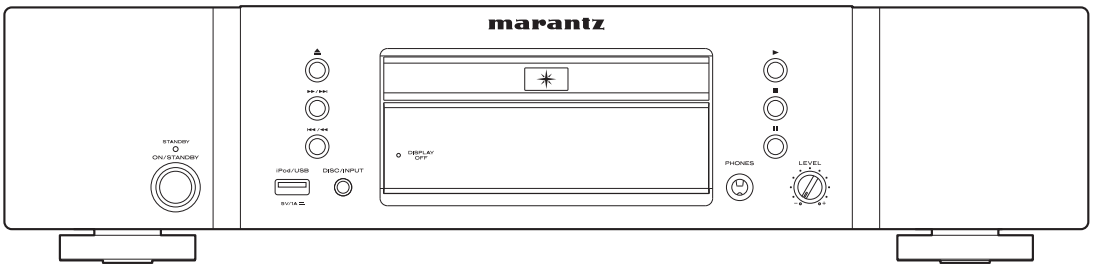
Service Manual

CD6004 /U1B/K1B
N1B/N1SG

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®

Ver. 1

CD6004

S0318-1V01DM/DG1108

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WARNING: Violators will be prosecuted to the maximum extent possible.

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MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.
Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.
The following information must be supplied to eliminate delays in processing your order :

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

USA
MARANTZ AMERICA, INC
100 CORPORATE DRIVE
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CHINA. 200040
TEL : 021 - 6248 - 5151
FAX : 021 - 6248 - 4434

NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ⚠.
Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意：

⚠がついている部品は、安全上重要な部品です。必ず指定されている部品番号のものを使用して下さい。

SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.
Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.
Ref. UL Standard No. 60065.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

091105DM/DG

SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. if the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.
Be sure to test for leakage current with the AC plug in both polarities, in addition, in each power ON, OFF and STANDBY mode, if applicable.

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

◎ Heed the cautions!

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

◎ Caution concerning electric shock!

(1) An AC voltage is impressed on this set, so touching internal metal parts when the set is energized could cause electric shock. Take care to avoid electric shock, by for example using an isolating transformer and gloves when servicing while the set is energized, unplugging the power cord when replacing parts, etc.
(2) Tere are high voltage parts inside. Handle with extra care when the set is energized.

◎ Caution concerning disassembly and assembly!

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

◎ Only use designated parts!

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

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

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

◎ Inspect for safety after servicing!

Check that all screws, parts and wires removed or disconnected for servicing have been put back in their original positions, inspect that no parts around the area that has been serviced have been negatively affected, conduct an inslation check on the external metal connectors and between the blades of the power plug, and otherwise check that safety is ensured.

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

CAUTION **Concerning important safety parts**

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

(1) Schematic diagrams... Indicated by the z mark.
(2) Parts lists..... Indicated by the z mark.
Using parts other than the designated parts could result in electric shock, fires or other dangerous situations.

NOTE FOR SCHEMATIC DIAGRAM

WARNING:
Parts indicated by the ⚠ mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.
CAUTION:
Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.
WARNING:
DO NOT return the set to the customer unless the problem is identified and remedied.
NOTICE:
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM / M=1,000,000 OHM
ALL CAPACITANCE VALUES ARE EXPRESSED IN MICRO FARAD, UNLESS OTHERWISE INDICATED. P INDICATES MICRO-MICRO FARAD. EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION. CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

NOTE FOR PARTS LIST

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

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

WARNING AND LASER SAFETY INSTRUCTIONS

GB **WARNING**

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

ESD

NL **WAARSCHUWING**

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

F **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise 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 über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

I **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro 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.

NL

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

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.

I

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

F

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

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

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

030804ecr

TECHNICAL SPECIFICATIONS

❑ Audio performance

- **Analog output**

Channels:	2 channels
Playable frequency range:	2 Hz – 20 kHz
Playable frequency response:	2 Hz – 20 kHz
S/N:	110 dB
Dynamic range:	100 dB
Harmonic distortion:	0.002 % (1 kHz)
Wow & flutter:	Crystal accuracy

- **Output level**

Signal type:	2.2 V RMS stereo
Headphone output:	28 mW/32 Ω (variable maximum)

- **Digital output**

output level (cinch JACK):	0.5 Vp-p (75 Ω)
output level (optical):	-19 dBm

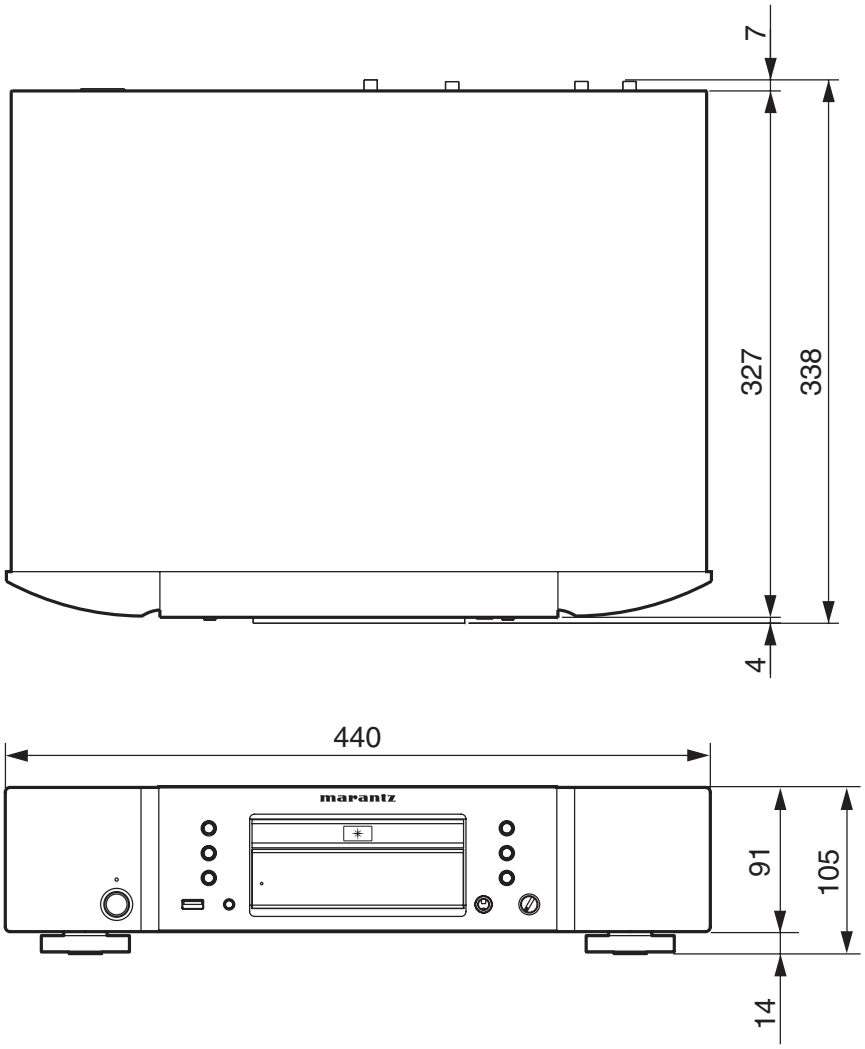
- **Optical Readout System**

Laser:	AlGaAs
Wave length:	780 nm
Signal type:	16-bit linear PCM
Sampling frequency:	44.1 kHz

❑ General

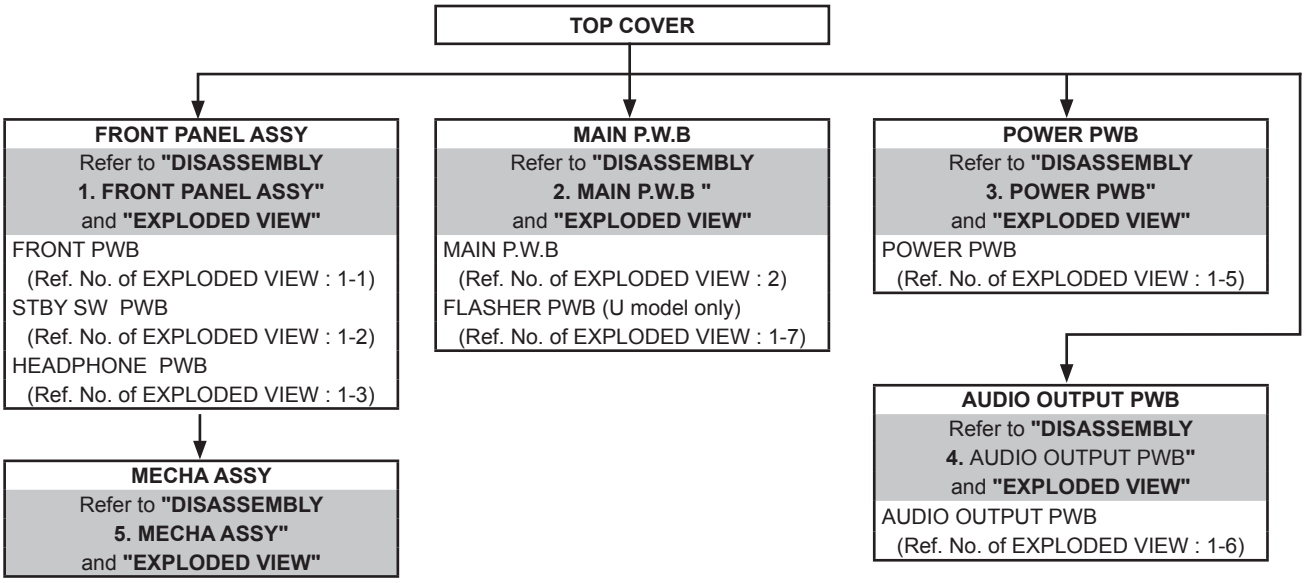
Power supply:	**N version:**	AC 230 V, 50 Hz
	U version:	AC 120 V, 60 Hz
	K version:	AC 220 V, 50 Hz
Power consumption:		32 W
		Standby: 0.3 W or less
Operating temperatures:		+5 ˚C – +35 ˚C
Operating humidity:		5 – 90 % (without dew)

DIMENSION



DISASSEMBLY

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

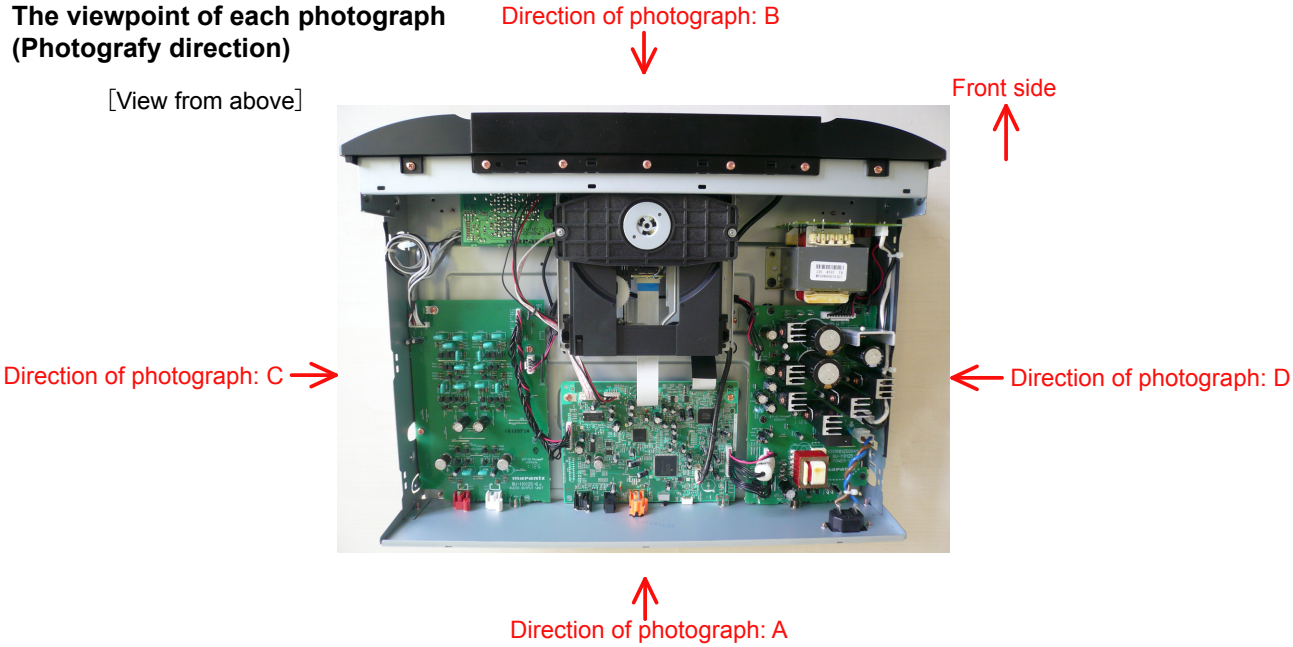


About the photos used for "descriptions of the DISASSEMBLY" section

- The direction from which the photographs used herein were photographed is indicated at "Direction of photograph: ***" at the left of the respective photographs.
- Refer to the table below for a description of the direction in which the photos were taken.
- Photographs for which no direction is indicated were taken from above the product.
- The photograph is CD6004 K1SG.

The viewpoint of each photograph (Photografy direction)

[View from above]



1. FRONT PANEL ASSY

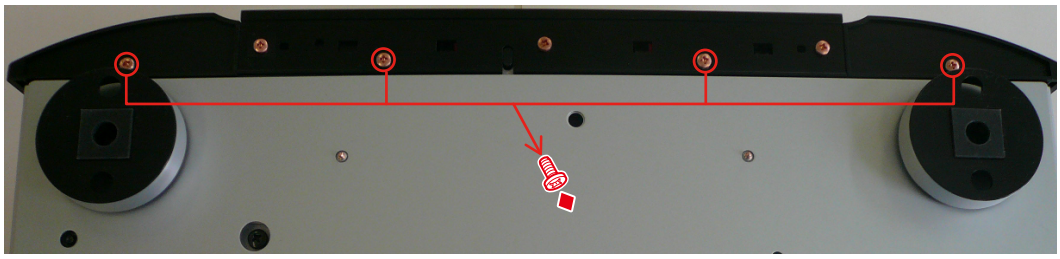
Proceeding : TOP COVER → FRONT PANEL ASSY

(1) Remove the Loadr Panel.

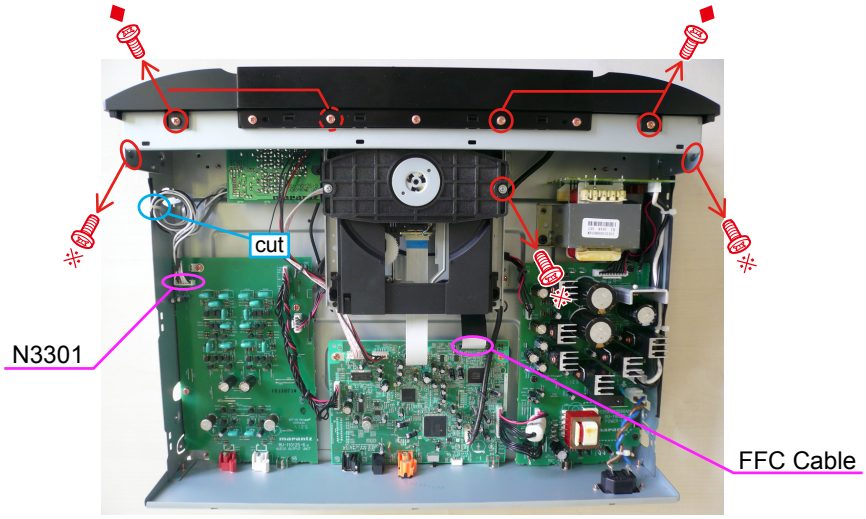
Direction of photograph: B

(2) Remove the screws.

View from bottom



(3) Disconnect the connector wire and FFC Cable. Remove the screws. Cut the wire clamp bands.



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

2. MAIN PWB

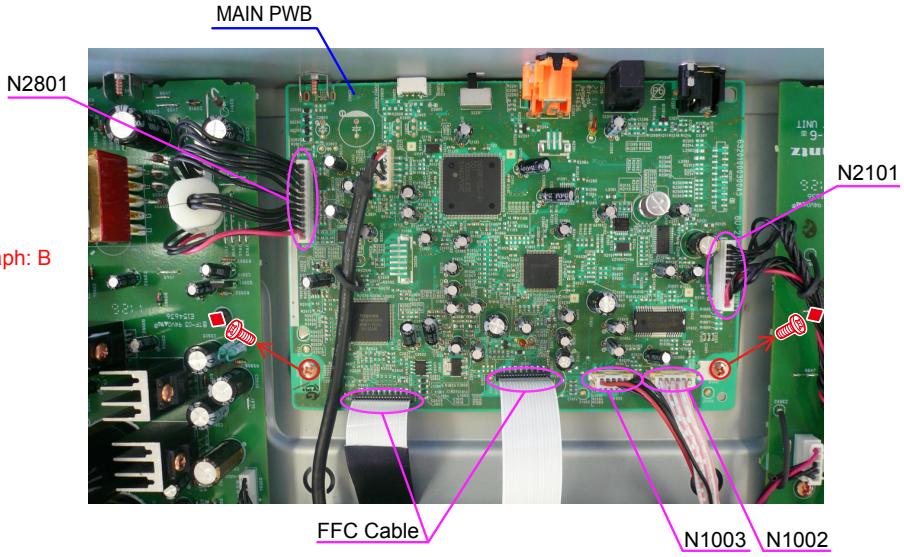
Proceeding : TOP COVER → MAIN PWB

(1) Remove the screws.

Direction of photograph: A

(2) Remove the screws. Disconnect the connectors wire and FFC Cable.

Direction of photograph: B



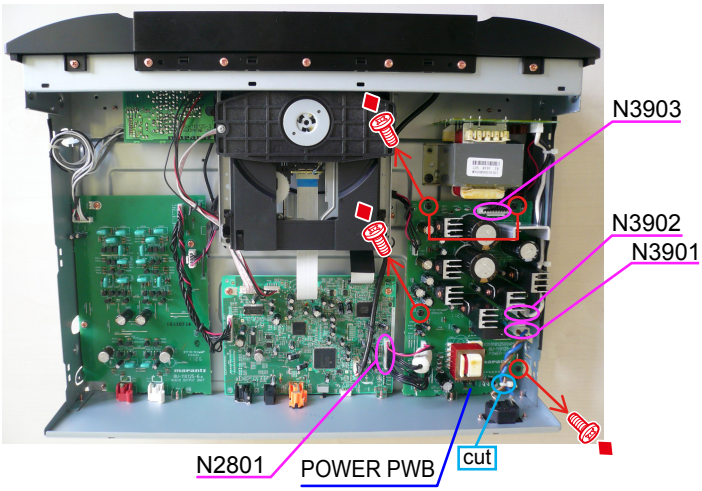
3. POWER PWB

Proceeding : TOP COVER → POWER PWB

(1) Remove the screws.

Direction of photograph: A

(2) Remove the screws. Disconnect the connector wires. Cut the wire clamp band.

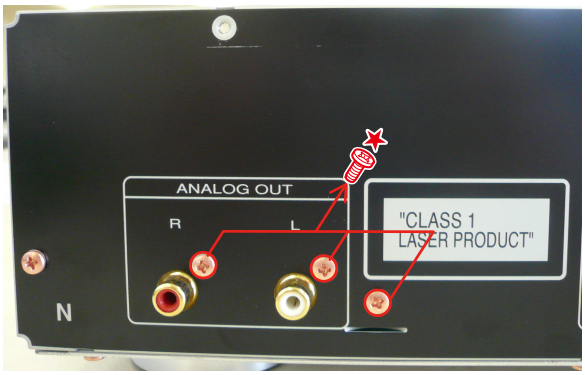


4. AUDIO OUTPUT PWB

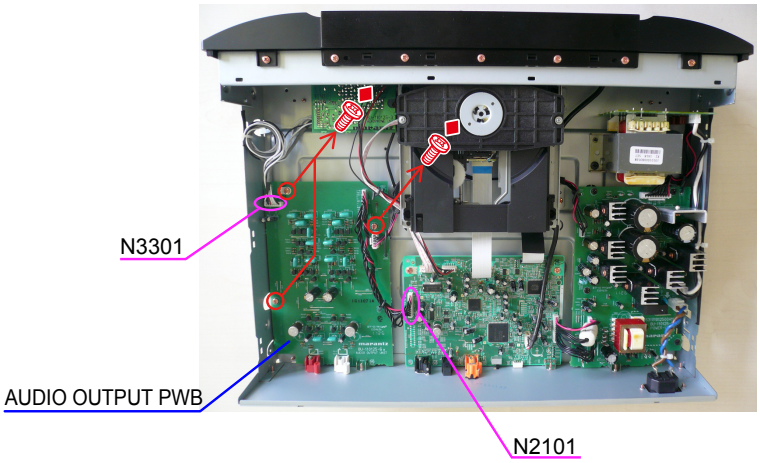
Proceeding : TOP COVER → AUDIO OUTPUT PWB

(1) Remove the screws.

Direction of photograph: A



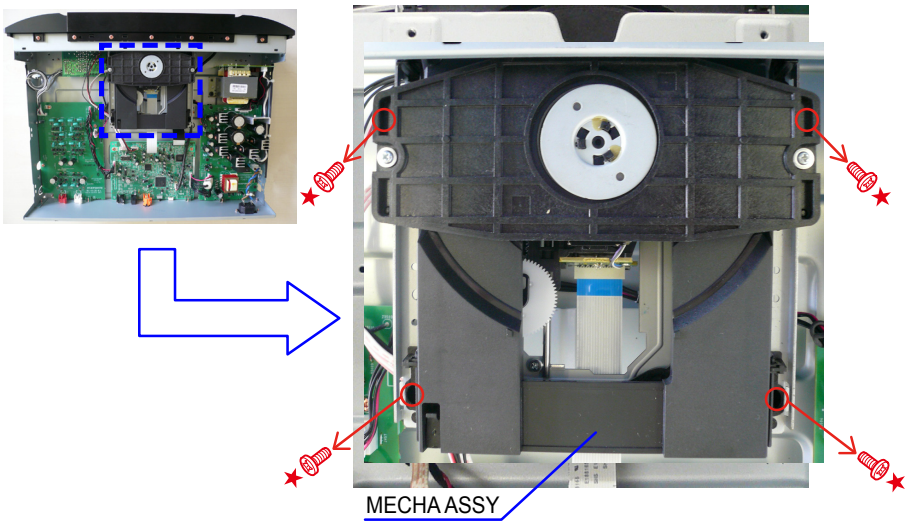
(2) Remove the screws. Disconnect the connector wires.



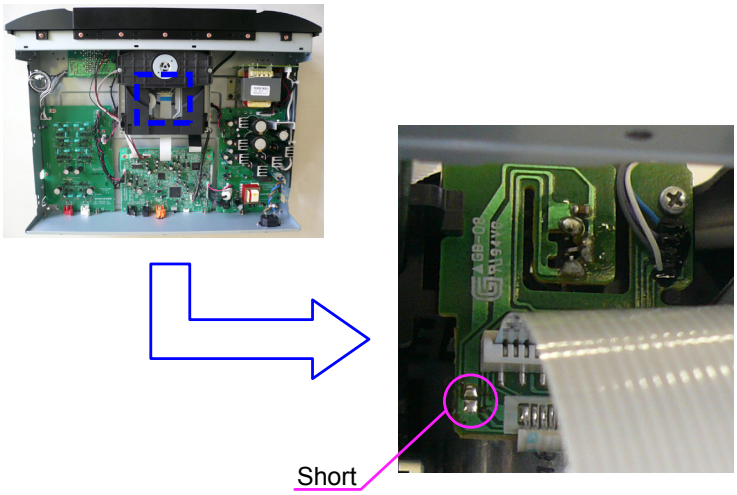
5. MECHA ASSY

Proceeding : TOP COVER → FRONT PANEL ASSY → MECHA ASSY

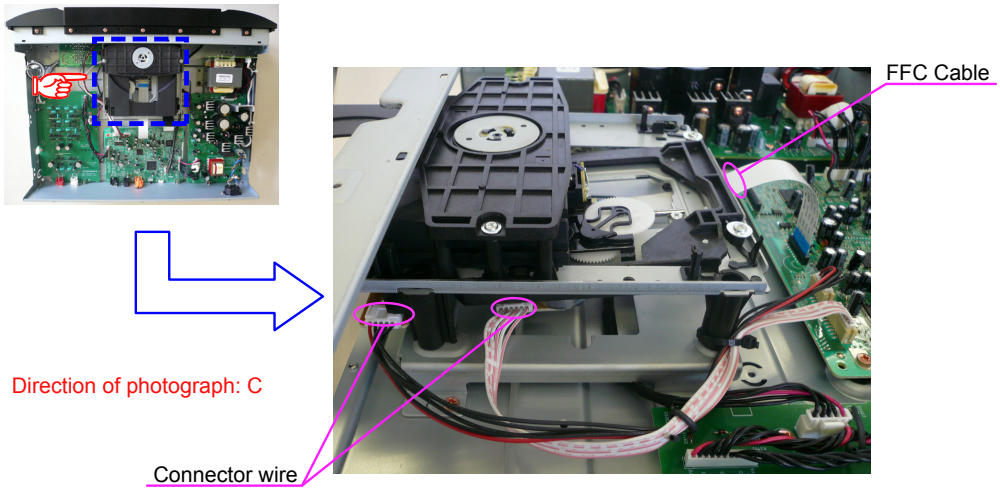
(1) Remove the screws.



(2) Solder the short-circuit before disconnect the FFC Cable.



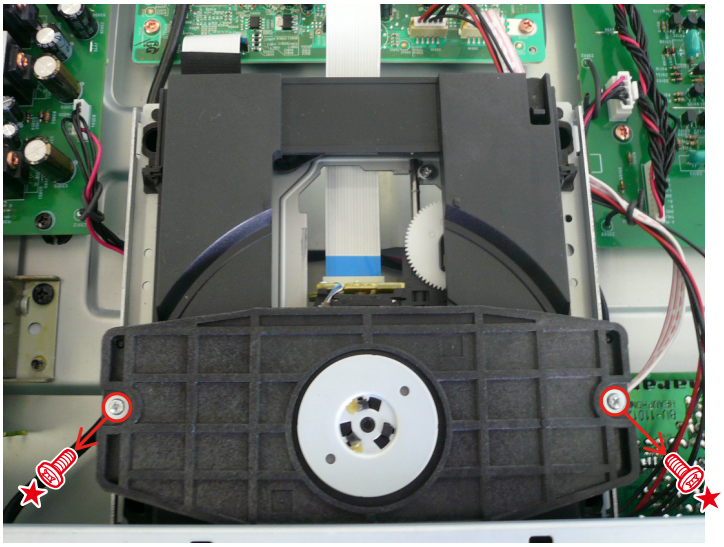
(3) Disconnect the connectors wire and FFC Cable. Cut the wire clamp bands.



REMOVING DISCS

(1) Remove the Top Cover.

(2) Remove the screws.

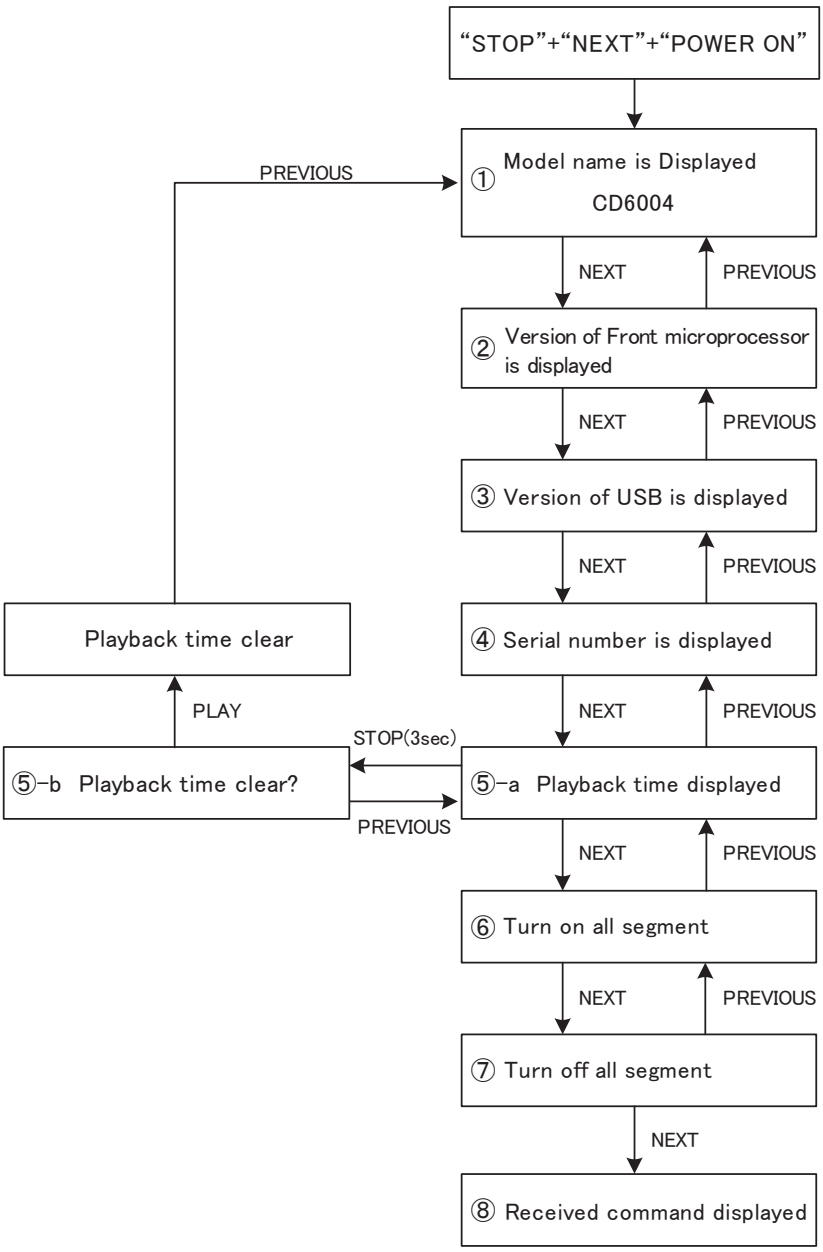


(3) Remove the disc clamper.

SERVICE MODE AND TAKING THE DISC OUT OF EMERGENCY

There are two modes in the service mode.

[A] Mode to display version information on each module.



Here is the indication and specification of each function.

1. Model name is displayed.

DISPLAY OFF

C D 6 0 0 4

2. Version of FRONT microprocessor is displayed.

DISPLAY OFF

F R y y y y m m d d x x

3. Version of USB device is displayed.
First, Revision of USB device is displayed.

DISPLAY OFF

u P D 6 3 9 0 1 (USB) 5 0 1

Press the **NEXT** button, then version of USB is displayed.

DISPLAY OFF

U V e r : (USB) V . 1 1 1

Push **PREVIOUS** button then Revision of USB device is displayed.
Revision of USB is display of LSI when the **PREVIOUS** button is pushed when light up all FL segment.

4. Serial number is displayed.

DISPLAY OFF

M Z x x x x x x x x

5-a. CD playback time is displayed.
It is only a HOUR display.

DISPLAY OFF

P T i m e : (CD) x x x x x h

To be displayed backup time, press the **PLAY** button.

DISPLAY OFF

B T i m e : (CD) x x x x x h

To be displayed playback time, press the **PAUSE** button.

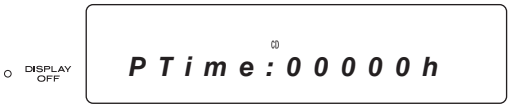
5-b. Confirmation of to do clear playback time

When replacing CD module and reset playback times.
Press the **STOP** button more than 3 seconds while playback time is displayed.

Press the **PLAY** button.

xxx : number of changed CD module

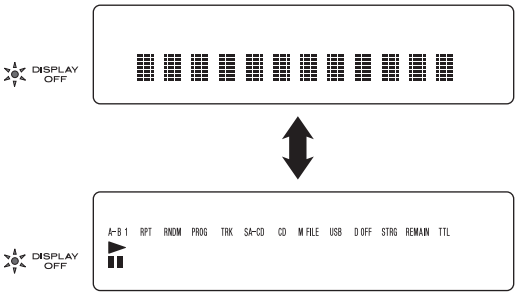
The display is as follows.



Press the **PREVIOUS** button while confirmation of to do clear playback time.

6. Light up all FL segment

The icon and the character representation are displayed every second. Standby LED doesn't light.



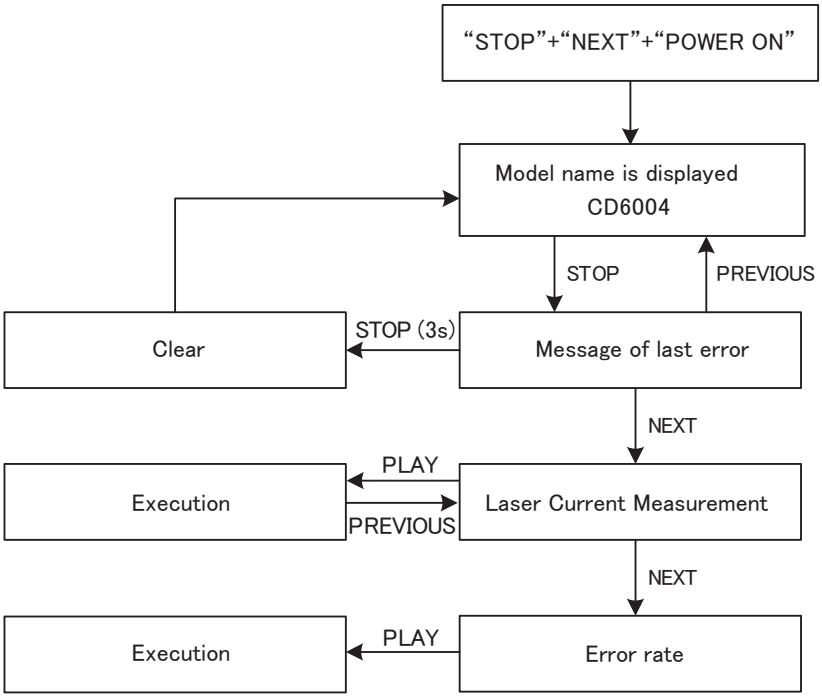
7. Light off all FL segment

8. Confirmation of remote control command

The command input by a key and a remote controller is displayed.
When the **STANDBY** button is pressed or Standby RC code is received, it shifts to Standby.

[B] The mode to check the last error message etc.

This test mode is common to all models.

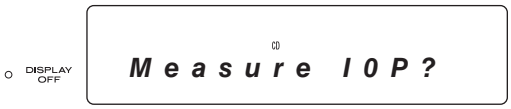


Here is the indication and specification of each function.

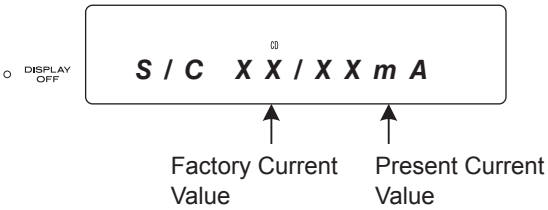
1. **Last Error Message**
   This function enables the users to check error messages at a later time when an error has occurred between the front microprocessor and each device.
   However, it does not display all errors. For more information about what messages can be displayed, refer to the Other Error Message page.
   When no error has ever occurred, it displays the following.

   Hold the **STOP** button for 3 seconds while the last error message is being displayed, and the last error message will be cleared. After the last error message is cleared, the model identification returns to the display.

2. **Laser Current Measurement**
   Measure the current value of the laser.
   Insert a CD-DA disc when the following is displayed.



   Press the **Play Key** button, and the display changes to that shown below.



   If the laser current becomes more than 1.5 times of the factory current value, the Mecha Loader should be replaced.

3. Error Rate

This function determines the CD error rate. When the disk that can be reproduced has been inserted, it displays it as follows. Here, the case where CD-DA has been inserted is indicated.

DISPLAY OFF

C1/C2 CD Count?

The measurement of the error rate of inserted disk and real machine begins when Play Key or remote controller's Play command is input while displaying the above-mentioned.
The error rate displays the sum total of the C1 error and the C2 error every one second with Hex.
The example of the display is for your information shown.

DISPLAY OFF

C1002 CD AC2000F

Four digits since C1 are the C1 errors. Four digits since C2 become the C2 errors. The buttons that function or command becomes Stop, Open/Close, Standby, Power, and Power Off while measuring it.
The buttons that function while this message is being displayed are OPEN/CLOSE and PLAY.

6. ALL CLEAR

To reset the back up memory of the unit into the default status, follow the procedure below.
However, information of the serial number and the reproduction time on the set cannot be deleted by this function.
Connect the mains cord into the unit and press STOP and POWER ON button simultaneously more than 3 seconds.

DISPLAY OFF

Reset

"Reset" is displayed, after "Reset OK" displayed on the display 3 seconds, then unit returns to the normal status.

DISPLAY OFF

Reset OK

7. ERROR MESSAGE

The error message common to all models.

[A] The error message displayed as the Last Error Message

1 Peculiar error information to CD module

1) Limit switch error of pick up

The CD module moves picking up to an inner side and the outer side when starting, and confirms whether the switch that exists in the CD module works normally. At this time, when the switch that provides for range of motion on an inner side of picking up doesn't work normally, the following errors are displayed.

DISPLAY OFF

CDLimitSWErr

At this time, please confirm whether the tray open/close first pressing the OPEN/CLOSE button.
Please refer to "The tray do not Open/Close" when it is not possible open or close.
Confirm whether pick-up operates on a reception desk side and a rear side when opening/closing when a pertinent error is confirmed to can open/close.
Confirm each cable when it doesn't operate or the voltage of 1pin and 2pin of N1002 changes from 7.5V into about 4V. During operation, check that the High ⇔ Low change occurs when the N1002 6pin closes the tray. Confirm the solder of U2002 and N1002 when having changed. There is a possibility of the breakdown of the CD module when not having changed. Exchange CD modules.

2) Transfer error of boot program of CD DSP

The following error of three is divided in the software debug. It displays it to CD DSP when failing in writing the boot program. In this case, confirm the solder of U1001. If the same problem arises after confirmed, U1001 may be broken. If such is the case, replace U1001.

DISPLAY OFF **PRAM ACK Err**

DISPLAY OFF **PRAM Cal Err**

DISPLAY OFF **PRAM Sum Err**

3) Error concerning discs

When the disk cannot be read by some reasons in the disk relation, the following displays are done. The condition, when it takes 60 seconds or more to read TOC of the disk and CD-DA not being done for the disk and write from be not shut session (CD-I) and the first session that focus doesn't encounter it that cannot be reproduced or it takes 120 seconds or more to analyze CD-ROM, it displays it.

DISPLAY OFF **Can't Play**

When the acquisition of information that is called subcode Q data including information of TOC information and the reproduction time cannot be acquired longer than the fixed time, this display is displayed. There is a possibility that there are some problems on the disk side when a general disk can be reproduced, and only a specific disk is displayed. There is a possibility that U1001, U1002 or the CD module is out of order when the error of the correspondence occurs on not a specific disk but two or more disks.

DISPLAY OFF **SubQ Error**

When the error is continuously caused five times or more, two or more errors do the following display by internal processing. There is a possibility that U1001, U1002 or the CD module is out of order when the error of the correspondence occurs on not a specific disk but two or more disks. Exchange U1001 or U1002 when a pertinent error occurs even if CD modules are exchanged.

DISPLAY OFF **ErrCountOver**

4) Communication Error between D/A Converter and Front Microprocessor

If no response is detected in the communication between the D/A Converter and the Microprocessor, the display will show the following message.

Ensure that IIC communications have been established between R2107 and R2108 when the unit is switched from STOP to PLAY.

If the error cannot be corrected through normal operations, U2102 may be broken. If such is the case, replace U2102.

DISPLAY OFF **DACErrorIIC**

5) iPod-authenticated error and the microprocessor communication error

If no response is made in the communication with an iPod-authenticated IC within a regulated timeframe, the display will show the following message.
As the communication with the authenticated IC has not been established normally, ensure that the IIC signal is communicating at a normal level when the unit is connected with an iPod.
The frequency of the IIC clock (IIC_SCL) is approximately 40 kHz only when the unit communicates with an iPod-authenticated IC. If no communication can be detected, check the soldering points of the microprocessor (U2002), resistors (R2057, R2058, R2059 and R2060) and the authenticated IC (U2004).
If the problem specific to the iPod cannot be rectified, the authenticated IC (U2004) may be broken. If that is the case, replace U2004.

DISPLAY OFF

i P o d E r r o r I I C

6) Other errors of iPod-authenticated error

When the iPod-authenticated IC has received error information, the display will show the following message. This message means that the authenticated IC is communicating properly. Try connecting another iPod. If no problem arises with another iPod, advise the user to repair the iPod.
If the same problem arises with another iPod, the authenticated IC (U2004) may be broken. If that is the case, replace U2004.

DISPLAY OFF

i P o d I C E r r o r x

When a problem arises with the processing of the iPod authentication and signature, the display will show the following message.
If the following message appears instead of the above messages - "iPodErrorIC", "iPodICErrorx" and "USB_ Com_ Error_", try connecting another iPod.
If no problem arises, advise the user to repair the iPod.
If the error message persists, the authenticated IC (U2004) may be broken. If that is the case, replace U2004.

DISPLAY OFF

E r r A u t h e n t i c

2 Error Messages special to USB device

If no response is made in the communication between the USB Module and the microprocessor within a designated timeframe, the display will show the following message.
Check whether the voltage has been applied to the L1803.
Ensure that each of 1pin and 50pin in U1101 is supplied with the clock signal of the designated frequency.
Check the soldering points of U2002, U1101 and arround.
Refer to the Communication between USB Module and the microprocessor on the Communication Waveform page and check the signal.
If the error message bellow cannot be cleared despite the unit performing normal operations properly, U1101 may be broken. If such is the case, replace U1101.

DISPLAY OFF

U S B C o m E r r

[B] Error messages that are not displayed in the Last Error Message

1 Error messages that can be displayed on the FL or LCD

1) Communication Error between the Front Microprocessor and EEPROM

If no response is detected between the Front Microprocessor and EEPROM within a regulated timeframe, the display will show the following message.
Ensure that IIC communications have been established between R2043 and R2045 when the unit is powered on or put into STANDBY.
If no communication is detected, check the soldering of R2049, R2048, R2043, R045, U2002 and U2003.
IF the error cannot be corrected through normal operations, U2003 may be broke. If such is the case, replace U2002.

DISPLAY OFF

E R O M E r r o r I I C

2) Error Messages special to USB

If no response is made while the unit is communicating with the USB Module, the display will show the following message.
If the indication will not be changed to "USB_Com_Err", the communication may be unstable. Check whether the voltage has been applied to the L1803.
Check if 1pin and 50pin in U1101 receive the clock signal of the designated frequency
Check the soldering points of U2002, U1101and around.
Refer to the communication between the USB module and the microprocessor on the communication waveform page and check the signal. If the message below cannot be cleared while the unit is functioning normally, U1101 may be broken. If that is the case, replace U1101.

DISPLAY OFF

U S B E R R : E F : x x

When the unit is connected with an incompatible UBS device or a device configured with an incompatible communication protocol or command, the display will show the following message.
If this message is displayed, the device is incompatible and cannot be connected to the unit.

DISPLAY OFF

C a n ' t C o n n e c t

If the information obtained from the USB has a flaw or improper data, which are detected by the USB host controller in the unit, the display will show the following message.
When the message appears, the device may be connected and used, but success is not guaranteed.

DISPLAY OFF

C o n n e c t E r r o r

If the signal comes in an incompatible format, the display will show the following message.
The compatible formats are FAT16 and FAT32. In FAT32 the USB memory must be 128MB or bigger in size.
Moreover, it doesn't correspond to the file system for usual Mac OS when formatting it with Mac OS of the Apple Co..
Please format it with FAT32. (OS supports it up to 32GB or less.)

DISPLAY OFF

F A T E r r o r

This message means that the device is formatted in an incompatible cluster size. Normally, when USB memories are formatted on Microsoft Windows, FAT32 is the default, and if the memory size is up to 128MB, it will be formatted in a cluster size of 2KB, which is incompatible with the unit. Therefore, the memory size is recommended to be 256MB or bigger. If the memory size is 128MB, format it with FAT16 (indicated as FAT on Microsoft Windows) instead of FAT32, and it will be compatible with the unit.

DISPLAY OFF

C l u s t e r E r r

If the unit receives a power supply exceeding the maximum level (1A) via USB, the display will show the following message and the power supply will be cut off. If the message below appears, the USB device cannot be operated through the unit's USB Bus power alone. An auxiliary power unit might enable the device to be used, but damage resulting from this would not be covered by the warranty.

DISPLAY OFF

O v e r C u r r e n t

If the command will not be set within a set timeframe after PLAY, PAUSE, STOP, FF, FR and such operations are carried out, the display will show the following message.
This message will be displayed for 3 seconds and then the USB module will be reset.
If the error indication persists after these operations, U1101 may be broken as the unit will not accept a specific command alone. If no other error message will appear, replace U1101.

DISPLAY OFF **U S B T i m e O u t**

If the file has an incompatible extension or is 24KB or smaller in size, the display will show the following message.
Extensions other than those mentioned in the instructions manual will be excluded from the warranty. Refer to the instructions manual and ensure that the extension and format is compatible with the unit.

DISPLAY OFF **F i l e E r r o r**

If the unit detects an incompatible sampling frequency or number of channels or an incompatible format file, the display will show the following message.
Sampling frequencies, numbers of channels and formats other than those mentioned in the instructions manual will be excluded from the warranty. Refer to the instructions manual and ensure that the format is incompatible.

DISPLAY OFF **H e a d e r E r r o r**

If the file includes big sized image data or information, the analysis may take time. If the analysis takes more than 15 seconds, the display will show the following message.
If this message appears, the operation of the file will not be covered by the warranty.

DISPLAY OFF **T i m e O u t**

If the USB module turns off the command for the settings of AMS, Repeat or Random, the display will show the following message.
If the error persists after the mode is switched to Disc from USB and then reswitched to USB and the designated remote control code is sent, U1101 may be broken as it will not accept a specific command alone. If no other error message appears, replace U1101.

DISPLAY OFF **x h M o d e E r r**

If the USB module turns off the command for setting AMS, Repeat or Random and specifying the range, the display will show the following message.
If the error persists after the mode is switched to Disc from USB and then reswitched to USB and the designated remote control code is sent, U1101 may be broken as it will not accept a specific command alone. If no other error message appears, replace U1101.

DISPLAY OFF **R a n g e E r r o r**

When the unit has failed to search for a folder or a file, obtain folder information or set the default, the display will show the following message.
If this error repeats, U1101 may be broken. If that is the case, replace U1101.

DISPLAY OFF **S e t u p E r r o r**

If the unit has failed to obtain information of the file to be played back, the display will show the following message.
If this error occurs to a specific file, the file information may be corrupted. Check the file header and other information.
If the error occurs to all files, U1101 may be broken. If no other error message appears, replace U1101.

DISPLAY OFF **x x h E r r o r**

If the unit has failed to obtain information of the SB manufacturer, the product and the serial number, the display will show the following message.
On the display, the "x" will be replaced by the number 1, 2 or Failed to obtain manufacturer information; 2. Failed to obtain product information; 3. Failed to obtain serial number.
If this message appears, use of the device will not be covered by the warranty.

DISPLAY OFF

U S B I n f o E r r : X

If the unit has failed to set a decodable file, the display will show the following message.
If the error persists after the mode is switched to Disc from USB and then reswitched to USB and the designated remote control code is sent, U1101 may be broken as it will not accept a specific command alone. If no other error message appears, replace U1101.

DISPLAY OFF

D e c S e t u p E r r

If the unit has failed to set a Logic Unit Number for a USB device connected thereto, the display will show the following message. Currently, the program already has a prepared function, which is not used for CD6004 and hence will never be displayed.

DISPLAY OFF

L U N N o E r r o r

3) Common error information on CD and USB device

If the unit detects a DRM protected file, the display will show the following message.
The unit is not made to and hence cannot play back DRM protected files.

DISPLAY OFF

D R M S t r e a m

If the unit detects a file with corrupted file data or other unacceptable files, the display will show the following message.

S t r e a m E r r

If no playable file exists in the USB device connected to the unit, the display will show the following message:

DISPLAY OFF

N o F i l e

4) Error Message that can be displayed while an iPod device is connected

If the unit experiences an error in the recognition process or fails to receive required information from an iPod device, the display will show the following message.
If this error has occurred, try unplugging and plugging the device again. If the same message is displayed again, try another iPod device.
If the unit works normally with another iPod, advise the user to repair the iPod device.
However, the firmware version that can be connected with this machine exists for 1G, 2G Nano, and 5G iPod. It becomes the following error display for the firmware version that cannot be connected. Please use the latest firmware.

DISPLAY OFF

C a n ' t C o n n e c t

If an error occurs to communication commands in the recognition process, the display will show the following message. This message is mainly for debugging software and normally does not appear.
The display shows this message for only 3 seconds and then changes to “Can’tConnect”.

DISPLAY OFF

L 0 0 C 0 2 E r r : x x

If the unit has failed to receive response from the iPod device within a given timeframe for the processing, the display will show the following message.

If no error occurs with another iPod device, advise the user to repair the iPod device.
This message is displayed for 3 seconds only and then changes to “Can’t Connect”.

DISPLAY OFF

L 0 0 T i m e o u t

If the unit fails to receive response from the iPod device within a given period of time after sending a command, the display will show the following message.
If no error occurs with another iPod device, advise the user to repair the iPod device.
This message is displayed for only 3 seconds and then changes to "Can’t Connect".

DISPLAY OFF

A C K T i m e o u t

If an error occurs to communication commands while the unit is performing normal operations excluding such basic ones as PLAY, PAUSE and SEARCH, the display will show the following message.
This message is mainly for debugging software and normally does not appear.
After this message is displayed, the unit automatically resets the USB module. If the error persists after the unit is restarted, U1101 may be broken as it will not accept a specific command alone. If no other error message appears, replace U1101.

DISPLAY OFF

L 0 4 C 0 1 E r r : x x

If an error occurs to communication commands while the unit is performing normal operations including PLAY, PAUSE and SEARCH, the display will show the following message. This message is mainly for debugging software and normally does not appear.
After this message is displayed, the unit automatically resets the USB module. If the error persists after the unit is restarted, U1101 may be broken as it will not accept a specific command alone. If no other error message appears, replace U1101.

DISPLAY OFF

U S B T i m e O u t

If an error occurs to the command communication to indicate a change in the sampling frequency, the display will show the following message. This message is mainly for debugging software and normally does not appear.

DISPLAY OFF

L 0 A C 0 1 E r r : x x

Upon confirming that an iPod device is connected, the unit will begin modifying the USB communication method. If an error occurs in this process, the display will show the following message.
If this message reappears after unplugging and plugging the iPod device, U1101 may be broken as it will not accept a specific command alone.
If no other error message appears, replace U1101.

DISPLAY OFF

S e t u p E r r o r

The following error displays are done when “Direct" has been selected as a method of controlling iPod when 1G Nano and 5G iPod are used and it operates automatically as “Remote". The purpose of this is for above-mentioned iPod not to be able to output the voice in the “Direct" mode. When corresponding iPod is used, we will recommend “Remote" to be selected.

DISPLAY OFF

U I S e t t i n g

USB

DISPLAY OFF

C a n ' t S e l e c t

USB

2 Error Messages that Cannot Be Displayed on the FL and LCD

1) Remote controller doesn't work

Confirm the switch of EXTERNAL/INTERNAL is INTERNAL. Confirm the shape of waves of 3.3V amplitude has gone out of 1pin of U4001 when the command is input from a remote controller.
Confirm the shape of waves of 3.3V amplitude has gone out when the command is input from a remote controller to 21pin of U2002. The solder of U2002 is confirmed, and there is still a possibility that U2002 is broken when it is not possible to repair when going out. Exchange U2002.
The case of No signal appear then check Q2201, D2005 and around.

2) Tray doesn't work

When the tray is not operating, check the voltage of U1002 1pin and 3pin, and N1003 1pin and 2pin.
If approximately 3V is detected from the U1002 9pin or N1003 14pin when open, or from the U1002 1pin or N1003 2pin when closed, check the connection of each cable.
Confirm whether 9pin of U2002 or 14pin of U1002 is High after pushing the **OPEN/CLOSE** button key when the voltage is not confirmed.
There is a possibility that the CD module is out of order when the tray is not good at Open/Close even if all work is done. Please exchange it.

VERSION UPGRADE PROCEDURE OF FIRMWARE

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
MAIN	U2002	TMP92FD23AFG	B	

After replaced

A : Mask ROM (With software). No need write-in of software to the microprocessor.

B : Flash ROM (With software). Usually, no need write-in of software. But, when the software was updated, you should be write-in of the new software to the microprocessor or flash ROM. Please check the software version.

C : Empty Flash ROM (Without software). You should be write-in of the software to the microprocessor or flash ROM. Refer to “Update procedure” or “writing procedure”, when you should be write-in the software.

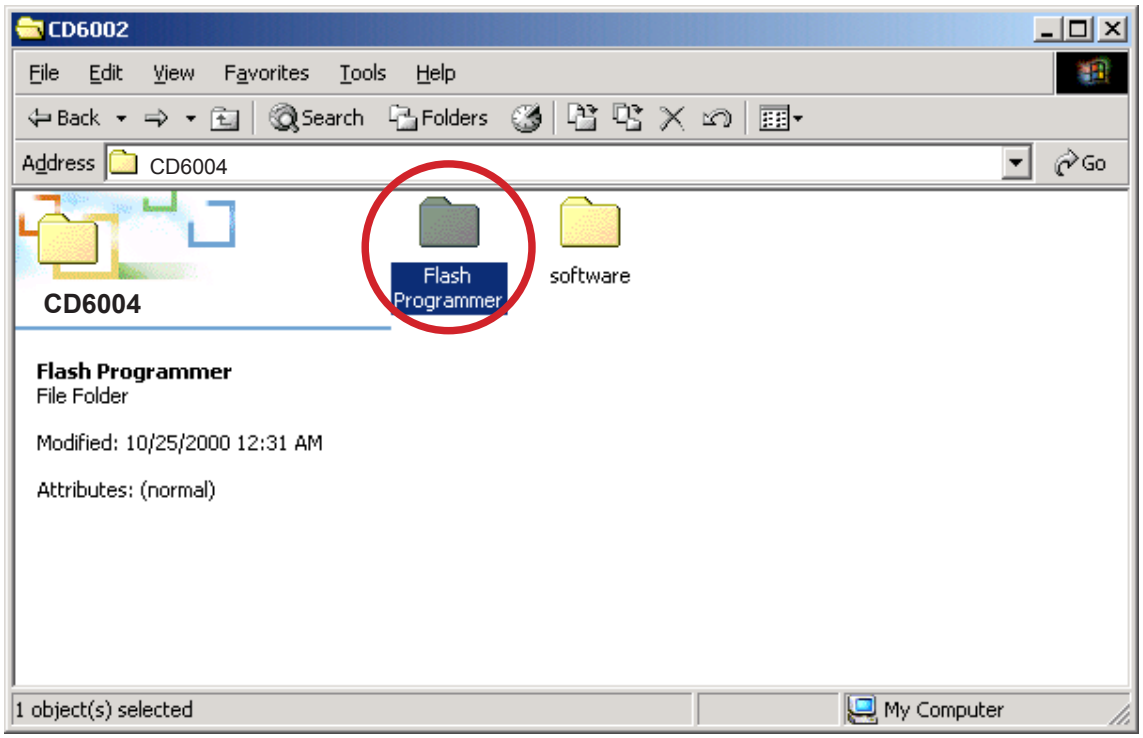
Necessary Equipment

- Windows PC (OS: Windows 2000 or Windows XP) with Serial port.
- RS-232C Dsub-9 pin cable (female to female/straight type).
- Connection JIG (943-CD6003JIG)
- Update tool (FlashProg.exe, other files and folders in Flash Programmer folder)
- Update data (CD6004_yymmdd_x.s32)

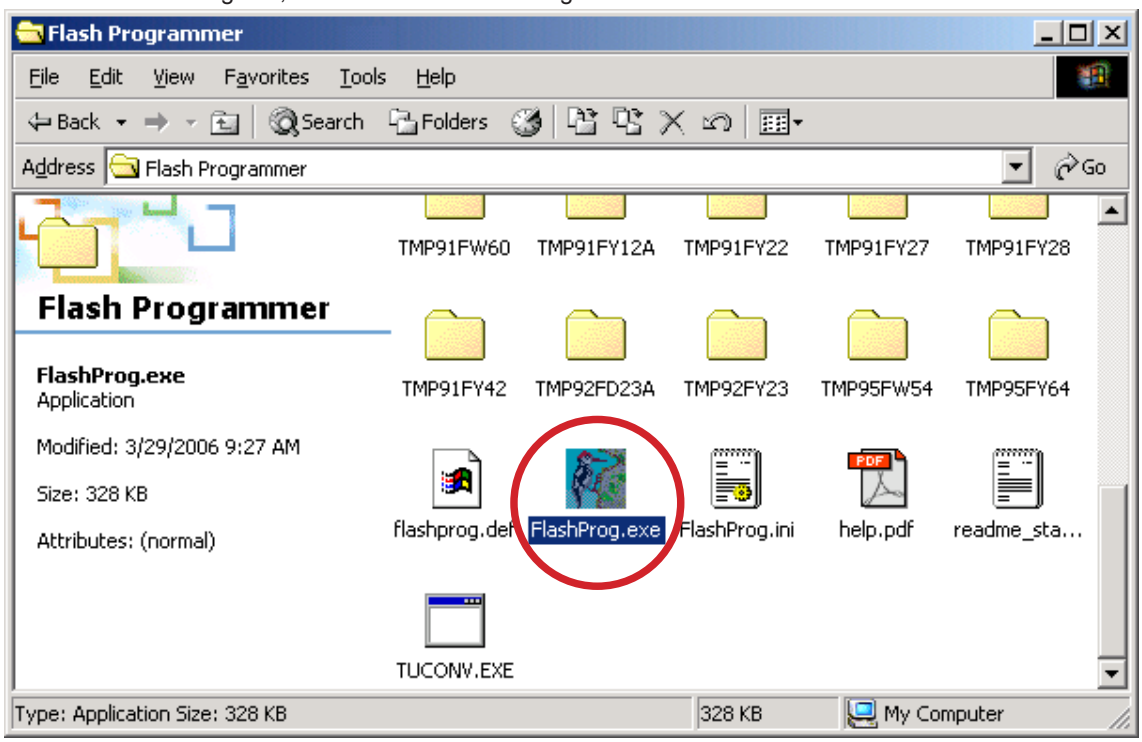
1. Update for software

(1) Put the "Flash Programmer" and "software" folder into anywhere on your PC's hard disc.

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

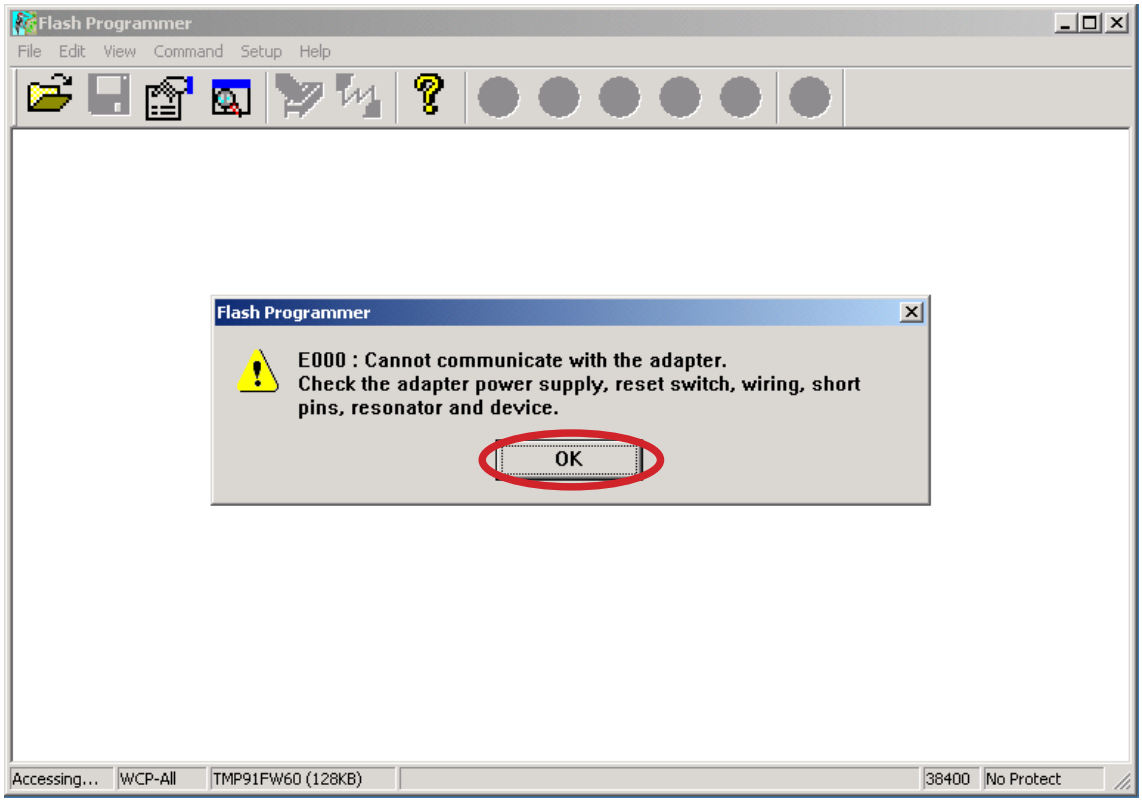


(3) Double click FlashProg.exe, and launch the Flash Programmer.



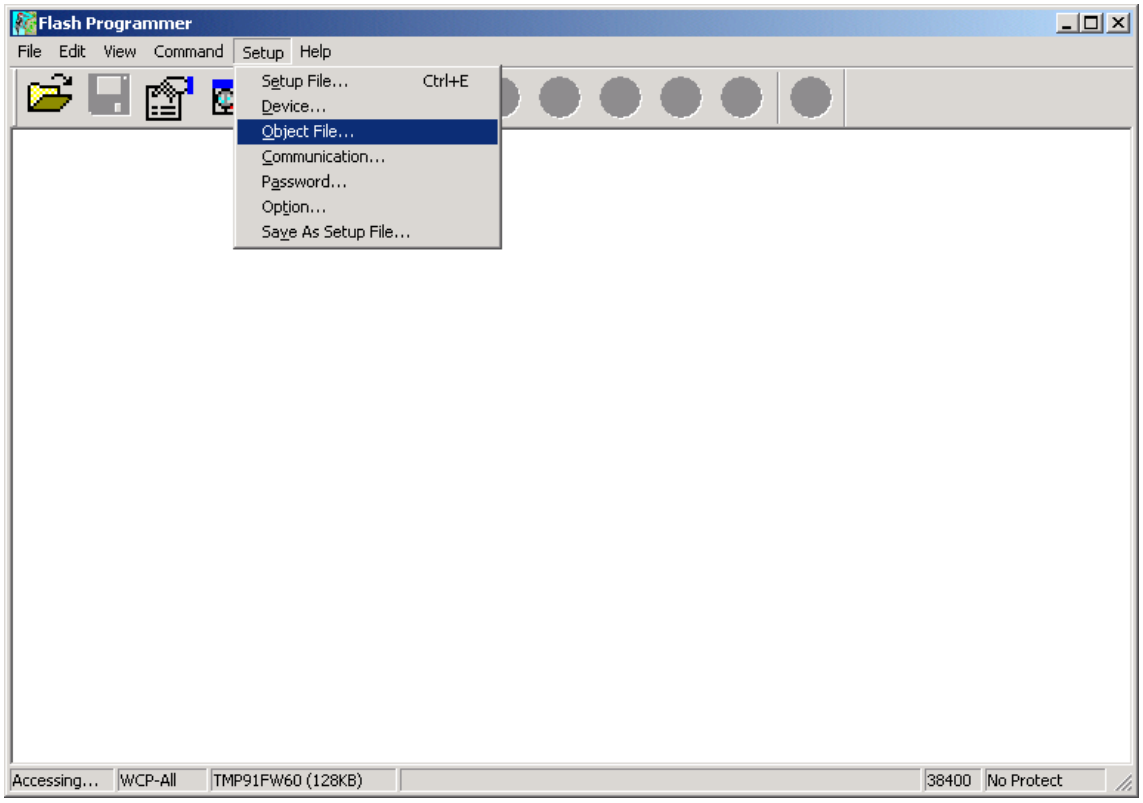
NOTE : When a Flash Programmer does not launch even if double-clicked FlashProg.exe, please refer to "2. When a Flash Programmer did not launch".

(4) Click OK.

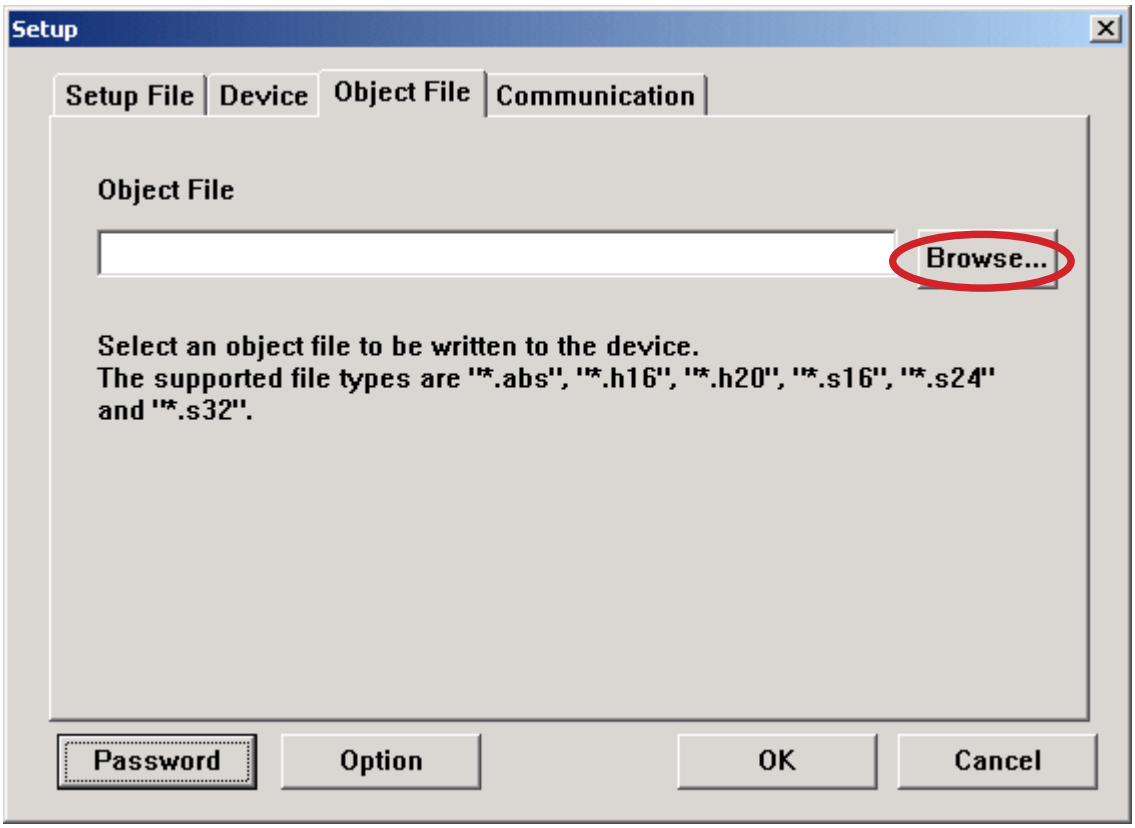


NOTE : Since Flash Programmer communicates with the unit automatically, the following dialog box appears when it fails in communication.

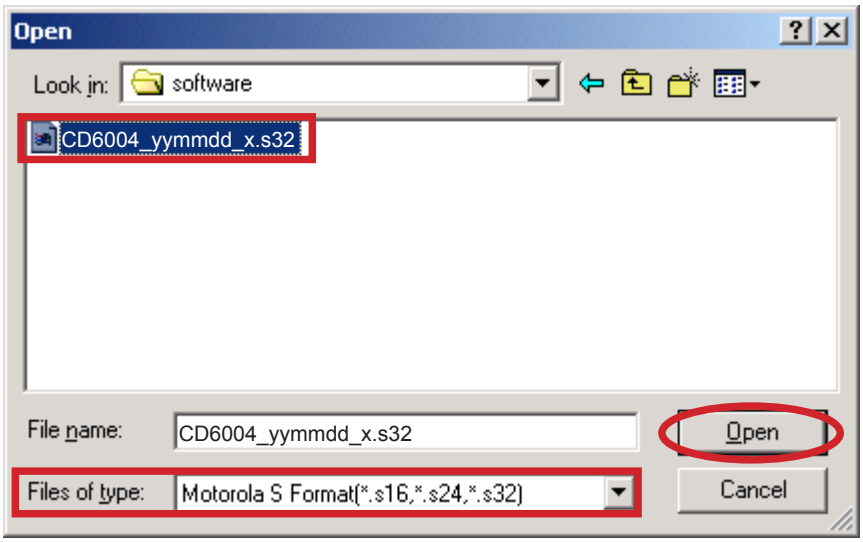
(5) Click the Setup in the menu bar and select the Object file.



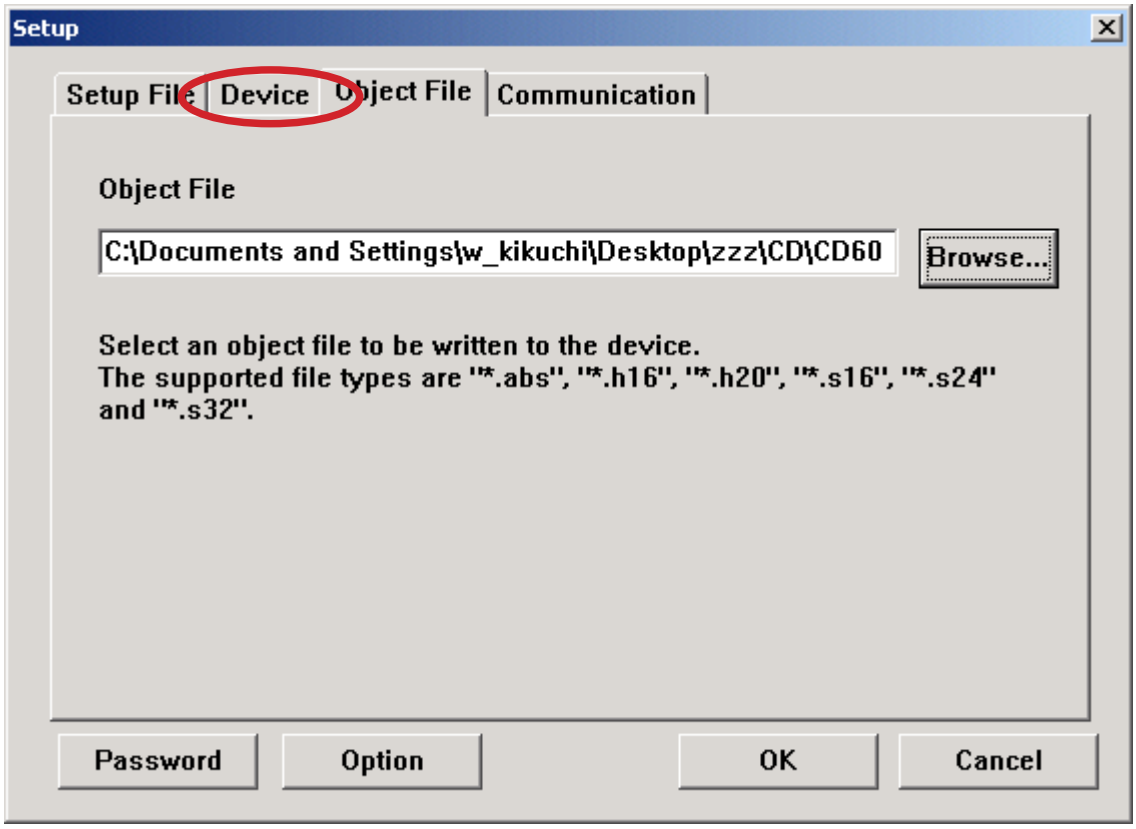
(6) Click Browse.



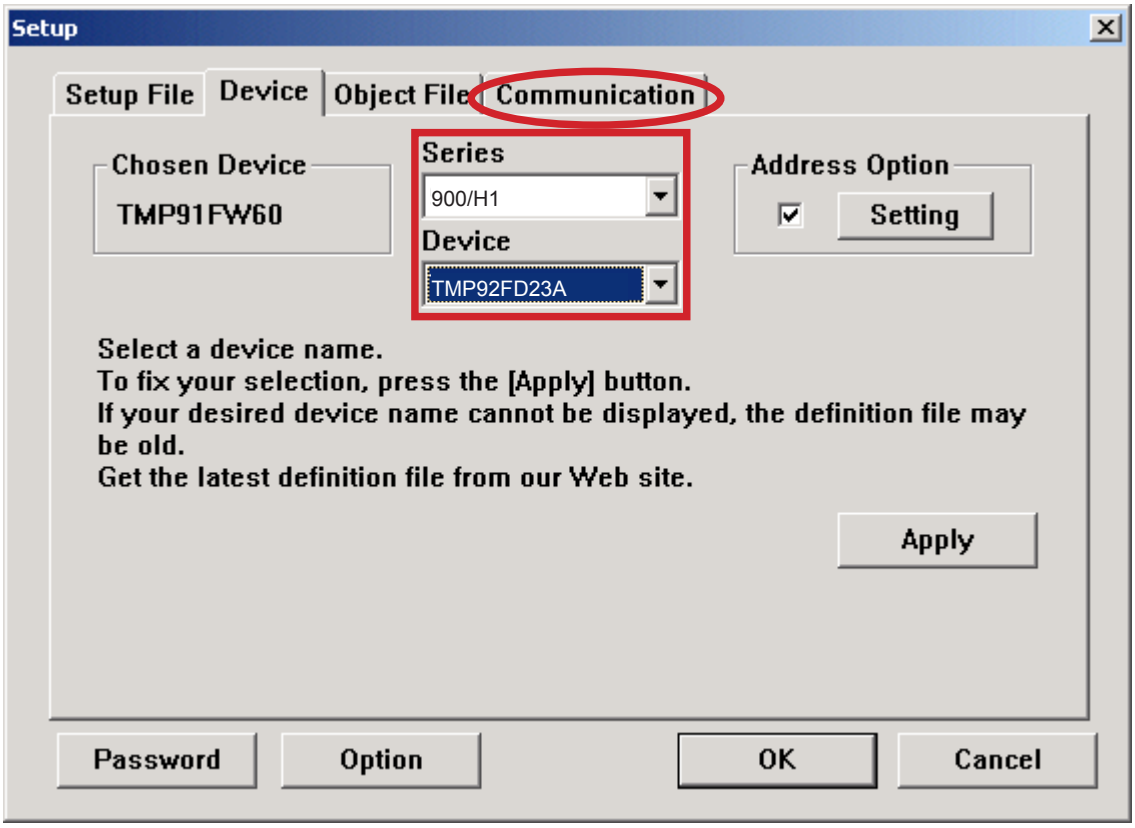
(7) Choose the Motorola S Format(*.s16,*.s24,*.s32) in Files of type.
Choose the CD6004_yymmdd_x.s32, and click Open.
NOTE : The yy is two digits of year. The mm is month. The dd is date. The x is release number.



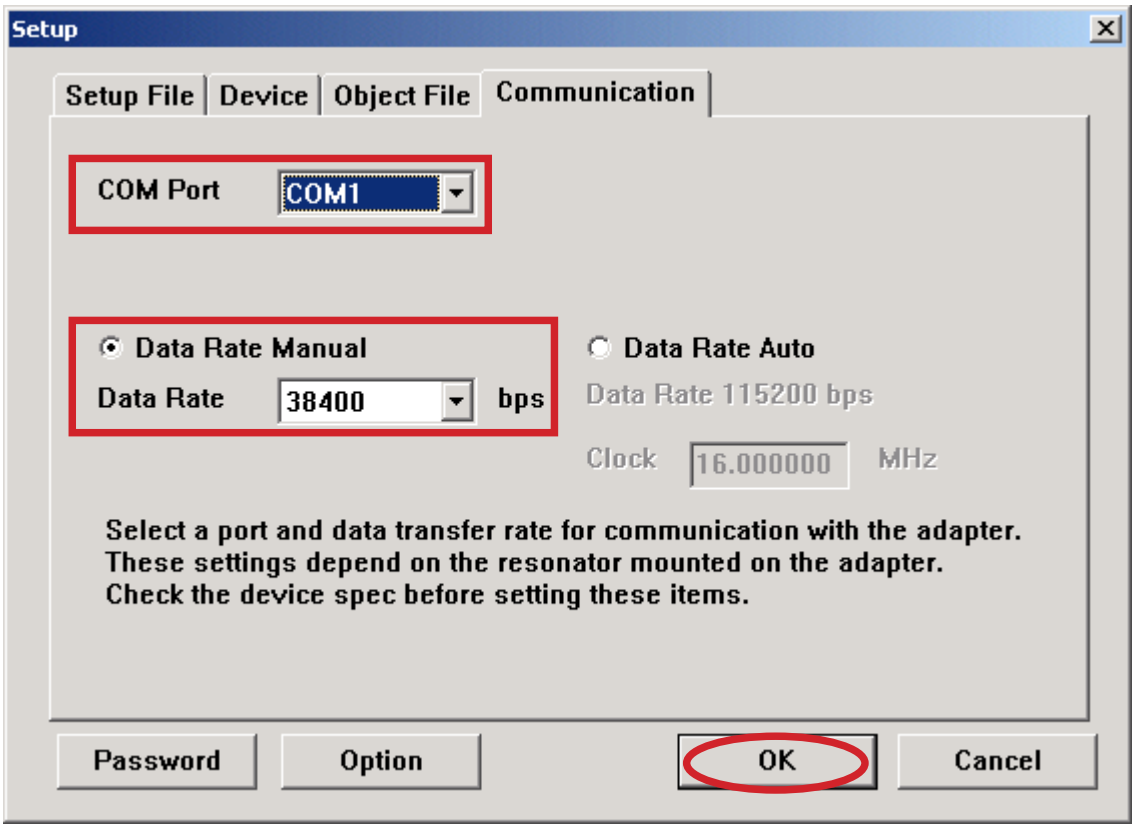
(8) Click Device tab.



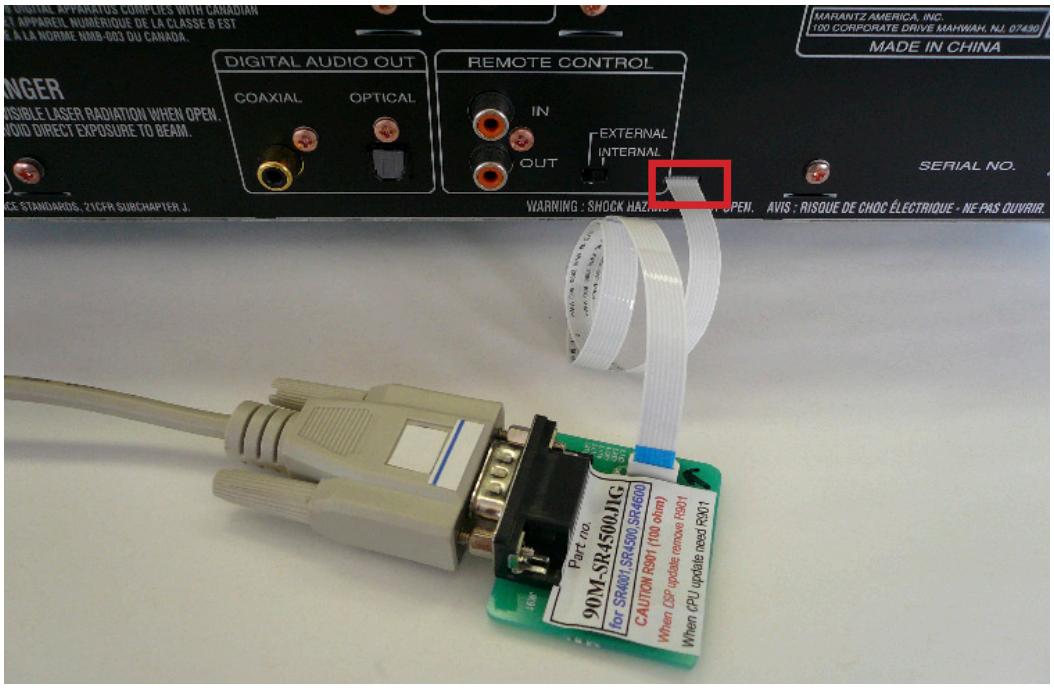
(9) Choose the TMP91FW60 in the Device, and choose the 900/L1 in the Series.
And click Communication tab.



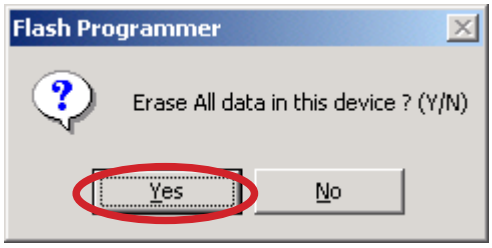
(10) Choose the Serial port number in the COM Port.
Check the Data Rate Manual, and choose the 38400 in the Data Rare.
And Click OK.



(11) Disconnect the mains cord from the unit.
(12) Connect the RS-232C on the connection JIG and the Serial Port of windows PC with RS-232C cable.
(13) Connect FFC (upside contact) to the rear panel of the unit from connection JIG.

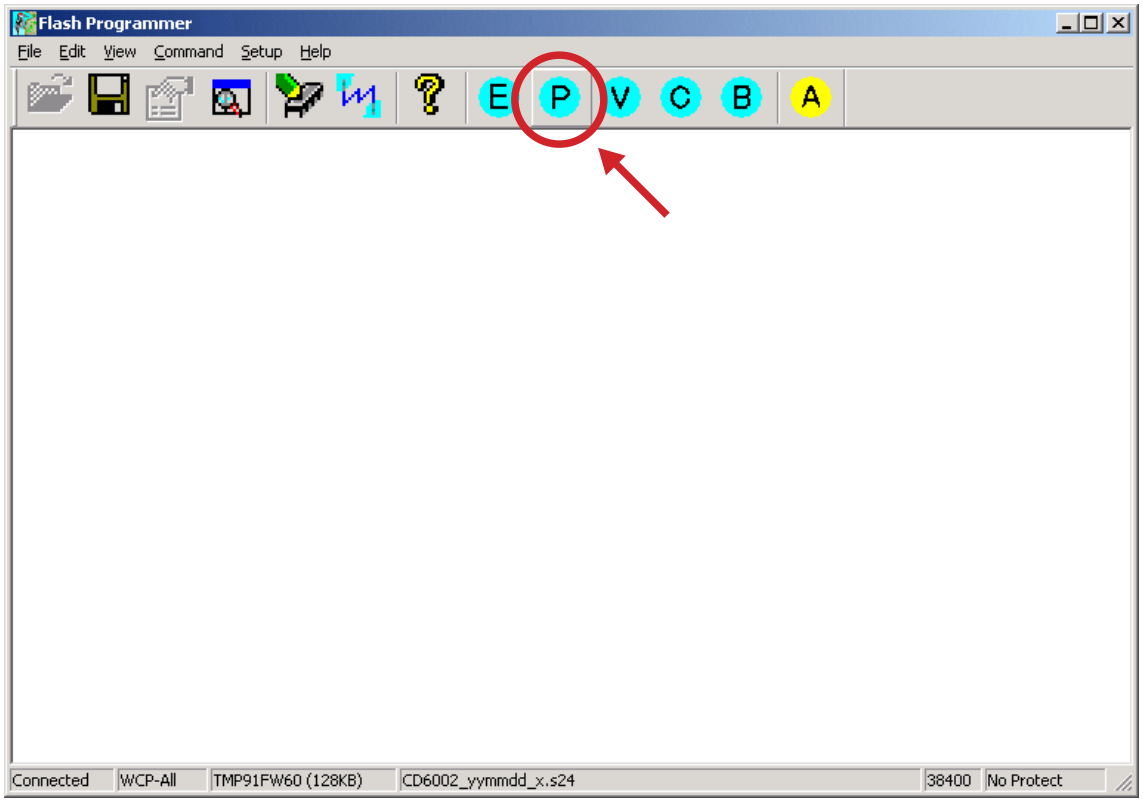


(14) Connect the mains cord into the unit.
(15) If the connection with the Flash Programmer is successfully made, a dialogue box saying "Erase All data in this devise? (Y/N)" appears automatically. If the connection fails, error message will appear. (Ex.: E000)
Click Yes.

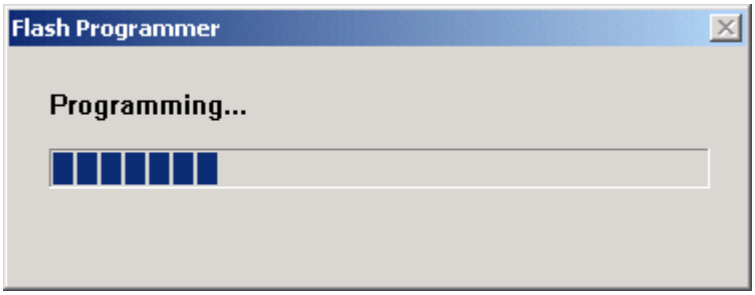


(16) Click OK.

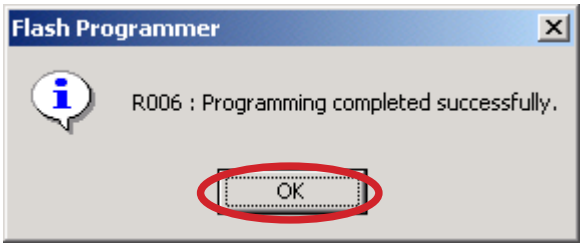
(17) Click P (Program) to start update.



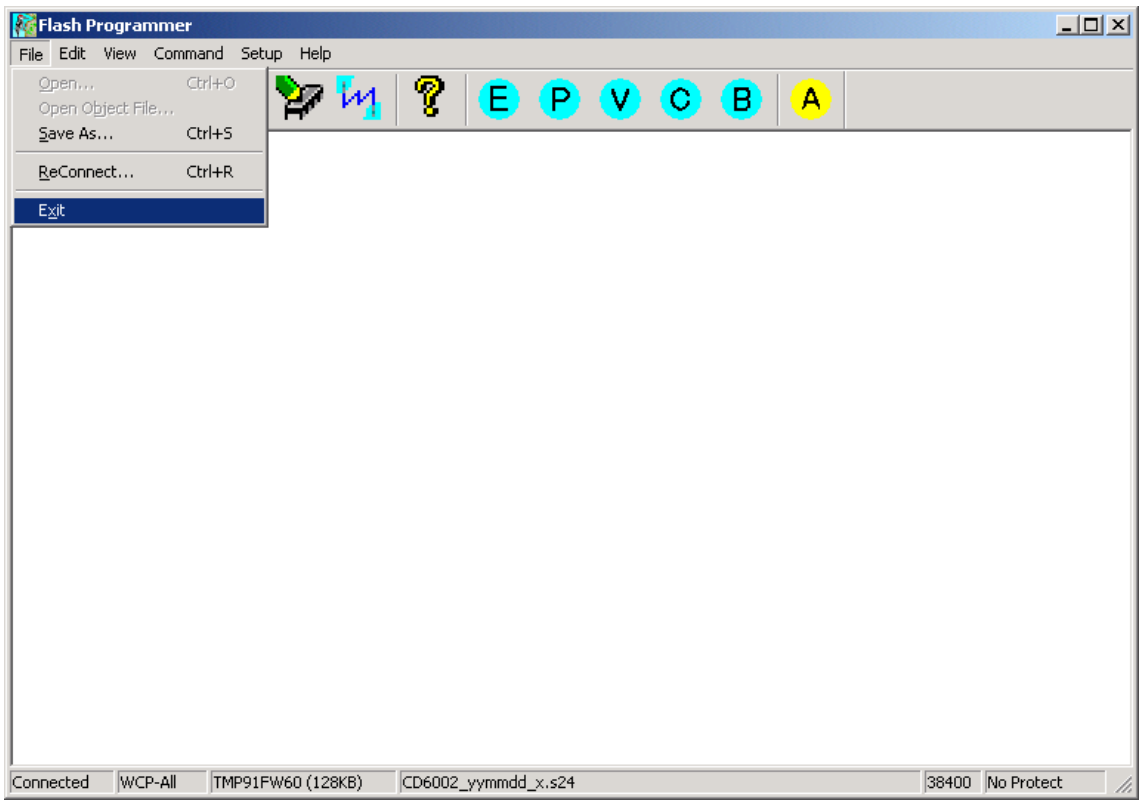
(18) Software is written into the microprocessor.
The writing of software takes about 50 seconds.



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



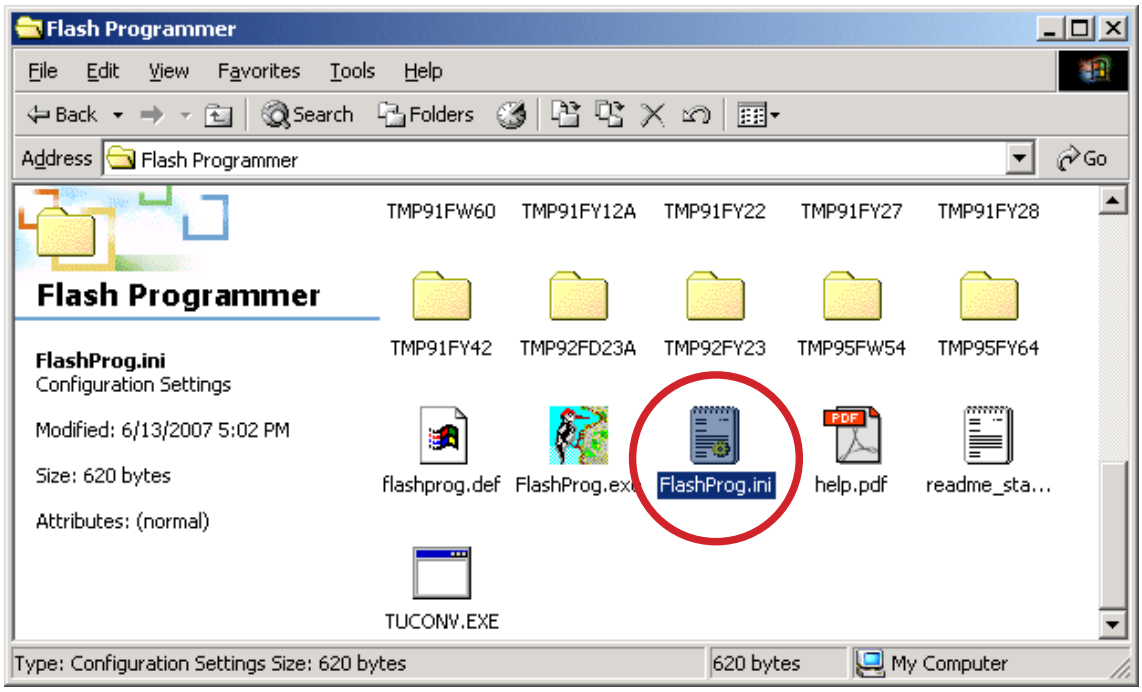
(20) Click the File in the menu bar and select the Exit.



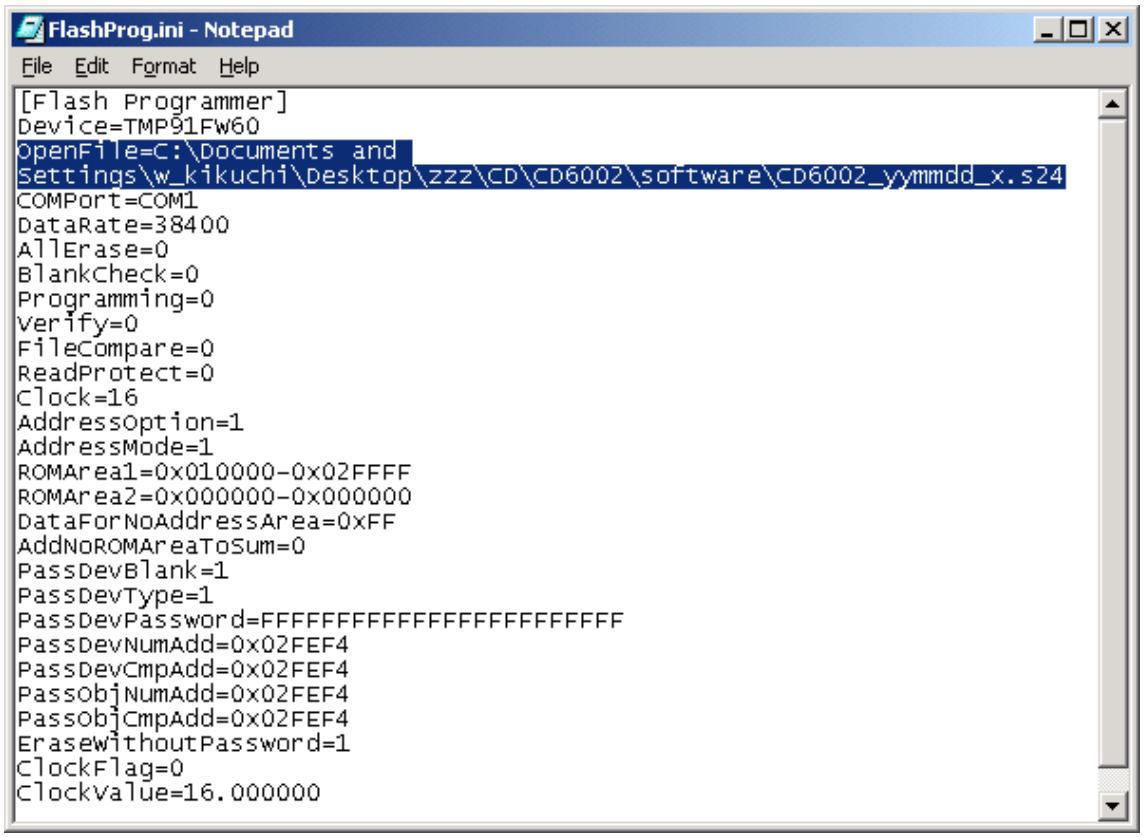
(21) Disconnect mains cord from the unit, and then disconnect FFC of connection JIG from the unit.

2. When a Flash Programmer did not launch

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



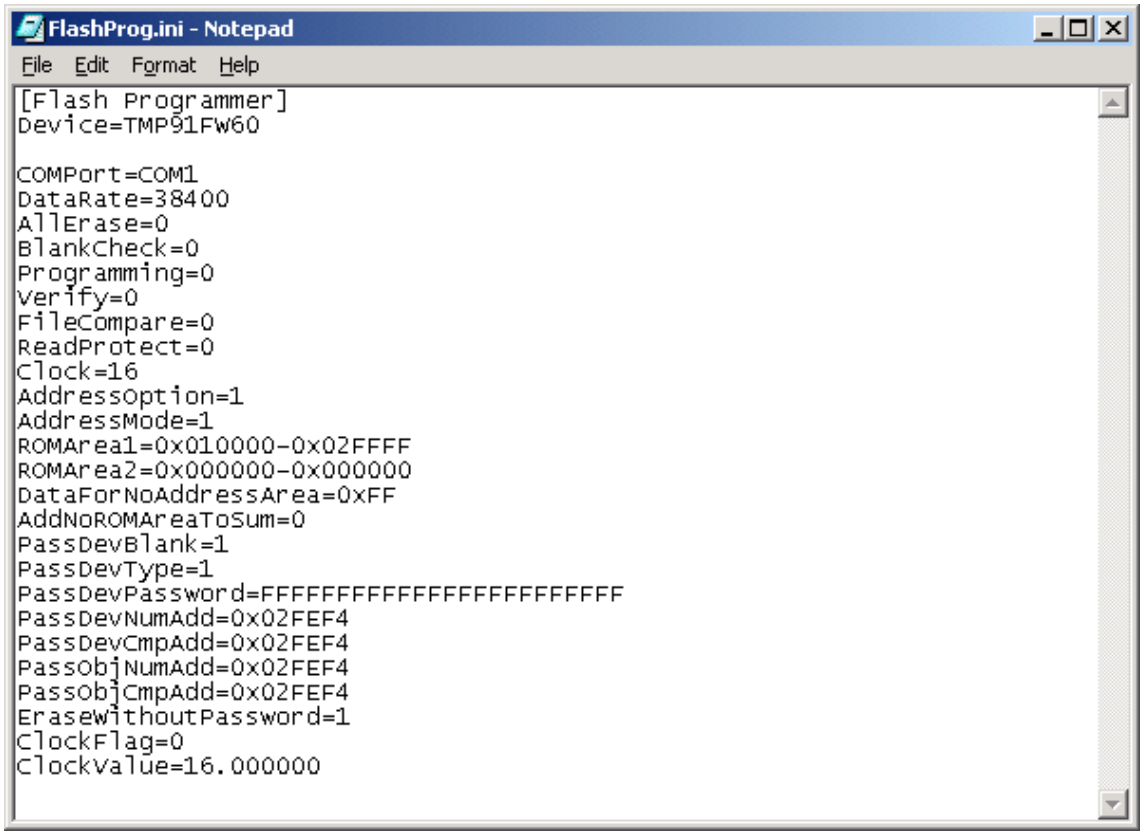
(2) Delete the text "OpenFile=C:\...(your PC setting)...\???.s32".



FlashProg.ini - Notepad

File Edit Format Help

```
[Flash Programmer]
Device=TMP91FW60
OpenFile=C:\Documents and
Settings\w_kikuchi\Desktop\zzz\CD\CD6002\software\CD6002_yymmdd_x.s24
COMPort=COM1
DataRate=38400
AllErase=0
BlankCheck=0
Programming=0
Verify=0
FileCompare=0
ReadProtect=0
Clock=16
AddressOption=1
AddressMode=1
ROMArea1=0x010000-0x02FFFF
ROMArea2=0x000000-0x000000
DataForNoAddressArea=0xFF
AddNoROMAreaToSum=0
PassDevBlank=1
PassDevType=1
PassDevPassword=FFFFFFFFFFFFFFFFFFFFFFFF
PassDevNumAdd=0x02FEF4
PassDevCmpAdd=0x02FEF4
PassObjNumAdd=0x02FEF4
PassObjCmpAdd=0x02FEF4
EraseWithoutPassword=1
ClockFlag=0
ClockValue=16.000000
```



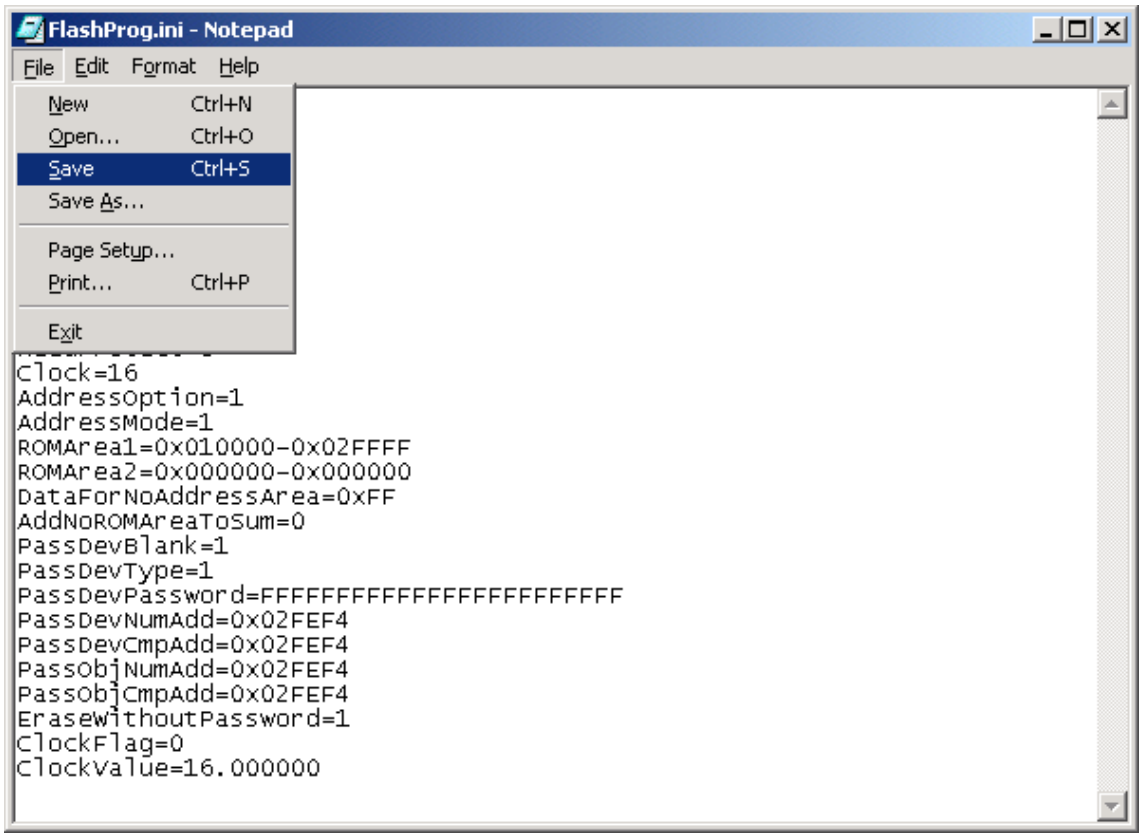
FlashProg.ini - Notepad

File Edit Format Help

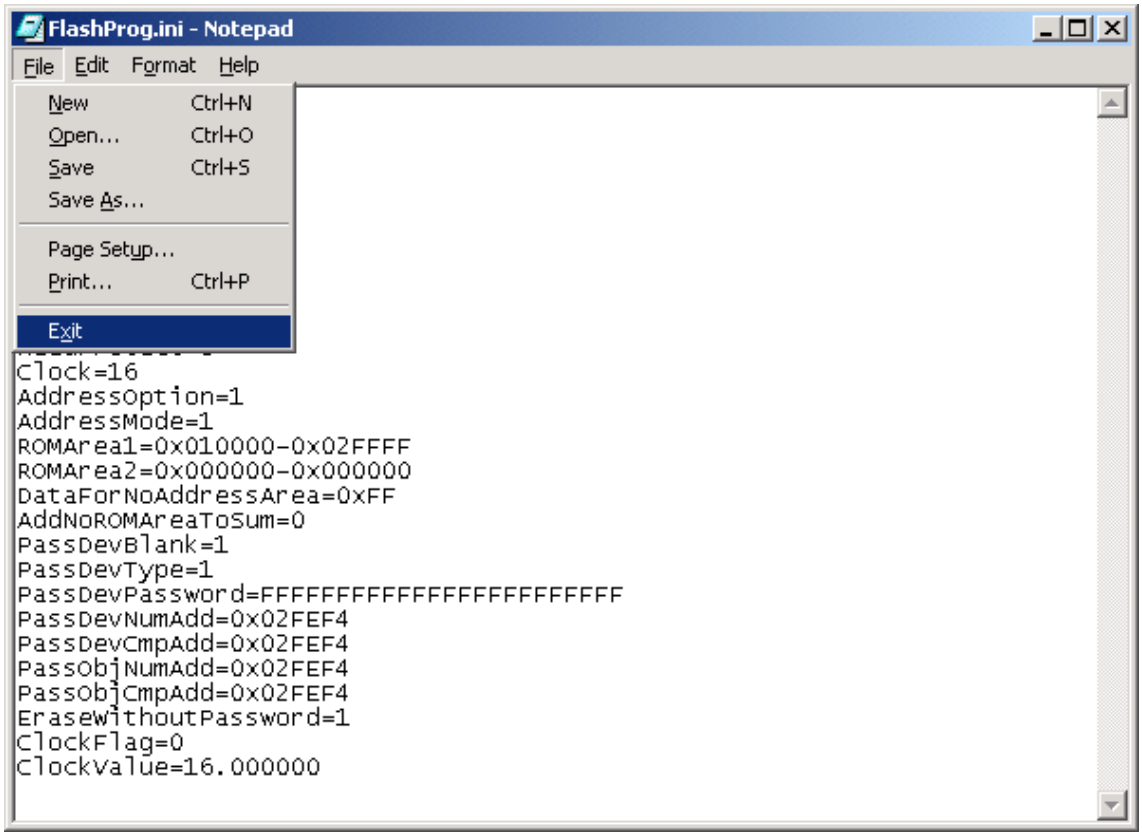
```
[Flash Programmer]
Device=TMP91FW60

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

(3) Save the FlashProg.ini.



(4) Close the text editor.

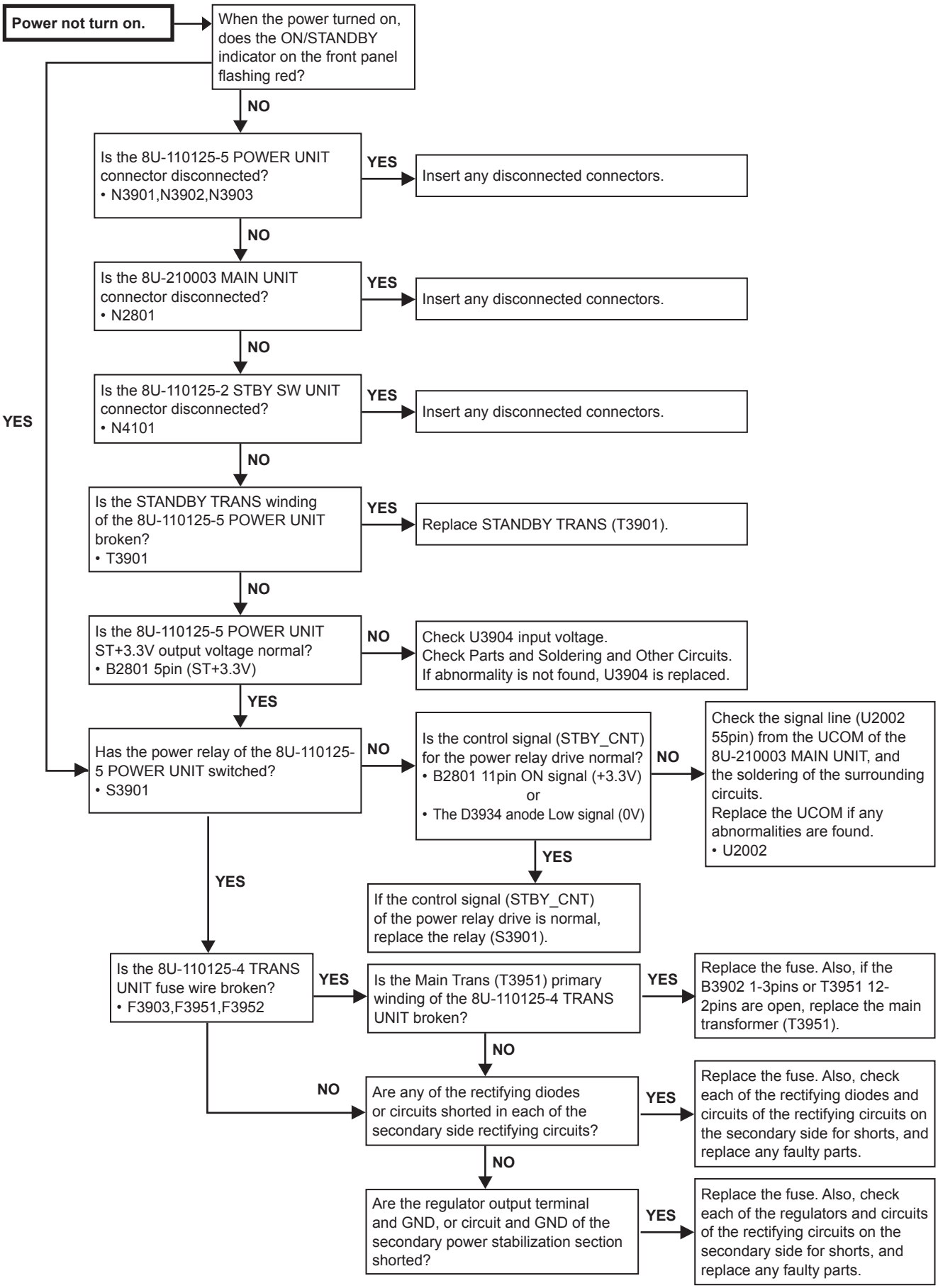


(5) Probably you can launch the Flash Programmer. Go to the 1. Update Procedure step 3.

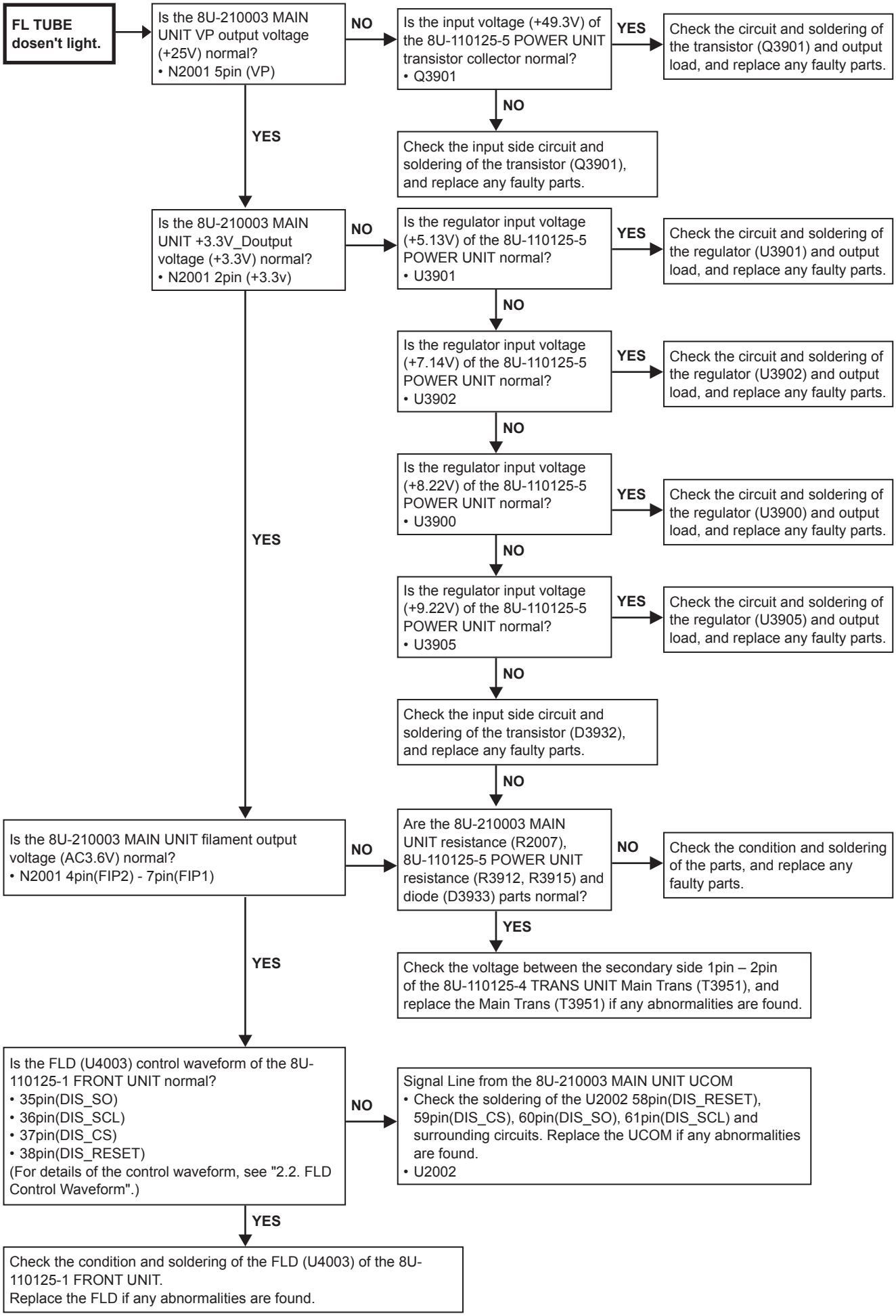
TROUBLE SHOOTING

1. POWER

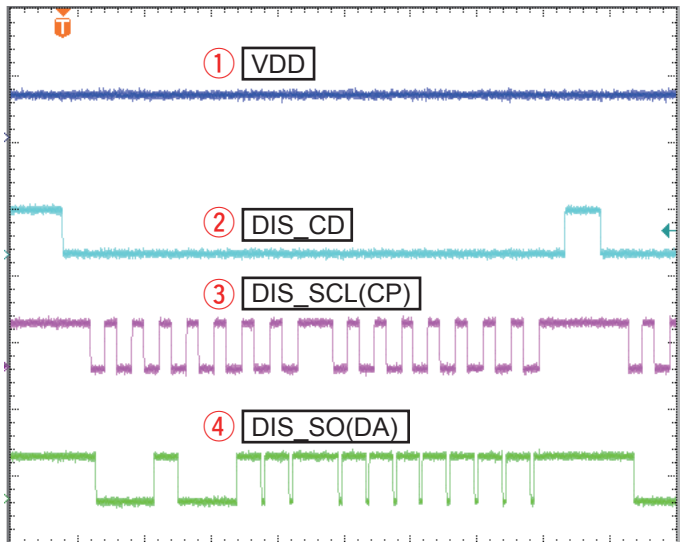
1.1. Power not turn on



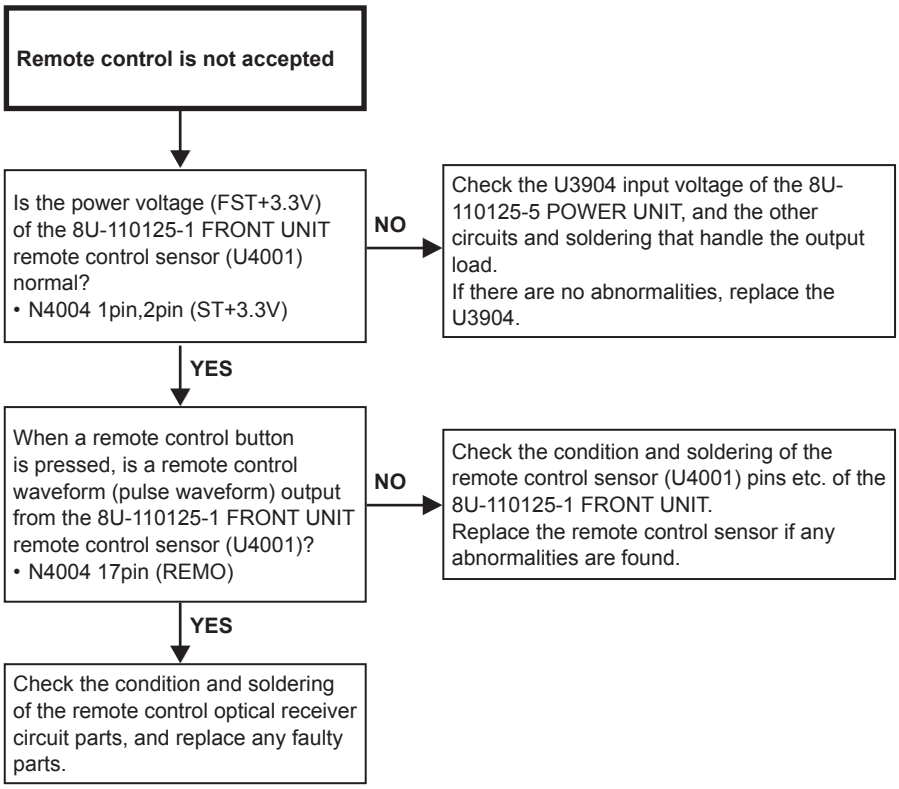
2.1. FL TUBE dosen't light



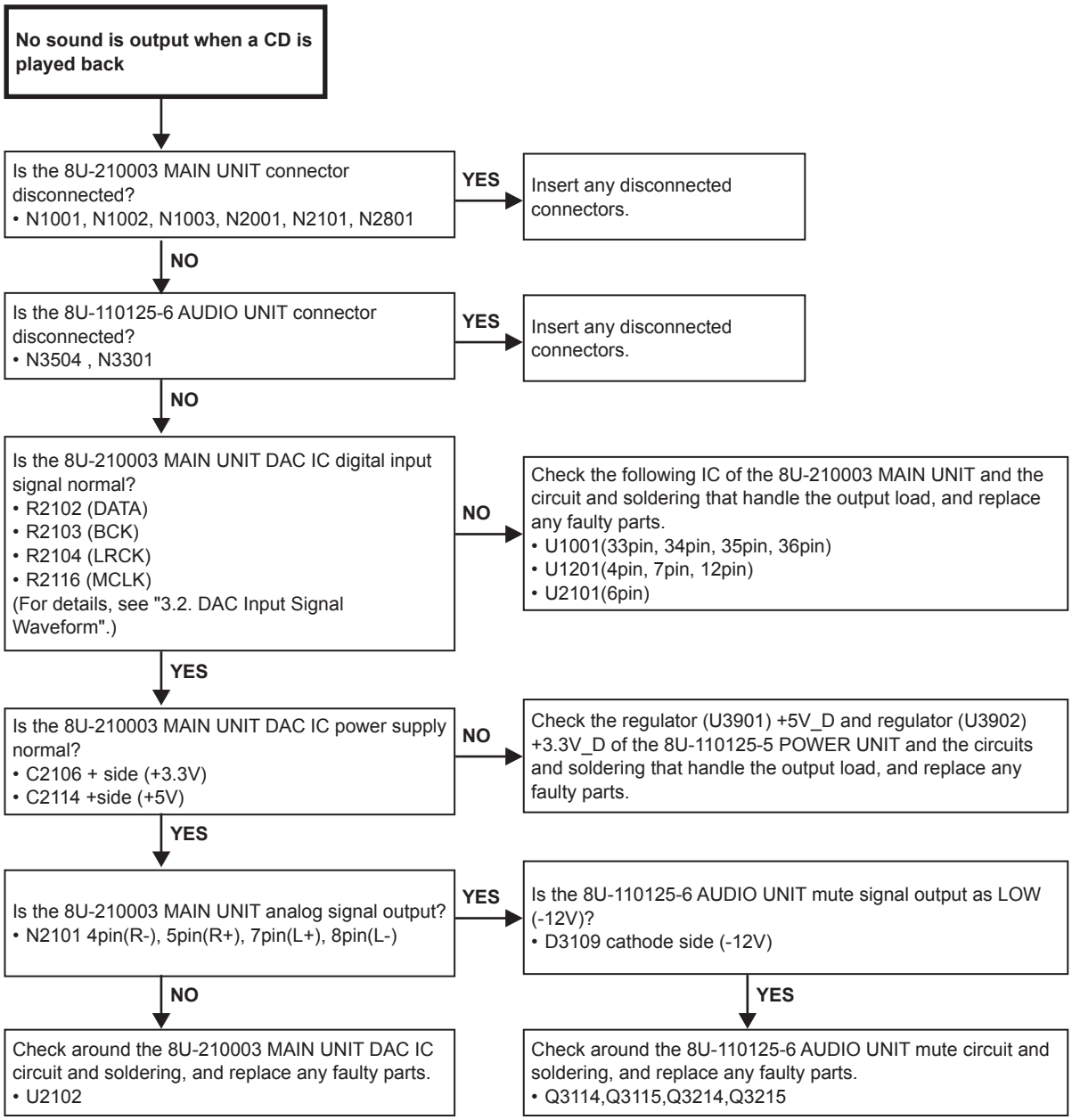
2.2. FLD Control Waveform



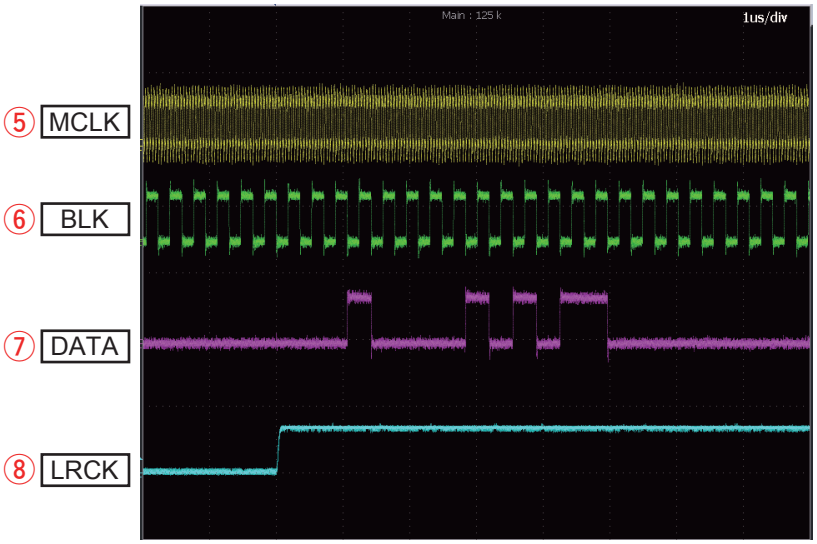
2.3. Remote control is not accepted



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



3.2. DAC Input Signal Waveform



3.3. No sound is output when a USB, iPod is played back

No sound is output when a USB, iPod is played back

Is the 8U-210003 MAIN UNIT connector disconnected?
• N1101, N2001, N2101, N2801

YES → Insert any disconnected connectors.

NO ↓

Is the 8U-210003 MAIN UNIT USB DSP IC power supply normal?
• U1101 6pin, 13pin, 48pin, 53pin, 62pin, 96pin, 116pin, 128pin, 143pin (+3.3V)

NO → Check the regulator (U3901) +3.3V_D of the 8U-110125-5 POWER UNIT and the circuits and soldering that handle the output load, and replace any faulty parts.

YES ↓

Is the USB DSP IC reset signal of the 8U-210003 MAIN UNIT input as High (+3.3V)?
• R1118

NO → Check the USB DSP circuit of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.

YES ↓

Is the USB DSP IC MCLK of the 8U-210003 MAIN UNIT normal?
• R1133 (16.9344MHz)

NO → Check the USB DSP X'TAL oscillation circuit of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.
• U2101 10pin, X2101

YES ↓

Is the USB DSP IC MCLK of the 8U-210003 MAIN UNIT normal?
• R1121 (48MHz)

NO → Check the USB DSP X'TAL oscillation circuit of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.
• X1101

YES ↓

Is the USB DSP IC digital communication signal of the 8U-210003 MAIN UNIT normal?
• R1115 (USB_RTS)
• R1111 (USB_CTS)
• R1130 (USB_SO)
• R1131 (USB_SI)
(For details of the control waveform, see "3.4. USB DSP Communication Waveform".)

NO → Check the following IC of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.
• U1101(19pin, 34pin, 37pin, 38pin)
• U2001(6pin, 7pin, 8pin, 85pin)

YES ↓

Is the USB data (+/-) signal to the USB DSP IC of the 8U-210003 MAIN UNIT normal?
• R1124 (DP)
• R1125 (DM)
(For details of the control waveform, see "3.5. USB Data Waveform".)

NO → Check the following IC of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.
• U1101(6pin, 5pin)

YES ↓

Is the USB DSP IC digital output signal of the 8U-210003 MAIN UNIT normal?
• R1105 (USB_DATA)
• R1104 (USB_BCK)
• R1103 (USB_LRCK)
(For details of the control waveform, see "2.2. FLD Control Waveform".)

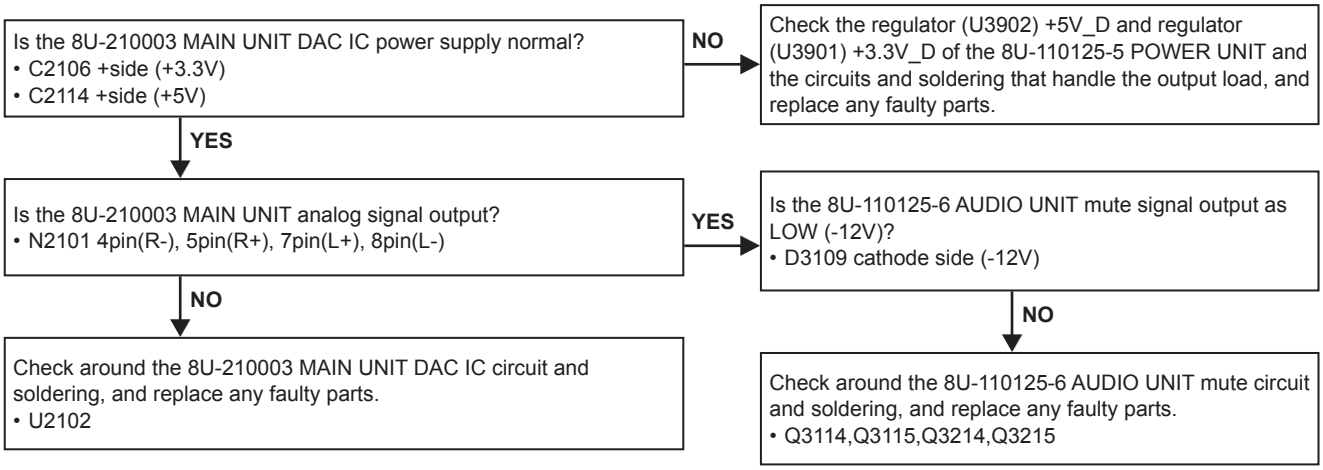
NO → Check the following IC of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.
• U1101(64pin, 65pin, 66pin, 70pin)
• U1201(4pin, 7pin, 12pin)
• U2101(6pin)

YES ↓

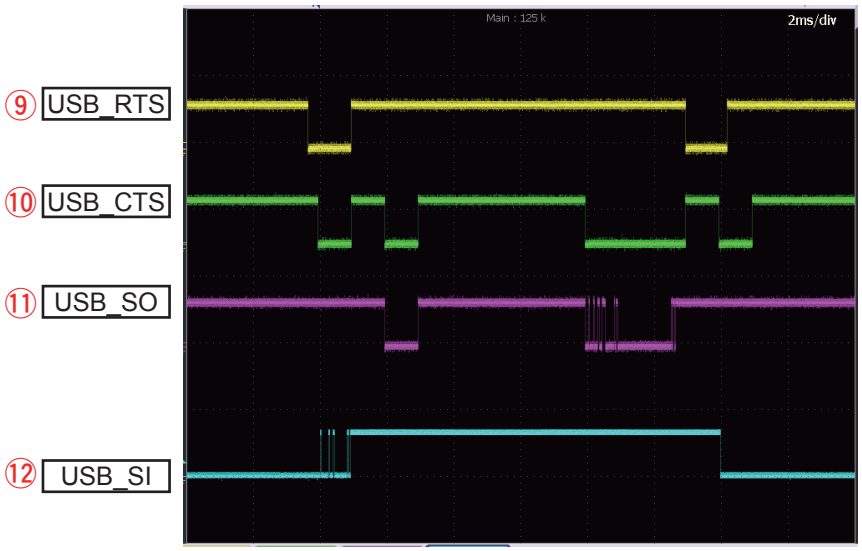
Is the DAC IC digital output signal of the 8U-210003 MAIN UNIT normal?
• R2102 (DATA)
• R2103 (BCK)
• R2104 (LRCK)
• R2116 (MCLK)
(For details of the control waveform, see "2.2. FLD Control Waveform".)

NO → Check the following IC of the 8U-210003 MAIN UNIT and the circuit and soldering that handle the output load, and replace any faulty parts.
• U1101(64pin, 65pin, 66pin, 70pin)
• U1201(4pin, 7pin, 12pin)
• U2101(6pin)

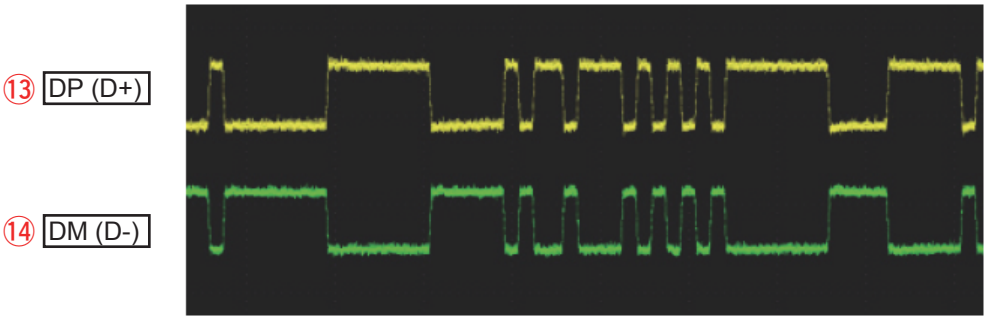
YES ↓


Is the 8U-210003 MAIN UNIT DAC IC power supply normal?
• C2106 +side (+3.3V)
• C2114 +side (+5V)
NO
Check the regulator (U3902) +5V_D and regulator (U3901) +3.3V_D of the 8U-110125-5 POWER UNIT and the circuits and soldering that handle the output load, and replace any faulty parts.
YES
Is the 8U-210003 MAIN UNIT analog signal output?
• N2101 4pin(R-), 5pin(R+), 7pin(L+), 8pin(L-)
YES
Is the 8U-110125-6 AUDIO UNIT mute signal output as LOW (-12V)?
• D3109 cathode side (-12V)
NO
Check around the 8U-210003 MAIN UNIT DAC IC circuit and soldering, and replace any faulty parts.
• U2102
NO
Check around the 8U-110125-6 AUDIO UNIT mute circuit and soldering, and replace any faulty parts.
• Q3114,Q3115,Q3214,Q3215

3.4. USB DSP Communication Waveform



3.5. USB Data Waveform

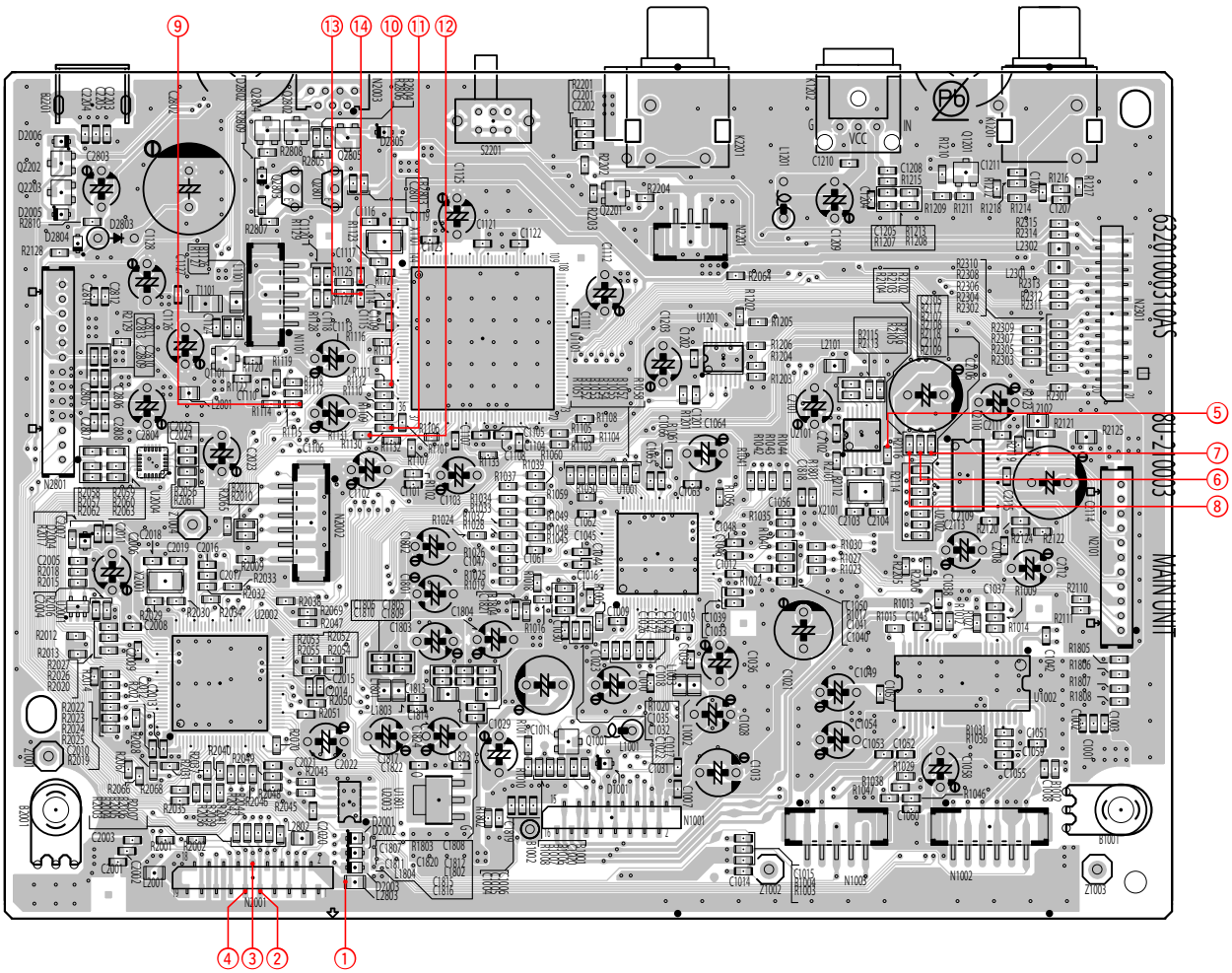


MEASURING METHOD AND WAVEFORMS

Measuring Disc: 4822 397 30184
TCD-784

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

8U-210003 MAIN UNIT ASSY: TEST POINT

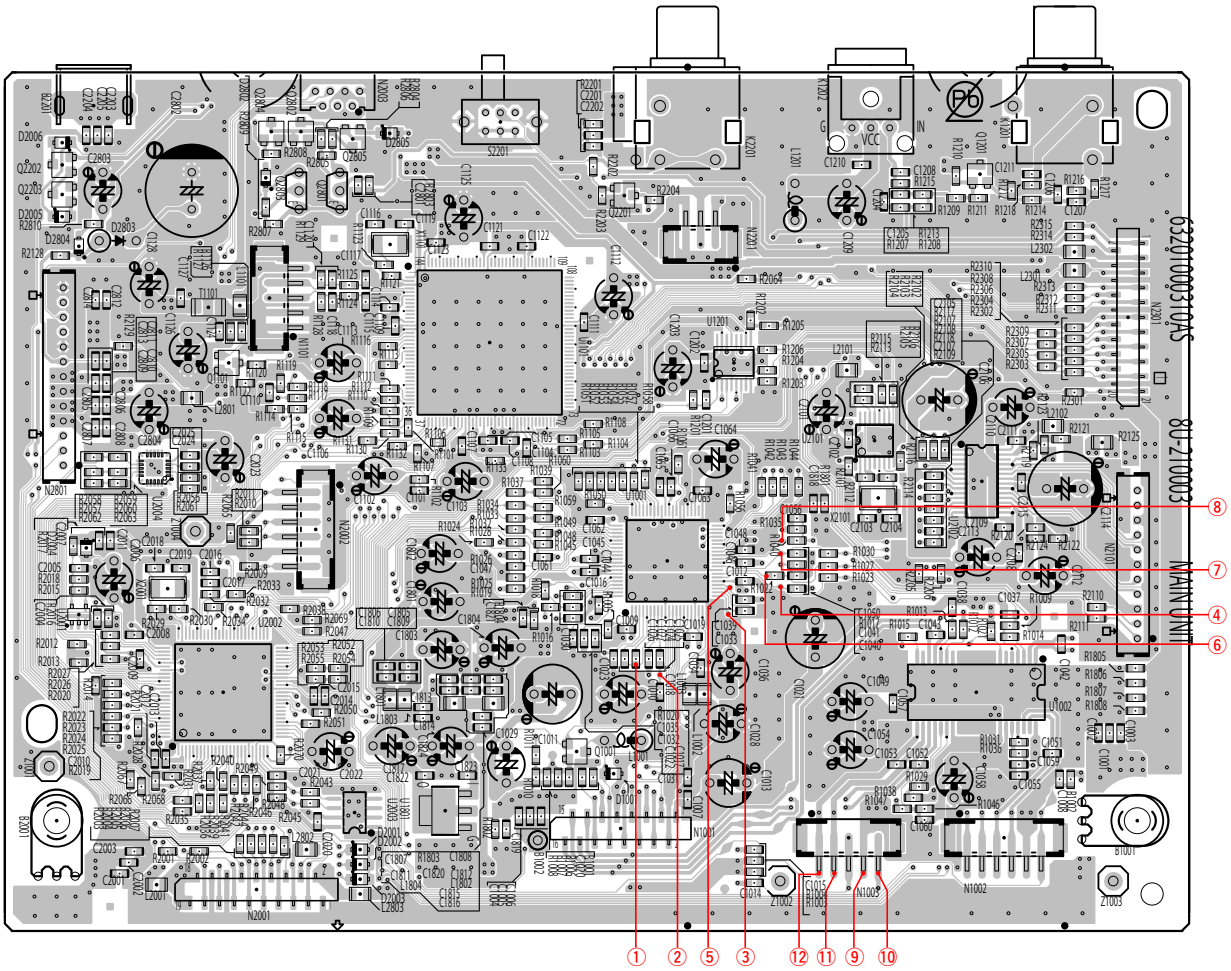


①	VDD
②	DIS CD
③	DIS SCL(CP)
④	DIS SO(DA)
⑤	MCLK
⑥	BLK
⑦	DATA
⑧	LRCK
⑨	USB RTS
⑩	USB CTS
⑪	USB SO
⑫	USB SI
⑬	DP(D+)
⑭	DP(D-)

MEASURING POINT AND WAVEFORMS

MEASURING POINT

8U-210003 MAIN UNIT ASSY (Component side)



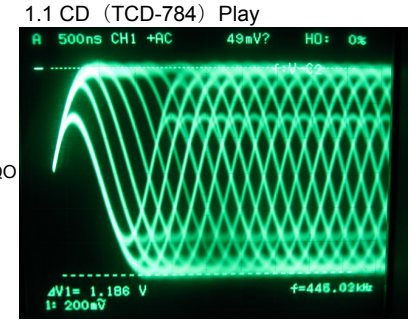
①	RFEQO
②	RFO
③	FSMONIT
④	FOO
⑤	TEI
⑥	TRO
⑦	FMO
⑧	DMO
⑨	OP SW
⑩	CL SW
⑪	LOAD+
⑫	LOAD-

WAVEFORMS

1. DISC PLAY RF WAVEFORM（EYE-PATTERN）

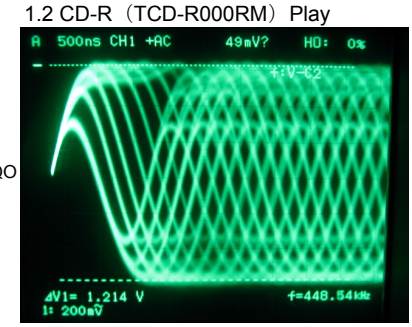
1.1 CD（TCD-784）Play

①RFEQO



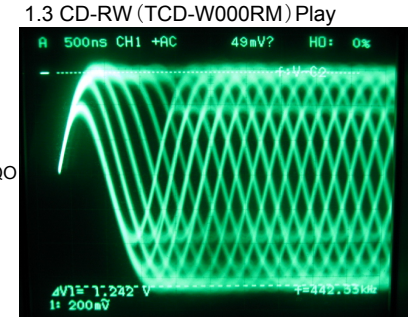
1.2 CD-R（TCD-R000RM）Play

①RFEQO



1.3 CD-RW（TCD-W000RM）Play

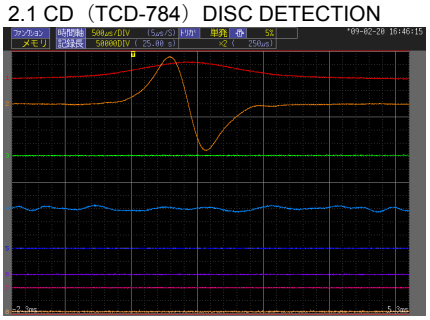
①RFEQO



2. DISC DETECTION

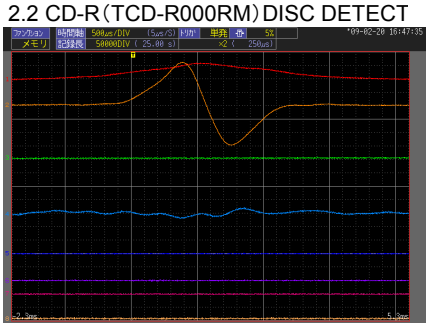
2.1 CD（TCD-784）DISC DETECTION

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



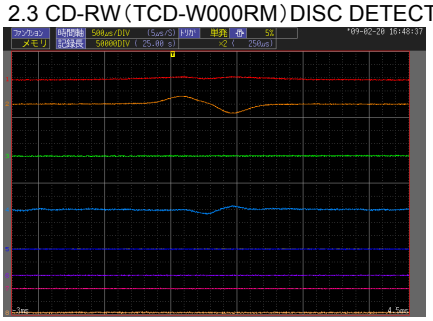
2.2 CD-R（TCD-R000RM）DISC DETECT

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



2.3 CD-RW（TCD-W000RM）DISC DETECTION

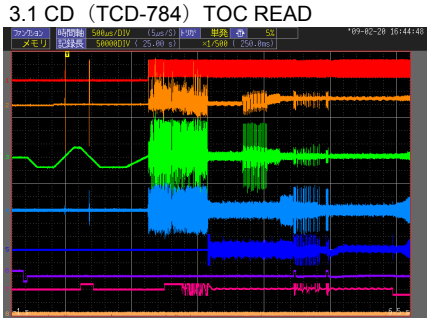
②RFO 1V
③FSMONIT 200mV
④FOO 2V
⑤TEI 500Mv
⑥ TRO 2V
⑦FMO 1V
⑧DMO 2V



3. TOC READ

3.1 CD（TCD-784）TOC READ

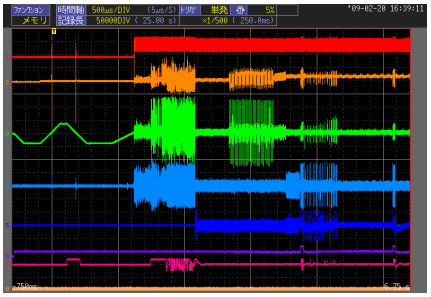
②RFO
③FSMONIT
④FOO
⑤TEI
⑥ TRO
⑦FMO
⑧DMO



1V
200mV
2V
500Mv
2V
1V
2V

3.2 CD-R（TCD-R000RM）TOC READ

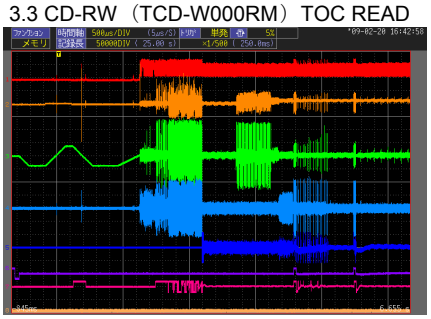
②RFO
③FSMONIT
④FOO
⑤TEI
⑥ TRO
⑦FMO
⑧DMO



1V
200mV
2V
500Mv
2V
1V
2V

3.3 CD-RW（TCD-W000RM）TOC READ

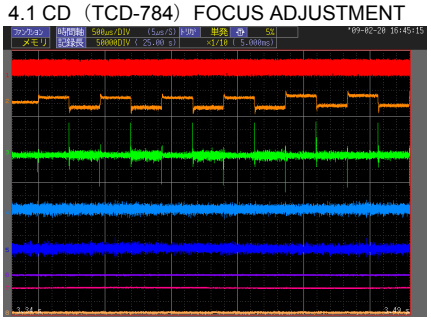
②RFO
③FSMONIT
④FOO
⑤TEI
⑥ TRO
⑦FMO
⑧DMO



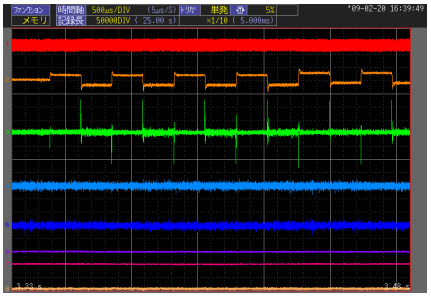
1V
200mV
2V
500Mv
2V
1V
2V

4. FOCUS ADJUSTMENT

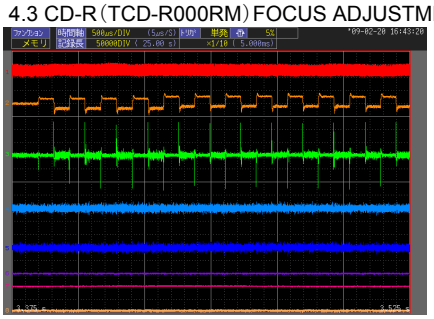
4.1 CD（TCD-784）FOCUS ADJUSTMENT



4.2 CD-R（TCD-R000RM）FOCUS ADJUSTMENT

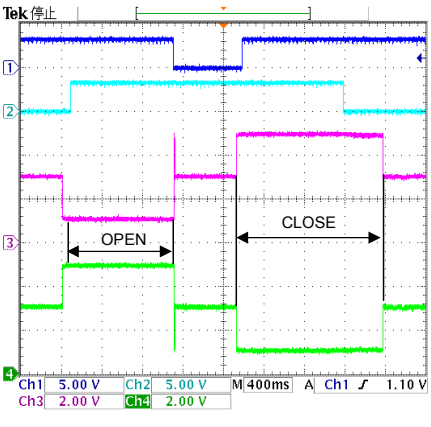


4.3 CD-R（TCD-R000RM）FOCUS ADJUSTMENT



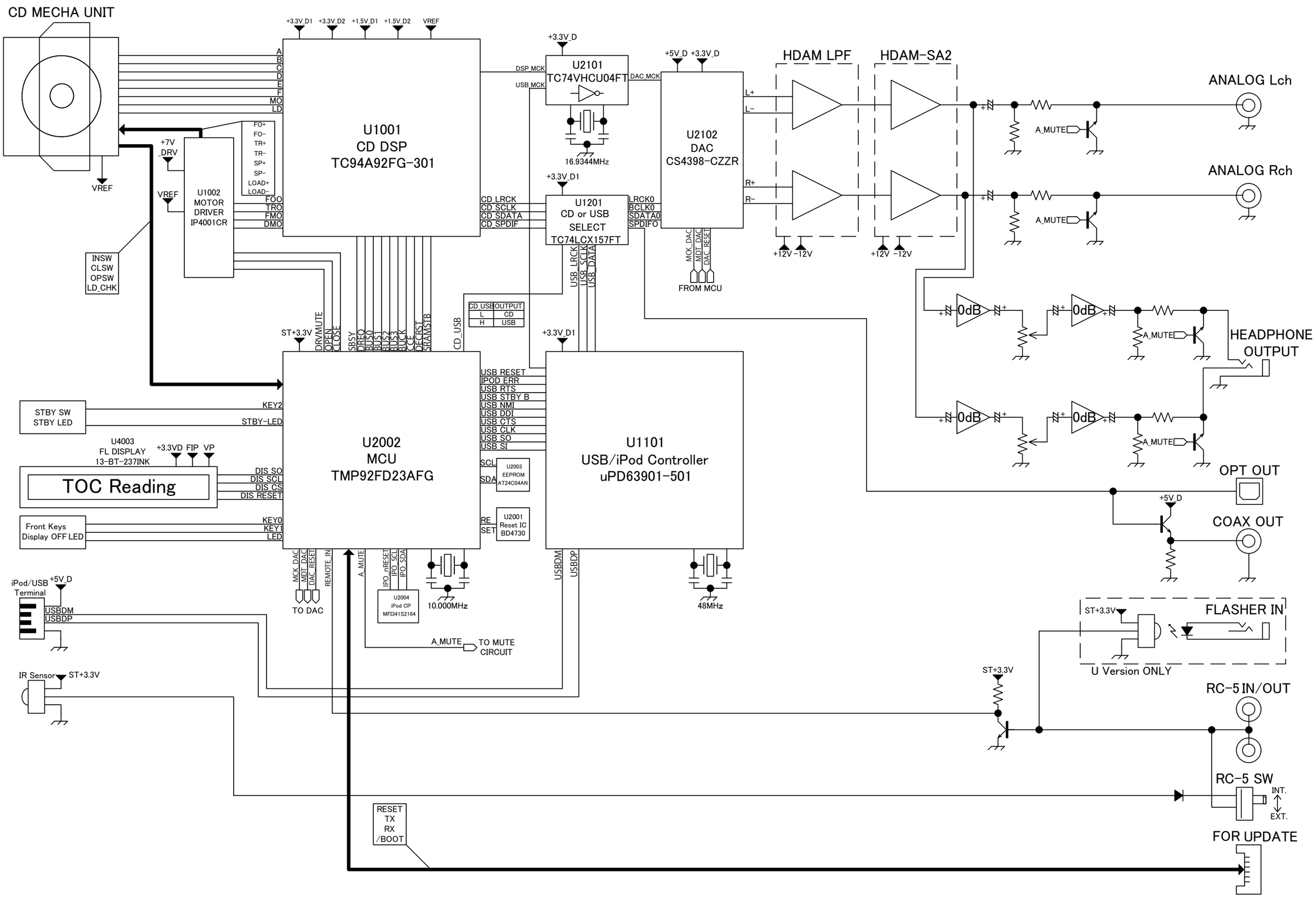
5. LOADER OPEN-CLOSE

⑨OPSW
⑩CLSW
⑪LOAD+
⑫LOAD-

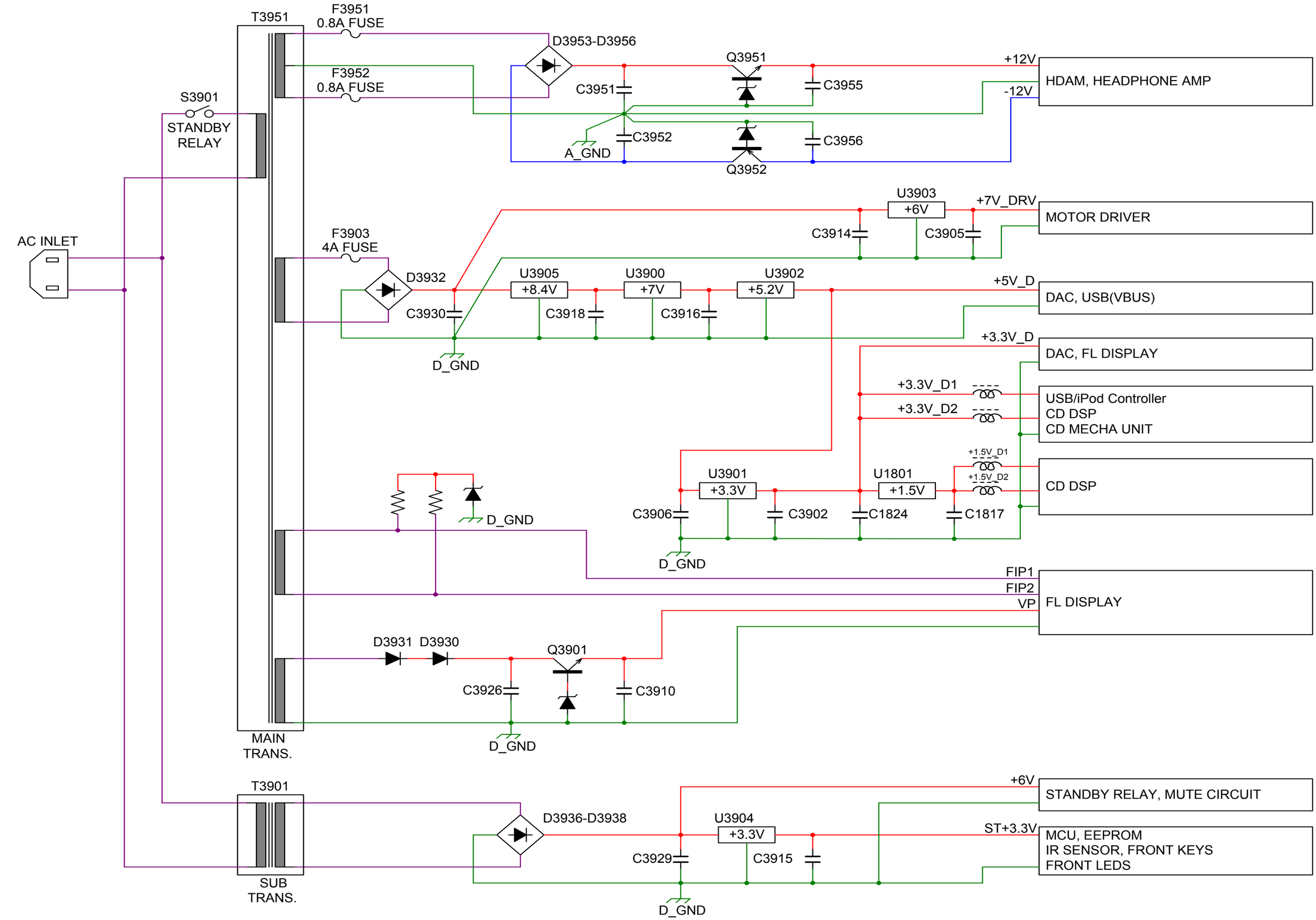


5V
5V
5V
5V

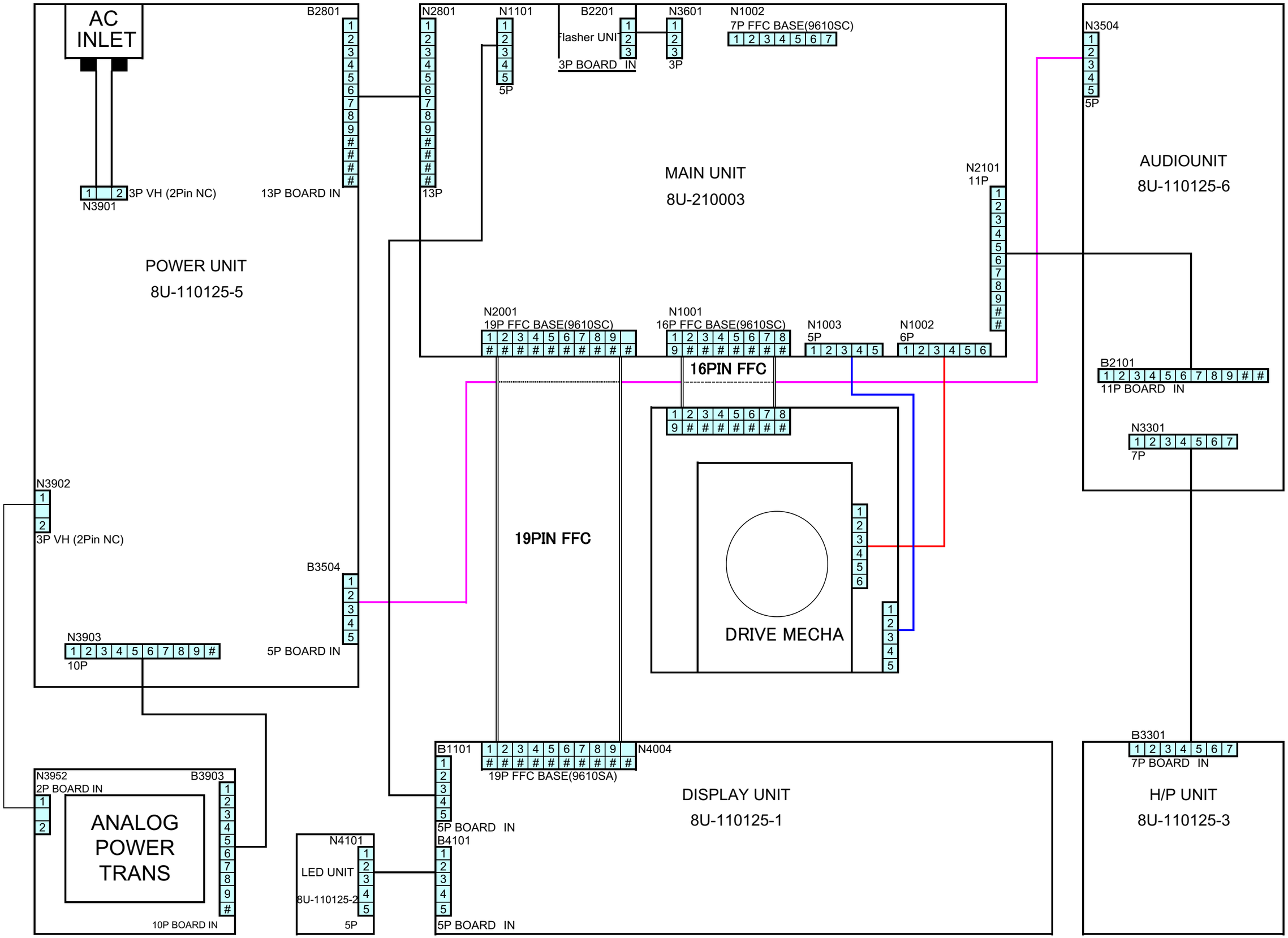
BLOCK DIAGRAM



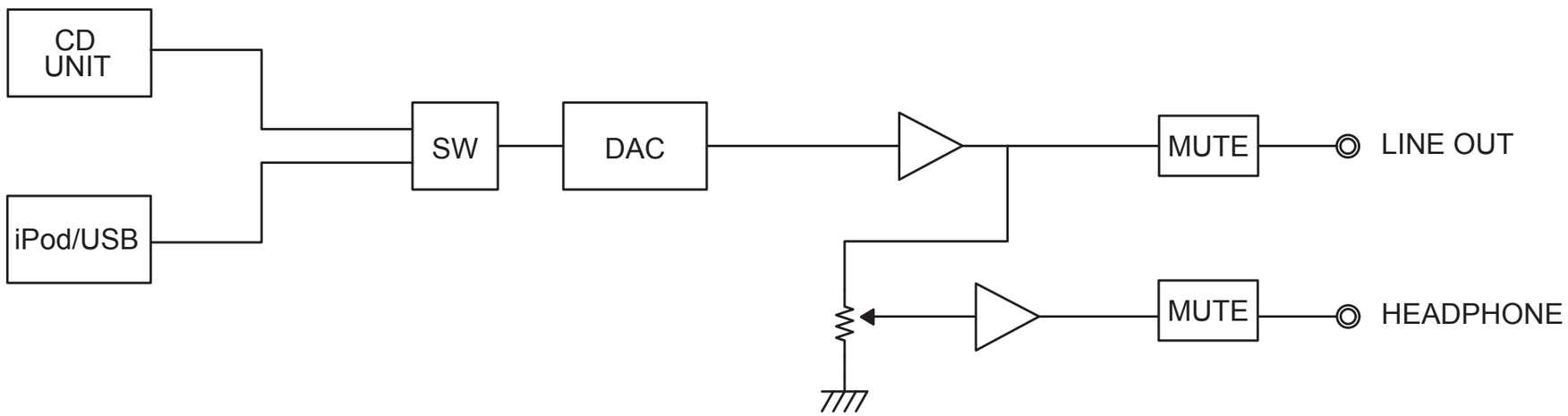
POWER SUPPLY BLOCK DIAGRAM



WIRING DIAGRAM

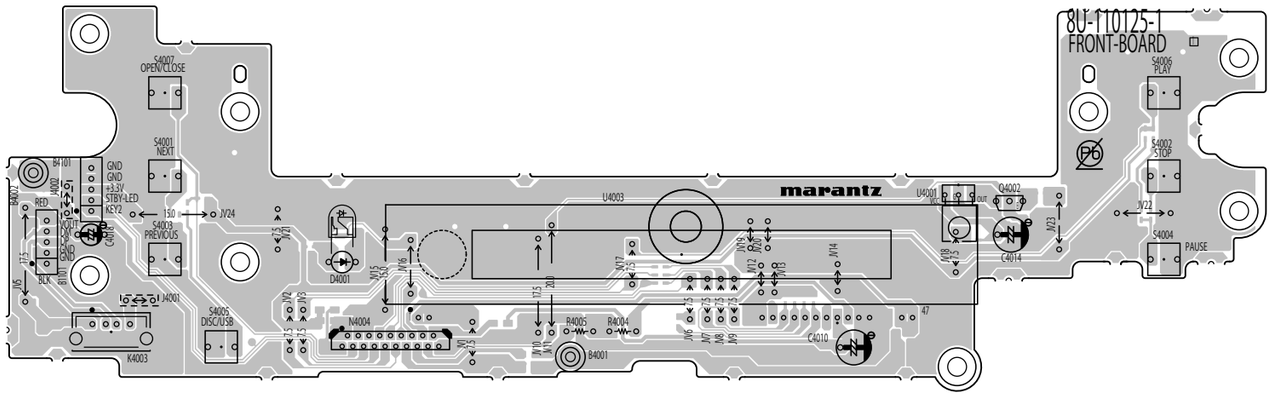


LEVEL DIAGRAM

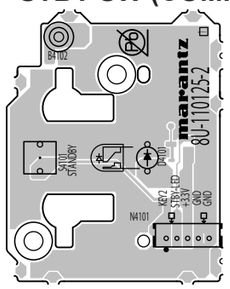


PRINTED WIRING BOARDS

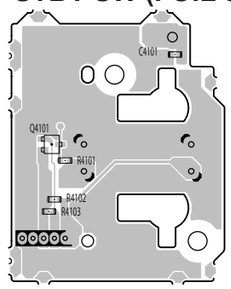
FRONT (COMPONENT SIDE)



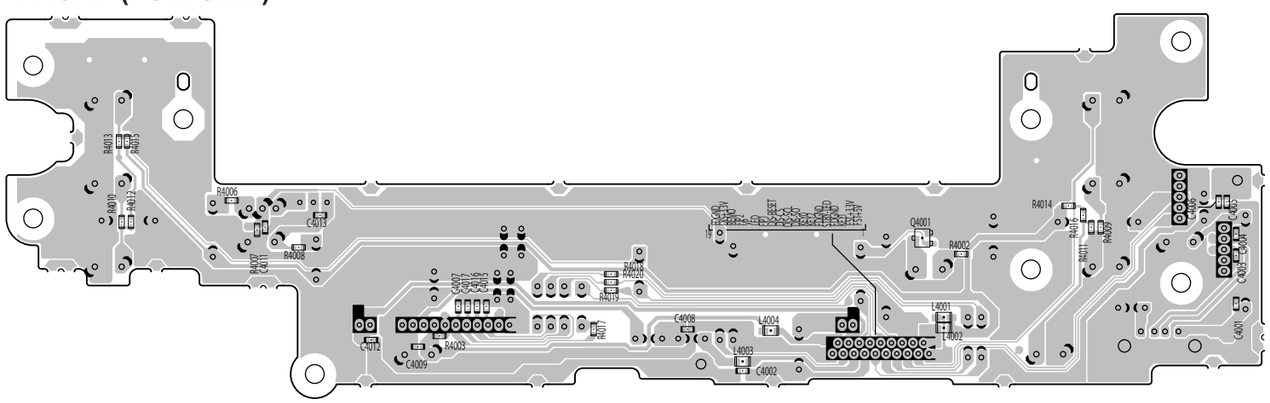
STBY SW (COMPONENT SIDE)



STBY SW (FOIL SIDE)



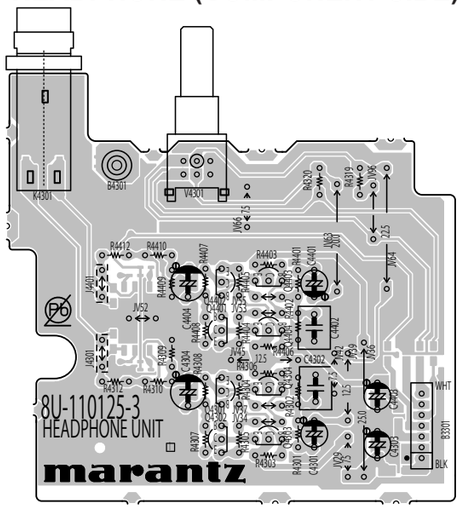
FRONT (FOIL SIDE)



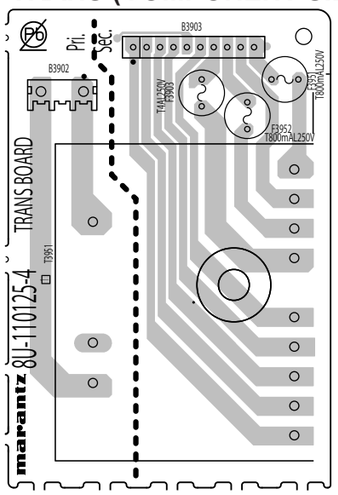
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

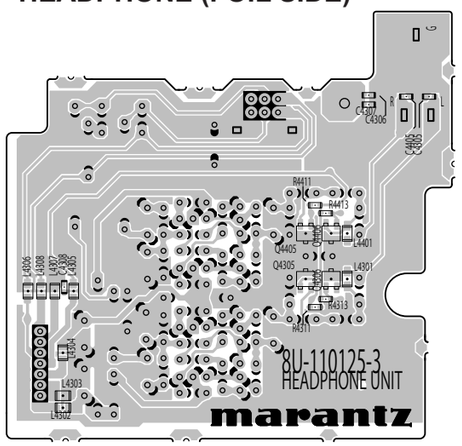
HEADPHONE (COMPONENT SIDE)



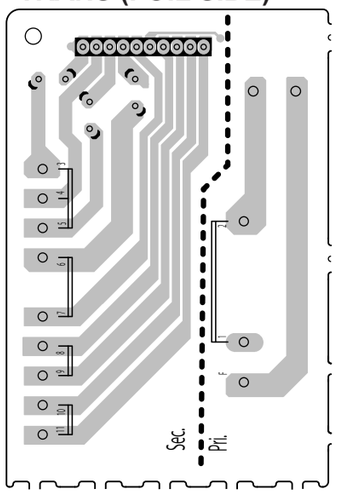
TRANS (COMPONENT SIDE)



HEADPHONE (FOIL SIDE)



TRANS (FOIL SIDE)



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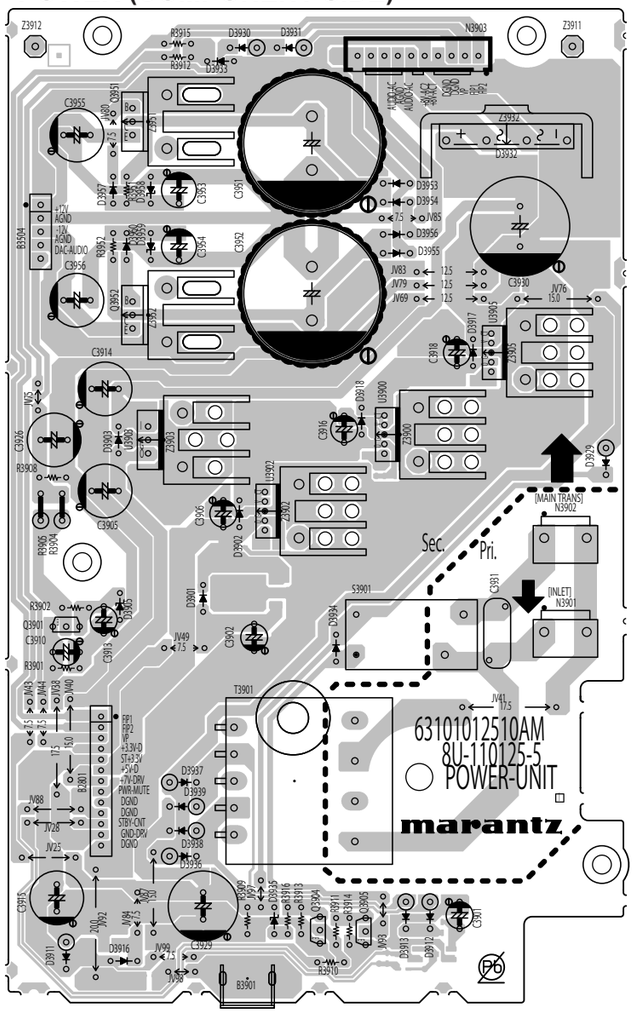
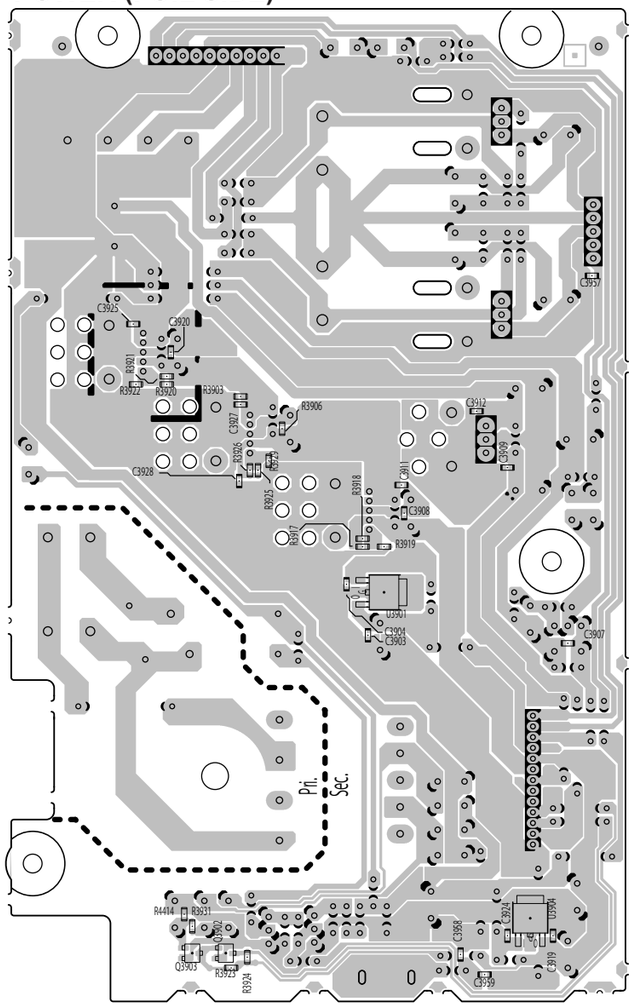
Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

POWER (COMPONENT SIDE)



POWER (FOIL SIDE)



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Lead-free Solder
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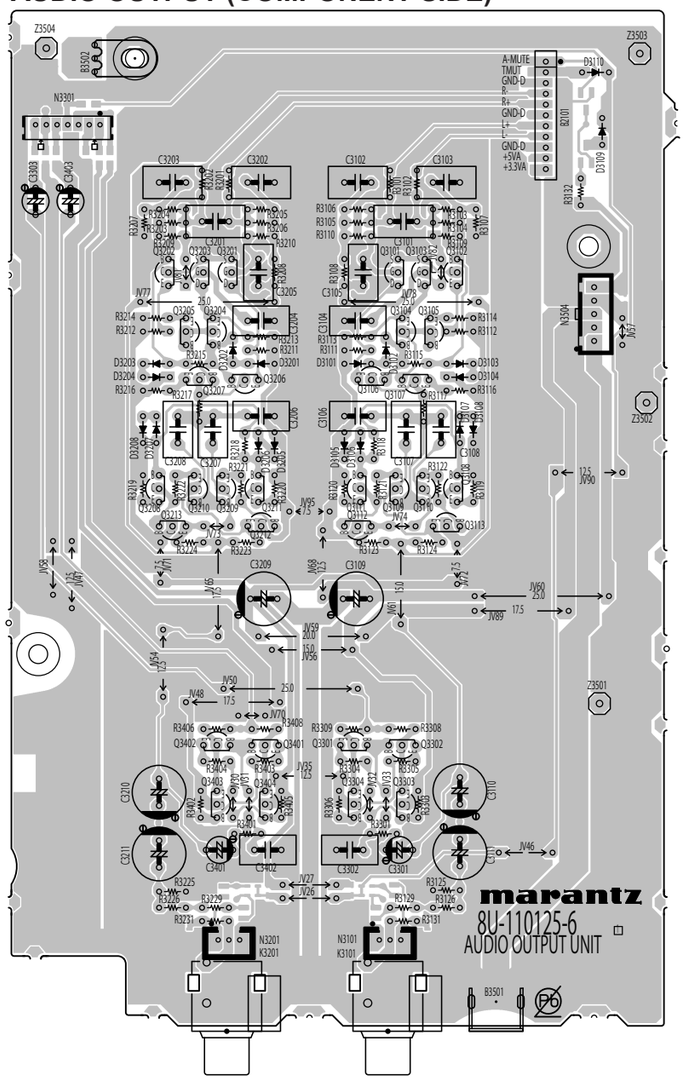
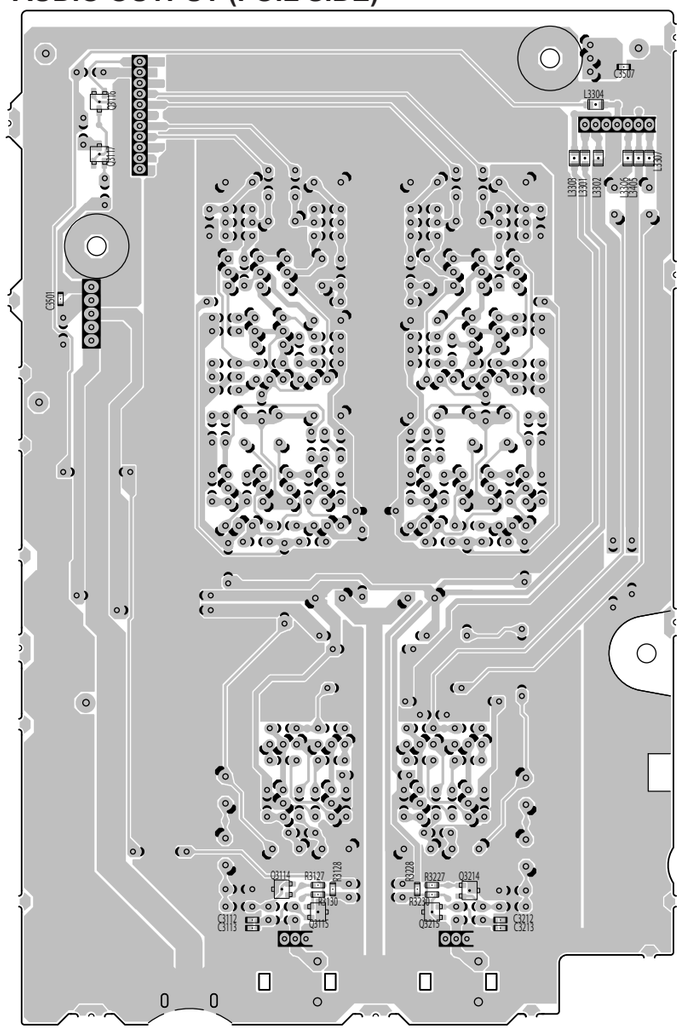
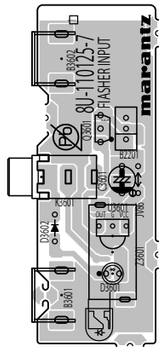
AUDIO OUTPUT (COMPONENT SIDE)



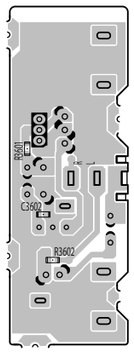
AUDIO OUTPUT (FOIL SIDE)



FLASHER (U model only) (COMPONENT SIDE)



FLASHER (U model only) (FOIL SIDE)



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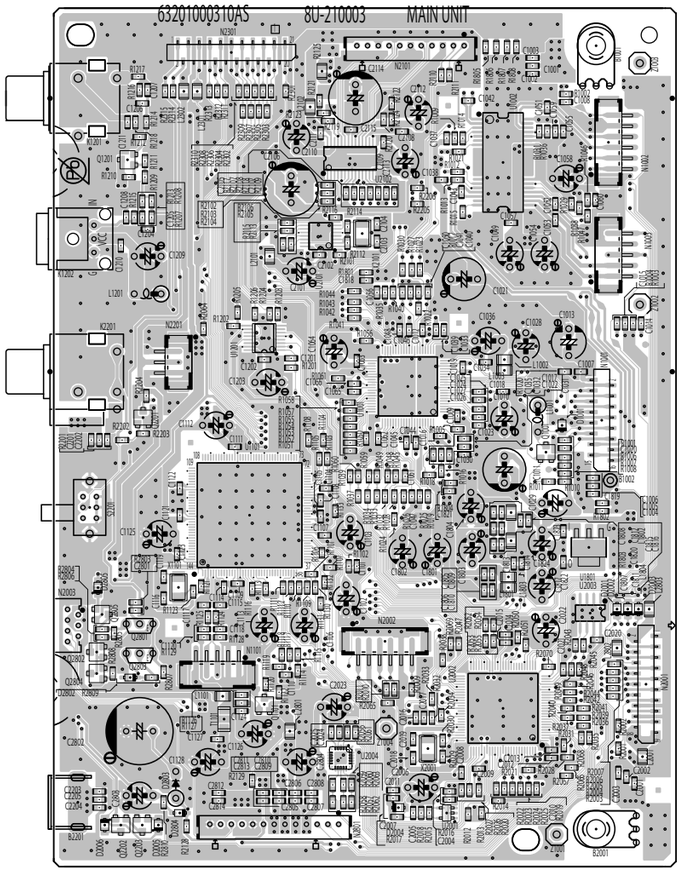
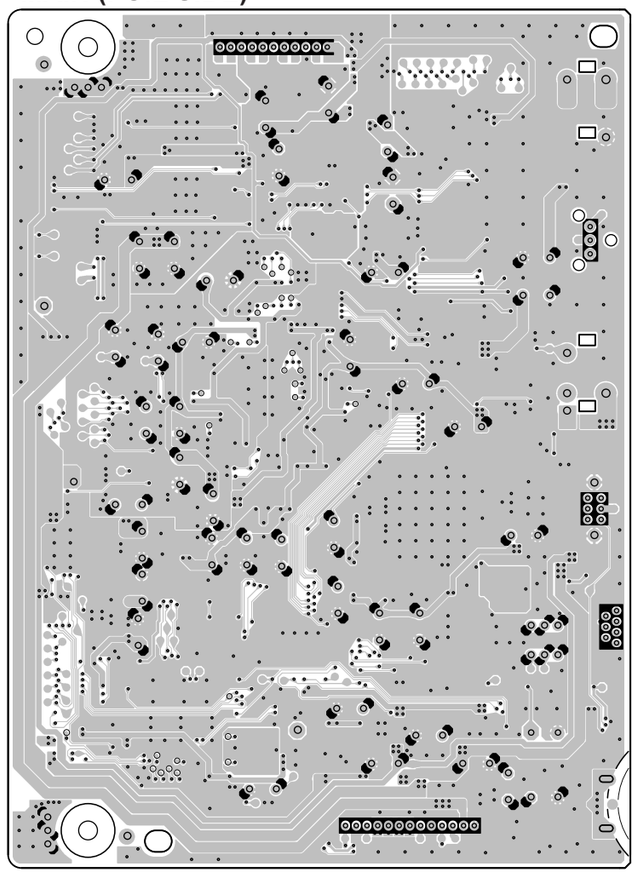
Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

MAIN (COMPONENT SIDE)



MAIN (FOIL SIDE)



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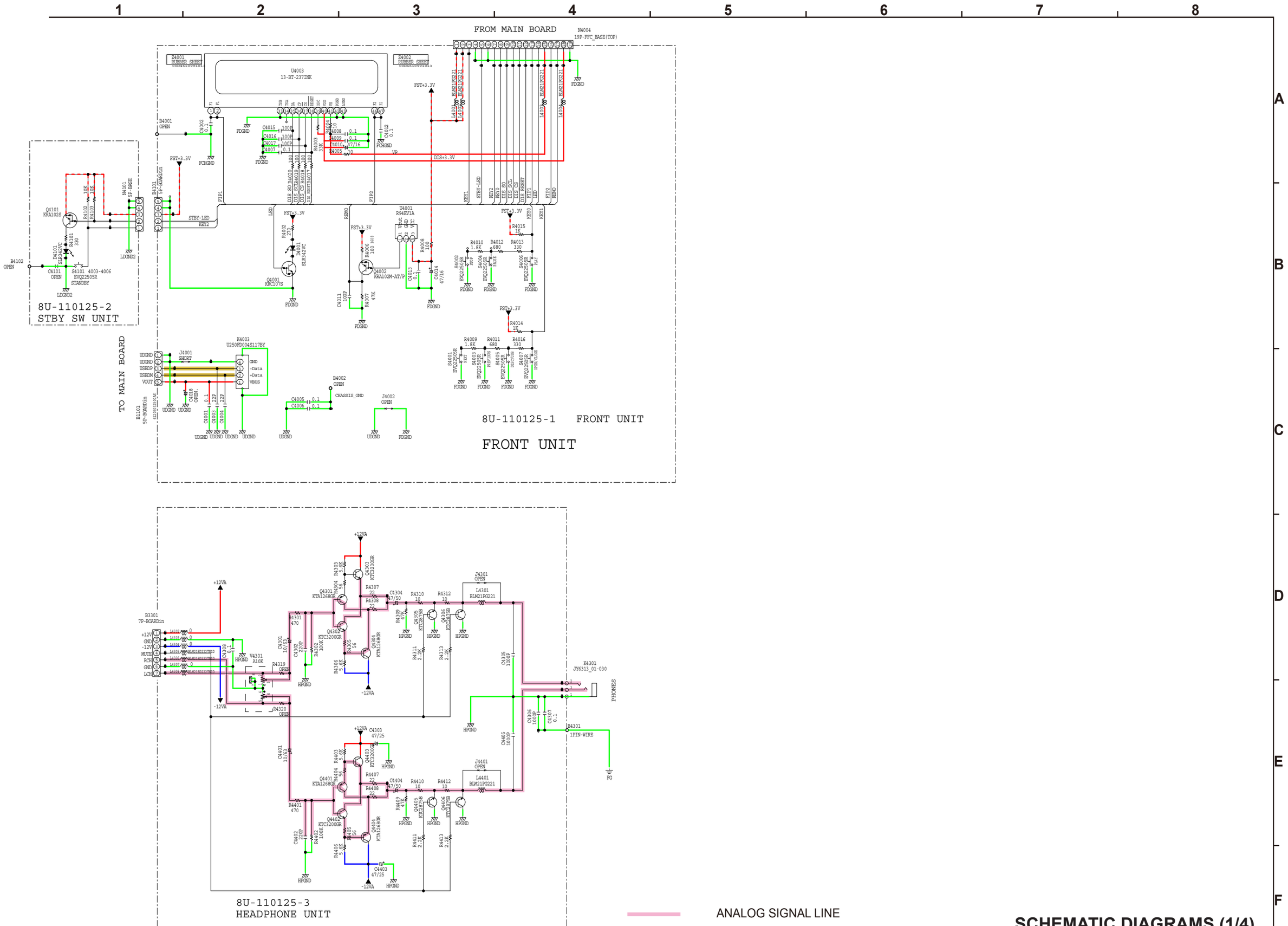
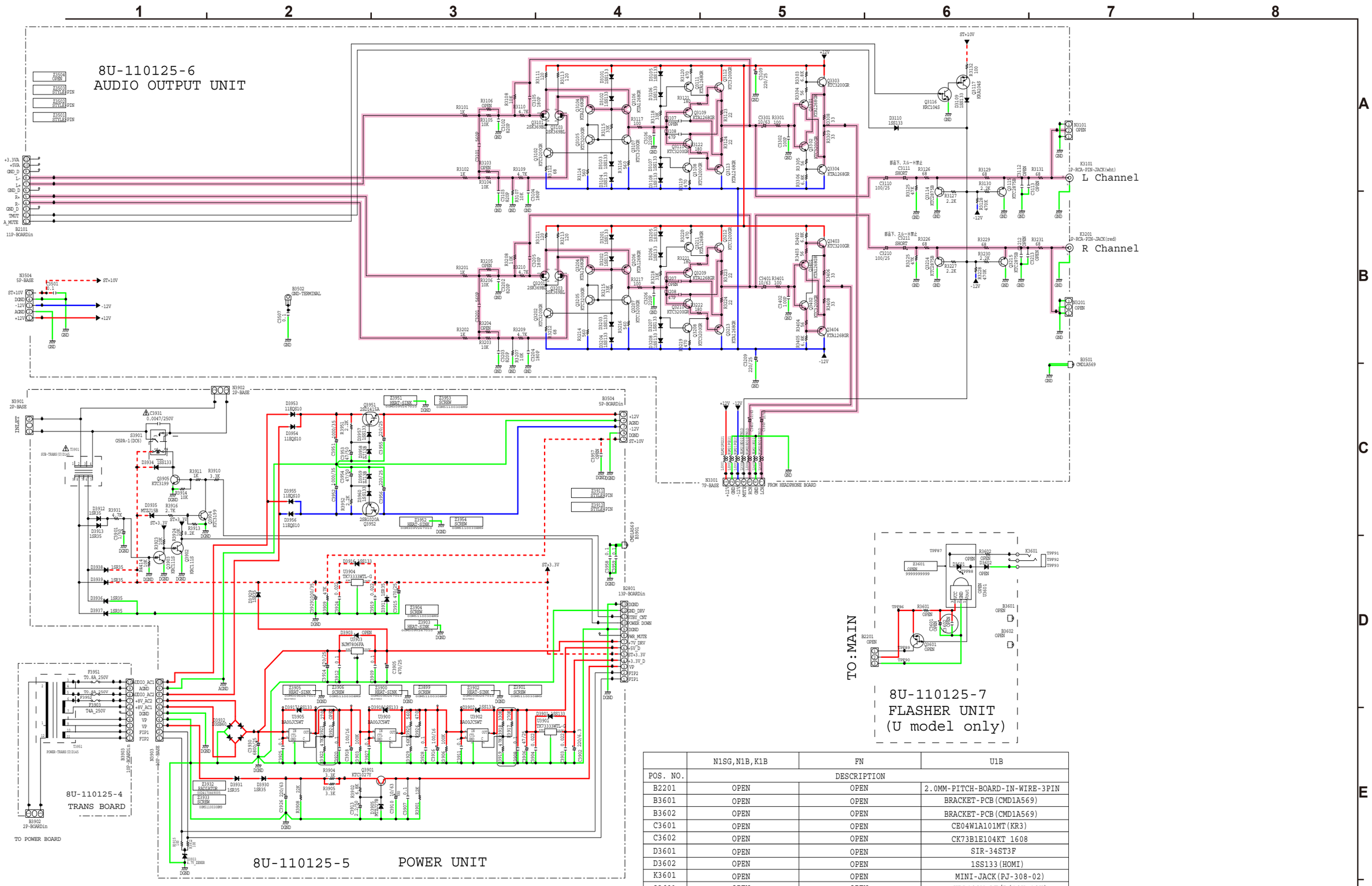


SCHEMATIC DIAGRAMS (1/4)
FRONT UNIT



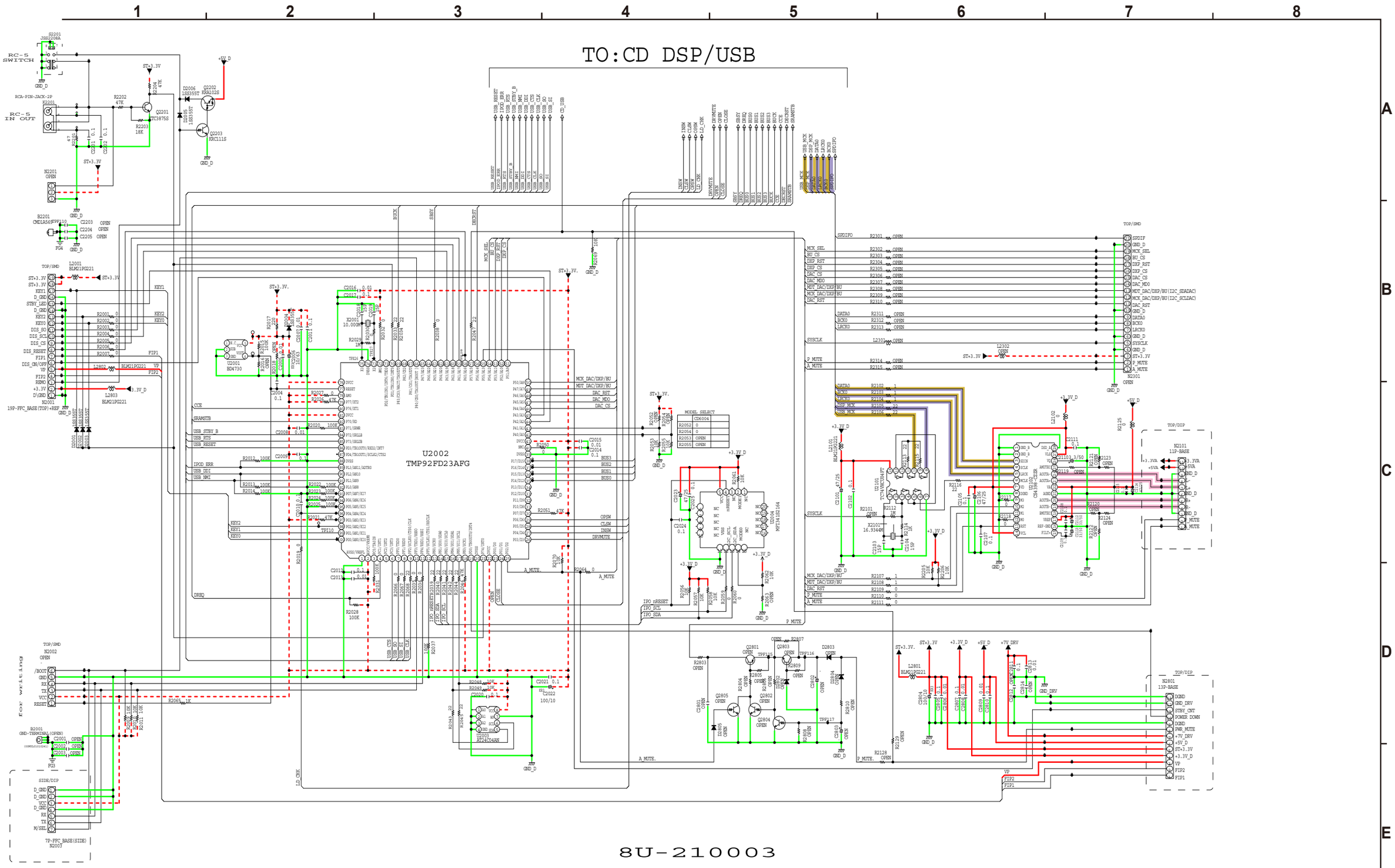
	N1SG,N1B,K1B	FN	U1B
POS. NO.	DESCRIPTION		
B2201	OPEN	OPEN	2.0MM-PITCH-BOARD-IN-WIRE-3PIN
B3601	OPEN	OPEN	BRACKET-PCB(CMD1A569)
B3602	OPEN	OPEN	BRACKET-PCB(CMD1A569)
C3601	OPEN	OPEN	CE04W1A101MT(KR3)
C3602	OPEN	OPEN	CK73B1E104KT 1608
D3601	OPEN	OPEN	SIR-34ST3F
D3602	OPEN	OPEN	1SS133(HOMI)
K3601	OPEN	OPEN	MINI-JACK(PJ-308-02)
Q3601	OPEN	OPEN	KRA102M-AT/P(10K-10K)
R3601	OPEN	OPEN	RM73B--101JT_1608
R3602	OPEN	OPEN	RM73B--101JT_1608
U3601	OPEN	OPEN	R94EV1A
Z3601	OPEN	OPEN	SHIELD-CASE
D3935	MTZJ15B_T77	ZENER-DIODE_3V_ZJ13B_1/2W	ZENER-DIODE_3V_ZJ13B_1/2W
T3951	POWER TRANS (N) D145	POWER TRANS (F) D145	POWER TRANS (U) D145
T3901	SUB TRANS (N) D145	SUB TRANS (F) D145	SUB TRANS (U) D145

GND — POWER + — POWER - — STBY POWER

ANALOG SIGNAL LINE

SCHEMATIC DIAGRAMS (2/4)

AUDIO OUTPUT UNIT
POWER UNIT
FLASHER UNIT



	N1SG	N1B	K1B	FN	U1B
POS. NO.	DESCRIPTION				
N2201	OPEN				2.0MM-PITCH-BASE-03PIN(TOP)+REF

ANALOG SIGNAL LINE

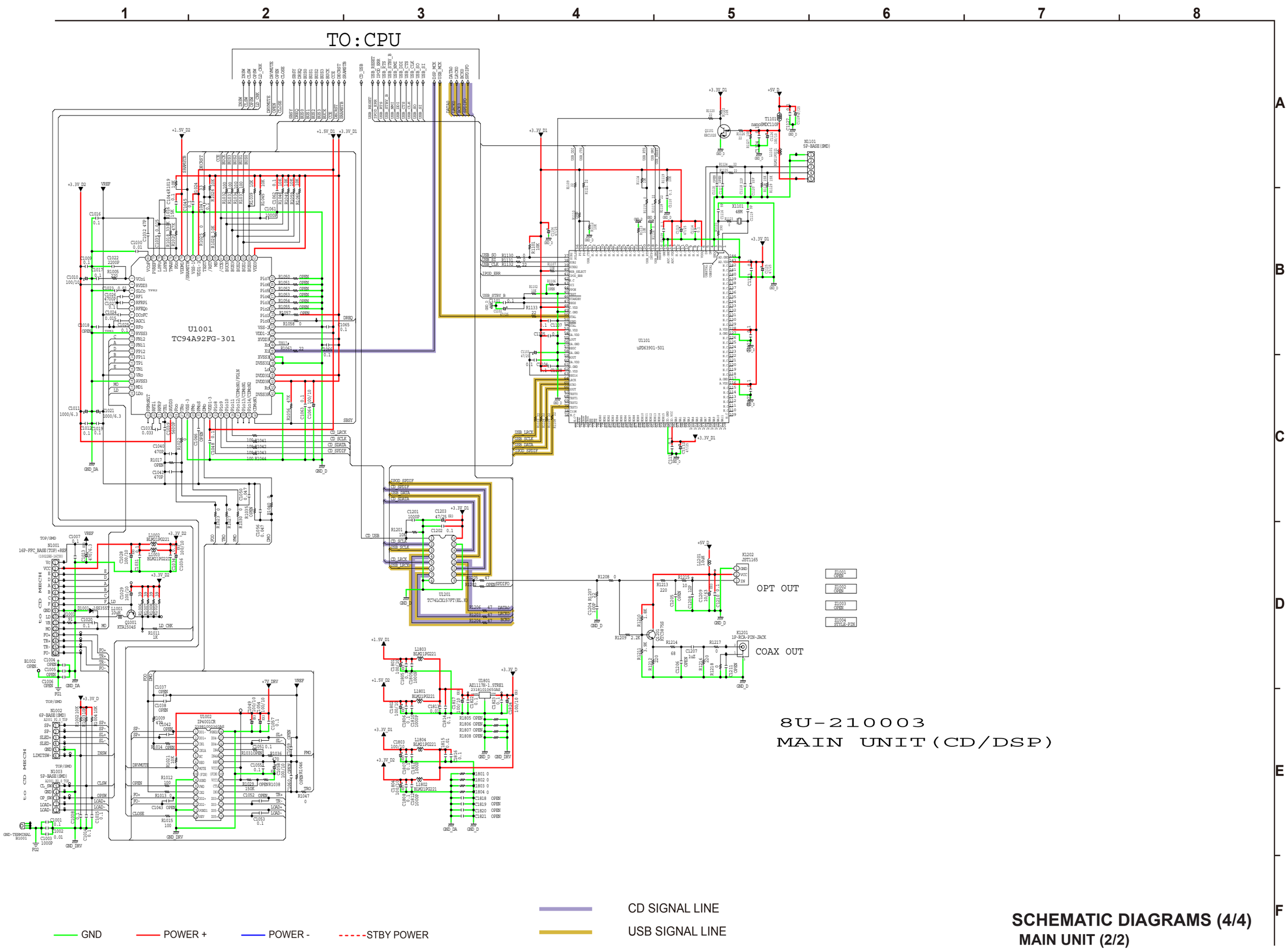
CD SIGNAL LINE

USB SIGNAL LINE

GND — POWER + — POWER - — STBY POWER

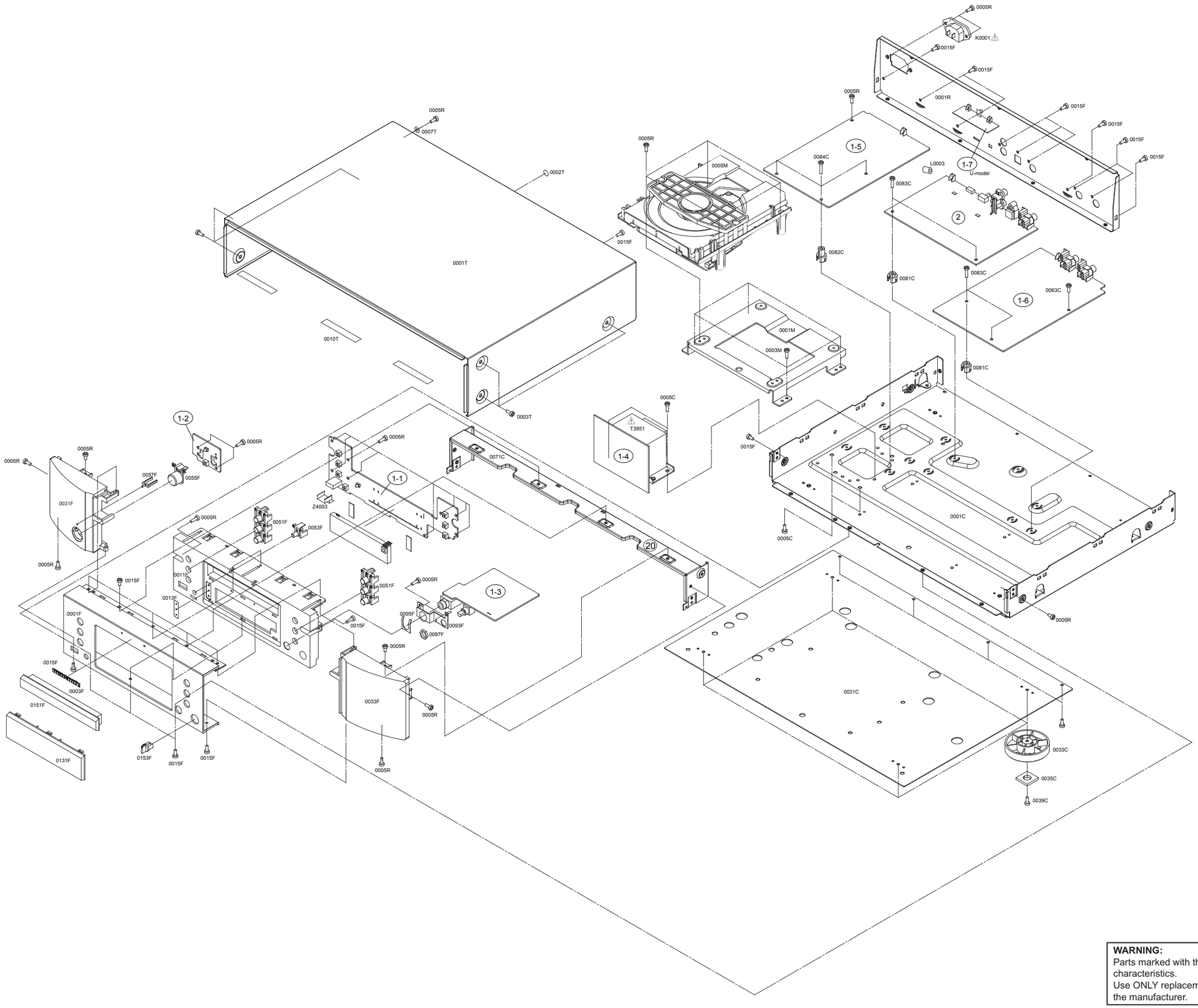
SCHEMATIC DIAGRAMS (3/4)

MAIN UNIT (1/2)



SCHEMATIC DIAGRAMS (4/4)
MAIN UNIT (2/2)

EXPLODED VIEW



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

PARTS LIST OF EXPLODED VIEW

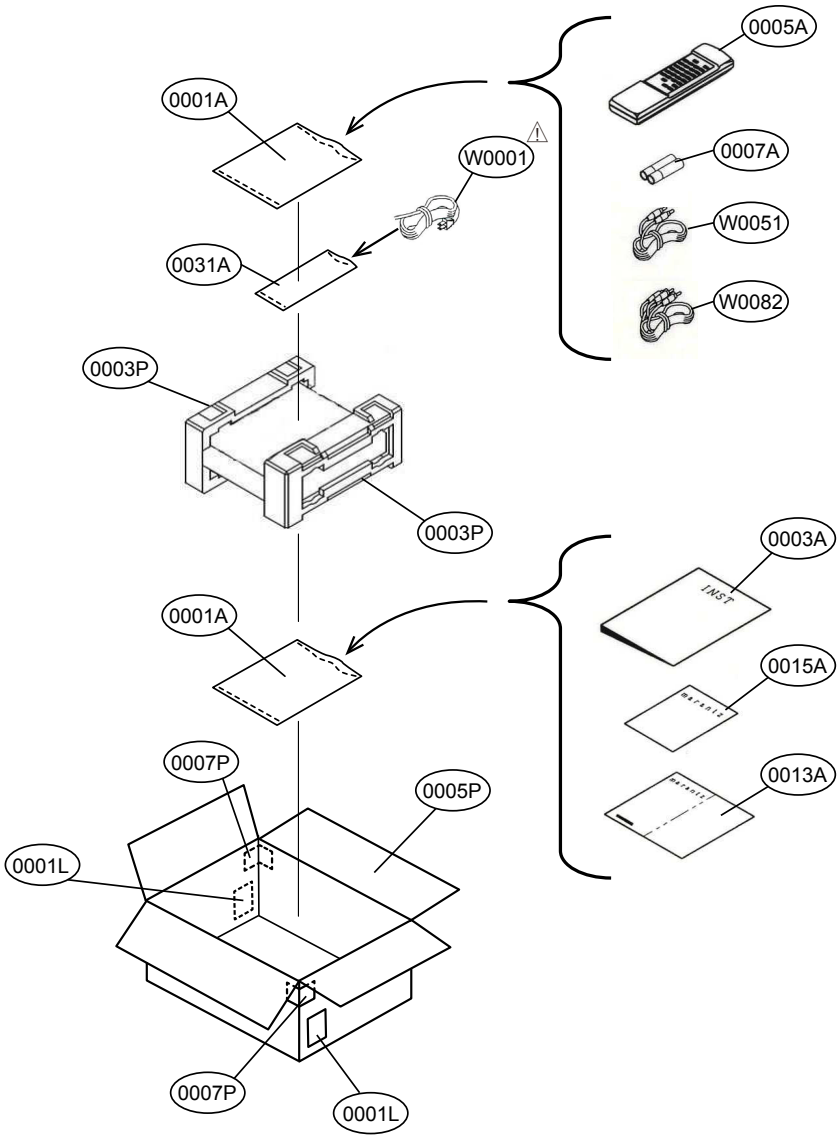
∗Parts for which "nsp" is indicated on this table cannot be supplied.
∗P.W.B. ASS'Y for which "nsp" is indicated on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts table and order replacement parts.
∗Parts indicated by the " ★ " mark are not illustrated in the exploded view.
∗The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.
U : North America model N : Europe model K : China model
B : Black model SG : Silver gold model

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	1	nsp	FRONT P.W.B. UNIT ASS'Y		1	*
	1-1	-	FRONT PWB UNIT			
	1-2	-	STBY SW PWB UNIT			
	1-3	-	HEADPHONE PWB UNIT			
	1-4	-	TRANS PWB UNIT			
	1-5	-	POWER PWB UNIT			
	1-6	-	AUDIO OUTPUT PWB UNIT			
	1-7	-	FLASHER PWB UNIT	U1B		
	2	nsp	MAIN P.W.B. UNIT ASS'Y		1	*
	0001C	nsp	BOTTOM CHASSIS		1	*
	0031C	nsp	BOTTOM PLATE		1	*
	0033C	00M243W057210	FOOT SL		4	*
	0035C	00M32CW107010	CUSHION FOOT CHG1A360		4	*
	★ 0018M	nsp	SHEET PTFE 3X5 SA-KI-PEARL/SA-13S2 36AK		2	
	0081C	nsp	HOLDER h5		4	*
	0082C	nsp	HOLDER h119		3	*
	L0003	00D3420047006	FERRITE CLAMP(RFC-4)		1	
	0071C	nsp	FRONT FRAME		1	*
	0001M	nsp	MECHA BRACKET		1	*
	0005M	30201000200AS	CD MECHA (WSL-11VFJ)		1	
	0001R	nsp	REAR PANEL	U1B	1	*
	0001R	nsp	REAR PANEL	N1B,N1SG	1	*
	0001R	nsp	REAR PANEL	K1B	1	*
⚠	K0001	00D2033996008	AC INLET (2P)		1	
	0001F	40241001800AS	FRONT PANEL	U1B,K1B,N1B	1	*
	0001F	40241001803AS	FRONT PANEL	N1SG	1	*
	Z4003	nsp	USB PLATE		1	*
	0003F	421410006004M	MARANTZ BADGE (AL) FOR M1 MODEL		1	
	0011F	nsp	CHASSIS	U1B,K1B,N1B	1	*
	0011F	nsp	CHASSIS	N1SG	1	*
	0013F	nsp	INDICATOR SA7003 33AK		1	
	0031F	40251011505AM	ESCUCHEON L	U1B,K1B,N1B	1	*
	0031F	40251011508AM	ESCUCHEON L	N1SG	1	*
	0033F	402510021001M	ESCUTCHEON R BL SA7003 33AK	U1B,K1B,N1B	1	
	0033F	402510021032M	ESCUTCHEON R SG SA7003 33AK	N1SG	1	
	0051F	411510019002M	BUTTON BL SA7003 33AK	U1B,K1B,N1B	2	
	0051F	411510019033M	BUTTON SG SA7003 33AK	N1SG	2	
	0053F	411510017006M	BUTTON BL SA8003 34AK	U1B,K1B,N1B	1	
	0053F	411510017037M	BUTTON SG SA8003 34AK	N1SG	1	
	0055F	411510021005M	BUTTON BL	U1B,K1B,N1B	1	
	0055F	411510021036M	BUTTON SG	N1SG	1	
	0057F	481510003006M	LENS		1	

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	0093F	nsp	BRACKET SA7003 33AK		1	
	0095F	nsp	MET41-0191 (CLANP FOR HP JACK)		1	
	0097F	nsp	NUT PHONE		1	
	0131F	41651004501AM	WINDOW		1	*
	0151F	42251004100AS	ESCUTCHEON	U1B,K1B,N1B	1	*
	0151F	42251004103AS	ESCUTCHEON	N1SG	1	*
	0153F	00M24AW154020	KNOB BL	U1B,K1B,N1B	1	
	0153F	00M24AW154120	KNOB SG	N1SG	1	
	★ M0001	nsp	WIRE CLAMPER		6	
	0001T	401310003002M	TOP COVER BL SA7003 33AK	U1B,K1B,N1B	1	
	0001T	401310003033M	TOP COVER SG SA7003 33AK	N1SG	1	
	0010T	nsp	TOP COVER SHEET		3	
	0002T	nsp	MASK TOP LID REAR		1	
	0007T	nsp	Tooth Washer 3mm (CU)		1	*
⚠	T3951	10101000800AM	POWER TRANS (N) D145	N1SG,N1B,K1B	1	*
⚠	T3951	10101000900AM	POWER TRANS (U) D145	U1B	1	*
SCREWS						
	0003T	nsp	SCREW	U1B,K1B,N1B	6	*
	0003T	nsp	SCREW (SELF TAPPING)	N1SG	6	*
	0005C	nsp	4X6 CBTS (S)-B		4	*
	0083C	nsp	Bind 3x12 B Tite (CU)		4	*
	0084C	nsp	Bind 3x18 B Tite (CU)		3	*
	0003M	nsp	3X6 CPTS (S) ROUND		4	*
	0015F	nsp	SCREW		27	*
	0005R	nsp	SCREW		34	*
WIRES						
	★ W1001	60605012100AS	1.0MM PITCH FFC WIRE 19PIN		1	*
	★ W2001	60605012200AS	1.0MM PITCH FFC WIRE 16PIN		1	*
	★ W3901	nsp	VAR-NO CN7.92MMPICH1PIN:BR.2PIN:BL10CM		1	
	★ W1003	nsp	2.0MM PITCH WIRE 5PIN		1	*
	★ W1002	nsp	2.0MM PITCH WIRE 6PIN		1	*

PACKING VIEW



PARTS LIST OF PACKING VIEW

∗Parts for which "nsp" is indicated on this table cannot be supplied.
∗Parts indicated by the " ★ " mark are not illustrated in the exploded view.
∗The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

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

U : North America model　　N : Europe model　　K : China model
B : Black model　　SG : Silver gold model

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	0001L	nsp	CONT.LABEL SUB ASSY	U1B	1	
	0001L	nsp	CONT.LABEL SUB ASSY	N1B	1	
	0001L	nsp	CONT.LABEL SUB ASSY	K1B	1	
	★ 0031L	nsp	CLEAR LABEL(44X12 T0.05)	U1B,K1B	1	
	0001P	nsp	CABINET COVER		1	
	0003P	53361000810AS	CUSHION		2	
	0005P	53121000700AS	CARTON CASE		1	
	0007P	nsp	LABEL FOR PKG SG	N1SG,N1B	2	
	0001A	nsp	POLYETHY BAG		2	
	0003A	54111073102AS	USER MANUAL(U)		1	*
	0003A	54111073103AS	USER MANUAL(N)		1	*

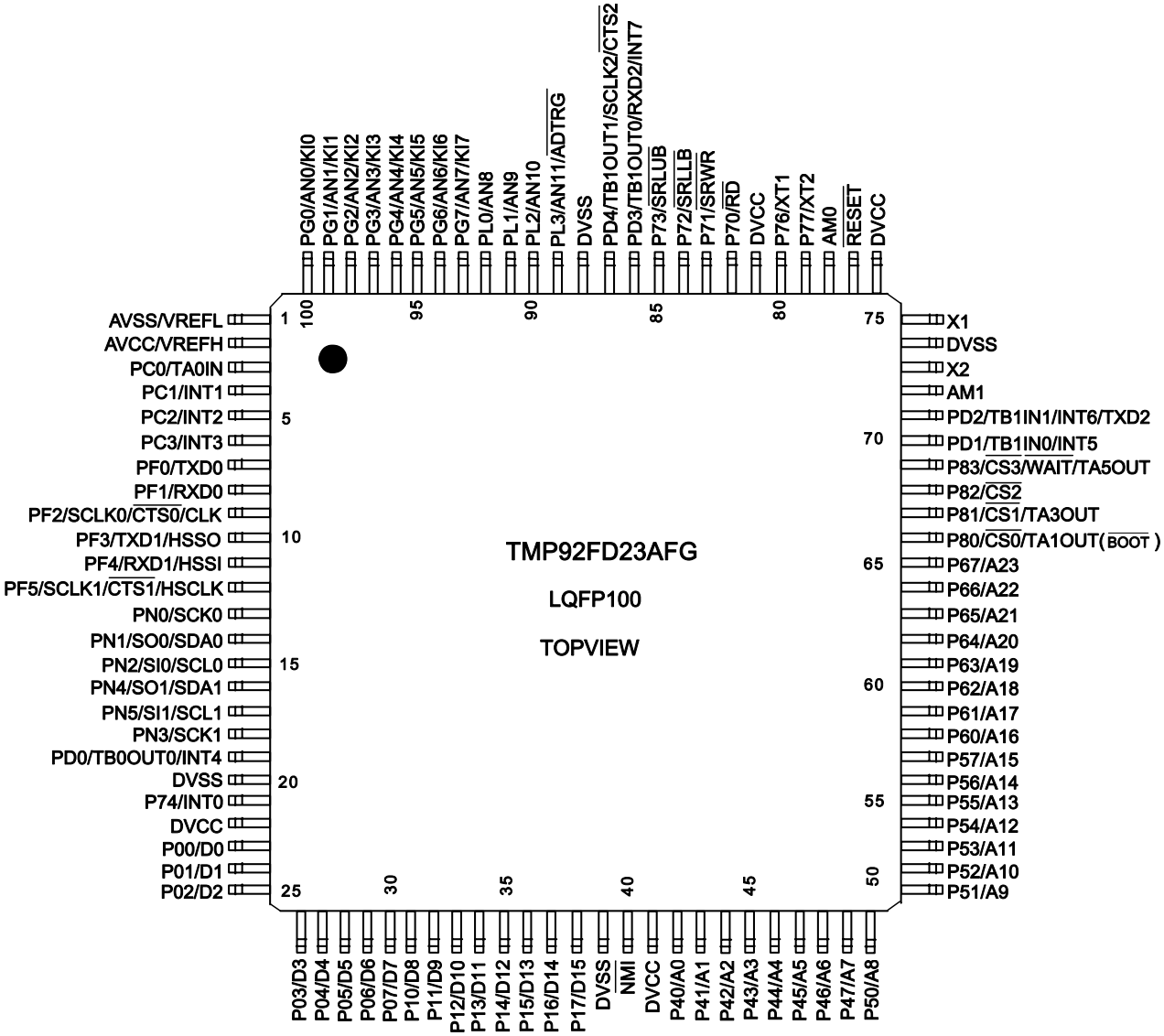
	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	0003A	54111073105AS	USER MANUAL(K)		1	*
	0005A	30701000500AS	REMOTE COMMANDER RC004CD		1	*
	0007A	nsp	BATTERY(R03X2)		1	
	W0051	60201003000AS	1PIN CORD (ORANGE)		1	*
	W0082	00D2032442003	2P PIN CORD		1	
	0013A	nsp	WARRANTY USA	U1B	1	
	0015A	nsp	WARRANTY CANADA	U1B	1	
	0031A	nsp	POLY COVER		1	
⚠	W0001	00MZC01803100	# AC CORD UL/CSA 10A 125V	U1B	1	
⚠	W0001	00MZC01803080	# 2P AC CORD 10A 250V CLASS2	N1SG,N1B	1	
⚠	W0001	00D2062249001	AC CORD (E1C)	K1B	1	

SEMICONDUCTORS

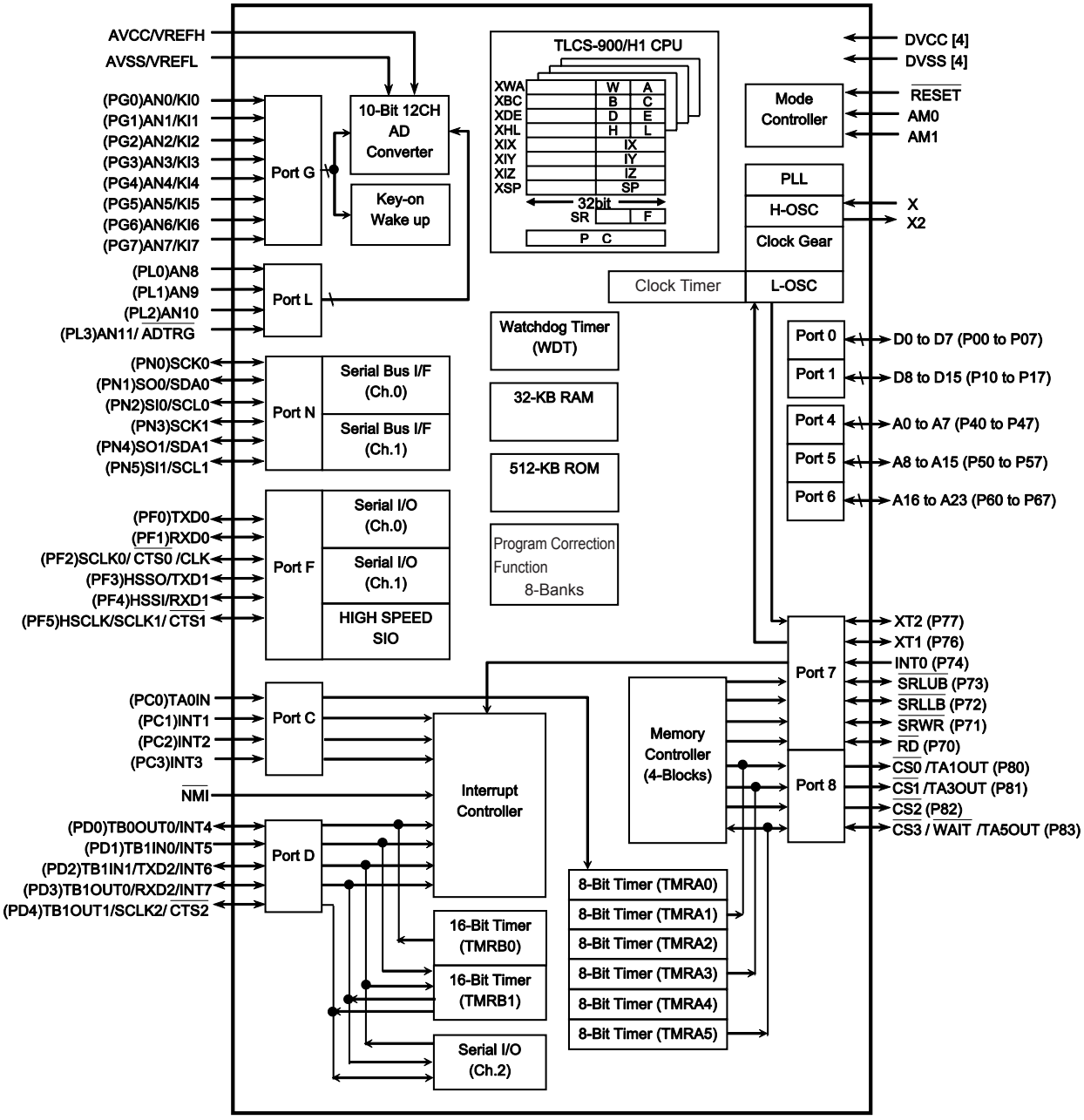
Only major semiconductors are shown, general semiconductors etc. are omitted to list.
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

TMP92FD23AFG (MAIN:U2002)



Block Diagram



Terminal Function

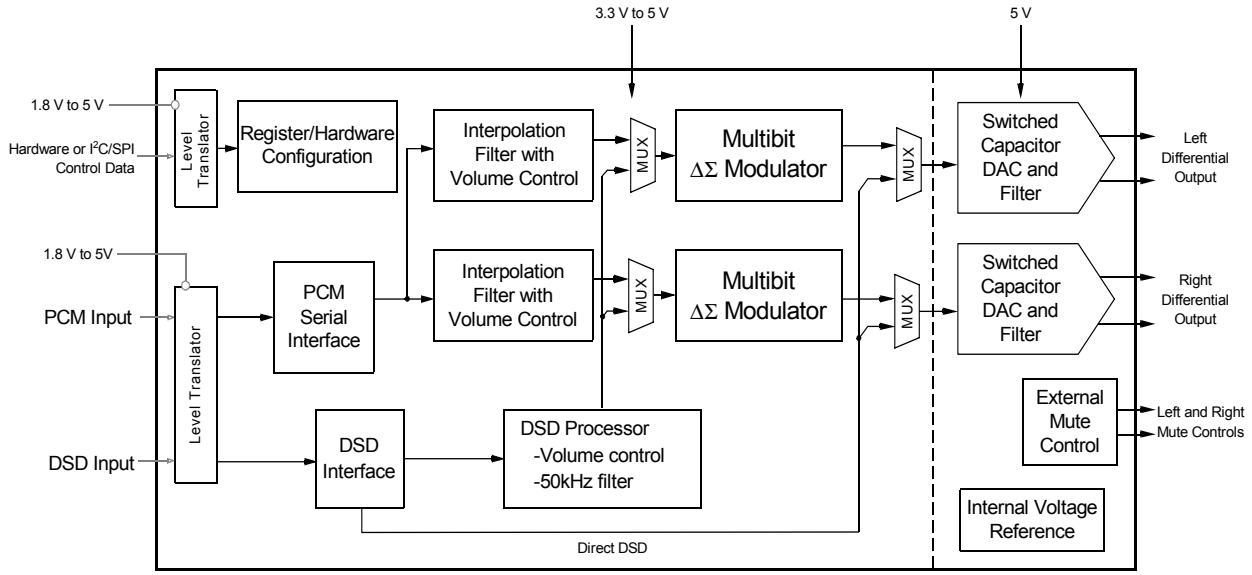
Pin	Name	I/O	STB	Port Name	Note
1	AVSS/VREFL	-	-	-	ADC GND
2	AVCC/VREFH	-	-	-	ADC Power +3.3V
3	PC0/TAOIN	O	O/L	-	Open
4	PC1/INT1	I	I	CD_REQ	CD REQEST
5	PC2/INT2	O	O/L	-	Open
6	PC3/INT3	I	I	USB_CTS	USB IC Request
7	PF0/TXD0	O	I	USB_SO	USB IC Data out
8	PF1/RXD0	I	I	USB_SI	USB IC Data in
9	PF2/SCLK0/CTS0/CLK	O	I	USB_CLK	USB IC Clock
10	PF3/TXD1/HSSO	O	I	TXD	UART TXD
11	PF4/RXD1/HSSI	I	I	RXD	UART RXD
12	PF5/SCLK1/CTS1/HSCLK	O	O/L	-	Open
13	PN0/SCK0	O	I	IPOD_RST	iPod IC Reset
14	PN1/SOO/SDAO	I/O	I	I2C SDA IPOD	iPod IIC Data
15	PN2/SIO/SCLO	O	I	I2C SCL IPOD	iPod IIC Clock
16	PN4/SO1/SDA1	I/O	I	I2C_SDA_EEPROM	EEPROM IIC Data
17	PN5/SI1/SCL1	O	I	I2C_SCL_EEPROM	EEPROM IIC Clock
18	PN3/SCK1	O	O/L	-	Open
19	PD0/TBOOUTO/INT4	I	I	PWR_D	Power Down Detect
20	DVSS	-	-	-	GND
21	P74/INTO	I	I	REMOTE_WAKEUP	Remote in
22	DVCC	-	-	-	MCU Power +3.3V
23	POO/DO	O	O/L	CD_OPEN_M	Open Control for Motor Driver IC
24	PO1/D1	O	O/L	CD_CLOSE_M	Close Control for Motor Driver IC
25	PO2/D2	O	O/L	A_MUTE	Analog Mute
26	PO3/D3	O	O/L	MT_STBY	Standby Control for Motor Driver IC
27	PO4/D4	I	I	CD_LIMIT_SW	Limit SW of CD Loader
28	PO5/D5	I	I	CD_CLOSE_SW	Close SW of CD Loader
29	PO6/D6	I	I	CD_OPEN_SW	Open SW of CD Loader
30	PO7/D7	O	O/L	-	Open
31	P10/D8	O	O/L	-	Open
32	P11/D9	O	O/L	-	Open
33	P12/D10	O	O/L	-	Open
34	P13/D11	O	O/L	-	Open
35	P14/D12	I/O	I	CD_BUSO	CD DSP Data in/out
36	P15/D13	I/O	I	CD_BUS1	CD DSP Data in/out
37	P16/D14	I/O	I	CD_BUS2	CD DSP Data in/out
38	P17/D15	I/O	I	CD_BUS3	CD DSP Data in/out
39	DVSS	-	-	-	GND
40	NMI	-	-	-	NMI
41	DVCC	-	-	-	MCU Power +3.3V
42	P40/AO	I	I	MODE_SELO	Model select
43	P41/A1	I	I	MODE_SEL1	Model select
44	P42/A2	O	I	STBY_LED	Standby LED Control
45	P43/A3	O	I	DIS_OFF_LED	DISPLAY OFF LED Control
46	P44/A4	O	O/L	-	Open
47	P45/A5	O	O/L	-	Open
48	P46/A6	O	O/L	DAC_RES	DAC Reset
49	P47/A7	I/O	I	I2C_SDA_DAC	DAC IIC Data
50	P50/A8	O	I	I2C_SCL_DAC	DAC IIC clock
51	P51/A9	O	O/L	-	Open
52	P52/A10	O	O/L	-	Open
53	P53/A11	O	O/L	-	Open
54	P54/A12	O	O/L	-	Open
55	P55/A13	O	O/L	STBY_CNT	Standby ON/OFF Control
56	P56/A14	O	O/L	CD_RST	CD DSP Reset
57	P57/A15	O	I	CD_USB	Select CD/USB
58	P60/A16	O	O/L	DIS_RESET	VFD Reset
59	P61/A17	O	I	DIS_CS	VFD Chip select
60	P62/A18	O	I	DIS_SO	VFD Data
61	P63/A19	O	I	DIS_SCL	VFD Clock
62	P64/A20	O	O/L	-	Open
63	P65/A21	O	O/L	-	Open
64	P66/A22	O	O/L	-	Open

Pin	Name	I/O	STB	Port Name	Note
65	P67/A23	O	O/L	-	Open
66	P80/CS0/TA1OUT[BOOT]	I	I	BOOT	BOOT
67	P81/CS1/TA3OUT	O	O/L	-	Open
68	P82/CS2	O	O/L	-	Open
69	P83/CS3/WAIT/TA5OUT	O	I	CD_BUCK	CD DSP Clock
70	PD1/TB1IN0/INT5	I	I	REMOTE_IN	Remote input
71	PD2/TB1IN1/INT6/TXD2	O	O/L	-	Open
72	AM1	O	O/L	-	Open
73	X2	O	O/L	-	Oscilltor(10MHz)
74	DVSS	-	-	-	GND
75	X1	I	I	-	Oscilltor(10MHz)
76	DVCC	-	-	-	MCU Power +3.3V
77	RESET	I	I	-	Reset
78	AM0	O	O/L	-	Open
79	P77/XT2	O	O/L	-	Open
80	P76/XT1	O	I	CD_CCC	Chip Enable for CD DSP
81	DVCC	-	-	-	MCU Power +3.3V
82	P70/RD	O	O/L	-	Open
83	P71/SRWR	O	O/L	-	Open
84	P72/SRLLB	O	I	USB_STBY_B	USB IC Standby control
85	P73/SRLUB	O	I	USB_RTS	USB IC Command Reqest
86	PD3/TB1OUT0/RXD2/INT7	O	O/L	USB_RES	USB IC Reset
87	PD4/TB1OUT1/SCLK2/CTS2	O	O/L	-	Open
88	DVSS	-	-	-	GND
89	PL3/AN11/ADTRG	I	I	IPOD_ERR	USB IC Error DEtect
90	PL2/AN10	I	I	USB_DDI	USB IC Error Detect
91	PL1/AN9	I	I	USB_NMI	USB IC Standby detect
92	PL0/AN8	I	O/L	-	Open
93	PG7/AN7/KI7	I	O/L	-	Open
94	PG6/AN6/KI6	I	O/L	-	Open
95	PG5/AN5/KI5	I	O/L	-	Open
96	PG4/AN4/KI4	I	I	LD_CHK	Laser Current Detect
97	PG3/AN3/KI3	I	I	-	Open
98	PG2/AN2/KI2	I	I	KEY2	KEY入力2
99	PG1/AN1/KI1	I	I	KEY1	KEY入力1
100	PG0/AN0/KI0	I	I	KEY0	KEY入力0

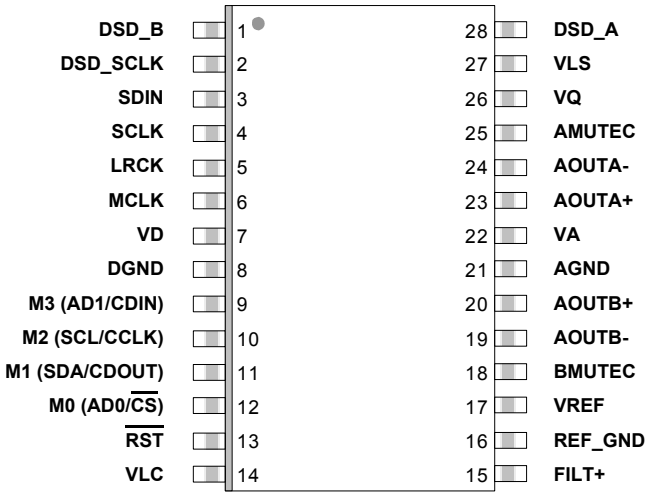
120 dB, 192 kHz Multi-Bit DAC with Volume Control

Features

- Advanced Multi-bit Delta-Sigma Architecture
  - 120 dB Dynamic Range
  - -107 dB THD+N
  - Low Clock Jitter Sensitivity
  - Differential Analog Outputs
- PCM input
  - 102 dB of Stopband Attenuation
  - Supports Sample Rates up to 192 kHz
  - Accepts up to 24 bit Audio Data
  - Supports All Industry Standard Audio Interface Formats
  - Selectable Digital Filter Response
  - Volume Control with 1/2 dB Step Size and Soft Ramp
  - Flexible Channel Routing and Mixing
  - Selectable De-Emphasis
- Supports Stand-Alone or I²C/SPI™ Configuration
  Embedded Level Translators
  - 1.8 V to 5 V Serial Audio Input
  - 1.8 V to 5 V Control Data Input
- Direct Stream Digital (DSD)
  - Dedicated DSD Input Pins
  - On-Chip 50 kHz Filter to Meet Scarlet Book SACD Recommendations
  - Matched PCM and DSD Analog Output Levels
  - Non-Decimating Volume Control with 1/2 dB Step Size and Soft Ramp
  - DSD Mute Detection
  - Supports Phase-Modulated Inputs
  - Optional Direct DSD Path to On-Chip Switched Capacitor Filter
- Control Output for External Muting
  - Independent Left and Right Mute Controls
  - Supports Auto Detection of Mute Output Polarity
- Typical Applications
  - DVD Players
  - SACD Players
  - A/V Receivers
  - Professional Audio Products



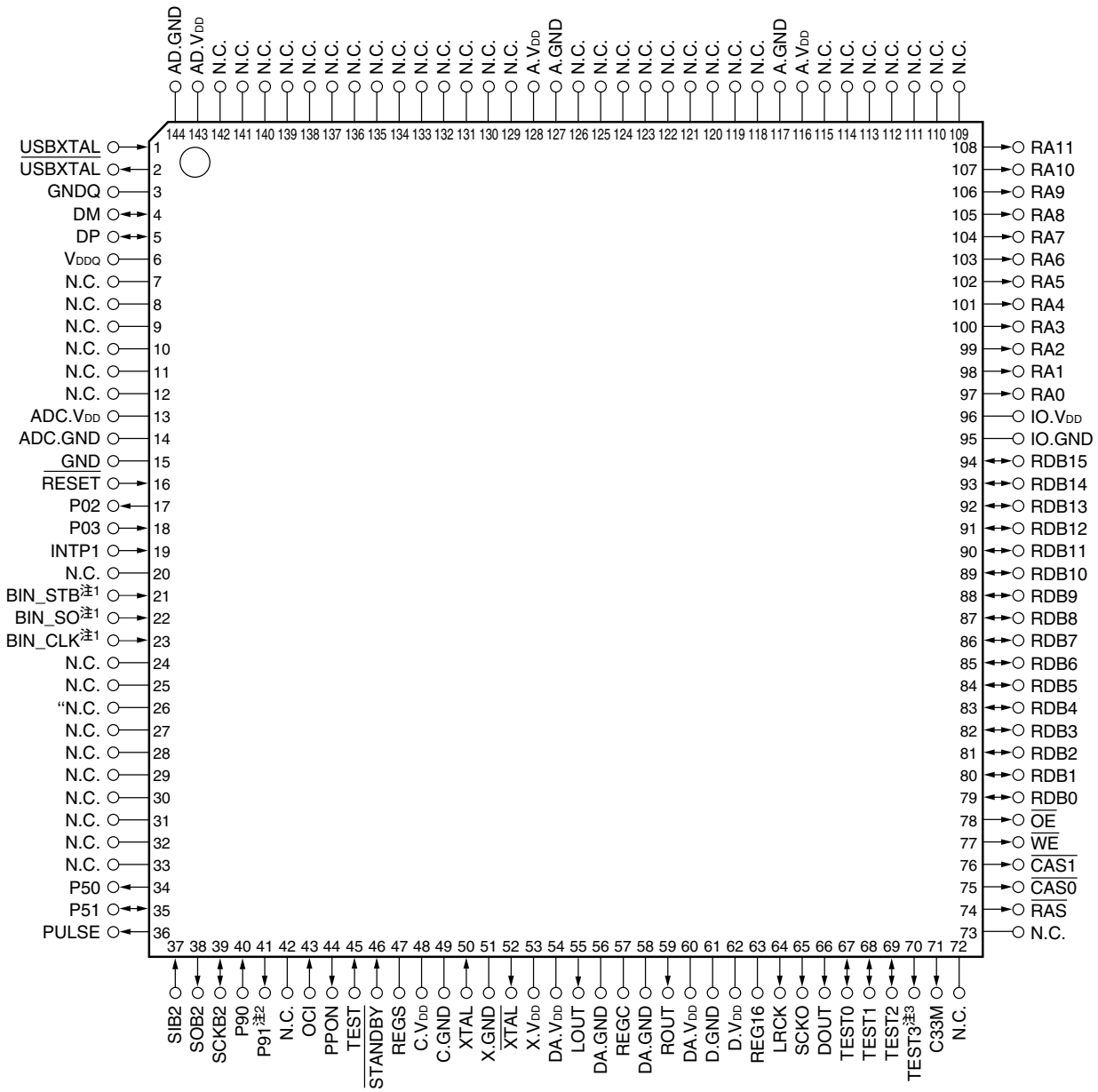
CS4398 (MAIN : U2102)



CS4398 Terminal Functions

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/$\overline{CS}$	12	**Address Bit 0 (I²C) / Control Port Chip Select (SPI)** (*Input*) - AD0 is a chip address pin in I²C mode; $\overline{CS}$ is the chip select signal for SPI format.

uPD63901GJ (MAIN :U1101)



uPD63901GJ Terminal Functions

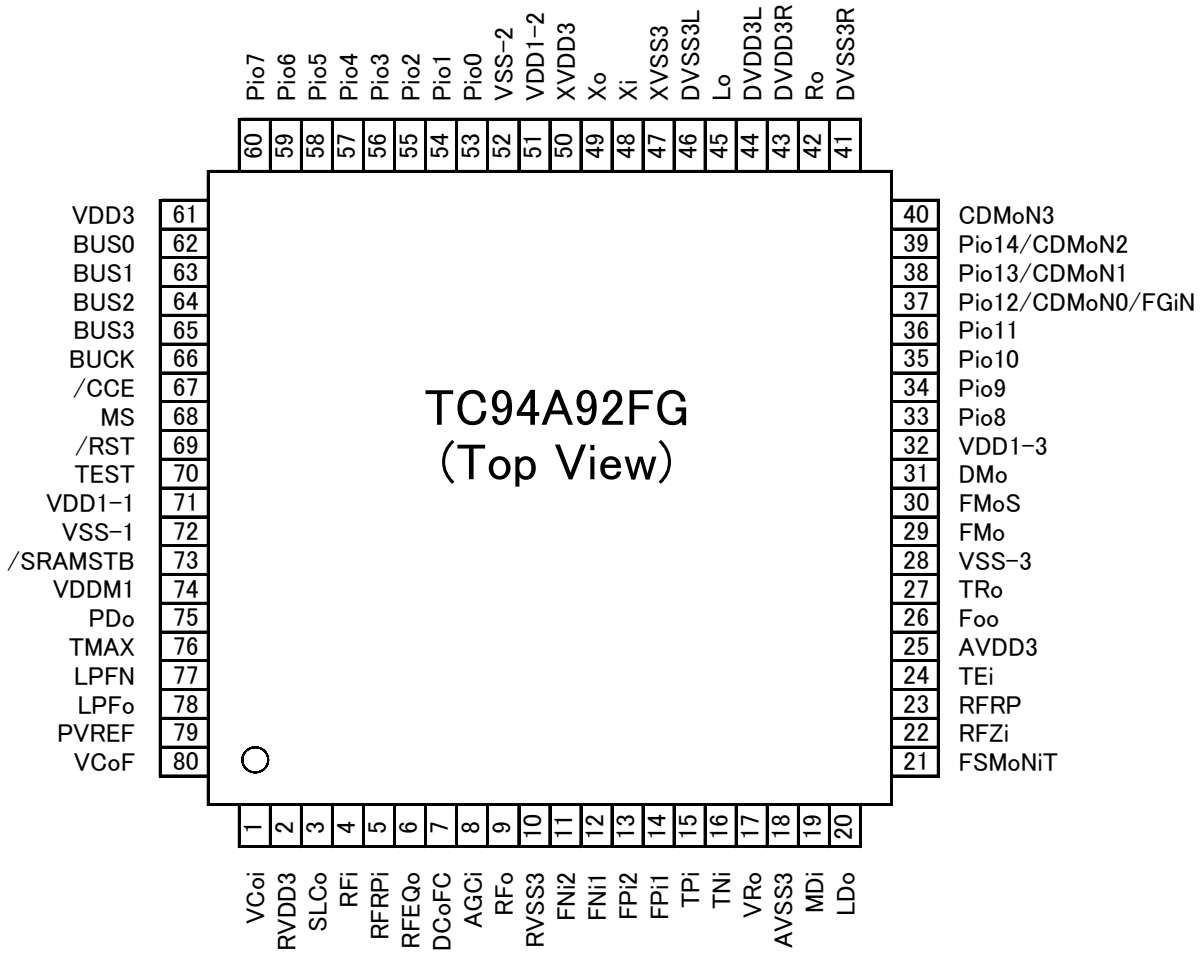
Pin No.	Pin Name	Pin Description	I/O	Initial	Standby
1	USBXTAL	48MHz	I	-	-
2	$\overline{\text{USBXTAL}}$	48MHz	O	-	-
3	GNDQ	USB GND	-	-	-
4	DM	USB DATA -	I/O	High-Z	High-Z
5	DP	USB DATA +	I/O	High-Z	High-Z
6	V_{DDQ}	USB VDD	-	-	-
7	N.C.	-	-	-	-
8	N.C.	-	-	-	-
9	N.C.	-	-	-	-
10	N.C.	-	-	-	-
11	N.C.	-	-	-	-
12	N.C.	-	-	-	-
13	$ADC.V_{DD}$	Analog VDD	-	-	-
14	ADC.GND	Analog GND	-	-	-
15	GND	-	-	-	-

Pin No.	Pin Name	Pin Description	I/O	Initial	Standby
16	$\overline{\text{RESET}}$	Control Engine Reset	I	-	-
17	P02	Standby signal output	O	High-Z	Low
18	P03	Standby signal input	I	High-Z	-
19	INTP1	Command RTS input	I	High-Z	-
20	N.C.	-	-	-	-
21	BIN_STB	Download strobe input	I	High-Z	-
22	BIN_SO	Download Data input	I	High-Z	-
23	BIN_CLK	Download Clock	I	High-Z	-
24	N.C.	-	-	-	-
25	N.C.	-	-	-	-
26	N.C.	-	-	-	-
27	N.C.	-	-	-	-
28	N.C.	-	-	-	-
29	N.C.	-	-	-	-
30	N.C.	-	-	-	-
31	N.C.	-	-	-	-
32	N.C.	-	-	-	-
33	N.C.	-	-	-	-
34	P50	CTS output	O	High-Z	Low
35	P51	General port 51	I/O	High-Z	-
36	PULSE	Operate Pulse	O	High-Z	Low
37	SIB2	Command Serial Data input	I	High-Z	-
38	SOB2	Command Serial Data output	I/O	High-Z	-
39	SCKB2	Command Serial Clock	I/O	High-Z	-
40	P90	MSB/LSB Select	I	High-Z	-
41	P91	Asynchronous error output	O	High-Z	Low
42	N.C.	-	-	-	-
43	OCI	USB over current input	I	High-Z	High-Z
44	PPON	USB over current control	O	Low	Low
45	TEST	Test port	I	-	-
46	$\overline{\text{STANDBY}}$	Standby input	-	-	-
47	REGS	Standby capacitor	-	-	-
48	C.V_{DD}	Control engine core VDD	-	-	-
49	C.GND	Control engine core GND	-	-	-
50	XTAL	16.9344MHz	I	-	-
51	X.GND	OSC GND	-	-	-
52	$\overline{\text{XTAL}}$	16.9344MHz	O	-	-
53	X.V_{DD}	OSC VDD	-	-	-
54	DA.V_{DD}	DAC VDD	-	-	-
55	LOUT	Analog audio Lch	O	-	-
56	DA.GND	DAC GND	-	-	-
57	REGC	Band gap Capacitor	-	-	-
58	DA.GND	DAC GND	-	-	-
59	ROUT	Analog audio Rch	O	-	-
60	DA.V_{DD}	DAC VDD	-	-	-
61	D.GND	Digital GND	-	-	-
62	D.V_{DD}	Digital VDD	-	-	-
63	REG16	1.6V VDD capacitor	-	-	-
64	LRCK	Audio LR clock	O	Low	Low
65	SCKO	Audio serial clock	O	Low	Low
66	DOUT	Audio data	O	Low	Low

Pin No.	Pin Name	Pin Description	I/O	Initial	Standby
67	TEST0	Test port	I/O	Low	Low
68	TEST1	Test port	I/O	Low	Low
69	TEST2	Test port	I/O	Low	Low
70	TEST3	Test port	O	Low	Low
71	C33M	DRAM CLOCK	O	Low	Low
72	N.C.	-	-	-	-
73	N.C.	-	-	-	-
74	$\overline{RAS}$	DRAM $\overline{RAS}$ output	O	Low	Low
75	$\overline{CAS0}$	DRAM Lower $\overline{CAS}$ output	O	Low	Low
76	$\overline{CAS1}$	DRAM Upper $\overline{CAS}$ output	O	Low	Low
77	$\overline{WE}$	DRAM $\overline{WE}$ output	O	Low	Low
78	$\overline{OE}$	DRAM $\overline{OE}$ output	O	Low	Low
79	RDB0	DRAM Data0 input	I/O	High-Z	High-Z
80	RDB1	DRAM Data1 input	I/O	High-Z	High-Z
81	RDB2	DRAM Data2 input	I/O	High-Z	High-Z
82	RDB3	DRAM Data3 input	I/O	High-Z	High-Z
83	RDB4	DRAM Data4 input	I/O	High-Z	High-Z
84	RDB5	DRAM Data5 input	I/O	High-Z	High-Z
85	RDB6	DRAM Data6 input	I/O	High-Z	High-Z
86	RDB7	DRAM Data7 input	I/O	High-Z	High-Z
87	RDB8	DRAM Data8 input	I/O	High-Z	High-Z
88	RDB9	DRAM Data9 input	I/O	High-Z	High-Z
89	RDB10	DRAM Data10 input	I/O	High-Z	High-Z
90	RDB11	DRAM Data11 input	I/O	High-Z	High-Z
91	RDB12	DRAM Data12 input	I/O	High-Z	High-Z
92	RDB13	DRAM Data13 input	I/O	High-Z	High-Z
93	RDB14	DRAM Data14 input	I/O	High-Z	High-Z
94	RDB15	DRAM Data15 input	I/O	High-Z	High-Z
95	IO.GND	I/O GND	-	-	-
96	IO.V_{DD}	I/O VDD	-	-	-
97	RA0	DRAM Address0 output	O	Low	Low
98	RA1	DRAM Address1 output	O	Low	Low
99	RA2	DRAM Address2 output	O	Low	Low
100	RA3	DRAM Address3 output	O	Low	Low
101	RA4	DRAM Address4 output	O	Low	Low
102	RA5	DRAM Address5 output	O	Low	Low
103	RA6	DRAM Address6 output	O	Low	Low
104	RA7	DRAM Address7 output	O	Low	Low
105	RA8	DRAM Address8 output	O	Low	Low
106	RA9	DRAM Address9 output	O	Low	Low
107	RA10	DRAM Address10 output	O	Low	Low
108	RA11	DRAM Address11 output	O	Low	Low
109	N.C.	-	-	-	-
110	N.C.	-	-	-	-
111	N.C.	-	-	-	-
112	N.C.	-	-	-	-
113	N.C.	-	-	-	-
114	N.C.	-	-	-	-
115	N.C.	-	-	-	-
116	A.V_{DD}	Analog VDD	-	-	-
117	A.GND	Analog GND	-	-	-
118	N.C.	-	-	-	-

Pin No.	Pin Name	Pin Description	I/O	Initial	Standby
119	N.C.	-	-	-	-
120	N.C.	-	-	-	-
121	N.C.	-	-	-	-
122	N.C.	-	-	-	-
123	N.C.	-	-	-	-
124	N.C.	-	-	-	-
125	N.C.	-	-	-	-
126	N.C.	-	-	-	-
127	A.GND	Analog GND	-	-	-
128	A.V_{DD}	Analog VDD	-	-	-
129	N.C.	-	-	-	-
130	N.C.	-	-	-	-
131	N.C.	-	-	-	-
132	N.C.	-	-	-	-
133	N.C.	-	-	-	-
134	N.C.	-	-	-	-
135	N.C.	-	-	-	-
136	N.C.	-	-	-	-
137	N.C.	-	-	-	-
138	N.C.	-	-	-	-
139	N.C.	-	-	-	-
140	N.C.	-	-	-	-
141	N.C.	-	-	-	-
142	N.C.	-	-	-	-
143	A.V_{DD}	Analog VDD	-	-	-
144	A.GND	Analog GND	-	-	-

TC94A92FG (U1001)



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 se rvo 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	

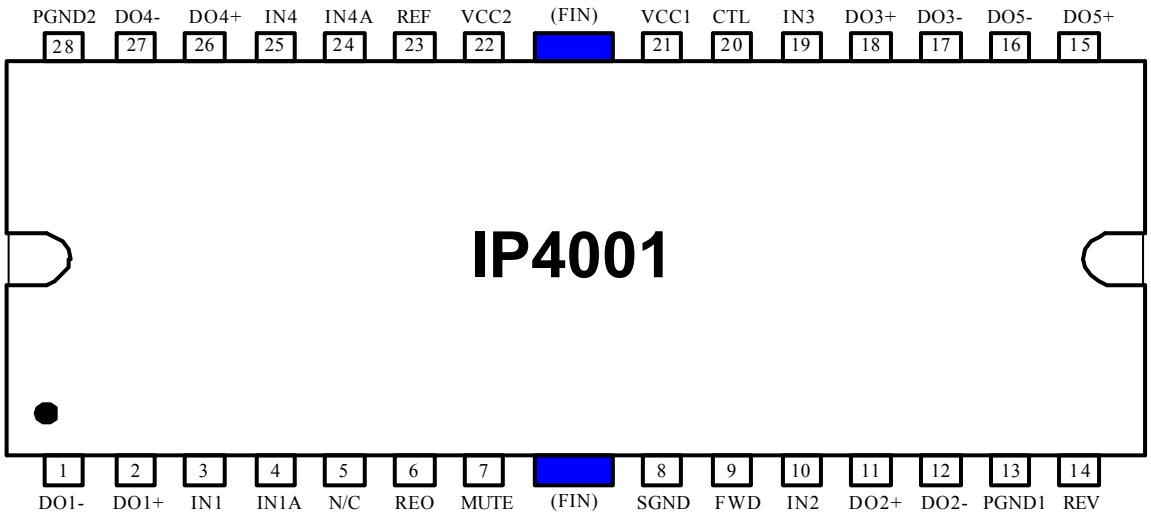
Pin No.	Symbol	I/O	Description	Default	Remarks
21	FSMoNiT	O 3AI/F	Focus Error signal / Sub beam add signal output pin(monitor pin/GND)	O	
22	RFZi	I 3AI/F	RF ripple zero-cross signal Input pin	I	
23	RFRP	O 3AI/F	RF ripple signal output pin.	O	
24	TEi	O 3AI/F	Tracking error signal output pin.	O	Bulit-in 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.

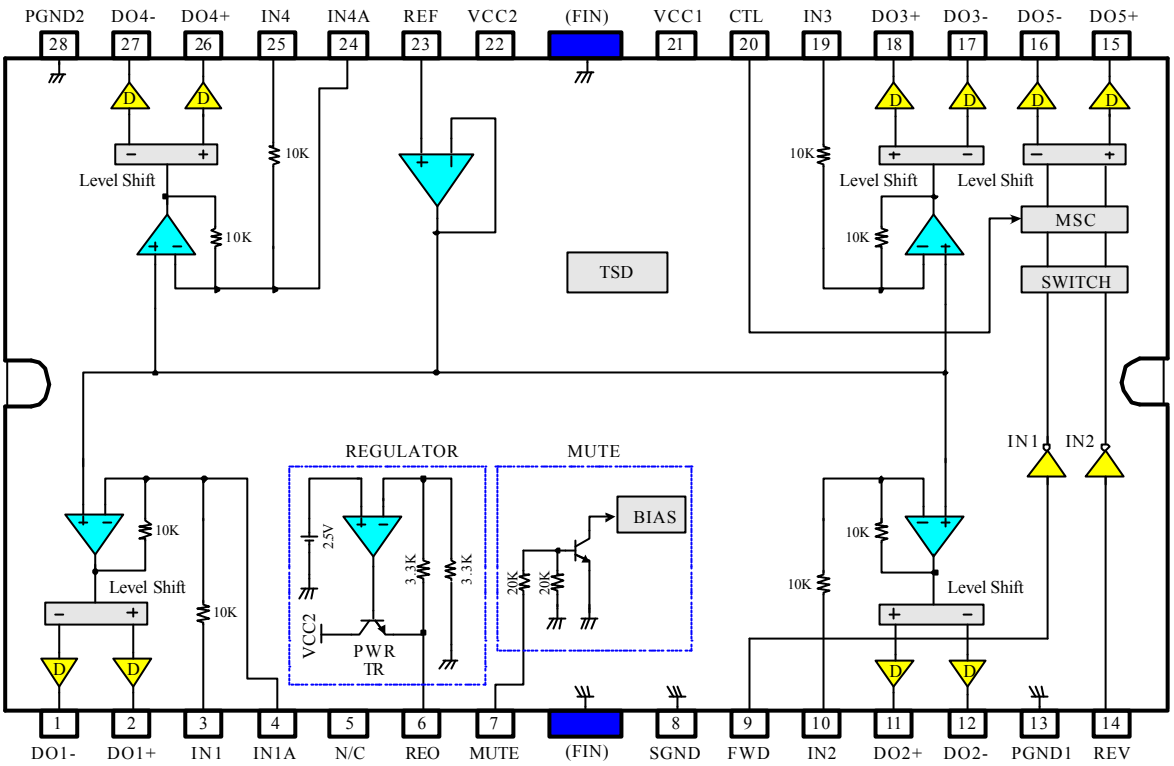
IP4001 (U1002)



Pin Discriptions

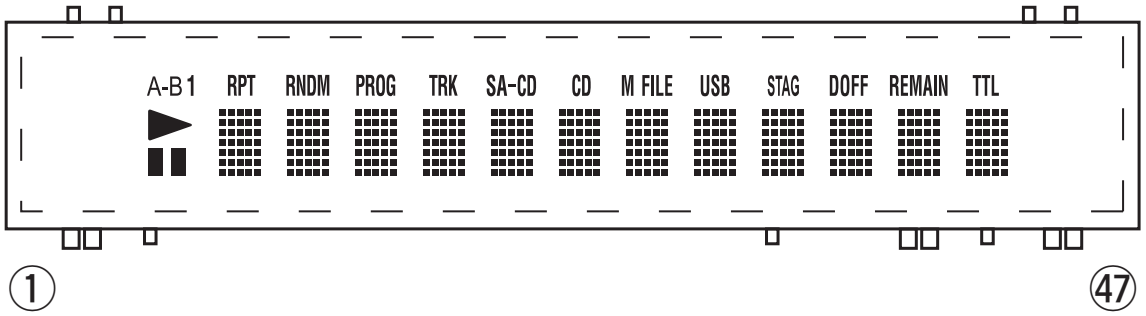
NO	SYMBOL	I/O	DESCRIPTION	NO	SYMBOL	I/O	DESCRIPTION
1	DO1-	O	CH1 OUTPUT (-)	15	DO5+	O	CH5 OUTPUT (+)
2	DO1+	O	CH1 OUTPUT (+)	16	DO5-	O	CH5 OUTPUT (-)
3	IN1	I	CH1 INPUT 1	17	DO3-	O	CH3 OUTPUT (-)
4	IN1A	I	CH1 INPUT 2	18	DO3+	O	CH3 OUTPUT (+)
5	N / C	-	NO-CONNECTION	19	IN3	I	CH3 INPUT
6	REO	O	REGULATOR 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



2. FL DISPLAY

FLD (13-BT-237INK) (FRONT : U4003)



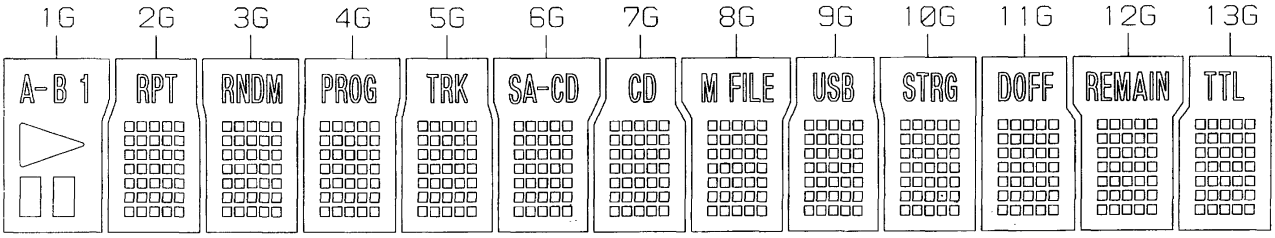
PIN CONNECTION

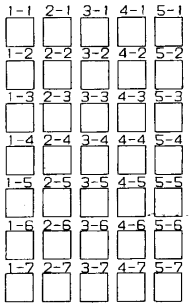
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
CONNECTION	F1	F1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	TSB	TSA	DA	CP	-CS	-RESET	OSC	VDD	VH	PGND	LGND	NP	NP	F2	F2

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) DL ------ Datum Line
4) LGND ----- Logic GND pin
5) PGND ----- Power GND pin
6) VH ------- High Voltage Supply pin
7) VDD ------ Logic Voltage Supply pin
8) CP ------- Shift Register Clock
9) DA ------- Serial Data Input
10) 1.5MAX is applied to all the leads inside A area.
0.8MAX is applied to all the leads inside B area.
11) TSA,B ---- Test pin
12) CS ------- Chip Select Input pin
13) OSC ------ Pin for self-oscillation
14) RESET ---- Reset Input
15) Solder composition is Sn-3Ag-0.5Cu.

(unit in mm)

GRID ASSIGNMENT





(2G~13G)

ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G
AD1	A-	RPT	RNDM	PROG	TRK	SA-CD	CD	M FILE	USB	STRG	DOFF	REMAIN	TTL
D0	B	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1
D1	1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1
D2	▷	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1
D3	□□	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1
D4	-	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1
D5	-	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
D6	-	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2
D7	-	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2
D8	-	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2
D9	-	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2
D10	-	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
D11	-	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3
D12	-	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3
D13	-	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3
D14	-	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3
D15	-	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
D16	-	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
D17	-	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4
D18	-	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4
D19	-	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4
D20	-	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
D21	-	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
D22	-	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5
D23	-	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
D24	-	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5
D25	-	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6
D26	-	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6
D27	-	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6
D28	-	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6
D29	-	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6
D30	-	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7
D31	-	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7
D32	-	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7
D33	-	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7
D34	-	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7

PARTS LIST OF P.W.B. UNIT

∗Parts for which "nsp" is indicated on this table cannot be supplied.
∗The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

Note: The symbols in the column "Remarks" indicate the following destinations.
U : North America model N : Europe model K : China model
B : Black model SG : Silver gold model

8U-110125 FRONT PWB UNIT ASS'Y

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP						
	D3101-3110	20105001130AS	1SS133(HOMI)			*
	D3201-3208	20105001130AS	1SS133(HOMI)			*
	D3601	00MHI20002210	SIR-34ST3F	U1B		
	D3602	20105001130AS	1SS133(HOMI)	U1B		*
	D3901,D3902	20105001130AS	1SS133(HOMI)			*
	D3905	00D2760762916	MTZJ27B T77			
	D3911-3913	00D2760704903	1SR35-400A(T93X)			
	D3916-3918	20105001130AS	1SS133(HOMI)			*
	D3929-3931	00D2760704903	1SR35-400A(T93X)			
	D3932	203010001007S	D3SB60			
	D3933	00MHD30471001	4.7V ZENER EQUIVALENT			
	D3934	20105001130AS	1SS133(HOMI)			*
	D3935	00D2760761959	MTZJ15B T77	N1SG,N1B,K1B		
	D3935	20205001830AS	ZENER DIODE 13V_ZJ13B 1/2W	U1B		*
	D3936-3939	00D2760704903	1SR35-400A(T93X)			
	Q3951	00MHT41415100	TRANSISTOR 2SD1415			
	Q3952	00MHT21020100	2SB1020			
	D3953-3956	00MHD20055101	!SHOTTKY 11EQS10 1A 100V			
	D3957	20105001130AS	1SS133(HOMI)			*
	D3958,3959	20205001830AS	ZENER DIODE 13V_ZJ13B 1/2W			*
	D3960	20105001130AS	1SS133(HOMI)			*
	D4001	00D3939607908	SLR342VC(TB7)			
	D4101	00D3939607908	SLR342VC(TB7)			
	U3601	262010007707S	R94EV1A	U1B		
	U3900	00D2631211004	BA00JC5WT			
	U3901	231810017528S	TK73333WTL-G			
	U3902	00D2631211004	BA00JC5WT			
	U3903	00D2630793002	NJM7806FA(S)			
	U3904	231810017528S	TK73333WTL-G			
	U3905	00D2631211004	BA00JC5WT			
	U4001	262010007707S	R94EV1A			
	U4003	00MHQ31203410	13-BT-237INK			
	Q3101	222010001404S	2SK369 BL VGDS-40V PD0.4W			
	Q3102	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3103	222010001404S	2SK369 BL VGDS-40V PD0.4W			
	Q3104	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3105	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3106	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3107,3108	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3109	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3110	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3111	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3112	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3113	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3114,3115	00D2730460905	KTC2875-B-RTK/P			
	Q3116	00D2690193901	KRC104S-RTK/P (47K-47K)			
	Q3117	00D2690191903	KRA104S-RTK/P (47K-47K)			
	Q3201	222010001404S	2SK369 BL VGDS-40V PD0.4W			
	Q3202	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3203	222010001404S	2SK369 BL VGDS-40V PD0.4W			
	Q3204	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3205	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3206	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3207,3208	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	Q3209	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3210	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3211	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3212	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3213	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3214,3215	00D2730460905	KTC2875-B-RTK/P			
	Q3301	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3302,3303	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3304	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3401	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3402,3403	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q3404	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q3601	00D2690204900	KRA102M-AT/P (10K-10K)	U1B		
	Q3901	214050012500S	KTC1027-Y-AT/P			
	Q3902,3903	00D2690223907	KRC111S-RTK +2125			
	Q3904,3905	00D2730468907	KTC3199-GR-AT/P			
	Q4001	00D2730485906	KRC107S-RTK(10K-47K)			
	Q4002	00D2690204900	KRA102M-AT/P (10K-10K)			
	Q4101	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q4301	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q4302,4303	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q4304	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q4305,4306	00D2730460905	KTC2875-B-RTK/P			
	Q4401	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q4402,4403	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q4404	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q4405,4406	00D2730460905	KTC2875-B-RTK/P			
RESISTORS GROUP						
	R3127	nsp	RM73B--222JT +1608			
	R3128	nsp	RM73B--474JT +1608			
	R3130	nsp	RM73B--222JT +1608			
	R3227	nsp	RM73B--222JT +1608			
	R3228	nsp	RM73B--474JT +1608			
	R3230	nsp	RM73B--222JT +1608			
	R3601,3602	nsp	RM73B--101JT +1608	U1B		
	R3903	nsp	RM73B--104JT +1608			
	R3904,3905	00D2442051932	RS14B3A332JNBST(S)			
	R3906	nsp	RM73B--104JT +1608			
	R3917	nsp	RM73B--274JT +1608			
	R3918	nsp	RM73B--334JT +1608			
	R3919	nsp	RM73B--473JT +1608			
	R3921	nsp	RM73B--274JT +1608			
	R3922	nsp	RM73B--473JT +1608			
	R3923,3924	nsp	RM73B--103JT +1608			
	R3925	nsp	RM73B--564JT +1608			
	R3926	nsp	RM73B--474JT +1608			
	R3929	nsp	RM73B--563JT +1608			
	R3931	nsp	RM73B--472JT (1608) +1608			
	R4002	nsp	RM73B--271JT +1608			
	R4003	nsp	RM73B--333JT +1608			
	R4006	nsp	RM73B--101JT +1608			
	R4007	nsp	RM73B--473JT +1608			
	R4008	nsp	RM73B--101JT +1608			
	R4009,4010	nsp	RM73B--182JT +1608			
	R4011,4012	nsp	RM73B--681JT +1608			
	R4013	nsp	RM73B--331JT (1608) +1608			
	R4014,4015	nsp	RM73B--102JT +1608			
	R4016	nsp	RM73B--331JT (1608) +1608			
	R4017-4020	nsp	RM73B--101JT +1608			
	R4101	nsp	RM73B--331JT (1608) +1608			
	R4102,4103	nsp	RM73B--103JT +1608			
	R4311	nsp	RM73B--222JT +1608			
	R4313	nsp	RM73B--222JT +1608			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	R4411	nsp	RM73B--222JT +1608			
	R4413	nsp	RM73B--222JT +1608			
	R4414	nsp	RM73B--103JT +1608			
	V4301	00D2115646001	V092Q20FA103 (METAL)			
CAPACITORS GROUP						
	C3101	133050125408S	CQ93E2A561JT(FNS)			
	C3102,3103	133050125415S	CQ93E2A821JT(FNS)			
	C3104,3105	133050079420S	CQ93G2D181J(FAS)			
	C3106	00MOF55221591	220PF 200V +- 10% FAS			
	C3108	133050078489S	CQ93P2D470K(FAS)			
	C3109	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C3110	00MOA107025Z1	ROS-25V 101M - H4#PE - T2 (100UF 25V)			
	C3201	133050125408S	CQ93E2A561JT(FNS)			
	C3202,3203	133050125415S	CQ93E2A821JT(FNS)			
	C3204,3205	133050079420S	CQ93G2D181J(FAS)			
	C3206	00MOF55221591	220PF 200V +- 10% FAS			
	C3208	133050078489S	CQ93P2D470K(FAS)			
	C3209	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C3210	00MOA107025Z1	ROS-25V 101M - H4#PE - T2 (100UF 25V)			
	C3301	13405014840AS	CE04W1J100MT(KR3)			*
	C3302	00MOF55101591	100PF 200V +- 10% FAS			
	C3303	13405014840AS	CE04W1J100MT(KR3)			*
	C3401	13405014840AS	CE04W1J100MT(KR3)			*
	C3402	00MOF55101591	100PF 200V +- 10% FAS			
	C3403	13405014840AS	CE04W1J100MT(KR3)			*
	C3501	nsp	CK73B1E104KT +1608			
	C3507	nsp	CK73B1E104KT +1608			
	C3601	13405012840AS	CE04W1A101MT(KR3)	U1B		*
	C3602	nsp	CK73B1E104KT +1608	U1B		
	C3901	13405013840AS	CE04W1H010MT(KR3)			*
	C3902	13405012440AS	CE04W0J221MT(KR3)			*
	C3903,3904	nsp	CK73B1E223KT +1608			
	C3905	13405013340AS	CE04W1E471MT(KR3)			*
	C3906	13405013240AS	CE04W1E470MT(KR3)			*
	C3907-3909	nsp	CK73B1E104KT +1608			
	C3910	13405014840AS	CE04W1J100MT(KR3)			*
	C3911,3912	nsp	CK73B1E104KT +1608			
	C3913	13405013940AS	CE04W1H2R2MT(KR3)			*
	C3914,3915	13405013340AS	CE04W1E471MT(KR3)			*
	C3916	13405012940AS	CE04W1C101MT(KR3)			*
	C3918	13405012940AS	CE04W1C101MT(KR3)			*
	C3919	nsp	CK73B1E223KT +1608			
	C3920	nsp	CK73B1E104KT +1608			
	C3924	nsp	CK73B1E223KT +1608			
	C3925	nsp	CK73B1E104KT +1608			
	C3926	13405015240AS	CE04W1J221MT(KR3)			*
	C3927,3928	nsp	CK73B1E104KT +1608			
	C3929	13405013540AS	CE04W1V102MT(KR3)			*
	C3930	134050083200S	CE04P1E682MT(RJ4)			
	C3931	00D2538026703	CK45E2EAC472MC			
	C3951,3952	00MOB10803540	LAO-35V102MS35P1W# 1000UF 35V (LF)			
	C3953,3954	13405014340AS	CE04W1H470MT(KR3)			*
	C3955,3956	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C3958,3959	nsp	CK73B1E104KT +1608			
	C4001,4002	nsp	CK73B1E104KT +1608			
	C4003,4004	nsp	CC73CH1H220JT +1608			
	C4005-4009	nsp	CK73B1E104KT +1608			
	C4010	00D2544299964	CE04W1C470MT(SRE)			
	C4011	nsp	CC73CH1H101JT +1608			
	C4012,4013	nsp	CK73B1E104KT +1608			
	C4014	00D2544299964	CE04W1C470MT(SRE)			
	C4015-4017	nsp	CC73CH1H101JT +1608			
	C4301	13405014840AS	CE04W1J100MT(KR3)			*
	C4302	133050086503S	CQ93M2A221JT(PEF)			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	C4303	13405013240AS	CE04W1E470MT(KR3)			*
	C4304	13405014340AS	CE04W1H470MT(KR3)			*
	C4305,4306	nsp	CK73B1H102KT +1608			
	C4307,4308	nsp	CK73B1E104KT +1608			
	C4401	13405014840AS	CE04W1J100MT(KR3)			*
	C4402	133050086503S	CQ93M2A221JT(PEF)			
	C4403	13405013240AS	CE04W1E470MT(KR3)			*
	C4404	13405014340AS	CE04W1H470MT(KR3)			*
	C4405	nsp	CK73B1H102KT +1608			
OTHERS PARTS GROUP						
⚠	F3903	00MFS20400201	# FUSE 4.0A 250V SEMKO VDE			
⚠	F3951,3952	00MFS20080201	# FUSE 0.8A 250V SEMKO VDE			
	L3301-3303	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L3304	00MFN3100006Z	BLM21BD222TN1D			
	L3306,3307	00MFN3100006Z	BLM21BD222TN1D			
	L3405	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L4001-4004	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L4301	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L4302-4304	nsp	RM73B--0R0KT +2125			
	L4305,4306	00MFN3100006Z	BLM21BD222TN1D			
	L4307	nsp	RM73B--0R0KT +2125			
	L4308	00MFN3100006Z	BLM21BD222TN1D			
	L4401	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	N3301	64401011804AS	2.0MM PITCH BASE 07PIN (TOP)			*
	N3504	64401012002AS	2.5MM PITCH BASE 05PIN (TOP)			*
⚠	N3901,3902	64401012800AS	7.92MM PITCH BASE 2PIN (TOP)			*
	N3903	64401012007AS	2.5MM PITCH BASE 10PIN (TOP)			*
	N4004	64401013100AS	19P FFC BASE(TOP)			*
	N4101	64401011802AS	2.0MM PITCH BASE 05PIN (TOP)			*
⚠	S3901	68201000200AS	G5PA-1(DC6) POWER RELAY			*
	S4001-4007	66201000940AS	TACT SWITCH			*
	S4101	66201000940AS	TACT SWITCH			*
	K3101	646010013003S	YKC21-3725 1P RCA WHITE AU			
	K3201	646010014006S	YKC21-3724 1P RCA RED AU			
	K3601	643010086002S	MINI JACK(PJ-308-02)	U1B		
	K4003	644010115002S	U250FD004S117BY USB CONNECTOR			
	K4301	00MYJ01005170	JY-6313_01-030 6.4D PHONE JACK			
	B1101	61205032500AS	2.0MM PITCH BOARD IN SHIELD WIRE 5P(USB)			*
	B2101	61205033100AS	2.0MM PITCH BOARD IN WIRE 11PIN			*
	B2201	61205032800AS	2.0MM PITCH BOARD IN WIRE 3PIN	U1B		*
	B2801	61205032400AS	2.0MM PITCH BOARD IN WIRE 13PIN			*
	B3301	61205033200AS	2.0MM PITCH BOARD IN SHIELD WIRE 7P(H/P)			*
	B3501	00MYL01010350	CMD1A569	U1B		
	B3502	00MYL01010241	GND TERMINAL FOR PCB			
	B3504	61205032600AS	2.5MM PITCH BOARD IN WIRE 5PIN			*
	B3601,3602	00MYL01010350	CMD1A569			
	B3901	00MYL01010350	CMD1A569	U1B		
⚠	B3902	61205032200AS	7.92MM PITCH BOARD IN WIRE 2PIN			*
	B3903	61205032300AS	2.5MM PITCH BOARD IN WIRE 10PIN			*
	B4101	61205032700AS	2.0MM PITCH BOARD IN WIRE 5PIN			*
	B4301	61205001200AS	1PIN WIRE			*
⚠	T3901	10101001200AM	SUB TRANS (U) D145	U1B		*
⚠	T3901	10101001100AM	SUB TRANS (N) D145	N1SG,N1B,K1B		*
	Z3501-3503	nsp	STYLE PIN			
	Z3601	445310117000M	SHIELD CASE FLASHER SR7005 A332	U1B		

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	Z3899	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z3900	00M009D267010	HEAT SINK			
	Z3901	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z3902	00M009D267010	HEAT SINK			
	Z3903	00M309V267010	HEAT SINK			
	Z3904	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z3905	00M009D267010	HEAT SINK			
	Z3906	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z3911,3912	nsp	STYLE PIN			
	Z3932	00D4170669005	RADIATOR			
	Z3933	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z3951	00M309V267010	HEAT SINK			
	Z3952	00M309V267010	HEAT SINK			
	Z3953	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z3954	00M51100308M1	Bind 3x8 MACHINE (CU)			
	Z4001,4002	00D4610991039	RUBBER SHEET			

8U-210003 MAIN UNIT ASS'Y

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP						
	D1001	20105001230AS	1SS355T			*
	D2001-2006	20105001230AS	1SS355T			*
	U1001	245010015000S	TC94A92FG-301			
	U1002	23981000350AS	IP4001CR(TP)			*
	U1101	239810050604S	UPD63901-501			
	U1201	00MHC011805KZ	TC74LCX157FT(EL.K)			
	U1801	23181010650AS	AZ1117H-1.5			*
	U2001	00D2623082924	BD4730G-TR			
	U2002	8R2411000300S	CD6004 SYSTEM ROM ASSY (TMP92FD23AFG)	**NOTE :** When update Firmware, please confirm a last version in SDI.		*
	U2003	00D2623388903	AT24C04AN-10SU-1.8-SL383			
	U2004	236710076509S	MFI341S2164 IPOD COPROCESSOR 2.0B CLASS6			
	U2101	00D2623077900	TC74VHCU04FT +REF			
	U2102	00MHC1002088Z	CS4398-CZZR/D			
	Q1001	00D2710312905	KTA1504S-GR-RTK/P			
	Q1101	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q1201	00D2730464901	KTC3875S-GR-RTK/P			
	Q2201	00D2730464901	KTC3875S-GR-RTK/P			
	Q2202	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q2203	00D2690223907	KRC111S-RTK +2125			
RESISTORS GROUP						
	R1001	nsp	RM73B--910JT +1608			
	R1002-1004	nsp	RM73B--103JT +1608			
	R1005	nsp	RM73B--221JT +1608			
	R1006-1008	nsp	RM73B--390JT +1608			
	R1009	nsp	RM73B--471JT +1608			
	R1010	nsp	RM73B--390JT +1608			
	R1011	nsp	RM73B--102JT +1608			
	R1012	nsp	RM73B--101JT +1608			
	R1013	nsp	RM73B--0R0KT +1608			
	R1015	nsp	RM73B--101JT +1608			
	R1016	nsp	RM73B--153JT +1608			
	R1018	nsp	RM73B--334JT +1608			
	R1019	nsp	RM73B--103JT +1608			
	R1020	nsp	RM73B--473JT +1608			
	R1021	nsp	RM73B--103JT +1608			
	R1022,1023	nsp	RM73B--0R0KT +1608			
	R1024	nsp	RM73B--330JT +1608			
	R1025	nsp	RM73B--0R0KT +1608			
	R1026	nsp	RM73B--103JT +1608			
	R1027	nsp	RM73B--0R0KT +1608			
	R1028	nsp	RM73B--103JT +1608			
	R1029	nsp	RM73B--154JT +1608			
	R1030	nsp	RM73B--0R0KT +1608			
	R1032-1034	nsp	RM73B--101JT +1608			
	R1036	nsp	RM73B--471JT +1608			
	R1037	nsp	RM73B--101JT +1608			
	R1039	nsp	RM73B--103JT +1608			
	R1040	nsp	RM73B--0R0KT +1608			
	R1041-1044	nsp	RM73B--101JT +1608			
	R1045	nsp	RM73B--103JT +1608			
	R1047	nsp	RM73B--0R0KT +1608			
	R1048,1049	nsp	RM73B--103JT +1608			
	R1056	nsp	RM73B--473JT +1608			
	R1058	nsp	RM73B--0R0KT +1608			
	R1059,1060	nsp	RM73B--103JT +1608			
	R1061	nsp	RM73B--220JT +1608			
	R1101,1102	nsp	RM73B--103JT +1608			
	R1103-1105	nsp	RM73B--220JT +1608			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	R1107	nsp	RM73B--103JT +1608			
	R1108,1109	nsp	RM73B--220JT +1608			
	R1111	nsp	RM73B--220JT +1608			
	R1112-1114	nsp	RM73B--103JT +1608			
	R1115,1116	nsp	RM73B--0R0KT +1608			
	R1117,1118	nsp	RM73B--220JT +1608			
	R1119	nsp	RM73B--103JT +1608			
	R1120	nsp	RM73B--220JT +1608			
	R1121	nsp	RM73B--391JT +1608			
	R1122	nsp	RM73B--103JT +1608			
	R1123	nsp	RM73B--0R0KT +1608			
	R1124-1126	nsp	RM73B--220JT +1608			
	R1127	nsp	RM73B--103JT +1608			
	R1128,1129	nsp	RM73B--153JT +1608			
	R1130,1131	nsp	RM73B--0R0KT +1608			
	R1132,1133	nsp	RM73B--220JT +1608			
	R1201	nsp	RM73B--103JT +1608			
	R1203-1206	nsp	RM73B--470JT +1608			
	R1207	nsp	RM73B--220JT +1608			
	R1208	nsp	RM73B--0R0KT +1608			
	R1209	nsp	RM73B--222JT +1608			
	R1210	nsp	RM73B--182JT +1608			
	R1211	nsp	RM73B--392JT +1608			
	R1212,1213	nsp	RM73B--221JT +1608			
	R1214	nsp	RM73B--680JT +1608			
	R1215	nsp	RM73B--100JT +1608			
	R1216	nsp	RM73B--221JT +1608			
	R1217,1218	nsp	RM73B--0R0KT +1608			
	R1801-1804	nsp	RM73B--0R0KT +1608			
	R2001-2007	nsp	RM73B--0R0KT +1608			
	R2009-2011	nsp	RM73B--103JT +1608			
	R2012-2015	nsp	RM73B--104JT +1608			
	R2017	nsp	RM73B--221JT +1608			
	R2019	nsp	RM73B--0R0KT +1608			
	R2020	nsp	RM73B--104JT +1608			
	R2021	nsp	RM73B--473JT +1608			
	R2022-2025	nsp	RM73B--104JT +1608			
	R2026	nsp	RM73B--473JT +1608			
	R2027	nsp	RM73B--0R0KT +1608			
	R2028	nsp	RM73B--104JT +1608			
	R2029	nsp	RM73B--105JT +1608			
	R2030	nsp	RM73B--0R0KT +1608			
	R2031	nsp	RM73B--104JT +1608			
	R2032	nsp	RM73B--0R0KT +1608			
	R2033,2034	nsp	RM73B--220JT +1608			
	R2035,2036	nsp	RM73B--0R0KT +1608			
	R2037	nsp	RM73B--104JT +1608			
	R2038	nsp	RM73B--0R0KT +1608			
	R2039-2045	nsp	RM73B--220JT +1608			
	R2046	nsp	RM73B--473JT +1608			
	R2047	nsp	RM73B--220JT +1608			
	R2048,2049	nsp	RM73B--103JT +1608			
	R2050	nsp	RM73B--0R0KT +1608			
	R2051	nsp	RM73B--473JT +1608			
	R2053	nsp	RM73B--103JT +1608			
	R2055-2058	nsp	RM73B--103JT +1608			
	R2059,2060	nsp	RM73B--0R0KT +1608			
	R2061,2062	nsp	RM73B--103JT +1608			
	R2064	nsp	RM73B--0R0KT +1608			
	R2065	nsp	RM73B--102JT +1608			
	R2066,2067	nsp	RM73B--0R0KT +1608			
	R2068	nsp	RM73B--220JT +1608			
	R2069,2070	nsp	RM73B--103JT +1608			
	R2102-2104	nsp	RM73B--010KT +1608			
	R2105,2106	nsp	RM73B--220JT +1608			
	R2107,2108	nsp	RM73B--010KT +1608			
	R2109-2111	nsp	RM73B--0R0KT +1608			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	R2112	nsp	RM73B--105JT +1608			
	R2113	nsp	RM73B--220JT +1608			
	R2114	nsp	RM73B--102JT +1608			
	R2115,2116	nsp	RM73B--220JT +1608			
	R2117,2118	nsp	RM73B--0R0KT +1608			
	R2125	nsp	RM73B--0R0KT +2125			
	R2201	nsp	RM73B--470JT +1608			
	R2202	nsp	RM73B--473JT +1608			
	R2203	nsp	RM73B--183JT +1608			
	R2204	nsp	RM73B--473JT +1608			
	R2205,2206	nsp	RM73B--103JT +1608			
CAPACITORS GROUP						
	C1001	nsp	CK73B1E104KT +1608			
	C1002	nsp	CK73B1H103KT (1608) +1608			
	C1003	nsp	CK73B1H102KT +1608			
	C1007-1009	nsp	CK73B1E104KT +1608			
	C1010	13405012840AS	CE04W1A101MT(KR3)			*
	C1011	13405012540AS	CE04W0J102MT(KR3)			*
	C1012	nsp	CK73B1E104KT +1608			
	C1013	13405012640AS	CE04W0J471MT(KR3)			*
	C1014-1017	nsp	CK73B1E104KT +1608			
	C1019,1020	nsp	CK73B1E104KT +1608			
	C1021	13405012540AS	CE04W0J102MT(KR3)			*
	C1022	nsp	CK73B1H222KT +1608			
	C1023	nsp	CK73B1H103KT (1608) +1608			
	C1024	nsp	CK73B1H153KT +1608			
	C1025	nsp	CK73B1E104KT +1608			
	C1026	nsp	CK73B1H472KT +1608			
	C1027	nsp	CK73B1E104KT +1608			
	C1028,1029	13405012840AS	CE04W1A101MT(KR3)			*
	C1030	nsp	CK73B1H103KT (1608) +1608			
	C1031	nsp	CK73B1E104KT +1608			
	C1032	nsp	CC73CH1H470JT +1608			
	C1033	00D2570516925	CK73B1E333KT +1608			
	C1034	nsp	CK73B1E104KT +1608			
	C1035	nsp	CK73B1H153KT +1608			
	C1036	13405012840AS	CE04W1A101MT(KR3)			*
	C1039	nsp	CK73B1H562KT +1608			
	C1040,1041	nsp	CC73CH1H471JT +1608			
	C1044,1045	nsp	CK73B1E104KT +1608			
	C1047,1048	nsp	CK73B1E104KT +1608			
	C1049	13405012840AS	CE04W1A101MT(KR3)			*
	C1050	nsp	CK73B1E473KT +1608			
	C1051	nsp	CK73B1E104KT +1608			
	C1053	nsp	CK73B1E104KT +1608			
	C1054	13405012840AS	CE04W1A101MT(KR3)			*
	C1055	nsp	CK73B1E104KT +1608			
	C1056	nsp	CK73B1E473KT +1608			
	C1057	nsp	CK73B1E104KT +1608			
	C1058	13405012840AS	CE04W1A101MT(KR3)			*
	C1061	nsp	CK73B1H102KT +1608			
	C1062,1063	nsp	CK73B1E104KT +1608			
	C1064	13405012840AS	CE04W1A101MT(KR3)			*
	C1065,1066	nsp	CK73B1E104KT +1608			
	C1101	nsp	CK73B1E104KT +1608			
	C1102,1103	13405013240AS	CE04W1E470MT(KR3)			*
	C1104,1105	nsp	CK73B1E104KT +1608			
	C1106	13405013240AS	CE04W1E470MT(KR3)			*
	C1107-1111	nsp	CK73B1E104KT +1608			
	C1112,1113	13405013240AS	CE04W1E470MT(KR3)			*
	C1114	nsp	CK73B1E104KT +1608			
	C1116	nsp	CC73CH1H9R0DT +1608			
	C1118	nsp	CC73CH1H220JT +1608			
	C1119	nsp	CC73CH1H9R0DT +1608			
	C1120	nsp	CC73CH1H220JT +1608			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	C1121-1124	nsp	CK73B1E104KT +1608			
	C1125	13405013240AS	CE04W1E470MT(KR3)			*
	C1126	13405012840AS	CE04W1A101MT(KR3)			*
	C1127	nsp	CK73B1E104KT +1608			
	C1128	13405013240AS	CE04W1E470MT(KR3)			*
	C1201	nsp	CK73B1H102KT +1608			
	C1202	nsp	CK73B1E104KT +1608			
	C1203	13405013240AS	CE04W1E470MT(KR3)			*
	C1204	nsp	CC73CH1H101JT +1608			
	C1207	00D2570513902	CK73F1A105ZT +1608			
	C1208	nsp	CC73CH1H120JT +1608			
	C1209	13405014840AS	CE04W1J100MT(KR3)			*
	C1210	nsp	CK73B1E104KT +1608			
	C1801-1804	13405012840AS	CE04W1A101MT(KR3)			*
	C1805-1808	nsp	CK73B1E104KT +1608			
	C1809-1812	nsp	CK73B1H102KT +1608			
	C1813	nsp	CK73B1H103KT (1608) +1608			
	C1814	nsp	CK73B1E104KT +1608			
	C1815	nsp	CK73B1H103KT (1608) +1608			
	C1816	nsp	CK73B1E104KT +1608			
	C1817	13405012840AS	CE04W1A101MT(KR3)			*
	C1822,1823	nsp	CK73B1E104KT +1608			
	C1824	13405012840AS	CE04W1A101MT(KR3)			*
	C2004	nsp	CK73B1E104KT +1608			
	C2005	nsp	CK73B1H103KT (1608) +1608			
	C2006	13405014840AS	CE04W1J100MT(KR3)			*
	C2007,2008	nsp	CK73B1H103KT (1608) +1608			
	C2009-2012	nsp	CK73B1E104KT +1608			
	C2013	nsp	CK73B1H103KT (1608) +1608			
	C2014	nsp	CK73B1E104KT +1608			
	C2015,2016	nsp	CK73B1H103KT (1608) +1608			
	C2017	nsp	CK73B1E104KT +1608			
	C2018,2019	00D2570503967	CC73CH1H150JT +1608			
	C2020,2021	nsp	CK73B1E104KT +1608			
	C2022	13405012840AS	CE04W1A101MT(KR3)			*
	C2023	13405013240AS	CE04W1E470MT(KR3)			*
	C2024,2025	nsp	CK73B1E104KT +1608			
	C2101	13405013240AS	CE04W1E470MT(KR3)			*
	C2102	nsp	CK73B1E104KT +1608			
	C2103,2104	nsp	CC73CH1H150JT +1608			
	C2105	nsp	CK73B1E104KT +1608			
	C2106	00MOA476025Z1	ROS-25V 470M - G3#PE - T2 (47UF 25V)			
	C2107-2109	nsp	CK73B1E104KT +1608			
	C2110	13405014640AS	CE04W1H3R3MT(KR3)			*
	C2111	nsp	CK73B1E104KT +1608			
	C2112,2113	13405014240AS	CW04W1H330MT(KR3)			*
	C2114	00MOA476025R1	ROA-25V 470M -G3# - T2			
	C2115	nsp	CK73B1E104KT +1608			
	C2201,2202	nsp	CK73B1E104KT +1608			
	C2804	13405012840AS	CE04W1A101MT(KR3)			*
	C2805	nsp	CK73B1E104KT +1608			
	C2806	nsp	CK73B1H103KT (1608) +1608			
	C2807	nsp	CK73B1E104KT +1608			
	C2808,2809	nsp	CK73B1H103KT (1608) +1608			
	C2810,2811	nsp	CK73B1E104KT +1608			
	C2813	nsp	CK73B1H103KT (1608) +1608			
OTHERS PARTS GROUP						
	L1001	00D2350060950	INDUCTOR(100)ST			
	L1002,1003	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L1101	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L1201	00D2350060950	INDUCTOR(100)ST			
	L1801-1804	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L2001	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L2101	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	L2102	nsp	RM73B--0R0KT +2125			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	L2801-2803	00D2350147909	E.FIL(BLM21PG221SN1)+2125			
	N1001	nsp	16P FFC BASE(TOP) +REF			*
	N1002	nsp	2.0MM PITCH BASE 06PIN(TOP) +REF			*
	N1003	nsp	2.0MM PITCH BASE 05PIN(TOP) +REF			*
	N1101	nsp	2.0MM PITCH BASE 05PIN(TOP) +REF			*
	N2001	nsp	19P FFC BASE(TOP) +REF			*
	N2003	nsp	7P FFC BASE(SIDE)			*
	N2101	nsp	2.0MM PITCH BASE 11PIN (TOP)			*
	N2201	nsp	2.0MM PITCH BASE 03PIN(TOP) +REF	U1B		*
	N2801	nsp	2.0MM PITCH BASE 13PIN (TOP)			*
	S2201	66401001400AS	SLIDE SWITCH			*
	K1201	643010074603S	1P RCA_PIN_JACK			
	K1202	263010044709S	JST1165			
	K2201	643010103006S	RCA PIN JACK 2P NI MSP-242V1-24			
	B1001	nsp	GND TERMINAL FOR PCB			
	B2201	nsp	CMD1A569			
	X1101	00D3991127905	FCX-03(48MHz)			
	X2001	141810043501S	FCX-03(10MHz)			
	X2101	141810009501S	FCX-03(16.9344MHz)			
	T1101	00D2790054908	NANOSMDC110F			
	Z1004	nsp	STYLE PIN			

Personal notes: