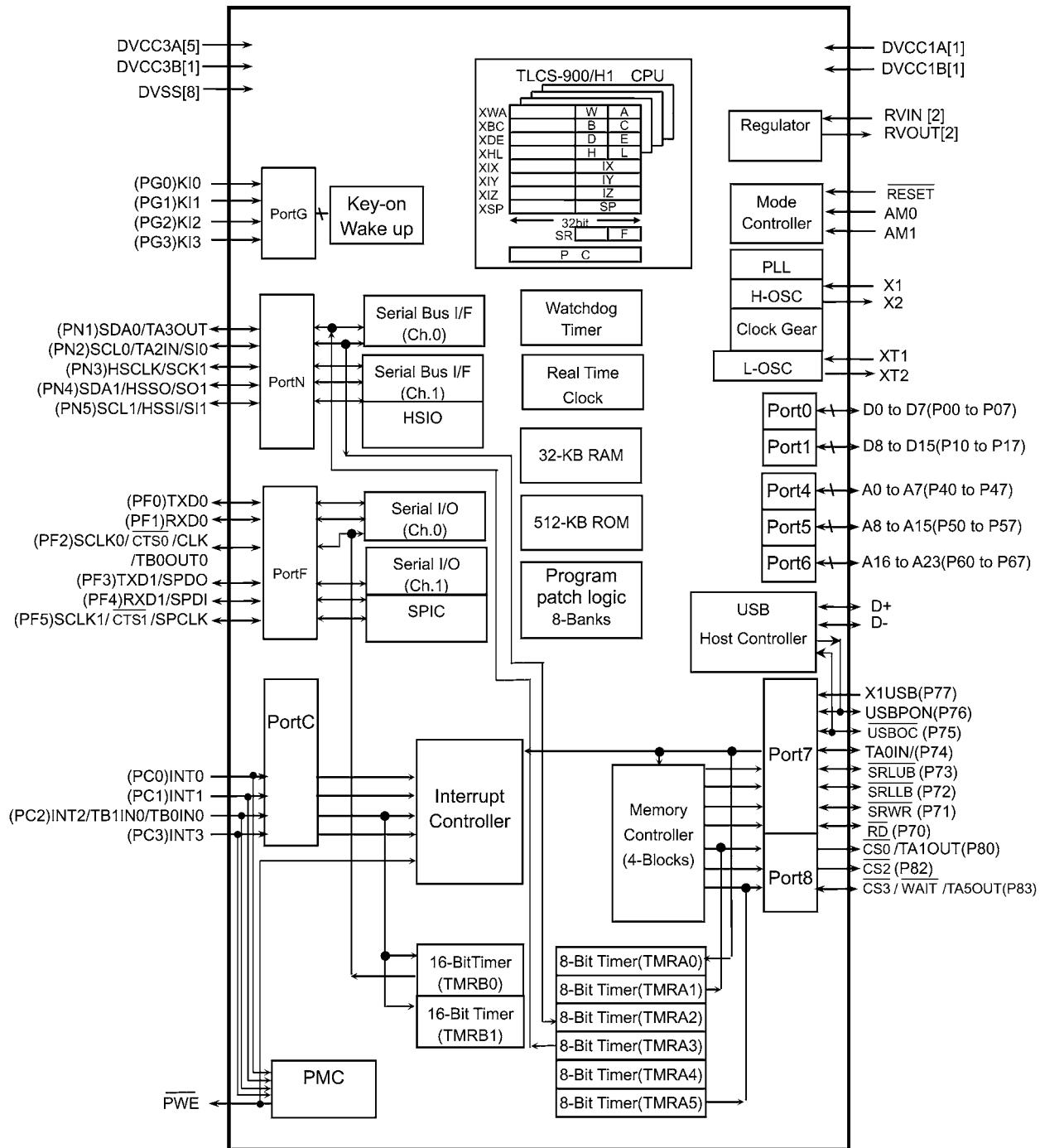
Only major semiconductors are shown, general semiconductors etc. are omitted to list.
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

TMP92FD28FG (MCU : IC41)



TMP92FD28FG Block Diagram



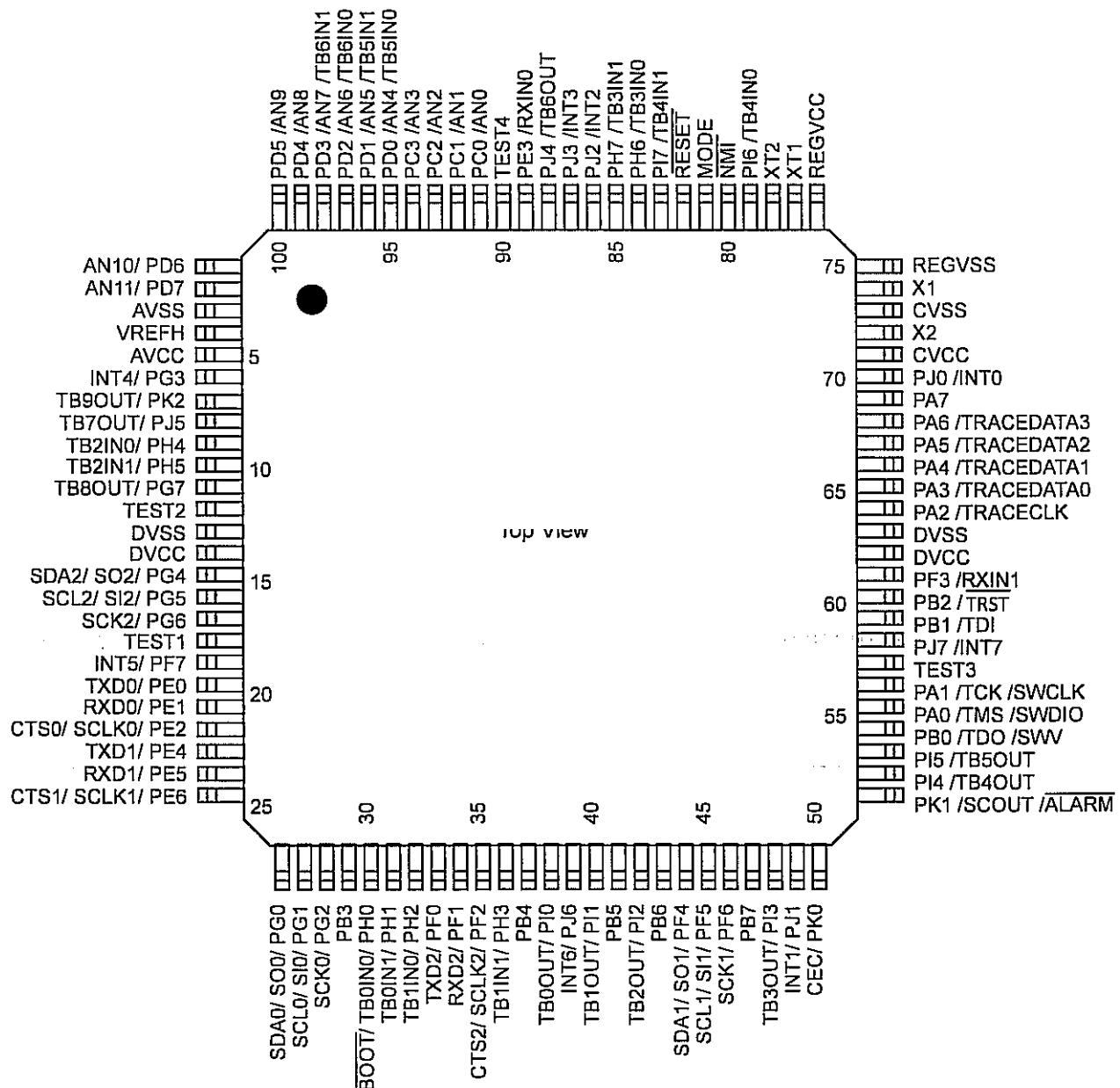
(): Initial function after reset

TMP92FD28FG Terminal Function

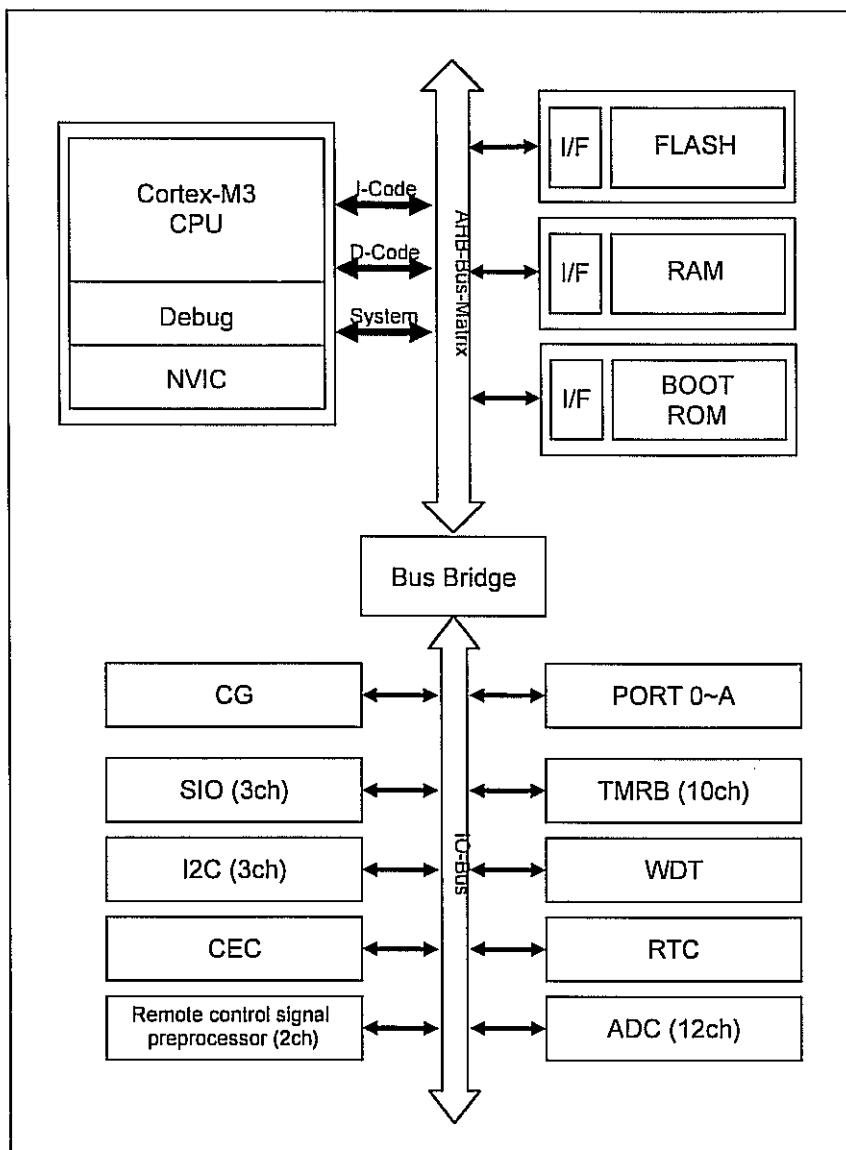
Pin No	Port Name	Port Name	I/O	Status				Note
				Pull-U/D	init.	stby	Act.	
1	/RESET	RESET	I					
2	PC0	N.C	I					Open
3	PC1	N.C	I					Open
4	PC2	N.C	I					Open
5	PC3	USB-REQ	I	PD	-	-	L	STREQ to Oasis(IC16)
6	DVCC3B	VDD3.3V	P					
7	PC6	N.C	O		L			Open
8	PC7	N.C	O		L			Open
9	/PWE	N.C	O					Open
10	DVSS1B	DVSS1B	G					
11	DVCC1B	DVCC1B	P					
12	RVOUT1	RVOUT1	O					
13	RVIN	RVIN	P					Flash version is a terminal Power supply 3.3V
14	RVIN	RVIN	P					Flash version is a terminal Power supply 3.3V
15	RVOUT2	RVOUT2	G					
16	DVCC1A	DVCC1A	P					
17	DVSS1A	DVSS1A	G					
18	P00	N.C	O		L			Open
19	P01	N.C	O		L			Open
20	P02	N.C	O		L			Open
21	P03	MCU_RESET	O		L	L	H	for HOST MCU writing
22	P04	MCU_BOOT	O		L	L	H	for HOST MCU writing
23	P05	UPDATE_LED	O		L	L	H	when update, LED blink
24	P06	PWR ON_BOL	O		L	L	H	when update, control power on
25	P07	N.C	O		L			Open
26	DVSS3A	DVSS3A	G					
27	DVCC3A	VDD3.3V	P					
28	P10	MODEL OPTION	O	PU/PD	L	L	H or L	RCD-M39 ALL Version "HIGH"
29	P11	MODEL OPTION	O		L	L	L	RCD-M39 ALL Version "LOW"
30	P12	N.C	O		L			Open
31	P13	CP-RESET	O		H	L	L	to Apple Chip (WWI) IC42(MFI341S2164)
32	P14	N.C	O		L			Open
33	P15	N.C	O		L			Open
34	P16	N.C	O		L			Open
35	P17	N.C	O		L			Open
36	P40	N.C	O		L			Open
37	P41	N.C	O		L			Open
38	P42	N.C	O		L			Open
39	P43	N.C	O		L			Open
40	P44	N.C	O		L			Open
41	P45	N.C	O		L			Open
42	P46	N.C	O		L			Open
43	P47	N.C	O		L			Open
44	DVSS3A	DVSS3A	G					
45	DVCC3A	VDD3.3V	P					
46	P50	N.C	O		L			Open
47	P51	N.C	O		L			Open
48	P52	N.C	O		L			Open
49	P53	N.C	O		L			Open
50	P54	N.C	O		L			Open
51	P55	N.C	O		L			Open
52	P56	N.C	O		L			Open
53	P57	N.C	O		L			Open
54	P60	N.C	O		L			Open
55	P61	N.C	O		L			Open
56	P62	N.C	O		L			Open
57	P63	CD_BUS2	I		-	-	H/L	to Oasis (IC16)
58	P64	CD_BUS3	O		L	L	H/L	to Oasis (IC16)
59	P65	CD_BUCK	O		L	L	H/L	to Oasis (IC16)
60	P66	CD-CCE	O		L	L	H/L	to Oasis (IC16)
61	P67	DSP-RESET	O		H	H	L	to Oasis (IC16)
62	DVSS3A	GND	G					
63	DVCC3A	VDD3.3V	P					
64	P70	N.C	O		L			Open

Pin No	Port Name	Port Name	I/O	Status				Note
				Pull-U/D	init.	stby	Act.	
65	P71	N.C	O		L			Open
66	P72	N.C	O		L			Open
67	P73	N.C	O		L			Open
68	P74	N.C	O		L			Open
69	P80	BOOT	I	PU	-	-	L	
70	P82	N.C	O		L			Open
71	P83	LRCK1	O		L	L	H/L	to Oasis (IC16)
72	AM1	VDD3.3V	P					
73	X2	X2	O					Oscilator connection 9MHz output
74	DVSS	GND	G					
75	X1	X1	I					Oscilator connection 9MHz input
76	DVCC3A	VDD3.3V	P					
77	P75	USB_OC	I	PU	-	-	L	USB over current detection
78	P76	N.C	O		L			Open
79	D+	USB+	I/O					
80	D-	USB-	I/O					
81	AM0	VDD3.3V	P					
82	P77	USB-DETECT	I		-	-	L	USB Detect
83	DVSS3A	GND	G					
84	PF0 / TXD0	N.C	O		L			Open
85	PF1 / RXD0	N.C	O		L			Open
86	PF2	D+ DOWN	O	PD	L	-	H	USB D+ LINE RESET
87	PF3 / TXD1	USB-TX	O		L	L	H/L	to HOST MCU (IC11)
88	PF4 / RXD1	USB-RX	I		-	-	H/L	to HOST MCU (IC11)
89	PF5	N.C	O		L			
90	PN1	CP-SDA	I/O	PU	L	L	H/L	to Apple Chip (WWI) IC42(MFI341S2164)
91	PN2	CP-CLK	O	PU	L	L	H/L	to Apple Chip (WWI) IC42(MFI341S2164)
92	PN3	USB-BCK	O		L	L	H/L	to Oasis (IC16)
93	PN4	UBS-DATA	O		L	L	H/L	to Oasis (IC16)
94	PN5	USB-GATE	O		L	L	H	to Oasis (IC16)
95	DVCC3A	VDD3.3V	P					
96	PG3	N.C	I					Open
97	PG2	DREQ(MP3REQ)	I	PD	-	-	L	to Oasis (IC16)
98	PG1	N.C	I	PU				
99	PG0	N.C	I					Open
100	DVSS3A	GND	G					

TMPM330FYFG (MCU : IC11)



TMPM330FYFG Block Diagram



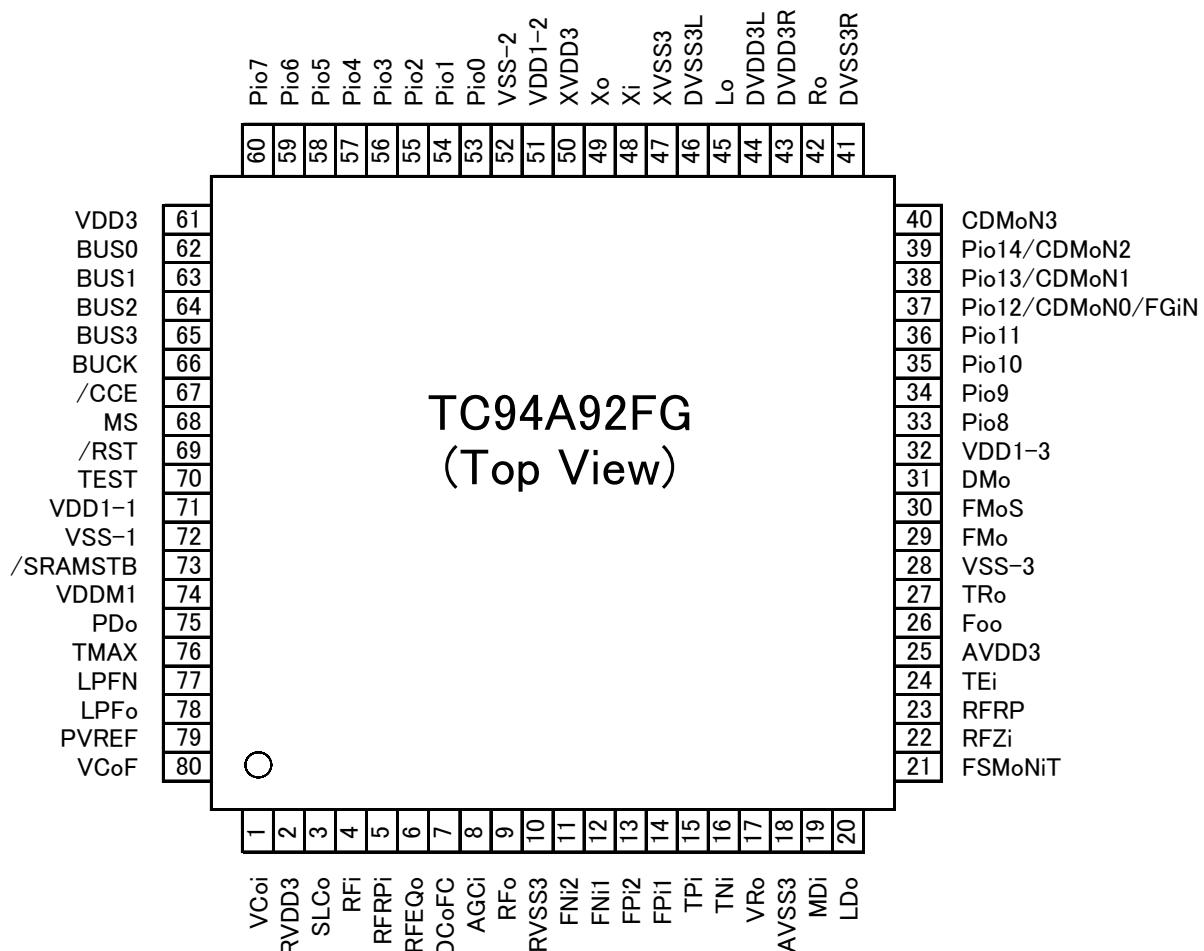
TMPM330FYFG Terminal Function

Pin No	Port Name	Port Name	I/O	Status				Note
				Pull-up/down	init.	stby	Act.	
1	PD6	AMP_PRT	I	Pull-up	-	H	L	AMP protect detect
2	AN11	POWER_PROT	I	Pull-down	-	L	H	POWER protect detect
3	AVSS		G					A/D converter: GND pin (0V)
4	VREFH		P					Reference power supply
5	AVCC		P					A/D converter with a power supply
6	INT4	REMOTE_IN_1	I	-	-	-	-	remote in
7	PK2	HP_MUTE	O		L	L	H	Headphone on/off control
8	PJ5	CD_CLOSE_M	O		L	L	H	CD CLOSE MOTOR IP4001(14) Mute
9	PH4	CD_OPEN_M	O		L	L	H	CD OPEN MOTOR IP4001(9) Mute
10	PH5	CD_CLOSE_SW	I	Pull-up	-	O	-	CD CLOSE switch
11	PG7	CD_OPEN_SW	I	Pull-up	-	O	-	CD OPEN switch
12	TEST2							TEST pin, Set to OPEN.
13	DVSS		G					GND pin
14	DVCC		P					Power supply pin
15	PG4	CD_LIMIT_SW	I	Pull-up	-	-	L	CD INNER switch
16	PG5	MT_STBY	O		L	L	H	motor stanby IP4001(7) Mute
17	PG6	F_MUTE	O		L	H	H	function mute (INPUT B'D Q112-B)
18	TEST1							TEST pin, Set to OPEN.
19	PF7	DAB_ON_TU_CE	O		L	L	H	DAB_POWER / TU_CE Control

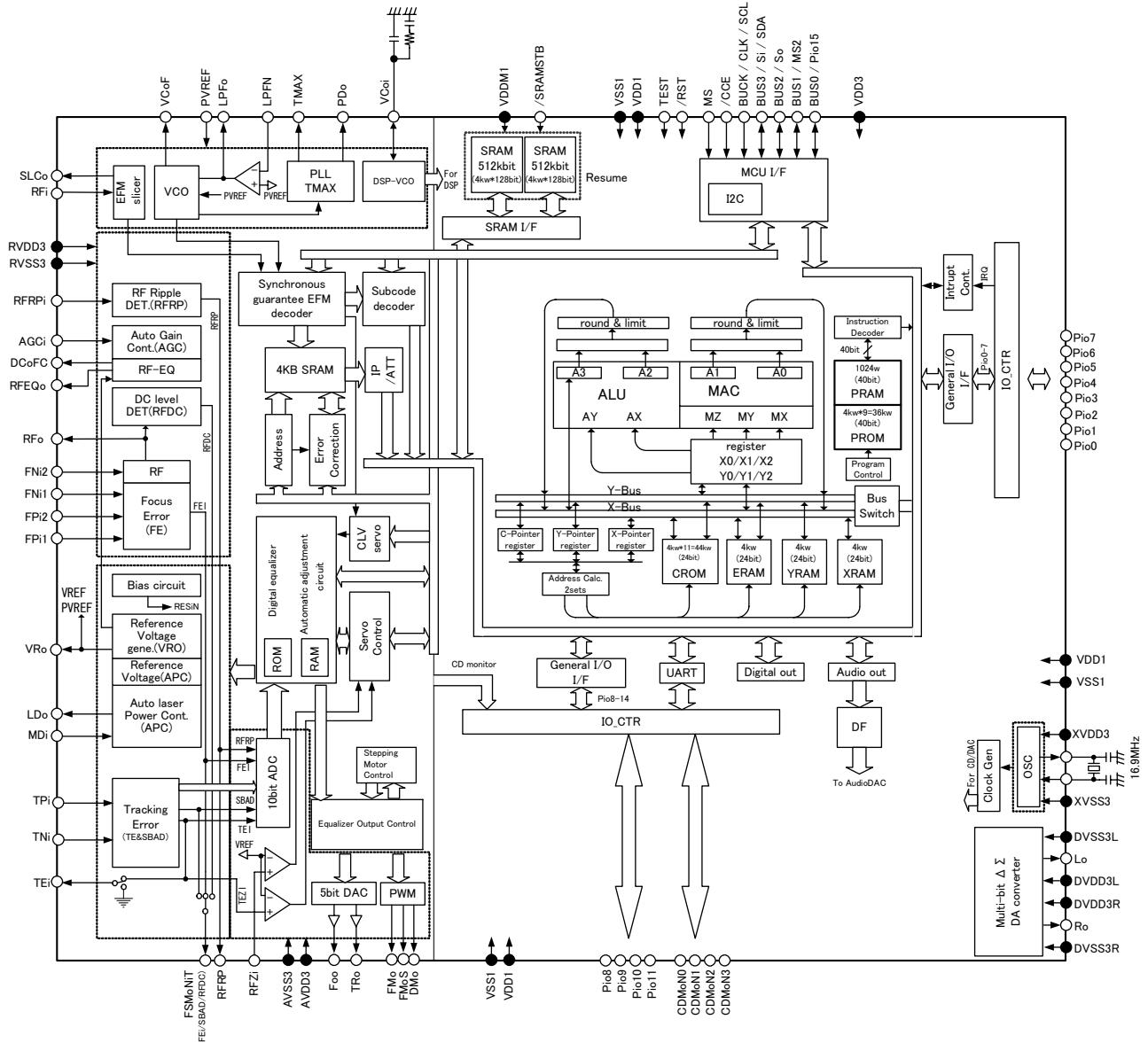
Pin No	Port Name	Port Name	I/O	Status				Note
				Pull-up/down	init.	stby	Act.	
20	TXD0	USB_TX/UPDATE TX	O		L	L	-	send command to bolero IC
21	RXD0	USB_RX/UPDATE RX	I		-	-	-	receive data from bolero IC
22	PE2	SP_ON	O		L	L	H	speaker on/off control (AMP B'D Q710-E)
23	TXD1	DAB_TX	O		L	L	-	send command to DAB Module
24	RXD1	DAB_RX	I		-	-	-	receive data from DAB Module
25	PE6	DAC_FLT	O		-	L	-	DAC(PCM5100) Filter select : Normal latency(Low) / Low latency(High)
26	PG0	DAB.DAO.TU.SDA	I/O	Pull-up	L	L	H/L	DAB Module I2C Data
27	PG1	DAB_CLK.TU_CLK	O	Pull-up	L	L	H/L	DAB Module I2C Clock
28	PG2	DAC_FMT	O		-	L	-	Audio format selection : I2S(Low) / Left justified(High)
29	PB3	DAC_DEMP	O		-	L	-	DAC(PCM5100) De-emphasis control for 44.1kHz sampling rate : Off(low) / On(High)
30	BOOT	single boot mode	I	Pull-up	-	H	L	update mode select
31	PH1/TB0IN0	DAC_XSMT	O		-	L	-	DAC(PCM5100) Soft mute control : Soft mute(Low) / soft un-mute(High)
32	PH2/TB1IN0	USB_OC	O	Pull-up				detect FLAG for NCP380 (Detect Over Current of USB POWER)
33	TXD2	SP_OP	O					SP OPTIMIZE ON/OFF '(Initialize ON)
34	RXD2	DIR_IN	I		-	-	-	DIR(PCM9211(23)) IN(SPI data output) DIR-OUT to MCU-IN
35	PF2	F_V_CS	O		L	L	L	function IC strobe (NJW1194)
36	PH3	F_V_CLK	O		L	L	-	function IC clock (NJW1194)
37	PB4	F_V_DATA	O		L	L	-	function IC data (NJW1194)
38	P10	DIR_OUT	O		-	L	-	DIR(PCM9211(24)) Out(SPI data input) DIR-IN to MCU-OUT
39	INT6	DIR_RERR	I		-	-	H	DIR(PCM9211(1)) Error detection output
40	PI1	DIR_CLK	O		-	L	-	SPI clock input
41	PB5	DIR_CE	O		-	L	-	SPI chip select
42	PI2	DIR_RST	O		-	L	L	Reset input
43	PB6	BOL_RST	O		L	L	L	Bolero (IC41) Reset
44	PF4	DAB.DAO.TU.SDA	I/O					tuner PLL IC data
45	PF5	DA_CLK.TU.SCL	O					tuner PLL IC clock
46	PF6	DAB.ON.TU.CE	O					tuner PLL IC chip select
47	PB7	TU_RST	O					tuner PLL IC reset
48	PI3	-	O		-	-	-	OPEN
49	INT1	TU_INT	I					tuner PLL IC GPIO2
50	PK0	CD_BUS2	I		-	-	-	receive data from CD DSP (Oasis (64)pin OUT)
51	PK1	CD_BUS3	O		L	L	-	send command to CD DSP (Oasis (65)pin IN)
52	PI4	CD_BUCK	O		L	L	-	communication clock with CD DSP
53	PI5	CD_CCE	O		L	L	-	communication chip enable with CD DSP
54	PB0/TDO/SWV		O	Pull-up				for DEBUG
55	PA0/TMS/SWDIO		O	Pull-up				for DEBUG
56	PA1/TCK/SWCLK		O	Pull-down				for DEBUG
57	TEST3							TEST pin, Set to OPEN.
58	PJ7	CD_DSP_RST	O		L	L	L	CD DSP reset
59	PB1/TDI		O	Pull-up				for DEBUG
60	PB2/TRST		O	Pull-up				for DEBUG
61	PF3/RXIN1	-	O					OPEN
62	DVCC		P					Power supply pin
63	DVSS		G					GND pin
64	PA2	LED_RED	O		H	H	L	TIMER ST LED(RED) Control "L";ON
65	PA3	LED_GREEN	O		H	H	L	Power LED (GRREN) Control "L";ON
66	PA4	VFD_RST	O		L	L	L	vfd reset
67	PA5	VFD_DI	O		L	L	-	vfd data
68	PA6	VFD_CS	O		L	L	L	vfd chip select
69	PA7	VFD_CLK	O		L	L	-	vfd clock
70	INT0	EX_INTERRUPT	I	Pull-up	-	H	L	External Interrupt (For Key detection)
71	CVCC		P					Power supply pin
72	X2							oscillator(10MHz) high-speed oscillator(Output)
73	CVSS		G					GND pin
74	X1							oscillator(10MHz) high-speed oscillator(Input)
75	REGVSS	GND pin	G					GND pin
76	REGVCC		P					Power supply pin
77	XT1							RTC oscillator(32.768KHz) low-speed oscillator(Input)
78	XT2							RTC oscillator(32.768KHz) low-speed oscillator(Output)
79	PI6/TB4IN0	-	O					OPEN

Pin No	Port Name	Port Name	I/O	Status				Note
				Pull-up/down	init.	stby	Act.	
80	NMI		P					3.3V Non-maskable interrupt
81	MODE		G					GND
82	RESET	Reset input pin	I			I	L	MCU RESET
83	PI7	EEPROM_SCL	O	Pull-up	L	-	-	EEPROM clock
84	PH6	EEPROM_SDA	I/O	Pull-up	L	-	-	EEPROM data
85	PH7	POWER_H	O		L	L	H	RL91 Control
86	PJ2	POWER_DOWN	I	Pull-up	H	H	L	Power down
87	PJ3/INT3	M_PWM	O					reserve
88	PJ4/TB6OUT	-	O					OPEN
89	PE3/RXIN0	-	O					OPEN
90	TEST4							TEST pin, Set to OPEN.
91	AN0	KEY0	I	Pull-up	-	-	-	key0
92	AN1	KEY1	I	Pull-up	-	-	-	key1
93	PC2	-	I	Pull-down				OPEN
94	PC3	VOL_EN1 (VOL-)	I	Pull-up	-	-	-	volume encoder sw1
95	PD0	VOL_EN2 (VOL+)	I	Pull-up	-	-	-	volume encoder sw2
96	AN5	Version Option.	I		-	-	-	Version Option R128 (EK;33k / E2;1.8k / E3;4.7k / J;8.2k)
97	PD2	HP_IN	I	Pull-up	-	O	L	headphone in detect
98	AN7	LD_CHK	I		-		-	check for LASER Current (A/D conversion)
99	PD4	-	I	Pull-down	-	-	-	OPEN
100	PD5	Model option	I	Pull-up	-	-	-	Model Option "H"

TC94A92FG (MCU : IC16)



TC94A92FG Block Diagram



TC94A92FG Terminal Function

Pin No.	Symbol	I/O	Description	Default	Remarks
1	VCoI	O 3AI/F	DSP VCO - EFM and PLCK Phase difference signal output pin. (DSP VCO control voltage input pin.)	O	3 state output
2	RVDD3	-	CD-DSP-Power supply for 3.3V RF amplifier core and PLL circuit	-	
3	SLCo	O 3AI/F	EFM slice level output pin	O	Connect capacitor according with servo frequency band.
4	RFi	I 3AI/F	RF signal input pin	I	Selectable Zin 20/10 kΩ
5	RFRPi	I 3AI/F	RF ripple signal input pin	I	
6	RFEQo	O 3AI/F	RF equalizer circuit output pin.	O	Connect to RFRPi by 0.1uF, to RFi by 4700pF.
7	DCoFC	O 3AI/F	RFEQo offset compensation LPF output	O	Connect to Vro by more than 0.015uF
8	AGCi	I 3AI/F	RF signal AGC amplifier input pin	I	
9	RFo	O 3AI/F	RF signal generation amplifier output pin	O	
10	RVSS3	-	Grounding pin for 3.3 RF amplifier core and PLL circuit	-	
11	FNI2	I 3AI/F	Main beam signal input pin. To be connected to PIN diode C.	I	
12	FNI1	I 3AI/F	Main beam signal input pin. To be connected to PIN diode A.	I	
13	FPI2	I 3AI/F	Main beam signal input pin. To be connected to PIN diode D.	I	
14	FPI1	I 3AI/F	Main beam signal input pin. To be connected to PIN diode B.	I	
15	TPi	I 3AI/F	Sub beam signal input pin. To be connected to PIN diode F.	I	
16	TNi	I 3AI/F	Sub beam signal input pin. To be connected to PIN diode E.	I	
17	VRo	O 3AI/F	1.65 V reference voltage output pin.	O	Connected to PVREF, And connect to GNG by 0.1uF+100uF.
18	AVSS3	-	Grounding pin for 3.3V CD analog circuits.	-	
19	MDi	I 3AI/F	Monitor photodiode amplifier input pin.	I	Reference Voltage=178mVtyp.
20	LDo	O 3AI/F	Laser diode amplifier output pin	O	

Pin No.	Symbol	I/O	Description	Default	Remarks
21	FSMoNiT	O 3AI/F	Focus Error signal / Sub beam add signal output pin(monitor pin/GND)	O	
22	RFZi	I 3AI/F	RF ripple zero-cross signal Input pin	I	
23	RFRP	O 3AI/F	RF ripple signal output pin.	O	
24	TEi	O 3AI/F	Tracking error signal output pin.	O	Bulit-in serieses R=500Ω. Connect to VRo by capacitor.
25	AVDD3	-	Power supply pin for 3.3 V CD analog circuits.	-	
26	FOo	O 3AI/F	Focus servo equalizer output pin.	O	Bulit-in serieses R=3.3 kΩ
27	TRo	O 3AI/F	Tracking servo equalizer output pin.	O	Bulit-in output R=3.3 kΩ
28	VSS-3	-	Grounding pin for 1.5V Decoder-DSP CD circuit	-	
29	FMo	O 3AI/F	Feed servo equalizer output pin.	O	Bulit-in output R=3.3 kΩ
30	FMoS	O 3AI/F	Feed servo equalizer output pin. (Stepper motor application)	O	Bulit-in output R=3.3 kΩ
31	DMo	O 3AI/F	Disc servo equalizer output pin	O	Bulit-in output R=3.3 kΩ
32	VDD1-3	I/O 3I/F	Power supply pin for 1.5V Decoder-DSP /CD circuit	-	
33	Pio8	I/O 3I/F	Port 8(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
34	Pio9	I/O 3I/F	Port 9(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
35	Pio10	I/O 3I/F	Port 10(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
36	Pio11	I/O 3I/F	Port 11(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
37	Pio12/ CDMoN0/ FGiN	I/O 3I/F	Port 12(General Input/Output Port) / CD Monitor 0 / FG signal input	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
38	Pio13/ CDMoN1	I/O 3I/F	Port 13(General Input/Output Port) / CD Monitor1	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
39	Pio14/ CDMoN2	I/O 3I/F	Port 14(General Input/Output Port) / CD Monitor 2	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
40	CDMoN3	O 3I/F	CD Monitor3 (Default output : SBSY)	O	CMOS Port Refer to [1.2 Pin Assinment Table]

Pin No.	Symbol	I/O	Description	Default	Remarks
41	DVSS3R	-	Grounding pin for 3.3V Multi-Bit DAC circuit	-	
42	Ro	O 3AI/F	R channel audio output pin of Audio DAC.	O	
43	DVDD3R	-	Power supply pin for 3.3V Audio DAC circuit.	-	
44	DVDD3L	-	Power supply pin for 3.3V Audio DAC circuit.	-	
45	Lo	O 3AI/F	L channel audio output pin of Audio DAC	O	
46	DVSS3L	-	Grounding pin for 3.3V Multi-Bit DAC Circuit	-	
47	XVSS3	-	Grounding pin for 3.3V clock oscillator circuit	-	
48	Xi	I 3AI/F	System clock Input pin	I	Xtal oscillation circuit. Connect feedback resistor 1 MΩ between Xo and Xi
49	Xo	O 3AI/F	System clock Output pin	O	
50	XVDD3	-	Power Supply pin for 3.3V clock oscillator circuit	-	
51	VDD1-2	-	Power Supply pin for 1.5V Digital circuit	-	
52	VSS-2	-	Grounding pin for 1.5V digital circuit	-	
53	Pio0	I/O 3I/F	Port 0(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
54	Pio1	I/O 3I/F	Port 1(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
55	Pio2	I/O 3I/F	Port 2(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
56	Pio3	I/O 3I/F	Port 3(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
57	Pio4	I/O 3I/F	Port 4(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
58	Pio5	I/O 3I/F	Port 5(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
59	Pio6	I/O 3I/F	Port 6(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
60	Pio7	I/O 3I/F	Port 7(General Input/Output Port)	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]

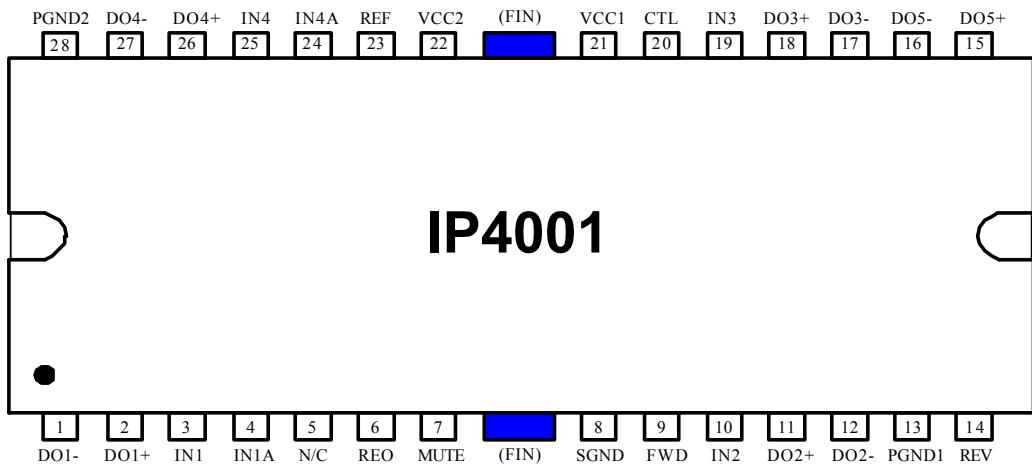
Pin No.	Symbol	I/O	Description	Default	Remarks
61	VDD3	-	Power Supply pin for 3.3V Digital circuit	-	
62	BUS0	I/O 3I/F	Microprocessor I/F data input/output pin 0	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
63	BUS1	I/O 3I/F	Microprocessor I/F data input/output pin 1	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
64	BUS2	I/O 3I/F	Microprocessor I/F data input/output pin 2	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
65	BUS3	I/O 3I/F	Microprocessor I/F data input/output pin 3	I	CMOS Port Schmitt input Refer to [1.2 Pin Assinment Table]
66	BUCK	I 3I/F	Microprocessor I/F BUS clock Input pin	I	Schmitt input Refer to [1.2 Pin Assinment Table]
67	/CCE	I 3I/F	Microprocessor I/F chip enable input pin	I	Schmitt input Refer to [1.2 Pin Assinment Table]
68	MS	I 3I/F	Microprocessor I/F mode selection pin. "H": Parallel I/F, "L": Serial I/F	I	Refer to [1.2 Pin Assinment Table]
69	/RST	I 3I/F	Reset Input pin	I	Schmitt input
70	Test	I 3I/F	Test pin ("L" fixed)	I	Connect to GND for normal operation
71	VDD1-1	-	Power Supply pin for 1.5V Digital circuit	-	
72	VSS-1	-	Grounding pin for 1.5V Digital circuit	-	
73	/SRAMSTB	I 3I/F	1Mbit SRAM stand by pin (/SRAMSTB="L")	I	
74	VDDM1	-	Power Supply for 1.5V 1Mbit SRAM circuit	-	
75	PDo	O 3AI/F	EFM and PLCK Phase difference signal output pin.	O	4-state output (RVDD3, RVSS3,PVREF, Hz)
76	TMAX	O 3AI/F	TMAX detection result output pin	O	3-state output (RVDD3, RVSS3, Hz)
77	LPFN	I 3AI/F	PLL circuit LPF amplifier inversion input pin	I	
78	LPFo	O 3AI/F	PLL circuit LPF amplifier Output pin	O	
79	PVREF	-	PLL circuit 1.65 V reference voltage pin.	-	Connected to VRO. Connect to GND by 0.1uF and 100uF.
80	VCoF	O 3AI/F	VCO filter pin	O	Connect to GND by 0.01uF

3A I/F : 3 V analog circuit input/output pin.

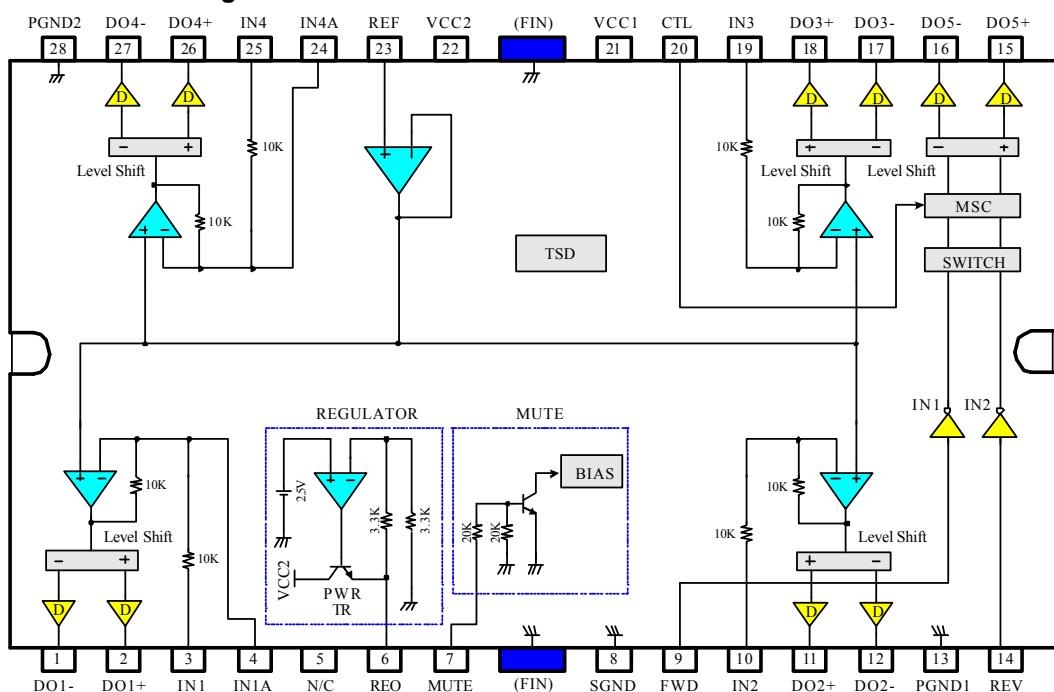
1.5 I/F : 1.5Vdigital input/output pin.

3 I/F : 3 V digital input/output pin.

CVIIP4001CRLTF (MCU : IC31)



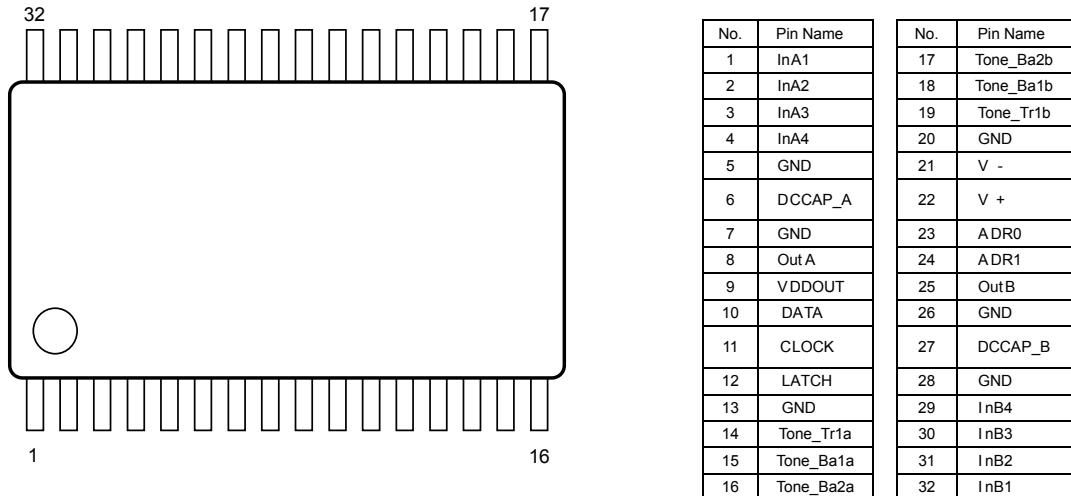
CVIIP4001CRLTF Block Diagram



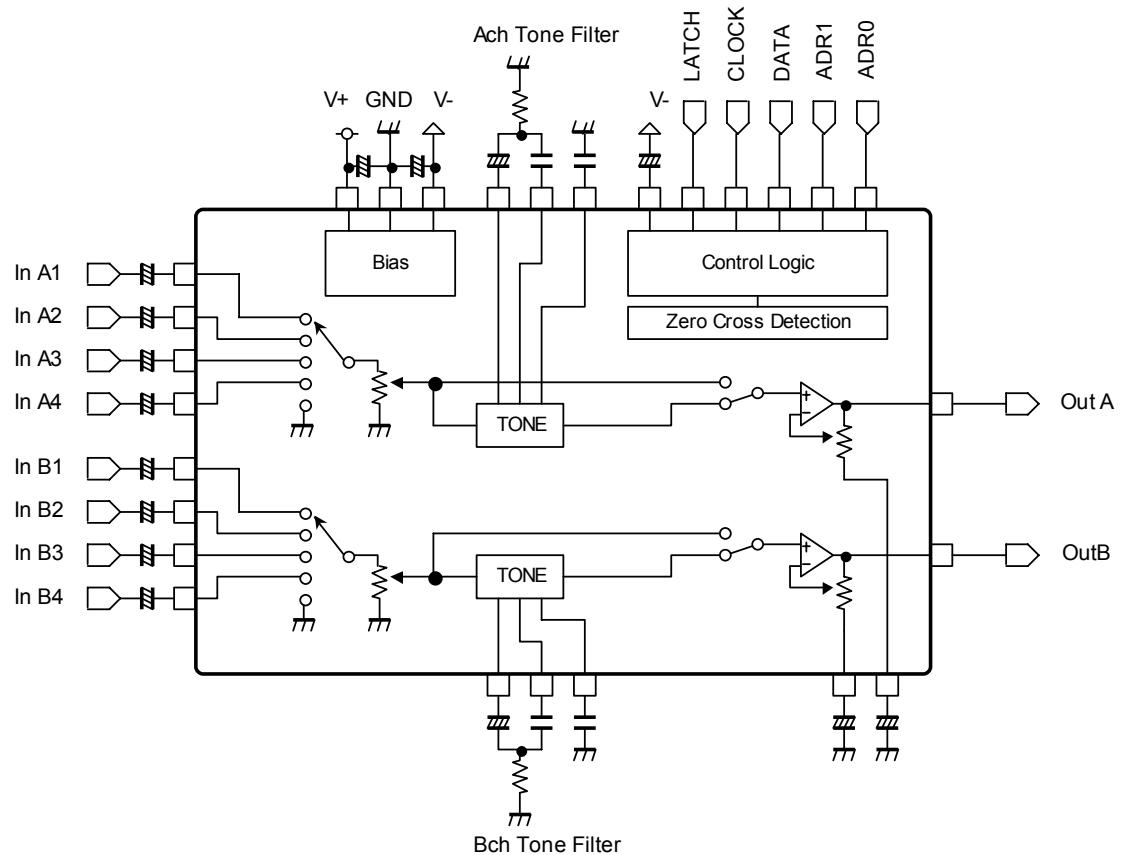
CVIIP4001CRLTF Pin Descriptions

NO	SYMBOL	I/O	DESCRIPTION	NO	SYMBOL	I/O	DESCRIPTION
1	DO1-	O	CH1 OUTPUT (-)	15	DO5+	O	CH5 OUTPUT (+)
2	DO1+	O	CH1 OUTPUT (+)	16	DO5-	O	CH5 OUTPUT (-)
3	IN1	I	CH1 INPUT 1	17	DO3-	O	CH3 OUTPUT (-)
4	IN1A	I	CH1 INPUT 2	18	DO3+	O	CH3 OUTPUT (+)
5	N / C	-	NO-CONNECTION	19	IN3	I	CH3 INPUT
6	REO	O	REGULATOR OUTPUT	20	CTL	I	CH5 MOTOR SPEED CONTROL
7	MUTE	I	MUTE INPUT	21	VCC1	I	SUPPLY VOLTAGE 1 (CH2,CH3,CH5)
8	SGND	-	SIGNAL GROUND	22	VCC2	I	SUPPLY VOLTAGE 2 (CH1,CH4,SIGNAL,REG)
9	FWD	I	CH5 INPUT 1	23	REF	I	CH BIAS INPUT
10	IN2	I	CH2 INPUT	24	IN4A	I	CH4 INPUT 1
11	DO2+	O	CH2 OUTPUT (+)	25	IN4	I	CH4 INPUT 2
12	DO2-	O	CH2 OUTPUT (-)	26	DO4+	O	CH4 OUTPUT (+)
13	PGND1	-	POWER GROUND 1	27	DO4-	O	CH4 OUTPUT (-)
14	REV	I	CH5 INPUT 2	28	PGND2	-	POWER GROUND 2

NJW1194V (INPUT : IC53)



NJW1194V Block Diagram



PCM5100 PWR (INPUT : IC57)

PCM510X (top view)

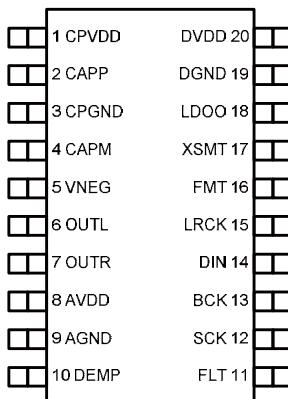


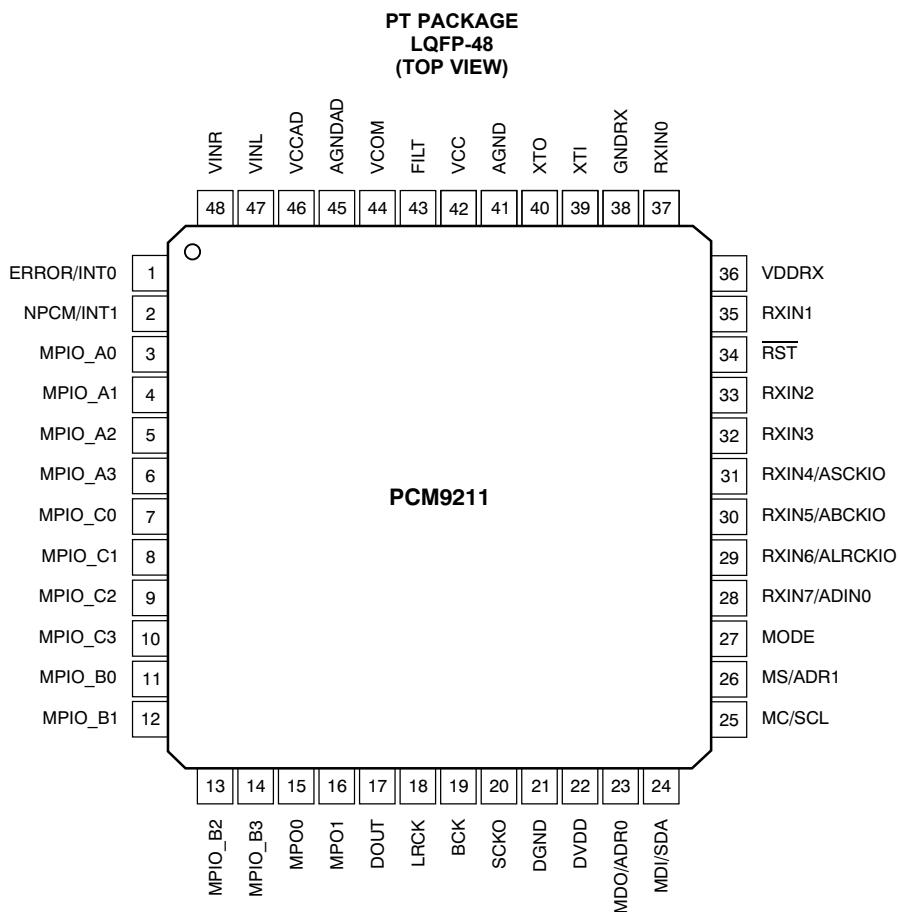
Table 2. TERMINAL FUNCTIONS, PCM510x

TERMINAL	I/O	DESCRIPTION
NAME NO.		
CPVDD 1	-	Charge pump power supply, 3.3V
CAPP 2	O	Charge pump flying capacitor terminal for positive rail
CPGND 3	-	Charge pump ground
CAPM 4	O	Charge pump flying capacitor terminal for negative rail
VNEG 5	O	Negative charge pump rail terminal for decoupling, -3.3V
OUTL 6	O	Analog output from DAC left channel
OUTR 7	O	Analog output from DAC right channel
AVDD 8	-	Analog power supply, 3.3V
AGND 9	-	Analog ground
DEMP 10	I	De-emphasis control for 44.1kHz sampling rate ⁽¹⁾ : Off (Low) / On (High)
FLT 11	I	Filter select : Normal latency (Low) / Low latency (High)
SCK 12	I	System clock input
BCK 13	I	Audio data bit clock input
DIN 14	I	Audio data input
LRCK 15	I	Audio data word clock input
FMT 16	I	Audio format selection : I ² S (Low) / Left justified (High)
XSMT 17	I	Soft mute control : Soft mute (Low) / soft un-mute (High)
LDOO 18	-	Internal logic supply rail terminal for decoupling
DGND 19	-	Digital ground
DVDD 20	-	Digital power supply, 3.3V

(1) Failsafe LVCMOS Schmitt trigger input

DIR PCM9211 (INPUT : IC51)

PIN CONFIGURATIONS



PIN FUNCTIONS

NO.	NAME	PIN		DESCRIPTION
		I/O	5-V TOLERANT	
1	ERROR/INT0	O	No	DIR Error detection output / Interrupt0 output
2	NPCM/INT1	O	No	DIR Non-PCM detection output / Interrupt1 output
3	MPIO_A0	I/O	Yes	Multipurpose I/O, Group A ⁽¹⁾
4	MPIO_A1	I/O	Yes	Multipurpose I/O, Group A ⁽¹⁾
5	MPIO_A2	I/O	Yes	Multipurpose I/O, Group A ⁽¹⁾
6	MPIO_A3	I/O	Yes	Multipurpose I/O, Group A ⁽¹⁾
7	MPIO_C0	I/O	Yes	Multipurpose I/O, Group C ⁽¹⁾
8	MPIO_C1	I/O	Yes	Multipurpose I/O, Group C ⁽¹⁾
9	MPIO_C2	I/O	Yes	Multipurpose I/O, Group C ⁽¹⁾
10	MPIO_C3	I/O	Yes	Multipurpose I/O, Group C ⁽¹⁾
11	MPIO_B0	I/O	Yes	Multipurpose I/O, Group B ⁽¹⁾
12	MPIO_B1	I/O	Yes	Multipurpose I/O, Group B ⁽¹⁾
13	MPIO_B2	I/O	Yes	Multipurpose I/O, Group B ⁽¹⁾
14	MPIO_B3	I/O	Yes	Multipurpose I/O, Group B ⁽¹⁾
15	MPO0	O	No	Multipurpose output 0

PIN				DESCRIPTION
NO.	NAME	I/O	5-V TOLERANT	
16	MPO1	O	No	Multipurpose output 1
17	DOUT	O	No	Main output port, serial digital audio data output
18	LRCK	O	No	Main output port, LR clock output
19	BCK	O	No	Main output port, Bit clock output
20	SCKO	O	No	Main output port, System clock output
21	DGND	-	-	Ground, for digital
22	DVDD	-	-	Power supply, 3.3 V (typ.), for digital
23	MDO/ADR0	I/O	Yes	Software control I/F, SPI data output / I ² C slave address setting ⁽²⁾
24	MDI/SDA	I/O	Yes	Software control I/F, SPI data input / I ² C data input/output ⁽²⁾⁽³⁾
25	MC/SCL	I	Yes	Software control I/F, SPI clock input / I ² C clock input ⁽²⁾
26	MS/ADR1	I	Yes	Software control I/F, SPI chip select / I ² C slave address setting ⁽²⁾
27	MODE	I	No	Control mode setting, (see the Serial Control Mode section, Control Mode Pin Setting)
28	RXIN7/ADINO	I	Yes	Biphase signal, input 7 / AUXIN0, serial audio data input ⁽²⁾
29	RXIN6/ALRCKIO	I	Yes	Biphase signal, input 6 / AUXIN0, LR clock input ⁽²⁾
30	RXIN5/ABCKIO	I	Yes	Biphase signal, input 5 / AUXIN0, bit clock input ⁽²⁾
31	RXIN4/ASCKIO	I	Yes	Biphase signal, input 4 / AUXIN0, system clock input ⁽²⁾
32	RXIN3	I	Yes	Biphase signal, input 3 ⁽²⁾
33	RXIN2	I	Yes	Biphase signal, input 2 ⁽²⁾
34	\bar{RST}	I	Yes	Reset Input, active low ⁽²⁾⁽⁴⁾
35	RXIN1	I	Yes	Biphase signal, input 1, built-in coaxial amplifier
36	VDDRX	-	-	Power supply, 3.3 V (typ.), for RXIN0 and RXIN1.
37	RXIN0	I	Yes	Biphase signal, input 0, built-in coaxial amplifier
38	GNDRX	-	-	Ground, for RXIN
39	XTI	I	No	Oscillation circuit input for crystal resonator or external XTI clock source input ⁽⁵⁾
40	XTO	O	No	Oscillation circuit output for crystal resonator
41	AGND	-	-	Ground, for PLL analog
42	VCC	-	-	Power supply, 3.3 V (typ.), for PLL analog
43	FILT	O	No	External PLL loop filter connection terminal; must connect recommended filter
44	VCOM	O	No	ADC common voltage output; must connect external decoupling capacitor
45	AGNDAD	-	-	Ground, for ADC analog
46	VCCAD	-	-	Power supply, 5.0 V (typ.), for ADC analog
47	VINL	I	No	ADC analog voltage input, left channel
48	VINR	I	No	ADC analog voltage input, right channel

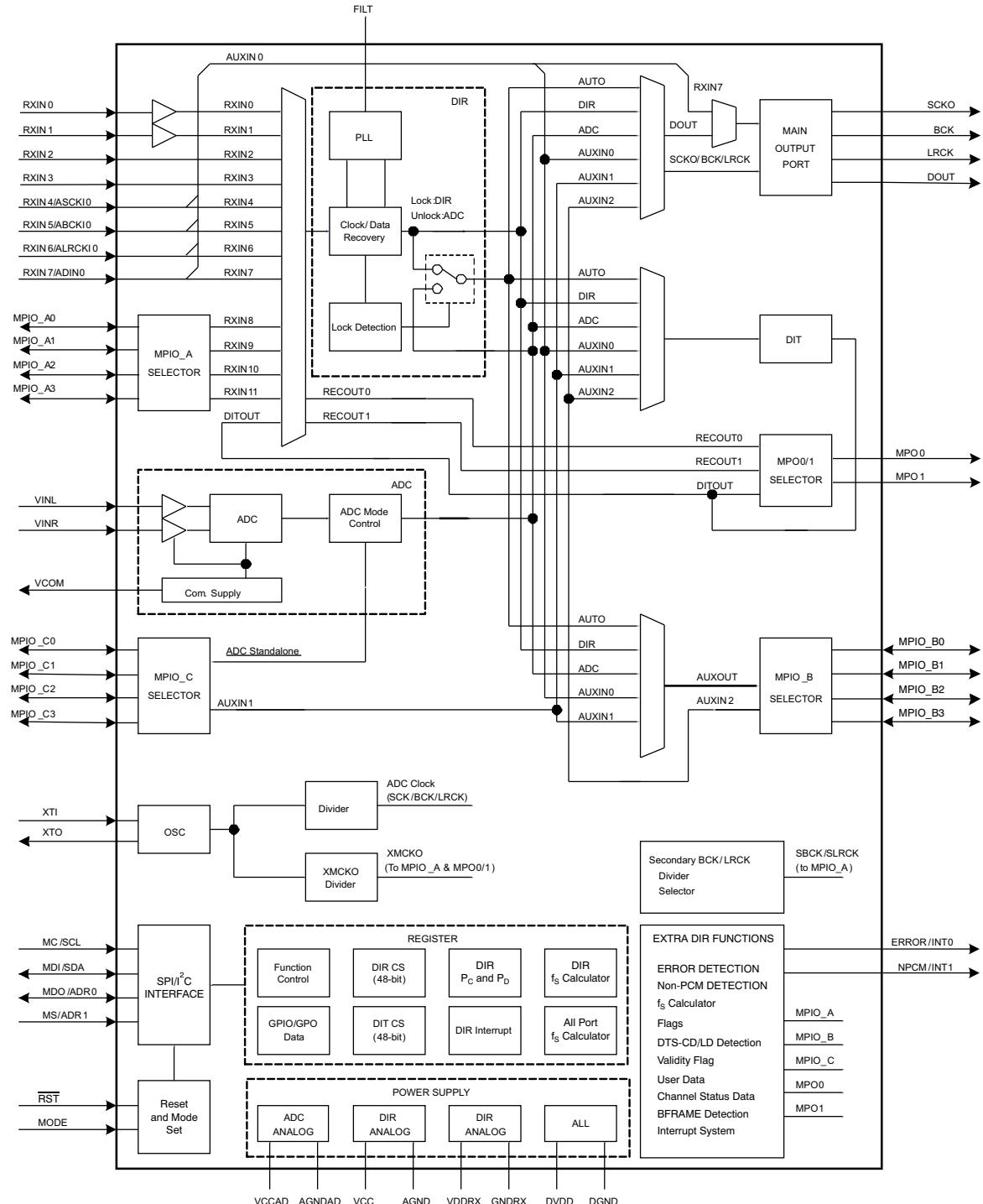
(2) Schmitt trigger input

(3) Open-drain configuration in I²C mode

(4) Onboard pull-down resistor (50 kΩ, typical)

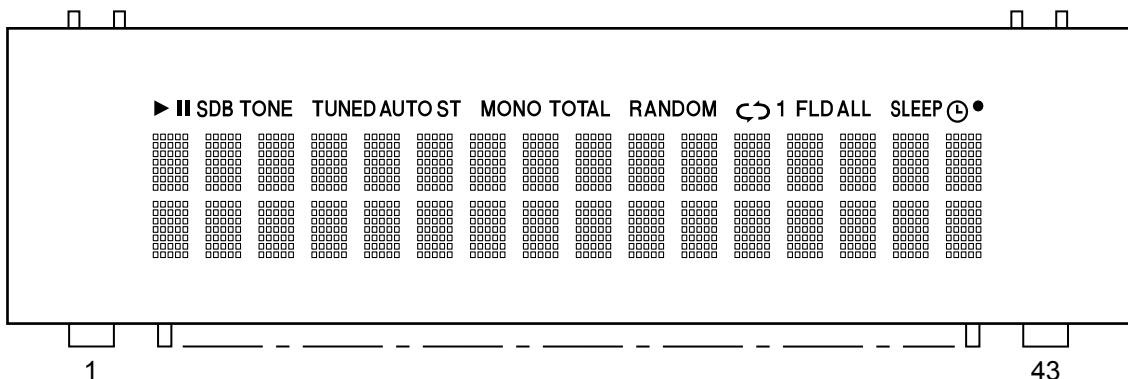
(5) CMOS Schmitt trigger input

DIR PCM9211 Block Diagram



2. FL DISPLAY

16ST103GINK (MAIN : FL81)



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) TSA,B --- Test pin

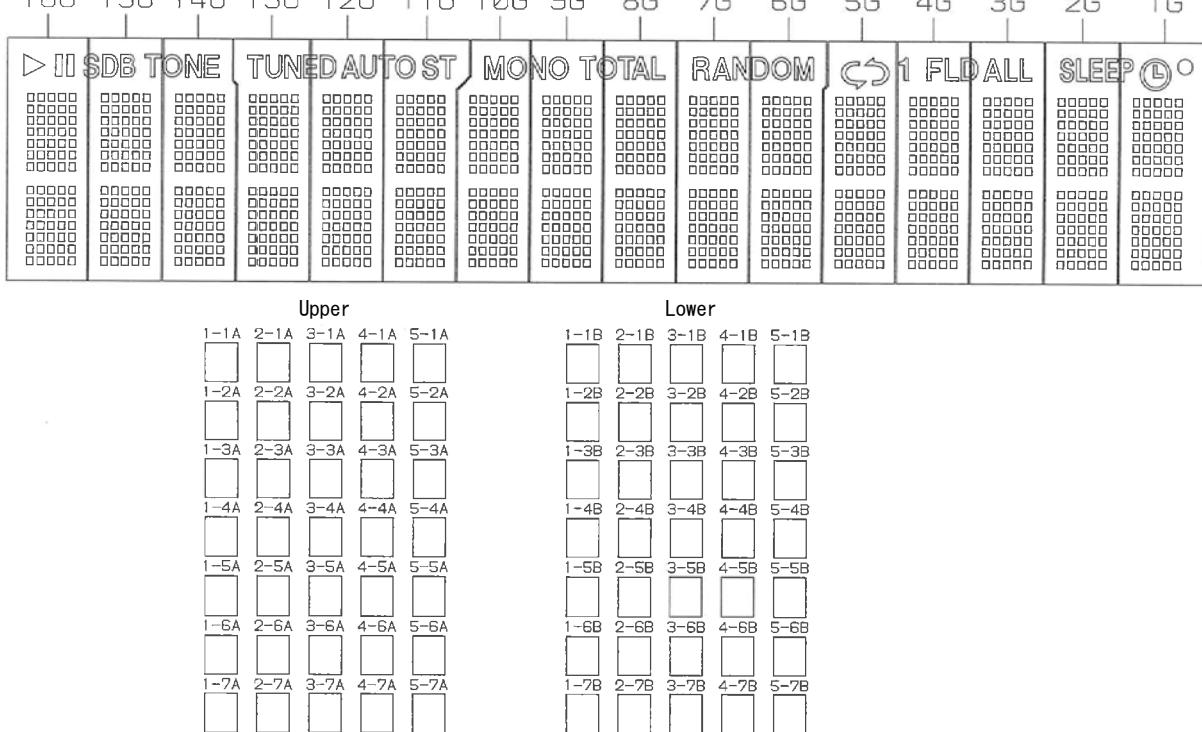
13) CS ----- Chip Select Input pin

14) RESET --- Reset Input

15) OSC ----- Pin for self-oscillation

16) Solder composition is Sn-3Ag-0.5Cu.

GRID ASSIGNMENT



ANODE CONNECTION

	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	II	TUNED	MONO	1	SLEEP	-
AD4	▶	-	-	⟳	-	-

PARTS LIST OF PCB UNIT

Please refer to the last chapter for the part list.

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

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

Personal notes:

POWER & AMP PCB ASS'Y

NOTE: The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
SEMICONDUCTORS GROUP						
IC71	943239100850D	I.C, HYBRID AMP (2-channel class AB)	CVISTK433-060N		*	
IC72	00MHC10200090	I.C , HEADPHONE (JRC)	HVINJM4556AL			
IC91	943239010400S	I.C, REGULATOR(3.3V/TO-252)	CVINJM2845DL133			
IC92	00D9430183909	REGULATOR IC	HVIKIA7912PI			
D701	90M-HD201820R	DIODE, SCHOTTKY BARRIER	HVDRB160L60TE25			
D706	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D708,709	00MHD20015201	DIODE	HVD1SS133MT			
D710,711	00D9430182502	DIODE , RECT 1N4003	CVD1N4003T			
D712	90M-HE200390R	DIODE , BRIDGE(10A/600V)	HVDGB1006			
D713,714	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D801	00D9430106203	LED SPR39MVW3 2COLOR	HVDSPR39MVW3			
D806-815	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D901	90M-HD302280R	DIODE , ZENER (CHIP,6.8V)	HVDUDZS6.8BSR			
D902	00D9430209400	DIODE , RECT 1N4003	CVD1N4003SRT			
D903,904	00MHD20059100	DIODE , SCHOTTKY	HVD21DQ10T			
D905-910	00D9430209400	DIODE , RECT 1N4003	CVD1N4003SRT			
D911,912	00D9430087102	ZENER DIODE MTZJ20B 1/2W	HVDMTZJ20BT			
D913,914	00D9430209400	DIODE , RECT 1N4003	CVD1N4003SRT			
D915,916	90M-HD201820R	DIODE, SCHOTTKY BARRIER	HVDRB160L60TE25			
D917	00D9430209400	DIODE , RECT 1N4003	CVD1N4003SRT			
D919	00D9430209400	DIODE , RECT 1N4003	CVD1N4003SRT			
D922,923	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D925	943202500460D	DIODE , ZENER(CHIP,15V)	E3	HVDUDZS15BSR		
D928-938	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D939	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
D940,941	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D942	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	E3	HVD1SS355T		
D943	90M-HD302270R	DIODE , ZENER (CHIP,5.6V)	HVDUDZS5.6BSR			
D945	00D9430209400	DIODE , RECT 1N4003	CVD1N4003SRT			
D946,947	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
Q701	943215500140D	T.R , RT1P144C(10K-47K)	CVTRT1P144C			
Q702	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q703	943215500140D	T.R , RT1P144C(10K-47K)	CVTRT1P144C			
Q704,705	943214500040S	High Voltage NPN Transistors(SOT-23)	CVTMMBT5551			
Q706-709	00D9430072502	T.R , CHIP , SOT-23	HVTKTC2875B			
Q710	963216500060S	T.R,RT1N144C(10K-47K)	CVTRT1N144C			
Q711	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q712	963216500060S	T.R,RT1N144C(10K-47K)	CVTRT1N144C			
Q713	943215500020S	T.R , RT1P141C(10K-10K)	CVTRT1P141C			
Q714	943212500020S	High Voltage PNP Transistors(SOT-23)	CVTMMBT5401			
Q716	943212500020S	High Voltage PNP Transistors(SOT-23)	CVTMMBT5401			
Q717	943214500040S	High Voltage NPN Transistors(SOT-23)	CVTMMBT5551			
Q718	943215500020S	T.R , RT1P141C(10K-10K)	CVTRT1P141C			
Q720	943215500140D	T.R , RT1P144C(10K-47K)	CVTRT1P144C			
Q806	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q901	943219006820S	TR KTC1027Y	CVTAKTC1027YT			
Q902	963216500060S	T.R,RT1N144C(10K-47K)	CVTRT1N144C			
Q903	963216500060S	T.R,RT1N144C(10K-47K)	E3	CVTRT1N144C		
Q906-908	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q909	943219006820S	TR KTC1027Y	CVTAKTC1027YT			
Q910	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q911	963216500060S	T.R,RT1N144C(10K-47K)	CVTRT1N144C			
Q912	943214500040S	High Voltage NPN Transistors(SOT-23)	CVTMMBT5551			
Q913	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
RESISTORS GROUP						
R702,703	nsp	RES,M-OXIDE/FILM(1W/100ohm)	CRG1SANJ101RT			
R704,705	943124500040S	RES, M-OXIDE FILM(1W/4.7ohm)	CRG1SANJ4R7RT			
R706,707	943121006200M	RES,	CRD25FJ4R7T			
R708,709	nsp	RES , CEMENT	CRF5EKR22			
R710,711	nsp	RES, CARBON(1/4W,2.7Kohm,J)	CRD25TJ272T			
CAPACITORS GROUP						
C156	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C701,702	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C704,705	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C708,709	nsp	CAP,METAL-FILM(100V/0.047uF)	CCME2AA473JXT			
C710	nsp	CAP, ELECT(10V/470uF)	CCEA1AH471TC			
C711,712	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C713	nsp	CAP, ELECT(25V/47uF)	CCEA1EH470TC			
C716,717	nsp	CAP , ELECT (50V/47uF)	CCEA1HH470TC			
C718,719	nsp	CAP, CERAMIC(50V/470pF/K)	CCKT1H471KB			
C720	00MOA47702520	CAP , ELECT	CCEA1EH471T			
C723,724	nsp	CAP, CERAMIC(50V/100pF/K)	CCKT1H101KB			
C726	943134010580S	ELECT CAP 220UF 35V	CCEA1VH221T			
C727	00D2544693942	CAP, ELECT(50V/220uF,ELNA/RFO)	CCEA1HRFO221E			
C728	nsp	CAP, CHIP(1608, 50V/1000pF)	CCUS1H102KC			
C729,730	nsp	CERAMIC CAP 5pF 50V CC	CCCT1H050CC			
C734	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C735,736	nsp	CAP , POLYPROPYLENE(SEORYONG,	CCMP2A102JR16T			
C737,738	00MOF15104040	CAP,METAL-FILM(100V/0.1uF)	CCME2A104JXT			
C739,740	943139001280S	METALLIZED FILM CAP	CCME2A103JXT			
C741	90M-OF100490R	CAP, METAL PE FILM(250V/0.1uF)	KCME2E104JP04T			
C742,743	943134502110D	CAP , ELECT(TOSHIN, UTSP, 35V/4700uF, 85'C)	CCEA1VUTSP472E	*		
C744,745	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C747	00MOA47702520	CAP , ELECT	CCEA1EH471T			
C750	943134010580S	ELECT CAP 220UF 35V	CCEA1VH221T			
C752-756	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C758	nsp	CAP, CHIP(1608, 50V/1000pF)	CCUS1H102KC			
C759,760	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C761	00D2544693942	CAP, ELECT(50V/220uF,ELNA/RFO)	CCEA1HRFO221E			
C763,764	943134010580S	ELECT CAP 220UF 35V	CCEA1VH221T			
C765-768	nsp	METALLIZED FLIM CAP (100V/0.22uF)	CCME2A224JXT			
C769,770	nsp	CAP, CHIP(1608, 50V/100pF)	CCUS1H101JA			
C771,772	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C776,777	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C780,781	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C784,785	nsp	CAP, CHIP(1608, 50V/100pF)	CCUS1H101JA			
C791	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C792	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C801	943134502040D	CAP, CERAMIC	CCEA1CKS101TC			
C802	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C803	nsp	CHIP CAP 47PF 50V	CCUS1H470JA			
C804	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C805-807	nsp	CAP, CHIP(1608, 50V/100pF)	CCUS1H101JA			
C808-810	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C811-813	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C815,816	nsp	CAP,CHIP(1608,50V/4700pF)	CCUS1H472KC			
C819-821	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C822	943134501930D	CAP, ELECT(50V/10uF)-S	CCEA1HKS100TC			
C824,825	943139001280S	METALLIZED FILM CAP	CCME2A103JXT			
C827-829	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C832	943134501950D	CAP, ELECT(50V/1uF)-S	CCEA1HKS1R0TC			
C835	943134502040D	CAP, CERAMIC	CCEA1CKS101TC			
C836	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C837,838	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C901	nsp	CAP,METAL-FILM(100V/0.047uF)	CCME2A473JXT			
C902,903	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C904	943134502120D	CAP, ELECT(TOSHIN, UTSP, 25V/2200uF), 85'C	CCEA1EUTSP222E	*		
C905	943134502130D	CAP, ELECT(TOSHIN, UTSP, 25V/1000uF, 85'C)	CCEA1EUTSP102E	*		
C906,907	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C908,909	943134502140D	CAP, ELECT(TOSHIN, UTSP, 16V/220uF), 85'C	CCEA1CUTSP221T	*		
C910	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C911	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C912	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C913	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C914	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C915	943134502070D	CAP, ELECT(50V/220uF)	CCEA1HH221EC			
C916,917	943134502100D	CAP, ELECT(63V/100uF)	CCEA1JH101EC			
C918	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C919	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C920	943134502030D	CAP, ELECT(50V/10uF)	CCEA1HH100TC			
C922	00D9430024408	CAP, CERAMIC(X1/Y2/SC) 0.0047uF 2.5KV	KCKDKS472ME			
C925,926	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C927	943134502010D	CAP, ELECT(50V/0.68uF)	CCEA1HHR68TC			
C928	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C929	nsp	CAP, ELECT(16V/2200uF)	CCEA1CH222EC			
C930	943134502030D	CAP, ELECT(50V/10uF)	E3 CCEA1HH100TC			
C934	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C935	943134502120D	CAP, ELECT(TOSHIN, UTSP, 25V/2200uF), 85'C	CCEA1EUTSP222E	*		
C938	nsp	CAP, ELECT(50V/4.7uF)	CCEA1HH4R7TC			
C939	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C944,945	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C947	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C951	00D2544693939	CAP, ELEC ELNA RFO SERIES 100uF/50V	CCEA1HRFO101T			
C952	nsp	CAP, CHIP(1608, 10V/1uF)	CCUS1A105KC			
C953	nsp	CAP, CHIP(2012, 6.3V/10uF, X5R)	CCUCQ1J06KC			
C954,955	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C956	nsp	CAP, ELECT(50V/4.7uF)	CCEA1HH4R7TC			
C957	nsp	CAP, ELECT(6.3V/1000uF)	CCEA0JH102TC			
C958	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C959	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C991-995	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C996	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C997	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C998	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
OTHERS PARTS GROUP						
BK11	nsp	BRACKET , PCB	CMD1A569			
BK71	nsp	BRACKET , PCB	CMD1A569			
BK72	nsp	BRACKET , PCB	CMD1A387			
BK73	nsp	BRACKET , PCB	CMD1A569			
BK74	nsp	BRACKET , PCB	CMD1A387			
BK75,76	nsp	BRACKET , PCB	CMD1A569			
BK81,82	nsp	FLT BRACKET	CMD1A468			
BK91-93	nsp	BRACKET , PCB	CMD1A569			
! CN91	943641500240D	INLET , AC , NON-POL (250V/2.5A PCB MOUNT TYPE)	E2, EK CJJ8A019Z	*		
! CN91	943641500250D	INLET , AC , POL (125V/7A PCB MOUNT TYPE)	E3 CJJ8A020Z	*		
CN98,99	nsp	WAFER,FFC(5P-1mm,ANGLE)	CJP07GB113ZY			
! F901	nsp	HOLDER , FUSE	KJCFC5S			
! F901	943652001740S	FUSE	E3, EK KBA2C1000TLEY			
! F901	00D94301070909	FUSE , GLASS TUBE(125V, 2A, 20MM)	E3 KBA1C2000A4UY			
FL81	943172007420D	V.F.D (FUTABA, 16ST103GINK)	CFL16ST103GINK	Ver.3		
GND3,4	nsp	PALTE , EARTH	HJT1A025			
J701-705	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J707,708	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J710	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J712-714	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J719	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J721-729	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J731-736	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J739	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J741-743	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J745,746	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J749	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J751-753	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
J755,756	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J765	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J803-807	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J810	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J813	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J815	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J817-847	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J849-853	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J860	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J901-906	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J908-910	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J912-915	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J917-919	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J921-927	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J929-932	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J934-941	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J950-954	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J956-958	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J960-965	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
J967-977	00D9430101101	WIRE,COPPER SN95/PB5, 0.6	C3A206			
JK71	90M-YT003280R	TERMINAL	CJJ5P011Z			
JK72	nsp	BOARD JACK	CJJ4M046Z			
JK81	00D9430105204	JACK,HEADPHONE(SILVER)	HJJ2D003Y			
JK83	943643100150S	JACK , USB STRAIGHT(BLACK)	CJJ9X006Z			
L703,704	943115010260S	COIL , SPEAKER(0.5uH)	CLEY0R5KAK			
L801,802	nsp	FERRITE , CHIP BEAD(4516/60R)	CLZ9Z014Z			
L805	nsp	FERRITE CHIP BEAD(2012/220R)	CLZ9R006Z			
L806,807	nsp	RES, CHIP(2012/5%/0ohm)	CRJ18AJ0R0T			
L901,902	nsp	FERRITE , CHIP BEAD(4516/60R)	CLZ9Z014Z			
RC81	943262010290S	SENSOR , REMOTE/U	CRVKSM603TH5B			
RL71	90M-LY000330R	RELAY OSA-SS-212DM3	HSL4A004ZU			
RL91	00D9430194900	RELAY,G5PA-1,DC6V,1C1P	CSL1E002ZE			
S801	00D9430004402	TACT SW	CST1A012ZT			
S803,804	00D9430004402	TACT SW	CST1A012ZT			
S806-809	00D9430004402	TACT SW	CST1A012ZT			
! T901	943101000960D	TRANS , SUB RCD-M37EUR	E2, EK	CLT5I010ZE		
! T901	943101000980D	TRANS , SUB RCD-M37USA	E3	CLT5I010ZU		
! T901	943101101970S	TRANS , SUB RCD-M37E1C	E1C	CLT5I010ZH		Ver.7
VR81	943667007540S	ENCODER VOLUME	CSR2A052Z			
FCFA	nsp	JACK	CJP19GB113ZY			
PMCE	nsp	PINHEADER(11P,1.25mm,STRAIGHT,B-TO-B)	CJP11GI281Z			
PMCP	nsp	PINHEADER(11P,1.25mm,STRAIGHT,B-TO-B)	CJP11GI281Z			
PMSE	nsp	PIN SOCKET(11P,1.25mm,ANGLE,B-TO-B)	CJP11HJ282Z			
PMSN	nsp	PIN SOCKET (09P,1.25mm,ANGLE,B-TO-B)	CJP09HJ282Z			
	nsp	HEAT SINK ASS'Y	CMYRCDM39ZA			

DIGITAL INPU PCB ASS'Y

NOTE: The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
SEMICONDUCTORS GROUP						
IC14	00D9430005605	REGULATOR IC (+8V)		HVIKA78L08AZT		
IC15	943231101250D	I.C , REGULATOR (-8V, TO-92, TAPPING)		CVILM79L08TA	*	
IC16	943231101210D	I.C , REGULATOR(SOT-223)		CVIKIA1117BS33		
IC32	943239100820D	I.C , DC DC CONVERTER(3A,700KHZ,SOP-8P)		CVIDB1230HETR		
IC51	943236101350D	I.C , DIR/DIT(WITH ADC,LQFP-48P)		CVIPCM9211PTR	*	
IC53	00D2623727904	I.C , 2CH VOLUME		CVINJW1194V		
IC54	943231101210D	I.C , REGULATOR(SOT-223)		CVIKIA1117BS33		
IC57	943239100690S	I.C , 2CH DAC(32BIT,384KHZ,TSSOP-20P)		CVIPCM5100PWR		
IC61	00MHC10102090	I.C , OP AMP (JRC)		HVINJM2068MDTE1		
IC62	235810050503S	I.C , OP AMP (JRC, 2CH Input)		CVINJM4565MTE1		
IC91	00D9430206908	REGULATOR IC (12V OUTPUT LOW DROP)		HVIKA78R12PI		
IC93	00D2631100050	I.C,REGULATOR(+8V,T0220IS)		HVIKA7808API		
D111	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T		HVD1SS355T		
D113	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T		HVD1SS355T		
D501	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	EK	HVD1SS355T		
D502-504	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T		HVD1SS355T		
D506	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T		HVD1SS355T		
D601	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T		HVD1SS355T		
D909	00D9430060501	DIODE , RECTIFIER 1SR159		HVD1SR159-200		
D913	00D9430060501	DIODE , RECTIFIER 1SR159		HVD1SR159-200		
D945,946	00D9430060501	DIODE , RECTIFIER 1SR159		HVD1SR159-200		
Q501	943216500020S	T.R,RT1N141C(10K-10K)	EK	CVTRT1N141C		
Q602	963216500060S	T.R,RT1N144C(10K-47K)		CVTRT1N144C		
Q605,606	00D9430072502	T.R , CHIP , SOT-23		HVTKTC2875B		
Q607	943215500140D	T.R , RT1P144C(10K-47K)		CVTRT1P144C		
Q608	943216500020S	T.R,RT1N141C(10K-10K)		CVTRT1N141C		
CAPACITORS GROUP						
C140,141	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C144,145	943134502140D	CAP, ELECT(TOSHIN, UTSP, 16V/220uF), 85'C		CCEA1CUTSP221T	*	
C146-152	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C153	00D2544694912	EIECT CAP (220uF/25V, RFO)		CCEA1ERFO221T		
C154	943134502170D	CAP , ELECT(TOSHIN, UTSP, 50V/100uF, 85'C)		CCEA1HUTSP101T	*	
C313,314	nsp	CAP, CHIP(2012, 25V/22uF, X7R)		CCUC1E226KC		
C315	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C317,318	nsp	CAP, CHIP(2012, 10V/2.2uF)		CCUC1A225KC		
C319	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C320	nsp	CAP, CHIP(2012, 25V/22uF, X7R)		CCUC1E226KC		
C321	nsp	CAP,CHIP(1608,50V/1500pF)		CCUS1H152KC		
C322	nsp	CAP, CHIP(2012, 25V/22uF, X7R)		CCUC1E226KC		
C323	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C326,327	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C328,329	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C502	90M-EJ000020R	CAP , ELECT		CCEA1CKS220T		
C503	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C504	nsp	CAP, CHIP(1608, 50V/0.068uF)		CCUS1H683KC		
C505	nsp	CAP,CHIP(1608,50V/4700pF)		CCUS1H472KC		
C506	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C507	nsp	CAP, ELECT(50V/22uF)		CCEA1HH220TC		
C508	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C509	nsp	CAP, ELECT(16V/22uF)		CCEA1CH220TC		
C510	nsp	CAP, CHIP(1608, 50V/15pF)		CCUS1H150JA		
C511	nsp	CAP,CHIP(1608,50V/18pF)		CCUS1H180JA		
C513	nsp	CAP, ELECT(16V/22uF)		CCEA1CH220TC		
C514-516	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C517,518	nsp	CAP, ELECT(50V/22uF)		CCEA1HH220TC		
C519	943134501980D	CAP, ELECT(16V/100uF)		CCEA1CH101TC		
C521	943134502030D	CAP, ELECT(50V/10uF)		CCEA1HH100TC		
C522	nsp	CAP, CHIP(1608, 50V/3300pF)		CCUS1H332KC		
C523	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C524,525	nsp	CAP, ELECT(50V/4.7uF)		CCEA1HH4R7TC		
C526	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C527	nsp	CAP, CHIP(1608, 50V/3300pF)		CCUS1H332KC		
C528,529	00D2544693942	CAP, ELECT(50V/220uF,ELNA/RFO)		CCEA1HRFO221E		
C531	943134501980D	CAP, ELECT(16V/100uF)		CCEA1CH101TC		
C532	nsp	CAP, ELECT(50V/22uF)		CCEA1HH220TC		
C533-535	nsp	CHIP CAP		CCUS1H181JA		
C536	943134502030D	CAP, ELECT(50V/10uF)		CCEA1HH100TC		
C537	nsp	CHIP CAP		CCUS1H181JA		
C538	943134502030D	CAP, ELECT(50V/10uF)		CCEA1HH100TC		
C539	nsp	CHIP CAP		CCUS1H181JA		
C540,541	943133501490D	POLYPROPYLENE SHINYEI (AQUA, 222)		CCMP2A222JS07T	*	
C542	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C544	134050059238S	CAP , ELECT (ELNA RFG, 50V/220uF, 85'C, 10X16)		CCEA1HRFY221E		
C545,546	nsp	CAP, CHIP(1608, 6.3V/2.2uF)		CCUS0J225KC		
C547-449	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C550	nsp	CAP, CHIP(1608, 50V/0.1uF)	E2, E3	CCUS1H104KC		
C551	nsp	CAP, ELECT(10V/470uF)	E2, E3	CCEA1AH471TC		
C552	nsp	CAP, ELECT(16V/10uF)		CCEA1CH100TC		
C553	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C554,C555	nsp	CAP, CHIP(1608, 50V/0.01uF)	EK	CCUS1H103KC		
C556	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C557	90M-EJ000090R	CAP , ELECT	EK	CCEA1AKS331T		
C558	nsp	CAP, ELECT(16V/10uF)-S	EK	CCEA1CKS100TC		
C559	nsp	CAP, CHIP(1608, 50V/0.1uF)	EK	CCUS1H104KC		
C560	90M-EJ000020R	CAP , ELECT	EK	CCEA1CKS220T		
C561	nsp	CAP, CHIP(1608, 50V/0.1uF)	EK	CCUS1H104KC		
C562	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C563	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C564	nsp	CAP, ELECT(16V/10uF)		CCEA1CH100TC		
C565	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C566,567	943134502030D	CAP, ELECT(50V/10uF)	E2, E3	CCEA1HH100TC		
C568	nsp	CAP, ELECT(16V/10uF)		CCEA1CH100TC		
C569	nsp	CAP, CHIP(1608, 50V/0.01uF)	EK	CCUS1H103KC		
C570-572	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C573	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T		
C574	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C575	90M-EJ000020R	CAP, ELECT	EK	CCEA1CKS220T		
C576,577	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C599	90M-EJ000090R	CAP, ELECT	EK	CCEA1AKS331T		
C605	nsp	CAP, ELECT(50V/22uF)		CCEA1HH220TC		
C606,607	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C608	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C609	00D2544693900	ELECT CAP (ELNA, RFO, 50V/22UF)		CCEA1HRFO220T		
C610	nsp	CAP, ELECT(50V/22uF)		CCEA1HH220TC		
C611,612	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C613	00D2544693900	ELECT CAP (ELNA, RFO, 50V/22UF)		CCEA1HRFO220T		
C614	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C618	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C619	nsp	CAP, CERAMIC(50V/39pF/J)		CCCT1H390JC		
C620	00D2544693900	ELECT CAP (ELNA, RFO, 50V/22UF)		CCEA1HRFO220T		
C621	nsp	CAP, CERAMIC(50V/39pF/J)		CCCT1H390JC		
C622	00D2544693900	ELECT CAP (ELNA, RFO, 50V/22UF)		CCEA1HRFO220T		
C623,624	nsp	CAP, POLYPROPYLENE(SEORYONG,		CCMP2A102JR16T		
C625	00D2544692901	ELECT CAP (10uF/63V RFO)		CCEA1JRFO100T		
C626	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC		
C913-918	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC		
C919	nsp	CAP, ELECT(50V/22uF)		CCEA1CKS100TC		
OTHERS PARTS GROUP						
BK61	nsp	BRACKET , PCB		CMD1A387		
BK91	nsp	PCB BRACKET		CMD1A629		
JK51	00D9430191700	2P JACK , IN/OUT		CJJ4N034Z		
JK52	943262100150S	MODULE , OPTICAL(RX 16MHz)		CJSJSR1124		
L301	943111100430D	COIL, SMD POWER(3.3uH/1.3A)		CLO18E3R3NRZ		
L302,303	nsp	FERRITE,CHIPBEAD(60ohm,2012)		CLZ9R001Z		
L501	nsp	CHIPBEAD(600R, 1808, 0.5A)	EK	HLZ9Z008Z		
L502	nsp	RES, CHIP(2012/5%/0ohm)		CRJ18AJ0R0T		
L503	nsp	FERRITE,CHIPBEAD(60ohm,2012)	EK	CLZ9R001Z		
L504	nsp	FERRITE,CHIPBEAD(60ohm,2012)		CLZ9R001Z		
L505	nsp	FERRITE , CHIP BEAD(4516/60R)	E2, E3	CLZ9Z014Z		
L506	nsp	FERRITE,CHIPBEAD(60ohm,2012)		CLZ9R001Z		
RL61	943682000810S	RELAY,BC3-12H,DC12V,2C2P		CSL4A016ZU		
RN51-54	90M-BW000470R	RES, ARRAY, 1608*4		CRJ104DJ0R0T		
TM51	943183100210S	TUNER , RDS , FM(PAL TYPE) , SI4705- B20		CNVMW104FV1-S63V		
X501	943141100760D	X-TAL, 24.576MHz, HC-49/S, 15pF, 20PPM		COX24576E150TF	*	
PFD1	nsp	2.54mm 32PIN WAFER	EK	CJP32GA221ZB		
PFTQ	nsp	PIN SOCKET (07P,1.25mm,ANGLE,B-TO-B)	EK	CJP07HJ282Z		
PFUN	nsp	PIN HEADER (09P,1.25mm,STRAIGHT,B-TO-B)		CJP09GI281Z		
PMTQ	nsp	PIN HEADER (07P,1.25mm,STRAIGHT,B-TO-B)	EK	CJP07GI281Z		
PMUO	nsp	PIN HEADER (09P,1.25mm,STRAIGHT,B-TO-B)		CJP09GI281Z		
CWIL	nsp	LOCKING TYPE , STRAIGHT WAFER/2mm		CJP07GI236ZW		
FCIC	nsp	WAFER		CJP21GA193ZY		

MCU&CD PCB ASS'Y

NOTE: The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
SEMICONDUCTORS GROUP						
IC11	943243101160D	I.C, U-COM RCD-M39 (TMPM330FYFG, TOSHIBA)	CVIANAM1684CR	*		
IC12	943246100770D	I.C , EEPROM(16KBIT,SOP-8P,K-Line)	CVIK24C16BSIRGA			
IC13	943234009290S	I.C , RESET 2.4V (200ms,C-MOS,SOT23-5P)	CVIS80124CLMCJJT2			
IC21	943245006980S	I.C , CD DSP (SERVO,AMPLIFIER,DSP,LQFP-80P)	CVITC94A92FG			
IC22	943231101210D	I.C , REGULATOR(SOT-223)	CVIKA1117BS33			
IC23	943231101240D	I.C , REGULATOR(SOT-223)	CVIKA1117BS15			
IC31	943239006900S	I.C , 5-CH MOTOR DRIVE(REG,SSOP-28P)	CVIIP4001CRLTF_CN			
IC41	943243101170D	I.C, USB DECODER FLASH RCD-M39 (TMP92FD28FG)	CVIANAM1685CR	*		
IC42	23671011050AS	I.C,IPOD AUTHENTICATION FROM D&M	CVI23671011050AS_DM			
IC43	943239100710S	I.C,CURRENTLIMITE(1.5A,UDFN-6P)	CVINCP380HMU15AAATBG			
D101-106	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D107	90M-HD201820R	DIODE, SCHOTTKEY BARRIER	HVDRB160L60TE25			
D108	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D109,110	90M-HD201820R	DIODE, SCHOTTKEY BARRIER	HVDRB160L60TE25			
D201-203	00D2760717903	DIODE , CHIP , SWITCHING 1SS355T	HVD1SS355T			
D401	90M-HD201820R	DIODE, SCHOTTKEY BARRIER	HVDRB160L60TE25			
Q102-105	943215500020S	T.R , RT1P141C(10K-10K)	CVTRT1P141C			
Q106	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q107	943215500020S	T.R , RT1P141C(10K-10K)	CVTRT1P141C			
Q108	943215500140D	T.R , RT1P144C(10K-47K)	CVTRT1P144C			
Q109	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q201	00D9430058908	T.R , CHIP , SOT-23	HVTKTA1504SYRTK			
Q401,402	943215500020S	T.R , RT1P141C(10K-10K)	CVTRT1P141C			
Q403	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
Q404	943215500020S	T.R , RT1P141C(10K-10K)	CVTRT1P141C			
Q405-410	943216500020S	T.R,RT1N141C(10K-10K)	CVTRT1N141C			
CAPACITORS GROUP						
C101-105	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C106	nsp	CAP, CHIP(1608, 50V/15pF)	CCUS1H150JA			
C107	nsp	CAP,CHIP(1608,50V/12pF)	CCUS1H120JA			
C108	nsp	CAP , CHIP ELECT	HCEC0JRV102T			
C109,110	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C111	nsp	CAP, CHIP(1608, 50V/15pF)	CCUS1H150JA			
C112	nsp	CAP,CHIP(1608,50V/22pF)	CCUS1H220JA			
C114	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C116	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C117	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C118	nsp	CAP, CHIP(1608, 50V/100pF)	CCUS1H101JA			
C119,120	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C121	nsp	CAP, CHIP(1608, 10V/1uF)	CCUS1A105KC			
C122	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C123	nsp	CAP, CHIP ELECT(35V/10uF)	HCEC1VRV2100T			
C124	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C126	943134500030S	CAP, SMD ELECT(16V/470uF)	CCEC1CRV471T			
C130	nsp	CAP,CHIP(1608,50V/470pF)	CCUS1H471JA			
C132	nsp	CAP,CHIP(1608,50V/220pF)	CCUS1H221JA			
C201	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C202	nsp	CAP,CHIP(1608,50V/2200pF)	CCUS1H222KC			
C203	nsp	CHIP ELECT CAP	HCEC0JRV2101T			
C204	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C205	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C206	nsp	CAP,CHIP(1608,50V/4700pF)	CCUS1H472KC			
C207	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C208	nsp	CAP, CHIP CAP 0.015uF 50V	CCUS1H153KC			
C209	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C211	943134500030S	CAP, SMD ELECT(16V/470uF)	CCEC1CRV471T			
C212	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C213	nsp	CAP, CHIP(1608, 50V/0.033uF)	CCUS1H333KC			
C214	nsp	CHIP CERAMIC CAP (1608, 5600p)	CCUS1H562KC			
C215	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C216,217	nsp	CAP,CHIP(1608,50V/470pF)	CCUS1H471JA			
C218	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C220,221	nsp	CAP, CHIP(1608, 50V/0.047uF)	CCUS1H473KC			
C222	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C223	nsp	CAP , CHIP ELECT	HCEC0JRV2470T			
C224,225	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C226	nsp	CAP , CHIP ELECT	HCEC0JRV2470T			
C227	nsp	CAP,CHIP(1608,50V/18pF)	CCUS1H180JA			
C228	nsp	CAP, CHIP(1608, 50V/15pF)	CCUS1H150JA			
C229,230	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C231	nsp	CHIP ELECT CAP	HCEC0JRV2101T			
C232-234	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C235	nsp	CHIP CAP 0.015uF 50V	CCUS1H153KC			
C236	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C237	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C238	nsp	CAP , CHIP ELECT	HCEC0JRV2470T			
C239	nsp	CHIP CAP 47FF 50V	CCUS1H470JA			
C240,241	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C242	nsp	CAP, CHIP(1608, 50V/1000pF)	CCUS1H102KC			
C243	nsp	CHIP ELECT CAP	HCEC0JRV2101T			
C244,245	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C246	nsp	CAP, CHIP ELECT(35V/10uF)	HCEC1VRV2100T			
C248	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C249	943134500030S	CAP, SMD ELECT(16V/470uF)	CCEC1CRV471T			
C250,251	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C252	943134500030S	CAP, SMD ELECT(16V/470uF)	CCEC1CRV471T			
C253	nsp	CHIP ELECT CAP	HCEC0JRV2101T			
C254	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C255-257	nsp	CAP,CHIP(1608,50V/22pF)	CCUS1H220JA			
C303-305	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
C307	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C308,309	943134500030S	CAP, SMD ELECT(16V/470uF)	CCCEC1CRV471T			
C310	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C311	nsp	CHIP ELECT CAP	HCEC0JRV2101T			
C312	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C324,325	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C401,402	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C403	nsp	CAP, CHIP ELECT(16V/10uF)	HCEC1CRV2100T			
C404,405	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C406	nsp	CAP, CHIP ELECT(16V/10uF)	HCEC1CRV2100T			
C407,408	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C409	nsp	CAP, CHIP(1608, 50V/1000pF)	CCUS1H102KC			
C410,411	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C412	nsp	CAP, CHIP(1608, 50V/20pF)	CCUS1H200JA			
C413	nsp	CAP,CHIP(1608,50V/18pF)	CCUS1H180JA			
C414,415	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C417	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C418	nsp	CAP, CHIP(1608, 50V/0.01uF)	CCUS1H103KC			
C420-422	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C433	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C901-911	nsp	CAP, CHIP(1608, 50V/0.1uF)	CCUS1H104KC			
C912,913	nsp	CAP,CHIP(1608,50V/22pF)	CCUS1H220JA			
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OTHERS PARTS GROUP						
L106	nsp	FERRITE,CHIPBEAD(60ohm,2012)	CLZ9R001Z			
L201	90M-LU000220R	INDUCTOR CHIP 10UH (3225 PKG)	HLQ10E100KRZ			
L204	nsp	FERRITE,CHIPBEAD(60ohm,2012)	CLZ9R001Z			
L401	nsp	FERRITE,CHIPBEAD(60ohm,2012)	CLZ9R001Z			
RN11	nsp	CHIP RES(10KOHM 5% 1608X4)	CRJ104DJ103T			
X101	943141100750D	X-TAL, 10MHz, HC-49/SMD, 12pF	COX10000E120S			
X201	943141001190S	SMD CRYSTAL (16.9344MHZ, HC-49/SMD, 12PF)	COX16934E120S			
X401	943141001200S	CRYSTAL , SMD(9MHZ, HC-49/SMD, 5PF)	COX09000E150S			
CWM2	nsp	WAFER,SMD(2MMPICTH)	CJP06GA208ZY			
CWM3	nsp	WAFER,SMD(2MMPICTH)	CJP05GA208ZY			
CWMD			CJP07GA208ZY			
CWMF	nsp	WAFER,SMD(2MMPICTH)	CJP05GA208ZY			
FCM1	nsp	WAFER , CARD CABLE SMD	CJP16GA193ZY			
FCMA			CJP19GA193ZY			
FCMC	nsp	WAFER	CJP21GA193ZY			

D PCB ASS'Y

NOTE: The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver	
P1	nsp	Power & AMP PCB ASS'Y	CUP12446Z	1			
P1a	-	FRONT PCB	-				
P1b	-	CONNETER PCB	-				
P1c	-	AMP PCB	-				
P1d	-	CONNETER PCB	-				
P1e	-	POWER PCB	-				
P1f	-	SPEAKER PCB	-				
P2	nsp	Digital Input PCB ASS'Y	CUP12447Z	1			
P2a	-	DIGITAL INPUT PCB	-				
P2b	-	DC-DC PCB	-				
P2c	-	REGULATOR PCB	-				
P2d	-	DAB PCB	-				
P3	nsp	MCU & CD PCB ASS'Y	CUP12448Z	1			
P4	943183100210S	TUNER , RDS , FM(PAL TYPE) , SI4705- B20	E2	CNVMMW104FV1-S63	1		
P4	943183100200S	TUNER.FM(SCREW:FTYPE),SI4704-B20	E3	CNVMMW004FV1-S63	1		
P5	943189100220S	DAB MODULE	EK	CNVGYRO1138Z03	1	*	
!	P6	943101000290D	TRANS	E2,EK	CLT5P047ZE	1	
!	P6	943101000990D	TRANS	E3	CLT5P047ZU	1	
!	P6	943101101960S	TRANS	E1C	CLT5P047ZH	1	*
P7	943641500240D	INLET	E2,EK	CJJ8A019Z	1	*	
P7	943641500250D	INLET	E3	CJJ8A020Z	1	*	
P8	943302100130D	CD MECHANISM ASS'Y (KOTY LOADER)		CJDKT690	1		
1	943412009010D	VOLUME KNOB ASSY	SP	CGK1A162YA	1	Ver.8	
1	943412009020D	VOLUME KNOB ASSY	BK	CGK1A162ZA	1	Ver.8	
2	-	INNER PANEL ASSY	SP	-			
2	-	INNER PANEL ASSY	BK	-			
2-1'	nsp	INNER PANEL	SP	GW1A522RGG45	1	*	
2-1'	nsp	INNER PANEL	BK	CGW1A522B28	1	*	
2-2'	nsp	CAP	SP	CGR1A511C73	1		
2-2'	nsp	CAP	BK	CGR1A511	1		
2-3'	nsp	TAPE,POWER CAP		CHP1A077	1		
3	943415100390D	DOOR	SP	CGR1A537RGG45	1	*	
3	943415100400D	DOOR	BK	CGR1A537B28	1	*	
4	943416100780D	FL WINDOW		CGU1A464Z	1	*	
5	42141002301AD	BADGE , DENON	SP	CGB1A254Y	1	Ver.6	
5	42141002300AD	BADGE , DENON	BK	CGB1A254Z	1	Ver.6	
6	943402102710D	FRONT PANEL	SPE2	CKM1A246ZC62	1	*	
6	943402102720D	FRONT PANEL	BKE2	CKM1A246ZC45	1	*	
6	943402102730D	FRONT PANEL	BKE3,	CKM1A246YC45	1	*	
6	943402103350D	FRONT PANEL	JP	CKM1A246XC45	1	*	
6	943402102740D	FRONT PANEL	BKE1C	CKM1A246XC62	1	*	
6	943402102790D	FRONT PANEL	SPEK	CKM1A246WC62	1	*	
6	943402102800D	FRONT PANEL	BKEK	CKM1A246WC45	1	*	
7	00D9430189903	LENS		CGL1A254	1		
10	943411102000D	KNOB,BUTTON	SP	CBT1A1166C81	1	*	
10	943411102010D	KNOB,BUTTON	BK	CBT1A1166C57	1	*	
11	nsp	USB EARTH PLATE		CMC1A351	4		
12	nsp	EARTH PLATE		CMC1A350	1		
13	nsp	MECHA SUPPORT		CMH1A331	2		
14	00D9430094603	CUSHION		CHG1A285	4		
15	00D9430094506	FOOT		CKL1A189	4		
16	nsp	BOTTOM CHASSIS		CUA1A336	1		
17	943401100720D	TOP CABINET	SP	CKC3A186D11	1	*	
17	943401100730D	TOP CABINET	BK	CKC3A186K117	1	*	
18	nsp	HEAT SINK		CMX1A310	1		
20	nsp	INSULATOR		CMY1A382	1		
21	943406101180D	REAR PANEL	E2	CKF1A458Z	1	*	
21	943406101190D	REAR PANEL	E3	CKF1A458Y	1	*	
21	943406101200D	REAR PANEL	SP	CKF3A458Z	1	*	
21	943406101210D	REAR PANEL	EK	CKF2A458Z	1	*	
21	943406101320D	REAR PANEL	E1C	CKF1A458X	1	*	
22	nsp	WASHER	EK	CNW2A028	1	Ver.7	
23	nsp	DAB NUT	EK	CNE1A009	1	Ver.7	
24	nsp	PCB BRACKET		CMD1A629	1		
25	nsp	BRACKET , PCB		CMD1A387	2		
26	nsp	BRACKET , PCB		CMD1A569	9		
27	nsp	FLT BRACKET		CMD1A468	2		
28	nsp	CUSHION , MECHA		CHG1A546	1		
29	943533007120M	CUSHION	EK	CHG1A236	2	Ver.5	
30	nsp	CUSHION , TRANS(BLACK)	EK	CHG1A144Z	1		
31	943453100360S	CLAMPER		CHR1A305(DAB)	1	*	
SCREWS							
S1	nsp	SCREW 4X8		CTB4+8FR	4		
S2	nsp	SCREW		CTW3+18JR	2		
S3	nsp	SCREW(CTB3+8JFZR)		CTB3+8JFZR	5		
S4	nsp	CTBD3+6FFZR		CTB3+10JFZR	15		
S5	nsp	SCREW		CTBD3+8JFZR CTBD3+8JFN	6		
S6	nsp	SCREW		CTWD4+6FFZR CTWD4+6FFN	2		
S7	nsp	SCREW		CTB3+6FFZR	11		
S7	nsp	SCREW	EK	CTB3+6FFZR	9		
S8	nsp	SCREW		CTS3+8JFZR	2		
S9	nsp	SCREW		CTB3+6JFZR	14		
★FCMA	nsp	CABLE , CARD (19P, 80mm, 1mm PITCH)		CWC4F4A19A080BC	1		
★FCMC	nsp	CARD CABLE (21P,1.0mm,250mm,B TYPE)		CWC4F4A21A200BC	1		
★CW09	nsp	WIRE ASS'Y (3P, 120mm, Flat Type)		CWB2B90312047	1		
★CWAK	nsp	WIRE ASS'Y (7P, 120mm, Flat Type)		CWB2B90712047	1		
★CBAD	nsp	WIRE ASS'Y (7P, 80mm, Flat Type)		CWB2B907080G7	1		
★CBAL	nsp	WIRE ASS'Y (7P, 120mm, Flat Type, Shield)		CWB2B9071204700	1		
★CBFF	nsp	WIRE ASS'Y (5P, 150mm, Flat Type)		CWB1C905150G7	1		
★CBFJ	nsp	WIRE ASS'Y (7P, 100mm, Flat Type)		CWB2B90710047	1		

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
★CBOM	nsp	WIRE ASS'Y	CWB1C911100BM	1		
★CBIB	nsp	WIRE ASS'Y (7P, 80mm, Flat Type)	CWB2B00708047	1		
★CBRQ	nsp	WIRE ASS'Y (5P, 120mm, Flat Type)	CWB2B90512047	1		
★CBS8	nsp	WIRE ASS'Y	CWB1A903120EN	1		

PACKING PCB ASS'Y

NOTE: The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver	
1	-	SET	-	1			
2	943531102640D	BOX , OUT CARTON	E2	CPG3A860AA	1	*	
2	943531102690D	BOX , OUT CARTON	E3	CPG3A860AB	1	*	
2	943531102660D	BOX , OUT CARTON	EK	CPG3A860AE	1	*	
2	943531103320D	BOX , OUT CARTON	E1C	CPG3A860AF	1	*	
3	943533000150D	PAD , SNOW(L)		CPS1A811	1		
4	943533101250D	PAD , SNOW(R)		CPS2A812	1	*	
5	nsp	BAG , POLY		CPB1A008Z	1		
7-1'	nsp	POLY BAG		CPB1A190Z	1		
7-2'	54111087200AD	QUICK MANUAL(E2/EK)	E2	CQXRCDM39E2	1	*	
7-2'	54111087200AD	QUICK MANUAL(E2/EK)	EK	CQXRCDM39EK	1	*	
7-2'	54111087300AD	QUICK MANUAL(E3)	E3	CQXRCDM39E3	1	*	
7-3'	nsp	SHEET , INSERTION	E3	CQE1A559Z	1		
7-4'	nsp	LIST , S.S	E2, E3, EK	CQE1A226P	1		
7-5'	nsp	WARRANTY CARD	E3	CQE1A224Q	1		
7-6'	943307101190D	REMOCON TRANSMITER ASS'Y		CARTRCDM39A1	1	*	
7-7'	00D9430113403	FM 1 POLE ANT	E2, E1C	CSA1A018Z	1		
7-7'	90M-ZA000230R	FM 1 POLE ANT(UL)	E3	CSA1A019Z	1		
7-7'	943429007990S	ANT.DAB T	EK	CSA1A036Z	1		
7-8'	nsp	SHEET , SAFETY	E2	CQE1A551Z	1		
7-8'	54111096500AD	SAFETY INSTRUCTIONS(E3)	E3	CQE1A556Z	1		
7-9'	nsp	BATTERY , AAA 2PCS IN PACK		CABR03PPB	2		
7-10'	35201015800AD	CD MANUAL ASS'Y	E2	CFT1A066ZA	1	*	
7-10'	35201015900AD	CD MANUAL ASS'Y	E3	CFT1A067ZA	1	*	
7-10'	35201015800AD	CD MANUAL ASS'Y	EK	CFT1A069ZA	1	*	
7-11'	5411104700AD	MANUAL	E1C	CQX1A1738X	1	*	
7-12'	nsp	QC PASS CARD	E1C	CQE1A450Z	1	Ver.7	
!	8	943611000190S	CORD , POWER EUR	E2	CJA2B108ZV	1	
!	8	943611000230S	CORD , POWER UL	E3	CJA2A107ZV	1	
!	8	943611000210S	CORD , POWER UK	EK	CJA2E106ZV	1	
!	8	943611500440S	CORD , POWER CN	E1C	CJA2N078Z	1	Ver.7
9	nsp	BAG , POLY		CPB1A008Z	1		
10	nsp	CONTROL , LABEL		CQB1A993Z	1		
11	nsp	COLOR LABEL	SPE2	CQB1A882Z	1		
12	nsp	LABEL , POP(E2)	E2, E3	CQB1A1109Z	2		
12	nsp	LABEL , POP	EK	CQB1A1110Z	1		
13	nsp	SPEAKER ASS'Y	E3	SCM39BKE3	1		
14	nsp	CD RECEIVER	E3	RCDM39BKE3	1		
15	nsp	FCC LABEL	E3	CQB1A634Z	1		
16	nsp	CA ATCM LABEL	E3	-	1		
17	943531102680D	MASTER BOX , OUT CARTON	E3	CPG3A86AA	1	*	
18	nsp	WARRANTY CARD	E1C	CQE1A473X	1	Ver.7	

TROPICAL PCB ASS'Y

NOTE:The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
34	45451000500AM	STOPPER SHEET	BK	CMH1A306Z	8	Ver.7
34	943445101500D	SAFETY SHEET TOP	BK	CGX1A483Z	1	*
31	943445101530D	SAFETY SHEET SIDE	BK	CGX1A484Z	1	*
31	544510081006M	LABEL(HOT SURFACE CAUTION)	-	-	1	Ver.7
32	45451000501AM	STOPPER SHEET	SP	CMH1A306Y	8	Ver.7
32	943445101490D	SAFETY SHEET TOP	SP	CGX1A483Y	1	*
34	943445101510D	SAFETY SHEET SIDE	SP	CGX1A484Y	1	*

CD_Mecha PCB ASS'Y

NOTE:The symbols in the column Remarks indicate the following destinations.
 E3 : U.S.A. & Canada model E2 : Europe model EK : U.K. model E1C : China model
 BK : Black model SP : Premium Silver model

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
1	nsp	BASE	KT690100100	1	*	
2	nsp	SCREW	KT690400700	2	*	
3	nsp	SUB CHASSIS	KT690100300	1	*	
4	nsp	CD MECHANISM	DA11VF	1	*	
5	nsp	INSULATOR	KT690400600	4	*	
6	nsp	SCREW	KT690400800	4	*	
7	nsp	SCREW	KT628400400	1	*	
8	nsp	WAFFR 5PIN	KT628300400	1	*	
9	nsp	PCB	KT656300200	1	*	
10	nsp	SWITCH	KT628300300	1	*	
11	nsp	MOTOR	KT628300100	1	*	
12	nsp	MOTOR PULLEY	KT302100800	1	*	
13	nsp	LM BELT	KT302400100	1	*	
14	nsp	TRAY	KT690100200	1	*	
15	nsp	LOADING PULLEY	KT302100700	1	*	
16	nsp	DUBBLE GEAR	KT656100600	1	*	
17	nsp	SCREW	KT628400500	1	*	
18	nsp	SCREW	KT628400500	1	*	
19	nsp	SCREW	KT628400300	2	*	
20	nsp	SLIDE PLATE GEAR	KT656100500	1	*	
21	nsp	CHUCKING PULLEY	KT656101100	1	*	
22	nsp	MEGNET	KT302400200	1	*	
23	nsp	CHUCKING YORK	KT628200100	1	*	