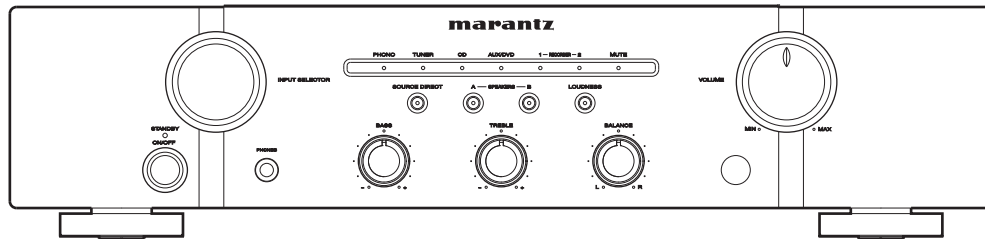


Service Manual

PM6004 /N1SG/N1B/K1B/U1B

Integrated Amplifier



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

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

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

marantz®

PM6004

Ver. 1

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MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National **Marantz** Subsidiary or Agent.

ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order :

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

USA

MARANTZ AMERICA, INC
100 CORPORATE DRIVE
MAHWAH, NEW JERSEY 07430
USA

EUROPE / TRADING

D&M EUROPE B. V.
P. O. BOX 8744, BUILDING SILVERPOINT
BEEMDSTRAAT 11, 5653 MA EINDHOVEN
THE NETHERLANDS
PHONE : +31 - 40 - 2507844
FAX : +31 - 40 - 2507860

CANADA

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

JAPAN

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

株式会社 ディーアンドエムホールディングス
本 社 〒210-8569
神奈川県川崎市川崎区日進町2-1 D&Mビル

KOREA

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88-5, BANPO-DONG, SEOCHO-GU,
SEOUL KOREA
PHONE : +82 - 2 - 715 - 9041
FAX : +82 - 2 - 715 - 9040

CHINA

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NO.1600 NANJING (WEST) ROAD, SHANGHAI,
CHINA. 200040
TEL : 021 - 6248 - 5151
FAX : 021 - 6248 - 4434

NOTE ON SAFETY :

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

安全上の注意 :

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

SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard No. 60065.

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

SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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

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

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

⦿ Heed the cautions!

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

⦿ Cautions concerning electric shock!

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

⦿ Caution concerning disassembly and assembly!

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

⦿ Use only designated parts!

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

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

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

⦿ Make a safety check after servicing!

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

(Insulation check procedure)

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

CAUTION Concerning important safety parts

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

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

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

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

Parts indicated by the $\triangle$ mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

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

WARNING:

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

NOTICE:

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

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

NOTE FOR PARTS LIST

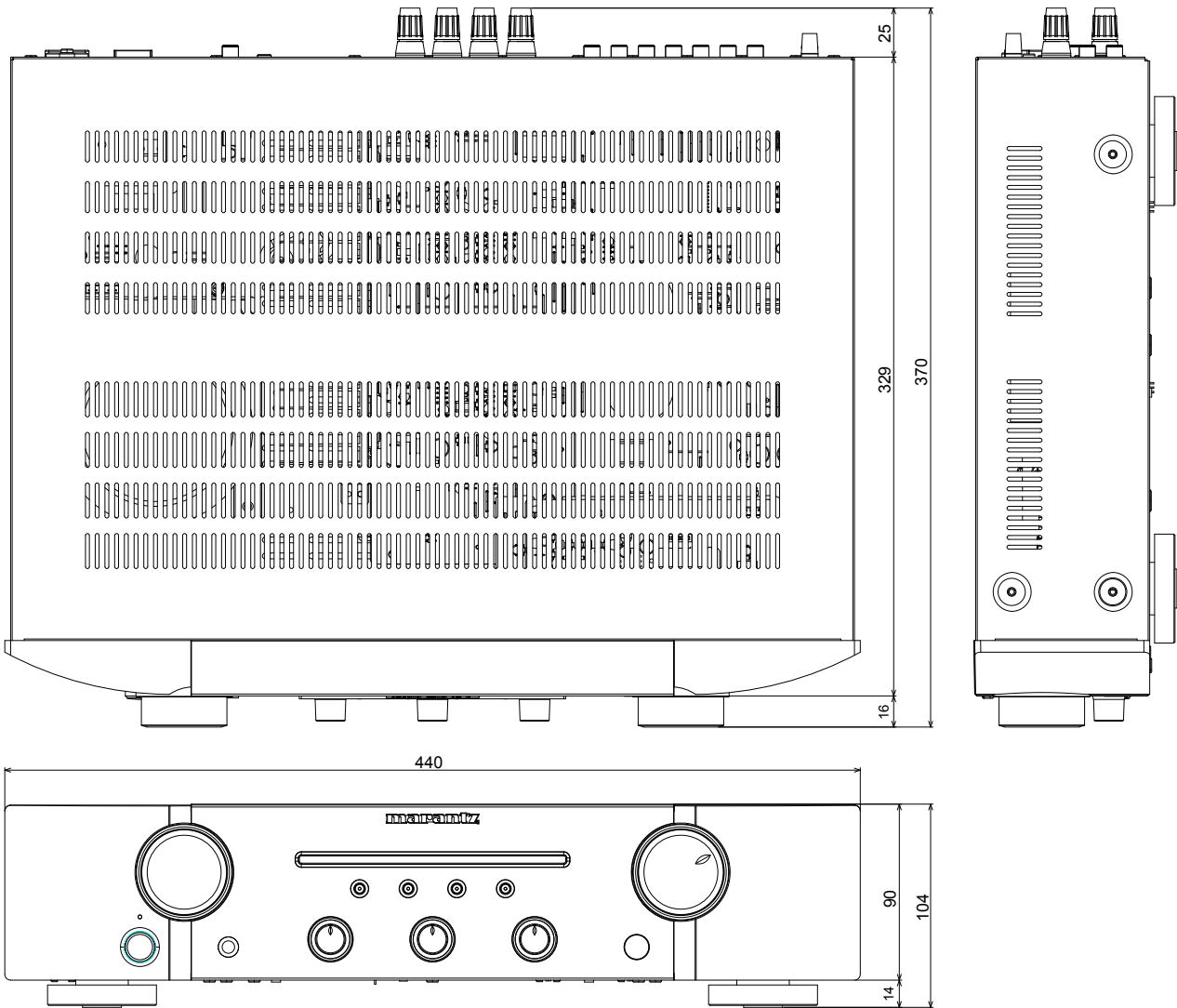
1. Parts indicated by "nsp" on this table cannot be supplied.
2. When ordering a part, make a clear distinction between "1" and "I" (i) to avoid mis-supplying.
3. A part ordered without specifying its part number can not be supplied.
4. Part indicated by "★" mark is not illustrated in the exploded view.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

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

TECHNICAL SPECIFICATIONS

• RMS Power output (20 Hz – 20 kHz simultaneous drive of both channels):	45 W x 2 (8 Ω load) 60 W x 2 (4 Ω load)
• Total harmonic distortion (20 Hz – 20 kHz simultaneous drive of both channels, 8 Ω load):	0.08 %
• Output band width (8 Ω load, 0.06 %):	10 Hz – 50 kHz
• Frequency response (CD, 1 W, 8 Ω load):	10 Hz – 70 kHz +0 dB, -1 dB
• Dumping factor (8 Ω load, 40 Hz – 20 kHz):	100
• Input sensitivity/Input impedance PHONO (MM): CD, TUNER, AUX/DVD, RECORDER:	2.2 mV/47 kΩ 200 mV/20 kΩ
• Maximum allowable PHONO input level (1 kHz) MM:	100 mV
• RIAA deviation (20 Hz – 20 kHz):	±1.0 dB
• S/N (IHF-A, 8 Ω load) PHONO (MM): CD, TUNER, AUX/DVD, RECORDER:	83 dB (5 mV input, 1 W output) 102 dB (2 V input, Rated output)
• Tone control Bass (50 Hz): Treble (15 kHz):	±10 dB ±10 dB
• Power requirement:	AC 230 V 50/60 Hz (N) AC 220 V 50 Hz (K) AC 120 V 60 Hz (U)
• Power consumption (EN60065):	150 W
• Power consumption during standby:	0.2 W
• Weight:	7.4 kg

DIMENSION

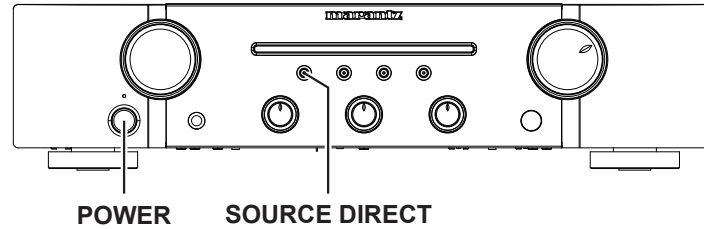


CAUTIONS IN SERVICING

Initializing INTEGRATED AMPLIFIER

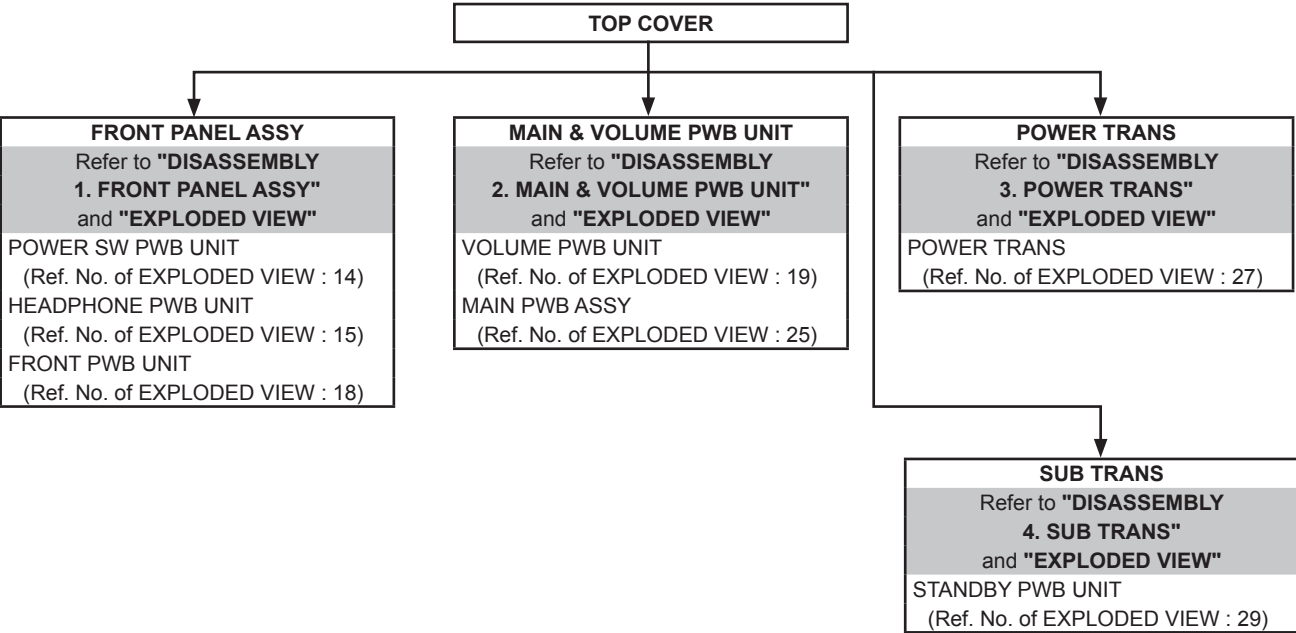
INTEGRATED AMPLIFIER initialization should be performed when the μ com and peripheral parts of μ com were replaced.

1. Turn off the power pressing POWER button.
2. Press POWER button while simultaneously while pressing SOURCE DIRECT buttons.
3. Check the set entered the service mode.(Refer to 31 page "SERVICE MODE".)



DISASSEMBLY

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

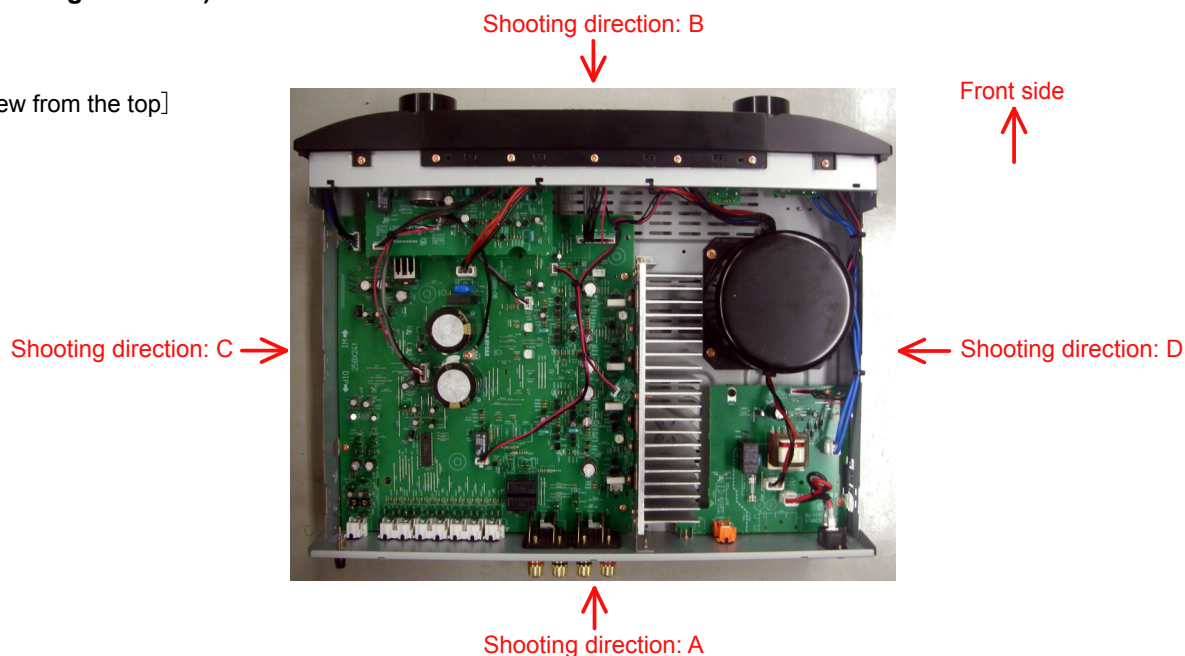


About the photos used for "descriptions of the DISASSEMBLY" section

- The shooting direction of each photograph used herein is indicated on the left side of the respective photograph as "Shooting direction: ****".
- Refer to the diagram below about the shooting direction of each photograph.
- Photographs with no shooting direction indicated were taken from the top of the set.

The viewpoint of each photograph (Shooting direction)

[View from the top]

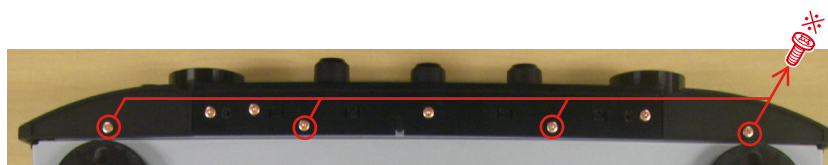


1. FRONT PANEL ASSY

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

(1) Remove the screws.

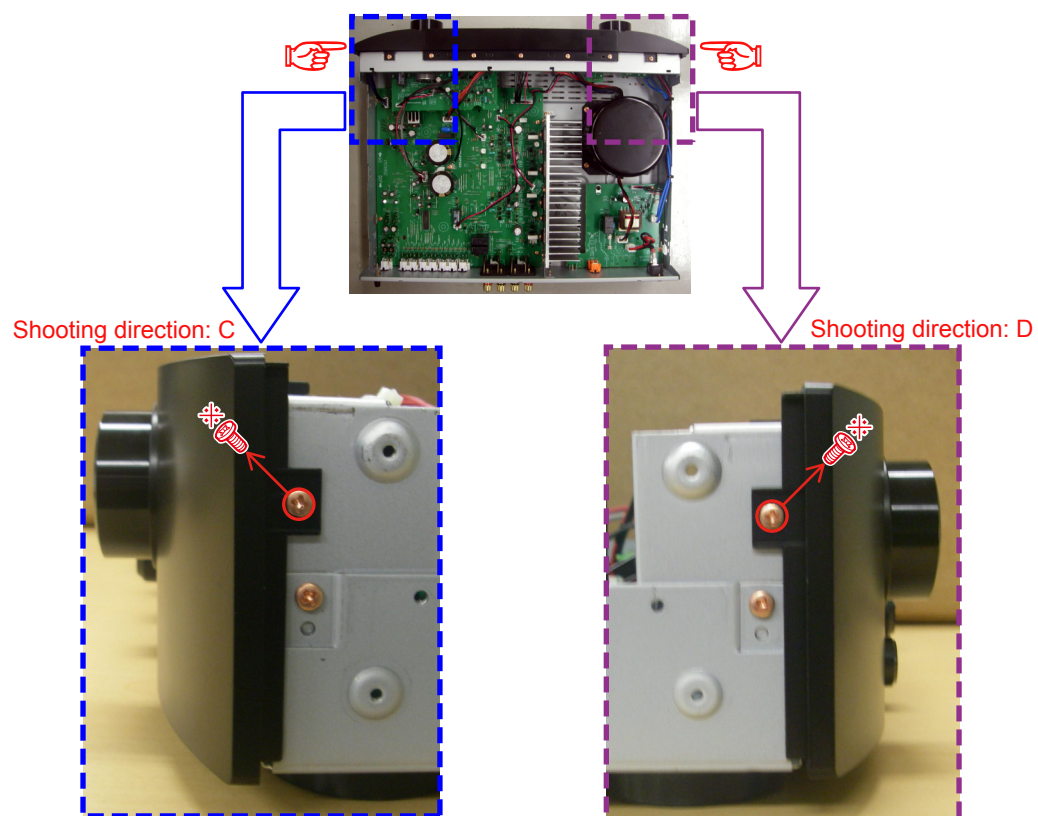
View from bottom



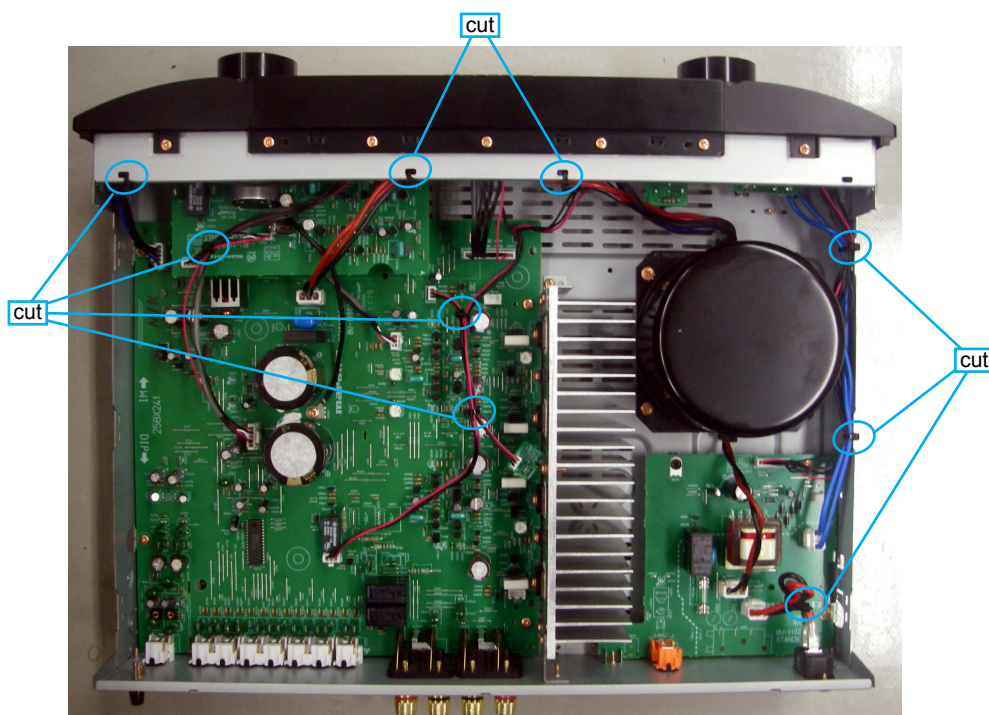
View from top



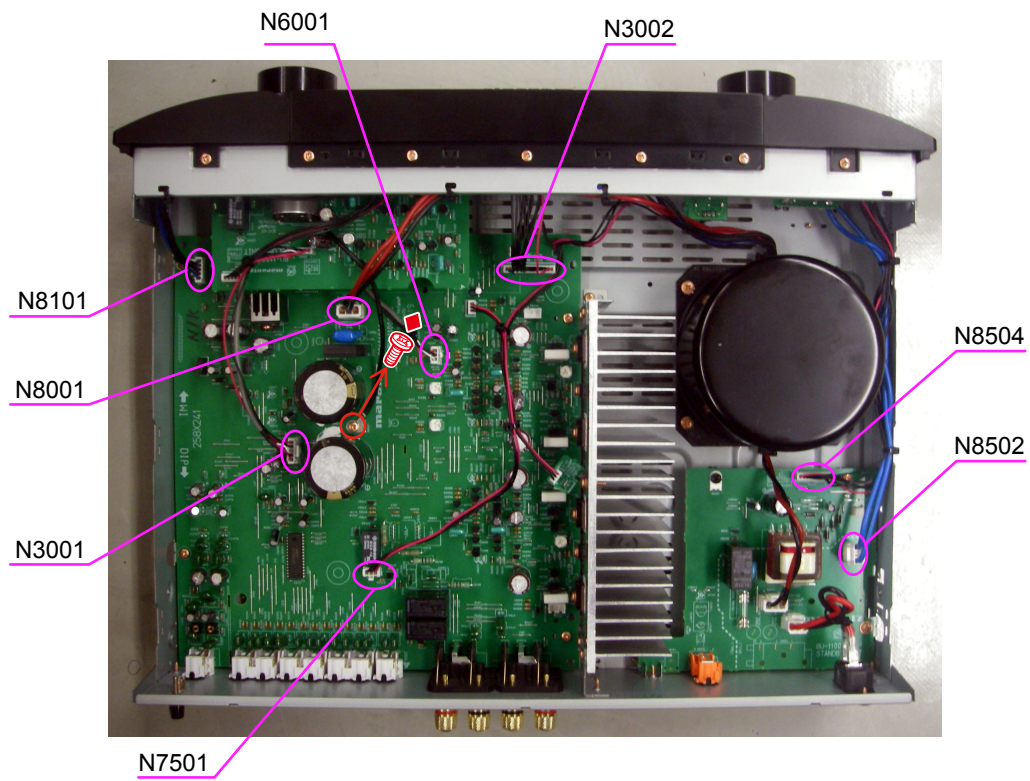
(2) Remove the screws.



(3) Cut the wire clamp band.



(4) Disconnect the connector wire. Remove the screws.



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

2. MAIN & VOLUME PWB UNIT

Proceeding : **TOP COVER** → **MAIN & VOLUME PWB UNIT**

- (1) Detach the KNOB AL CAP POINTER. Remove the screws.

Shooting direction: B

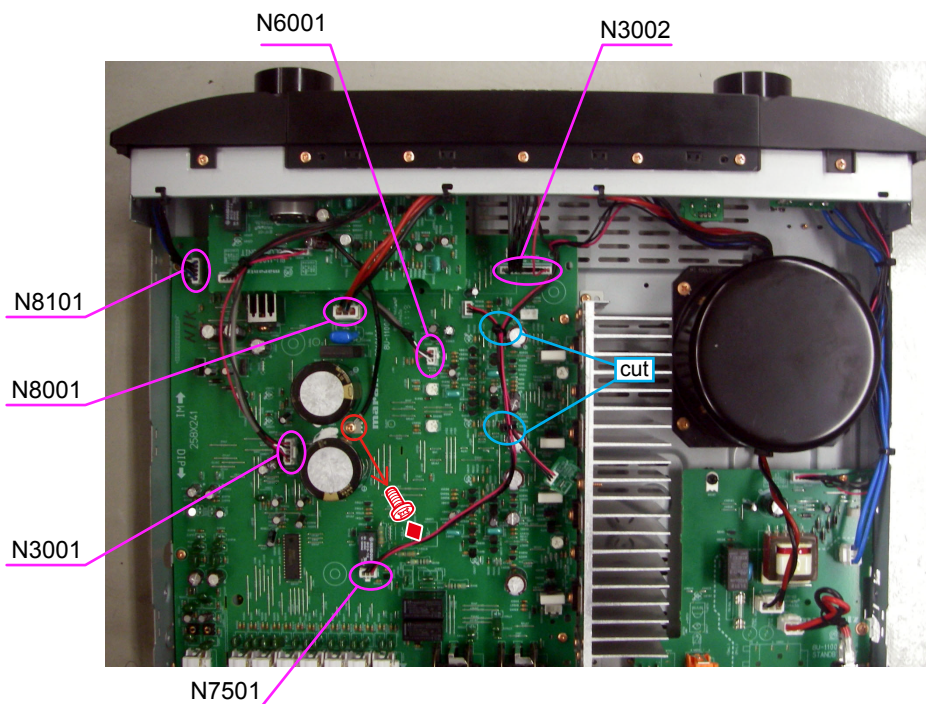


- (2) Remove the screws.

Shooting of photograph: A



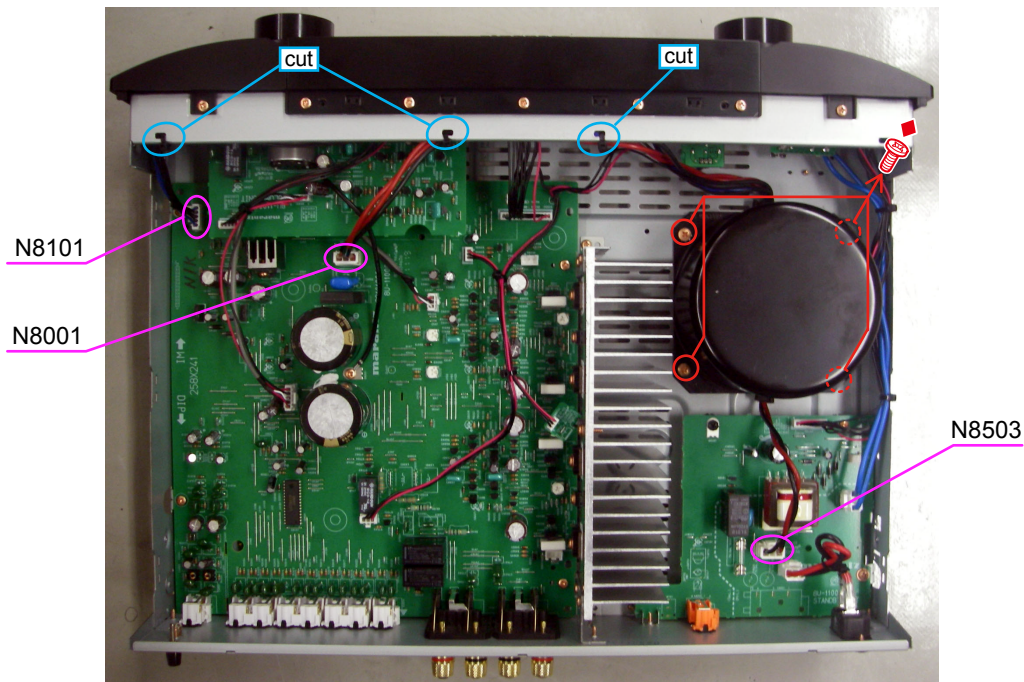
- (3) Cut the wire clamp band, then disconnect the connector wire. Remove the screws.



3. POWER TRANS

Proceeding : **TOP COVER** → **POWER TRANS**

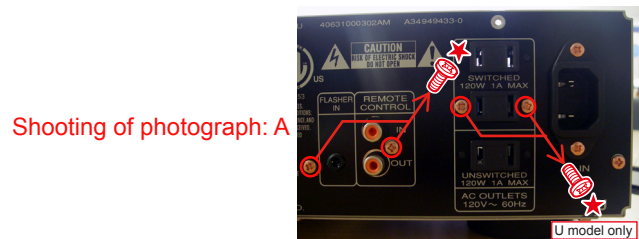
(1) Cut the wire clamp band, then disconnect the connector wire. Remove the screws.



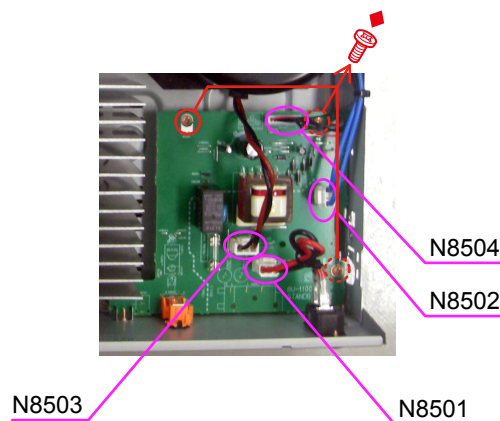
4. SUB TRANS

Proceeding : **TOP COVER** → **SUB TRANS**

(1) Remove the screws.



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



WHEN THE MICROPROCESSOR IS REPLACED WITH A NEW ONE

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

PWB Name	Ref. No.	Description	After replaced	Remark
FRONT	U1001	TMP86FH47UG	C	

After replacing

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

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

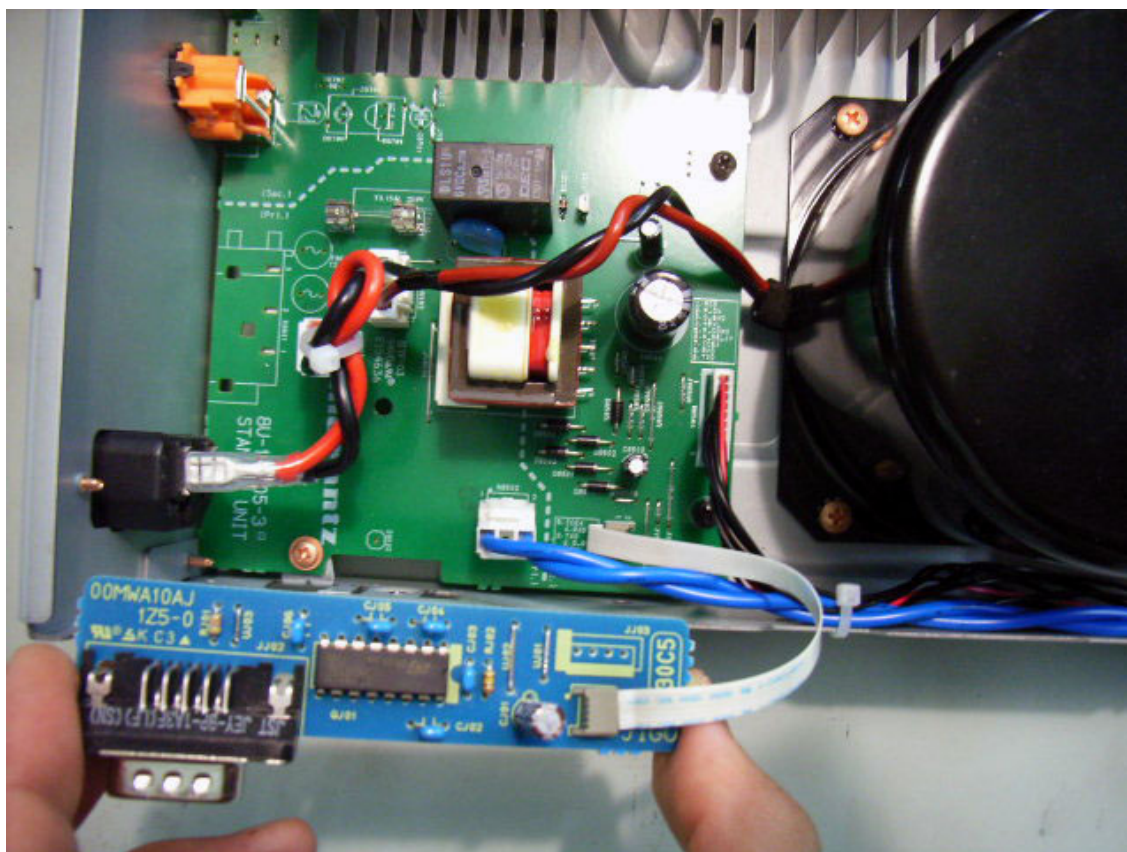
C : Empty Flash ROM (Without software). You should write the software on the microprocessor or flash ROM. Refer to "Update procedure" or "writing procedure", when you write the software.

Necessary Equipment

- Windows PC (OS: Windows 2000 or Windows XP) with Serial port.
- RS-232C Cable straight type (9 Pin female - 9 Pin female)
- Connection JIG (90M-PM11S1JIG)
- Writing Tool and some files (FlashProg.exe, etc... in TM86FH47pass folder)
- Writing data (PM6004_xxxx.h16)

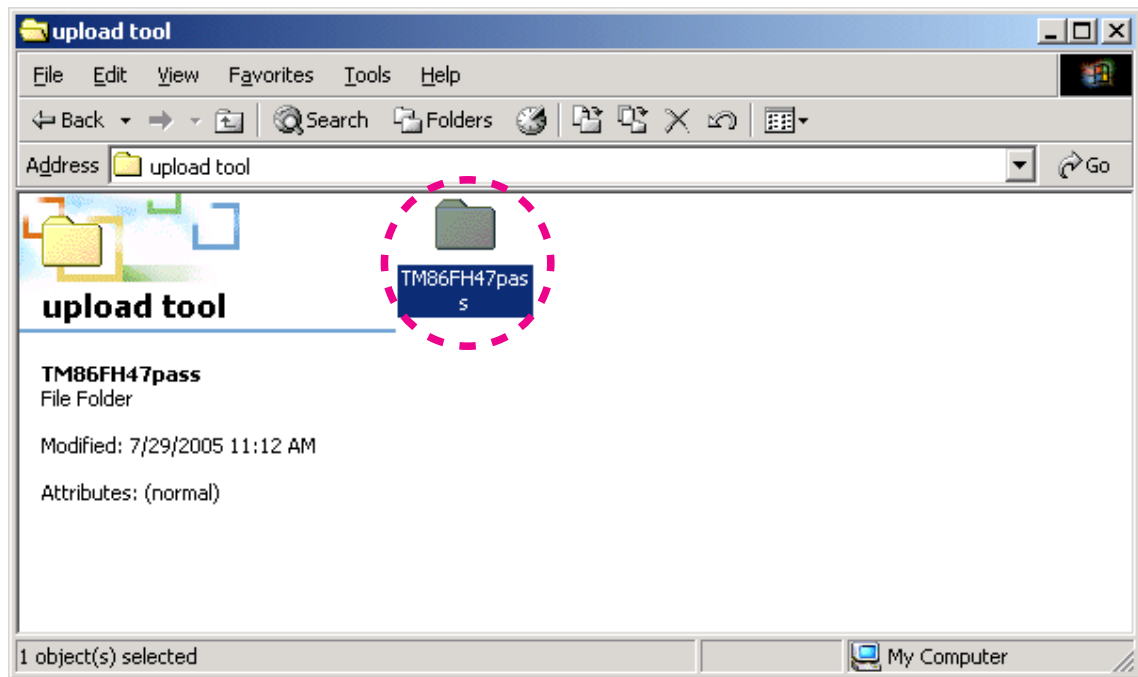
WRITING PROCEDURE

- (1) Disconnect the mains cord from the unit.
- (2) Connect RS-232C on the connection JIG and Serial Port of windows PC with RS-232C cable.
- (3) Connect FPC (upside contact) to the rear panel of the unit from connection JIG.

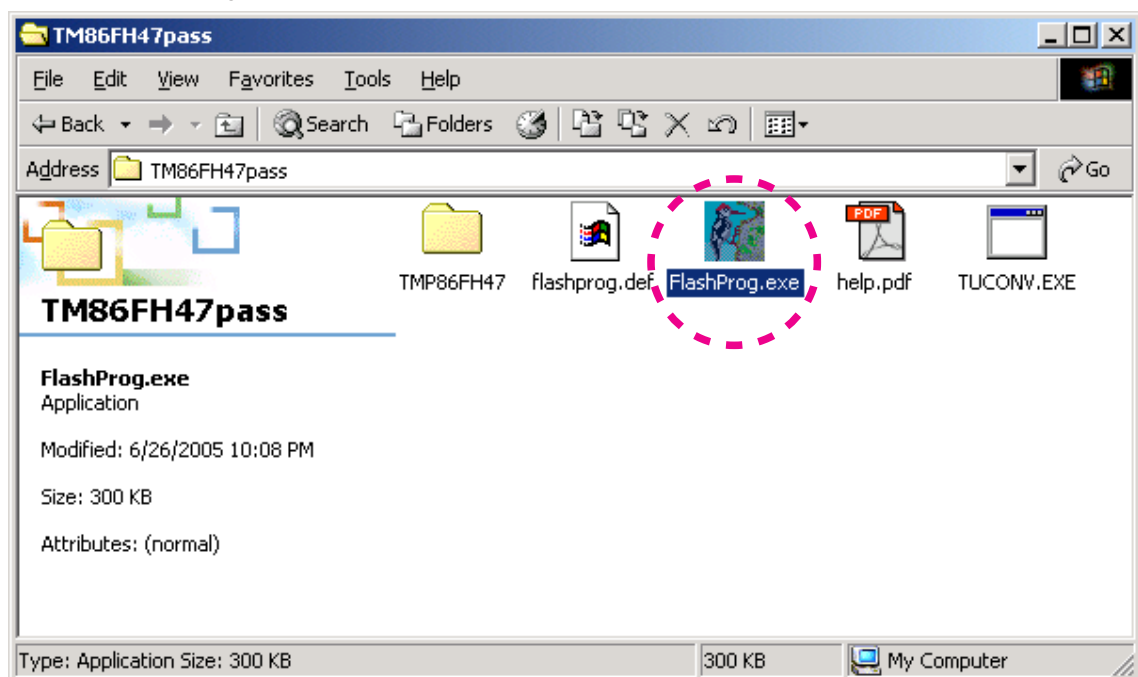


- (4) Reconnect the mains cord to the unit.
- (5) Put the "TM86FH47pass" folder into anywhere on your PC's hard disc.

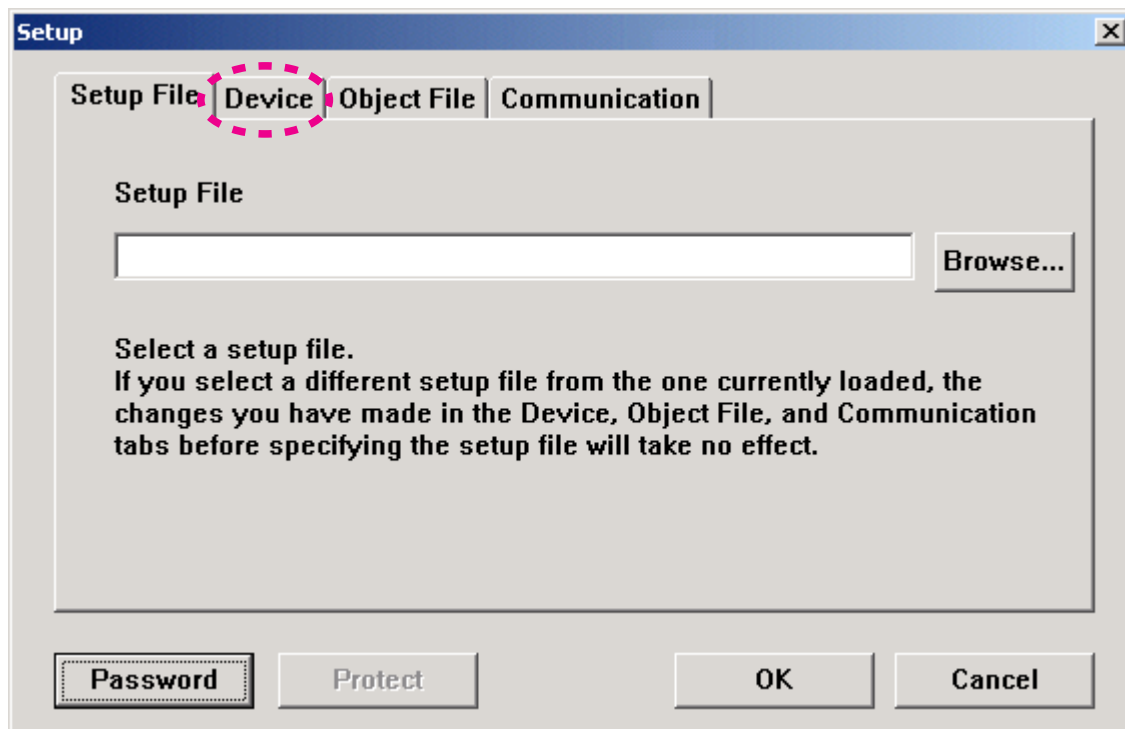
- (6) Double click the TM86FH47pass folder.



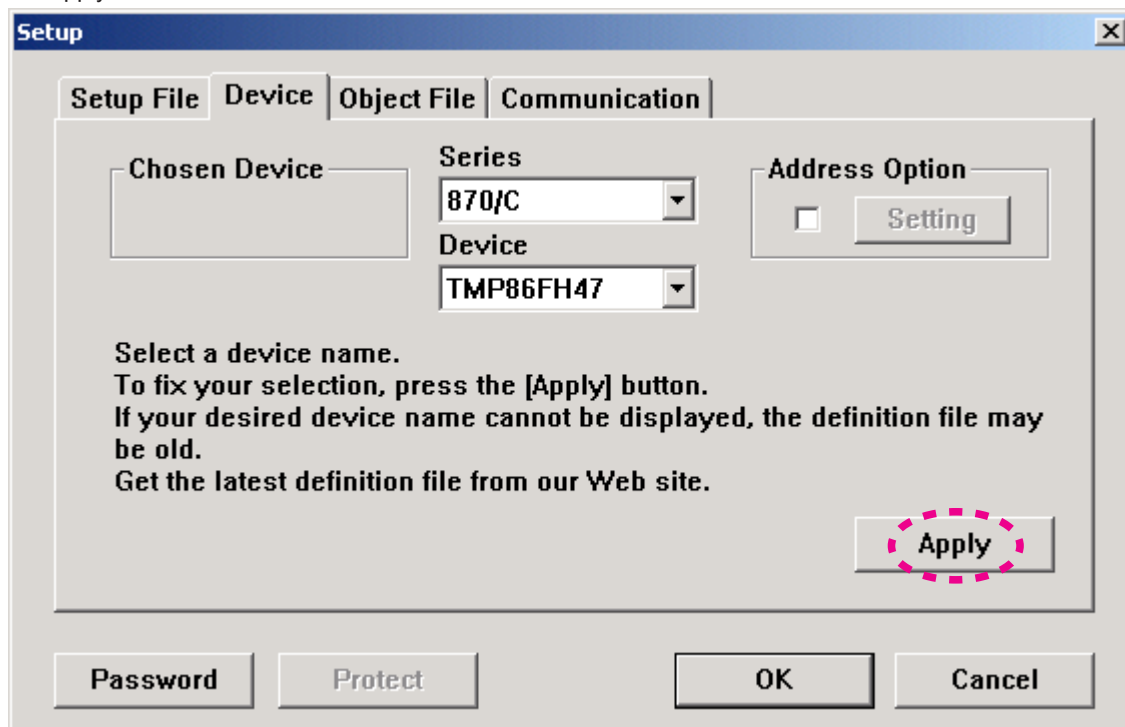
- (7) Double click FlashProg.exe.



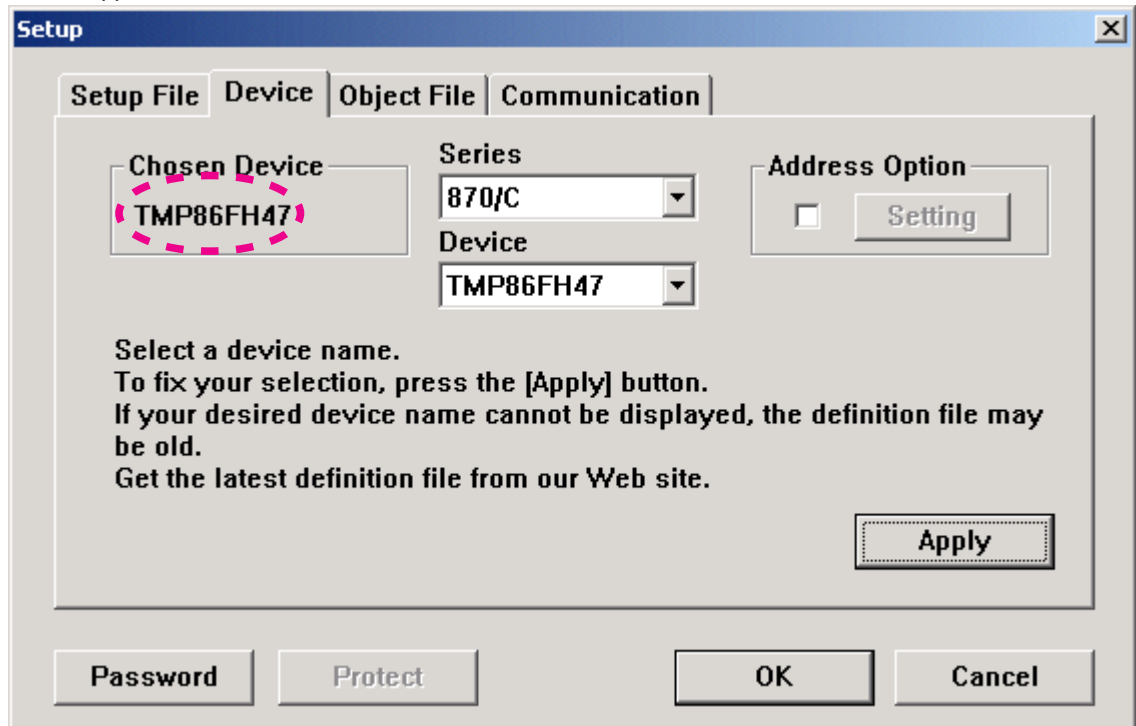
(8) Click Device tab.



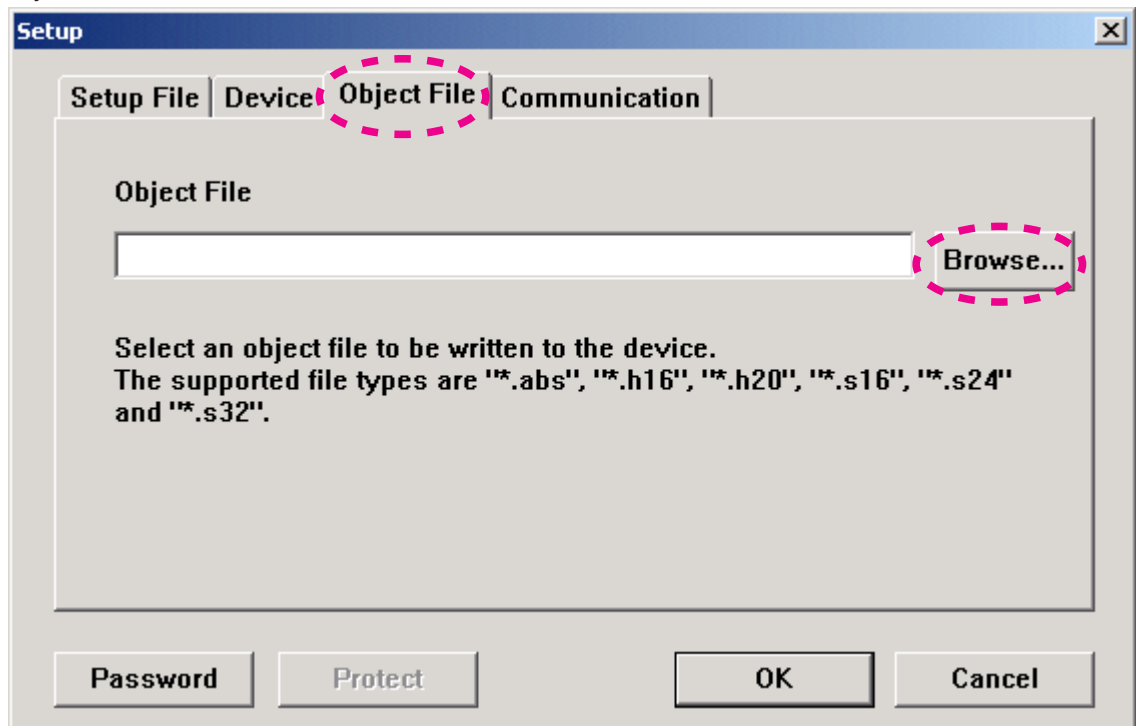
(9) Click Apply.



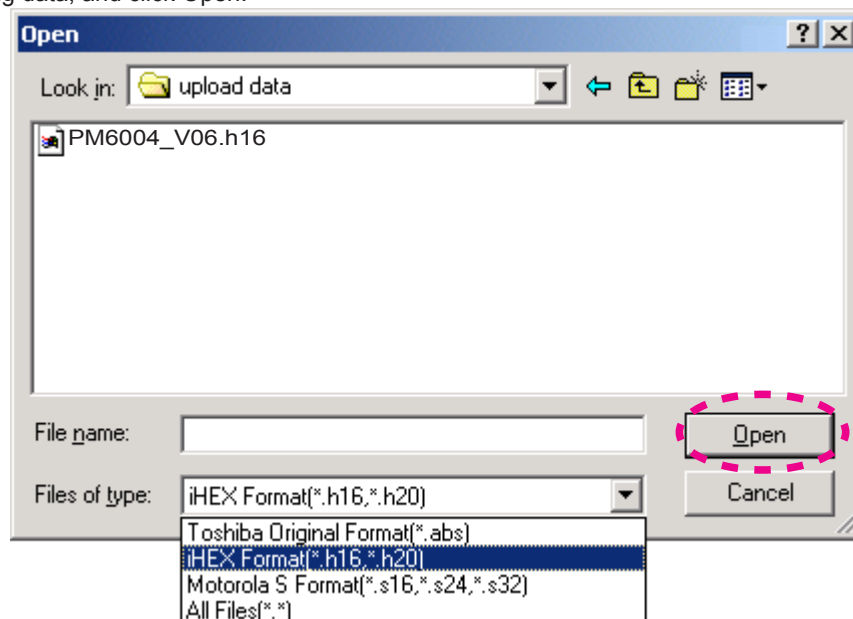
(10) TMP86FH47 appear in Chosen Device.



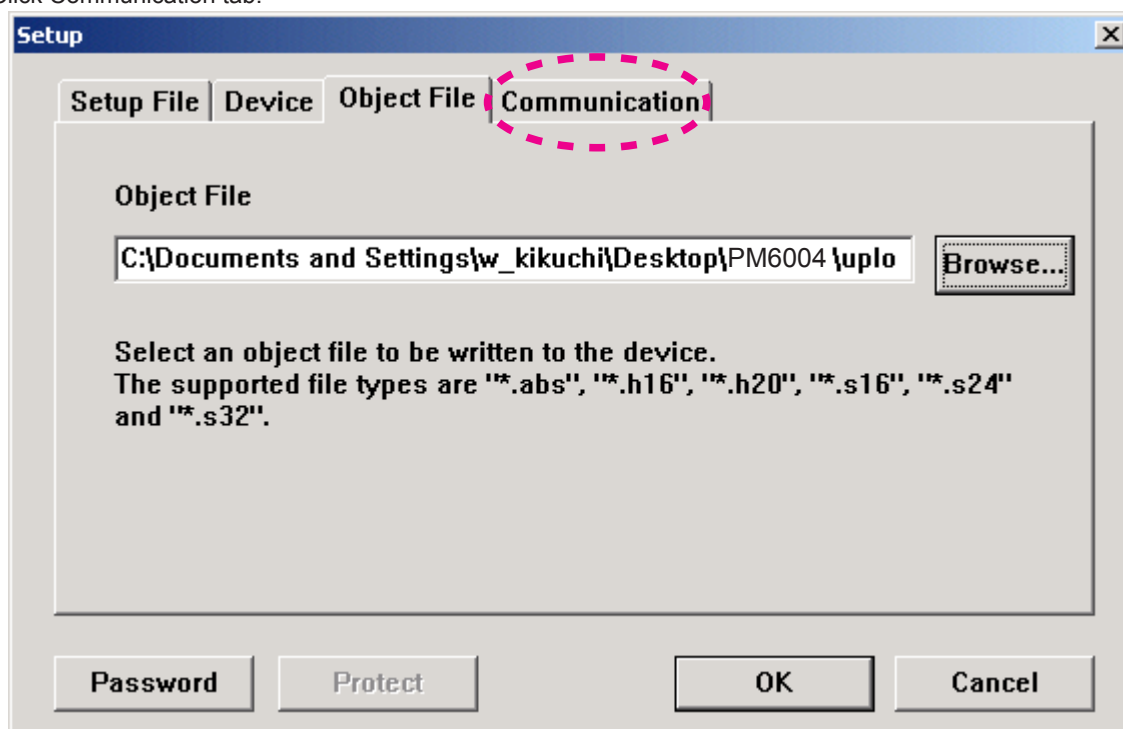
(11) Click Object File, and click Browse...



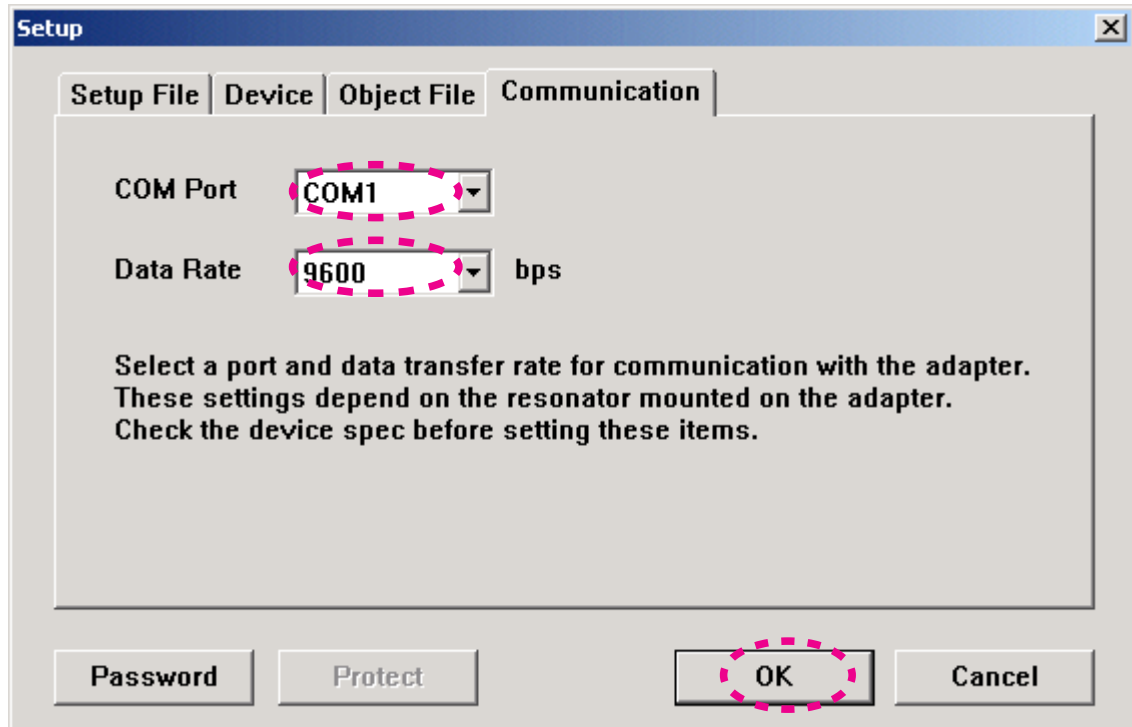
- (12) Choose iHEX Format[* .h16,* .h20] in Files of type.
Choose writing data, and click Open.



- (13) Click Communication tab.

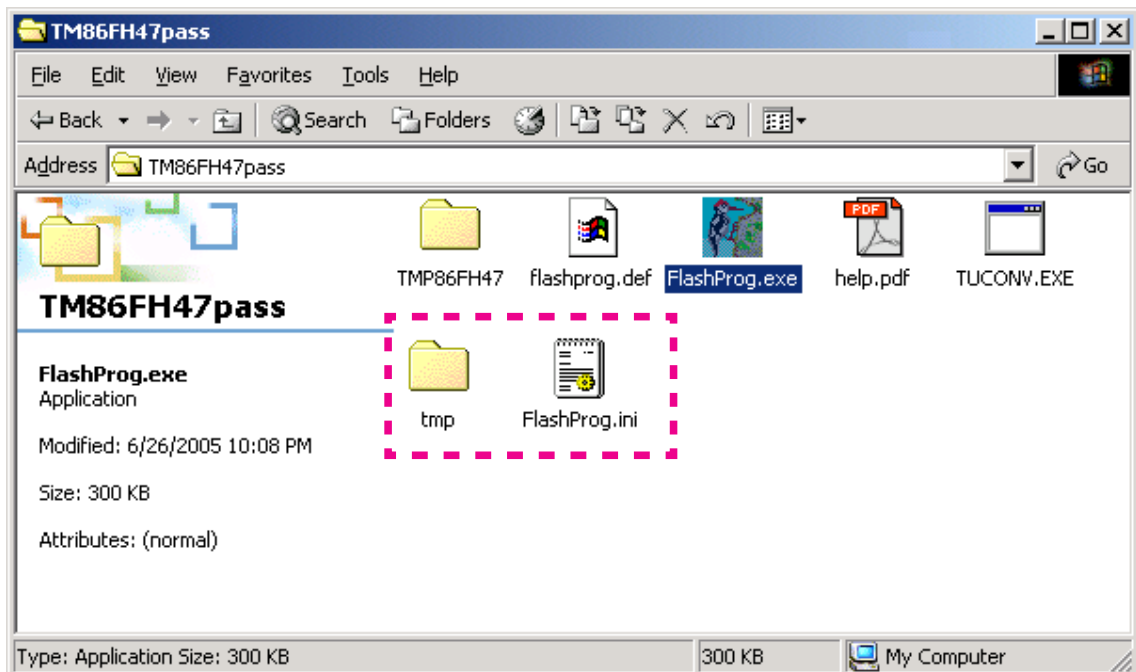


- (14) Choose COM port number in COM port.
Choose 9600 in Data Rate.
Click OK.

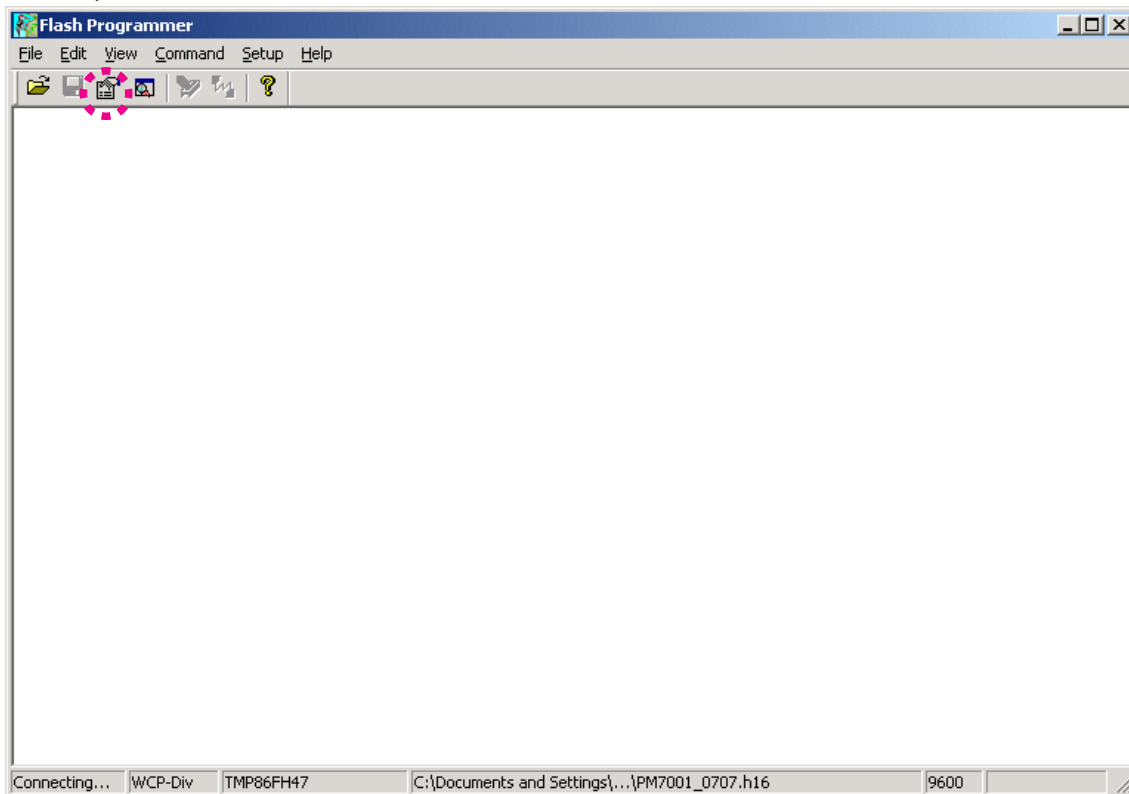


- (15) When Setup window is closed, the tmp folder and FlashProg.ini file are created simultaneously.
Click Yes.

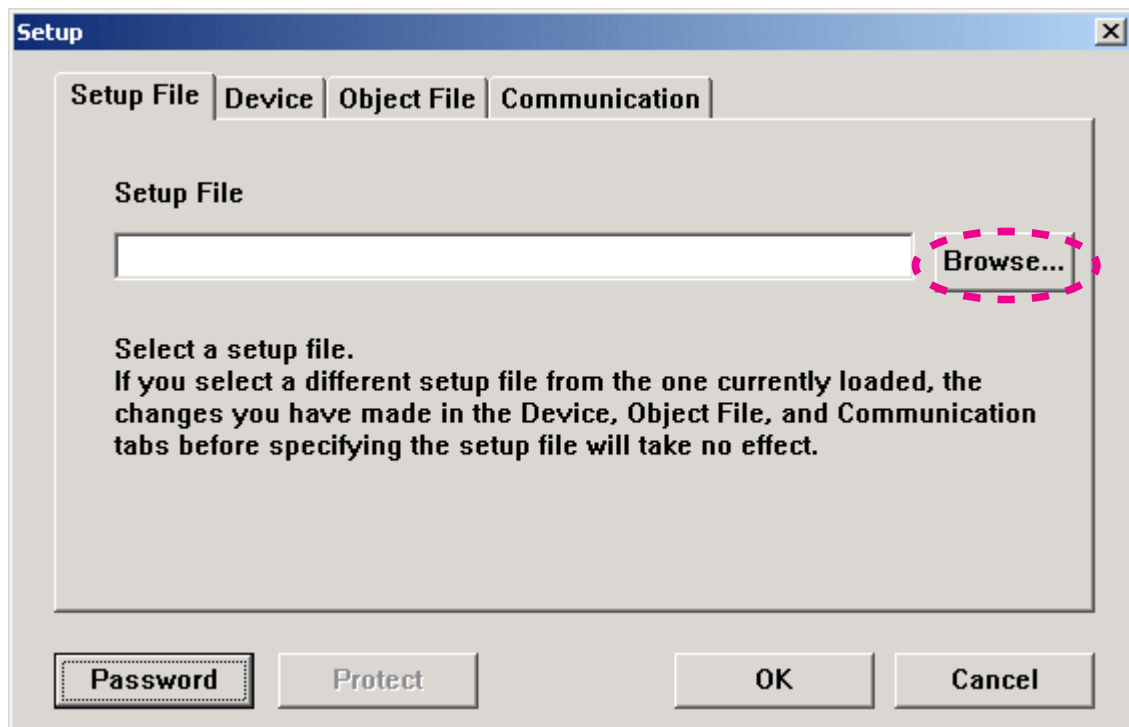
NOTE : These are the original set-up configuration files for that PC. They do not operate, if these files moved to another PC. When you make it operate with other PC, delete the tmp folder and the FlashProg.ini file and redo a setup.



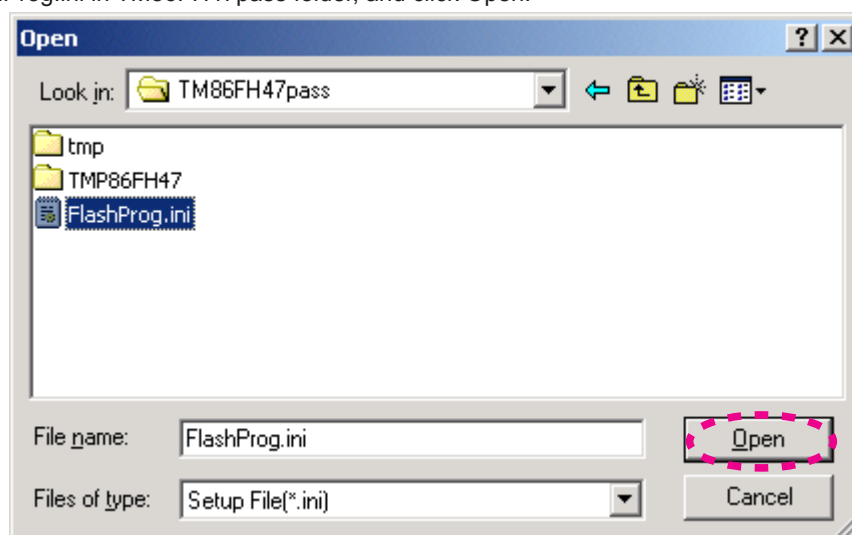
- (16) The Flash Programmer is launched.
Click setup icon.



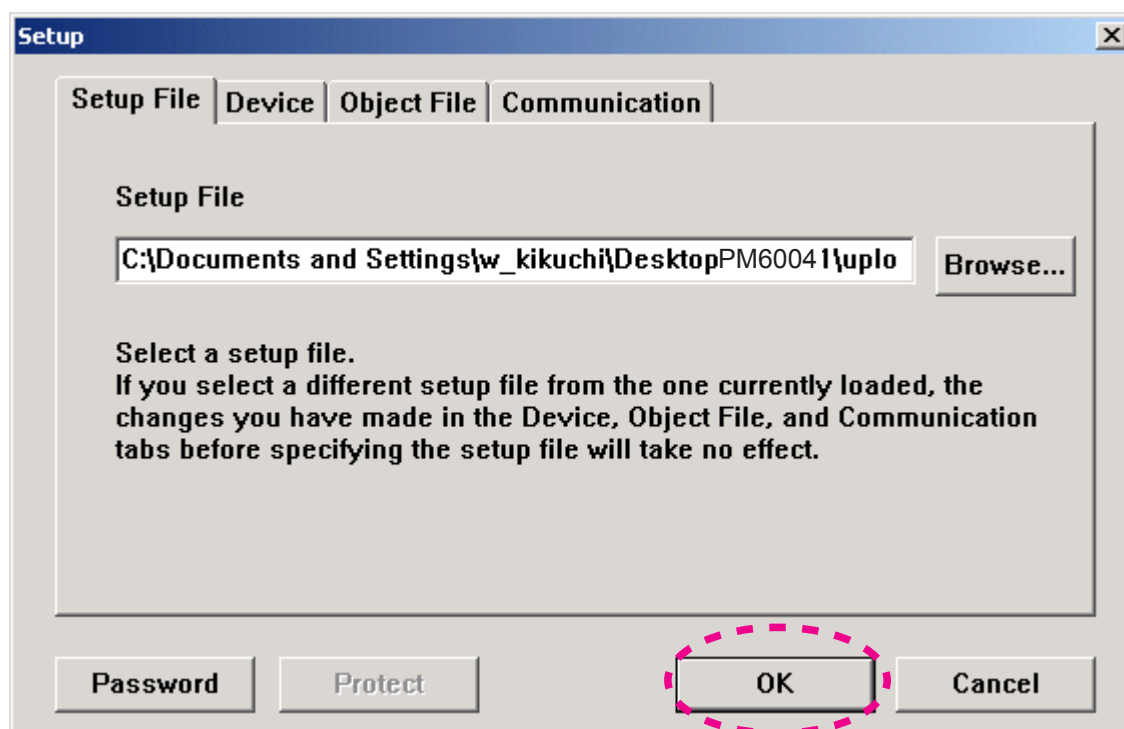
- (17) Click Browse....



(18) Choose FlashProg.ini in TM86FH47pass folder, and click Open.

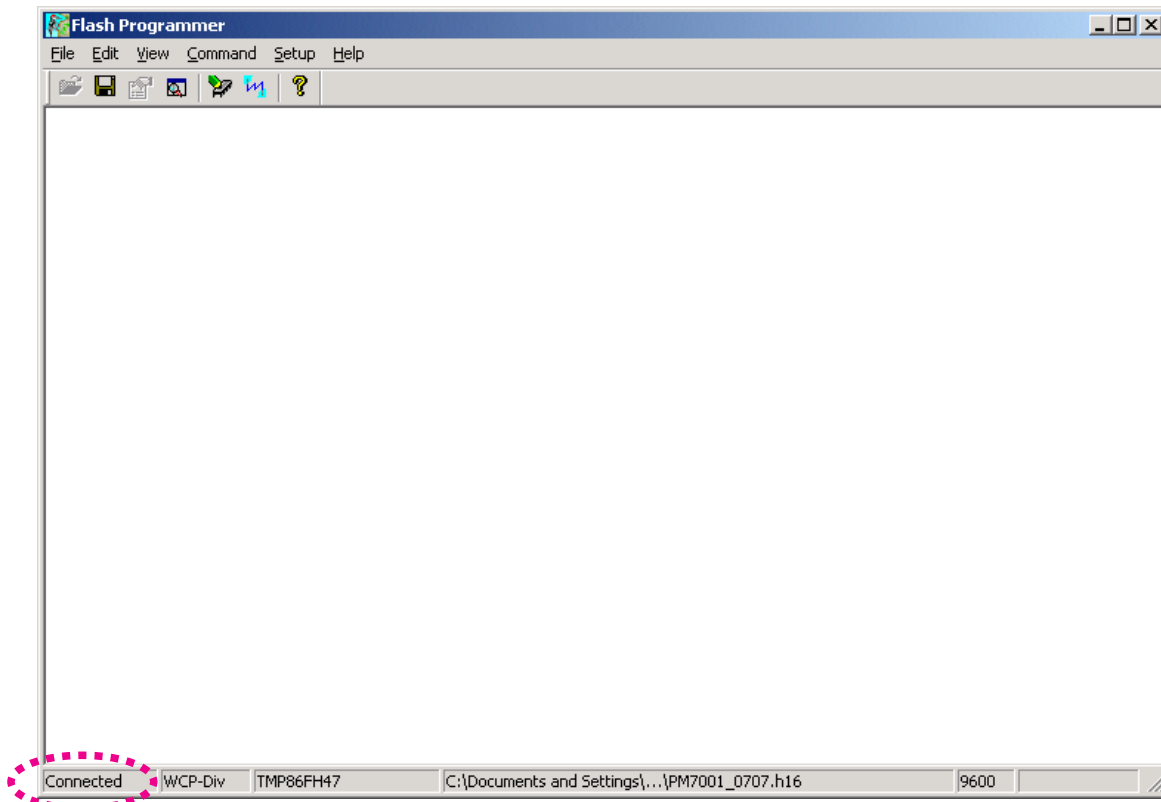


(19) Click OK.

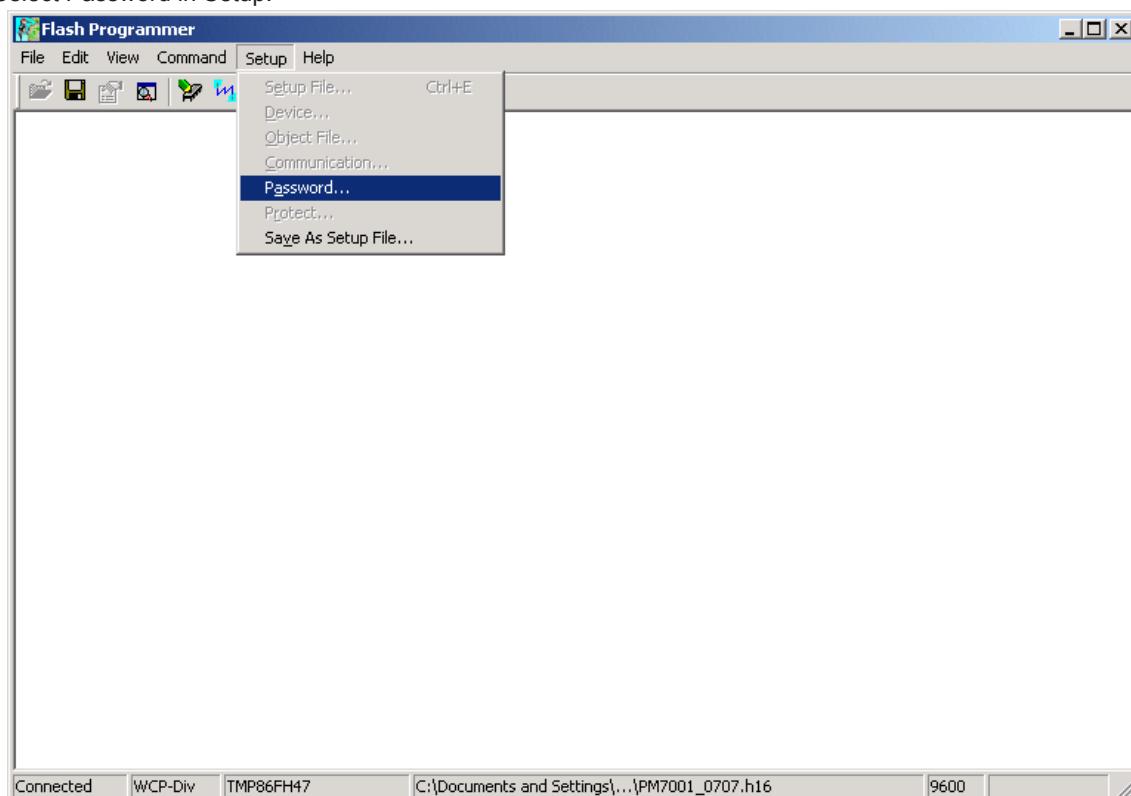


(20) Press the POWER ON/OFF button, and turn on the unit.

Status indication at lower left in Flash Programming window is changed to "Connected" from "Connecting".
When it did not changed, check the connection of FPC or RS-232C cable.



(21) Select Password in Setup.



(22) Setup Password opens.

Setup Password

Address Mode

☒ Single Chip Mode ☐ Single Boot Mode

Device Password

☐ Device is BLANK

Input Type ☒ Ascii ☐ Hex

Password

Password Character Number Address

Password Compare Start Address

Object File Password

Use Device Password

☐ BLANK Password

Input Type ☒ Ascii ☐ Hex

Password

Password Character Number Address

Password Compare Start Address

Help **OK** **Cancel**

- When writing in a blank microprocessor (Refer to next page).
- When writing (update) in the already written-in microprocessor (Refer to 25 page).

When writing in a blank microprocessor

Check Single Boot Mode in Address Mode.

Setting in Device Password

- Check Device is BLANK.
- Check Hex in input type.
- Since they are inputted automatically, please do not change text box of "Password", "Password Character Number Address" and "Password Compare Start Address".

Setting in Object File Password

- Do not check BLANK password.
- Check Hex in Input Type.
- Type 0102030405060708 into Password.
- Type 0xFF00 into Password Character Number Address.
- Type 0xFF01 into Password Compare Start Address.

Click OK.

The screenshot shows the 'Setup Password' dialog box with two main sections: 'Device Password' and 'Object File Password'. In the 'Device Password' section, 'Single Boot Mode' is selected under 'Address Mode', 'Device is BLANK' is checked, and 'Hex' is selected under 'Input Type'. The 'Object File Password' section has 'Use Device Password' selected, 'BLANK Password' is unchecked, and 'Hex' is selected under 'Input Type'. The 'Password' field in the Object File section contains '0102030405060708'. The 'Password Character Number Address' is '0xFF00' and the 'Password Compare Start Address' is '0xFF01'. The 'OK' button is highlighted. Red dashed boxes are drawn around the 'Single Boot Mode' radio button, the 'Device is BLANK' checkbox, the 'Hex' radio button in the Device Password section, the 'BLANK Password' checkbox, the 'Hex' radio button in the Object File Password section, the 'Password' text box, and the 'OK' button.

Setup Password

Address Mode

☐ Single Chip Mode ☒ Single Boot Mode

Device Password

☒ Device is BLANK

Input Type ☐ Ascii ☒ Hex

Password *****

Password Character Number Address 0xc000

Password Compare Start Address 0xc000

Object File Password

☒ Use Device Password

☐ BLANK Password

Input Type ☐ Ascii ☒ Hex

Password 0102030405060708

Password Character Number Address 0xFF00

Password Compare Start Address 0xFF01

Help OK Cancel

When writing in the already written-in microcomputer (update)

Check Single Boot Mode in Address Mode.

Setting in Device Password

- Check Device is BLANK.
- Check Hex in input type.
- Type 0102030405060708 into Password.
- Type 0xFF00 into Password Character Number Address.
- Type 0xFF01 into Password Compare Start Address.

Setting in Object File Password

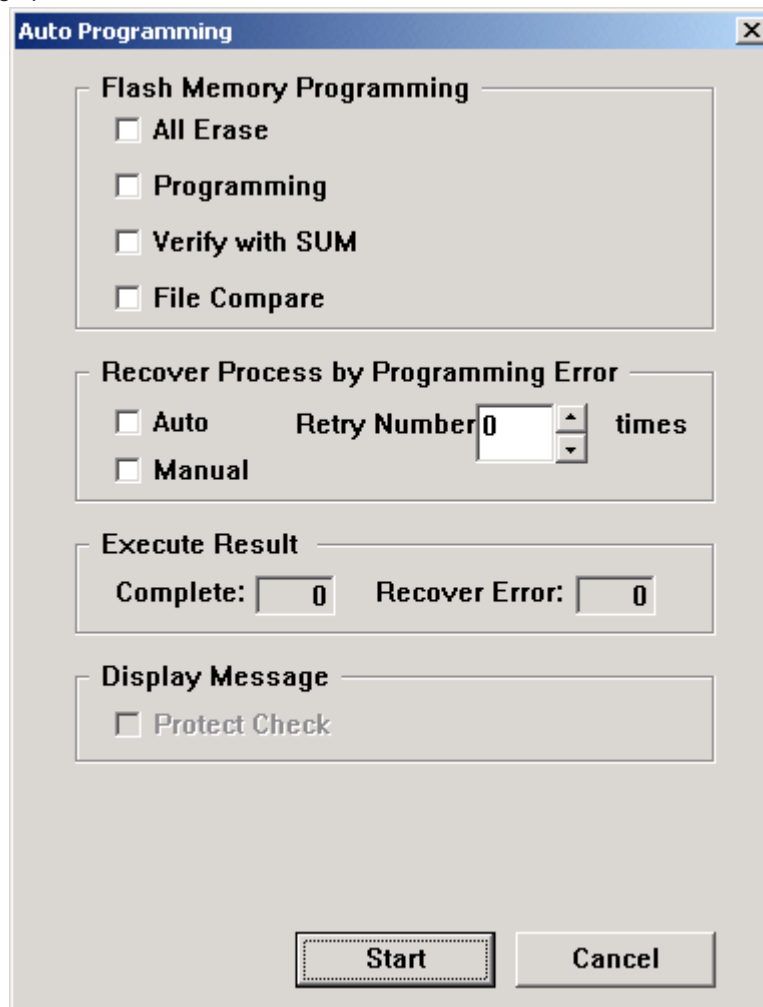
- Do not check BLANK password.
- Check Hex in Input Type.
- Type 0102030405060708 into Password.
- Type 0xFF00 into Password Character Number Address.
- Type 0xFF01 into Password Compare Start Address.

Click OK.

The screenshot shows the 'Setup Password' dialog box with the following settings highlighted by red dashed boxes:

- Address Mode:** ☒ Single Boot Mode
- Device Password:**
 - ☐ Device is BLANK
 - Input Type:** ☒ Hex
 - Password:** [*****]
 - Password Character Number Address:** 0xFF00
 - Password Compare Start Address:** 0xFF01
- Object File Password:**
 - ☐ BLANK Password
 - Input Type:** ☒ Hex
 - Password:** [*****]
 - Password Character Number Address:** 0xFF00
 - Password Compare Start Address:** 0xFF01
- Buttons:** The 'OK' button is highlighted.

(23) Auto Programming opens.



The image shows a software dialog box titled "Auto Programming". It contains several sections with checkboxes and input fields. The "Flash Memory Programming" section has four unchecked options: "All Erase", "Programming", "Verify with SUM", and "File Compare". The "Recover Process by Programming Error" section has two options: "Auto" and "Manual", both unchecked. Next to "Auto" is a "Retry Number" input field with the value "0" and a spin button, followed by the text "times". The "Execute Result" section has two input fields: "Complete:" with the value "0" and "Recover Error:" with the value "0". The "Display Message" section has one unchecked option: "Protect Check". At the bottom are two buttons: "Start" and "Cancel".

Auto Programming

Flash Memory Programming

- ☐ All Erase
- ☐ Programming
- ☐ Verify with SUM
- ☐ File Compare

Recover Process by Programming Error

- ☐ Auto Retry Number times
- ☐ Manual

Execute Result

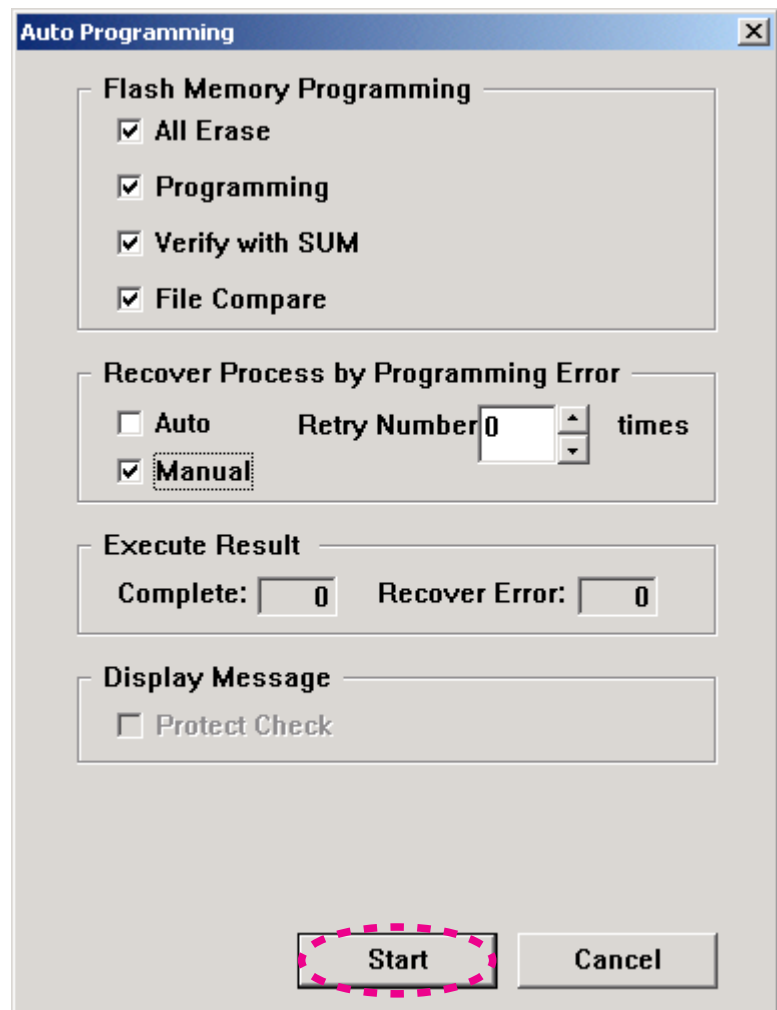
Complete: Recover Error:

Display Message

- ☐ Protect Check

Start **Cancel**

- (24) Check All Erase, Programming, Verify with SUM and File Compare in Flash Memory Programming.
Check Manual in Recover Process by Programming Error.
Click Start.



The image shows a software dialog box titled "Auto Programming". It contains several sections with checkboxes and input fields. The "Flash Memory Programming" section has four checked options: "All Erase", "Programming", "Verify with SUM", and "File Compare". The "Recover Process by Programming Error" section has "Auto" unchecked and "Manual" checked, with a "Retry Number" of 0. The "Execute Result" section shows "Complete" and "Recover Error" both at 0. The "Display Message" section has "Protect Check" unchecked. At the bottom, the "Start" button is highlighted with a red dashed rectangle, and the "Cancel" button is also visible.

Auto Programming

Flash Memory Programming

- ☒ All Erase
- ☒ Programming
- ☒ Verify with SUM
- ☒ File Compare

Recover Process by Programming Error

☐ Auto Retry Number times

☒ **Manual**

Execute Result

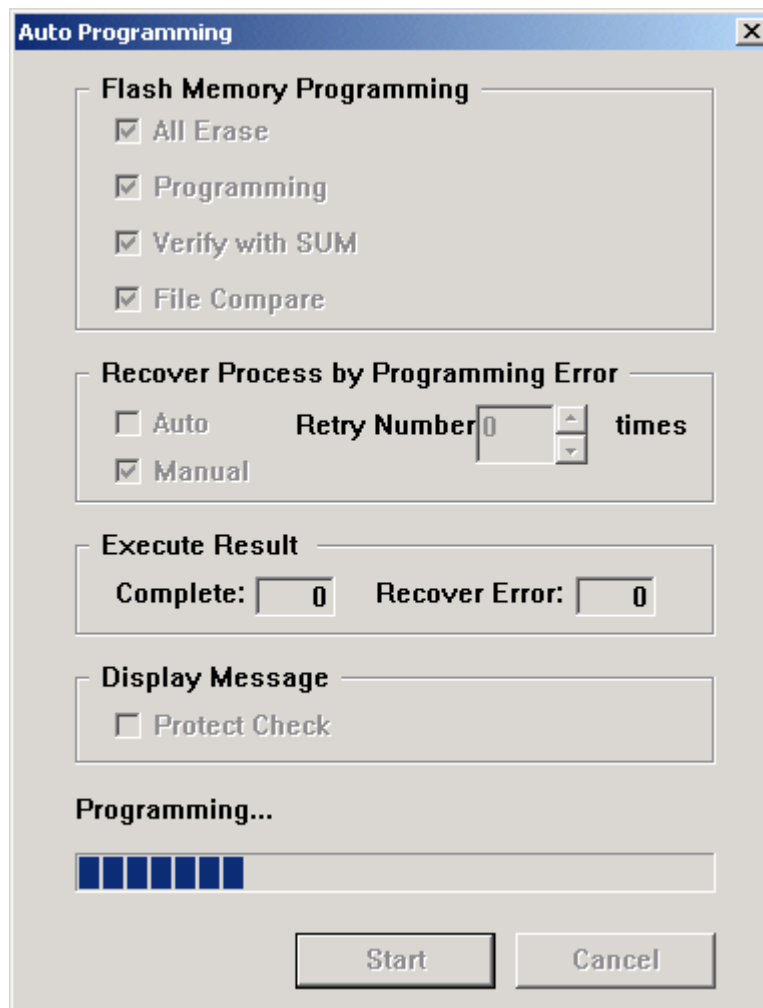
Complete: Recover Error:

Display Message

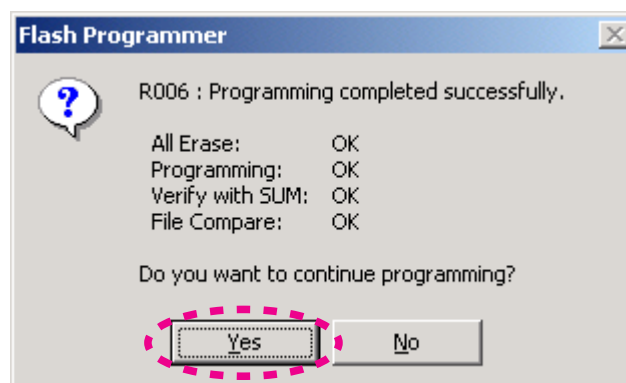
☐ Protect Check

Start **Cancel**

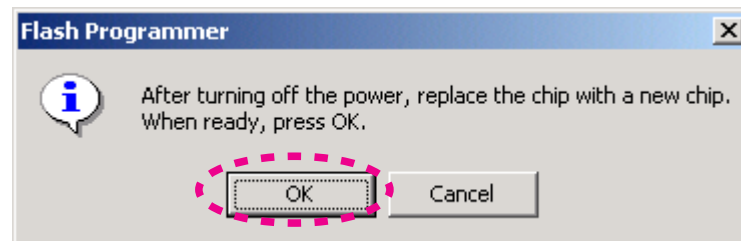
(25) Writing data is written into the microprocessor (U1001).



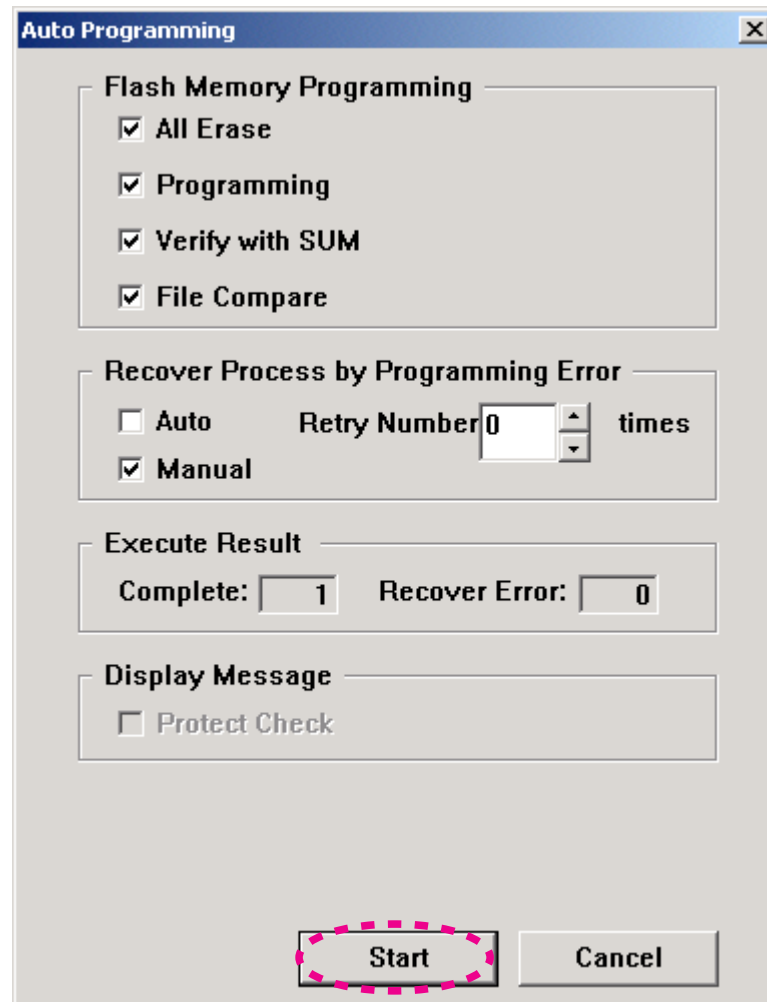
(26) Click Yes, when writing is successful.



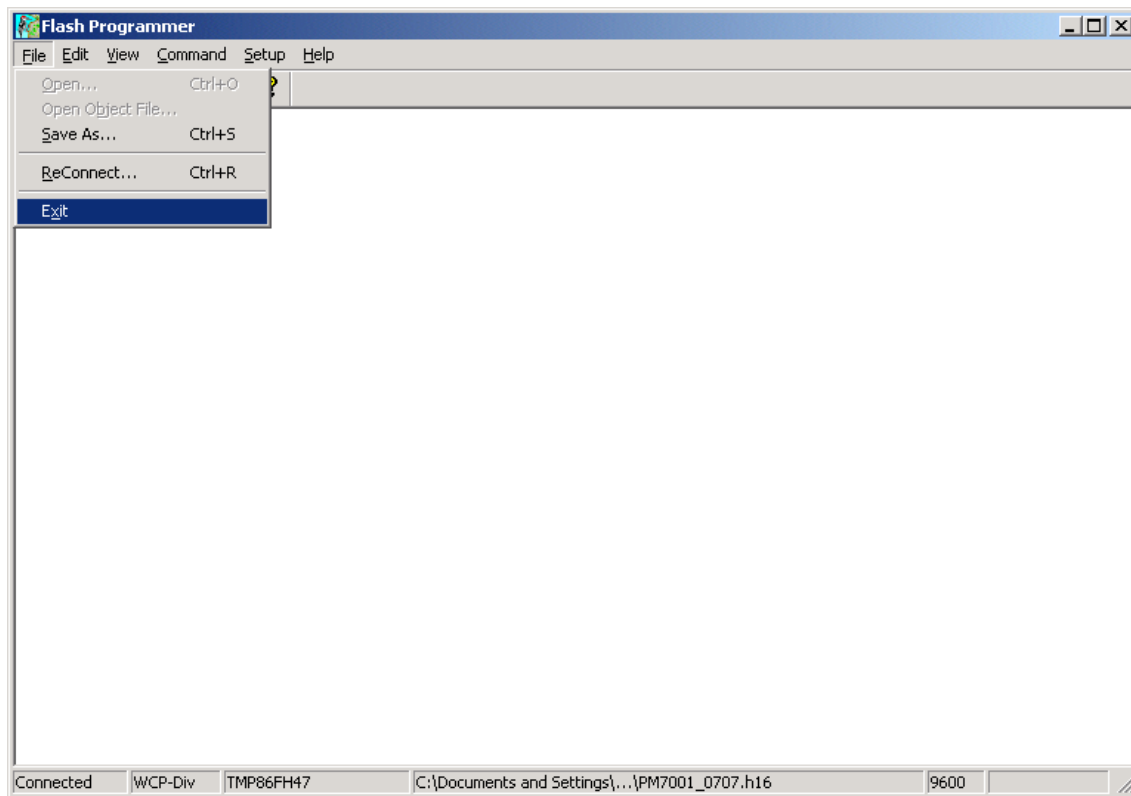
(27) Click Cancel.



(28) Click Cancel.



(29) Select the Exit in File, and finish.



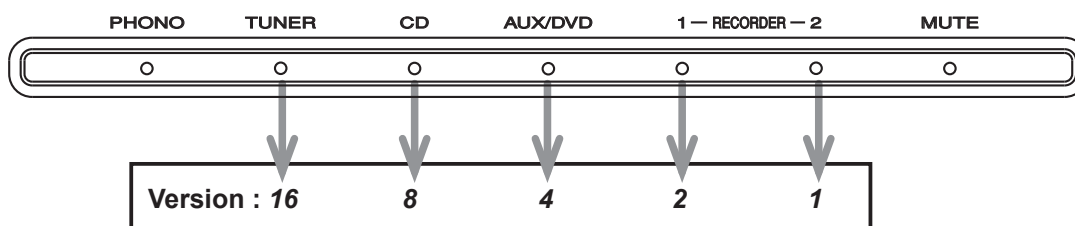
(30) Press the POWER ON/OFF button, and turn off the unit.
Disconnect each cable.

(31) Check the software version.
Refer to 31 "SERVICE MODE".

SERVICE MODE

Microprocessor (U1001) version chseck

- (1) Press the POWER button with pressing the SOURCE DIRECT button on the unit.
- (2) The firmware version is displayed on the front LED. (Display time is only for 3 seconds.)



The firmware version is displayed in the lighting position of LED.

Ex. :

- Light up RECORDER-2 [1], Version : 1
- Light up RECORDER-2 [1] and AUX/DVD [4], Version : 5
- Light up RECORDER-2 [1] and CD [8], Version : 9

- (3) Each LED light up then all LED light up.
- (4) Turn off the power to quit Service Mode. (The unit to the default status)

ADJUSTMENT

IDLING CURRENT ALIGNMENT

Adjusting Procedure

Set the power voltage to rated voltage for this adjustment.

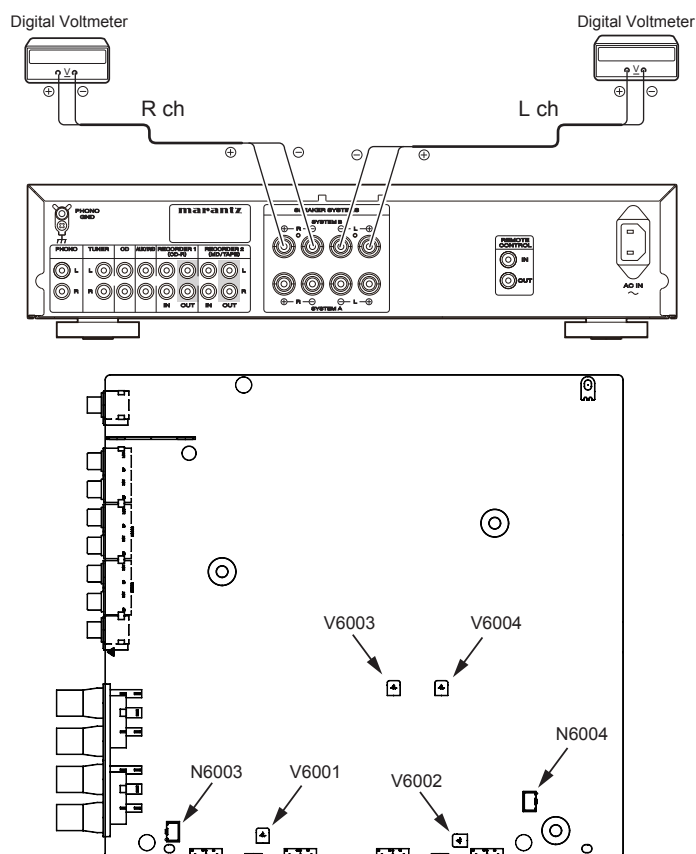
- (1) Adjust the Idling Current with the variable resistor V6001 and V6002 on the PWB 8U-110004-1.
- (2) Turn off the power.
- (3) "+" of Connect Digital Voltage is connected to the No. 1 pin and connected "-" to No. 3 pin of N6003.
- (4) "+" of Connect Digital Voltage is connected to the No. 1 pin and connected "-" to No. 3 pin of N6004.
- (5) Before turning on the power, V6001 and V6002 have been counter clockwise turned with the adjustment driver.
- (6) Turn on the power, VOLUME is set as $-\infty$.
- (7) After 2 minutes.
With seeing the digital voltage meter turn the variable resister clockwise slowly to adjust the idling current.
Idling adjustment with V6001 (V6002).
 - Turn V6001 (V6002) clockwise to increase the idling current.
 - The adjustment value of idling current is 10 mV(22.5 mA) $\pm$ 0.5 mV(1.1 mA) each.
- (8) After 6 minutes.
Repeat the same procedure as 7.
 - The adjustment value of idling current is 20 mV(45 mA) $\pm$ 0.5 mV(1.1 mA) each.

Adjustment is completed.

- (9) Remove connection cable, attach the top cover.

NOTE :Idling current decreases with the temperature rise inside the unit, and it is set to 20 mV (45 mA) of setting value in about 30 minutes after turn on the power.

DC OFFSET VOLTAGE ADJUSTMENT



Adjusting Procedure

DC Offset Voltage Adjustment

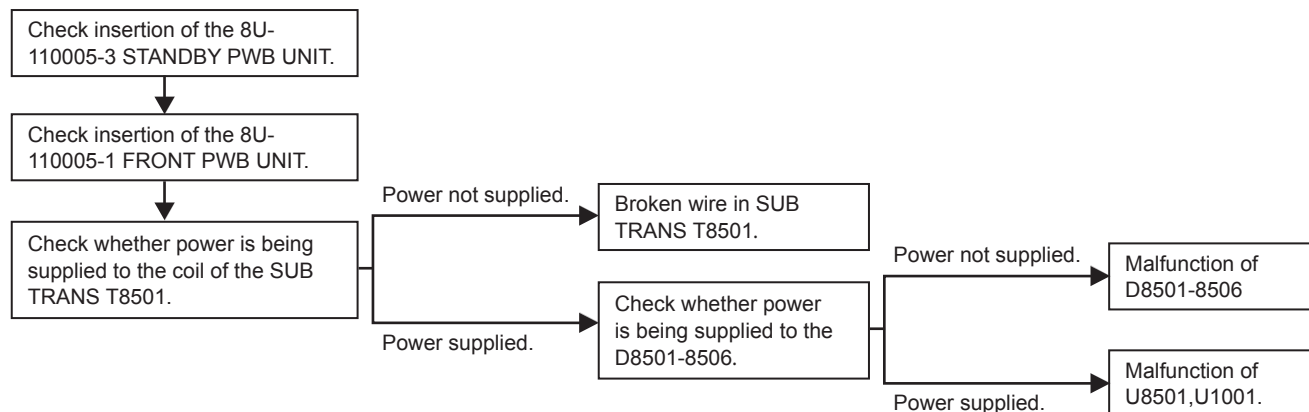
- (1) Before turning on the power, Insert Digital Voltage Meter between the SPEAKERS SYSTEM A (L CH) "+" and "-". Insert Digital Voltage Meter between the SPEAKERS SYSTEM A (R CH) "+" and "-".
- (2) Adjust the VOLUME to MIN.
- (3) Turn on the power. Then turn the SPAKERS SW to A.
Adjustment is started immediately after a speaker relay turns on.
- (4) First L CH is adjusted.
The variable resistor V6003 on 8U-110004-1 is turned with adjustment driver, and the Digital Voltage Meter is adjusted to "0 mV $\pm$ 3 mV".
- (5) Then, R CH is adjusted.
The variable resistor V6004 on 8U-110004-1 is turned with adjustment driver, and the Digital Voltage Meter is adjusted to "0 mV $\pm$ 3 mV".

NOTE :DC offset voltage drops when turn the semi-fixed resistor (V6003 and V6004) clockwise. DC offset voltage rises when turn the semi-fixed resistor un-clockwise. Please turn it slowly, because value of Digital Voltage Meter changes slowly.

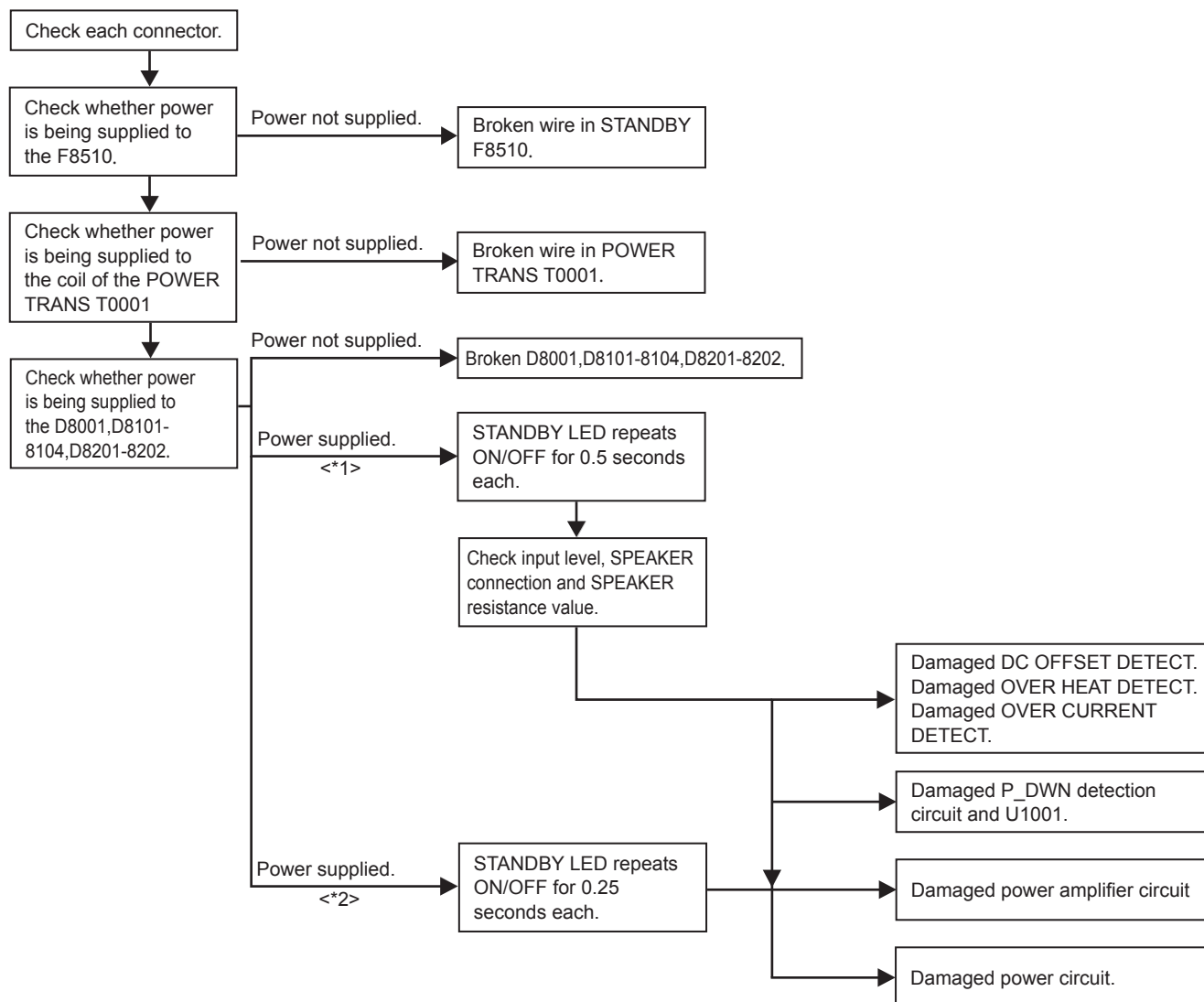
- (6) Although after-adjustment DC offset voltage has some change, Please check that the range of DC offset voltage between L ch (R ch) "+" and L ch (R ch) "-" terminal of SPEAKERS SYSTEM A is "0 mV $\pm$ 20 mV". CHART OF FACTORY MODE.

TROUBLE SHOOTING

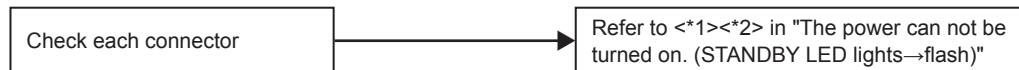
1. The power can not be turned on. (STANDBY LED does not light (STANDBY MODE))



2. The power can not be turned on. (STANDBY LED lights→flash)

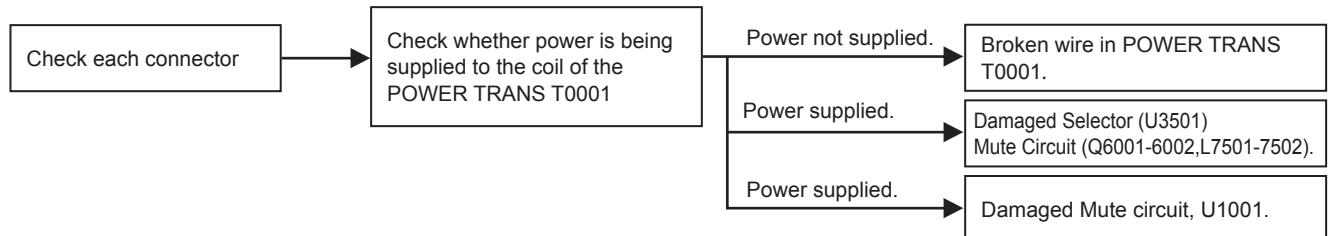


3. STANDBY LED flashes while using unit. (protection circuit is set)



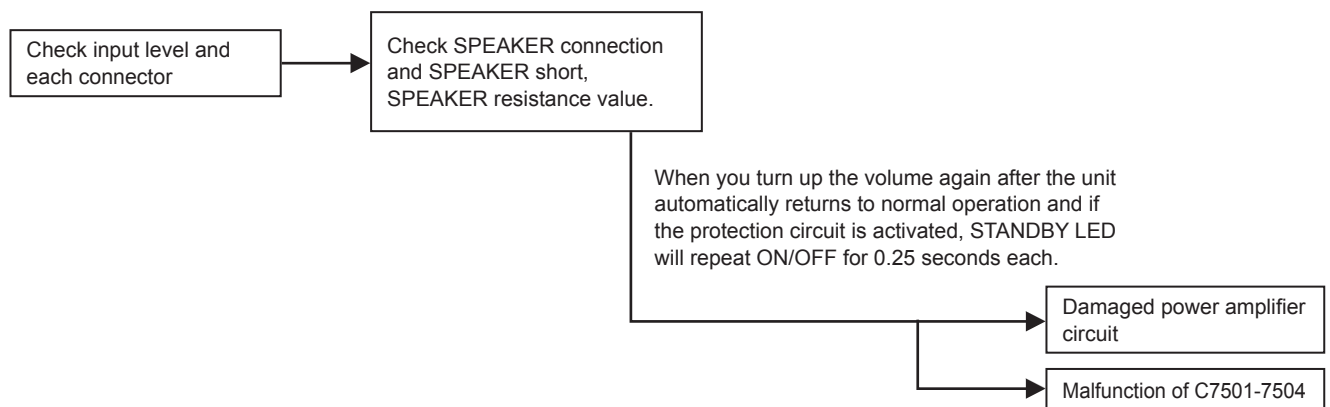
4. The power turned on, but a sound does not output normally. (Both channels)

4.1 STANDBY LED does not flash (protection mode is not set)



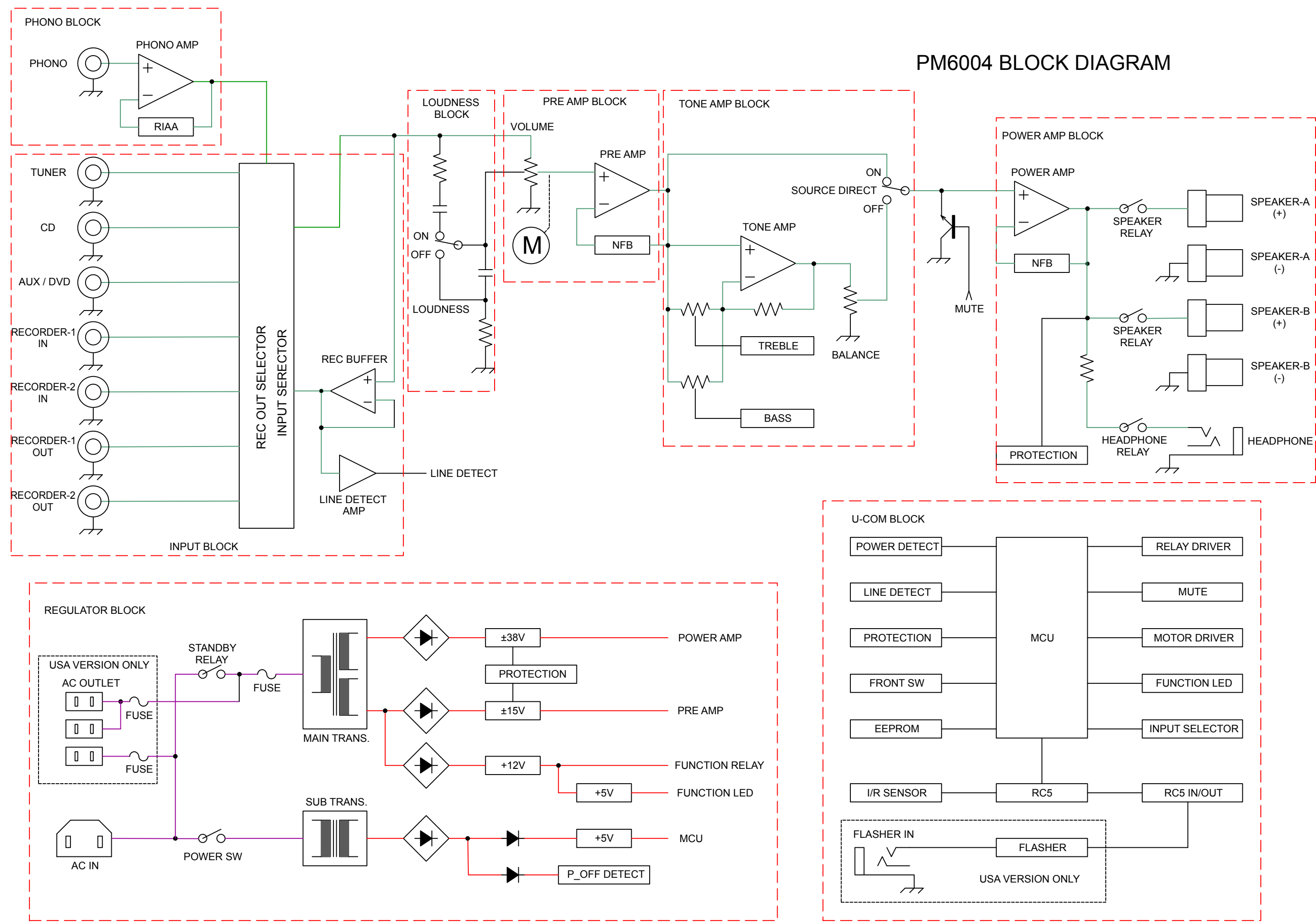
4.2 When the volume is turned up, Mute LED flashes. (protection mode is set)

Repeats ON/OFF for 0.5 second each, and automatically returns to normal operation.



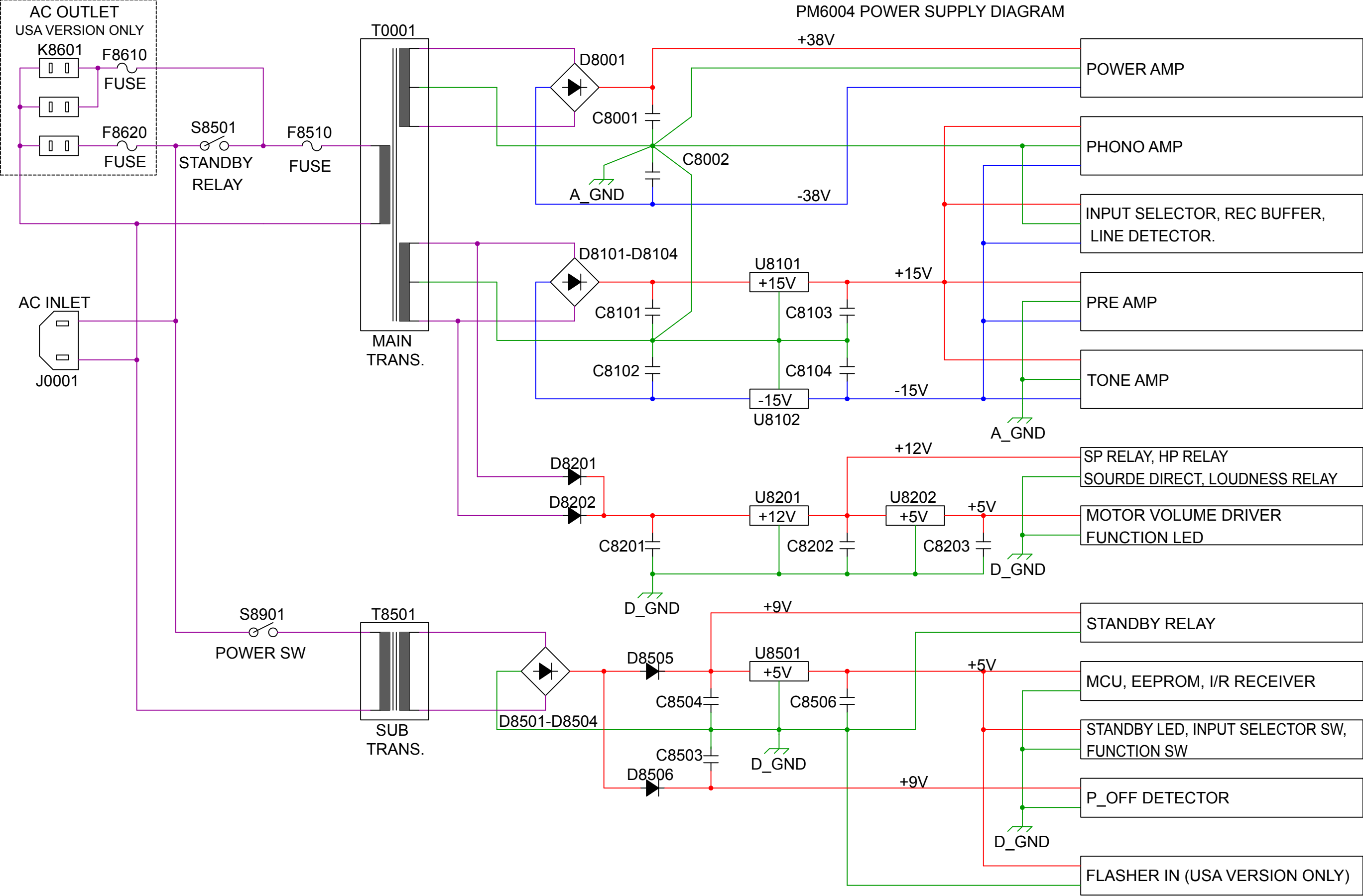
[illegible]

BLOCK DIAGRAM

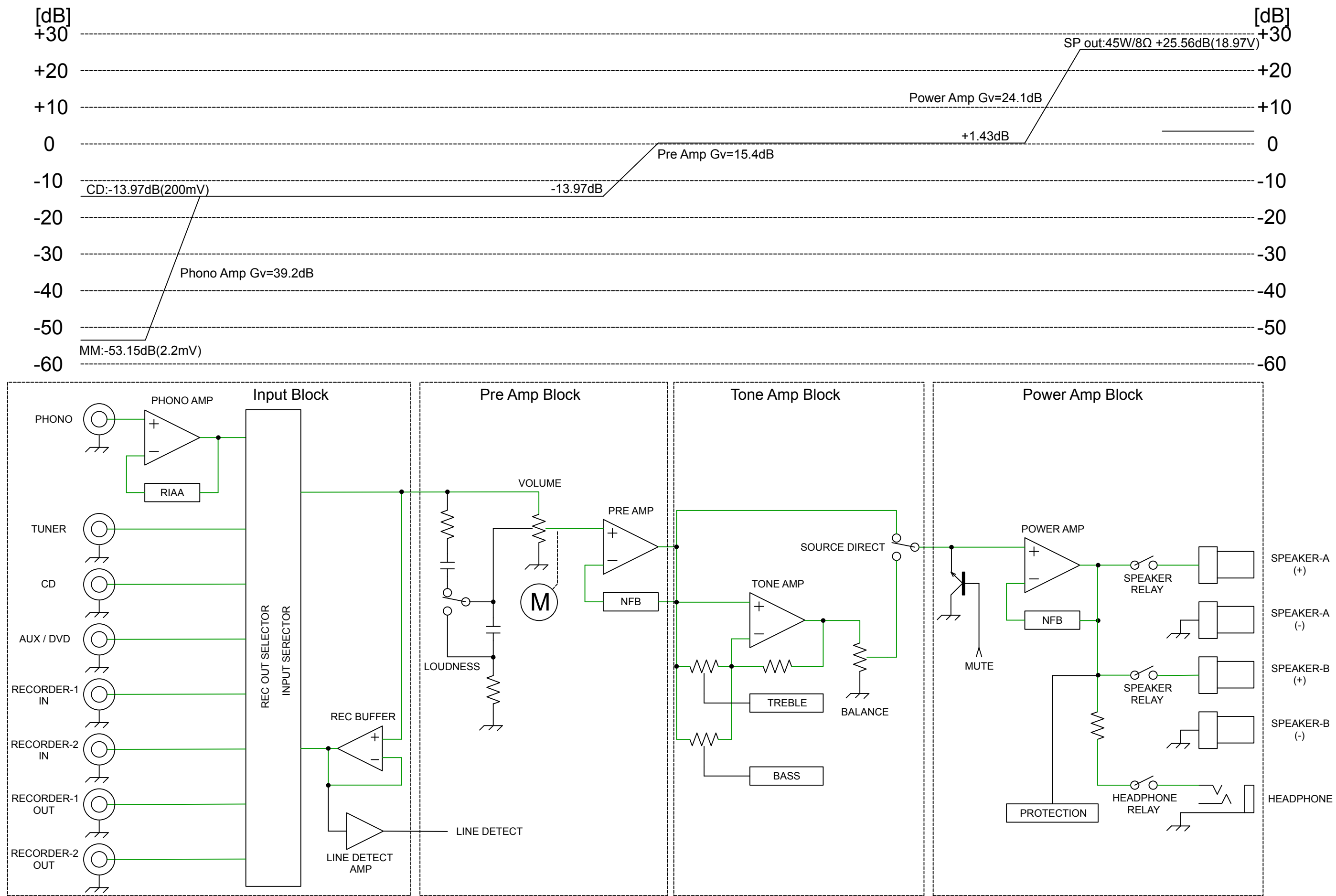


PM6004 BLOCK DIAGRAM

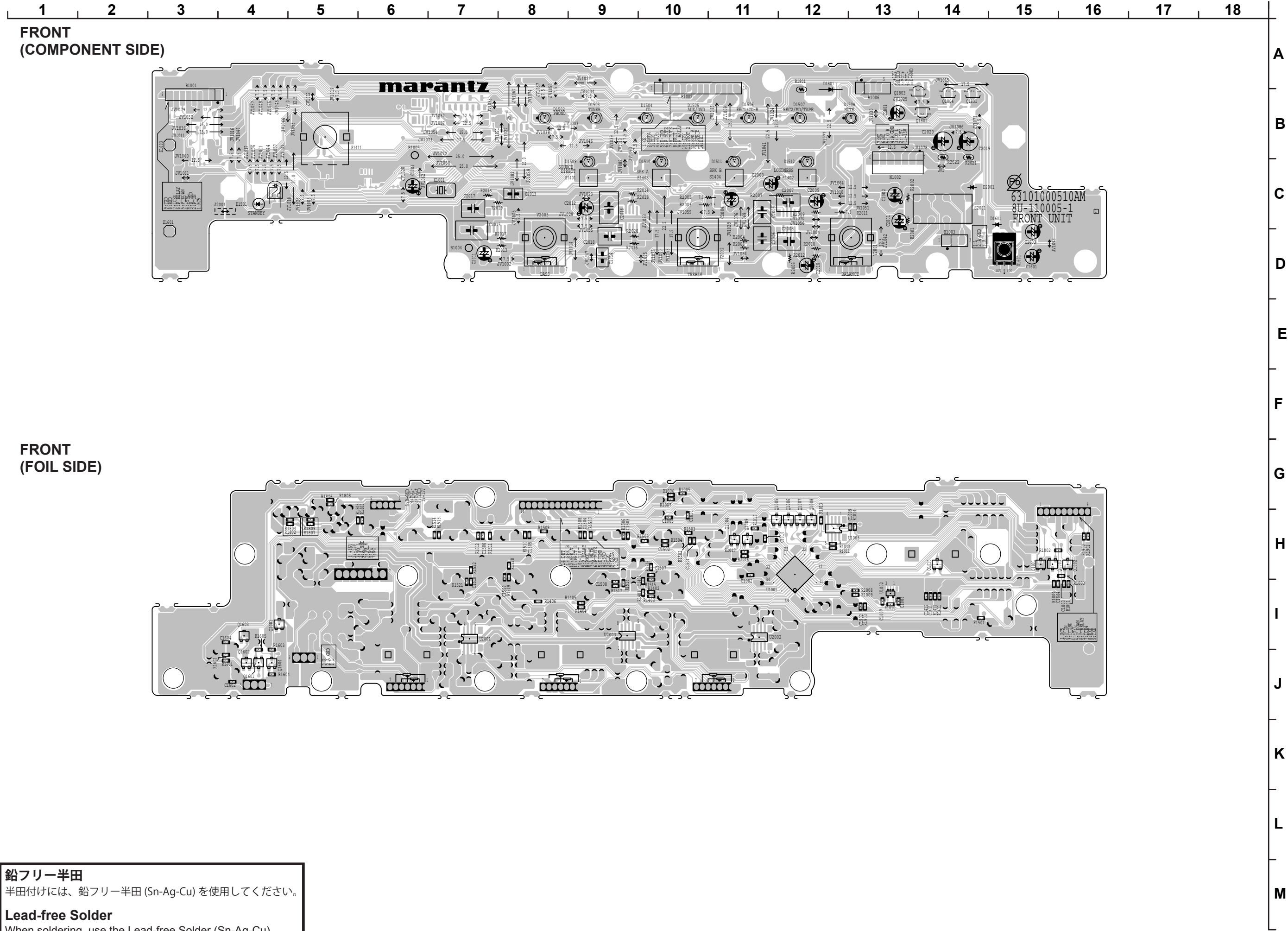
POWER SUPPLY BLOCK DIAGRAM



LEVEL DIAGRAM



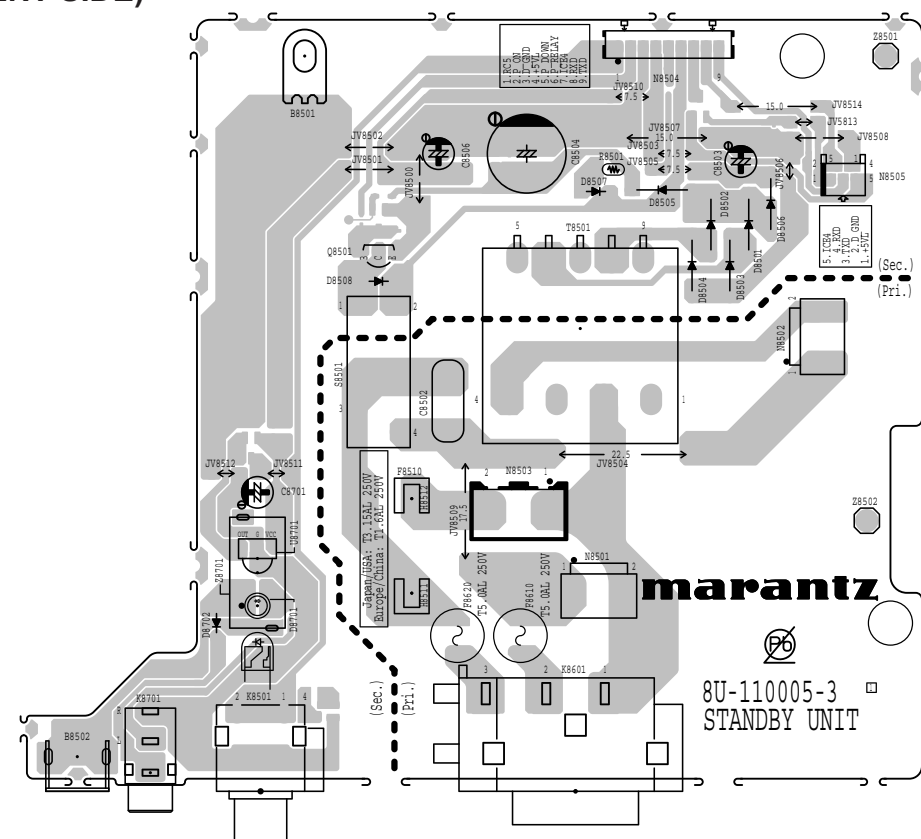
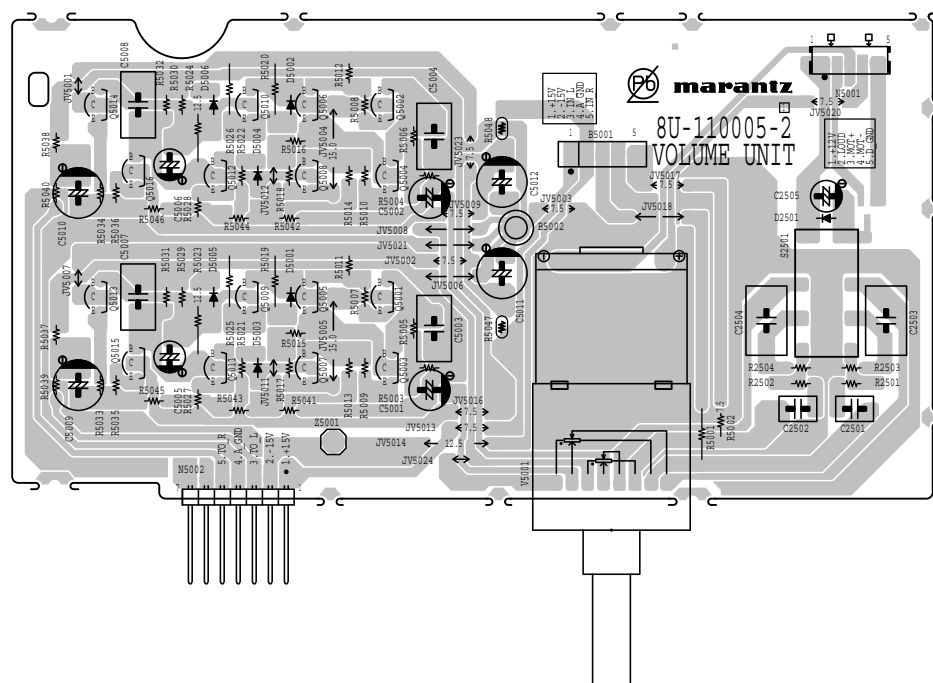
PRINTED WIRING BOARDS



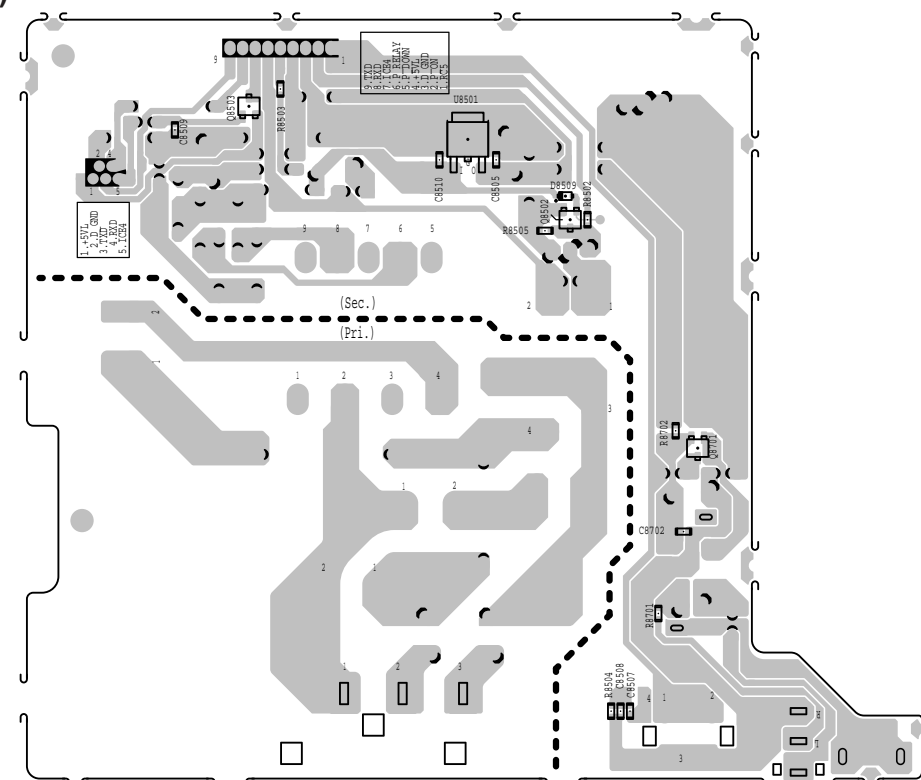
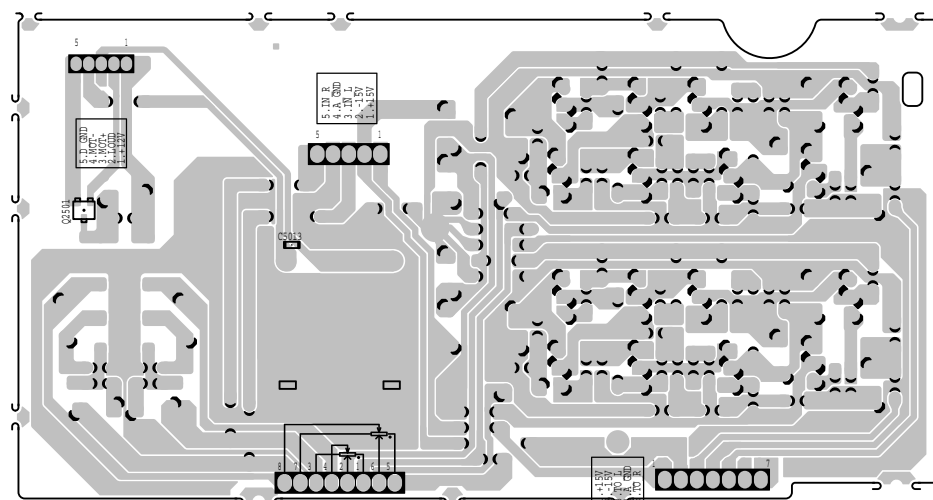
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

STANDBY (COMPONENT SIDE)

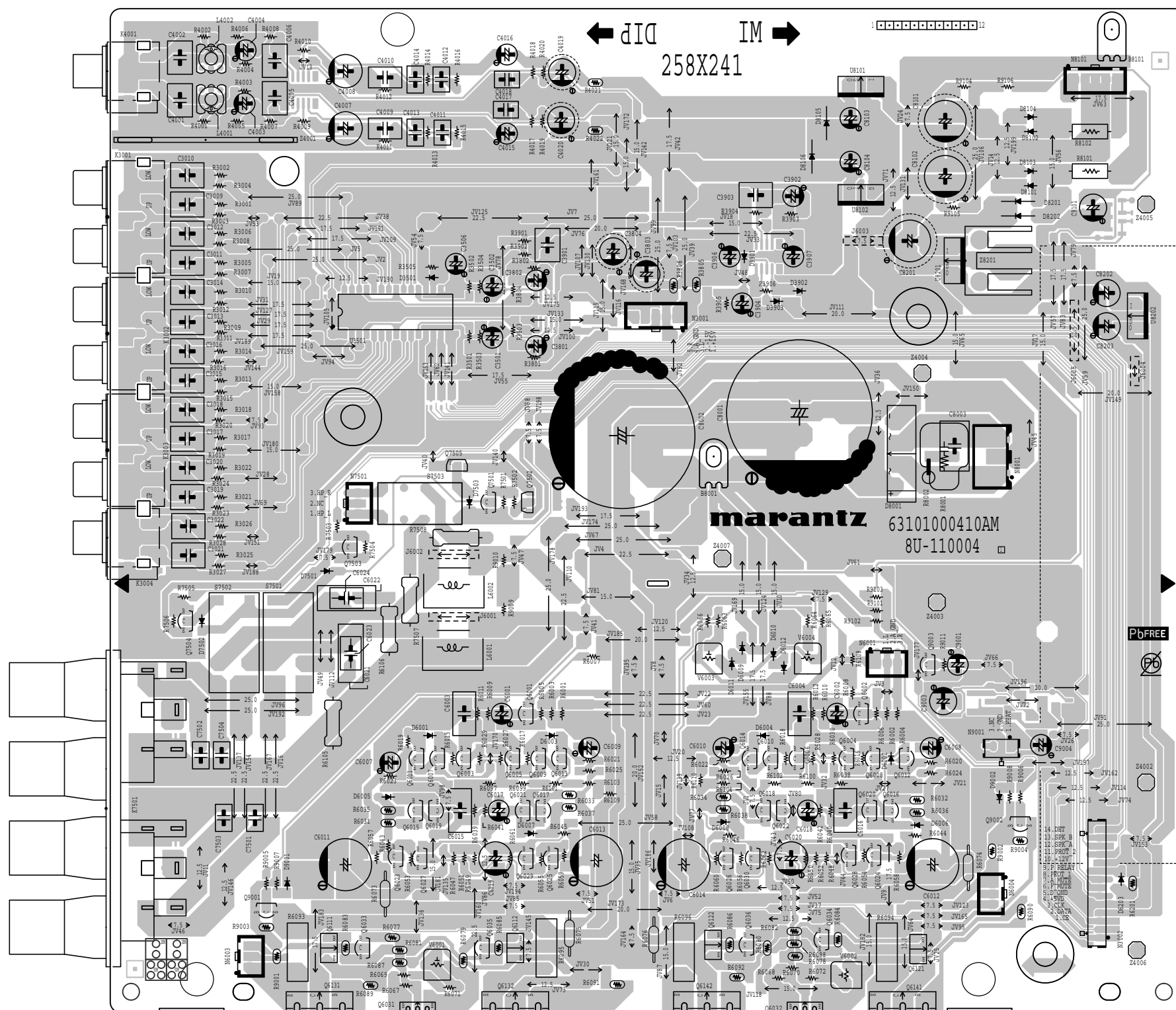


**STANDBY
(FOIL SIDE)**



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

MAIN
(COMPONENT SIDE)

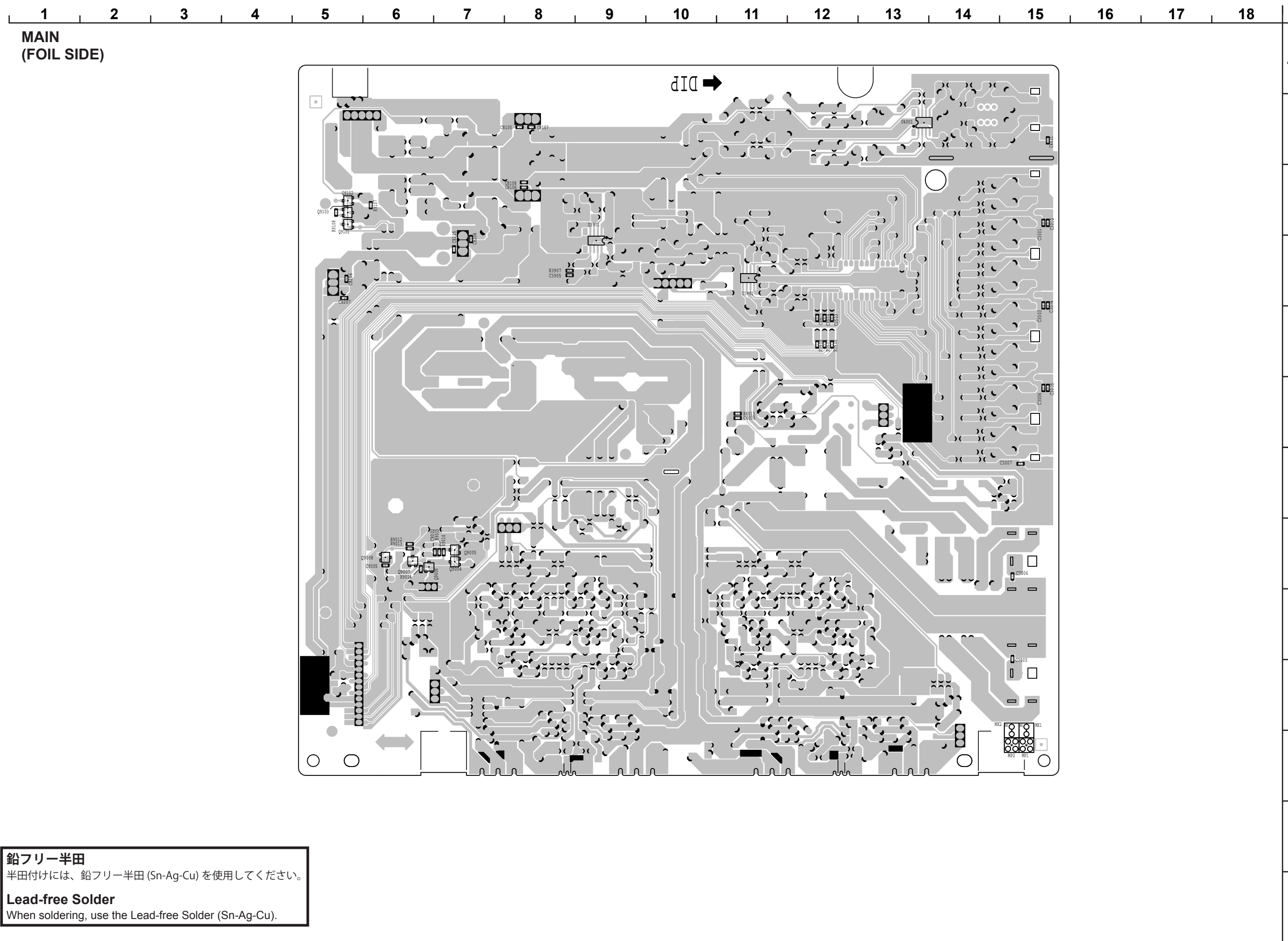


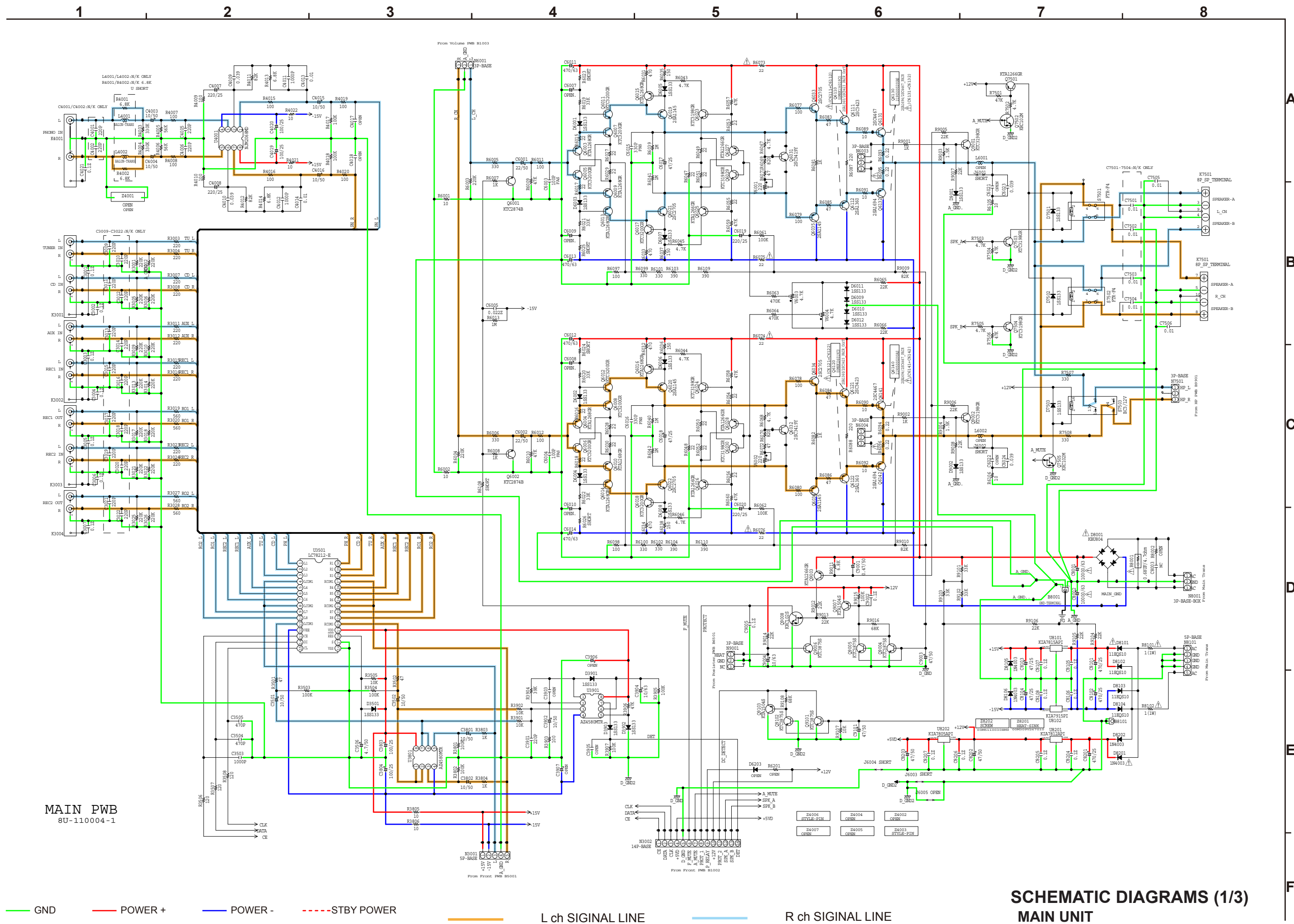
鉛フリー半田

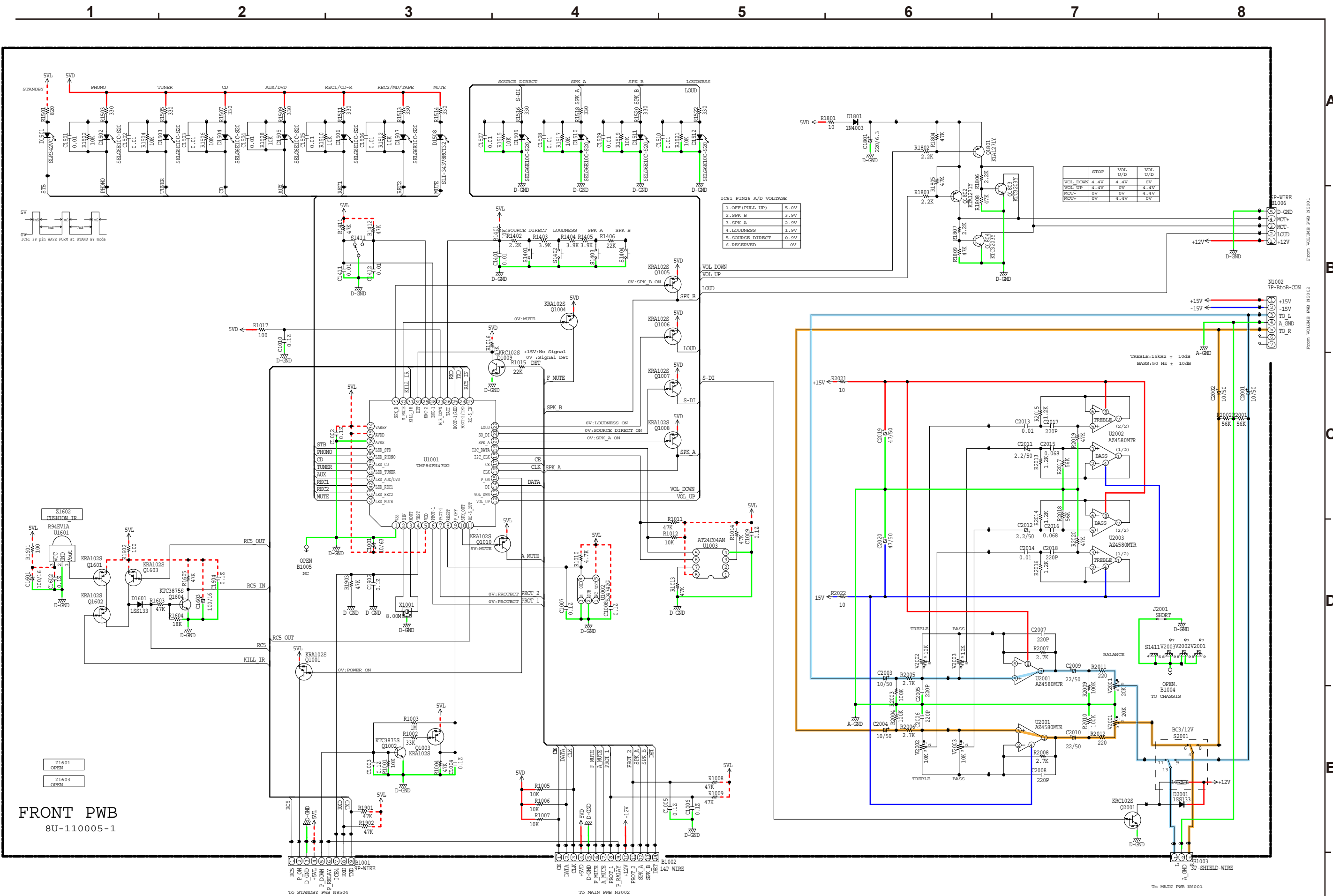
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder

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

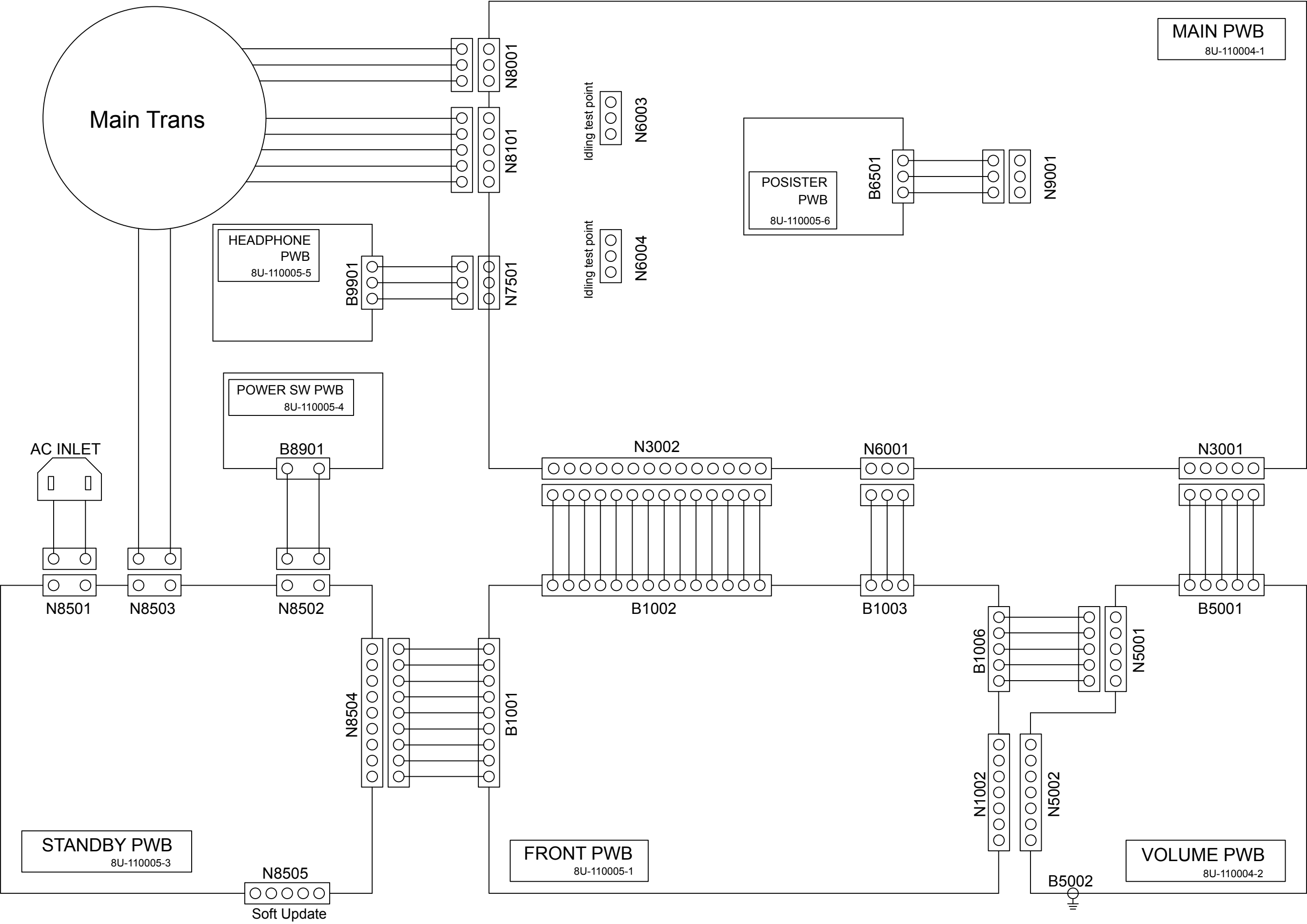






— GND
 — POWER +
 — POWER -
 --- STBY POWER
 — L ch SIGNAL LINE
 — R ch SIGNAL LINE

WIRING DIAGRAM



This exploded view diagram illustrates the assembly of a server chassis. The main components and their assembly points are as follows:

- Top Cover (34):** The main upper enclosure with ventilation slots. It is secured by screws (S2) and includes a front panel (38) and a rear panel (39).
- Front Panel (38):** The front-facing cover with ventilation slots, secured by screws (S2).
- Rear Panel (39):** The rear-facing cover with ventilation slots, secured by screws (S2).
- Base Chassis (21):** The main lower enclosure with ventilation slots. It is secured by screws (S1) and includes a front panel (37) and a rear panel (36).
- Internal Components:**
 - Power Supply (27):** A large cylindrical unit mounted on the base chassis.
 - Control Panel (19):** A panel with various buttons and indicators, secured by screws (S1).
 - Expansion Slots (16):** A panel with multiple slots for expansion cards, secured by screws (S1).
 - Expansion Cards (14, 15, 17, 18):** Various cards that fit into the expansion slots, secured by screws (S1).
 - Connectors (12, 13, 14, 15, 17, 18):** Various connectors and cables for external connections, secured by screws (S1).
 - Internal Mounting Brackets (20, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39):** Various brackets and mounting hardware for internal components, secured by screws (S1).
- Assembly Points:** The diagram shows the locations for screws (S1, S2), pins (P1, P2), and other fasteners used to assemble the components.

49

[illegible]

This image shows a full page of blank white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page, providing a guide for writing. There are no margins, text, or other markings on the paper.

PARTS LIST OF EXPLODED VIEW

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

*P.W.B. ASS'Y indicated by "nsp" on this table cannot be supplied. When repairing the P.W.B. ASS'Y, check the board parts list and order replacement parts.

*Parts indicated by the "★" mark are not illustrated in the exploded view.

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

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

U : North America model

N : Europe model

K : China model

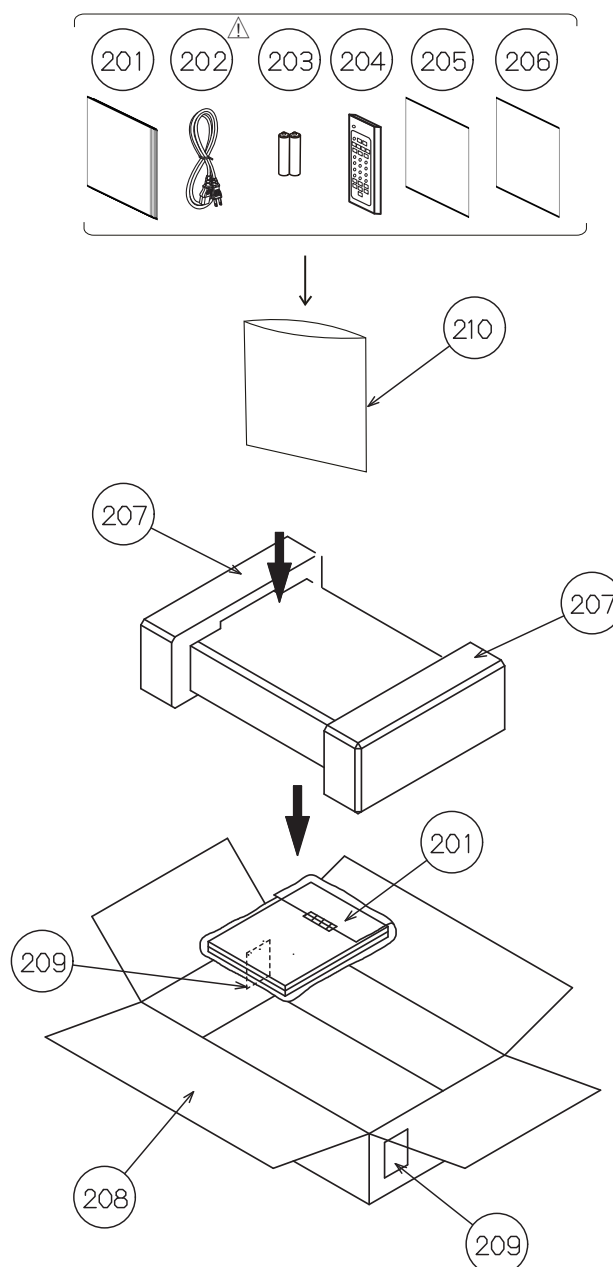
B : Black model

SG : Silver gold model

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	25	nsp	MAIN PWB ASSY	N,K	1	*
	25	nsp	MAIN PWB ASSY	U	1	*
	A	nsp	FRONT PWB ASSY	N,K	1	*
	A	nsp	FRONT PWB ASSY	U	1	*
	14	-	POWER SW PWB UNIT			
	15	-	HEADPHONE PWB UNIT			
	18	-	FRONT PWB UNIT			
	19	-	VOLUME PWB UNIT			
	29	-	STANDBY PWB UNIT			
	1	421410006004M	MARANTZ BADGE (AL) FOR M1 MODEL		1	
	2	41651000300AM	WINDOW FUNCTION PM6004		1	
	3	412510059003M	TONE KNOB BL PM7004 A334	N1B,U1B,K1B	3	
	3	412510059034M	TONE KNOB SG PM7004 A334	N1SG	3	
	4	40241001600AM	FRONT AL PANEL BL PM6004	N1B,U1B,K1B	1	*
	4	40241001601AM	FRONT AL PANEL SG PM6004	N1SG	1	*
	5	nsp	FRONT CENTER MOLD BL PM6004	N1B,U1B,K1B	1	
	5	nsp	FRONT CENTER MOLD SG PM6004	N1SG	1	
	6	402510154000M	CGW3A467RNXB37 ESC. L BL PM5004 A333	N1B,U1B,K1B	1	
	6	402510154031M	CGW3A467ROWD10 ESC. L SG PM5004 A333	N1SG	1	
	7	40251001700AM	ESCUTCHEON R BL PM6004	N1B,U1B,K1B	1	
	7	40251001701AM	ESCUTCHEON R SG PM6004	N1SG	1	
	8	42451000200AM	RING VOLUME BL PM6004	N1B,U1B,K1B	2	
	8	42451000201AM	RING VOLUME SG PM6004	N1SG	2	
	9	41201000200AM	KNOB AL CAP BL PM6004	N1B,U1B,K1B	1	
	9	41201000201AM	KNOB AL CAP SG PM6004	N1SG	1	
	10	41201000300AM	KNOB AL CAP POINTER BL PM6004	N1B,U1B,K1B	1	
	10	41201000301AM	KNOB AL CAP POINTER SG PM6004	N1SG	1	
	11	481510004009M	LENS IR BL PM7003 24AJ	N1B,U1B,K1B	1	
	11	481510004047M	LENS IR WH PM7003 24AJ	N1SG	1	
	12	481510003006M	LENS		1	
	13	411510027003M	BUTTON PUSH BL PM7003 24AJ	N1B,U1B,K1B	1	
	13	411510027034M	BUTTON PUSH SG PM7003 24AJ	N1SG	1	
	16	nsp	LENS FUNCTION A349		1	
	17	41151000200AM	BUTTON BL PM6004	N1B,U1B,K1B	1	
	17	41151000201AM	BUTTON SG PM6004	N1SG	1	
	20	nsp	FRONT FRAME		1	
	21	nsp	MAIN CHASSIS PM6004 A349		1	
	22	nsp	BUFFER		2	
	23	00M243W057210	FOOT SL		4	
	24	nsp	HOLDER h119		2	
	26	45351000200AM	CAP PM6004 A349	N,K	8	
△	27	10101000600AM	POWER TRANS (U) A349	U	1	*

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
⚠	27	10101000500AM	POWER TRANS (N) A349	N,K	1	
	28	nsp	HOLDER h5		2	
	30	00M32CW107010	CUSHION FOOT CHG1A360		4	
	31	nsp	REAR PANEL PM6004 (U)	U	1	*
	31	nsp	REAR PANEL PM6004 (N)	N	1	*
	31	nsp	REAR PANEL PM6004 (K)	K	1	*
	32	48801000200AM	Terminal PHONO		1	
⚠	33	00D2033996008	AC INLET (2P)		1	
	34	40331000300AM	TOP COVER BL PM6004	N1B,U1B,K1B	1	
	34	40331000301AM	TOP COVER SG PM6004	N1SG	1	
	35	nsp	RUBBER PM6004 A349		2	
	36	nsp	LABEL (HOT SURFACE CAUTION)		1	
	37	00M14AJ107010	TOP COVER SHEET		3	
	38	44551000200AM	SHEET TOP BL PM6004 A349	N1B,U1B,K1B	1	
	38	44551000201AM	SHEET TOP SG PM6004 A349	N1SG	1	
	39	45451000500AM	STOPPER TOP BL PM6004 A349	N1B,U1B,K1B	2	
	39	45451000501AM	STOPPER TOP SG PM6004 A349	N1SG	2	
	40	nsp	MAIN HEATSINK PM6004 A349		1	
	41	nsp	HEATSINK BRACKET F PM6004		1	
	42	nsp	HEATSINK BRACKET R PM6004		1	
	44	419510012005M	MASK TOP LID REAR		1	
	★ 45	00D4458004007	WIRE CLAMPER		9	
SCREWS						
	S1	nsp	SCREW		51	
	S2	nsp	SCREW	BK	6	
	S2	nsp	SCREW (SELF TAPPING)	SG	6	
	S3	nsp	B.T.SCREW EX600240		2	
	S4	nsp	SCREW		7	
	S5	nsp	SCREW		3	
	S6	nsp	SCREW		13	
	S7	nsp	SCREW		4	
	S8	nsp	SCREW		2	
	S9	nsp	SCREW		4	
	S10	nsp	SCREW		4	
	S11	nsp	4X6 CBTS (S)-B		4	
WIRES						
	★ W0002	0120109160060	VAR-NO CN7.92MMPICH1PIN:BR.2PIN:BL10CM		1	

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

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

*Parts indicated by the "★" mark are not illustrated in the exploded view.

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

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

U : North America model

N : Europe model

K : China model

B : Black model

SG : Silver gold model

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	201	54111000202AM	USER MANUAL PM6004 (U) A349	U	1	*
	201	54111000200AM	USER MANUAL PM6004 (N) A349	N	1	*
	201	54111000205AM	USER MANUAL PM6004 (K) A349	K	1	*
△	202	00MZC01803100	# AC CORD UL/CSA 10A 125V	U	1	
△	202	00MZC01803080	# 2P AC CORD 10A 250V CLASS2	N	1	
△	202	00D2062249001	AC CORD (E1C)	K	1	
	203	nsp	BATTERY(R03X2)		1	
	204	307010030006M	RC003PM		1	
	205	nsp	WARRANTY USA	U	1	

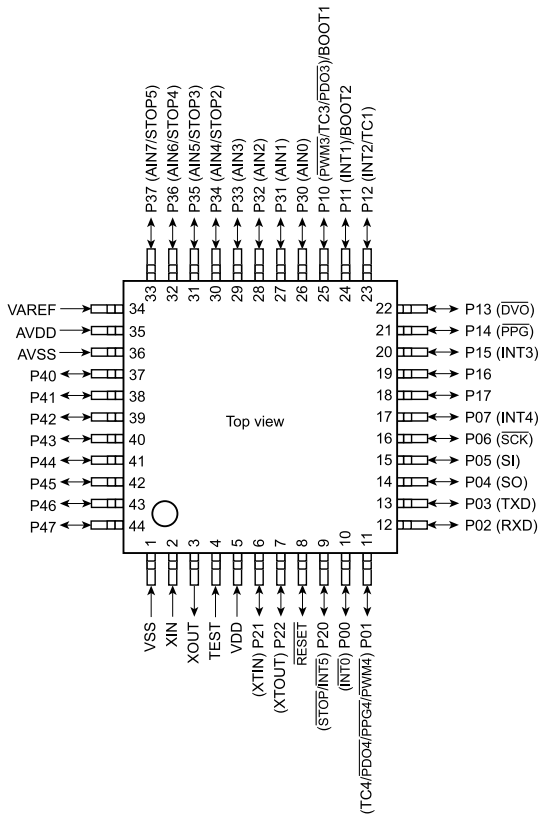
	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	206	nsp	WARRANTY CANADA	U	1	
	207	53361000800AS	CUSHION		2	*
	208	53121000800AM	PACKING CASE PM6004 A349		1	*
	209	nsp	CONT.LABEL BASE(D&M)		1	
	★ 210	nsp	POLYETHY BAG		1	
	★ 211	nsp	CABINET COVER		1	
	★ 212	nsp	CLEAR LABEL(44X12 T0.05)	U	1	
	★ 213	nsp	LABEL FOR PKG SG	N1SG	2	

SEMICONDUCTORS

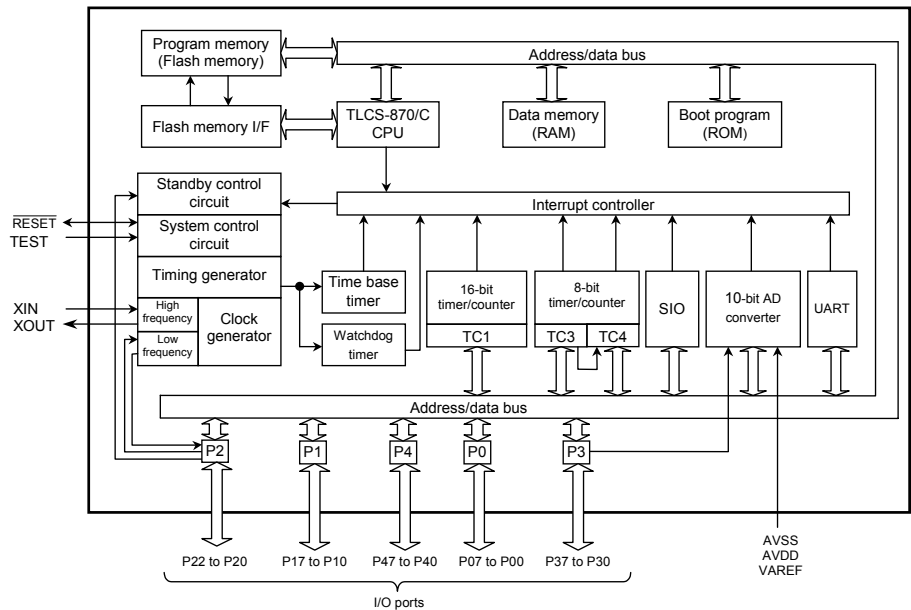
Only major semiconductors are shown. General semiconductors etc. are omitted from list.
The semiconductors which have a detailed drawing in a schematic diagram are omitted from list.

1. IC's

ETMP86FH47UG (U1001)



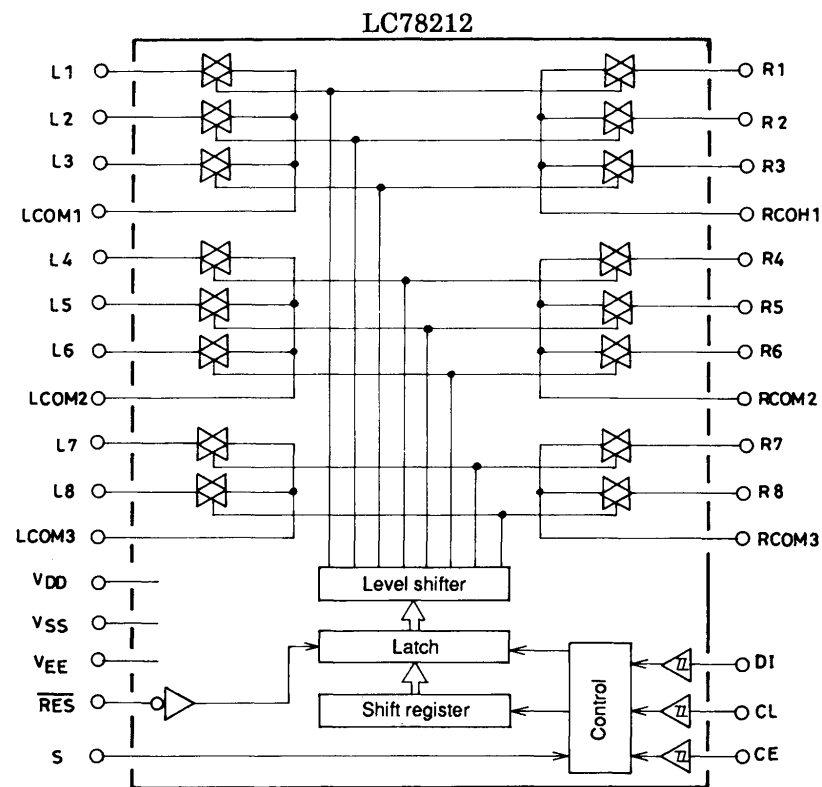
Block Diagram



Terminal Functions

Pin	Port Name	I/O	Use	Name	Port Setting				Note
					ACT	INIT	STBY	EXT.R	
1	VSS	-	-		-	-	-	-	0 V
2	XIN	-	-		-	-	-	-	8M Clock in
3	XOUT	-	-		-	-	-	-	8M Clock out
4	TEST	I	I		H	-	L	47k	L->H : PROM Mode(Program rewriting)
5	VDD	-	-	VDD	-	-	-	-	u-com power supply 5V
6	P21 (XTIN)	I/O	I	PROT-1	L	-	H	47k	PROTECT_1: DC Offset / Over Current / Over Current
7	P22 (XTOUT)	I/O	I	PROT-2	L	-	H	47k	PROTECT_2: Vol.tage Abnormal Detect
8	RESET	I/O	I		L	-	H	4.7k	u-com Reset connector
9	P20 (STOP/INT5)	I/O	I	P_OFF	L	-	H	47K	Detect Power Down(primary power supply ON/OFF detection). Oveserve at power supply cutting, Interrupt input
10	P00 (INT0)	I/O	O	SPK_OUT	L	H	H	-	Speaker Relay On (Audio Out)
11	P01 (TC4/PD04/PPG4/PWM4)	I/O	O	RC-5_OUT	L	H	H	-	RC-5 Output
12	P02 (RXD)	I/O	O	VOL_UP	L	H	H	47K	Volume up
13	P03 (TXD)	I/O	O	VOL_DWN	L	H	H	47K	Volume down
14	P04 (SO)	I/O	O	DI	-	L	L	10K	Data (LC78212)
15	P05 (SI)	I/O	O	P_ON	L	H	H	-	Primary Relay ON
16	P06 (SCK)	I/O	O	CLK	-	-	L	10K	Clock (LC78212)
17	P07 (INT4)	I/O	O	CE	H	L	L	10K	CE (LC78212)
18	P17	I/O	O	I2C_CLK	-	H	H	47k	I2C (EEPROM) (Pull up)
19	P16	I/O	I/O	I2C_DATA	-	H	H	10K	I2C (EEPROM) (Pull up)
20	P15 (INT3)	I/O	O	SPK_A	L	H	H	-	Speaker A Relay On
21	P14 (PPG)	I/O	O	SD_DI	L	H	H	-	Relay operation port on power amp direct source direct mode
22	P13 (DVO)	I/O	O	PA_DI	L	H	H	-	Relay operation port on power amp direct
23	P12 (INT2/TC1)	I/O	I	RC-5_IN	L	-	H	47k	RC-5 Input
24	P11 (INT1)(BOOT2)	I/O	I	BOOT-2/ TXD	-	-	-	47k	Pull Up
25	P10(PWM3/TC3/PD03) (BOOT1)	I/O	I	BOOT-1/ RXD	-	-	-	47k	Pull Up
26	P30 (AIN0)	I/O	I (AD)	TACT	-	-	-	10K	Source Direct / Power Amp Direct SW /SPK A / SPK B
27	P31 (AIN1)	I/O	I	M_B_DOWN	L	-	H	47k	Checking port for amp power supply off confirm
28	P32 (AIN2)	I/O	I	ENC_1	L	-	H	47k	Input Sel. Rotary Enc.
29	P33 (AIN3)	I/O	I	ENC_2	L	-	H	47k	Input Sel. Rotary Enc.
30	P34 (AIN4/STOP2)	I/O	I	DET	L	-	L	47k	Power down : L (for Signal detection circuit)
31	P35 (AIN5/STOP3)	I/O	O	KILL IR	H	L	L	-	RC-5 Kill
32	P36 (AIN6/STOP4)	I/O	O	M_MUTE	L	H	L	-	Manual Mute (Mute on :L)
33	P37 (AIN7/STOP5)	I/O	O	SPK_B	L	H	H	-	Speaker B Relay On
34	VAREF	-	-	VAREF	-	-	-	-	A/D Reference
35	AVDD	-	-	AVDD	-	-	-	-	5 V
36	AVSS	-	-	AVSS	-	-	-	-	0 V
37	P40	I/O	O	LED_STD	L	H	L	-	STANDBY LED/Protecting warning flushes
38	P41	I/O	O	LED_PHONO	L	H	H	-	PHONO LED
39	P42	I/O	O	LED_CD	L	H	H	-	CD LED
40	P43	I/O	O	LED_TUNER	L	H	H	-	TUNER LED
41	P44	I/O	O	LED_AUX/ DVD	L	H	H	-	AUX/DVD LED
42	P45	I/O	O	LED_REC1	L	H	H	-	REC1 LED
43	P46	I/O	O	LED_REC2	L	H	H	-	REC2 LED
44	P47	I/O	O	LED_MUTE	L	H	H	-	MUTE LED/Protecting1 warning flushes

LC78212 (U3501)



PARTS LIST OF P.C.B. UNIT

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

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

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

U : North America model

N : Europe model

K : China model

B : Black model

SG : Silver gold model

8U-110004A MAIN PWB UNIT ASS'Y (N,K model)

8U-110004B MAIN PWB UNIT ASS'Y (U model)

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP					
	D3501	20105001130AS	1SS133(HOMI)		
	D3901-3903	20105001130AS	1SS133(HOMI)		
	D6001-6012	20105001130AS	1SS133(HOMI)		
	D7501-7503	20105001130AS	1SS133(HOMI)		
⚠	D8001	20305000320AS	KBU804 BRIDGE DIODE		
⚠	D8101-8104	00MHD20055101	!SHOTTKY 11EQS10 1A 100V		
	D8105,8106	20305002730AS	1N4003(HOMI)		
⚠	D8201,8202	20305002730AS	1N4003(HOMI)		
	D9001,9002	20105001130AS	1SS133(HOMI)		
	U3501	00MHC10309030	IC LC78212:CMOS LOGIC SANYO		
	U3801	00D2631289900	AZ4580MTR-E1		
	U3901	00D2631289900	AZ4580MTR-E1		
	U4001	00D2630896909	NJM2068MD-TE1 +C		
	U8101	00D2631100034	KIA7815API-U/P		
	U8102	00D2631099035	KIA7915PI-U/P		
	U8201	00D2631100021	KIA7812API-U/P		
	U8202	00D2631100005	KIA7805API-U/P		
	Q6001,6002	00D2730459903	KTC2874-B-AT/P		
	Q6003,6004	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR		
	Q6005-6008	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR		
	Q6009,6010	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR		
	Q6011,6012	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR		
	Q6013-6016	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR		
	Q6017,6018	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR		
	Q6019,6020	00D2710168900	2SA1145 (O)/(Y)TPE6		
	Q6021,6022	00D2730281919	2SC2705 (Y)TPE6		
	Q6023,6024	21305001240AS	KTC3198-GR-AT/P		
	Q6025-6028	00D2710300904	KTA1266-GR-AT/P		
	Q6029,6030	21305001240AS	KTC3198-GR-AT/P		
	Q6031,6032	00MHT334191Y0	TRANSISTOR C3419 Y 40V 0.8A PC=1.2W (5W)		
	Q6033,6034	00D2730281919	2SC2705 (Y)TPE6		
	Q6035,6036	00D2710168900	2SA1145 (O)/(Y)TPE6		
⚠	Q6110	00MHK136019C0	2SA/360/2SC3423 PAIR O OR Y		
⚠	Q6120	00MHK136019C0	2SA/360/2SC3423 PAIR O OR Y		
⚠	Q6130	21905000200AS	2SA1694/2SC4467 PAIR		
⚠	Q6140	21905000200AS	2SA1694/2SC4467 PAIR		
	Q7501	00D2710300904	KTA1266-GR-AT/P		
	Q7502	00D2690206908	KRC102M-AT/P (10K-10K)		
	Q7503	21305001240AS	KTC3198-GR-AT/P		
	Q7504	21305001240AS	KTC3198-GR-AT/P		
	Q7505	00D2690206908	KRC102M-AT/P (10K-10K)		

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	Q9001	21305001240AS	KTC3198-GR-AT/P			
	Q9002	21305001240AS	KTC3198-GR-AT/P			
	Q9003	00D2710300904	KTA1266-GR-AT/P			
	Q9004	00D2730464901	KTC3875S-GR-RTK/P			
	Q9005	00D2730464901	KTC3875S-GR-RTK/P			
	Q9006	00D2730464901	KTC3875S-GR-RTK/P			
	Q9007	00D2710312905	KTA1504S-GR-RTK/P			
	Q9008	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q9101	00D2730464901	KTC3875S-GR-RTK/P			
	Q9102	00D2730464901	KTC3875S-GR-RTK/P			
	Q9103	00D2710312905	KTA1504S-GR-RTK/P			
RESISTORS GROUP						
	R3805	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R3806	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R4021	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R4022	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6031	00MGG0547116X	470 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6032	00MGG0547116X	470 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6033	00MGG0547116X	470 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6034	00MGG0547116X	470 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6035	00MGG0515116X	150 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6036	00MGG0515116X	150 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6037	00MGG0515116X	150 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6038	00MGG0515116X	150 OHM +- 5% 1/6W	FLAMERETERDANT		
△	R6073	00MGG0522016X	22 OHM +- 5% 1/6W	FLAMERETERDANT		
△	R6074	00MGG0522016X	22 OHM +- 5% 1/6W	FLAMERETERDANT		
△	R6075	00MGG0522016X	22 OHM +- 5% 1/6W	FLAMERETERDANT		
△	R6076	00MGG0522016X	22 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6077	00MGG0510116X	100 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6078	00MGG0510116X	100 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6079	00MGG0510116X	100 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6080	00MGG0510116X	100 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6081	00MGG0510216X	1K OHM +- 5% 1/6W	FLAMERETERDANT		
	R6082	00MGG0510216X	1K OHM +- 5% 1/6W	FLAMERETERDANT		
	R6083	00MGG0547016X	47 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6084	00MGG0547016X	47 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6085	00MGG0547016X	47 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6086	00MGG0547016X	47 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6087	00MGG0522116X	220 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6088	00MGG0522116X	220 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6089	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6090	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6091	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R6092	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
△	R6093	00D2462099013	RK92=3AR22JS			
△	R6094	00D2462099013	RK92=3AR22JS			
△	R6095	00D2462099013	RK92=3AR22JS			
△	R6096	00D2462099013	RK92=3AR22JS			
	R6105	00MKN05100020	10 OHM +- 5% 2W			
	R6106	00MKN05100020	10 OHM +- 5% 2W			
	R7507	00MKN05331020	330 OHM +- 5% 2W			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	R7508	00MNM05331020	330 OHM +- 5% 2W			
⚠	R8001	00MBF68400016	! 0.68UF/4.7OHM			
⚠	R8101	00MGG05010120	ERD50FJ1R0P or SPRX1CM12.5A J 1R0	FLAMERETERDANT		
⚠	R8102	00MGG05010120	ERD50FJ1R0P or SPRX1CM12.5A J 1R0	FLAMERETERDANT		
	R9001	00MGG0510216X	1K OHM +- 5% 1/6W	FLAMERETERDANT		
	R9002	00MGG0510216X	1K OHM +- 5% 1/6W	FLAMERETERDANT		
	R9003	00MGG0515216X	1.5K OHM +- 5% 1/6W	FLAMERETERDANT		
	R9004	00MGG0515216X	1.5K OHM +- 5% 1/6W	FLAMERETERDANT		
	V6001	00MRA02210781	220OHM NVZ6TLTA B221			
	V6002	00MRA02210781	220OHM NVZ6TLTA B221			
	V6003	00MRA04720781	4.7KOHM NVZ6TLTA B472			
	V6004	00MRA04720781	4.7KOHM NVZ6TLTA B472			
CAPACITORS GROUP						
	C3009	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3010	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3011	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3012	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3013	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3014	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3015	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3016	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3017	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3018	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3019	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3020	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3021	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3022	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C3501	00MOA10605021	10 UF M 50V RA-2			
	C3502	00MOA10605021	10 UF M 50V RA-2			
	C3506	13405014040AS	CE04W1H4R7MT(KR3)			
	C3801	00MOA10605021	10 UF M 50V RA-2			
	C3802	00MOA10605021	10 UF M 50V RA-2			
	C3803	00MOA10702521	100 UF M 25V RA-2			
	C3804	00MOA10702521	100 UF M 25V RA-2			
	C3901	133050086503S	CQ93M2A221JT(PEF)			
	C3902	00MOA10605021	10 UF M 50V RA-2			
	C3904	13405014840AS	CE04W1J100MT(KR3)			
	C4001	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C4002	133050086503S	CQ93M2A221JT(PEF)	N,K		
	C4003	00MOA10605021	10 UF M 50V RA-2			
	C4004	00MOA10605021	10 UF M 50V RA-2			
	C4005	133050086503S	CQ93M2A221JT(PEF)			
	C4006	133050086503S	CQ93M2A221JT(PEF)			
	C4007	00MOA22702521	220 UF M 25V RA-2			
	C4008	00MOA22702521	220 UF M 25V RA-2			
	C4009	133050088516S	CQ93M2A393JT(PEF)			
	C4010	133050088516S	CQ93M2A393JT(PEF)			
	C4011	133050086527S	CQ93M2A102JT(PEF)			
	C4012	133050086527S	CQ93M2A102JT(PEF)			
	C4013	133050087544S	CQ93M2A103JT(PEF)			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	C4014	133050087544S	CQ93M2A103JT(PEF)			
	C4015	00MOA10605021	10 UF M 50V RA-2			
	C4016	00MOA10605021	10 UF M 50V RA-2			
	C4019	00MOA10702521	100 UF M 25V RA-2			
	C4020	00MOA10702521	100 UF M 25V RA-2			
	C6001	00MOA22605021	22 UF M 50V RA-2			
	C6002	00MOA22605021	22 UF M 50V RA-2			
	C6003	00MOF55101591	100PF 200V +- 10% FAS			
	C6004	00MOF55101591	100PF 200V +- 10% FAS			
	C6011	00MOA47706326	470 UF M 63V RA-2			
	C6012	00MOA47706326	470 UF M 63V RA-2			
	C6013	00MOA47706326	470 UF M 63V RA-2			
	C6014	00MOA47706326	470 UF M 63V RA-2			
	C6015	00MOF55331581	330PF 100V +- 5% FNS			
	C6016	00MOF55331581	330PF 100V +- 5% FNS			
	C6017	00MOA47602521	47 UF M 25V RA-2			
	C6018	00MOA47602521	47 UF M 25V RA-2			
	C6019	00MOA22702521	220 UF M 25V RA-2			
	C6020	00MOA22702521	220 UF M 25V RA-2			
	C6023	133050088516S	CQ93M2A393JT(PEF)			
	C6024	133050088516S	CQ93M2A393JT(PEF)			
	C7501	133050087544S	CQ93M2A103JT(PEF)	N,K		
	C7502	133050087544S	CQ93M2A103JT(PEF)	N,K		
	C7503	133050087544S	CQ93M2A103JT(PEF)	N,K		
	C7504	133050087544S	CQ93M2A103JT(PEF)	N,K		
△	C8001	13405000220AS	10000UF/63V(LAO)			
△	C8002	13405000220AS	10000UF/63V(LAO)			
	C8101	00MOA47702521	470UF 25V M RA-2			
	C8102	00MOA47702521	470UF 25V M RA-2			
	C8103	00MOA47602521	47 UF M 25V RA-2			
	C8104	00MOA47602521	47 UF M 25V RA-2			
	C8201	00MOA47702521	470UF 25V M RA-2			
	C8202	13405014340AS	CE04W1H470MT(KR3)			
	C8203	13405014340AS	CE04W1H470MT(KR3)			
	C9001	00D2544573936	CE04W1HR47MT(RA3)			
	C9003	13405014340AS	CE04W1H470MT(KR3)			
	C9004	13405014840AS	CE04W1J100MT(KR3)			
	C9101	13405014340AS	CE04W1H470MT(KR3)			
OTHERS PARTS GROUP						
	L4001	11501000200AS	BALUN TRANS	N,K		
	L4002	11501000200AS	BALUN TRANS	N,K		
	N3001	nsp	2.5MM PITCH BASE 05PIN (TOP)			
	N3002	nsp	2.0MM PITCH BASE 14PIN (TOP)			
	N6001	nsp	2.5MM PITCH BASE 03PIN (TOP)			
	N6003	nsp	2.5MM PITCH BASE 03PIN (TOP)			
	N6004	nsp	2.5MM PITCH BASE 03PIN (TOP)			
	N7501	nsp	2.5MM PITCH BASE 03PIN (TOP)			
	N8001	nsp	3.96MM PITCH BASE BOX 3PIN(TOP)			
	N8101	nsp	2.5MM PITCH BASE 05PIN (TOP)			
	N9001	nsp	2.0MM PITCH BASE 03PIN (TOP)			
	S7501	682010016008S	FTR-F4AK012T			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	S7502	682010016008S	FTR-F4AK012T			
	S7503	682010021000S	RELAY(BC3-12)			
	K3001	643010048000S	4P PIN JACK(MSP-244V4)-AU			
	K3002	643010048000S	4P PIN JACK(MSP-244V4)-AU			
	K3003	643010048000S	4P PIN JACK(MSP-244V4)-AU			
	K3004	643010030108S	2P PIN JACK(MSP-242V3)-AU			
	K4001	643010030108S	2P PIN JACK(MSP-242V3)-AU			
	K7501	64601000300AS	SPK TERMINAL A349			
	B8001	nsp	GND TERMINAL FOR PCB			
	B8101	nsp	GND TERMINAL FOR PCB			
	Z4003	nsp	STYLE PIN			
	Z4006	nsp	STYLE PIN			
	Z8201	nsp	HEAT SINK			
	Z8202	nsp	SCREW			

8U-110005A FRONT PWB UNIT ASS'Y (N,K model)
8U-110005B FRONT PWB UNIT ASS'Y (U model)

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP						
	D1501	00D3939607908	SLR342VC(TB7)			
	D1502-1507	26301000440AS	SELG6E10C-S20 BLUE LED			*
	D1508	263010041403S	SLI-343V8RC(T32)			
	D1509-1512	26301000440AS	SELG6E10C-S20 BLUE LED			*
	D1601	20105001130AS	1SS133(HOMI)			
	D1801	20305002730AS	1N4003(HOMI)			
	D2001	20105001130AS	1SS133(HOMI)			
	D2501	20105001130AS	1SS133(HOMI)			
	D5001-5006	20105001130AS	1SS133(HOMI)			
⚠	D8501-8506	20305002730AS	1N4003(HOMI)			
	D8508	20105001130AS	1SS133(HOMI)			
	D8509	00D2760683985	UDZS11B-TE17			
	D8701	00MHI20002210	SIR-34ST3F	U		
	D8702	20105001130AS	1SS133(HOMI)	U		
	U1001	2439100016008	TMP86FH47UG			
	U1002	00MHC1022421Z	BD4742G RESET IC 4.2V			
	U1003	00D2623388903	AT24C04AN-10SU-1.8-SL383			
	U1601	262010007707S	R94EV1A			
	U2001-2003	00D2631289900	AZ4580MTR-E1			
⚠	U8501	00D2622977933	BA50BC0FP-E2			
	U8701	262010007707S	R94EV1A	U		
	Q1001	00D2690184907	KRA102S-RTK/P (10K-10K)	NOTE : When update Firmware, please confirm a last version in SDI. Use the service board after updating it.		
	Q1002	00D2730464901	KTC3875S-GR-RTK/P			
	Q1003-1008	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q1009	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q1010	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q1601-1603	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q1604	00D2730464901	KTC3875S-GR-RTK/P			
	Q1801,1802	00MHT600141B1	KTA1271 PNP TRANSISTOR RANK=Y			
	Q1803,1804	00MHT800951B1	KTC3203 NPN TRANSISTOR RANK=Y			
	Q2001	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q2501	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q5001,5002	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q5003-5006	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q5007-5010	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q5011-5014	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q5015,5016	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q8501	21305001240AS	KTC3198-GR-AT/P			
	Q8502	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q8503	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q8701	00D2690184907	KRA102S-RTK/P (10K-10K)	U		
RESISTORS GROUP						
	R1801	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	R2021,2022	00MGG0510016X	10 OHM +- 5% 1/6W	FLAMERETERDANT		
	V2001	67101000200AS	BALANCE VR 20K(B)			
	V2002,2003	67101000300AS	TONE VR 10K(B)			
	V5001	67501000200AS	R-K16812MG2E 50K(B)			
CAPACITORS GROUP						
	C1001	13405014840AS	CE04W1J100MT(KR3)			
	C1601	13405012940AS	CE04W1C101MT(KR3)			
	C1603	13405012940AS	CE04W1C101MT(KR3)			
	C1801	13405012440AS	CE04W0J221MT(KR3)			
	C2001-2004	00MOA10605021	10 UF M 50V RA-2			
	C2005-2008	133050086503S	CQ93M2A221JT(PEF)			
	C2009,2010	00MOA22605021	22 UF M 50V RA-2			
	C2011,2012	00D2544573952	CE04W1H2R2MT(RA3)			
	C2013,2014	133050087544S	CQ93M2A103JT(PEF)			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	C2015,2016	133050090540S	CQ93P2A683JT(PPF)			
	C2017,2018	133050086503S	CQ93M2A221JT(PEF)			
	C2019,2020	00D2544574919	CE04W1H470MT(RA3)			
	C2501,2502	133050086527S	CQ93M2A102JT(PEF)			
	C2503,2504	133050083511S	CQ93M2A104JT(PEF)			
	C5001,5002	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C5003,5004	00MOF55101591	100PF 200V +- 10% FAS			
	C5005,5006	00MOA10605021	10 UF M 50V RA-2			
	C5007,5008	00MOF55101591	100PF 200V +- 10% FAS			
	C5009,5010	00MOA47602521	47 UF M 25V RA-2			
	C5011,5012	00MOA22702521	220 UF M 25V RA-2			
⚠	C8502	00D2538026703	CK45E2EAC472MC			
	C8503	13405013840AS	CE04W1H010MT(KR3)			
	C8504	13405013120AS	CE04W1E222MC(KR3)			
	C8506	13405012440AS	CE04W0J221MT(KR3)			
	C8701	13405012940AS	CE04W1C101MT(KR3)	U		
⚠	C8901	00D2538029713	CK45F2EAC471KC(KX)			
	C9901,9902	133050087544S	CQ93M2A103JT(PEF)	N,K		
OTHERS PARTS GROUP						
⚠	F8510	0520100150000	02183.15MXP	U		
⚠	F8510	0520100130040	# 021801.6MXP T1.6A L 250V	N,K		
⚠	F8610	00MFS20500201	# T5.0A/250V TR5 NO.19372 (T	U		
⚠	F8620	00MFS20500201	# T5.0A/250V TR5 NO.19372 (T	U		
	H8511,8512	nsp	FUSE CLIP(TAPE)			
	N1002	nsp	BOTTOM ENTRY CONNECTOR 7PIN			
	N5001	nsp	2.0MM PITCH BASE 05PIN (TOP)			
	N5002	nsp	PIN HEADER 7PIN			
	N8501,8502	nsp	7.92MM PITCH BASE 2PIN (TOP)			
	N8503	nsp	7.92MM PITCH BASE BOX 2PIN(TOP)			
	N8504	nsp	2.0MM PITCH BASE 09PIN (TOP)			
	N8505	nsp	05FMN-SSTK-A FFC CONNECTOR			
	S1401-1404	66201000830AS	TACT SW			
	S1411	66301000200AS	EC16B12S0 ROTARY ENCODER			
	S2001	682010021000S	RELAY(BC3-12)			
	S2501	682010021000S	RELAY(BC3-12)			
⚠	S8501	00D2140241002	RELAY DL1SU TV-8			
⚠	S8901	66105000300AS	POWER SWITCH (TV-5)			
	K8501	643010103006S	RCA PIN JACK 2P NI MSP-242V1-24			
⚠	K8601	641050009007D	AC OUTLET	U		
	K8701	643010086002S	MINI JACK(PJ-308-02)	U		
	K9901	64301001400AS	HP JACK (SILVER PLATE)			
	B1001	61205001000AS	2.0MM PITCH WIRE 9PIN			
	B1002	61205001100AS	2.0MM PITCH WIRE 14PIN			
	B1003	61301000200AS	2.5MM PITCH SHIELD WIRE 3PIN			
	B1006	61205000900AS	2.0MM PITCH WIRE 5PIN			
	B5001	61301000300AS	2.5MM PITCH SHIELD WIRE 5PIN			
	B5002	61205001200AS	1PIN WIRE			
	B6501	61205000800AS	2.0MM PITCH WIRE 3PIN			
	B8501	nsp	GND TERMINAL FOR PCB			
	B8502	nsp	CMD1A569			
	B8901	61205000600AS	7.92MM PITCH WIRE 2PIN			
	B9901	61205000700AS	2.5MM PITCH WIRE 3PIN			
	X1001	00MFQ08004061	CSTS MG 8MHZ TAPING(15PF)			
	T6501	00D2790034054	PTH9M04BC222TS2F333			
⚠	T8501	10101001200AM	SUB TRANS (U) D145	U		
⚠	T8501	10101001100AM	SUB TRANS (N) D145	N,K		
	Z1602	nsp	BUFFER IR PM7003 24AJ			
	Z5001	nsp	STYLE PIN			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	Z6501	nsp	IRRAXTUBE V2 AWG20 BLACK 3MM			
	Z8701	nsp	SHIELD CASE FLASHER SR7005 A332	U		
	Z9901	nsp	HEADPHONE BRACKET PM6004			

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.