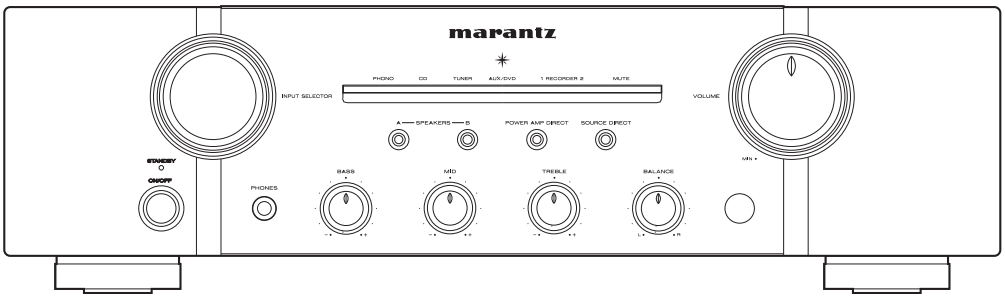
Service Manual

PM8004 /K1SG/U1B
PM-KI-PEARL-LITE /N1SG/N1B
⚠2 N2SG/N2B
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®

PM8004
PM-KI-PEARL-LITE

Ver. 2
Please refer to the MODIFICATION NOTICE.

S0177-0V02DM/DG1011

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.
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MARKHAM, ONTARIO L3R 5B1
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JAPAN

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

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KOREA

D&M SALES AND MARKETING KOREA LTD.
2F,YEON BLDG.,
88-5, BANPO-DONG, SEOCHO-GU,
SEOUL KOREA
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CHINA

D&M SALES AND MARKETING SHANGHAI LTD.
ROOM.808 SHANGHAI AIRPORT CITY TERMINAL
NO.1600 NANJING (WEST) ROAD, SHANGHAI,
CHINA. 200040
TEL : 021 - 6248 - 5151
FAX : 021 - 6248 - 4434

NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ⚠.

Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意：

⚠がついている部品は、安全上重要な部品です。必ず指定されている部品番号の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.

091105DM/DG

SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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

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

◎ Heed the cautions!

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

◎ Caution concerning electric shock!

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

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

◎ Caution concerning disassembly and assembly!

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

◎ Only use designated parts!

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

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

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

◎ Inspect for safety after servicing!

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

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

CAUTION Concerning important safety parts

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

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

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

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

CAUTION:

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

WARNING:

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

NOTICE:

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM / M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION. CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

NOTE FOR PARTS LIST

PARTS INFORMATION

RESISTORS

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

Examples ;
① Resistance value

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

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

CAPACITORS

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

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

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

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

Examples ;
④ Capacity value

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

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

Examples ;
⑤ Capacity value

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

⑥ Working voltage

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

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

Examples ;
⑦ Capacity value

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

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

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

1. KOA Corporation

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

＊Resistance value — Resistance value (0.1 – 10kΩ)

2. Matsushita Electronic Components Co., Ltd

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

＊Resistance value — ＊Resistance value

Examples ;
＊Resistance value

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

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

NOTE ON FUSE :

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

NOTE ON SAFETY :

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。

060522 MZ

TECHNICAL SPECIFICATIONS ⚠2

Power output
(20 Hz – 20 kHz simultaneous drive of both channels)
[N][U] ..... 70W x 2 (8Ω load)
[K] ..... 65W x 2 (8Ω load)
[N][U] ..... 100W x 2 (4Ω load)
[K] ..... 9W x 2 (4Ω load)

Total harmonic distortion
(20Hz – 20kHz simultaneous drive of both channels, 8Ω load)
..... 0.02%

Output band width (8Ω load, 0.05%)
.....5Hz – 60kHz

Frequency response (CD, 1W, 8Ω load)
.....5Hz – 100kHz ±3dB

Dumping factor (8Ω load, 20Hz – 20kHz)
..... .100

Input sensitivity/Input impedance
PHONO (MM).....2mV/47kΩ
CD, TUNER, AUX/DVD, RECORDER
.....200mV/20kΩ
MAIN IN 1.6V/15kΩ

Output band width/Output impedance
PRE OUT 1.6V/600Ω

Maximum allowable PHONO input level (1kHz)
MM 100mV

RIAA deviation (20Hz ~ 20kHz)
..... ±0.5dB

S/N (IHF-A, 8Ω load)
PHONO (MM)..... 87dB (5mV input, 1W output)
CD, TUNER, AUX/DVD, RECORDER
.....106dB (2V input, Rated output)
POWER AMP DIRECT IN ...... 125dB (Rated output)

Tone control
Bass (50Hz)..... ±10dB
Mid (900Hz) ..... ±6dB
Treble (15kHz)..... ±10dB

Power requirement
[N] .....AC 230 V, 50/60 Hz
[U] .....AC 120 V, 60 Hz
[K] .....AC 220V,50Hz

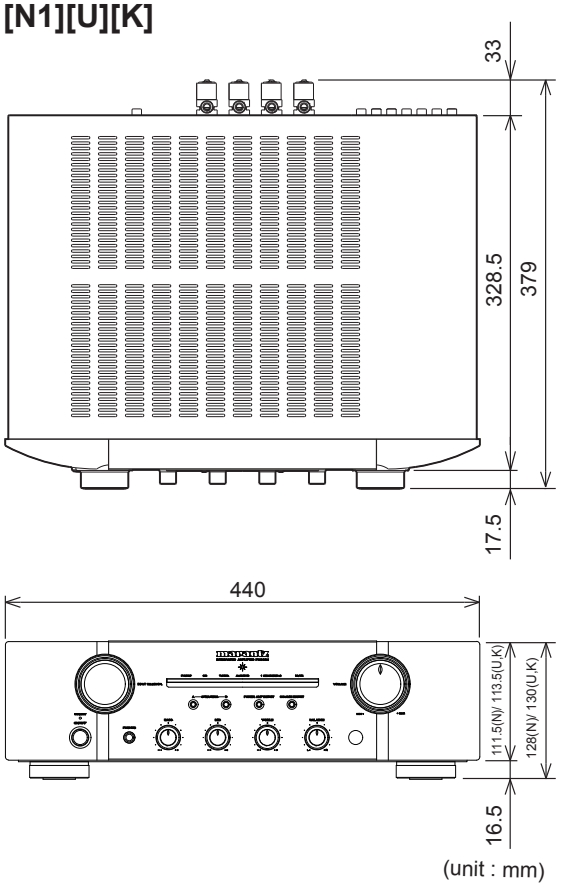
Power consumption
(EN60065)..... 200W
Standby power consumption..... 0.3W

Weight (Amplifier)
[N1] 11.2kg
[N2] 11.8kg
[U][K] 12.2kg

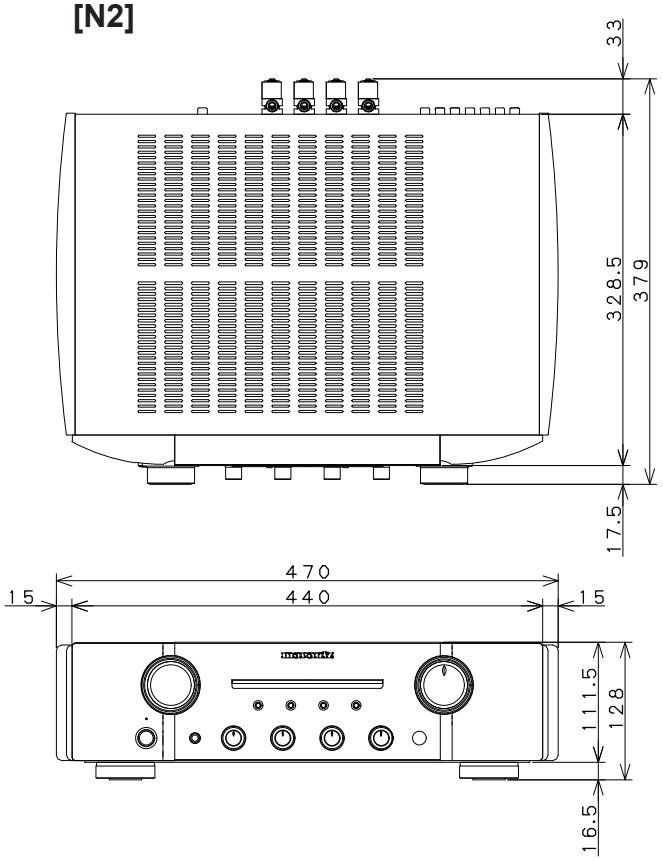
* SPECIFICATION for China is different from SPECIFICATION of instruction manual in description.

DIMENSION ⚠2

[N1][U][K]



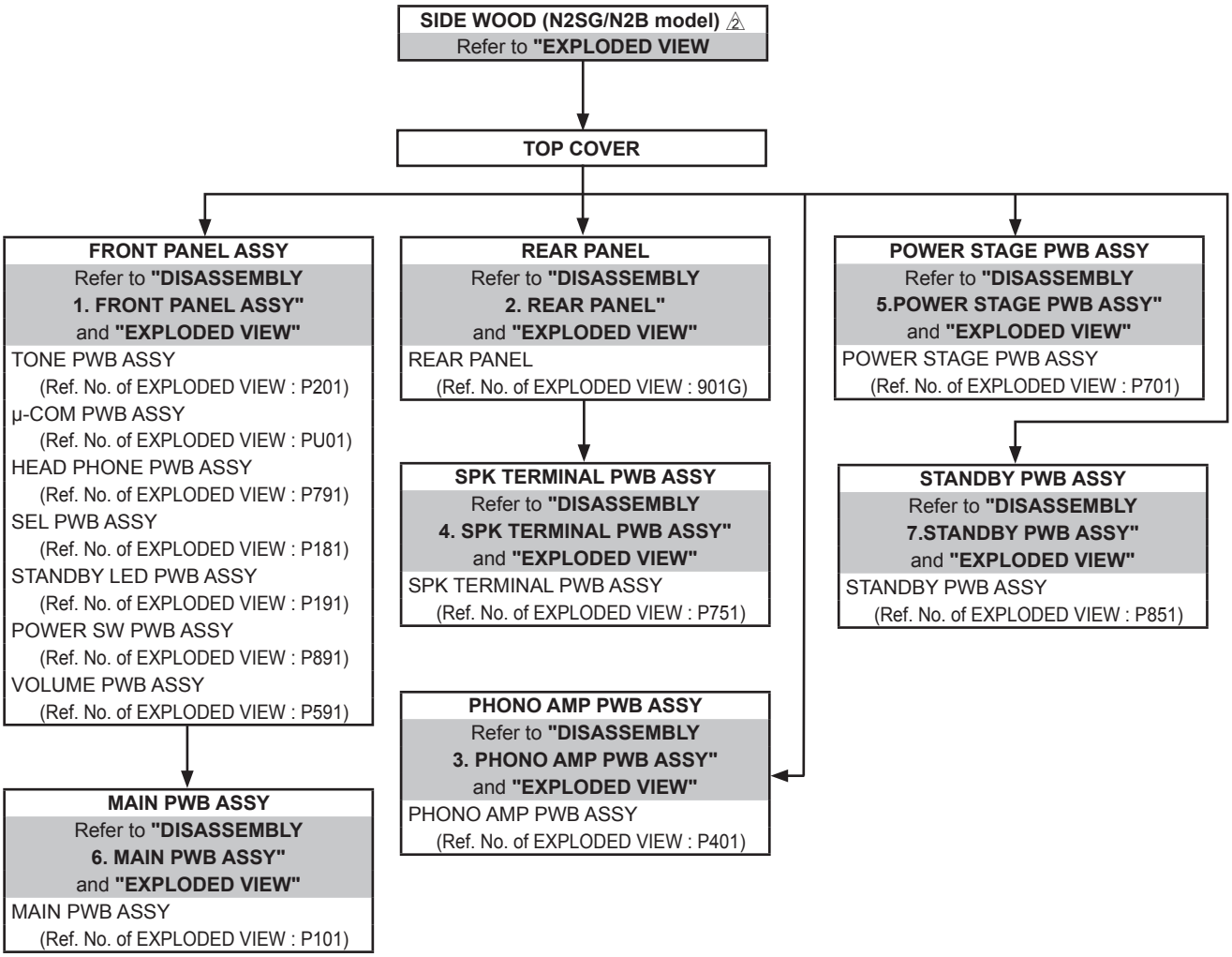
[N2]



(unit : mm)

DISASSEMBLY

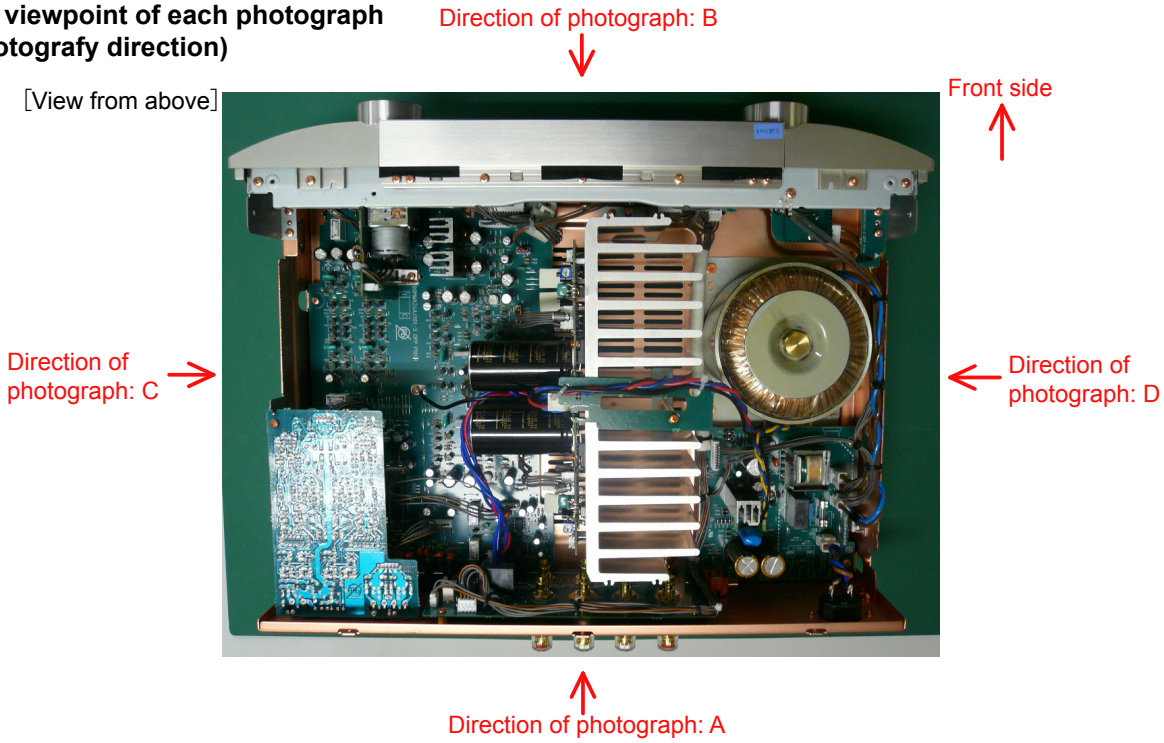
- Disassemble in order of the arrow of the figure of following flow.
- In the case of the re-assembling, assemble it in order of the reverse of the following flow.
- In the case of the re-assembling, observe "attention of assembling" it.
- If wire bundles are untied or moved to perform adjustment or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



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

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

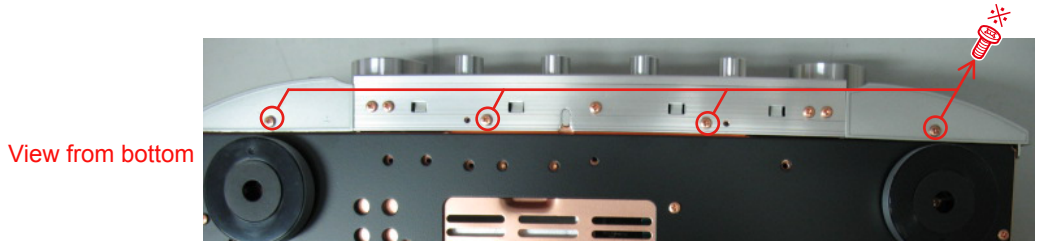
The viewpoint of each photograph (Photografy direction)



1. FRONT PANEL ASSY

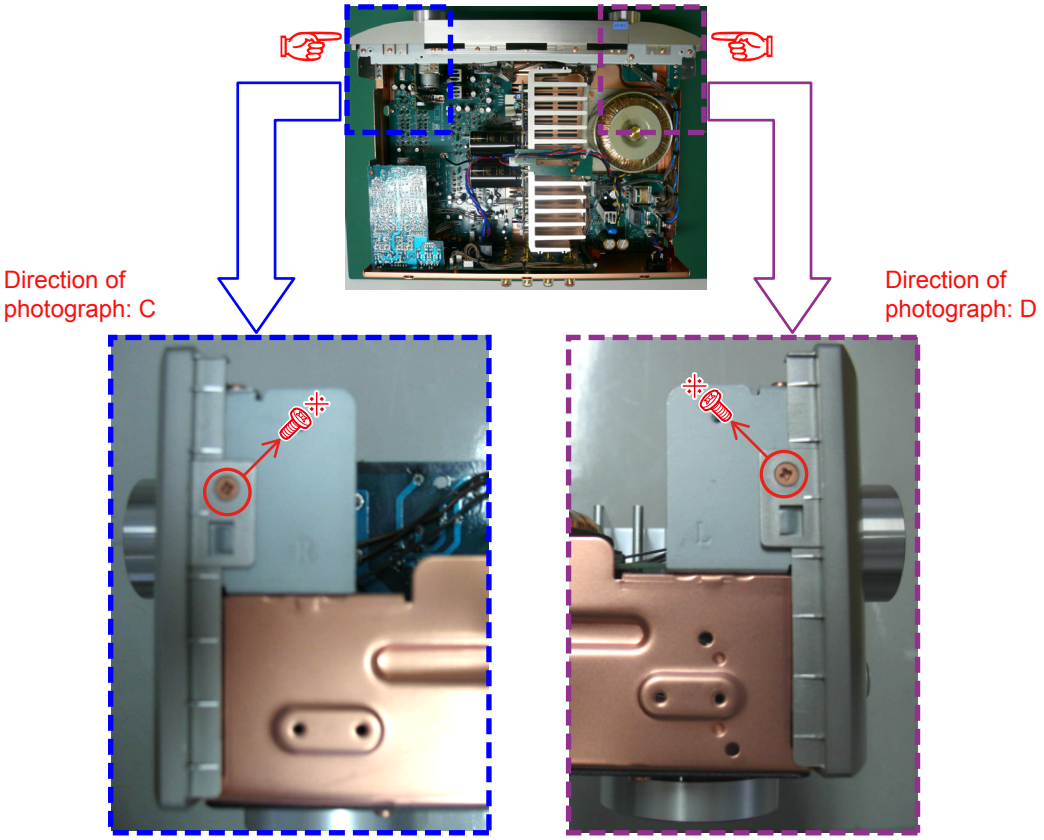
Proceeding : TOP COVER → FRONT PANEL ASSY

(1) Remove the screws.

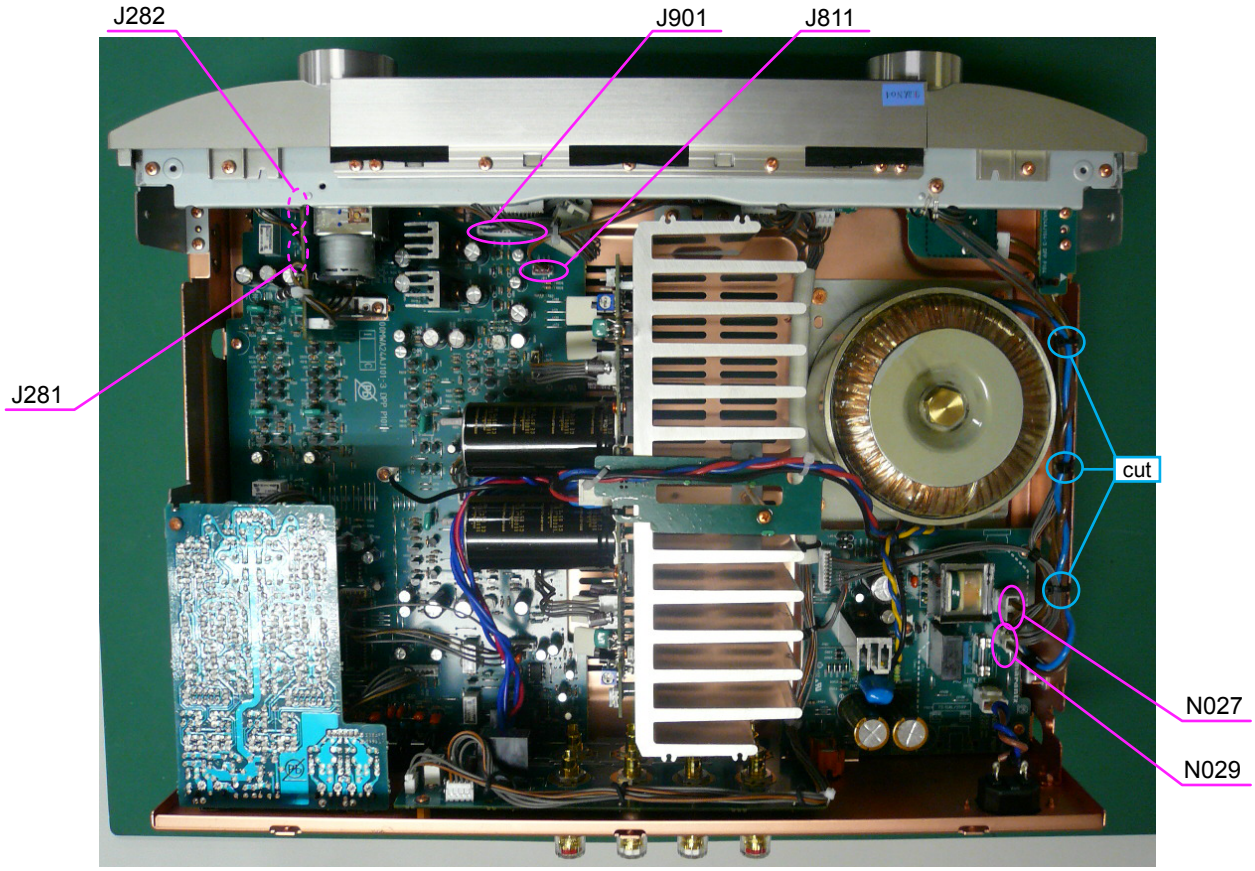


(2) Remove the screws.

(3) Remove the screws.



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



(5) Remove the nut.

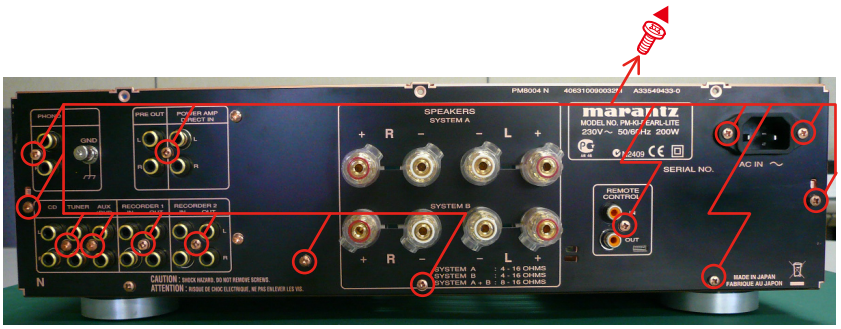
Direction of photograph: B

2. REAR PANEL

Proceeding : TOP COVER → REAR PANEL

(1) Remove the screws.

Direction of photograph: A



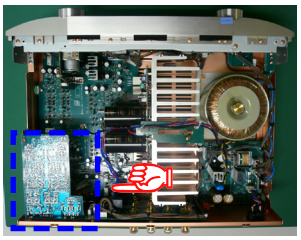
3. PHONO AMP PWB ASSY

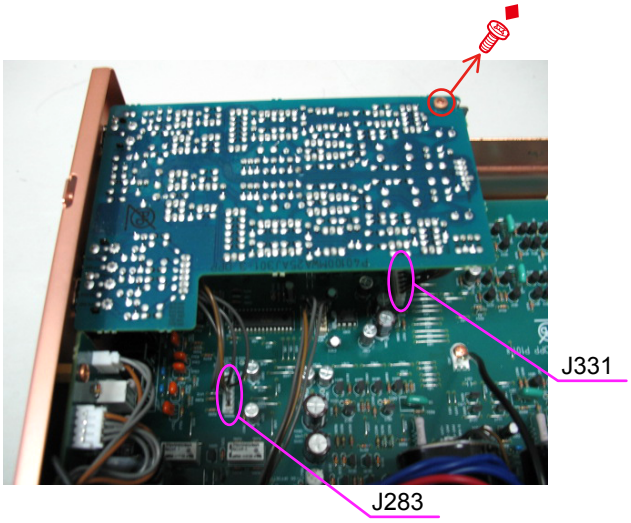
Proceeding : TOP COVER → PHONO AMP PWB ASSY

(1) Remove the screws.

Direction of photograph: A

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



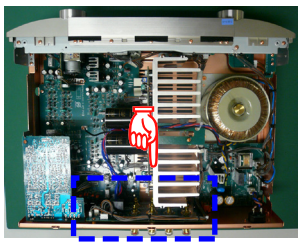


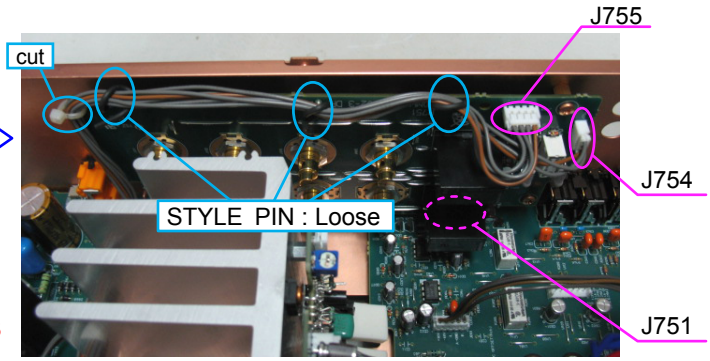
Direction of photograph: D

4. SPK TERMINAL PWB ASSY

Proceeding : TOP COVER → REAR PANEL → SPK TERMINAL PWB ASSY

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





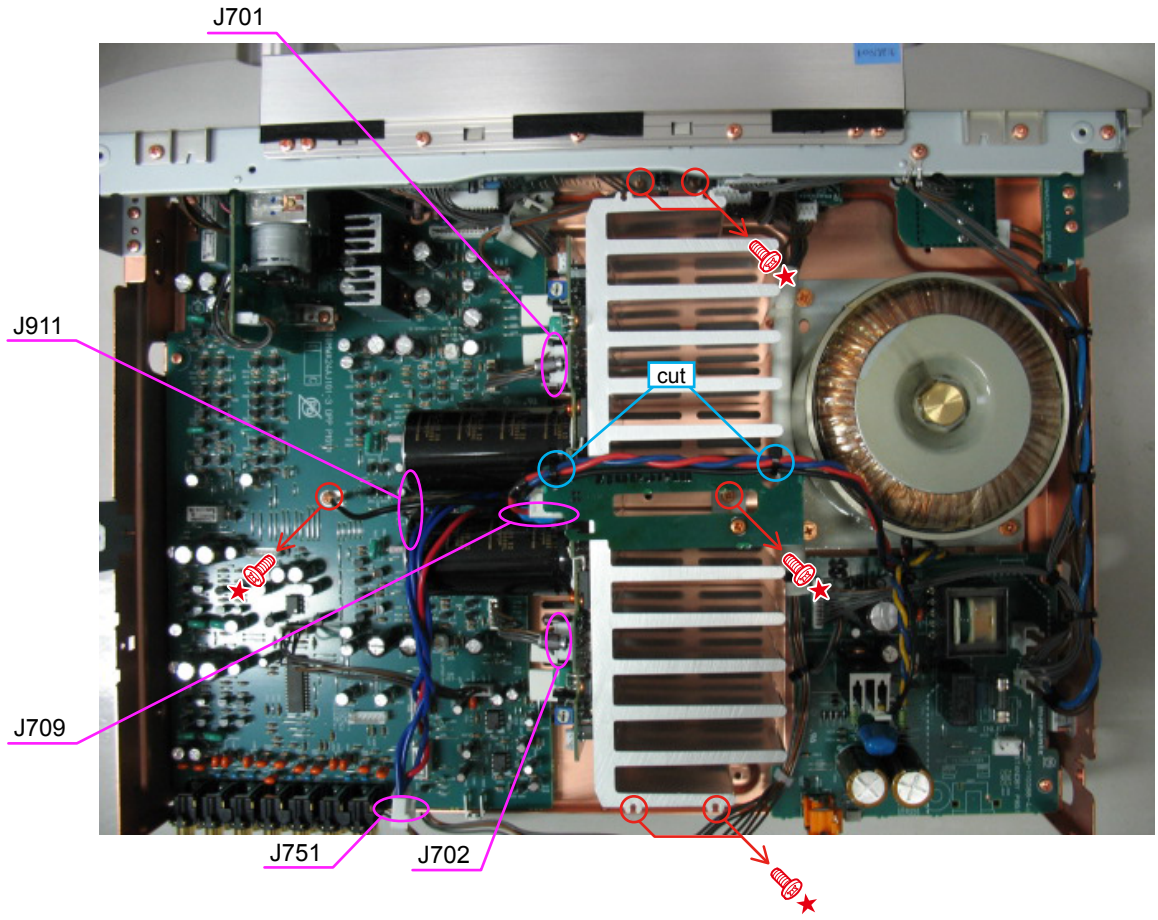
Direction of photograph: B

(2) Remove the nuts and the screws.

5. POWER STAGE PWB ASSY

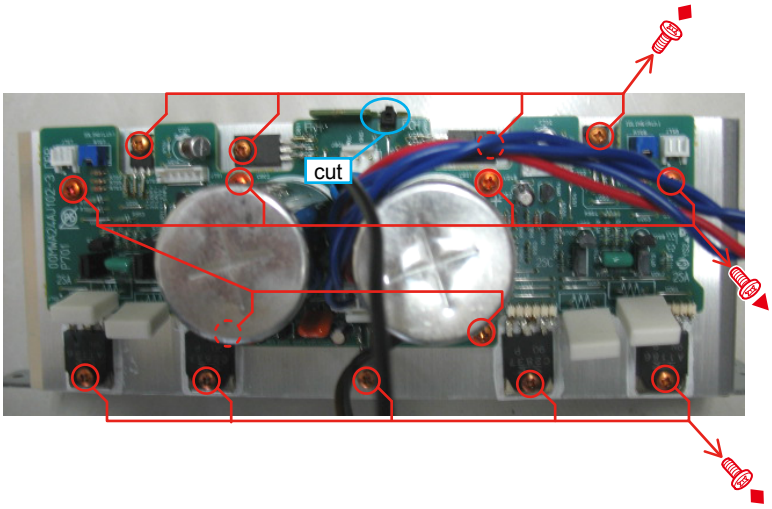
Proceeding : TOP COVER → POWER STAGE PWB ASSY

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



(2) Cut the wire clamp band, then remove the screws.

Direction of photograph: C



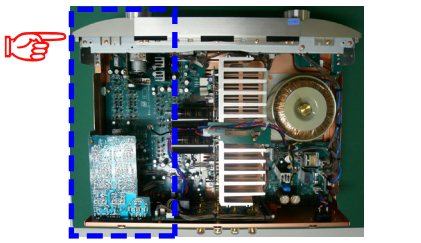
6. MAIN PWB ASSY

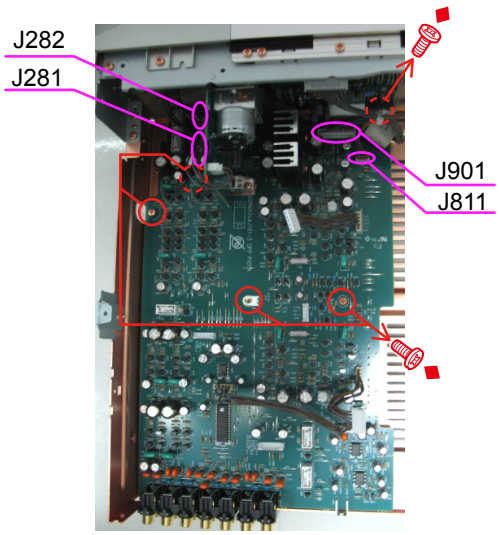
Proceeding : TOP COVER → FRONT PANEL ASSY → MAIN PWB ASSY

(1) Remove the screws.

Direction of photograph: A

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





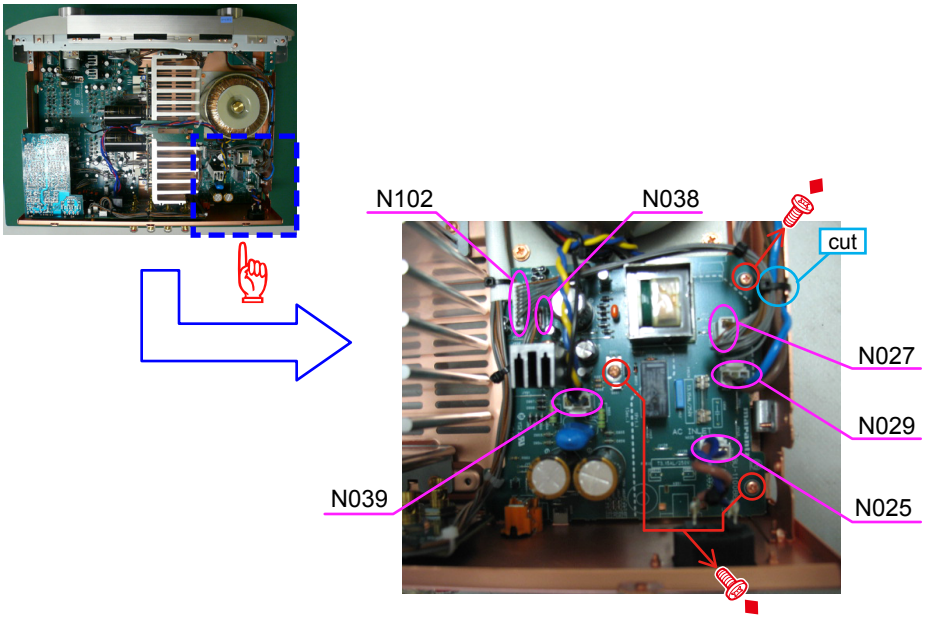
7. STANDBY PWB ASSY

Proceeding : TOP COVER → STANDBY PWB ASSY

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

Direction of photograph: A

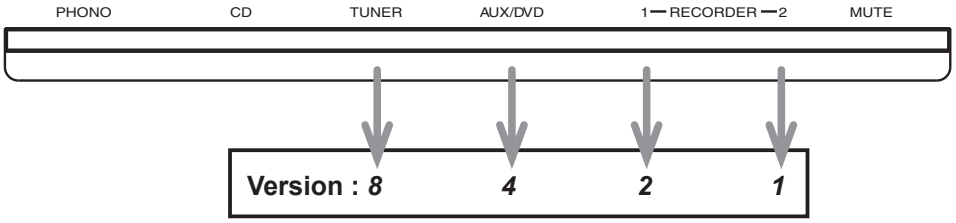
(2) Cut the wire clamp band, then disconnect the connector wires. Remove the screws.



SERVICE MODE

Microprocessor (U101) version check

(1) Connect the mains cord into the unit.
(2) Press the POWER button with pressing the SOURCE DIRECT button on the Unit.
(3) 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**

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

PROTECTION MODE

Explanation of microprocessor (U101) [PROT-1 (pin6) and PROT-2 (pin7)].

1. The PROT-1 (pin6) is the port to detect the following abnormalities of the Power AMP

(1) Detection of an abnormality in the DC offset voltage from the Speaker Output terminal.
If the voltage from the Speaker Output terminal exceeds approximately 1.2V (DC), Q955 or Q956 will turn on and the signal from the PROT-1 terminal will change to "L" from "H".

(2) Detection of an abnormal current from the power transistors (Q713 ~ Q716).
If an electric current of over 7A flows in Q713 or Q715, Q951, Q953 and Q957 turn on, and the signal from the PROT-1 terminal will change to "L" from "H".
If an electric current of over 7A flows in Q714 or Q716, Q952, Q954 and Q957 turn on, and the signal from the PROT-1 terminal will change to "L" from "H".

(3) Detection of an abnormal temperature of the Heat Sink.
If the temperature of the Heat Sink exceeds approximately +110 degrees C, the posistor (R969) will turn on Q958 and the signal from the PROT-1 terminal will change to "L" from "H".

If any of the above three abnormalities is detected, the signal from the PROT-1 terminal will change to "L" from "H", and the protection circuit will be activated, the signal from the SPK_OUT (pin10) changing to "H" from "L" and the speaker relays L751, L752 and L753 immediately turned off.

What this protection operation results in after this depends on how long the signal from the PROT-1 has to remain "L".

- If the PROT-1 (pin6) recovers to "H" within as short a period of time as one second or less.
  The MUTE indicator starts flickering, thereby indicates that the protection circuit has come into operation and automatically turns down the volume. The protection circuit is deactivated after approximately 15 seconds, so that readjusting the volume will allow normal use of the unit again. This protection operation is intended for the situation wherein the user has misused the unit temporarily and automatically resets the unit while the amp circuit is functioning properly.
- If the PROT-1 (pin6) remains "L" for more than one second.
  The amp will be powered off by the P_ON (pin15) changing to "H" from "L" and Power relay S851 turned off Then, the STANDBY indicator flickers, thereby indicating that an error has occurred. This protection operation is intended for a failure in the amp circuit and immediately turns the power off to avoid the risk of any damage.
  Depending on how the user is handling the unit, this operation may be performed no matter if the amp is functioning properly.

To check if the amp is in order, switch off the unit and switch it on again one minute later. This action will deactivate the protection operation. If the PROT-1 (pin6) remains "L", which constitutes an abnormality, the unit shuts down approximately 3 seconds later and the STANDBY indicator starts flickering.
If the protection operation will not be deactivated after the power is turned on again, the amp circuit may be broken.

2. The PROT-2 (pin7) is the port to detect abnormalities of the power supply circuit.

(1) Detection of an abnormality in the power amp power supply circuit.
This port monitors the midpoint voltage of the power amp power supply between +49V and -49V. If the voltage at the connection point of R801 and R802 exceeds DC ±1.2V, Q903 or Q904 will turn on to change the signal from the PROT-2 (pin7) to "L" from "H".

(2) Detection of an abnormality in the preamp power supply circuit.
Q901 and Q902 monitor the midpoint voltage between +28V and -28V. If the voltage at the connection point of R905 and R906 exceeds DC ±1.2V, Q901 or Q902 will turn on to change the signal from the PROT-2 (pin7) to "L" from "H".

(3) Detection of an abnormality in the function relay power supply circuit.
If the +24VL of the relay power supply receives an electric current of over 80 mA, Q815 and Q901 will turn on to change the signal from the PROT-2 (pin7) to "L" from "H".

If any of the above three abnormalities is detected, the signal from the P_ON (pin15) terminal will be changed to "L" from "H", the power relay S851 will be turned off and the unit will be shut down. Then, the STANDBY indicator flickers and indicates that an abnormality has occurred.

This protection operation is intended for a breakdown of the AMP circuit or the power supply circuit and immediately shuts off the power in order to avoid the risk of damage.
To check if the amp circuit or the power supply circuit is broken, switch off the power and then switch it on again one minute later. This action will deactivate the protection operation.
If the RPOT-2 (pin7) remains "L" after the power is switched on again, the unit will be shut down again three seconds later with the STANDBY indicator flickering.
If the unit is powered on again and yet cannot get the protection operation deactivated, the amp circuit or the power supply circuit may be broken.

VERSION UPGRADE PROCEDURE OF FIRMWARE

ABOUT REPLACE THE MICROPROCESSOR WITH A NEW ONE

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

PWB Name	Ref. No.	Description	After replaced	Remark
FRONT	U101	TMP86FH47UG	C	

After replaced

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

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

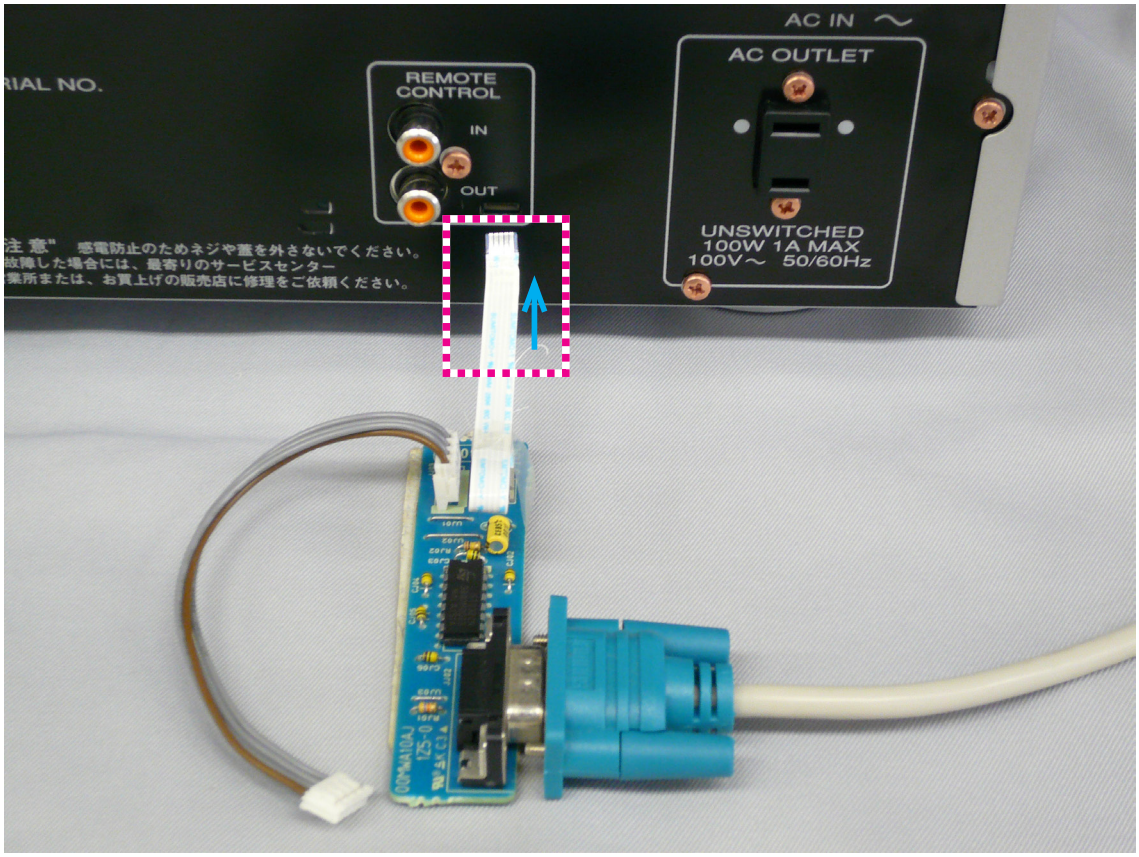
C : Empty Flash ROM (Without software). You should be write-in of the software to the microprocessor or flash ROM. Refer to “Update procedure” or “writing procedure”, when you should be write-in the software.

Necessary Equipment

- Windows PC (OS: Windows 2000 or Windows XP) with Serial port.
- RS-232C 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 (PM7004_xxxx.h16)

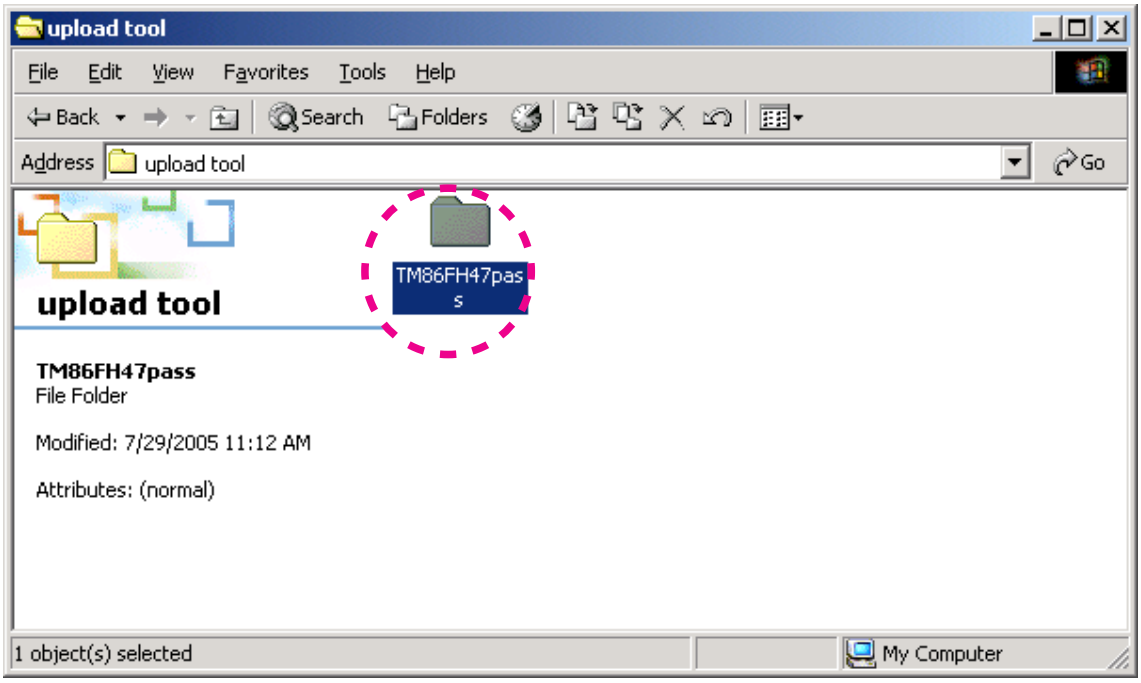
WRITING PROCEDURE

(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.

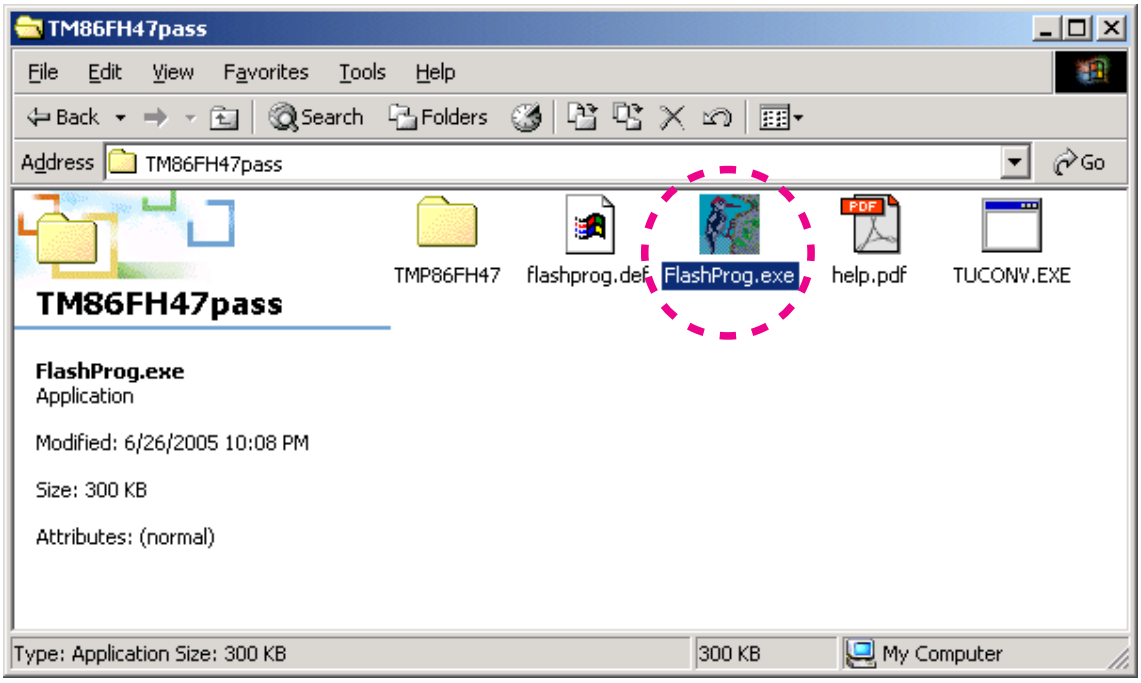


(4) Reconnect the mains cord to the unit.
(5) Put the “TM86FH47pass” folder into anywhere on your PC’s hard disc.

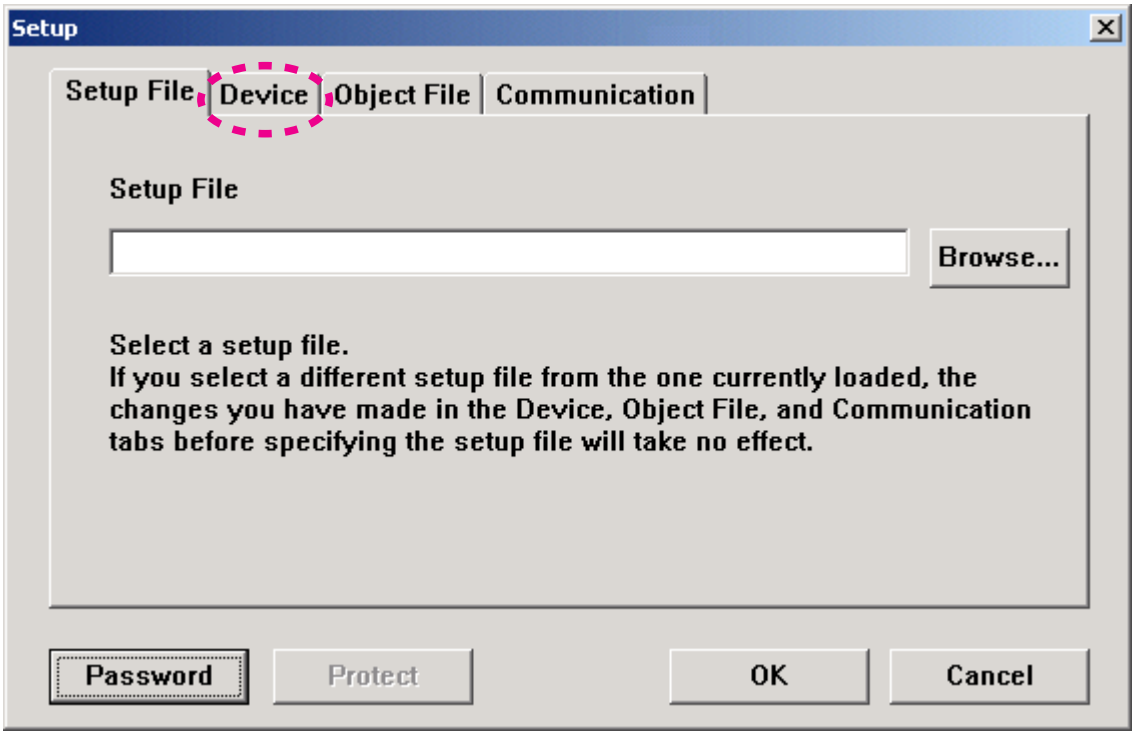
(6) Double click the TM86FH47pass folder.



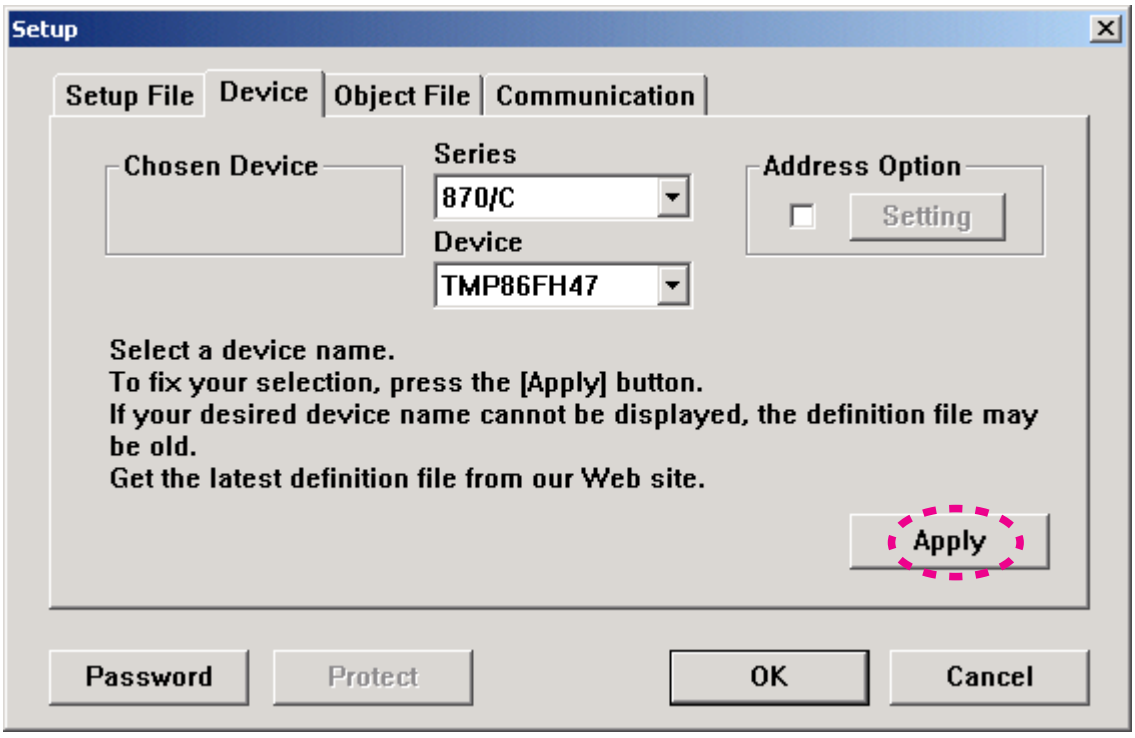
(7) Double click FlashProg.exe.



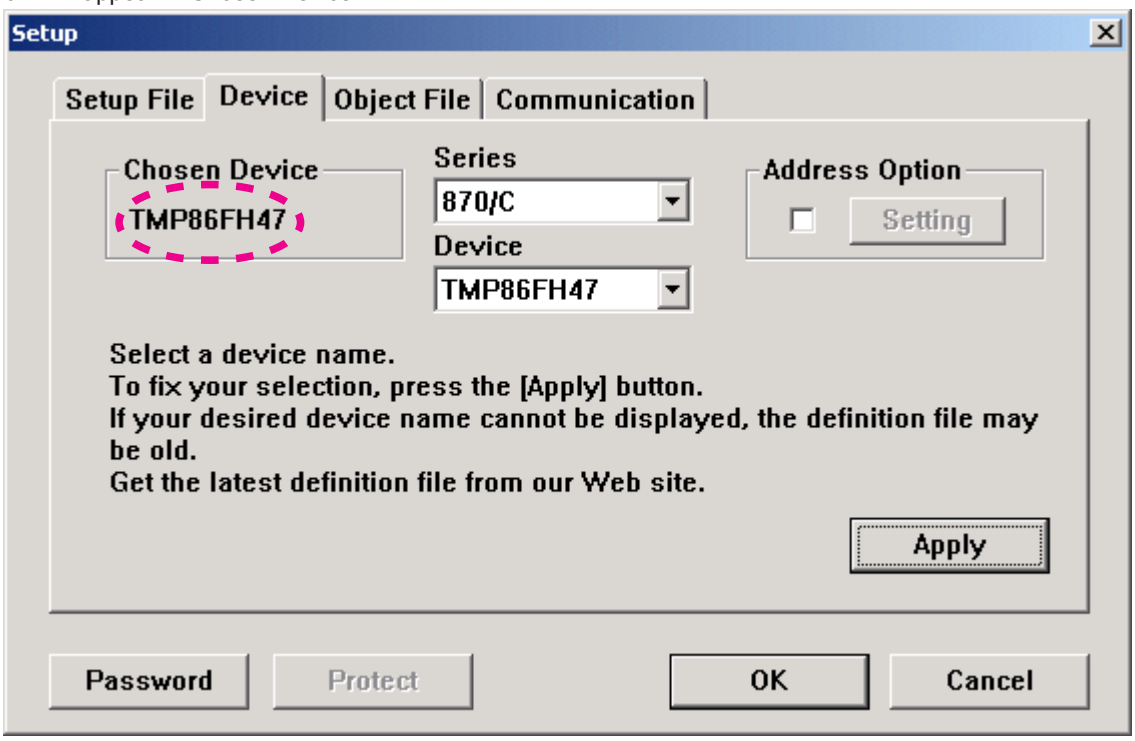
(8) Click Device tab.



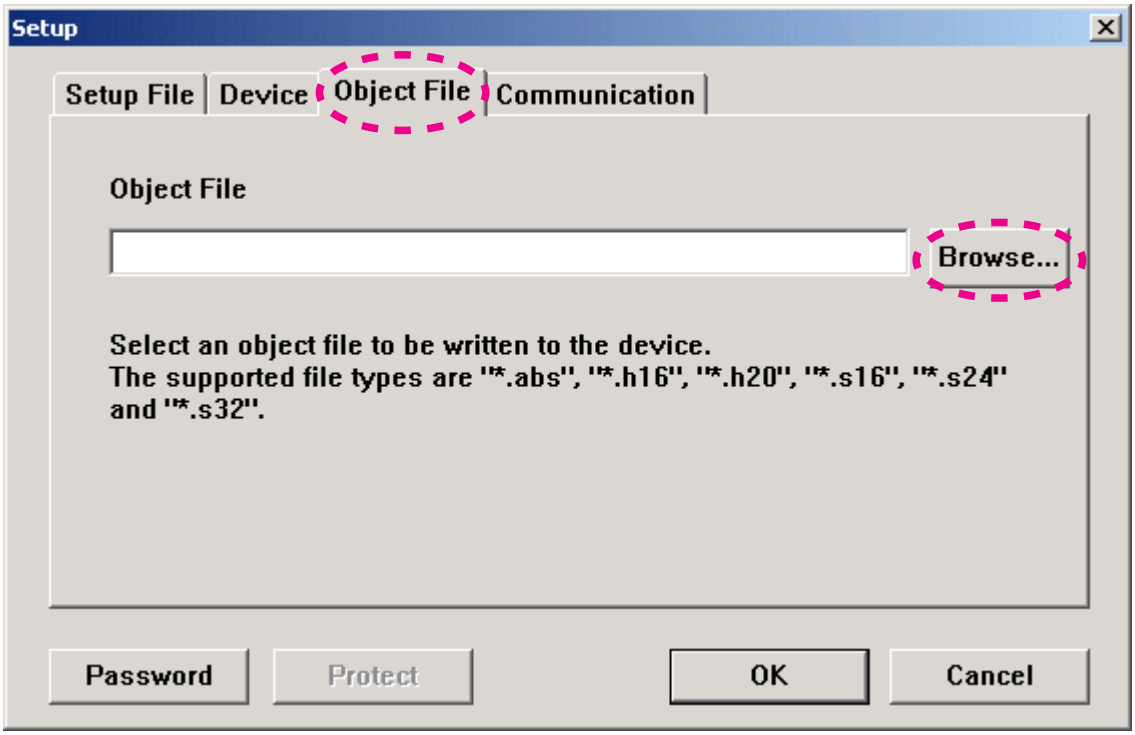
(9) Click Apply.



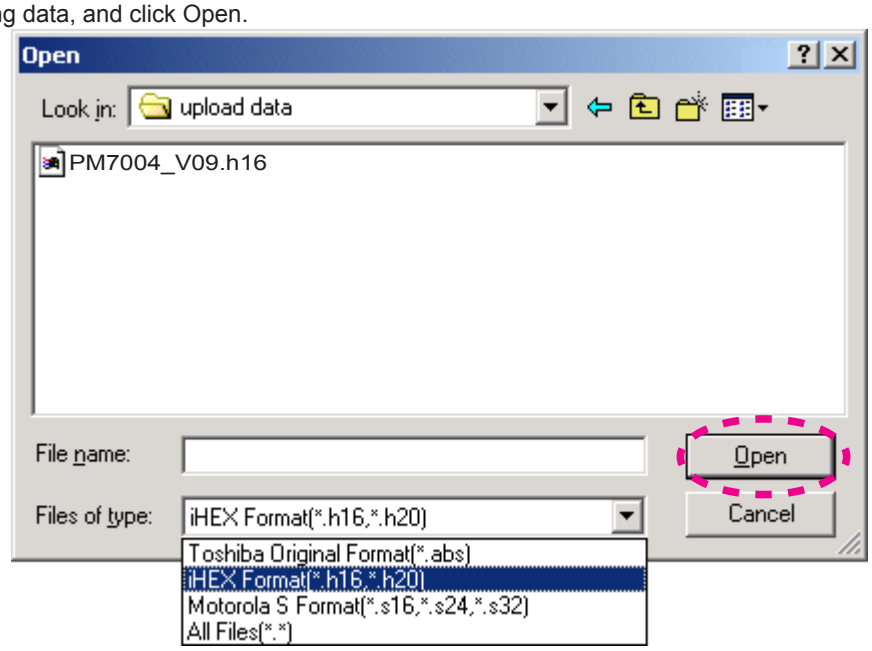
(10) TMP86FH47 appear in Chosen Device.



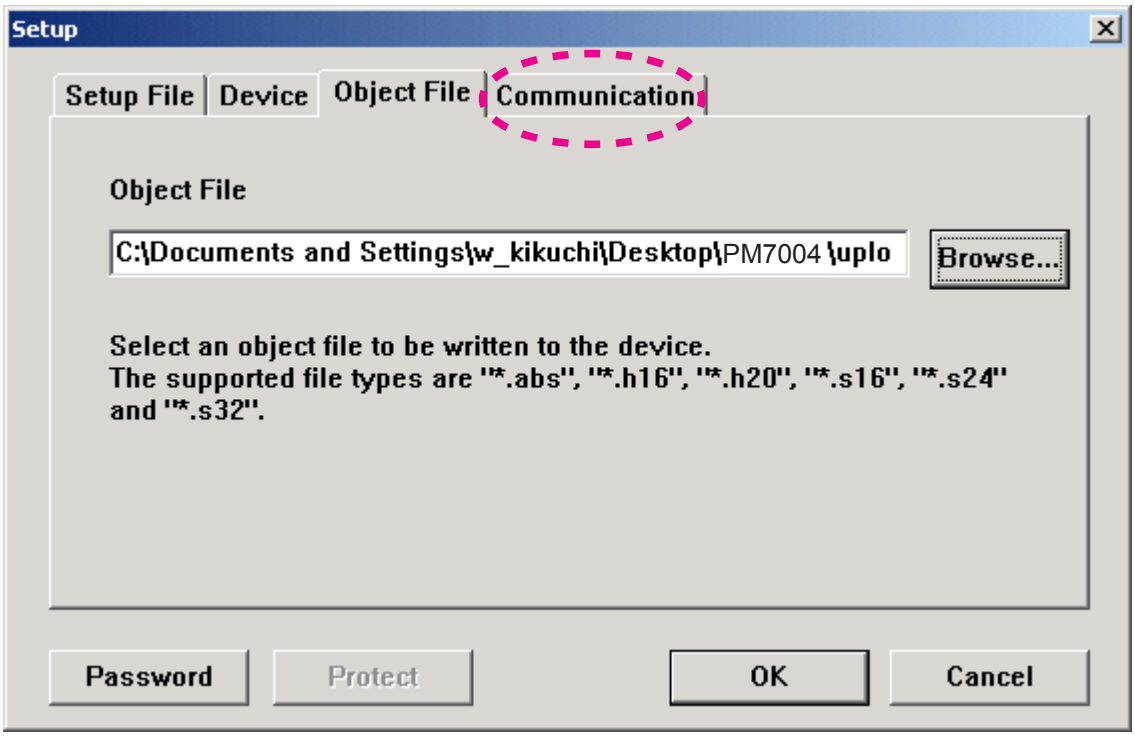
(11) Click Object File, and click Browse...



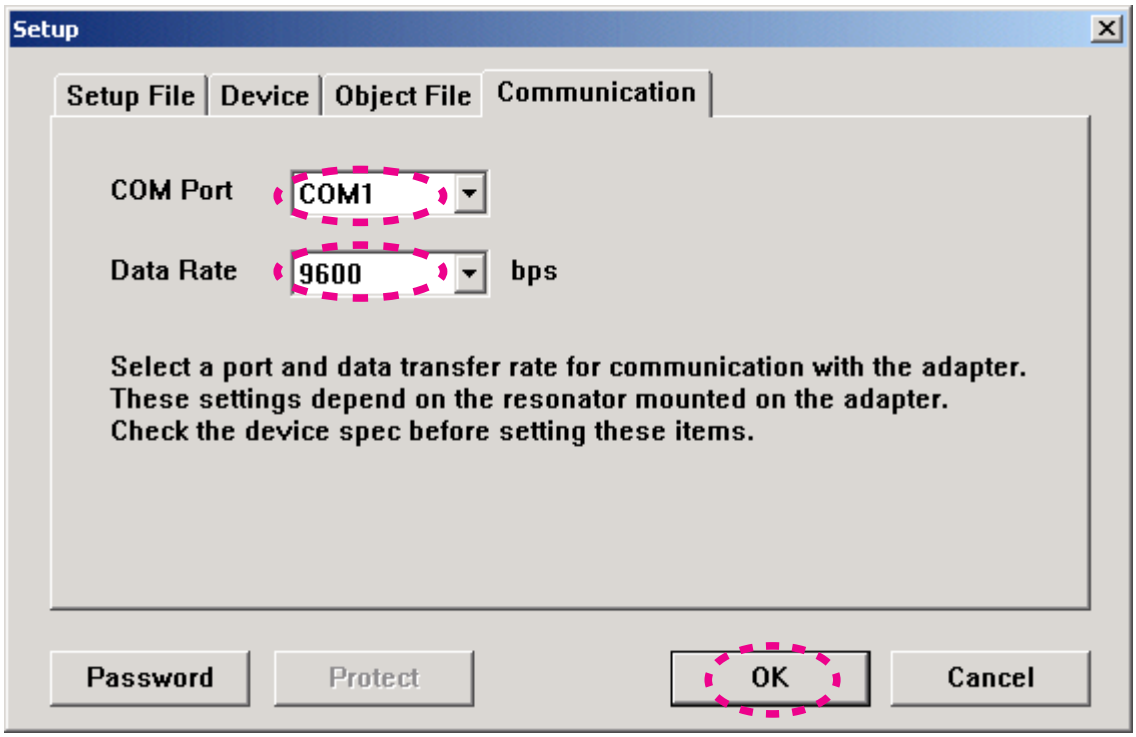
(12) Choose iHEX Fomat[*.h16,*.h20] in Files of type.
Choose writing data, and click Open.



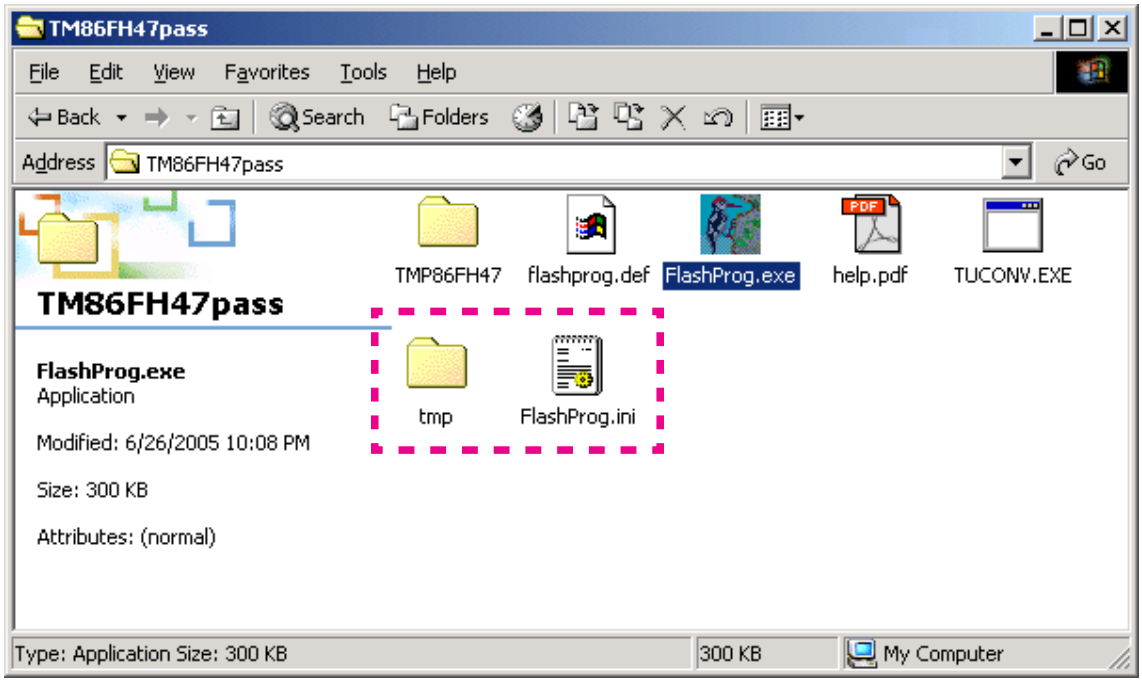
(13) Click Communication tab.



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

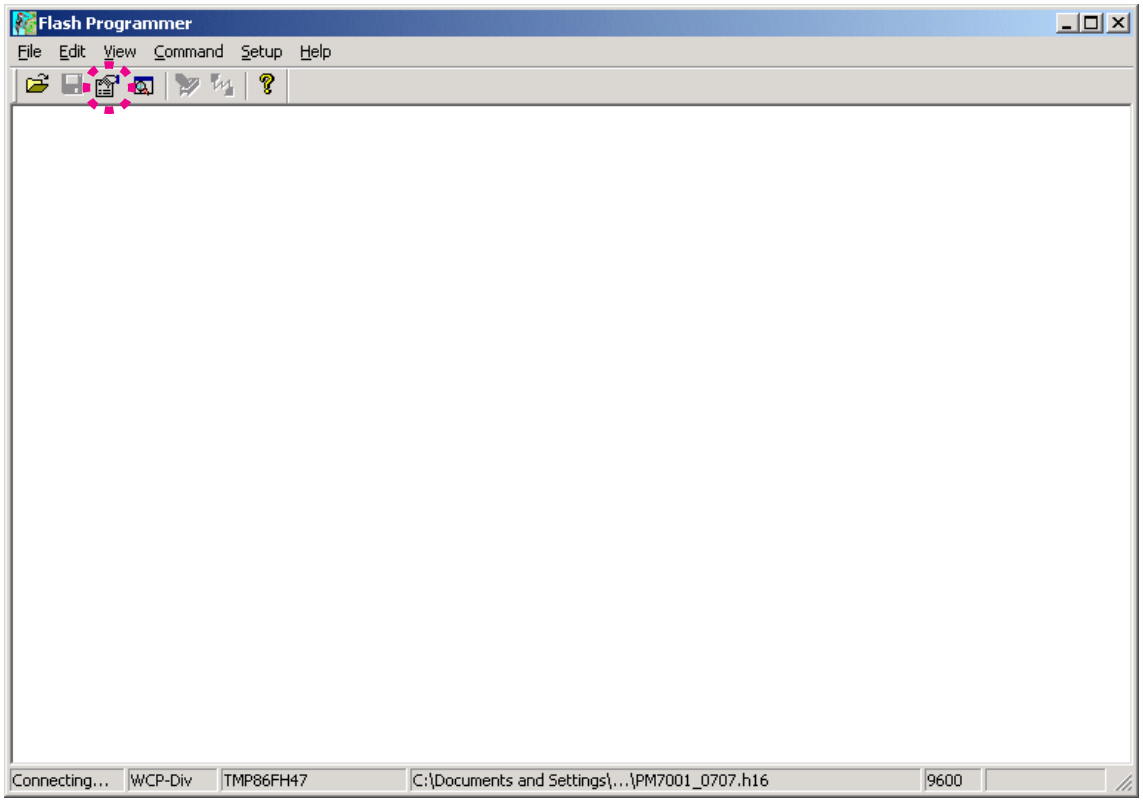


(15) When Setup window is closed, the tmp folder and FlashProg.ini file are created simultaneously.
Click Yes.
NOTE : These are the original set-up configuration files for that PC. They do not operate, if these files moved to another PC. When you make it operate with other PC, delete the tmp folder and the FlashProg.ini file and redo a setup.

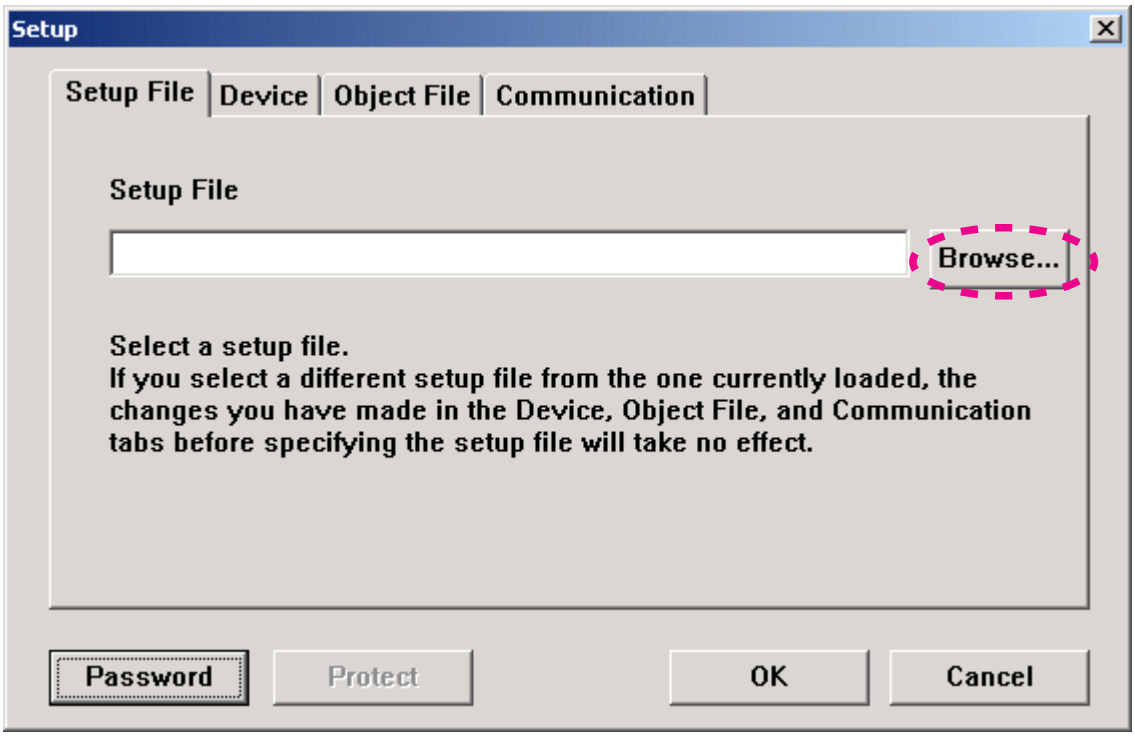


(16) The Flash Programmer is launched.

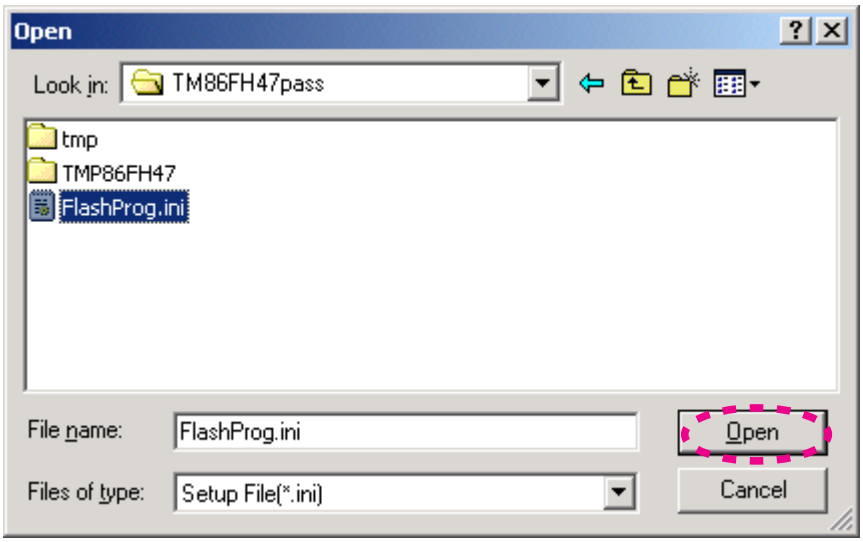
Click setup icon.



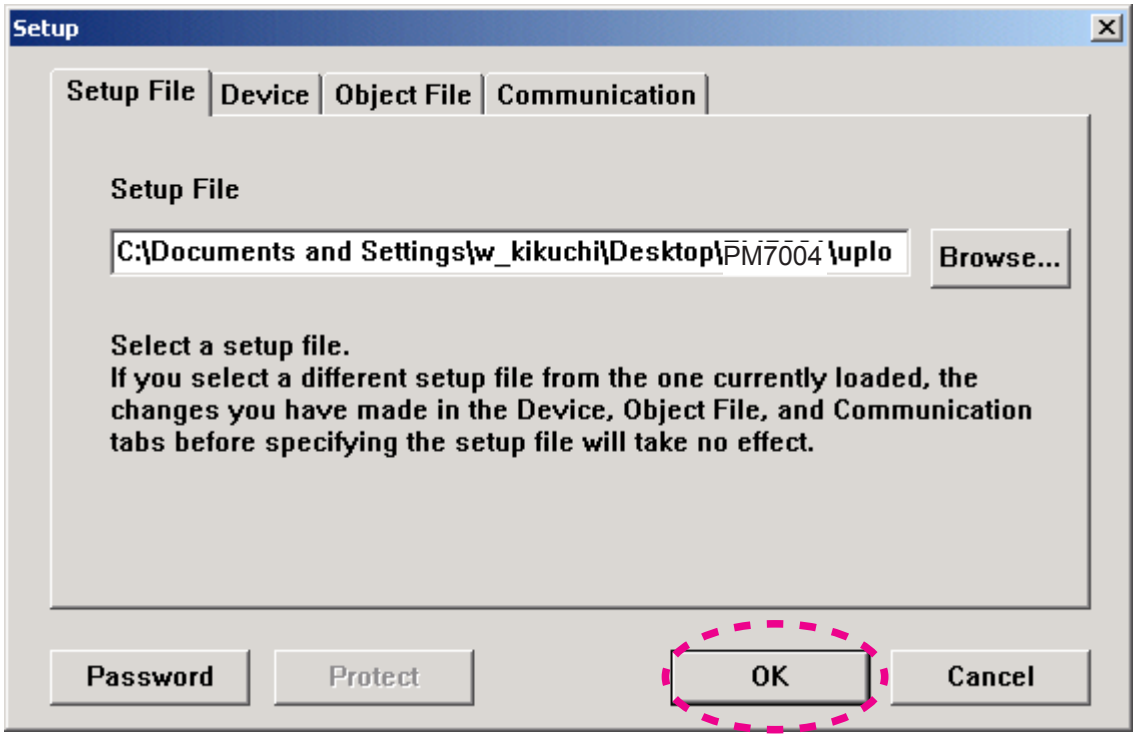
(17) Click Browse....



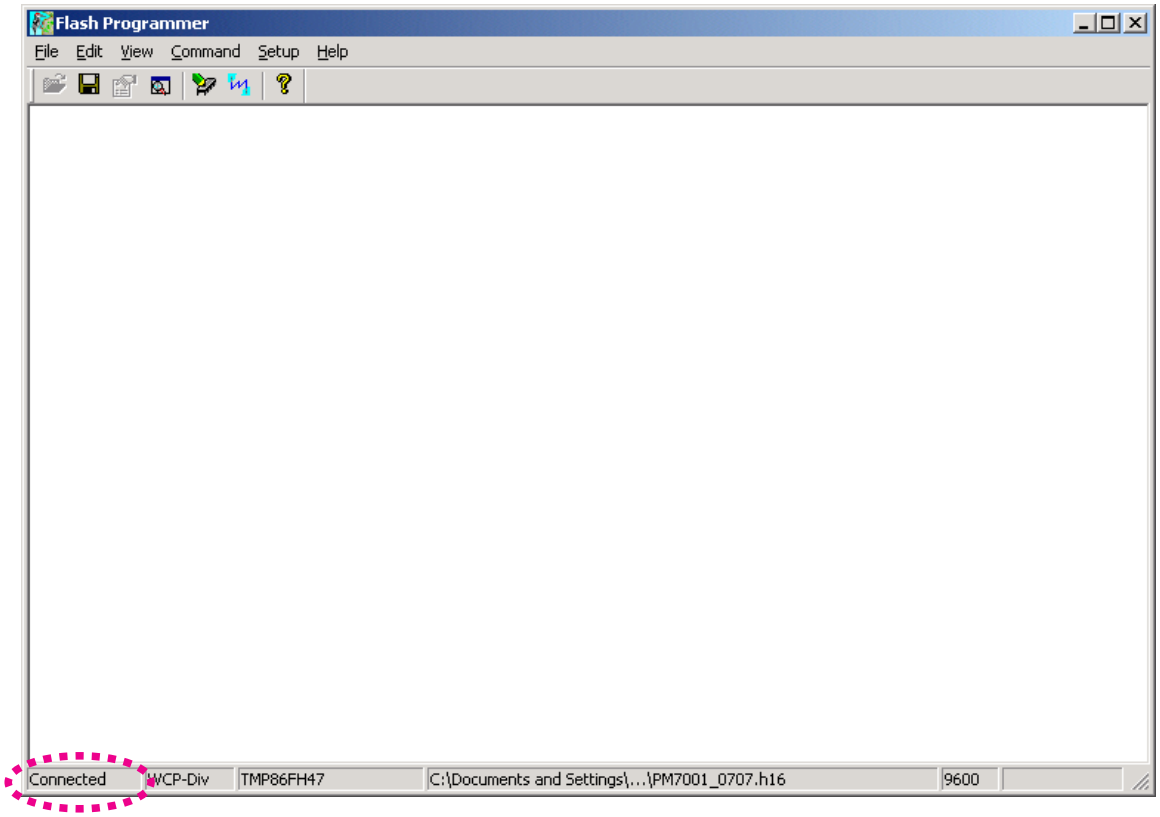
(18) Choose FlashProg.ini in TM86FH47pass folder, and click Open.



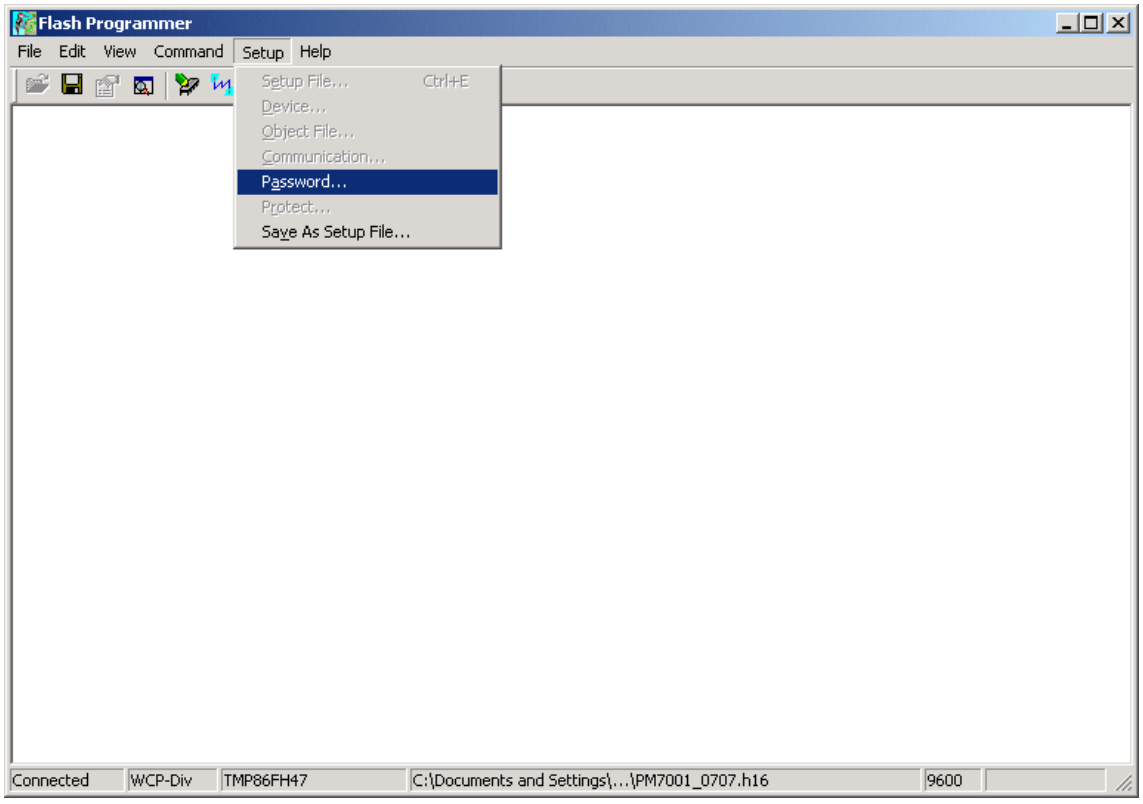
(19) Click OK.



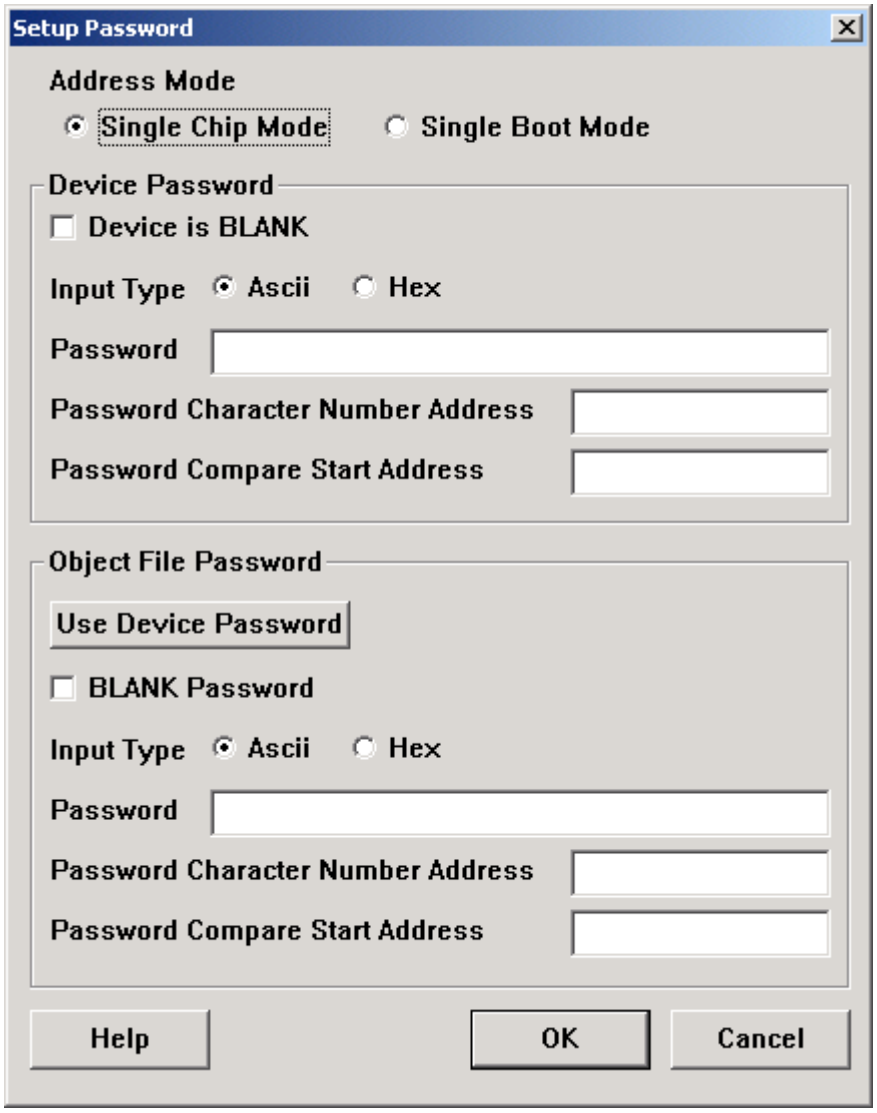
(20) Press the POWER ON/OFF button, and turn on the unit.
Status indication at lower left in Flash Programming window is changed to "Connected" from "Connecting".
When it did not changed, check the connection of FPC or RS-232C cable.



(21) Select Password in Setup.



(22) Setup Password opens.



- When writing in a blank microprocessor (Refer to next page).
- When writing (update) in the already written-in microprocessor (Refer to 00 page).

When writing in a blank microprocessor

Check Single Boot Mode in Address Mode.

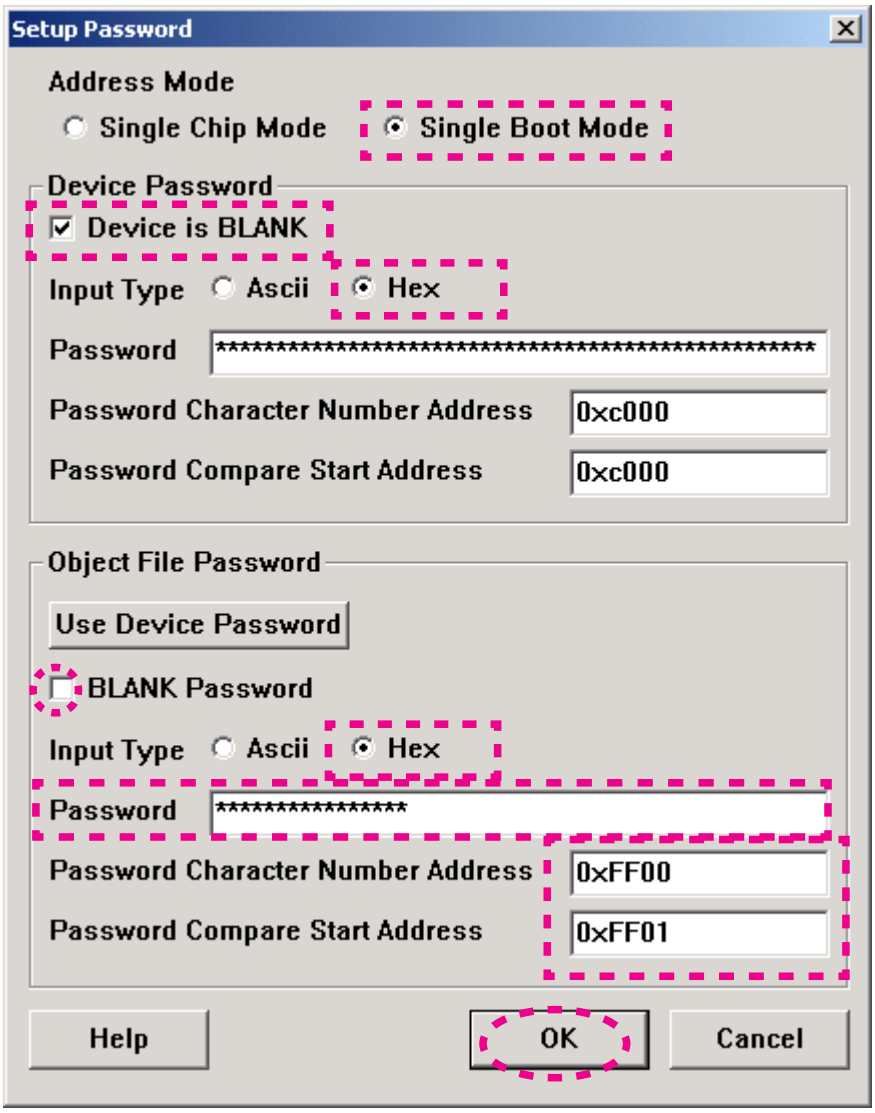
Setting in Device Password

- 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.



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

Check Single Boot Mode in Address Mode.

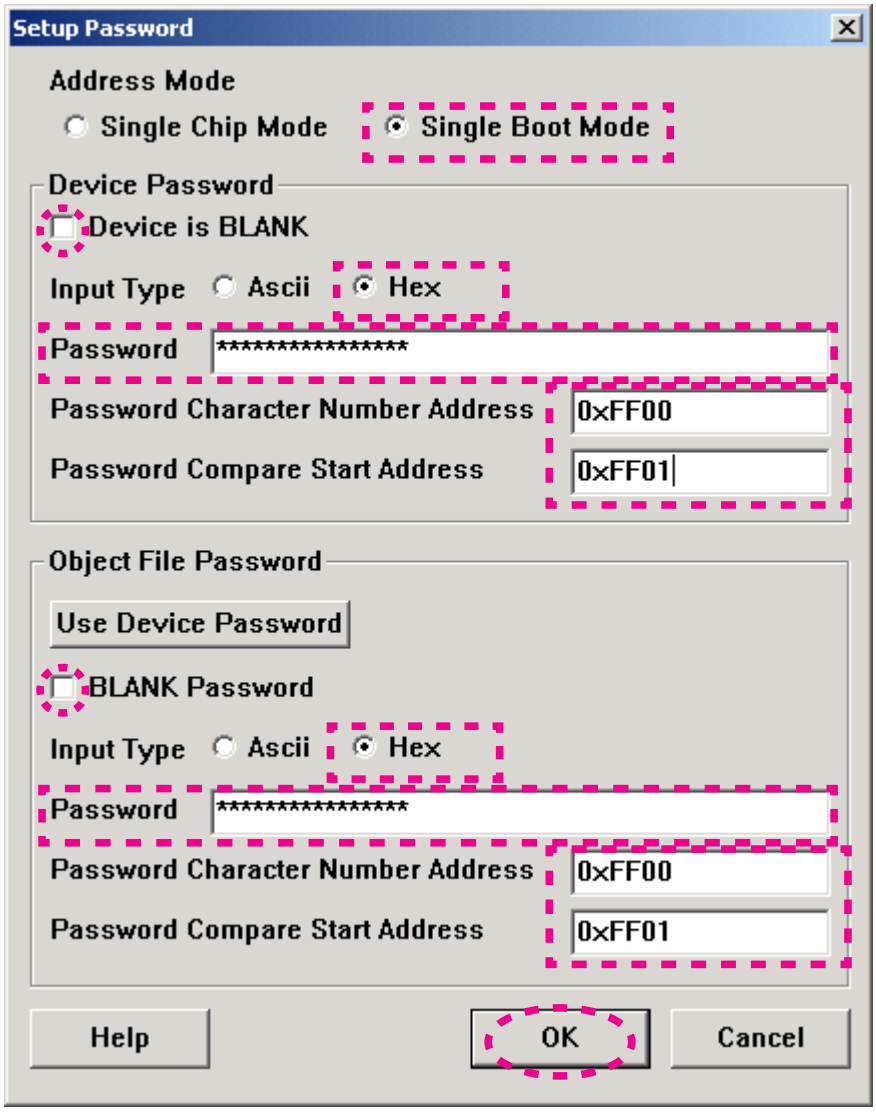
Setting in Device Password

- 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.

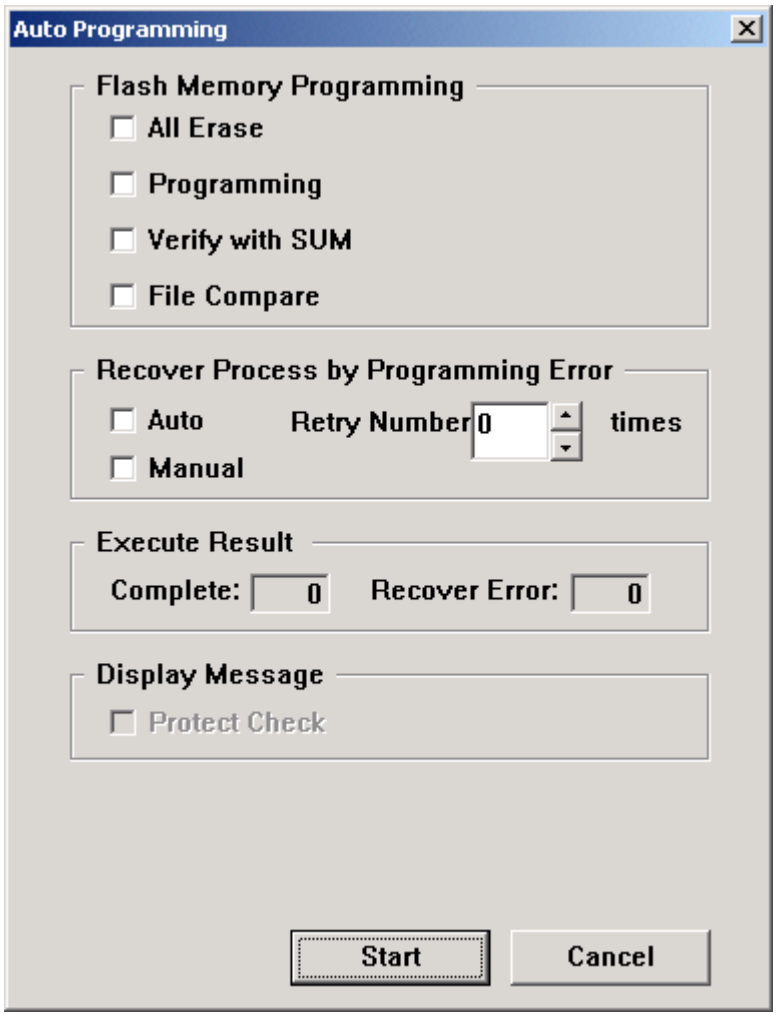
Setting in Object File Password

- 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.

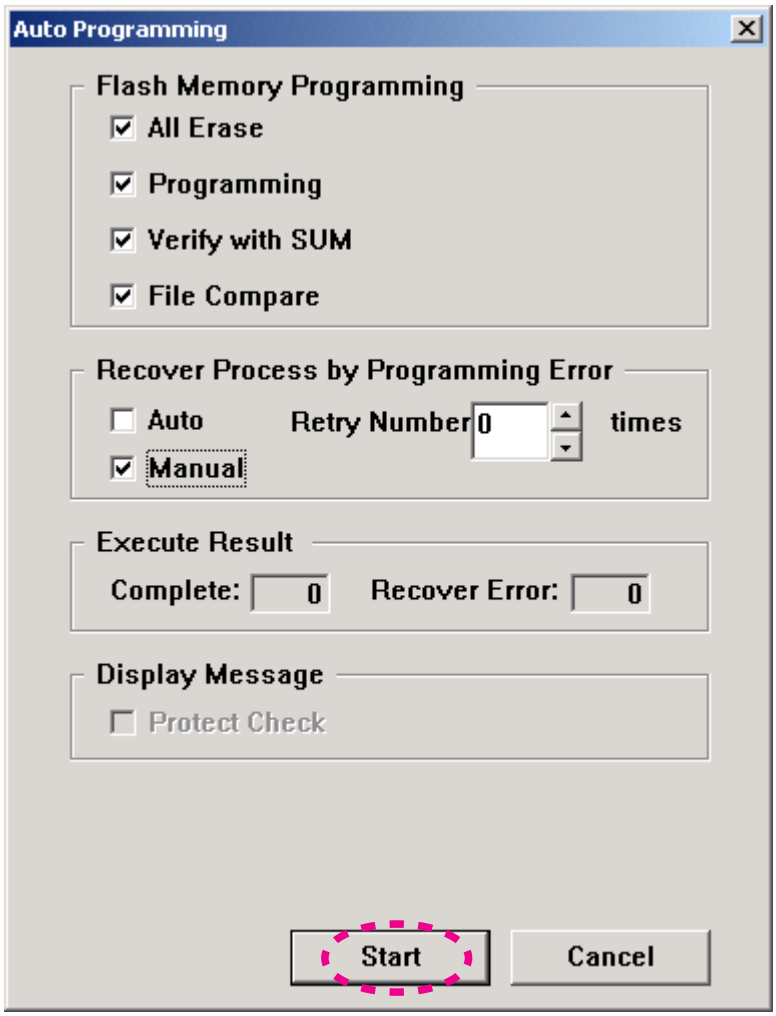
Click OK.



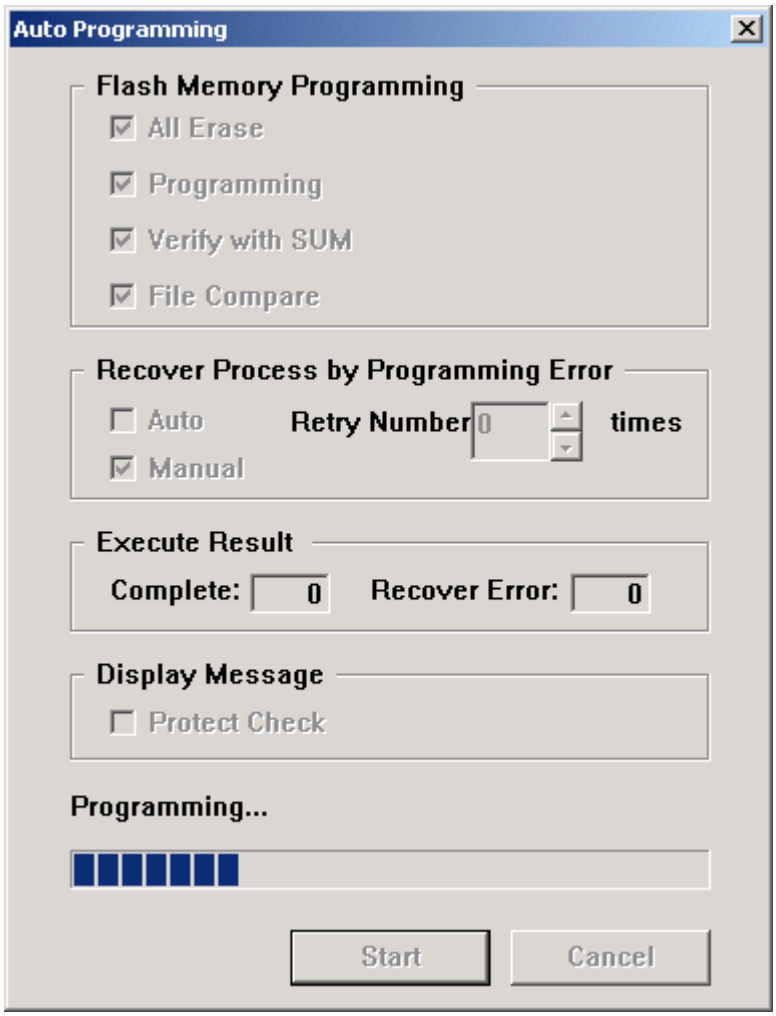
(23) Auto Programming opens.



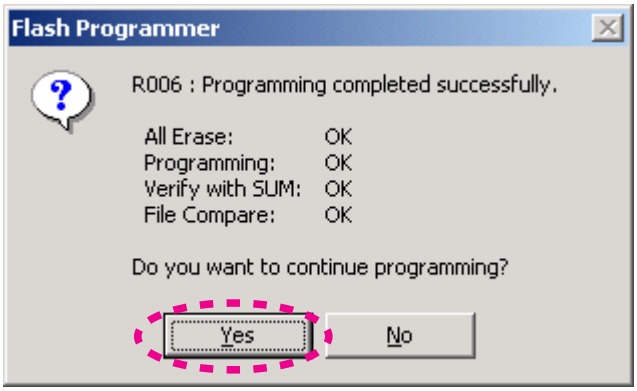
(24) Check All Erase, Programming, Verify with SUM and File Compare in Flash Memory Programming.
Check Manual in Recover Process by Programming Error.
Click Start.



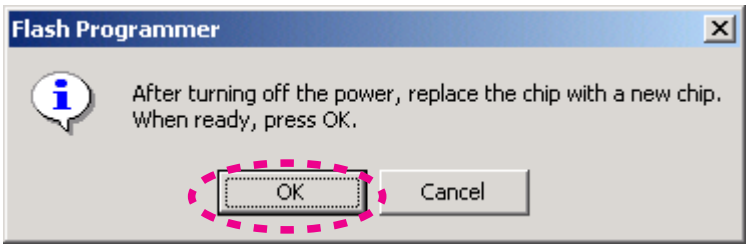
(25) Writing data is written into the microprocessor (U101).



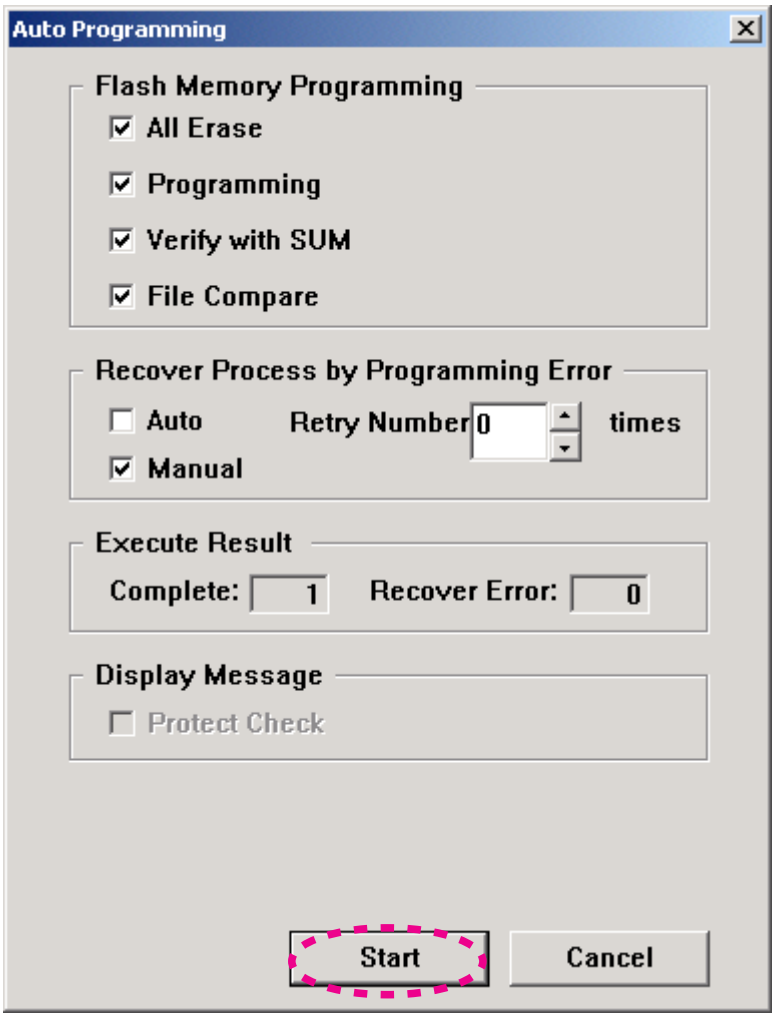
(26) Click Yes, when writing is successful.



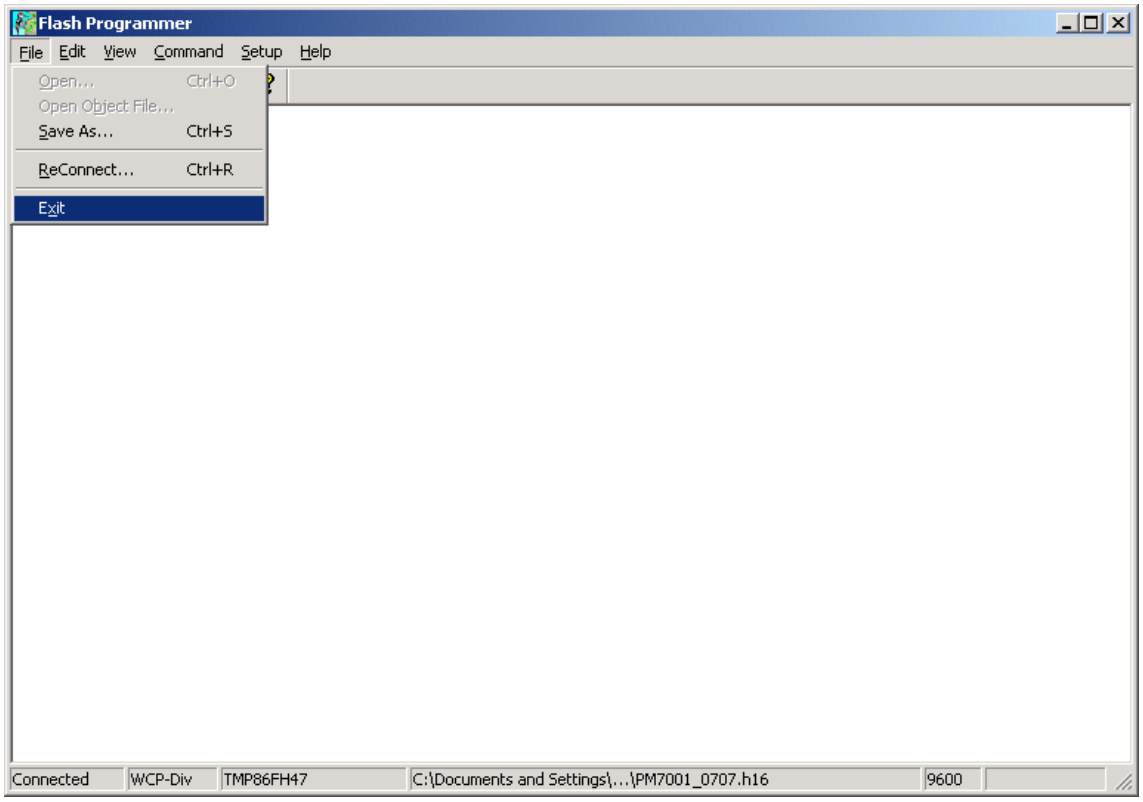
(27) Click Cancel.



(28) Click Cancel.



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

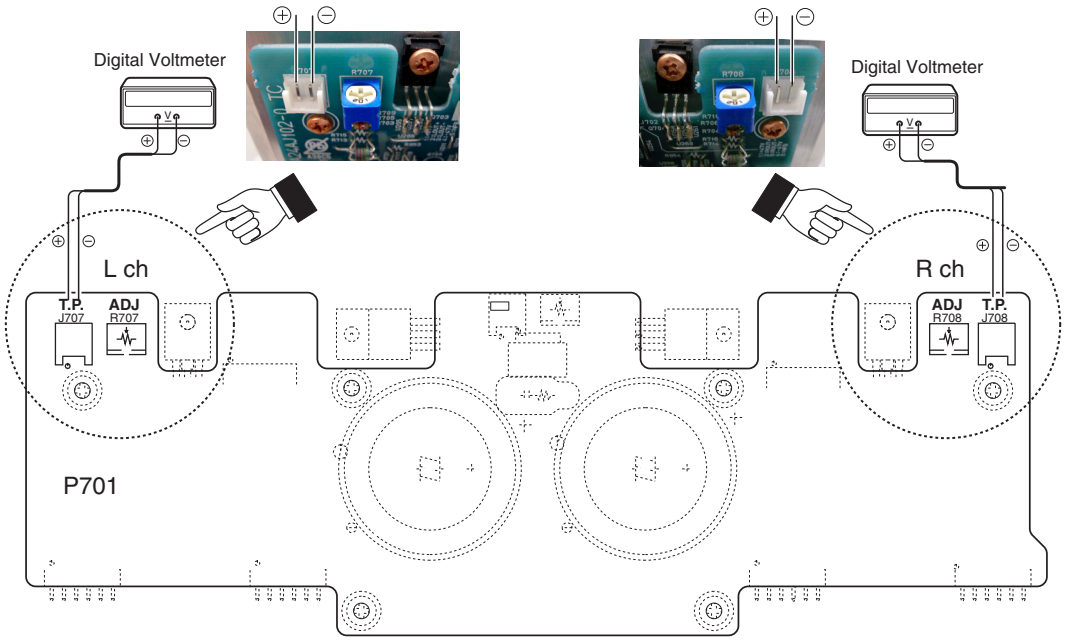


(30) Press the POWER ON/OFF button, and turn off the unit.
Disconnect each cable.

(31) Check the software version.
Refer to "3. SERVICE MODE" on page 4.

ADJUSTMENT

IDLING CURRENT ALIGNMENT



Adjustment Procedure

Set the power voltage to rated voltage for this adjustment.

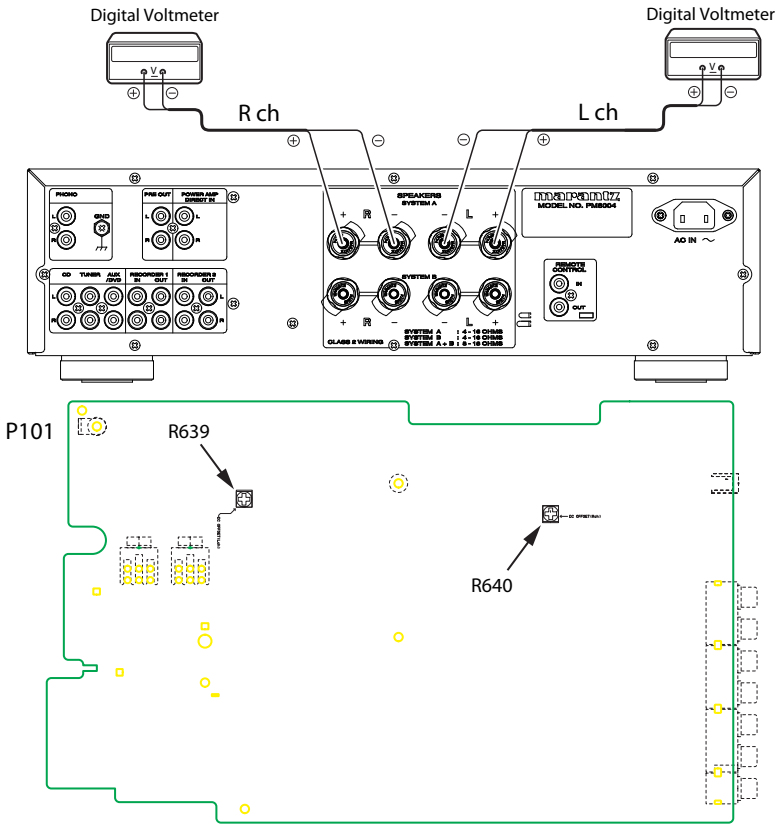
(1) Adjust the Idling Current with the variable resistor R707 and R708 on the PWB P701.
(2) Turn off the power.
(3) "+" of Connect Digital Voltage is connected to the No. 1 pin and connected "-" to No. 2 pin of J707.
(4) "+" of Connect Digital Voltage is connected to the No. 1 pin and connected "-" to No. 2 pin of J708.
(5) Before turning on the power, R707 and R708 have been counter clockwise turned with the adjustment driver.
(6) Turn on the power, VOLUME is set as -∞.
(7) After 2 minutes.
With seeing the digital voltage meter turn the variable resister clockwise slowly to adjust the idling current.
Idling adjustment with R707 (R708).
• Turn R707 (R708) clockwise to increase the idling current.
• The adjustment value of idling current is 3 mV(15 mA) ± 0.5 mV(2.5 mA) each.
(8) After 6 minutes.
Repeat the same procedure as 7.
• The adjustment value of idling current is 12.5 mV(62.5 mA) ± 0.5 mV(2.5 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 10 mV (50 mA) of setting value in about 30 minutes after turn on the power.

DC Offset Voltage Adjustment



Adjustment Procedure

Set the power voltage to rated voltage for this adjustment.

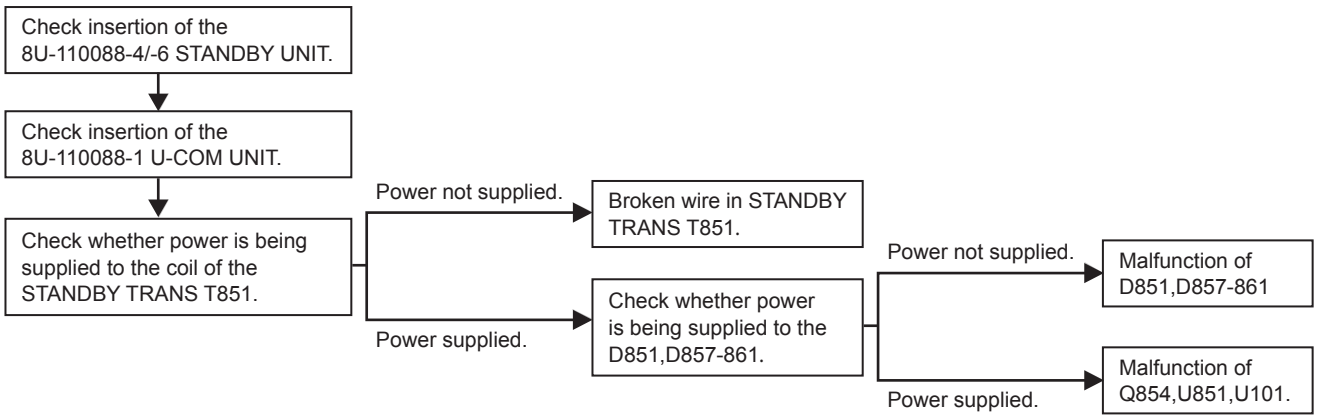
(1) Before turning on the power, Insert Digital Voltage Meter between the SPEAKERS SYSTEM A (L CH) "+" and "-". Insert Digital Voltage Meter between the SPEAKERS SYSTEM A (R CH) "+" and "-".
(2) Adjust the VOLUME to MIN.
(3) Turn on the power. Then turn the SPAKERS SW to A.
Adjustment is started immediately after a speaker relay turns on.
(4) First L CH is adjusted.
The variable resistor R639 on P101 is turned with adjustment driver, and the Digital Voltage Meter is adjusted to "0 mV ± 3 mV".
(5) Then, R CH is adjusted.
The variable resistor R640 on P101 is turned with adjustment driver, and the Digital Voltage Meter is adjusted to "0 mV ± 3 mV".

NOTE : DC offset voltage drops when turn the semi-fixed resistor (R639 and R640) 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.

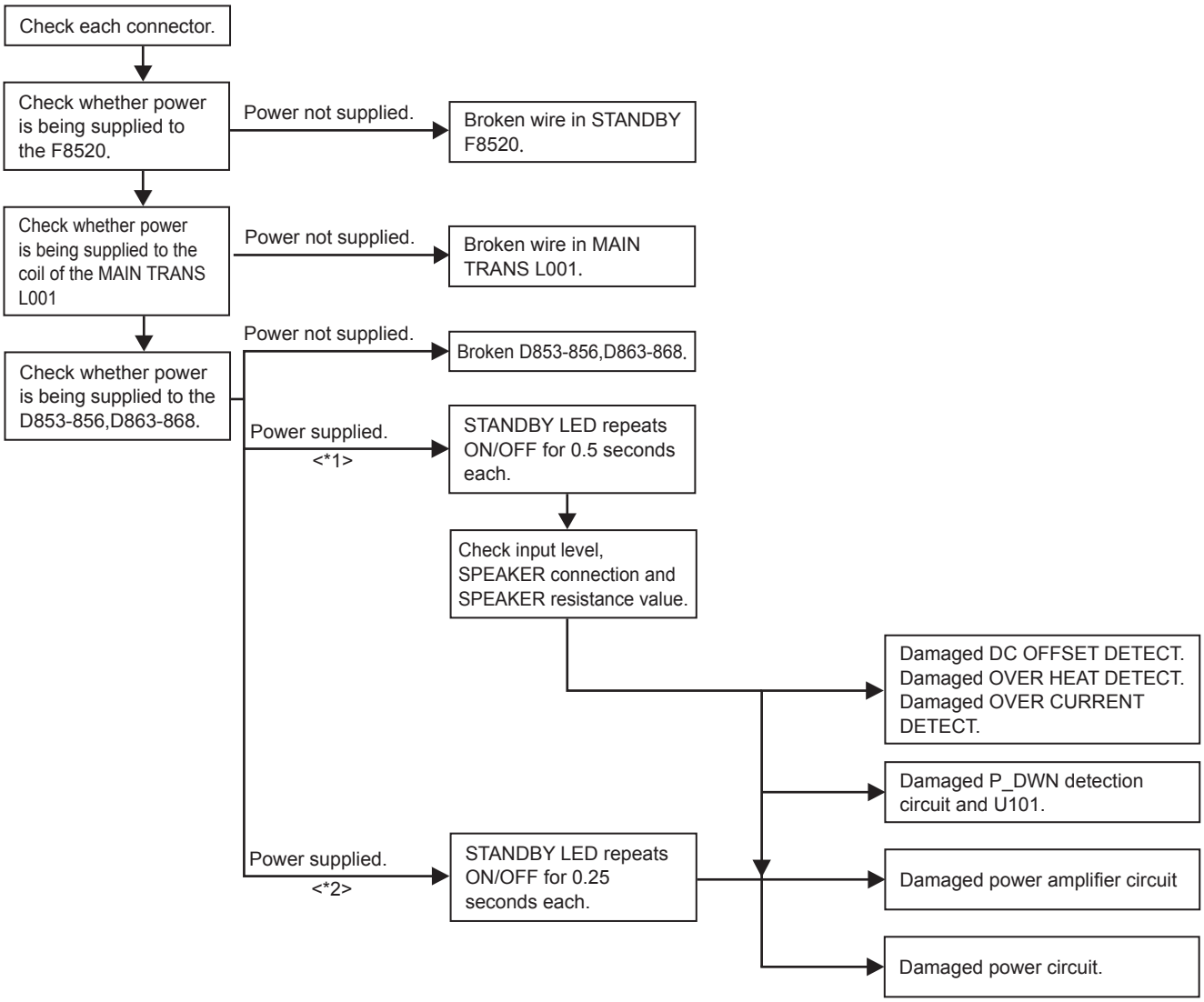
(6) Although after-adjustment DC offset voltage has some change, Please check that the range of DC offset voltage between L ch (R ch) "+" and L ch (R ch) "-" terminal of SPEAKERS SYSTEM A is "0 mV ± 20 mV". CHART OF FACTORY MODE.

TROUBLE SHOOTING

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



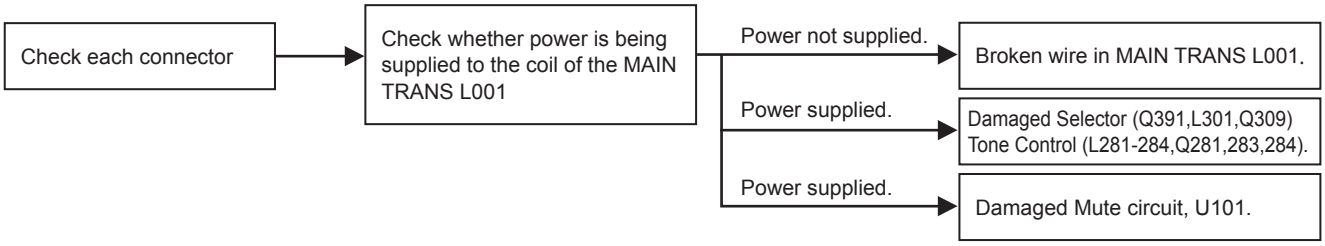
2. The power can not be turned on. (STANDBY LED lights→flash)



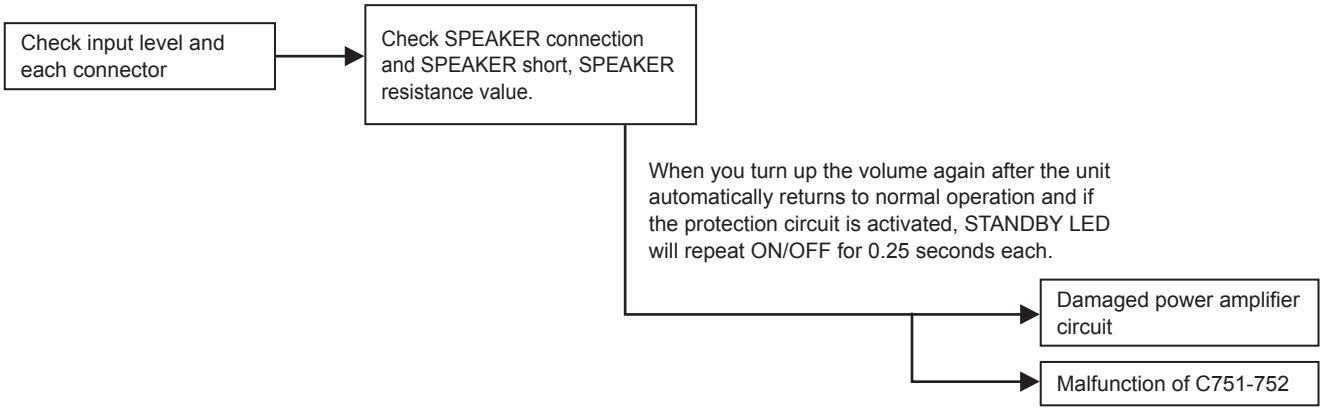
3. STANDBY LED flashes while using unit. (protection circuit is set)

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

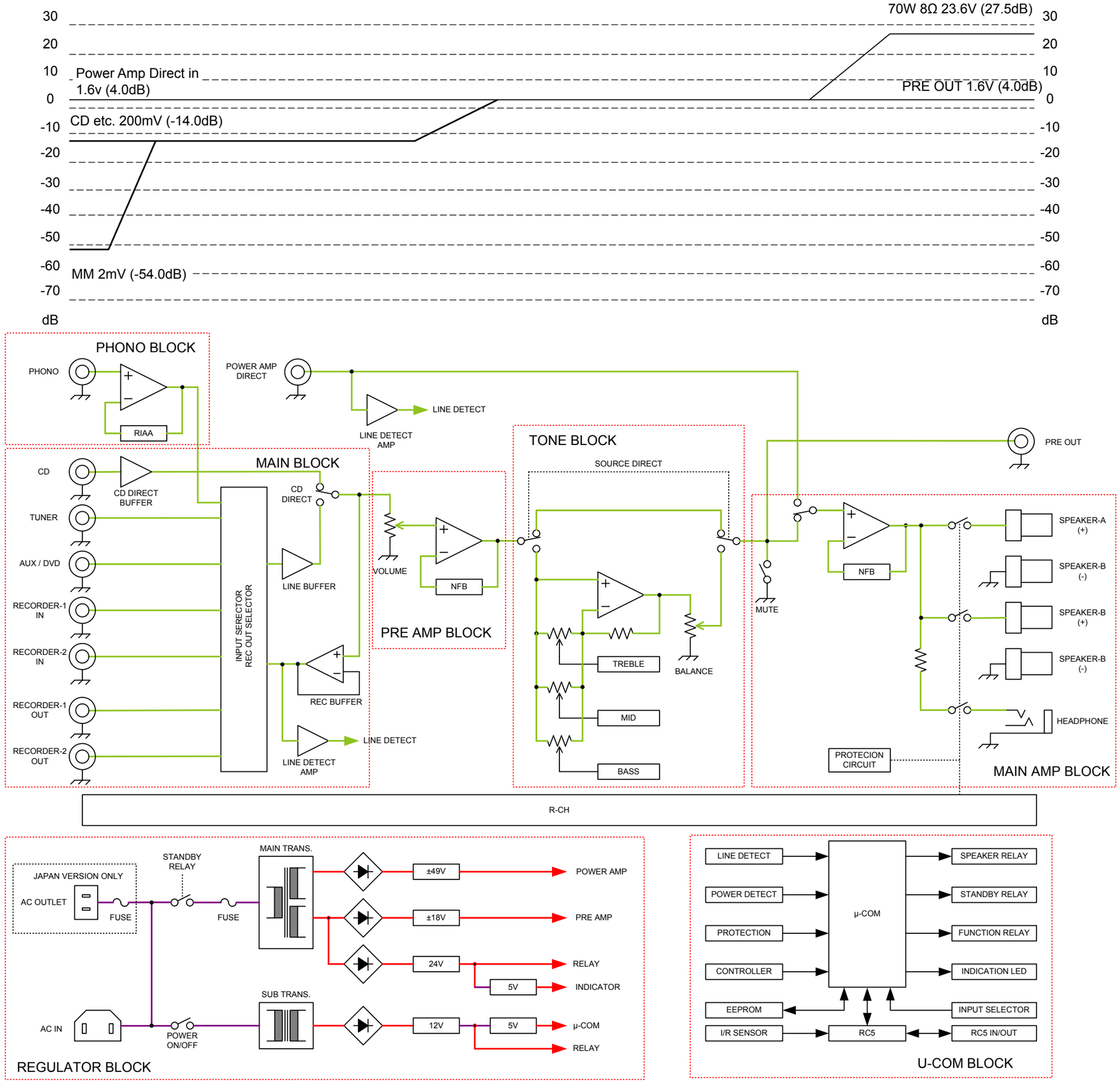
4.1 STANDBY LED does not flash (protection mode is not set)



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.

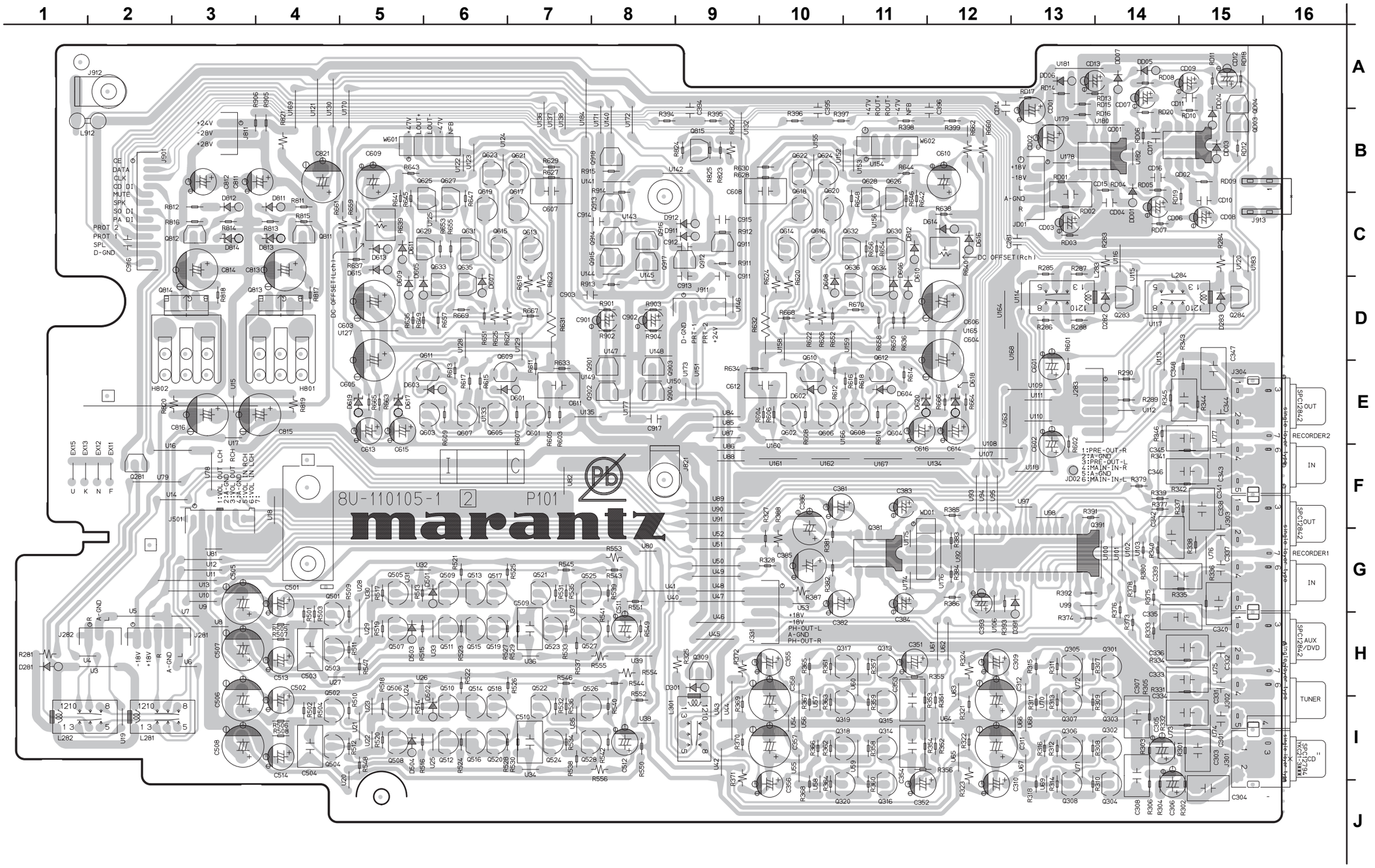


BLOCK DIAGRAM AND LEVEL DIAGRAM



PRINTED WIRING BOARDS

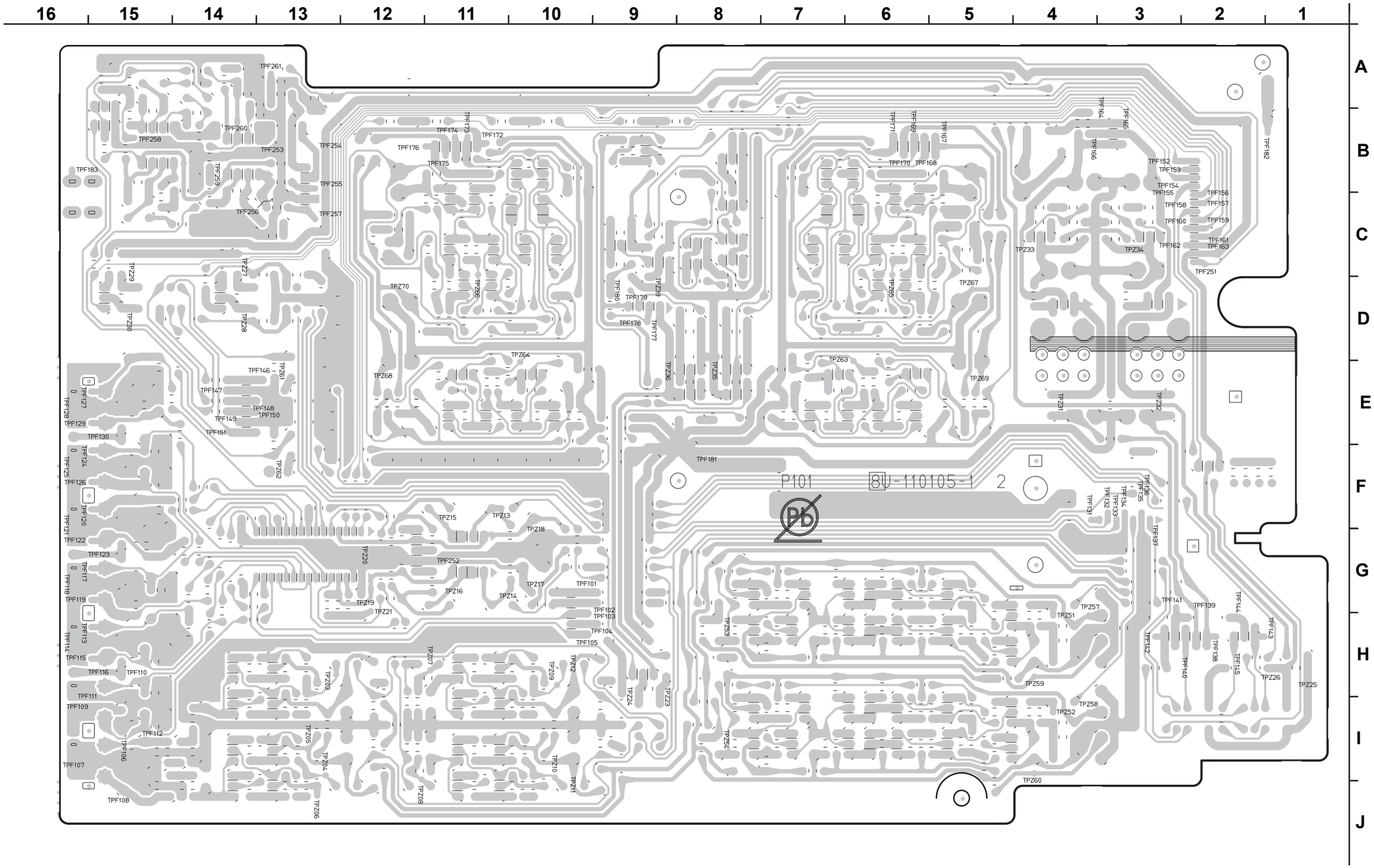
MAIN (COMPONENT SIDE)



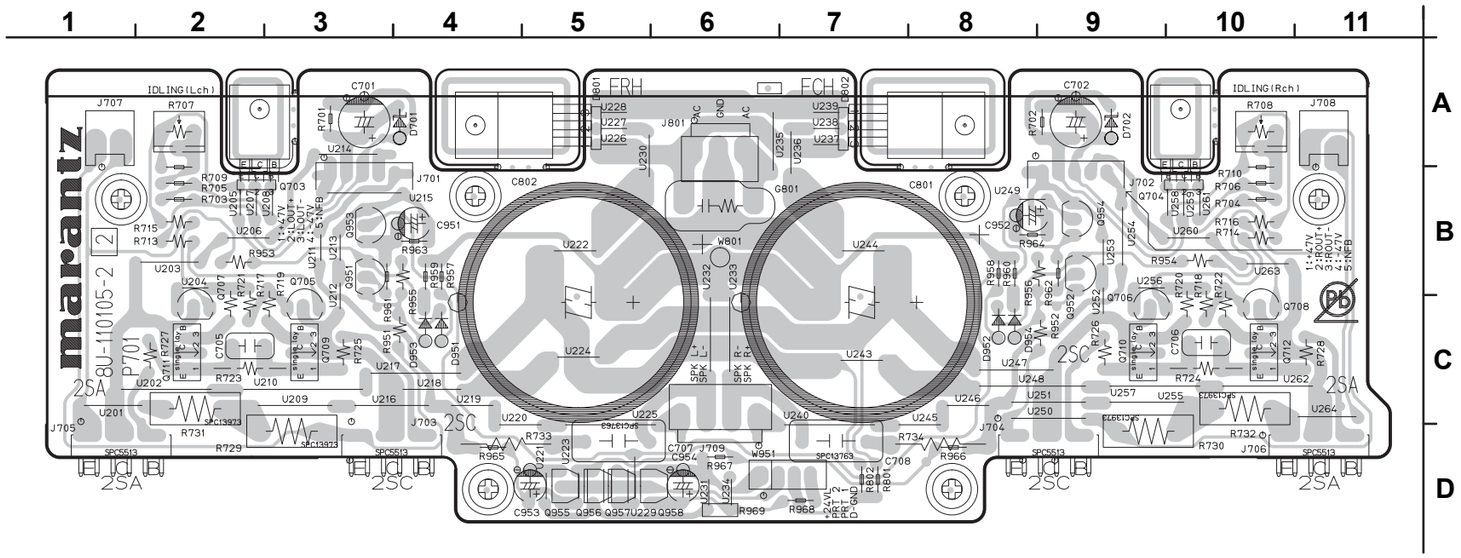
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

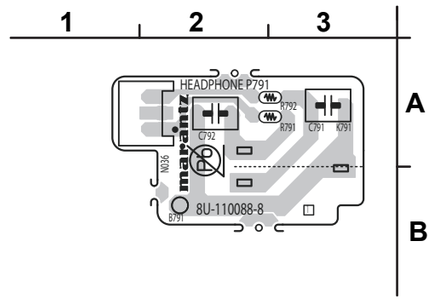
MAIN (FOIL SIDE)



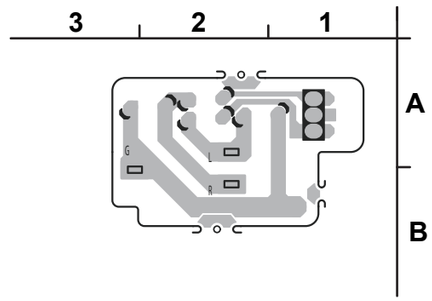
POWER STAGE (COMPONENT SIDE)



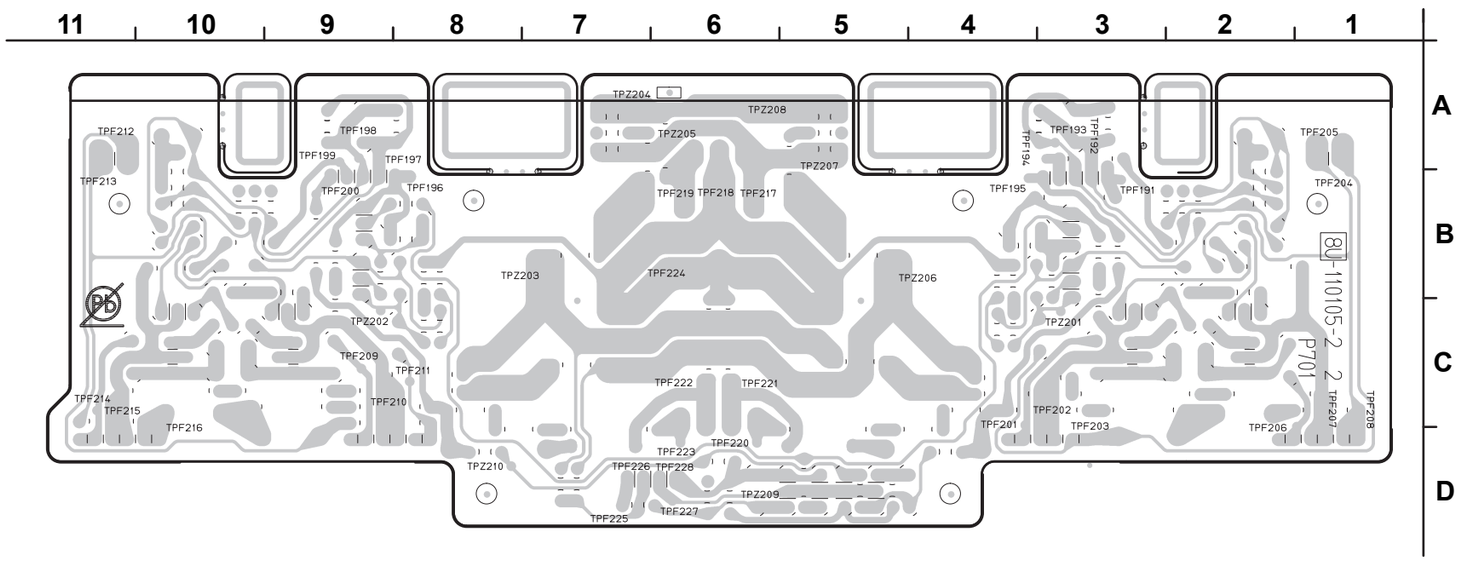
HEADPHONE. (COMPONENT SIDE)



HEADPHONE. (FOIL SIDE)



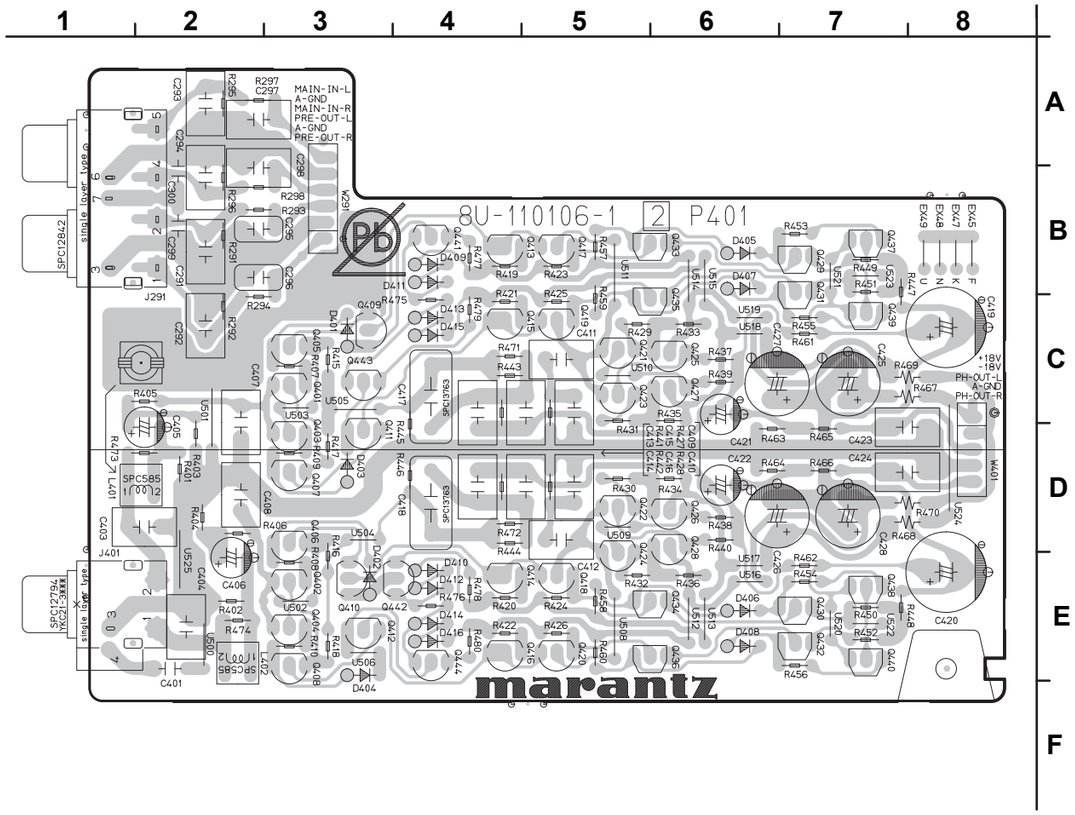
POWER STAGE (FOIL SIDE)



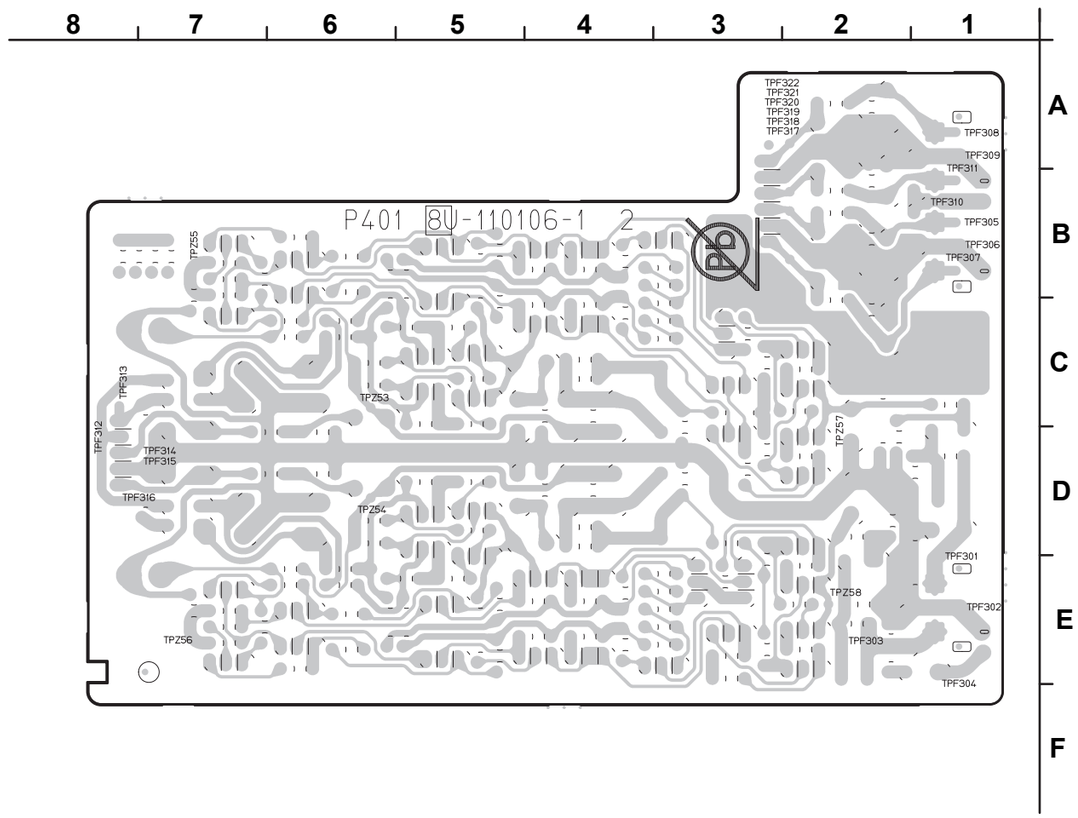
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

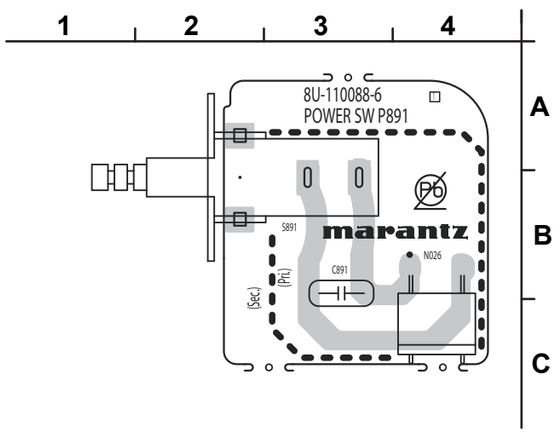
PHONO AMP (COMPONENT SIDE)



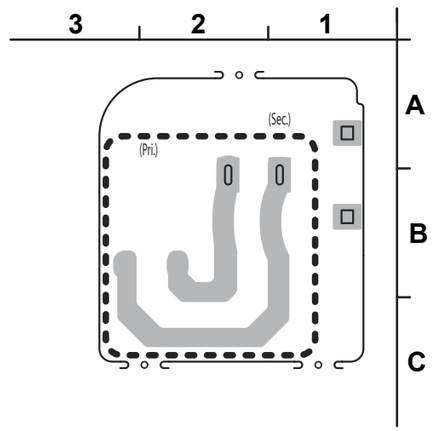
PHONO AMP (FOIL SIDE)



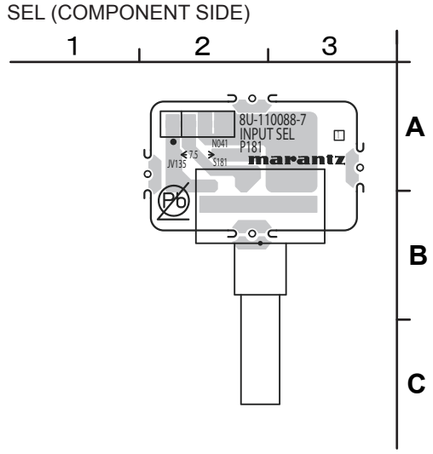
POWER SW (COMPONENT SIDE)



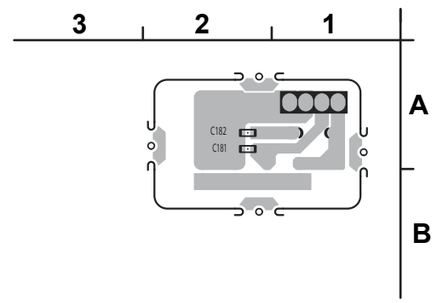
POWER SW (FOIL SIDE)



SEL (COMPONENT SIDE)



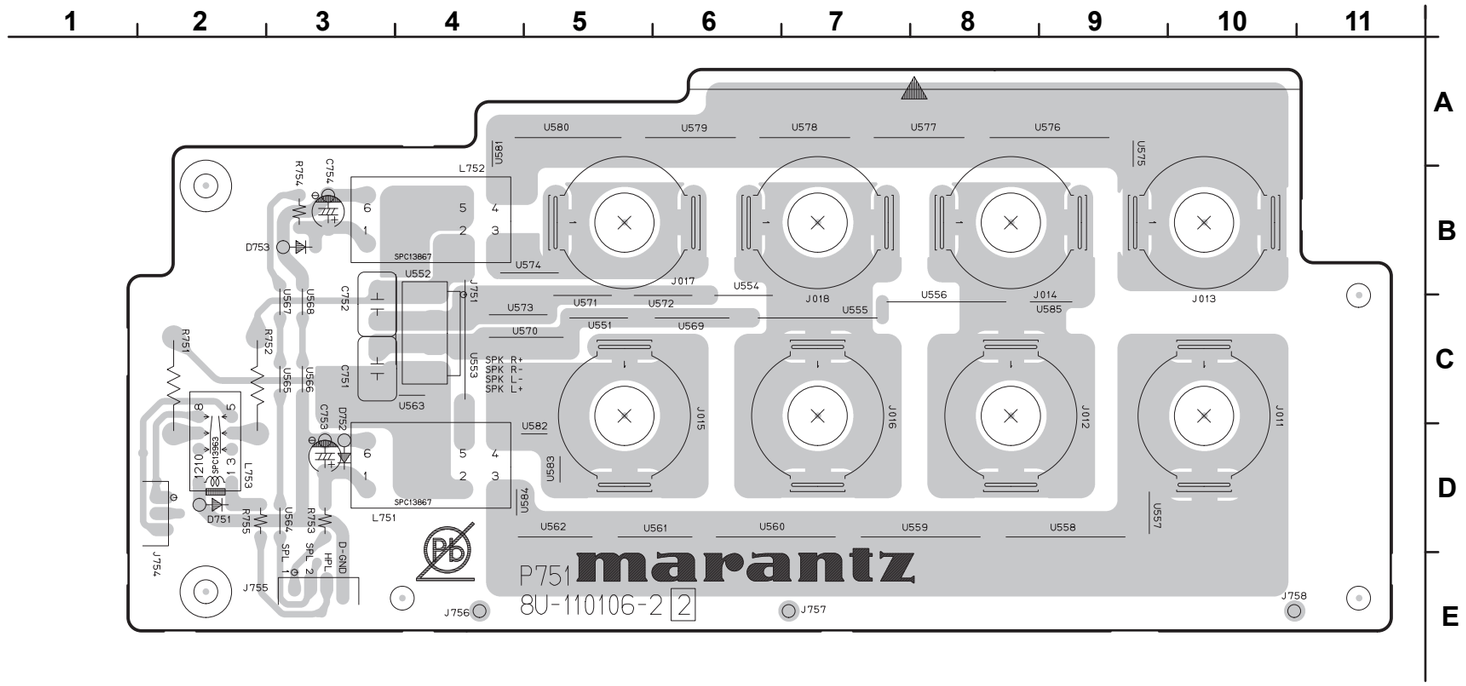
SEL (FOIL SIDE)



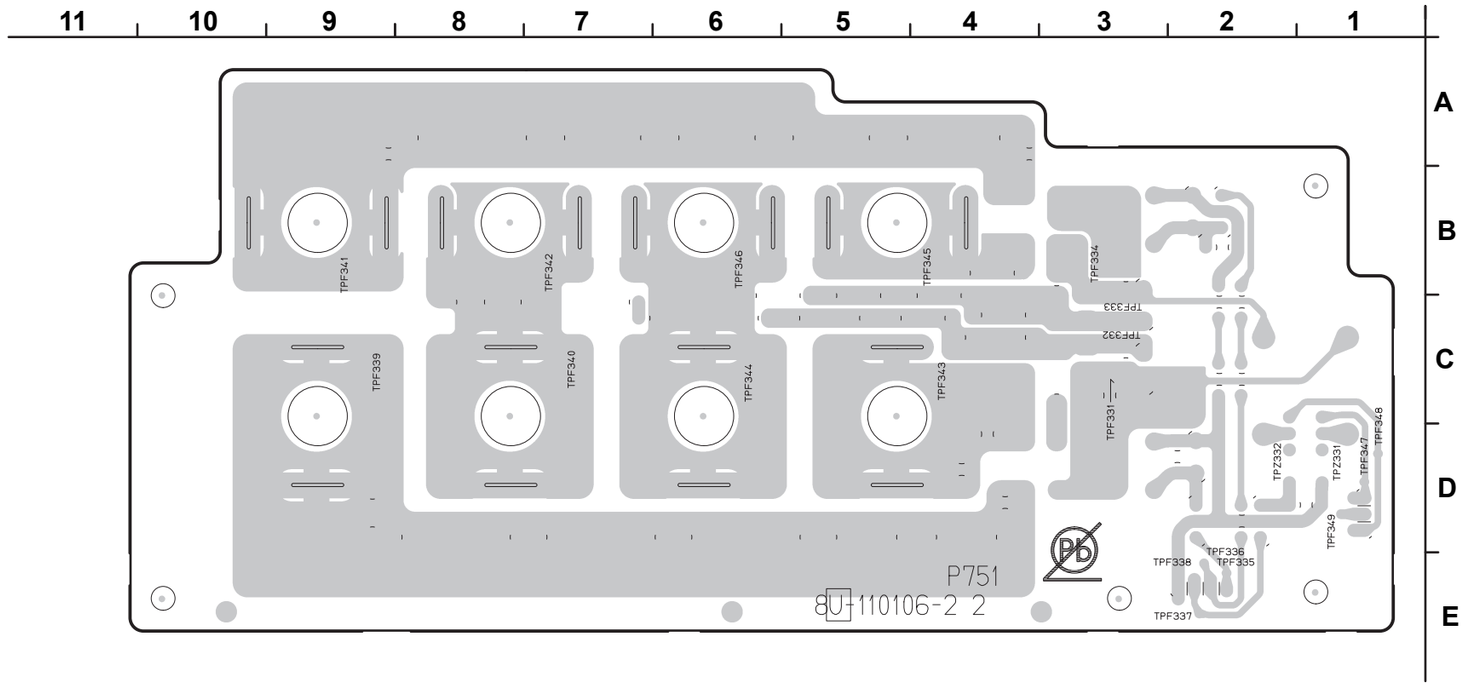
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

SPK TERMINAL (COMPONENT SIDE)



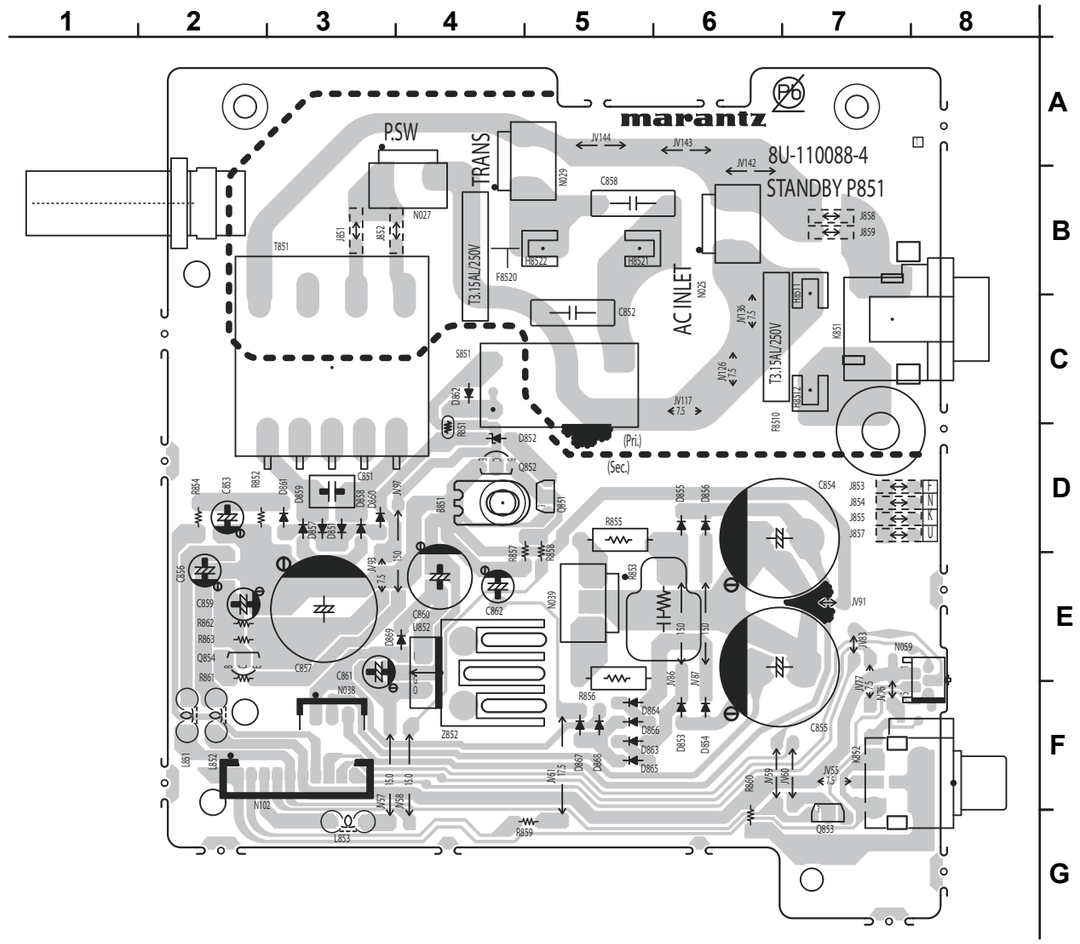
SPK TERMINAL (FOIL SIDE)



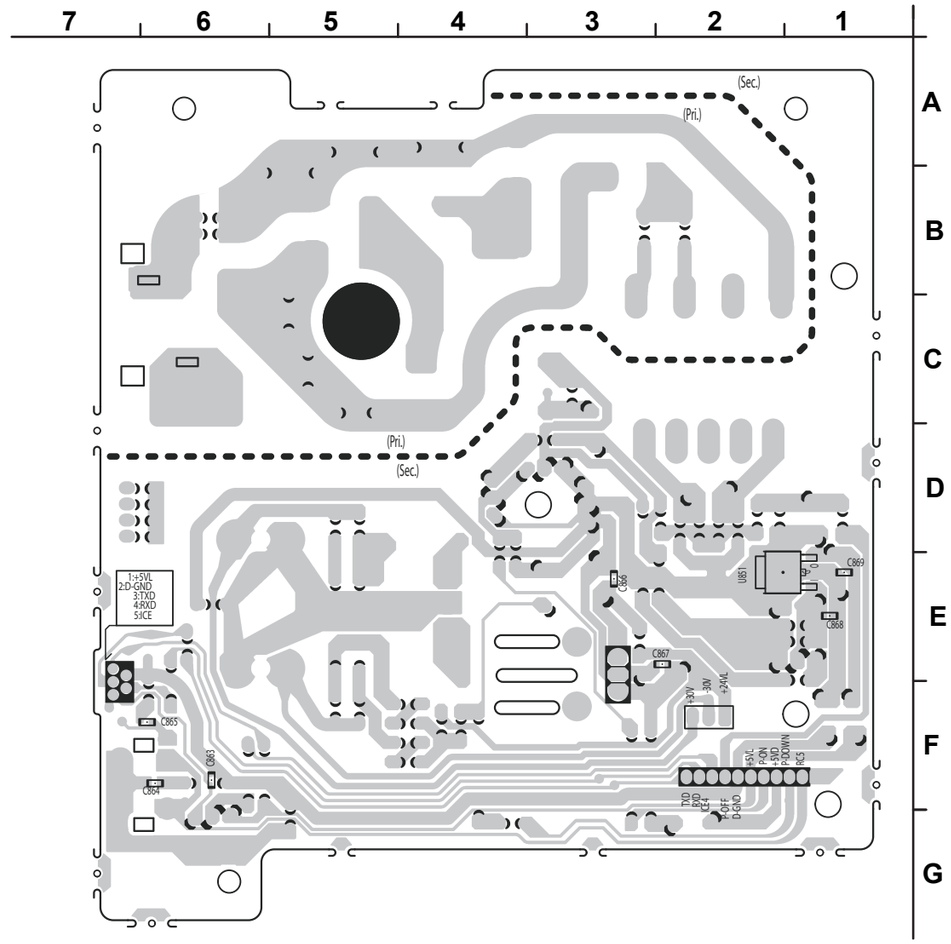
鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

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

STANDBY (COMPONENT SIDE)



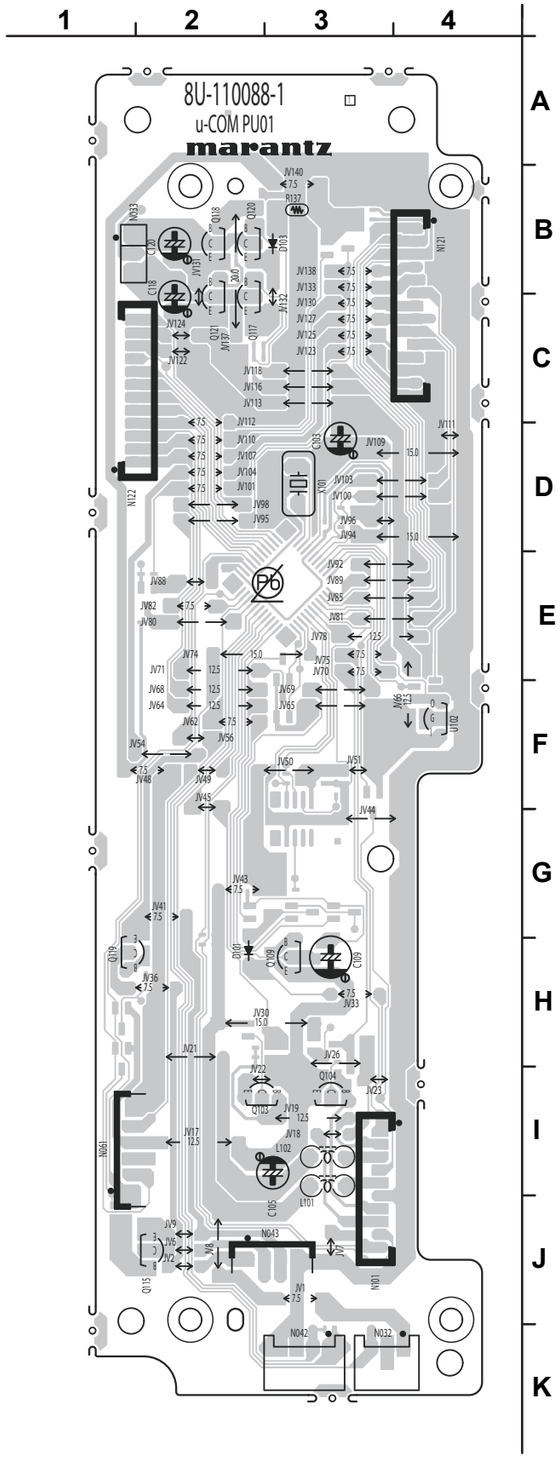
STANDBY (FOIL SIDE)



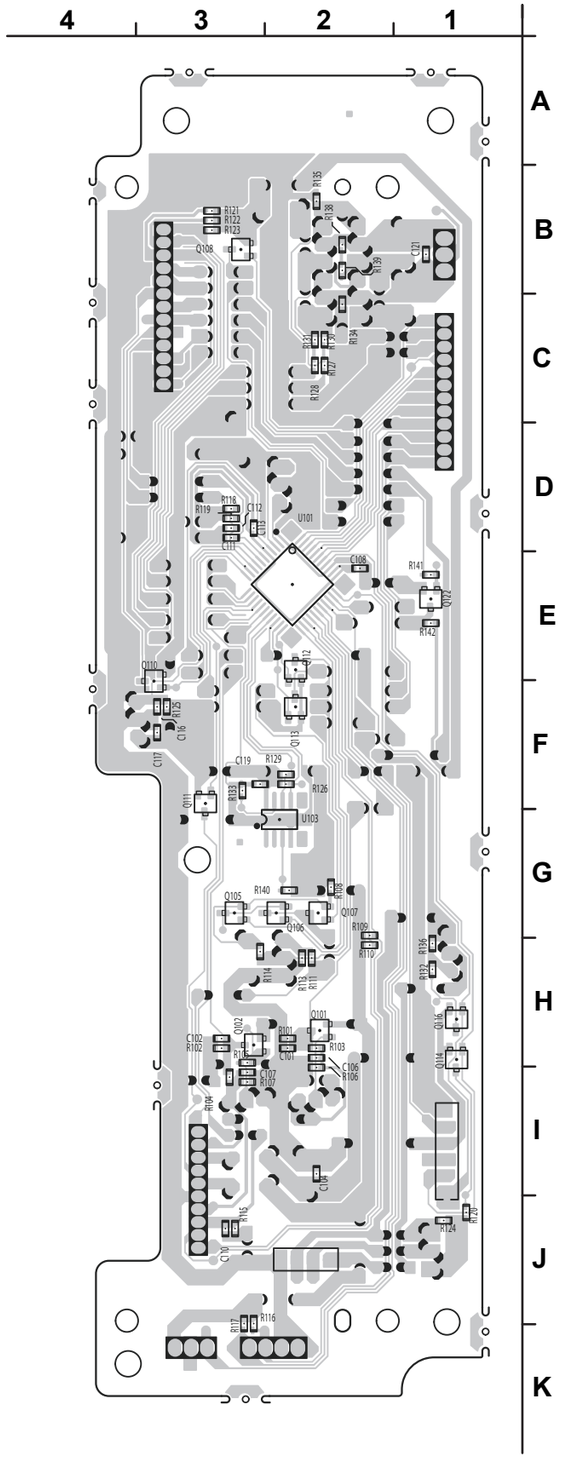
鉛フリー半田
半田付けには、鉛フリー半田
(Sn-Ag-Cu) を使用してください。

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

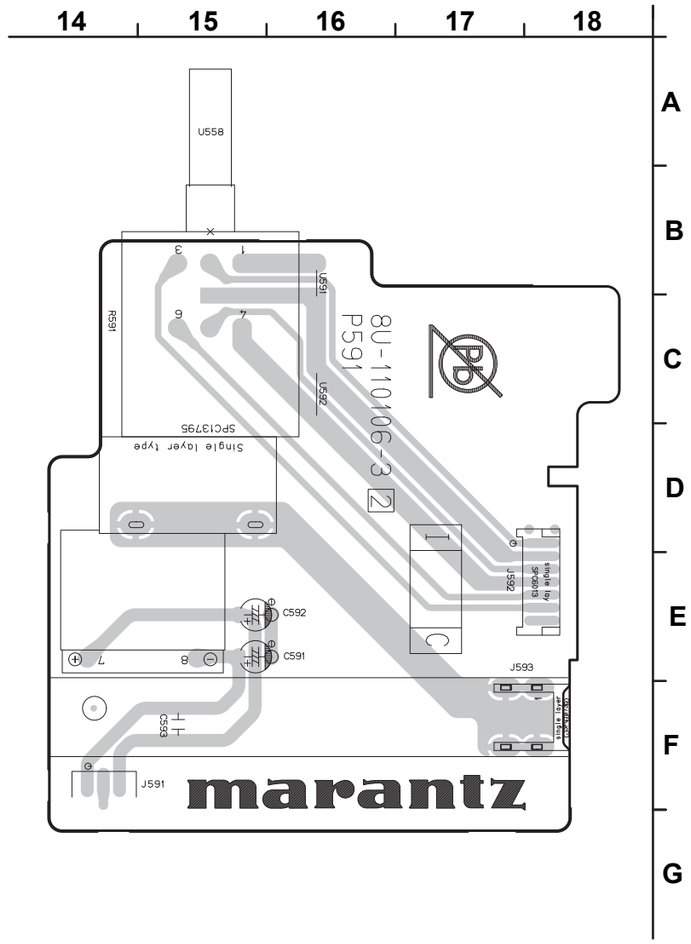
U-COM (COMPONENT SIDE)



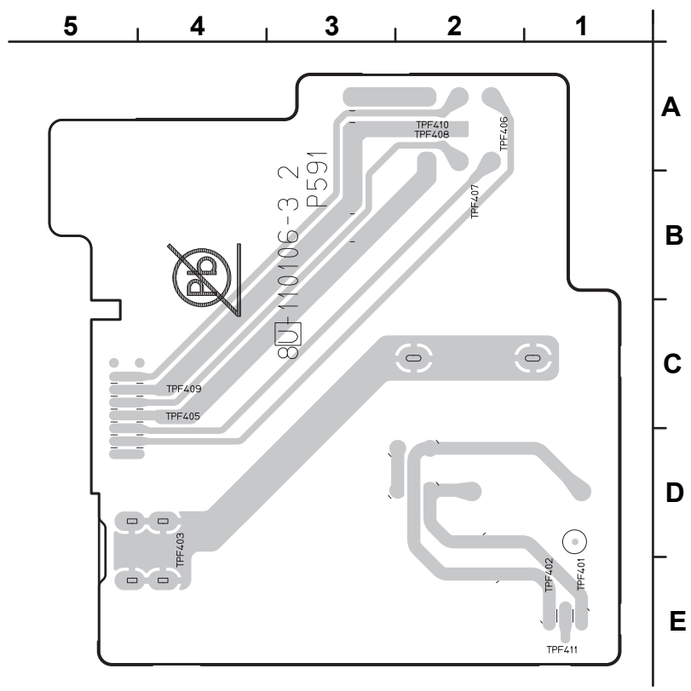
U-COM (FOIL SIDE)



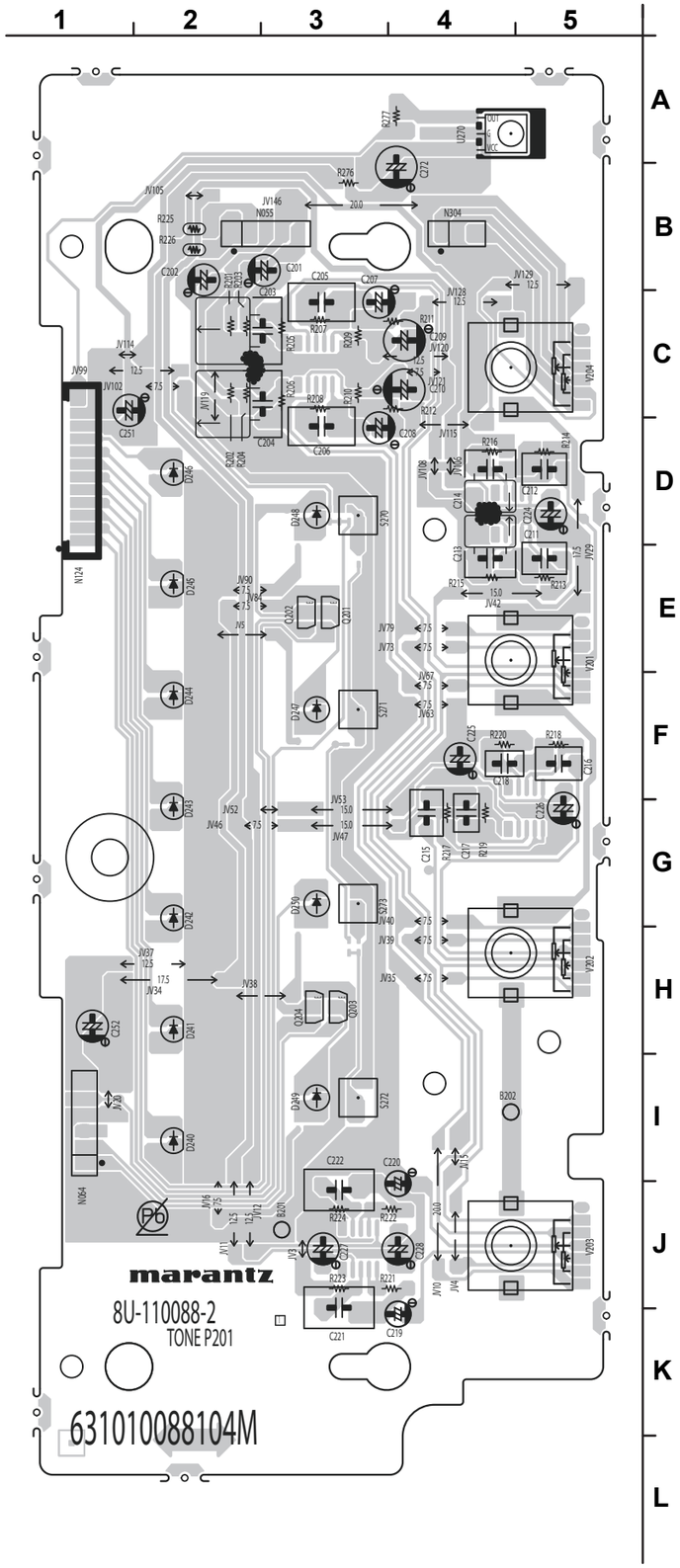
VOLUME (COMPONENT SIDE)



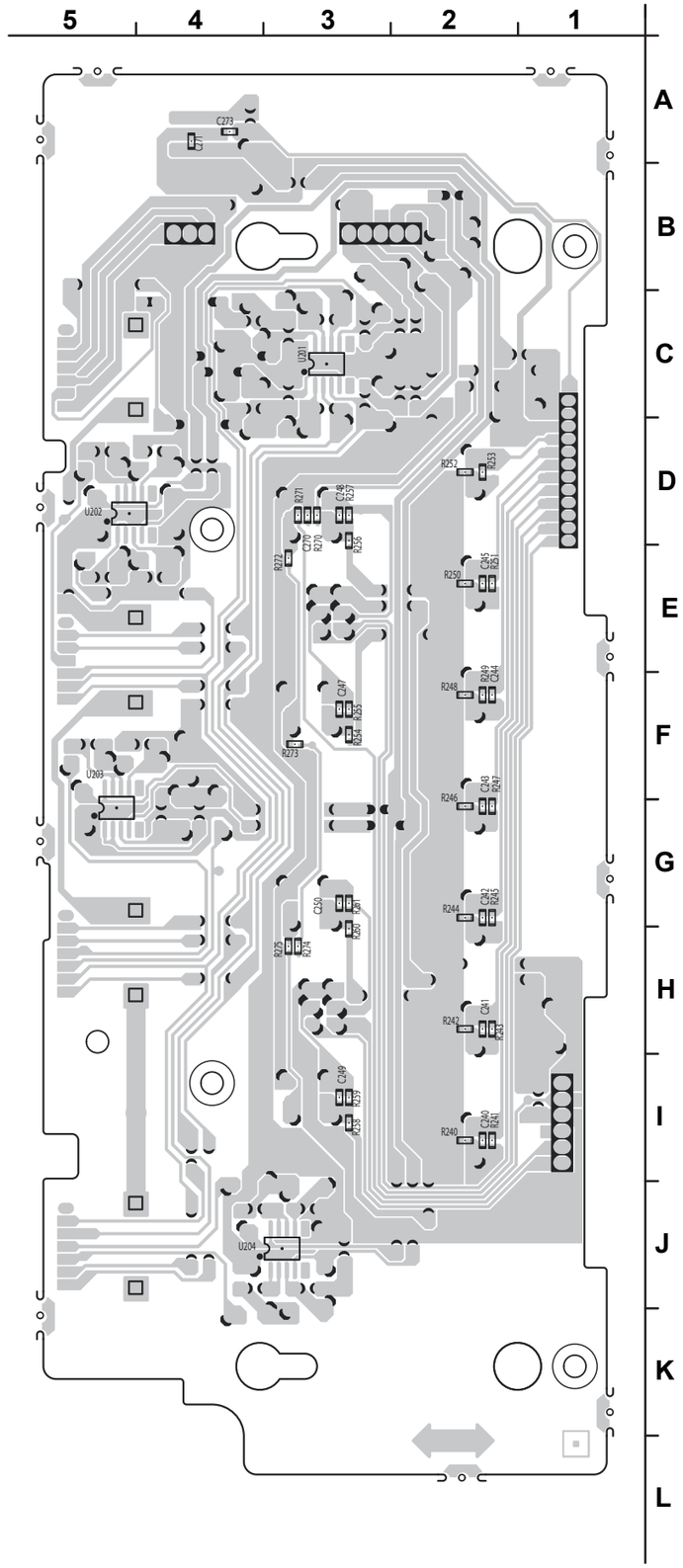
VOLUME (FOIL SIDE)



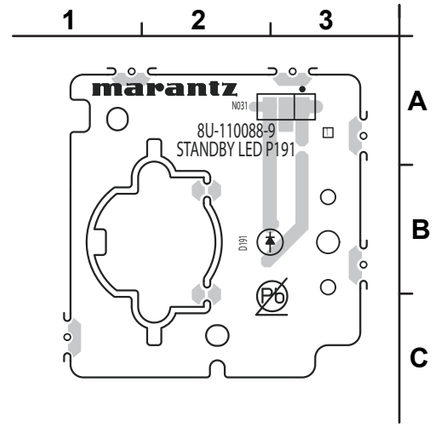
TONE AMP (COMPONENT SIDE)



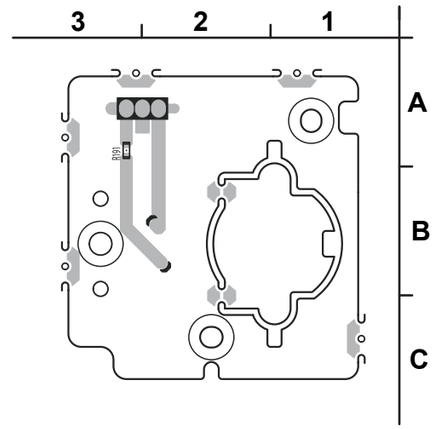
TONE AMP (FOIL SIDE)

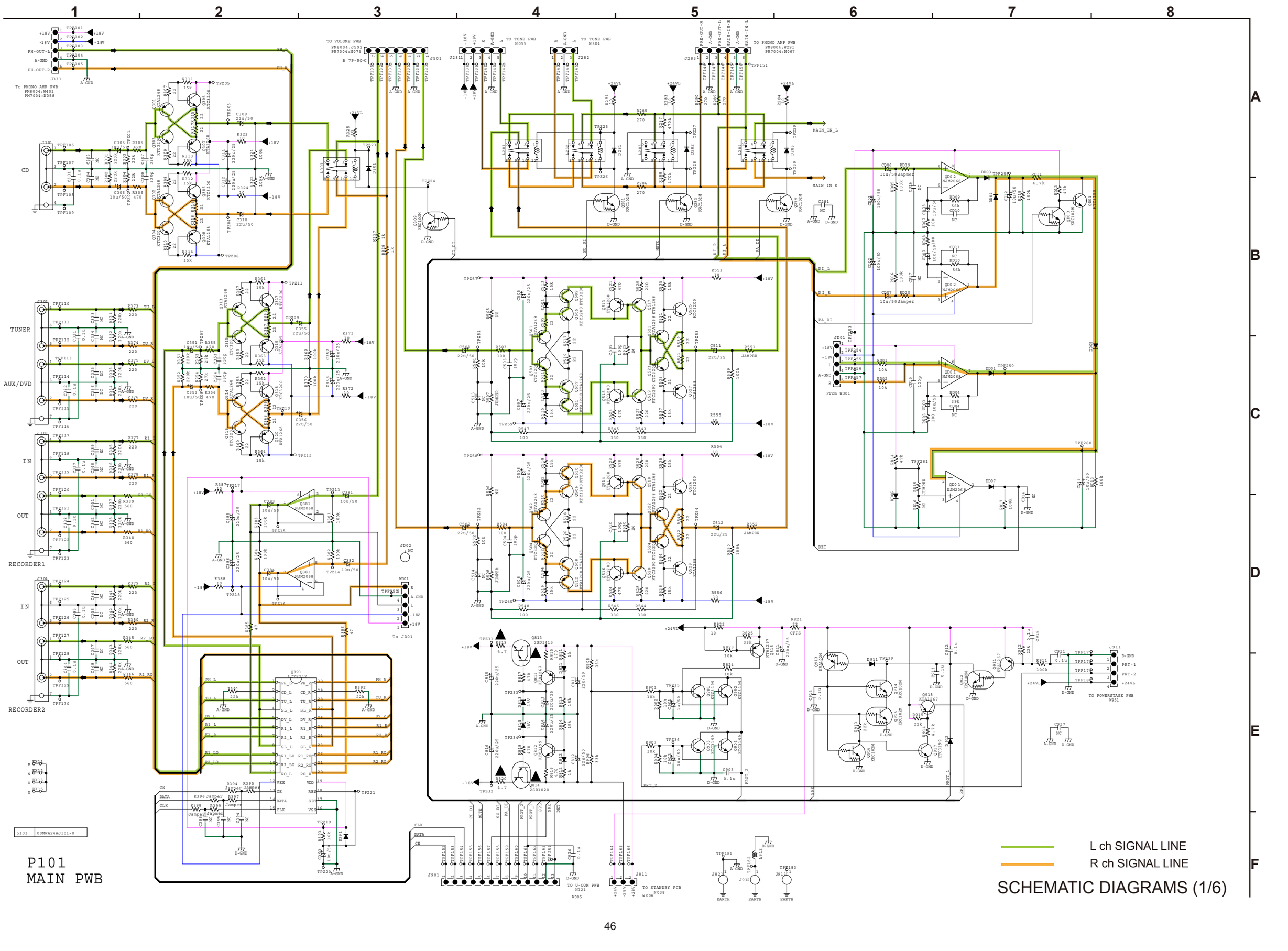


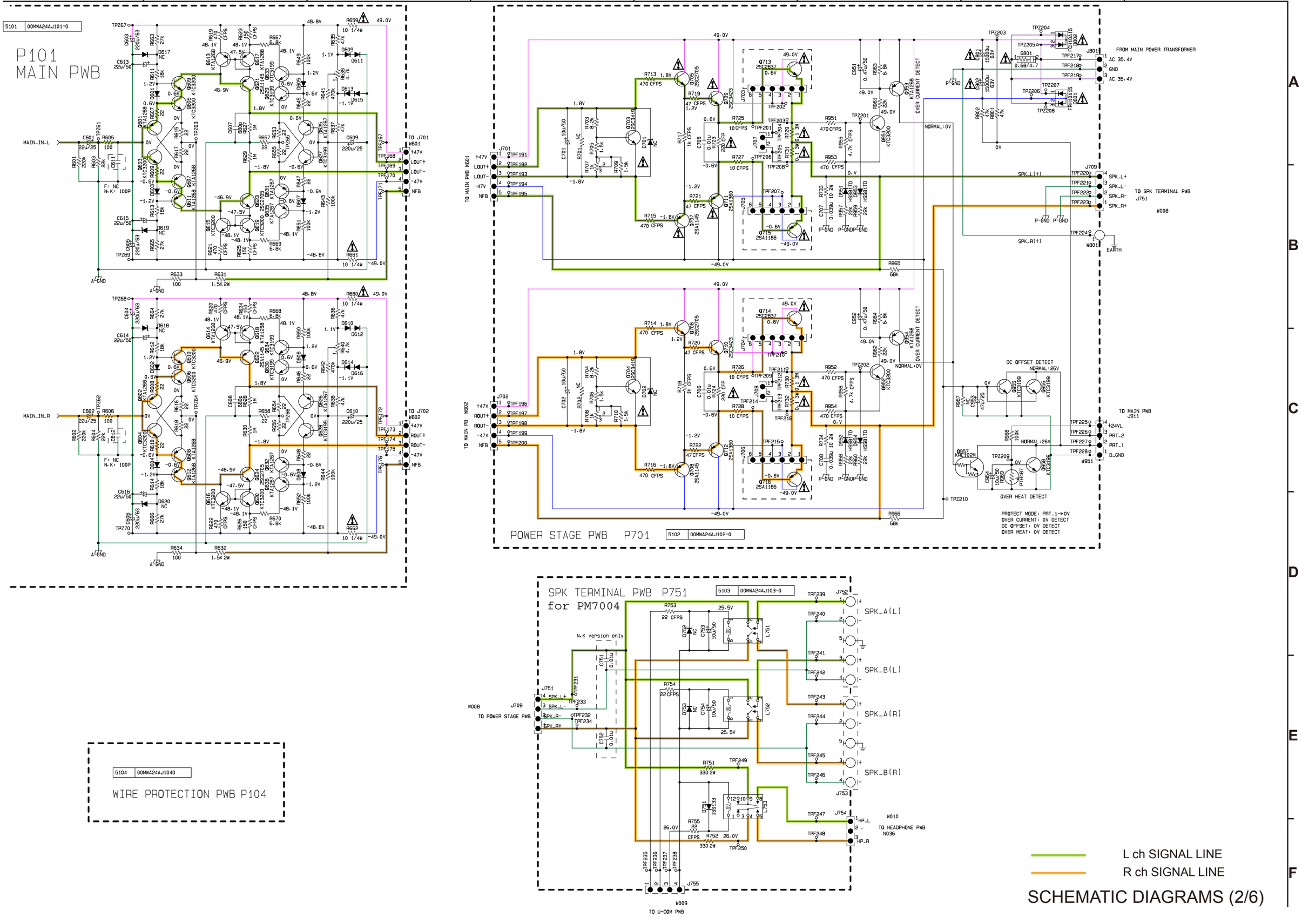
STANDBY LED (COMPONENT SIDE)



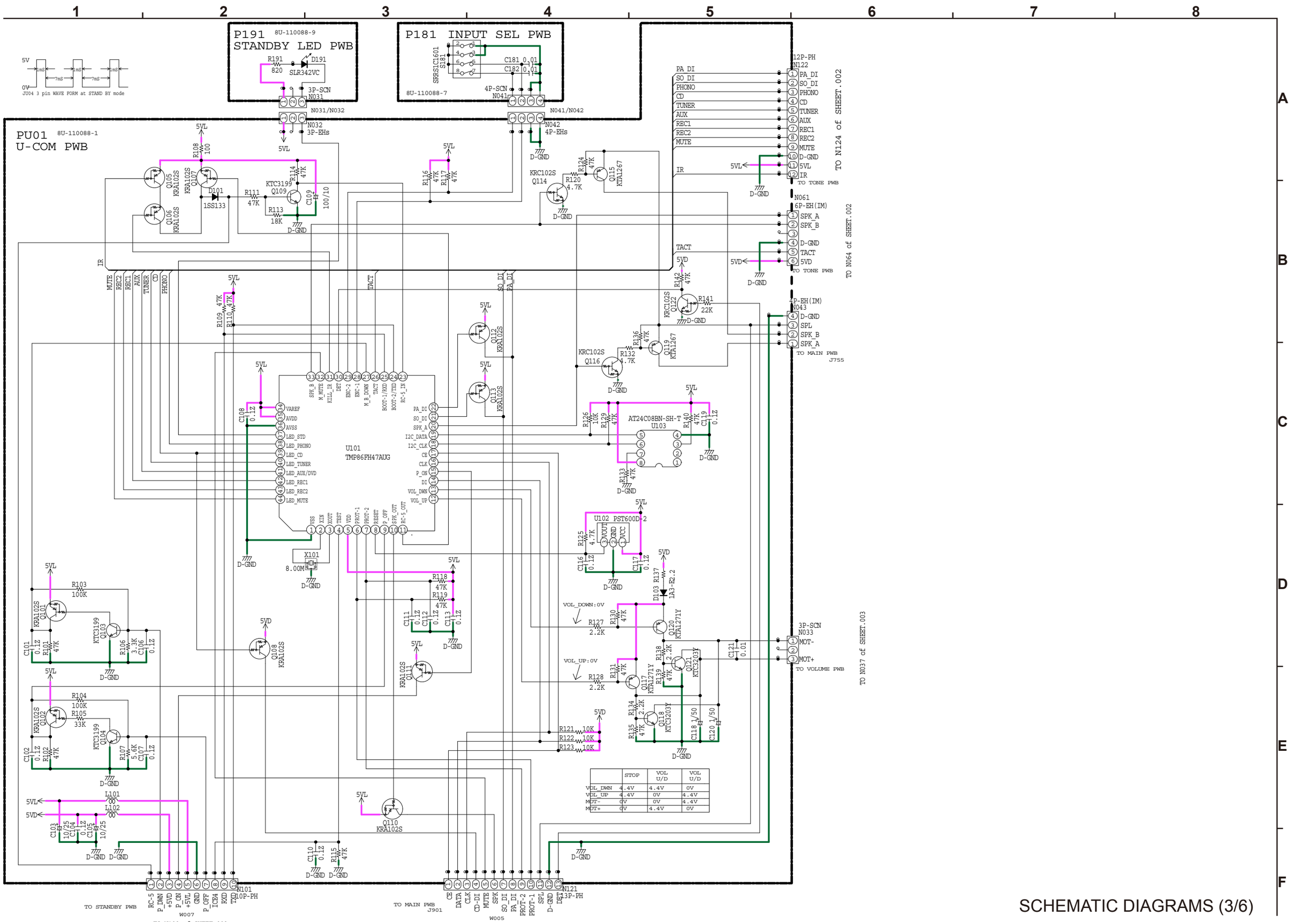
STANDBY LED (FOIL SIDE)



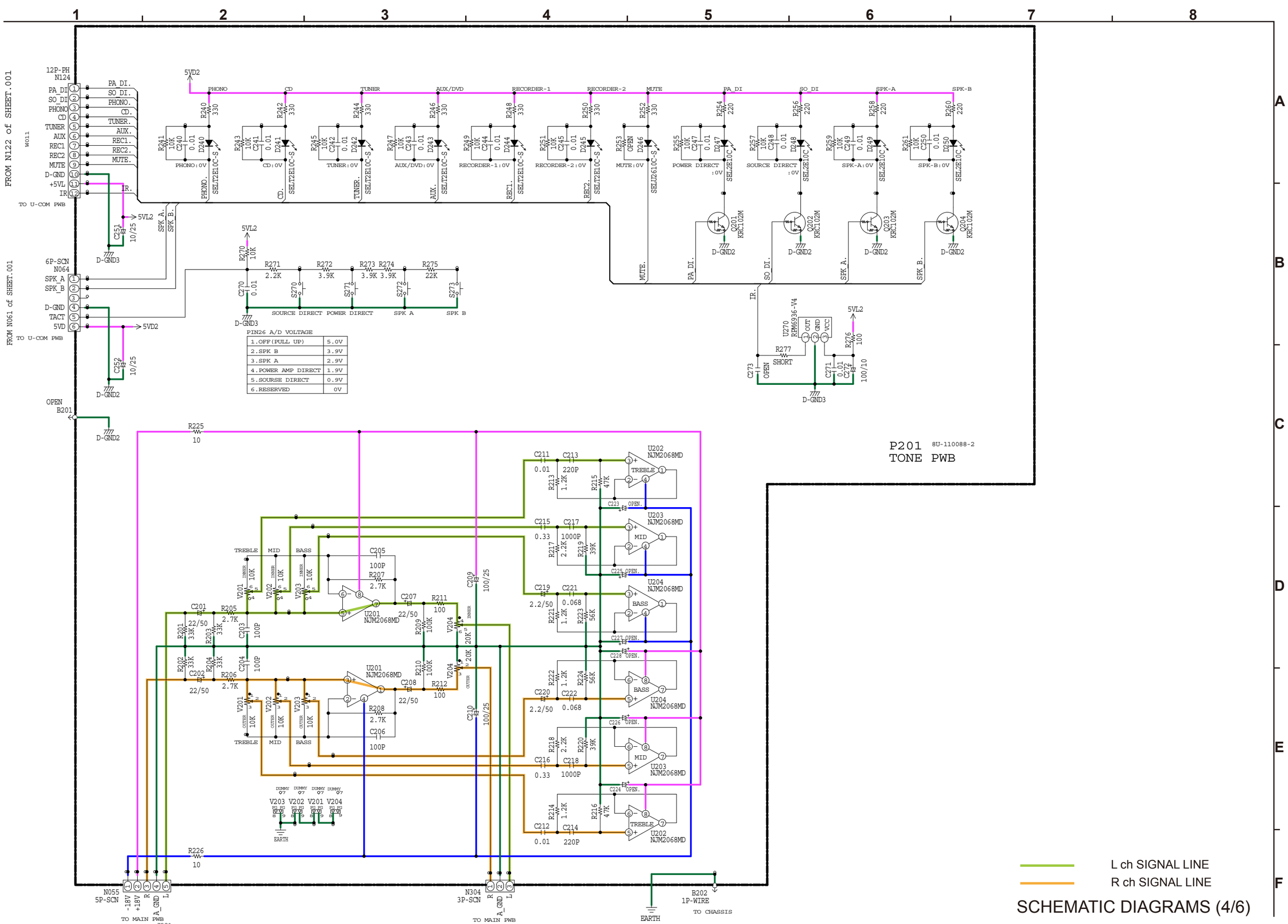

1
2
3
4
5
6
7
8
A
B
C
D
E
F
TO VOLUME PWB PM8004:J592 PM7004:N075
TO TONE PWB N055
TO TONE PWB N304
TO PHONO AMP PWB PM8004:W291 PM7004:N067
To PHONO AMP PWB PM8004:W401 PM7004:N058
CD
TUNER
AUX/DVD
IN
OUT
RECORDER1
RECORDER2
MAIN_IN_L
MAIN_IN_R
From WD01
TO JD01
TO POWERSTAGE PWB W951
TO U-COM PWB N121 W005
TO STANDBY PCB N038 w006
L ch SIGNAL LINE
R ch SIGNAL LINE
P101
MAIN PWB
SCHEMATIC DIAGRAMS (1/6)

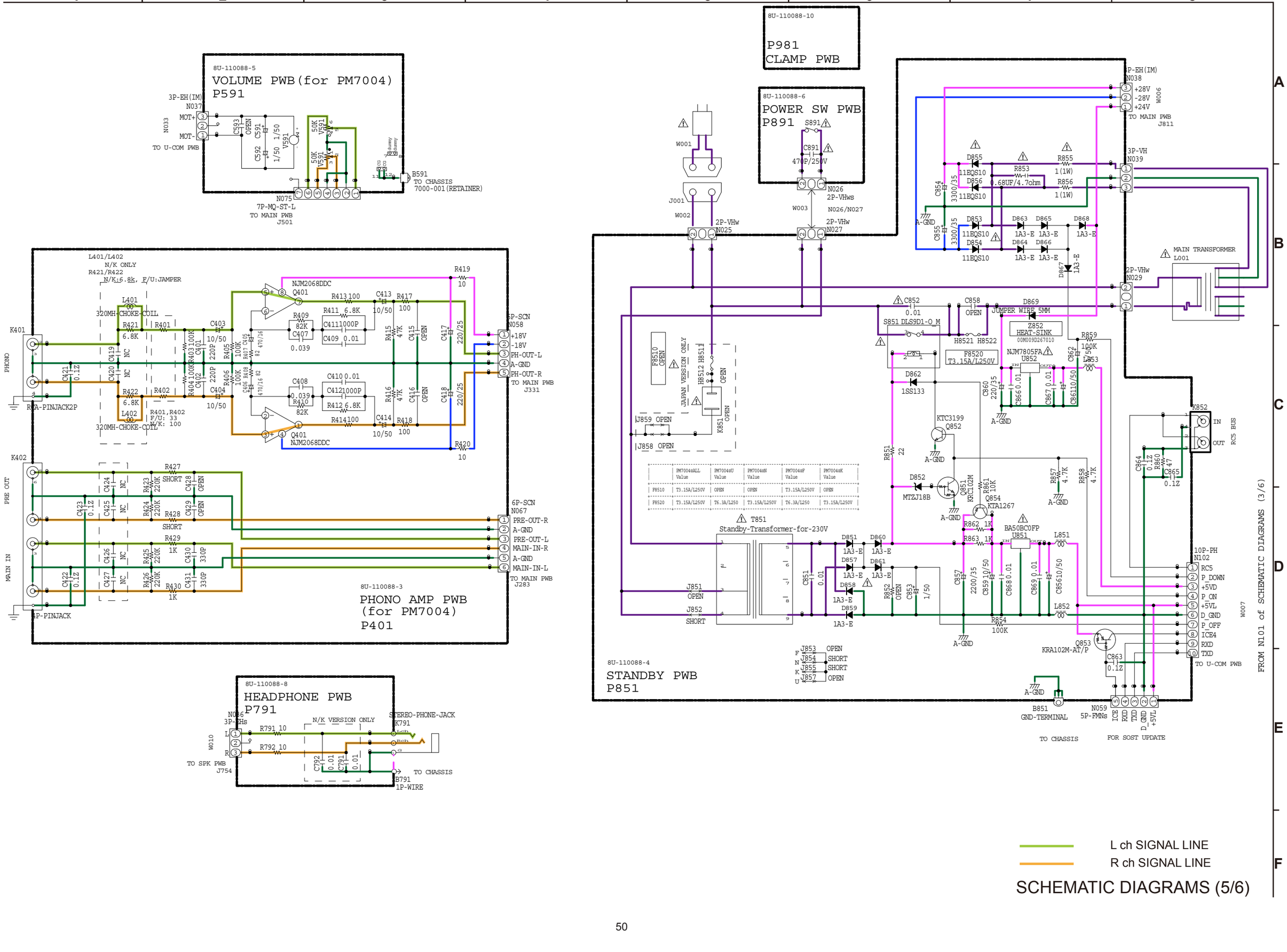


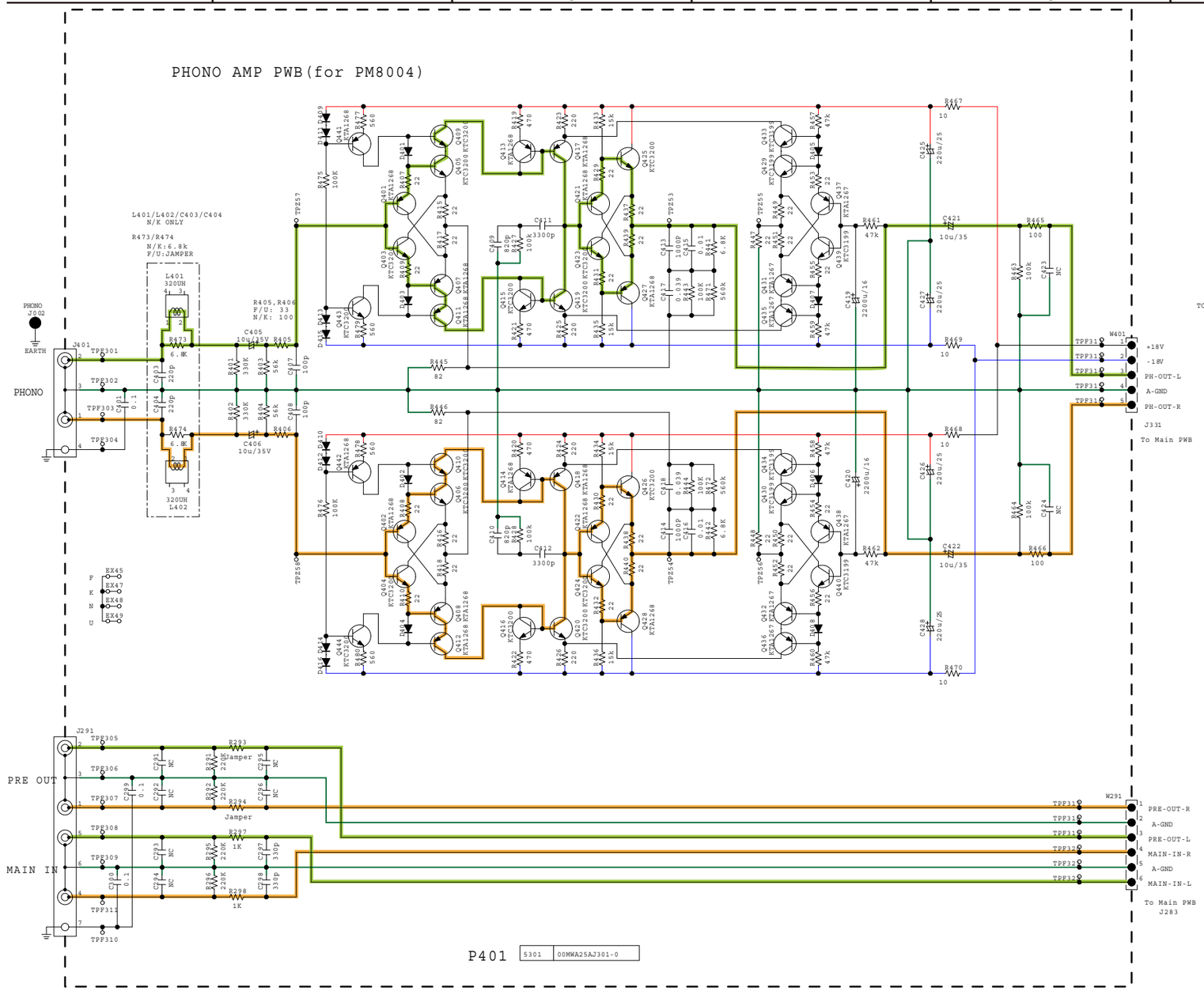
SCHEMATIC DIAGRAMS (2/6)

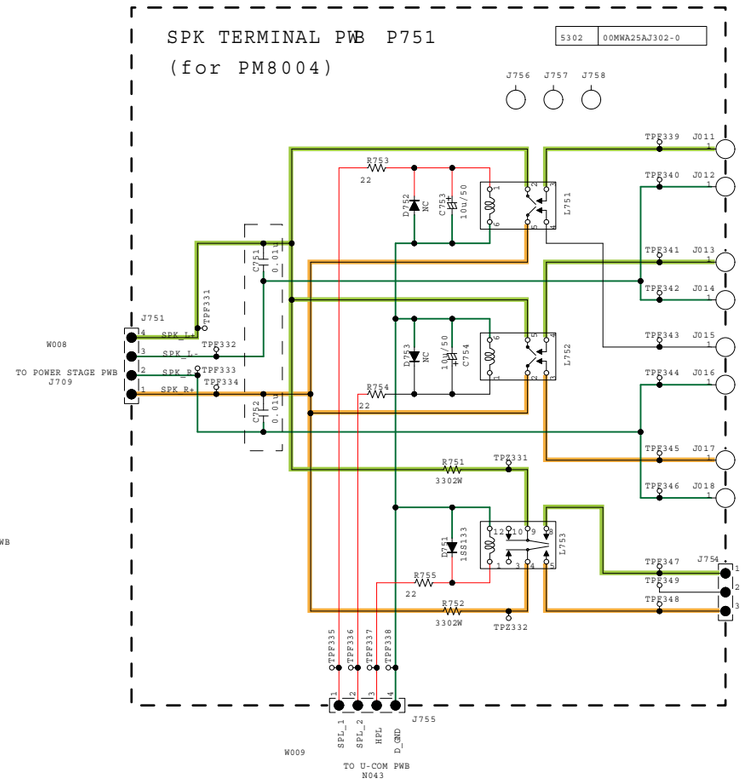


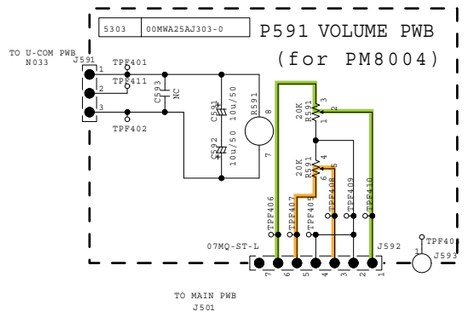
SCHEMATIC DIAGRAMS (3/6)


P201 8U-110088-2
TONE PWB
FROM N122 of SHEET.001
12P-PH N124
PA_DI.
SO_DI.
PHONO.
CD.
TUNER.
AUX.
REC1.
REC2.
MUTE.
D-GND
+5VL
IR.
TO U-COM PWB
FROM N061 of SHEET.001
6P-SCN N064
SPK_A
SPK_B
D-GND
TACT
5VD
TO U-COM PWB
5VD2
5VL2
D-GND3
D-GND2
OPEN B201
PHONO
CD
TUNER
AUX/DVD
RECORDER-1
RECORDER-2
MUTE
PA DI
SO DI
SPK-A
SPK-B
SELU2610C-S
SEL2E10C
KRC102M
PHONO:0V
CD:0V
TUNER:0V
AUX/DVD:0V
RECORDER-1:0V
RECORDER-2:0V
MUTE:0V
POWER DIRECT :0V
SOURCE DIRECT :0V
SPK-A:0V
SPK-B:0V
SOURCE DIRECT
POWER DIRECT
SPK A
SPK B
PIN26 A/D VOLTAGE
1.OFF(PULL UP) 5.0V
2.SPK B 3.9V
3.SPK A 2.9V
4.POWER AMP DIRECT 1.9V
5.SOURSE DIRECT 0.9V
6.RESERVED 0V
U270 REM6936-V4
OUT GND VCC
SHORT
OPEN
U201 NJM2068MD
U202 NJM2068MD
U203 NJM2068MD
U204 NJM2068MD
TREBLE
MID
BASS
DUMMY
EARTH
N055 5P-SCN
-18V +18V R A_GND L
TO MAIN PWB
N304 3P-SCN
R A_GND L
B202 1P-WIRE
TO CHASSIS
L ch SIGNAL LINE
R ch SIGNAL LINE
SCHEMATIC DIAGRAMS (4/6)


8U-110088-5
VOLUME PWB(for PM7004)
P591
3P-EH(IM)
N037
MOT+
MOT-
TO U-COM PWB
N033
B591
TO CHASSIS
7000-001(RETAINER)
N075
7P-MQ-ST-L
TO MAIN PWB
J501
L401/L402
N/K ONLY
R421/R422
N/K:6.8k, F/U:JAMPER
NJM2068DDC
Q401
R419
10
R420
10
6P-SCN
N058
+18V
-18V
PH-OUT-L
A-GND
PH-OUT-R
TO MAIN PWB
J331
K401
PHONO
RCA-PINJACK2P
L401
320MH-CHOKE-COIL
L402
320MH-CHOKE-COIL
R401,R402
F/U: 33
N/K: 100
K402
MAIN IN
4P-PINJACK
PRE OUT
6P-SCN
N067
PRE-OUT-R
A-GND
PRE-OUT-L
MAIN-IN-R
A-GND
MAIN-IN-L
TO MAIN PWB
J283
8U-110088-3
PHONO AMP PWB
(for PM7004)
P401
8U-110088-8
HEADPHONE PWB
P791
N036
3P-CHs
N/K VERSION ONLY
STEREO-PHONE-JACK
K791
R791 10
R792 10
TO SPK PWB
J754
TO CHASSIS
B791
1P-WIRE
8U-110088-10
P981
CLAMP PWB
8U-110088-6
POWER SW PWB
P891
S891
C891
470P/250V
N026
2P-VHws
N026/N027
W003
2P-VHw
N027
W001
J001
W002
2P-VHw
N025
3P-EH(IM)
N038
+28V
-28V
+24V
W006
TO MAIN PWB
J811
3P-VH
N039
MAIN TRANSFORMER
L001
2P-VHw
N029
F8510
OPEN
JAPAN VERSION ONLY
H8512 H8511
OPEN
J859 OPEN
K851
OPEN
J858 OPEN
PM7004ALL Value
PM7004U Value
PM7004N Value
PM7004F Value
PM7004K Value
P8510 T3.15A/L250V OPEN OPEN T3.15A/L250V OPEN
P8520 T3.15A/L250V T6.3A/L250 T3.15A/L250V T6.3A/L250 T3.15A/L250V
T851
Standby-Transformer-for-230V
J851
OPEN
J852
SHORT
J853 OPEN
J854 SHORT
J855 SHORT
J857 OPEN
S851 DLS9D1-O_M
H8521 H8522
F8520
T3.15A/L250V
D862
1SS133
D852
MTZJ18B
KTC3199
Q852
Q851
KRC102M
Q854
KTA1267
R861
10K
R862 1K
R863 1K
BA50BC0FP
U851
NJM7805FA
U852
D855
D856
D853
D854
11EQS10
R853
0.68UF/4.7ohm
R855
1(1W)
R856
1(1W)
D863
D865
D868
D864
D866
D867
1A3-E
D869
JUMPER WIRE 5MM
Z852
HEAT-SINK
00M009D267010
D851
D860
D857
D861
D858
D859
R859
100K
R854
100K
L851
L852
L853
Q853
KRA102M-AT/P
K852
IN
OUT
RCS BUS
10P-PH
N102
RC5
P_DOWN
+5VD
P_ON
+5VL
D_GND
P_OFF
ICE4
RXD
TXD
TO U-COM PWB
B851
GND-TERMINAL
TO CHASSIS
N059
5P-FMNs
ICE
RXD
TXD
D_GND
+5VL
FOR SOST UPDATE
8U-110088-4
STANDBY PWB
P851
FROM N101 of SCHEMATIC DIAGRAMS (3/6)
W007
L ch SIGNAL LINE
R ch SIGNAL LINE
SCHEMATIC DIAGRAMS (5/6)



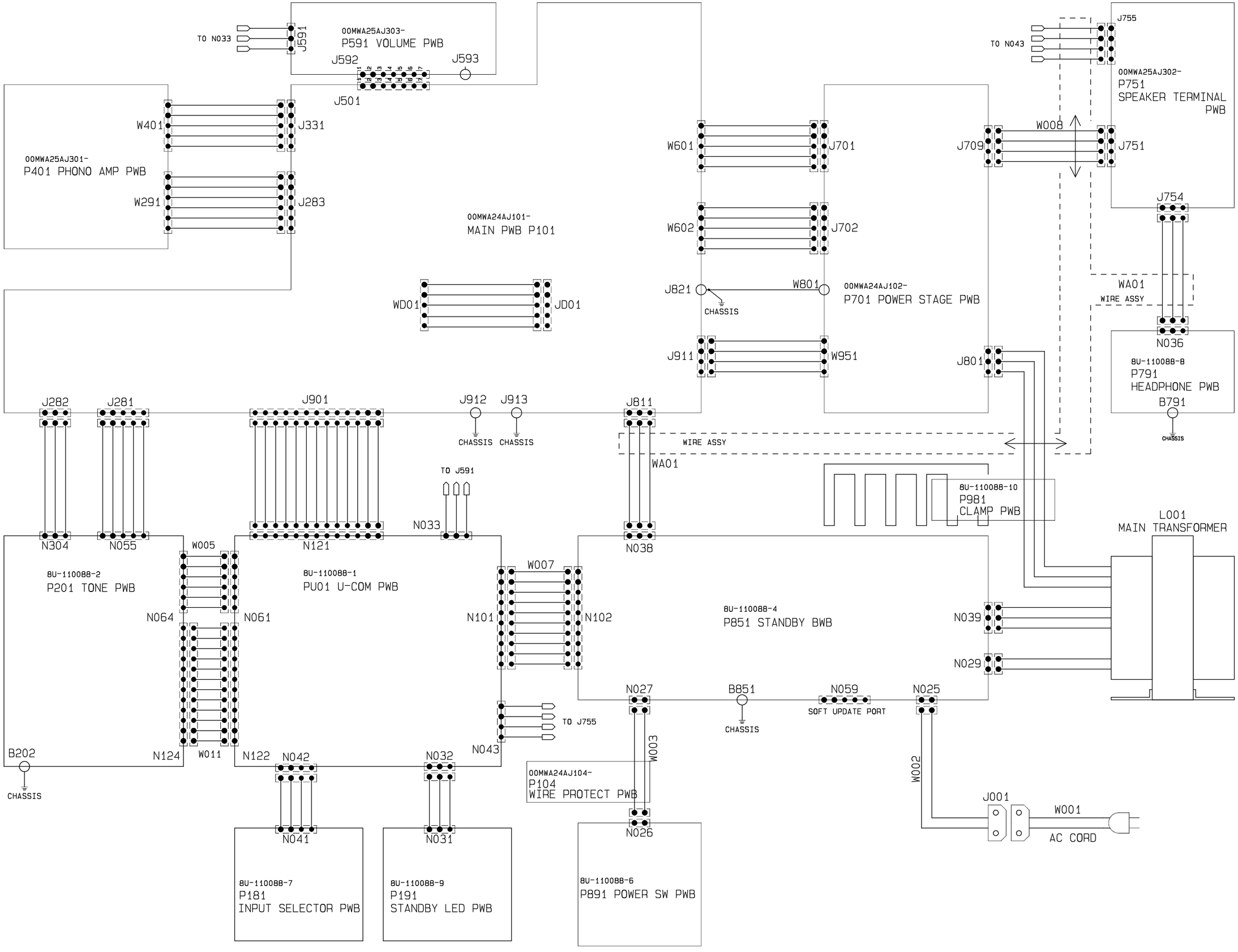




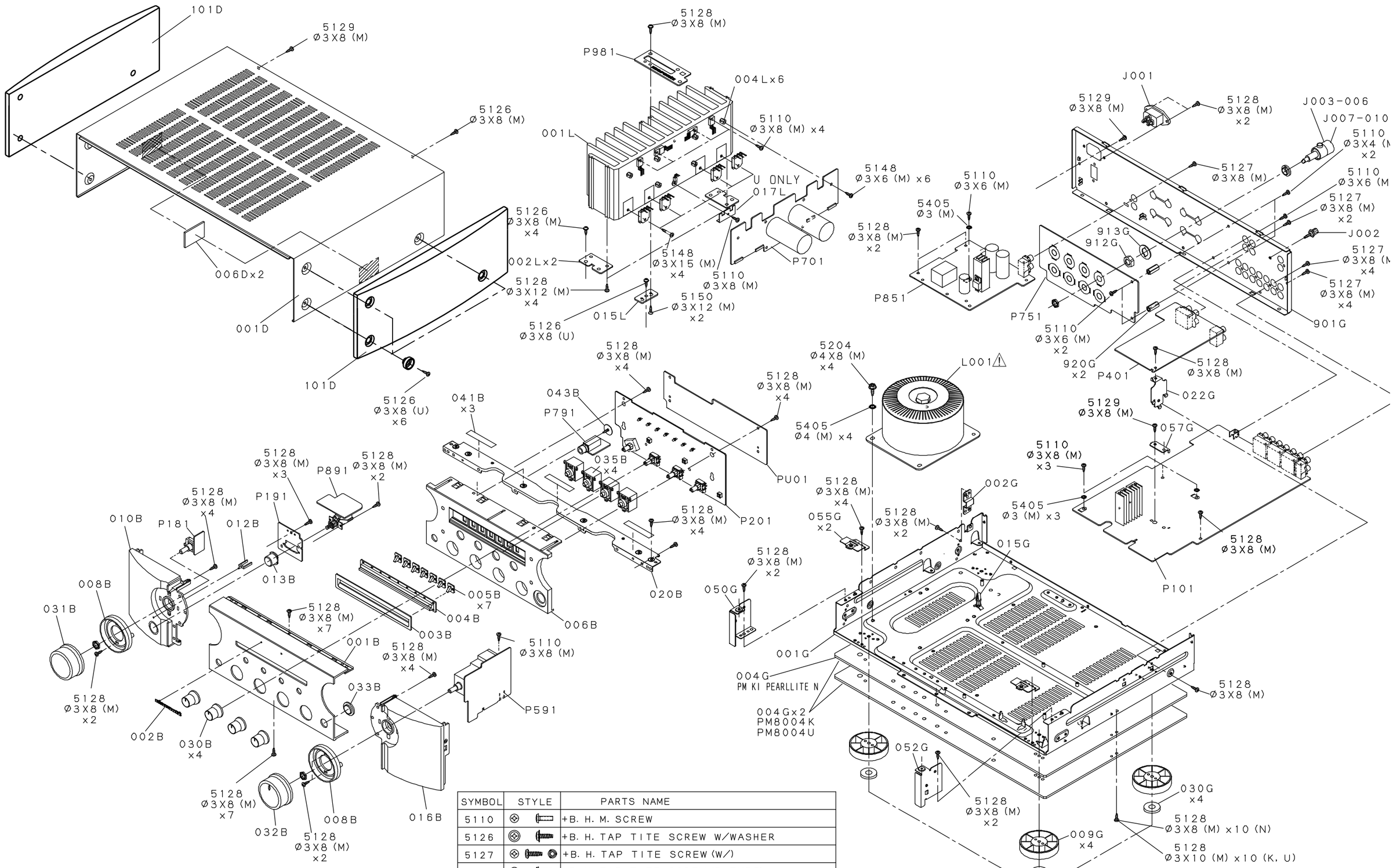
L ch SIGNAL LINE
R ch SIGNAL LINE

SCHEMATIC DIAGRAMS (6/6)

WIRING DIAGRAM



EXPLODED VIEW ⚠2



SYMBOL	STYLE	PARTS NAME
5110		+B. H. M. SCREW
5126		+B. H. TAP TITE SCREW W/WASHER
5127		+B. H. TAP TITE SCREW (W/)
5128		+B. H. TAP TITE SCREW (B TYPE)
5129		+B. H. TAP TITE SCREW (W/T. L. WASHER)
5150		+F. H. TAP TITE SCREW (B TYPE)
5204		+H. H. TAPT. BOLTS WITH FLANGE (S TITE)
5405		TOOTHED LOCK WASHERS

MARK	MATERIAL/FINISH
(M)	STEEL/COPPER
(K)	STEEL/NICKEL

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

PARTS LIST OF EXPLODED VIEW

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

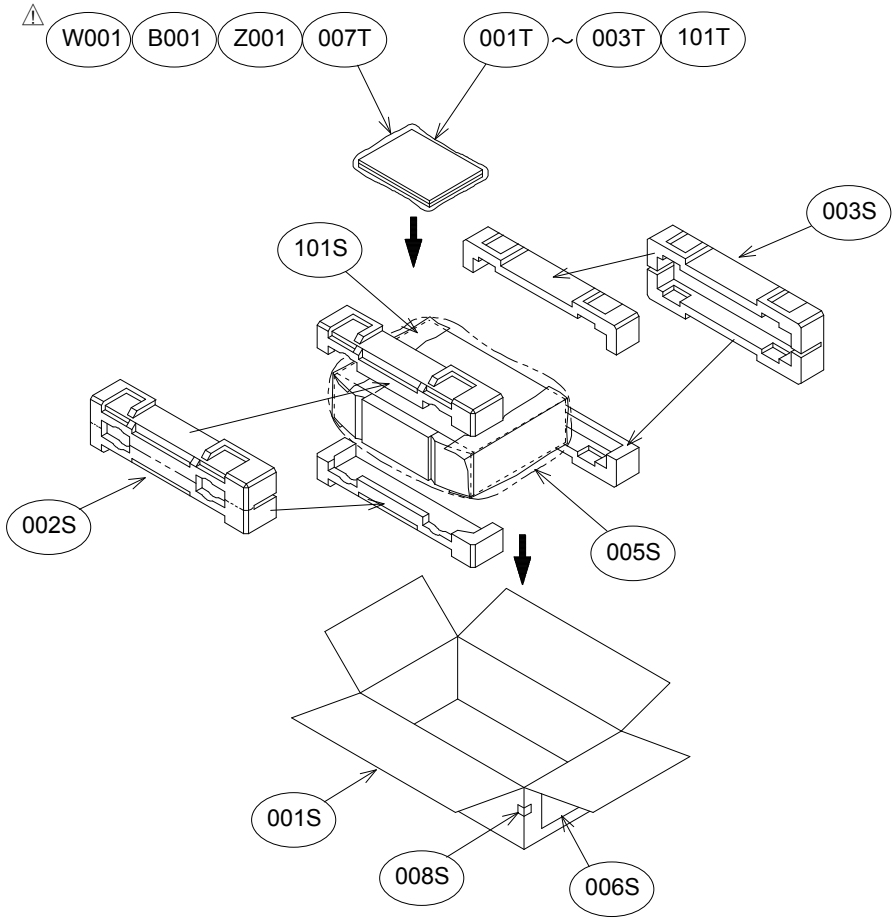
Note: The symbols in the column "Remarks" indicate the following destinations.

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

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	A	nsp	MAIN PWB ASSY (M01) FOR N K	N,K	1	
	A	nsp	MAIN PWB ASSY (M01) FOR F U	U	1	
	P101	-	MAIN PWB(P101) UNIT			
	P104	-	WIRE PROTECTION PWB(P104) UNIT			
	P701	-	POWER STAGE PWB(P701) UNIT			
	B	nsp	FRONT PWB ASSY (M02) FOR N K	N,K	1	
	B	nsp	FRONT PWB ASSY (M02) FOR U	U	1	
	P181	-	SEL PWB(P181) UNIT			
	P191	-	STANDBY LED PWB(P191) UNIT			
	P201	-	TONE AMP PWB(P201) UNIT			
	P791	-	HEADPHONE PWB(P791) UNIT			
	P851	-	STANDBY PWB(P851) UNIT			
	P891	-	POWER SW PWB((P891)			
	P981	-	CLAMP PWB(P981) UNIT			
	PU01	-	U-COM PWB(PU01) UNIT			
	C	nsp	PHONO AMP PWB ASSY (M03) FOR N K	N,K	1	
	C	nsp	PHONO AMP PWB ASSY (M03) FOR F U	U	1	
	P401	-	PHONO AMP PWB(P401) UNIT			
	P591	-	VOLUME PWB(P591) UNIT			
	P751	-	SPK TERMINAL PWB(P751)			
	001B	402410117156M	FRONT AL PANEL BL PM-KI-PEARL-LITE A335	N1B	1	*
	001B	402410117187M	FRONT AL PANEL SG PM-KI-PEARL-LITE A335	N1SG	1	*
	001B	402410117101M	FRONT AL PANEL BL PM8004 A335	U1B	1	*
	001B	402410117132M	FRONT AL PANEL SG PM8004 A335	K1SG	1	*
	001D	00M14AJ257320	TOP COVER BL PM7003 24AJ	B	1	
	001D	00M14AJ257312	TOP COVER SG PM7003 24AJ	SG	1	
	001G	nsp	CHASSIS	N,K	1	
	001G	nsp	CHASSIS	U	1	
	001L	nsp	MAIN HEATSINK		1	
	002B	421410006004M	MARANTZ BADGE (AL) FOR M1 MODEL		1	
	002G	nsp	SCREW STOPPER		1	
	002L	nsp	HEATSINK BRACKET		2	
	003B	nsp	ESCUTCHEON CENTER PM7003 24AJ		1	
	004B	nsp	ESCUTCHEON CENTER BASE BL PM7003 24AJ	B	1	
	004B	nsp	ESCUTCHEON CENTER BASE SG PM7003 24AJ	SG	1	
	004D	nsp	SCREW		1	
	004G	nsp	BOTTOM LID PM8001(15AJ)	N	1	
	004G	nsp	BOTTOM LID PM8001(15AJ)	U,K	2	
	004L	nsp	SUPPORT PM7004 A334		6	*
	005B	nsp	LENS FUNCTION PM7003 24AJ		7	
	006B	nsp	FRONT CENTER MOLD BL PM7004 A334	B	1	*
	006B	nsp	FRONT CENTER MOLD SG PM7004 A334	SG	1	*
	006D	nsp	BUFFER TOP COVER INSIDE PM7003 24AJ		2	
	008B	424510004006M	RING VOLUME BL PM7003 24AJ	B	2	
	008B	424510004037M	RING VOLUME SG PM7003 24AJ	SG	2	
	009G	nsp	LEGS SL		4	
	010B	402410032057M	ESCUTCHEON L BL PM7004 A334	B	1	*
	010B	402410032088M	ESCUTCHEON L SG PM7004 A334	SG	1	*
	012B	481510003006M	LENS		1	
	013B	411510027003M	BUTTON PUSH BL PM7003 24AJ	B	1	
	013B	411510027034M	BUTTON PUSH SG PM7003 24AJ	SG	1	
	015G	nsp	PCB SUPPORT RICHICO		1	
	015L	nsp	BRACKET		1	
	016B	402410034008M	ESCUTCHEON R BL PM7003 24AJ	B	1	
	016B	402410034039M	ESCUTCHEON R SG PM7003 24AJ	SG	1	
	017L	nsp	RETAINER POSISTOR FIX PM8003 (U)	U	1	
	020B	nsp	STAY SA7003 33AK		1	

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	022G	nsp	PHONO PCB BRACKET		1	
	030B	412410010009M	KNOB AL CAP S BL PM8003 25AJ	B	4	
	030B	412410010030M	KNOB AL CAP S SG PM8003 25AJ	SG	4	
	030G	nsp	LEGS CUSHION		4	
	031B	412410006000M	KNOB AL CAP BL PM7003 24AJ	B	1	
	031B	412410006031M	KNOB AL CAP SG PM7003 24AJ	SG	1	
	032B	412410008006M	KNOB AL CAP POINTER BL PM7003 24AJ	B	1	
	032B	412410008037M	KNOB AL CAP POINTER SG PM7003 24AJ	SG	1	
	033B	481510004009M	LENS IR BL PM7003 24AJ	B	1	
	033B	481510004047M	LENS IR WH PM7003 24AJ	SG	1	
	035B	411510028006M	BUTTON BL PM7003 24AJ	B	4	
	035B	411510028037M	BUTTON SG PM7003 24AJ	SG	4	
	041B	nsp	TOP COVER SHEET		3	
	043B	nsp	SPECIAL SCREW		1	
	050G	nsp	SIDE RETAINER L PM7003 24AJ		1	
	052G	nsp	SIDE RETAINER R PM7003 24AJ		1	
	055G	nsp	BRACKET SA7003 33AK		2	
	057G	nsp	CONTACTOR PM7003 24AJ		1	
	101D	984404000220M	SIDE WOOD 110MM WS1101	N2	1	
	901G	nsp	REAR PANEL PM8004 (N) A335	N	1	*
	901G	nsp	REAR PANEL PM8004 (U) A335	U	1	*
	901G	nsp	REAR PANEL PM8004 (K) A335	K	1	*
	912G	nsp	SPEAKER NUT		8	
	913G	nsp	SP SPACER		8	
	920G	nsp	SPEAKER PCB STUD		2	
	J001	00D2033996008	AC INLET (2P)		1	
	J002	nsp	TERMINAL		1	
	J003-J006	646710024006M	SPKT-1 RED		4	
	J007-J010	646710025009M	SPKT-1 WHITE		4	
⚠	L001	1010100030088	POWER TRANSFORMER 230V	N,K	1	
⚠	L001	101010024005M	#POWER TRANSFORMER FOR 120V	U	1	
	★ 048G	nsp	WIRE CLAMPER		1	
	★ 801G	nsp	WIRE CLAMPER		18	
	★ 969K	nsp	P.V.C. TUBE(L=20)	U	1	
	★ 970K	nsp	P.V.C. TUBE(L=20)	U	1	
	★ 971K	nsp	SUMITUBE_F(Z)_3X0.25_L=1000MM	U	10	
⚠	★ D801	00MHE10004100	!FRH10A15		1	
⚠	★ D802	00MHE10003100	!FCH10A15		1	
	★ L002	nsp	FERRITE CORE TFCK-16813		1	
	★ Q703,704	00MHT334191Y0	TRANSISTOR C3419 Y 40V 0.8A PC=1.2W (5W)		2	
⚠	★ Q713	00MHT328372A0	2SC2837		1	
⚠	★ Q714	00MHT328372A0	2SC2837		1	
⚠	★ Q715	00MHT111862A0	2SA1186-Y/P-LF101		1	
⚠	★ Q716	00MHT111862A0	2SA1186-Y/P-LF101		1	
	★ R969	00D2790034054	PTH9M04BC222TS2F333		1	
	★ R969,970	00D2790034054	PTH9M04BC222TS2F333	U	2	
WIRES						
	★ W002	nsp	VAR-NO CN7.92MMPICH1PIN:BR,2PIN:BL10CM		1	
	★ W003	nsp	VAR-VAR 7.92MMPICH 1PIN:BR,2PIN:BR22CM		1	
	★ W005	nsp	PH-PH 13PIN L=14CM		1	
	★ W007	nsp	PHR-PHR 2.0MMPICH 10PIN 50CM		1	
	★ W008	nsp	VHR-VHR(NTYPE)3.96MM 4PIN 19CM		1	
	★ W011	nsp	PHR-PHR 2.0MMPICH 12PIN 14CM		1	
	★ WA01	nsp	EHR3 EHR3 EHR4 CORD ASSY		1	

PACKING VIEW ⚠2



PARTS LIST OF PACKING VIEW ⚠2

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

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

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

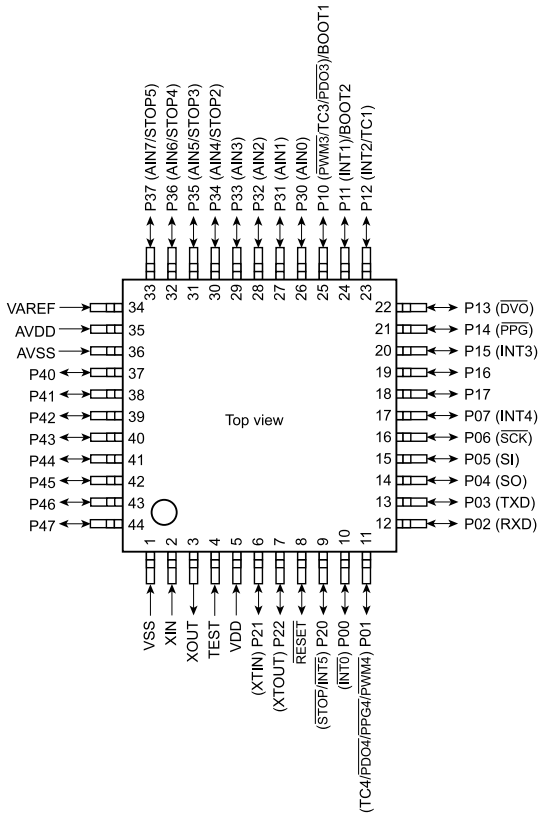
	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	001S	531210141004M	PACKING CASE PM-KI-PEARL-LITE A335	N	1	*
	001S	531210140001M	PACKING CASE PM8004 A335	U,K	1	*
	001T	541110491035M	USER MANUAL PM7004/PM8004 (N) A335	N	1	*
	001T	541110491028M	USER MANUAL PM8004 (U) A335	U	1	*
	001T	541110491059M	USER MANUAL PM7004/PM8004 (K) A335	K	1	*
	002S	533510071108M	CUSHION SA8004 FRONT	N1,U,K	1	*
	002S	533610091002M	CUSHION FRONT M1 SIDE WOOD	N2	1	*
	003S	533510071115M	CUSHION SA8004 REAR	N1,U,K	1	*
	003S	533610092005M	CUSHION REAR M1 SIDE WOOD	N2	1	*
	002T	nsp	WARRANTY USA	U	1	
	003T	nsp	WARRANTY CANADA	U	1	
	005S	nsp	SHEET (AF+PE)		1	
	006S	nsp	CONT.LABEL BASE(D&M)		1	
	007T	nsp	POLYETHY BAG		1	
	008S	nsp	LABEL FOR PKG SG	SG	2	
	101S	nsp	UNWOVEN CLOTH(W490xL230)	N2	2	
	101T	nsp	FLY SHEET SIDE WOOD PMKIPEARLLITE	N2	1	*
	B001	nsp	BATTERY(R03X2)		1	
⚠	W001	00MZC01803080	# 2P AC CORD 10A 250V CLASS2	N	1	
⚠	W001	00MZC01803100	# AC CORD UL/CSA 10A 125V	U	1	
⚠	W001	00D2062249001	AC CORD (E1C)	K	1	
	Z001	307010030006M	RC003PM		1	

SEMICONDUCTORS

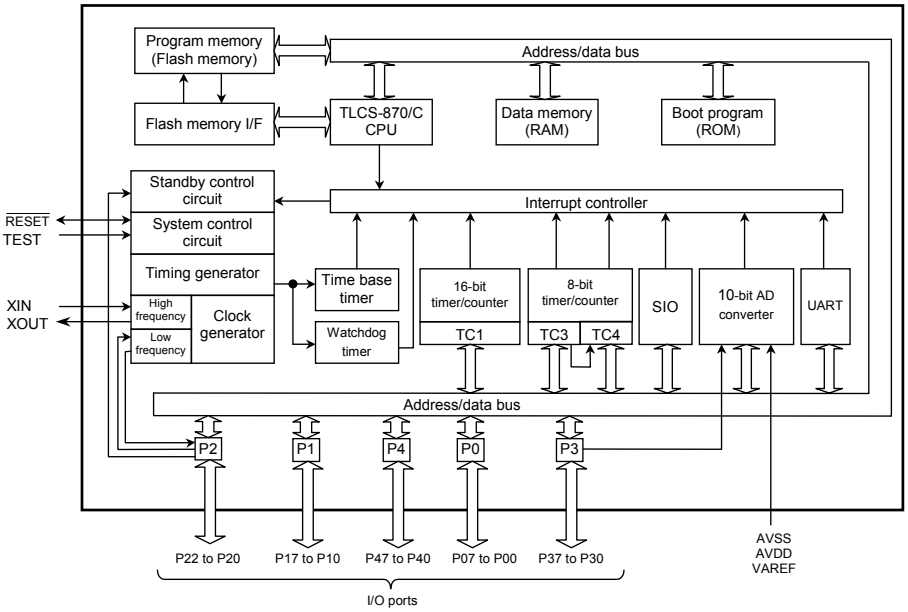
Only major semiconductors are shown, general semiconductors etc. are omitted to list.
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

TMP86FH47UG (U101)



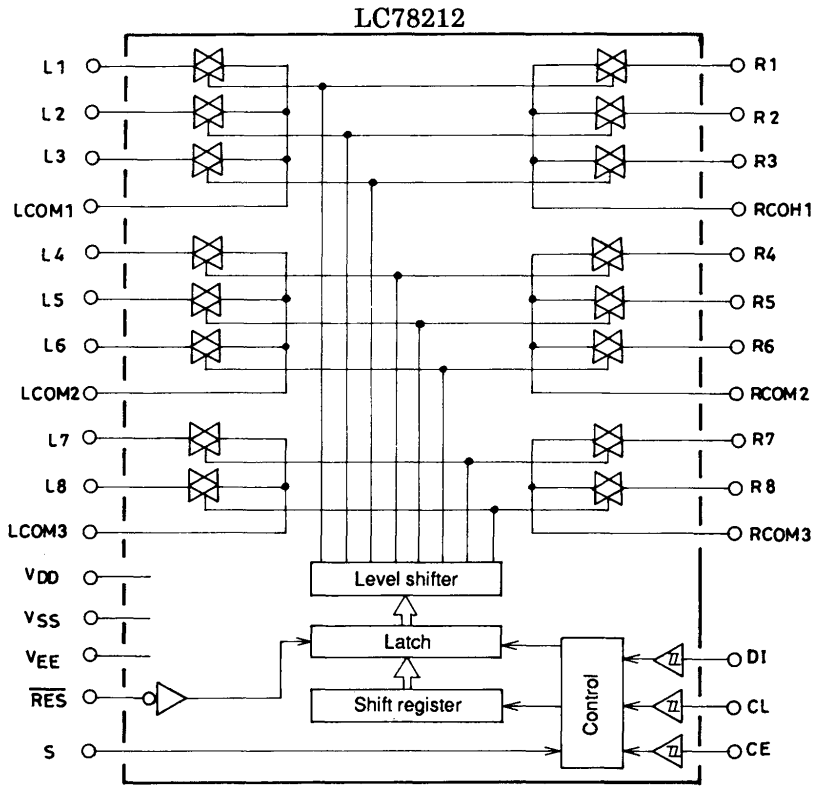
Block Diagram



Terminal Function

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	H	L	L	-	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	H	L	L	-	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 (Q391)



PARTS LIST OF P.C.B. UNIT

* Parts for which "nsp" is indicated on this table cannot be supplied.
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Note: The symbols in the column "Remarks" indicate the following destinations.
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B : Black model SG : Silver gold model

MAIN PWB ASS'Y

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP						
	D281-283	nsp	1SS133T77 (TAPE)			
	D301	nsp	1SS133T77 (TAPE)			
	D391	nsp	1SS133T77 (TAPE)			
	D501-503	nsp	1SS133T77 (TAPE)			
	D504	nsp	1SS133T77 (TAPE)			
	D601-607	nsp	1SS133T77 (TAPE)			
	D608-615	nsp	1SS133T77 (TAPE)			
	D616	nsp	1SS133T77 (TAPE)			
	D811,812	nsp	1SS133T77 (TAPE)			
	D813,814	00D2760761975	MTZJ18B T77			
	D911,912	nsp	1SS133T77 (TAPE)			
	D951-954	00MHD20027011	HSS81TD-E 150V 150MA AXIAL TAPG.			
	Q281	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q283,284	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q301,302	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q303-306	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q307,308	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q309	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q313,314	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q315-318	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q319,320	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q381	00D2630609002	NJM2068DDC +T			
	Q391	00MHC10309030	IC LC78212:CMOS LOGIC SANYO			
	Q501,502	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q503-506	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q507,508	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q509,510	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q511-514	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q515,516	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q517,518	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q519,520	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q521,522	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q523-526	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q527,528	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q601,602	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q603,604	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q605,606	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q607,608	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q609,610	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q611-614	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q615,616	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q617,618	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q619,620	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q621Q622	00D2710168900	2SA1145 (O)/(Y)TPE6			
	Q623,624	00D2730281919	2SC2705 (Y)TPE6			
	Q625,626	00D2710311906	KTA1267-GR-AT/P			
	Q627-630	00D2730468907	KTC3199-GR-AT/P			
	Q631,632	00D2710311906	KTA1267-GR-AT/P			
	Q633,634	00D2730468907	KTC3199-GR-AT/P			
	Q635,636	00D2710311906	KTA1267-GR-AT/P			
⚠	Q705,706	00D2730281919	2SC2705 (Y)TPE6			
⚠	Q707,708	00D2710168900	2SA1145 (O)/(Y)TPE6			
⚠	Q709	00MHT334232A0	TRANSISTOR 2SC3423 O OR Y			
⚠	Q710	00MHT334232A0	TRANSISTOR 2SC3423 O OR Y			
⚠	Q711	00MHT113602A0	TRANSISTOR 2SA1360 O OR Y			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
⚠	Q712	00MHT113602A0	TRANSISTOR 2SA1360 O OR Y			
	Q811	00D2710311906	KTA1267-GR-AT/P			
	Q812	00D2730468907	KTC3199-GR-AT/P			
⚠	Q813	00MHT41415100	TRANSISTOR 2SD1415			
⚠	Q814	00MHT21020100	2SB1020			
	Q815	00D2710311906	KTA1267-GR-AT/P			
	Q901	00D2730468907	KTC3199-GR-AT/P			
	Q902-904	00D2730468907	KTC3199-GR-AT/P			
	Q911,918	00D2710311906	KTA1267-GR-AT/P			
	Q912	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q913	00D2690204900	KRA102M-AT/P (10K-10K)			
	Q914-916	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q917	00D2730468907	KTC3199-GR-AT/P			
	Q951,952	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q953,954	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q955,956	00D2730468907	KTC3199-GR-AT/P			
	Q957	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q958	00D2730468907	KTC3199-GR-AT/P			
CAPACITORS GROUP						
	C301	00MDD38104011	50V DC 0.1UF +80 -20%			
	C305,306	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C307,308	00MOF55331581	330PF 100V +- 5% FNS			
	C309,310	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C311,312	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C331,332	00MDD38104011	50V DC 0.1UF +80 -20%			
	C337,338	00MDD38104011	50V DC 0.1UF +80 -20%			
	C343,344	00MDD38104011	50V DC 0.1UF +80 -20%			
	C351,352	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C353,354	00MOF55331581	330PF 100V +- 5% FNS			
	C355,356	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C357,358	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C381,382	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C383,384	00MOA10605021	10 UF M 50V RA-2			
	C385,386	00MOA22702521	220 UF M 25V RA-2			
	C393	00MOA10605021	10 UF M 50V RA-2			
	C501,502	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C503,504	00MOF55101591	100PF 200V +- 5% FAS			
	C505-508	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C509,510	00MOF55101591	100PF 200V +- 5% FAS			
	C511,512	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C601,602	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C603-606	00MOA22706326	220 UF M 63V RA-2			
	C607,608	00MOF55681581	680PF 100V +-5% FNS			
	C609,610	00MOA22702521	220 UF M 25V RA-2			
	C611,612	00MOF55101591	100PF 200V +- 5% FAS	N,K		
	C613-616	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C701,702	00MOA226025Z1	ROS-25V 220M - F3#PE - T2 (22UF 25V)			
	C705,706	00MOF55103581	0.01UF 100V +- 5% FNS			
	C707,708	00MOF55393586	0.039UF 100V +- 5% FAS			
⚠	C801,802	1340500210040	LKG1J183MESCZT			
	C811,812	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C813-816	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C821	00MOA22703521	220UF 35V M RA-2			
	C901	00D2544573949	CE04W1H010MT(RA3)			
	C902	00MOA10605021	10 UF M 50V RA-2			
	C903	00MDD38104011	50V DC 0.1UF +80 -20%			
	C911-916	00MDD38104011	50V DC 0.1UF +80 -20%			
	C951,952	00D2544573936	CE04W1HR47MT(RA3)			
	C953	00MOA47602521	47 UF M 25V RA-2			
	C954	00MOA10605021	10 UF M 50V RA-2			
RESISTORS GROUP						
	R281	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R283,284	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R323-325	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R371,372	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	R387,388	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R553-556	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R619-622	00MGG05471160	470 OHM +- 5% 1/6W FLAMERETARDANT			
	R623-626	00MGG05151160	150 OHM +- 5% 1/6W FLAMERETARDANT			
⚠	R659-R662	1210500024030	CFP1/4CGTA100J FLAMERETARDANT			
	R713-716	00MGG05471160	470 OHM +- 5% 1/6W FLAMERETARDANT			
	R717,718	00MGG05102160	1K OHM +- 5% 1/6W FLAMERETARDANT			
	R719-722	00MGG05470160	47 OHM +- 5% 1/6W FLAMERETARDANT			
	R723,724	1210500034060	CFP1/4CGTA221J FLAMERETARDANT			
	R725-728	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
⚠	R729-732	00MGO05001056	0.1 OHMS +-5% 5W PBR58			
	R733,734	1240500010030	MOS2CL15A100J10OHM +-5% 2W			
⚠	R819,820	00MGG05047160	4.7 OHM +- 5% 1/6W FLAMERETARDANT			
	R821	00MGG05220160	22 OHM +- 5% 1/6W FLAMERETARDANT			
	R822	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R951-954	00MGG05471160	470 OHM +- 5% 1/6W FLAMERETARDANT			
	R955,956	00MGG05472160	4.7K OHM +- 5% 1/6W FLAMERETARDANT			
OTHER PARTS GROUP						
	J281	nsp	B5B-EH-TS (LF)(SN) 5P RADIAL TAPING			
	J282	nsp	B3B-EH-TS (LF)(SN) 3P RADIAL TAPING			
	J283	nsp	B6B-EH-TS (LF)(SN) 6P RADIAL TAPING JST			
	J301	643810029001S	RCA PIN JACK 2P AU MSP-242V3-12 GILT LF			
	J302-304	643810028008S	RCA PIN JACK 4P AU MSP-244V4-17 GILT LF			
	J331	nsp	B5B-EH-TS (LF)(SN) 5P RADIAL TAPING			
	J501	nsp	B07P-MQ-C			
	J701,702	nsp	B5B-EH-TS (LF)(SN) 5P RADIAL TAPING			
	J703-706	nsp	IMSA-6065B-06Z065-PT1			
	J707,708	nsp	S2B-EH			
	J709	nsp	4P-PLUG B4P-VH			
	J801	nsp	JST 3P-PLUG B3P-VH P=3.96M/M			
	J811	nsp	B3B-EH-TS (LF)(SN) 3P RADIAL TAPING			
	J821	nsp	GND TERMINAL FOR PCB			
	J901	nsp	B13B-PH-K-S (LF)(SN)			
	J911	nsp	B4B-EH-TS (LF)(SN) 4P RADIAL TAPING			
	J912	nsp	GND TERMINAL FOR PCB			
	J913	nsp	M3 SCREW TERMINAL			
OTHERS PARTS GROUP						
	CD01-03	00MOA10605021	10 UF M 50V RA-2			
	CD06	00MOA10605021	10 UF M 50V RA-2			
	CD07-09	00MOA10605021	10 UF M 50V RA-2			
	CD12,13	00MOA10605021	10 UF M 50V RA-2			
	CD15	133050074500S	CQ93M2E101J(LP)			
	DD01	nsp	1SS133T77 (TAPE)			
	DD03,04	nsp	1SS133T77 (TAPE)			
	DD05-07	nsp	1SS133T77 (TAPE)			
⚠	G801	00MBF68400016	! 0.68UF/4.7OHM			
	H801	nsp	HEAT SINK			
	H802	nsp	HEAT SINK			
	H803	nsp	SCREW			
	H804	nsp	SCREW			
	JD01	nsp	B5B-EH-TS (LF)(SN) 5P RADIAL TAPING			
	L281-284	00D2140208003	RELAY(NA24W-K)			
	L301	00D2140208003	RELAY(NA24W-K)			
	L912	nsp	BL02RN2-R62T2 FERRITE BEAD			
	QD01,02	00D2630609002	NJM2068DDC +T			
	QD03	00D2690206908	KRC102M-AT/P (10K-10K)			
	QD04	00D2730468907	KTC3199-GR-AT/P			
	W601,602	nsp	EHR-SCN 2.5MMPICH DIP TYPE 5PIN 8CM			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	W801	nsp	SIN-SRA 1P 140MM			
	W951	nsp	EHR-SCN 2.5MMPICH DIP TYPE 4PIN 10CM			
	WD01	nsp	EHR-SCN 2.5MMPICH DIP TYPE 5PIN 14CM			

FRONT PWB ASS'Y

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP						
	D0101	nsp	1SS133T77 (TAPE)			
	D0103	00MHD20002711	1A3 1A/200V			
	D0191	00D3939607908	SLR342VC(TB7)			
	D0240-0245	263710014404S	SELT2E10C-S TP6 F/G RANK			
	D0246	176010004401S	SELU2610C-S TP6			
	D0247-0250	176010009406S	SELK2E14C-D BLUE LED			*
⚠	D0851	00MHD20002711	1A3 1A/200V			
	D0852	00D2760761975	MTZJ18B T77			
⚠	D0853-0856	00MHD20055101	!SHOTTKY 11EQS10 1A 100V			
⚠	D0857-0861	00MHD20002711	1A3 1A/200V			
	D0862	nsp	1SS133T77 (TAPE)			
⚠	D0863-0868	00MHD20002711	1A3 1A/200V			
	U0101	2439100016008	TMP86FH47UG			
	U0102	235010049402S	KIA7042AP-AT/P 4.2V RESET IC			*
	U0103	00MHC1043399Z	AT24C08BN-SH-T			
	U0201-0204	00D2630896909	NJM2068MD-TE1 +C			
	U0270	00MHW10004210	RPM6936-V4 (IR SENSOR)			
⚠	U0851	00D2622977933	BA50BC0FP-E2			
	Q0101,0102	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q0103,0104	00D2730468907	KTC3199-GR-AT/P			
	Q0105-0108	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q0109	00D2730468907	KTC3199-GR-AT/P			
	Q0110-0113	00D2690184907	KRA102S-RTK/P (10K-10K)			
	Q0114	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q0115	00D2710311906	KTA1267-GR-AT/P			
	Q0116	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q0117	00MHT600141B1	KTA1271 PNP TRANSISTOR RANK=Y			
	Q0118	00MHT800951B1	KTC3203 NPN TRANSISTOR RANK=Y			
	Q0119	00D2710311906	KTA1267-GR-AT/P			
	Q0120	00MHT600141B1	KTA1271 PNP TRANSISTOR RANK=Y			
	Q0121	00MHT800951B1	KTC3203 NPN TRANSISTOR RANK=Y			
	Q0122	00D2690192902	KRC102S-RTK/P (10K-10K)			
	Q0201-0204	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q0851	00D2690206908	KRC102M-AT/P (10K-10K)			
	Q0852	00D2730468907	KTC3199-GR-AT/P			
	Q0853	00D2690204900	KRA102M-AT/P (10K-10K)			
	Q0854	00D2710311906	KTA1267-GR-AT/P			
RESISTORS GROUP						
	R0137	00MGG05022160	2.2 OHM +- 5% 1/6W FLAMERETARDANT			
	R0225,0226	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R0791,0792	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R0851	00MGG05220160	22 OHM +- 5% 1/6W FLAMERETARDANT			
⚠	R0853	00MBF68400016	! 0.68UF/4.7OHM			
⚠	R0855,0856	00MGG05010120	ERD50FJ1R0P or SPRX1CM12.5A J 1R0 FLAMERETARDANT			
	V0201-0203	0750100020070	4K14K124003J			
	V0204	0750100030000	RK14K1240D0P			
CAPACITORS GROUP						
	C0101,0102	nsp	CK73F1E104ZT +1608			
	C0103	00MEJ10602511	10UF/ 25V			
	C0104	nsp	CK73F1E104ZT +1608			
	C0105	00MEJ10602511	10UF/ 25V			
	C0106-0108	nsp	CK73F1E104ZT +1608			
	C0109	00D2544302974	CE04W1A101MT(SRE)			
	C0110-0113	nsp	CK73F1E104ZT +1608			
	C0116,0117	nsp	CK73F1E104ZT +1608			
	C0118	00D2544573949	CE04W1H010MT(RA3)			

NOTE :
When update Firmware, please confirm a last version in SDI. Use the service board after updating it.

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	C0119	nsp	CK73F1E104ZT +1608			
	C0120	00D2544573949	CE04W1H010MT(RA3)			
	C0121	nsp	CK73B1H103KT (1608) +1608			
	C0181,0182	nsp	CK73B1H103KT (1608) +1608			
	C0201,0202	00MOA22605021	22 UF M 50V RA-2			
	C0203-0206	133050074500S	CQ93M2E101J(LP)			
	C0207,0208	00MOA22605021	22 UF M 50V RA-2			
	C0209,0210	00MOA10702521	100 UF M 25V RA-2			
	C0211,0212	133050089595S	CQ93P2A103JT(PPF)	N,K		*
	C0211,0212	133050089595S	CQ93P2A103JT(PPF)	U	2	*
	C0213,0214	133050086503S	CQ93M2A221JT(PEF)			*
	C0215,0216	00D2561059938	CF93A1H334JT (JL)			
	C0217,0218	133050089526S	CQ93P2A102JT(PPF)			*
	C0219,0220	00MEJ22505011	2.2UF/ 50V			
	C0221,0222	133050090540S	CQ93P2A683JT(PPF)			
	C0240-0245	nsp	CK73B1H103KT (1608) +1608			
	C0247-0250	nsp	CK73B1H103KT (1608) +1608			
	C0251,0252	00MEJ10602511	10UF/ 25V			
	C0270,0271	nsp	CK73B1H103KT (1608) +1608			
	C0272	00D2544302974	CE04W1A101MT(SRE)			
	C0791,0792	133050089595S	CQ93P2A103JT(PPF)			
	C0851	133050076599S	CQ93M2E103J(LP)			
⚠	C0852	133750061200S	#PHE840MA5100MA01R05			
	C0853	00D2544573949	CE04W1H010MT(RA3)			
	C0854,0855	00MOC47803546	4700UF/35V NICHICON PB-FREE			
	C0856	00MOA10605021	10 UF M 50V RA-2			
	C0857	00D2544576700	CE04W1V222MC(RA3)			
	C0859	00MOA10605021	10 UF M 50V RA-2			
	C0860	00MOA22703521	220UF 35V M RA-2			
	C0861	00MOA10605021	10 UF M 50V RA-2			
	C0862	00D2544573949	CE04W1H010MT(RA3)			
	C0863-0865	nsp	CK73F1E104ZT +1608			
	C0866-0869	nsp	CK73B1H103KT (1608) +1608			
⚠	C0891	00D2538029713	CK45F2EAC471KC(KX)			
OTHERS PARTS GROUP						
⚠	F8520	0520100150000	02183.15MXP	N,K		
⚠	F8520	0520100180090	021806.3MXP (FUSE 6.3A 250V)	U	1	
	H0251	nsp	BUFFER IR PM7003 24AJ			
	H8521,8522	nsp	FUSE CLIP(TAPE)			
	L0101,0102	nsp	BL02RN2-R62T2 FERRITE BEAD			
	L0851-0853	nsp	BL02RN2-R62T2 FERRITE BEAD			
	N0025	nsp	CONNECTOR 2P B3P-VH			
	N0026	nsp	2P PLUG B2P3S-VH			
	N0027	nsp	CONNECTOR 2P B3P-VH			
	N0029	nsp	CONNECTOR 2P B3P-VH			
	N0031	nsp	EHR-SCN 2.5MMPICH DIP TYPE 3PIN 10CM			
	N0032	nsp	S3B-EH			
	N0033	nsp	EHR-SCN 3PIN 21CM			
	N0036	nsp	S3B-EH			
	N0038	nsp	B3B-EH-TS (LF)(SN) 3P RADIAL TAPING			
	N0039	nsp	JST 3P-PLUG B3P-VH P=3.96M/M			
	N0041	nsp	EHR-SCN 2.5MMPICH DIP TYPE 4PIN 10CM			
	N0042	nsp	S4B-EH			
	N0043	nsp	B4B-EH-TS (LF)(SN) 4P RADIAL TAPING			
	N0055	nsp	EHR-SCN 5PIN 17CM			
	N0059	nsp	05FMN-SSTK-A FFC CONNECTOR			
	N0061	nsp	B6B-EH-TS (LF)(SN) 6P RADIAL TAPING JST			
	N0064	nsp	EHR-SCN 6PIN 14CM			
	N0101,0102	nsp	B10B-PH-K-S (LF)(SN)			
	N0121	nsp	B13B-PH-K-S (LF)(SN)			
	N0122	nsp	B12B-PH-K-S (LF)(SN)			
	N0124	nsp	B12B-PH-K-S (LF)(SN)			

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	N0304	nsp	EHR-SCN 3P 150MM(SHIELD WIRE)			
	S0181	0630100020040	SRRSIC			
	S0270-0273	00D2125611903	TACT SWITCH(TAPE H5)			
⚠	S0851	682010022003S	RELAY(DLS9D1-O_M)TV-8			*
⚠	S0891	665010008002D	POWER SWITCH (TV-5)			
	K0791	6430100050030	YKB26-5009G HP JACK(SILVER)			
	K0852	00MYT02020890	YKC21-3046V 2P RCA PIN JACK			
	B0202	nsp	SIN-SRA 1PIN 16CM			
	B0791	nsp	SIN-SRA 1PIN 11CM			
	B0851	nsp	GND TERMINAL FOR PCB			
	X0101	00MFQ08004061	CSTS MG 8MHZ TAPING(15PF)			
⚠	T0851	101710067005M	# STANDBY TRANS FOR 230V	N,K		
⚠	T0851	101710068008M	# STANDBY TRANS FOR 120V	U		
⚠	U0852	00D2630809006	NJM7805FA(S)			
	Z0852	nsp	HEAT SINK			
	Z0853	nsp	SCREW			
	0011K	nsp	T6.3A L 250V	U		

AMP PWB ASS'Y

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP						
	D401-408	nsp	1SS133T77 (TAPE)			
	D409-416	nsp	1SS133T77 (TAPE)			
	D751	nsp	1SS133T77 (TAPE)			
	Q401,402	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q403-406	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q407,408	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q409,410	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q411-414	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q415,416	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q417,418	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q419,420	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q421,422	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q423-426	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
	Q427,428	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q429,430	00D2730468907	KTC3199-GR-AT/P			
	Q431,432	00D2710311906	KTA1267-GR-AT/P			
	Q433,434	00D2730468907	KTC3199-GR-AT/P			
	Q435-438	00D2710311906	KTA1267-GR-AT/P			
	Q439,440	00D2730468907	KTC3199-GR-AT/P			
	Q441,442	00MHT600121A1	KTA1268 PNP TRANSISTOR RANK=GR			
	Q443,444	00MHT800931A1	KTC3200 NPN TRANSISTOR RANK=GR			
RESISTORS GROUP						
	R467-470	00MGG05100160	10 OHM +- 5% 1/6W FLAMERETARDANT			
	R591	0750100040030	RK27112MC			
	R753-755	00MGG05220160	22 OHM +- 5% 1/6W FLAMERETARDANT			
CAPACITORS GROUP						
	C297,298	00MOF55331581	330PF 100V +- 5% FNS			
	C299,300	00MDD38104011	50V DC 0.1UF +80 -20%			
	C401	00MDD38104011	50V DC 0.1UF +80 -20%			
	C403,404	133050074548S	CQ93M2E221J(LP)	N,K		
	C405,406	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C407,408	00MOF55101591	100PF 200V +- 5% FAS			
	C409,410	133050075510S	CQ93M2E821J(LP)			*
	C411,412	133050076537S	CQ93M2E332J(LP)			*
	C413,414	00MOF55102581	1000PF 100V FNS			
	C415,416	00MOF55103581	0.01UF 100V +- 5% FNS			
	C417,418	00MOF55393586	0.039UF 100V +- 5% FAS			
	C419,420	00MOA22801626	2200UF 16V			
	C421,422	00MOA106035Z1	ROS-35V 100M - F3#PE - T2 (10UF 35V)			
	C425-428	00MOA227025R1	ROA-25V 221M -H5#PE - T2 (220UF 25V)			
	C591,592	00D2544573949	CE04W1H010MT(RA3)			
	C751,752	00MOF55103581	0.01UF 100V +- 5% FNS	N,K		
	C753,754	00MOA10605021	10 UF M 50V RA-2			
OTHERS PARTS GROUP						
	J011-018	nsp	SPK CONTACTOR			
	J291	643810028008S	RCA PIN JACK 4P AU MSP-244V4-17 GILT LF			
	J401	643810029001S	RCA PIN JACK 2P AU MSP-242V3-12 GILT LF			
	J591	nsp	B3B-EH-TS (LF)(SN) 3P RADIAL TAPING			
	J592	nsp	07MQ-ST-L			
	J593	nsp	RETAINER			
	J751	nsp	4P-PLUG B4P-VH			
	J754	nsp	B3B-EH-TS (LF)(SN) 3P RADIAL TAPING			
	J755	nsp	B4B-EH-TS (LF)(SN) 4P RADIAL TAPING			
	J756-758	nsp	STYLE PIN			
	L401,402	nsp	320 MH CHOKE COIL (TOROIDAL)	N,K		
	L751,752	00D2140213001	RELAY(FTR-F4)			
	L753	00D2140208003	RELAY(NA24W-K)			
	W291	nsp	EHR-SCN 2.5MMPICH DIP TYPE 6PIN 8CM			
	W401	nsp	EHR-SCN 2.5MMPICH DIP TYPE 5PIN 8CM			