

SERVICE MANUAL

MODEL	JP	E3	E2	EK	E2A	E1C	EUT
RCD-M37	✓		✓				
RCD-M37DAB				✓			
D-E500	✓						
D-M37		✓					

STEREO CD RECEIVER

注 意

サービスをおこなう前に、このサービスマニュアルを必ずお読みください。本機は、火災、感電、けがなどに対する安全性を確保するために、さまざまな配慮をおこなっており、また法的には「電気用品安全法」にもとづき、所定の許可を得て製造されております。従ってサービスをおこなう際は、これらの安全性が維持されるよう、このサービスマニュアルに記載されている注意事項を必ずお守りください。

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

• 本機の仕様は性能改良のため、予告なく変更することがあります。
• 補修用性能部品の保有期間は、製造打切後 8 年です。

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

• 修理の際は、必ず取扱説明書を参照の上、作業を行ってください。

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

• 本文中に使用しているイラストは、説明の都合上現物と多少異なる場合があります。

DENON

Denon Brand Company, D&M Holdings Inc.

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.

LASER RADIATION

Do not stare into beam or view directly with optical instruments, class 3A laser product.

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 or seals. Be sure to heed these cautions and the cautions indicated in the handling instructions.

◎ Caution concerning electric shock!

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

◎ Caution concerning disassembly and assembly!

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

◎ Only use designated parts!

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

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

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

◎ Inspect for safety after servicing!

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

(Insulation check procedure)

Unplug the power cord from the power outlet, disconnect the antenna, plugs, etc., and turn the power switch on. Using a 500V insulation resistance tester, check that the insulation resistance between the terminals of the power plug and the externally exposed metal parts (antenna terminal, headphones terminal, microphone terminal, input terminal, etc.) is $1M\Omega$ or greater. If it is less, the set must be inspected and repaired.

CAUTION Concerning important safety parts

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

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

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

注 意 サービス、点検時にはつぎのことにご注意願います。

◎注意事項をお守りください！

サービスのとき特に注意を必要とする個所についてはキャビネット、部品、シャーシなどにラベルや捺印で注意事項を表示しています。これらの注意書きおよび取扱説明書などの注意事項を必ずお守りください。

◎感電に注意！

- (1) このセットは、交流電圧が印加されていますので通電時に内部金属部に触れると感電することがあります。従って通電サービス時には、絶縁トランスの使用や手袋の着用、部品交換には、電源プラグを抜くなどして感電にご注意ください。
- (2) 内部には高電圧の部分がありますので、通電時の取扱には十分ご注意ください。

◎分解、組み立て作業時のご注意！

板金部品の端面の『バリ』は、部品製造時に充管理をしておりますが、板金端面は鋭利となっている箇所がありますので、部品端面に触れたまま指を動かすとまれに怪我をする場合がありますので十分注意して作業して下さい。手の保護のために手袋を着用してください。

◎指定部品の使用！

セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用してください。特に配線図、部品表に△印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

◎部品の取付けや配線の引きまわしは、元どおりに！

安全上、テープやチューブなどの絶縁材料を使用したり、プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランパーによって発熱部品や高圧部品に接近しないように配慮されていますので、これらは必ず元どおりにしてください。

◎サービス後は安全点検を！

サービスのために取り外したねじ、部品、配線などが元どおりになっているか、またサービスした個所の周辺を劣化させてしまったところがないかなどを点検し、外部金属端子部と、電源プラグの刃の間の絶縁チェックをおこなうなど、安全性が確保されていることを確認してください。

(絶縁チェックの方法)

電源コンセントから電源プラグを抜き、アンテナやプラグなどを外し、電源スイッチを入れます。500V 絶縁抵抗計を用いて、電源プラグのそれぞれの端子と外部露出金属部〔アンテナ端子、ヘッドホン端子、マイク端子、入力端子など〕との間で、絶縁抵抗値が1 MΩ 以上であることを確認してください。この値以下のときはセットの点検修理が必要です。

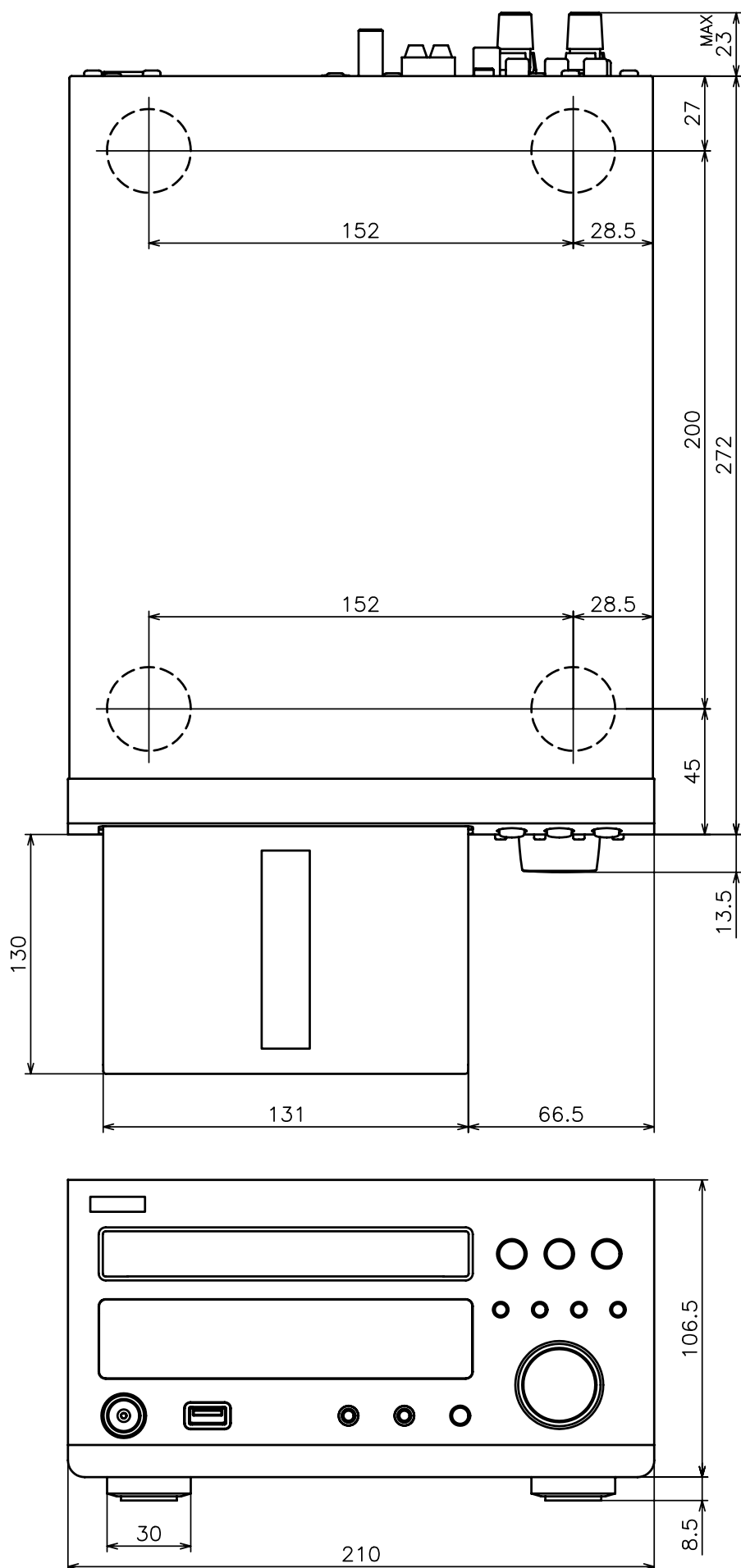
注 意 安全上重要な部品について

本機に使用している多くの電気部品、および機構部品は安全上、特別な特性を持っています。この特性はほとんどの場合、外観では判別つきにくく、またもとの部品より高い定格（定格電力、耐圧）を持ったものを使用しても安全性が維持されるとは、限りません。安全上の特性を持った部品は、このサービスマニュアルの配線図、部品表につぎのように表示していますので必ず指定されている部品番号のものを使用願います。

- (1) 配線図… △ マークで表示しています。
- (2) 部品表… △ マークで表示しています。

指定された部品と異なるものを使用した場合には、感電、火災などの危険を生じる恐れがあります。

DIMENSION



WIRE ARRANGEMENT

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.

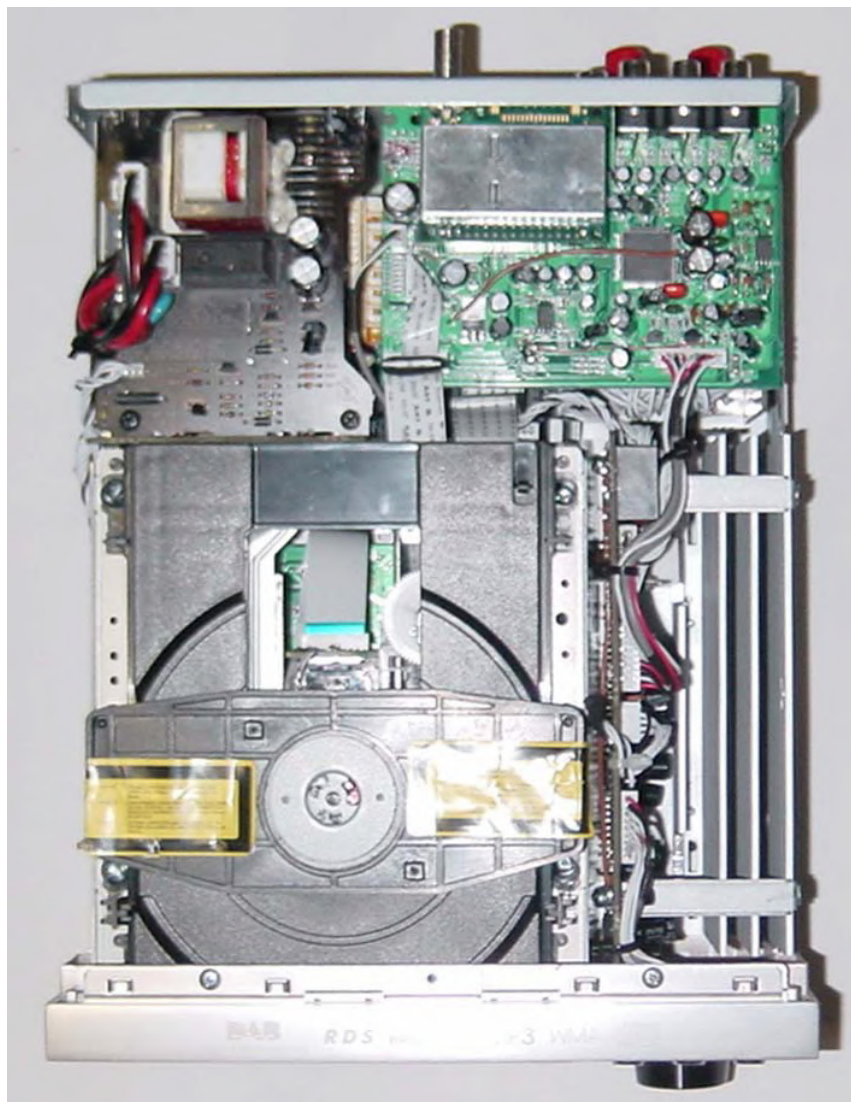
ワイヤー整形図

調整や部品の交換等により、ワイヤー類の結束をはずしたり移動させた場合には、それらの作業が完了した時点でワイヤーの整形をおこなってください。正しく整形されていないとノイズ発生の原因となることがあります。

Wire arrangement viewed from the top

上面からみたワイヤー整形

Back Panel side



Front Panel side

CAUTION IN SERVICING

Initializing RCD-M37DAB/RCD-M33/D-M37/D-E500

RCD-M35DAB/M33 initialization should be performed when the μ com, and peripheral parts of μ com are replaced.

1. Switch off the unit and remove the AC cord from the wall outlet.
2. Hold the following **I◀◀** / - button and MENU/SET button, and plug the AC cord into the outlet.

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

サービス時の注意事項

本機の初期化について

マイコンやマイコン周辺部品を交換した場合は、本機の初期化を行って下さい。

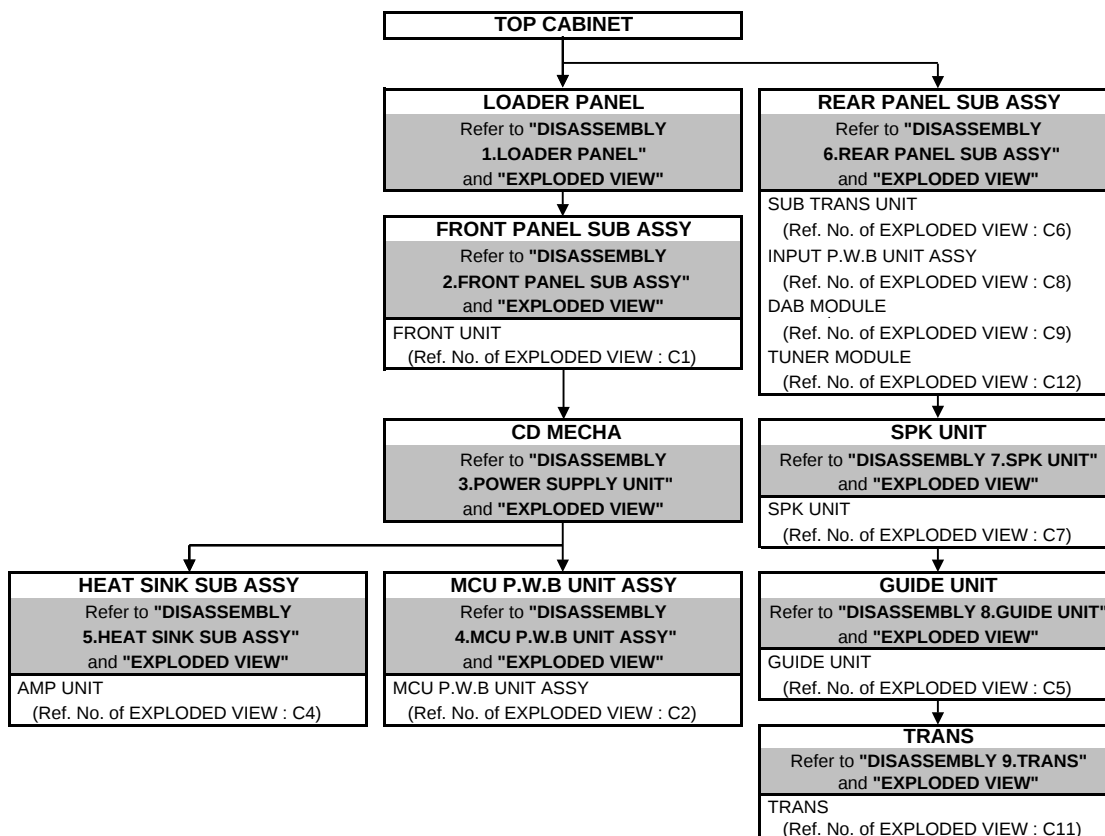
1. 電源ボタンを押してスタンバイ状態にしてから、壁の電源コンセントから電源コードを抜きます。
2. **I◀◀** / - ボタンと MENU/SET ボタンを同時に押しながら、電源プラグをコンセントに差し込みます。

*マイコンが初期化されます。

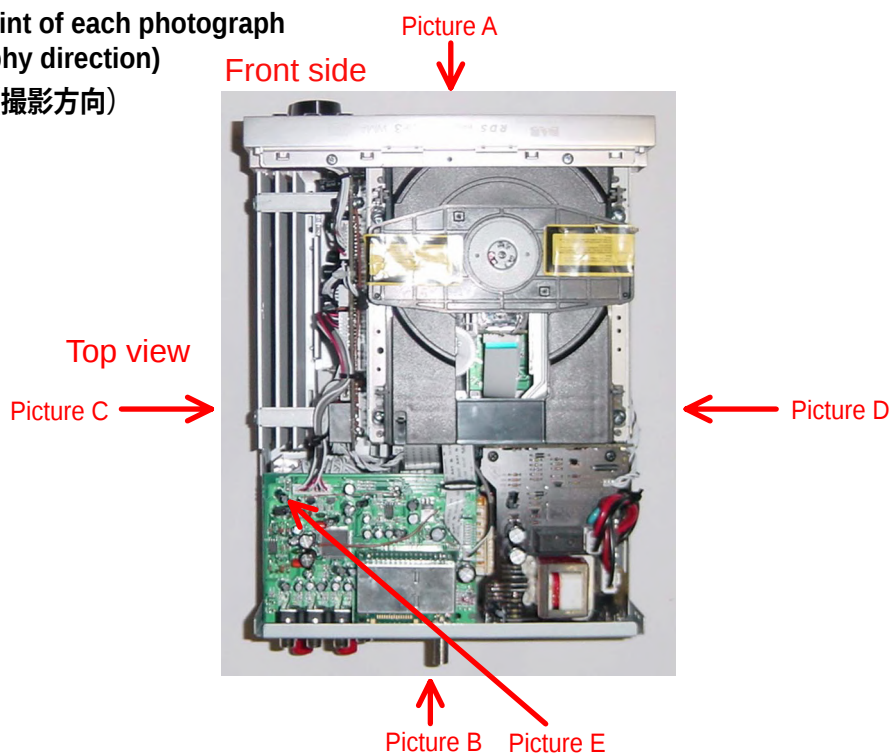
注意： 初期化を行うとお客様が設定した内容が工場出荷状態に戻りますので、あらかじめ設定内容を控えておき初期化後再設定してください。

DISASSEMBLY

- Disassemble in order of the arrow of the figure of following flow.
下記フロー図の矢印の順番にはずしてください。
- In the case of the re-assembling, assemble it in order of the reverse of the following flow.
再組み立ての場合は、下記のフローの逆の順番に組立ててください
- In the case of the re-assembling, observe "attention of assembling" it.
再組み立ての場合は、「組立のご注意」を遵守してください。



The viewpoint of each photograph
(photography direction)
各図の視点(撮影方向)

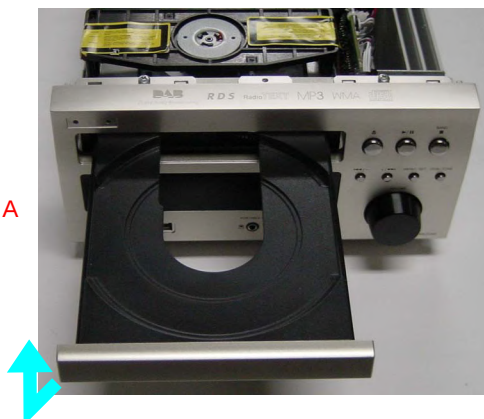


1. LOADER PANEL

proceeding (手順): **TOP CABINET** → **LOADER PANEL**

- (1) Remove the Loader Panel. (ローダーパネルをはずす。)

Picture A

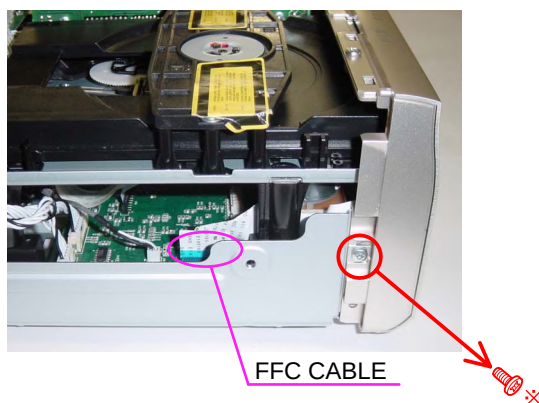


2. FRONT PANEL SUB ASSY

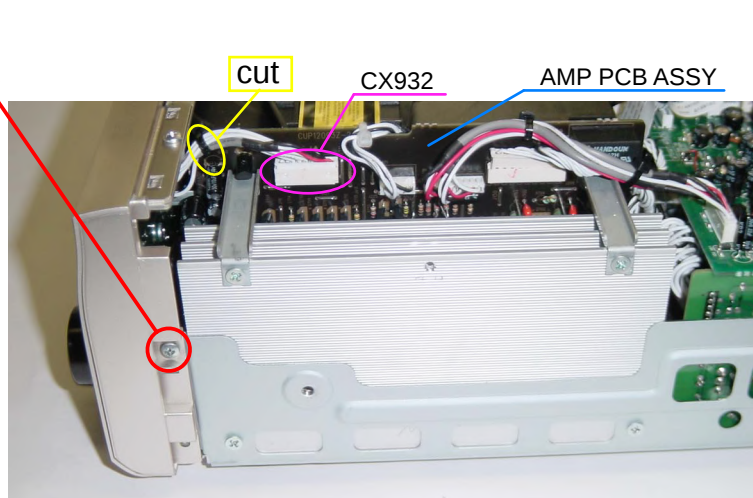
proceeding (手順): **TOP CABINET** → **LOADER PANEL** → **FRONT PANEL SUB ASSY**

- (1) Disconnect the connector wire, FFC Cable and screws. (コネクターワイヤー、FFC ケーブルとねじをはずす。)

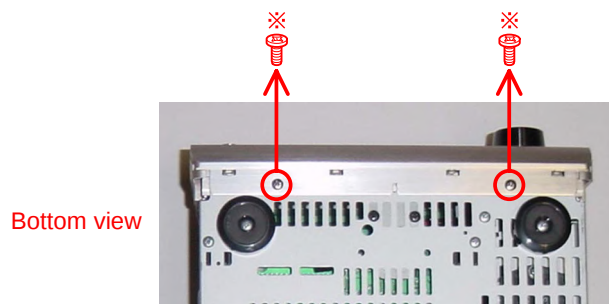
Picture D



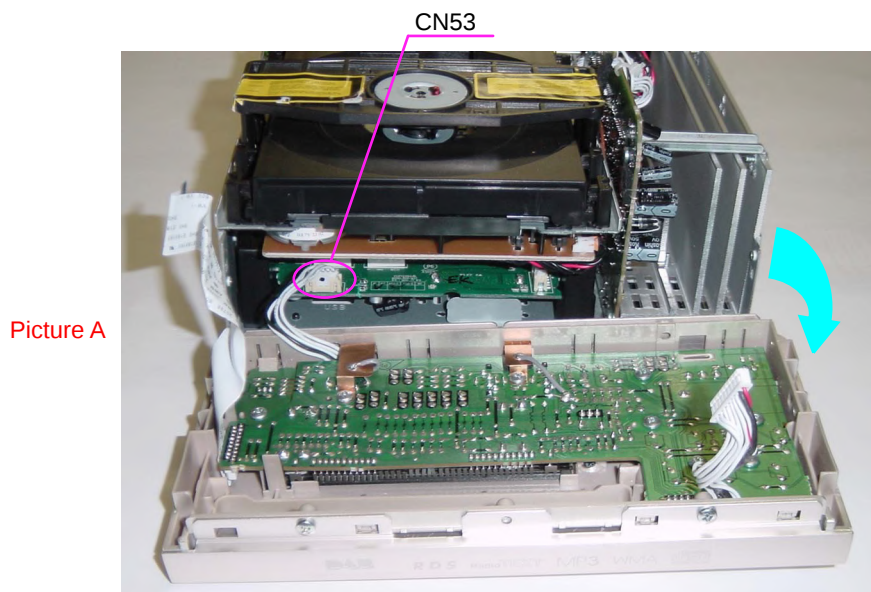
Picture C



(2) Remove the screws. (ねじをはずす。)



(3) Disconnect the connector wire and remove the Front panel Assy. (コネクタワイヤーをはずし、フロントパネルアッシーをはずす。)

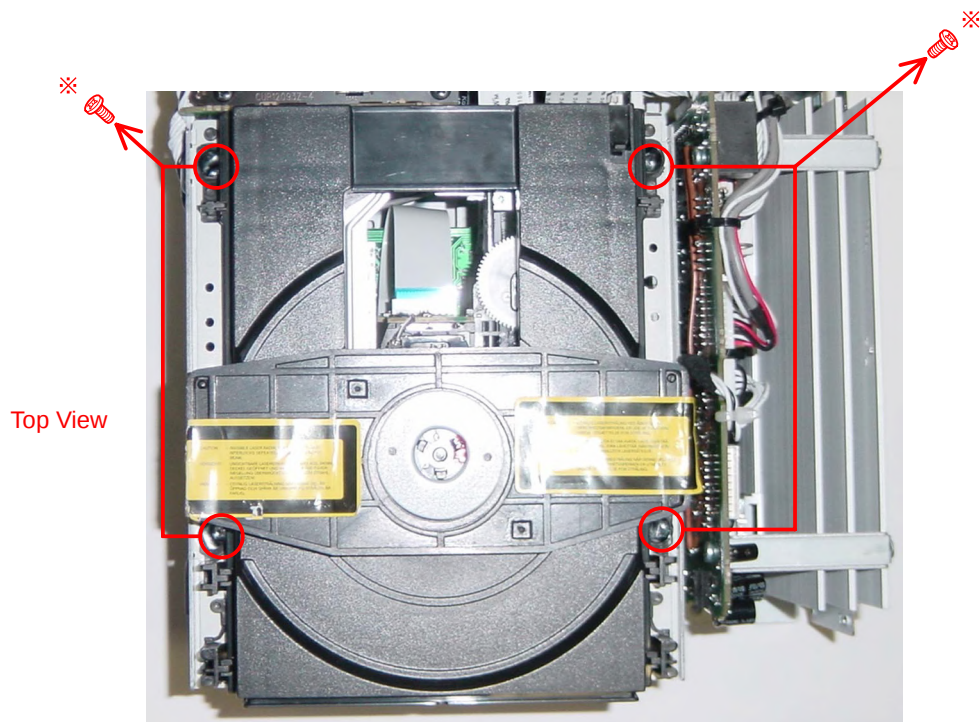


Please refer to "**EXPLODED VIEW**" for the disassembly method of each P.W.B included in FRONT PANEL SUB ASSY.
FRONT PANEL SUB ASSY の各基板のはずしかたは "**EXPLODED VIEW**" を参照してください。

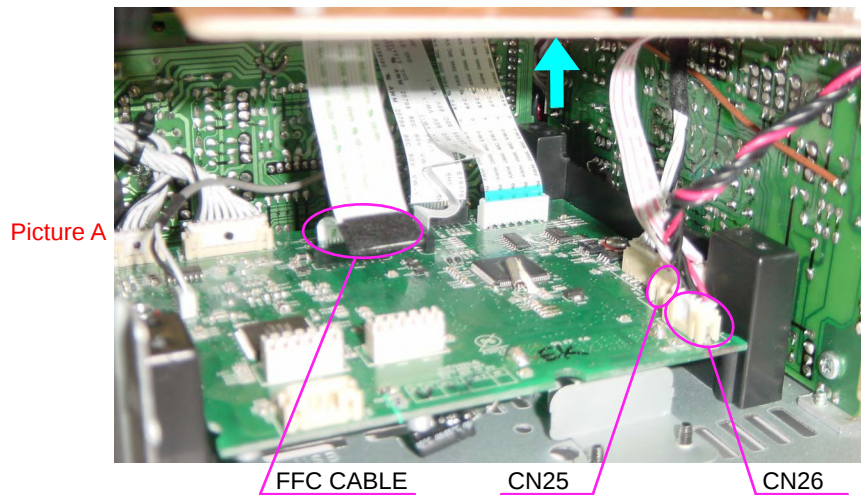
3. CD MECHA

proceeding (手順) : **TOP CABINET** → **LOADER PANEL** → **FRONT PANEL SUB ASSY**
→ **CD MECHA**

(1) Remove the screws. (ねじをはずす。)



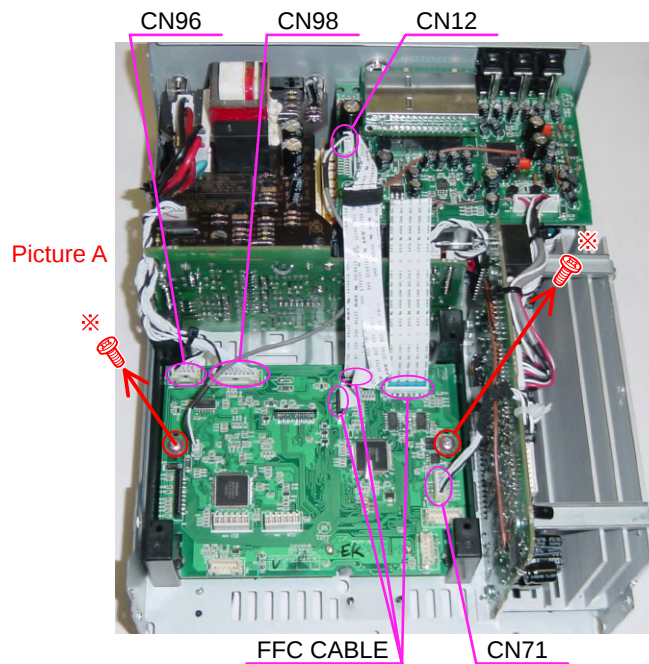
(2) Disconnect the connector wires and FFC cable. (コネクタワイヤーと FFC ケーブルをはずす。)



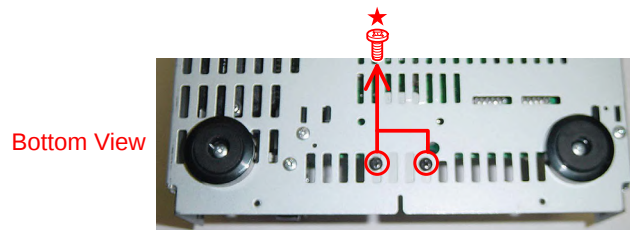
4. MCU P.W.B UNIT ASSY

proceeding (手順): **TOP CABINET** → **LOADER PANEL** → **FRONT PANEL SUB ASSY**
 → **CD MECHA** → **MCB P.W.B UNIT ASSY**

- (1) Disconnect the connector wires, FFC cables and remove the screws. (コネクタワイヤー、FFC ケーブルとねじをはずす。)



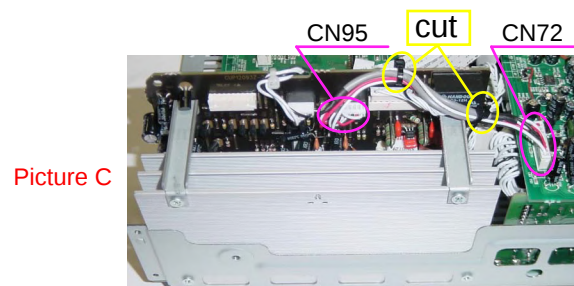
- (2) Remove the screws. (ねじをはずす。)



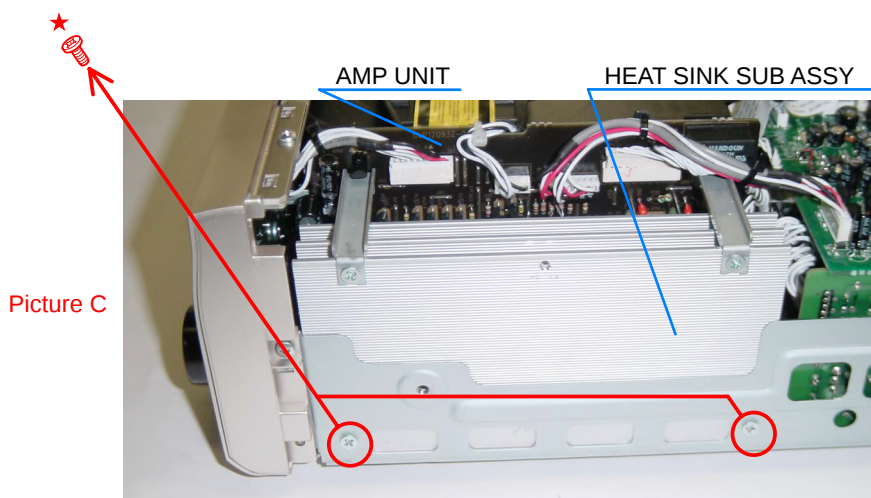
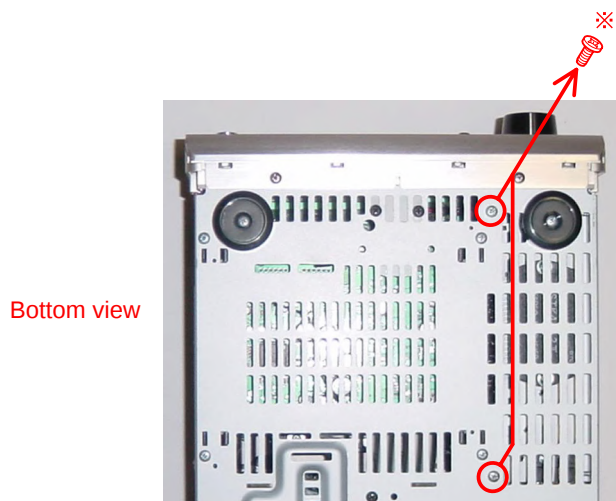
5. HEAT SINK SUB ASSY

proceeding (手順): **TOP CABINET** → **LOADER PANEL** → **FRONT PANEL SUB ASSY**
 → **CD MECHA** → **HEAT SINK SUB ASSY**

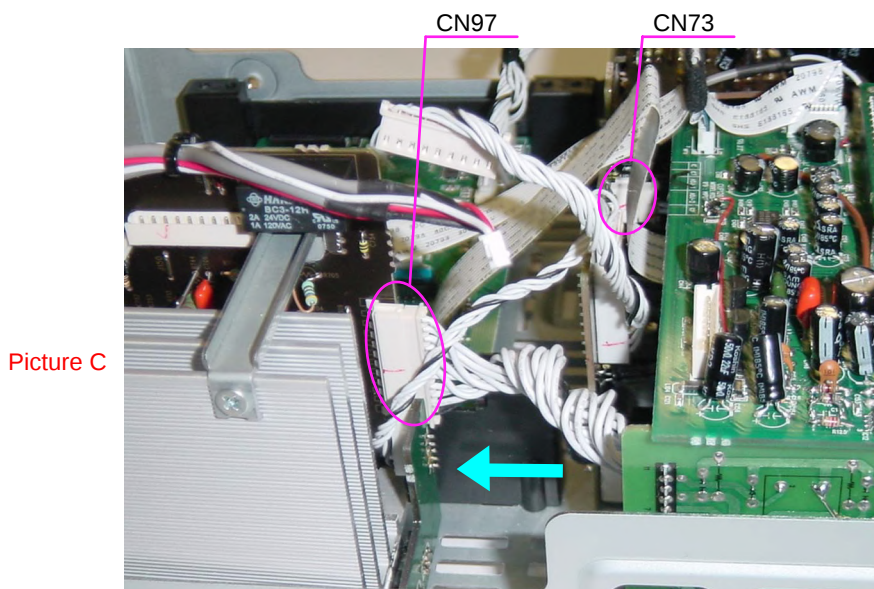
- (1) Disconnect the connector wires. (コネクタワイヤーをはずす。)



(2) Remove the screws. (ねじをはずす。)



(3) Disconnect the connector wires. (コネクタワイヤーをはずす。)

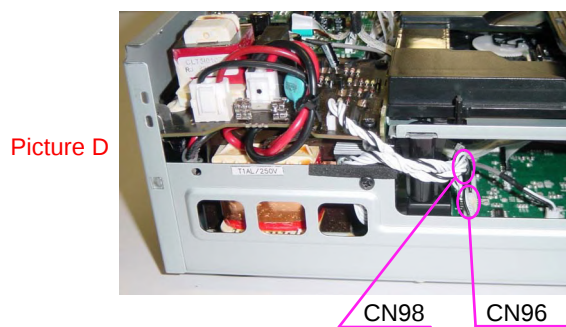
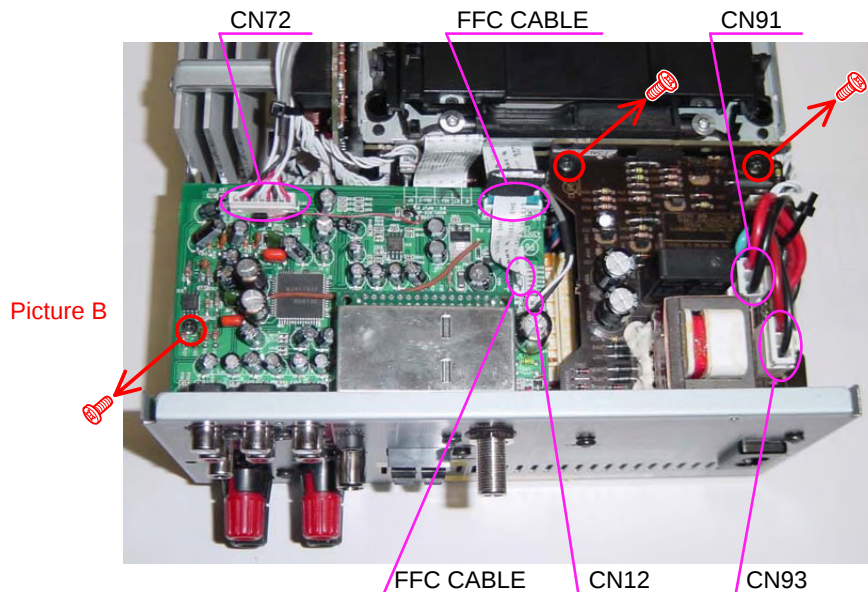


Please refer to "EXPLODED VIEW " for the disassembly method of each P.W.B included in HEAT SINK SUB ASSY.
HEAT SINK SUB ASSY の各基板のはずしかたは "EXPLODED VIEW " を参照してください。

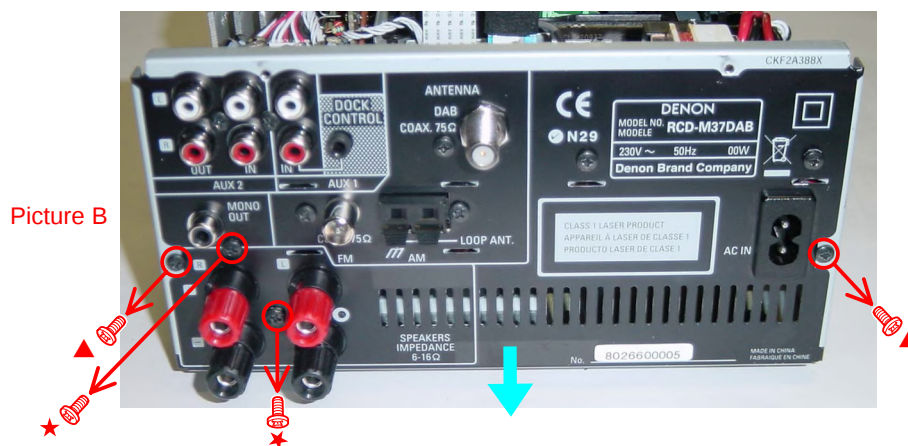
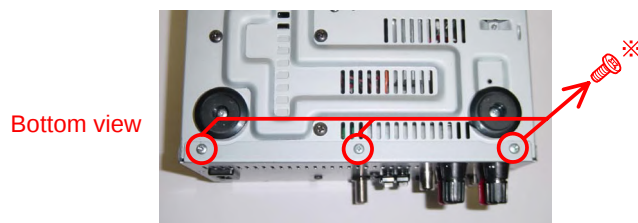
6. REAR PANEL SUB ASSY

proceeding (手順): **TOP CABINET** → **REAR PANEL SUB ASSY**

- (1) Disconnect the connector wires, FFC Cables and screws. (コネクタワイヤー、FFC ケーブルとねじをはずす。)



- (2) Remove the screws. (ねじをはずす。)

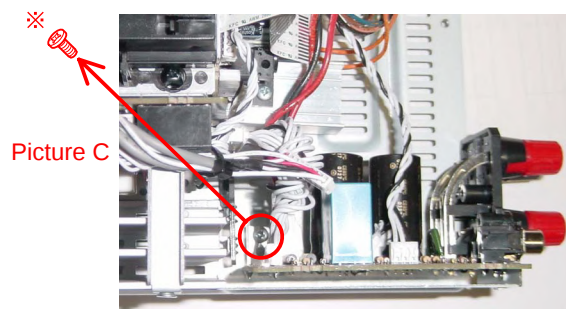


Please refer to "EXPLODED VIEW" for the disassembly method of each P.W.B included in REAR PANEL SUB ASSY.
REAR PANEL SUB ASSY の各基板のはずしかたは "EXPLODED VIEW" を参照してください。

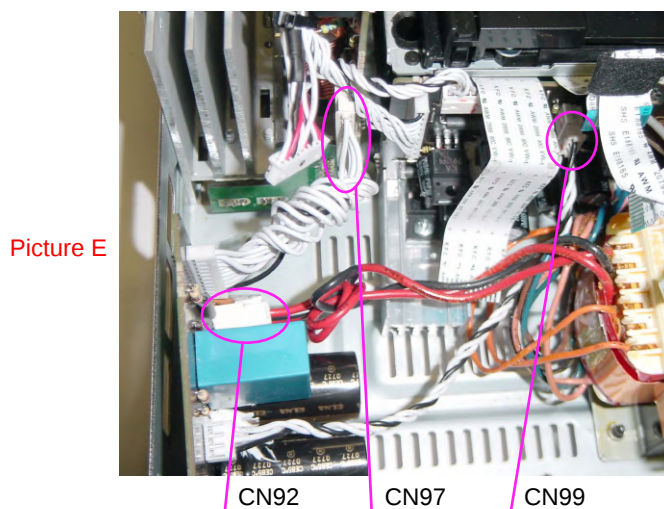
7. SPK UNIT

proceeding (手順): **TOP CABINET** → **REAR PANEL SUB ASSY** → **SPK UNIT**

- (1) Remove the screws. (ねじをはずす。)



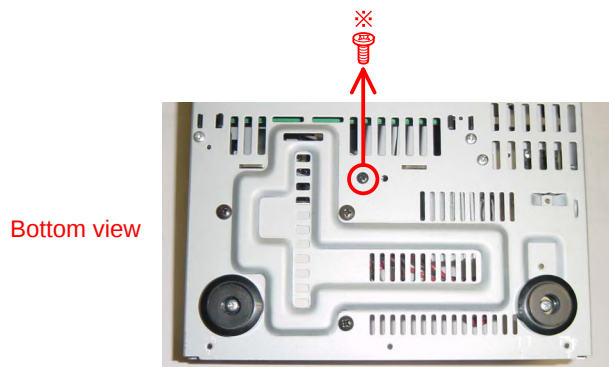
- (2) Disconnect the connector wires. (コネクタワイヤーをはずす。)



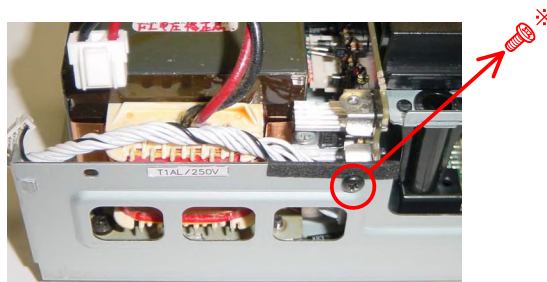
8. GUIDE UNIT

proceeding (手順): **TOP CABINET** → **REAR PANEL SUB ASSY** → **SPK UNIT**
: → **GUIDE UNIT**

- (1) Remove the screws. (ねじをはずす。)

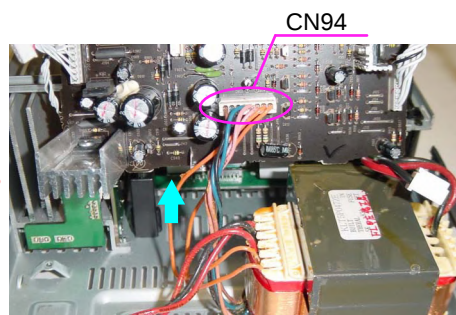


Picture D



(2) Disconnect the connector wire. (コネクタワイヤーをはずす。)

Picture B

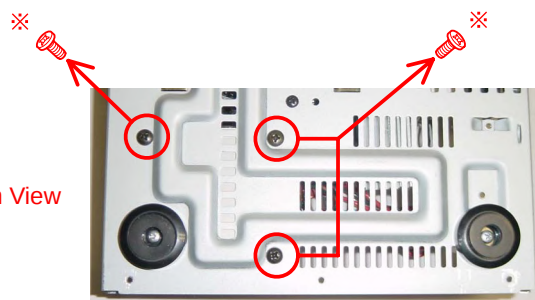


9. TRANS

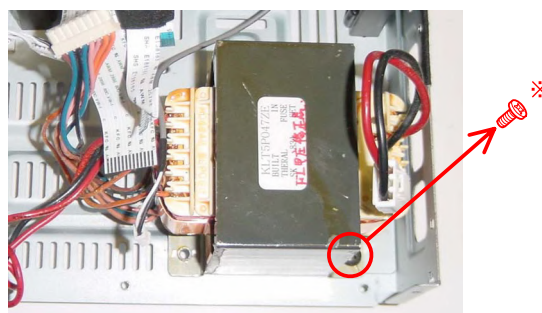
proceeding (手順) : **TOP CABINET** → **REAR PANEL SUB ASSY** → **SPK UNIT**
 : → **GUIDE UNIT** → **TRANS**

(1) Remove the screws. (ねじをはずす。)

Bottom View



Picture B



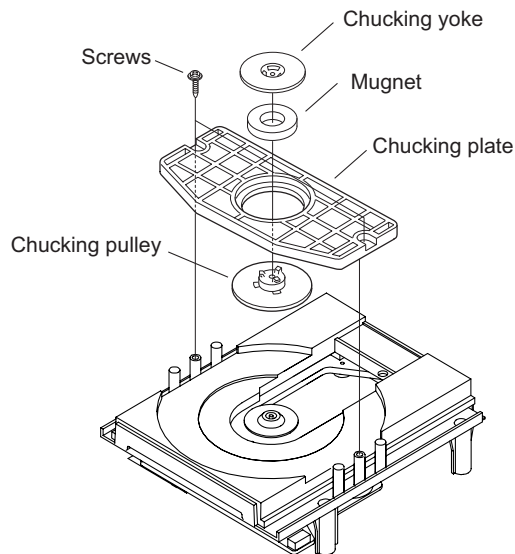
DISASSEMBLY OF MECHANIC

(Follow the procedure below in reverse order when reassembling.)

Caution : The optical pickup can be damaged by static electricity charged on human body. Take necessary anti-static measures when repairing around the optical pickup.

1. Chucking plate

- (1) Remove 2 top screws, then detach the Chucking plate.
- (2) Detaching the Chucking pulley and chucking yoke by removing the 3 hooks, when abandoning CD MECHA ass'y.



メカのはずしかた

(組み立てるときは、逆の順序でおこなってください。)

注意： 光ピックアップは、人体に帯電した静電気等で静電破壊することがあります。光ピックアップ周辺を修理する際には、必要な静電対策をおこなってください。

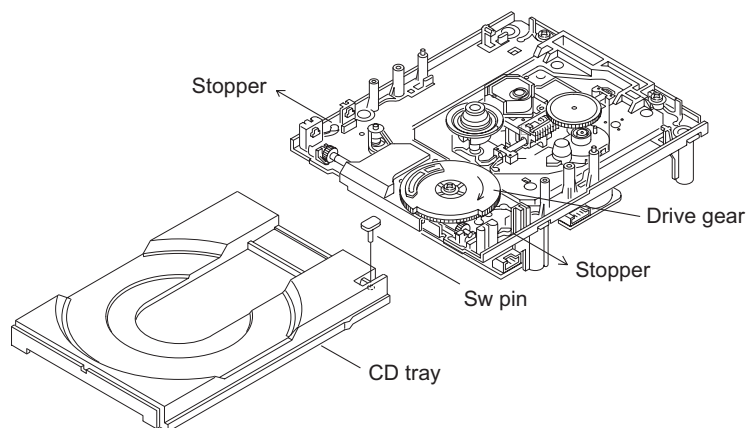
1. チャッキングプレート

- (1) CD メカのねじ 2 本をはずし、チャッキングプレートをはずす。
- (2) 廃棄の際は、チャッキングプーリーからチャッキングヨークのフック 3 箇所をはずして分離する。

2. CD tray

When abandoning CD MECHA ass'y, please detach the CD tray.

- (1) Detach the Sw pin on the CD tray.
- (2) Open the CD tray by turning the Drive gear clockwise.
- (3) Open the Stopper as shown in the fig., then detach CD tray.



2. CD トレー

廃棄の際は、CD トレーを分離する。

- (1) CD トレーの Sw pin をはずす。
- (2) ドライブギアを時計回りに廻して CD トレーを引き出す。
- (3) ストッパーを矢印方向に開き、CD トレーをはずす。

Note Handling and Replacement of the Laser pick-up

1. Protection of the LD

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

2. Precautions when handling the laser CD mechanism

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

3. Cautions on assembling and adjustment

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

4. Determining whether the laser pick-up is defective

- Measure the waveform at RFO-VC on "MCU P.W.B. Unit". (For measuring points and waveforms, see pages 77 and 80.)
- The laser pick-up is OK if the amplitude level of the measured RFO waveform is between 0.4 and 1.1 Vp-p, defective otherwise.

光学ピックアップ取り扱い上の注意と交換

1. LD の保護手段

LD 回路パターンの一部を半田付けにてショートする。回路を接続してからショート半田をはずすこと。

2. CD メカニズム取り扱い上の注意事項

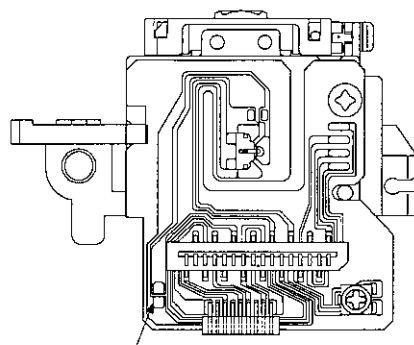
- 光学ピックアップに塵埃がかからないように取り扱うこと。
- 光学ピックアップを放置する場合には、裸の状態では放置せず、必ずカバーをしておくこと。
- 光学ピックアップレンズに埃がついた時は、ブロアーで空気を吹きつけて埃を取り去ること。
- 光学ピックアップに衝撃等を加えないこと。
- 光学ピックアップのレーザー光を目に受けないこと。

3. 組立て、調整時の注意事項

- 作業台、治工具、半田コテ先（セラミック含む）、測定器に確実なアースを取ること。
- 光学ピックアップを取り扱う作業者は、人体アースを取ること。
- メカ完成品（セット固定前）は、静電気、塵埃対策を行い、異常な外力が作用しないよう保管すること。
- メカ完成品を移動する際には、必ずシャーシ本体を持つこと。
- 腐食性ガス（H₂S、SO₂、NO₂、Cl₂ 等）や有害なガス雰囲気中、及び有害なガスを発生する物質（特に有機シリコン系、シアン系、ホルマリン系、フェノール系等）が存在する場所での使用及び保管は避けてください。特にセット内に於いても上記物質が存在しない様にしてください。モーターが回転しなくなります。

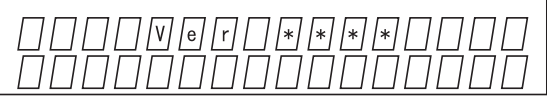
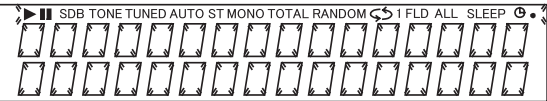
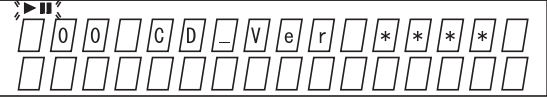
4. 光学ピックアップ不良判定方法

- MCU P.W.B. Unit の RFO - VC 間の波形を測定する。（測定ポイント、波形は 77 ～ 80 ページを参照）
- 測定した RFO 波形の振幅レベルが、0.4 ～ 1.1Vp-p の範囲であれば良品、範囲外であれば不良品とする。

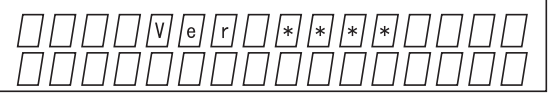
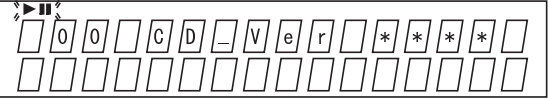


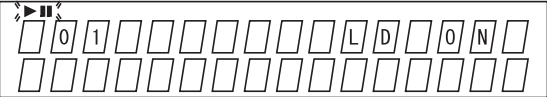
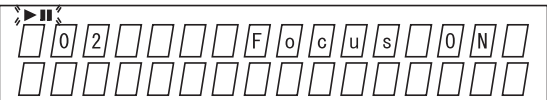
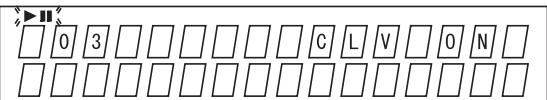
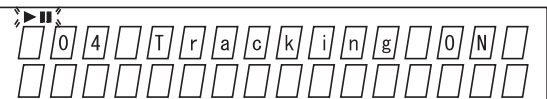
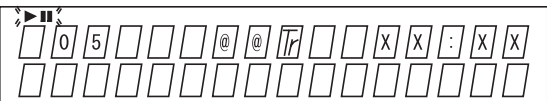
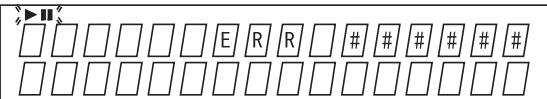
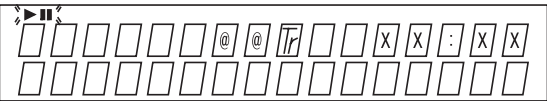
LD 破壊防止用ショートパターン
Protective soldering place for laser diode.
(コネクタを接続し、APC 回路通電前に外す事)

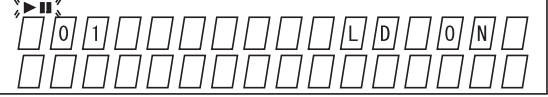
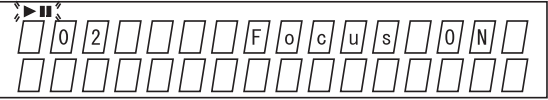
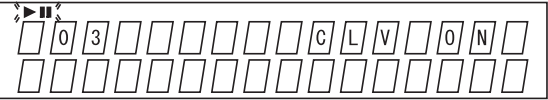
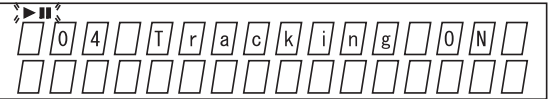
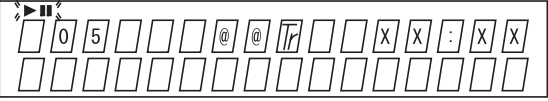
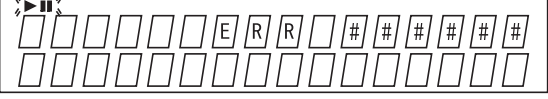
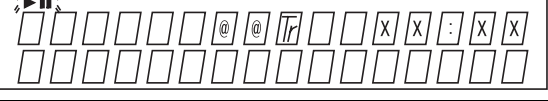
CD TEST MODE

No	Key name	Function	Display
1	Version No. of Main MPU Display Mode	S1 • Plug AC cord into power outlet while pressing ON/STANDBY Key and SDB/TONE Key same time on Main Unit. • The Version number of Main MPU is displayed. • Unplug AC cord to clear this mode.	• Upper : "_ _ _ _ Ver _ * * * _ _ _ _" "****" is the Version number of Main MPU • Lower : "_ _ _ _ _ _ _ _ _ _ _ _ _" 
2	FLD(VFD) checking mode	S2 • Plug AC cord into power outlet while pressing ON/STANDBY Key and OPEN/CLOSE Key same time on Main Unit. • All segment of FLD is turning on and off every one second. • Unplug AC cord to clear this mode.	• All segment turn on and off. 
3	CD service mode	• Plug AC cord into power outlet while pressing ON/STANDBY Key and FUNCTION Key same time on Main Unit. • Move the slide to the initially set position (10 mm towards the outside from the innermost position). • Check by performing key input. Refer to 3.1 to 3.6. • Cancel the mode by turning the power back on. • Input of keys other than those used in this mode is not guaranteed. (OK if malfunction occurs)	• ► flashing • Upper : "_ 00 _ CD_Ver _ * * * _ _" **** : CD microprocessor version no. • Lower : "_ _ _ _ _ _ _ _ _ _ _ _ _" 
3.1	Disc loading	• Press the CD OPEN/CLOSE key to open the tray. • Set a disc on the tray, then press the CD OPEN/CLOSE key again to close the tray. The disc is mounted automatically. • Move the slide to the initially set position (10 mm towards the outside from the innermost position) and stop in this status.	Continue S6 display

CD テストモード

No	キー名称	機能	表記
1	メインマイコンバージョン表示モード	S1 • 本体 ON/STANDBY キーと SDB/TONE キーを同時に押しながら、AC コードをコネクタへ接続する。 • メインマイコンの Ver を表示する。MUTING ON。 • AC コードを抜くことによりモードを解除する。	• 上段 : "_ _ _ _ Ver _ * * * _ _ _ _" 表示 **** : メインマイコンの Ver 番号 • 下段 : "_ _ _ _ _ _ _ _ _ _ _ _ _" 
2	FL(VFD) 管チェックモード	S2 • 本体 ON/STANDBY キーと CD OPEN/CLOSE キーを同時に押しながら、AC コードをコネクタへ接続する。 • FL 管の全てを 2 秒周期で点滅 (1 秒点灯、1 秒消灯) する。MUTING ON。 • AC コードを抜くことによりモードを解除する。	• 全てのセグメントを点灯・消灯する。 
3	CD サービスモード	• 本体 ON/STANDBY キーと FUNCTION キーを同時に押しながら、AC コードをコネクタへ接続する。 • スライドを初期設定位置に移動する。(最内周から外側 10mm の位置) • キー入力によりチェックを行う。3.1 ～ 3.6 参照。 • 電源の再投入によりモードを解除する。 • このモードで使用するキー以外の入力は保証しない。(異常な動作になってもよしとする)	• ► を点滅 • 上段 : "_ 00 _ CD_Ver _ * * * _ _" 表示 **** : CD マイコンの Ver 番号 • 下段 : "_ _ _ _ _ _ _ _ _ _ _ _ _" 
3.1	ディスク装着	• CD OPEN/CLOSE キーでトレイを開く。 • ディスクを置き、再度 CD OPEN/CLOSE キーでトレイを閉じるとディスクをチャッキングする。 • スライドを初期設定位置 (最内周から外側 10mm の位置) に移動し、その状態でストップする。	S6 の表示を継続する。

No	Key name	Function	Display
3.2	Servo check	- Press the CD PLAY/PAUSE key. Execute the following steps. ① LD ON (with servo still stopped) ② FOCUS ON (disc rotation, tracking off) If no disc loaded, retry then stop. ③ CLV ON ④ TRACKING ON ⑤ SUB CODE readout (playback sound output) ⑥ When display is as in ⑤ and the PLAY button is pressed, conduct BER (Block Error Rate) display for 2 seconds. (Display total no. generated in 10 seconds.) * Press PLAY button continuously for over 1 second to switch directly to SUB CODE readout in step ⑤.	▶■ flashing ① - Upper : " 01 _____ LD_ON_" displayed - Lower : " _____"  ② - Upper : " _ 02 _____ Focus_ON_" displayed  ③ - Upper : " _ 03 _____ CLV_ON_" displayed  ④ - Upper : " _ 04 _ Tracking_ON_" displayed  ⑤ - Upper : " _ 05 ____ @@Tr __ XX:XX" displayed @@ : T.No XX:XX : Time  ⑥ - Upper : " _____ ERR _ #####" displayed ##### : B.E.R. 
3.3	Pickup movement	- In the stop mode, pickup moves in REV (inwards) or FWD (outwards) direction when ◀/➡ key or +/▶ key pressed. - When ◀/➡ key pressed, move to stop operation after detection that inner switch has turned on. - Pickup movement stops when key released. (Pickup moves while key is pressed.)	Continuous display of previous time
3.4	Stop	- When STOP key is pressed, play operation and servo stop. - After stopping, conduct reading of auto adjust values.	Same as 3.
3.5	All servo on	When MENU/SET key is pressed, all servos turn on, auto adjustment is performed and switch to playback operation. (Playback sound output)	▶■ flashing - Upper : " _____ @@Tr __ XX:XX" displayed @@ : T.No XX:XX : Time - Lower : " _____" 

No	キー名称	機能	表記
3.2	サーボチェック	- CD PLAY/PAUSE キーを押すと下記ステップ°を実行する。 ① LD ON(サーボ°停止のまま) ② FOCUS ON(ディスク°回転、トラッキング° OFF) ディスク°無しの場合、リトライ°後停止する。 ③ CLV ON ④ TRACKING ON ⑤ SUB CODE 読み出し (再生音出力) ⑥ ⑤の表示時に PLAY ボタン°を押すと、2 秒間 BER(Block Error Rate) の表示を行なう。 (10 秒間の間に発生した総数を表示) * PLAY ボタン°の 1 秒以上押し続けにて、ダイレクト°に⑤の SUB CODE 読み出しステップ°に移行する。	▶■ を点滅 ① - 上段 : " 01 _____ LD_ON_" 表示 - 下段 : " _____"  ② - 上段 : " _ 02 _____ Focus_ON_" 表示  ③ - 上段 : " _ 03 _____ CLV_ON_" 表示  ④ - 上段 : " _ 04 _ Tracking_ON_" 表示  ⑤ - 上段 : " _ 05 ____ @@Tr __ XX:XX" 表示 @@ : T.No XX:XX : 時間  ⑥ - 上段 : " _____ ERR _ #####" 表示 ##### : B.E.R. 
3.3	ピックアップ°移動	- ストップ°状態で◀/➡キーまたは+/▶キーを押すと、ピックアップ°がREV(内周側)またはFWD(外周側)方向に移動する。 ◀/➡キーを押した時は、内周 SW の ON を検出後ストップ°動作に移行する。 - キーを離すとピックアップ°の移動を停止する。(キーが押されている間、移動する。)	前回の表示を継続する。
3.4	停止	- STOP キーを押すと、PLAY 動作及びサーボ°を停止する。 - 停止後、自動調整値の読み込みを行なう。	3 と同じ。
3.5	全サーボ° ON	MENU/SET キーを押すと全サーボ°を ON し、自動調整を行なって再生動作に移行する。(再生音出力)	▶■ を点滅 - 上段 : " _____ @@Tr __ XX:XX" 表示 @@ : T.No XX:XX : 時間 - 下段 : " _____" 

No	Key name	Function	Display
3.6	Adjustment value display	• When SDB/TONE key is pressed, the adjustment values are displayed in the following order. ① FOCUS BALANCE ② FOCUS GAIN ③ TRACKING BALANCE ④ TRACKING GAIN ⑤ FOCUS OFFSET ⑥ TRACKING OFFSET ⑦ RFRP ⑧ Return to ① . (NOTE) If auto adjustment is not completed, proper values are not displayed.	• ▶■ flashing ① • Upper : "FOCUS _ BALANCE ____" • Lower : "XX _____" • XX : Adjustment value ▶■ F O C U S _ B A L A N C E X X ② • Upper : "FOCUS _ GAIN _____" • Lower : "XX _____" • XX : Adjustment value ▶■ F O C U S _ G A I N X X ③ • Upper : "TRACKING _ BALANCE" • Lower : "XX _____" • XX : Adjustment value ▶■ T R A C K I N G _ B A L A N C E X X ④ • Upper : "TRACKING _ GAIN ____" • Lower : "XX _____" • XX : Adjustment value ▶■ T R A C K I N G _ G A I N X X ⑤ • Upper : "FOCUS _ OFFSET ____" • Lower : "XX _____" • XX : Adjustment value ▶■ F O C U S _ O F F S E T X X ⑥ • Upper : "TRACKING _ OFFSET _" • Lower : "XX _____" • XX : Adjustment value ▶■ T R A C K I N G _ O F F S E T X X ⑦ • Upper : "RFRP _____" • Lower : "XX _____" • XX : Adjustment value ▶■ R F R P X X

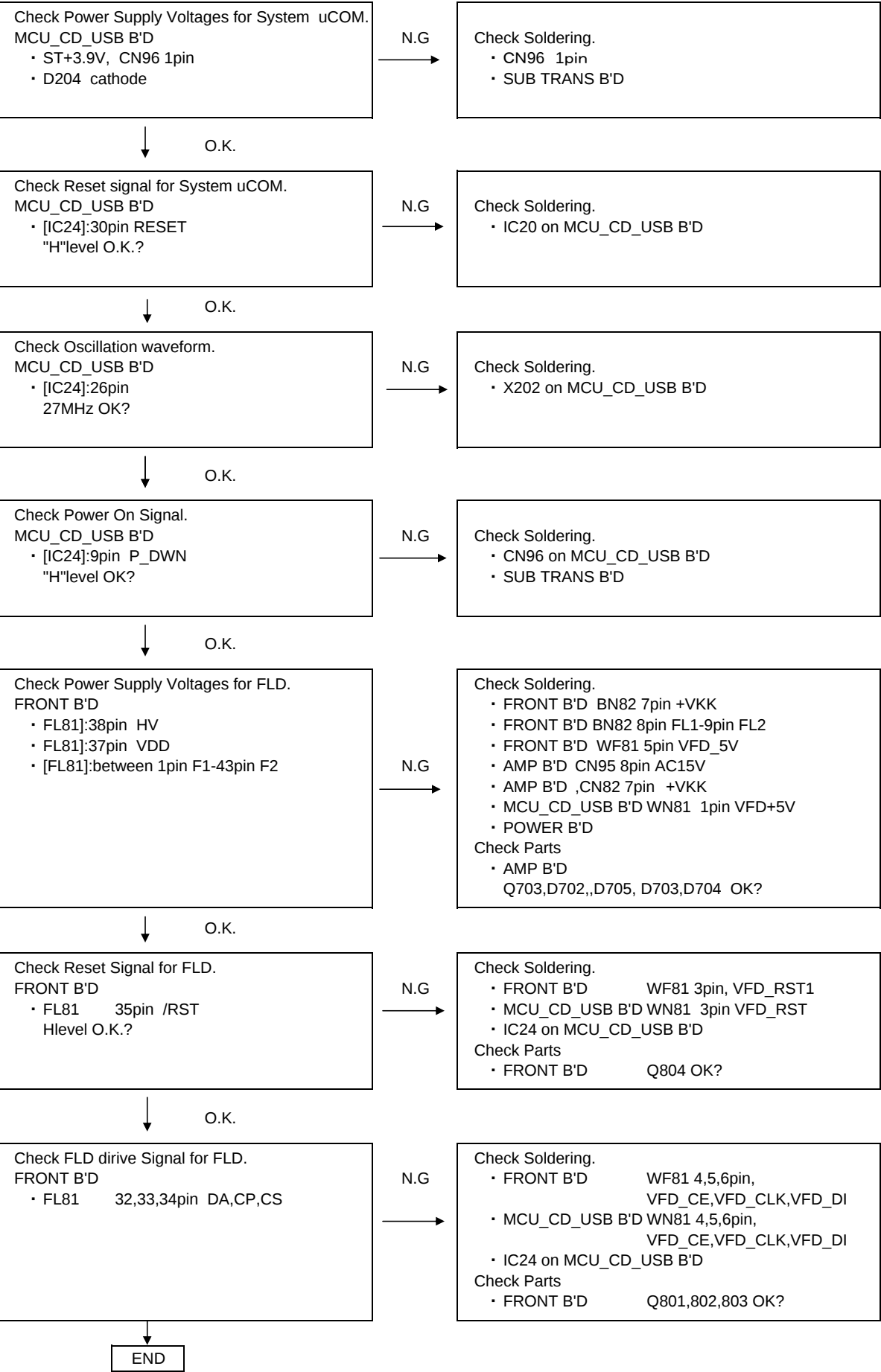
No	キー名称	機能	表記
3.6	調整値の表示	• SDB/TONE キーを押すと、下記の順番で調整値を表示する。 ① FOCUS BALANCE ② FOCUS GAIN ③ TRACKING BALANCE ④ TRACKING GAIN ⑤ FOCUS OFFSET ⑥ TRACKING OFFSET ⑦ RFRP ⑧ ①に戻る。 (注) 自動調整を終了して無い場合は正常な値が表示されない。	• ▶■ を点滅 ① • 上段 : "FOCUS _ BALANCE ____" • 下段 : "XX _____" • XX : 調整値 ▶■ F O C U S _ B A L A N C E X X ② • 上段 : "FOCUS _ GAIN _____" • 下段 : "XX _____" • XX : 調整値 ▶■ F O C U S _ G A I N X X ③ • 上段 : "TRACKING _ BALANCE" • 下段 : "XX _____" • XX : 調整値 ▶■ T R A C K I N G _ B A L A N C E X X ④ • 上段 : "TRACKING _ GAIN ____" • 下段 : "XX _____" • XX : 調整値 ▶■ T R A C K I N G _ G A I N X X ⑤ • 上段 : "FOCUS _ OFFSET ____" • 下段 : "XX _____" • XX : 調整値 ▶■ F O C U S _ O F F S E T X X ⑥ • 上段 : "TRACKING _ OFFSET _" • 下段 : "XX _____" • XX : 調整値 ▶■ T R A C K I N G _ O F F S E T X X ⑦ • 上段 : "RFRP _____" • 下段 : "XX _____" • XX : 調整値 ▶■ R F R P X X

No	Key name	Function	Display
4	CD heat run mode	- Plug AC cord into power outlet while pressing ON/STANDBY Key and MENU/SET Key same time on Main Unit.(Be sure to insert the CD before this operation) - Switches to mode according to key input. See 4.1 and 4.2. - If an error occurs, display the error and stop operation at that point. Number of operations held. See 4.3 to 4.5. - Heat run no. cleared when STOP key pressed. - Mode canceled and tray opened after CD OPEN/CLOSE key pressed. - Unplug AC cord to clear this mode too.	▶■ lit - Normal display except when ▶■ lit. ▶■ CD D 1 1 Tr 4 2 : 5 2
4.1	Normal heat run mode	- After CD heat run mode has started, re-read TOC and press the CD PLAY/PAUSE key.(Be sure to finish reading the TOC before push CD PLAY/PAUSE key) Count this as the 0th heat run repetition. ① Play from the first to last track on disc. ② If disc being used has less than 20 tracks, play all tracks. If disc has 21 or more tracks, skip to final track after playback of first track has finished. ③ After disc playback has finished, move pickup to innermost position and open tray. ④ When loader open status detected, close tray again, re-read TOC and start playback from the first track on the disc. ⑤ The heat run repetition no. is incremented (increased by 1) when the tray is opened. ⑥ Conduct ① to ⑤ repeatedly.	▶■ lit ① , ② - In cases other than when ▶■ is lit, same display as during normal playback. ▶■ CD D 1 1 Tr 4 2 : 5 2 ▶■ CD D 0 1 Tr 0 1 : 4 8 ③ - Upper : "_ CD _ _ _ _ _ XXXX _" - Lower : " _ _ _ _ _ _ _ _ _ _" - XXXX : No. of heat run repetitions ▶■ CD D X X X X ④ - Upper : "_ CD _ _ _ 01Tr _ _ _ : _ _" - Lower : " _ _ _ _ _ _ _ _ _ _" ▶■ CD D 0 1 Tr :
4.2	Automatic mounting mode	- After CD heat run mode has started, re-read TOC and press the CD STOP/BAND key once in the stop mode.(Be sure to finish reading the TOC before push CD STOP/BAND key) - TOC reading ⇒ Search for first track on disc ⇒ tray open ⇒ tray close ⇒ TOC reading ⇒ repeat. No. heat run repetitions displayed on time display section. - Increment the heat run repetition no. (increase by 1) at the point when the loader has finished opening.	While tray opened - Same as for regular heat run. See 6.1 ③ . When tray closed - Same as for regular heat run. See 6.1.

No	キー名称	機能	表記
4	CDヒートランモード	- 本体 ON/STANDBY キーと MENU/SET キーを同時に押しながら、AC コードをコネクタへ接続する。 - キー入力に応じたモードへ移行する。(必ずディスクを入れておくこと) 4.1 ～ 4.2 参照。 - エラーが発生したら、エラー表示をしてその場で動作を停止する。動作回数は保持しておく。 4.3 ～ 4.5 参照。 - STOP キーを押した場合、ヒートラン回数をクリアする。 - CD OPEN/CLOSE キーが押されたら、モードを解除してトレイをオープンする。 - AC コードを抜くことでもモードを解除する。	▶■ を点灯 ▶■ を点灯している以外は通常と同じ表示。 ▶■ CD D 1 1 Tr 4 2 : 5 2
4.1	通常ヒートランモード	- CDヒートランモードが起動し TOC を読み取り後、CD PLAY/PAUSE キーを押す。(CD PLAY/PAUSE キーを押す前に、TOC READ が完了していること)この時、ヒートラン繰り返し回数を 0 回目とする。 ① ディスクの先頭トラックから最終トラックまで再生する。 ② 使用ディスクが 20 トラック以内の場合は全トラックを再生する。21 トラック以上なら 1 トラック目終了後、最終トラックにスキップする。 ③ ディスクの再生終了後、ピックアップを最内周に移動させトレイを開く。 ④ ロダー - OPEN 状態を検出したら、再度トレイを閉じ再度 TOC を読み取り後、ディスクの先頭トラックから再生を開始する。 ⑤ ヒートラン回数はトレイを OPEN したところでインクリメント(ヒートラン回数を 1 つ増やす)する。 ⑥ ①～⑤を繰り返し実行する。	▶■ を点灯 ①、② ▶■ を点灯している以外は通常再生中と同じ表示。 ▶■ CD D 1 1 Tr 4 2 : 5 2 ▶■ CD D 0 1 Tr 0 1 : 4 8 ③ - 上段 : "_ CD _ _ _ _ _ XXXX _" - 下段 : " _ _ _ _ _ _ _ _ _ _" - XXXX : ヒートラン繰り返し回数 ▶■ CD D X X X X ④ - 上段 : "_ CD _ _ _ 01Tr _ _ _ : _ _" - 下段 : " _ _ _ _ _ _ _ _ _ _" ▶■ CD D 0 1 Tr :
4.2	チャッキングモード	- CDヒートランモードが起動し TOC を読み取り後、停止中に CD STOP/BAND キーを 1 回押す。(CD STOP/BAND キーを押す前に、TOC READ が完了していること) - TOC 読み込み⇒ディスクの先頭トラックをサーチ⇒トレイ OPEN ⇒トレイ CLOSE ⇒ TOC 読み込み⇒を繰り返す。時間表示部にヒートランの繰り返し回数を表示する。 - ヒートラン回数はロダーを OPEN し終えたところでインクリメント(increment : ヒートラン回数を 1 つ増やす)する。	トレイオープン中 - 通常ヒートラン時と同じ。 6.1 ③を参照 トレイクローズ中 - 通常ヒートラン時と同じ。 6.1 ④を参照

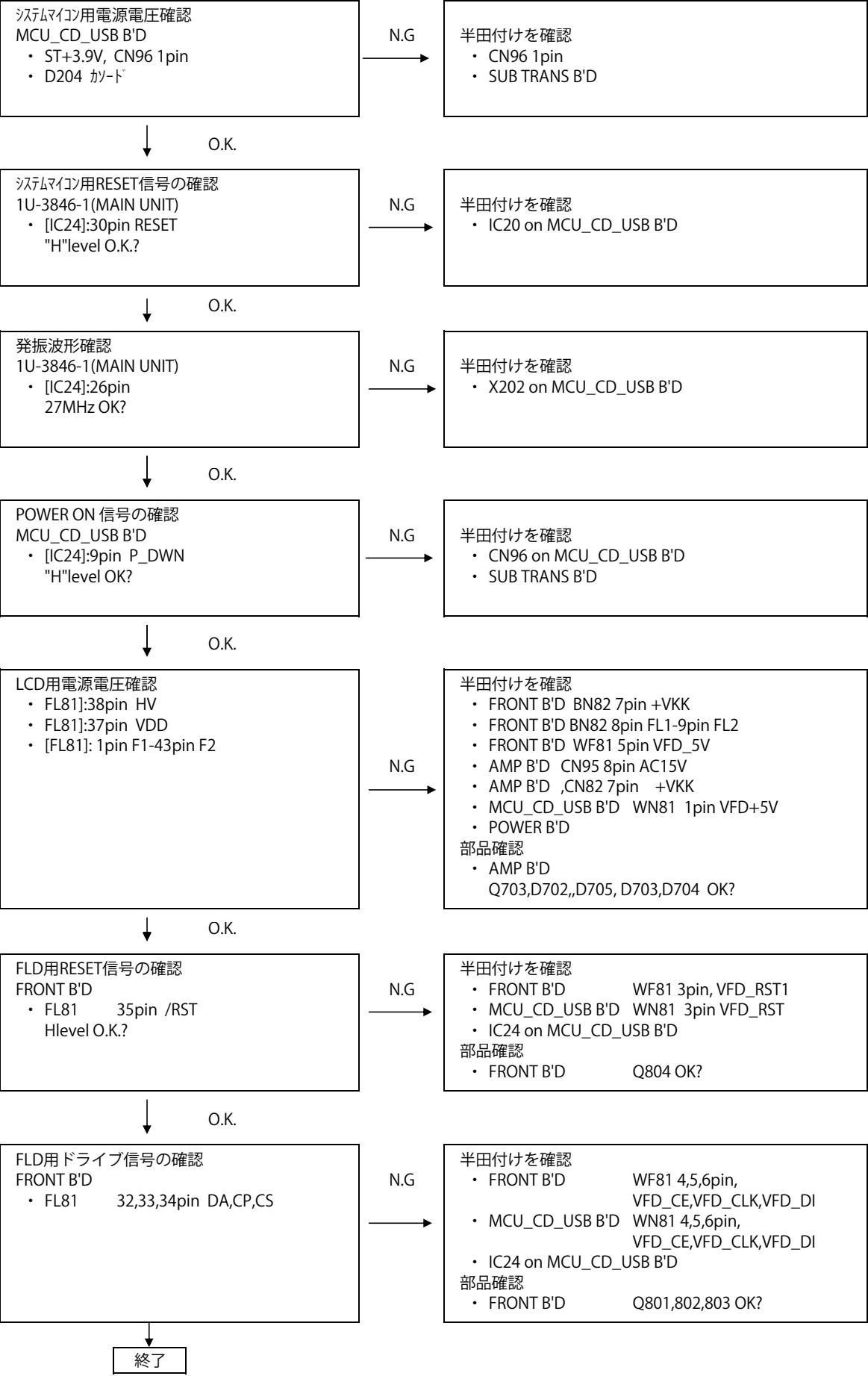
TROUBLE SHOOTING

1. LCD dosen't light



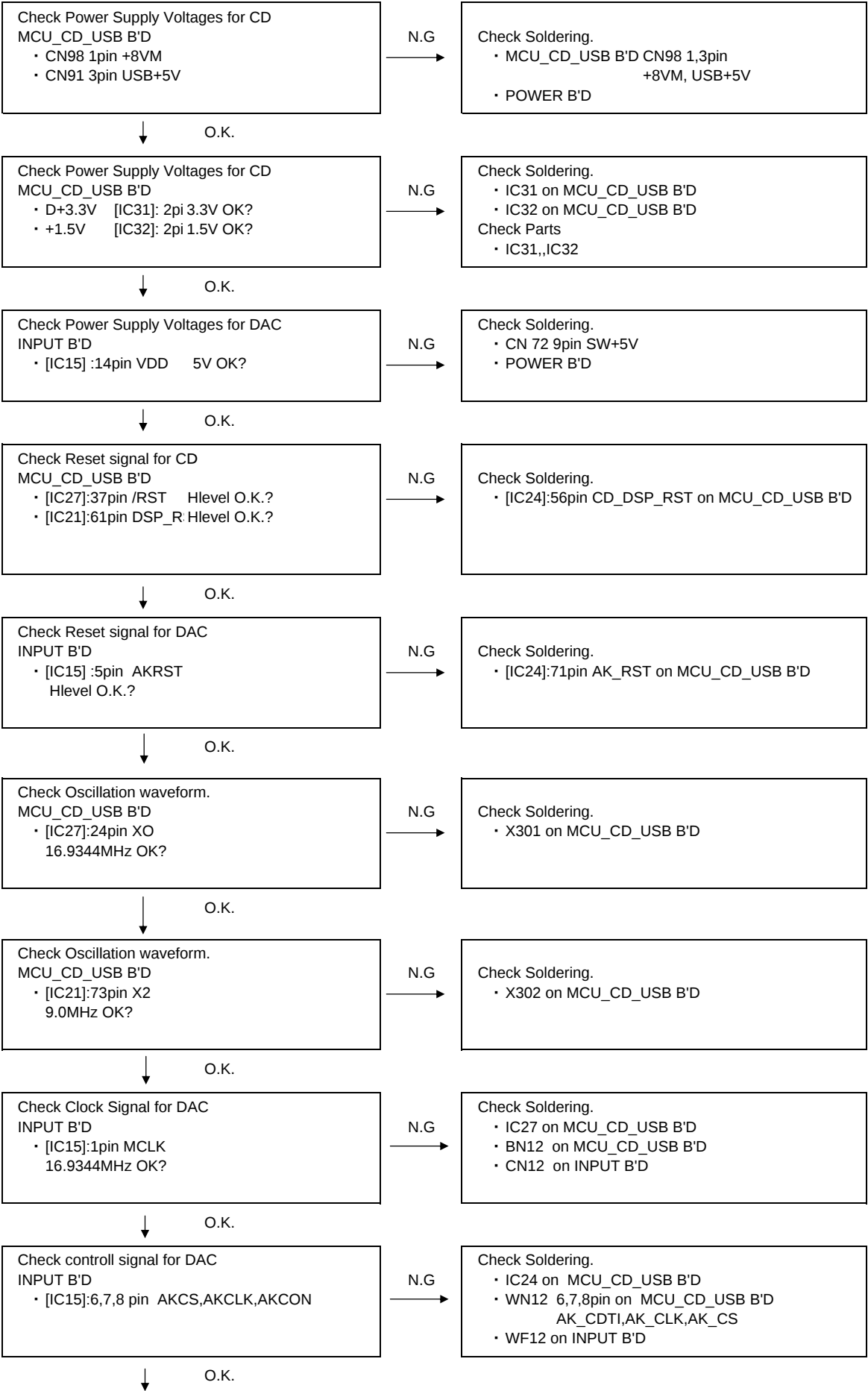
トラブルシューティング

1. LCD点灯せず



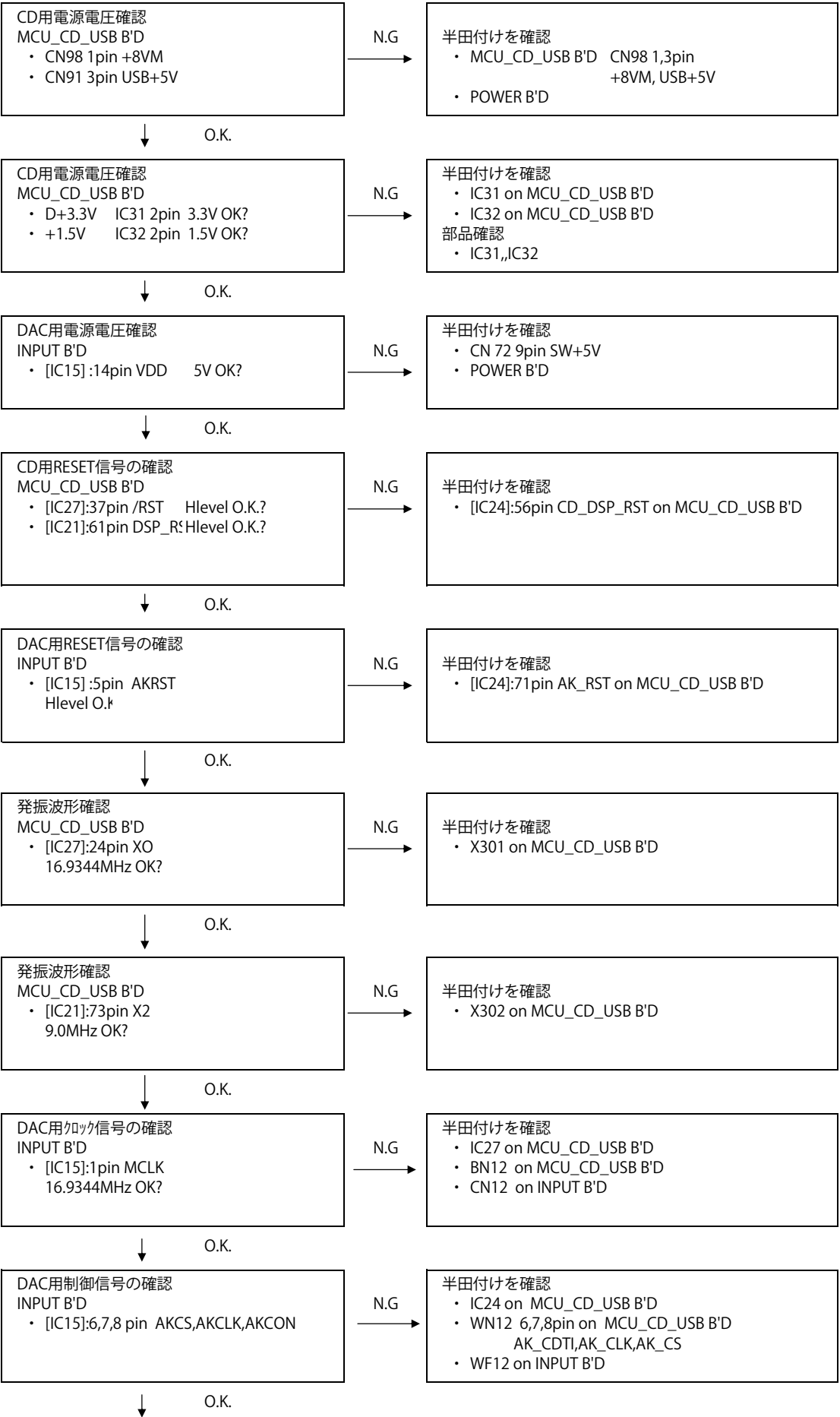
2. No Sound,Noise generated

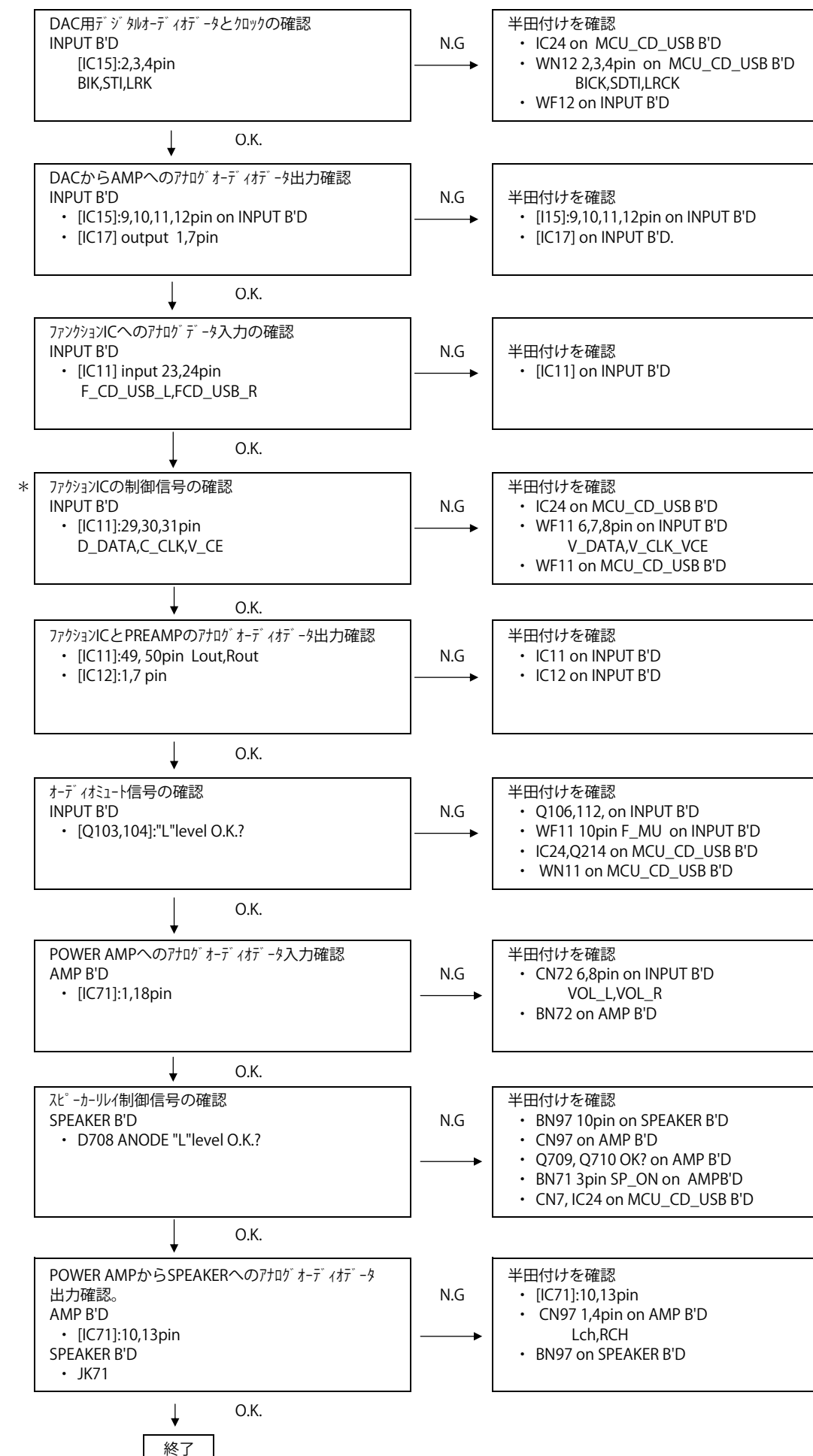
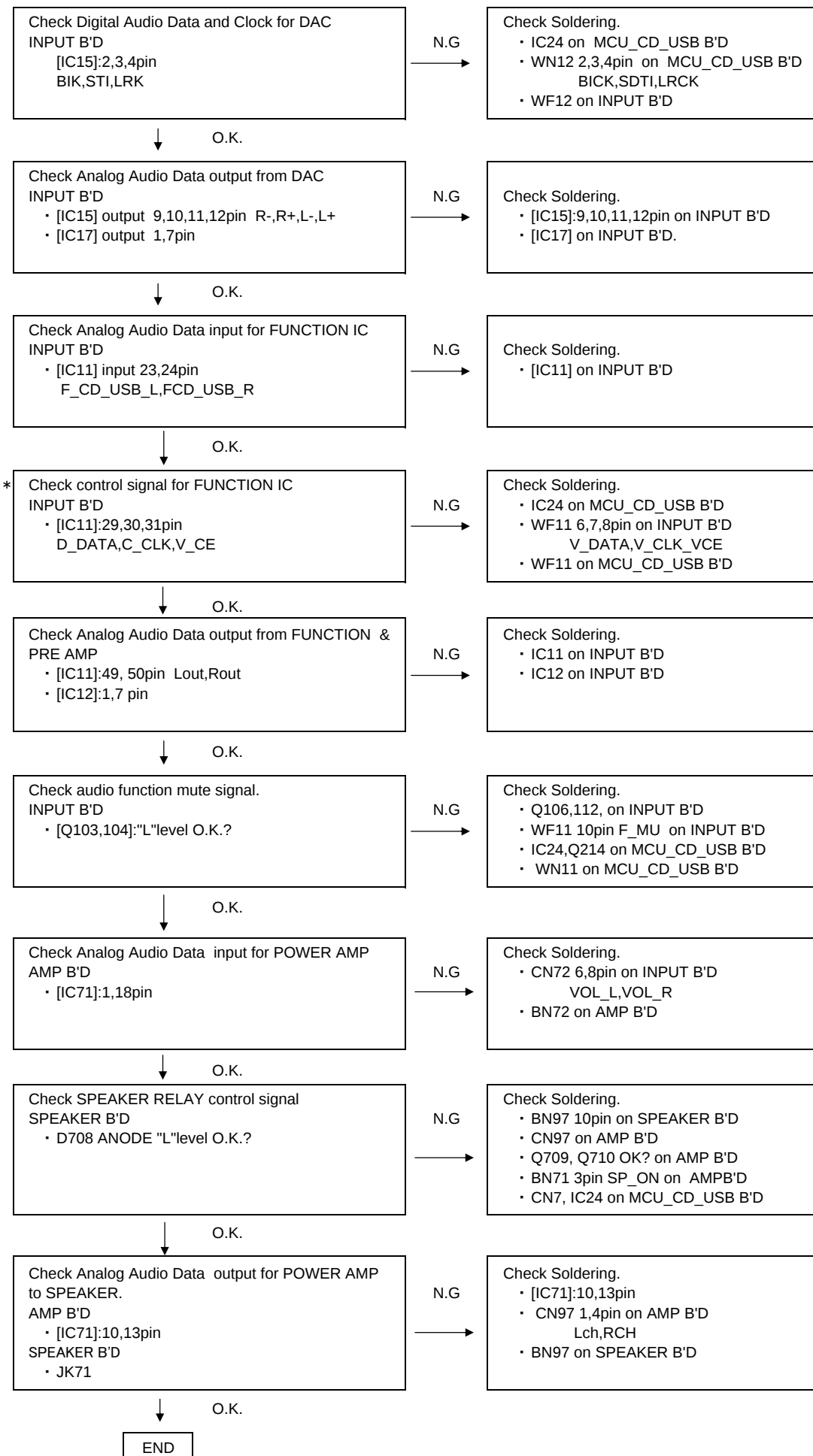
(1) CD PLAY



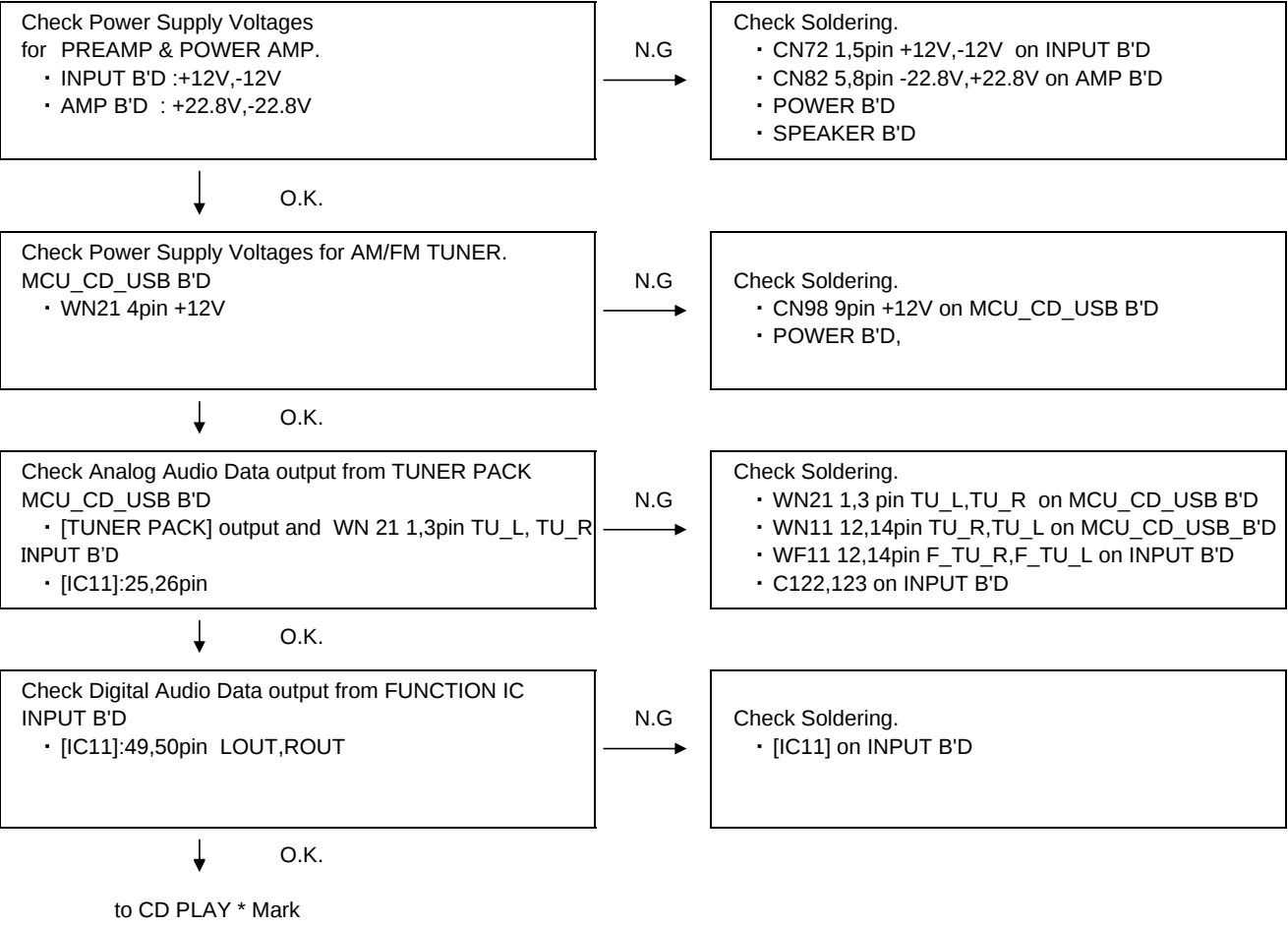
2. 音声出力せず

(1) CD 再生時

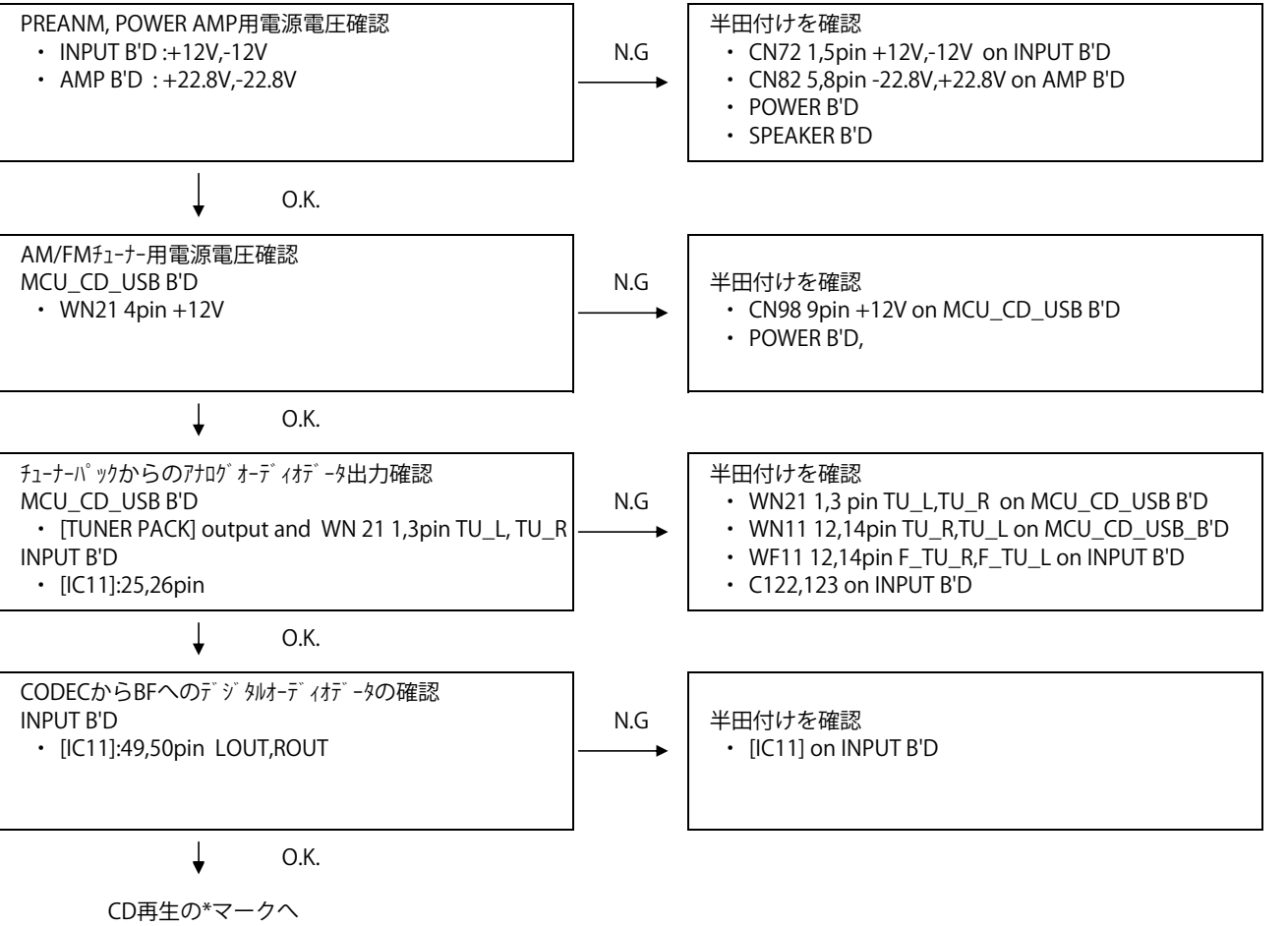




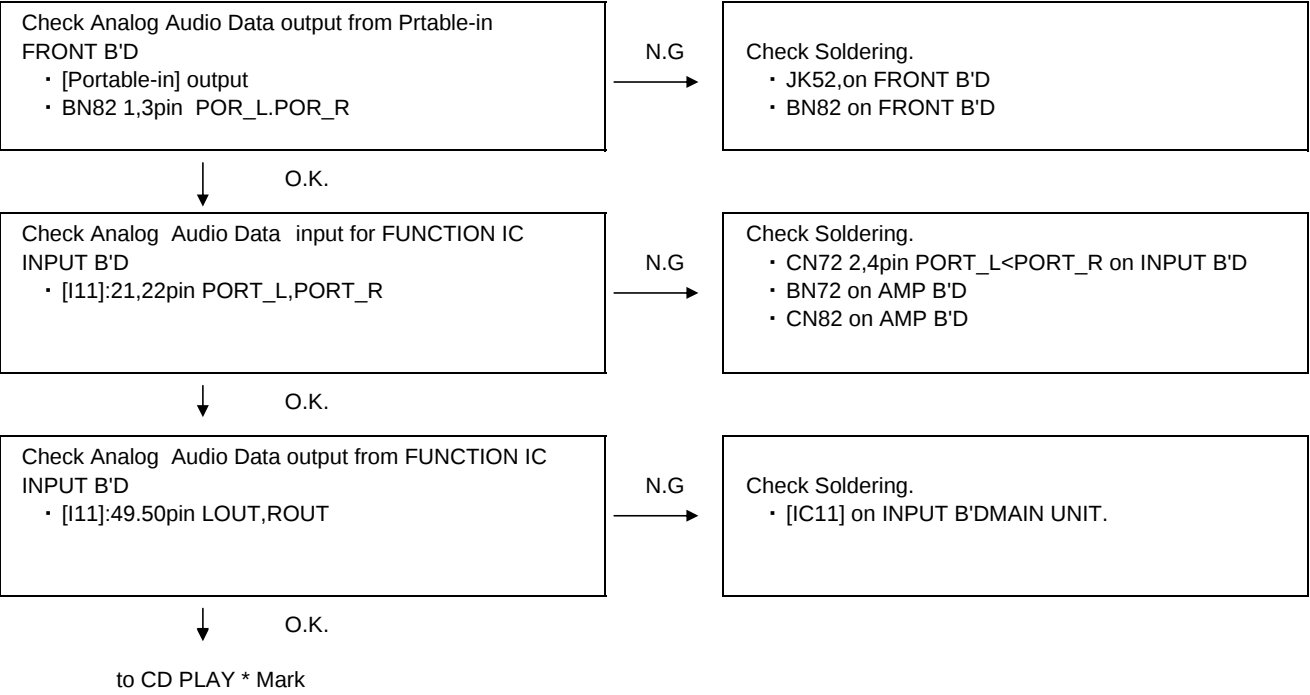
(2) AM/FM TUNER-in



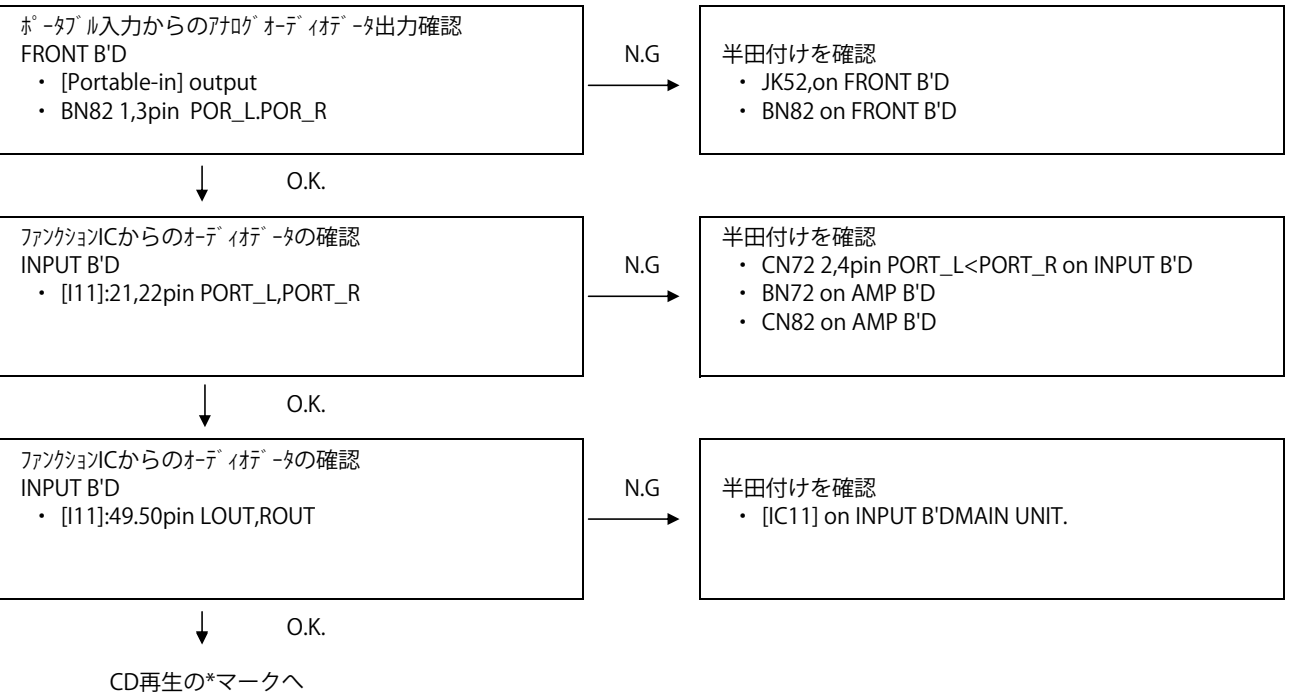
(2) AM/FM TUNER入力



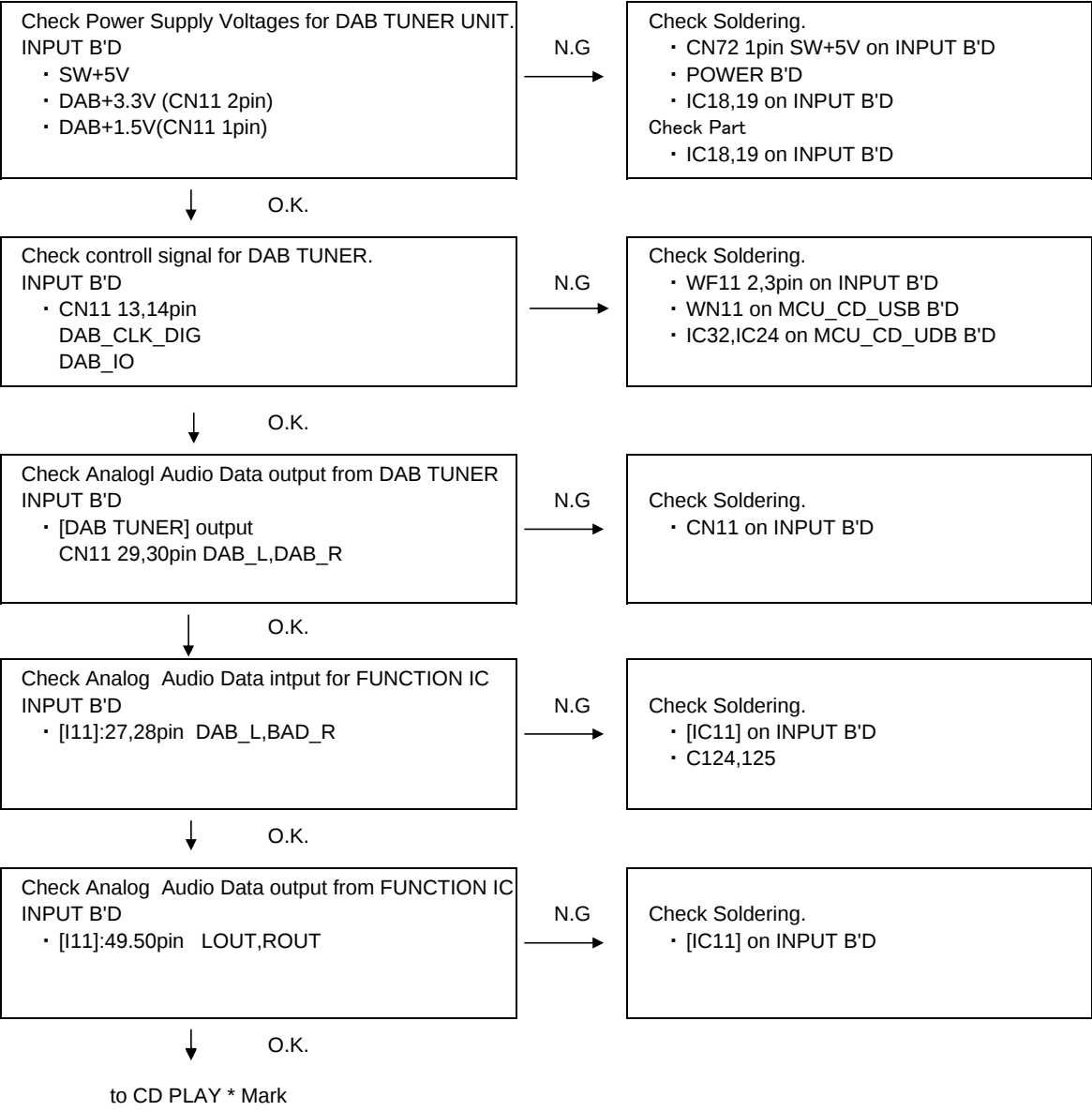
(3) Portable-in(Front-in)



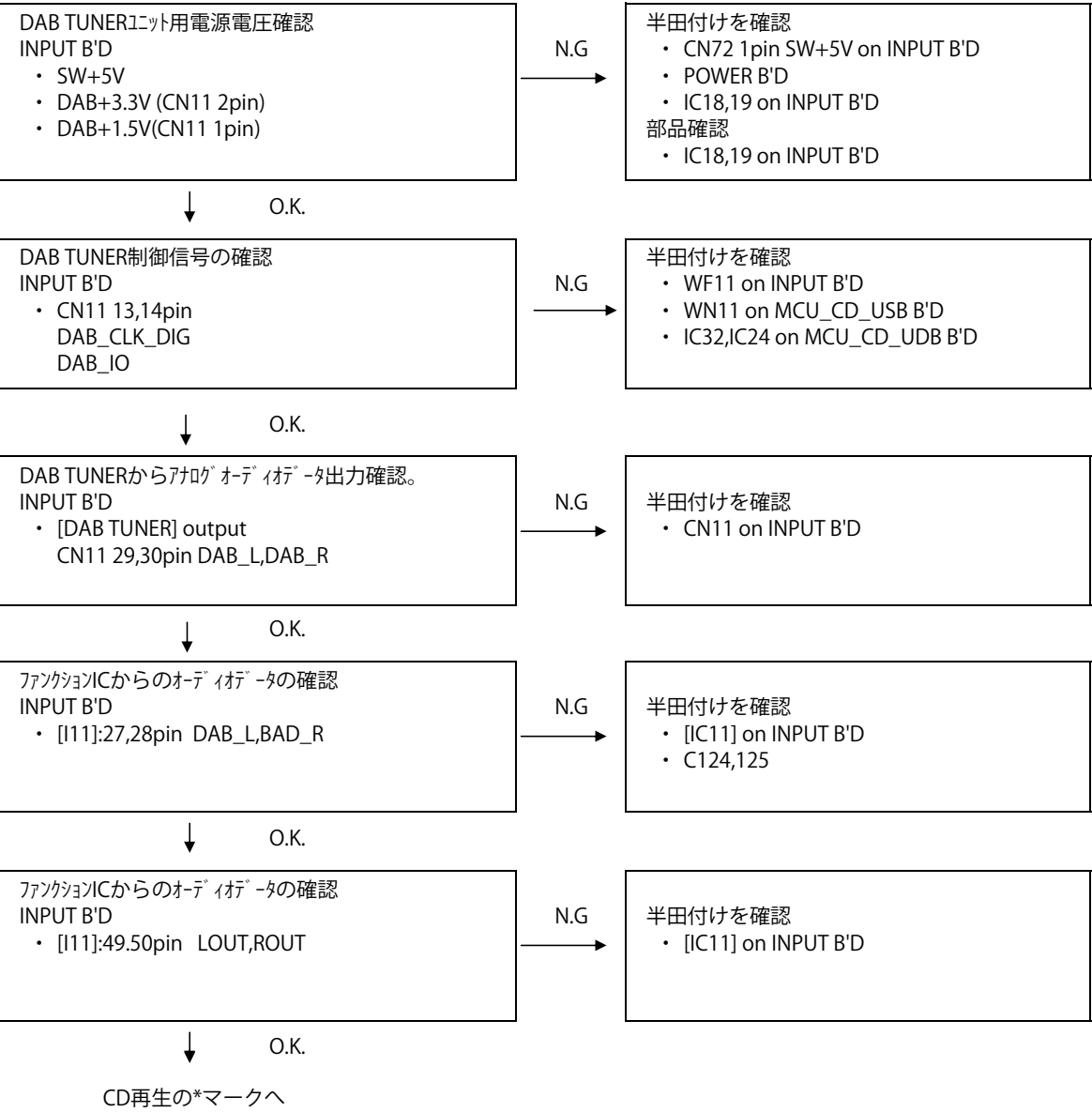
(3) Portable入力(Front入力)



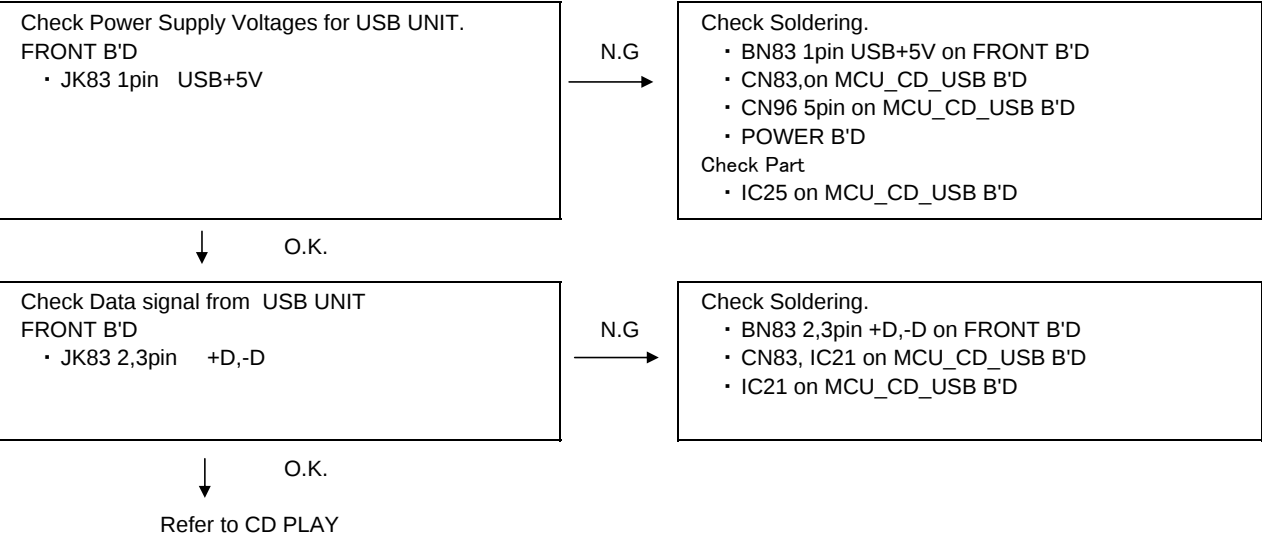
(4) DAB TUNER-in



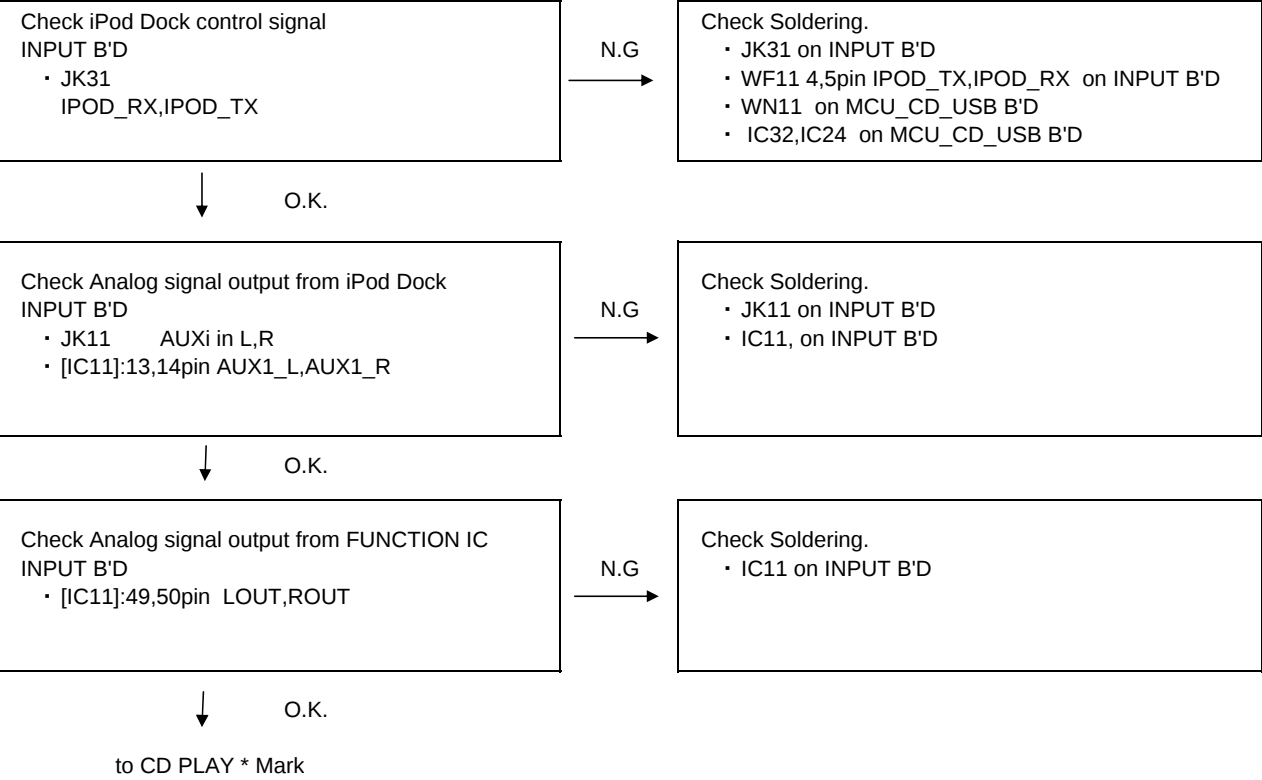
(4) DAB TUNER入力



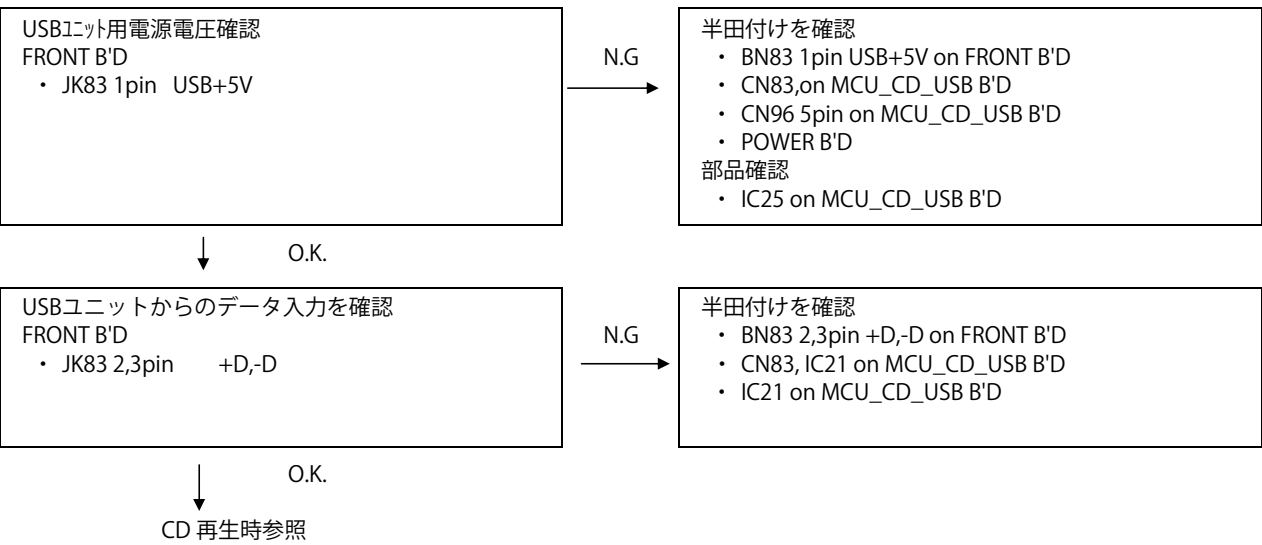
(5) USB PLAY



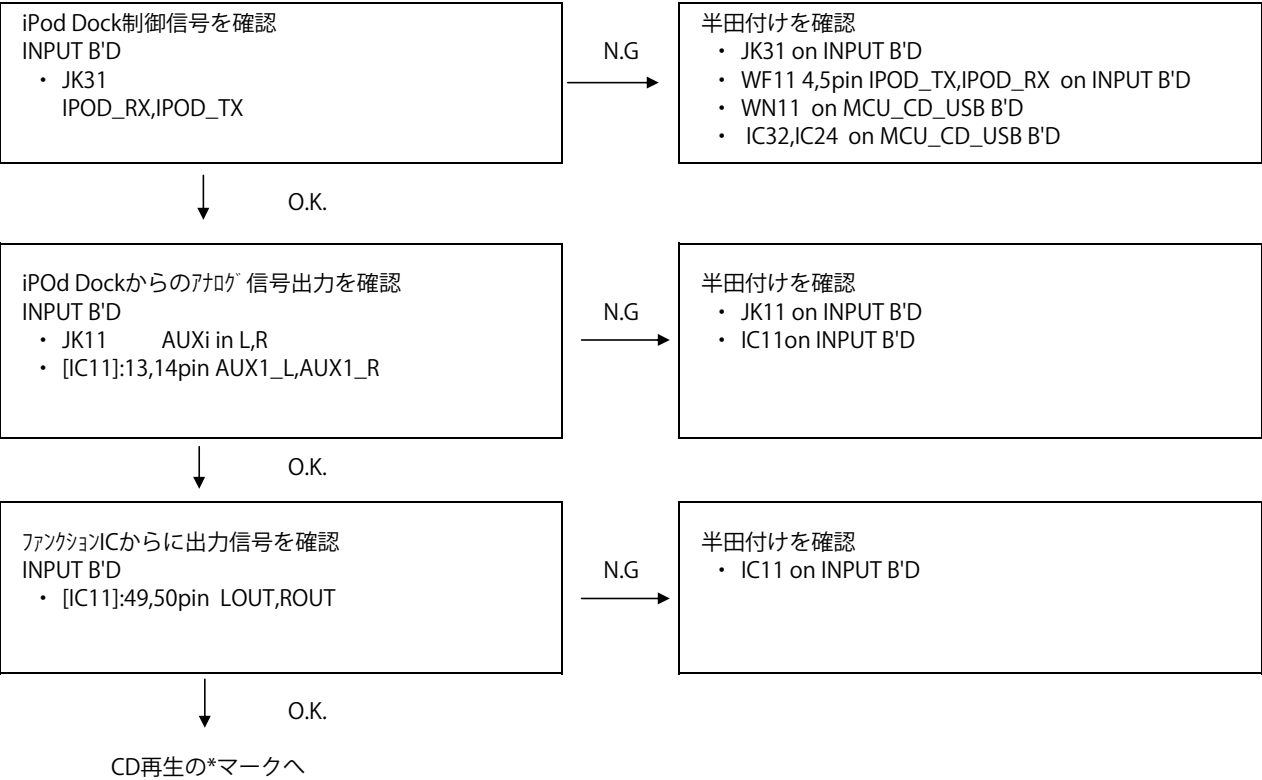
(6) iPod PLAY



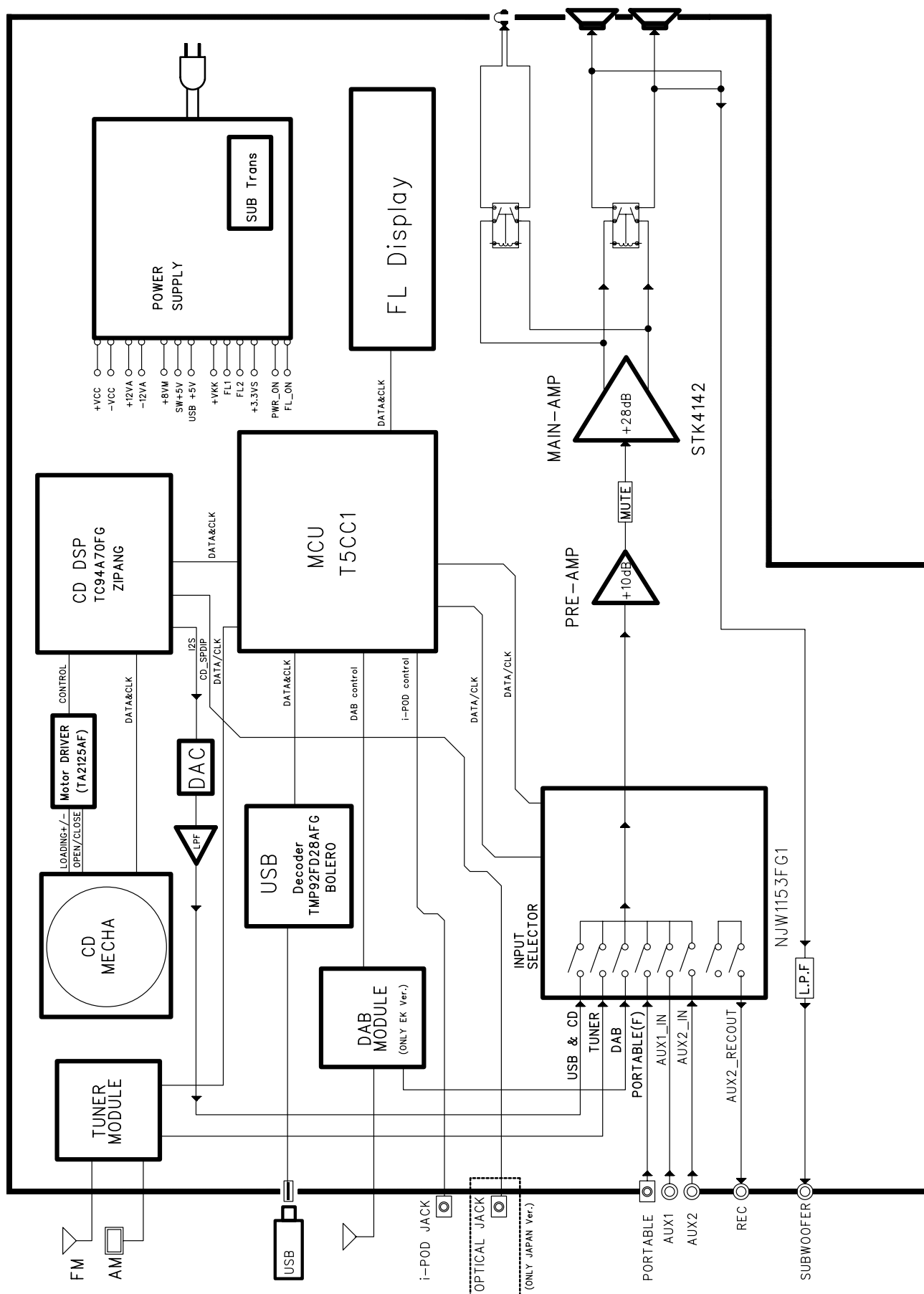
(5) USB 再生



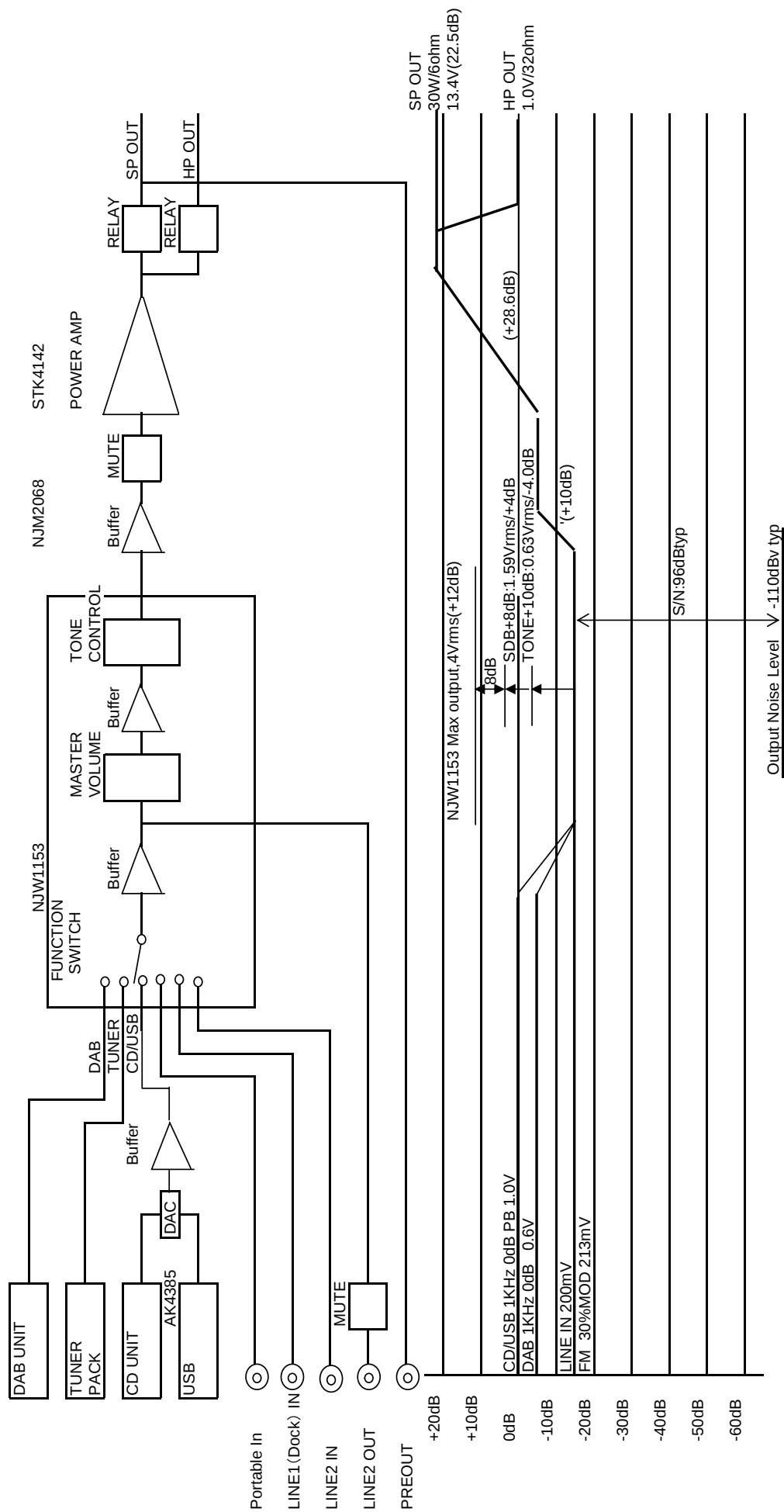
(5) iPod 再生



BLOCK DIAGRAM



LEVEL DIAGRAM

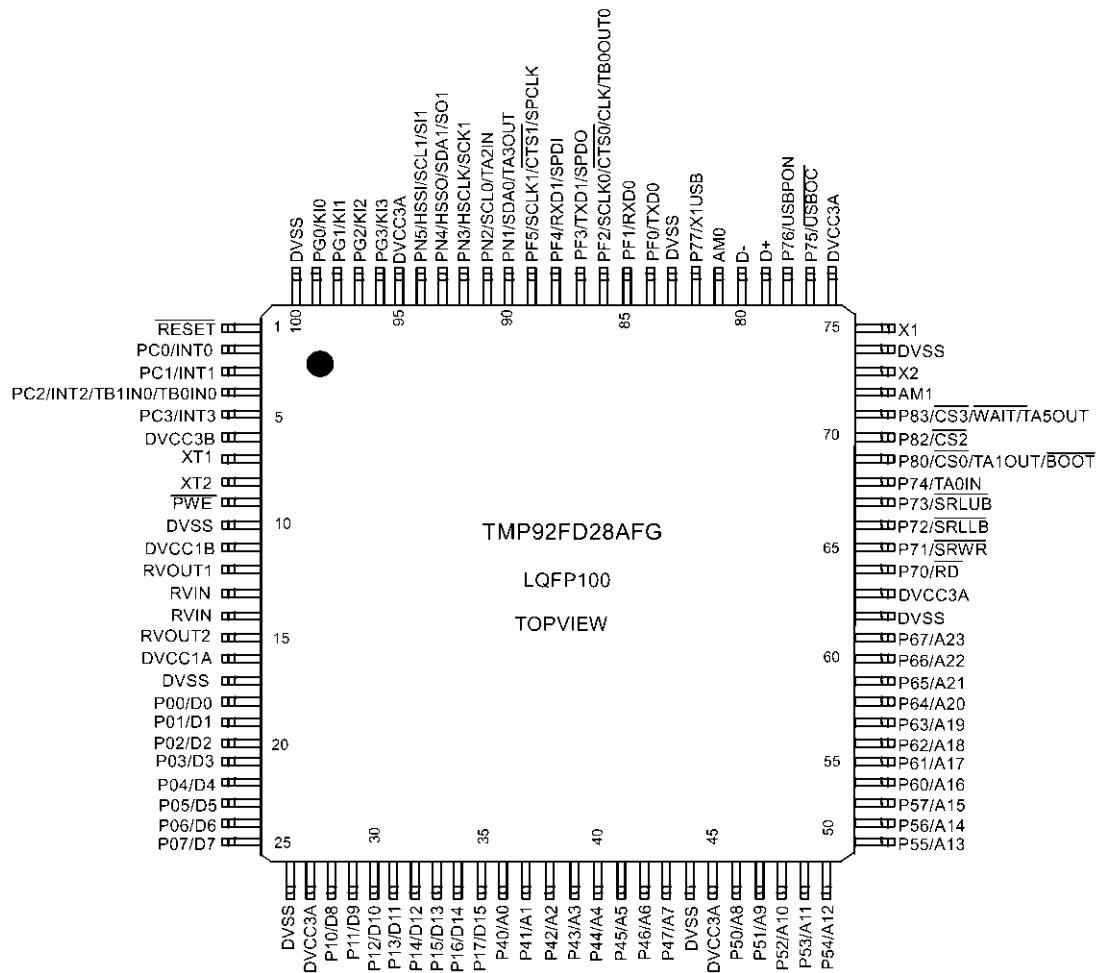


SEMICONDUCTORS

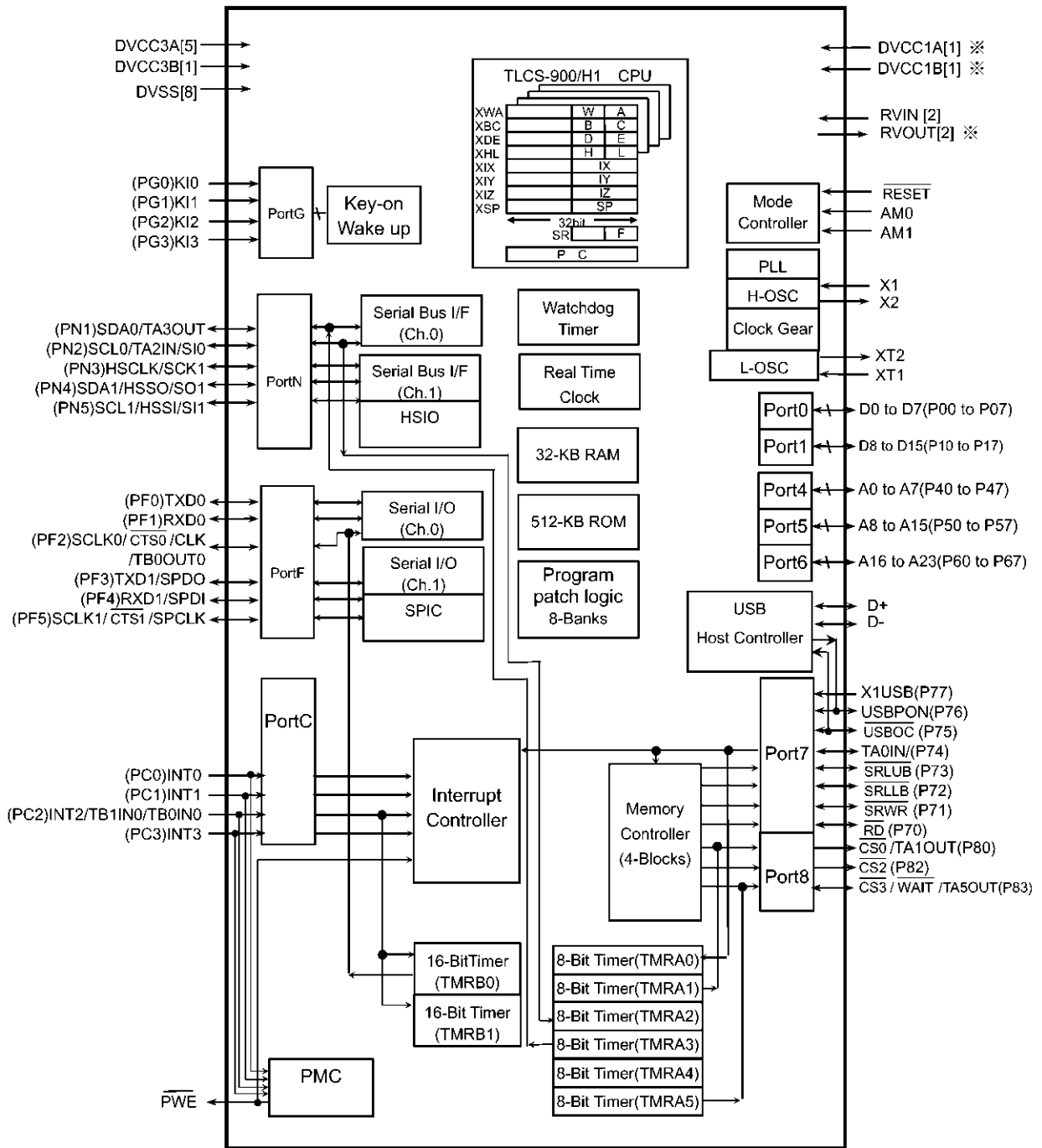
Only major semiconductors are shown, general semiconductors etc. are omitted to list.
 主な半導体を記載しています。汎用の半導体は記載を省略しています。

1. IC's

TMP92FD28AFG (IC21)



TMP92FD28AFG Block diagram



(): Initial function after reset
 ※: NC pins (Only use Mask ROM Version)

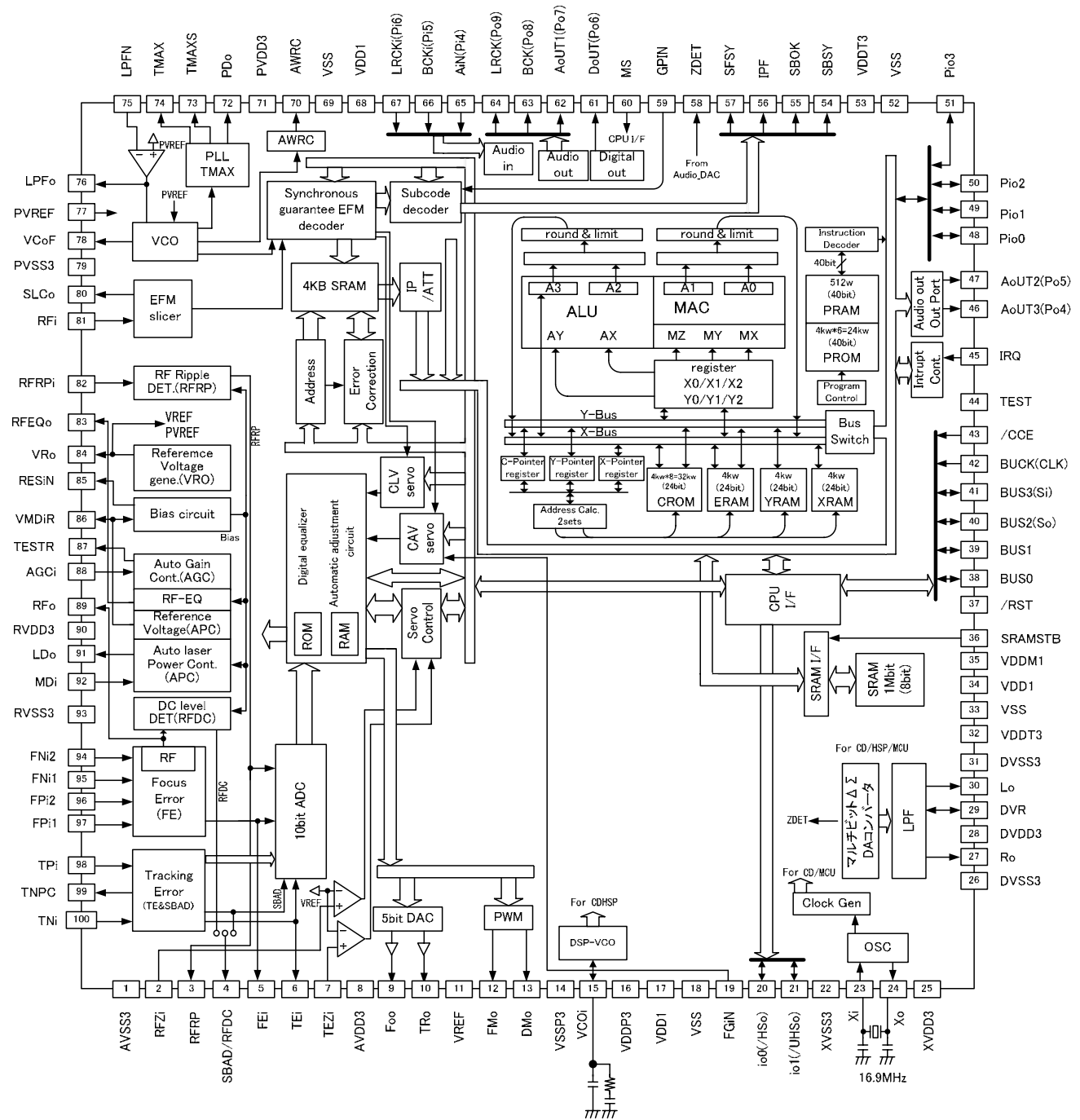
TMP92FD28AFG Pin function

Pin name	Number of Pin	I/O	Function
P00 to P07 D0 to D7	8	I/O I/O	Port 0: I/O port Input or output specifiable in units of bits Data: Data bus 0 to 7
P10 to P17 D8 to D15	8	I/O I/O	Port 1: I/O port Input or output specifiable in units of bits Data: Data bus 8 to 15
P40 to P47 A0 to A7	8	I/O Output	Port 4: I/O port Input or output specifiable in units of bits Address: Address bus 0 to 7
P50 to P57 A8 to A15	8	I/O Output	Port 5: I/O port Input or output specifiable in units of bits Address: Address bus 8 to 15
P60 to P67 A16 to A23	8	I/O Output	Port 6: I/O port Input or output specifiable in units of bits Address: Address bus 16 to 23
P70 RD	1	I/O Output	Port 70: I/O port (Schmitt input, with pull-up register) Read: Outputs strobe signal for read external memory.
P71 SRWR	1	I/O Output	Port 71: I/O port (Schmitt input, with pull-up register) Write enable for SRAM: Strobe signal for writing data.
P72 SRLLB	1	I/O Output	Port 72: I/O port (Schmitt input, with pull-up register) Data enable for SRAM on pins D0 to D7
P73 SRLUB	1	I/O Output	Port 73: I/O port (Schmitt input, with pull-up register) Data enable for SRAM on pins D8 to D15
P74 TA0IN	1	I/O Input	Port 74: I/O port 8-bit timer 0 input: Input pin of 8-bit timer TMRA0
P75 USBOC	1	I/O Input	Port 75: I/O port (Schmitt input) USBOC Input
P76 USBPON	1	I/O Output	Port 76: I/O port (Schmitt input) USBPON Output
P77 X1USB	1	Input Input	Port 77: Input port 48MHz Clock Input for USB Host Controller
P80 CS0 TA1OUT BOOT	1	Output Output Output Input	Port 80: Output port Chip select 0: Outputs "Low" when address is within specified address area 8-bit timer 1 Output: Output pin of 8-bit timer TMRA0 or TMRA1 This pin sets single boot mode (only during reset). (Note) The function of TMP92FD28A.
P82 CS2	1	Output Output	Port 82: Output port Chip select 2: Outputs "Low" when address is within specified address area
P83 CS3 TA5OUT WAIT	1	I/O Output Output Input	Port 83: I/O port Chip select 3: Outputs "Low" when address is within specified address area 8-bit timer 5 Output: Output pin of 8-bit timer TMRA4 or TMRA5 Wait: Signal used to request CPU bus wait
PC0 INT0	1	Input Input	Port C0: Input port (Schmitt input) Interrupt request pin0 : Interrupt request pin with programmable level/rising/falling edge
PC1 INT1	1	Input Input	Port C1: Input port (Schmitt input) Interrupt request pin 1 : Interrupt request pin with programmable level/rising/falling edge
PC2 INT2 TB0IN0 TB1IN0	1	Input Input Input Input	Port C2: Input port (Schmitt input) Interrupt request pin 2 : Interrupt request pin with programmable level/rising/falling edge 16-bit timer 0 input 0: Input of count/capture trigger in 16-bit timer TMRB0 16-bit timer 1 input 0: Input of count/capture trigger in 16-bit timer TMRB1
PC3 INT3	1	Input Input	Port C3: Input port (Schmitt input) Interrupt request pin 3 : Interrupt request pin with programmable level/rising/falling edge

Pin name	Number of Pin	I/O	Function
PF0 TXD0	1	I/O Output	Port F0: I/O port (Schmitt input) Serial 0 send data: Open drain output programmable
PF1 RXD0	1	I/O Input	Port F1: I/O port (Schmitt input) Serial 0 receive data
PF2 SCLK0 $\overline{\text{CTS0}}$ CLK TB0OUT0	1	I/O I/O Input Output Output	Port F2: I/O port (Schmitt input) Serial 0 clock I/O Serial 0 data send enable (Clear to send) Clock: System Clock output 16-bit timer 0 output 0: Output pin of 16-bit timer TMRB0
PF3 TXD1 SPDO	1	I/O Output Output	Port F3: I/O port (Schmitt input) Serial 1 send data: Open drain output programmable SPI Data output
PF4 RXD1 SPDI	1	I/O Input Input	Port F4: I/O port (Schmitt input) Serial 1 receive data SPI Data input
PF5 SCLK1 CTS1 SPCLK	1	I/O I/O Input Output	Port F5: I/O port (Schmitt input) Serial 1 clock I/O Serial 1 data send enable (Clear to send) SPI Clock output
PG0 to PG3 KI0 to KI3	4	Input Input	Port G: Input port (Schmitt input) Key input 0 to 3: Pin used of key-on wakeup 0 to 3
PN1 SDA0 TA3OUT	1	I/O I/O Output	Port N1: I/O port (Schmitt input, Open drain output) Serial bus interface 0 send/receive data at I ² C mode 8-bit timer 3 Output: Output pin of 8-bit timer TMRA2 or TMRA3
PN2 SCL0 TA2IN	1	I/O I/O Input	Port N2: I/O port (Schmitt input, Open drain output) Serial bus interface 0 clock I/O data at I ² C mode 8-bit timer 2 input: Input pin of 8-bit timer TMRA2
PN3 SCK1 HSCLK	1	I/O I/O Output	Port N3: I/O port (Schmitt input) Serial bus interface 1 clock I/O data at SIO mode HSIO Clock output
PN4 SDA1 SO1 HSSO	1	I/O I/O Output Output	Port N4: I/O port (Schmitt input, Open drain output) Serial bus interface 1 send/receive data at I ² C mode Serial bus interface 1 send data at SIO mode HSIO Data output
PN5 SCL1 SI1 HSSI	1	I/O I/O Input Input	Port N5: I/O port (Schmitt input, Open drain output) Serial bus interface 1 clock I/O data at I ² C mode Serial bus interface 1 receive data at SIO mode HSIO Data input

Pin name	Number of Pin	I/O	Function
X1 / X2	2	I/O	High-frequency oscillator connection I/O pins
XT1 / XT2	2	I/O	Low-frequency oscillator circuit connection pin.
AM0, AM1	2	Input	Operation mode: Fixed to AM1 = "1" and AM0 = "1"
$\overline{\text{RESET}}$	1	Input	Reset: Initializes TMP92FD28A (Schmitt input, with pull-up register)
$\overline{\text{PWE}}$	1	Output	External power supply control output: Pin to control ON/OFF of external power supply. In stand-by mode, outputs "L" level. In other than stand-by mode, outputs "H" level.
D+, D-	2	I/O	Data pin connected to USB. In case USB is not used, connect both pins to pull-up(DVCC3A) or pull-down resistor for protect current flows it.
RVIN	2	Input	Power supply pin for Internal Logic
RVOUT1, RVOUT2	2	Output	1.5V output from Internal Regulator (Only Mask ROM Version)
DVCC3A	5	—	Power supply pin for peripheral I/O-A (Connect all DVCC3A pins to power supply pin.)
DVCC3B	1	—	Power supply pin for peripheral I/O-B (Connect all DVCC3B pins to power supply pin.)
DVCC1A	1	—	Power supply pin for internal logic-A. (Only Mask ROM Version)
DVCC1B	1	—	Power supply pin for internal logic-B. (Only Mask ROM Version)
DVSS	8	—	GND pins (0 V) (All DVSS pins should be connected with GND(0V))

TC94A70FG (IC27)



TC94A70FG 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 resistor 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 resistor 3.3k Ω 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	O	PD output for VCO (control voltage input for VCO)	O	Three-state output
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=1M Ω)	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	—	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.
27	Ro	O 3A/I/F	R channel audio output pin of Audio DAC.	O	
28	DVDD3	—	Power supply pin for 3.3V Audio DAC circuit.	—	
29	DVR	—	Reference voltage pin for Audio DAC.	—	
30	Lo	O 3A/I/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.	—	-
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.	—	-
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 100K Ω when not in use)	I	Schmitt input
60	MS	I 3I/F	Microprocessor I/F mode selection pin. "H": Parallel I/F, "L": 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 μ F.
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 resistor 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 0.1 μ F.
78	VCof	O 3AI/F	VCO filter pin	O	Connect 0.01 μ F.
79	PVSS3	—	Grounding pin for 3.3V CD PLL circuit.	—	
80	SLCo	O 3AI/F	EFM slice level output pin. Output impedance =2.5k Ω 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 : 20k Ω , 10k Ω , 5k Ω
82	RFRPi	I 3AI/F	RF ripple signal input pin	I	

Pin No.	Symbol	I/O	Description	Default	Remarks
83	RFEQo	O 3A/I/F	RF equalizer circuit output pin.	O	Connect to RFRPI by 0.1uF, to RFI by 4700pF.
84	VRo	O 3A/I/F	1.65 V reference voltage output pin.	O	Connected to VREF and PVREF inside of IC. Connect 0.1uF+100uF.
85	RESiN	O 3A/I/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 3A/I/F	LPF connection pin for RFEQO offset correction circuit.	O	Connect more than 0.015uF.
88	AGCi	I 3A/I/F	RF signal AGC amplifier input pin	I	
89	RFo	O 3A/I/F	RF signal generation amplifier output pin	O	
90	RVDD3	—	Power supply for 3.3V RF amplifier core circuit.	—	
91	LDo	O 3A/I/F	Laser diode amplifier output pin.		
92	MDi	I 3A/I/F	Monitor photodiode amplifier input pin.	I	Reference Voltage=178mVtyp.
93	RVSS3	—	Grounding pin for RF amplifier core circuit	—	
94	FNi2	I 3A/I/F	Main beam signal input pin. To be connected to PIN diode C.	I	
95	FNi1	I 3A/I/F	Main beam signal input pin. To be connected to PIN diode A.	I	
96	FPI2	I 3A/I/F	Main beam signal input pin. To be connected to PIN diode D.	I	
97	FPI1	I 3A/I/F	Main beam signal input pin. To be connected to PIN diode B.	I	
98	TPi	I 3A/I/F	Sub beam signal input pin. To be connected to PIN diode F.	I	
99	TNPC	O 3A/I/F	TNI/TPI input common capacitor connection pin.	O	Connect to VRO by capacitor.
100	TNi	I 3A/I/F	Sub beam signal input pin. To be connected to PIN diode E.	I	

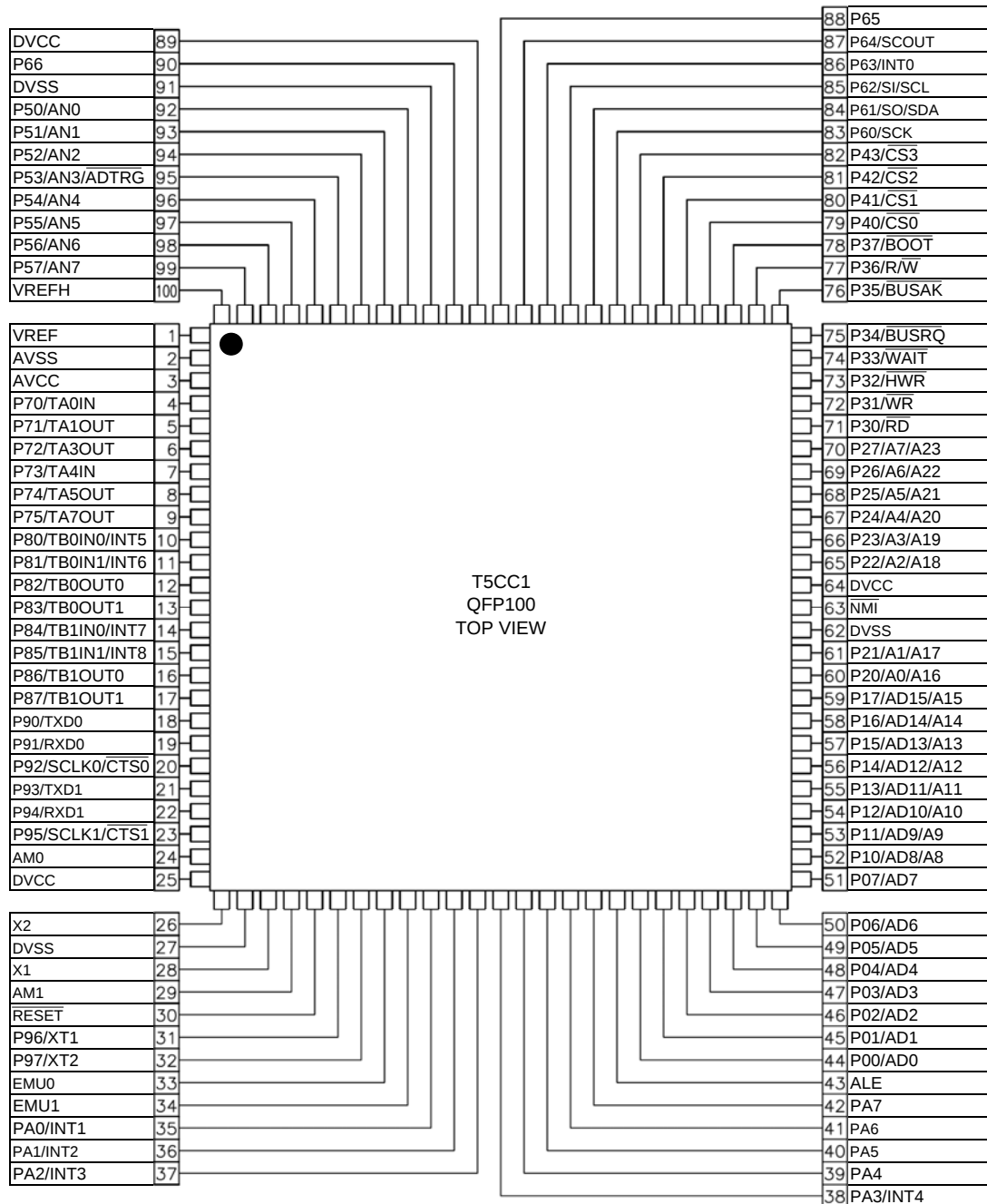
* 3A I/F : 3 V analog circuit input/output pin.
1.5 I/F : 1.5Vdigital input/output pin.
3 I/F : 3 V digital input/output pin.

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.

T5CC1 (IC24)



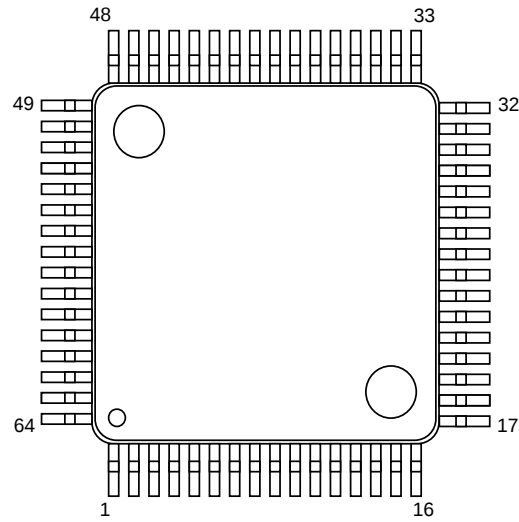
T5CC1 Terminal Function

Pin No	Port Name	Description	I/O	Use	Status					Note
					Pull-up	NoUse	Init	Stby	Act.	
1	VREF									ADC power
2	AVSS									ADC_GND
3	AVCC	MCU +3.3V								MCU power
4	P70/TA0IN	NC	I/O	O	X	OPEN	I			
5	P71/TA1OUT	NC	I/O	O	X	OPEN	I			
6	P72/TA3OUT	PORTABLE_IN	I/O	I	O		I	O	L	Portable_input
7	P73/TA4IN	LED_ST	I/O	O	X		I	L	L	ST LED Control
8	P74/TA5OUT	LED_PON	I/O	O	X		I	H	L	Power LED Control
9	P75/TA7OUT	P_DOWN	I/O	I	O		I	-	L	P_down port
10	P80/TB0IN0/INT5	PROTECT_IN	I/O	I	O		I	-	L	AMP protect detect
11	P81/TB0IN1/INT6	HEADPHONE IN	I/O	I	O		I	O	L	headphone in detect

Pin No	Port Name	Description	I/O	Use	Status					Note
					Pull-up	NoUse	Init	Stby	Act.	
12	P82/TB0OUT0	SPEAKER_ON	I/O	O	X		I	L	H	speaker on/off control
13	P83/TB0OUT1	HP_ON	I/O	O	X		I	L	H	Headphone on/off control
14	P84/TB1IN0/INT7	VFD_RESET	I/O	O	X		I	H	L	vfd reset
15	P85/TB1IN1/INT8	VFD_DO	I/O	O	X		I	-	-	vfd data
16	P86/TB1OUT0	VFD_CS	I/O	O	X		I	-	-	vfd chip select
17	P87/TB1OUT1	VFD_CLK	I/O	O	X		I	-	-	vfd clock
18	P90/TXD0	BOL_TX	I/O	O	X		I	-	-	send command to bolero IC
19	P91/RXD0	BOL_RX	I/O	I	X		I	-	-	receive data from bolero IC
20	P92/SCLK0/CTS0	TIMER_ON	I/O	O	X		I			Timer LED ON/OFF Control
21	P93/TXD1	UPDATE_TXD/ IPOD_TXD	I/O	O	X		I	-	-	used when connect with update tool/iPod uart data out
22	P94/RXD1	UPDATE_RXD/ IPOD_RXD	I/O	I	X		I	-	-	used when connect with update tool/iPod uart data in
23	P95/SCLK1/CTS1	USB_DET	I/O	I	0		I	-	L	USB detect pin
24	AM0	MCU +3.3V								chip operate select,
25	DVCC	MCU +3.3V								MCU power,
26	X2	CRY(27MHZ)		O				-		oscillator(27MHz)
27	DVSS									GND
28	X1	CRY(27MHZ)		I				-		oscillator(27MHz)
29	AM1	MCU +3.3V								chip operate select
30	RESET						I	I	L	MCU reset
31	P96/XT1	CRY(32.768KHZ)		I						RTC oscillator(32.768KHz)
32	P97/XT2	CRY(32.768KHZ)		O						RTC oscillator(32.768KHz)
33	EMU0		O			OPEN				
34	EMU1		O			OPEN				
35	PA0/INT1	REMOTE	I/O	I	X		I	I	I	remote in
36	PA1/INT2	RDS_CLK	I/O	I	X		I	-	-	rds int
37	PA2/INT3	EX_INTERRUPT	I/O	I	X		I	-	L	active when push the on/standby key and menu key on body
38	PA3/INT4	RDS_DATA	I/O	O	X		I			rds data input
39	PA4	BOL_RESET	I/O	O	X		I	L	L	bolero ic reset
40	PA5	NC	I/O	O	X	OPEN	I			
41	PA6	USB_OC	I/O	I	X		I	-	L	usb connect over current detect
42	PA7	USB_PON	I/O	O	X		I	-	-	usb power enable control
43	ALE	NC				OPEN				
44	P00/AD0	F_V_CE	I/O	O	X		I	L	-	function IC strobe
45	P01/AD1	F_V_CLK	I/O	O	X		I	L	-	function IC clock
46	P02/AD2	F_V_DATA	I/O	O	X		I	L	-	function IC data
47	P03/AD3	NC	I/O	O	X	OPEN	I			
48	P04/AD4	NC	I/O	O	X	OPEN	I			
49	P05/AD5	EEPROM_DATA	I/O	O	X		I			EEPROM_DATA
50	P06/AD6	EEPROM_CLK	I/O	O	X		I			EEPROM_CLK
51	P07/AD7	NC	I/O	O	X	OPEN	I			
52	P10/AD8/A8	CD_BUS2	I/O	I	X		I	L	-	receive data from CD DSP
53	P11/AD9/A9	CD_BUS3	I/O	O	X		I	L	-	send command to CD DSP
54	P12/AD10/A10	CD_BUCK	I/O	O	X		I	L	-	communication clock with CD DSP
55	P13/AD11/A11	CD_CCE	I/O	O	X		I	L	-	communication chip enable with CD DSP
56	P14/AD12/A12	DSP_RESET	I/O	O	X		I	L	-	CD DSP reset
57	P15/AD13/A13	MT_STBY	I/O	O	X		I	L	-	motor stanby
58	P16/AD14/A14	CD_CLOSE_M	I/O	O	X		I	L	-	cd close motor
59	P17/AD15/A15	CD_OPEN_M	I/O	O	X		I	L	-	cd open motor
60	P20/A0/A16	NC	I/O	O	X	OPEN	I			
61	P21/A1/A17	CD_OPEN_SW	I/O	I	O		I	O	L	cd open switch
62	DVSS	GND								GND
63	NMI	MCU +3.3V								external interrupt,
64	DVCC	MCU +3.3V								MCU power

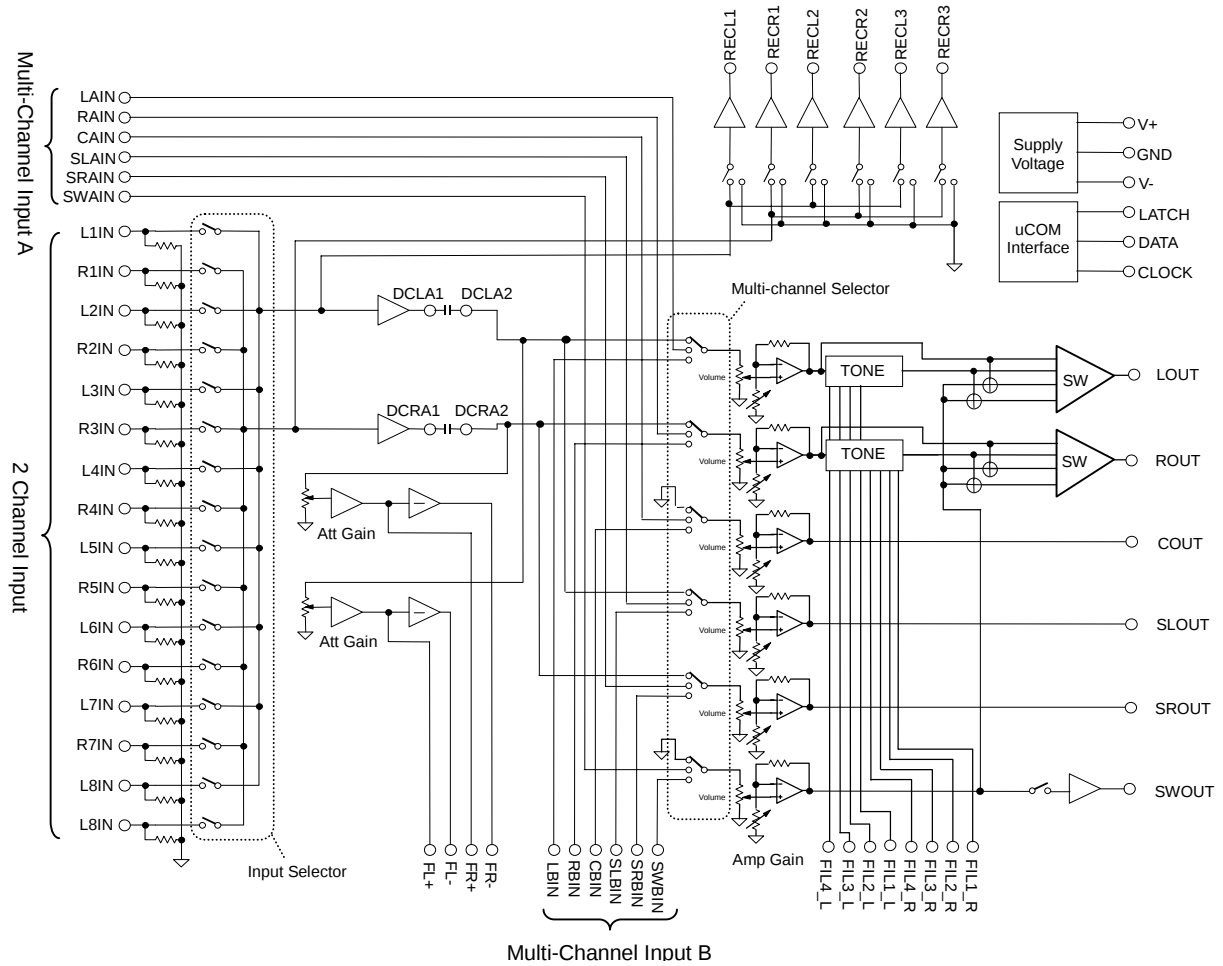
Pin No	Port Name	Description	I/O	Use	Status					Note
					Pull-up	NoUse	Init	Stby	Act.	
65	P22/A2/A18	CD_CLOSE_SW	I/O	I	O		I	O	L	cd close switch
66	P23/A3/A19	NC	I/O	O	X		I	-	-	
67	P24/A4/A20	CD_LIMIT_SW	I/O	I	O		I	O	L	cd inner switch
68	P25/A5/A21	POWER_H	I/O	O	X		I	L	H	Main power on
69	P26/A6/A22	F_MUTE	I/O	O	X		I	H	H	function mute
70	P27/A7/A23	NC	I/O	O	X	OPEN	I			
71	P30/RD	AK_RESET	O	O	X		O	L	L	ak DAC reset
72	P31/WR	AK_CS	O	O	X		O	L	-	ak DAC chip select
73	P32/HWR	AK_CCLK	I/O	O	X		I	L	-	ak DAC clock
74	P33/WAIT	AK_COTI	I/O	O	X		I	L	-	ak DAC data
75	P34/BUSRQ	N.C	I/O	O	X		I	L	-	
76	P35/BUSAK	N.C	I/O	O	X		I	L	-	
77	P36/R/W	DAB_CLK	I/O	O	X		I	L	-	DAB clock
78	P37/BOOT	BOOT_MODE	I/O	I	O		I	-	-	update mode select
79	P40/CS0	NC	I/O	O	X		I	-	-	
80	P41/CS1	DAB_DAO	I/O	O	X		I	L	-	DAB out data
81	P42/CS2	N.C	I/O	O	X		I	L	-	
82	P43/CS3	SPDIP_ON	I/O	O	X		I	-	L	
83	P60/SCK	PLL_CE	I/O	O	X		I	L	-	tuner PLL IC enable
84	P61/SO/SDA	P/F_CLK	I/O	O	X		I	L	-	tuner PLL IC clock
85	P62/SI/SCL	P/F_DATA	I/O	O	X		I	L	-	tuner PLL IC data
86	P63/INT0	PLL_DI	I/O	I	X		I	-	-	tuner PLL IC data input
87	P64/SCOUT	TUNED_IN	I/O	I	O		I	-	L	tuned in
88	P65	STEREO_IN	I/O	I	O		I	-	L	stereo in
89	DVCC	MCU +3.3V								MCU power
90	P66	NC	I/O	O	X	OPEN	I			
91	DVSS	GND								GND
92	P50/AN0	KEY0	I	I	O		I	-	-	key0 input
93	P51/AN1	KEY1	I	I	O		I	-	-	key1 input
94	P52/AN2	NC	I	I	O		I	-	-	
95	P53/AN3/ADTRG	VOL-	I	I	O		I	-	-	volume encoder sw1
96	P54/AN4	VOL+	I	I	O		I	-	-	volume encoder sw2
97	P55/AN5	POWER_PROT	I	I	X		I		H	voltage protect
98	P56/AN6	NC	I	I	O		I			
99	P57/AN7	OPTION	I	I	O		I	-	-	Version Option
100	VREFH	MCU +3.3V								vfd operate

NJW1153FGI (IC11)

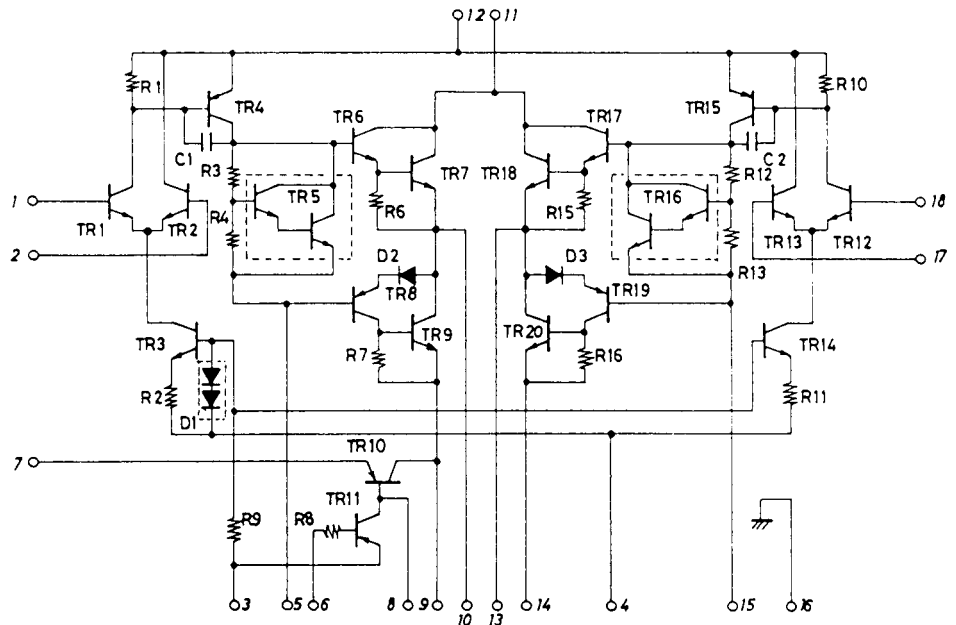
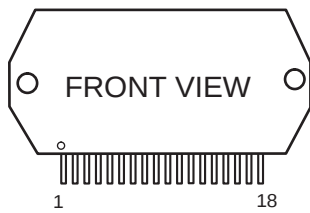


No.	SYMBOL	FUNCTION	No.	SYMBOL	FUNCTION
1	FIL2_R	Rch Bass filter terminal	33	RAIN	Multi-channel Rch input A
2	FIL3_R	Rch Bass filter DC cut capacitor output terminal	34	CAIN	Multi-channel Cch input A
3	FIL4_R	Rch Bass filter DC cut capacitor input terminal	35	SLAIN	Multi-channel SLch input A
4	GND	Ground	36	SRAIN	Multi-channel SRch input A
5	FL+	"Input selector gain control" Lch no-inverted output	37	SWAIN	Multi-channel SWch input A
6	FL-	"Input selector gain control" Lch inverted output	38	LBIN	Multi-channel Lch input B
7	FR+	"Input selector gain control" Rch no-inverted output	39	RBIN	Multi-channel Rch input B
8	FR-	"Input selector gain control" Rch inverted output	40	CBIN	Multi-channel Cch input B
9	DCLA1	"Input selector" Lch output	41	SLBIN	Multi-channel SLch input B
10	DCLA2	"Multi-channel selector" Lch input	42	SRBIN	Multi-channel SRch input B
11	DCRA1	"Input selector" Rch output	43	SWBIN	Multi-channel SWch input B
12	DCRA2	"Multi-channel selector" Rch input	44	SurTC	Switching noise rejection capacitor
13	L1IN	"Input selector" Lch input 1	45	FIL4_L	Lch Bass filter DC cut capacitor input terminal
14	R1IN	"Input selector" Rch input 1	46	FIL3_L	Lch Bass filter DC cut capacitor output terminal
15	L2IN	"Input selector" Lch input 2	47	FIL2_L	Lch Bass filter terminal
16	R2IN	"Input selector" Rch input 2	48	FIL1_L	Lch Treble filter terminal
17	L3IN	"Input selector" Lch input 3	49	LOUT	Lch output
18	R3IN	"Input selector" Rch input 3	50	ROUT	Rch output
19	L4IN	"Input selector" Lch input 4	51	COUT	Cch output
20	R4IN	"Input selector" Rch input 4	52	SLOUT	SLch output
21	L5IN	"Input selector" Lch input 5	53	SROUT	SRch output
22	R5IN	"Input selector" Rch input 5	54	SWOUT	SWch output
23	L6IN	"Input selector" Lch input 6	55	V+	+ Power supply voltage input
24	R6IN	"Input selector" Rch input 6	56	GND	Ground
25	L7IN	"Input selector" Lch input 7	57	V-	- Power supply voltage input
26	R7IN	"Input selector" Rch input 7	58	RECL1	"Input selector" Lch REC output 1
27	L8IN	"Input selector" Lch input 8	59	RECR1	"Input selector" Rch REC output 1
28	R8IN	"Input selector" Rch input 8	60	RECL2	"Input selector" Lch REC output 2
29	DATA	Control data signal input	61	RECR2	"Input selector" Rch REC output 2
30	CLOCK	Clock signal input	62	RECL3	"Input selector" Lch REC output 3
31	LATCH	Latch signal input	63	RECR3	"Input selector" Rch REC output 3
32	LAIN	Multi-channel Lch input A	64	FIL1_R	Rch Treble filter terminal

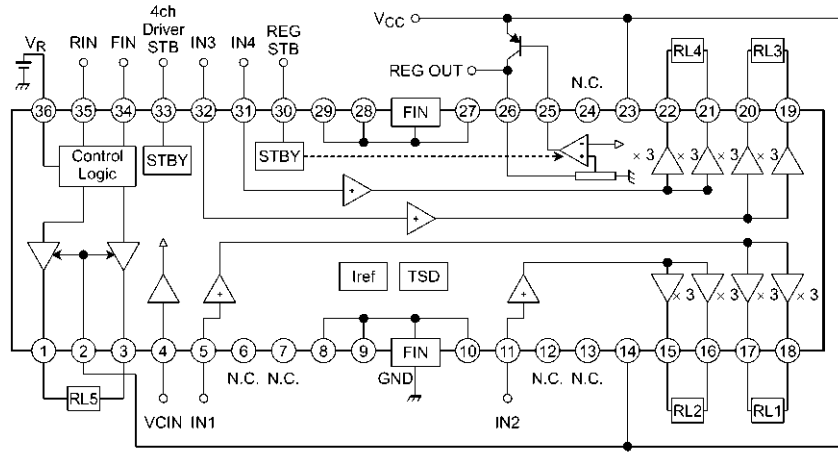
NJW1153FGI Block Diagram



STK4142II (IC71)



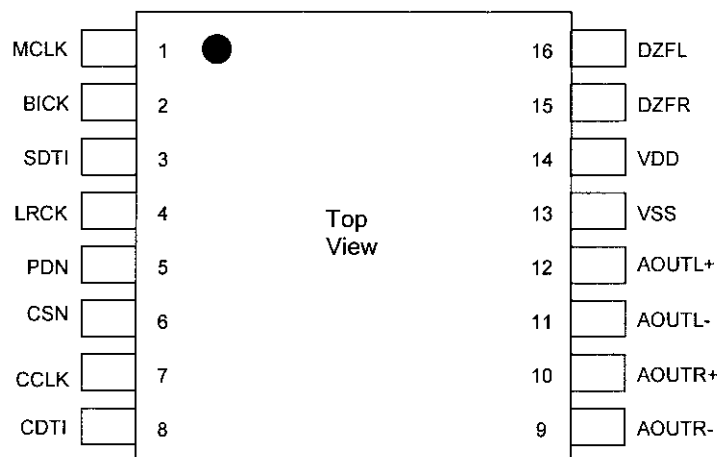
TA2125AF (IC34)



TA2125AF Terminal Function

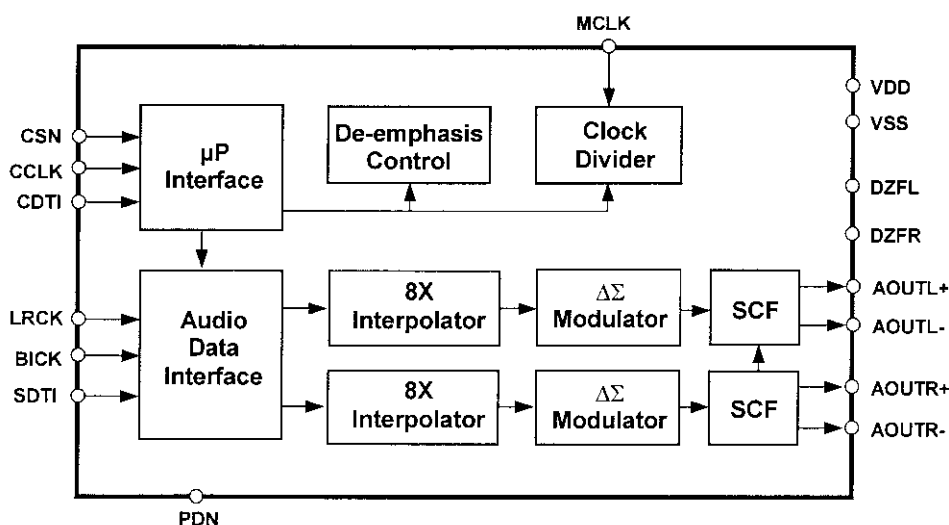
No.	Symbol	Function	
1	OUT5A	Output terminal	H-bridge
2	VM	Supply voltage terminal for Logic	H-bridge
3	OUT5B	Output terminal	H-bridge
4	VCIN	Input reference voltage	4ch BTL
5	IN1	Input for ch1	4ch BTL
6	N.C.	Open	—
7	N.C.	Open	—
8	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
9	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
10	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
11	IN2	Input for ch2	4ch BTL
12	N.C.	Open	—
13	N.C.	Open	—
14	VCC1	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	VCC2	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 (FIN)	—
28	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
29	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
30	REG STBY	Standby control for regulator	Regulator
31	IN4	Input for ch4	4ch BTL
32	IN3	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

AK4385 (IC15)



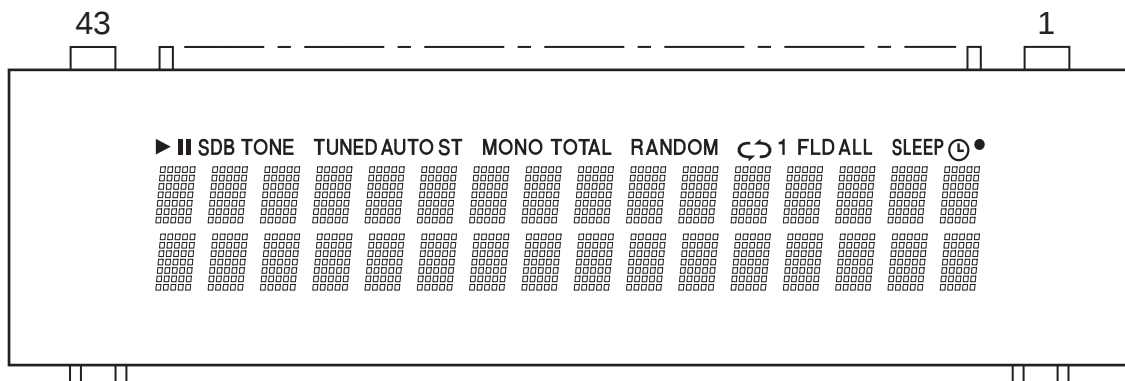
PIN/FUNCTION			
No.	Pin Name	I/O	Function
1	MCLK	I	Master Clock Input Pin An external TTL clock should be input on this pin.
2	BICK	I	Audio Serial Data Clock Pin
3	SDTI	I	Audio Serial Data Input Pin
4	LRCK	I	L/R Clock Pin
5	PDN	I	Power-Down Mode Pin When at "L", the AK4385 is in the power-down mode and is held in reset. The AK4385 must be reset once upon power-up.
6	CSN	I	Chip Select Pin
7	CCLK	I	Control Data Input Pin
8	CDTI	I	Control Data Input Pin in serial mode
9	AOUTR-	O	Rch Negative Analog Output Pin
10	AOUTR+	O	Rch Positive Analog Output Pin
11	AOUTL-	O	Lch Negative Analog Output Pin
12	AOUTL+	O	Lch Positive Analog Output Pin
13	VSS	-	Ground Pin
14	VDD	-	Power Supply Pin
15	DZFR	O	Rch Data Zero Input Detect Pin
16	DZFL	O	Lch Data Zero Input Detect Pin

Note: All input pins should not be left floating.

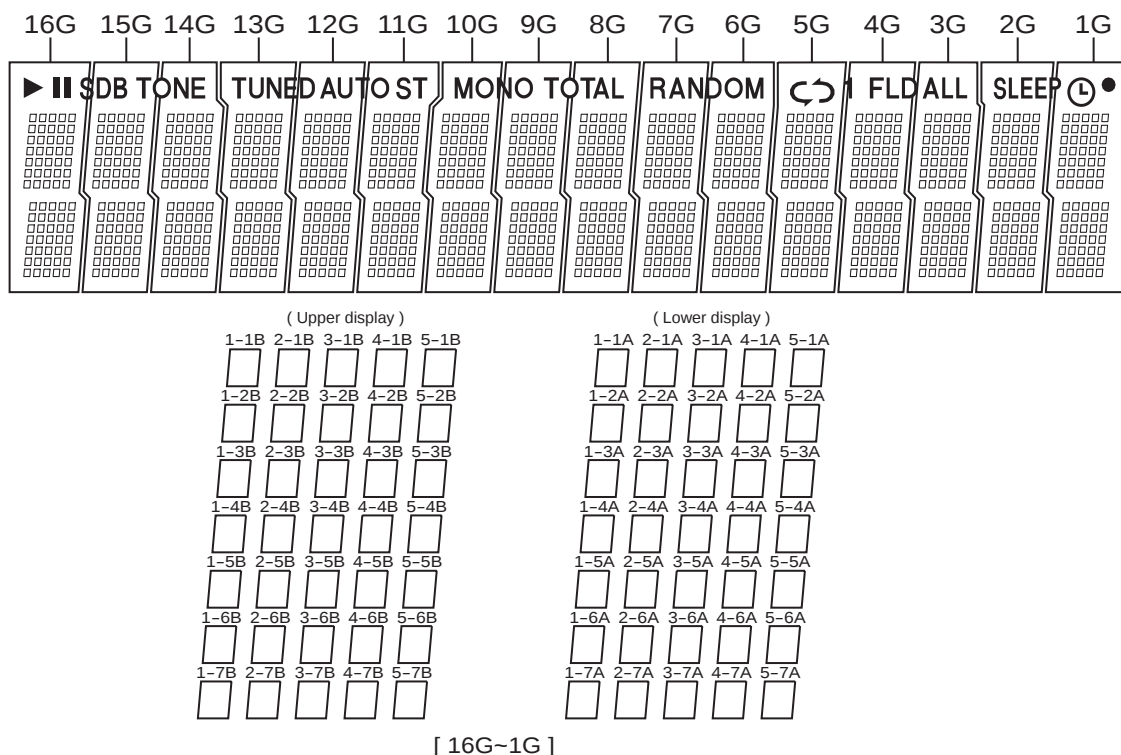


2. FL DISPLAY

16ST87G (FL81)



Grid Assignment



Pin Connection

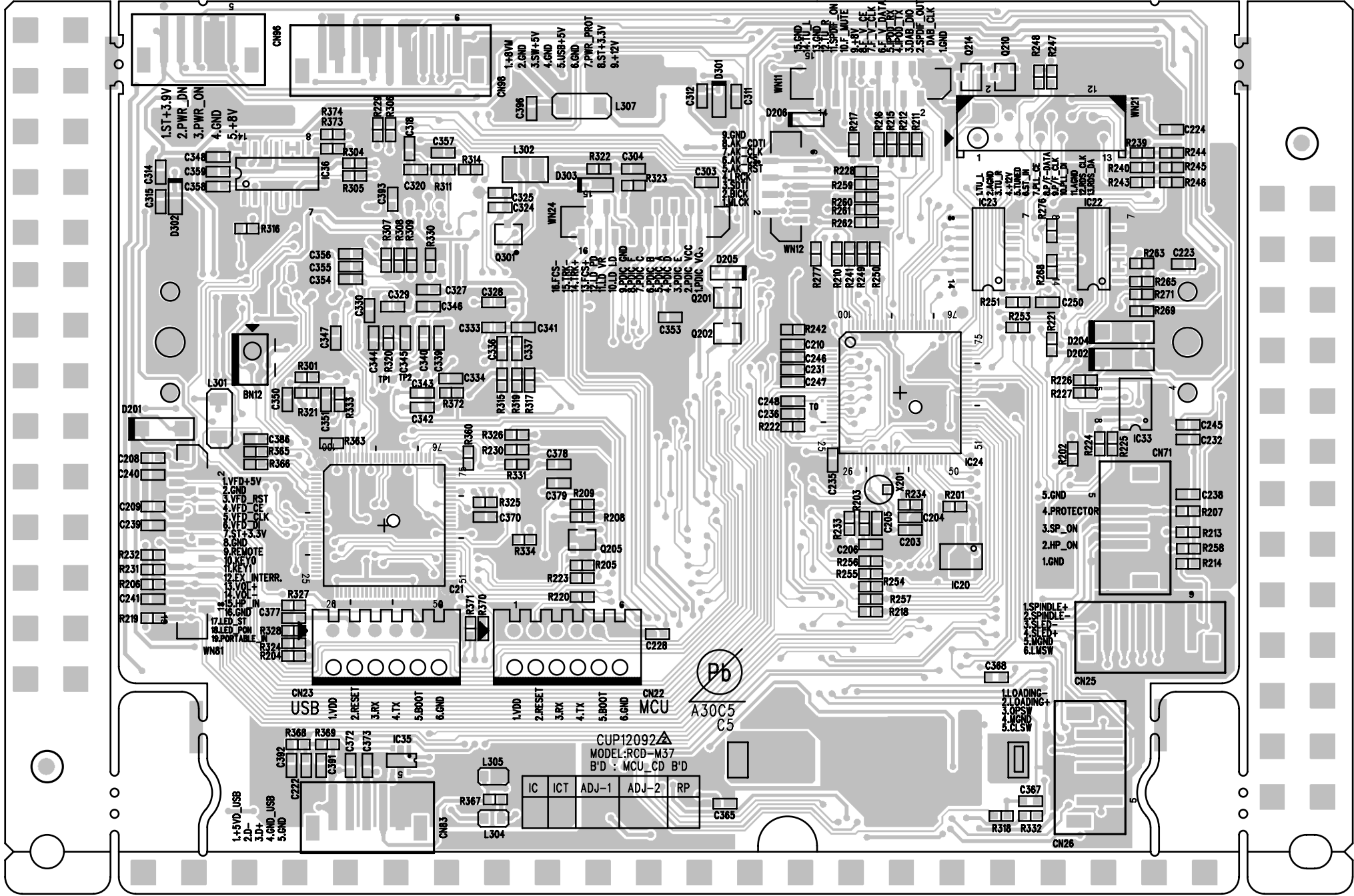
Pin No.	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	~	15	14	~	4	3	2	1	
Connection	F2	P	N	N	N	L	P	G	G	V	D	S	E	C	T	-	R	E	S	E	T	C	P	A

- NOTE
- 1) F1,F2 : Filament
 - 2) NP : No pin
 - 3) NC : No connection
 - 4) NX : No extend pin
 - 5) DL : Datum Line
 - 6) LGND : Logic GND pin
 - 7) PGND : Power GND pin
 - 8) VH : High Voltage Supply pin
 - 9) VDD : Logic Voltage Supply pin
 - 10) CP : Shift Register Clock
 - 11) DA : Serial Data Input
 - 12) TSA,B : Test pin
 - 13) CS : Chip Select Input pin
 - 14) RESET : Reset Input
 - 15) OSC : Pin for self-oscillation

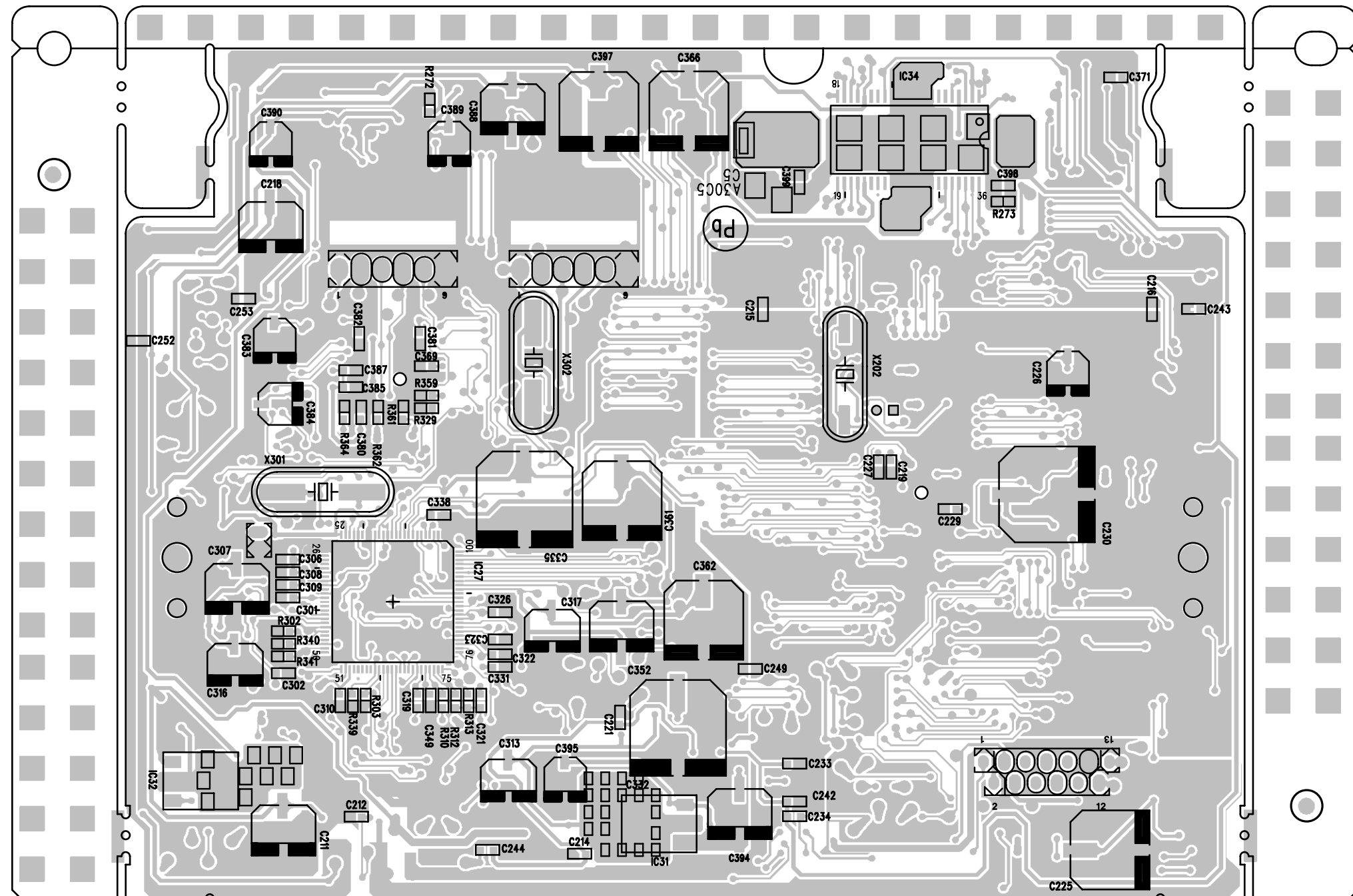
---MEMO---

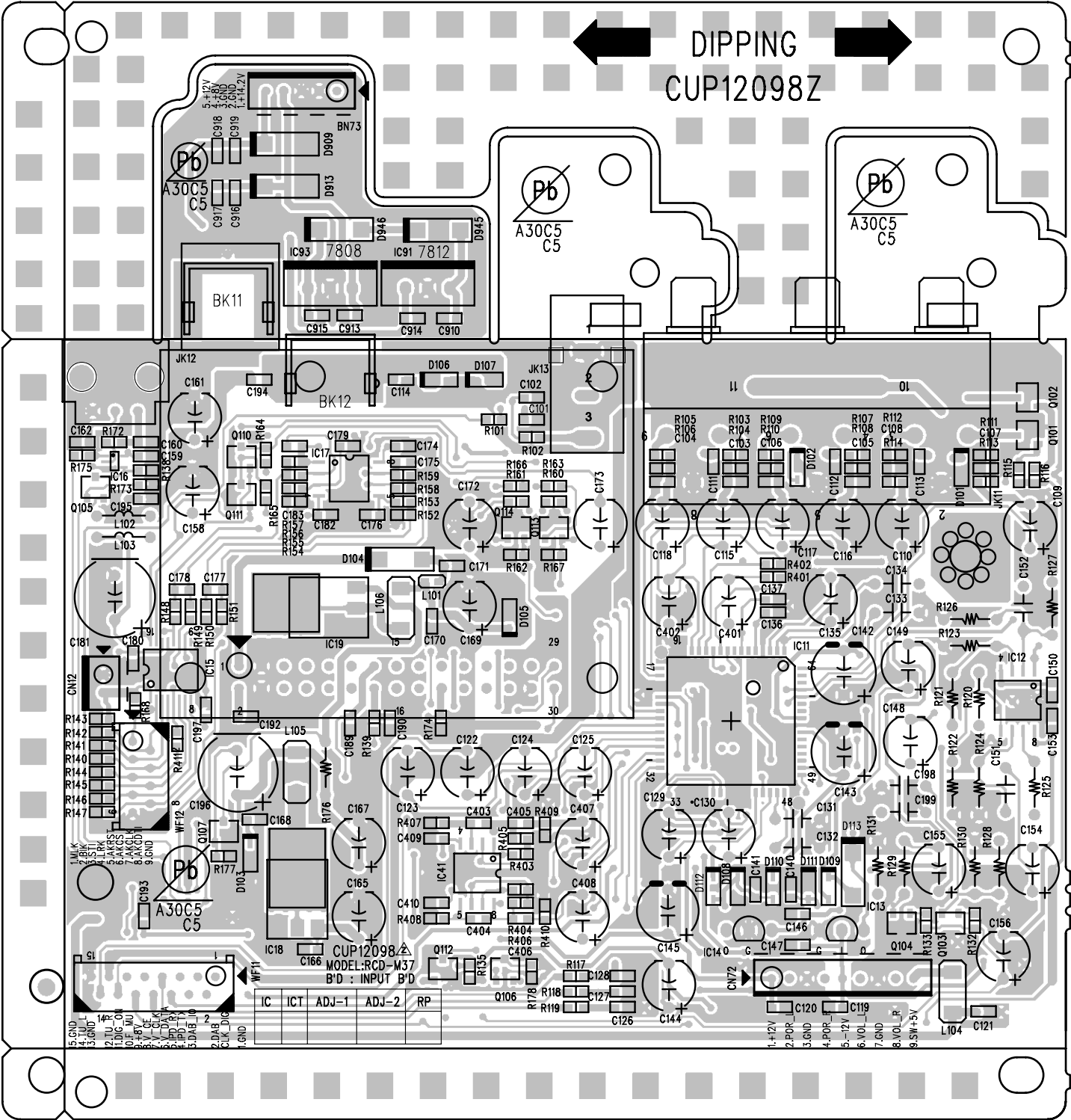
PRINTED WIRING BOARDS

MCU UNIT (1/2)

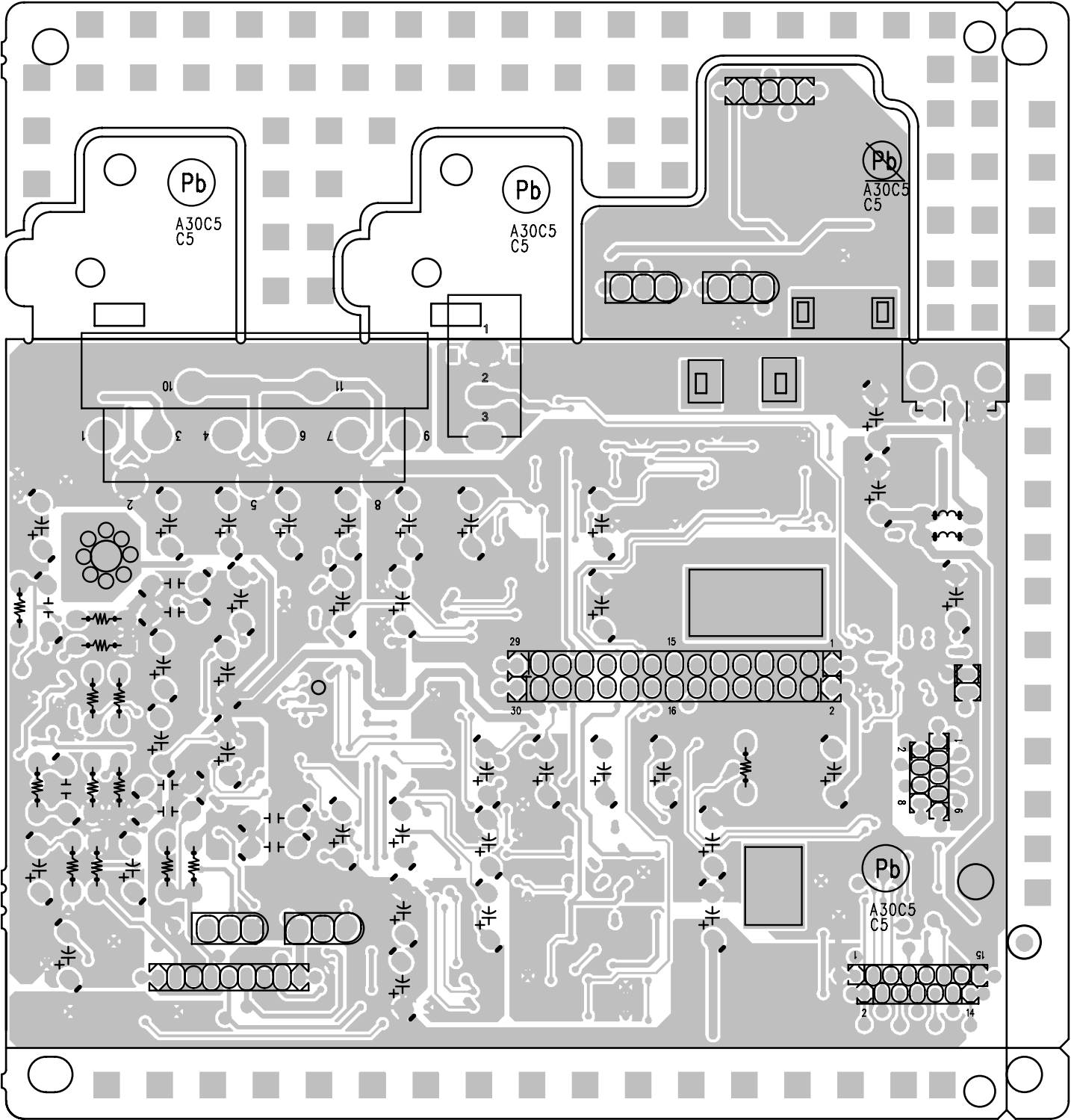


COMPONENT SIDE



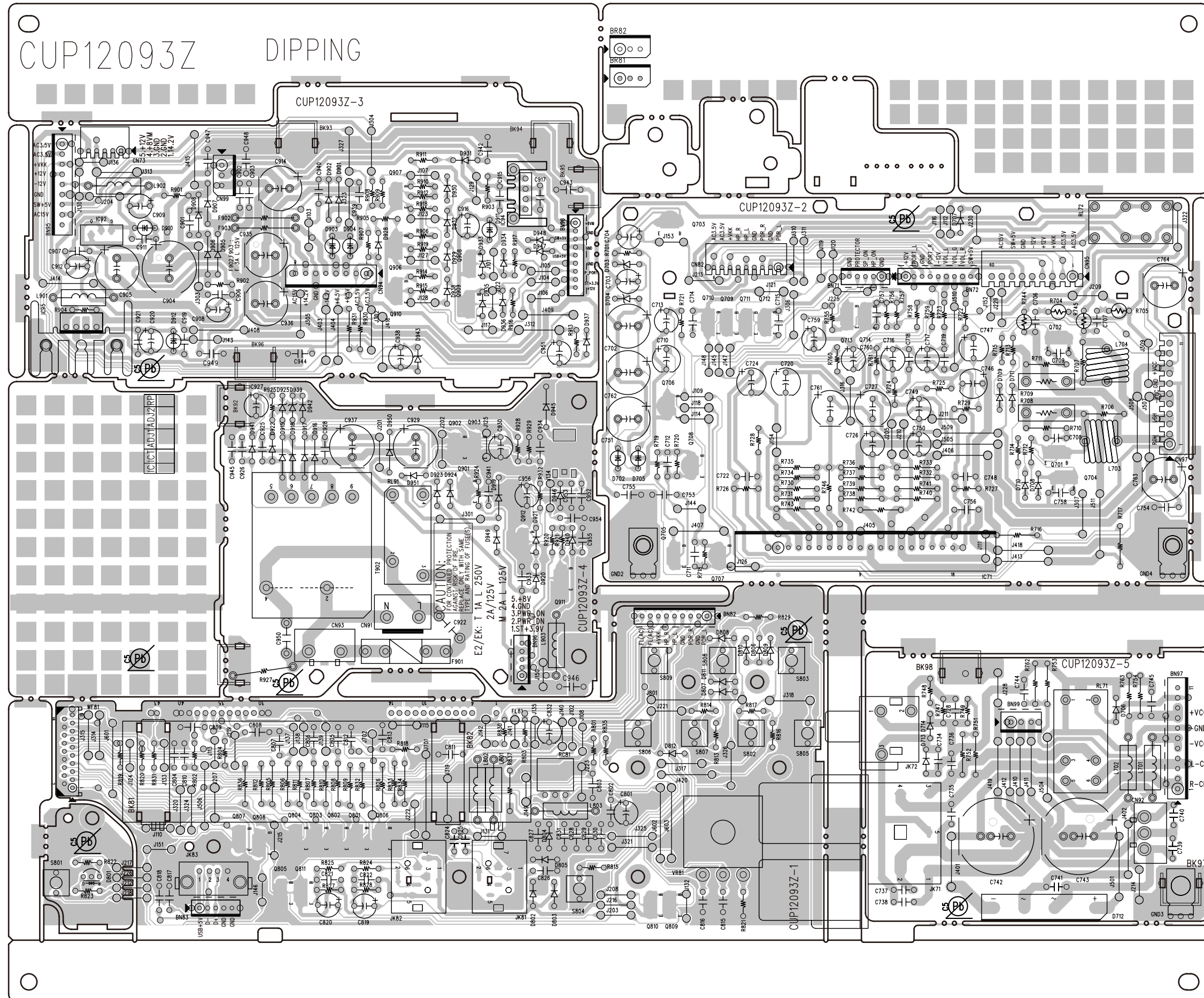


COMPONENT SIDE



FOIL SIDE

MAIN UNIT



NOTE FOR PARTS LIST

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

WARNING:

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

● Resistors

Ex.: RN	14K	2E	182	G	FR
Type	Shape and performance	Power	Resistance	Allowable error	Others
RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming		

* Resistance

$\overset{1}{\uparrow} \overset{8}{\text{---}} \overset{2}{\uparrow} \Rightarrow 1800 \text{ ohm} = 1.8 \text{ kohm}$
Indicates number of zeros after effective number.
2-digit effective number.

• Units: ohm

$\overset{1}{\uparrow} \overset{R}{\text{---}} \overset{2}{\uparrow} \Rightarrow 1.2 \text{ ohm}$
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: CE	04W	1H	2R2	M	BP
Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others
CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$ Z : $+80\%$ -20% P : $+100\%$ -0% C : $\pm 0.25 \text{ pF}$ D : $\pm 0.5 \text{ pF}$ = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For charge and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming		

* Capacity (electrolyte only)

$\overset{2}{\uparrow} \overset{2}{\text{---}} \overset{2}{\uparrow} \Rightarrow 2200 \mu\text{F}$
Indicates number of zeros after effective number.
2-digit effective number.

• Units: μF .

$\overset{2}{\uparrow} \overset{R}{\text{---}} \overset{2}{\uparrow} \Rightarrow 2.2 \mu\text{F}$
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: μF .

* Capacity (except electrolyte)

$\overset{2}{\uparrow} \overset{2}{\text{---}} \overset{2}{\uparrow} \Rightarrow 2200 \text{ pF} = 0.0022 \mu\text{F}$
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: pF.

$\overset{2}{\uparrow} \overset{2}{\text{---}} \overset{1}{\uparrow} \Rightarrow 220 \text{ pF}$
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

部品表について

- 部品表に "nsp" と記載されている部品は供給できません。
- 部品を発注する際は特に数字の " 1 " と英字の " I " との区別をはっきり記入してください。
- 部品番号を表示していない部品は供給できません。
- $\triangle$ 印の部品は安全上重要な部品です。交換するときは、安全および性能維持のため必ず指定の部品をご使用ください。
- ★印のついてる部品は分解図中には記載していません。
- 汎用カーボン抵抗器は記載していません。定数は回路図を参照願います。
- 汎用カーボンチップ抵抗器は記載していません。定数は回路図を参照願います。
- 部品表の抵抗器、コンデンサの品名記号の読み方は表を参照してください。

●抵抗器

例) RN	14K	2E	182	G	FR
種類	形状特性	電力	抵抗値	許容差	その他
RD : カーボン RC : 固定体 RS : 金属系皮膜 RW : 巻線 RN : 金属皮膜 RK : 金属混合体	2B : 1/8 W 2E : 1/4 W 2H : 1/2 W 3A : 1 W 3D : 2 W 3F : 3 W 3H : 5 W	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$	P : 耐パルス形 NL : 低雑音形 NB : 不燃形 FR : ヒューズ抵抗 F : リード線成形		

* 抵抗値

$\overset{18}{\uparrow} \overset{2}{\text{---}} \Rightarrow 1800 \Omega = 1.8 \text{ k}\Omega$
有効数字につづく 0 の数を表わす。
2桁の有効数字を表わす。

$\overset{1R}{\uparrow} \overset{2}{\text{---}} \Rightarrow 1.2 \Omega$
1桁の有効数字を表わす。
2桁の有効数字で小数点はRで表わす。
: 単位は Ω

●コンデンサ

例) CE	04W	1H	2R2	M	BP
種類	形状特性	耐圧	容量	許容差	その他
CE : アルミ箔電解 CA : アルミ固体電解 CS : タンタル電解 CQ : フィルム CK : セラミック CP : オイル CM : マイカ CF : メタライズド CH : メタライズド	0J : 6.3 V 1A : 10 V 1C : 16 V 1E : 25 V 1V : 35 V 2A : 100 V 2B : 125 V 2C : 160 V 2D : 200 V 2E : 250 V 2H : 500 V 2J : 630 V	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$ Z : $+80\%$ -20% P : $+100\%$ - 0% C : $\pm 0.25 \text{ pF}$ D : $\pm 0.5 \text{ pF}$ = : その他	HS : 高安定形 BP : 無極性形 HR : 耐リップル形 DL : 充放電対策用 HF : 高周波保証用 U : UL 部品 C : CSA 部品 W : UL-CSA 部品 F : リード線成形		

* 容量値

●電解コンデンサの場合

$\overset{22}{\uparrow} \overset{2}{\text{---}} \Rightarrow 2200 \mu\text{F}$
有効数字につづく 0 の数を表わす。
2桁の有効数字を表わす。
: 単位は μF

$\overset{2R}{\uparrow} \overset{2}{\text{---}} \Rightarrow 2.2 \mu\text{F}$
1桁の有効数字を表わす。
2桁の有効数字で小数点はRで表わす。
: 単位は μF

●電解コンデンサ以外の場合

$\overset{22}{\uparrow} \overset{2}{\text{---}} \Rightarrow 2200 \text{ pF} = 0.0022 \mu\text{F}$
有効数字につづく 0 の数を表わす。
(0 の数が 2 以上の場合)
2桁の有効数字を表わす。
: 単位は pF

$\overset{22}{\uparrow} \overset{1}{\text{---}} \Rightarrow 220 \text{ pF}$
有効数字につづく 0 の数を表わす。
(0 の数が 0 または 1 の場合)
2桁の有効数字を表わす。
: 単位は pF

●耐圧を交流で表示する場合は、耐圧表示の次に「AC」を表示します。

PARTS LIST OF P.W.B. UNIT

* 本表に "nsp" と記載されている部品は供給できません。

* Parts for which "nsp" is indicated on this table cannot be supplied.

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

* 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.

E3 : U.S.A. & Canada mode

E2 : Europe model

EK : U.K. model

JP : Japan model

MCU P.W.B. UNIT ASS'Y

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	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC20	90M-HC109100R	IC, RESET RICOH 1.8V	TMP92FD28AFG	HVIRH5VT18C		
	IC21	943243001110S	IC, USB		CVITMP92FD28AFG		*
	IC22,23	00D9430183608	IC, ITC74HCU04AFNG	T5CC1	HVI74HCU04AFNG		
	IC24	943243004700D	IC, FLASH U-COM		CVIANAM1428CR (081024-01)		*
	IC27	90M-HC110060R	IC, CD DSP		CVITC94A70FG		
	IC31	00D9430209701	IC, REGULATOR(KIA1117S/F33)		CVIKIA1117S33		
	IC32	90M-HC900160R	IC, REGULATOR(LM1117S15)		CVIKIA1117S15		
	IC33	90M-HC108390R	IC, AT24C08N10SC2.7		HVIAT24C08N10SC		
	IC34	00D9430184209	IC, MOTOR DRIVER (Pb Free)		HVITA2125AFG		
	IC35	943239001120S	IC, CURRENT LIMITER		CVIRT9702APB		*
	IC36	00D9430158400	IC, 74VHC04M		HVI74VHC04MX		
	D201,202	00D9430041106	DIODE, RB160L-60TE25		HVDRB160L60TE25		
	D204	00D9430041106	DIODE, RB160L-60TE25		HVDRB160L60TE25		
	D205,206	943209001080S	DIODE, CHIP		CVD1SS355T		*
	D301,303	943209001080S	DIODE, CHIP		CVD1SS355T		*
	Q201,202	00D9430038009	TR, KRA102S		HVTKRA102S		
	Q205	00D9430037903	TR, KRC102S		HVTKRC102S		
	Q210	00D9430038009	TR, KRA102S		HVTKRA102S		
	Q214	00D9430038009	TR, KRA102S		HVTKRA102S		
	Q301	00D9430058908	TR, KTA1504S Y RTK		HVTKTA1504SYRT K		
CAPACITORS GROUP							
	C203,204	nsp	CAP, CHIP(12PF/50V/COG/1608)		CCUS1H120JA		
	C205	nsp	CAP, CHIP 10PF 50V		CCUS1H100JA		
	C206	nsp	CAP, CHIP(12PF/50V/COG/1608)		CCUS1H120JA		
	C208-210	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C211	nsp	CAP, CHIP ELECT 100UF/6.3V		HCEC0JRV2101T		
	C212	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C214-216	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C218	nsp	CAP, CHIP ELECT 100UF/6.3V		HCEC0JRV2101T		
	C219	nsp	CAP, CHIP 100PF 50V		CCUS1H101JA		
	C221-224	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C225	943134001130S	CAP, SMD ELECT (MANLEX RV, 16V/470, 10X10)		CCEC1CRV471T		*
	C226	nsp	CAP, CHIP ELECT 10UF / 16V		HCEC1CRV2100T		
	C227	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C228	nsp	CAP, CHIP 220PF 50V		CCUS1H221JA		
	C229	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C230	nsp	CAP, CHIP ELECT		HCEC0JRV102T		
	C231-235	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C236	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C238-245	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C246,247	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C248-250	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C252,253	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C301	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C302	nsp	CAP, CHIP 1000PF 50V		CCUS1H102KC		
	C303,304	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C306	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C307	nsp	CAP, CHIP ELECT 100UF/6.3V		HCEC0JRV2101T		
	C308-312	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C313	nsp	CAP, CHIP ELECT 47UF/6.3V		HCEC0JRV2470T		
	C315	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C316,317	nsp	CAP, CHIP ELECT 47UF/6.3V		HCEC0JRV2470T		
	C318	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C319	nsp	CAP, CHIP 0.033UF 50V		CCUS1H333KC		
	C320	nsp	CAP, CHIP 47PF 50V		CCUS1H470JA		
	C321	nsp	CAP, CHIP 0.015UF 50V		CCUS1H153KC		
	C322,323	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C324	nsp	CAP, CHIP 4700PF 50V		CCUS1H472KC		
	C325	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C326	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C327	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C328	nsp	CAP, CHIP 0.015UF 50V		CCUS1H153KC		
	C329	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C330	nsp	CAP, CHIP 68PF 50V		CCUS1H680JA		
	C331	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C332	nsp	CAP, CHIP ELECT		HCEC0JRV102T		
	C333	nsp	CAP, CHIP 1000PF 50V		CCUS1H102KC		
	C334	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C335	nsp	CAP, CHIP ELECT		HCEC0JRV102T		
	C336,337	nsp	CAP, CHIP 470PF 50V		CCUS1H471JA		
	C338	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C339,340	nsp	CAP, CHIP 0.033UF 50V		CCUS1H333KC		
	C341	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C342,343	nsp	CAP, CHIP 0.047UF 50V		CCUS1H473KC		
	C344	nsp	CAP, CHIP 2200PF 50V		CCUS1H222KC		
	C345-349	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C350,351	nsp	CAP, CHIP(12PF/50V/COG/1608) 12PF 50V		CCUS1H120JA		
	C352	nsp	CAP, CHIP ELECT 100UF/6.3V		HCEC0JRV2101T		
	C353	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C354-359	nsp	CAP, CHIP 22PF 50V		CCUS1H220JA		
	C361,362	nsp	CAP, CHIP ELECT		HCEC0JRV471T		
	C365	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C366	943134001130S	CAP, SMD ELECT (MANLEX RV, 16V/470, 10X10)		CCEC1CRV471T		*
	C367,368	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C369	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C370	nsp	CAP, CHIP 1000PF 50V		CCUS1H102KC		
	C371	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C372,373	nsp	CAP, CHIP 68PF 50V		CCUS1H680JA		
	C377	nsp	CAP, CHIP 470PF 50V		CCUS1H471JA		
	C378,379	nsp	CAP, CHIP(18PF/50V) 18PF 50V		CCUS1H180JA		
	C380-382	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C383,384	nsp	CAP, CHIP ELECT 10UF / 16V		HCEC1CRV2100T		
	C385-387	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C388	nsp	CAP, CHIP ELECT 100UF/6.3V		HCEC0JRV2101T		
	C389,390	nsp	CAP, CHIP ELECT 10UF / 16V		HCEC1CRV2100T		
	C391	nsp	CAP, CHIP 1UF 10V		CCUS1A105KC		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C392,393	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C394	nsp	CAP, CHIP ELECT 100UF/6.3V		HCEC0JRV2101T		
	C395	nsp	CAP, CHIP ELECT 10UF / 16V		HCEC1CRV2100T		
	C396	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C397	943134001130S	CAP, SMD ELECT (MANLEX RV, 16V/470, 10X10)		CCEC1CRV471T		*
	C398,399	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
OTHERS PARTS GROUP							
	BN12	nsp	2P SHEILD WIRE ASS'Y (2P, 200MM, 2.0MM PITCH)		CWZRCDM37BN12		
	CN22,23	nsp	WAFER(CD MECHA)		CJP06HA37ZM		
	CN25,26	nsp	WAFER, SMD (2MM PITCH)		CJP06GA208ZY		
	CN71	nsp	WAFER, SMD (2MM PITCH)		CJP05GA208ZY		
	CN83	nsp	WAFER, SMD (2MM PITCH)		CJP05GA208ZY		
	CN96	nsp	WAFER, SMD (2MM PITCH)		CJP05GA208ZY		
	CN98	nsp	WAFER, SMD (2MM PITCH)		CJP09GA208ZY		
	L301	nsp	FERRITE, CHIP BEAD(60ohm, 4516)		CLZ9Z014Z		
	L302	nsp	CHIP, COIL		HLQ09E100KRZ		
	L304,305	nsp	FERRITE, CHIP BEAD(60ohm, 2012)		CLZ9R001Z		
	L307	nsp	FERRITE, CHIP BEAD(60ohm, 4516)		CLZ9Z014Z		
	SY21	nsp	PIN, STYLE		CHK1A005		
	WN11	943644001140S	WAFER, CARD CABLE (SMD)		CJP15GA193ZY		*
	WN12	943644001150S	WAFER, CARD CABLE SMD		CJP09GA193ZY		*
	WN21	00D9430110503	WAFER, CARD CABLE		CJP13GA115ZY		
	WN24	943644001160S	WAFER, CARD CABLE SMD		CJP16GA193ZY		*
	WN81	943644001170S	WAFER, CARD CABLE		CJP19GA193ZY		*
	X201	90M-JX001280R	CRYSTAL, 32.768KHZ TUNING FORK		HOX00032K120I		
	X202	943141001180S	CRYSTAL, 28.322MHz (HC-49/SMD, 12PF)		COX27000E120S		*
	X301	943141001190S	CRYSTAL, SMD (16.9344MHZ, HC-49/SMD, 12PF)		COX16934E120S		*
	X302	943141001200S	CRYSTAL, SMD(9MHZ, HC-49/SMD, 5PF)		COX09000E150S		*

INPUT P.W.B. UNIT ASS'Y

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC11	90M-HC108700R	IC, VOL+FUNC.I.C		HVINJW1153FG1		
	IC12	00D9430007108	IC, OP AMP NJM2068MD-TE1		HVINJM2068MDTE1		
	IC13	00D9430005702	REGULATOR, -8V KA79LXXAZTA		HVIKA79L08AZT		
	IC14	00D9430005605	IC, REGULATOR (+8V) KA78LXXAZTA		HVIKA78L08AZT		
	IC15	00D2623552904	IC, DAC		CVIAK4385ET		
	IC16	90M-HC109350R	IC, SWITCH KIC7S66FU-RTK/3	for RCDM37JP,DE500JP	HVIKIC7S66FU		
	IC17	00D9430007108	IC, OP AMP NJM2068MD-TE1		HVINJM2068MDTE1		
	IC18	00D9430209701	IC, REGULATOR(KIA1117S/F33)	for RCDM37DABEK	CVIKIA1117S33		
	IC19	90M-HC900160R	IC, REGULATOR(LM1117S15)	for RCDM37DABEK	CVIKIA1117S15		
	IC41	00D9430007108	IC, OP AMP NJM2068MD-TE1		HVINJM2068MDTE1		
	IC91	00D2631100021	IC, REGULATOR KIA78XXAPI		HVIKIA7812API		
	IC93	90M-HC300780R	IC, REGULATOR +8V KIA7808 (KEC)		HVIKIA7808API		
	D101,102	943209001080S	DIODE, CHIP		CVD1SS355T		*
	D103	943209001080S	DIODE, CHIP	for RCDM37DABEK	CVD1SS355T		*
	D104	00D9430041106	DIODE, SCHOTTKEY BARRIER	for RCDM37DABEK	HVDRB160L60TE25		
	D105	943209001080S	DIODE, CHIP	for RCDM37DABEK	CVD1SS355T		*
	D106-112	943209001080S	DIODE, CHIP		CVD1SS355T		*
	D113	nsp	RES, CHIP		CRJ18AJ0R0T		
	D909	00D9430060501	DIODE, SCHOTTKEY BARRIER		HVD1SR159-200		
	D913	00D9430060501	DIODE, SCHOTTKEY BARRIER		HVD1SR159-200		
	D945,946	00D9430060501	DIODE, SCHOTTKEY BARRIER		HVD1SR159-200		
	Q103,104	00D9430072502	TR, CHIP KTC2875B		HVTKTC2875B		
	Q105	00D9430038009	TR, CHIP KRA102S	for RCDM37JP,DE500JP	HVTKRA102S		
	Q106	90M-BA001600R	TR, CHIP		HVTKRA107S		
	Q107	00D9430006002	TR, KTD1302	for RCDM37DABEK	HVTKTD1302T		
	Q112	00D9430037903	TR, CHIP KRC102S		HVTKRC102S		
	Q113,114	00D9430072502	TR, CHIP KTC2875B		HVTKTC2875B		
RESISTORS GROUP							
	R405	nsp	RES, CHIP 13K		CRJ10DJ133T		
	R406	nsp	RES, CHIP 13K		CRJ10DJ133T		
	R407	nsp	RES, CHIP 56K		CRJ10DJ563T		
	R408	nsp	RES, CHIP 56K		CRJ10DJ563T		
CAPACITORS GROUP							
	C101-108	nsp	CAP, CHIP 180PF 50V		CCUS1H181JA		
	C109,110	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C111-114	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C115-118	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C119-121	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C122-125	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C126-128	nsp	CAP, CHIP 180PF 50V		CCUS1H181JA		
	C129	nsp	CAP, ELECT 1UF 50V		CCEA1HH1R0T		
	C130	nsp	CAP, ELECT 4.7UF 50V		CCEA1HH4R7T		
	C131	943139001210S	CAP, METALLIZED FLIM(100V/0.22UF)		CCME2A224JXT		*
	C132,133	00D9430082505	CAP, MYLAR 4700PF 50V		HCQ1H472JZT		
	C134	943139001210S	CAP, METALLIZED FLIM(100V/0.22UF)		CCME2A224JXT		*
	C135	nsp	CAP, ELECT 4.7UF 50V		CCEA1HH4R7T		
	C140,141	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C142-144	nsp	CAP, ELECT(ELNA, RFO, 50V/47UF)		CCEA1HRFO470T		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C145	nsp	CAP, ELECT(ELNA, RFO, 50V/100UF)		CCEA1HRFO101T		
	C146,147	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C148,149	nsp	CAP, ELECT(ELNA, RFO, 50V/22UF)		CCEA1HRFO220T		
	C150	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C151,152	nsp	CAP, CERAMIC 39PF 50V		CCCT1H390JC		
	C153	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C154,155	nsp	CAP, ELECT(ELNA, RFO, 50V/22UF)		CCEA1HRFO220T		
	C156	nsp	CAP, ELECT(ELNA, RFO,63V/10UF)		CCEA1JRFO100T		
	C158	nsp	CAP, ELECT 10UF 16V	for RCDM37JP,DE500JP	CCEA1CKS100T		
	C159	nsp	CAP, CHIP 0.01UF 50V	for RCDM37JP,DE500JP	CCUS1H103KC		
	C160	nsp	CAP, CHIP 33PF 50V	for RCDM37JP,DE500JP	CCUS1H330JA		
	C161	nsp	CAP, ELECT 10UF 16V	for RCDM37JP,DE500JP	CCEA1CKS100T		
	C162	nsp	CAP, CHIP 0.01UF 50V	for RCDM37JP,DE500JP	CCUS1H103KC		
	C165	nsp	CAP, ELECT 100UF 6.3V	for RCDM37DABEK	CCEA0JKS101T		
	C166	nsp	CAP, CHIP 0.01UF 50V	for RCDM37DABEK	CCUS1H103KC		
	C167	nsp	CAP, ELECT 47UF 6.3V	for RCDM37DABEK	CCEA0JKS470T		
	C168	nsp	CAP, CHIP 0.01UF 50V	for RCDM37DABEK	CCUS1H103KC		
	C169	nsp	CAP, ELECT 47UF 6.3V	for RCDM37DABEK	CCEA0JKS470T		
	C170	nsp	CAP, CHIP 0.1UF 50V	for RCDM37DABEK	CCUS1H104KC		
	C171	nsp	CAP, CHIP 0.1UF 50V	for RCDM37DABEK	CCUS1H104KC		
	C172,173	nsp	CAP, ELECT 10UF 50V		CCEA1HKS100T		
	C174	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C175	nsp	CAP, CHIP 390PF 50V		CCUS1H391JA		
	C176	nsp	CAP, CHIP 220PF 50V		CCUS1H221JA		
	C177,178	nsp	CAP, CHIP 1200PF 50V		CCUS1H122KC		
	C179	nsp	CAP, CHIP 220PF 50V		CCUS1H221JA		
	C180	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C181	nsp	CAP, ELECT(ELNA, RFO, 50V/220UF)		CCEA1HRFO221E		
	C182	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C183	nsp	CAP, CHIP 390PF 50V		CCUS1H391JA		
	C189,190	nsp	CAP, CHIP 180PF 50V	for RCDM37DABEK	CCUS1H181JA		
	C192	nsp	CAP, CHIP 0.1UF 50V	for RCDM37DABEK	CCUS1H104KC		
	C193-195	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C196	nsp	CAP, ELECT 330UF 10V	for RCDM37DABEK	CCEA1AH331T		
	C197	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C198,199	nsp	CAP, CERAMIC 1200PF 50V		CCKT1H122KB		
	C401,402	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C403-406	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C407,408	nsp	CAP, ELECT 4.7UF 50V		CCEA1HKS4R7T		
	C409,410	nsp	CAP, CHIP 0.01UF 50V		CCUS1H103KC		
	C910	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
	C913-919	nsp	CAP, CHIP 0.1UF 50V		CCUS1H104KC		
OTHERS PARTS GROUP							
	BK11	nsp	BRACKET, PCB		CMD1A387		*
	BK12	nsp	BRACKET, PCB		CMD1A569		*
	CN11	nsp	2.54mm 30PIN WAFER	for RCDM37DABEK	CJP30GA221ZB		
	CN12	nsp	WAFER, 2PIN CJP02GA19ZY		CJP02GA19ZY		
	CN72	nsp	WAFER, STRAIGHT, 9PIN		CJP09GA19ZY		
	JK11	90M-YT004010R	TERMINAL, IN/OUT		CJJ4R019W		
	JK12	00D9430183103	MODULE, OPTICAL(TX) TOTX177L	for RCDM37JP,DE500JP	HJSTOTX177L		
	JK13	90M-YT004860R	JACK, STEREO		CJJ2D008Z		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	L101	nsp	CHIP, BEAD	for RCDM37DABEK	HLZ9Z008Z		
	L102	nsp	COIL, AXAIL	for RCDM37JP,DE500JP	HLQ02C100KT		
	L103	nsp	COIL, AXAIL 22UH,K		HLQ02C220KT		
	L104	nsp	FERRITE, CHIP BEAD(60ohm, 4516)		CLZ9Z014Z		
	L105,106	nsp	FERRITE, CHIP BEAD(60ohm, 4516)	for RCDM37DABEK	CLZ9Z014Z		
	WF11	90M-YJ003020R	WAFER, CARD CABLE		CJP15GA117ZY		
	WF12	00D9430076605	WAFER		CJP09GA117ZY		

MAIN P.W.B. UNIT ASS'Y

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
SEMICONDUCTORS GROUP							
	IC71	943239001350S	IC, HYBRID		CVISTK4142MK2		*
	IC92	00D9430183909	IC, REGULATOR KIA79XXPI		HVIKIA7912PI		
	IC94	nsp	IC, HEAT SINK ASS'Y (CMY1A048)		CVIKIA78R05PITA		
	IC94	90M-HC300790R	REGULATOR (KIA78R05PI)		HVIKIA78R05PI		
	IC95	nsp	IC, HEAT SINK ASS'Y (CMY4A222)		CVIKIA278R05PIHA		
	IC95	90M-HC300690R	REGULATOR (KIA278R05PI)		HVIKIA278R05PI		
	IC96	00D2622977946	IC, REGULATOR(3.3V SMD Type)		BVIBA33BC0FP		
	D702	00D9430209400	DIODE, RECT 1N4003		CVD1N4003SRT		
	D703,704	943202001360S	DIODE, ZENER		CVDZJ20BT		*
	D705	00D9430209400	DIODE, RECT 1N4003		CVD1N4003SRT		
	D706-711	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D712	00D9430106009	DIODE, BRIDGE		HVDGBJ1006		
	D713,714	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D801	00D9430106203	L.E.D, 2COLOR SPR-39MVW3		HVDSPR39MVW3		
	D802,803	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D806-812	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D901,902	00D9430182502	DIODE, RECT 1N4003		CVD1N4003ST		
	D903,904	00D9430209400	DIODE, RECT 1N4003		CVD1N4003SRT		
	D905-908	00D9430182502	DIODE, RECT 1N4003		CVD1N4003ST		
	D910-912	00D9430209400	DIODE, RECT 1N4003		CVD1N4003SRT		
	D915	00D9430041902	DIODE, SCHOTTKY 1N5819		HVD1N5819T		
	D916,917	00D9430182502	DIODE, RECT 1N4003		CVD1N4003ST		
	D918,919	00D9430041902	DIODE, SCHOTTKY 1N5819		HVD1N5819T		
	D920	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D921	00D9430101101	WIRE,COPPER SN95/PB5, 0.6		C3A206		
	D922-924	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D925	00D9430196306	DIODE, ZENER 7.5V		CVDZJ7.5BT		
	D928-938	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D939	00D9430101101	WIRE, COPPER SN95/PB5, 0.6		C3A206		
	D940	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D942	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D943	90M-HD302460R	DIODE, ZENER ZJ5.6B 1/2W		CVDZJ5.6BT		
	D945	00D9430041902	DIODE, SCHOTTKY 1N5819		HVD1N5819T		
	D946-949	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	D950	00D9430182502	DIODE, RECT 1N4003		CVD1N4003ST		
	D951	00D9430182609	DIODE, 1SS133		CVD1SS133MT		
	Q701,702	00D9430198508	T.R KSA1175Y(DEAD)		HVTKSA1175YT		
	Q703	00D9430059004	T.R KSC2316Y		HVTKSC2316YT		
	Q704,705	00D9430004305	T.R KRC107M		HVTKRC107MT		
	Q706-708	00D9430154404	T.R KTC3198Y		HVTKTC3198YT		
	Q709	00D9430004305	T.R KRC107M		HVTKRC107MT		
	Q710	00D9430154200	T.R KRA102M		HVTKRA102MT		
	Q711	00D9430004305	T.R KRC107M		HVTKRC107MT		
	Q712,713	00D9430154200	T.R KRA102M		HVTKRA102MT		
	Q714	00D9430107804	T.R KRC102M		HVTKRC102MT		
	Q801-804	00D9430037408	T.R KSC2785Y		HVTKSC2785YT		
	Q805,806	00D9430107804	T.R KRC102M		HVTKRC102MT		
	Q807,808	00D9430154200	T.R KRA102M		HVTKRA102MT		
	Q809-811	90M-BA001500R	T.R KRC111M		HVTKRC111MT		
	Q901	00D9430154200	T.R KRA102M		HVTKRA102MT		
	Q902,903	00D9430004305	T.R KRC107M		HVTKRC107MT		
	Q906-910	00D9430107804	T.R KRC102M		HVTKRC102MT		

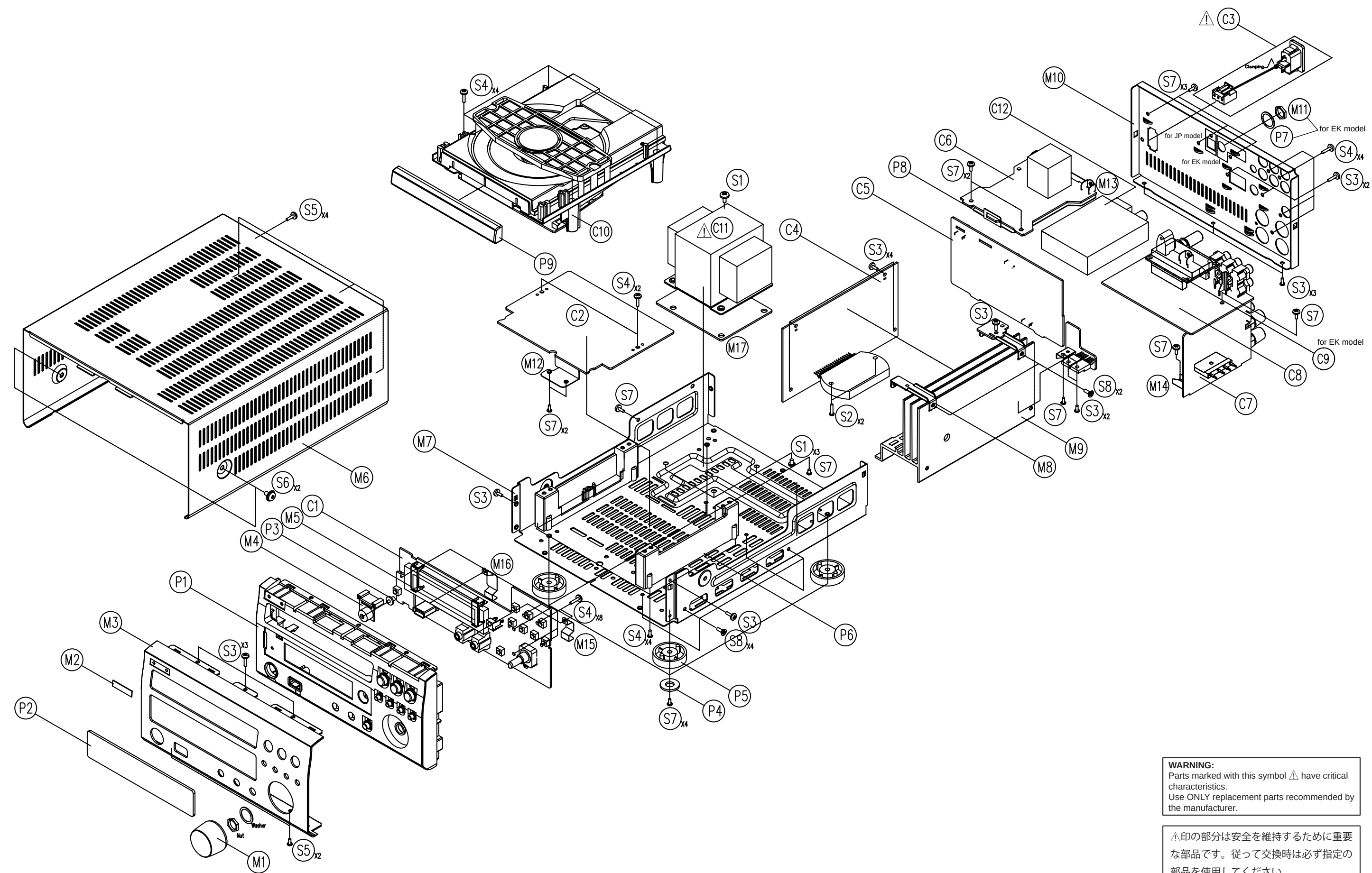
	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	Q911	00D9430004305	T.R KRC107M		HVTKRC107MT		
	Q912	00D9430037408	T.R KSC2785Y		HVTKSC2785YT		
RESISTORS GROUP							
	R704,705	nsp	RES, METAL(OXIDE)FILM,5% 4.7/1W (RADIAL)		KRG1SANJ4R7RT		
	R708,709	nsp	RES, CEMENT		CRF5EKR22		
	R710,711	nsp	RES, CARBON		CRD25TJ272T		
	R720	nsp	RES, CARBON		CRD20TJ393T		
	R738-741	nsp	RES, CARBON		CRD25TJ202T		
	R742	943129001240S	RES, FUSIBLE		CRQ14AJ101T		*
	R743	nsp	RES, CARBON		CRD25TJ104T		
	R744,745	943125001230S	RES, METAL OXIDE FILM(1W, 330)		CRG1SANJ331T		*
	R746	943129001240S	RES, FUSIBLE		CRQ14AJ101T		*
	R751,752	nsp	RES, CARBON		CRD25TJ473T		
	R753,754	nsp	RES, CARBON		CRD25TJ103T		
	R762,763	nsp	RES, CARBON		CRD25TJ103T		
	R805	nsp	RES, CARBON		CRD25TJ102T		
	R818	nsp	WIRE, COPPER SN95/PB5, 0.6		C3A206		
	R833,834	nsp	RES, CARBON		CRD25TJ103T		
	R837	nsp	RES, CARBON		CRD25TJ100T		
	R930,931	nsp	RES, CARBON		CRD25TJ560T		
CAPACITORS GROUP							
	C702	nsp	CAP, ELECT 100UF 63V		CCEA1JH101E		
	C703,704	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C706,707	00D9430189505	CAP, METALLIZED FILM HMFS104J2AP050T		CCME2A104JXT		
	C708,709	943139001250S	CAP, METALLIZED FILM		CCME2A473JXT		*
	C710	00D9430173508	CAP, ELECT 470UF 10V		CCEA1AH471T		
	C711,712	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
	C713	00D9430175001	CAP, ELECT 47UF 25V		CCEA1EH470T		
	C714,715	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C716,717	00D9430174002	CAP, ELECT 4.7UF 50V		CCEA1HH4R7T		
	C718,719	nsp	CAP, CERAMIC 470PF 50V		CCKT1H471KB		
	C720	nsp	CAP, ELECT(ELNA, RFO, 50V/47UF)		CCEA1HRFO470T		
	C722	nsp	CAP, CERAMIC 5PF 50V		CCCT1H050CC		
	C724	nsp	CAP, ELECT(ELNA, RFO, 50V/47UF)		CCEA1HRFO470T		
	C726	nsp	CAP, ELECT(ELNA, RFO, 63V/10UF)		CCEA1JRFO100T		
	C727	nsp	CAP, ELEC ELNA RFO SERIES 100uF/50V		CCEA1HRFO101T		
	C728	nsp	CAP, CERAMIC(1000PF/50V)		CCBS1H102KBT		
	C734	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
	C735,736	943139001260S	CAP, MYLAR 6800PF 50V		HCQ1H682JZT		*
	C737,738	00D9430189505	CAP, METALLIZED FILM HMFS104J2AP050T		CCME2A104JXT		
	C739,740	943139001280S	CAP, CERAMIC 0.01UF 100V		CCME2A103JXT		
	C741	90M-OF100490R	CAP, SEMICONDUCTOR 0.1UF 250V		KCME2E104JP04T		
	C742,743	943134001270S	CAP, ELECT(ELNA, RO, 35V/4700UF)		CCEA1VRO472E		*
	C744,745	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C746,747	nsp	CAP, ELECT(ELNA, RFO, 50V/47UF)		CCEA1HRFO470T		
	C748	nsp	CAP, CERAMIC 5PF 50V		CCCT1H050CC		
	C749,750	nsp	CAP, ELECT(ELNA, RFO, 63V/10UF)		CCEA1JRFO100T		
	C751	nsp	CAP, ELECT		CCEA1HH221E		
	C753-757	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	C758	nsp	CAP, CERAMIC(1000PF/50V)		CCBS1H102KBT		
	C759,760	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C761	nsp	CAP, ELECT(ELNA, RFO, 50V/100UF)		CCEA1HRFO101T		
	C762	nsp	CAP, ELECT 100UF 63V		CCEA1JH101E		
	C763,764	nsp	CAP, ELECT(ELNA, RFO, 50V/220UF)		CCEA1HRFO221E		
	C801	nsp	CAP, ELECT 100UF 16V		CCEA1CKS101T		
	C802	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C803	nsp	CAP, CERAMIC(47PF/50V)		CCBS1H470JT		
	C804	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C805-807	nsp	CAP, CERAMIC(220PF/50V)		CCBS1H221KBT		
	C808-810	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
	C811-813	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C815,816	nsp	CAP, CERAMIC 4700PF 50V		CCCK1H472KB		
	C817,818	nsp	CAP, CERAMIC(68PF/50V)		CCBS1H680JT		
	C819,820	nsp	CAP, ELECT 4.7UF 50V		CCEA1HKS4R7T		
	C821,822	nsp	CAP, CERAMIC(470PF/50V)		CCBS1H471KBT		
	C824,825	943139001280S	CAP, METALLIZED FILM		CCME2A103JXT		*
	C826	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
	C828-831	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
	C832	nsp	CAP, ELECT 1UF 50V SMALL SIZE		CCEA1HKS1R0T		
	C901	nsp	CAP, CERAMIC(22000PF/50V)		CCBS1H223ZFT		
	C902,903	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C904	943134001290S	CAP, ELECT 2200UF 25V		CCEA1EH222E		*
	C905	00D9430188603	CAP, ELECT 1000UF 25V		CCEA1EH102E		
	C907	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C908,909	nsp	CAP, ELECT 100UF 16V		CCEA1CH101T		
	C911	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C912	nsp	CAP, ELECT 100UF 16V		CCEA1CH101T		
	C914	nsp	CAP, ELECT		CCEA1CH102E		
	C915	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C916	00D9430188506	CAP, ELECT 25V/100UF/105°C		CCEA1EH101TS		
	C917	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C919	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C920	nsp	CAP, ELECT 100UF 16V		CCEA1CH101T		
	C921	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C922	00D9430024408	CAP, CERAMIC(X1/Y2/SC) 0.0047UF/2.5KV		KCKDKS472ME		
	C925,926	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C927	nsp	CAP, ELECT 1UF 50V		CCEA1HH1R0T		
	C928	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C929	nsp	CAP, ELECT		CCEA1CH102E		
	C930	nsp	CAP, ELECT 10UF 50V		CCEA1HH100T		
	C933,934	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C935-937	nsp	CAP, ELECT		CCEA1CH102E		
	C938	nsp	CAP, ELECT 4.7UF 50V		CCEA1HH4R7T		
	C939-941	nsp	CAP, CERAMIC 0.01UF 50V		CCBS1H103ZFT		
	C942-949	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
	C951	nsp	CAP, ELECT 100UF 16V		CCEA1CH101T		
	C952,953	nsp	CAP, CERAMIC 0.1UF 50V		CCBS1H104ZFT		
OTHERS PARTS GROUP							
	BK81,82	nsp	BRACKET, FLT		CMD1A468		
	BK91-96	nsp	BRACKET, PCB		CMD1A569		
	BK97	nsp	BRACKET, PCB		CMD1A387		
	BK98	nsp	BRACKET, PCB		CMD1A569		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	BN71	nsp	5P WIRE ASS'Y (5P, 120MM, 2.0MM PITCH)		CWZRCDM37BN71		
	BN72	nsp	9P SHEILD WIRE ASS'Y (9P, 120MM, 2.0MM PITCH)		CWZRCDM37BN72		
	BN73	nsp	WIRE ASS'Y		CWB2B905100EN		
	BN82	nsp	9P SHEILD WIRE ASS'Y (9P, 80MM, 2.0MM PITCH)		CWZRCDM37BN82		
	BN83	nsp	5P WIRE ASS'Y (5P, 80MM, 2.0MM PITCH)		CWZRCDM37BN83		
	BN95	nsp	9P WIRE ASS'Y (9P, 120MM, 2.5MM PITCH)		CWB2B909100BM		
	BN96	nsp	5P WIRE ASS'Y (5P, 120MM, 2.0MM PITCH)		CWZRCDM37BN71		
	BN97	nsp	11P WIRE ASS'Y (11P, 80MM, 2.5MM PITCH)		CWB1C911080BM		
	BN98	nsp	9P WIRE ASS'Y (9P, 120MM, 2.0MM PITCH)		CWZRCDM37BN98		
	BN99	nsp	WIRE ASS'Y(3P, 150MM, 2.5MM, #24)		CWB1C903150BM		
	CN73	nsp	WAFER		CJP05GB46ZY		
	CN82	nsp	WAFER, ANGLE, 09PIN		CJP09GB46ZY		
	CN91	nsp	WAFER		CJP02KA060ZY		
	CN92	nsp	WAFER		CJP03GA90ZY		
	CN93	nsp	WAFER		CJP02GA89ZY		
	CN94	nsp	WAFER, STRAIGHT, 8PIN		CJP08GA01ZY		
	CN95	nsp	WAFER		CJP09GB03ZY		
	CN97	nsp	WAFER(11P, 2.5MM PITCH, YMW025)		CJP11GB03ZY		
	CN99	nsp	WAFER		CJP03GA01ZY		
⚠	F901	00D9430170909	FUSE 233002.MXP, MEDIUM-ACTING	for RCDM37E2/DABEK	KBA2C1000TLEY		
⚠	F901	00D9430212600	FUSE 233002.MXP, MEDIUM-ACTING	for RCDM37JP, DE500JP,DM37E3	KBA1C2000A4UY		
	F902,903	00D9430108201	FUSE, SUBMINIAITURE US F 3A 125V		KBA1A3000FAT		
	FL81	00D3938083002	FL TUBE(16ST81G)		CFL16ST81GINK		
	GND2-4	00D9430042804	PALTE, EARTH MET37-0002		HJT1A025		
	JK71	943646001310S	TERMINAL, 4P SCREW SPEAKER (RD/BK)		CJJ5P028Z		*
	JK72	00D9430076003	JACK, BOARD		CJJ4M046Z		
	JK81,82	00D9430105204	JACK, HEADPHONE (SILVER)		HJJ2D003Y		
	JK83	943643001320S	JACK, USB STRAIGHT(BLACK) U250FD004BY		CJJ9X006Z		*
	L701,702	00D9430035701	BEAD, CORE		KLZ9H001Z		
	L703,704	00D9430193106	COIL, SPEAKER 0.5UH K		CLEY0R5KAK		
	L801-803	00D9430035701	BEAD, CORE		KLZ9H001Z		
	L901-903	00D9430035701	BEAD, CORE		KLZ9H001Z		
	RC81	00D9430194706	SENSOR, REMOCON KSM603TH2E		CRVKSM603TH2E		
	RL71	00D9430060608	RELAY, OSA-SS-212DM3		HSL4A004ZU		
	RL72	00D2140204007	RELAY, G5V-2-H1 DC12		CSL4A015ZU		
	RL91	00D9430194900	RELAY, POWER G5PA-1 (DC 6V)		CSL1E002ZE		
	S801-809	00D9430004402	SW, TACT SKHV10910G		CST1A012ZT		

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
⚠	T902	943101000960D	TRANS, SUB RCD-M37EUR	for RCDM37E2/DABEK	CLT5I010ZE		*
⚠	T902	943101000970D	TRANS, SUB RCD-M37JPN	for RCDM37JP,DE500JP	CLT5I010ZJ		*
⚠	T902	943101000980D	TRANS, SUB RCD-M37USA	for DM37E3	CLT5I010ZU		*
	VR81	943667001330S	ENCODER, VR		CSR2A033Z		*
	WF81	943644001340S	CARD CABLE, WAFER		CJP19GA117ZY		*
		nsp	HOLDER, FUSE	for F901	KJCFC5S		

EXPLODED VIEWS



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

△印の部分は安全を維持するために重要な部品です。従って交換時は必ず指定の部品を使用してください。

PARTS LIST OF EXPLODED VIEW

* 本表に "nsp" と記載されている部品は供給できません。

* Parts for which "nsp" is indicated on this table cannot be supplied.

* 本表に "nsp" と記載されている基板 ASS'Y は供給できません。基板 ASS'Y の修理の際には基板部品表を確認のうえ、交換部品を発注してください。

* 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.

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

* 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.

E3 : U.S.A. & Canada model

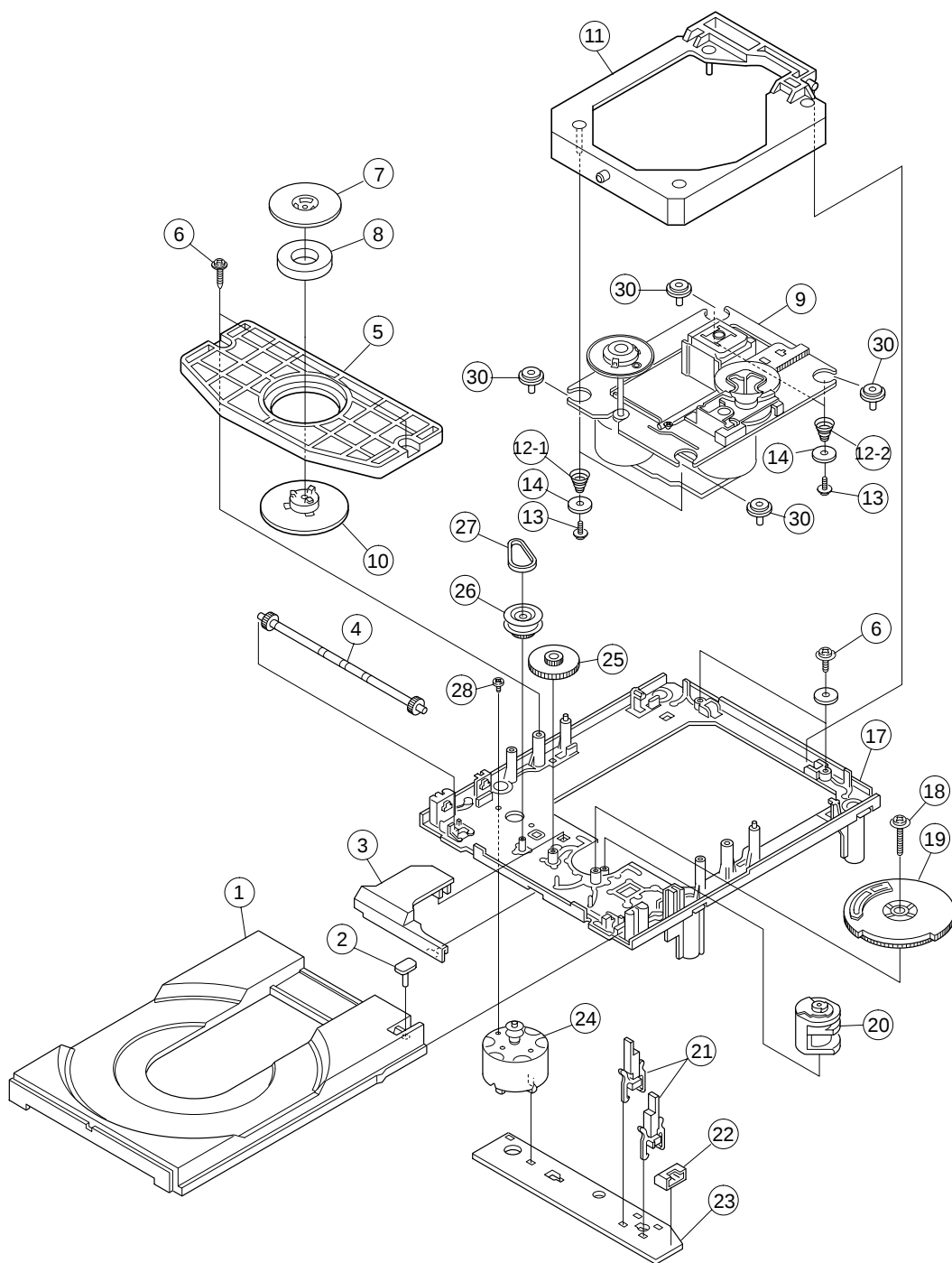
E2 : Europe model

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New	
		C	nsp	MAIM P.W.B UNIT ASSY	for RCDM37E2	COP12093B	1	
		C	nsp	MAIM P.W.B UNIT ASSY	for RCDM37DABEK	COP12093D	1	
		C	nsp	MAIM P.W.B UNIT ASSY	for RCDM37JP,DE500JP	COP12093E	1	
		C	nsp	MAIM P.W.B UNIT ASSY	for DM37E3	COP12093C	1	
		C1	-	FRONT UNIT				
		C4	-	AMP UNIT				
		C5	-	GUIDE UNIT				
		C6	-	SUB TRANS UNIT				
		C7	-	SPK UNIT				
		C2	nsp	MCU P.W.B UNIT ASSY	for RCDM37E2	COP12092B	1	
		C2	nsp	MCU P.W.B UNIT ASSY	for RCDM37DABEK	COP12092D	1	
		C2	nsp	MCU P.W.B UNIT ASSY	for RCDM37JP,DE500JP	COP12092E	1	
		C2	nsp	MCU P.W.B UNIT ASSY	for DM37E3	COP12092C	1	
		C8	nsp	INPUT P.W.B UNIT ASSY	for RCDM37E2	COP12098B	1	
		C8	nsp	INPUT P.W.B UNIT ASSY	for RCDM37DABEK	COP12098D	1	
		C8	nsp	INPUT P.W.B UNIT ASSY	for RCDM37JP,DE500JP	COP12098E	1	
		C8	nsp	INPUT P.W.B UNIT ASSY	for DM37E3	COP12098C	1	
⚠		C3	943641000530S	INLET WIRE ASSY	for RCDM37E2/DABEK/JP, DE500JP	CWZRCDM37E2BN91A	1	*
⚠		C3	943641000540S	INLET WIRE ASSY	for DM37E3	CWZRCDM37E3BN91A	1	*
		C9	943189000550D	DAB MODULE	for RCDM37DABEK	CNVFS2025V22A	1	*
		C10	943302000090D	CD MECHANISM		CJDWSL11TCNA	1	*
⚠		C11	943101000290D	TRANS	for RCDM37E2/DABEK	CLT5P047ZE	1	*
⚠		C11	943101000300D	TRANS	for RCDM37JP,DE500JP	CLT5P047ZJ	1	*
⚠		C11	943101000990D	TRANS	for DM37E3	CLT5P047ZU	1	*
		C12	00D9430055202	TUNER MODULE	for RCDM37E2/DABEK	CNVMV114MA1-19	1	
		C12	943183000310D	TUNER MODULE	for RCDM37JP,DE500JP	CNVMV018MA119	1	*
		C12	943183000320D	TUNER MODULE	for DM37E3	CNVMV014MA019	1	*
		P1	943443000330D	INNER PANEL ASSY	for Premium silver model	CGW1A456ZA	1	*
		P1	943443000340D	INNER PANEL ASSY	for Black model	CGW1A456YA	1	*
		P2	943416000350D	FL WINDOW	for RCDM37E2/DABEK/JP, DM37E3	CGU1A418Z	1	*
		P2	943416000360D	FL WINDOW	for DE500JP	CGU1A29Z	1	*
		P3	943481000370D	LENS		CGL1A230A14	1	*
		P4	00D9430094603	FOOT CUSHION		KHG1A285	4	
		P5	00D9430094506	FOOT		CKL1A189	4	
		P6	nsp	MECHA SUPPORT		CMH1A287	2	
		P7	nsp	SUPPORT		CNW1A038	1	
		P8	nsp	INSULATOR		CMX1A237	1	
		P9	943415000380D	DOOR	for Premium silver model	CGR1A450RGG45	1	*
		P9	943415000390D	DOOR	for Black model	CGR1A450B28	1	*
		M1	412010015015D	VOLUME KNOB ASSY	for Premium silver model	CGK1A134YA	1	*
		M1	412010015008D	VOLUME KNOB ASSY	for Black model	CGK1A134ZA	1	*
		M2	421410005018D	BADGE, DENON	for Premium silver model	CGB1A205Z	1	*
		M2	421410005001D	BADGE, DENON	for Black model	CGB1A205Y	1	*

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
M3	943402000400D	FRONT PANEL	for RCDM37E2 Premium silver model	CKM1A196ZC62	1	*
M3	943402000410D	FRONT PANEL	for RCDM37E2 Black model	CKM1A196YC45	1	*
M3	943402000420D	FRONT PANEL	for RCDM37DABEK Premium silver model	CKM1A196XC62	1	*
M3	943402000430D	FRONT PANEL	for RCDM37DABEK Black model	CKM1A196WC45	1	*
M3	943402000440D	FRONT PANEL	for RCDM37JP,DM37E3 Premium silver model	CKM1A196VC62	1	*
M3	943402000450D	FRONT PANEL	for DM37E3,DE500 Black model	CKM1A196UC45	1	*
M4	00D9430211100	POWER KNOB ASSY	for Premium silver model	CGX1A353YA	1	
M4	943411000460D	POWER KNOB ASSY	for Black model	CGX1A353XA	1	*
M5	nsp	FIP BRACKET		CMD1A468	2	
M6	943403000470D	TOP CABINET	for Premium silver model	CKC1A186S55	1	*
M6	943403000480D	TOP CABINET	for Black model	CKC1A186S56	1	*
M7	nsp	BOTTOM CHASSIS		CUA1A286	1	
M8	nsp	HT BRACKET		CMD1A672	2	
M9	nsp	HEAT SINK		CMY1A301	1	
M10	943406000490D	REAR PANEL	for RCDM37E2	CKF1A388Z	1	*
M10	943406000500D	REAR PANEL	for RCDM37DABEK	CKF2A388X	1	*
M10	943406000510D	REAR PANEL	for RCDM37JP,DE500JP	CKF3A388W	1	*
M10	943406000520D	REAR PANEL	for DM37E3	CKF1A388Y	1	*
M11	nsp	DAB NUT	for RCDM37DABEK	CNE1A009	1	
M12	nsp	HEAT SINK		CMY1A305	1	
M13	nsp	PCB BRACKET		CMD1A569	8	
M14	nsp	PCB BRACKET		CMD1A387	2	
M15	nsp	EARTH PLATE		CMC1A350	1	
M16	nsp	USB EARTH PLATE		CMC1A351	1	
M17	nsp	TRANS BRACKET		CMD1A686	1	
	943606001010S	CABLE , CARD(15P, 120mm)	for WN11	CWC4F4A15A120BZ	1	*
	943606001020S	CABLE , CARD(19P, 150mm)	for WN81	CWC4F4A19A150BZ	1	*
	943606001030S	CABLE , CARD(13P, 120mm)	for WN21	CWC4F4A13B120BZ	1	*
	943606001040S	CABLE , CARD(9P, 180MM 1.0MM)	for WN12	CWC4F4A09A180B	1	*
	943606001050S	CABLE , CARD(16P, 150MM, 1.0MM)	for WN24	CWC4F1A16A150AZ	1	*
	nsp	6P WIRE ASS'Y (6P, 100MM, 2.0MM)	for BN25	CWZRCDM37BN25	1	
	nsp	5P WIRE ASS'Y(5P, 100MM, 2.0MM)	for BN26	CWZRCDM37BN26	1	
SCREWS						
S1	nsp	SCREW(CHD1A023R)		CHD1A023R	4	
S2	nsp	SCREW(CTW3+18JR)		CTW3+18JR	2	
S3	nsp	SCREW(CTB3+8JFZR)		CTB3+8JFZR	19	
S4	nsp	SCREW(CTB3+10JFZR)		CTB3+10JFZR	22	
S5	nsp	SCREW(CTBD3+8JFN)	for Premium silver model	CTBD3+8JFN	6	
S5	nsp	SCREW(CTBD3+8JFZR)	for Black model	CTBD3+8JFZR	6	
S6	nsp	SCREW(CTWD4+6FFN)	for Premium silver model	CTWD4+6FFN	2	
S6	nsp	SCREW(CTWD4+6FFZR)	for Black model	CTWD4+6FFZR	2	
S7	nsp	SCREW(CTB3+6FFZR)		CTB3+6FFZR	16	
S8	nsp	SCREW(CTS3+8JFZR)		CTS3+8JFZR	4	



EXPLODED VIEW OF CD MECHANISM UNIT



PARTS LIST OF CD MECHANISM UNIT

* 本表に "nsp" と記載されている部品は供給できません。

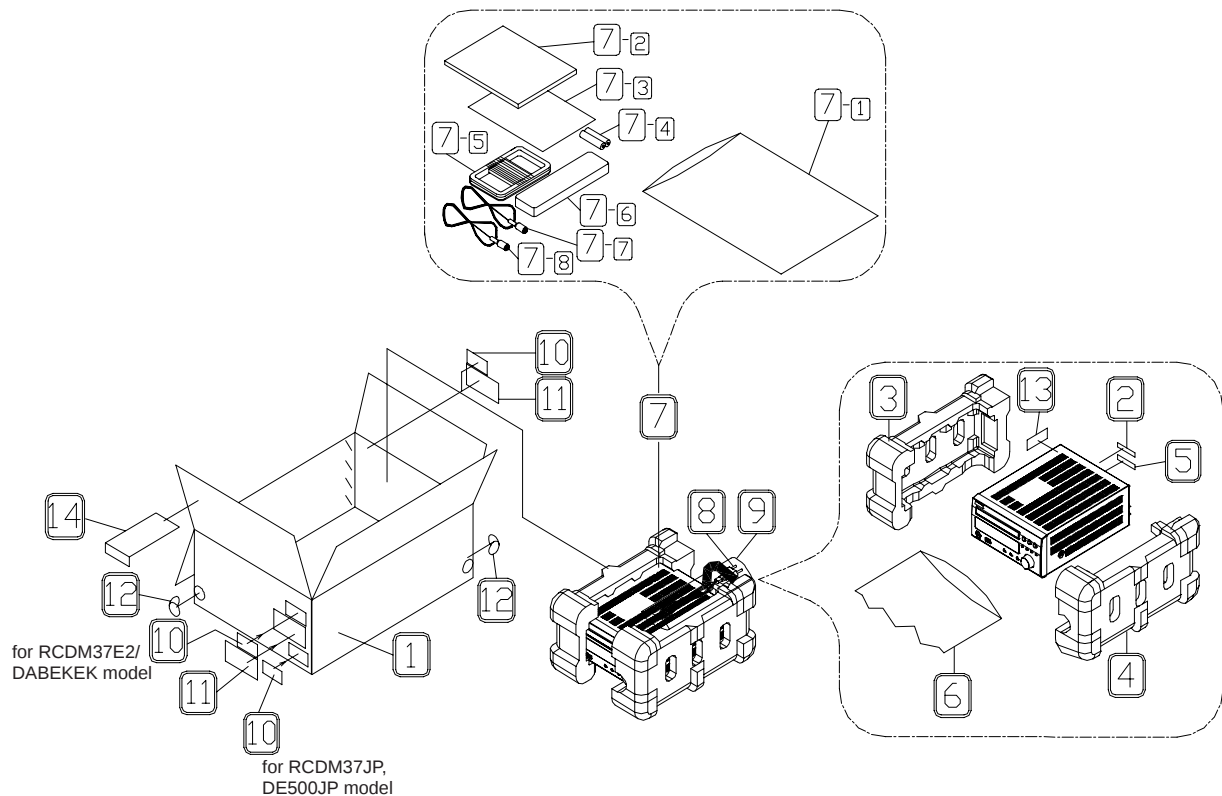
* Parts for which "nsp" is indicated on this table cannot be supplied.

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

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

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	1	00DS264629001	Tray (C)	This part (No.2)doesn't belong to the tray. Take it down from old tray and use again when changing the tray.	1	
	2	-	-			
	3	00DS262554401	Gear cover(S)		1	
	4	00DS262553501	Tray gear(S)		1	
	5	00DS262554601	Chucking plate		1	
	6	nsp	Screw 2.6 x 7 +PTPWH		4	
	7	nsp	Chucking yoke		1	
	8	nsp	Magnet		1	
	9	00D9640011007	MECHA DA11T3CN		1	
	10	nsp	Chucking pulley		1	
	11	nsp	Sub chassis Ass'y	No slit type2	1	
	12-1	00DS262723601	Coil spring(front)		2	
	12-2	00DS262723501	Coil spring(back)		2	
	13	nsp	Screw 2.6 x 10 +P		4	
	14	nsp	Washer 2130		4	
	17	nsp	Outsert main chassis(S)		1	
	18	nsp	Screw 2.6 x 16 +PTPWH		1	
	19	00DS262554701	Drive gear(S)		1	
	20	00DS262554504	Contorol cam(S)		1	
	21	00DS169266711	Leaf switch		2	
	22	nsp	5P connector		1	
	23	nsp	Loading P.W.B		1	
	24	00DSX26251171	Loading motor Ass'Y		1	
	25	00DS262553402	Middle gear		1	
	26	00DS262553602	Loading pulley		1	
	27	00DS365338700	LM belt		1	
	28	nsp	Screw 2.6 x 2.5 +B		1	
	30	00DS262723401	Insulator		4	

PACKING VIEW (for RCD-M37/DAB/D-E500)



PARTS LIST OF PACKING & ACCESSORIES

* 本表に "nsp" と記載されている部品は供給できません。

* Parts for which "nsp" is indicated on this table cannot be supplied.

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

* 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.

E2 : Europe model

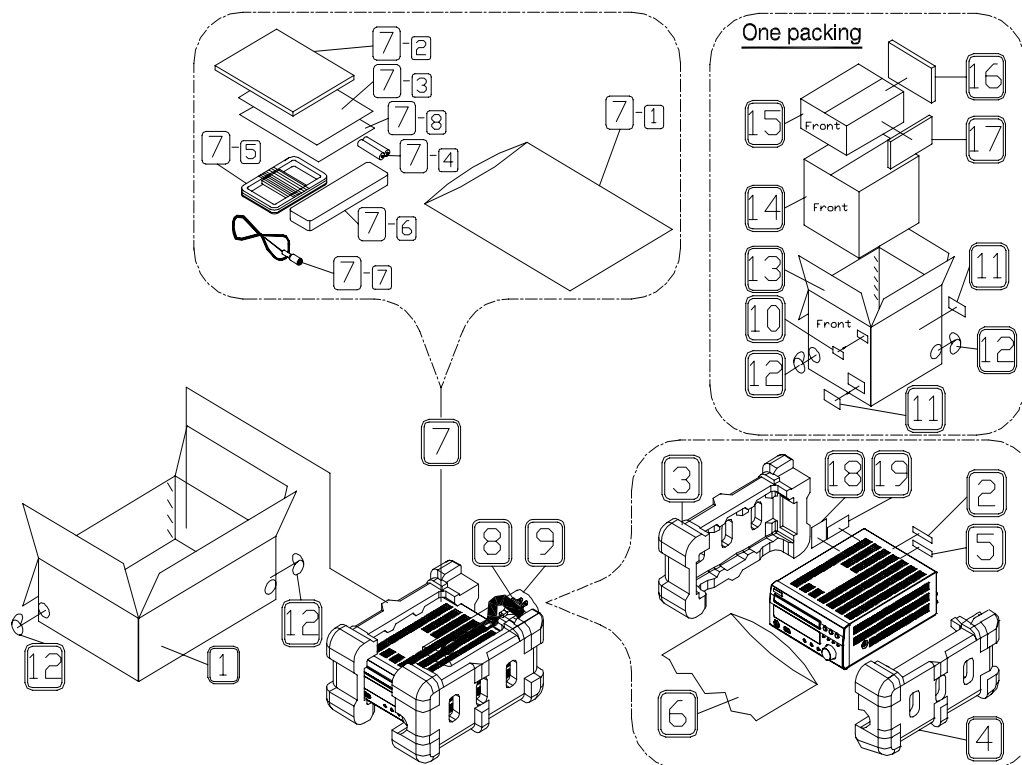
EK : U.K. model

JP : Japan model

Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
1	943531000100D	BOX, OUT CARTON	for RCDM37E2	CPG1A860Z	1	*
1	943531000110D	BOX, OUT CARTON	for RCDM37DABEK	CPG1A860Y	1	*
1	943531000140D	BOX, OUT CARTON	for RCDM37JP	CPG3A860W	1	*
1	943531000130D	BOX, OUT CARTON	for DE500JP	CPG1A860V	1	*
2	nsp	LABEL, YEAR	for RCDM37JP,DE500JP	CQB1A625Z	1	
3	943533000150D	PAD, SNOW(L)		CPS1A811	1	*
4	943533000160D	PAD, SNOW(R)		CPS1A812	1	*
5	nsp	LABEL, SERIAL NO		CQB1A622	1	
6	943535001060D	BAG, POLY		CPP1A082Z	1	*
7	nsp	INSTRUCTION MANUAL ASS'Y			1	
7-1	943535001070D	BAG, POLY(MANUAL)		CPB1061W	1	*
7-2	943541000170D	MANUAL, INSTRUCTION	for RCDM37E2/DABEK	CQX1A1341Z	1	*
7-2	943541000270D	MANUAL, INSTRUCTION	for RCDM37JP,DE500JP	CQX1A1343Z	1	*
7-3	nsp	LIST, S.S	for RCDM37E2/DABEK	CQE1A226T	1	
7-3	00D5150918607	SHEET, SERVICE	for RCDM37JP,DE500JP	CQE1A196U	1	
7-4	nsp	BATTERY(SIZE 'AAA')		CABR03P	2	
7-5	00D9430113500	ANT, AM LOOP		CSA1A020Z	1	
7-6	943307000180D	REMOCON TRANSMITTER ASS'Y		CARTRCDM37BK	1	*
7-7	00D9430113403	FM 1 POLE ANT	for RCDM37E2/DABEK	CSA1A018Z	1	
7-7	90M-ZA000230R	FM 1 POL ANT(UL)	for RCDM37JP,DE500JP	CSA1A019Z	1	
7-8	00D3950030004	ANT, DAB T	for RCDM37DABEK	CSA272	1	
8	943611000190S	CORD, POWER EUR	for RCDM37E2	CJA2B108ZV	1	*
8	943611000210S	CORD, POWER UK	for RCDM37DABEK	CJA2E106ZV	1	*
8	943611000280S	CORD, POWER JPN	for RCDM37JP,DE500JP	CJA2J091Z	1	*

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	9	nsp	BAG, POLY		CPB1A008Z	1	
	10	nsp	LABEL, POS	for RCDM37E2 Black model	CQB1A880Y	2	
	10	nsp	LABEL, POS	for RCDM37E2 Premium silver model	CQB1A880Z	2	
	10	nsp	LABEL, POS	for RCDM37DABEK Black model	CQB1A880W	2	
	10	nsp	LABEL, POS	for RCDM37DABEK Premium silver model	CQB1A880X	2	
	10	998545000100D	LABEL, POS	for RCDM37JP Premium silver model	CQB1A880U	1	*
	10	998545000090D	LABEL, POS	for DE500JP	CQB1A880T	1	*
	11	nsp	LABEL, CONTROL	for RCDM37E2/DABEK	CQB1A627	2	
	12	00D5139111030	LABEL, COLOR	for Premium silver model	CQB1A882Z	2	
	13	nsp	LABEL, CAUTION	for RCDM37E2/DABEK	CQB1A661Z	1	
	14	00D5150920307	CARD, WARRANTY	for RCDM37JP,DE500JP	CQE1A194W	1	

PACKING VIEW (for D-M37)



PARTS LIST OF PACKING & ACCESSORIES

* 本表に "nsp" と記載されている部品は供給できません。

* Parts for which "nsp" is indicated on this table cannot be supplied.

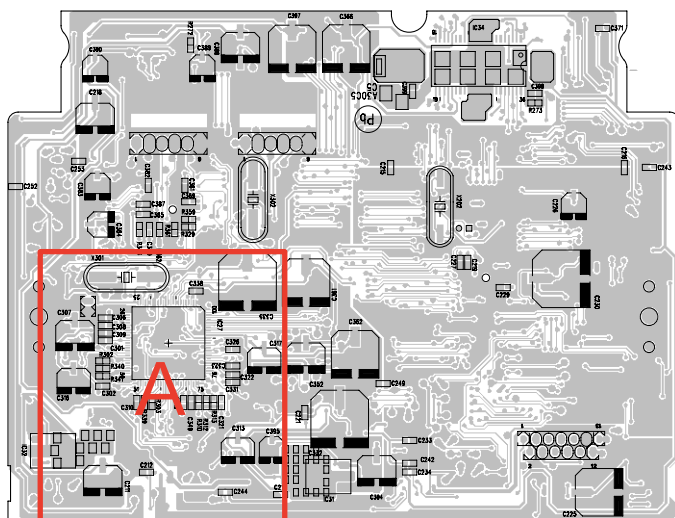
* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

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

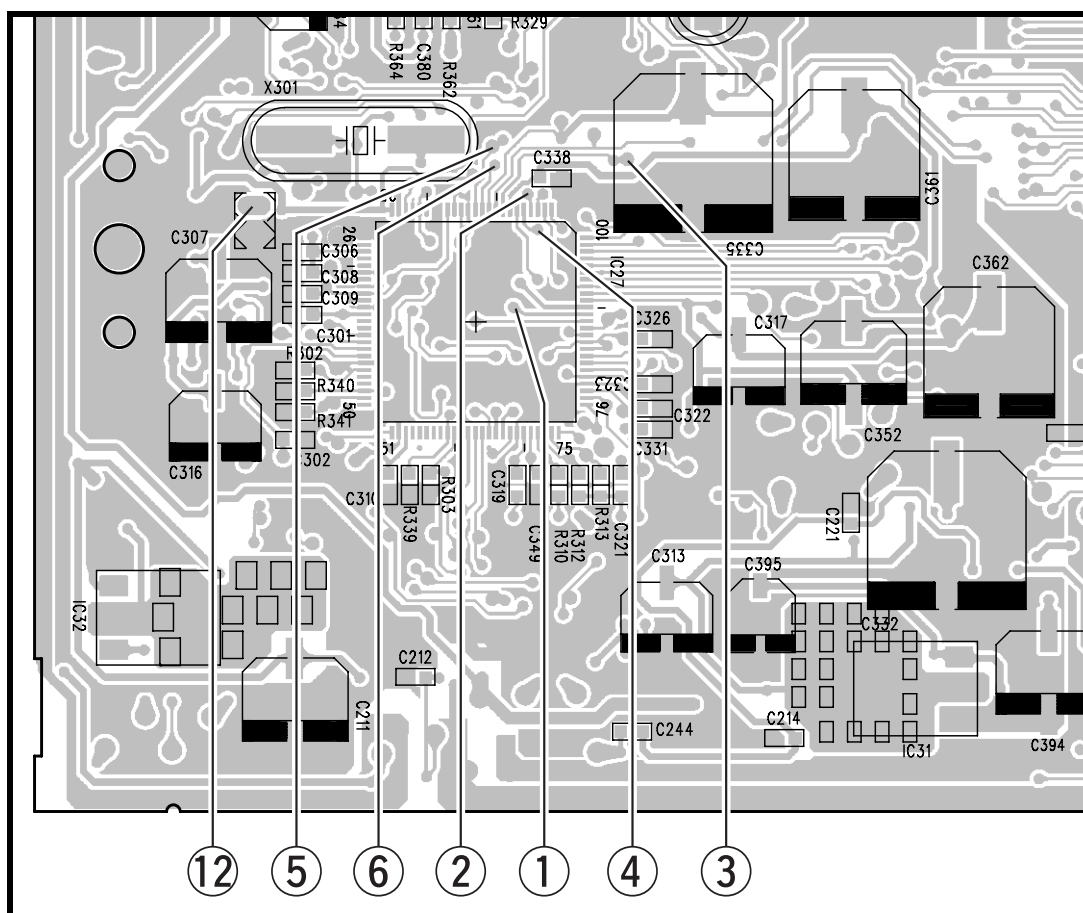
Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
1	943531000120D	BOX, OUT CARTON	Manufacture date label (2008 MAY)	1	*
2	nsp	LABEL, SERIAL NO		1	
3	943533000150D	PAD, SNOW(L)		1	*
4	943533000160D	PAD, SNOW(R)		1	*
5	nsp	LABEL, SERIAL NO		1	
6	nsp	BAG, POLY		1	
7	nsp	INSTRUCTION MANUAL ASS'Y		1	
7-1	nsp	BAG, POLY(MANUAL)		1	
7-2	943541000220D	MANUAL, INSTRUCTION		1	*
7-3	nsp	LIST, S.S		1	
7-4	nsp	BATTERY(SIZE 'AAA')		2	
7-5	00D9430113500	ANT, AM LOOP		1	
7-6	943307000180D	REMOCON TRANSMITER ASS'Y		1	*
7-7	00D9430113403	FM 1 POLE ANT		1	
7-8	nsp	CARD, WARRANTY		1	
8	943611000230S	CORD, POWER UL	for Premium silver model for Black model	1	*
9	nsp	BAG, POLY		1	
10	nsp	LABEL, POS		1	
10	nsp	LABEL, POS		1	
11	00D9430110901	LABEL, CONTROL		2	
12	nsp	LABEL, COLOR	for Premium silver model	4	
13	943531000240D	BOX, MASTR CARTON		1	*
14	nsp	SPEAKER ASSY	for Premium silver model	1	
14	nsp	SPEAKER ASSY	for Black model	1	
15	nsp	CD RECEIVER	for Premium silver model	1	
15	nsp	CD RECEIVER	for Black model	1	

	Ref. No.	Part No.	Part Name	Remarks		Q'ty	New
	16	943533000250D	PAD(A)		CPS1A819	1	*
	17	943533000260D	PAD(B)		CPS1A820	1	*
	18	nsp	LABEL, FCC		CQB1A634Z	1	
	19	nsp	LABEL, CAUTION		CQB1A661Z	1	

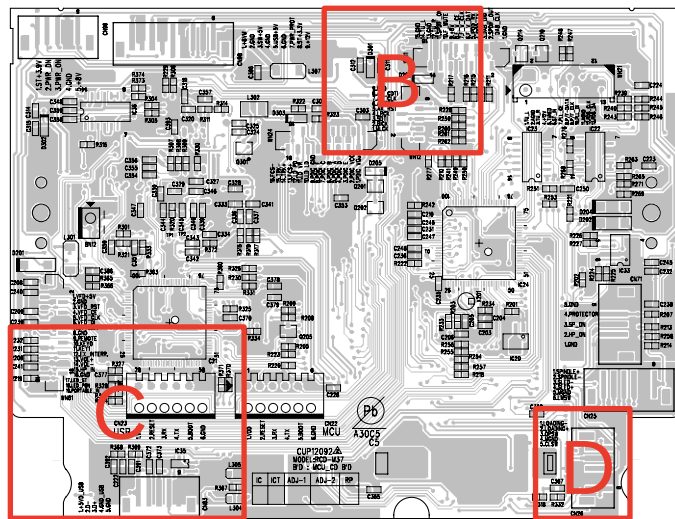
CUP12092Z MCU UNIT (Foil side)



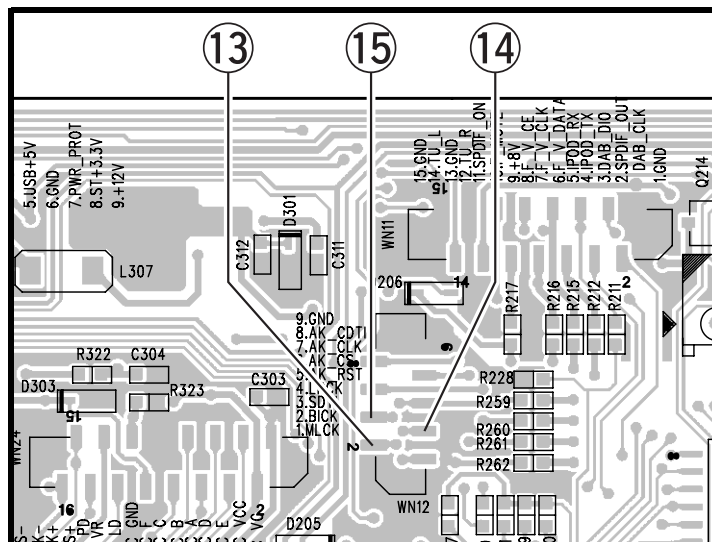
Detail A



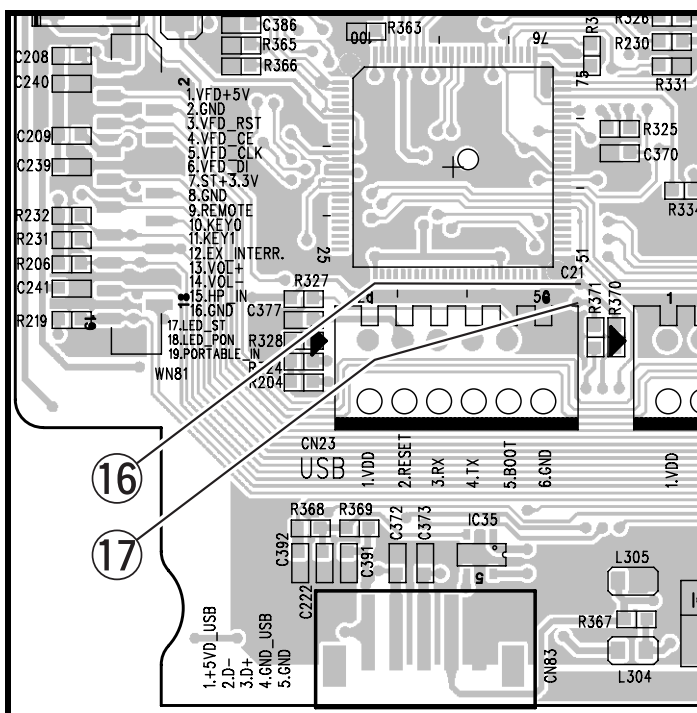
CUP12092Z MCU UNIT (Component side)



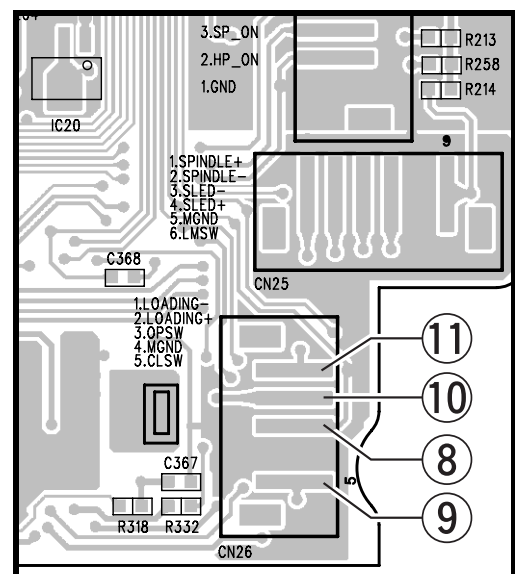
Detail B



Detail C



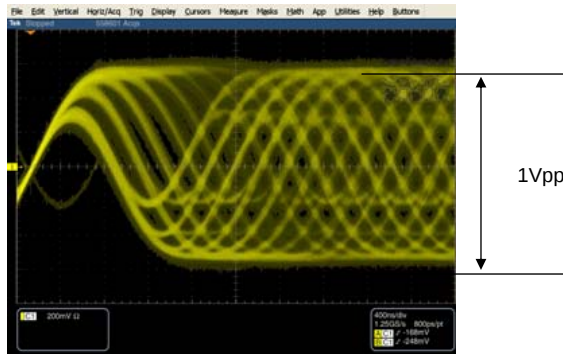
Detail D



WAVEFORMS

(1) PLAY

① RFO



Note: Ground of (1),(2),(3) data is VREF.

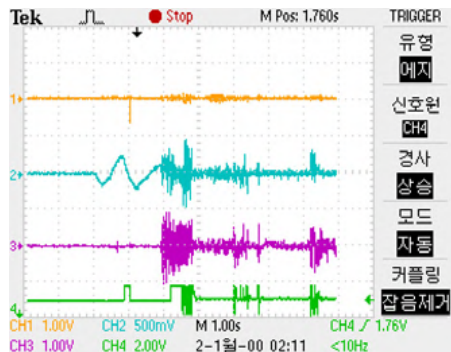
(2) Reading ==> PLAY

② FEI

③ FOO

④ TEI

⑤ DMO



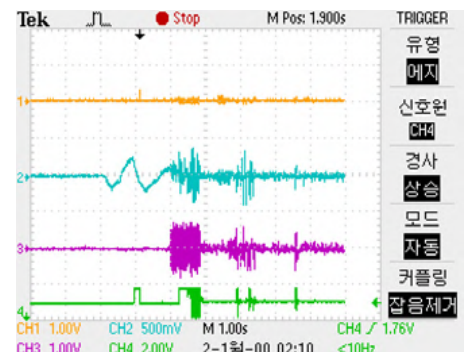
TCD-784

② FEI

③ FOO

④ TEI

⑤ DMO

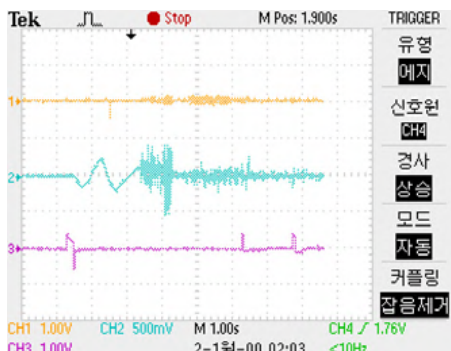


TCD-W082L

② FEI

③ FOO

⑥ FMO

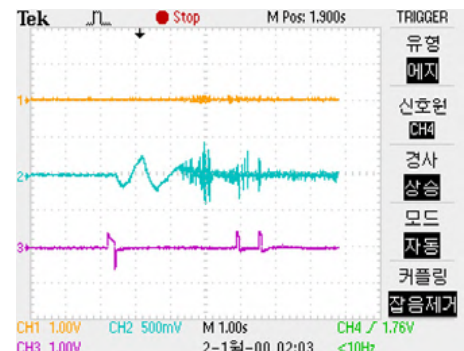


TCD-784

② FEI

③ FOO

⑥ FMO



TCD-W082L

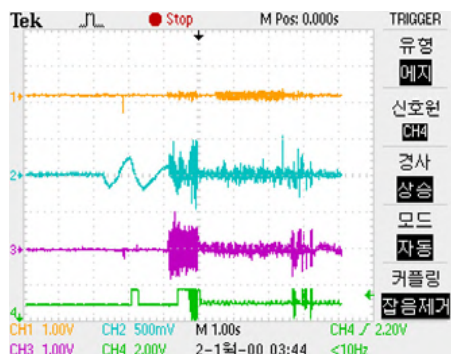
(3) DISC detection

② FEI(5pin)

③ FOO

④ TEI

⑤ DMO



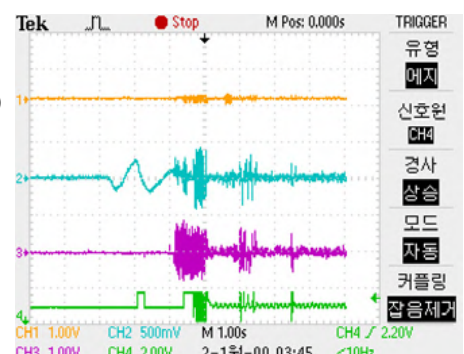
TCD-784

② FEI(5pin)

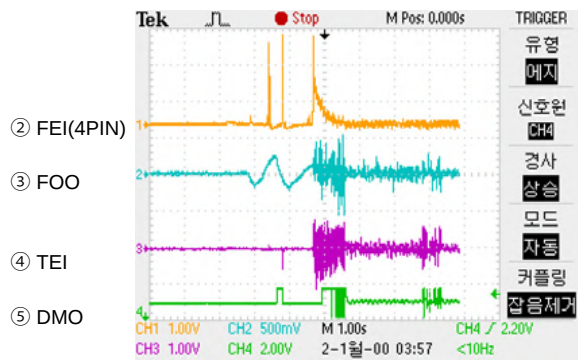
③ FOO

④ TEI

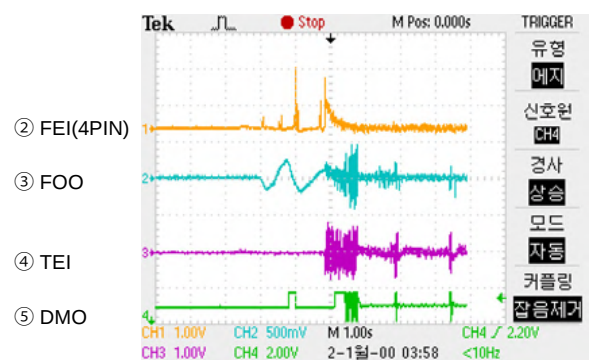
⑤ DMO



TCD-W082L

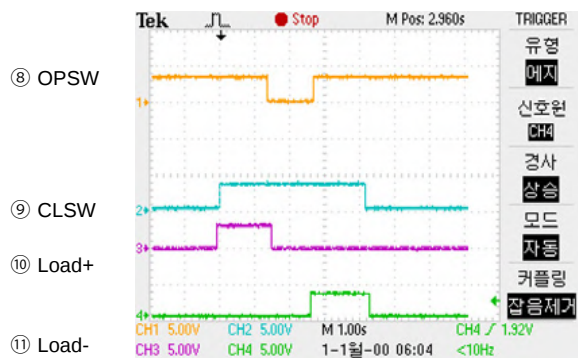


TCD-784

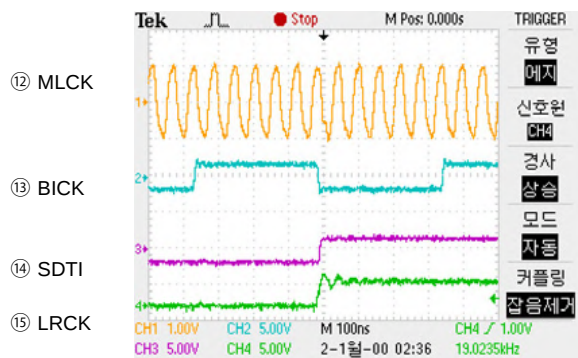


TCD-W082L

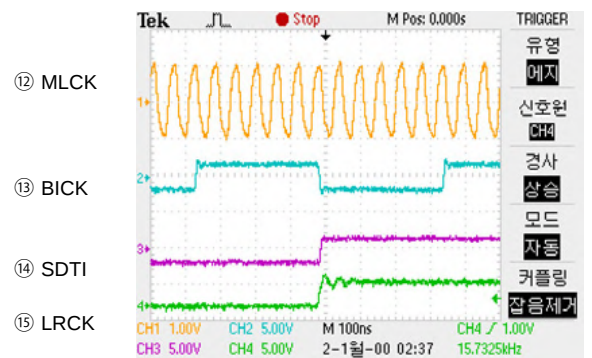
(4) Loader OPEN-CLOSE



(5) CD PLAY

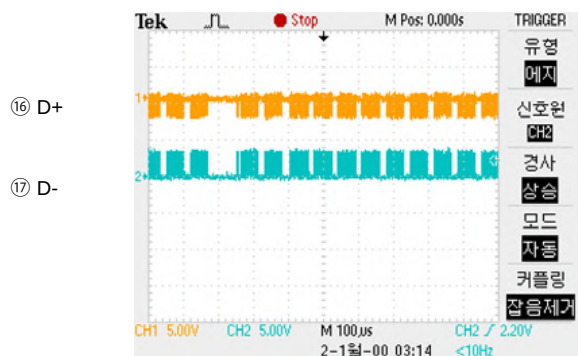


TCD-784

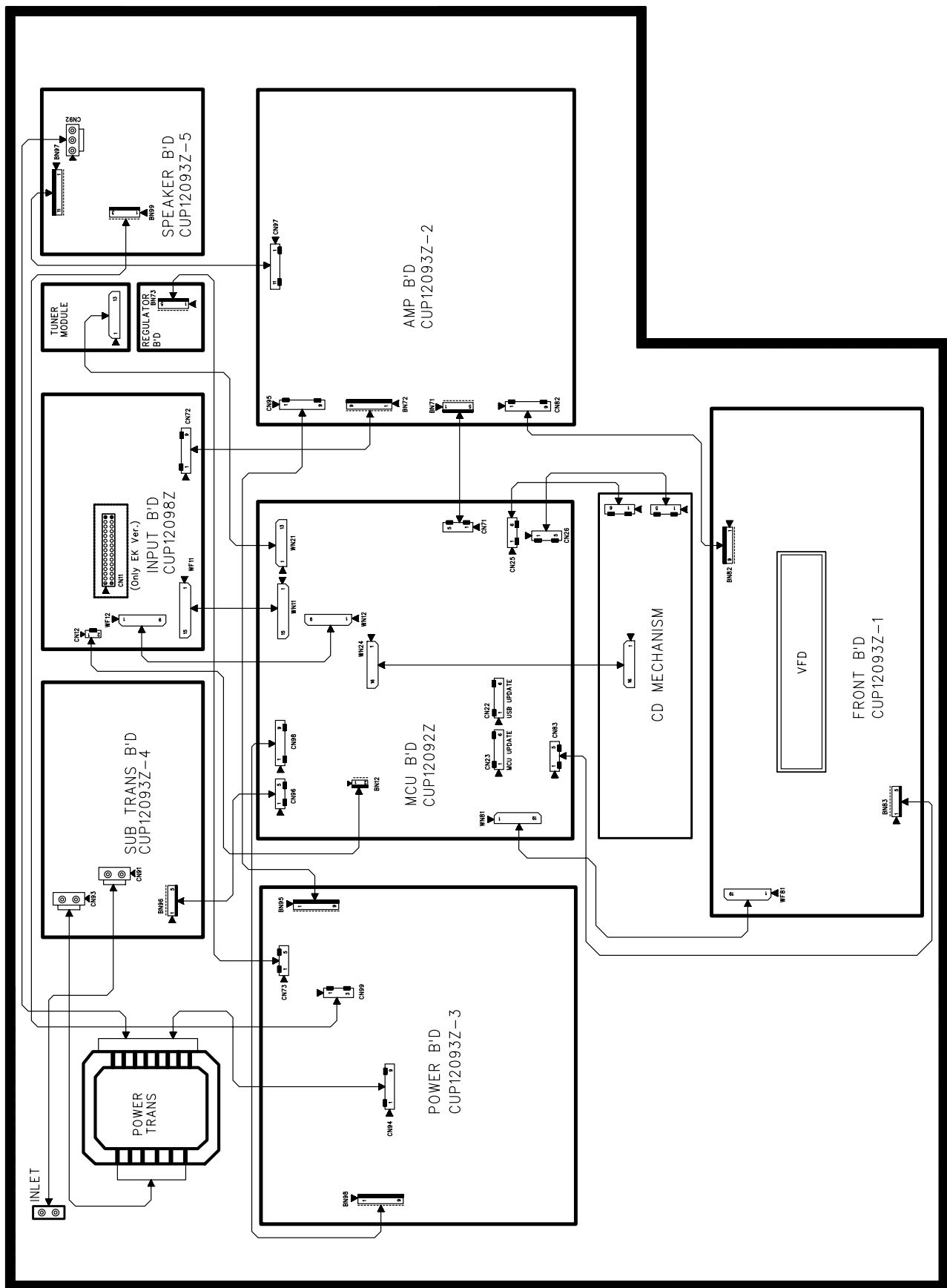


TCD-W082L

(6) USB PLAY



WIRING DIAGRAM



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.

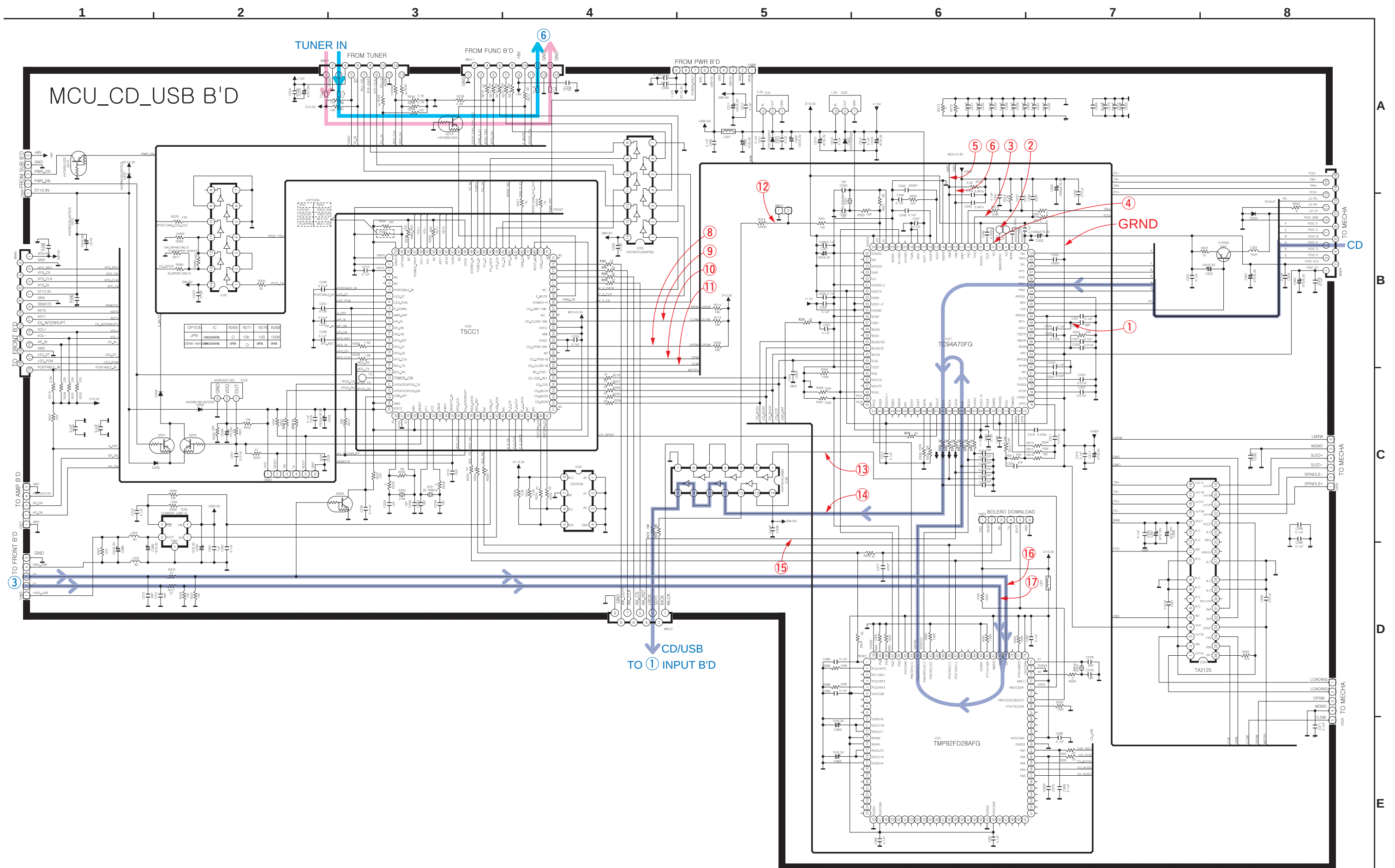
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

配線図について

 印の部品は安全を維持するために重要な部品です。従って交換時は必ず指定の部品を使用してください。

注)

- (1) 指定なき抵抗値は Ω 、k は $k\Omega$ 、M は $M\Omega$ を示す。
- (2) 指定なきコンデンサーの値は μF 、p は pF を示す。
- (3) 各部の電圧は無信号の値を示す。
- (4) この配線図は基本配線図です。改良等のため変更することがありますのでご了承ください。



 Lch SIGNAL LINE
 Rch SIGNAL LINE
 Lch and Rch common SIGNAL LINE

SCHEMATIC DIAGRAMS (1/3)

MCU CD USB UNIT

