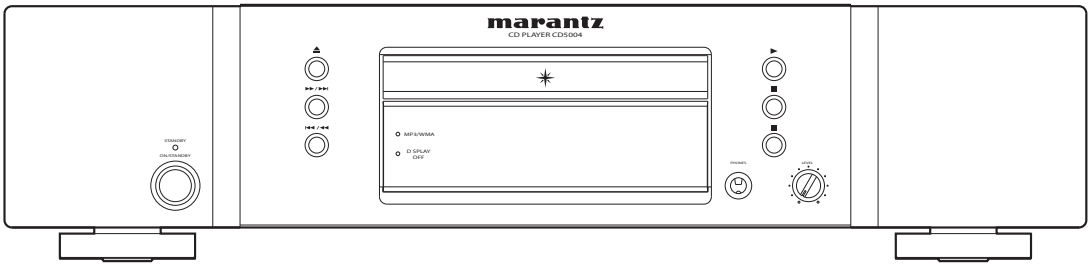
Service Manual

CD5004 /N1B/N1SG
U1B/K1SG/K1B

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

CD5004

S0055V01DM/DG1006

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
MAHWAH, NEW JERSEY 07430
USA

EUROPE / TRADING

D&M EUROPE B. V.
P. O. BOX 8744, BUILDING SILVERPOINT
BEEMDSTRAAT 11, 5653 MA EINDHOVEN
THE NETHERLANDS
PHONE : +31 40 2507844
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CANADA

D&M Canada Inc.
5 505 APPLE CREEK BLVD.
MARKHAM, ONTARIO L3R 5B1
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PHONE : 905 415 9292
FAX : 905 475 4159

JAPAN

D&M Holdings Inc.
D&M BUILDING, 2 1 NISSHIN CHO,
KAWASAKI KU, KAWASAKI SHI,
KANAGAWA, 210 8569 JAPAN

株式会社 ディーアンドエムホールディングス

本 社 〒210-8569
神奈川県川崎市川崎区日進町2-1 D&Mビル

KOREA

D&M SALES AND MARKETING KOREA LTD.
2F,YEON BLDG.,
88 5, BANPO DONG, SEOCHO GU,
SEOUL KOREA
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FAX : +82 2 715 9040

CHINA

D&M SALES AND MARKETING SHANGHAI LTD.
ROOM.808 SHANGHAI AIRPORT CITY TERMINAL
NO.1600 NANJING (WEST) ROAD, SHANGHAI,
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 ⚠ mark.
(2) Parts lists .....Indicated by the ⚠ mark.
Using parts other than the designated parts could result in electric shock, fires or other dangerous situations.

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

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

CAUTION:

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.

WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

NOTICE:

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM / M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=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

PARTS INFORMATION

RESISTORS

1) 00MGD05 × × × 140, Carbon film fixed resistor, ±5% 1/4W
2) 00MGD05 ××× 160, Carbon film fixed resistor, ±5% 1/6W
① ——— Resistance value

Examples ;
① Resistance value

0.1Ω.....001	10Ω.....100	1kΩ.....102	100kΩ.....104
0.5Ω.....005	18Ω.....180	2.7kΩ.....272	680kΩ.....684
1Ω.....010	100Ω.....101	10kΩ.....103	1MΩ.....105
6.8Ω.....068	390Ω.....391	22kΩ.....223	4.7MΩ.....475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

CERAMIC CAP.
3) 00MDD1 × ××× 370, Ceramic capacitor
② ③ Disc type
Temp.coeff.P350 ～ N1000, 50V
③ ——— Capacity value
② ——— Tolerance

Examples ;
② Tolerance (Capacity deviation)
±0.25pF..... 0
±0.5pF..... 1
±5%..... 5
＊Tolerance of COMMON PARTS handled here are as follows :
0.5pF ～ 5pF.....±0.25pF
6pF ～ 10pF.....±0.5pF
12pF ～ 560pF.....±5%
③ Capacity value

0.5pF.....005	3pF.....030	100pF.....101
1pF.....010	10pF.....100	220pF.....221
1.5pF.....015	47pF.....470	560pF.....561

CERAMIC CAP.
4) 00MDK16 ××× 300, High dielectric constant ceramic capacitor
④ Disc type
Temp.chara. 2B4, 50V
④ ——— Capacity value

Examples ;
④ Capacity value

100pF.....101	1000pF..... 102	10000pF.....103
470pF.....471	2200pF..... 222	

ELECTROLY CAP. (⧧)
5) 00MEA ××××××10, Electrolytic capacitor
⑤ ⑥ One way lead type, Tolerance ±20%
⑥ ——— Working voltage
⑤ ——— Capacity value

Examples ;
⑤ Capacity value

0.1μF.....104	4.7μF.....475	100μF ... 107
0.33μF.....334	10μF.....106	330μF ... 337
1μF.....105	22μF.....226	1100μF ... 118
		2200μF ... 228

⑥ Working voltage

6.3V.....006	25V.....025
10V.....010	35V.....035
16V.....016	50V.....050

FILM CAP. (⧦)
6) 00MDF15 × ×× 350 → Plastic film capacitor
00MDF15 × ×× 310 One way type, Mylar ±5% 50V
00MDF16 ××× 310 → Plastic film capacitor
⑦ One way type, Mylar ±10% 50V
⑦ ——— Capacity value

Examples ;
⑦ Capacity value

0.001μF (1000pF) 102	0.1μF 104
0.0018μF.....182	0.56μF 564
0.01μF.....103	1μF 105
0.015μF.....153	

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Part No. (MJI)	Type No. (KOA)	Description
00MNH05 × ×× 140	→ RF25S × ××× ΩJ	(±5% 1/4W)
00MNH05 × ×× 120	→ RF50S × ××× ΩJ	(±5% 1/2W)
00MNH85 × ×× 110	→ RF73B2A × ××× ΩJ	(±5% 1/10W)
00MNH95 ××× 140	→ RF73B2E ××× × ΩJ	(±5% 1/4W)

＊Resistance value
Resistance value (0.1 – 10kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No. (MJI)	Type No. (MEC)	Description
00MNF05 × ×× 140	→ ERD 2FCJ ×××	(±5% 1/4W)
00MRF05 × ×× 140		
00MNF02 × ×× 140	→ ERD 2FCG ×××	(±2% 1/4W)
00MRF02 ××× 140		

＊Resistance value
＊Resistance value

Examples ;
＊Resistance value

0.1Ω.....001	10Ω.....100	1kΩ.....102	100kΩ.....104
0.5Ω.....005	18Ω.....180	2.7kΩ.....272	680kΩ.....684
1Ω.....010	100Ω.....101	10kΩ.....103	1MΩ.....105
6.8Ω.....068	390Ω.....391	22kΩ.....223	4.7MΩ.....475

ABBREVIATION AND MARKS

ANT.	: ANTENNA	BATT.	: BATTERY
CAP.	: CAPACITOR	CER.	: CERAMIC
CONN.	: CONNECTING	DIG.	: DIGITAL
HP	: HEADPHONE	MIC.	: MICROPHONE
μ PRO	: MICROPROCESSOR	REC.	: RECORDING
RES.	: RESISTOR	SPK	: SPEAKER
SW	: SWITCH	TRANSF.	: TRANSFORMER
TRIM.	: TRIMMING	TRS.	: TRAMSISTOR
VAR.	: VARIABLE	X'TAL	: CRYSTAL

NOTE ON FUSE :

Regarding to all parts of parts code **00MFS20xxx2xx,** replace only with Wickmann Werke GmbH, Type 372 non glass type fuse.

NOTE ON SAFETY :

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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部品を使用して下さい。

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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.

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 characteristics

- **Channels:** 2 channels
- **Frequency response:** 2 Hz to 20 kHz
- **Dynamic range:** 100 dB
- **Signal-to-noise ratio:** 110 dB
- **Channel separation:** 110 dB (1 kHz)
- **Harmonic distortion:** 0.002% (1 kHz)
- **Wow & flutter:** Precision of quartz
- **Audio output:** 2.25 V rms, stereo
- **Headphone output:** 18 mW/32 ohms (variable maximum)
- **Digital output**
  Coaxial output (pin jack): 0.5 Vp-p, 75 ohms
  Optical output (square optical connector): –19 dBm

❑ Optical readout system

- **Laser:** AlGaAs semiconductor
- **Wavelength:** 780 nm

❑ Signal system

- **Sampling frequency:** 44.1 kHz
- **Quantization:** 16-bit linear PCM

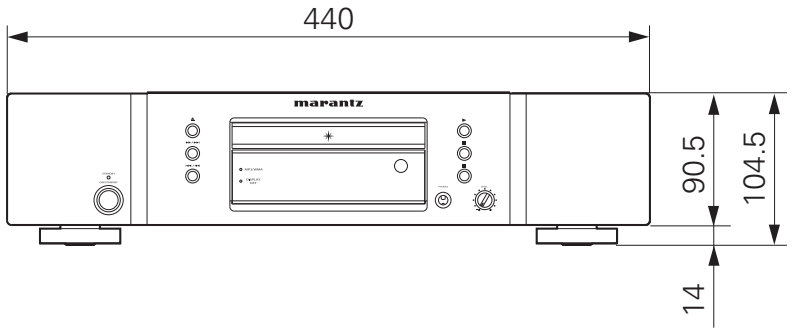
❑ Power supply

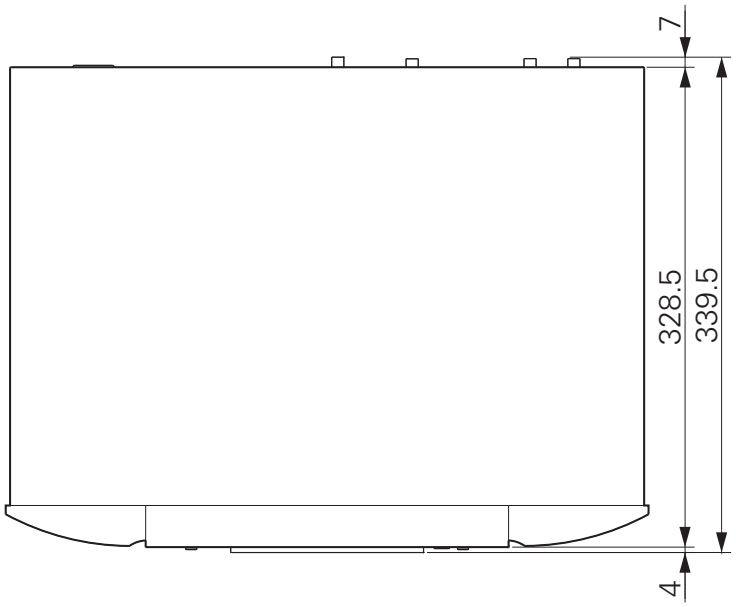
- **N version:** AC 230 V 50 Hz
- **U version:** AC 120 V 60 Hz
- **K version:** AC 220 V 50 Hz
- **Power consumption:** 14 W
- **Standby power consumption:** 0.4 W

❑ Cabinet, etc.

- **Accessories**
  Remote controller: 1
  AAA batteries: 2
  AC power cord: 1
  Audio connecting cord: 1
  Remote control connecting cord: 1
- **Maximum outer dimensions**
  Width: 440mm
  Height: 104.5mm
  Depth: 339.5mm
- **Weight:** 5.1kg
- **Allowable operating temperature:** +5 to +35°C
- **Allowable operating humidity:** 5 to 90% (no condensation)

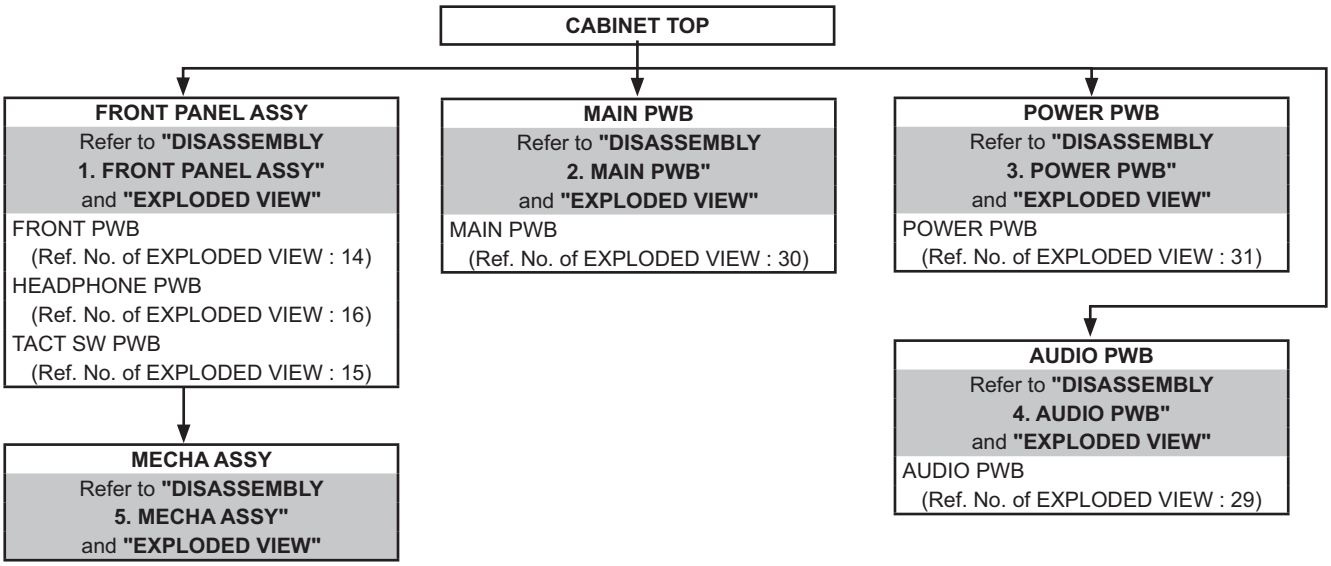
DIMENSION





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.

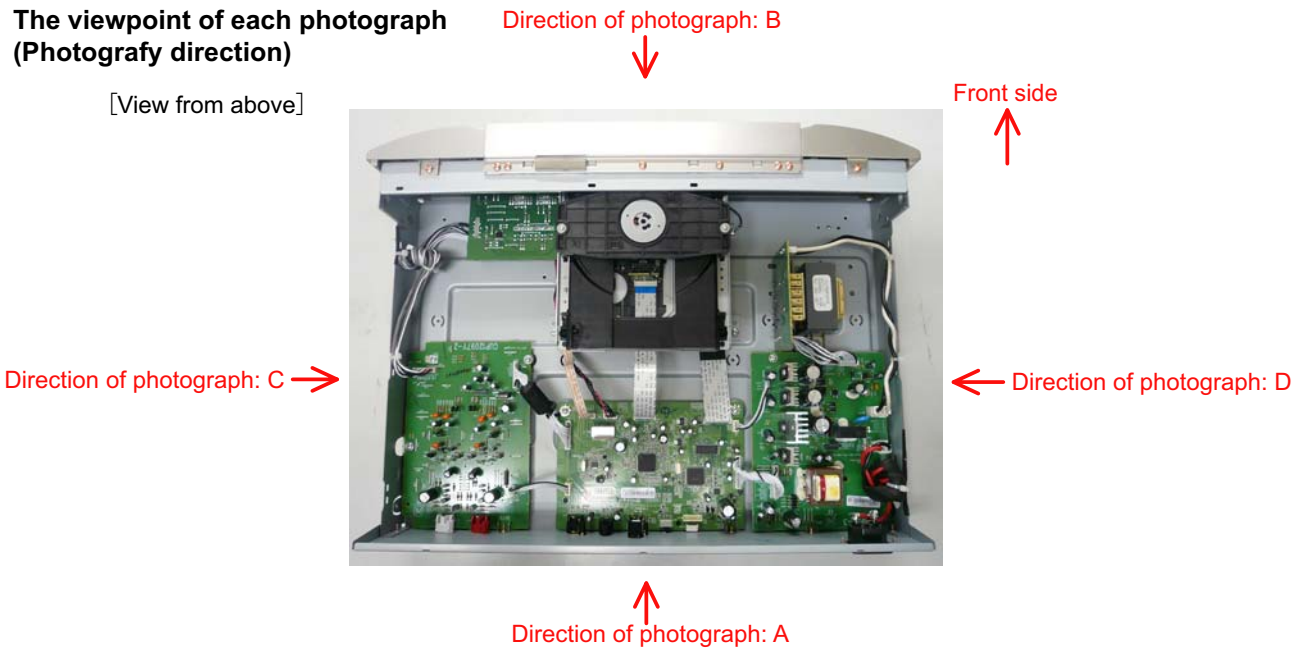


About the photos used for descriptions in the DISASSEMBLY" section.

- The direction from which the photographs used herein were photographed is indicated at "Direction of photograph: ***" at the left of the respective photographs.
- Refer to the table below for a description of the direction in which the photos were taken.
- Photographs for which no direction is indicated were taken from above the product.
- The photograph is CD5004 K1SG.

The viewpoint of each photograph (Photografy direction)

[View from above]



1. FRONT PANEL ASSY

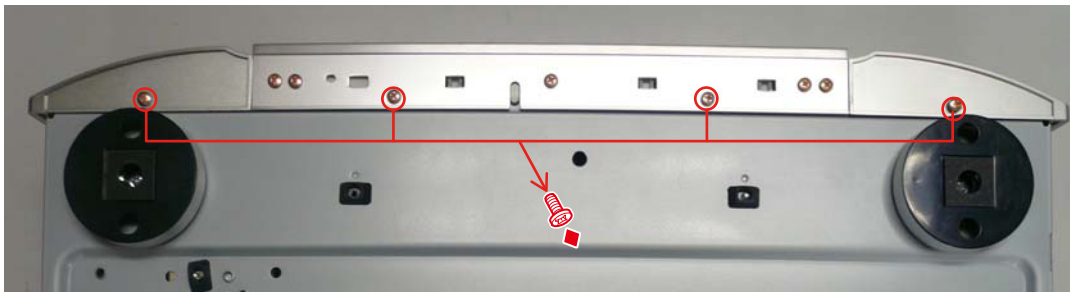
Proceeding : TOP COVER → FRONT PANEL ASSY

(1) Remove the Loadr Panel.

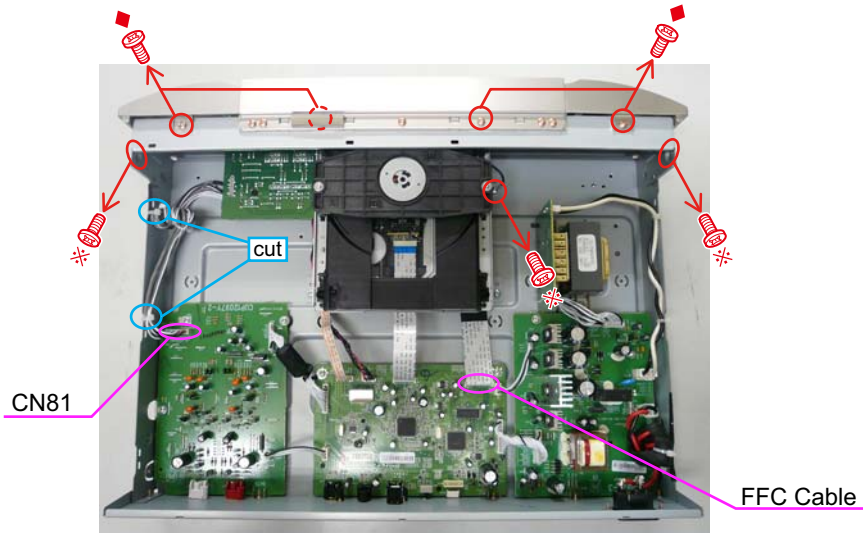
Direction of photograph: B

(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.

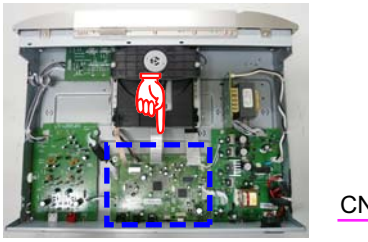
2. MAIN PWB

Proceeding : TOP COVER → MAIN PWB

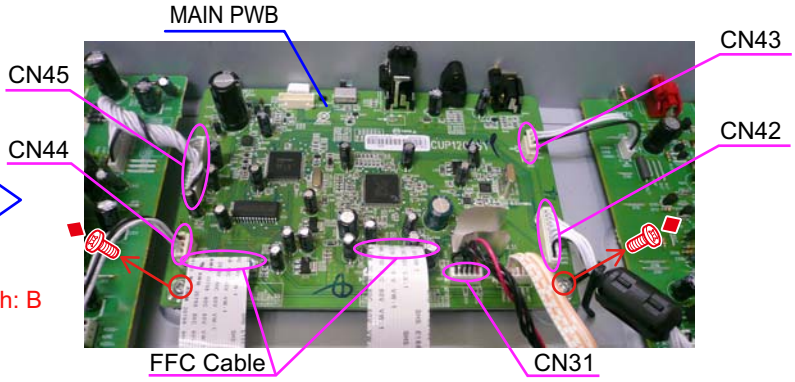
(1) Remove the screws.

Direction of photograph: A

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



Direction of photograph: B



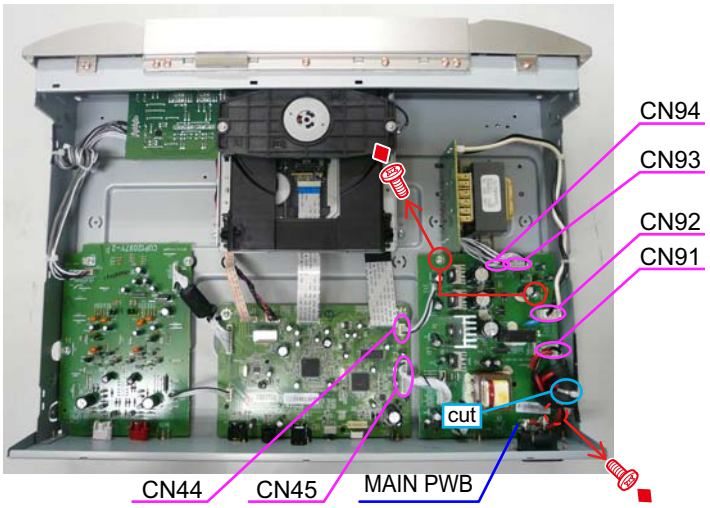
3. POWER PWB

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.

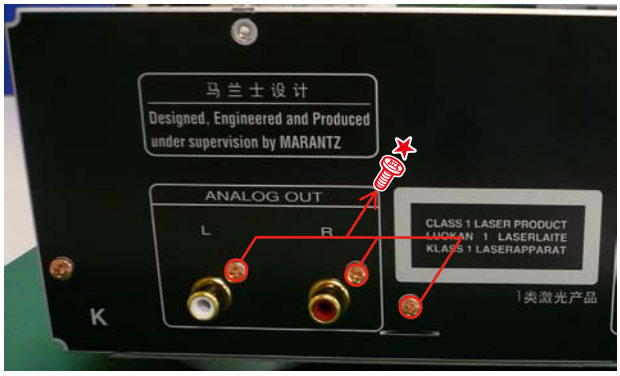


4. AUDIO PWB

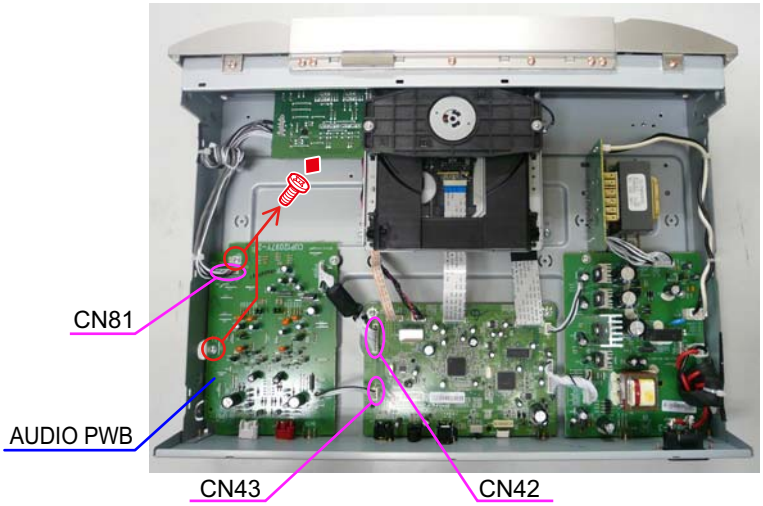
Proceeding : TOP COVER → AUDIO PWB

(1) Remove the screws.

Direction of photograph: A



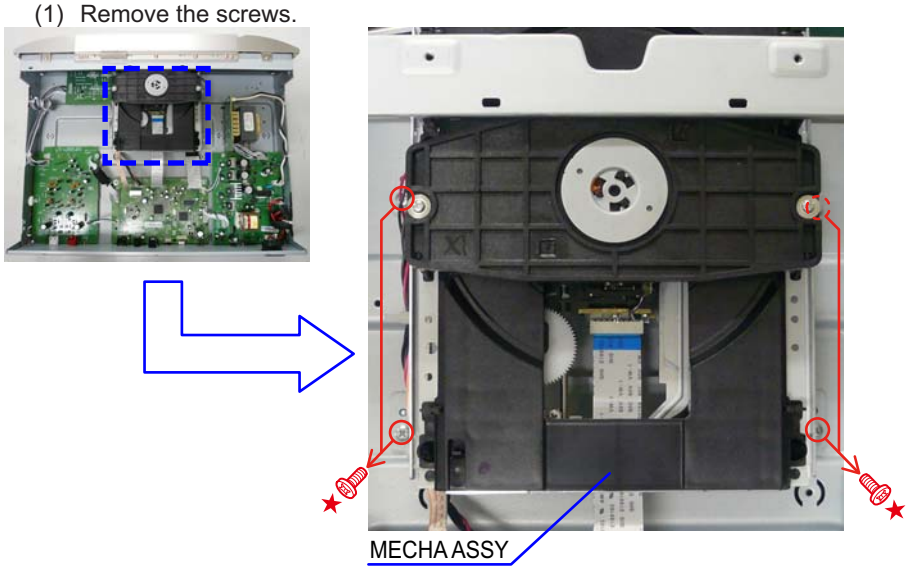
(2) Remove the screws. Disconnect the connector wires.



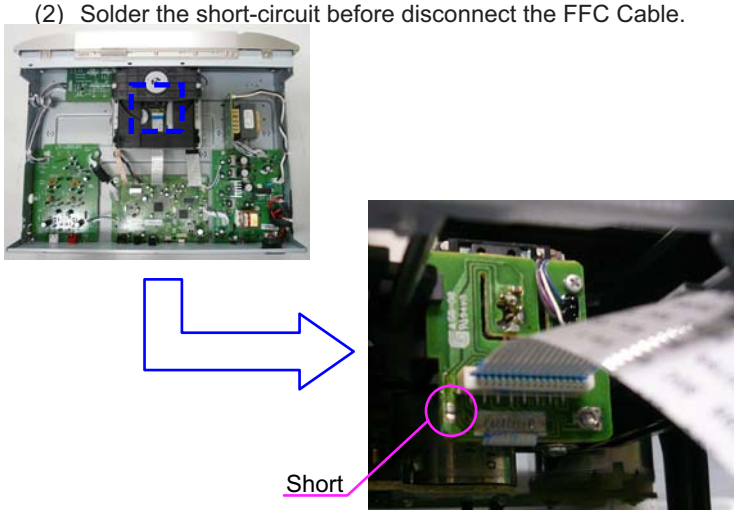
5. MECHA ASSY

Proceeding : TOP COVER → FRONT PANEL ASSY → MECHA ASSY

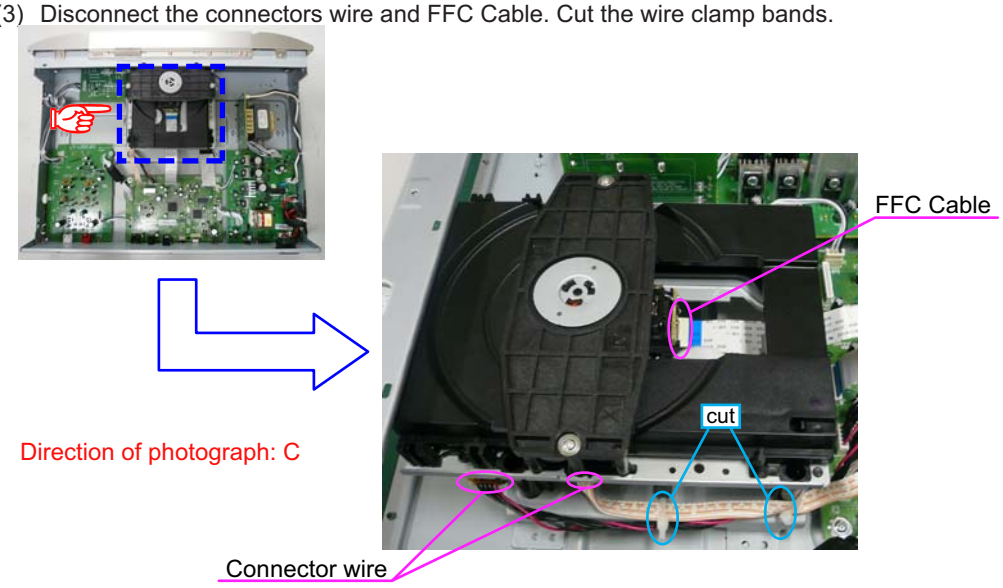
(1) Remove the screws.



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



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

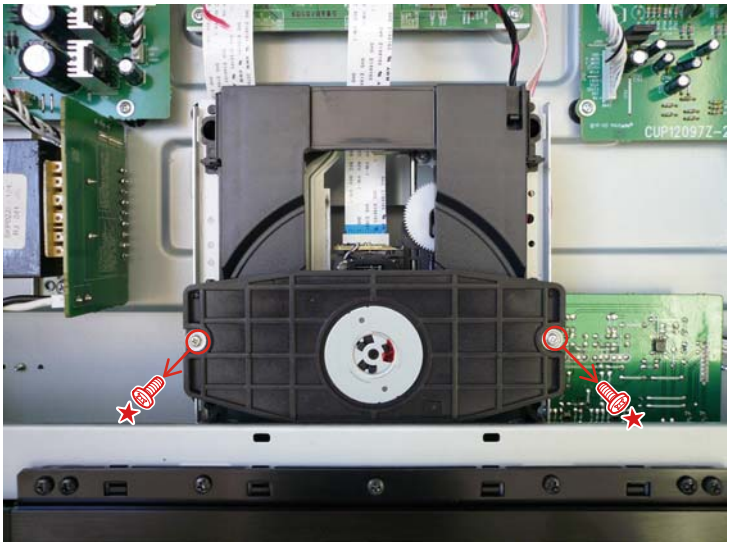


Direction of photograph: C

REMOVING DISCS

(1) Remove the Top Cover.

(2) Remove the screws.



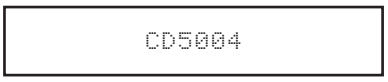
(3) Remove the disc clamper.

SERVICE MODE AND TAKING THE DISC OUT OF EMERGENCY

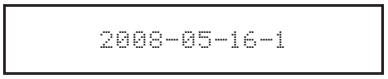
[A] SERVICE MODE

(1) Insert mains cable plug in the outlet. (The Unit is standby mode.)

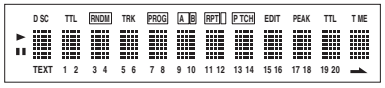
(2) Press the <ON / STANDBY> button While pressing ►►/►►I and ■ Button.
Model name is displayed.



(3) Press ►►/►►I button.
Version of microprocessor is displayed.

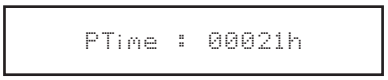


(4) Press ►►/►►I button.
Light up all FL segment.



(5) Press ►►/►►I button.
Serial number is displayed.

(6) Press ►►/►►I button.
Playback time is displayed.



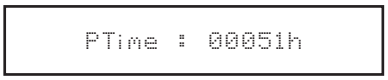
To return to a previous display at anytime, press I◄◄/◄◄ button.

Press the <ON / STANDBY> button to quit Service Mode.

HOW TO THE RESET OF PLAYBACK TIME

When replacing CD MECHANISM (TRAVERSE), please reset Playback time (total) in the following procedure.

(1) Procedure 6 of SERVICE MODE, Playback time (total) is displayed.



The display is a time unit. (Example: "10050 hours, 0 minute, 1 second " is 10051h)
The maximum Playback time is 65536h.

(2) Press ■ Button 3 seconds and more.
PTime Clear? is displayed.

(3) Press ► Button.
Done is displayed after PTime:00000h is displayed.
Play back time (total) was reset.

Press the <ON / STANDBY> button to quit Service Mode.

HOW TO INITIALIZE THE CD PLYAER

Initialize the CD player when µcom, peripheral parts of µcom, or MAIN P.W.B. unit has been replaced in servicing.

※ All user setting will be lost and its factory setting will be restored when this initialization is made. Be sure to memorize your setting for restoring again after the initialization.

(1) Insert mains cable plug in the outlet. (The Unit is standby mode.)

(2) Press ■ and the <ON / STANDBY> Buttons simultaneously 4 seconds and more.
EEPROM Clear is displayed after No Disc is displayed.
The microprocessor initialized to factory setting.

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	IC21	T5CD2(F AAD JZ) CD5004	**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.

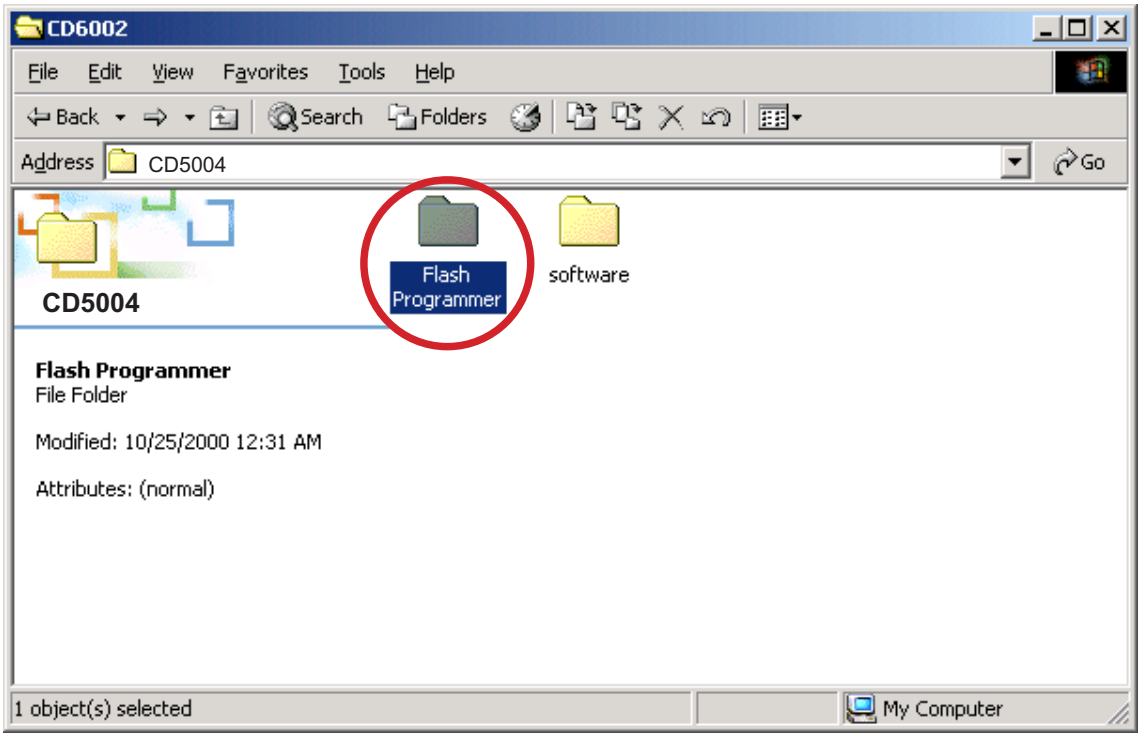
Necessary Equipment

- Windows PC (OS: Windows 2000 or Windows XP) with Serial port.
- RS-232C Dsub-9 pin cable (female to female/straight type).
- Connection JIG (90M-SR4500JIG)
- Update tool (FlashProg.exe, other files and folders in Flash Programmer folder)
- Update data (CD5004_yymmdd_x.s2h4)

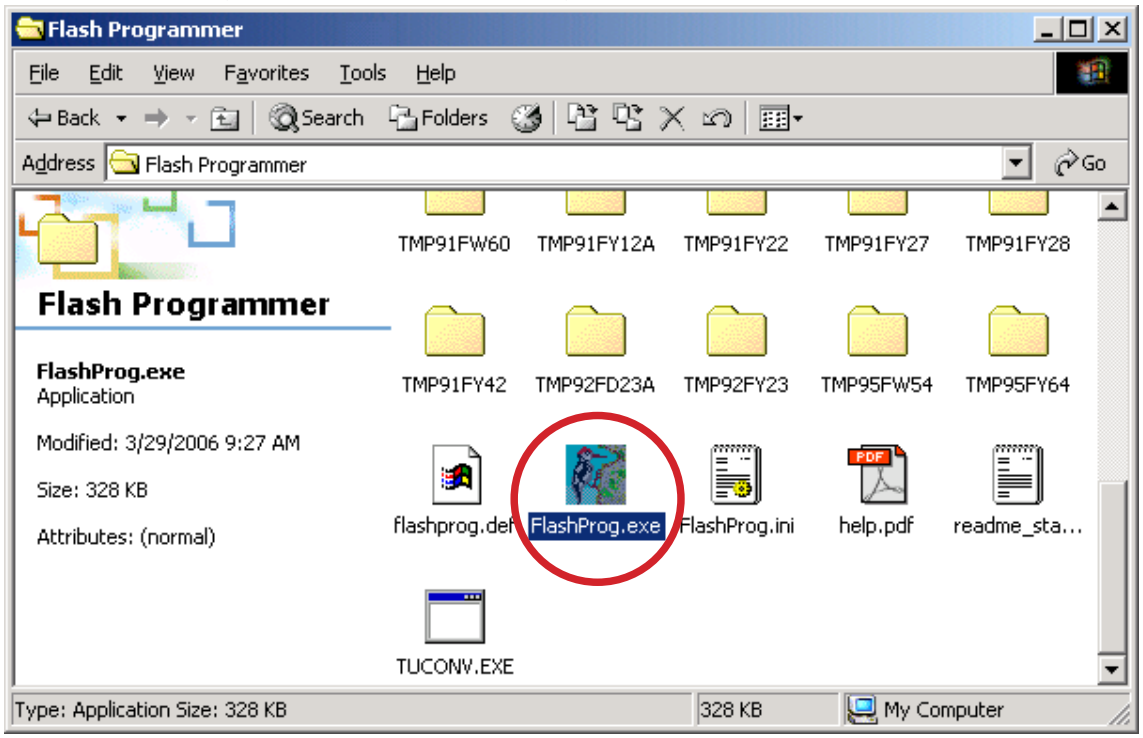
1. Update for software

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

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

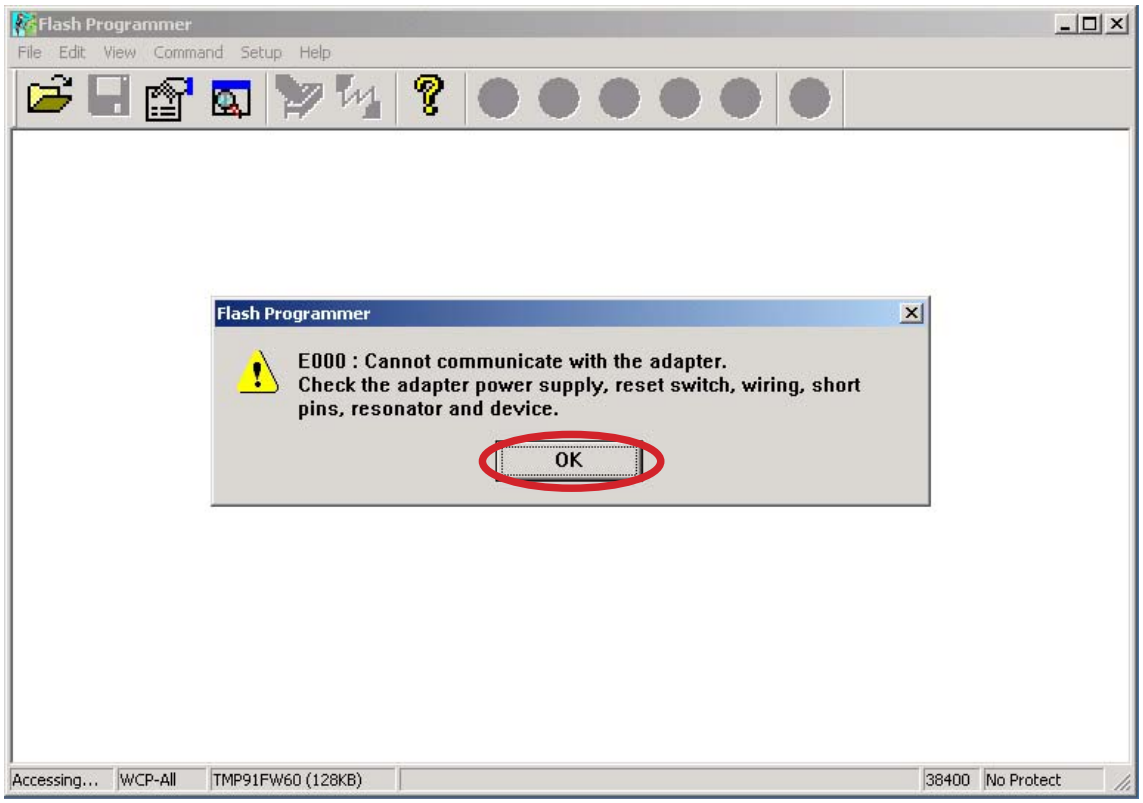


(3) Double click FlashProg.exe, and launch the Flash Programmer.



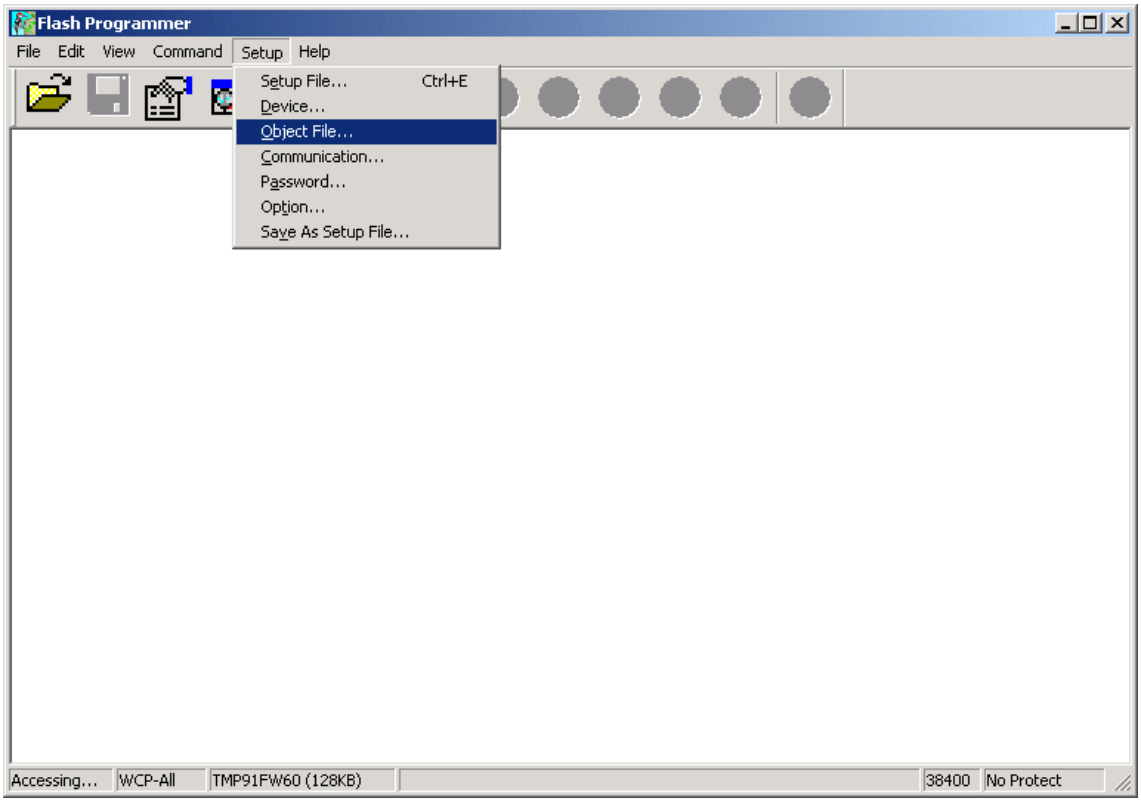
NOTE : When a Flash Programmer does not launch even if double-clicked FlashProg.exe, please refer to "2. When a Flash Programmer did not launch".

(4) Click OK.

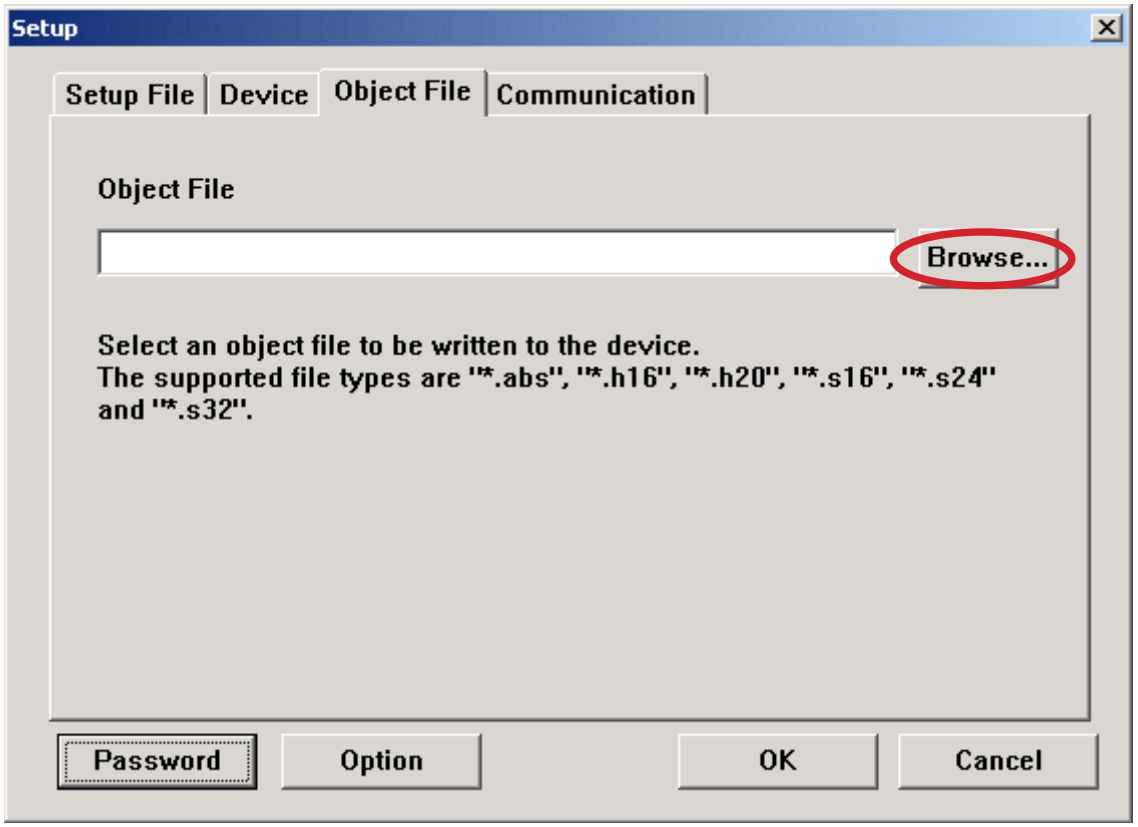


NOTE : Since Flash Programmer communicates with the unit automatically, the following dialog box appears when it fails in communication.

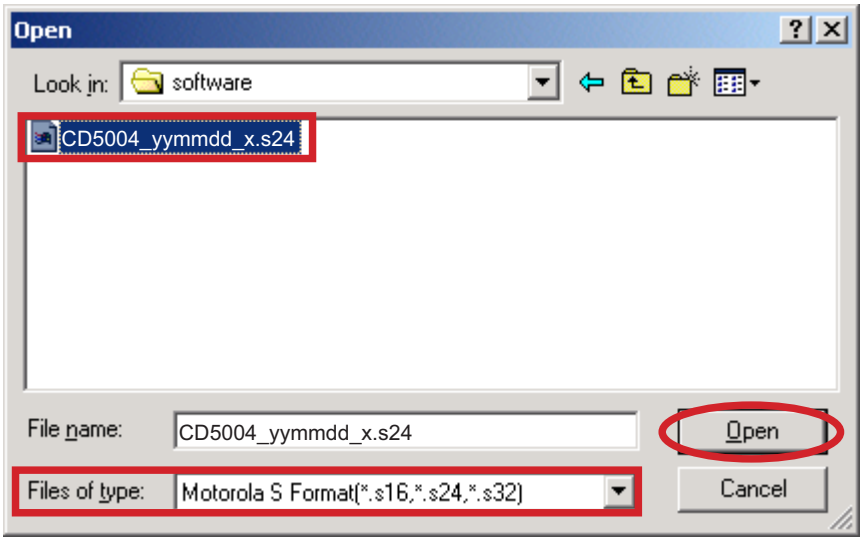
(5) Click the Setup in the menu bar and select the Object file.



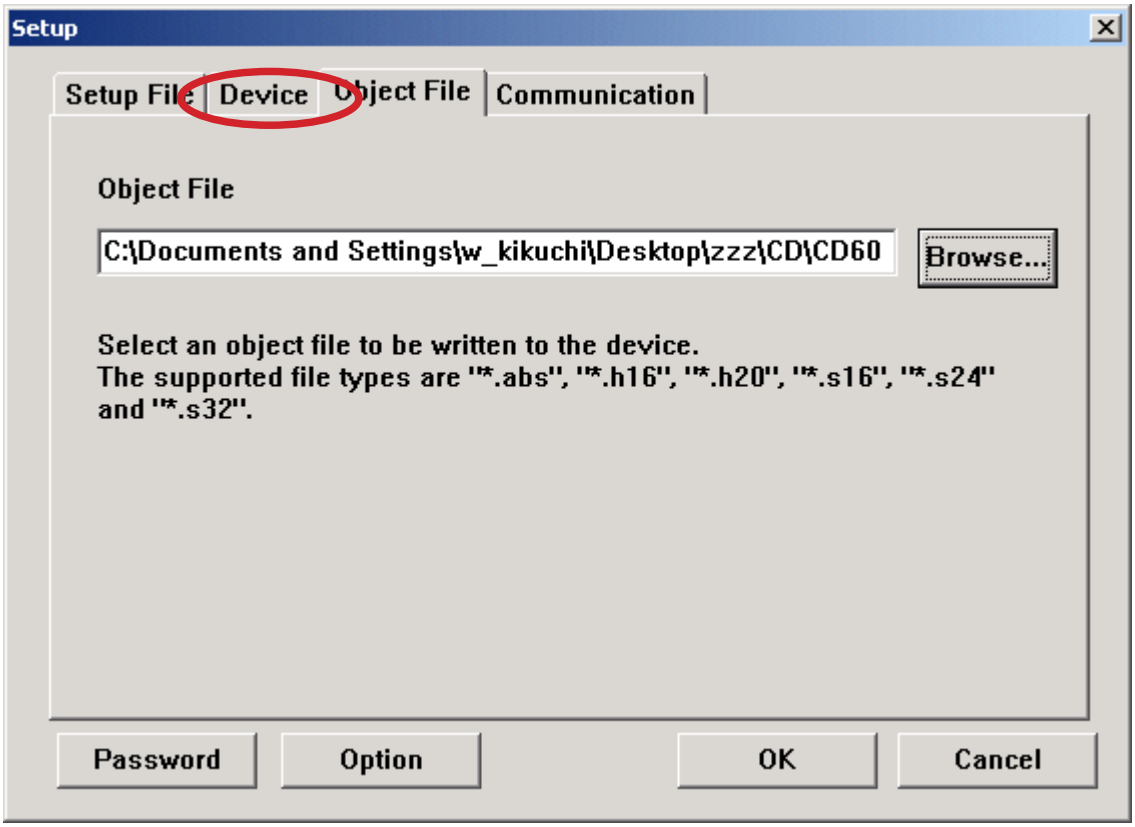
(6) Click Browse.



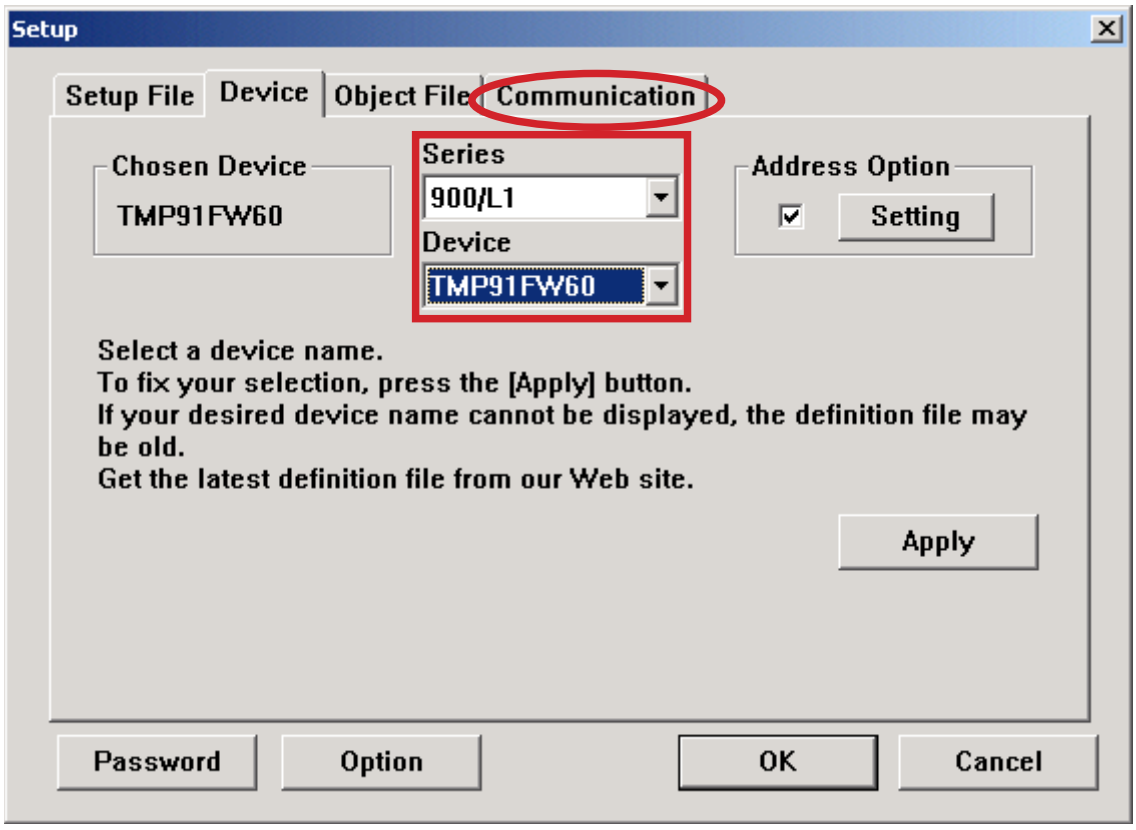
(7) Choose the Motorola S Format(*.s16,*.s24,*.s32) in Files of type.
Choose the CD5004_yymmdd_x.s24, and click Open.
NOTE : The yy is two digits of year. The mm is month. The dd is date. The x is release number.



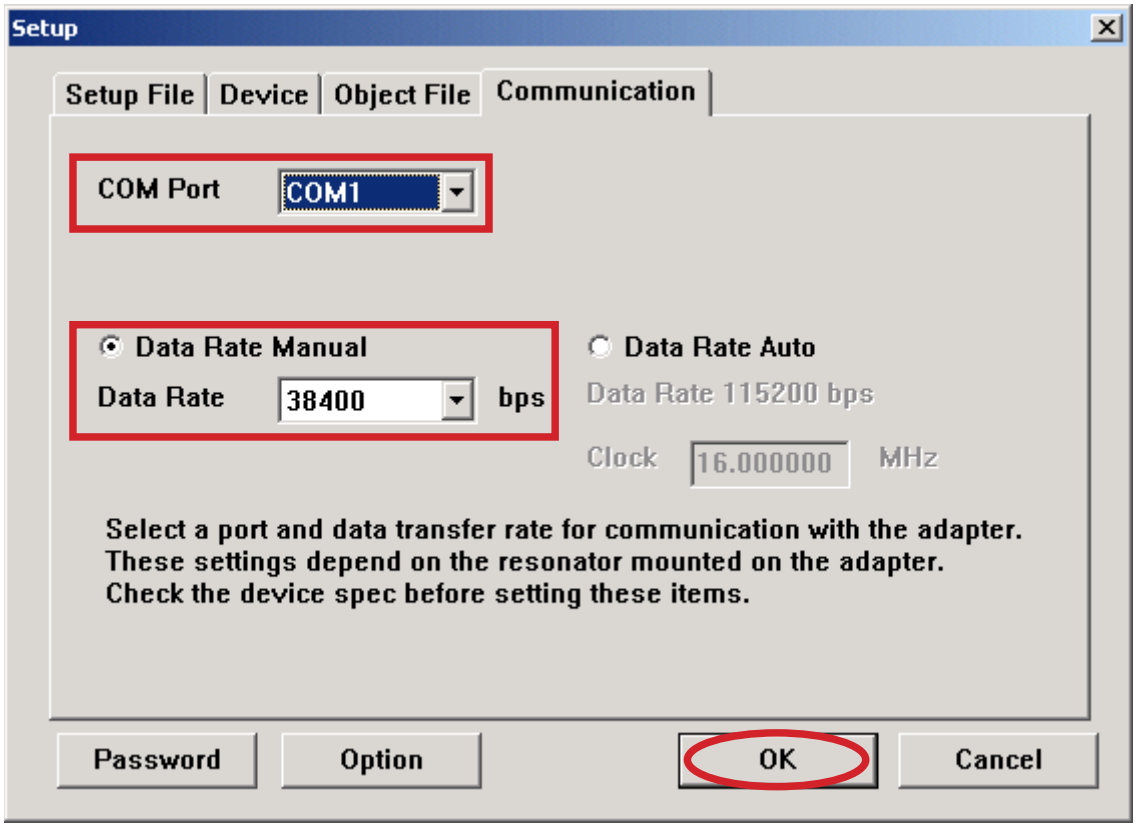
(8) Click Device tab.



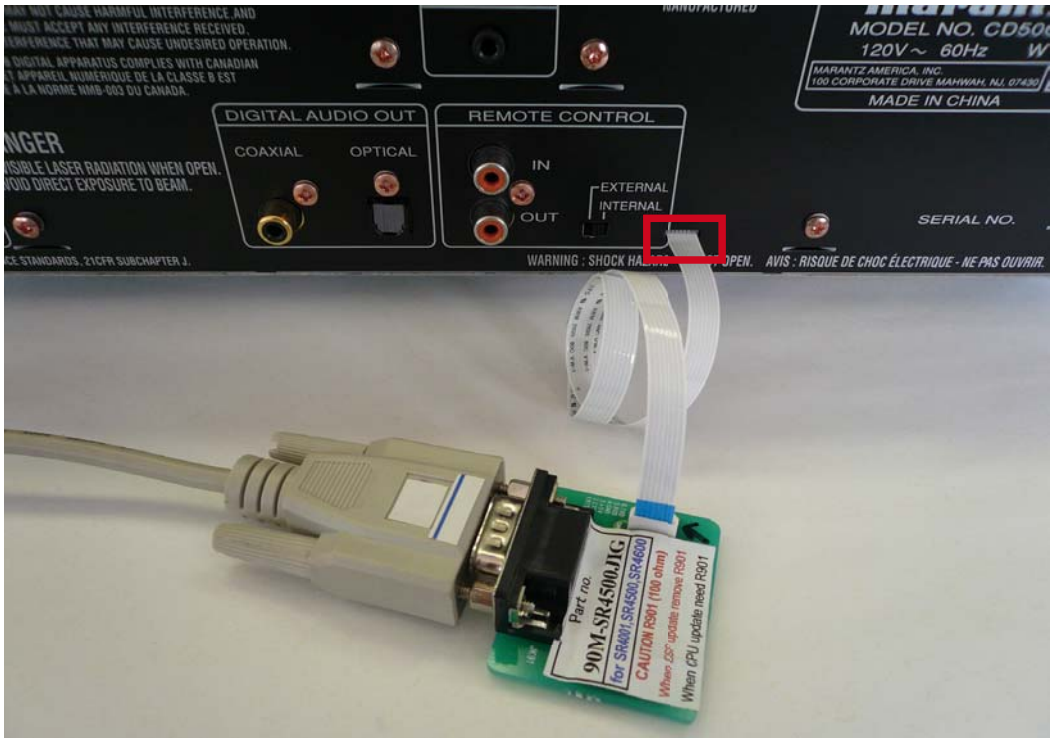
(9) Choose the TMP91FW60 in the Device, and choose the 900/L1 in the Series.
And click Communication tab.



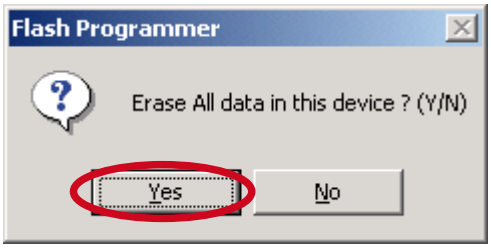
(10) Choose the Serial port number in the COM Port.
Check the Data Rate Manual, and choose the 38400 in the Data Rare.
And Click OK.



(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.

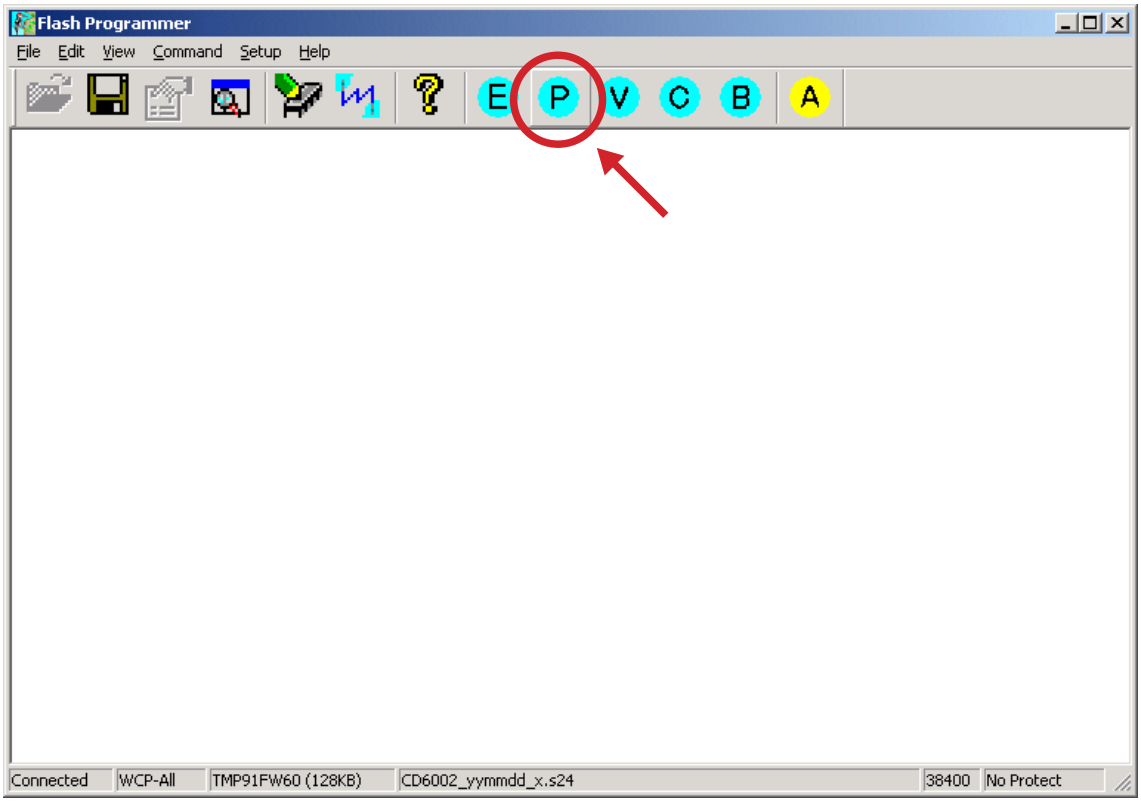


(14) Connect the mains cord into the unit.
(15) If the connection with the Flash Programmer is successfully made, a dialogue box saying "Erase All data in this devise? (Y/N)" appears automatically. If the connection fails, error message will appear. (Ex.: E000)
Click Yes.

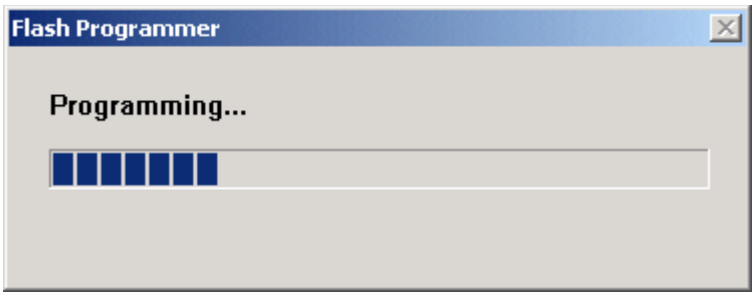


(16) Click OK.

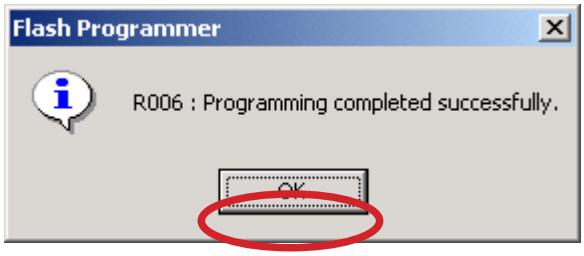
(17) Click P (Program) to start update.



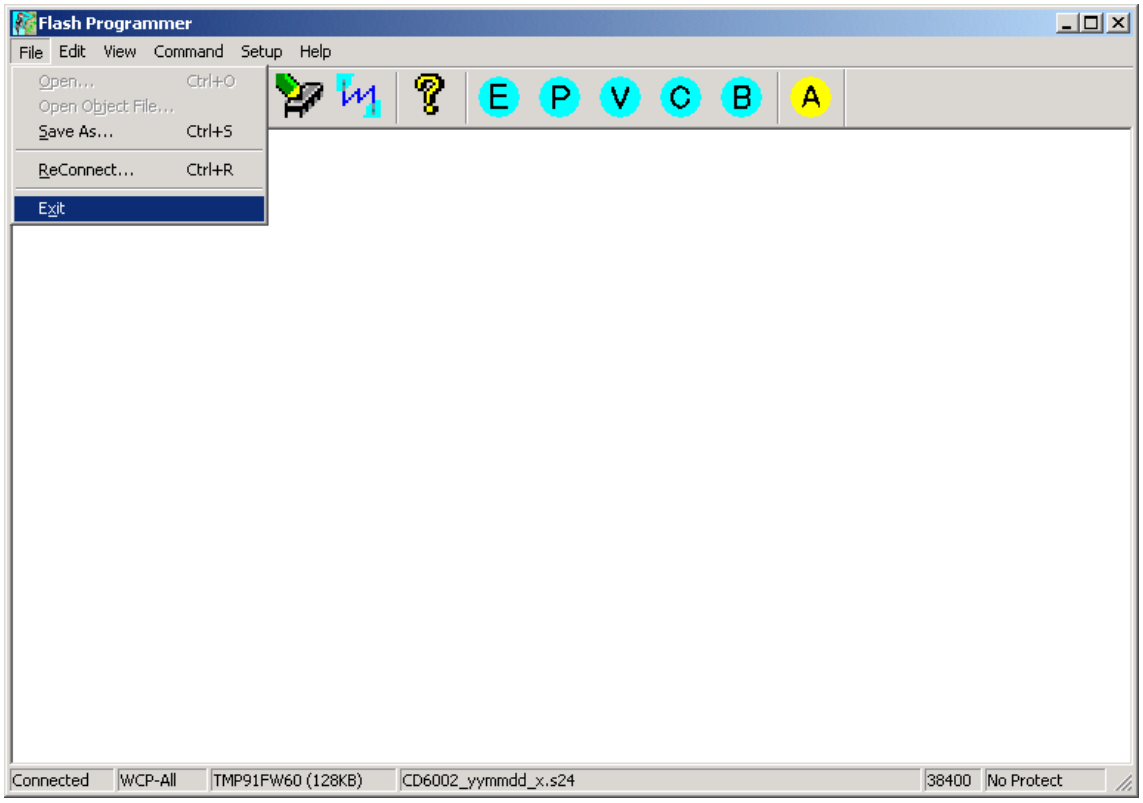
(18) Software is written into the microprocessor.
The writing of software takes about 50 seconds.



(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.

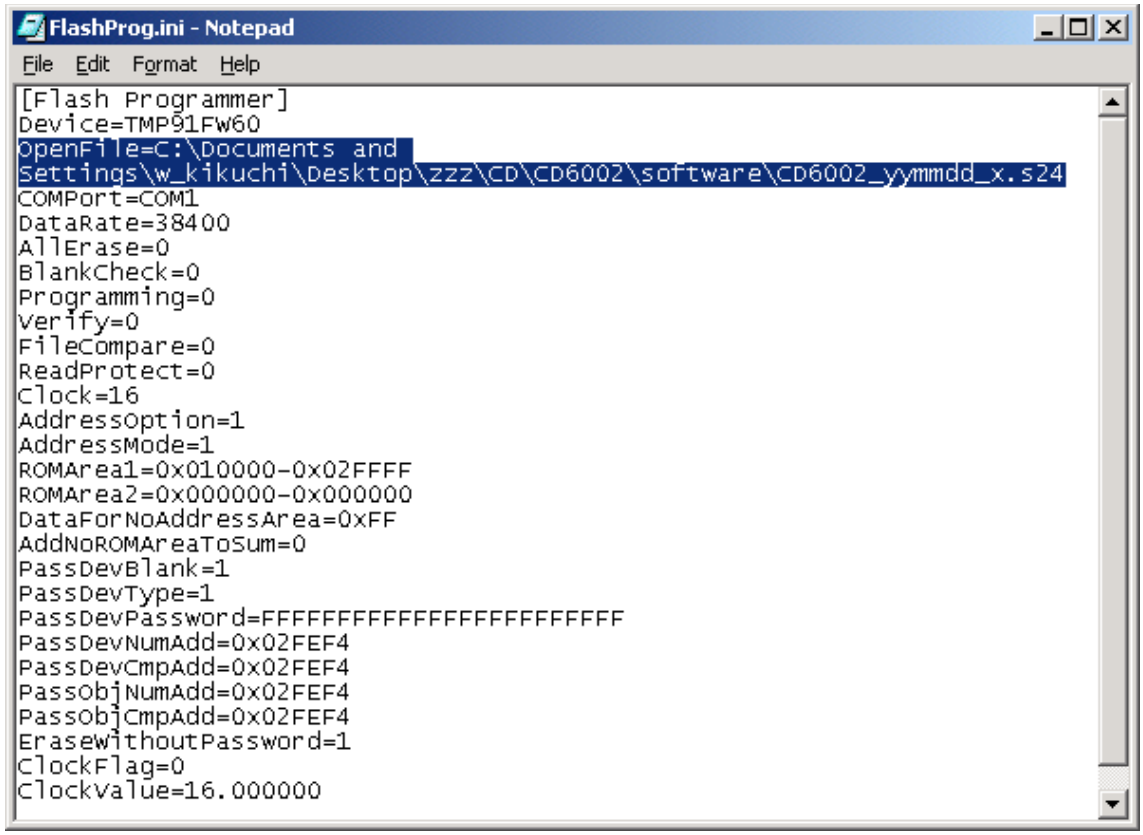


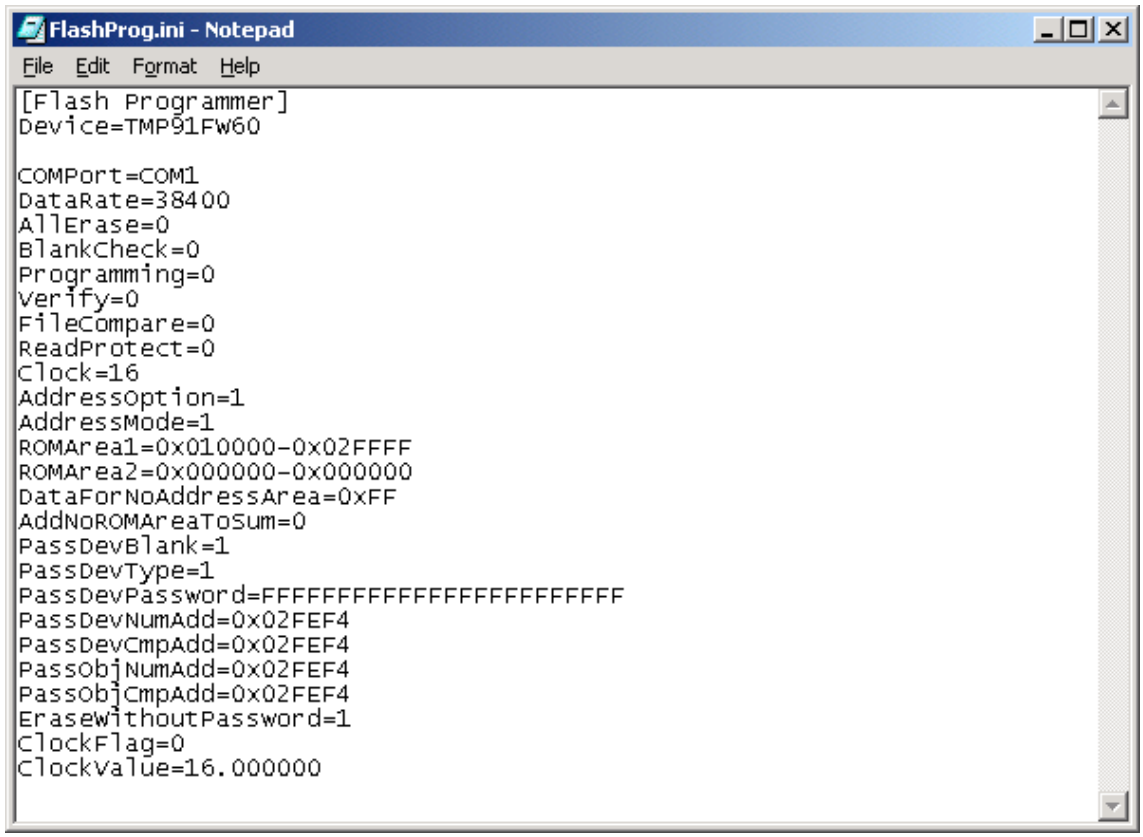
(21) Disconnect mains cord from the unit, and then disconnect FFC of connection JIG from the unit.

2. When a Flash Programmer did not launch

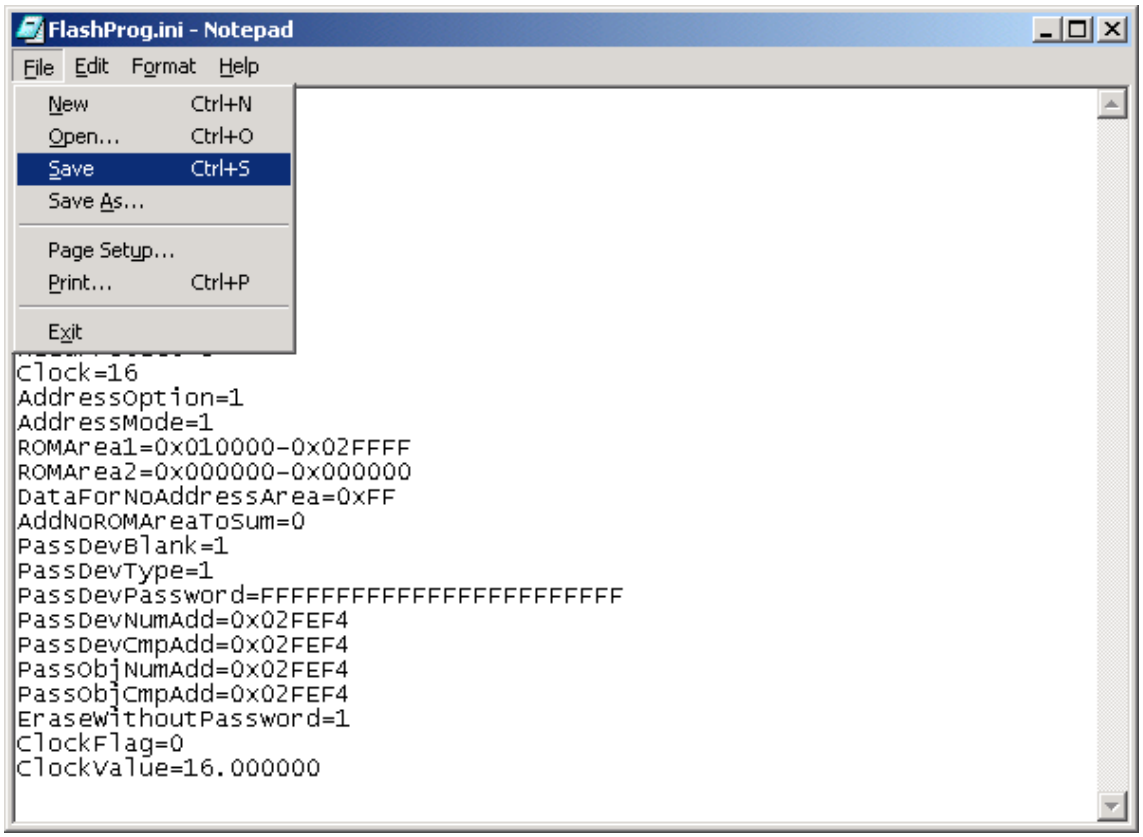
(1) Open the FlashProg.ini in the Flash Programmer folder by text editor. (EX.: Notepad, etc)

(2) Delete the text "OpenFile=C:\...(your PC setting)...\???.s24".

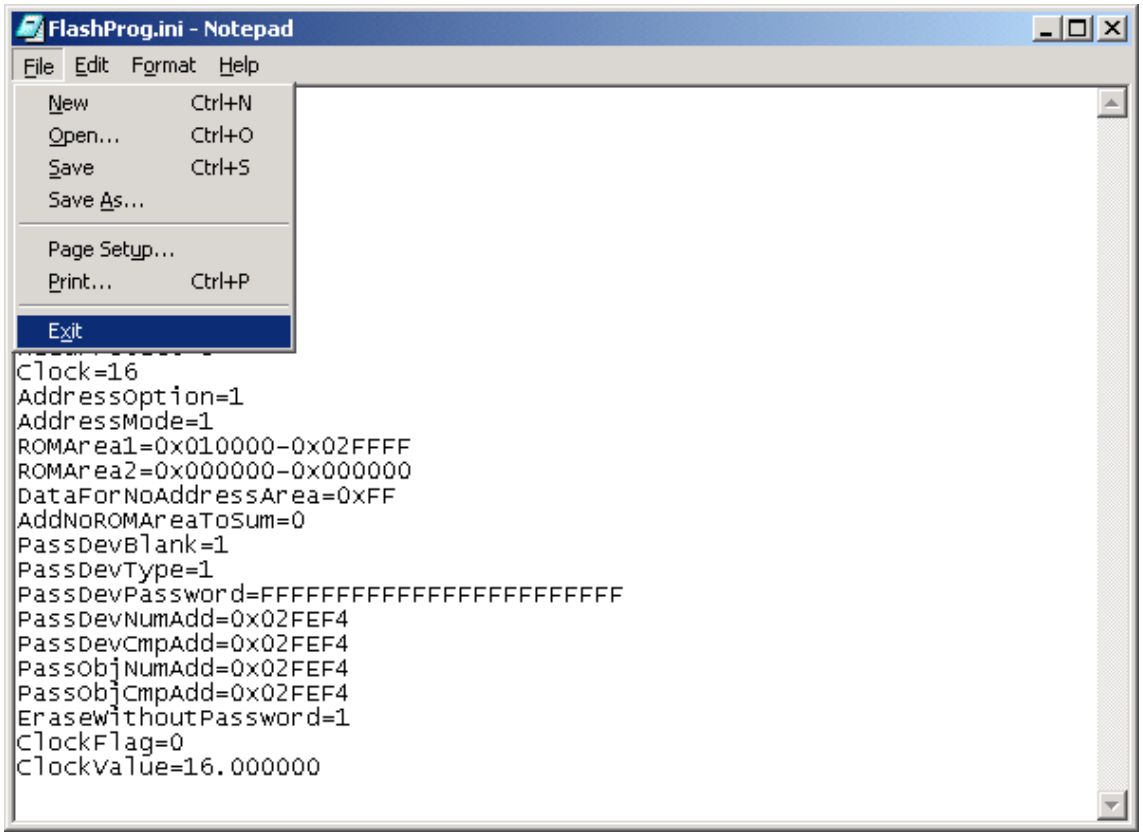




(3) Save the FlashProg.ini.



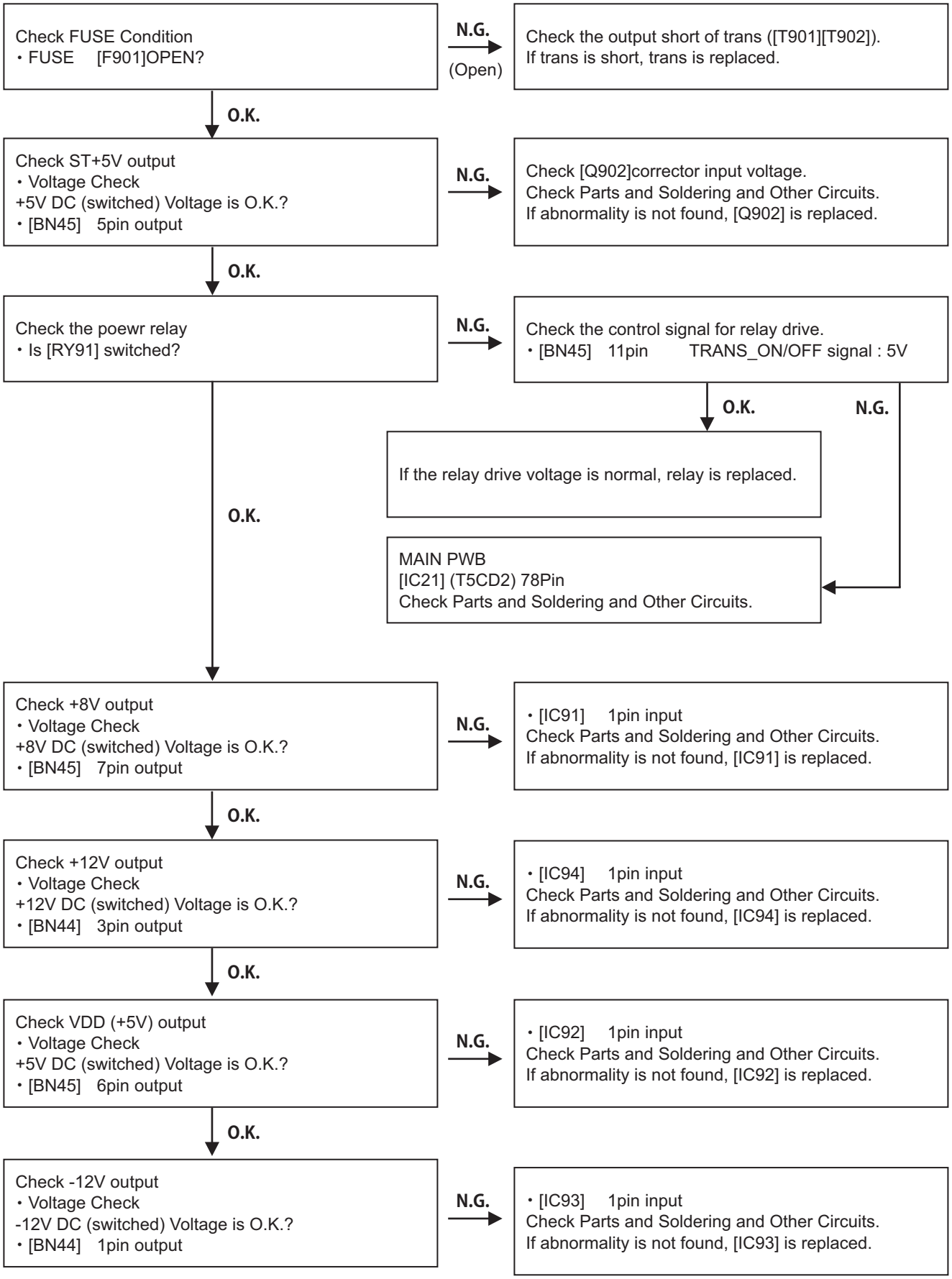
(4) Close the text editor.



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

TROUBLE SHOOTING

1. POWER PWB



2. FRONT PWB

2.1. FL TUBE dosen't light

Check the power supply voltage.
Check the VP (+36V)output.
+36V DC (switched) Voltage is O.K.?
・[CN21]　19pin

N.G. → POWER PWB
・[Q901] input
Check Parts and Soldering and Other Circuits.
If abnormality is not found, [Q901] is replaced.

O.K. ↓

Check the power supply voltage.
Check the VDD(+5V) output.
+5V DC (switched) Voltage is O.K.?
・[CN21]　18pin

N.G. → POWER PWB
・[IC92]　1pin input
Check Parts and Soldering and Other Circuits.
If abnormality is not found, [IC92] is replaced.

O.K. ↓

Check the filament voltage.
Check the FIP1 ～ FIP2(3.3V) output.
3.3V DC (switched) Voltage is O.K.?
・[FL51]　1pin,42pin

N.G. → Check the parts voltage.
TRANSF PWB
・[T901]　1pin-2pin
If abnormality is found, [T901] is replaced.

O.K. ↓

Check the control waveform.
VFD-DI, VFD-CLK, VFD-CE, VFD-POWER
・[CN21]　9pin,10pin,11pin,12pin

N.G. → Check parts and soldering.
MAIN PWB
・[IC21]　18pin,19pin,20pin,68pin
If abnormality is not found, [FL51] is replaced.

2.2. Remotecontrol is not accepted.

Check the power supply voltage.
Check the FST(+5V) output.
・[CN21]　pin17

N.G. → Check the [Q902] collector input.
Check Parts and Soldering and Other Circuits.
If abnormality is not found, [Q902] is replaced.

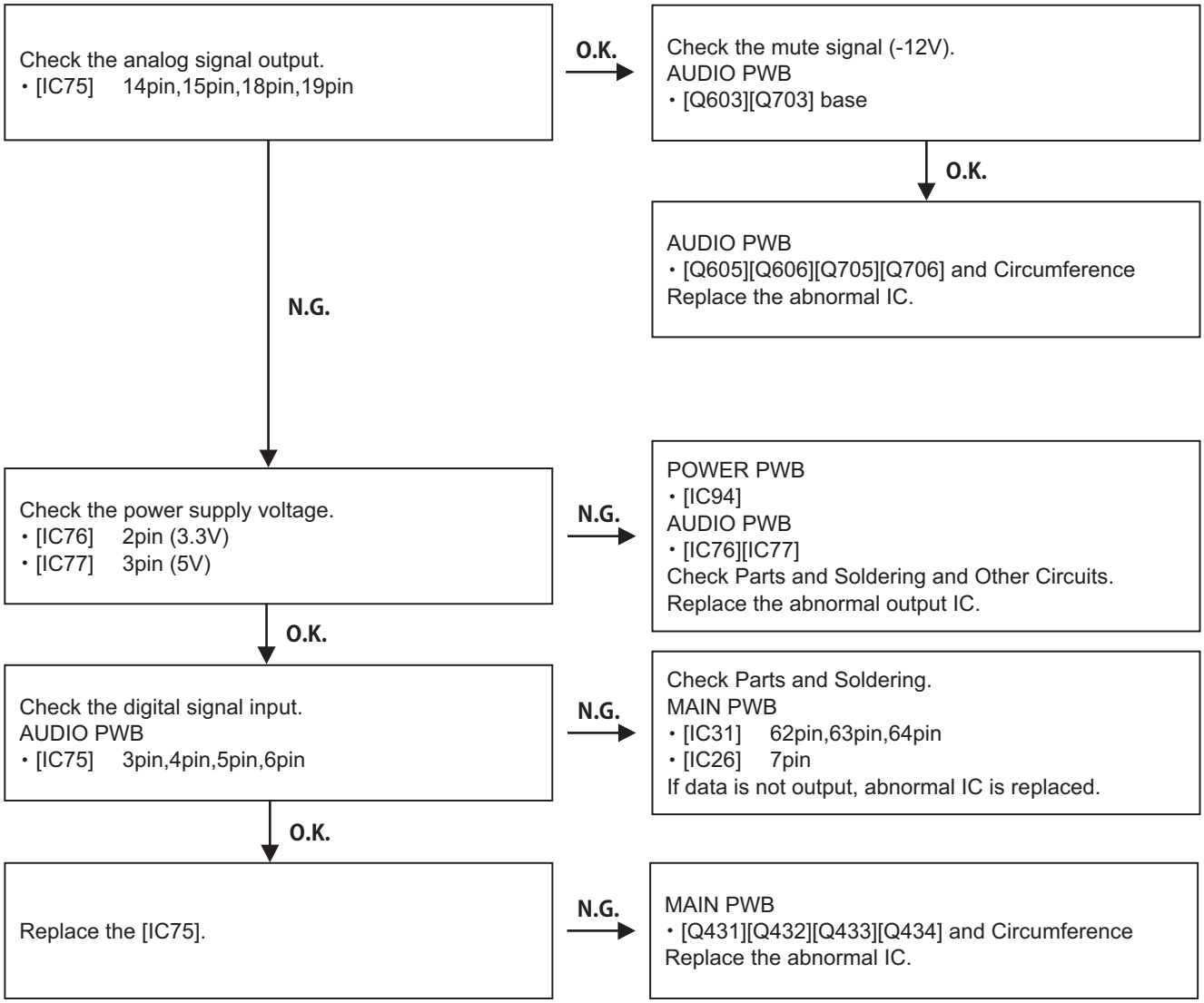
O.K. ↓

Check the output waveform.
When the button of remote control is pushed, is the pulse output?
・[CN21]　15pin

N.G. → Replace the [RS51].

3. AUDIO PWB

3.1 No Audio output

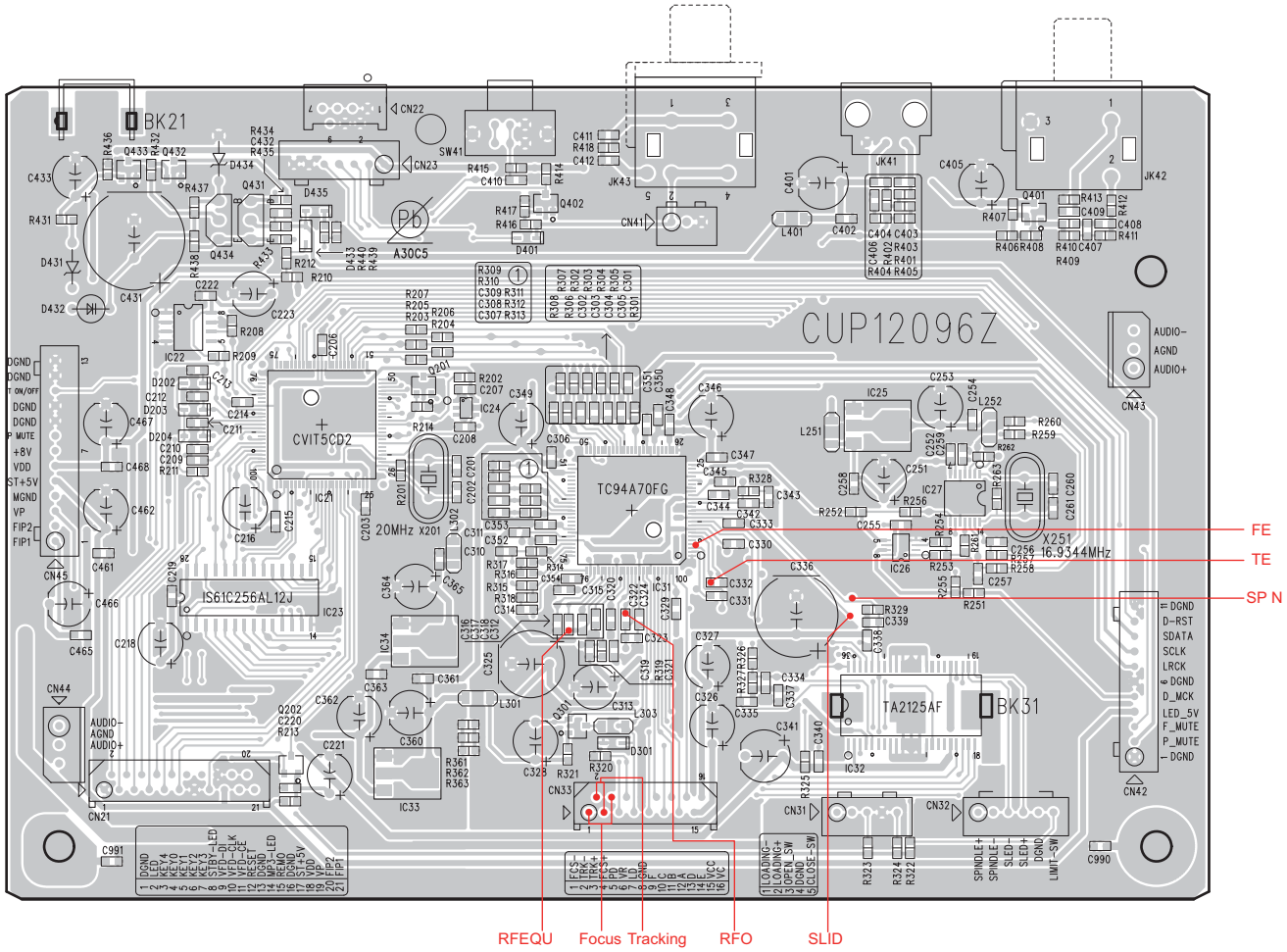


MEASURING METHOD AND WAVEFORMS

Measuring Disc: 4822 397 30184
TCD-784

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

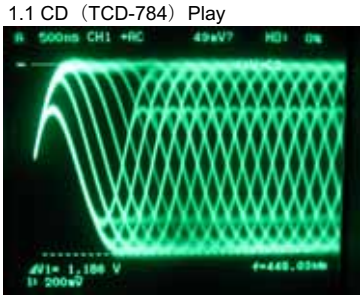
1. CUP12096Z MCU UNIT: TEST POINT



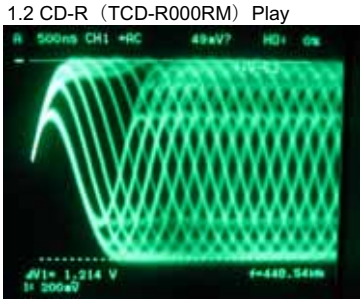
2. WAVEFORMS

1. DISC PLAY RF WAVEFORM（EYE-PATTERN）

1.1 CD（TCD-784）Play



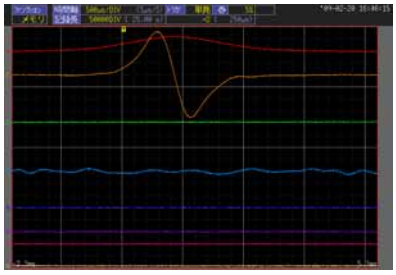
1.2 CD-R（TCD-R000RM）Play



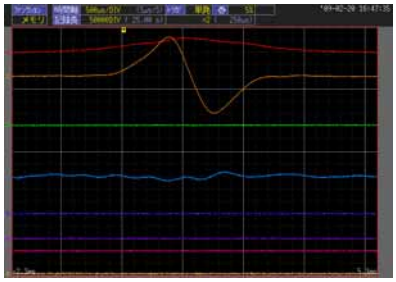
1.3 CD-RW（TCD-W000RM）Play

2. DISC DETECTION

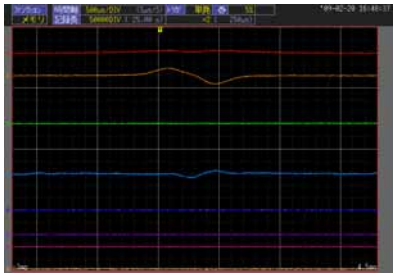
2.1 CD（TCD-784）DISC DETECTION



2.2 CD-R（TCD-R000RM）DISC DETECT

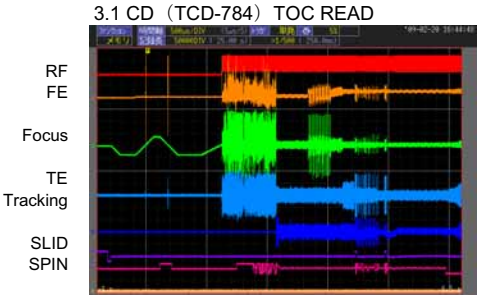


2.3 CD-RW（TCD-W000RM）DISC DETECTION

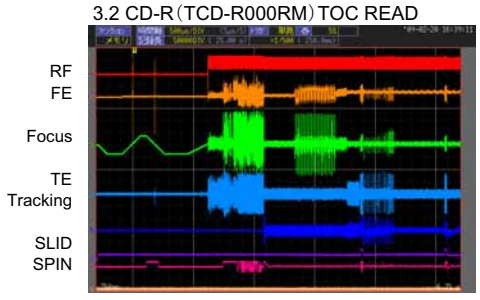


3. TOC READ

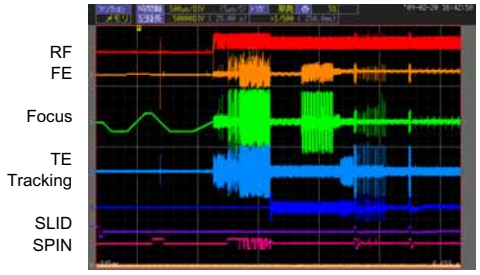
3.1 CD（TCD-784）TOC READ



3.2 CD-R（TCD-R000RM）TOC READ

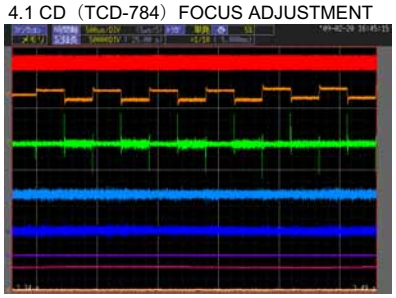


3.3 CD-RW（TCD-W000RM）TOC READ

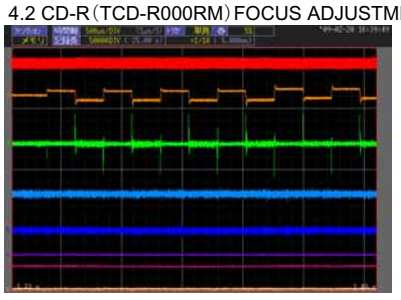


4. FOCUS ADJUSTMENT

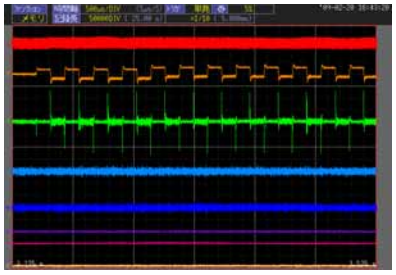
4.1 CD（TCD-784）FOCUS ADJUSTMENT



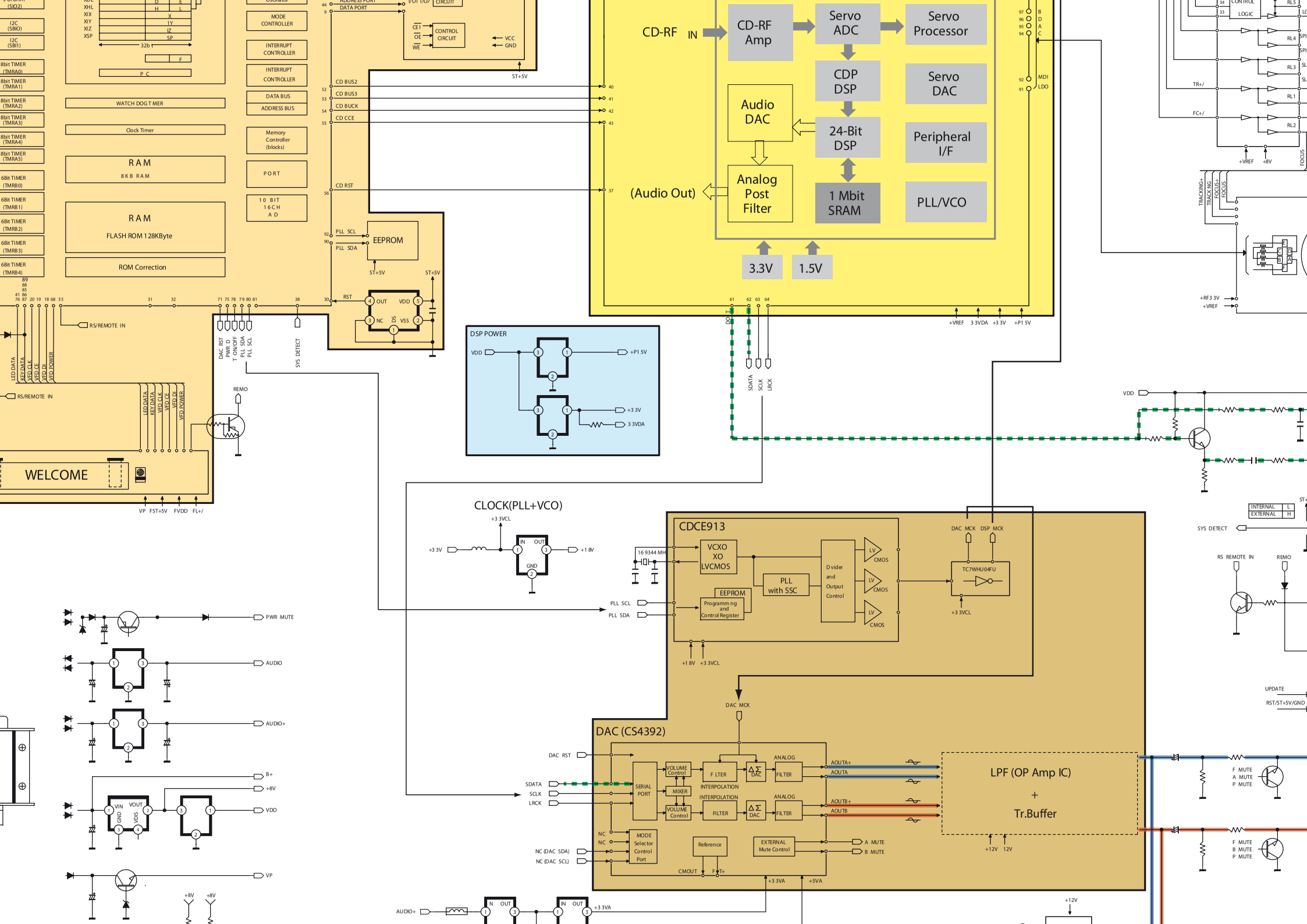
4.2 CD-R（TCD-R000RM）FOCUS ADJUSTMENT

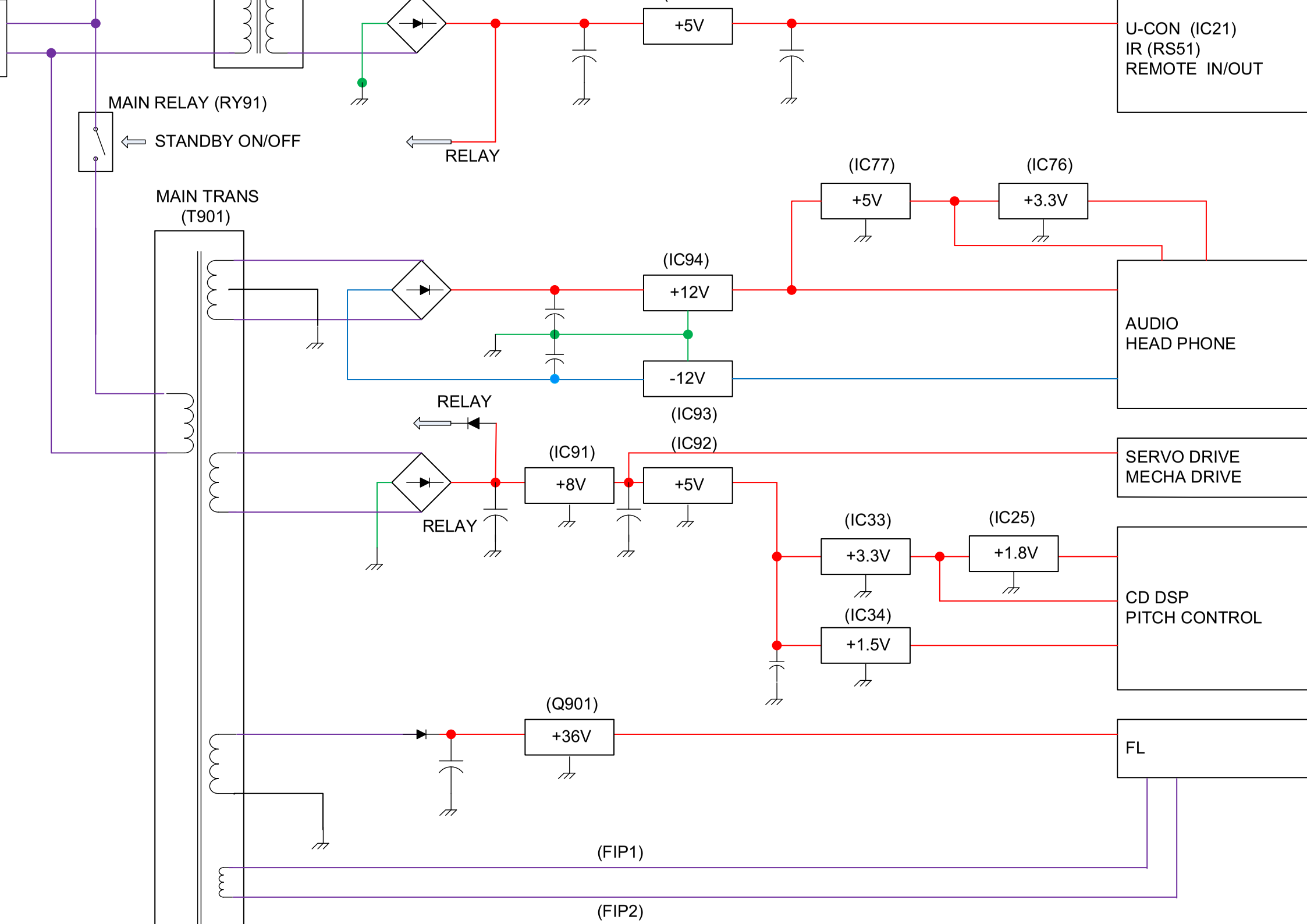


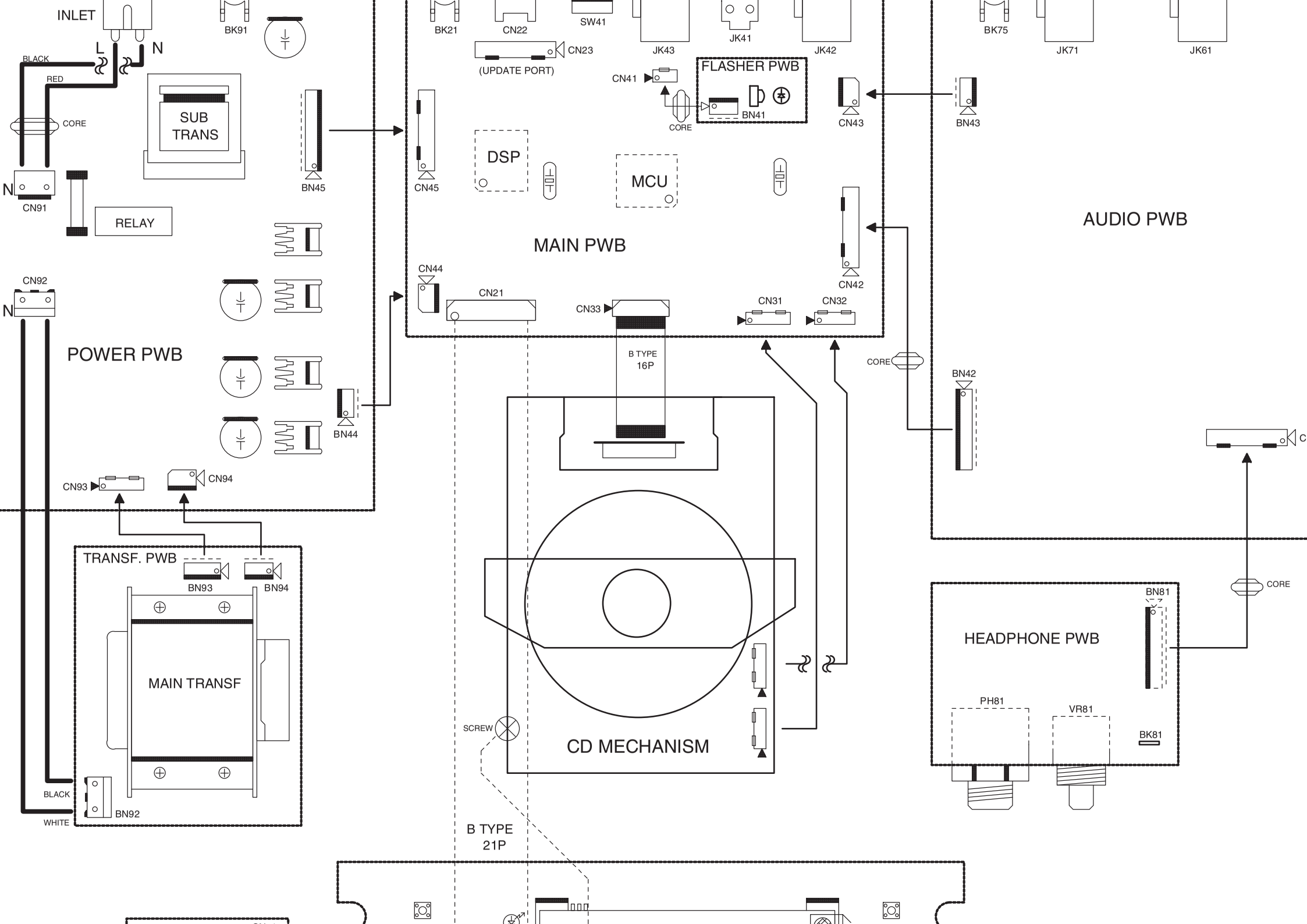
4.3 CD-R（TCD-R000RM）FOCUS ADJUSTMENT



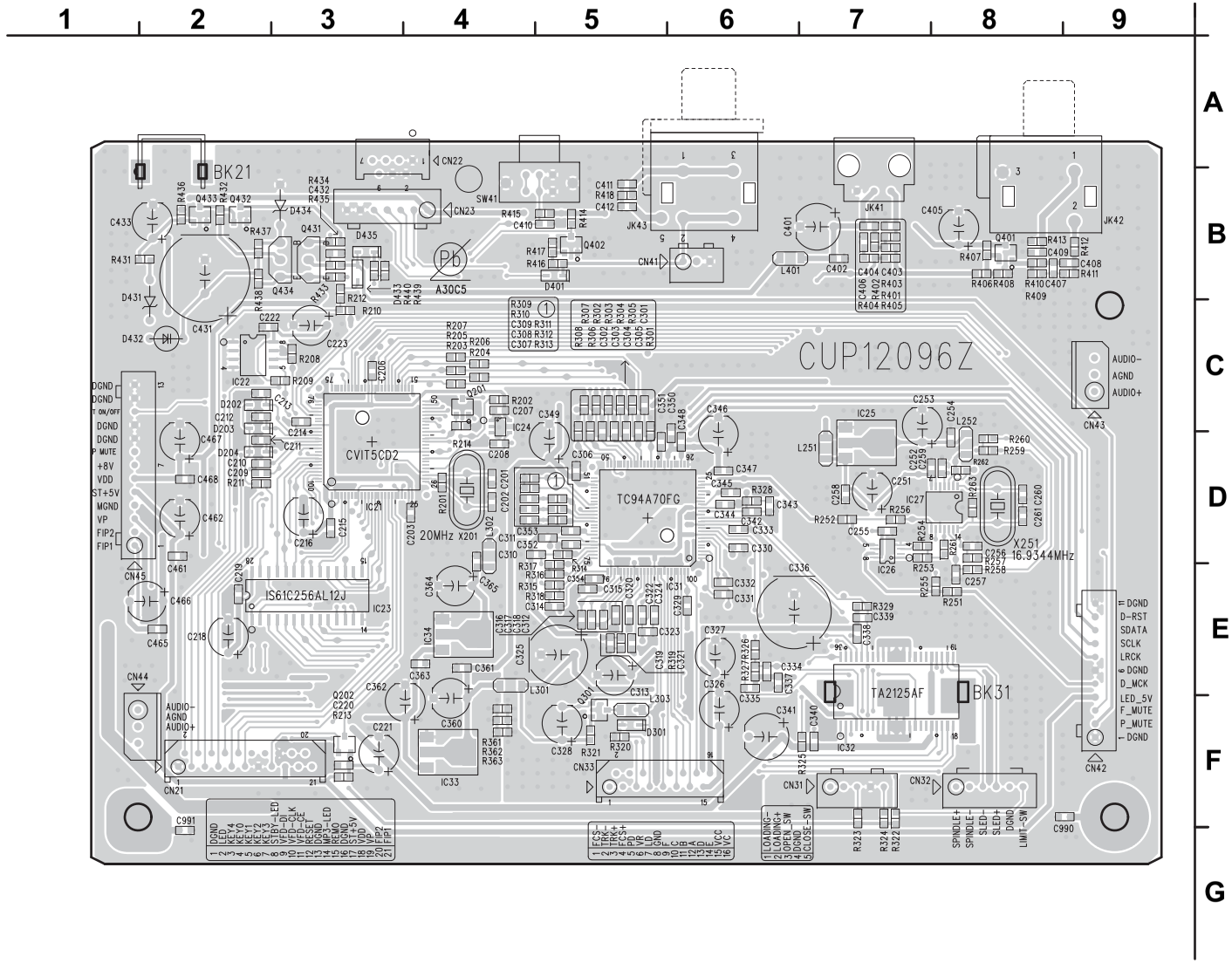
5. LOADER OPEN-CLOSE


CD-RF IN
CD-RF Amp
Servo ADC
Servo Processor
CDP DSP
Servo DAC
Audio DAC
24-Bit DSP
Peripheral I/F
(Audio Out)
Analog Post Filter
1 Mbit SRAM
PLL/VCO
3.3V
1.5V
RAM
8KB RAM
FLASH ROM 128KByte
ROM Correction
WATCH DOG TMER
Clock Timer
EEPROM
WELCOME
DSP POWER
CLOCK(PLL+VCO)
CDCE913
VCXO XO LVCMOS
PLL with SSC
Divider and Output Control
EEPROM
Programming and Control Register
TC7WHU04FU
DAC (CS4392)
SERIAL PORT
VOLUME Control
MIXER
FILTER
MODE Selector Control Port
Reference
EXTERNAL Mute Control
LPF (OP Amp IC)
+
Tr.Buffer
PWR MUTE
AUDIO
AUDIO+
B+
+8V
VDD
VP
RS/REMOTE IN
REMO
SYS DETECT
UPDATE
RST/ST+5V/GND

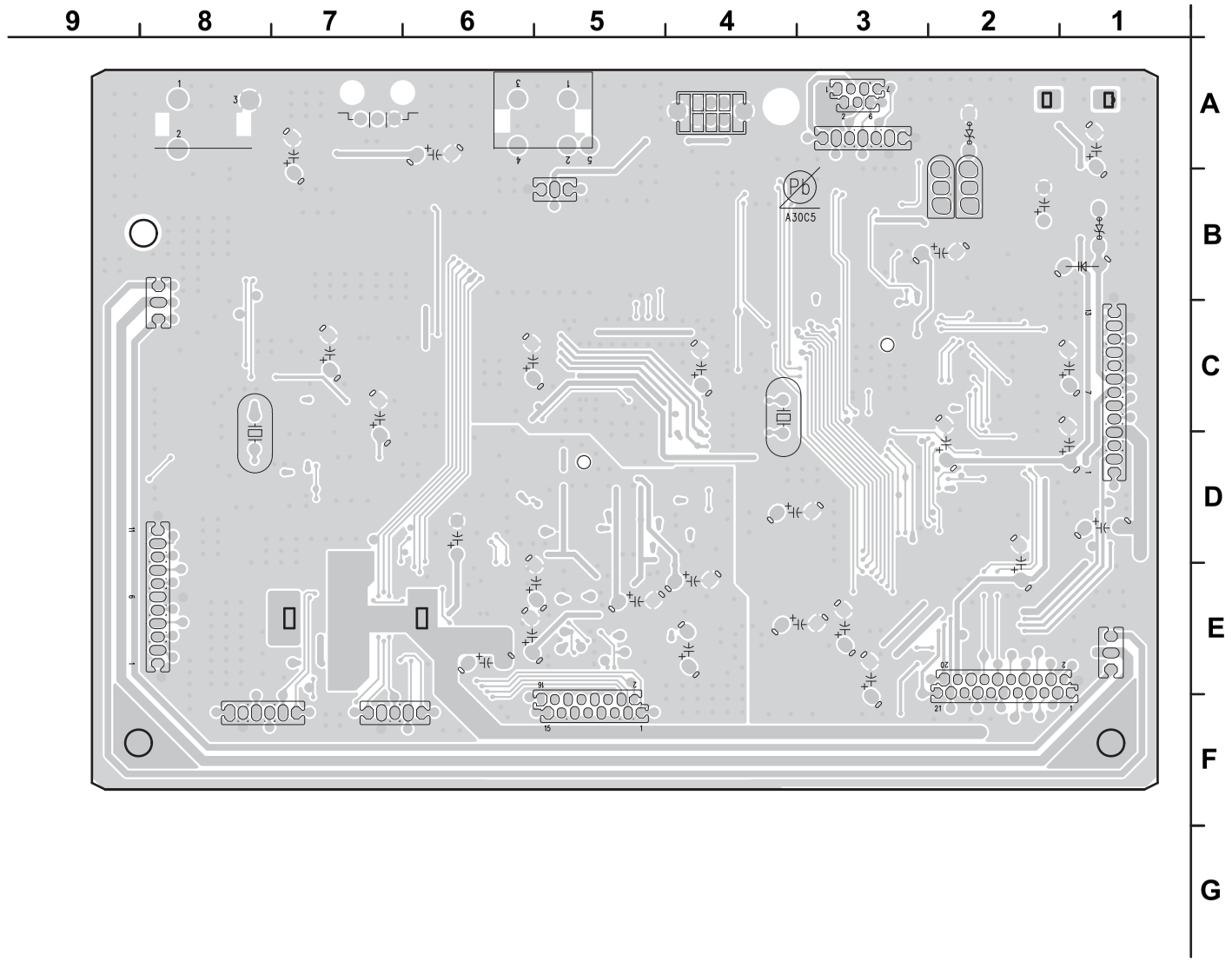

+5V
U-CON (IC21)
IR (RS51)
REMOTE IN/OUT
MAIN RELAY (RY91)
STANDBY ON/OFF
RELAY
MAIN TRANS
(T901)
(IC77)
+5V
(IC76)
+3.3V
(IC94)
+12V
AUDIO
HEAD PHONE
-12V
RELAY
(IC93)
(IC92)
(IC91)
+8V
+5V
SERVO DRIVE
MECHA DRIVE
RELAY
(IC33)
+3.3V
(IC25)
+1.8V
CD DSP
PITCH CONTROL
(IC34)
+1.5V
(Q901)
+36V
FL
(FIP1)
(FIP2)

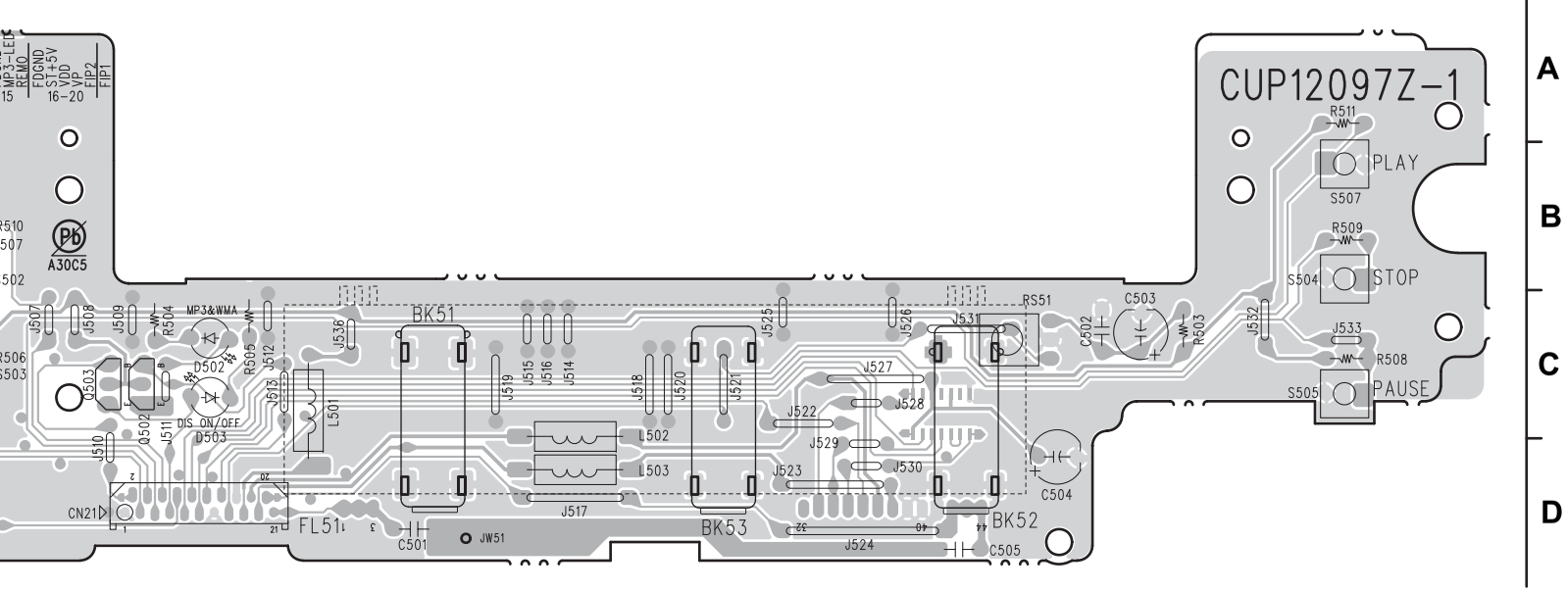

INLET
L
N
BLACK
RED
CORE
SUB TRANS
CN91
RELAY
BK91
BN45
POWER PWB
CN92
BN44
CN93
CN94
TRANSF. PWB
BN93
BN94
MAIN TRANSF
BN92
BLACK
WHITE
BK21
CN22
SW41
CN23
(UPDATE PORT)
JK43
JK41
JK42
FLASHER PWB
CN41
CORE
BN41
CN45
DSP
MCU
MAIN PWB
CN44
CN21
CN33
B TYPE
16P
CN31
CN32
CN42
CN43
BN43
BK75
JK71
JK61
AUDIO PWB
CORE
BN42
SCREW
CD MECHANISM
HEADPHONE PWB
BN81
PH81
VR81
BK81
CORE
B TYPE
21P

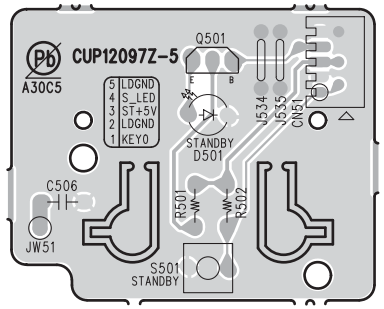
MAIN (COMPONENT SIDE)

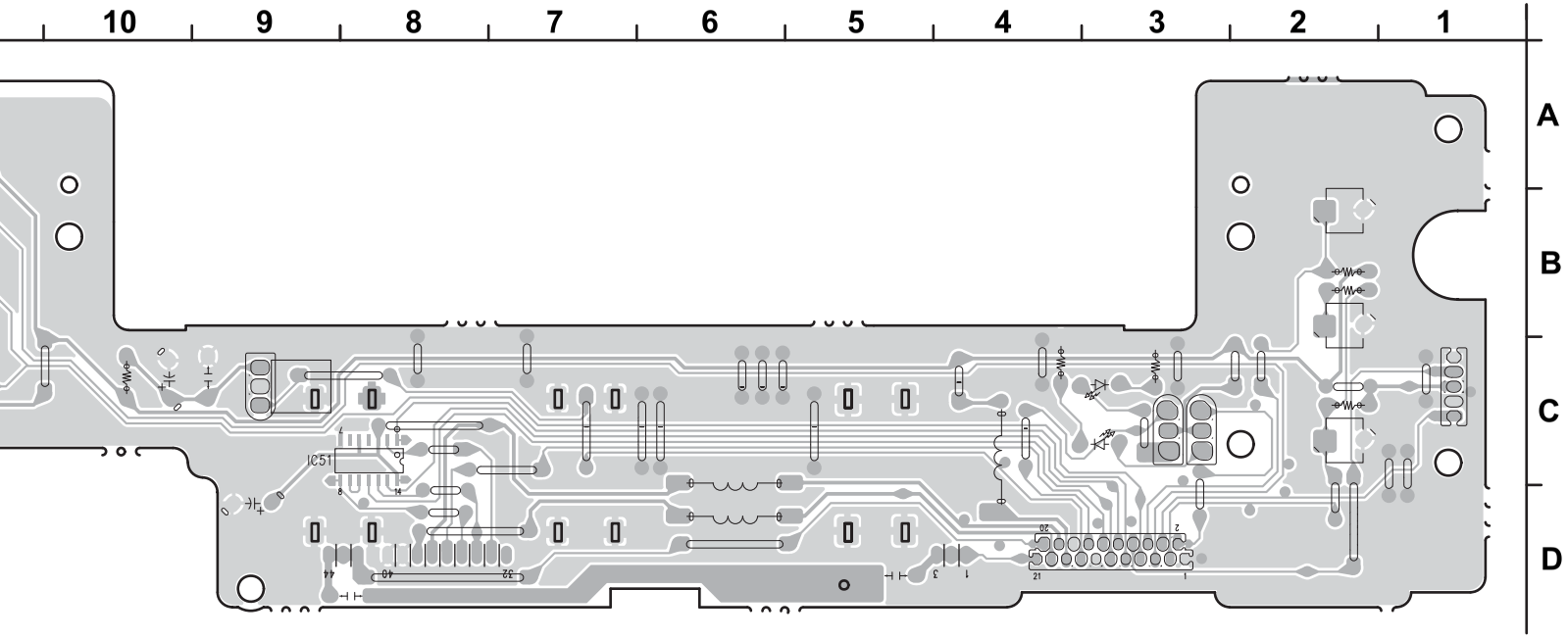


MAIN (FOIL SIDE)

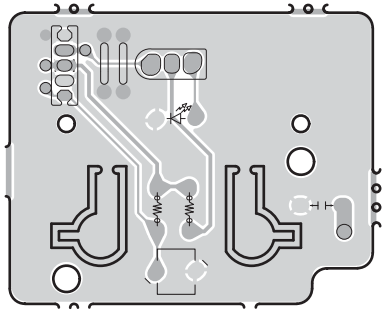


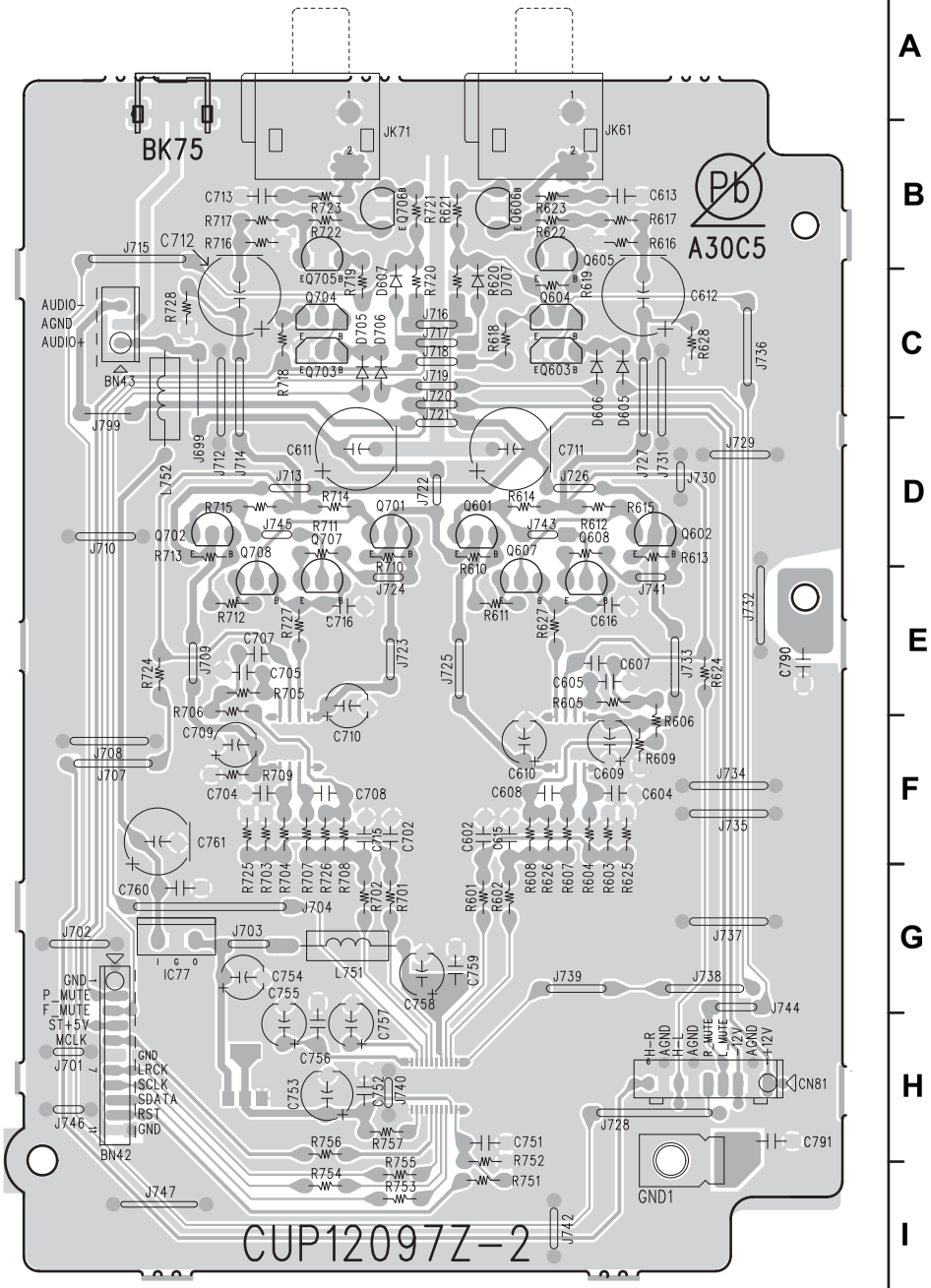


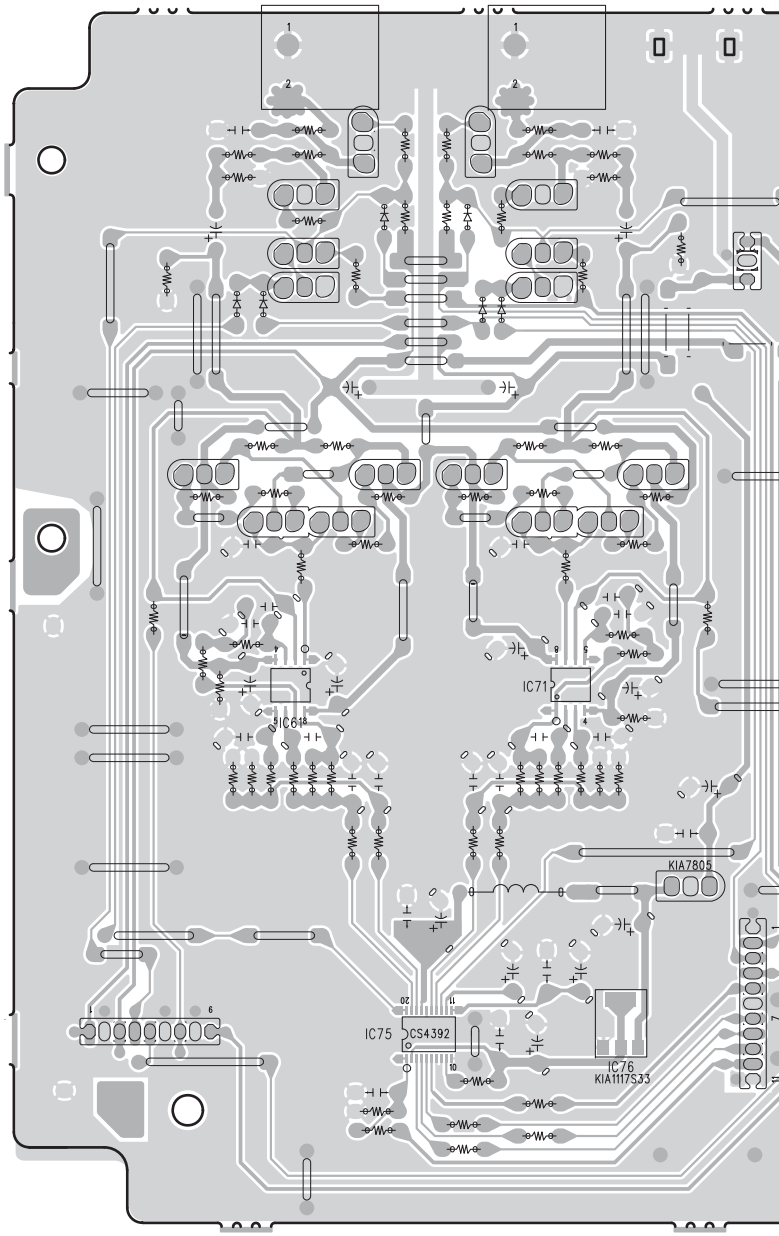




TACT SW (FOIL SIDE)

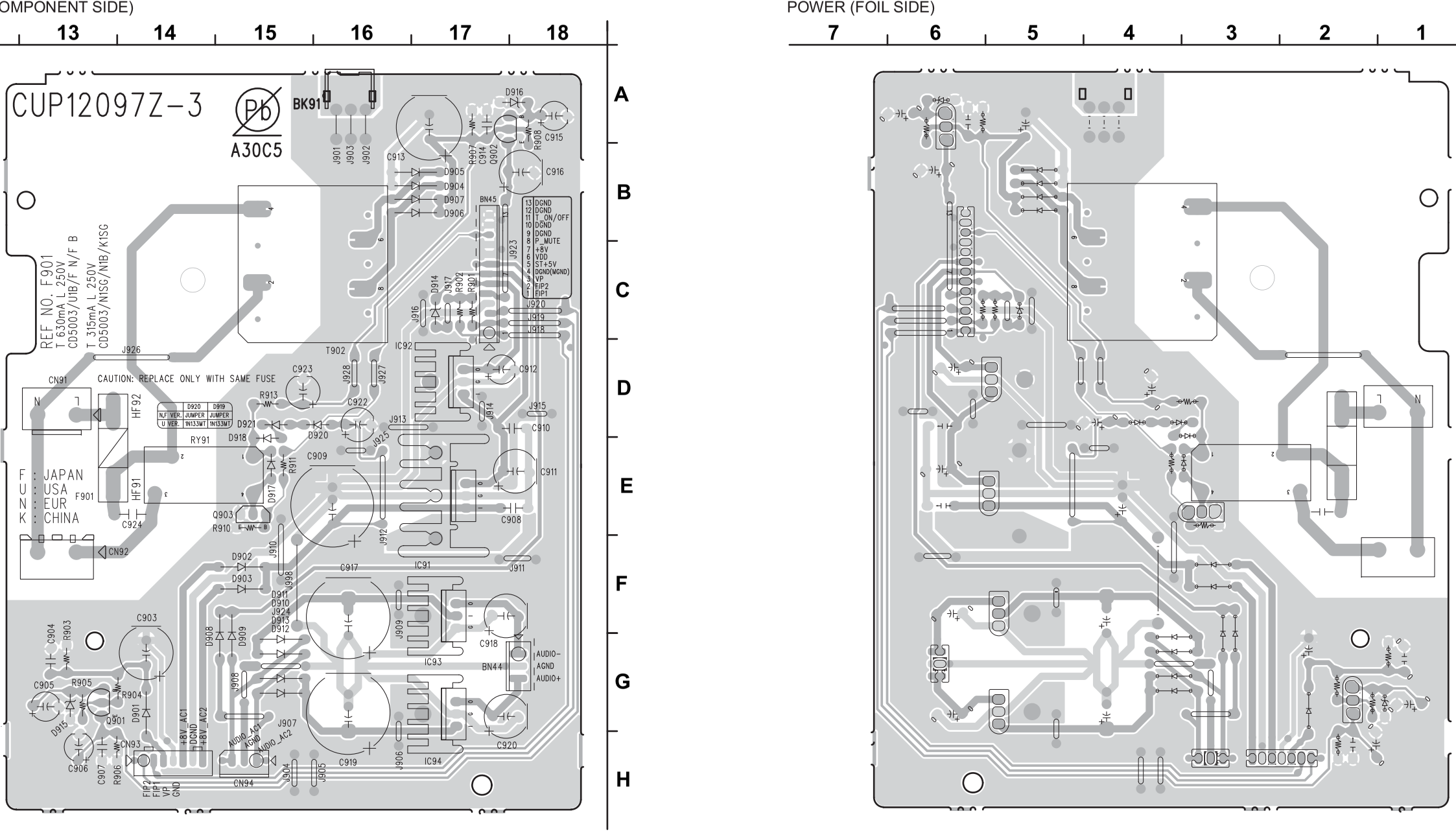


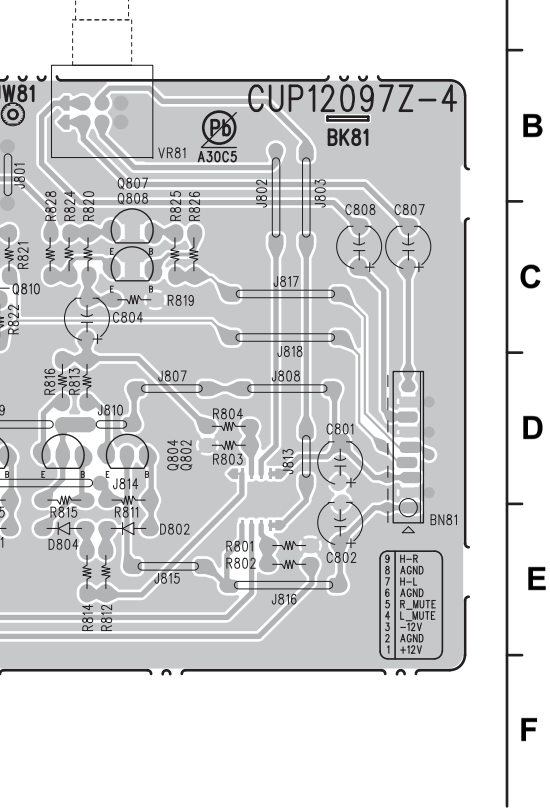

BK75
JK71
JK61
A30C5
AUDIO-
AGND
AUDIO+
BN43
BN42
IC77
GND
P_MUTE
F_MUTE
ST+5V
MCLK
GND
LRCK
SCLK
SDATA
RST
GND
J701
J746
CN81
GND1
CUP12097Z-2

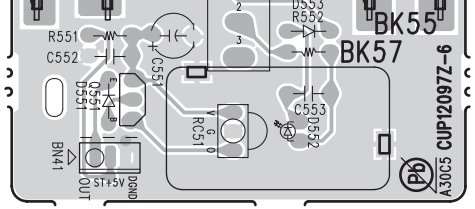

IC71
IC75
CS4392
IC76
KIA1117S33
KIA7805

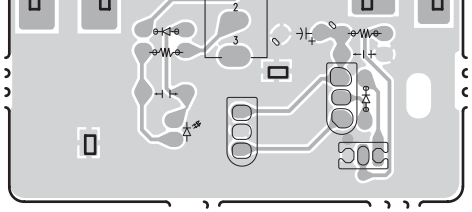
OMPONENT SIDE)

POWER (FOIL SIDE)

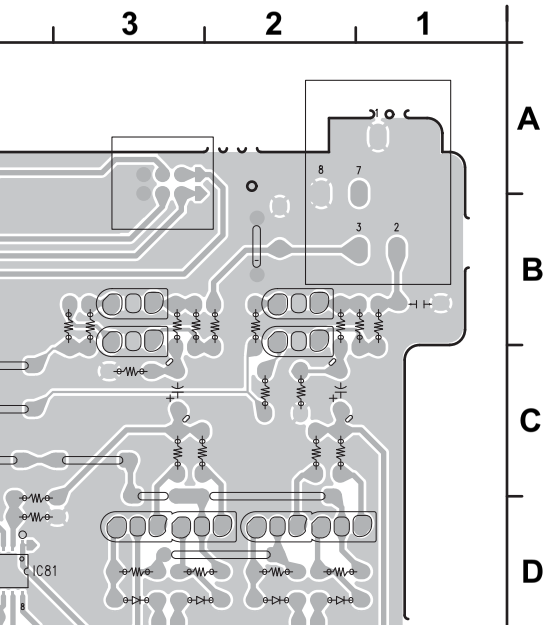




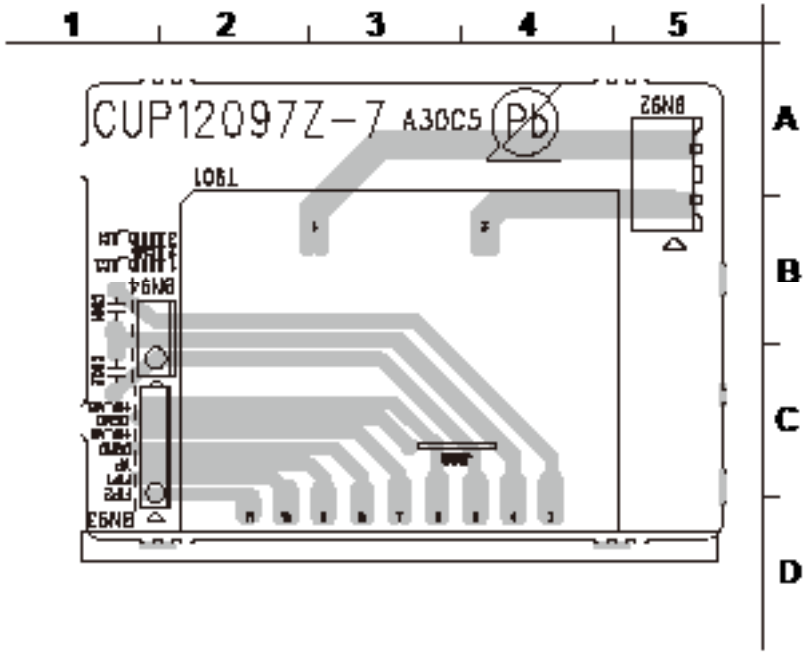




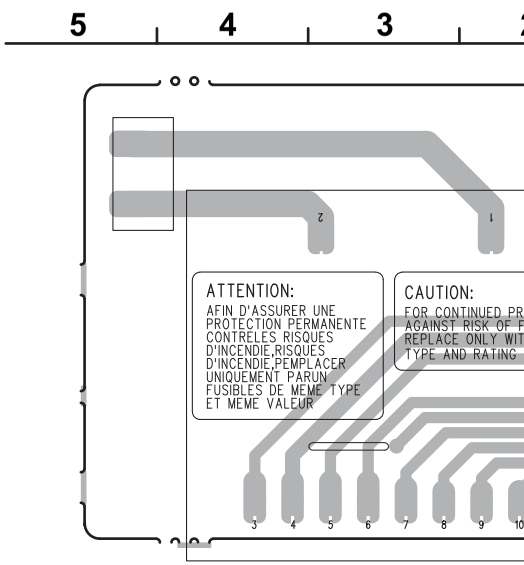
DE)

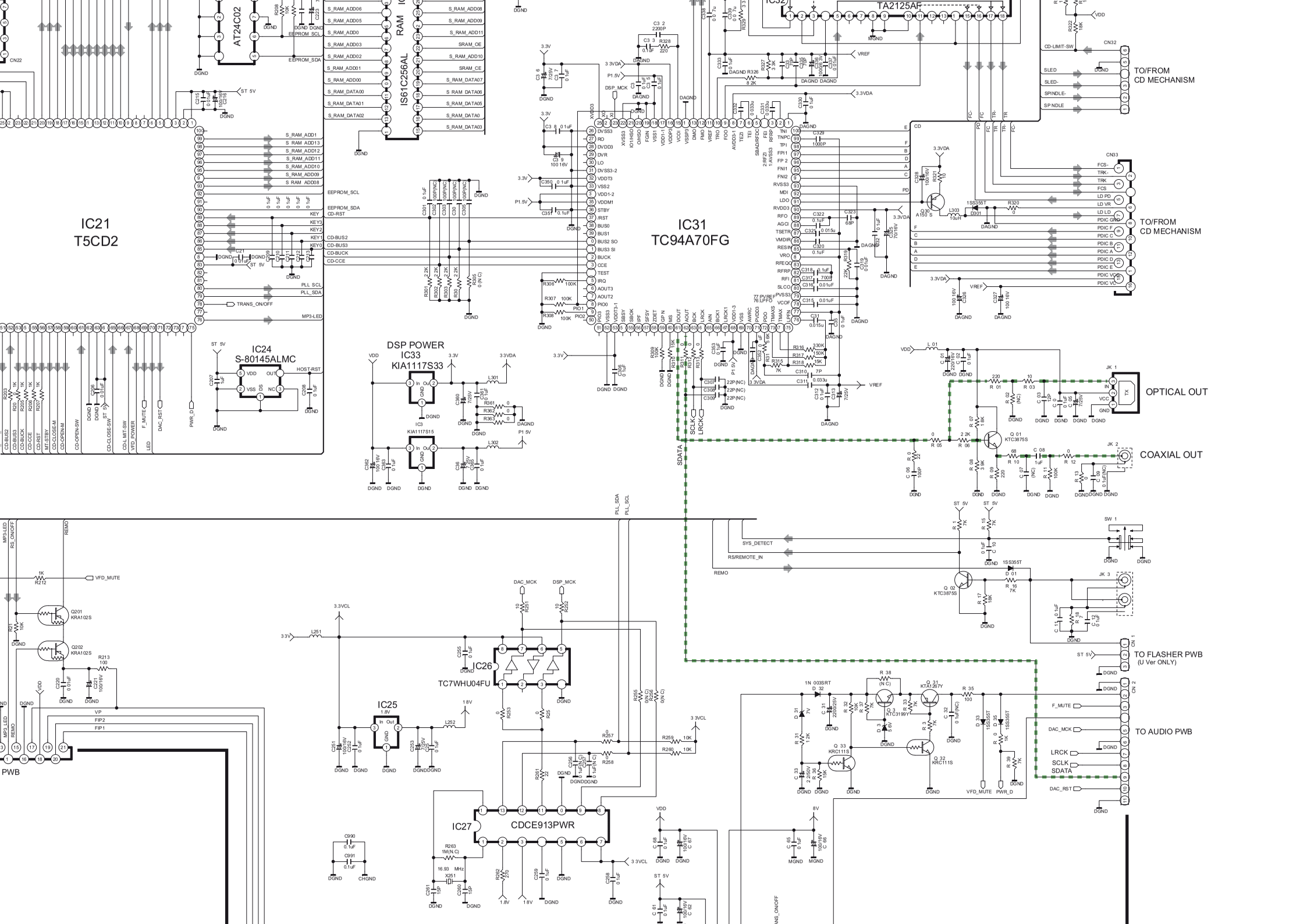


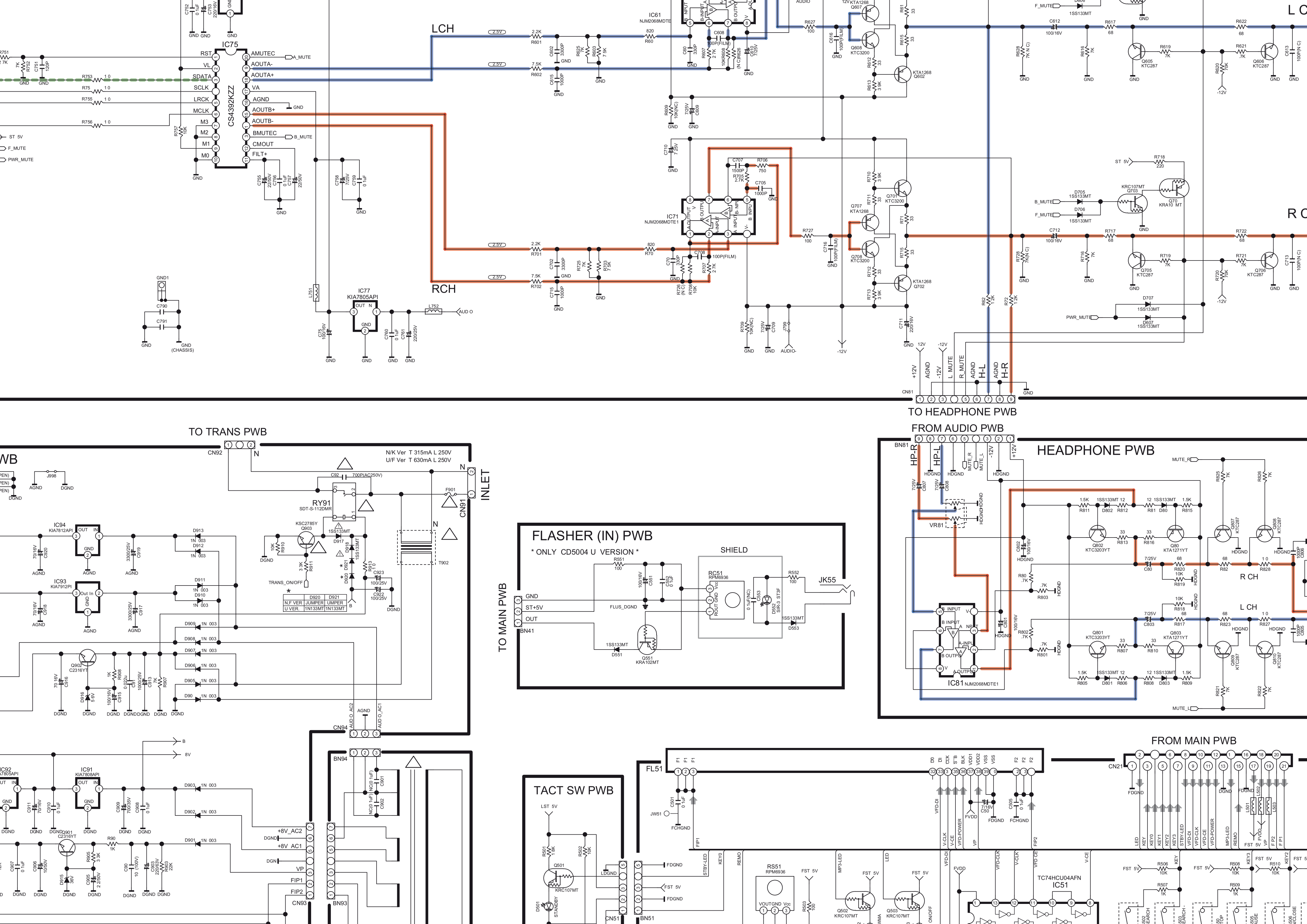
TRANSF (COMPONENT SIDE)



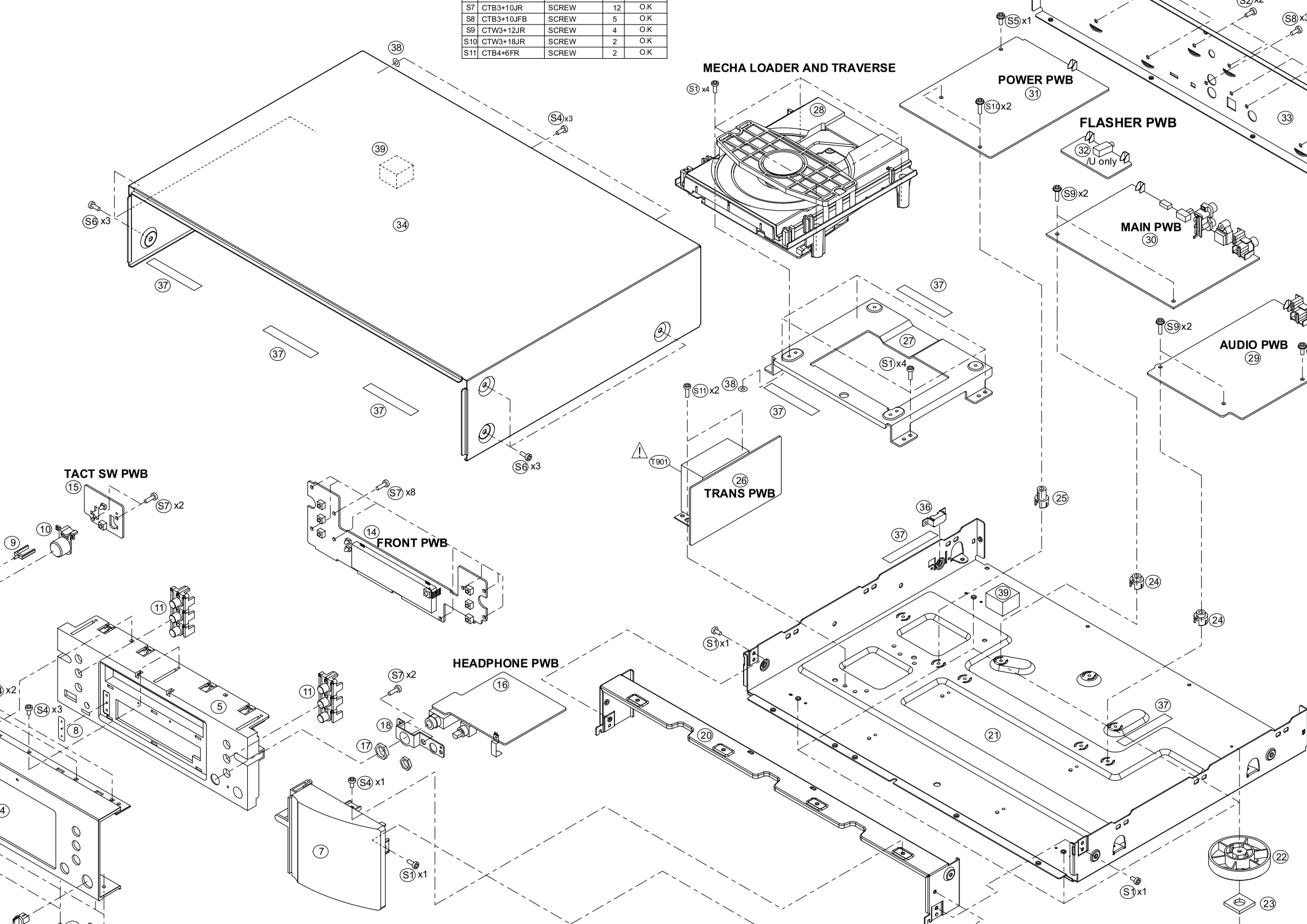
TRANSF (FOIL SIDE)




IC21
T5CD2
IC31
TC94A70FG
IC24
S-80145ALMC
DSP POWER
IC33
KIA1117S33
IC26
TC7WHU04FU
IC25
IC27
CDCE913PWR
AT24C02
IS61C256AL
TA2125AF
TO/FROM
CD MECHANISM
TO/FROM
CD MECHANISM
OPTICAL OUT
COAXIAL OUT
TO FLASHER PWB
(U Ver ONLY)
TO AUDIO PWB
PWB
EEPROM_SCL
EEPROM_SDA
CD-RST
KEY
KEY3
KEY2
KEY1
KEY0
CD-BUS2
CD-BUS3
CD-BUCK
CD-CCE
PLL_SCL
PLL_SDA
TRANS_ON/OFF
MP3-LED
VFD_MUTE
F_MUTE
DAC_RST
PWR_D
SDATA
SCLK
LRCK
SYS_DETECT
RS/REMOTE_IN
REMO
DAC_MCK
DSP_MCK
VP
FIP2
FIP1


LCH
RCH
IC75
CS4392KZZ
IC61
NJM2068MDTE
IC71
NJM2068MDTE1
IC77
KIA7805API
TO HEADPHONE PWB
FROM AUDIO PWB
HEADPHONE PWB
IC81 NJM2068MDTE1
R CH
L CH
TO TRANS PWB
N/K Ver T 315mA L 250V
U/F Ver T 630mA L 250V
INLET
RY91
SDT-S-112DMR
IC94
KIA7812API
IC93
KIA7912PI
IC91
KIA7808API
FLASHER (IN) PWB
* ONLY CD5004 U VERSION *
SHIELD
RC51
RPM6936
JK55
TO MAIN PWB
TACT SW PWB
FROM MAIN PWB
TC74HCU04AFN
IC51

S7	CTB3+10JR	SCREW	12	O.K
S8	CTB3+10JFB	SCREW	5	O.K
S9	CTW3+12JR	SCREW	4	O.K
S10	CTW3+18JR	SCREW	2	O.K
S11	CTB4+6FR	SCREW	2	O.K



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.
* 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.

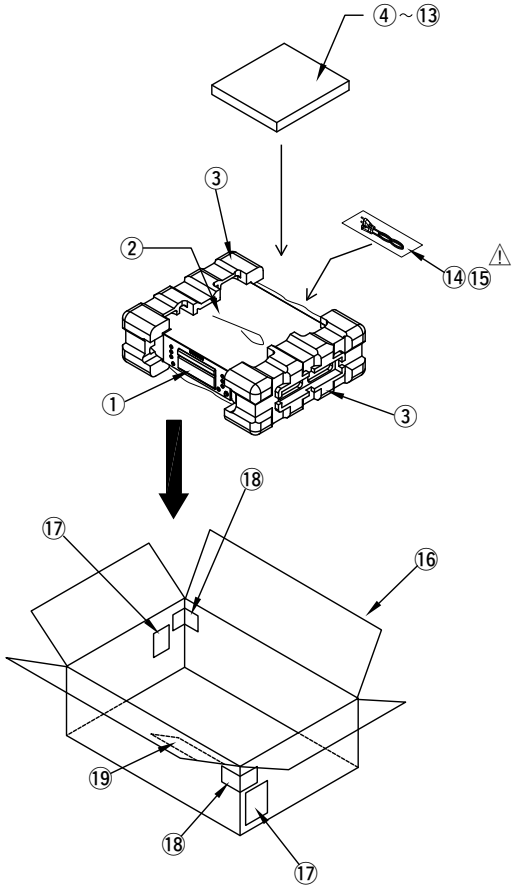
U : North America model N : Europe model K : China model

B : Black model SG : Silver Gold model

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	29	nsp	AUDIO PWB ASSY	K,N	COP12097B	1	
	29	nsp	AUDIO PWB ASSY	U	COP12097D	1	
	32	nsp	FLASHER IN PWB ASSY	U	COP12097D	1	
	14	nsp	FRONT PWB ASSY	K,N	COP12097B	1	
	14	nsp	FRONT PWB ASSY	U	COP12097D	1	
	16	nsp	HEADPHONE PWB ASSY	K,N	COP12097B	1	
	16	nsp	HEADPHONE PWB ASSY	U	COP12097D	1	
	30	nsp	MAIN PWB ASSY	K,N	COP12096B	1	
	30	nsp	MAIN PWB ASSY	U	COP12096C	1	
	31	nsp	POWER PWB ASSY	K,N	COP12097B	1	
	31	nsp	POWER PWB ASSY	U	COP12097D	1	
	15	nsp	TACT SW PWB ASSY	K,N	COP12097B	1	
	15	nsp	TACT SW PWB ASSY	U	COP12097D	1	
	26	nsp	TRANSF. PWB ASSY	K,N	COP12097B	1	
	26	nsp	TRANSF. PWB ASSY	U	COP12097D	1	
	1	421410006004M	MARANTZ BADGE (AL) M1 MODEL		CGB1A206	1	
	2	943402009350M	TRAY COVER	SG	CGR1A455RMWD10	1	*
	2	943402009340M	TRAY COVER	B	CGR1A455XB37	1	*
	3	943416002190M	WINDOW FIP		CGU1A423A12Z	1	
	4	943402009330M	FRONT PANEL	SG	CKM1A203WC62	1	*
	4	943402009320M	FRONT PANEL	B	CKM1A203XC23	1	*
	5	443510004038M	CHASSIS CENTER MOLD SG	SG	CGW1A462RMD10	1	
	5	443510004007M	CHASSIS CENTER MOLD BL	B	CGW1A462B37	1	
	6	943402009310M	PANEL SIDE L	SG	CGW1A463R0WD10	1	*
	6	943402009300M	PANEL SIDE L	B	CGW1A463RNXB37	1	*
	7	402510021032M	PANEL ESCUTCHEON R SG	SG	CGW1A464RLD10	1	
	7	402510021001M	PANEL ESCUTCHEON R BL	B	CGW1A464RKB37	1	
	8	nsp	SHEET LED		CGX1A411Z	1	
	9	481510003006M	LENS POWER INDICATOR		CGL1A274	1	
	10	411510021036M	BUTTON POWER SWITCH SG	SG	CBT1A1072RMD10	1	
	10	411510015017M	BUTTON POWER TACT BL	B	CBT1A1072	1	
	11	411510019033M	BUTTON3 KEY SG	SG	CBT1A1084RMD10	2	
	11	411510019002M	BUTTON3 KEY BL	B	CBT1A1084	2	
	17	nsp	NUT PHONE		CNE1A013	2	
	18	nsp	BRACKET HEADPHONE		CMD1A677	1	
	20	nsp	STAY FRAME FRONT		CUF1A004	1	
	21	nsp	BOTTOM CHASSIS CD5003		CUA1A289	1	
	22	00M243W057210	LEG FOR SILVER		CKL2A042H46	4	

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	23	00M32CW107010	SHEET CUSHION FOOT		CHG1A360	4	
	24	nsp	HOLDER PWB		CHE170	2	
	25	nsp	HOLDER PWB		CHE1A030	1	
	27	nsp	BRACKET SUPPORT MECHANISM		CMD1A676	1	
	28	943302002290M	MECHA LOADER AND TRAVERSE		CJDWSL11VF	1	
	33	nsp	REAR PANEL K	K	CKF3A390T	1	
	33	nsp	REAR PANEL N	N	CKF3A390V	1	
	33	nsp	REAR PANEL U	U	CKF4A390W	1	
	34	401310003033M	LID TOP COVER SG	SG	CKC2A187D11	1	
	34	401310003002M	LID TOP COVER BL	B	CKC2A187K117	1	
	35	00M24AW154120	KNOB LEVEL SG	SG	CBN1A170RMD10	1	
	35	00M24AW154020	KNOB LEVEL BL	B	CBN1A170	1	
	36	nsp	COVER SCREW		CMD1A495	1	
	37	nsp	TAPE HEMELON		CHS1A032	6	
	38	nsp	WASHER GROUND COPPER		CNW1A035	4	
	39	nsp	BUFFER CUSHION RUBBER		CHG1A157	2	
⚠	40	00MYJ04002640	R-301(21) AC INLET		CJJ8A006ZW	1	
	★ 41	90M-FC500030R	FERRITE COREFERRITE RING 29X7.7X19		CLZ9W003Z	1	
	★ 42	90M-FC500130R	FERRITE COREFERRITE CORE		CLZ9Z071Z	1	
⚠	T901	90M-TS002510R	TRANSF POWER TRANSF. (EUR/UK)	K,N	CLT5M025YE	1	
⚠	T901	90M-TS002530R	TRANSF POWER TRANSF. (TC)	U	CLT5M025YU	1	
WIRES							
	★ 201	943606002310S	FPC FFC 21P 250MM 1MM		CWC4F4A21A250B	1	
	★ 202	943606002320S	FPC FFC 16P 150MM CD MECHA		CWC4F2A16A150B	1	
	★ 203	nsp	CORD WIRE ASSY		CWZCD6002BN95	1	
	★ 204	nsp	CORD WIRE ASSY 5P 2500MM		CWB1B005250EG	1	
	★ 205	nsp	CORD WIRE ASSY		CWB5A906220EG	1	
	★ 206	nsp	CORD WIRE ASSY		CWZCD6002BN95ZA	1	

PACKING VIEW



PARTS LIST OF PACKING VIEW

＊ 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

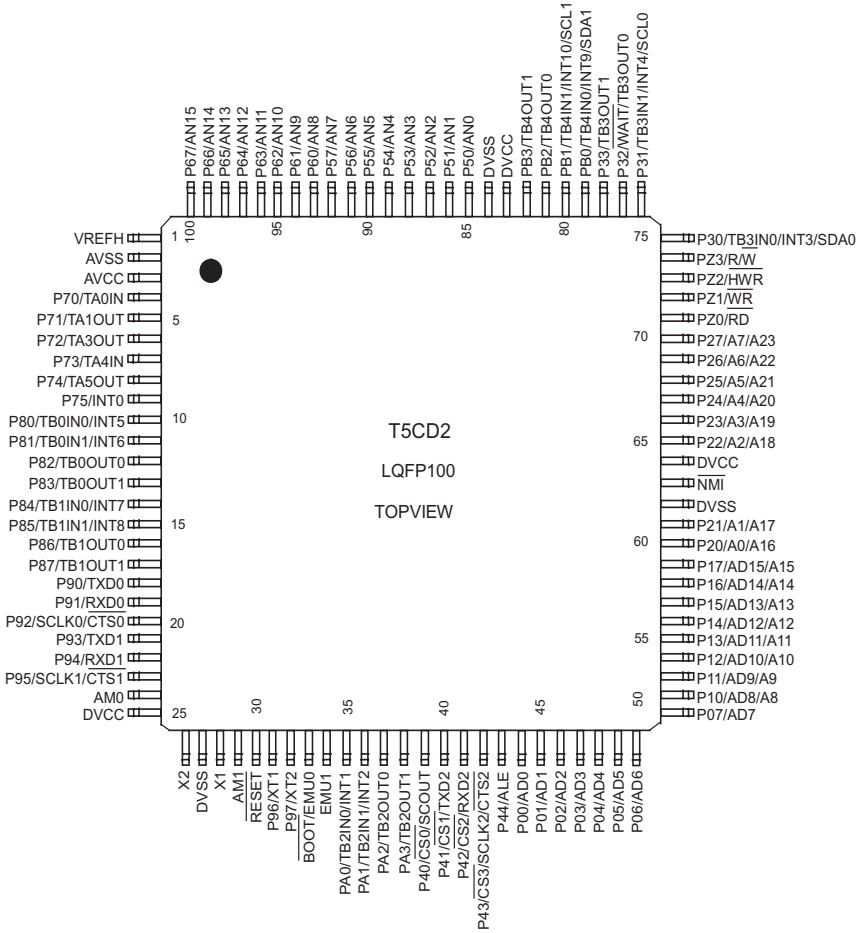
	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	1	-	set	-	-	1	
	2	nsp	POLY BAG		CPB1A013Y	1	
	3	943533002300M	CUSHION CD5003		CPS1A821	2	
	4	nsp	POLY BAG		CPB1061W	1	
	5	541110510059M	MANUAL CD5004/K	K	CQX1A1534Z	1	*
	5	541110510035M	MANUAL CD5004/N	N	CQX1A15321	1	*
	5	541110510028M	MANUAL CD5004/U	U	CQX1A1533Z	1	*
	6	nsp	BATTERY		CABR03PPB	2	
	7	307010035001M	UNIT KIT REMOTE CONTROLLER RC002CD		CARTCD5003M	1	
	8	90M-ZD000440R	CONN. CORD PIN		CJS4M009X	1	
	9	90M-ZD000510R	CONN. CORD PIN		CJS4N014Z	1	
	10	nsp	CARD, POST MARANTZ F	U	CQE1A131W	1	
	11	nsp	SHEET, SALES ADDRESS	U	CQE1A132V	1	
	12	nsp	STAPLE		CPL0905	3	
	13	nsp	WARRANTY CARD	K	CQE1A449Z	1	
	14	nsp	POLY BAG		CPB11A008Z	1	
⚠	15	90M-ZC000650R	MAINS CORD FOR K	K	CJA2N075Z	1	
⚠	15	943611002340S	MAINS CORD UL	U	CJA2A070Z	1	
⚠	15	90M-ZC000320R	MAINS CORD 2WIRE 10A/250V	N	CJA2B054Z	1	
	16	531210136002M	CARTON CASE		CPG1A870T	1	*
	17	nsp	SHIPPING LABEL		CQB1A993Z	2	
	18	nsp	LABEL, WHITE M1 SG	N1SG, K1SG	CQB1A908Z	2	

SEMICONDUCTORS

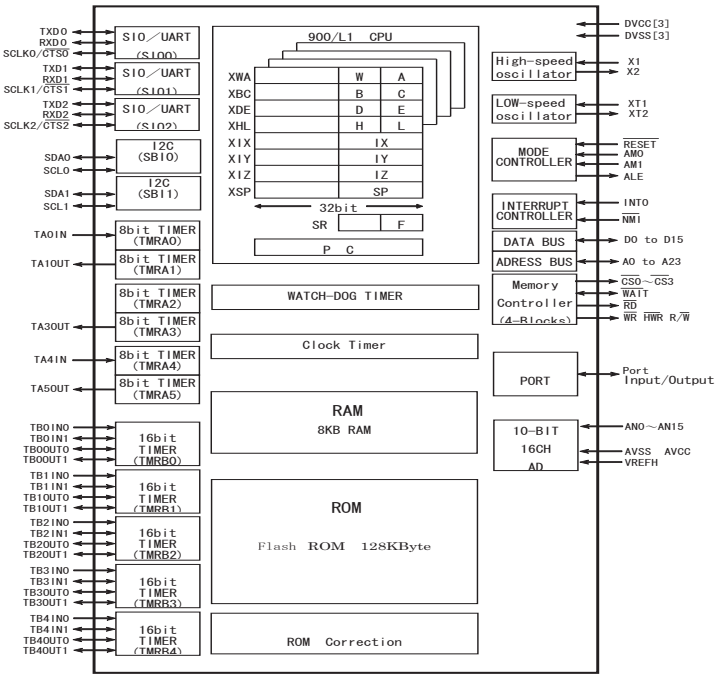
Only major semiconductors are shown, general semiconductors etc. are omitted to list.
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

T5CD2 (MAIN : IC21)



Block Diagram



Terminal Function

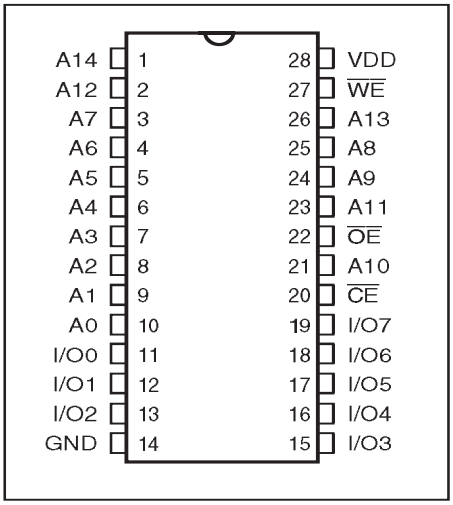
Pin No.	Port Name	I/O	Use	Power off	Name	Port Setting		Note
						Act	init	
1	VREFH				VREFH			ADC power, connect with +5V
2	AVSS				GND			GND
3	AVCC				AVCC			MCU power, connect with +5V
4	P70/TA0IN	I/O	O	L	/SRAM_WE	L	I	sram write enable
5	P71/TA1OUT	I/O	O	L	/SRAM_OE	L	I	sram output enable
6	P72/TA3OUT	I/O	O	L	/SRAM_CE	L	I	sram chip enable
7	P73/TA4IN	I/O			NC			open
8	P74/TA5OUT	I/O			NC			open
9	P75/INT0	I/O	I	-	RS/REMOTE	-	I	remote in
10	P80/TB0IN0/INT5	I/O	I/O	L	SRAM_DATA00	-	I	sram_data_00
11	P81/TB0IN1/INT6	I/O	I/O	L	SRAM_DATA01	-	I	sram_data_01
12	P82/TB0OUT0	I/O	I/O	L	SRAM_DATA02	-	I	sram_data_02
13	P83/TB0OUT1	I/O	I/O	L	SRAM_DATA03	-	I	sram_data_03
14	P84/TB1IN0/INT7	I/O	I/O	L	SRAM_DATA04	-	I	sram_data_04
15	P85/TB1IN1/INT8	I/O	I/O	L	SRAM_DATA05	-	I	sram_data_05
16	P86/TB1OUT0	I/O	I/O	L	SRAM_DATA06	-	I	sram_data_06
17	P87/TB1OUT1	I/O	I/O	L	SRAM_DATA07	-	I	sram_data_07
18	P90/TXD0	I/O	O	L	VFD_DATA	-		vfd data
19	P91/RXD0	I/O	O	L	VFD_CS	L		vfd chip select
20	P92/SCLK0/CTS0	I/O	O	L	VFD_CLK	L	I	vfd clock
21	P93/TXD1	I/O	O	L	UPDATE_TXD	-	I	used when connect with update tool
22	P94/RXD1	I/O	I	I	UPDATE_RXD	-	I	used when connect with update tool
23	P95/SCLK1/CTS1	I/O			NC	-	I	open
24	AM0				AM0			chip operate select, connect with +5V
25	DVCC				DVCC			MCU power, connect with +5V
26	X2				X2			oscillator(20MHz)
27	DVSS				DVSS			GND
28	X1				X1			oscillator(20MHz)
29	AM1				AM1			chip operate select, connect with +5V
30	/RESET				/RESET			MCU reset
31	P96/XT1	I/O			NC			open
32	P97/XT2	I/O			NC			open
33	/BOOT/EMU0				BOOT			update mode select
34	EMU1	I/O			NC			open
35	PA0/TB2IN0/INT1	I/O	I	-	RS/REMOTE	-	I	remote in
36	PA1/TB2IN1/INT2	I/O			NC			open
37	PA2/TB2OUT0	I/O	O	H	BUSOUT	-	I	bus out
38	PA3/TB2OUT1	I/O	I	-	SYSTEM_DETECT	-	I	system detect
39	P40/CS0/SCOUT	I/O	O	-	RS_ON/OFF	-	I	remote signal kill control
40	P41/CS1/TXD2	I/O	O	L	CTRL	H	I	Unit power control
41	P42/CS2/RXD2	I/O	O	H	LED	L		stanby LED control
42	P43/CS3/SCLK2/CTS2	I/O			NC			open
43	P44/ALE	I/O			NC			open
44	P00/AD0	I/O	O	L	SRAM_ADD00	-	I	sram_address_00
45	P01/AD1	I/O	O	L	SRAM_ADD01	-	I	sram_address_01
46	P02/AD2	I/O	O	L	SRAM_ADD02	-	I	sram_address_02
47	P03/AD3	I/O	O	L	SRAM_ADD03	-	I	sram_address_03
48	P04/AD4	I/O	O	L	SRAM_ADD04	-	I	sram_address_04
49	P05/AD5	I/O	O	L	SRAM_ADD05	-	I	sram_address_05
51	P07/AD7	I/O	O	L	SRAM_ADD07	-	I	sram_address_07

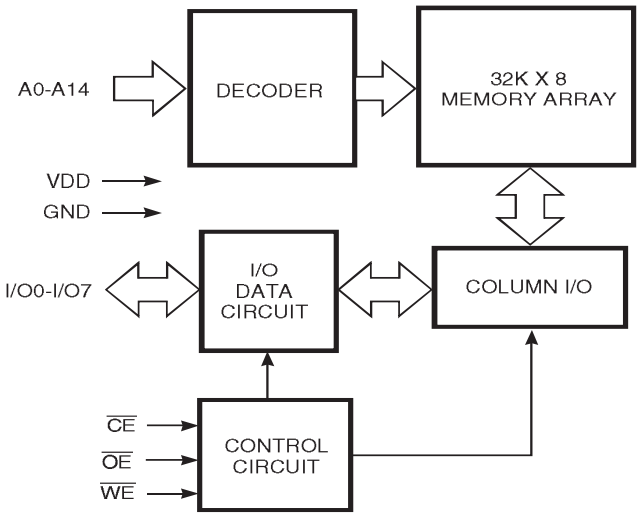
Pin No.	Port Name	I/O	Use	Power off	Name	Port Setting		Note
						Act	init	
52	P10/AD8/A8	I/O	I	I	CD_BUS2	-	I	receive data from CD DSP
53	P11/AD9/A9	I/O	O	L	CD_BUS3	-	I	send command to CD DSP
54	P12/AD10/A10	I/O	O	L	CD_BUCK	-	I	communication clock with CD DSP
55	P13/AD11/A11	I/O	O	L	CD_CCE	L	I	communication chip enable with CD DSP
56	P14/AD12/A12	I/O	O	L	DSP_RESET	L	I	CD DSP reset
57	P15/AD13/A13	I/O	O	L	MT_STBY	H	I	motor stanby
58	P16/AD14/A14	I/O	O	L	CD_CLOSE_M	H	I	cd close motor
59	P17/AD15/A15	I/O	O	L	CD_OPEN_M	H	I	cd open motor
60	P20/A0/A16	I/O			NC			open
61	P21/A1/A17	I/O	I	I	CD_OPEN_SW	-	I	cd open switch
62	DVSS				DVSS			GND
63	/NMI				/NMI			external interrupt, connect with +5V
64	DVCC				DVCC			MCU power, connect with +5V
65	P22/A2/A18	I/O	I	I	CD_CLOSE_SW	-	I	cd close switch
66	P23/A3/A19	I/O			NC			open
67	P24/A4/A20	I/O	I	I	CD_LIMIT_SW	-	I	cd inner switch
68	P25/A5/A21	I/O	O	L	VFD_POWER	H	I	vfd blink control
69	P26/A6/A22	I/O	O	H	F_MUTE	H	I	preout mute control
70	P27/A7/A23	I/O	O	L	DISPLAY_P	L	I	FIP display on/off control
71	PZ0/RD	I/O	O	L	DAC_RESET	L	H	DAC reset
72	PZ1/WR	I/O	O	L	NC			open
73	PZ2/HWR	I/O	O	L	DAC_CLK	-	I	DAC clock
74	PZ3/R/W	I/O	O	L	DAC_DATA	-	I	DAC data
75	P30/TB3IN0/INT3/SDA0	I/O	O	L	TRANS_ON/OFF	H	I	trans change control
76	P31/TB3IN1/INT4/SCL0	I/O	O	L	MP3_LED_P	H	I	MP3 LED control
77	P32/WAIT/TB3OUT0	I/O	O	L	WMA_LED_P	H	I	WMA LED control
78	P33/TB3OUT1	I/O			NC			open
79	PB0/TB4IN0/INT9/SDA1	I/O	O	L	PLL_SDA_	-	I	Pitch data Control
80	PB1/TB4IN1/INT10/SCL1	I/O	O	L	PLL_SCL	-	I	Pitch clock Control
81	PB2/TB4OUT0	I/O	O	L	PLL_PLL	L	I	Pitch chip enable Control
82	PB3/TB4OUT1	I/O	O	L	PLL_EX_SEL	-	I	PLL Ex Select Pin
83	DVCC				DVCC			MCU power, connect with +5V
84	DVSS				DVSS			GND
85	P50/AN0	I/O	I	I	KEY0	-	I	key1 input
86	P51/AN1	I/O	I	I	KEY1	-	I	key2 input
87	P52/AN2	I/O	I	I	KEY2	-	I	key3 input
88	P53/AN3	I/O			NC			open
89	P54/AN4	I/O			NC			open
90	P55/AN5	I/O			NC			open
91	P56/AN6	I/O			NC			open
92	P57/AN7	I/O			NC			open
93	P60/AN8	I/O	O	L	SRAM_ADD08	-	I	sram_address_08
94	P61/AN9	I/O	O	L	SRAM_ADD09	-	I	sram_address_09
95	P62/AN10	I/O	O	L	SRAM_ADD10	-	I	sram_address_10
96	P63/AN11	I/O	O	L	SRAM_ADD11	-	I	sram_address_11
97	P64/AN12	I/O	O	L	SRAM_ADD12	-	I	sram_address_12
98	P65/AN13	I/O	O	L	SRAM_ADD13	-	I	sram_address_13
99	P66/AN14	I/O	O	L	SRAM_ADD14	-	I	sram_address_14
100	P67/AN15	I/O			NC			open

IS61C256AL (MAIN : IC23)

PIN CONFIGURATION

28-Pin SOJ





PIN DESCRIPTIONS

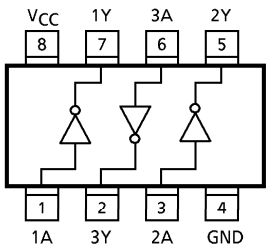
A0-A14	Address Inputs
$\overline{CE}$	Chip Enable Input
$\overline{OE}$	Output Enable Input
$\overline{WE}$	Write Enable Input
I/O0-I/O7	Bidirectional Ports
V_{DD}	Power
GND	Ground

TRUTH TABLE

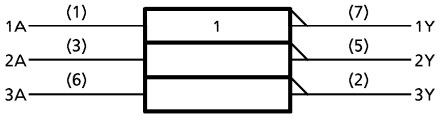
Mode	$\overline{WE}$	$\overline{CE}$	$\overline{OE}$	I/O Operation
Not Selected (Power-down)	X	H	X	High-Z
Output Disabled	H	L	H	High-Z
Read	H	L	L	D_{OUT}
Write	L	L	X	D_{IN}

TC7WHU04FU (MAIN : IC26)

PIN ASSIGNMENT (TOP VIEW)



LOGIC DIAGRAM



TRUTH TABLE

A	Y
L	H
H	L

CDCE913PWR (MAIN: IC27)

Programmable 1-PLL VCXO Clock Synthesizer With 1.8-V, 2.5-V, and 3.3-V Outputs

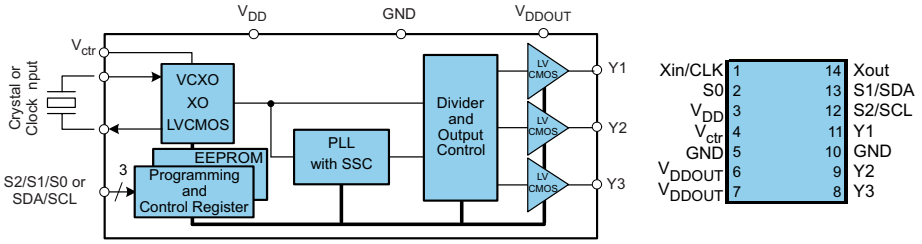
FEATURES

- **Member of Programmable Clock Generator Family**
  - ***CDCE913/CDCEL913: 1-PLL, 3 Outputs***
  - **CDCE925/CDCEL925: 2-PLL, 5 Outputs**
  - **CDCE937/CDCEL937: 3-PLL, 7 Outputs**
  - **CDCE949/CDCEL949: 4-PLL, 9 Outputs**
- **In-System Programmabil ty and EEPROM**
  - **Serial Programmable Volatile Register**
  - **Nonv latile EEPROM to Store Customer Setting**
- **Flexible Input Clocking Concept**
  - **External Crystal: 8 MHz to 32 MHz**
  - **On-Chip VCXO: Pull Range ±150 ppm**
  - **Single-Ended LVCMOS up to 160 MHz**
- **Free Selectable Output Frequency up to 230 MHz**
- **Low-Noise PLL Core**
  - **PLL Loop Filter Components Integrated**
  - **Low Period Jitter (Typical 50 ps)**
- **Separate Output Supply Pins**
  - **CDCE913: 3.3 V and 2.5 V**
  - **CDCEL913: 1.8 V**
- **Flexible Clock Driver**
  - **Three User-Definable Control Inputs [S0/S1/S2], for example., SSC Selection, Frequency Switching, Output Enable, or Power Down**
  - **Generates Highly Accurate Clocks for Video, Audio, USB, IEEE1394, RFID, Bluetooth™, WLAN, Ethernet™, and GPS**
  - **Generates Common Clock Frequencies Used With TI-DaVinci™, OMAP™, DSPs**
  - **Programmable SSC Modulation**
  - **Enables 0-PPM Clock Generation**
- **1.8-V Device Power Supply**

  Wide Temperature Range –40° C to 85° C
- **Packaged in TSSOP**
- **Development and Programming Kit for Easy PLL Design and Programming (TI Pro-Clock™)**

APPLICATIONS

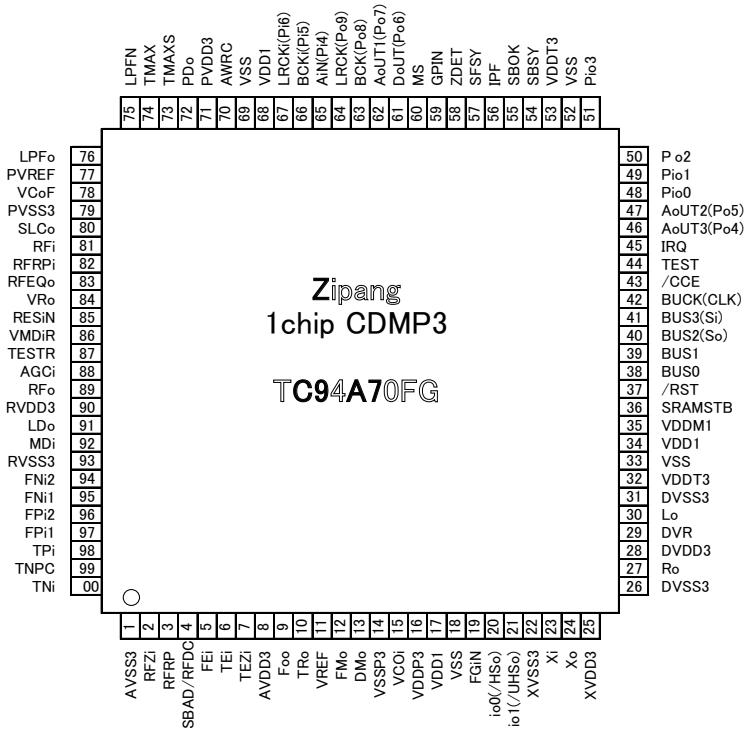
- **D-TV, STB, IP-STB, DVD-Player, DVD-Recorder, Printer**



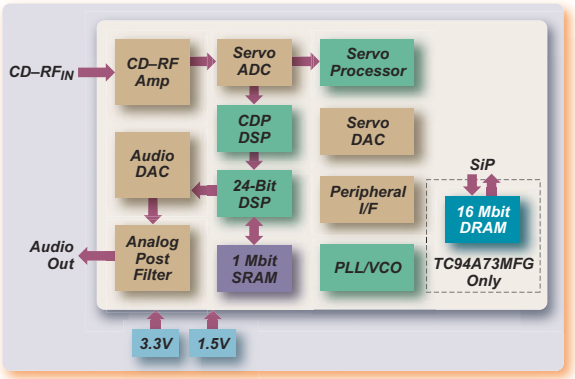
Terminal Function

TERMINAL		I/O	DESCRIPTION
NAME	PIN TSSOP14		
Y1–Y3	11, 9, 8	O	LVCMOS outputs
Xin/CLK	1	I	Crystal oscillator input or LVCMOS clock Input (selectable via SDA/SCL bus)
Xout	14	O	Crystal oscillator output (leave open or pullup when not used)
V_{Ctrl}	4	I	VCXO control voltage (leave open or pullup when not used)
V_{DD}	3	Power	1.8-V power supply for the device
V_{DDOUT}	6, 7	Power	**CDCEL913**: 1.8-V supply for all outputs
			CDCE913: 3.3-V or 2.5-V supply for all outputs
GND	5, 10	Ground	Ground
S0	2	I	User-programmable control input S0; LVCMOS inputs; internal pullup 500k
SDA/S1	13	I/O or I	**SDA:** bidirectional serial data input/output (default configuration), LVCMOS internal pullup; or **S1:** user-programmable control input; LVCMOS inputs; internal pullup 500k
SCL/S2	12	I	**SCL:** serial clock input LVCMOS (default configuration), internal pullup 500k or **S2:** user-programmable control input; LVCMOS inputs; internal pullup 500k

TC94A70FG (MAIN : IC31)



Block Diagram



Terminal Function

Pin No.	Symbol	I/O	Description	Default	Remarks
1	AVSS3		Grounding pin for 3.3V CD analog circuits.		
2	RFZi	I 3AI/F	Input pin for RF ripple zero cross signal.	I	Connect to RFRP by 0.033uF
3	RFRP	O 3AI/F	RF ripple signal output pin.	O	Monitor pin for the signal.
4	SBAD/RFDC	O 3AI/F	Sub beam addition signal or RFDC (Hologram PUH RF peak detection signal) signal output pin	O	
5	FEi	O 3AI/F	Focus error signal input pin.	O	
6	TEi	O 3AI/F	Tracking error signal input pin.	O	
7	TEZi	I 3AI/F	Tracking error signal zero cross input pin.	I	Connect to TEI by 0.033uF
8	AVDD3		Power supply pin for 3.3 V CD analog circuits.		
9	Foo	O 3AI/F	Focus servo equalizer output pin.	O	Built in series resister 3.3k Ω
10	TRo	O 3AI/F	Tracking servo equalizer output pin.	O	
11	VREF		Reference voltage pin for analog circuits(1.65V)		Connect to VRO and PVREF. Connect 0.1uF
12	FMo	O 3AI/F	Feed servo equalizer output pin.	O	Built in series resister 3.3kΩ 3 state output (AVDD3,AVSS3,VREF)
13	DMo	O 3AI/F	Disc servo equalizer output pin	O	
14	VSSP3		Grounding pin for 3.3V DSP VCO circuits.		
15	VCOi	I 3AI/F	DSP VCO control voltage inputr pin.	I	
16	VDDP3		Power supply pin for 3.3V DSP VCO circuit.		
17	VDD1		Power supply pin for 1.5V digital circuit		
18	VSS		Grounding pin for 1.5V digital circuit.		
19	FGiN	I 3I/F	FG signal input pin for CAV. CLV "L", CAV FG input	I	Analog input
20	io0(/HSo)	I/O 3I/F	General Input/output port 0 (CD) (Playback speed mode flag output pin.)	I	Schmitt input CMOS PORT
21	io1(/UHSo)	I/O 3I/F	General Input/output port 1 (CD) (Playback speed mode flag output pin.)	I	Schmitt input CMOS PORT
22	XVSS3		Grounding pin for 3.3V system clock oscillator circuit.		
23	Xi	I 3AI/F	Input pin for system clock oscillator Circuit (External Rfb 1MΩ)	I	X'tal
24	Xo	O 3AI/F	Output pin for system clock oscillator circuit	O	X'tal
25	XVDD3		Power supply pin for 3.3 V system clock oscillator circuit		

Pin No	Symbol	I/O	Description	Default	Remarks
26	DVSS3		Grounding pin for 3.3V DAC circuit		
27	Ro	O 3AI/F	R channel audio output pin of Audio DAC.	O	No capacitor required to DVR pin when built in audio DAC is not in use, however , connect 3.3V to DVDD3 and GND to DVSS3.
28	DVDD3		Power supply pin for 3.3V Audio DAC circuit.		
29	DVR		Reference voltage pin for Audio DAC.		
30	Lo	O 3AI/F	L channel audio output pin of Audio DAC	O	
31	DVSS3		Grounding pin for 3.3V Audio DAC circuit		
32	VDDT3		Power supply pin for 3.3 V digital I/O circuit.		For CD and DSP I/O
33	VSS		Grounding pin for 3.3V digital circuit		
34	VDD1		Power supply pin for 1.5V digital circuit.		
35	VDDM1		Power supply pin for 1.5V 1Mbit SRAM.		
36	SRAMSTB	I 3I/F	1Mbit SRAM stand by pin	I	Schmitt input
37	/RST	I 3I/F	Reset signal input pin.	I	Schmitt input
38	BUS0	IO 3I/F	Data input/output pin 0 for microcontroller interface	I	Schmitt input CMOS PORT
39	BUS1	IO 3I/F	Data input/output pin 1 for microcontroller interface	I	Schmitt input CMOS PORT
40	BUS2(So)	IO 3I/F	Data input/output pin 2 for microcontroller interface (Serial output)	I	Schmitt input CMOS PORT
41	BUS3(Si)	IO 3I/F	Data input/output pin 3 for microcontroller interface (Serial input)	I	Schmitt input CMOS PORT
42	BUCK(CLK)	I 3I/F	Clock input pin for the microcontroller interface. (Clock input for Serial communication interface)	I	Schmitt input
43	/CCE	I 3I/F	Chip enable signal input pin for microcontroller interface.	I	Schmitt input
44	TEST	I 3I/F	Setting pin for LSI test mode. (Connect to GND in normal operation)	I	Schmitt input
45	IRQ	I 3I/F	DSP interruption pin.(Pull down by 100kΩ when not in use)	I	Schmitt input
46	AoUT3(Po4)	O 3I/F	Audio data output pin 3 (DSP general output port 4)	O	CMOS PORT
47	AoUT2(Po5)	O 3I/F	Audio data output pin 2 (DSP general output port 5)	O	CMOS PORT
48	Pio0	I/O 3I/F	DSP general input/output port 0	I	Schmitt input CMOS PORT
49	Pio1	I/O 3I/F	DSP general input/output port 1	I	Schmitt input CMOS PORT
50	Pio2	I/O 3I/F	DSP general input/output port 2	I	Schmitt input CMOS PORT
51	Pio3	I/O 3I/F	DSP general input/output port 3	I	Schmitt input CMOS PORT
52	VSS		Grounding pin for 3.3V digital circuit		
53	VDDT3		Power supply pin for 3.3 V digital I/O circuit.		For CD and DSP I/O
54	SBSY	O 3I/F	Sub code block sync output pin	O	CMOS PORT
55	SBOK	O 3I/F	CRCC check result output pin for sub code Q data.	O	CMOS PORT

Pin No.	Symbol	I/O	Description	Default	Remarks
56	IPF	O 3I/F	Correction flag output	O	CMOS PORT
57	SFSY	O 3I/F	Servo internal register read clock output pin	O	CMOS PORT
58	ZDET	O 3I/F	Internal Audio DAC Zero data detection flag output	O	CMOS PORT
59	GPIN	I 3I/F	CD General Input port(Pull down by 100KΩ when not in use)	I	Schmitt input
60	MS	I 3I/F	Microprocessor I/F mode selection pin. "L" Parallel I/F "H" Serial I/F	I	
61	DoUT(Po6)	O 3I/F	Digital Audio output (SPDIF) pin (DSP general output port 6)	O	CMOS PORT
62	AoUT1(Po7)	O 3I/F	Audio data output pin 1(DSP general output port 7)	O	CMOS PORT
63	BCKo(Po8)	O 3I/F	Bit clock output pin for AoUT (DSP general output port 8)	O	CMOS PORT
64	LRCKo(Po9)	O 3I/F	L/R channel clock output pin (DSP general output port 9)	O	CMOS PORT
65	AiN(Pi4)	I 3I/F	Audio data input for Audio DAC (DSP general input port 4)	I	Schmitt input
66	BCKi(Pi5)	I 3I/F	Bit clock input pin for AiN (DSP general input port 5)	I	Schmitt input
67	LRCKi(Pi6)	I 3I/F	L/R channel clock for AiN (DSP general input port 6)	I	Schmitt input
68	VDD1		Power supply pin for 1.5V digital circuit.		
69	VSS		Grounding pin for 1.5V digital circuit.		
70	AWRC	O 3AI/F	VCO control pin for active wide range PLL	O	Applicable in CLV/CAV mode. Connect 0.033 uF.
71	PVDD3		Power supply pin for 3.3V CD PLL circuit.		
72	PDo	O 3AI/F	EFM and PLCK Phase difference signal output pin.	O	4-state output (PVDD3, Hiz PVSS3 PVREF)
73	TMAXS	O 3AI/F	TMAX detection result output pin	O	3 state output (PVDD3 PVSS3 HiZ)
74	TMAX	O 3AI/F	TMAX detection result output pin	O	3 state output(PVDD3,PVSS3,HiZ)
75	LPFN	I 3AI/F	PLL circuit LPF amplifier inversion input pin	I	Connect resister of LPF, refer to application circuit diagram.
76	LPFo	O 3AI/F	PLL circuit LPF amplifier Output pin	O	Connect capacitor of LPF, refer to application circuit diagram.
77	PVREF		PLL circuit 1.65 V reference voltage pin.		Connected to VREF and VRO inside of IC. Connect 0.1uF.
78	VCoF	O 3AI/F	VCO filter pin	O	Connect 0.01uF.
79	PVSS3		Grounding pin for 3.3V CD PLL circuit.		
80	SLCo	O 3AI/F	EFM slice level output pin. Output impedance 2.5kΩ both of analog/digital slice mode.	O	Connect capacitor according with servo frequency band.
81	RFi	I 3AI/F	RF signal input pin Zin is selectable by command.	I	Zin : 20kΩ, 10kΩ, 5kΩ
82	RFRPi	I 3AI/F	RF ripple signal input pin	I	

Pin No.	Symbol	I/O	Description	Default	Remarks
83	RFEQo	O 3AI/F	RF equalizer circuit output pin.	O	Connect to RFRPI by 0.1uF to RFI by 4700pF.
84	VRo	O 3AI/F	1.65 V reference voltage output pin.	O	Connected to VREF and PVREF inside of IC. Connect 0.1uF+100uF.
85	RESiN	O 3AI/F	Pin for connecting a resistor for reference current generation.	O	Connect 22kΩ//0.01uF.
86	VMDiR		Reference voltage output pin for LD APC.		Connect 0.1uF
87	TESTR	O 3AI/F	LPF connection pin for RFEQO offset correction circuit.	O	Connect more than 0.015uF.
88	AGCi	I 3AI/F	RF signal AGC amplifier input pin	I	
89	RFo	O 3AI/F	RF signal generation amplifier output pin	O	
90	RVDD3		Power supply for 3.3V RF amplifier core circuit.		
91	LDo	O 3AI/F	Laser diode amplifier output pin.		
92	MDi	I 3AI/F	Monitor photodiode amplifier input pin.	I	Reference Voltage 178mVtyp.
93	RVSS3		Grounding pin for RF amplifier core circuit		
94	FNi2	I 3AI/F	Main beam signal input pin. To be connected to PIN diode C.	I	
95	FNi1	I 3AI/F	Main beam signal input pin. To be connected to PIN diode A.	I	
96	FPi2	I 3AI/F	Main beam signal input pin. To be connected to PIN diode D.	I	
97	FPi1	I 3AI/F	Main beam signal input pin. To be connected to PIN diode B.	I	
98	TPi	I 3AI/F	Sub beam signal input pin. To be connected to PIN diode F.	I	
99	TNPC	O 3AI/F	TNI/TPI input common capacitor connection pin.	O	Connect to VRO by capacitor.
100	TNi	I 3AI/F	Sub beam signal input pin. To be connected to PIN diode E.	I	

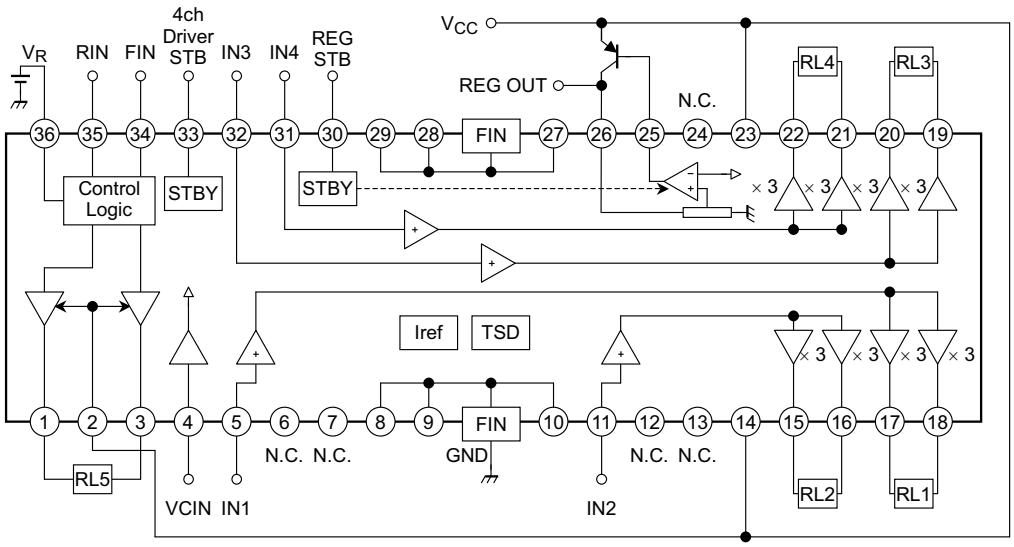
* 3A I/F 3 V analog circuit input/output pin.
1.5 I/F 1.5Vdigital input/output pin.
3 I/F 3 V digital input/output pin.

Note The servo output pins (FOO, TRO, FMO, and DMO) become undefined or GND level under the following conditions
- /RST pin = Low
- Crystal oscillation stopped according to the instructions by the Stop crystal oscillation command
- Power supply for CD is OFF.
- SRAMSTB pin High

To prevent the undefined pin states from affecting the servo circuitry or any other mechanical blocks in the system, appropriate measures should be taken, such as using a driver IC supporting a standby feature to place the system in standby mode while either of the above conditions is satisfied.

TA2125AF (MAIN : IC32)

Block Diagram

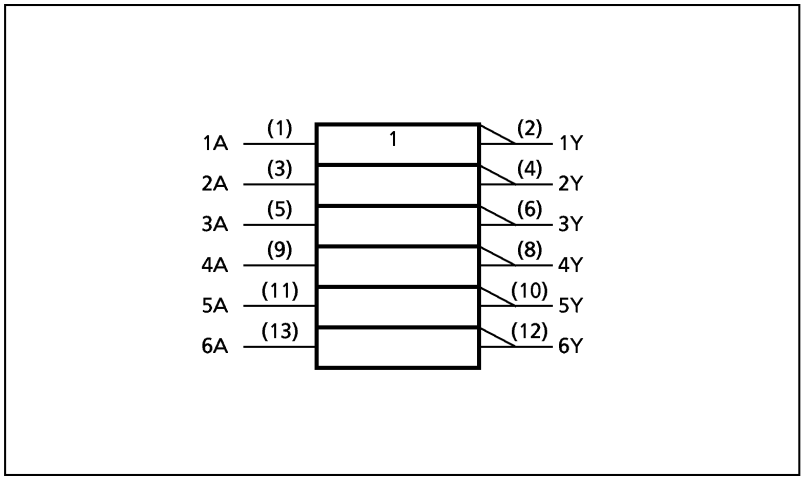


Terminal Function

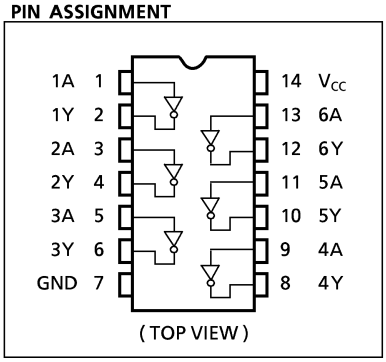
No.	Symbol	Function	
1	OUT5A	Output terminal	H-bridge
2	V_M	Supply voltage terminal for Logic	H-bridge
3	OUT5B	Output terminal	H-bridge
4	V_{CIN}	Input reference voltage	4ch BTL
5	N1	Input for ch1	4ch BTL
6	N.C.	Open	—
7	N.C.	Open	—
8	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (F N)	—
9	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (F N)	—
10	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (F N)	—
11	N2	Input for ch2	4ch BTL
12	N.C.	Open	—
13	N.C.	Open	—
14	V_{CC1}	Supply voltage terminal for ch1/ch2	4ch BTL
15	OUT2M	Inverted output for ch2	4ch BTL
16	OUT2P	Non-inverted output for ch2	4ch BTL
17	OUT1M	Inverted output for ch1	4ch BTL
18	OUT1P	Non-inverted output for ch1	4ch BTL
19	OUT3P	Non-inverted output for ch3	4ch BTL
20	OUT3M	Inverted output for ch3	4ch BTL
21	OUT4P	Non-inverted output for ch4	4ch BTL
22	OUT4M	Inverted output for ch4	4ch BTL
23	V_{CC2}	Supply voltage terminal for ch3/ch4	4ch BTL
24	N.C.	Open	—
25	REG	Connection with BASE of PNP Tr	Regulator
26	REG OUT	Output for regulator (5 V)	Regulator
27	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (F N)	—
28	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (F N)	—
29	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (F N)	—
30	REG STBY	Standby control for regulator	Regulator
31	N4	Input for ch4	4ch BTL
32	N3	Input for ch3	4ch BTL
33	STBY	Standby control for 4ch BTL	4ch BTL
34	FIN	Logic control input	H-bridge
35	RIN	Logic control input	H-bridge
36	VR	Supply voltage terminal for motor driver	H-bridge

TC74HCU04AFNG (FRONT: IC51)

IEC LOGIC SYMBOL



PIN ASSIGNMENT

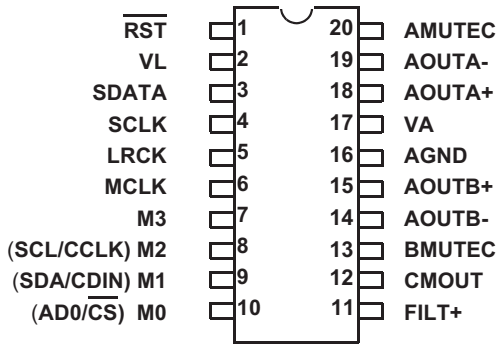


TRUTH TABLE

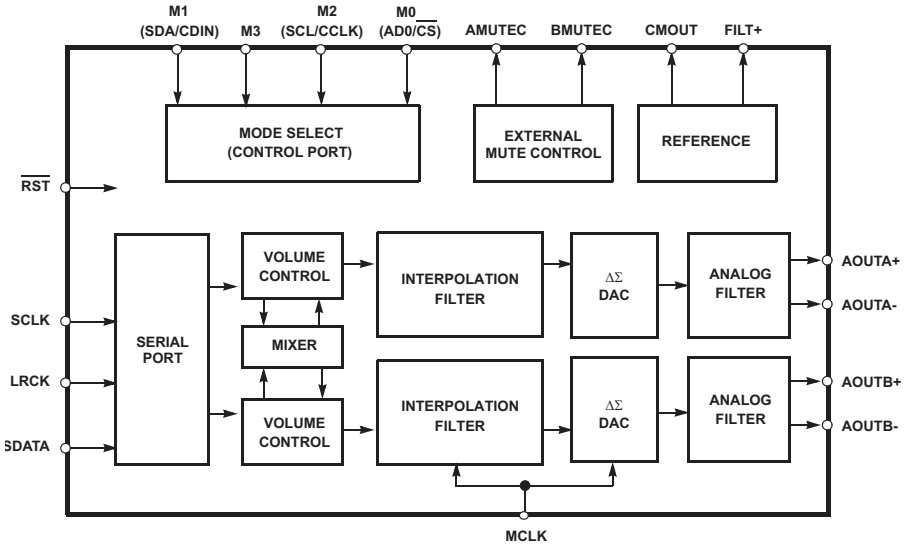
A	Y
L	H
H	L

CS4392KZZ (AUDIO: IC75)

1. PIN DESCRIPTION - PCM DATA MODE



Block Diagram



Terminal Function

RST	1	**Reset** (*Input*) - Powers down device and resets all internal registers to their default settings.
VL	2	**Logic Power** (*Input*) **-** Positive power for the digital input/output.
SDATA	3	**Serial Audio Data** (*Input*) - Input for two's complement serial audio data.
SCLK	4	**Serial Clock** (*Input*/*Output*) - Serial clock for the serial audio interface.
LRCK	5	**Left Right Clock** (*Input*/*Output*) - 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.
FILT+	11	**Positive Voltage Reference** (*Output*) **-** Positive reference voltage for the internal sampling circuits.
CMOUT	12	**Common Mode Voltage** (*Output*) - Filter connection for internal quiescent voltage.
AMUTEC **BMUTEC**	20 13	**Mute Control** (*Output*) - The Mute Control pin goes high during power-up initialization, reset, muting, power-down or if the master clock to left/right clock frequency ratio is incorrect.
AOUTB- **AOUTB+** **AOUTA+** **AOUTA**	14 15 18 19	**Differential Analog Output** (*Outputs*) - The full scale differential analog output level is specified in the Analog Characteristics specification table.
AGND	16	**Ground** (*Input*)
VA	17	**Analog Power** (*Input*) **-** Positive power for the analog section.
Control Port Mode Definitions		
M3	7	**Mode Selection** (*Input*) - This pins should be tied to GND level during control port mode.
SCL/CCLK	8	**Serial Control Port Clock** (*Input*) - Serial clock for the serial control port.
SDA/CDIN	9	**Serial Control Data** (*Input/Output*) - SDA is a data I/O line in I^2C mode. CDIN is the input data line for the control port interface in SPI mode.
AD0/CS	10	**Address Bit 0 (I^2C) / Control Port Chip Select (SPI)** (*Input/Output*) - AD0 is a chip address pin in I^2C mode; CS is the chip select signal for SPI format.
Stand-Alone Mode Definitions		
M3 **M2** **M1** **M0**	7 8 9 10	**Mode Selection** (*Input*) - Determines the operational mode of the device.

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 : Nor h America model N : Europe model K : China model

AUDIO PWB (CUP12097Z-2)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC61	00MHC10102090	IC NJM2068M		HVINJM2068MTE1		
	IC71	00MHC10102090	IC NJM2068M		HVINJM2068MTE1		
	IC75	00MHC10025880	IC CS4392KZZ		HVIC S4392KZZ		
	IC76	90M HC900150R	IC KIA1117S/F33 REGULATOR(SOT 223)		CVIKIA1117S33		
	IC77	00MHC3890599F	IC KIA7805API		HVIKIA7805API		
	Q601	00MHT800931A0	TRS KTC3200GR		HVTKTC3200GRT		
	Q602	00MHT600121A0	TRS KTA1268GR		HVTKTA1268GRT		
	Q603	90M BA001460R	TRS KRC107M		HVTKRC107MT		
	Q604	00MBA10002000	TRS KRA104M		HVTKRA104MT		
	Q605	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q606	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q607	00MHT600121A0	TRS KTA1268GR		HVTKTA1268GRT		
	Q608	00MHT800931A0	TRS KTC3200GR		HVTKTC3200GRT		
	Q701	00MHT800931A0	TRS KTC3200GR		HVTKTC3200GRT		
	Q702	00MHT600121A0	TRS KTA1268GR		HVTKTA1268GRT		
	Q703	90M BA001460R	TRS KRC107M		HVTKRC107MT		
	Q704	00MBA10002000	TRS KRA104M		HVTKRA104MT		
	Q705	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q706	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q707	00MHT600121A0	TRS KTA1268GR		HVTKTA1268GRT		
	Q708	00MHT800931A0	TRS KTC3200GR		HVTKTC3200GRT		
	D605	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D606	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D607	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D705	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D706	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D707	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
CAPACITORS GROUP							
	C602	nsp	FILM CAP3300PF 100V J MYLAR		HCQI1H332JZT		
	C604	00MOF15331540	FILM CAPAPSVA0100J33100 POLYPROPYLNE		CCMP2A331JN09T		
	C605	nsp	FILM CAP1000PF 100V J MYLAR		HCQI1H102JZT		
	C607	nsp	FILM CAP1500PF 100V J MYLAR		HCQI1H152JZT		
	C608	943133002360S	FILM CAPAPSVA0100J10100 POLYPROPYLNE		CCMP2A101JN09T		
	C609	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C610	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C611	00MOA227016R0	ELECT CAP220UF 16V		CCEA1CR0A221T		
	C612	00MOA107025Z0	ELECT CAP100UF 25V		HCEA1ER101T		
	C615	nsp	FILM CAP1000PF 100V J MYLAR		HCQI1H102JZT		
	C616	943133002360S	FILM CAPAPSVA0100J10100 POLYPROPYLNE		CCMP2A101JN09T		
	C702	nsp	FILM CAP3300PF 100V J MYLAR		HCQI1H332JZT		
	C704	00MOF15331540	FILM CAPAPSVA0100J33100 POLYPROPYLNE		CCMP2A331JN09T		
	C705	nsp	FILM CAP1000PF 100V J MYLAR		HCQI1H102JZT		
	C707	nsp	FILM CAP1500PF 100V J MYLAR		HCQI1H152JZT		
	C708	943133002360S	FILM CAPAPSVA0100J10100 POLYPROPYLNE		CCMP2A101JN09T		
	C709	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C710	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C711	00MOA227016R0	ELECT CAP220UF 16V		CCEA1CR0A221T		
	C712	00MOA107025Z0	ELECT CAP100UF 25V		HCEA1ER101T		
	C715	nsp	FILM CAP1000PF 100V J MYLAR		HCQI1H102JZT		
	C716	943133002360S	FILM CAPAPSVA0100J10100 POLYPROPYLNE		CCMP2A101JN09T		
	C751	nsp	CER. CAP120PF 50V CERAMIC		CCBS1H121KBT		
	C752	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C753	00MOA22701620	ELECT CAP220UF 16V		CCEA1CH221T		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C754	00MOA10701620	ELECT CAP100UF 16V		CCEA1CH101T		
	C755	00MOA22605020	ELECT CAP22UF 50V		CCEA1HH220T		
	C756	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C757	00MOA22605020	ELECT CAP22UF 50V		CCEA1HH220T		
	C758	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C759	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C760	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C761	00MOA22702520	ELECT CAP220UF 25V		CCEA1EH221T		
	C790	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C791	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
OTHERS PARTS GROUP							
	BK75	nsp	BRACKET FOR PWB		CMD1A569		
	BN42	nsp	CORD WIRE ASSY 11P 100MM		CWB1B911100EN		
	BN43	nsp	CORD WIRE ASSY CWB1		C903080BM		
	CN81	nsp	CONN 9P STRAIGHT 00906 0030		CJP09GA19ZY		
	GND1	nsp	TERMINAL MET37 0002		HJT1A025		
	JK61	943643002370S	TERMINAL CINCH JACK 1P WHITE (GL)		CJJ4M064Z		
	JK71	943643002380S	TERMINAL CINCH JACK 1P RED (GL)		CJJ4M065Z		
	L751	90M FN000090R	EMI FILTERBEAD		KLZ9H001Z		
	L752	90M FN000090R	EMI FILTERBEAD		KLZ9H001Z		

FRONT PWB (CUP12097Z-1)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC51	90M HC700550R	IC TC74HCU04AFNG		HVI74HCU04AFNG		
	Q502	90M BA001460R	TRS KRC107M		HVTKRC107MT		
	Q503	90M BA001460R	TRS KRC107M		HVTKRC107MT		
	D502	90M HI101120R	L.E.D SLR325VRA47		KVDSLR325VRA47		
	D503	90M HI101120R	L.E.D SLR325VRA47		KVDSLR325VRA47		
	FL51	90M HQ300610R	FL DISPLAY FOR CD5400		CFLHCA12SS18T		
CAPACITORS GROUP							
	C501	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C502	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C503	00MEJ47601640	ELECT CAP47 UF 16V KS		CCEA1CKS470T		
	C504	00MEJ47601640	ELECT CAP47 UF 16V KS		CCEA1CKS470T		
	C505	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
OTHERS PARTS GROUP							
	BK51	nsp	BRACKET FL DISPLAY HOLDER		CMD1A504		
	BK52	nsp	BRACKET FL DISPLAY HOLDER		CMD1A504		
	BN51	nsp	CORD WIRE ASSY		CWB1B905050EN		
	CN21	nsp	CONN 21P FPC WAFER		CJP21GA117ZY		
	L501	90M FN000090R	EMI FILTERBEAD		KLZ9H001Z		
	L502	90M FN000090R	EMI FILTERBEAD		KLZ9H001Z		
	L503	90M FN000090R	EMI FILTERBEAD		KLZ9H001Z		
	RS51	00MHW10004210	PHOTO UNITRPM6936 V4		CRVRPM6936V4		
	S502	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		
	S503	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		
	S504	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		
	S505	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		
	S506	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		
	S507	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		

HEADPHONE PWB (CUP12097Z-4)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC81	00MHC10102090	IC NJM2068M		HVINJM2068MTE1		
	Q801	00MHT800951B0	TRS KTC3203Y		HVTKTC3203YT		
	Q802	00MHT800951B0	TRS KTC3203Y		HVTKTC3203YT		
	Q803	00MHT600141B0	TRS KTA1271Y		HVTKTA1271YT		
	Q804	00MHT600141B0	TRS KTA1271Y		HVTKTA1271YT		
	Q807	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q808	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q809	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	Q810	00MHT805501B0	TRS KTC2874B		HVTKTC2874BT		
	D801	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D802	00MHD20015210	DIODE DIODE 1SS133T 77		CVD1SS133MT		
	D803	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D804	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
CAPACITORS GROUP							
	C801	00MOA10701620	ELECT CAP100UF 16V		CCEA1CH101T		
	C802	00MOA10701620	ELECT CAP100UF 16V		CCEA1CH101T		
	C803	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C804	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C805	nsp	CER. CAP1000PF 50V B CERAMIC		CCBS1H102KBT		
	C806	nsp	CER. CAP1000PF 50V B CERAMIC		CCBS1H102KBT		
	C807	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
	C808	00MOA47602520	ELECT CAP47UF 25V		CCEA1EH470T		
OTHERS PARTS GROUP							
	BN81	nsp	CORD WIRE ASSY 9P 280MM		CWZCD5003BN81ZA		
	BN81(1)	90M FC500030R	FERRITE COREFERRITE RING 29X7.7X19		CLZ9W003Z		
	BN81(2)	nsp	CORD WIRE ASSY 9P 280MM		CWZCD5003BN81		
	PH81	90M YT004500R	JACK H/P SILVER PJ 612A 51		CJJ2E026Z		
	VR81	943671002420S	VER. RES 10KA A CURVE		CVV3J02A103Z		

MAIN PWB (CUP12096Z)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC21	943243002430M	U PROT5CD2(F AAD JZ) MAIN CPU CD5003		CVIT5CD2		
	IC22	90M HC109780R	IC AT24C02NSU EEPROM(2K)		CVIAT24C02NSU18		
	IC23	943246002440S	IC IS61C256AL 12JLI		CVIS61C256AL12J		
	IC24	00MHC10099540	IC S 80145ALMC		HVIS 80145ALMC		
	IC25	943231002450S	IC KIA1117S18 RTK/		CVIKIA1117S18		
	IC26	00MHC008005K0	IC TC7WHU04FU(TE12		CVITC7WHU04FU		
	IC27	943235002460S	IC CDCE913PWR		CVIC DCE913PWR		
	IC31	90M HC110060R	IC TC94A70FG CD DSP		CVITC94A70FG		
	IC32	90M HC109470R	IC TA2125AFG		HVITA2125AFG		
	IC33	90M HC900150R	IC KIA1117S/F33 REGULATOR(SOT 223)		CVIKIA1117S33		
	IC34	90M HC900160R	IC LM1117S15 REGULATOR(SOT 223)		CVIKIA1117S15		
	D202	00MHZ21303210	DIODE DIODE 1SS355		CVD1SS355T		
	D203	00MHZ21303210	DIODE 1SS355		CVD1SS355T		
	D204	00MHZ21303210	DIODE 1SS355		CVD1SS355T		
	D301	00MHZ21303210	DIODE 1SS355		CVD1SS355T		
	D401	00MHZ21303210	DIODE 1SS355		CVD1SS355T		
	D431	90M HD302440R	ZENER DIODE ZJ4.7B 1/2W		CVDZJ4.7BT		
	D432	90M HD201750R	DIODE 1N4003 CVD		1N4003SRT		
	D433	00MHZ21303210	DIODE 1SS355		CVD1SS355T		
	D434	90M HD302460R	ZENER DIODE ZJ5.6B 1/2W		CVDZJ5.6BT		
	D435	00MHZ21303210	DIODE 1SS355		CVD1SS355T		
	Q201	90M HX600010R	CHIP TRS.KRA102S		HVTKRA102S		
	Q202	90M HX600010R	CHIP TRS.KRA102S		HVTKRA102S		
	Q301	90M HX600020R	CHIP TRS.KTA1504S Y RTK		HVTKTA1504SYRTK		
	Q401	90M HX800100R	CHIP TRS.KTC3875S Y RTK		HVTKTC3875SYRTK		
	Q402	90M HX800100R	CHIP TRS.KTC3875S Y RTK		HVTKTC3875SYRTK		
	Q431	00MHT600111B0	TRS.KTA1267Y		HVTKTA1267YT		
	Q432	90M HX800090R	CHIP TRS.KRC111S		HVTKRC111S		
	Q433	90M HX800090R	CHIP TRS.KRC111S		HVTKRC111S		
	Q434	00MHT30001000	TRS.KTC3199Y		HVTKTC3199YT		
CAPACITORS GROUP							
	C201	00MDD95330300	CER. CAP.33PF 50V		JACCUS1H330JA		
	C202	00MDD95330300	CER. CAP.33PF 50V		JACCUS1H330JA		
	C203	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C206	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C207	90M DK900090R	CER. CAP.1UF 10V KC		CCUS1A105KC		
	C208	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C209	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C210	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C211	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C212	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C213	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C214	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C215	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C216	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C218	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C219	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C220	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C221	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C222	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C223	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C251	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C252	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C253	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C254	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C255	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C258	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C259	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C260	00MDD9515030R	CER. CAP.15PF 50V JA		CCUS1H150JA		
	C261	00MDD9515030R	CER. CAP.15PF 50V JA		CCUS1H150JA		

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

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C301	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C306	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C310	00MDD95470300	CER. CAP.47PF 50V JA		CCUS1H470JA		
	C311	00MDK96333300	CER. CAP.0.033UF 50V K		CCUS1H333KC		
	C312	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C313	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C314	00MDK96153300	CER. CAP.0.015UF 50V		CCUS1H153KC		
	C315	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C316	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C317	00MDK96472300	CER. CAP.4700PF 50V KC		CCUS1H472KC		
	C318	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C319	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C320	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C321	00MDK96153300	CER. CAP.0.015UF 50V		CCUS1H153KC		
	C322	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C323	00MDD95680300	CER. CAP.68PF 50V JA		CCUS1H680JA		
	C324	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C325	00MOA47701620	ELECT CAP.470UF 16V ZF		CCEA1CH471T		
	C326	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C327	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C328	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C329	00MDK96102300	CER. CAP.1000PF 50V KC		CCUS1H102KC		
	C330	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C331	00MDK96333300	CER. CAP.0.033UF 50V K		CCUS1H333KC		
	C332	00MDK96333300	CER. CAP.0.033UF 50V K		CCUS1H333KC		
	C333	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C334	00MDD95471300	CER. CAP.470PF 50V JA		CCUS1H471JA		
	C335	00MDD95471300	CER. CAP.470PF 50V JA		CCUS1H471JA		
	C336	90M OA000630R	ELECT CAP.KZH 6.3V/1000UF		CCEA0JKZH102KS		
	C337	00MDK96103300	CER. CAP.0.01UF 50V KC		CCUS1H103KC		
	C338	00MDK96473300	CER. CAP.0.043UF 50V KC		CCUS1H473KC		
	C339	00MDK96473300	CER. CAP.0.043UF 50V KC		CCUS1H473KC		
	C340	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C341	00MOA22701620	ELECT CAP.220UF 16V		CCEA1CH221T		
	C342	00MDK96222300	CER. CAP.2200PF 50V KC		CCUS1H222KC		
	C343	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C344	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C345	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C346	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C347	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C348	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C349	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C350	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C351	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C352	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C353	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C354	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C360	00MOA47602520	CER. CAP.47UF 25V		CCEA1EH470T		
	C361	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C362	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C363	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C364	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C365	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C401	00MOA22701620	ELECT CAP.220UF 16V		CCEA1CH221T		
	C402	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C403	00MDD95120300	CER. CAP.12PF 50V JA		CCUS1H120JA		
	C404	00MDK96104300	CER. CAP 0 1UF 50V K CCUS1H104KC0.1UF 50V K		CCUS1H104KC		
	C405	00MOA47602520	ELECT CAP.47UF 25V		CCEA1EH470T		
	C406	00MDD95101300	CER. CAP.100PF 50V JA		CCUS1H101JA		
	C408	90M DK900090R	CER. CAP.1UF 10V KC		CCUS1A105KC		
	C410	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C411	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C412	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C431	00MOA22802520	ELECT CAP.2200UF 25V		CCEA1EH222E		
	C433	00MOA22505020	ELECT CAP.2.2UF 50V		CCEA1HH2R2T		
	C461	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C462	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C465	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C466	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C467	00MOA10701620	ELECT CAP.100UF 16V		CCEA1CH101T		
	C468	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C990	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
	C991	00MDK96104300	CER. CAP.0.1UF 50V K		CCUS1H104KC		
OTHERS PARTS GROUP							
	BK21	nsp	BRACKET FOR PWB		CMD1A569		
	BK31	nsp	HEAT SINK		CMY1A267		
	CN21	nsp	CONN.21P FPC WAFER		CJP21GA117ZY		
	CN22	nsp	CONN.7P WAFER CARD CABLE		CJP07GB113ZY		
	CN23	nsp	CONN.7P STRAIGHT 20017WS 07		CJP07GA19ZY		
	CN31	nsp	CONN.5P STRAIGHT 20017WS 05		CJP05GA19ZY		
	CN32	nsp	CONN.6P STRAIGHT		CJP06GA19ZY		
	CN33	nsp	CONN.16P WAFER CARD CABLE		CJP16GA117ZY		
	CN41	nsp	CONN.3P STRAIGHT 20017WS 03	U	CJP03GA19ZY		
	CN42	nsp	CONN.11P WAFER STRAIGHT 20017WS 11		CJP11GA19ZY		
	CN43	nsp	CONN.3P STRAIGHT YMW025 03R		CJP03GA01ZY		
	CN44	nsp	CONN.3P STRAIGHT YMW025 03R		CJP03GA01ZY		
	CN45	nsp	CONN.13P WAFER STRAIGHT 20017WS 13		CJP13GA19ZY		
	JK41	90M YT005310R	OPT. CONN.TOTX177L		HJSTOTX177L		
	JK42	943646000840S	TERMINAL CINCH 1P JACK BLACK		CJJ4M056W		
	JK43	90M YT003120R	TERMINAL CINCH 2P JE0200598N		CJJ4N036Z		
	L251	90M FN000260R	EMI FILTERHU 1H3216 121		CLZ91002Z		
	L252	90M FN000260R	EMI FILTERHU 1H3216 121		CLZ91002Z		
	L301	90M FN000260R	EMI FILTERHU 1H3216 121		CLZ91002Z		
	L302	90M FN000260R	EMI FILTERHU 1H3216 121		CLZ91002Z		
	L303	nsp	CHIP INDACTFI C3216 103KJT		HLQ09E100KRZ		
	L401	90M FN000260R	EMI FILTERHU 1H3216 121		CLZ91002Z		
	SW41	90M SS000710R	SLIDE SWITCH		KSS2B016Z		
	X201	90M JX001100R	X'TAL 20MHZ		HOX20000E220C		
	X251	90M JX001390R	X'TAL 16.9344MHZ		HOX16934A120C		

POWER PWB (CUP12097Z-3)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC91	90M HC300780R	IC KIA7808API		HVIKIA7808API		
	IC92	00MHC3890599F	IC KIA7805API		HVIKIA7805API		
	IC93	00MHC3991209F	IC KIA7912PI		HVIKIA7912PI		
	IC94	00MHC3891299F	IC KIA7812API		HVIKIA7812API		
	Q901	90M HT800040R	TRS KSC2316Y		HVTKSC2316YT		
	Q902	90M HT800040R	TRS KSC2316Y		HVTKSC2316YT		
⚠	Q903	00MHT327851H0	TRS KSC2785Y		HVTKSC2785YT		
	D901	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D902	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D903	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D904	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D905	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D906	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D907	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D908	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D909	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D910	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D911	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D912	90M HD201730R	DIODE 1N4003		CVD1N4003ST		
	D913	90M HD201730R	DIODE DIODE 1N4003		CVD1N4003ST		
	D914	90M HD302470R	ZENER DIODE ZJ6.2B 1/2W		CVDZJ6.2BT		
	D915	90M HD302430R	ZENER DIODE ZJ36B		CVDZJ36BT		
	D916	90M HD302460R	ZENER DIODE ZJ5.6B 1/2W		CVDZJ5.6BT		
	D917	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D918	00MHD20015210	DIODE 1SS133T 77		CVD1SS133MT		
	D920	nsp	CORD SN95/PB5 0.6	K,N	C3A206		
	D920	00MHD20015210	DIODE 1SS133T 77	U	CVD1SS133MT		
	D921	nsp	CORD SN95/PB5 0.6	K,N	C3A206		
	D921	00MHD20015210	DIODE 1SS133T 77	U	CVD1SS133MT		
CAPACITORS GROUP							
	C903	00MOA22706320	ELECT CAP220UF 63V		CCEA1JH221E		
	C904	nsp	FILM CAP0.1UF 100V		CCUMT2A104KB		
	C905	00MOA22505020	ELECT CAP2.2UF 50V		CCEA1HH2R2T		
	C906	00MOA10605020	ELECT CAP10UF 50V		CCEA1HH100T		
	C907	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C908	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C909	90M OA000560R	ELECT CAP4700UF 35V 16X30		CCEA1VH472E		
	C910	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
	C911	00MOA47701620	ELECT CAP470UF 16V ZF		CCEA1CH471T		
	C912	00MOA10701620	ELECT CAP100UF 16V		CCEA1CH101T		
	C913	00MOA10802520	ELECT CAP1000UF 25V		CCEA1EH102E		
	C914	nsp	CER. CAP0.022UF 50V Z CERAMIC		CCBS1H223ZFT		
	C915	00MOA10701620	ELECT CAP100UF 16V		CCEA1CH101T		
	C916	00MOA47701620	ELECT CAP470UF 16V ZF		CCEA1CH471T		
	C917	00MOA33802520	ELECT CAP3300UF 25V		CCEA1EH332E		
	C918	00MOA47701620	ELECT CAP470UF 16V ZF		CCEA1CH471T		
	C919	00MOA33802520	ELECT CAP3300UF 25V		CCEA1EH332E		
	C920	00MOA47701620	ELECT CAP470UF 16V ZF		CCEA1CH471T		
	C922	00MOA10702520	ELECT CAP100UF 25V		CCEA1EH101T		
	C923	00MOA10702520	ELECT CAP100UF 25V		CCEA1EH101T		
⚠	C924	90M DK100770R	CER. CAP 0.0047UF 2.5KV CERAMIC		KCKDKS472ME		
OTHERS PARTS GROUP							
	BK91	nsp	BRACKETBRACKET FOR PWB		CMD1A569		
	BN44	nsp	CORD WIRE ASSY		CWB1C903080BM		
	BN45	nsp	CORD WIRE ASSY 13P 80MM		CWB1C913080EN		
	CN91	nsp	CONN 7.92MM(YUNHO)		CJP02KA060ZY		
	CN92	nsp	CONN 2P WAFER		CJP02GA89ZY		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	CN93	nsp	CONN 7P STRAIGHT 20017WS 07		CJP07GA19ZY		
	CN94	nsp	CONN 3P STRAIGHT YMW025 03R		CJP03GA01ZY		
⚠	F901	90M FS001260R	FUSE T 315MA L 250V	K,N	KBA2C0315TLEY		
⚠	F901	90M FS001370R	FUSE 250V T 0.63A	U	KBA2C0630TLEY		
	HF91	nsp	CONN HOLDER FUSE		KJCFC5S		
	HF92	nsp	CONN HOLDER FUSE		KJCFC5S		
	RY91	90M LY000340R	RELAY SDT S 112DMR		HSL1A008ZE		
⚠	T902	943101002400M	TRANSF. SUB CD5003 N	K,N	CLT5I012ZE		
⚠	T902	943101002410M	TRANSF. SUB CD5003 U	U	CLT5I012ZU		

FLASHER IN PWB (CUP12097Z 6)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	Q551	00MBA10001000	TRS KRA102M	U	HVTKRA102MT		
	D551	00MHD20015210	DIODE 1SS133T 77	U	CVD1SS133MT		
	D552	90M HI200020R	L.E.DSIR 34ST3F	U	BVDSIR34ST3F		
	D553	00MHD20015210	DIODE 1SS133T 77	U	CVD1SS133MT		
CAPACITORS GROUP							
	C551	00MOA10701620	ELECT CAP100UF 16V	U	CCEA1CH101T		
	C552	nsp	CER. CAP0.1UF 50V Z CERAMIC	U	CCBS1H104ZFT		
OTHERS PARTS GROUP							
	BK55	nsp	BRACKET FOR PWB	U	CMD1A569		
	BK56	nsp	BRACKET FOR PWB	U	CMD1A569		
	BK57	nsp	BRACKET SHIELD	U	CMD1A512		
	BN41	nsp	CORD WIRE ASSY	U	CWB1B903180EN		
	JK55	90M YT004860R	TERMINAL 3.5MM JACK STEREO PJ 308 02	U	CJJ2D008Z		
	RC51	90M HW100690R	PHOTO UNITRPM674CBR S	U	CRVRPM6936		

TACT SW PWB (CUP12097Z-5)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	Q501	90M BA001460R	TRS KRC107M		HVTKRC107MT		
	D501	263710016400S	L.E.D SLI 325URT31W TP		CVDSLI325URT31WT055		
CAPACITORS GROUP							
	C506	nsp	CER. CAP0.1UF 50V Z CERAMIC		CCBS1H104ZFT		
OTHERS PARTS GROUP							
	CN51	nsp	CONN 5P WAFER 20017WR 05		CJP05GB46ZY		
	JW51	nsp	CORD WIRE ASSY		CWE7202100AR		
	S501	90M SP001400R	PUSH SWTACT SW EVQ22505R		CST1A023ZT		

TRANSF. SW PWB (CUP12097Z-7)

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
OTHERS PARTS GROUP							
	BN92	nsp	CORD WIRE ASSY 2P 250MM		WB4F932250UZ		
	BN93	nsp	CORD WIRE ASSY 7P 80MM		WB1C907080EN		
	BN94	nsp	CORD WIRE ASSY		WB1C903080BM		

Personal notes: