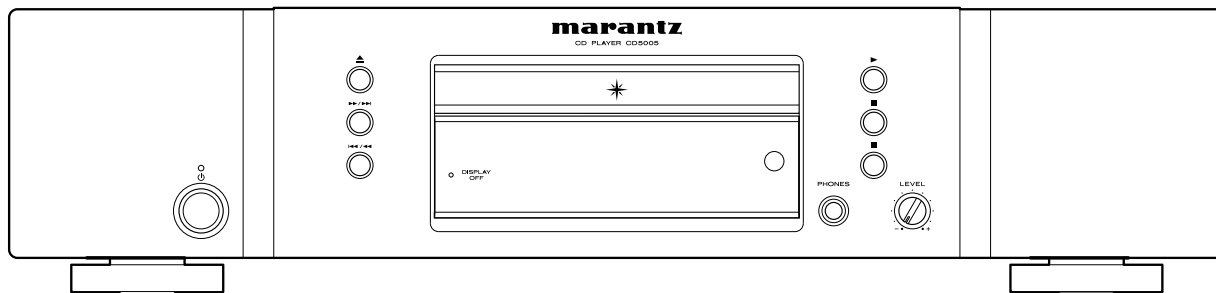# Service Manual

CD5005 / N1B/N1SG/U1B/K1B/K1SG /FN

CD Player

- 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.

marantz®

CD5005

Ver. 2

Contents

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, block diagrams, and parts lists.

1.Press **Ctrl+Shift+F** on the keyboard.
•   The Search window appears.
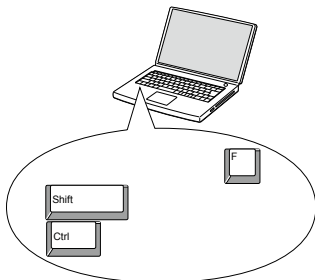
2.Enter the Ref. No. you want to search for in the Search window, and then click the **Search** button.
•A list of search results appears.
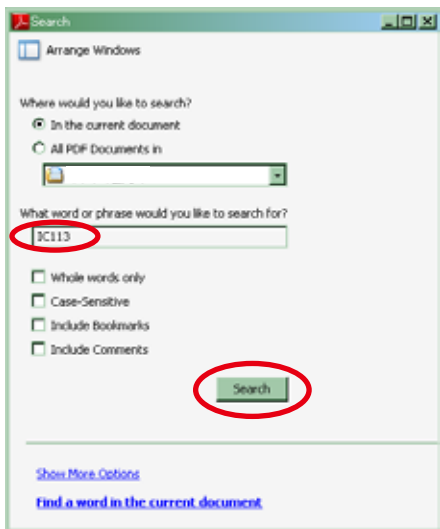
3.Click an item on the list.
• The screen jumps to the page for that item, and the search phrase is displayed.

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.
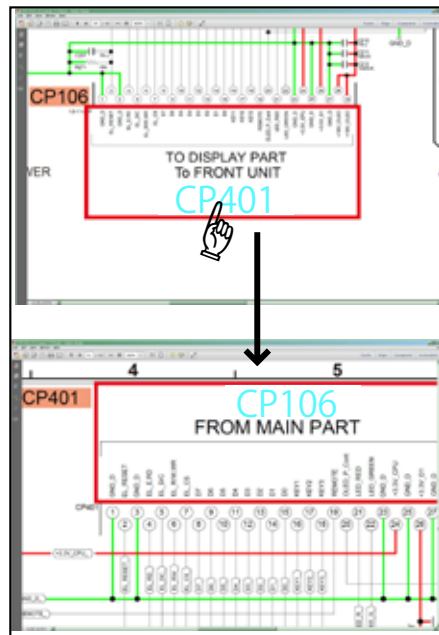
•Page magnification stays the same as before the jump.

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.
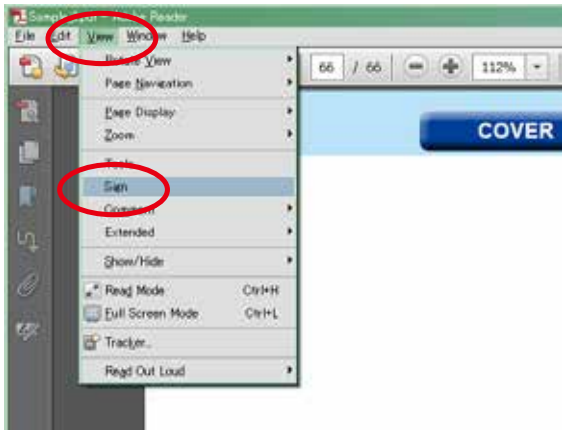
[Example using Adobe Reader 9]
On the **"Document"** menu, click **"Sign"**.

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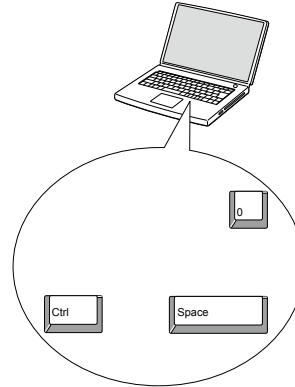
•   When you want to move the area shown, hold down **Space** and drag the mouse.

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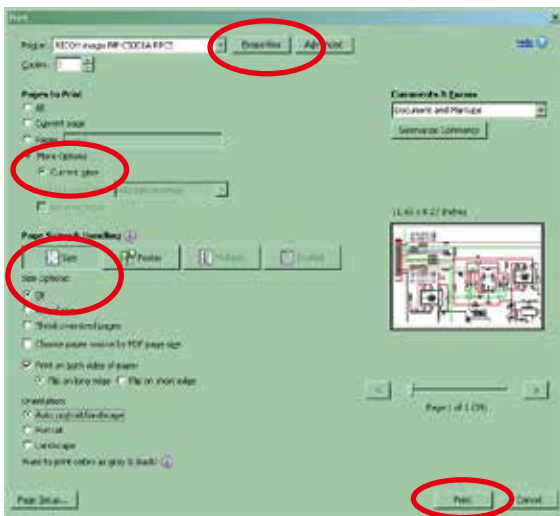
4.   Click the **Print** button to start printing.

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"**.
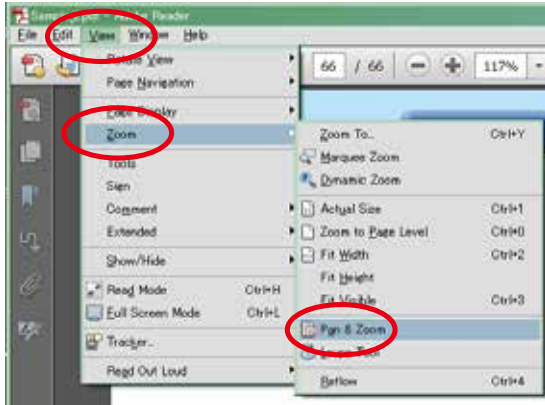
• The Pan & Zoom window appears on the screen.
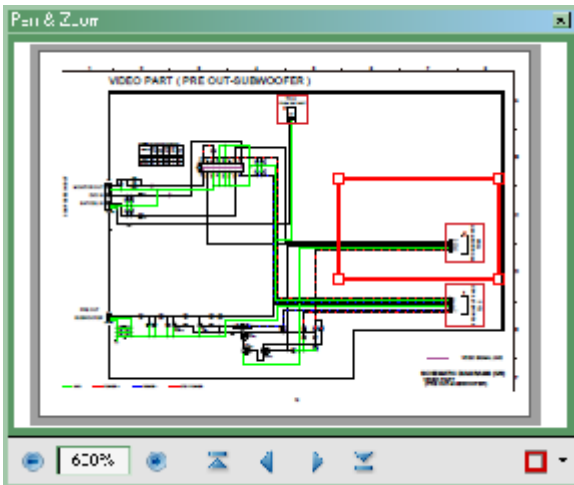
[Example using Adobe Reader 9]
On the **"Tools"** menu, point to **"Select & Zoom"**, and then click **"Pan & Zoom Window"**.

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"**.
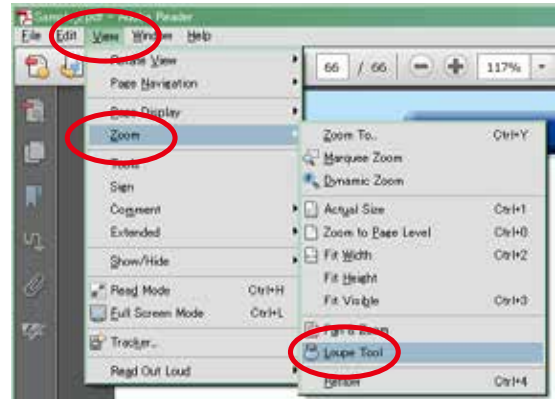
• The Loupe Tool window appears on the screen.
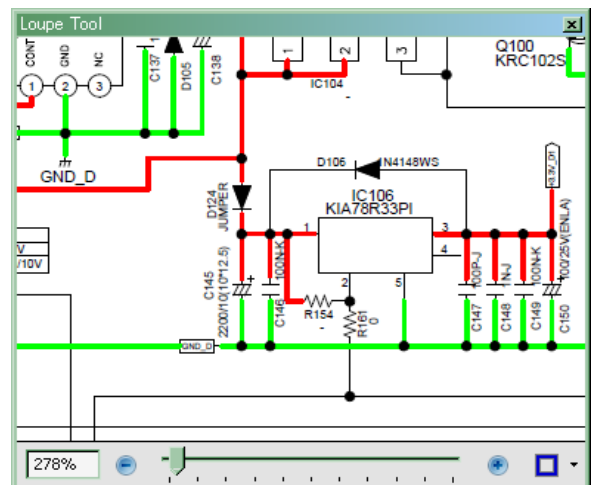
[Example using Adobe Reader 9]
On the **"Tools"** menu, point to **"Select & Zoom"**, and then click **"Loupe Tool Window"**.

SAFETY PRECAUTIONS

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

leakage current check

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

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

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

◎ **Heed the cautions!**

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

◎ **Cautions concerning electric shock!**

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

(2) There are high voltage parts inside. Handle with extra care when the set is energized.

◎ **Caution concerning disassembly and assembly!**

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

◎ **Use only designated parts!**

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

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

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

◎ **Make a safety check after servicing!**

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

(Insulation check procedure)

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

CAUTION **Concerning important safety parts**

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

(1) Schematic diagrams.......Indicated by the ⚠ mark.
(2) Parts lists.......Indicated by the ⚠ mark.

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

NOTE FOR SCHEMATIC DIAGRAM

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

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

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

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

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

NOTE FOR PARTS LIST

1. Parts indicated by **"nsp"** on this table cannot be supplied.
2. When ordering a part, make a clear distinction between "1" and "I" (i) to avoid mis-supplying.
3. A part ordered without specifying its part number can not be supplied.
4. Part indicated by " ★ " mark is not illustrated in the exploded view.
   WARNING: Parts indicated by the ⚠ mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

INSTRUCTIONS FOR HANDLING SEMI-CONDUCTORS AND OPTICAL UNIT

Electrostatic breakdown of the semi-conductors or optical pickup may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body
   Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench
   Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing
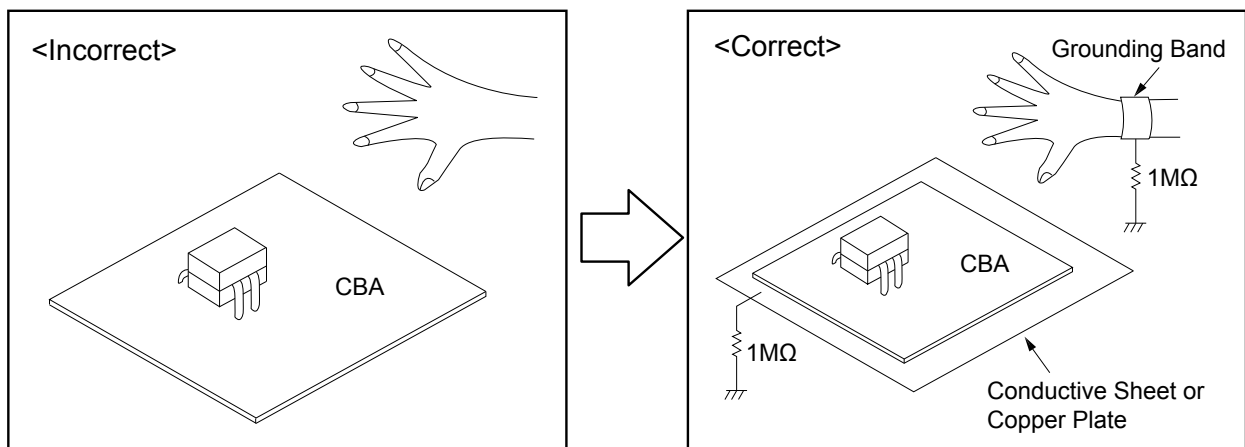
WARNING AND LASER SAFETY INSTRUCTIONS

(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 apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semiconducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise a 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 a ce que les composants ainsi que les outils que l'on utilise soient également a 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, das Sie im Reparaturfall dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls über ein Pulsarmband mit Widerstand mit auf diesem Potential.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della piu grande cauzione 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.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerats darf nicht verandert werden.
Fur Reparaturen sind Original-Ersatzteile zu verwenden.

(NL)

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

(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.

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

(F)

Les normes de sécurité exigent que l'appareil soit remis a 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.

```
CLASS 1
LASER PRODUCT
```

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 COVERSHIELD

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 Å PNES UNNGÅ EKSPONERING FOR STRÅLEN
VARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
VARO! AVATT AESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN
VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN
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

100301DM

TECHNICAL SPECIFICATIONS

❏ **Audio performance**
- **Analog output**
  - **Channels** ： 2Channels
  - **Playable frequency range** ： 2Hz～20kHz
  - **Playable frequency response** ： 2Hz – 20kHz (±0.5 dB)
  - **S/N:** 110 dB
  - **Dynamic range:** 100 dB
  - **Harmonic distortion** ： 0.002%（1kHz）
  - **Wow & flutter** ： Crystal accuracy
- **Output level （FIL 2）** ：
  - **Signal type** ： 2.35V RMS stereo
  - **Headphone output** ： 28mW/32Ω（variable maximum）
  - **Output impedance (RCA OUT)** ： 200 Ω /ohms
- **Digital output**
  - **Output level （pin JACK）** ： 0.5 Vp-p / 75 Ω/ohms
  - **output level （optical）** ： -19 dBm
- **Optical Readout System**
  - **Laser** ： AlGaAs
  - **Wave length** ： 780 nm
  - **Signal type** ： 16-bit linear PCM
  - **Sampling frequency** ： 44.1kHz

❏ **General**

Power supply:	AC100V,50/60Hz(F) AC120V,60Hz(U) AC230V,50/60Hz(N) AC220V,50Hz(K)
Power consumption:	14W
Power consumption in standby mode : 0.1W	0.35W or less
Operating temperatures:	+5℃～+35℃
Operating humidity:	5～90% （without dew）

DIMENSION

Unit : in. (mm) Weight ： 11 lbs (5.0 kg)
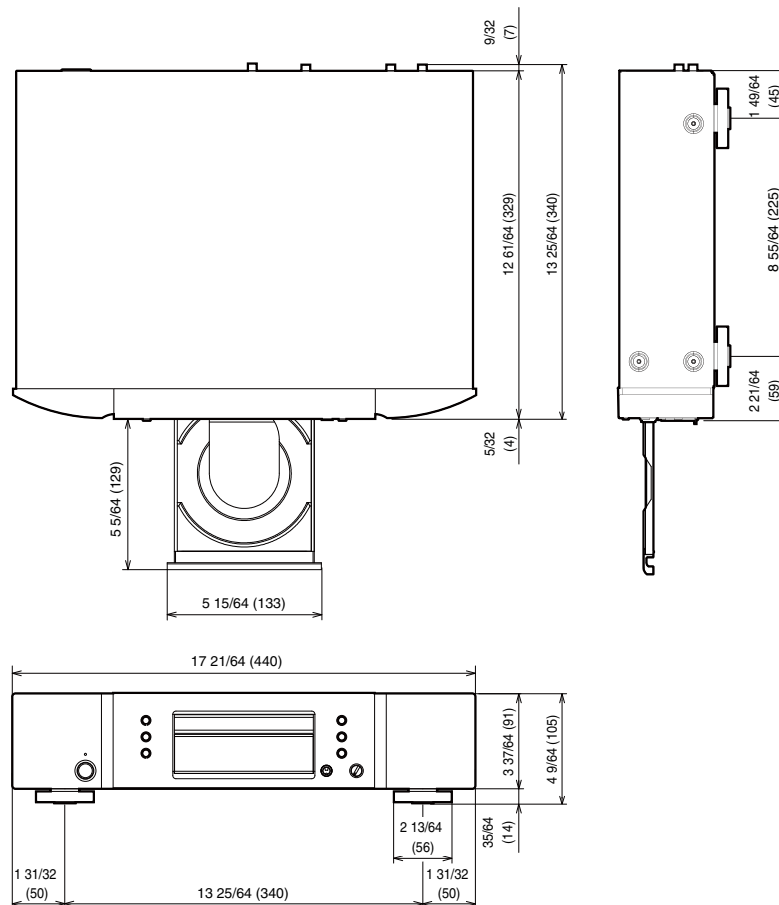
PRECAUTIONS DURING SERVICE

Initializing This Unit

Initialize this unit if you have replaced the microcomputer, one of the parts around the microcomputer, or the CD PCB.

1. Disconnect the AC plug of this unit to turn the power off.
2. Press the "**PAUSE**" and "**OPEN/CLOSE**" buttons simultaneously while inserting the AC plug to turn the power on.
3. "**INITIALIZING**" appears on the display.

> **NOTE**： • Initializing the device restores settings configured by the user to the factory settings. Take note of your settings beforehand and reconfigure them after initialization.
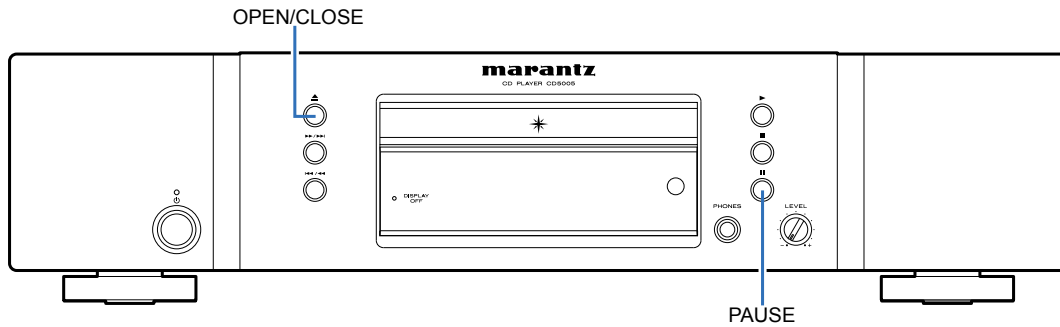
Service Jigs

The following jigs are used when updating the firmware
 (RS232C → connector conversion PCB in this product + 7P cable kit).
Order the jigs from your dealer if necessary.

00DSPK-581 : WRITING KIT (without FFC) : 1
606050028012P : 7P FFC(1.0)L=240 : 1
See 21 page □VERSION UPGRADE PROCEDURE OF FIRMWARE□.

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 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, CI2 etc. In addition storage environment should not have materials that emit corrosive gases especially from silicic, cyanic, formalin and phenol group. I the mechanism or the set, existence of corrosive gases may cause no rotation in motor.

4. Determining whether the laser pick-up is defective

- Measure the waveform at RFO on **"CPU12662Z_A MAIN PCB ASSY ①RFEQO"**.
  (For measuring points and waveforms, See .)
- The laser pick-up is OK if the amplitude level of the measured RFEQO waveform is between 0.4 and 1.1 Vp-p, defective otherwise.
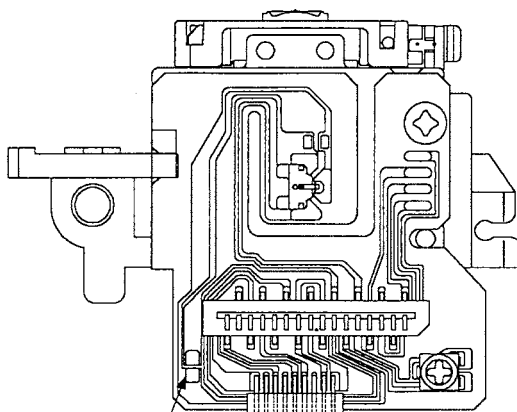
Protective soldering place for laser diode.

DISASSEMBLY

• Remove each part in the order of the arrows below.
• Reassemble removed parts in the reverse order.
• Read "Precautions During Work" before reassembling removed parts.
• If wire bundles are removed or moved during adjustment or part replacement, reshape the wires after completing the work. Failure to shape the wires correctly may cause problems such as noise.

```
┌─────────────────────────┐
│       CABINET TOP       │
└─────────────────────────┘
```

CABINET TOP		
LOARDER PANEL	**MAIN PCB** See "DISASSEMBLY" 2. MAIN PCB" and "EXPLODED VIEW" MAIN PCB (Ref. No. of EXPLODED VIEW : 28)	**POWER PCB** See "DISASSEMBLY" 3. POWER PCB" and "EXPLODED VIEW" POWER PCB (Ref. No. of EXPLODED VIEW : 30)

FRONT PANEL ASSY
See "DISASSEMBLY"
1. FRONT PANEL ASSY"
and "EXPLODED VIEW"
FRONT PCB
    (Ref. No. of EXPLODED VIEW : 14)
STANDBY PCB
    (Ref. No. of EXPLODED VIEW : 15)
PHONE PCB
    (Ref. No. of EXPLODED VIEW : 16)
		AUDIO PCB
		See "DISASSEMBLY"
		4. AUDIO PCB"
		and "EXPLODED VIEW"
		AUDIO PCB
		    (Ref. No. of EXPLODED VIEW: 29)

		LOARDER PANEL
		CD MECHA ASSY See "DISASSEMBLY" 5. MECHA ASSY" and "EXPLODED VIEW" CD MECHA ASSY (Ref. No. of EXPLODED VIEW : 28)

Explanatory Photos for DISASSEMBLY

• The angles from which the photos are taken are shown by "Photo angle：A, B, C, D".
• See the diagram below about the shooting direction of each photograph.
• Photographs with no shooting direction indicated were taken from the top of the unit.
• The photograph is CD5005N1G model.
The viewpoint of each photograph
(Shooting direction:X) ［View from the top］

Shooting direction: B   Front side

Shooting direction: C   Shooting direction: D

Shooting direction: A
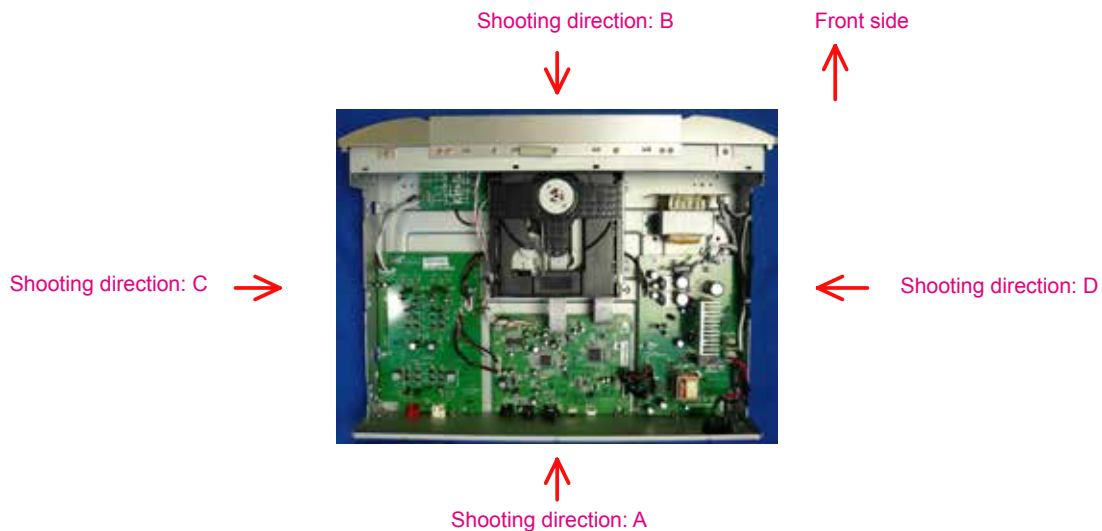
1. FRONT PANEL ASSY

Proceeding : | CABINET TOP | → | **FRONT PANEL ASSY** |

(1) Remove the loader panel.

Shooting direction B

(2) Remove the screws.
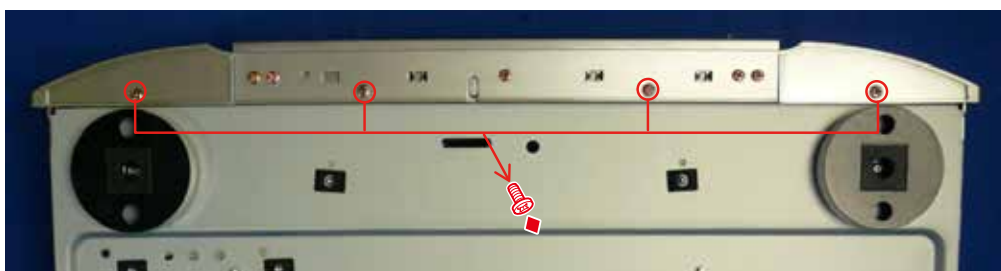
(3) Remove the connector wires and FFC. Remove the screws.

CN3301

FFC Cable
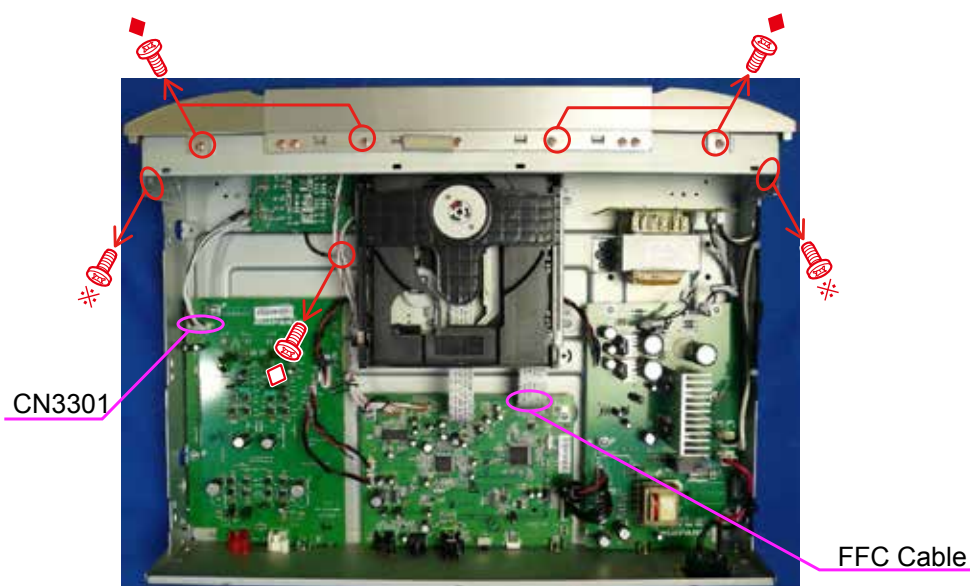
See "EXPLODED VIEW" for instructions on how to remove each PCB of the FRONT PANEL ASSY.

2. MAIN PCB

Proceeding : | CABINET TOP | → | MAIN PCB |

(1) Remove the screws.

(2) Remove the screws. Remove the connector wires and FFC.

CN2801

MAIN PCB

CN3101

CN2101

CN44

FFC Cable

CWC100

CWC101

8

3. POWER PCB

Proceeding : | CABINET TOP | → | POWER PCB |

(1) Remove the screw.

(2) Remove the screws. Remove the connector wires and FFC.

CN902
CN901
CN3902
CN3901
カット
BN3504 BN2801 POWER PCB

9

4. AUDIO PCB

Proceeding : CABINET TOP → AUDIO PCB

(1) Remove the screws.

Shooting direction A

(2) Remove the connector wires and FFC, remove the screws.

CN3301

AUDIO PCB

BN2101 BN3101   CN3504
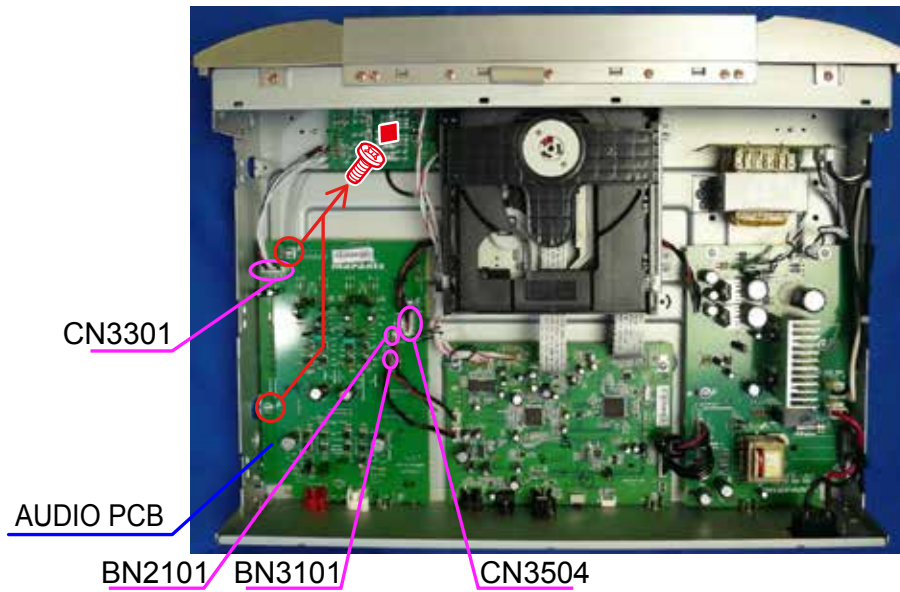
5. MECHA ASSY

Proceeding : | CABINET TOP | → | Loader Panel | → | **MECHA ASSY** |

(1) Remove the screws.

MECHA ASSY
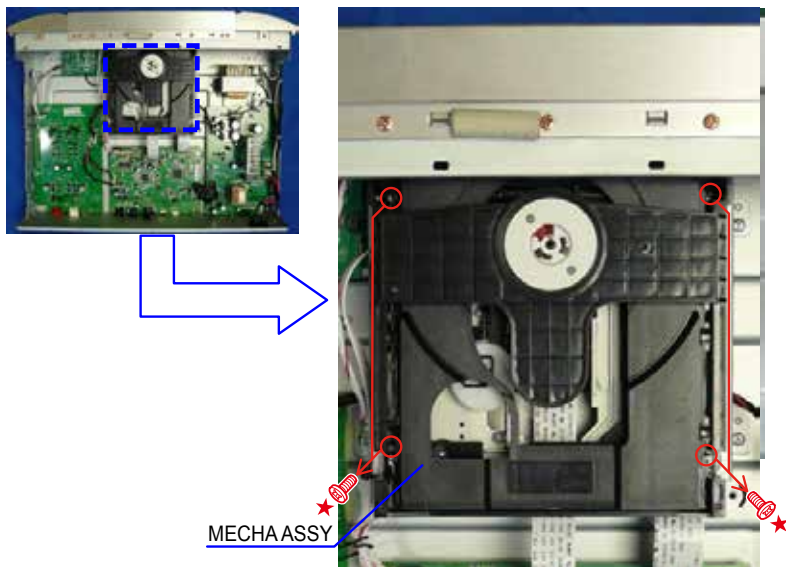
(2) Laser short-circuit in Pick-up of CD MECHANISM ASS'Y, then disconnect the connector wires and FFC cable.
Be sure to wear a grounding band.

Short
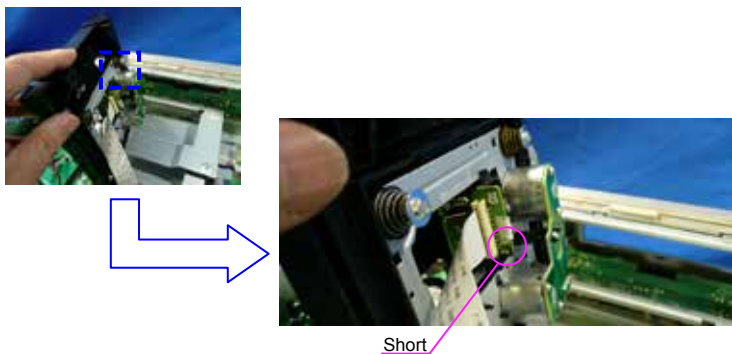
(3) Disconnect the connector wire and FFC.

FFC Cable

Connector wire
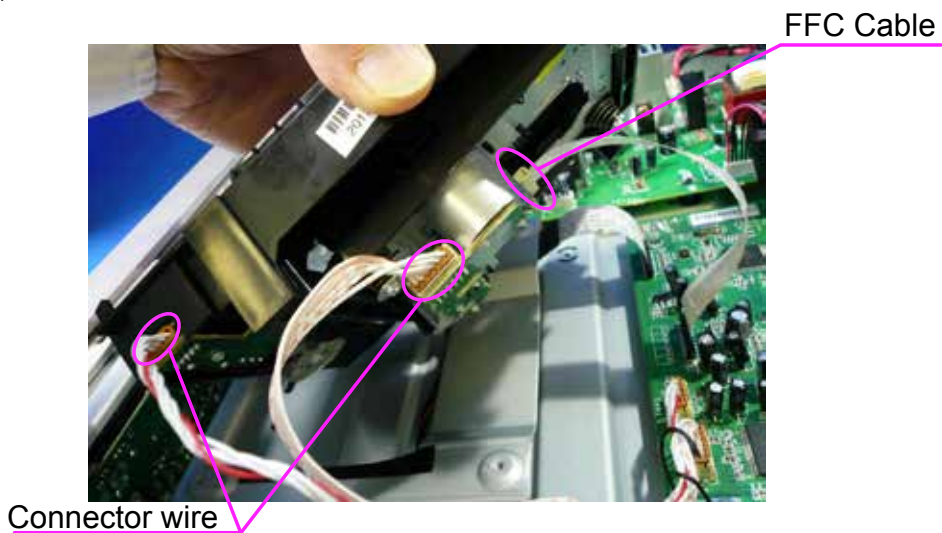
REMOVING DISCS

(1) Put in a groove on the bottom, the pattern of tweezers. Press to slide in the direction of the red arrow.
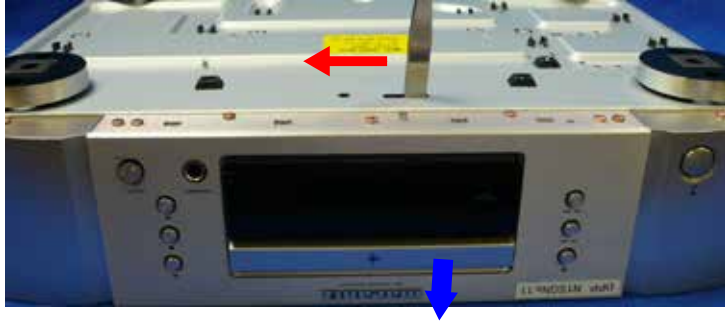
(2) DOOR opens a little, pull it out by hand.

SPECIAL MODE

Special Mode Configuration Buttons

※ No.1 - 8 : Turn on the AC plug while pressing the button of A and B at the same time.

No.	Mode	Button A	Button B	Contents
1	Version display mode	OPEN/CLOSE	PLAY	Firmware versions such as Main are displayed in the FL.
2	VFD check mode	OPEN/CLOSE	STOP	All displays on the FL tube flash every 2 seconds.
3	Cold start mode(初期化)	OPEN/CLOSE	PAUSE	Initializing CD Player.
4	CD test mode	|◀◀/◀◀	PLAY	Test of CD mech.
5	CD heart run mode	|◀◀/◀◀	STOP	Heat run mode.
6	Laser on time Accumulated time display mode	|◀◀/◀◀	PAUSE	Laser on time are Displayed. When the CD mech was replaced, Laser on time will need to reset. (in this mode)
7	Timer check mode	▶▶/▶▶|	PLAY	Not for service.
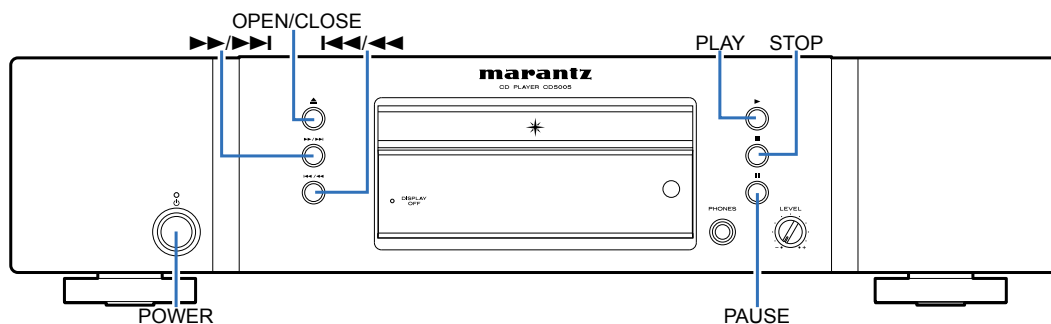
1. Version display mode

Turn on the AC plug while pressing the button of **"OPEN/CLOSE"** and **"▶"**.
Now, press the **"I◀◀/◀◀"** or **"▶▶/▶▶I"** button, following information is displayed on the FL tube.
Display Order
Version of System μ-com → Serial number ⋯⋯
To exit, turn off.

main μ-com :

```
 Ver 14031401
```

"_Ver_########v"**
########:Main microcomputer version
**:Destination

2. VFD check mode

Turn on the AC plug while pressing the button of **"OPEN/CLOSE"** and **"■"**.
To exit, turn off.
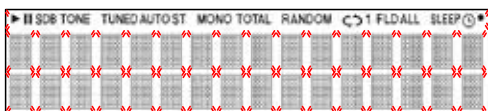
All displays on the FL tube flash every 2 seconds. (Lit:1 second, Off:1 second)

3. Cold start mode

Turn on the AC plug while pressing the button of **"OPEN/CLOSE"** and **"II"**.
"INITIALIZING" is displayed on the FL tube. Then start in Normal mode.

```
      INITIALIZE
```
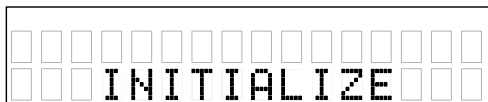
Initialization item
   DIMMER : 100%
   PURE DIRECT : OFF
    AUTO STANDBY : ON (N), OFF (F, U, K)
∗   **"Laser on time"** is not erase.

4. CD test mode

Turn on the AC plug while pressing the button of "**I◄◄/◄◄**" and "**►**".
To exit, turn off.

```
┌─────────────────────────────┐
│ □□□□□□□□□□□□□□□□□□□□ │
│ □0□□CD□TEST□MODE │
└─────────────────────────────┘
```
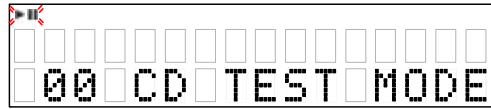
∗ ►‖ : Blink

Detail of the CD test mode

No.	Mode	Button / Operation
1	Disc loading	⏏
2	Servo check	-
	LD ON	►
	FOCUS ON	►
	CLV ON	►
	TRACKING ON	►
	SUB CODE	►
	BER	►
3	Pickup movement	I◄◄/◄◄ or ►►/►►I (while the button is pressed)
4	STOP Servo	■
5	All servo on	■ + ⏏
6	Adjustment value display	■ (After "All servo on" state)
	FOCUS BALANCE	►►/►►I
	FOCUS GAIN	►►/►►I
	TRACKING BALANCE	►►/►►I
	TRACKING GAIN	►►/►►I
	FOCUS OFFSET	►►/►►I
	TRACKING OFFSET	►►/►►I
	RFRP	►►/►►I
7	Laser current is display	■ (Press more than 1second)

4.1. Disc loading mode

- Press the "**⏏**" button to open the tray.
- Set a disc on the tray, then press the "**⏏**" button again to close the tray. The disc is mounted automatically.
- Move the slide to the initially set position (10 mm towards the outside from the innermost position) and stop in this status.
- Return to CD test mode.

4.2. Servo check

• Press the **"►"** button. Execute the following steps.

(1) LD ON (with servo still stopped)

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│  01          LD ON         │
└────────────────────────────┘
```

(2) FOCUS ON (disc rotation, tracking off)
   If no disc loaded, retry then stop.

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│  02      Focus ON          │
└────────────────────────────┘
```
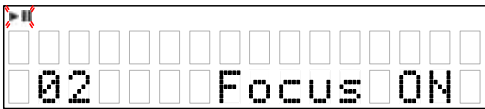
(3) CLV ON

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│  03        CLV ON          │
└────────────────────────────┘
```
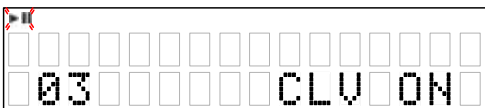
(4) TRACKING ON

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│  04 Tracking ON            │
└────────────────────────────┘
```

(5) SUB CODE readout (playback sound output)

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│  05     @@Tr   XX:XX       │
└────────────────────────────┘
```
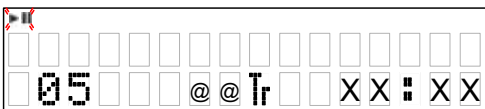
* ►Ⅱ : Blink
* @@ : T.No
* XX:XX : Elapsed Time
* BER: When display is as in SUB CODE and the **"►"** button is pressed, conduct BER (Block Error Rate) display for 2 seconds.

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│        ERR #####           │
└────────────────────────────┘
```
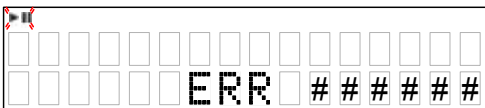
4.3. Pickup movement

• In the stop mode, pickup moves in REV (inwards) or FWD (outwards) direction when **"I◄◄/◄◄"** or **"►►/►►I"** button pressed.
• When **"I◄◄/◄◄"** button pressed, move to stop operation after detection that inner switch has turned on.
• Pickup movement stops when button released.

4.4. STOP Servo

• When **"■"** button is pressed, play operation and servo stop.
• After stopping, conduct reading of auto adjust values.

4.5. All servo on

• When the **"I◄◄/◄◄"** and **"⏏"** buttons is pressed, all is performed and switch to playback operation. (Playback sound output)
• Press the **"■"** button is first.
• When the **"■"** button pressed more than 1 second, the Laser Current measurement will be started.

```
┌────────────────────────────┐
│ ►Ⅱ                          │
│  ┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐┌┐ │
│  └┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘└┘ │
│        @@Tr   XX:XX        │
└────────────────────────────┘
```
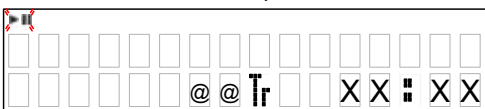
* ►Ⅱ : Blink

4.6. Adjustment value display

- When the **"■"** button is pressed, the adjustment values are displayed. (After All Servo on)
- Press the **"►►/►►I"** button is pressed, the adjustment value are displayed int the following order.

(1) FOCUS BALANCE

```
FOCUS BALANCE
XXX
```

(2) FOCUS GAIN

```
FOCUS GAIN
XXX
```

(3) TRACKING BALANCE

```
TRACKING BALANCE
XXX
```

(4) TRACKING GAIN

```
TRACKING GAIN
XXX
```

(5) FOCUS OFFSET

```
FOCUS OFFSET
XXX
```

(6) TRACKING OFFSET

```
TRACKING OFFSET
XXX
```

(7) RFRP

```
RFRP
XXX
```

∗ XXXX : Adjustment value

4.7. Laser current is display

- When **"■"** button is pressed for over 1 second while the unit is in the stop mode, the laser turns on and the laser current is measured.
- The first current value is measured 3 seconds after the laser turns on.
- The current value is updated every 3 seconds.
- Press the **"■"** button, return to CD test mode.
- Stored data is not cleared, even when the unit is Initializing (Cold start mode).

```
S/C: XXmA/ YYmA
LASER CURRENT
```

∗ XX : Stored data (EEPROM)
∗ YY : Current value

Overwriting the stored data

- When **"►"** 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)
- Once rewriting is completed, the display in **"Laser current is display"** reappears.
- Initialization of a count value is performed upon shipment from the factory and when the mechanism is replaced.

```
STORED
LASER CURRENT
```

5. CD heart run mode

- Set the disc in the tray. Turn on the AC plug while pressing the button of "|◄◄/◄◄" and "■".
- If an error occurs, display the error and stop operation at that point. Number of operations held. See "Error display".
- Heat run count cleared when "■" button pressed.
  Mode canceled and tray opened after "▲" button pressed.

Detale of the CD heart run mode

No.	Mode	Button / Operation
1	Normal heat run	►
2	Chacking	■
3	Error display	|◄◄/◄◄ or ►►/►►| (while the button is pressed)

5.1. Normal heat run

- The CD heat run mode is launched. Once writing of the TOC data is completed, press the "►" button. Count this as the 0th heat run repetition.
① Play from the first to last track on disc.
② 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.
③ After disc playback has finished, move pickup to innermost position and open tray.
④ When loader open status detected, close tray again, re-read TOC and start playback from the first track on the disc.
⑤ The heat run repetition count is incremented (increased by 1) when the tray is opened.
⑥ Conduct ① to ⑤ repeatedly.

①, ② Display during playback.
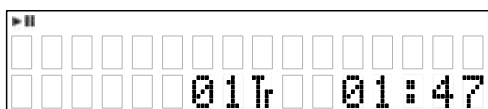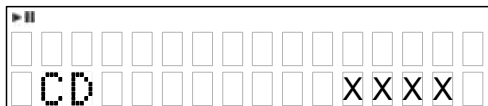
```
►II
              01Tr   01:47
```

③

```
►II
   CD             X X X X
```

∗ XX:XX : No. of heat run repetitions
   In cases other than when "►" is lights, same display as during normal playback.

5.2. Chacking mode

Start heat run mode, after TOC read, the Mechanism stopped, press "■" button.
Repeat the following.
TOC read
Sarch the first track on disc.
Open tray.
Close tray.
- The heat run repetition count is incremented (increased by 1) when the tray is opened.
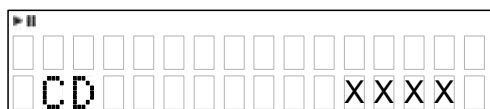
```
►II
   CD             X X X X
```

∗ XX:XX : No. of heat run repetitions
   In cases other than when "►" is lights, same display as during normal playback.

5.3. Error display

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 manualsearch
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 manualsearch
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 : CD ucom error
E9-01 : Other error
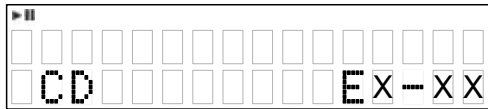
∗ X-XX : Error cord

Number of heat run is displayed, when error occur.
•   Press the **"►►/►►|"** button while the error is displayed.
•   No. heat runs is displayed for 5 seconds, the error display reappears.
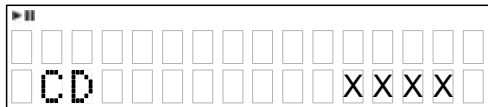
∗ XXXX : Number of heart run repetitions.

The track no. and time when the error occurred is displayed.
•   Press the **"|◄◄/◄◄"** button while the error is displayed.
•   The track no. and time when the error occurred is displayed for 5 seconds, then error display reappears.
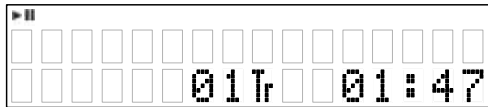
∗   **" _ C D _ _ _ x x Tr _ _ m m : s s "**
∗   xx : Track Nunber of error occurred.
∗   mm:ss : Display Elapsed time in track which error occurred.

6. Laser on time

Turn on the AC plag while pressing the **"I◀◀/◀◀"** and **"II"** button on this unit.

- One count corresponds to 10 minutes. (Values under 10 minutes are discarded.)
- When the time exceeds 10922 hours, the stored data is not updated and the value is fixed 10922.

```
XXXXX hour
LASER ON TIME
```

Initialization of a count value

- When the **"▶"** button is pressed for over 5 seconds while the accumulated laser on time is displayed, the count value is reset.
- After resetting is completed, the display in 6(00000hours on the top line) reappears.
- Initialization of a count value is performed upon shipment from the factory and when the mechanism is replaced.

```
CLEAR
LASER ON TIME
```

7. Timer check mode

Not for service.
Exit to Power off.

```
TIMER CHECK MODE
```

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
CD	IC302	TMPM330FYFG	C	SOFTWARE:Main

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.

D : Flash ROM (With software). But you should write to the latest version of each region.

VERSION UPGRADE PROCEDURE OF FIRMWARE

Connect SPK-581 as forrows.

For Main
(CN301)

PC

↑Up side is contacts of FFC.

7P FFC (Straight)

①Connect windows PC with RS-232C cable. (straight cable.)

②Switch to the direction of the arrow.

← This side is contacts of FFC.
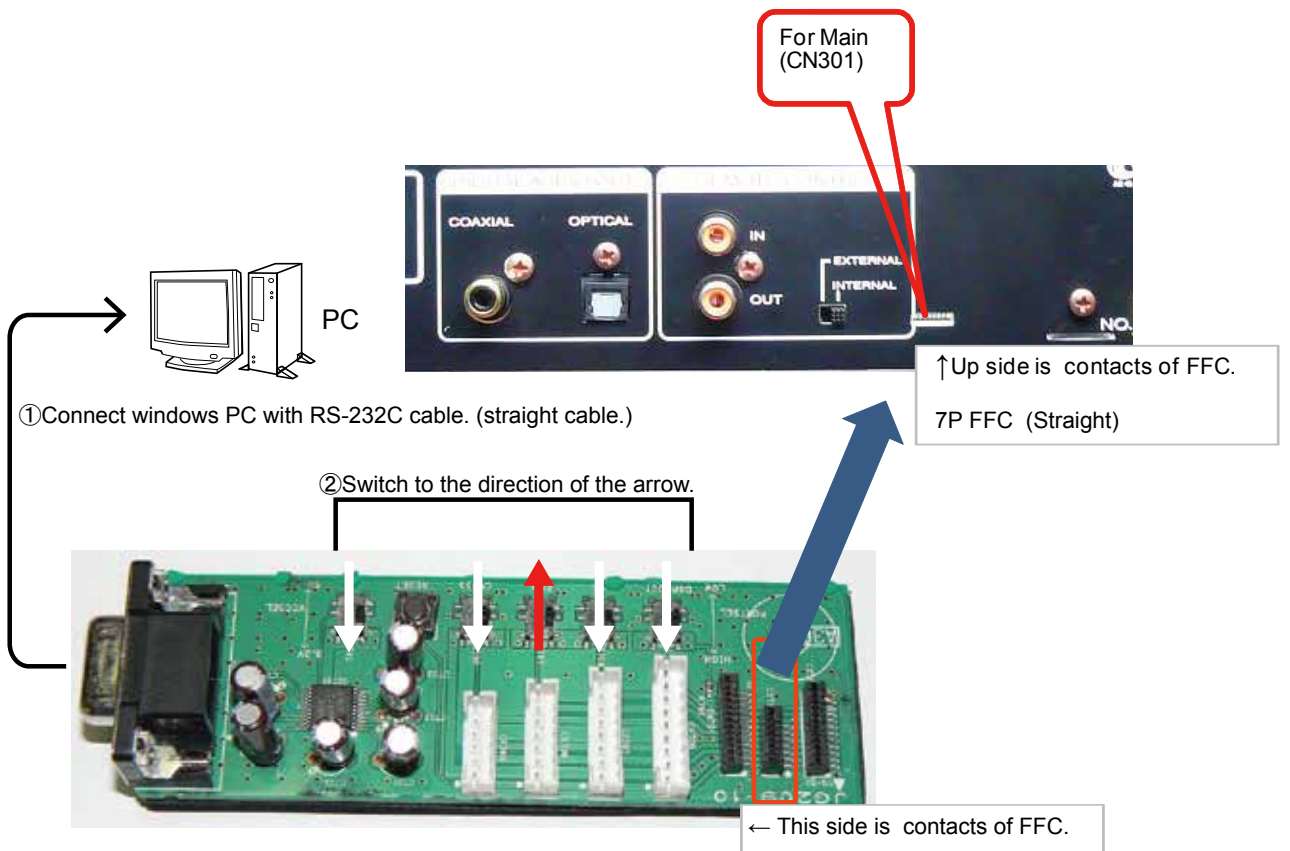
Initial Version No.of main μ-com.

Ver 14031401

※ When update Firmware, please confirm a last version in SDI.

1. Update for IC302(TMPM330FYFG)

(1) Connection of SPK-581, PC and the unit.
See **"**Connect SPK-581 (21 Page)**"**

(2) Double click BootTool_M330, and launch the Boot Tool_M330.
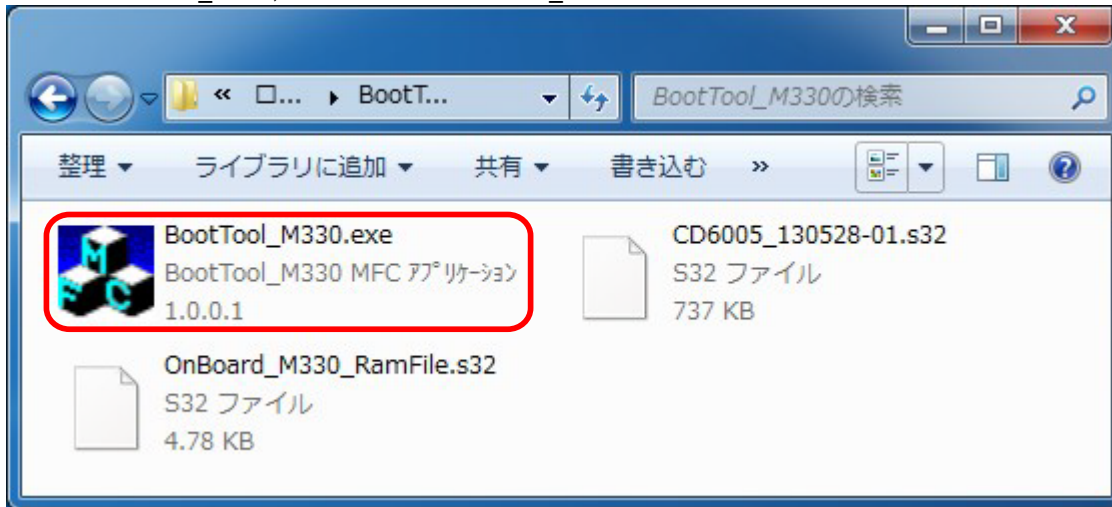
(3) Choose the Serial port number in the COM＊ Port.
Inserting the AC plug to turn the power on.
Click Connect button.
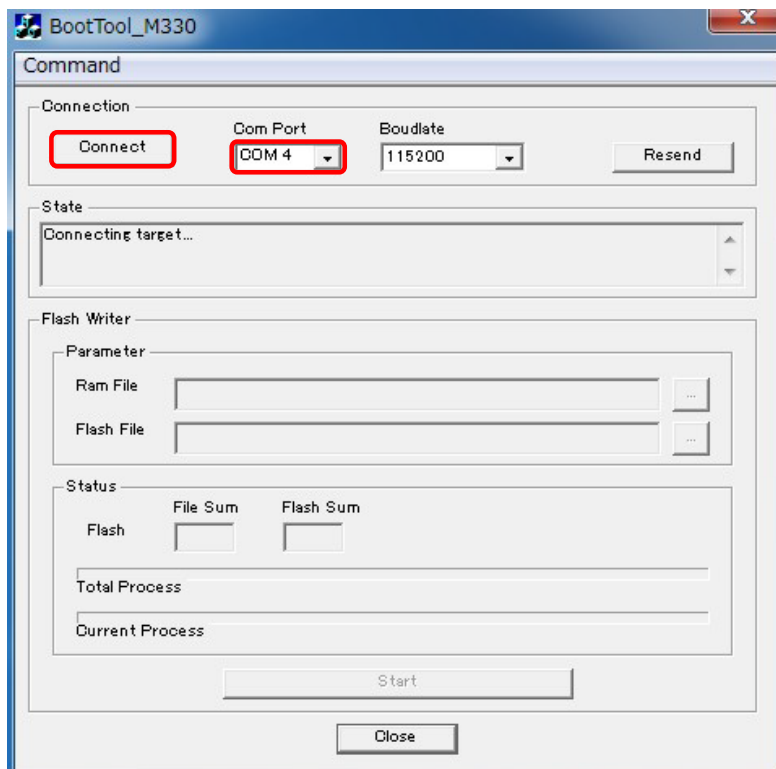
(5) If successful communication between PC from the unit, **"Connected"** will be displayed.
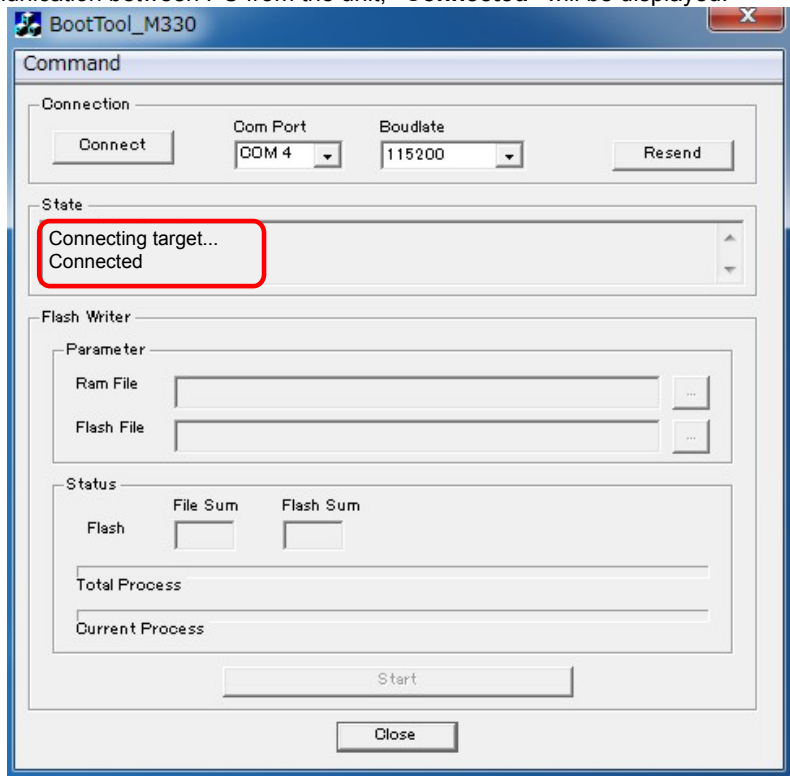
(6) Click Ram File [...] button. Then choose the **"OnBoard_M330.s32"**.
Click Open button.
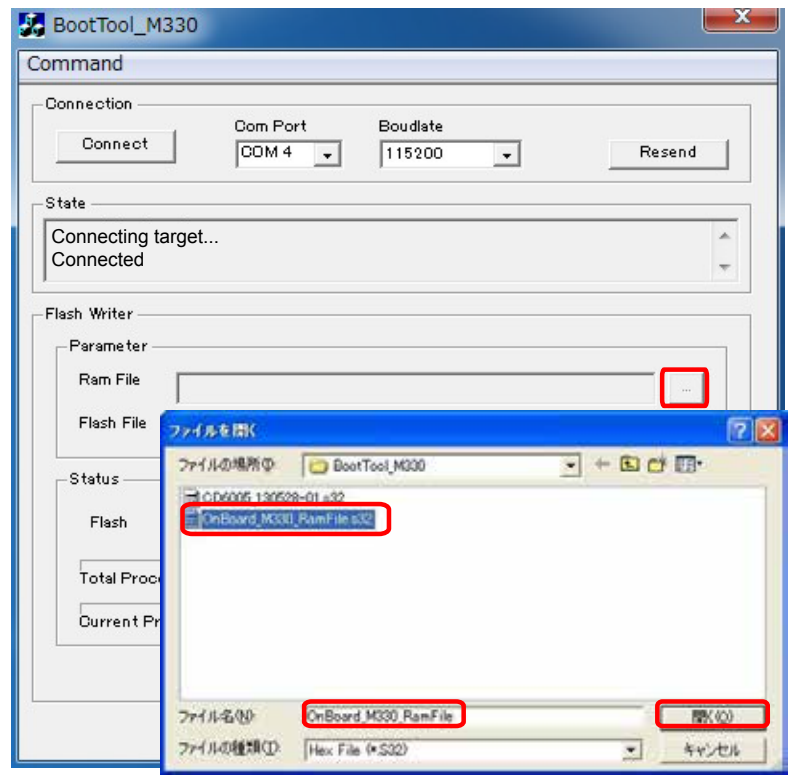
(7) Click **"Flash File [...]"**.
Choose the **"Hex File (∗.S32)"**.
Choose the **"CD5005_XXXXX.s32"**. Click Open button.
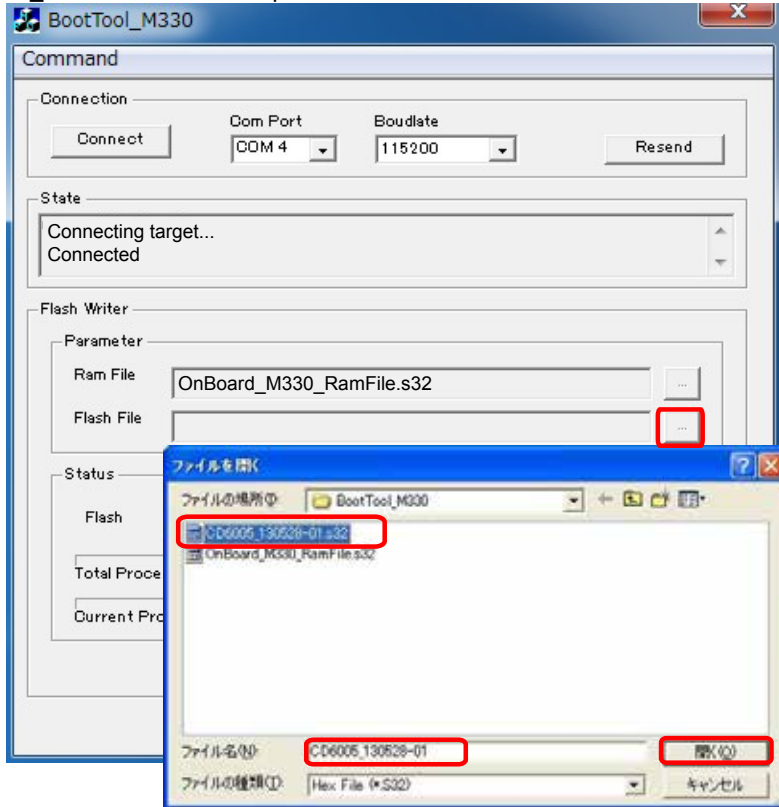
(8) Click Start button.

24
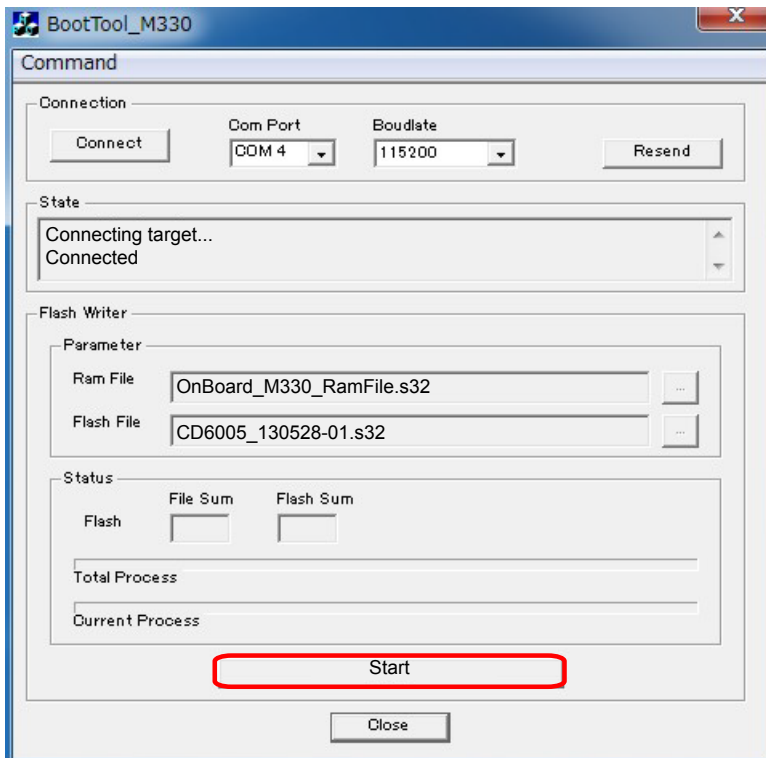
(9) If the software is updated successfully, **"OK."** appears. Click OK.
Disconnect mains cord from the unit, and then disconnect FFC of connection JIG from the unit.
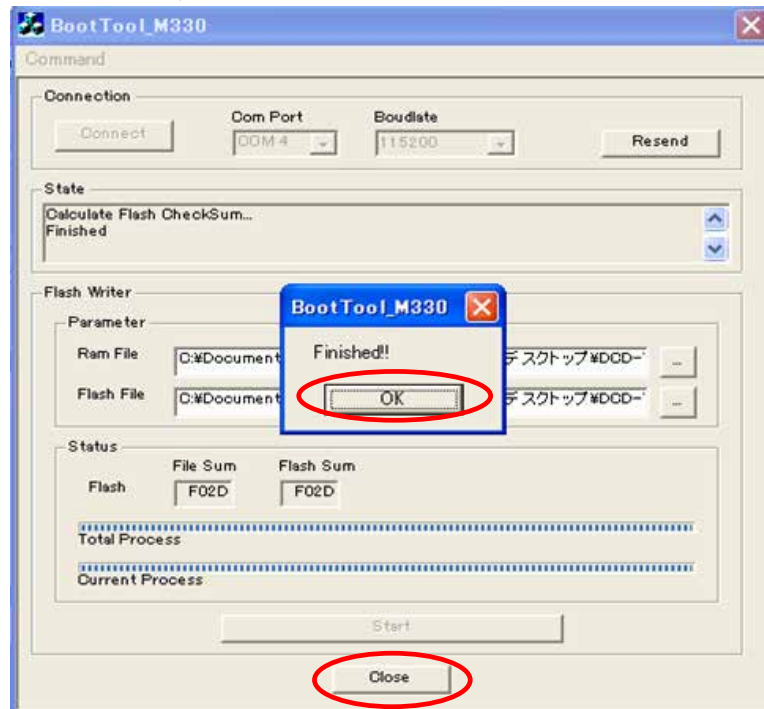
(10) Initializing the unit. Remove the AC plug.
Press the **"OPEN/CLOSE"** and **"▮▮"** buttons simultaneously while inserting the AC plug to turn the power on.

(11) After updating the firmware, check the version.
Press the **"OPEN/CLOSE"** and **"►"** buttons simultaneously while inserting the AC plug to turn the power on.

TROUBLE SHOOTING

1. POWER

1.1. Power not turn on

```
┌──────────────────┐      ┌──────────────────────────┐
│ Power not turn on.│─────▶│ When the power turned on,  │
└──────────────────┘      │ does the ON/STANDBY        │
                          │ indicator on the front panel│
                          │ flashing red?              │
                          └──────────────────────────┘
                                      │ NO
                                      ▼
```

Is the CUP12663Z-1 POWER PCB connector disconnected? • CN3901, CN3902, CN901, CN902	**YES** → Insert any disconnected connectors.

NO

Is the CUP12662Z_A MAIN PCB connector disconnected? • CN2801	**YES** → Insert any disconnected connectors.

NO

Is the CUP12663Z-3 STANDBY PCB connector disconnected? • CN4101	**YES** → Insert any disconnected connectors.

NO

Is the STANDBY TRANS winding of the CUP12663Z-1 POWER PCB broken? • T3901	**YES** → Replace STANDBY TRANS (T3901).

NO

Is the CUP12663Z-1 POWER PCB ST+3.3V output voltage normal? • BN2801 5pin (ST+3.3V)	**NO** → Check U3904 input voltage. Check Parts and Soldering and Other Circuits. If abnormality is not found, replace U3904.

YES

Has the power relay of the CUP12663Z-1 POWER PCB switched? • S3901	**NO** → Is the control signal (STBY_CNT) for the power relay drive normal? • BN2801 11pin ON signal (+3.3V) or • D3934 Anode Low signal (0V)	**NO** → Check the signal line (IC302 85 pin) from the UCOM of the CUP12662Z_A MAIN PCB, and the soldering of the surrounding circuits. Replace the UCOM if any abnormalities are found. • IC302	

YES (from power relay box, down)
YES (from control signal box, down)

If the control signal (STBY_CNT) of the power relay drive is normal, replace the relay (S3901).

Are any of the rectifying diodes or circuits shorted in each of the secondary side rectifying circuits?	**YES** → Replace the fuse. Also, check each of the rectifying diodes and circuits of the rectifying circuits on the secondary side for shorts, and replace any faulty parts.

NO

Are the regulator output terminal and GND, or circuit and GND of the secondary power stabilization section shorted?	**YES** → Replace the fuse. Also, check each of the regulators and circuits of the rectifying circuits on the secondary side for shorts, and replace any faulty parts.

2. FLD
2.1. FL TUBE dosen't light

```
┌──────────────┐      ┌──────────────────────┐  NO   ┌──────────────────────┐  YES  ┌──────────────────────────┐
│ FL TUBE      │      │ Is the CUP12662Z_A   │──────▶│ Is the input voltage │──────▶│ Check the circuit and    │
│ dosen't      │─────▶│ MAIN PCB VP output   │       │ (+49.3V) of the      │       │ soldering of the         │
│ light.       │      │ voltage (+25V)       │       │ CUP12663Z-1 POWER    │       │ transistor (Q3901) and   │
└──────────────┘      │ normal?              │       │ PCB transistor       │       │ output load, and replace │
                      │ • FCC300 15pin (VP)  │       │ collector normal?    │       │ any faulty parts.        │
                      └──────────────────────┘       │ • Q3901              │       └──────────────────────────┘
                                │ YES                 └──────────────────────┘
                                │                              │ NO
                                ▼                              ▼
                      ┌──────────────────────┐       ┌──────────────────────────┐
                      │ Is the CUP12662Z_A   │  NO   │ Check the input side     │
                      │ MAIN PCB +3.3V_Dout  │       │ circuit and soldering of │
                      │ put voltage (+3.3V)  │       │ the transistor (Q3901),  │
                      │ normal?              │       │ and replace any faulty   │
                      │ • FCC300 18pin (+3.3v)│       │ parts.                   │
                      └──────────────────────┘       └──────────────────────────┘
```

FL TUBE dosen't light. ▶ Is the CUP12662Z_A MAIN PCB VP output voltage (+25V) normal? • FCC300 15pin (VP)

— **NO** → Is the input voltage (+49.3V) of the CUP12663Z-1 POWER PCB transistor collector normal? • Q3901
 — **YES** → Check the circuit and soldering of the transistor (Q3901) and output load, and replace any faulty parts.
 — **NO** → Check the input side circuit and soldering of the transistor (Q3901), and replace any faulty parts.

— **YES** → Is the CUP12662Z_A MAIN PCB +3.3V_Doutput voltage (+3.3V) normal? • FCC300 18pin (+3.3v)

 — **NO** → Is the regulator input voltage (+5.13V) of the CUP12663Z-1 POWER PCB normal? • U3901
  — **YES** → Check the circuit and soldering of the regulator (U3901) and output load, and replace any faulty parts.
  — **NO** → Is the regulator input voltage (+7.14V) of the CUP12663Z-1 POWER PCB normal? • U3902
   — **YES** → Check the circuit and soldering of the regulator (U3902) and output load, and replace any faulty parts.
   — **NO** → Is the regulator input voltage (+9.22V) of the CPU12663Z-1 POWER PCB normal? • U3907
    — **YES** → Check the circuit and soldering of the regulator (U3907) and output load, and replace any faulty parts.
    — **NO** → Check the input side circuit and soldering of the transistor (D3950), and replace any faulty parts.
     — **NO** → Are the CUP12662Z_A MAIN PCB resistance (R308), CUP12663Z-1 POWER PCB resistance (R3912, R3915) and diode (D3933) parts normal?

— **YES** → Is the CUP12662Z_A MAIN PCB filament output voltage (AC3.6V) normal? • FCC300 16pin(FIP2) - 13pin(FIP1)

 — **NO** → Are the CUP12662Z_A MAIN PCB resistance (R308), CUP12663Z-1 POWER PCB resistance (R3912, R3915) and diode (D3933) parts normal?
  — **NO** → Check the condition and soldering of the parts, and replace any faulty parts.
  — **YES** → Check the voltage between the secondary side 1pin – 2pin of the CUP12663Z-6 TRANS PCB Main Trans (T901), and replace the Main Trans (T901) if any abnormalities are found.

— **YES** → Is the FLD (U4003) control waveform of the CUP12663Z_4 FRONT PCB normal?
• 32pin(DIS_SO)
• 33pin(DIS_SCL)
• 34pin(DIS_CS)
• 35pin(DIS_RESET)
(For details of the control waveform, see **"2.2. FLD Control Waveform"**.)

 — **NO** → Signal Line from the CUP12662Z_A MAIN PCB UCOM
 • Check the soldering of the IC302 66pin(DIS_RESET), 68pin(DIS_CS), 67pin(DIS_SO), 69pin(DIS_SCL) and surrounding circuits. Replace the UCOM if any abnormalities are found.
 • IC302

 — **YES** → Check the condition and soldering of the FLD (U4003) of the CUP12663Z-4 FRONT PCB.
 Replace the FLD if any abnormalities are found.

2.2. FLD Control Waveform

㉑ VDD
㉒ DIS_CD
㉓ DIS_SCL(CP)
㉔ DIS_SO(DA)

2.3. Remote control is not accepted

```
┌─────────────────────────────────┐
│ Remote control is not accepted. │
└─────────────────────────────────┘
```

Is the power voltage (FST+3.3V) of the CUP12663Z-4 FRONT PCB remote control sensor (U4001) normal?
• FCC300 1pin,2pin (ST+3.3V)

NO → Check the U3904 input voltage of the CUP12663Z-1 POWER PCB, and the other circuits and soldering that handle the output load.
If there are no abnormalities, replace the U3904.

YES

When a remote control button is pressed, is a remote control waveform (pulse waveform) output from the CUP12663Z-4 FRONT PCB remote control sensor (U4001)?
• FCC300 17pin (REMOTE)

NO → Check the condition and soldering of the remote control sensor (U4001) pins etc. of the CUP12663Z-4 FRONT PCB.
Replace the remote control sensor if any abnormalities are found.

YES

Check the condition and soldering of the remote control optical receiver circuit parts, and replace any faulty parts.

3. NO SOUND

3.1. No sound is output when a CD is played back

```
┌─────────────────────────────────┐
│ No sound is output when a CD is │
│ played back.                    │
└─────────────────────────────────┘
                │
                ▼
┌─────────────────────────────────┐       ┌──────────────────────────┐
│ Is the CUP12662Z_A MAIN PCB     │ YES   │ Insert any disconnected  │
│ connector disconnected?         │──────▶│ connectors.              │
│ • CWC100, CWC101, PFCK10,       │       │                          │
│   CN2101, CN3101                │       └──────────────────────────┘
└─────────────────────────────────┘
                │ NO
                ▼
┌─────────────────────────────────┐       ┌──────────────────────────┐
│ Is the CUP12663Z-2 AUDIO PCB    │ YES   │ Insert any disconnected  │
│ connector disconnected?         │──────▶│ connectors.              │
│ • N3504, CN3301                 │       │                          │
└─────────────────────────────────┘       └──────────────────────────┘
                │ NO
                ▼
┌─────────────────────────────────┐       ┌─────────────────────────────────────┐
│ Is the CUP12662Z_A MAIN PCB     │       │ Check the following IC of the        │
│ DAC IC digital input signal     │       │ CUP12662Z_A MAIN PCB and the         │
│ normal?                         │ NO    │ circuit and soldering that handle the│
│ • IC304 3pin (DATA)             │──────▶│ output load, and replace any faulty  │
│ • R160 (BCK)                    │       │ parts.                               │
│ • R162 (LRCK)                   │       │ • IC304(3pin, 4pin, 5pin, 6pin)      │
│ • R370 (MCLK)                   │       └─────────────────────────────────────┘
│ (For details, see "3.2. DAC     │
│ Input Signal Waveform".)        │
└─────────────────────────────────┘
                │ YES
                ▼
┌─────────────────────────────────┐       ┌─────────────────────────────────────┐
│ Is the CUP12662Z_A MAIN PCB     │       │ Check the regulator (U3901) +5V_D    │
│ DAC IC power supply normal?     │ NO    │ and regulator (U3907) +3.3V_D of the │
│ • C342 + side (+3.3V)           │──────▶│ CUP12663Z_A POWER PCB and the circuits│
│ • C353 +side (+5V)              │       │ and soldering that handle the output │
│                                 │       │ load, and replace any faulty parts.  │
└─────────────────────────────────┘       └─────────────────────────────────────┘
                │ YES
                ▼
┌─────────────────────────────────┐  YES  ┌─────────────────────────────────────┐
│ Is the CUP12662Z_A MAIN PCB     │──────▶│ Is the CUP12663Z-2 AUDIO B'D mute    │
│ analog signal output?           │       │ signal output as LOW (-12V)?         │
│ • CN2101 2pin(R-), 3pin(R+),    │       │ • BN2101 4pin                        │
│   CN3101 1pin(L+), 2pin(L-)     │       │                                      │
└─────────────────────────────────┘       └─────────────────────────────────────┘
                │ NO                                      │ YES
                ▼                                         ▼
┌─────────────────────────────────┐       ┌─────────────────────────────────────┐
│ Check around the CUP12662Z_A    │       │ Check around the CUP12663Z-2 AUDIO   │
│ MAIN PCB DAC IC circuit and     │       │ PCB mute circuit and soldering, and  │
│ soldering, and replace any      │       │ replace any faulty parts.            │
│ faulty parts.                   │       │ • Q3114,Q3115,Q3214,Q3215            │
│ • IC304                         │       └─────────────────────────────────────┘
└─────────────────────────────────┘
```

3.2. DAC Input Signal Waveform

MEASURING METHOD AND WAVEFORMS

Measuring Disc: 4822 397 30184

TCD-784

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

CPU12662Z_A MAIN PCB ASSY: TEST POINT
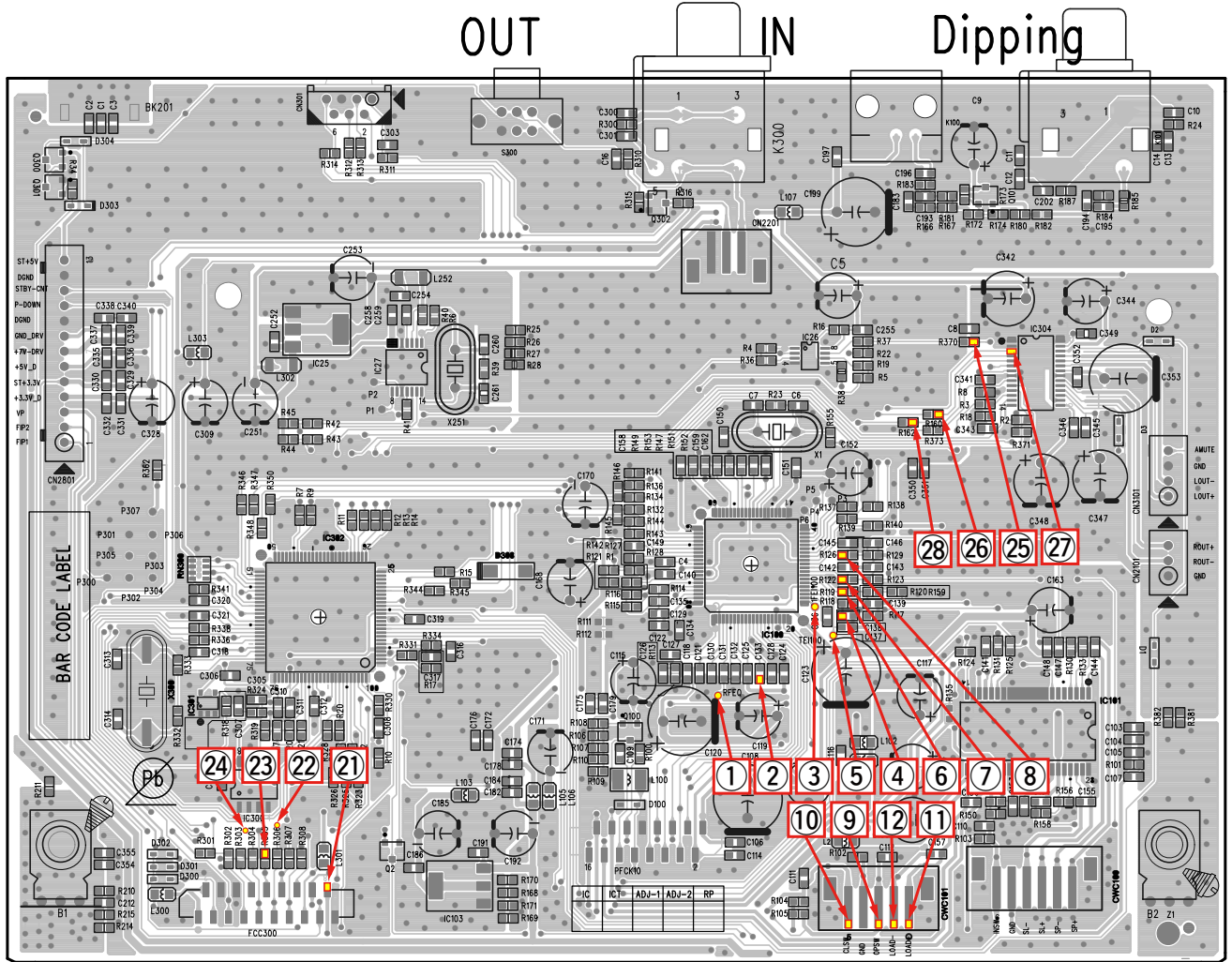
①	RFEQO		㉑	VDD
②	RFO		㉒	DIS CD
③	FSMONIT		㉓	DIS SCL(CP)
④	FOO		㉔	DIS SO(DA)
⑤	TEI		㉕	MCLK
⑥	TRO		㉖	BLK
⑦	FMO		㉗	DATA
⑧	DMO		㉘	LRCK
⑨	OP SW			
⑩	CL SW			
⑪	LOAD+			
⑫	LOAD-			

WAVEFORMS

1. DISC PLAY RF WAVEFORM（EYE-PATTERN）

1.1 CD（TCD-784）Play
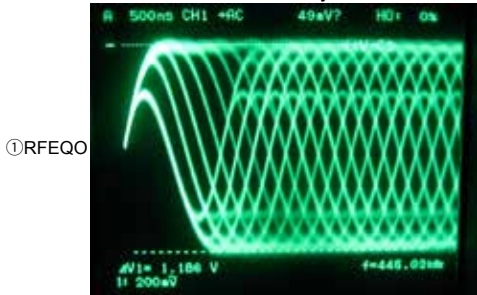
①RFEQO

1.2 CD-R（TCD-R000RM）Play
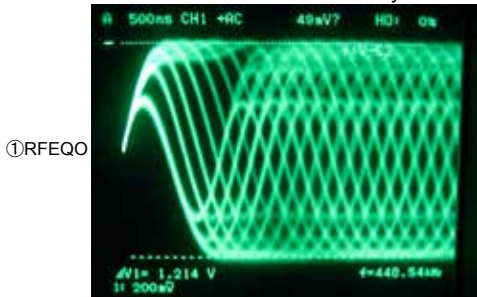
①RFEQO

1.3 CD-RW（TCD-W000RM）Play
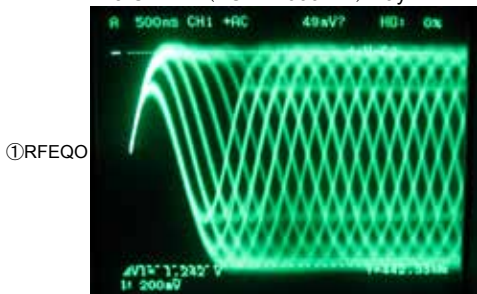
①RFEQO

2. DISC DETECTION

2.1 CD（TCD-784）DISC DETECTION

②RFO	1V
③FSMONIT	200mV
④FOO	2V
⑤TEI	500Mv
⑥ TRO	2V
⑦FMO	1V
⑧DMO	2V
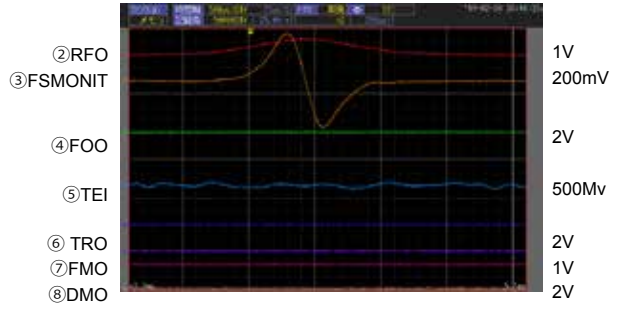
2.2 CD-R（TCD-R000RM）DISC DETECT

②RFO	1V
③FSMONIT	200mV
④FOO	2V
⑤TEI	500Mv
⑥ TRO	2V
⑦FMO	1V
⑧DMO	2V
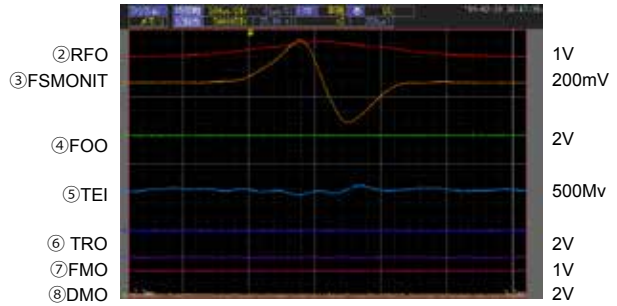
2.3 CD-RW（TCD-W000RM）DISC DETECTION

②RFO	1V
③FSMONIT	200mV
④FOO	2V
⑤TEI	500Mv
⑥ TRO	2V
⑦FMO	1V
⑧DMO	2V
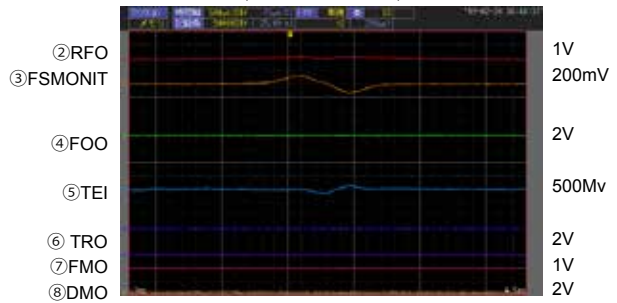
3. TOC READ

3.1 CD（TCD-784）TOC READ

②RFO
③FSMONIT

④FOO

⑤TEI

⑥ TRO
⑦FMO
⑧DMO

1V
200mV

2V

500Mv

2V
1V
2V

3.2 CD-R（TCD-R000RM）TOC READ

②RFO
③FSMONIT

④FOO

⑤TEI

⑥ TRO
⑦FMO
⑧DMO

1V
200mV

2V

500Mv

2V
1V
2V

3.3 CD-RW（TCD-W000RM）TOC READ

②RFO
③FSMONIT

④FOO

⑤TEI

⑥ TRO
⑦FMO
⑧DMO

1V
200mV

2V

500Mv

2V
1V
2V
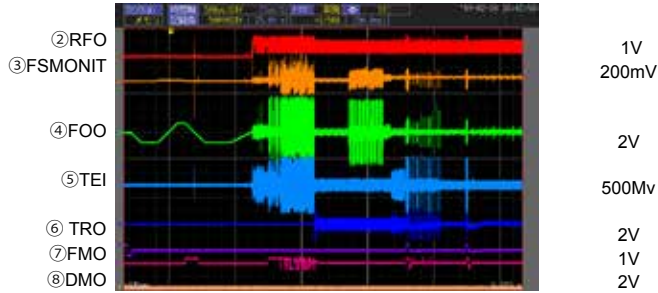
4. FOCUS ADJUSTMENT

4.1 CD（TCD-784）FOCUS ADJUSTMENT
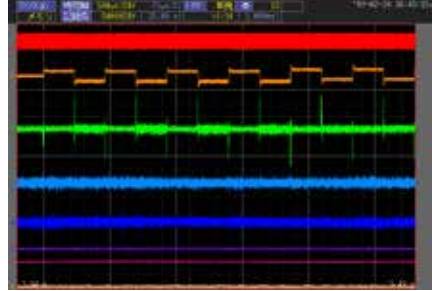
4.2 CD-R（TCD-R000RM）FOCUS ADJUSTMENT
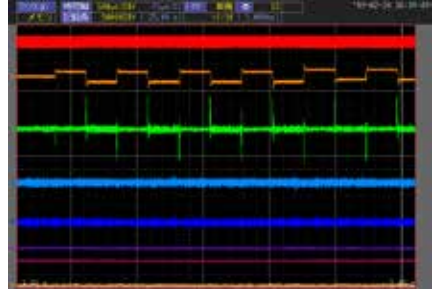
4.3 CD-R（TCD-R000RM）FOCUS ADJUSTMENT

5. LOADER OPEN-CLOSE

⑨OPSW

⑩CLSW

⑪LOAD+

⑫LOAD-

OPEN

CLOSE

5V

5V

5V

5V

Ch1 5.00 V   Ch2 5.00 V   M 400ms   A Ch1 ∫ 1.10 V
Ch3 2.00 V   Ch4 2.00 V

28 May 2009
20:43:01

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Personal notes:
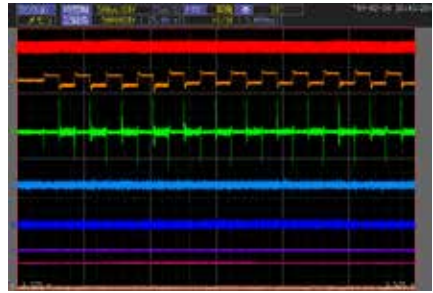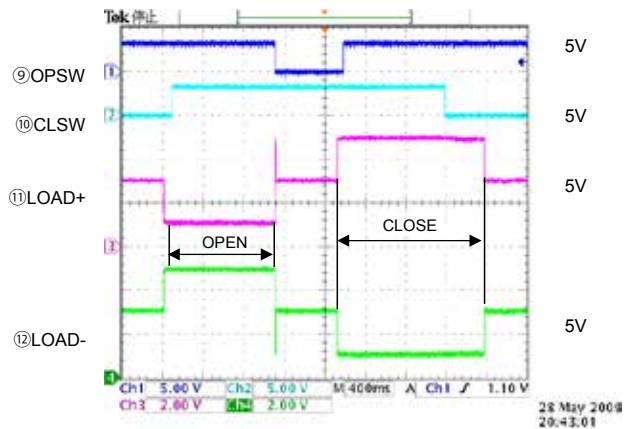
BLOCK DIAGRAM

POWER DIAGRAM

AC INLET

STANDBY TRANS
(T3901)

(U3906)
+5V

(U3904)
+3.3V

U-CON (U302)
IR (U4001)
REMOTE IN/OUT

MAIN RELAY (S3901)

STANDBY ON/OFF

RELAY

ST+10V

MAIN TRANS
(T901)

(U3902)
+12V

AUDIO
HEAD PHONE

-12V

(U3905)

RELAY

(U3903)
+7V

SERVO DRIVE
MECHA DRIVE

RELAY

(U3907)
+5V

CD DSP
PITCH CONTROL
AUDIO DAC

(U3901)
+3.3V

(Q3901)
+42V

FL

(FIP1)

(FIP2)

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WIRING DIAGRAM

AC INLET

CN3901
1 2   3P VH(2Pin NC)

POWER PCB

CUP12663Z-1

BN2801
1
2
3
4
5
6
7
8
9
10
11
12
13
13P BOARD IN

N2801
1
2
3
4
5
6
7
8
9
10
11
12
13
13P

MAIN PCB

CUP12662Z

FLASHER PCB
CUP12663Z-7

CN200
1
2
3

BN41
1
2
3

Only U
Version

CN3301
1
2
3
4

BN3301
1
2
3
4

CN2101
1
2
3

BN2101
1
2
3

AUDIO PCB

CUP12663Z-2

FCC300
1 2 3 4 5 6 7 8 9
# # # # # # # # #

PFCK10
1 2 3 4 5 6 7 8
9 # # # # # # #

CN101
1 2 3 4 5

CN100
1 2 3 4 5 6

16 Pin FFC

1 2 3 4 5 6 7 8
9 # # # # # # #

CN3902
1
2
3P VH(2Pin NC)

BN3504
1
2
3
4
5

19 Pin FFC

CN3504
5
4
3
2
1

CN3301
1 2 3 4 5 6 7

DRIVE MECHA

1
2
3
4
5
6

1
2
3
4
5
6

1
2
3
4
5

CN901
1 2 3 4 5 6 7
7P

CN902
1 2 3

1 2 3 4 5 6 7
BN901

1 2 3
BN902

2P BOARD IN
1
2
BN3902

CUP12663Z-6

ANALOG POWER

TRANS

10P BOARD IN

FCB300
1 2 3 4 5 6 7 8 9
# # # # # # # # #

DISPLAY PCB

CUP12663Z-4

LED PCB

CUP12663Z-3

CN4101
1
2
3
4
5
5P

BN4101
1
2
3
4
5
5P BOARD IN

1 2 3 4 5 6 7
7P BOARD IN
BN3301

H/P PCB

CUP12663Z-5

PRINTED CIRCUIT BOARDS

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

MAIN (A SIDE)

OUT   IN   Dipping
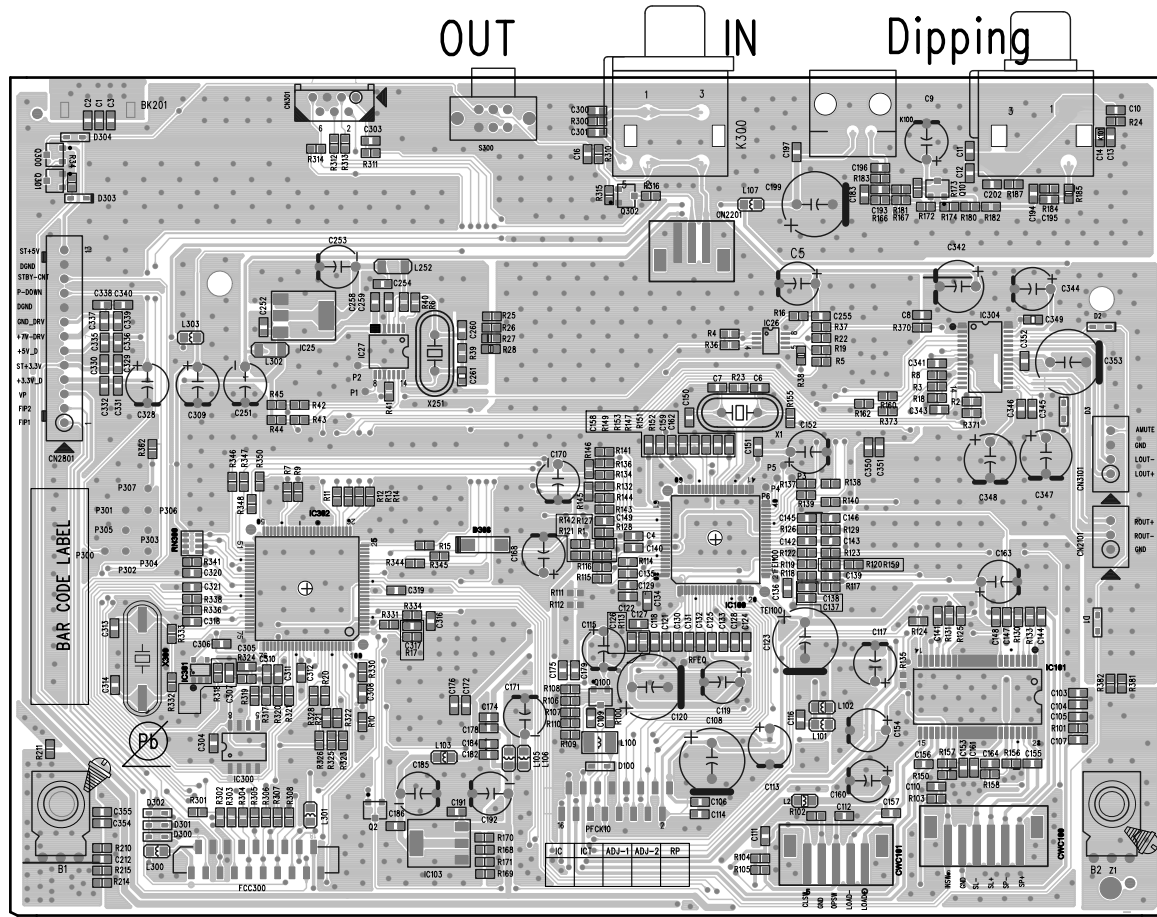
MAIN (B SIDE)

AUDIO(A SIDE)

AUDIO OUTPUT UNIT

marantz

CUP12663Z-2
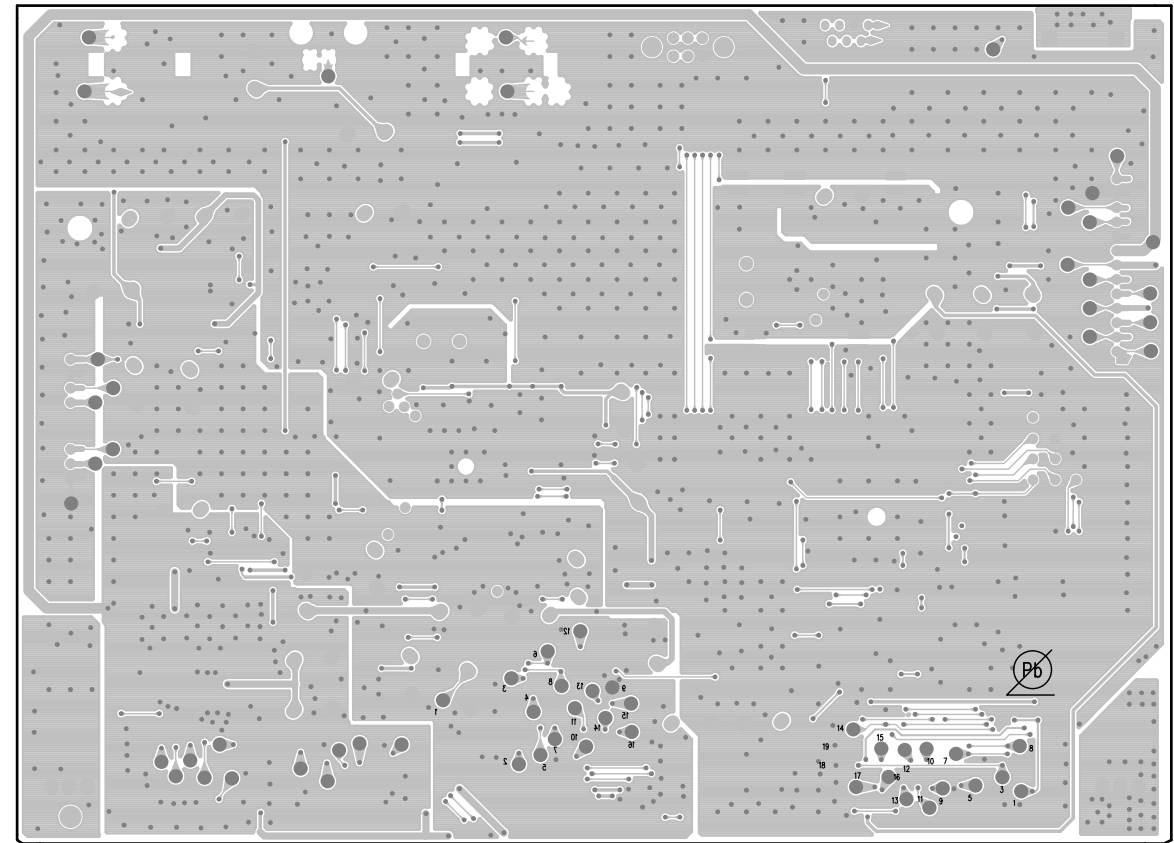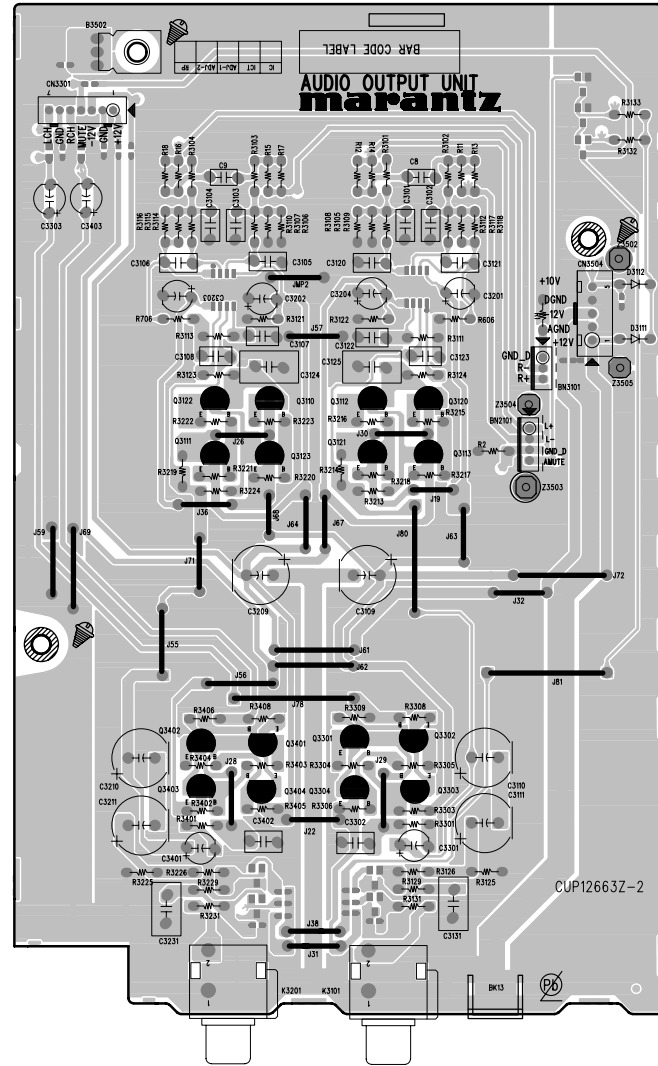
AUDIO (BSIDE)
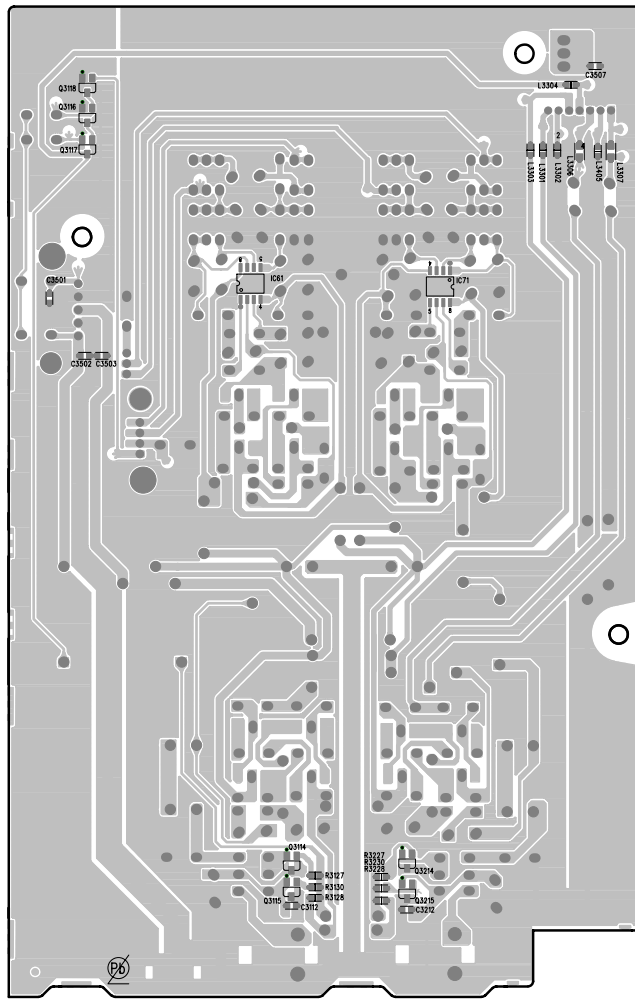
FLASHER (A SIDE)

FLASHER UNIT

marantz
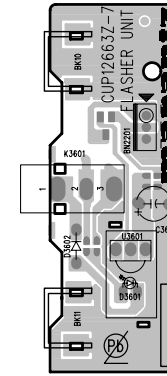
FLASHER (B SIDE)

TRANS (A SIDE)

Sec. Pri.

MAIN TRANS. BOARD
CUP12663Z-6

marantz

TRANS (B SIDE)

Sec. Pri.

Fuse

EARPHON (A SIDE)

EARPHONE UNIT

Centre Line

CUP12663Z-5

marantz
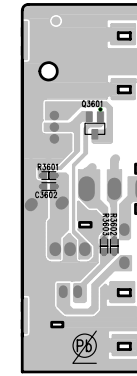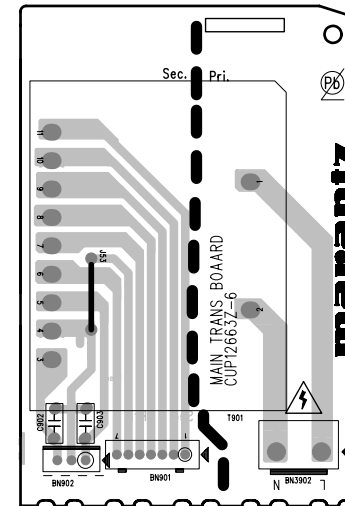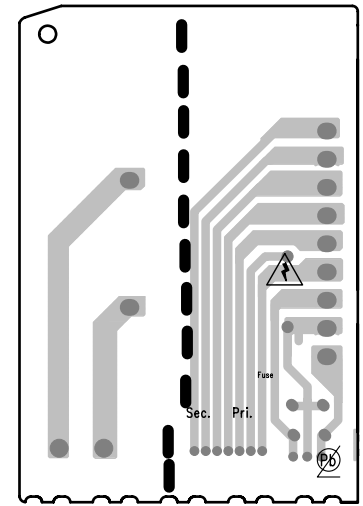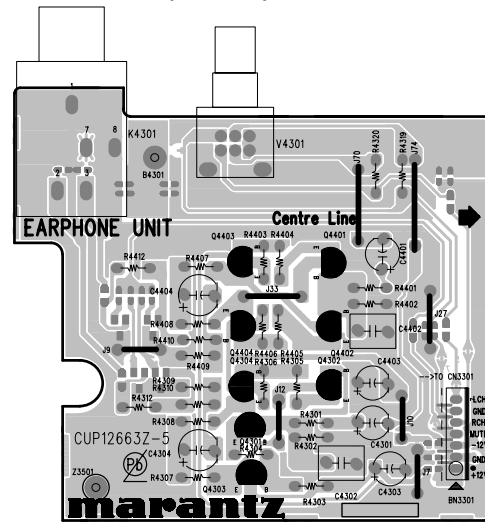
EARPHON (B SIDE)

STANDBY (A SIDE)

STANDBY
S4101

CUP12663Z

marantz

STANDBY (B SIDE)

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POWER (A SIDE)

POWER (B SIDE)

POWER-UNIT
CUP1266.3Z-1
marantz

(TO MAIN TRANS)
CN3902
Pri.
CN3901
INLET
N:Europe
K:China
U:USA/Canada
F:Japan
Sec.
Pri.

FRONT (A SIDE)

FRONT (B SIDE)

marantz
FRONT BOARD
CUP12663Z-4

S4007 OPEN/CLOSE
S4006 PLAY
S4001 NEXT
S4002 STOP
S4003 PREVIOUS
S4004 PAUSE

GND
STB_LED
3.3V
N.C
KEY2
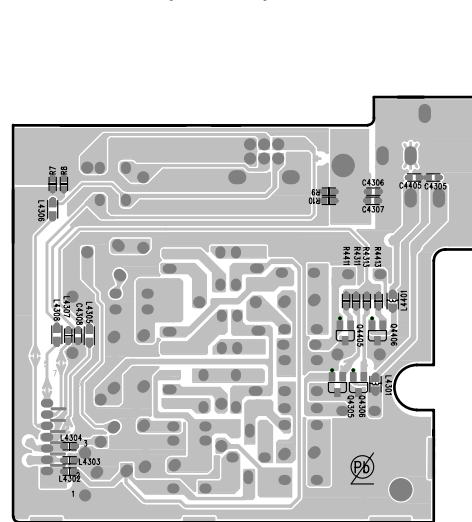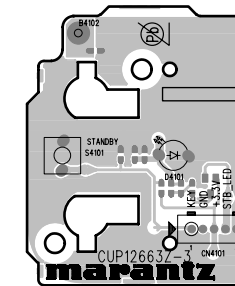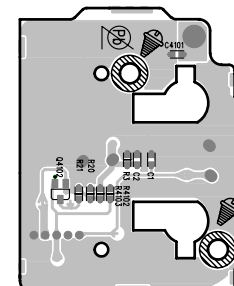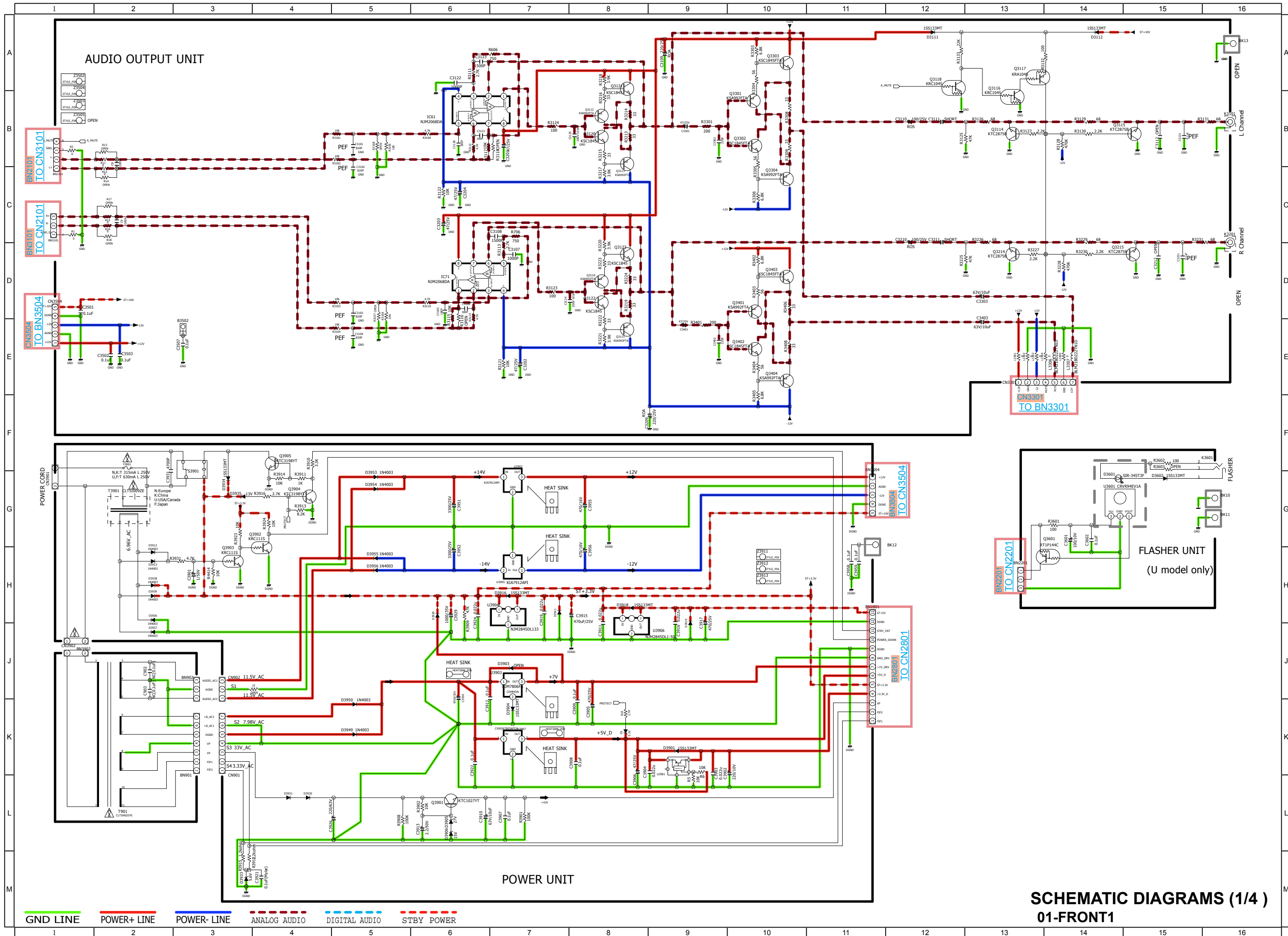
AUDIO OUTPUT UNIT

POWER UNIT

SCHEMATIC DIAGRAMS (1/4)
01-FRONT1

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO STBY POWER

FLASHER UNIT
(U model only)

TO CN3101
TO CN2101
TO BN3504
TO BN3301
TO CN3504
TO CN2801
TO CN2201
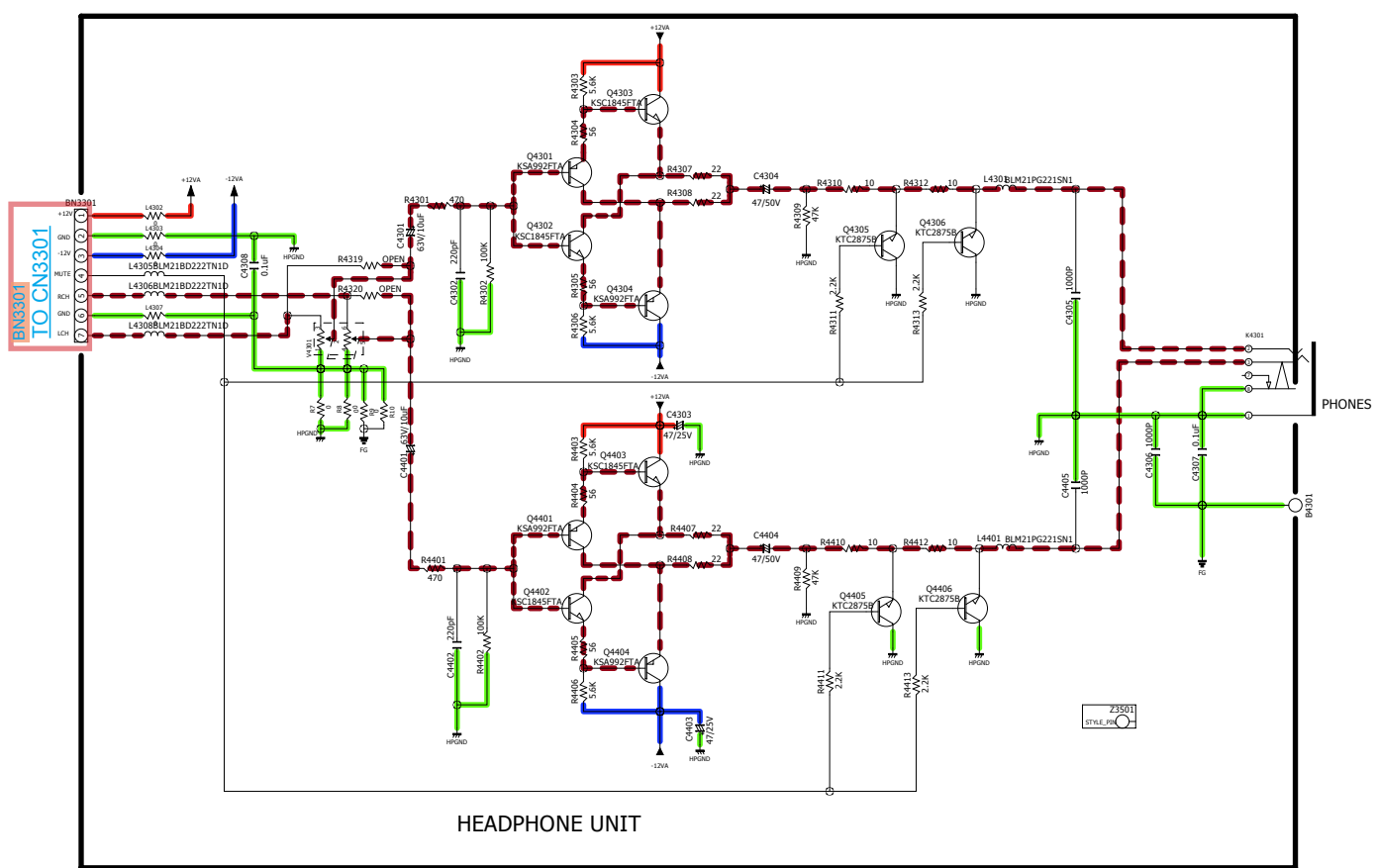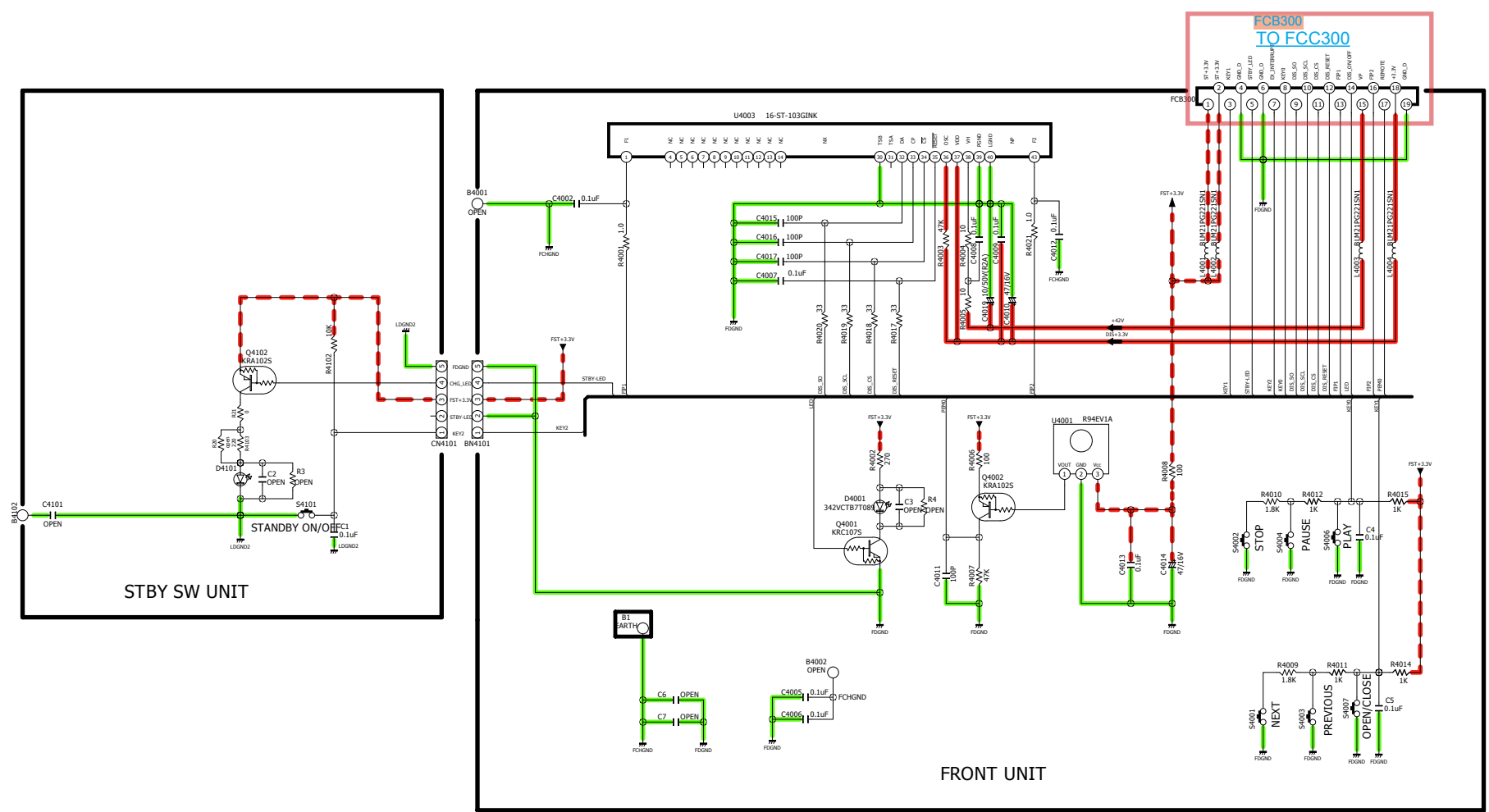
SCHEMATIC DIAGRAMS (2/4)

02-FRONT2

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO STBY POWER

42
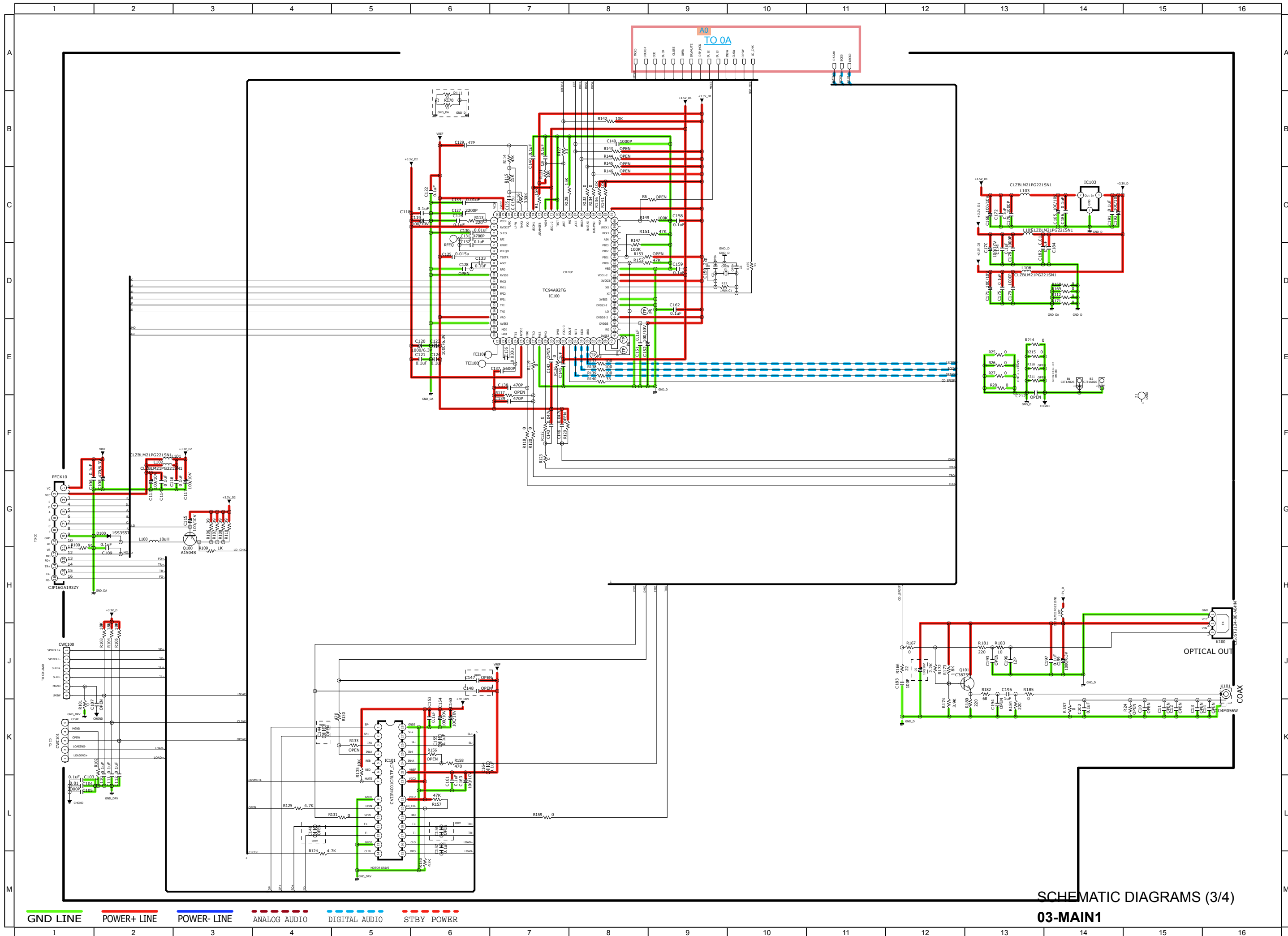
SCHEMATIC DIAGRAMS (3/4)

03-MAIN1

GND LINE   POWER+ LINE   POWER- LINE   ANALOG AUDIO   DIGITAL AUDIO   STBY POWER

43

MCU

TMPM330FYFG
TMPM330FYFG256M)
HOST MCU

EEPROM
CVK24CH8SUIGA

CS4398
IC304

CDCE913PWR
IC27

TC7WHU04FL
IC26

CVILM1117C-1V8
IC25

MCU UPDATE
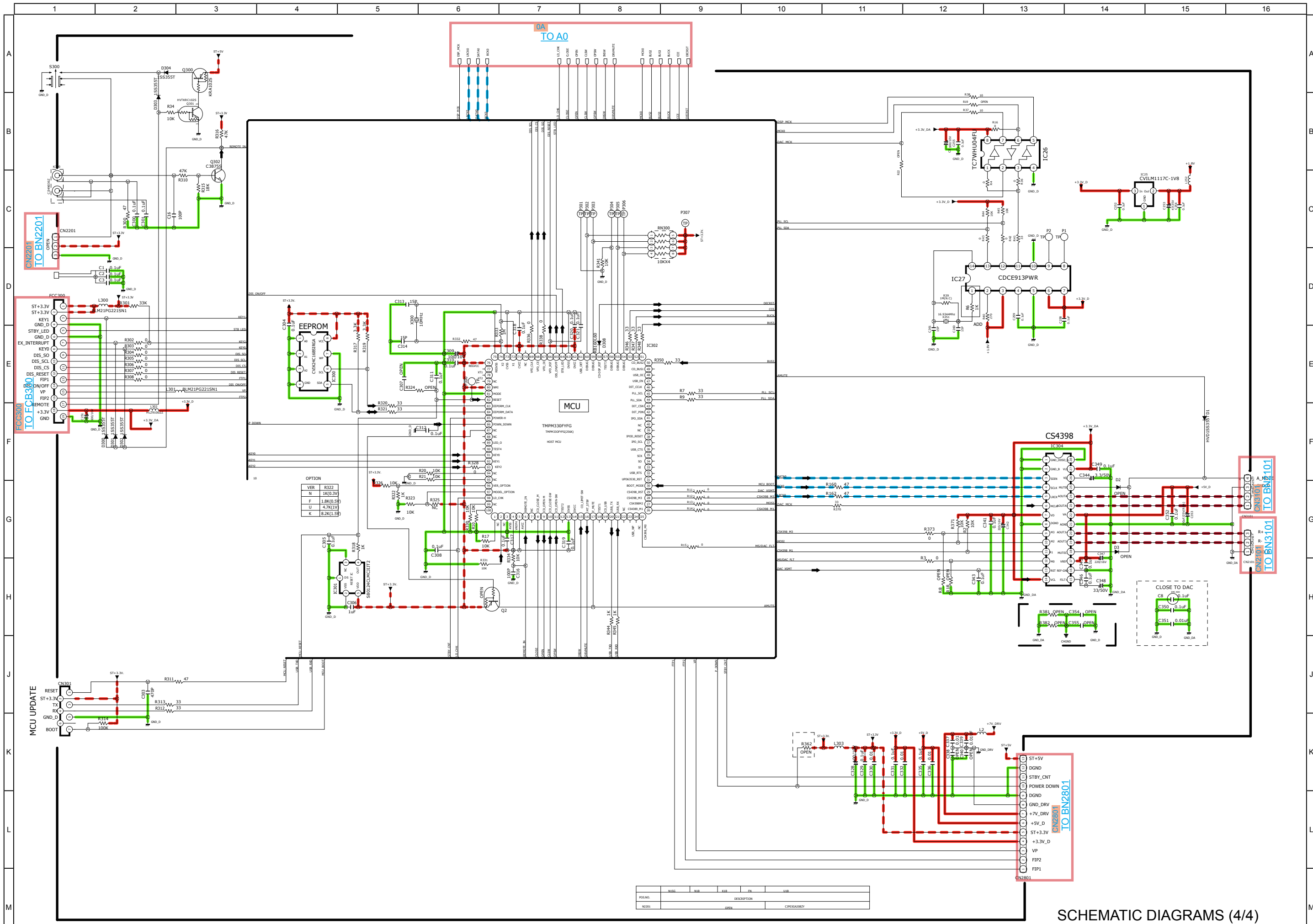
OPTION

VER	R322
N	1K(0.3V)
F	1.8K(0.5V)
U	4.7K(1V)
K	8.2K(1.5V)

TO BN2201
CN2201

TO FCB300
FCC300

TO BN3101
CN3106

TO BN3101
CN3101

TO BN2801
CN2801

ST+5V
DGND
STBY_CNT
POWER DOWN
DGND
GND_DRV
+7V_DRV
+5V_D
ST+3.3V
+3.3V_D
VP
FIP2
FIP1

CLOSE TO DAC

POS.NO.	N1SG	R1B	K1B	FN	U1B
			DESCRIPTION		
N2201			OPEN	C3P3GA20B2V	

SCHEMATIC DIAGRAMS (4/4)
04-MAIN2

GND LINE   POWER+ LINE   POWER- LINE   ANALOG AUDIO   DIGITAL AUDIO   STBY POWER

EXPLODED VIEW

Please see the last chapter for the part list.
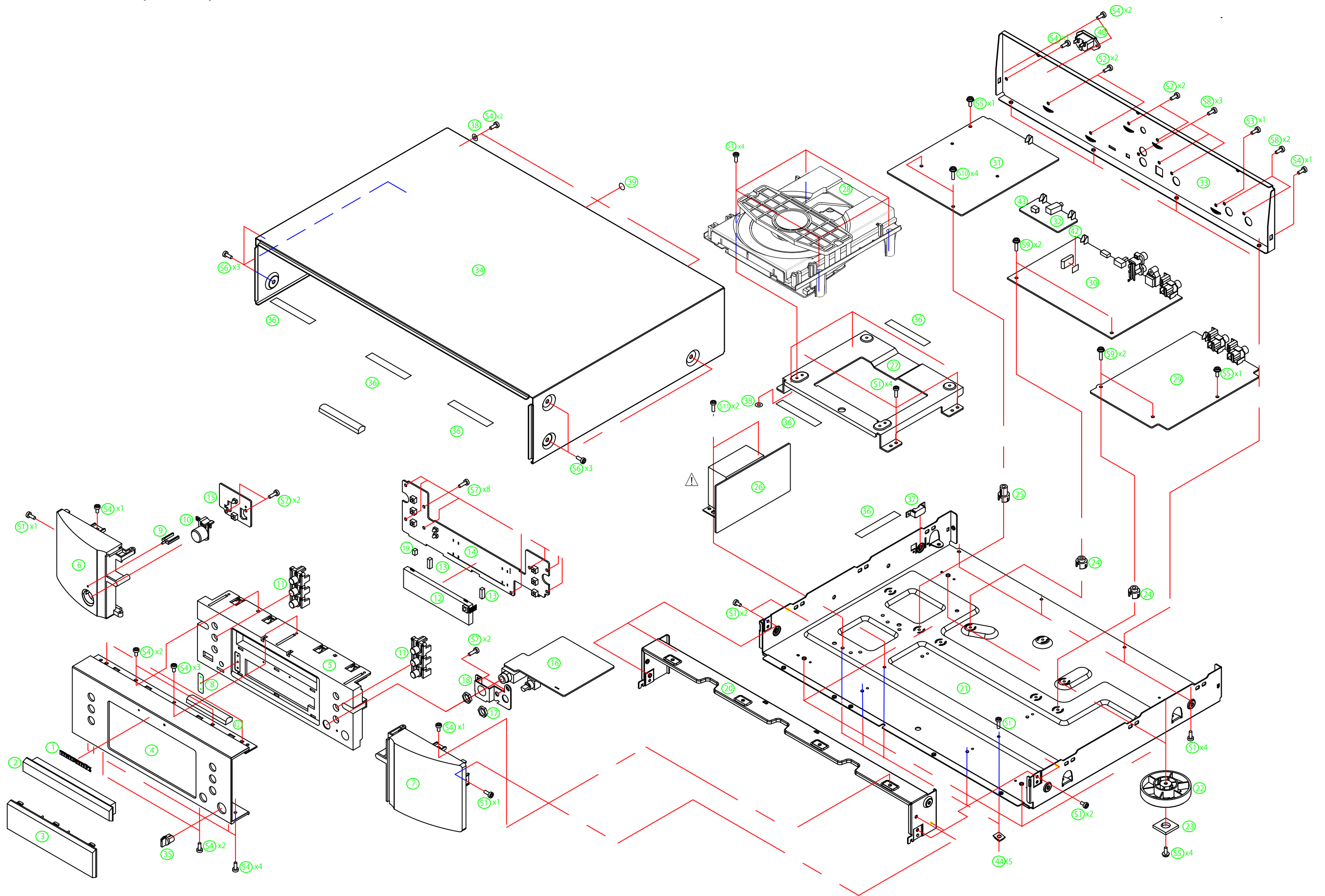
Personal notes:

Personal notes:

PACKING VIEW ⚠

Please see the last chapter for the part list.

OPP TAPE

UK plug
(UK Only)
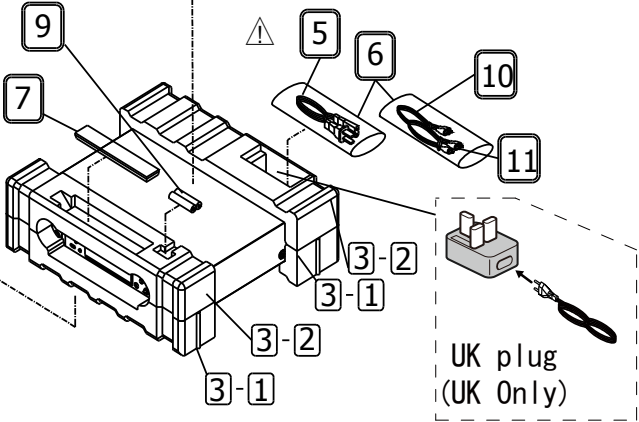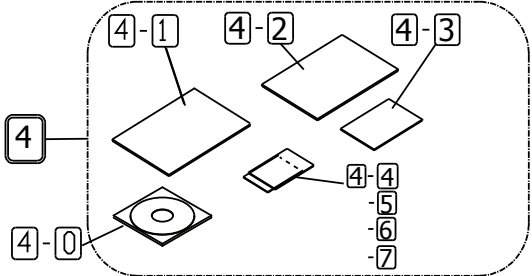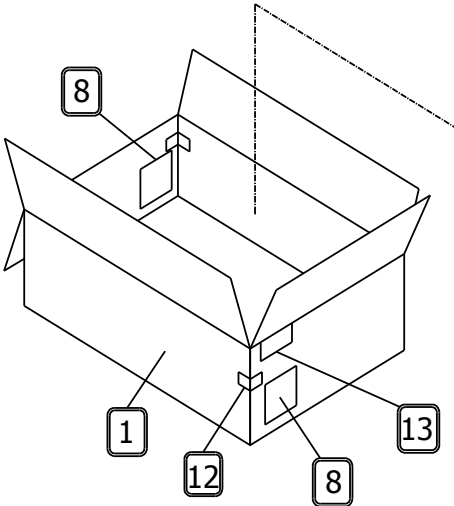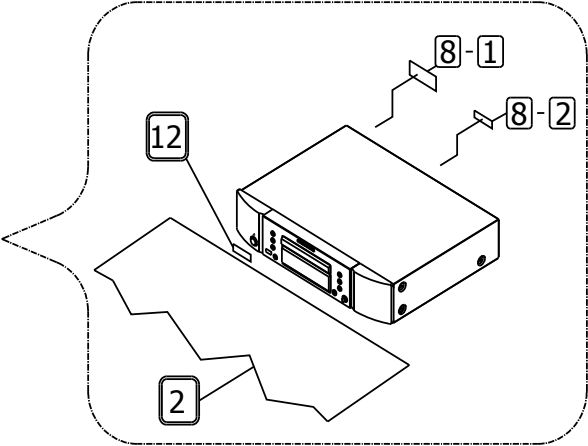
SEMICONDUCTORS

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

TMPM330FYFG(IC302)
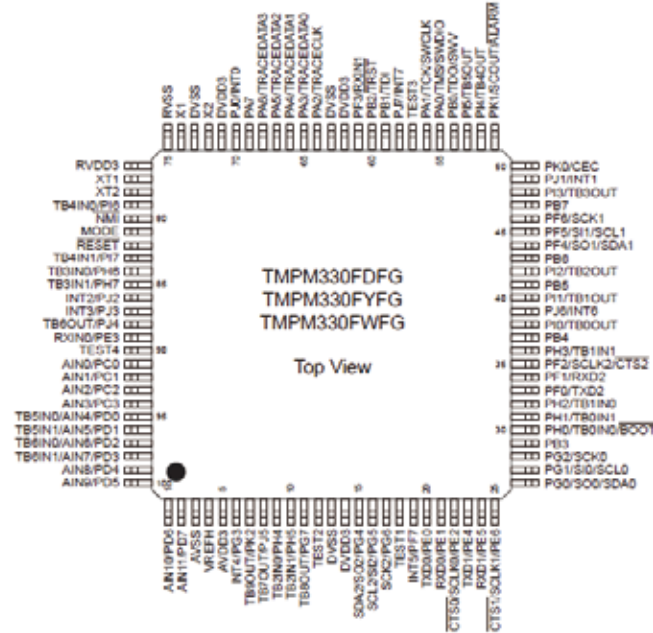
MAIN MCU PORT MAP

Pin	Symbol	Pin Name	I/O	Pu/Pd	STBY	Description
1	AN10/PD6	NC	I		L	unused
2	AN11/PD7	NC	I		L	unused
3	AVSS	AVSS	G			GND
4	VREFH	VREFH	P		H	Vref voltage
5	AVCC	AVCC	G			3.3V power supply
6	INT4/PG3	REMOTE_IN	P		H	Remote signal input
7	TB9OUT/PK2	NC	I/O		L	unused
8	TB7OUT/PJ2	CD_CLOSE_M	I/O		L	press key (open/close) send command TO IP4001CRLTF action drive motor close the CD door
9	TB2INT0/PH4	CD_OPEN_M	I/O		L	press key (open/close) send command TO IP4001CRLTF action drive motor open the CD door
10	TB2INT1/PH5	CD_CLOSE_SW	I/O		L	CD closethe door switch detect
11	TB8OUT/PG7	CD_OPEN_SW	I/O		L	CD open the door switch detect
12	TEST2	TEST2			L	unused
13	DVSS	DVSS	G			GND
14	DVCC	DVCC	P			3.3V power supply
15	SDA2/SO2/PG4	CD_LIMIT_SW	I/O		L	CD laser head limit switch detect
16	SCL2/SI2/PG5	MT_STBY	I/O		L	enable mute CD deive chip
17	SCK2/PG6	F_MUTE	I/O		L	enable mute hardware circuit
18	TEST1	TEST1			L	unused
19	INT5/PF7	NC	I/O		L	unused
20	TXD0/PE0	USB_TX	I/O		L	mcu chip update uart tx
21	RXD0/PE1	USB_RX	I/O		L	mcu chip update uart rx
22	SCLK0/PE2	NC	I/O		L	unused
23	TXD1/PE4	NC	I/O		L	unused
24	RXD1/PE5	NC	I/O		L	unused
25	SCLK1/PE6	CS4398_M0	I/O		L	cs4398 m0 control pin
26	SDA0/SO0/PG0	CS4398_M1	I/O		L	cs4398 m1 control pin
27	SCL0/SI0/PG1	CS4398_M2	I/O		L	cs4398 m2 control pin
28	SCK0/PG2	CS4398_M3	I/O		L	cs4398 m3 control pin
29	PB3	CS4398_RST	I/O		L	cs4398 rst control pin
30	BOOT/TB0INT/PH0	BOOT_MODE	I/O		H	mcu chip update and working mode set
31	TB0INT0/PH1	NC	I/O		L	unused
32	TB0INT1/PH0	NC	I/O		L	unused
33	TXD2/PF0	NC	I/O		L	unused
34	RXD2/PF1	NC	I/O		L	unused

Pin	Symbol	Pin Name	I/O	Pu/Pd	STBY	Description
35	SCLK2/PF2	NC	I/O		L	unused
36	TBINT1/PH3	NC	I/O		L	unused
37	PB4	NC	I/O		L	unused
38	TB0OUT/TP1	NC	I/O		L	unused
39	INT6/PJ6	NC	I/O		L	unused
40	TB1OUT/PI1	NC	I/O		L	unused
41	PB5	NC	I/O		L	unused
42	TB2OUT/PI2	NC	I/O		L	unused
43	PB6	NC	I/O		L	unused
44	SDA1/SO1/PF4	PLL_SDA	I/O		L	CDCE913PWR data
45	SCL1/PF5	PLL_SCL	I/O		L	CDCE913PWR Clock
46	SCLK1/PE6	NC	I/O		L	unused
47	PB7	NC	I/O		L	unused
48	TB3OUT/PI3	NC	I/O		L	unused
49	INT1/PJ1	NC	I/O		L	unused
50	CEC/PK0	CD_BUS2	I/O		L	receive data from CD DSP (Oasis (64)pin OUT)
51	PK1/SCOUT	CD_BUS3	I/O		L	send command to CD DSP (Oasis (65)pin IN)
52	PI4/TB4OUT	BUCK	I/O		L	communication clock with CD DSP
53	PI5/TB5OUT	CCE	I/O		L	communication chip enable with CD DSP
54	PB0/TD0/SWV	DEBUG PORT	I/O	pu	H	debug port
55	PA0/TMS/SWDIO	DEBUG PORT	I/O	pu	H	debug port
56	PA1/TCK/SWCLK	DEBUG PORT	I/O	pd	L	debug port
57	TEST3	TEST3			H	unused
58	PJ7/INT7	DECRST	I/O		L	cd DSP reset
59	PB1/TDI	DEBUG PORT	I/O	pu	H	debug port
60	PB2/TRS-	DEBUG PORT	I/O	pu	H	debug port
61	PF3/RXIN1	NC	I/O		L	unused
62	DVCC	DVCC	P			3.3V power supply
63	DVSS	DVSS	G			GND
64	PA2/TRACECLK	STB_LED	I/O		L	standby led
65	PA3/TRACEDATA0	DIS_ON/OFF	I/O		H	display on/off
66	PA4/TRACEDATA1	VFD_RST	I/O		L	vfd reset pin
67	PA5/TRACEDATA2	VFD_DI	I/O		L	vfd di data pin
68	PA6/TRACEDATA3	VFD_CE	I/O		L	vfd enable pin
69	PA7	VFD_CLK	I/O		L	vfd clk pin
70	PJ0/INT0	NC	I/O		L	unused
71	CVCC	CVCC	P			3.3V power supply
72	X2	X1			H	stsyem clock 10MHz
73	CVSS	CVSS	G			GND
74	X1	X2			H	stsyem clock 10MHz
75	REGVSS	REGVSS	G			GND
76	REGVCC	REGVCC	P			3.3V power supply
77	XT1	NC			H	unused
78	XT2	NC			H	unused
79	PI6/TB4OUT	NC	I/O		L	unused
80	NMI	NMI	P			3.3V power supply
81	MODE	MODE	G			GND
82	RESET	RESET	I		H	mcu reset
83	PI7/TB4INT1	EEPROM_CLK	I/O	pu	L	eeprom clk
84	PH6/TB3INT0	EEPROM_DATA	I/O	pu	L	eeprom data
85	PH7/TB3INT1	POWER_H	I/O		L	power on
86	PJ2/INT2	POWER_DOWN	I/O		H	power down detect
87	PJ3/INT3	NC	I/O		L	unused
88	PJ4/TB6OUT	NC	I/O		L	unused
89	PE3/RXINT0	STB_CHG_LED	I/O		H	IPOD Change LED Control
90	TST4	TEST4			H	unused
91	PC0/INT0	KEY0	I		H	AD key
92	PC1/INT1	KEY1	I		H	AD key
93	PC2/INT2	KEY2	I		H	standby key
94	PC3/INT3	NC	I		L	unused
95	PD0/INT4	NC	I		L	unused
96	PD1/INT5	VER_OPTION	I	pu	L	voltage detect
97	PD2/INT6	MODE_OPTION	I	pd	L	mode set
98	PD3/INT7	LD_CHK	I		L	cd LD check
99	PD4/INT8	PD	I	pd	L	unused
100	PD5/INT9	PD	I	pd	L	unused

TC94A92FG (IC100)

Top pins (left to right): 60 Pio7, 59 Pio6, 58 Pio5, 57 Pio4, 56 Pio3, 55 Pio2, 54 Pio1, 53 Pio0, 52 VSS-2, 51 VDD1-2, 50 XVDD3, 49 Xo, 48 Xi, 47 XVSS3, 46 DVSS3L, 45 Lo, 44 DVDD3L, 43 DVDD3R, 42 Ro, 41 DVSS3R

Left pins (top to bottom):

Pin	Name
61	VDD3
62	BUS0
63	BUS1
64	BUS2
65	BUS3
66	BUCK
67	/CCE
68	MS
69	/RST
70	TEST
71	VDD1-1
72	VSS-1
73	/SRAMSTB
74	VDDM1
75	PDo
76	TMAX
77	LPFN
78	LPFo
79	PVREF
80	VCoF

TC94A92FG (Top View)

Right pins (top to bottom):

Pin	Name
40	CDMoN3
39	Pio14 / CDMoN2
38	Pio13 / CDMoN1
37	Pio12 / CDMoN0 / FGiN
36	Pio11
35	Pio10
34	Pio9
33	Pio8
32	VDD1-3
31	DMo
30	FMoS
29	FMo
28	VSS-3
27	TRo
26	Foo
25	AVDD3
24	TEi
23	RFRP
22	RFZi
21	FSMoNiT

Bottom pins (left to right): 1 VCoi, 2 RVDD3, 3 SLCo, 4 RFi, 5 RFRPi, 6 RFEQo, 7 DCoFC, 8 AGCi, 9 RFo, 10 RVSS3, 11 FNi2, 12 FNi1, 13 FPi2, 14 FPi1, 15 TPi, 16 TNi, 17 VRo, 18 AVSS3, 19 MDi, 20 LDo

50

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 inputr 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 serises 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 serises 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 Muiti-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 Muiti-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, Hiz)
76	TMAX	O 3AI/F	TMAX detection result output pin	O	3-state output (RVDD3, RVSS3, Hiz)
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.

IP4001 (IC101)

PGND2	DO4-	DO4+	IN4	IN4A	REF	VCC2	(FIN)	VCC1	CTL	IN3	DO3+	DO3-	DO5-	DO5+
28	27	26	25	24	23	22		21	20	19	18	17	16	15

IP4001

1	2	3	4	5	6	7		8	9	10	11	12	13	14
DO1-	DO1+	IN1	IN1A	N/C	REO	MUTE	(FIN)	SGND	FWD	IN2	DO2+	DO2-	PGND1	REV
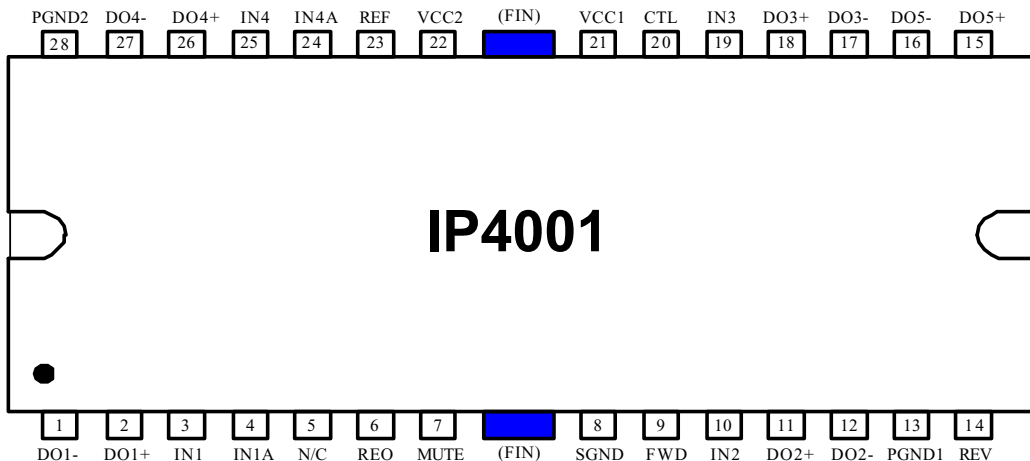
Pin Discriptions

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

Block Diagram

CS4398 (IC304)

```
                        DSD_B  ▢ 1 ●          28 ▢  DSD_A
                     DSD_SCLK  ▢ 2             27 ▢  VLS
                         SDIN  ▢ 3             26 ▢  VQ
                         SCLK  ▢ 4             25 ▢  AMUTEC
                         LRCK  ▢ 5             24 ▢  AOUTA-
                         MCLK  ▢ 6             23 ▢  AOUTA+
                           VD  ▢ 7             22 ▢  VA
                         DGND  ▢ 8             21 ▢  AGND
             M3 (AD1/CDIN)  ▢ 9               20 ▢  AOUTB+
            M2 (SCL/CCLK)  ▢ 10               19 ▢  AOUTB-
           M1 (SDA/CDOUT)  ▢ 11               18 ▢  BMUTEC
              M0 (AD0/CS)  ▢ 12               17 ▢  VREF
                          RST  ▢ 13           16 ▢  REF_GND
                          VLC  ▢ 14           15 ▢  FILT+
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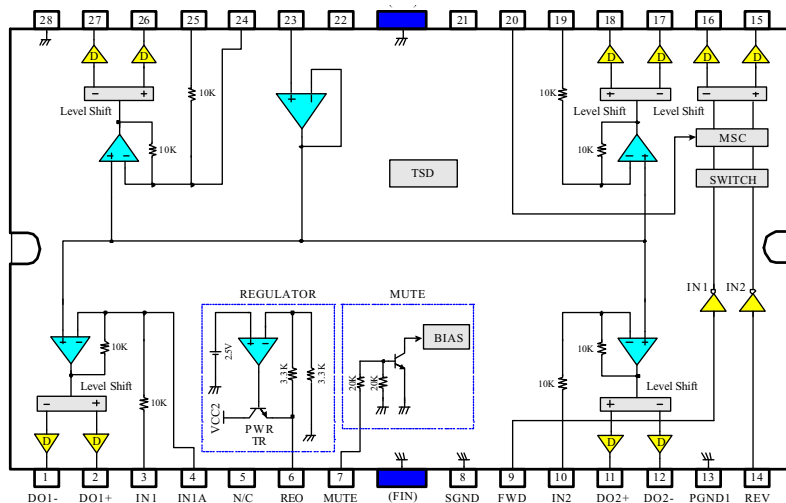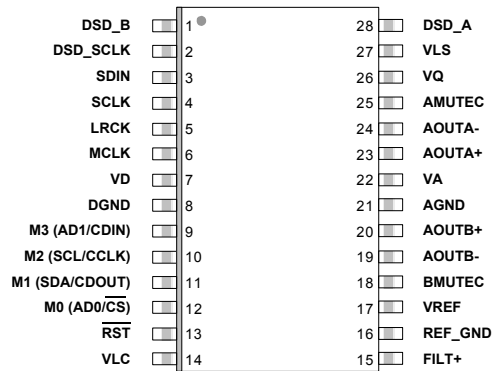
CS4398 Terminal Function

Pin Name	Pin #	Pin Description
DSD_A DSD_B	28 1	**Direct Stream Digital Input** (*Input*) - Input for Direct Stream Digital serial audio data.
DSD_SCLK	2	**DSD Serial Clock** (*Input*) - Serial clock for the Direct Stream Digital audio interface.
SDIN	3	**Serial Audio Data Input** (*Input*) - Input for two's complement serial audio data.
SCLK	4	**Serial Clock** (*Input*) - Serial clock for the serial audio interface.
LRCK	5	**Left Right Clock** (*Input*) - Determines which channel, Left or Right, is currently active on the serial audio data line.
MCLK	6	**Master Clock** (*Input*) - Clock source for the delta-sigma modulator and digital filters.
VD	7	**Digital Power** (*Input*) - Positive power for the digital section.
DGND	8	**Digital Ground** (*Input*) - Ground reference for the digital section.
RST	13	**Reset** (*Input*) - The device enters system reset when enabled.
VLC	14	**Control Port Power** (*Input*) - Positive power for Control Port I/O.
FILT+	15	**Positive Voltage Reference** (*Output*) - Positive reference voltage for the internal sampling circuits.
REF_GND	16	**Reference Ground** (*Input*) - Ground reference for the internal sampling circuits.
VREF	17	**Voltage Reference** (*Input*) - Positive voltage reference for the internal sampling circuits.
BMUTEC AMUTEC	18 25	**Mute Control** (*Output*) - The Mute Control pin is active during power-up initialization, muting, power-down or if the master clock to left/right clock frequency ratio is incorrect. During reset, these outputs are set to a high impedance.
AOUTB+ AOUTB-	20 19	**Differential Right Channel Analog Output** (*Output*) - The full-scale differential analog output level is specified in the Analog Characteristics specification table.
AGND	21	**Analog Ground** (*Input*) - Ground reference for the analog section.
VA	22	**Analog Power** (*Input*) - Positive power for the analog section.
AOUTA+ AOUTA-	23 24	**Differential Left Channel Analog Output** (*Output*) - The full-scale differential analog output level is specified in the Analog Characteristics specification table.
VQ	26	**Quiescent Voltage** (*Output*) - Filter connection for internal quiescent voltage.
VLS	27	**Serial Audio Interface Power** (*Input*) - Positive power for serial audio interface I/O.
Stand-Alone Mode Definitions		
M3 M2 M1 M0	9 10 11 12	**Mode Selection** (*Input*) - Determines the operational mode of the device.
Control Port Mode Definitions		
AD1/CDIN	9	**Address Bit 1 (I²C) / Control Data Input (SPI)** (*Input*) - AD1 is a chip address pin in I²C mode; CDIN is the input data line for the Control Port interface in SPI mode.
SCL/CCLK	10	**Serial Control Port Clock** (*Input*) - Serial clock for the serial Control Port.
SDA/CDOUT	11	**Serial Control Data (I²C) / Control Data Output (SPI)** (*Input/Output*) - SDA is a data I/O line in I²C mode. CDOUT is the output data line for the Control Port interface in SPI mode.
AD0/CS	12	**Address Bit 0 (I²C) / Control Port Chip Select (SPI)** (*Input*) - AD0 is a chip address pin in I²C mode; CS is the chip select signal for SPI format.

Block Diagram
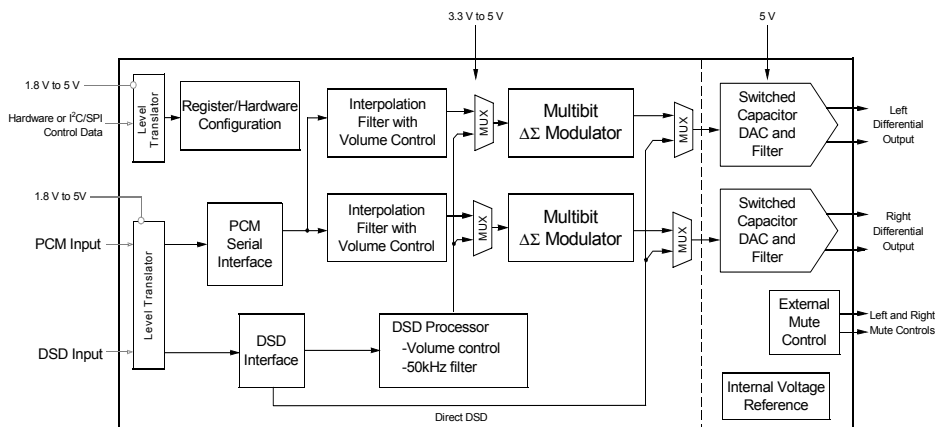
2. FL DISPLAY

V.F.D (FUTABA, 16ST103GINK) (U4003)
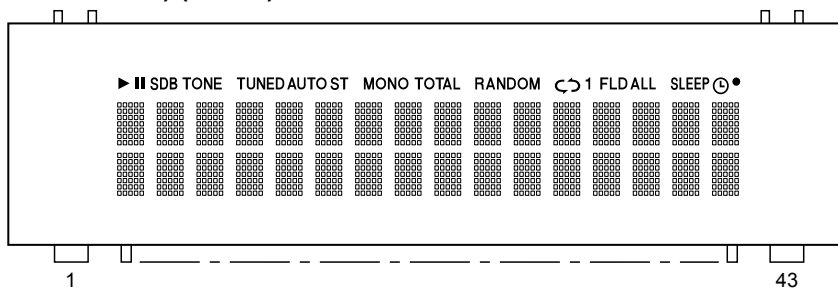
PIN CONNECTION

PIN NO.	1	2	3	4 ~ 14	15 ~ 29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
CONNECTION	F1	NP	NP	NC	NX	TSB	TSA	DA	CP	CS	-RESET	OSC	VDD	PGND	LGND	NDP	NP	NP	F2

```
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.
```

FRONT PCB ASS'Y

※Parts indicated by "nsp"on this table cannot be supplied.
※The parts listed t NOTE:The symbols in the column Remarks indicate the following destinations.
         U : North America model N : Europe model K : China model F : Japan model

         B : Black model SG : Silver gold model

REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
SEMICONDUCTORS GROUP							
D1	00D9600095607	DIODE , ZENER ,1/2W, 5.6V		CVDZJ56BT	1		
D3111,3112	00D9430182609	DIODE , SWITCHING		CVD1SS133MT	2		
D3601	90M-HI200020R	INFRARED LED	U	BVDSIR34ST3F	1		
D3602	00D9430182609	DIODE , SWITCHING	U	CVD1SS133MT	1		
D3901	00D9430182609	DIODE , SWITCHING		CVD1SS133MT	1		
D3904	00D9430182609	DIODE , SWITCHING		CVD1SS133MT	1		
D3905	90M-HD302350R	DIODE , ZENER ,1/2W, 27V		CVDZJ27BT	1		
D3906	90M-HD302480R	DIODE , ZENER ,1/2W, 15V		CVDZJ15BT	1		
D3911-3913	00D9430182502	DIODE , RECT		CVD1N4003ST	3		
D3916	00D9430182609	DIODE , SWITCHING		CVD1SS133MT	1		
D3918	00D9430182609	DIODE , SWITCHING		CVD1SS133MT	1		
D3919	00D9430182502	DIODE , RECT		CVD1N4003ST	1		
D3929-3931	00D9430182502	DIODE , RECT		CVD1N4003ST	3		
D3933	00D9600095607	DIODE , ZENER ,1/2W, 5.6V		CVDZJ56BT	1		
D3934	00D9430182609	DIODE , SWITCHING		CVD1SS133MT	1		
D3935	919202500600D	DIODE , ZENER ,1/2W, 11V		CVDZJ11BT	1		
D3936-3939	00D9430182502	DIODE , RECT		CVD1N4003ST	4		
D3949,3950	00D9430182502	DIODE , RECT		CVD1N4003ST	2		
D3953-3956	00D9430182502	DIODE , RECT		CVD1N4003ST	4		
D4001	90M-HI101040R	LED , RED		HVD342VCTB7T089	1		
D4101	90M-HI101040R	LED , RED		HVD342VCTB7T089	1		
IC61	00MHC10102090	IC , OP AMP (JRC)		HVINJM2068MDTE1	1		
IC71	00MHC10102090	IC , OP AMP (JRC)		HVINJM2068MDTE1	1		
Q3110-3113	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	4		
Q3114,3115	00D9430072502	TR , CHIP , SOT-23		HVTKTC2875B	2		
Q3116	943219500200M	TR , CHIP , SOT-23		HVTKRC104S	1		
Q3117	00D2690191903	TR , CHIP , SOT-23		HVTKRA104S	1		
Q3118	943219500200M	TR , CHIP , SOT-23		HVTKRC104S	1		
Q3120-3123	943213500150S	NPN, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSC1845FTA	4		
Q3214,3215	00D9430072502	TR , CHIP , SOT-23		HVTKTC2875B	2		
Q3301	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q3302,3303	943213500150S	NPN, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSC1845FTA	2		
Q3304	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q3401	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q3402,3403	943213500150S	NPN, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSC1845FTA	2		
Q3404	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q3601	943215500140D	TR,RT1P144C(10K-47K)	U	CVTRT1P144C	1		
Q3901	943219006820S	TR		CVTKTC1027YT	1		
Q3902,3903	90M-HX800090R	TR , CHIP , SOT-23		HVTKRC111S	2		
Q3904,3905	00D9430154404	TR		HVTKTC3198YT	2		
Q4001	00D9630121606	TR , CHIP , SOT-23		HVTKRC107S	1		
Q4002	00D2690184907	TR , CHIP , SOT-23		HVTKRA102S	1		
Q4102	00D2690184907	TR , CHIP , SOT-23		HVTKRA102S	1		
Q4301	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q4302,4303	943213500150S	NPN, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSC1845FTA	2		
Q4304	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q4305,4306	00D9430072502	TR , CHIP , SOT-23		HVTKTC2875B	2		
Q4401	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q4402,4403	943213500150S	NPN, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSC1845FTA	2		
Q4404	943211500150S	PNP, TO-92, LOW NOISE, HFE:300-600, FAILCHILD		CVTKSA992FTA	1		
Q4405,4406	00D9430072502	TR , CHIP , SOT-23		HVTKTC2875B	2		
U3601	262010007707S	REMOTE SENSOR , R94EV1A	U	CRVR94EV1A	1		
U3901	231310009508S	IC , REGULATOR (33V)		CVIPQ033DNA1ZPH	1		
U3902	nsp	IC HEATSINK ASS'Y(CMY2A223)		CVIKIA7812APIJA	1		
U3903	00D9430198304	IC , REGULATOR		HVINJM7806FA	1		
U3904	943239010400S	IC, REGULATOR(33V/TO-252)		CVINJM2845DL133	1		
U3905	nsp	IC HEATSINK ASS'Y (CMY2A223)		CVIKIA7912PIJA	1		
U3906	943219500140M	IC, REGULATOR(50V/TO-252)		CVINJM2845DL1-05	1		
! U3907	00MHC3890599F	IC,REGULATOR(+5V,T0220IS)		HVIKIA7805API	1		
U4001	262010007707S	REMOTE SENSOR , R94EV1A		CRVR94EV1A	1		
U4003	943172100160S	VFD (FUTABA, 16ST103GINK)		CFL16ST103GINK	1		
RESISTOR GROUP							
R1,2	nsp	WIRE, COPPER(D06)		C3A206	2		
R5,6	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R7-10	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	4		
R11,12	nsp	WIRE, COPPER(D06)		C3A206	2		
R15,16	nsp	WIRE, COPPER(D06)		C3A206	2		
R19	nsp	RES, CARBON(1/5W,27Kohm,J)		CRD20TJ272T	1		
R21	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R606	nsp	RES, CARBON(1/5W,750ohm,J)		CRD20TJ751T	1		
R706	nsp	RES, CARBON(1/5W,750ohm,J)		CRD20TJ751T	1		
R3101-3106	nsp	RES, CARBON(1/5W,10Kohm,J)		CRD20TJ103T	6		
R3109,3110	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ472T	2		
R3111	nsp	RES, CARBON(1/5W,27Kohm,J)		CRD20TJ272T	1		
R3112	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ472T	1		
R3113	nsp	RES, CARBON(1/5W,27Kohm,J)		CRD20TJ272T	1		
R3114	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ472T	1		
R3115	nsp	RES, CARBON(1/5W,10Kohm,J)		CRD20TJ103T	1		
R3117	nsp	RES, CARBON(1/5W,10Kohm,J)		CRD20TJ103T	1		
R3121,3122	nsp	RES, CARBON(1/5W,10Kohm,J)		CRD20TJ103T	2		
R3123,3124	nsp	RES, CARBON(1/5W,100ohm,J)		CRD20TJ101T	2		
R3125	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ473T	1		
R3126	00MGD05680160	RES, CARBON(1/5W,68ohm,J)		CRD20TJ680T	1		
R3127	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R3128	nsp	RES, CHIP(1608/5%/470Kohm)		CRJ10DJ474T	1		
R3129	00MGD05680160	RES, CARBON(1/5W,68ohm,J)		CRD20TJ680T	1		
R3130	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R3131	00MGD05680160	RES, CARBON(1/5W,68ohm,J)		CRD20TJ680T	1		
R3132	nsp	RES, CARBON(1/5W,100ohm,J)		CRD20TJ101T	1		
R3133	nsp	RES, CARBON(1/5W,22Kohm,J)		CRD20TJ223T	1		
R3213-3216	nsp	RES, CARBON(1/5W,33ohm,J)		CRD20TJ330T	4		
R3217,3218	nsp	RES, CARBON(1/5W,39Kohm,J)		CRD20TJ392T	2		
R3219	nsp	RES, CARBON(1/5W,33ohm,J)		CRD20TJ330T	1		
R3220,3221	nsp	RES, CARBON(1/5W,39Kohm,J)		CRD20TJ392T	2		
R3222-3224	nsp	RES, CARBON(1/5W,33ohm,J)		CRD20TJ330T	3		
R3225	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ473T	1		
R3226	00MGD05680160	RES, CARBON(1/5W,68ohm,J)		CRD20TJ680T	1		
R3227	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		

REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
R3228	nsp	RES, CHIP(1608/5%/470Kohm)		CRJ10DJ474T	1		
R3229	00MGD05680160	RES, CARBON(1/5W,68ohm,J)		CRD20TJ680T	1		
R3230	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R3231	00MGD05680160	RES, CARBON(1/5W,68ohm,J)		CRD20TJ680T	1		
R3301	nsp	RES, CARBON(1/5W,200ohm,J)		CRD20TJ201T	1		
R3303	nsp	RES, CARBON(1/5W,68Kohm,J)		CRD20TJ682T	1		
R3304,3305	nsp	RES, CARBON(1/5W,56ohm,J)		CRD20TJ560T	2		
R3306	nsp	RES, CARBON(1/5W,68Kohm,J)		CRD20TJ682T	1		
R3308,3309	nsp	RES, CARBON(1/5W,33ohm,J)		CRD20TJ330T	2		
R3401	nsp	RES, CARBON(1/5W,200ohm,J)		CRD20TJ201T	1		
R3402	nsp	RES, CARBON(1/5W,68Kohm,J)		CRD20TJ682T	1		
R3403,3404	nsp	RES, CARBON(1/5W,56ohm,J)		CRD20TJ560T	2		
R3405	nsp	RES, CARBON(1/5W,68Kohm,J)		CRD20TJ682T	1		
R3406	nsp	RES, CARBON(1/5W,33ohm,J)		CRD20TJ330T	1		
R3408	nsp	RES, CARBON(1/5W,33ohm,J)		CRD20TJ330T	1		
R3601,3602	nsp	RES, CHIP(1608/5%/100ohm)	U	CRJ10DJ101T	2		
R3901	nsp	RES, CARBON(1/5W,100Kohm,J)		CRD20TJ104T	1		
R3902	nsp	RES, CARBON(1/5W,10Kohm,J)		CRD20TJ103T	2		
R3908	nsp	RES, CARBON(1/5W,100Kohm,J)		CRD20TJ104T	1		
R3909	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ473T	1		
R3910	nsp	RES, CARBON(1/5W,33Kohm,J)		CRD20TJ332T	1		
R3911	nsp	RES, CARBON(1/5W,1Kohm,J)		CRD20TJ102T	1		
R3912	nsp	RES, CARBON(1/4W,12Kohm,J)		CRD25TJ122T	1		
R3913	00MGD05822160	RES, CARBON(1/5W,82Kohm,J)		CRD20TJ822T	1		
R3914	nsp	RES, CARBON(1/5W,10Kohm,J)		CRD20TJ103T	1		
R3915	nsp	RES, CARBON(1/4W,12Kohm,J)		CRD25TJ122T	1		
R3916	nsp	RES, CARBON(1/5W,27Kohm,J)		CRD20TJ272T	1		
R3923,3924	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R3931	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ472T	1		
R4001	nsp	RES, CHIP(3216/5%/1ohm)		CRJ14CJ1R0T	1		
R4002	nsp	RES, CHIP(1608/5%/270ohm)		CRJ10DJ271T	1		
R4003	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	1		
R4004,4005	nsp	RES, CARBON(1/5W,10ohm,J)		CRD20TJ100T	2		
R4006	nsp	RES, CHIP(1608/5%/100ohm)		CRJ10DJ101T	1		
R4007	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	1		
R4008	nsp	RES, CHIP(1608/5%/100ohm)		CRJ10DJ101T	1		
R4009,4010	nsp	RES, CHIP(1608/5%/18Kohm)		CRJ10DJ182T	2		
R4011,4012	nsp	RES, CHIP(1608/5%/1Kohm)		CRJ10DJ102T	2		
R4014,4015	nsp	RES, CHIP(1608/5%/1Kohm)		CRJ10DJ102T	2		
R4017-4020	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	4		
R4021	nsp	RES, CHIP(3216/5%/1ohm)		CRJ14CJ1R0T	1		
R4102	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R4103	nsp	RES, CHIP(1608/5%/220ohm)		CRJ10DJ221T	1		
R4301	nsp	RES, CARBON(1/5W,470ohm,J)		CRD20TJ471T	1		
R4302	nsp	RES, CARBON(1/5W,100Kohm,J)		CRD20TJ104T	1		
R4303	nsp	RES, CARBON(1/5W,56Kohm,J)		CRD20TJ562T	1		
R4304,4305	nsp	RES, CARBON(1/5W,56ohm,J)		CRD20TJ560T	2		
R4306	nsp	RES, CARBON(1/5W,56Kohm,J)		CRD20TJ562T	1		
R4307,4308	00MGD05220160	RES, CARBON(1/5W,22ohm,J)		CRD20TJ220T	2		
R4309	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ473T	1		
R4310	nsp	RES, CARBON(1/5W,10ohm,J)		CRD20TJ100T	1		
R4311	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R4312	nsp	RES, CARBON(1/5W,10ohm,J)		CRD20TJ100T	1		
R4313	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R4401	nsp	RES, CARBON(1/5W,470ohm,J)		CRD20TJ471T	1		
R4402	nsp	RES, CARBON(1/5W,100Kohm,J)		CRD20TJ104T	1		
R4403	nsp	RES, CARBON(1/5W,56Kohm,J)		CRD20TJ562T	1		
R4404,4405	nsp	RES, CARBON(1/5W,56ohm,J)		CRD20TJ560T	2		
R4406	nsp	RES, CARBON(1/5W,56Kohm,J)		CRD20TJ562T	1		
R4407,4408	00MGD05220160	RES, CARBON(1/5W,22ohm,J)		CRD20TJ220T	2		
R4409	nsp	RES, CARBON(1/5W,47Kohm,J)		CRD20TJ473T	1		
R4410	nsp	RES, CARBON(1/5W,10ohm,J)		CRD20TJ100T	1		
R4411	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R4412	nsp	RES, CARBON(1/5W,10ohm,J)		CRD20TJ100T	1		
R4413	nsp	RES, CHIP(1608/5%/22Kohm)		CRJ10DJ222T	1		
R4414	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
CAPACIITORS GROUP							
C1	nsp	CAP, CHIP(1608, 50V/.01uF)		CCUS1H104KC	1		
C4,5	nsp	CAP, CHIP(1608, 50V/.01uF)		CCUS1H104KC	2		
C3101-3104	943133502040S	CAP,MYLAR		HCQI2A821JZT	4	*	
C3105,3106	943133502050S	CAP,MYLAR		HCQI2A181JZT	2	*	
C3107	943133502060S	CAP, MYLAR(50V/1000pF/J)		HCQI1H102JZT	1	*	
C3108	943133502070S	CAP, MYLAR(50V/1500pF/J)		HCQI1H152JZT	1	*	
C3109	943134503030S	CAP, ELECT(16V/220uF),ELNA/ROA		CCEA1CROA221T	1	*	
C3110	00MOA107025Z1	CAP , ELECT (ELNA/R0S, 25V/100UF)		HCEA1ER101T	1		
C3111	nsp	WIRE, COPPER(D06)		C3A206	18		
C3120,3121	943133502050S	CAP,MYLAR		HCQI2A181JZT	2	*	
C3122	943133502060S	CAP, MYLAR(50V/1000pF/J)		HCQI1H102JZT	1	*	
C3123	943133502070S	CAP, MYLAR(50V/1500pF/J)		HCQI1H152JZT	1	*	
C3124,3125	943133502080S	CAP , POLYPROPYLENE(FAS(133)-200V-101K)		CCMP2B101KS17T	2	*	
C3201-3204	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	4		
C3209	943134503030S	CAP, ELECT(16V/220uF),ELNA/ROA		CCEA1CROA221T	1	*	
C3210	00MOA107025Z1	CAP , ELECT (ELNA/R0S, 25V/100UF)		HCEA1ER101T	1		
C3211	nsp	WIRE, COPPER(D06)		C3A206	18		
C3301	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	1		
C3302	943133502090S	CAP,MYLAR		HCQI2A221JZT	1	*	
C3303	943134502680M	CAP , ELECT(10uF/63V)		CCEA1JH100T	1		
C3401	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	1		
C3402	943133502090S	CAP,MYLAR		HCQI2A221JZT	1	*	
C3403	943134502680M	CAP , ELECT(10uF/63V)		CCEA1JH100T	1		
C3501-3503	nsp	CAP, CHIP(1608, 50V/.01uF)		CCUS1H104KC	3		
C3507	nsp	CAP, CHIP(1608, 50V/.01uF)		CCUS1H104KC	1		
C3601	nsp	CAP, ELECT(10V/100uF)	U	CCEA1AH101T	1		
C3602	nsp	CAP, CHIP(1608, 50V/.01uF)	U	CCUS1H104KC	1		
C3901	nsp	CAP, ELECT(50V/1uF)		CCEA1HH1R0T	1		
C3902	nsp	CAP, ELECT(10V/220uF)		CCEA1AH221T	1		
C3903,3904	nsp	CAP, CHIP(1608, 50V/.0022uF)		CCUS1H223KC	2		
C3905	00MOA47702520	CAP, ELECT(25V/470uF)		CCEA1EH471E	1		
C3906	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	1		
C3907-3909	nsp	CAP, CHIP(1608, 50V/.01uF)		CCUS1H104KC	3		
C3910	943134502680M	CAP , ELECT(10uF/63V)		CCEA1JH100T	1		
C3911	nsp	CAP, CHIP(1608, 50V/.0022uF)		CCUS1H223KC	1		
C3912	nsp	CAP, CHIP(1608, 50V/.01uF)		CCUS1H104KC	1		
C3913	nsp	CAP, ELECT(50V/22uF)		CCEA1HH2R2T	1		
C3915	00MOA47702520	CAP, ELECT(25V/470uF)		CCEA1EH471E	1		
C3916	nsp	CAP, CHIP(1608, 50V/.0022uF)		CCUS1H223KC	1		

REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
C3917	00MOA47702520	CAP, ELECT(25V/470uF)		CCEA1EH471E	1		
C3919	nsp	CAP, CHIP(1608, 50V/0022uF)		CCUS1H223KC	1		
C3921	943133502100S	CAP, MYLAR(50V/01uF/J)		HCQI1H104JZT	1	*	
C3922	nsp	CAP, CHIP(1608, 50V/01uF)		CCUS1H104KC	1		
C3924	nsp	CAP, CHIP(1608, 50V/0022uF)		CCUS1H223KC	1		
C3926	nsp	CAP , ELECT(63V/220uF)		CCEA1JH221E	1		
C3929	nsp	CAP, ELECT(25V/1000uF)		CCEA1EH102E	1		
C3930	90M-OA000560R	CAP, ELECT(35V/4700uF),16X30L		CCEA1VH472E	1		
C3931	00D9430024408	CAP , CERAMIC(X1/Y2/SC)		KCKDKS472ME	1		
C3951,3952	00MOA33802520	CAP, ELECT(25V/3300uF)		CCEA1EH332E	2		
C3955,3956	00D9430103905	CAP, ELECT(16V/470uF)		CCEA1CH471T	2		
C3958,3959	nsp	CAP, CHIP(1608, 50V/01uF)		CCUS1H104KC	2		
C4002	nsp	CAP, CHIP(1608, 50V/01uF)		CCUS1H104KC	1		
C4005-4009	nsp	CAP, CHIP(1608, 50V/01uF)		CCUS1H104KC	5		
C4010	nsp	CAP, ELECT(16V/47uF)-S		CCEA1CKS470T	1		
C4011	nsp	CAP, CHIP(1608, 50V/100pF)		CCUS1H101JA	1		
C4012,4013	nsp	CAP, CHIP(1608, 50V/01uF)		CCUS1H104KC	2		
C4014	nsp	CAP, ELECT(16V/47uF)-S		CCEA1CKS470T	1		
C4015-4017	nsp	CAP, CHIP(1608, 50V/100pF)		CCUS1H101JA	3		
C4019	943134501930D	CAP, ELECT(50V/10uF)-S		CCEA1HKS100TC	1		
C4301	943134502680M	CAP , ELECT(10uF/63V)		CCEA1JH100T	1		
C4302	943133502110S	CAP, PE-FILM(100V/220pF/J)		CCME2A221JR11T	1	*	
C4303	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	1		
C4304	00D9430148708	CAP, ELECT(50V/47uF)		CCEA1HH470T	1		
C4305,4306	nsp	CAP, CHIP(1608, 50V/1000pF)		CCUS1H102KC	2		
C4307,4308	nsp	CAP, CHIP(1608, 50V/01uF)		CCUS1H104KC	2		
C4401	943134502680M	CAP , ELECT(10uF/63V)		CCEA1JH100T	1		
C4402	943133502110S	CAP, PE-FILM(100V/220pF/J)		CCME2A221JR11T	1	*	
C4403	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	1		
C4404	00D9430148708	CAP, ELECT(50V/47uF)		CCEA1HH470T	1		
C4405	nsp	CAP, CHIP(1608, 50V/1000pF)		CCUS1H102KC	1		
OTHER PARTS GROUP							
CN3301	nsp	WAFER , STRAIGHT(7PIN)		CJP07GA19ZY	1		
CN3504	nsp	LOCKING TYPE , STRAIGHT WAFER , 25MM		CJP05GI237ZW	1		
CN3901,3902	nsp	WAFER, 2P, 396mm		CJP02KA060ZY	2		
CN4101	nsp	WAFER , STRAIGHT		CJP05GA19ZY	1		
CN901	nsp	WAFER , STRAIGHT(7PIN)		CJP07GA19ZY	1		
CN902	nsp	WAFER/STRAIGHT/25mm/3P		CJP03GA01ZY	1		
B3502	nsp	PLATE , EARTH(TRONIC ELECTRONICS)		CJT1A026	1		
B4301	nsp	WIRE ASS'Y		CWE8202110RV	1		
BK10,11	nsp	BRACKET , PCB	U	CMD1A569-V1	2		
BK12,13	nsp	BRACKET , PCB		CMD1A569-V1	2		
BN2101	nsp	WIRE ASS'Y		CWB1C004100E7	1		
BN2201	nsp	WIRE ASS'Y (3PIN,140MM,61205032800AS)	U	CWZCD6004B2201	1		
BN2801	nsp	WIRE ASS'Y (13PIN,80MM,61205032400AS)		CWZCD6004B2801	1		
BN3101	nsp	WIRE ASS'Y		CWB1C003100E7	1		
BN3301	nsp	WIRE ASS'Y		CWZCD5005B3301	1		
BN3504	nsp	WIRE ASS'Y (5PIN,300MM,61205032600AS)		CWZCD6004B3504	1		
BN3902	nsp	WIRE ASS'Y		CWB4F003235VZ	1		
BN4101	nsp	WIRE ASS'Y (5PIN,40MM,61205032700AS)		CWZCD6004B4101	1		
BN901	nsp	WIRE ASS'Y		CWB1C907120E7	1		
BN902	nsp	WIRE ASS'Y		CWB1C903130BM	1		
F3001,3002	nsp	HOLDER , FUSE		KJCFC5S	2		
FCB300	nsp	WAFER, FFC(19P-1mm, STRAIGHT)		CJP19GA117ZY	1		
J10-14	nsp	WIRE, COPPER(D06)		C3A206	5		
J16	nsp	WIRE, COPPER(D06)		C3A206	2		
J19-22	nsp	WIRE, COPPER(D06)		C3A206	4		
J24-29	nsp	WIRE, COPPER(D06)		C3A206	6		
J3	nsp	WIRE, COPPER(D06)		C3A206	2		
J30-36	nsp	WIRE, COPPER(D06)		C3A206	7		
J38-47	nsp	WIRE, COPPER(D06)		C3A206	10		
J5	nsp	WIRE, COPPER(D06)		C3A206	32		
J52-57	nsp	WIRE, COPPER(D06)		C3A206	6		
J59	nsp	WIRE, COPPER(D06)		C3A206	25		
J6	nsp	WIRE, COPPER(D06)		C3A206	2		
J61-69	nsp	WIRE, COPPER(D06)		C3A206	9		
J7	nsp	WIRE, COPPER(D06)		C3A206	2		
J70-74	nsp	WIRE, COPPER(D06)		C3A206	5		
J78	nsp	WIRE, COPPER(D06)		C3A206	35		
J8	nsp	WIRE, COPPER(D06)		C3A206	2		
J80,81	nsp	WIRE, COPPER(D06)		C3A206	2		
J9	nsp	WIRE, COPPER(D06)		C3A206	2		
JMP1,2	nsp	WIRE, COPPER(D06)		C3A206	2		
K3101	943643002370S	JACK , 1P BOARD (WHITE, GD PLATE)		CJJ4M064Z	1		
K3201	943643002380S	JACK , 1P BOARD (RED, GD PLATE)		CJJ4M065Z	1		
K3601	90M-YT004860R	JACK, STEREO (BLK MOLD)	U	CJJ2D008Z	1		
K4301	90M-YT004500R	JACK, PHONES(635mm,SILVER)		CJJ2E026Z	1		
L3301-3304	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	4		
L3306,3307	nsp	FERRITE CHIP BEAD(2012/2200OHM)		CLZBLM21BD222TN1D	2		
L3405	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
L4001-4004	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	4		
L4301	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	1		
L4302-4304	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	3		
L4305,4306	nsp	FERRITE CHIP BEAD(2012/2200OHM)		CLZBLM21BD222TN1D	2		
L4307	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
L4308	nsp	FERRITE CHIP BEAD(2012/2200OHM)		CLZBLM21BD222TN1D	1		
L4401	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	1		
! S3901	00D9430194900	RELAY,G5PA-1,DC6V,1C1P		CSL1E002ZE	1		
S4001-4004	00D9430004402	SW , TACT		CST1A012ZT	4		
S4006,4007	00D9430004402	SW , TACT		CST1A012ZT	2		
S4101	00D9430004402	SW , TACT		CST1A012ZT	1		
T3901	943101002880M	TRANS , SUB C515	U	CLT5I009ZU	1		
T3901	90M-TS003180R	TRANS , SUB CD6002/N	N, K	CLT5I009ZE	1		
T3901	90M-TS003170R	TRANS , SUB CD6002/F	F	CLT5I009ZJ	1		
V4301	00D9430196908	RES , VARIABLE		CVV2J02B103Z	1		
Z3501-3504	nsp	WIRE ASS'Y(1P, 80MM,BLK,#22)		CWE5202080A	4		
Z3911,3912	nsp	WIRE ASS'Y(1P, 80MM,BLK,#22)		CWE5202080A	2		
★	nsp	HEAT SINK ASS'Y		CMYCD5005	1		
★	nsp	HEAT SINK, TR		CMY4A300	1		
★	nsp	HEAT SINK		CMY2A223-V2	1		
★	00D2631100021	IC,REGULATOR(+12V,T0220IS)		HVIKIA7812API	1		
★	nsp	HEAT SINK		CMY2A223-V2	1		
★	00D9430183909	IC , REGULATOR		HVIKIA7912PI	1		
★	nsp	SCREW		CTB3+8JFB	2		
★	nsp	SCREW		CTB3+8JR	1		
★	nsp	SCREW		CTB3+8JR	1		

MAIN PCB ASS'Y

※Parts indicated by "nsp"on this table cannot be supplied.
※The parts listed in NOTE:The symbols in the column Remarks indicate the following destinations.
    U : North America model N : Europe model K : China model F : Japan model

    B : Black model SG : Silver gold model

REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
SEMICONDUCTORS GROUP							
D1	943209001080S	DIODE , CHIP , SWITCHING		CVD1SS355T	1		
D100	943209001080S	DIODE , CHIP , SWITCHING		CVD1SS355T	1		
D300-304	943209001080S	DIODE , CHIP , SWITCHING		CVD1SS355T	5		
D308	90M-HD201820R	DIODE, SCHOTTKEY BARRIER		HVDRB160L60TE25	1		
IC100	943245006980S	I.C , CD DSP(DSP,LQFP-80P)		CVITC94A92FG_CU	1		
IC101	943239006900S	I.C , 5-CH MOTOR DRIVE(REG,SSOP-28P)		CVIIP4001CRLTF_CN	1		
IC103	943231101630S	I.C REGULATOR 1.5V LDO,SOT-223		CVILM1117C-1V5	1		
IC25	943231101900S	I.C REGULATOR 1.8V LDO,SOT-223		CVILM1117C-1V8	1	*	
IC26	00D2623489909	I.C , INVERTER(CMOS)		CVITC7WHU04FU	1		
IC27	943235002460S	I.C , PLL(TSSOP-14)		CVICDCE913PWR	1		
IC300	943246100770D	I.C , EEPROM (16KBIT,SOP-8P,K-Line)		CVIK24C16BSIRGA	1		
IC301	943234009290S	I.C , RESET 2.4V (200ms,C-MOS,SOT23-5P)		CVIS80124CLMCJIJT2	1		
IC302	nsp	I.C , FLASH U-COM(LQFP-100P)		CVITMPM330FYFG_CU			
└IC302	943243102490S	U-COM CD5005 (TMPM330FYFG, TOSHIBA)		CVIANAM1783C	1	*	
IC304	90M-HC109330R	AUDIO DAC (TSSOP-28 PACKAGE)		HVICS4398CZ	1		
Q100	00D9430058908	T.R , CHIP , SOT-23		HVTKTA1504SYRTK	1		
Q101	00D2730464901	T.R , CHIP , SOT-23		HVTKTC3875SYRTK	1		
Q300	00D2690184907	T.R , CHIP , SOT-23		HVTKRA102S	1		
Q301	00D2690192902	T.R , CHIP , SOT-23		HVTKRC102S	1		
Q302	00D2730464901	T.R , CHIP , SOT-23		HVTKTC3875SYRTK	1		
RESISTOR GROUP	nsp						
R1	nsp	RES, CHIP(1608/5%/15Kohm)		CRJ10DJ153T	1		
R2	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R3,4	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R6	nsp	RES, CHIP(1608/5%/1Kohm)		CRJ10DJ102T	1		
R7	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R9	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R10	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R11-16	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	6		
R17	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R25-28	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	4		
R20,21	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R34	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R36	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R37,38	nsp	RES, CHIP(1608/5%/10ohm)		CRJ10DJ100T	2		
R40	nsp	RES, CHIP(1608/5%/270ohm)		CRJ10DJ271T	1		
R41	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R42,43	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R44,45	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R100	nsp	RES, CHIP(1608/5%/91ohm)		CRJ10DJ910T	1		
R101,102	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R103-105	nsp	RES, CHIP(1608/5%/18Kohm)		CRJ10DJ183T	3		
R106-108	nsp	RES, CHIP(1608/5%/39ohm)		CRJ10DJ390T	3		
R109	nsp	RES, CHIP(1608/5%/1Kohm)		CRJ10DJ102T	1		
R110	nsp	RES, CHIP(1608/5%/39ohm)		CRJ10DJ390T	1		
R111,112	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R113	nsp	RES, CHIP(1608/5%/220ohm)		CRJ10DJ221T	1		
R114	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	1		
R115	nsp	RES, CHIP(1608/5%/15Kohm)		CRJ10DJ153T	1		
R116	nsp	RES, CHIP(1608/5%/330Kohm)		CRJ10DJ334T	1		
R118-120	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	3		
R121	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R122,123	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R124,125	nsp	RES, CHIP(1608/5%/4.7Kohm)		CRJ10DJ472T	2		
R126	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R127	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R128	nsp	RES, CHIP(1608/5%/15Kohm)		CRJ10DJ153T	1		
R130	nsp	RES, CHIP(1608/5%/470ohm)		CRJ10DJ471T	1		
R131,132	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R134	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R135,136	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R137-139	nsp	RES, CHIP(1608/5%/100ohm)		CRJ10DJ101T	3		
R140	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R141,142	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R147	nsp	RES, CHIP(1608/5%/100Kohm)		CRJ10DJ104T	1		
R149	nsp	RES, CHIP(1608/5%/100Kohm)		CRJ10DJ104T	1		
R150-152	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	3		
R155	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R157	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	1		
R158	nsp	RES, CHIP(1608/5%/470ohm)		CRJ10DJ471T	1		
R159	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R160	nsp	RES, CHIP(1608/5%/47ohm)		CRJ10DJ470T	1		
R162	nsp	RES, CHIP(1608/5%/47ohm)		CRJ10DJ470T	1		
R166	nsp	RES, CHIP(1608/5%/22ohm)		CRJ10DJ220T	1		
R167-171	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	5		
R172	nsp	RES, CHIP(1608/5%/2.2Kohm)		CRJ10DJ222T	1		
R173	nsp	RES, CHIP(1608/5%/1.8Kohm)		CRJ10DJ182T	1		
R174	nsp	RES, CHIP(1608/5%/3.9Kohm)		CRJ10DJ392T	1		
R180,181	nsp	RES, CHIP(1608/5%/220ohm)		CRJ10DJ221T	2		
R182	nsp	RES, CHIP(1608/5%/68ohm)		CRJ10DJ680T	1		
R183	nsp	RES, CHIP(1608/5%/10ohm)		CRJ10DJ100T	1		
R184	nsp	RES, CHIP(1608/5%/220ohm)		CRJ10DJ221T	1		
R185	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R187	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R214,215	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	2		
R300	nsp	RES, CHIP(1608/5%/47ohm)		CRJ10DJ470T	1		
R301	nsp	RES, CHIP(1608/5%/33Kohm)		CRJ10DJ333T	1		
R302-308	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	7		
R310	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	1		
R311	nsp	RES, CHIP(1608/5%/47ohm)		CRJ10DJ470T	1		
R312,313	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	2		
R314	nsp	RES, CHIP(1608/5%/100Kohm)		CRJ10DJ104T	1		
R315	nsp	RES, CHIP(1608/5%/18Kohm)		CRJ10DJ183T	1		
R316	nsp	RES, CHIP(1608/5%/47Kohm)		CRJ10DJ473T	1		
R317	nsp	RES, CHIP(1608/5%/3.3Kohm)		CRJ10DJ332T	1		
R318	nsp	RES, CHIP(1608/5%/1Kohm)		CRJ10DJ102T	1		
R319	nsp	RES, CHIP(1608/5%/3.3Kohm)		CRJ10DJ332T	1		
R320,321	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	2		

REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
R322	nsp	RES, CHIP(1608/5%/4.7Kohm)	U	CRJ10DJ472T	1		
R322	nsp	RES, CHIP(1608/5%/1.0Kohm)	N	CRJ10DJ102T	1		
R322	nsp	RES, CHIP(1608/5%/1.8Kohm)	F	CRJ10DJ182T	1		
R322	nsp	RES, CHIP(1608/5%/8.2Kohm)	K	CRJ10DJ822T	1		
R323	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R326	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R328	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R330,331	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	2		
R332	nsp	RES, CHIP(1608/5%/47ohm)		CRJ10DJ470T	1		
R333	nsp	RES, CHIP(1608/5%/1Mohm)		CRJ10DJ105T	1		
R334	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R336	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R338	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
R341	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R344,345	nsp	RES, CHIP(1608/5%/1Kohm)		CRJ10DJ102T	2		
R346-348	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	3		
R350	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R370	nsp	RES, CHIP(1608/5%/33ohm)		CRJ10DJ330T	1		
R371	nsp	RES, CHIP(1608/5%/10Kohm)		CRJ10DJ103T	1		
R373	nsp	RES, CHIP(1608/5%/0ohm)		CRJ10DJ0R0T	1		
RN300	nsp	RES, CHIP(1608/5%/10Kohm*4)		CRJ104DJ103T	1		
CAPACIITORS GROUP							
C1-4	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	4		
C5	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C8	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C9	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C16	nsp	CAP, CHIP(1608, 50V/100pF)		CCUS1H101JA	1		
C103	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C104	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C105	nsp	CAP, CHIP(1608, 50V/1000pF)		CCUS1H102KC	1		
C106	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C108	nsp	CAP, ELECT(6.3V/470uF)		CCEA0JH471T	1		
C109-112	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	4		
C113	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C114	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C115	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C116	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C117	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C118	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C119	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C120	nsp	CAP, ELECT(6.3V/1000uF)		CCEA0JH102T	1		
C121,122	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C123	nsp	CAP, ELECT(6.3V/1000uF)		CCEA0JH102T	1		
C124	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C125	nsp	CAP, CHIP(1608, 50V/0.015uF)		CCUS1H153KC	1		
C126	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C127	nsp	CAP, CHIP(1608, 50V/2200pF)		CCUS1H222KC	1		
C129	nsp	CAP, CHIP(1608, 50V/47pF)		CCUS1H470JA	1		
C130	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C131	nsp	CAP, CHIP(1608, 50V/4700pF)		CCUS1H472KC	1		
C132,133	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C134	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C135	nsp	CAP, CHIP(1608, 50V/0.015uF)		CCUS1H153KC	1		
C136	nsp	CAP, CHIP(1608, 50V/0.033uF)		CCUS1H333KC	1		
C137	nsp	CAP, CHIP(1608, 50V/5600pF)		CCUS1H562KC	1		
C138,139	nsp	CAP, CHIP(1608, 50V/470pF)		CCUS1H471JA	2		
C140	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C143	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC	1		
C145	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C146	nsp	CAP, CHIP(1608, 50V/0.047uF)		CCUS1H473KC	1		
C149	nsp	CAP, CHIP(1608, 50V/1000pF)		CCUS1H102KC	1		
C150	nsp	CAP, CHIP(1608, 50V/22pF)		CCUS1H220JA	1		
C151	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C152	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C153	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C154	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C155	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C157-159	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	3		
C160	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C161,162	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C163	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C164	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C168	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C170,171	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	2		
C172	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C174,175	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C176	nsp	CAP, CHIP(1608, 50V/1000pF)		CCUS1H102KC	1		
C178,179	nsp	CAP, CHIP(1608, 50V/1000pF)		CCUS1H102KC	2		
C182	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C183	nsp	CAP, CHIP(1608, 50V/100pF)		CCUS1H101JA	1		
C184	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C185	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C186	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C191	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C192	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C195	nsp	CAP, CHIP(1608, 10V/1uF)		CCUS1A105KC	1		
C196	nsp	CAP, CHIP(1608, 50V/12pF)		CCUS1H120JA	1		
C197	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C199	nsp	CAP, ELECT(6.3V/1000uF)		CCEA0JH102T	1		
C202	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C251	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C252	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C253	00D9430175001	CAP, ELECT(25V/47uF)		CCEA1EH470T	1		
C254,255	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C258,259	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C260,261	nsp	CAP, CHIP(1608, 50V/15pF)		CCUS1H150JA	2		
C300,301	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C303	nsp	CAP, CHIP(1608, 50V/470pF)		CCUS1H471JA	1		
C304,305	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C306	nsp	CAP, CHIP(1608, 10V/1uF)		CCUS1A105KC	1		
C308	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C309	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C310-312	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	3		
C313,314	nsp	CAP, CHIP(1608, 50V/15pF)		CCUS1H150JA	2		
C316	nsp	CAP, CHIP(1608, 50V/100pF)		CCUS1H101JA	1		
C317-321	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	5		

REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
C328	nsp	CAP, ELECT(10V/100uF)		CCEA1AH101T	1		
C329	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C330	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C331	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C332	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C335	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C336,337	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	2		
C339	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C341	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C342	nsp	CAP, ELECT(16V/220uF)		CCEA1CH221T	1		
C343	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C344	00MOA33505020	CAP, ELECT(50V/3.3uF)		CCEA1HH3R3T	1		
C345,346	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C347	nsp	CAP, ELECT(16V/220uF)		CCEA1CH221T	1		
C348	nsp	CAP, ELECT(50V/33uF)		CCEA1HH330T	1		
C349,350	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	2		
C351	nsp	CAP, CHIP(1608, 50V/0.01uF)		CCUS1H103KC	1		
C352	nsp	CAP, CHIP(1608, 50V/0.1uF)		CCUS1H104KC	1		
C353	00MOA107025R1	CAP, ELECT(ROA, 25V/100UF, 10X16)		CCEA1EROA101T	1		
OTHER PARTS GROUP							
CN2101	nsp	WAFER , STRAIGHT(3PIN)		CJP03GA19ZY	1		
CN2201	nsp	WAFER , SMD (2MM PITCH)-3P	U	CJP03GA208ZY	1		
CN2801	nsp	WAFER, STRAIGHT, 13PIN		CJP13GA19ZY	1		
CN301	nsp	WAFER, FFC(7P-1mm, ANGLE)		CJP07GB113ZY	1		
CN3101	nsp	WAFER , 4P STRAIGHT		CJP04GA19ZY	1		
CWC100	nsp	WAFER , SMD (2MM PITCH)		CJP06GA208ZY	1		
CWC101	nsp	WAFER , SMD (2MM PITCH)		CJP05GA208ZY	1		
B1,2	nsp	PLATE , EARTH(TRONIC ELECTRONICS)		CJT1A026	2		
BK201	nsp	BRACKET , PCB		CMD1A569-V1	1		
FCC300	nsp	WAFER, FFC, SMD(19P-1mm, STRAIGHT)		CJP19GA193ZY	1		
K100	943623100030D	MODULE , OPTICAL(TX 16MHz)		CJSJST1124	1		
K101	943643102590M	JACK, 1P(BK),SEPA-GND,GOLD		CJJ4M085Z	1		
K300	90M-YT003120R	JACK, 2P(ORG), SEPA-GND, SILVER		CJJ4N036Z	1		
L100	90M-LU000220R	INDUCTOR CHIP 10UH (3225 PKG)		HLQ10E100KRZ	1		
L101-103	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	3		
L105-107	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	3		
L2	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	1		
L252	nsp	FERRITE , CHIP BEAD(120ohm, 3216)		CLZ91002Z	1		
L300,301	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	2		
L302	nsp	FERRITE , CHIP BEAD(120ohm, 3216)		CLZ91002Z	1		
L303	nsp	FERRITE CHIP BEAD(2012/220R)		CLZBLM21PG221SN1	1		
PFCK10	nsp	WAFER, FFC, SMD(16P-1mm, STRAIGHT)		CJP16GA193ZY	1		
S300	90M-SS000710R	SWITCH , SLIDE		KSS2B016Z	1		
X251	90M-JX001390R	X-TAL, 16.934MHz, HC-49/U, 12pF, 30PPM		HOX16934A120C	1		
X300	943141100750D	X-TAL, 10MHz, HC-49/SMD, 12pF		COX10000E120S	1		
Z1	nsp	WIRE ASS'Y(1P, 80MM,BLK,#22)		CWE5202080A	1		
!	90M-FS001370R	FUSE(218Series, 250V/630mA)		KBA2C0630TLEY	1		
	90M-FC500030R	FERRITE , RING		CLZ9W003Z	1		
	90M-FC500130R	FERRITE , CORE		CLZ9Z071Z	1		
	nsp	COVER , SCREW		CMD1A495	1		
	nsp	SCREW , DOT		CTBD3+8JFB	1		
	nsp	SCREW		CTB3+10JFB	5		
	nsp	SCREW		CTB3+6FFB	5		
	nsp	SCREW		CTB3+6JR	18		
	nsp	SCREW		CTB3+8JFB	4		
	nsp	SCREW		CTW3+12JR	4		
	nsp	SCREW		CTW3+18JR	4		
	nsp	SCREW		CTW3+8JR	2		

EXPLODED
※Parts indicated by "nsp"on this table cannot be supplied.
※The parts listed b NOTE:The symbols in the column Remarks indicate the following destinations.
　　　　　U : North America model　N : Europe model　K : China model　F : Japan model

　　　B : Black model　　SG : Silver gold model

		REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
		30	nsp	MAIN PCB ASS'Y		COP12662C	1		
		★	nsp	FRONT PCB ASS'Y		COP12663C			
		├14	nsp	FRONT PCB ASS'Y		COP12663C-4	1		
		├15	nsp	STANDBY PCB ASS'Y		COP12663C-3	1		
		├16	nsp	PHONE PCB ASS'Y		COP12663C-5	1		
		├29	nsp	AUDIO PCB ASS'Y		COP12663C-2	1		
		├31	nsp	POWER PCB ASS'Y		COP12663C-1	1		
		├32	nsp	FLASHER PCB ASS'Y		COP12663C-7	1		
		└★	nsp	TRANS PCB ASS'Y		COP12663C-6	1		
		1	421410006004M	BADGE , MARANTZ		CGB1A206	1		
		2	943415100410M	ORNAMENT, DOOR	B	CGR1A552ZB37	1		
		2	943415100400M	ORNAMENT, DOOR	SG	CGR1A552RMZD10	1		
		3	943416101150M	WINDOW, FIP		CGU1A423A12Y	1		
		4	943402104700M	PANEL , AL FRONT	B	CKM1A203WC23	1		
		4	943402104690M	PANEL , AL FRONT	SG	CKM1A203VC62	1		
		5	nsp	PANEL , SUB		CGW1A462B37	1		
		6	943404100590M	PANEL , SIDE(L)	U1B, N1B	CGW1A463RNVB37	1		
		6	943402104980M	PANEL , SIDE(L)	K1B	CGW1A463RNUB37	1	*	
		6	943404100600M	PANEL , SIDE(L)	N1SG, FN	CGW1A463ROVD10	1		
		6	943402104990M	PANEL , SIDE(L)	K1SG	CGW1A463ROUD10	1	*	
		7	943402007080M	PANEL , SIDE(R)	B	CGW1A464RNB37	1		
		7	943402007090M	PANEL , SIDE(R)	SG	CGW1A464ROD10	1		
		8	nsp	SHEET, LED		CGX1A411Z	1		
		9	481510003006M	INDICATOR, POWER		CGL1A274	1		
		10	411510015017M	KNOB, POWER	B	CBT1A1072	1		
		10	411510021036M	KNOB, POWER	SG	CBT1A1072RMD10	1		
		11	943411102840M	KNOB, PLAY	B	CBT1A1181	2		
		11	943411102850M	KNOB, PLAY	SG	CBT1A1181RMD10	2		
		12	943172100160S	FIP		CFL16ST103GINK	1		
		13	nsp	BRACKET, FIP		CHG1A584	2		
		17	nsp	NUT, PHONE		CNE1A013	1		
		18	nsp	BRACKET, PHONE		CMD1A677-V1	1		
		19	nsp	BURRER,IR,UPPER PCB		CHG1A185	1		
		20	nsp	FRAME, FRONT		CUF2A004	1		
		21	nsp	CHASSIS, BOTTOM		CUA6A289	1		
		22	00M243W057210	FOOT, FRONT		CKL2A042H46	4		
		23	00M32CW107010	CUSHION, FOOT		CHG1A360	4		
		24	nsp	HOLDER, PCB		CHE170	4		
		25	nsp	HOLDER, PCB		CHE2A030	4		
!		26	90M-TS002510R	TRANS ASS'Y	N, K	CLT5M025YE	1		
!		26	90M-TS002530R	TRANS ASS'Y	U	CLT5M025YU	1		
!		26	90M-TS002520R	TRANS ASS'Y	F	CLT5M025YJ	1		
		27	nsp	SUPPORT, MECHA		CMD2A842	1		
		28	943302100130D	CD MECHA ASS'Y		CJDKT690	1		
		33	nsp	PANEL, REAR	U	CKF5A390U	1		
		33	nsp	PANEL, REAR	N	CKF6A390N	1		
		33	nsp	PANEL, REAR	K	CKF6A390K	1		
		33	nsp	PANEL, REAR	F	CKF6A390F	1		
		34	401310003002M	CABINET, TOP	B	CKC2A187K117	1		
		34	401310003033M	CABINET, TOP	SG	CKC2A187D11	1		
		35	943411007050M	KNOB, LEVEL	B	CBN1A170B37	1		
		35	00M24AW154120	KNOB, LEVEL	SG	CBN1A170RMD10	1		
		37	nsp	COVER, SCREW		CMD1A495	1		
		37	nsp	TAPE, HEMELON		CHS1A032	5		
		38	nsp	WASHER, GND		CNW1A035	1		
		39	nsp	SHEET, SCREW		CGX1A439	1		
		40	00MYJ04002640	RECEPTACLE, AC		CJJ8A006ZW	1		
		42	nsp	CUSHION,SHIELD		KMC1A264	1		
		43	nsp	SHIELD, CASE FLASHER	U	CMC1A441	1		
		44	nsp	BURRER		CHG1A113	5		
		S1	nsp	SCREW		CTB3+6JR	18		
		S2	nsp	SCREW		CTB3+6FFB	5		
		S3	nsp	SCREW , DOT		CTBD3+8JFB	1		
		S4	nsp	SCREW		CTB3+8JFB	23		
		S5	nsp	SCREW		CTW3+8JR	6		
		S6	nsp	SCREW	B	CTW3+8JFZR	6		
		S6	nsp	SCREW	SG	CTW3+8JFC	6		
		S7	nsp	SCREW		CTB3+10JR	14		
		S8	nsp	SCREW		CTB3+10JFB	5		
		S9	nsp	SCREW		CTW3+12JR	4		
		S10	nsp	SCREW		CTW3+18JR	4		
		S11	nsp	SCREW,TRANS		CHD2A023R	2		
		S12	nsp	SCREW		CTB3+8JR	4		
		★	943606007140M	CABLE , CARD (19P,10MM,250MM,B,8MM)		CWC4F4A19A250B08	1		
		★	943606502280M	CABLE , CARD CD Mecha (16P, 1mm, 140mm, A TYPE)		CWC4F1A16A140A10	1		
		★	nsp	2P WIRE ASS'Y(100MM)		CWZPM5003TW91A	1		
		TW91	nsp	2P WIRE ASS'Y(100MM)		CWZPM5003TW91	1		

PACKING
※Parts indicated by "nsp"on this table cannot be supplied.
※The parts listed t NOTE:The symbols in the column Remarks indicate the following destinations.
　　　U : North America model N : Europe model K : China model F : Japan model

　　　B : Black model　SG : Silver gold model

	REF No.	Part No.	Part Name	Remarks		Q'ty	New	Ver
	1	943531104410M	BOX,OUTCARTON		CPG1A994W	1		
	2	nsp	BAG,POLY		CPB1A213	1		
	3-1	943533101991M	PAD,SNOWBOTTOM(F/R)		CPS2A964	1		
	3-2	943533101981M	PAD,SNOWTOP(F/R)		CPS2A962	1		
	4	nsp	INSTRUCTIONMANUALASS'Y		CQXCD5005/F	1		
	4-0	35201032900AM	CDMANUALASS'Y N	N	CFT1A146ZA	1	*	
	4-0	35201033000AM	CDMANUALASS'Y U	U	CFT1A147ZA	1	*	
	4-0	35201033100AM	CDMANUALASS'Y K	K	CFT1A148ZA	1	*	
	4-1	54111117500AM	MANUAL,INSTRUCTION F	F	CQX1A1850Z	1	*	
	4-2	nsp	SAFETYINSTRUCTION F	F	CQE1A704	1		
	4-2	nsp	SAFETYINSTRUCTION N	N	CQE1A689Z	1		
	4-2	nsp	SAFETYINSTRUCTION U	U	CQE1A690Z	1		
	4-2	nsp	SAFETYINSTRUCTION K	K	CQE1A691Z	1		
	4-3	54111117400AM	MANUAL,GETTINGSTART F	F	CQX1A1818z	1	*	
	4-3	54111117100AM	MANUAL,GETTINGSTART N	N	CQX1A1816Z	1	*	
	4-3	54111117200AM	MANUAL,GETTINGSTART U	U	CQX1A1819z	1	*	
	4-3	54111117300AM	MANUAL,GETTINGSTART K	K	CQX1A1817z	1	*	
	4-4	nsp	CARD,USER(JAPAN)	F	CQE1A139S	1		
	4-5	nsp	SHEET,ADDRESS(JAPAN)	F	CQE1A581Z	1		
	4-5	nsp	SHEET;ADDENDOM	U, N, K	CQE1A581Y	1		
	4-6	nsp	CARDFORCHINAINDENTIFICATION	K	CQE1A450Z	1		
	4-7	nsp	CARD,WARRANTYUSA	U	CQE1A131V	1		
	4-7	nsp	WARRANTYCANADA	U	CQE1A132V	1		
!	5	611050028007S	CORD,POWER F	F	CJA2J115ZV	1		2
!	5	90M-ZC000320R	CORD,POWER N	N	CJA2B054Z	1		2
!	5	90M-ZC000310R	CORD,POWER U	U	CJA2A070Z	1		2
!	5	90M-ZC000650R	CORD,POWER K	K	CJA2N075Z	1		2
	6	nsp	BAG,POLY		CPB1A213	1		
	7	30701016500AM	REMOCON RC002PMCD		CARTCD5005	1		
	8	nsp	LABEL,CONTROL		CQB2A993Z	1		
	8-1	nsp	LABEL,SERIAL		—	1		
	8-2	nsp	LABEL, DATE		—	1		
	9	nsp	BATTERY(SIZE'AAA')		CABR03PPB	1		
	10	nsp	2PCORD,PIN		CJS4N014Z	1		
	11	nsp	1PCORD,PIN		CJS4M009X	1		
	12	nsp	LABEL,WHITEM1SG		CQB1A908Z	1		
	13	nsp	CARD,WARRANTYCHINA		CQE1A449W	1		
	13	nsp	CARD,WARRANTY(JAPAN)		CQE1A123W	1		