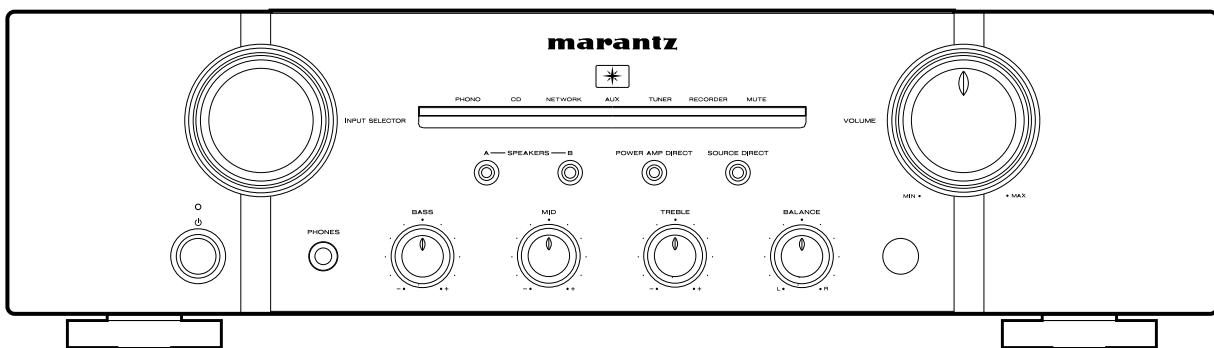


Service Manual

PM8005 /N1B/N1SG

U1B/K1B

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®

PM8005

Ver. 6

Please refer to the
MODIFICATION NOTICE.

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ABOUT THIS MANUAL

Read the following information before using the service manual.

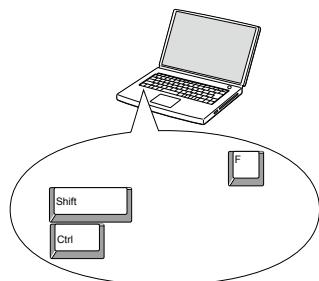
What you can do with this manual

Search for a Ref. No. (phrase) (Ctrl+Shift+F)

You can use the search function in Acrobat Reader to search for a Ref. No. in schematic diagrams, printed wiring circuit diagrams, block diagrams, and parts lists.

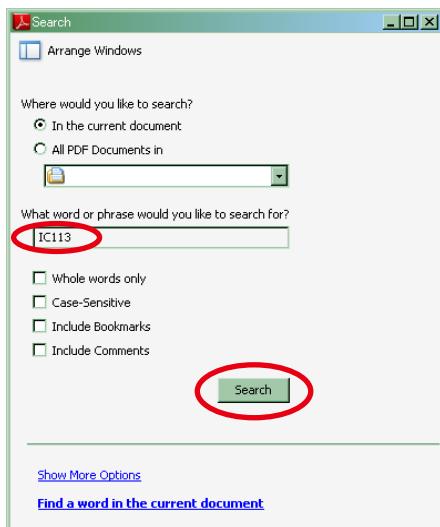
1.Press **Ctrl+Shift+F** on the keyboard.

- The Search window appears.



2.Enter the Ref. No. you want to search for in the Search window, and then click the **Search** button.

- A list of search results appears.



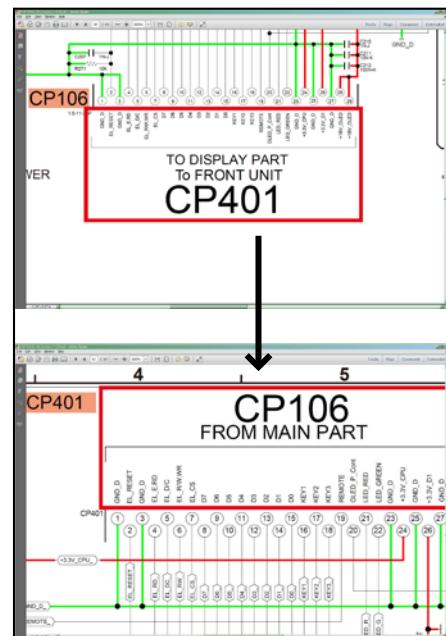
3.Click an item on the list.

- The screen jumps to the page for that item, and the search phrase is displayed.

Jump to the target of a schematic diagram connector

Click the Ref. No. of the target connector in the red box around a schematic diagram connector.

- The screen jumps to the target connector.



- Page magnification stays the same as before the jump.

Using Adobe Reader (Windows version)

Add notes to this data (Sign)

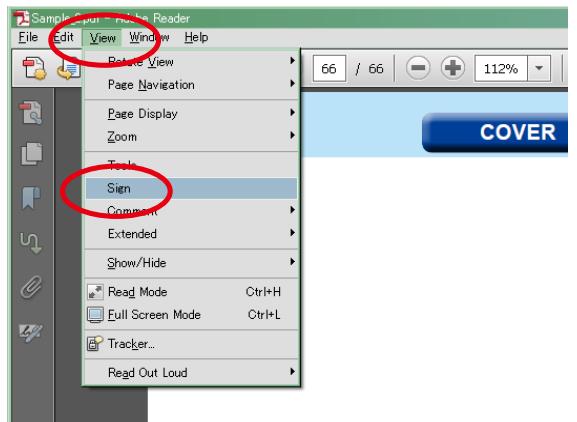
The Sign function lets you add notes to the data in this manual.

Save the file once you have finished adding notes.

[Example using Adobe Reader X]

On the "View" menu, click "Sign".

- The Sign pane appears.



[Example using Adobe Reader 9]

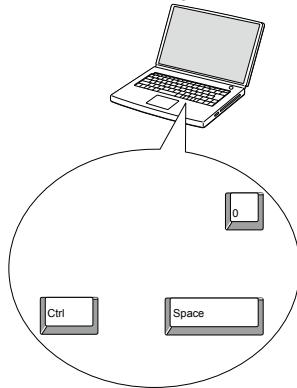
On the "Document" menu, click "Sign".

Magnify schematic / printed circuit board diagrams - 1

(Ctrl+Space, mouse operation)

Press **Ctrl+Space** on the keyboard and drag the mouse to select the area you want to view.

- The selected area is magnified.

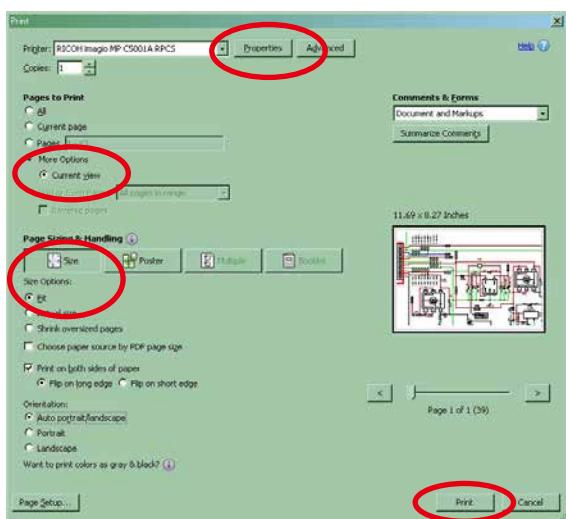


- When you want to move the area shown, hold down **Space** and drag the mouse.
- When you want to show a full page view, press **Ctrl+0** on the keyboard.

Print a magnified part of the manual

The Properties dialog box and functions will vary depending on your printer.

- Drag the mouse to magnify the part you want to print.
- On the "File" menu, click "Print".
- Configure the following settings in the Print dialog box.



- Click the **Print** button to start printing.

Properties

Click this button and check that the printer is set to a suitable paper size.

Page to print

Select the following checkbox.

"More Options" : "Current View"

Page Sizing & Handling

Select the following checkbox.

"Size" / "Size Options" : "Fit"

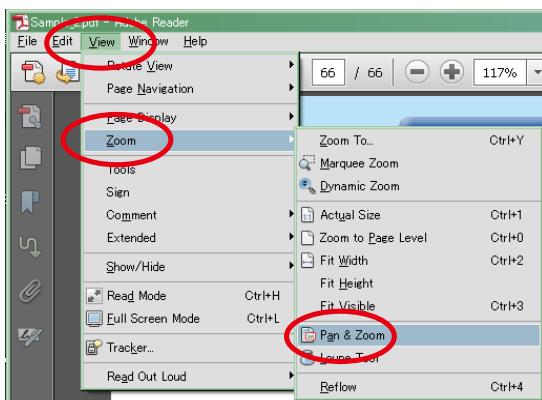
Magnify schematic / printed circuit board diagrams - 2

(Pan & Zoom function)

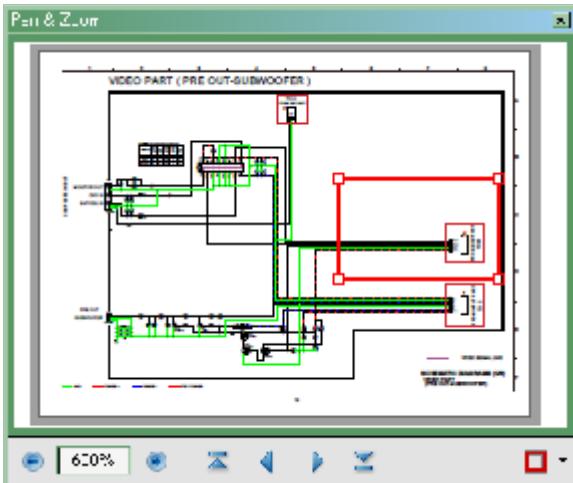
The Pan & Zoom function lets you see which part of a magnified diagram is being shown in a separate window.

[Example using Adobe Reader X]

On the "View" menu, point to "Zoom", and then click "Pan & Zoom".



The Pan & Zoom window appears on the screen.



[Example using Adobe Reader 9]

On the "Tools" menu, point to "Select & Zoom", and then click "Pan & Zoom Window".

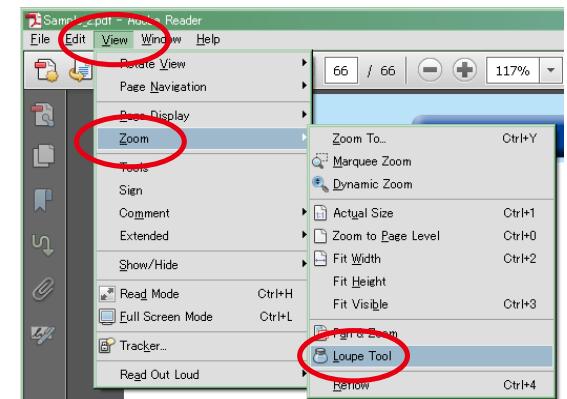
Magnify schematic / printed circuit board diagrams - 3

(Loupe Tool function)

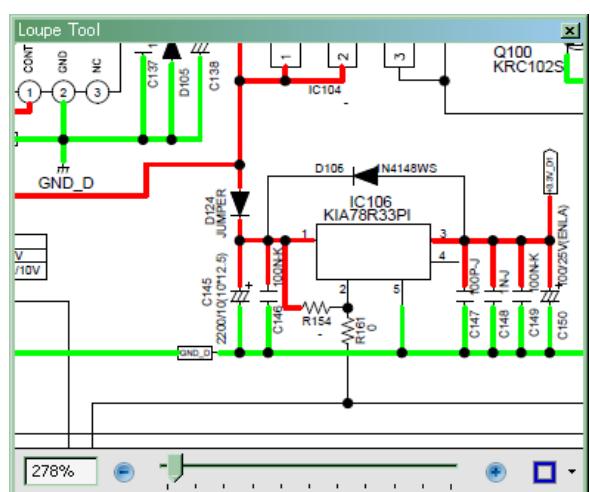
The Loupe Tool function lets you magnify a specific part of a diagram in a separate window.

[Example using Adobe Reader X]

On the "View" menu, point to "Zoom", and then click "Loupe Tool".



The Loupe Tool window appears on the screen.



[Example using Adobe Reader 9]

On the "Tools" menu, point to "Select & Zoom", and then click "Loupe Tool Window".

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 millamps, 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 seasons, 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 millamps, 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.

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

INSTRUCTIONS FOR HANDLING SEMI-CONDUCTORS AND OPTICAL UNIT

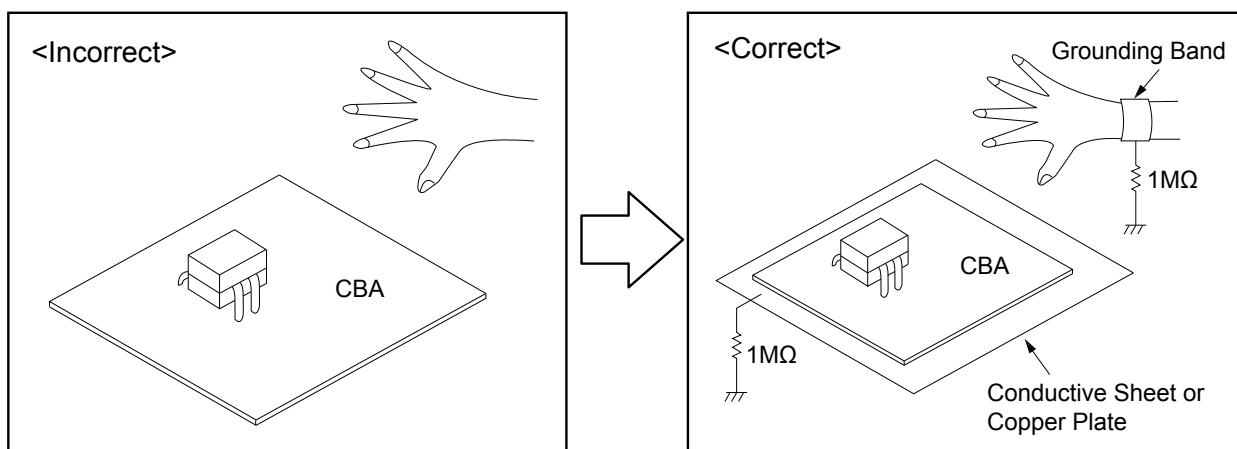
Electrostatic breakdown of the semi-conductors or optical pickup may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band ($1 M\Omega$) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding ($1 M\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



Personal notes:

TECHNICAL SPECIFICATIONS

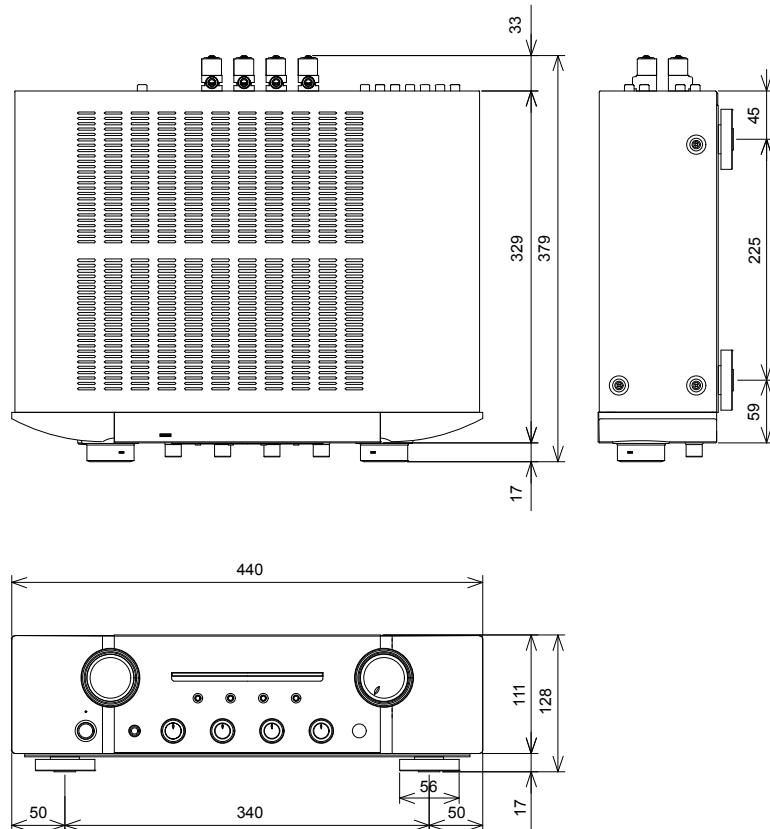
- RMS Power output (for U / N / F model)**
(20 Hz – 20 kHz simultaneous drive of both channels) :
 - 70 W x 2 (8 Ω/ohms load)
 - 100 W x 2 (4 Ω/ohms load)
- RMS Power output (for K model)**
(20 Hz – 20 kHz simultaneous drive of both channels) :
 - 65 W x 2 (8 Ω/ohms load)
 - 95 W x 2 (4 Ω/ohms load)
- Total harmonic distortion**
(20 Hz – 20 kHz simultaneous drive of both channels, 8 Ω/ohms load) : 0.02 %
- Output band width (8 Ω/ohms load, 0.06 %)** : 5 Hz – 60 kHz
- Frequency response (CD, 1 W, 8 Ω/ohms load)** : 5 Hz – 100 kHz ± 3 dB
- Damping factor (8 Ω/ohms load, 40 Hz – 20 kHz)** : 100
- Input sensitivity/Input impedance**
PHONO (MM) : 2 mV / 47 kΩ/kohms
CD, TUNER, NETWORK, AUX, RECORDER : 200 mV / 20 kΩ/kohms

- POWER AMP DIRECT IN** : 1.6 V / 15 kΩ/kohms
- Output voltage/Output impedance**
PRE OUT : 1.6 V / 600 Ω/ohms
- Maximum allowable PHONO input level (1 kHz)**
MM : 100 mV
- RIAA deviation (20 Hz – 20 kHz)** : ± 0.5 dB
- S/N (IHF-A, 8 Ω/ohms load)**
PHONO (MM) : 87 dB (5 mV input, 1 W output)
CD, TUNER, NETWORK, AUX, RECORDER : 106 dB (2 V input, Rated output)
- POWER AMP DIRECT IN** : 125 dB (Rated output)
- Tone control**
Bass (50 Hz) : ±10 dB
Mid (900 Hz) : ±6 dB
Treble (15 kHz) : ±10 dB
- Power requirement (for U model)** : AC 120 V, 60 Hz
Power requirement (for N model) : AC 230 V, 50/60 Hz
Power requirement (for K model) : AC 220 V, 50 Hz
Power requirement (for F model) : AC 100 V, 50/60 Hz
Power consumption (EN60065 / UL60065) : 220 W
Power consumption in standby mode : 0.2 W

DIMENSION

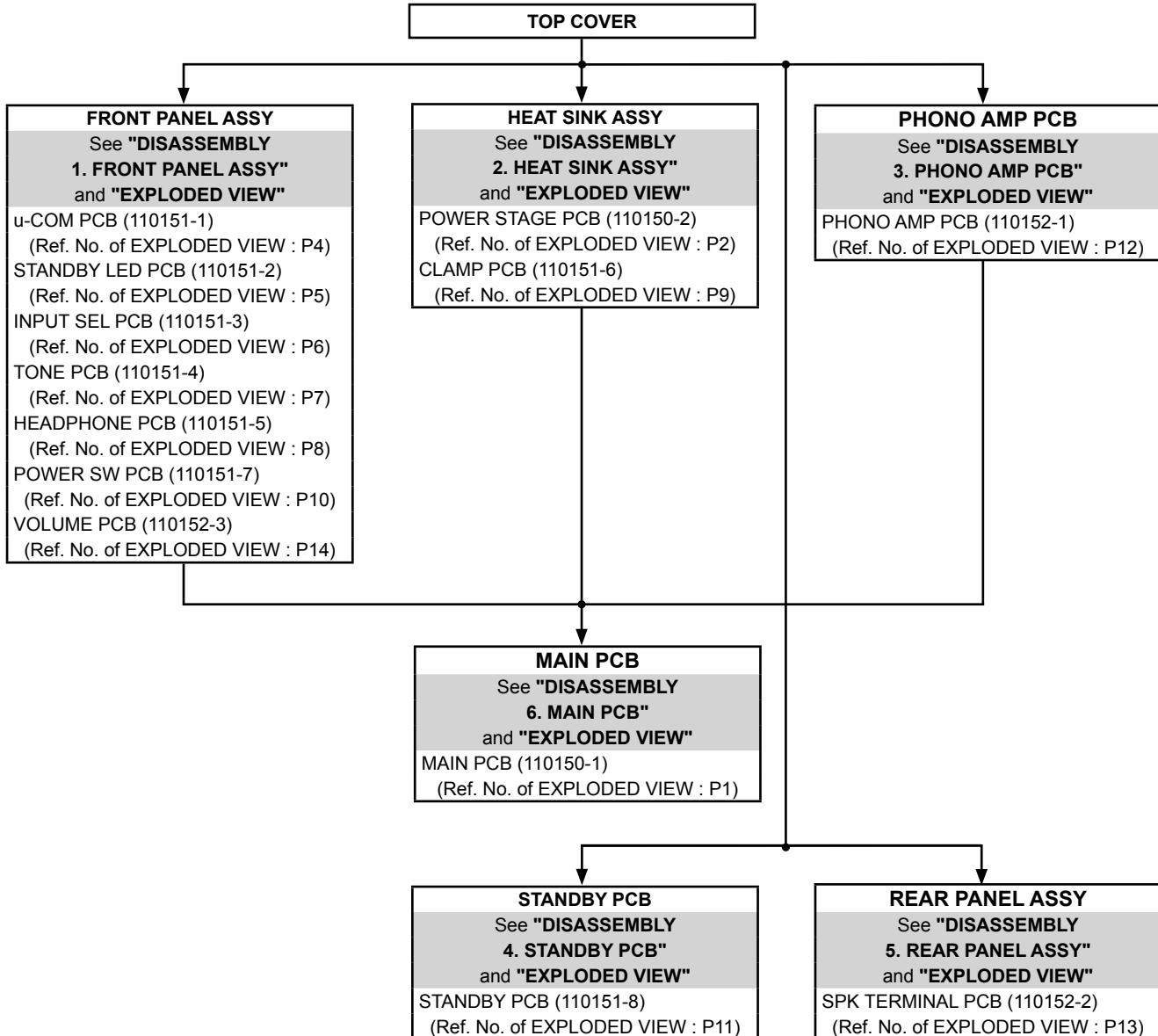
Unit : in. (mm)

Weight : 12.0 kg



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: ***".
- See 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 X)
[View from the top]

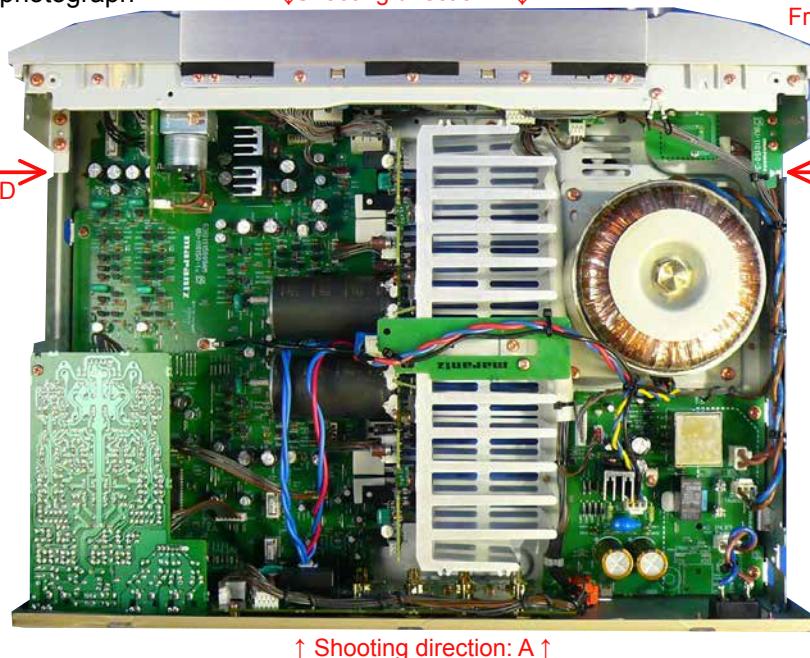
↓ Shooting direction: B ↓

Front side
↑

Shooting
direction: D →

← Shooting
direction: C

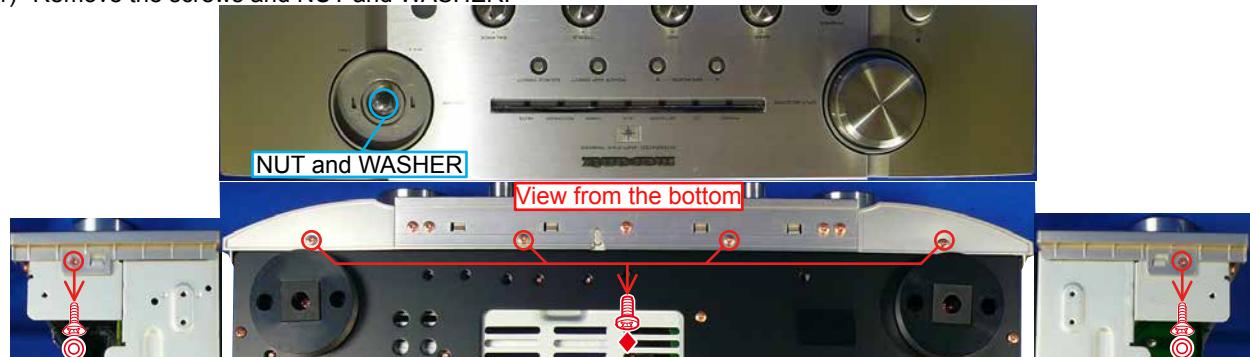
↑ Shooting direction: A ↑



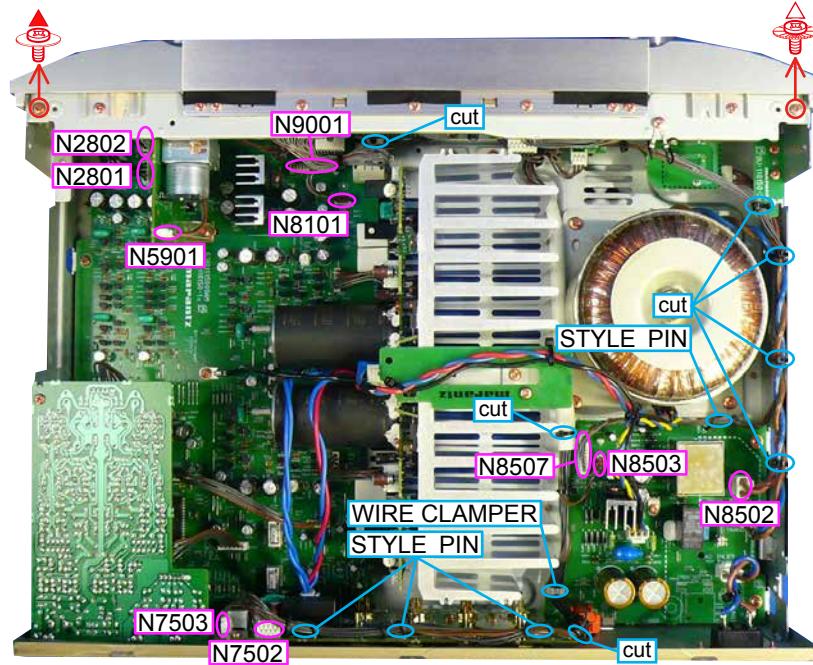
1. FRONT PANEL ASSY

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

- Remove the screws and NUT and WASHER.



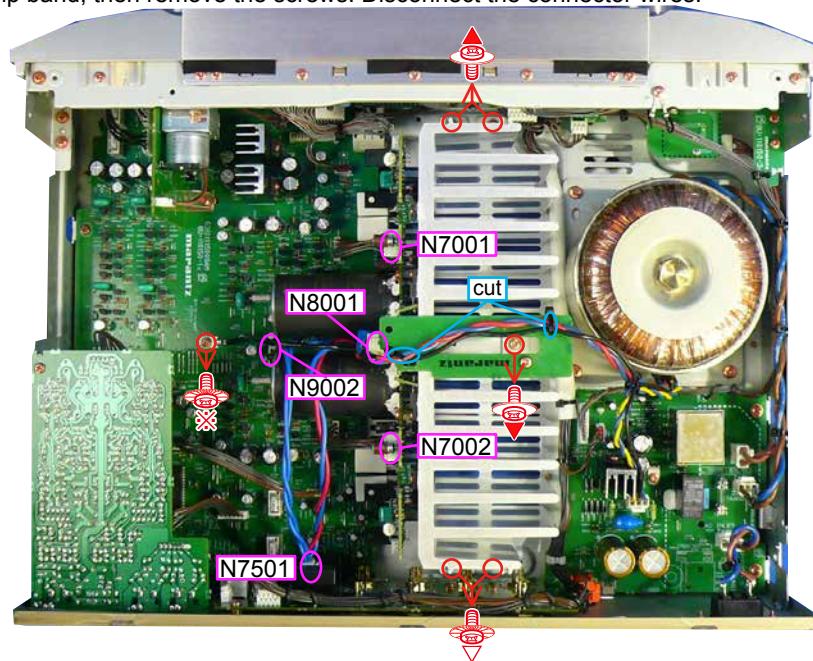
(2) Cut the wire clamp band, then remove the style pin and screws. Disconnect the connector wires.



2. HEAT SINK ASSY

Proceeding : **TOP COVER** → **HEAT SINK ASSY**

(1) Cut the wire clamp band, then remove the screws. Disconnect the connector wires.



3. PHONO AMP PCB

Proceeding : **TOP COVER** → **PHONO AMP PCB**

- (1) Remove the screws. Disconnect the connector wires.



4. STANDBY PCB

Proceeding : **TOP COVER** → **STANDBY PCB**

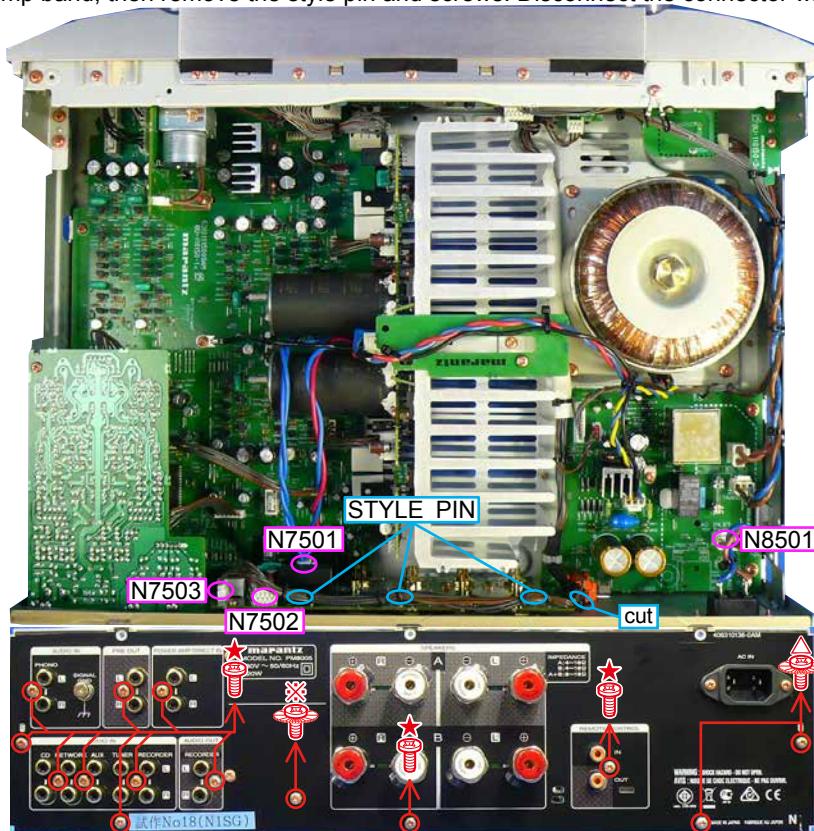
- (1) Cut the wire clamp band, then remove the style pin and screws. Disconnect the connector wires.



5. REAR PANEL ASSY

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

- (1) Cut the wire clamp band, then remove the style pin and screws. Disconnect the connector wires.



6. MAIN PCB

Proceeding : **TOP COVER** → **PHONO AMP PCB** → **HEAT SINK ASSY** → **MAIN PCB**

- (1) Remove the screws.



SPECIAL MODE

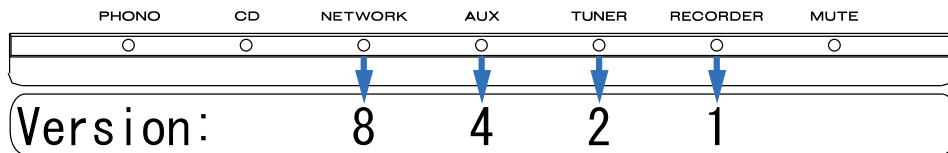
1. SERVICE MODE

Microprocessor (U1001) 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- [1], Version : 1

Light up RECORDER- [1] and AUX [4], Version : 5

Light up RECORDER- [1] and NETWORK [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)

(6) This completes the procedure for N region. For all other regions, complete steps (7) and (8). △
△

(7) Press the power button to turn on the power. △
△

(8) Hold down buttons SOURCE DIRECT for at least 5 seconds while the power is on. △
△

The power display flashes once and the auto standby mode is OFF.

2. PROTECTION MODE

Explanation of microprocessor (**U1001**) [PROT_1 (pin6) and PROT_2 (pin7)].

[A] 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), **Q9507** or **Q9508** will turn on and the signal from the PROT_1 terminal will change to "Lo" from "Hi".
2. Detection of an abnormal current from the power transistors (**Q7011**, **Q7013**, **Q7012**, **Q7014**).
If an electric current of over 7A flows in **Q7011** or **Q7013**, **Q9503**, **Q9505** and **Q9509** turn on, and the signal from the PROT_1 terminal will change to "Lo" from "Hi".
If an electric current of over 7A flows in **Q7012** or **Q7014**, **Q9504**, **Q9506** and **Q9509** turn on, and the signal from the PROT_1 terminal will change to "Lo" from "Hi".
3. Detection of an abnormal temperature of the Heat Sink.
If the temperature of the Heat Sink exceeds approximately +110 degrees C, the posistor (**Z9501** or **Z9502**) will turn on **Q9501** or **Q9502** and the signal from the PROT_1 terminal will change to "Lo" from "Hi".

If any of the above three abnormalities is detected, the signal from the PROT_1 terminal will change to "Lo" from "Hi", and the protection circuit will be activated, the signal from the SPK_OUT (pin10) changing to "Lo" from "Hi" and the speaker relays **S7501**, **S7502** and **S7503** immediately turned off.

What this protection operation results in after this depends on how long the signal from the PROT_1 has to remain "Lo".

- If the PROT_1 (pin6) recovers to "Hi" 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 "Lo" for more than one second.
The amp will be powered off by the P_ON (pin15) changing to "Hi" from "Lo" and and Power relay **S8501** 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 "Lo", 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.

[B] 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 **R8001** and **R8002** exceeds DC ± 1.2 V, **Q9003** or **Q9004** will turn on to change the signal from the PROT_2 (pin7) to "Lo" from "Hi".

2. Detection of an abnormality in the preamp power supply circuit.

Q9001 and **Q9002** monitors the midpoint voltage between +28V and -28V. If the voltage at the connection point of **R8109** and **R8110** exceeds DC ± 0.9 V, **Q9001** or **Q9002** will turn on to change the signal from the PROT_2 (pin7) to "Lo" from "Hi".

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 80mA, **Q8302** and **Q8303** will turn on to change the signal from the PROT_2 (pin7) to "Lo" from "Hi".

If any of the above three abnormalities is detected, the signal from the P_ON (pin15) terminal will be changed to "Lo" from "Hi", the power relay **S8051** 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 "Lo" 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.

PROCEDURE AFTER REPLACING THE MICROPROCESSOR, ETC

The procedure after replacing the u-COM (Microprocessor), flash ROM, etc. is as follows.

PCB Name	Ref. No.	Description	After replaced	Remark
u-COM	U1001	PM8005 ROM ASSY (TMP86FH47BUG) <small>▲</small>	A	

After replacing

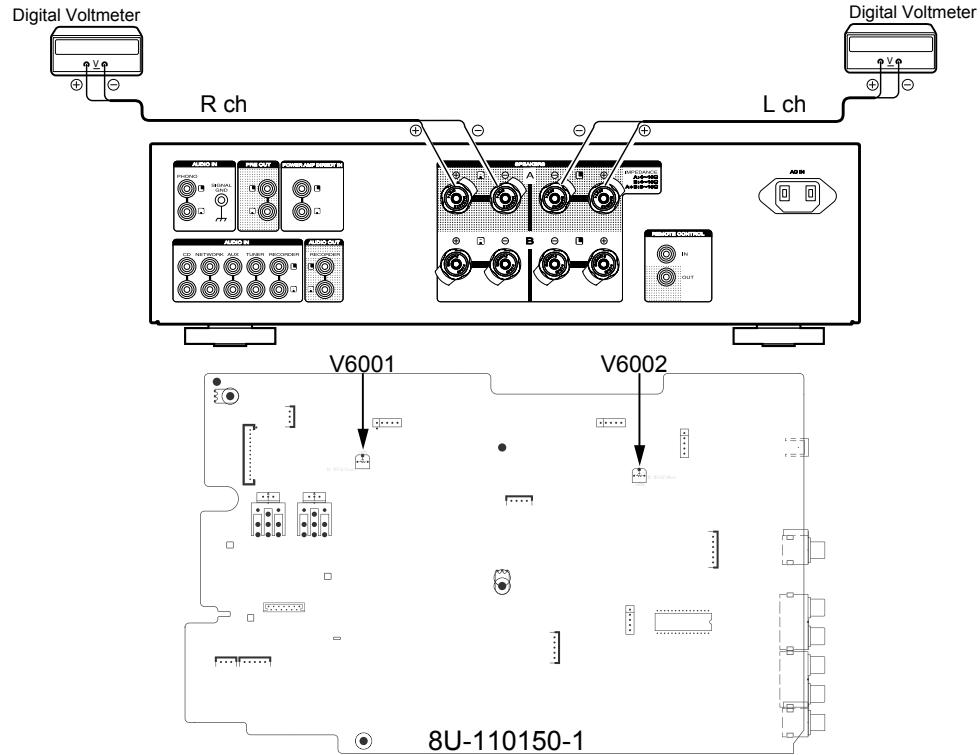
- A** : The software has been written. The software is not written at the time of replacement.
- B** : The software has been written. The software may need to be rewritten by version updates. Check the version.
- C** : The software has not been written. The software needs to be written after replacement. See "Firmware Update Procedure" for information on writing the software.
- D** : The software has been written. Be sure to rewrite with the latest software for your service region. See "Firmware Update Procedure" for information on writing the software.

ADJUSTMENT

Adjusting Procedure

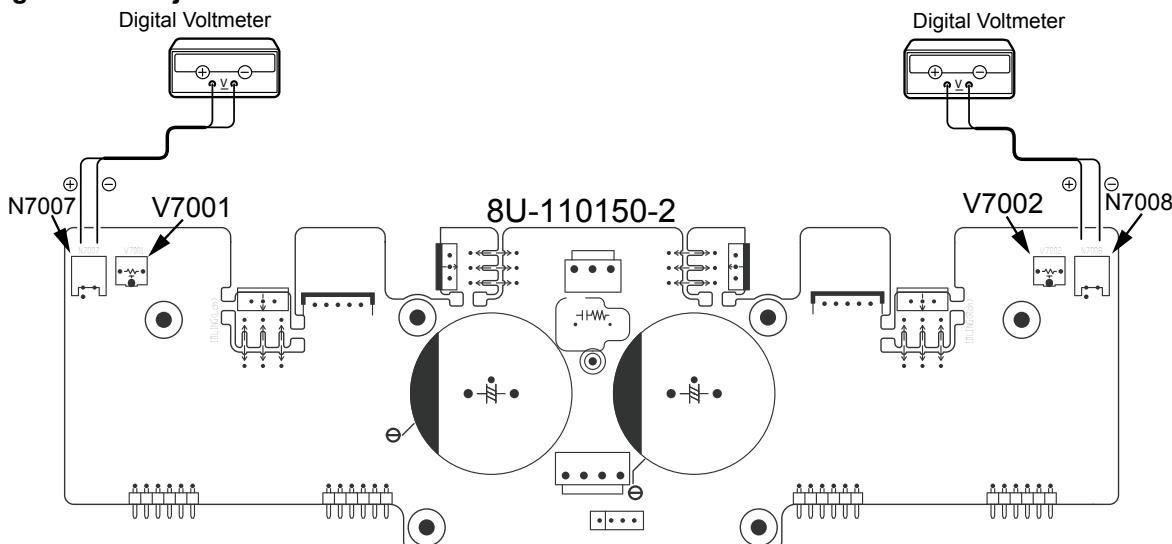
Set the power voltage to rated voltage for this adjustment.

DC Offset Voltage Adjustment



1. Before turning on the power,
Insert Digital Voltage Meter between the SPEAKER SYSTEMS A (L CH) "+" and "-".
Insert Digital Voltage Meter between the SPEAKER SYSTEMS A (R CH) "+" and "-".
2. Adjust the **VOLUME** to MIN.
3. Turn on the power. Then turn the **SPEAKERS SW** to A.
Adjustment is started immediately after a speaker relay turns on.
4. First **L CH** is adjusted.
The variable resistor **V6001** on **P1** 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 **V6002** on **P1** 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 (**V6001** and **V6002**) 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.

Idling Current Adjustment

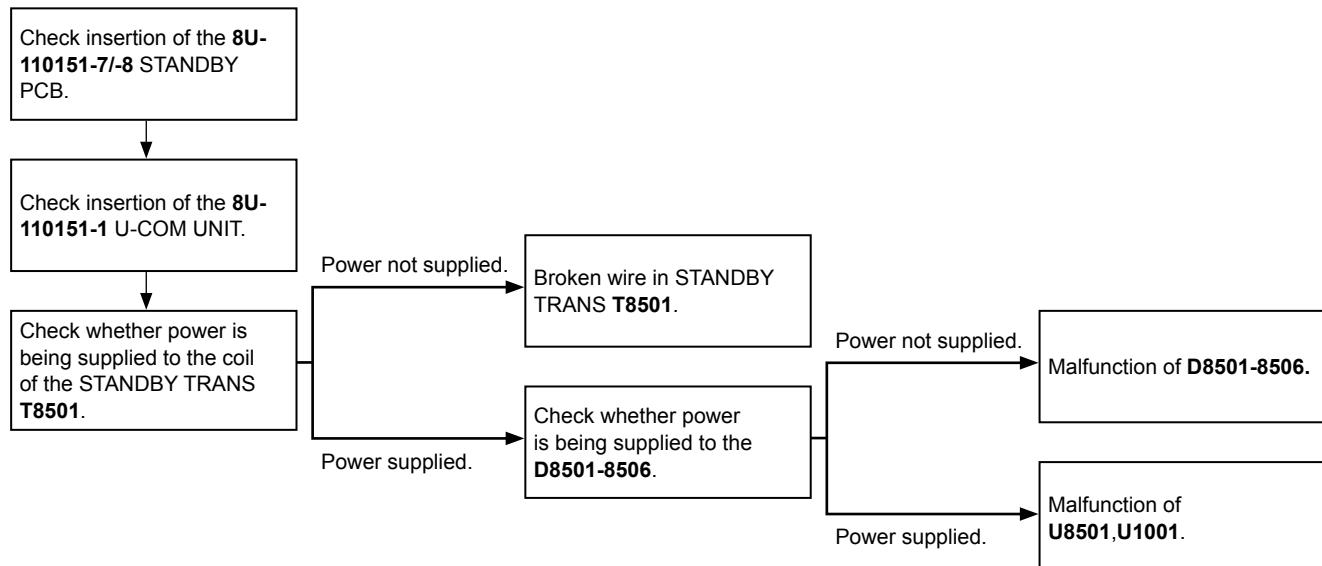


1. After DC Offset Voltage Adjustment is completed, adjust the Idling Current with the variable resistor **V7001** and **V7002** on the PCB **P2(8U-110150-2)**.
2. Turn off the power.
3. "+" of Connect Digital Voltage is connected to the No. 1 pin and connected "—" to No. 2 pin of **N7007**.
4. "+" of Connect Digital Voltage is connected to the No. 1 pin and connected "—" to No. 2 pin of **N7008**.
5. Before turning on the power, **V7001** and **V7002** have been counter clockwise turned with the adjustment driver.
6. Turn on the power, **VOLUME** is set as $-\infty$.
7. After 1 minutes, with seeing the digital voltage meter turn the variable resister clockwise slowly to adjust the idling current.
 - Idling adjustment with **V7001 (V7002)**.
 - Turn **V7001 (V7002)** clockwise to increase the idling current.
 - The adjustment value of idling current is "**10 mV(50 mA) $\pm 0.5 mV(2.5 mA)$** " each. \triangle
8. After 5 minutes, repeat the same procedure as 7. \triangle
 - Turn **V7001 (V7002)** clockwise to increase the idling current.
 - The adjustment value of idling current is "**17 mV(85 mA) $\pm 0.5 mV(2.5 mA)$** " each. \triangle
 Adjustment is completed.
9. Remove connection cable, attach the top cover.

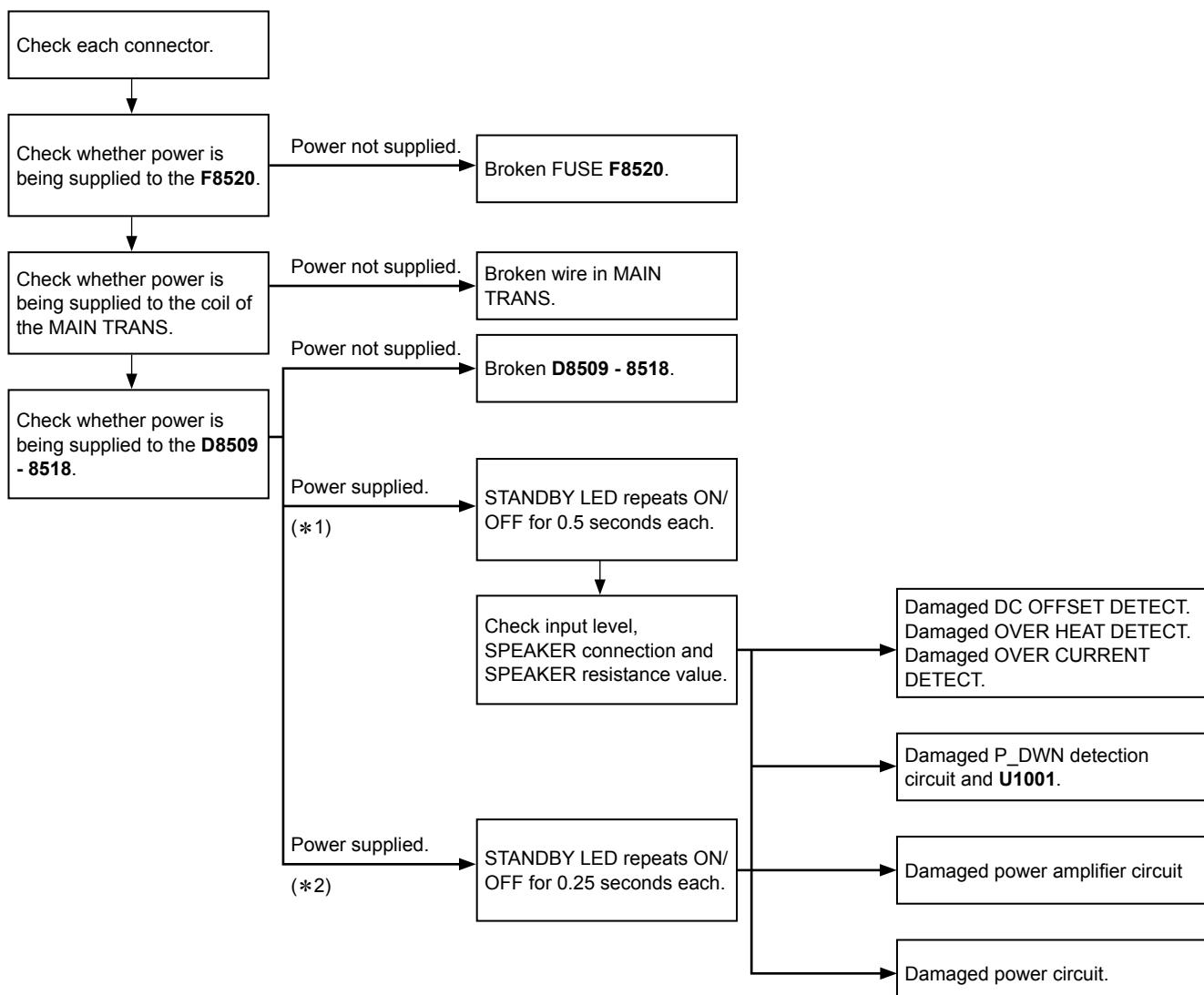
NOTE : Idling current decreases with the temperature rise inside the unit, and it is set to "**14 mV (70mA)**" of setting value in about 30 minutes after turn on the power. \triangle

TROUBLE SHOOTING

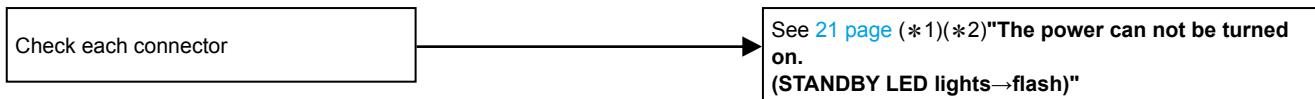
1. The power can not be turned on. (STANDBY LED does not light (STANDBY MODE))



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

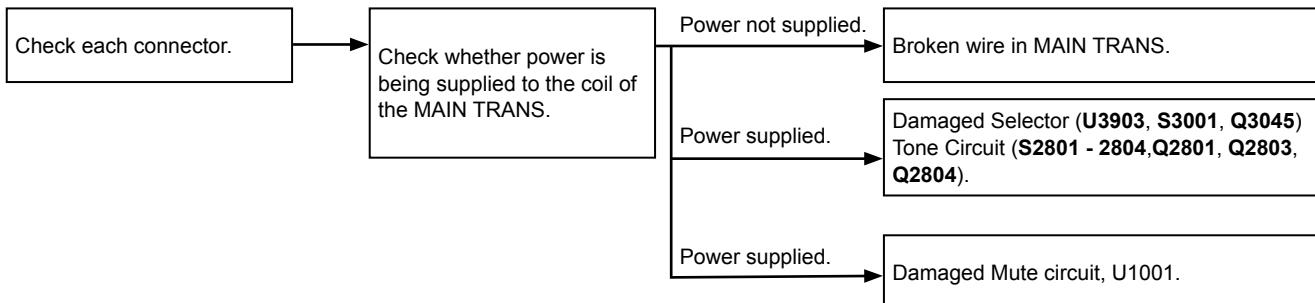


3. STANDBY LED FLASHES WHILE USING UNIT (PROTECTION CIRCUIT IS SET)



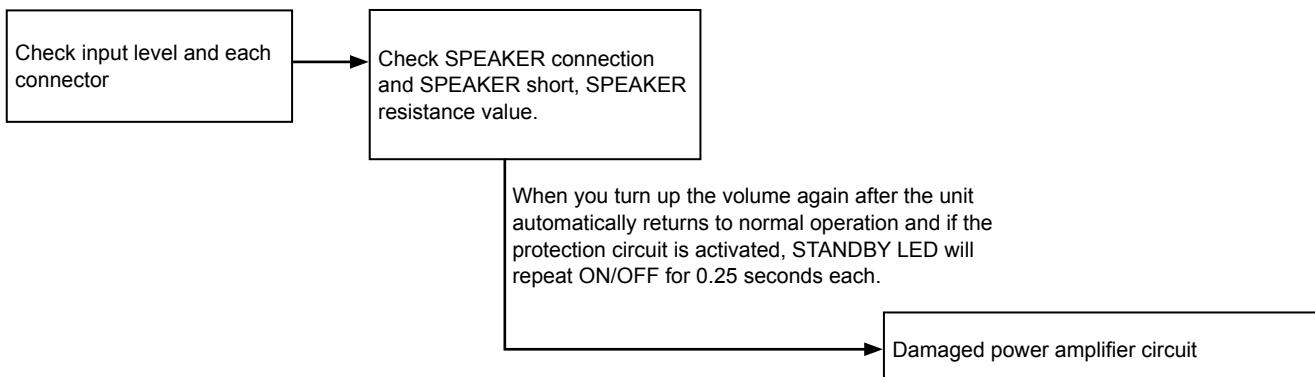
4. The power turned on, but a sound does not output normally. (Both channels)

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

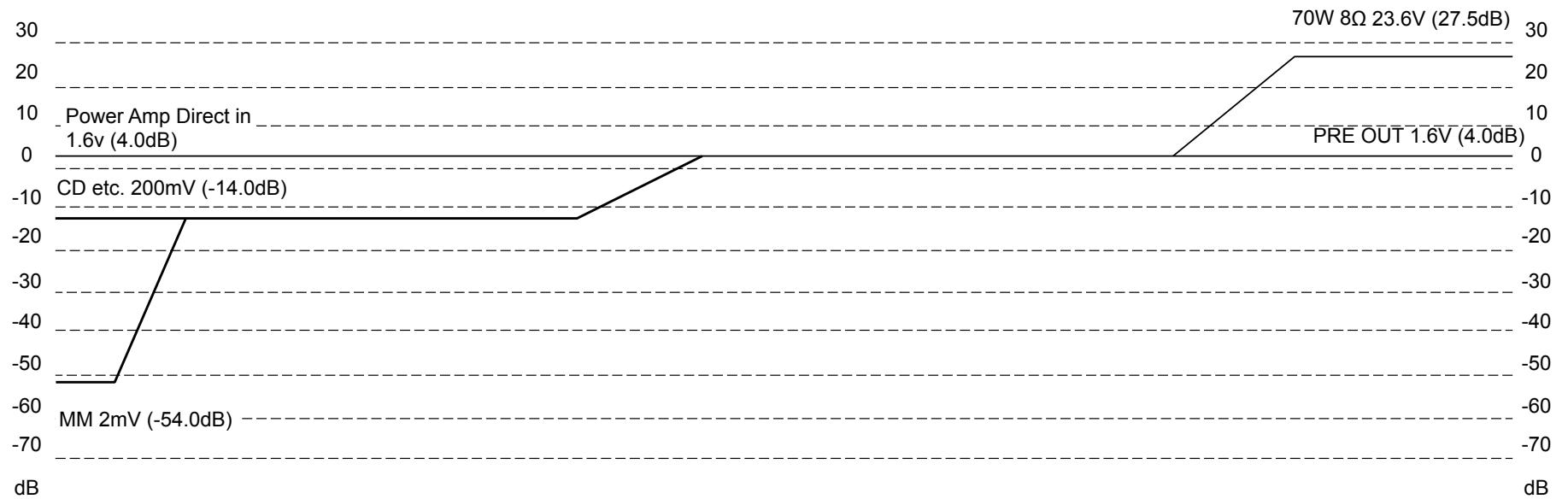


4.2 When the volume is turned up, Mute LED flashes. (protection mode is set)

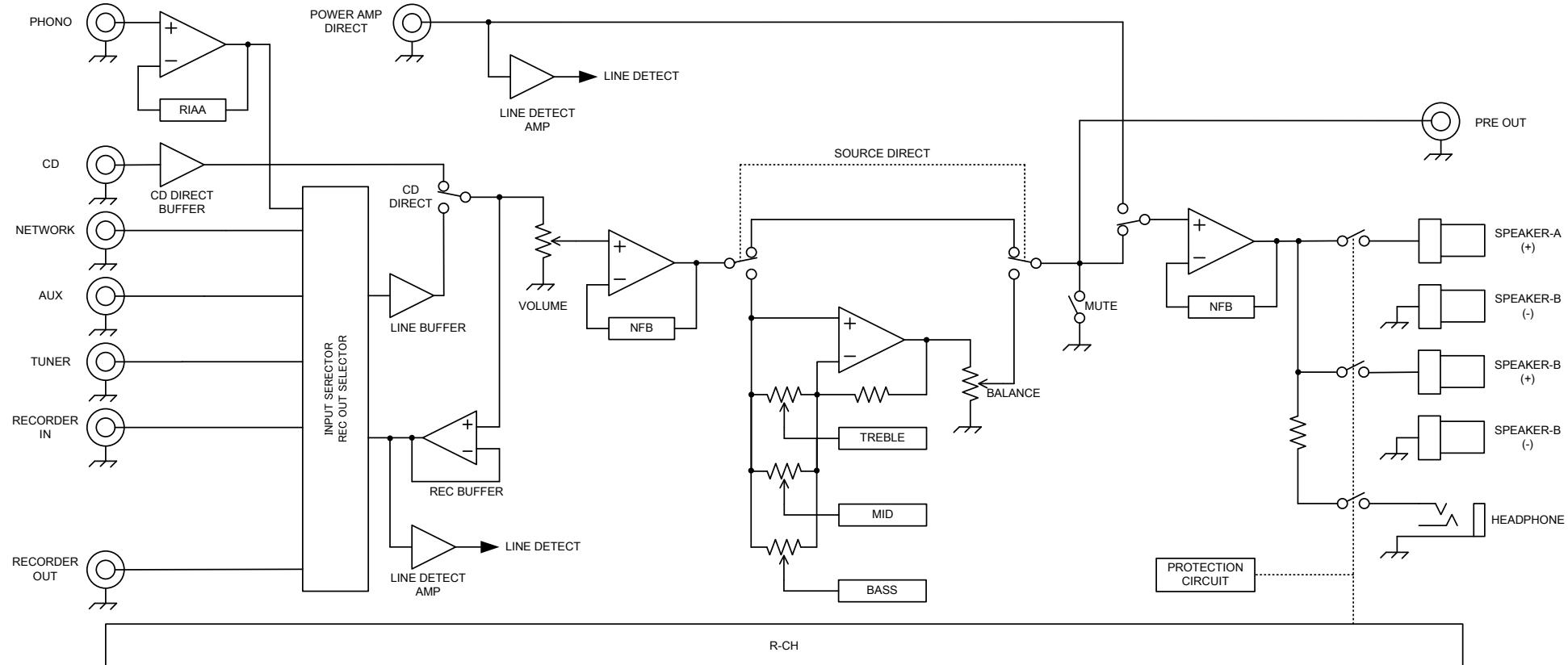
Repeats ON/OFF for 0.5 second each, and automatically returns to normal operation.



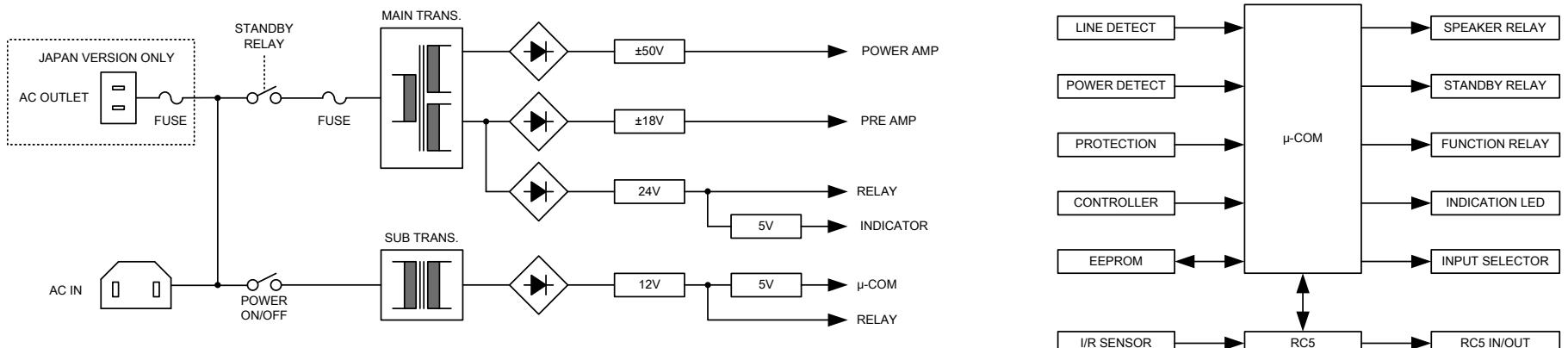
LEVEL DIAGRAM



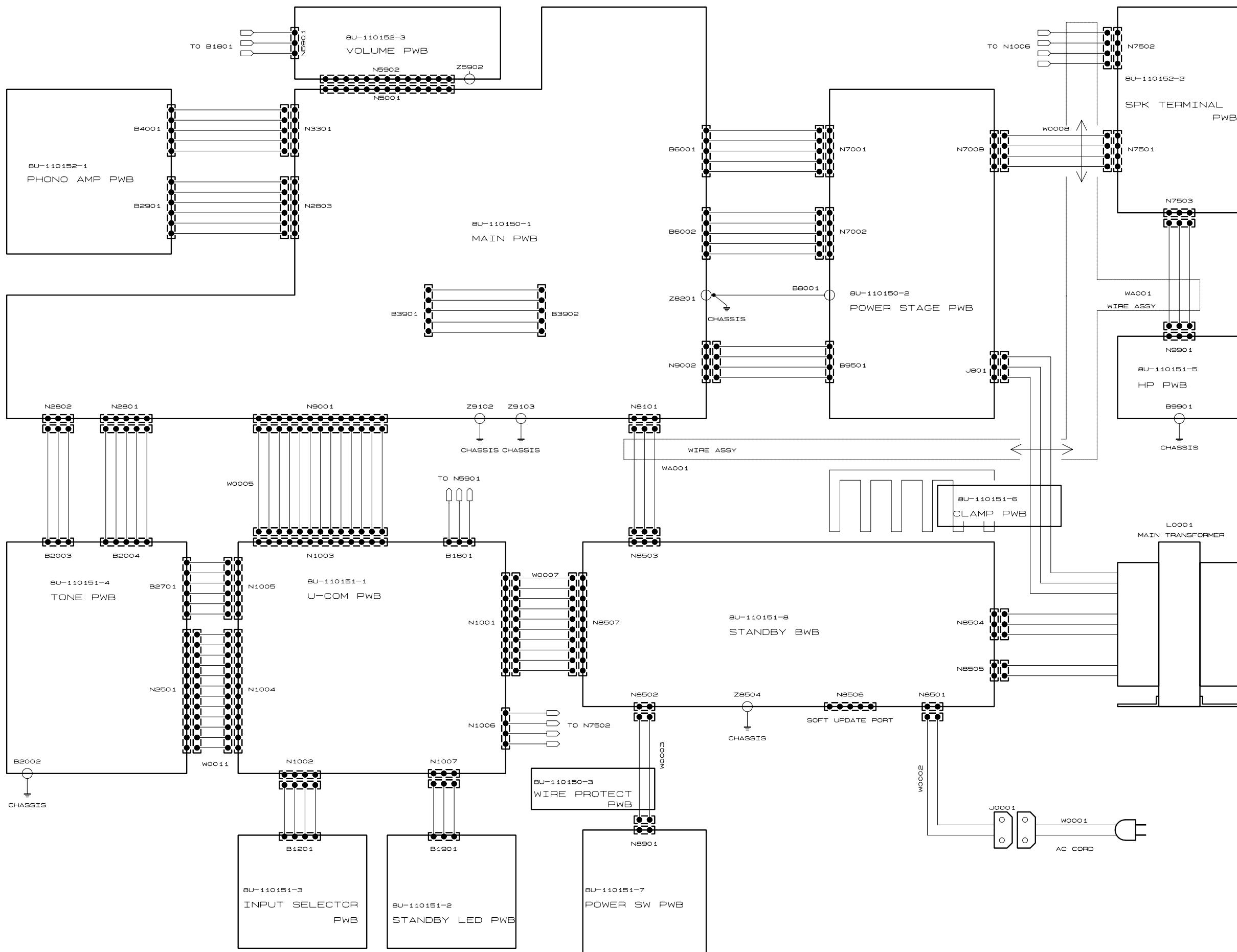
BLOCK DIAGRAM



POWER DIAGRAM



WIRING DIAGRAM

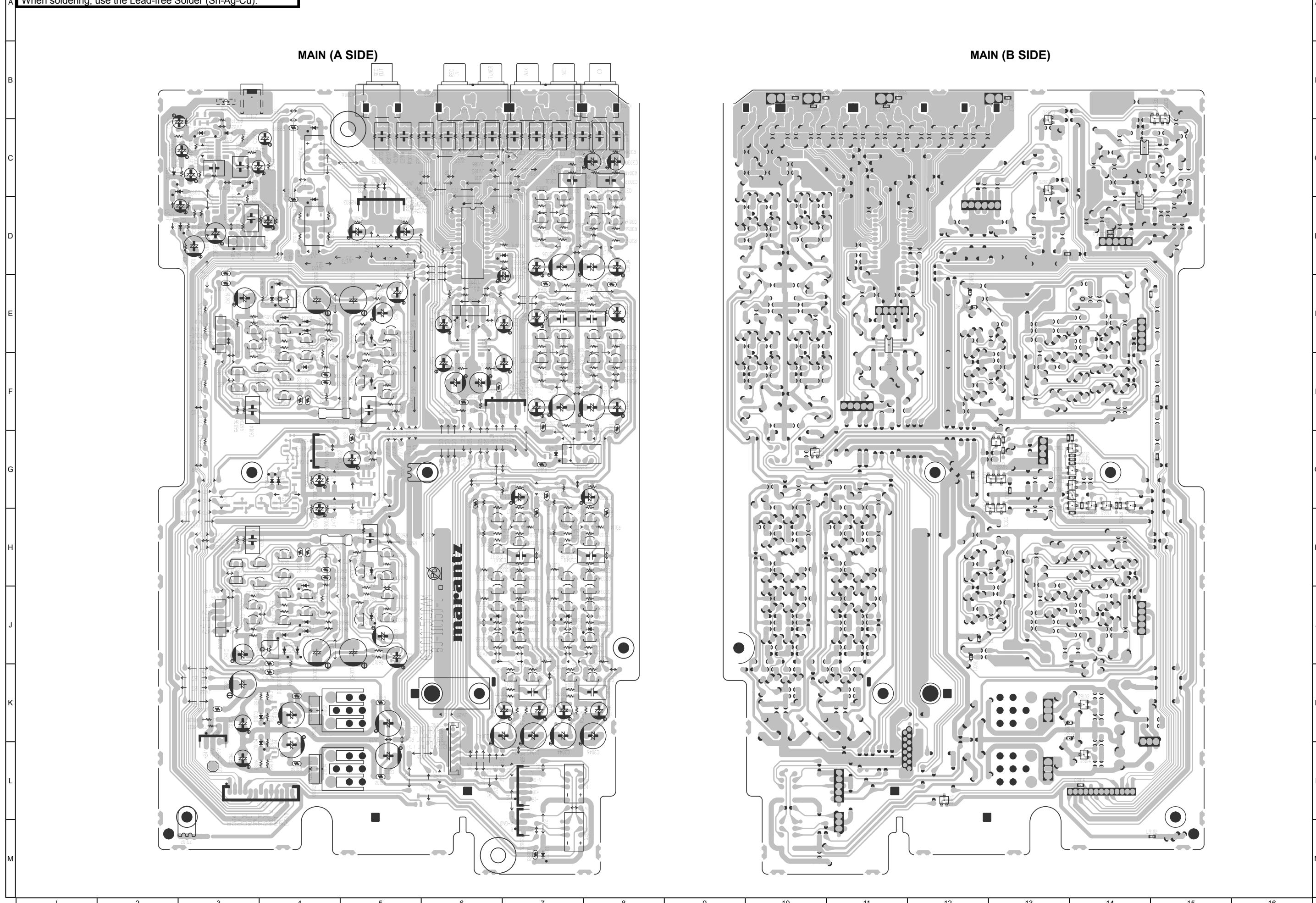


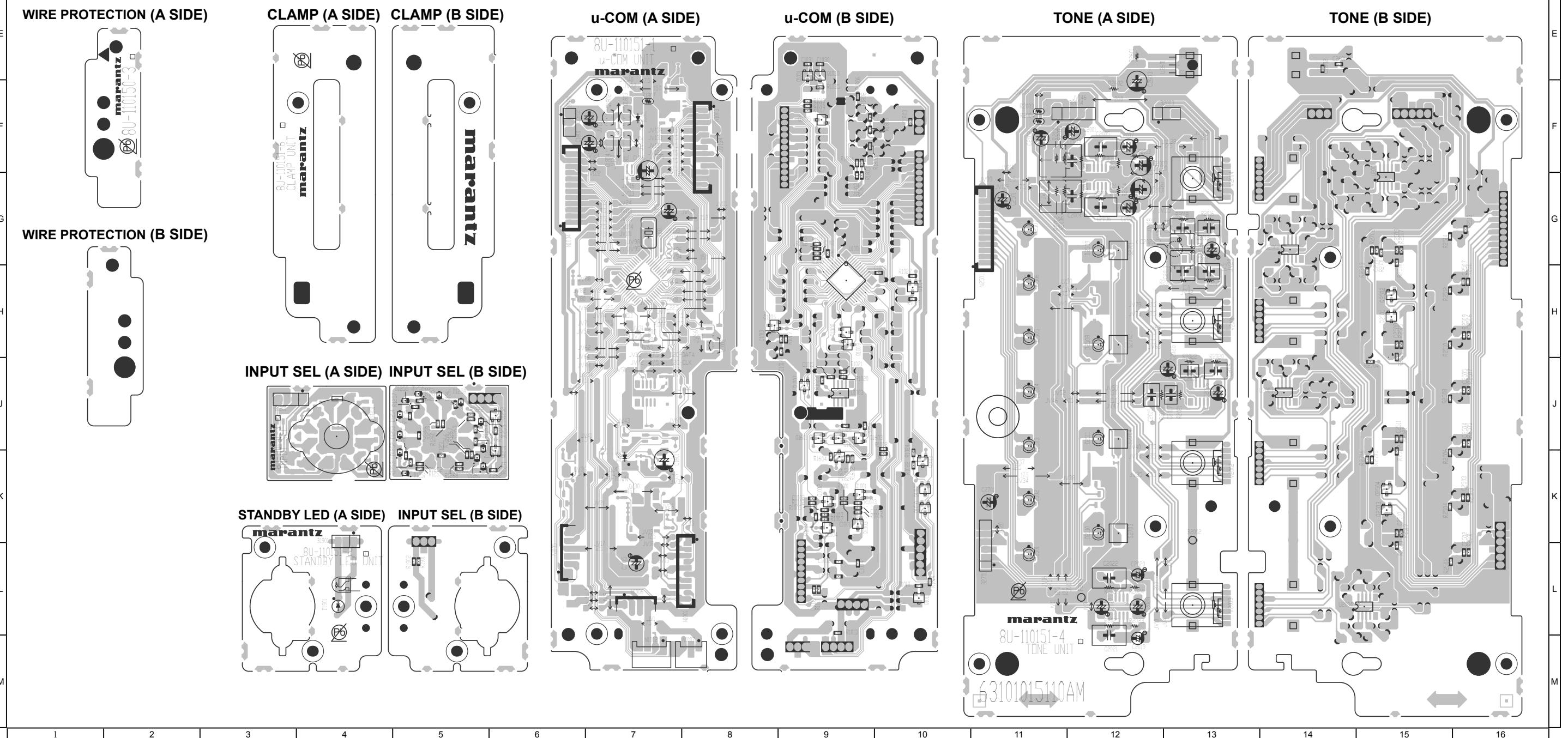
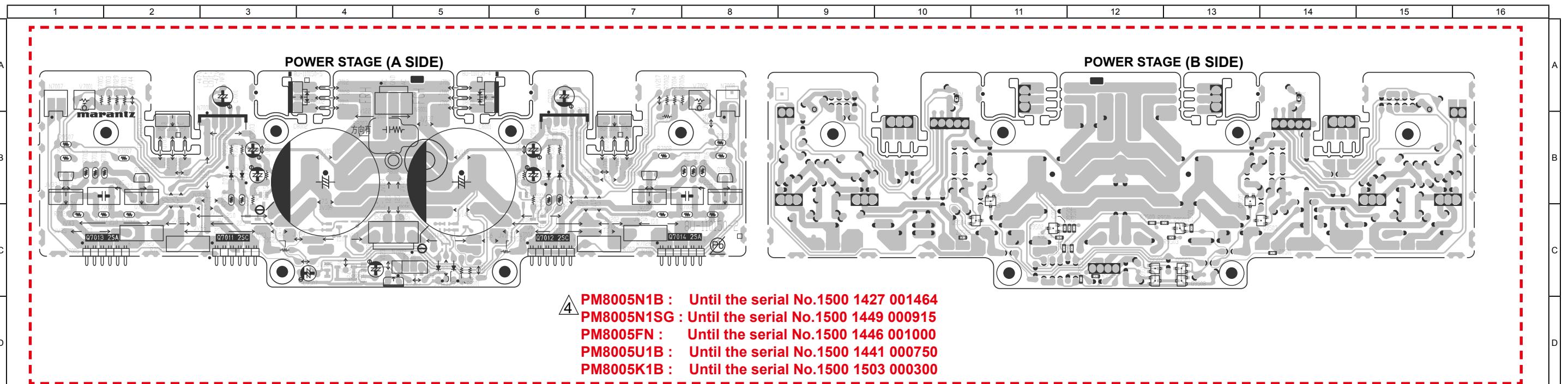
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

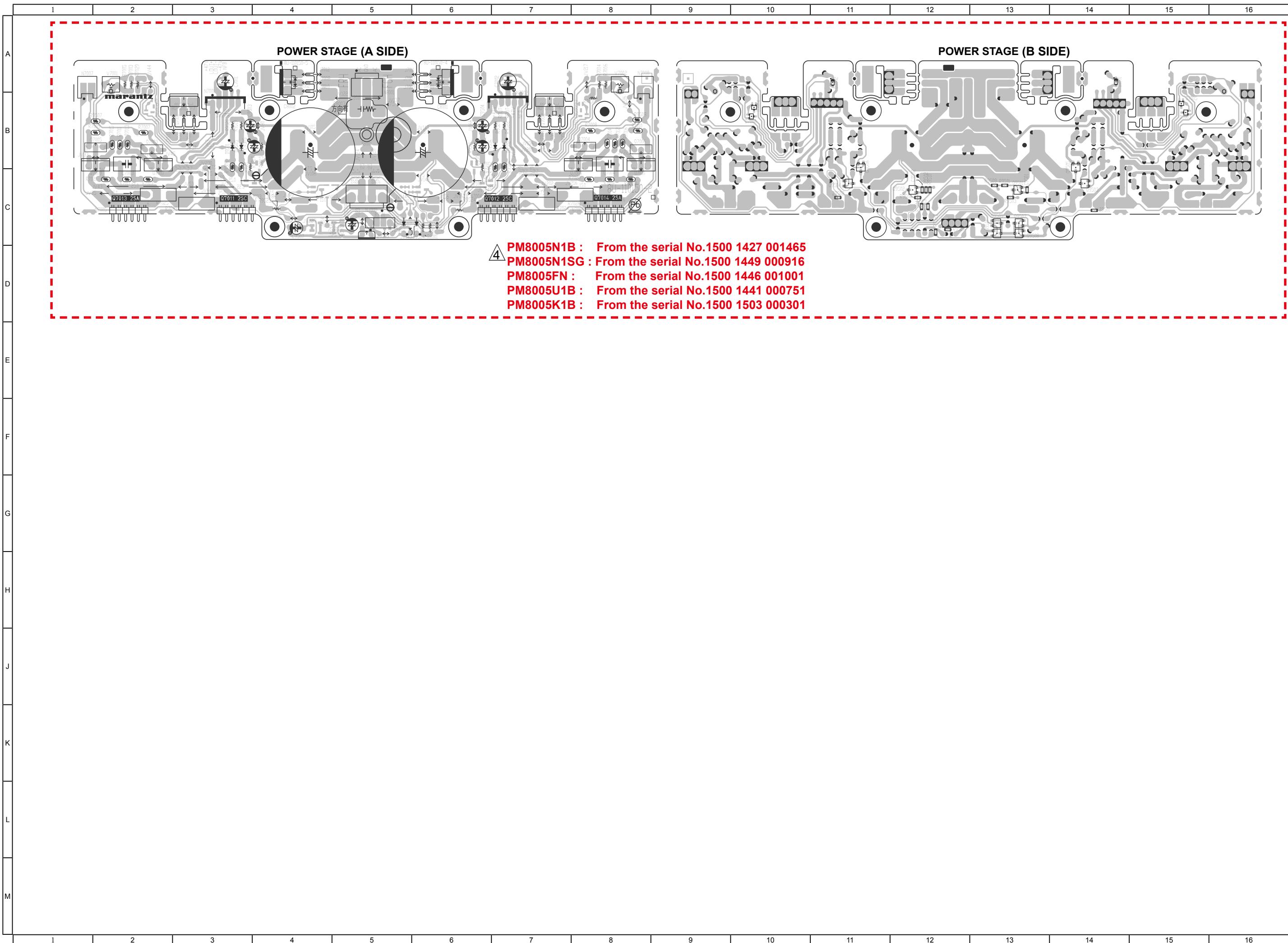
PRINTED CIRCUIT BOARDS

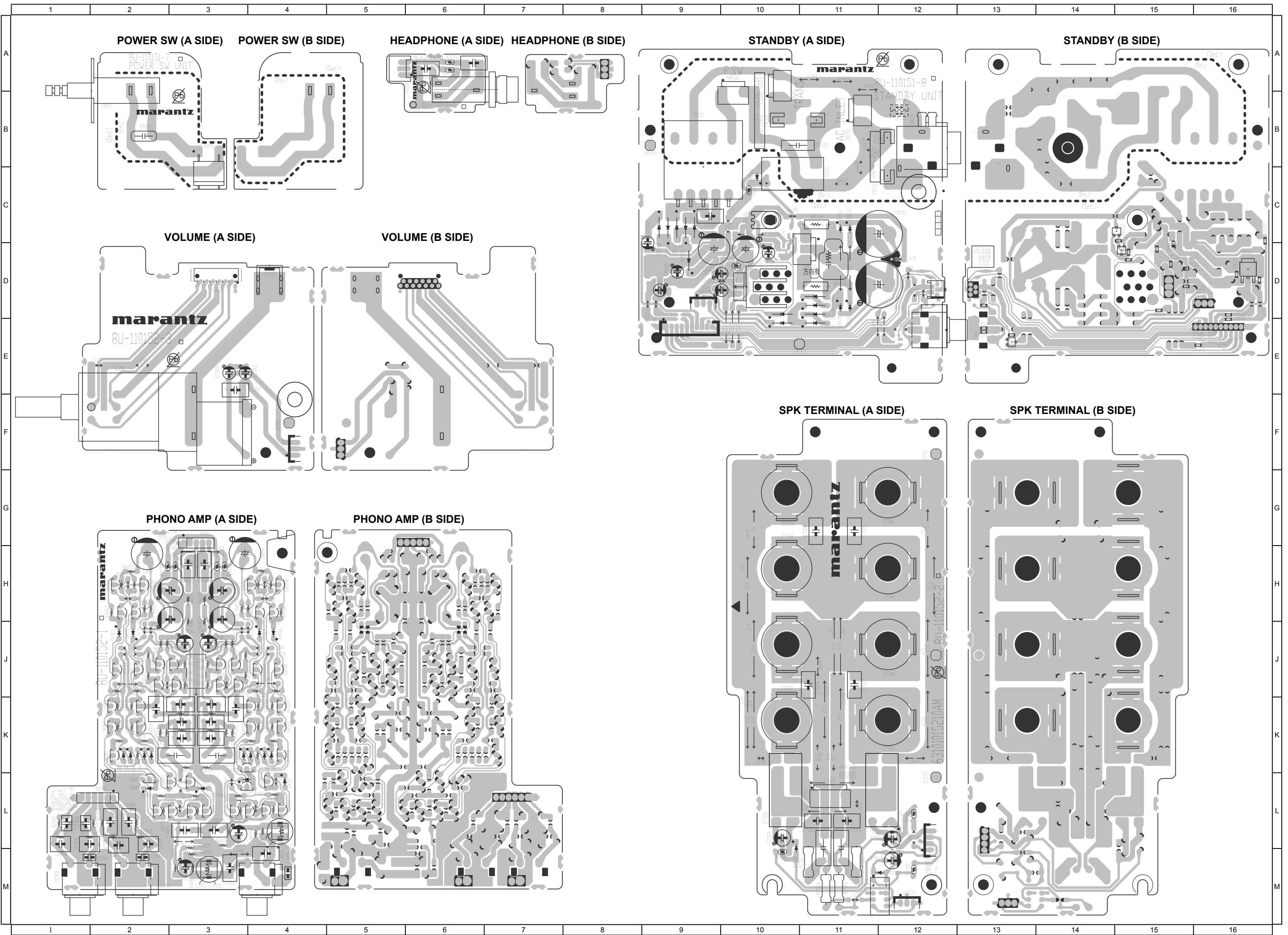
Lead-free Solder

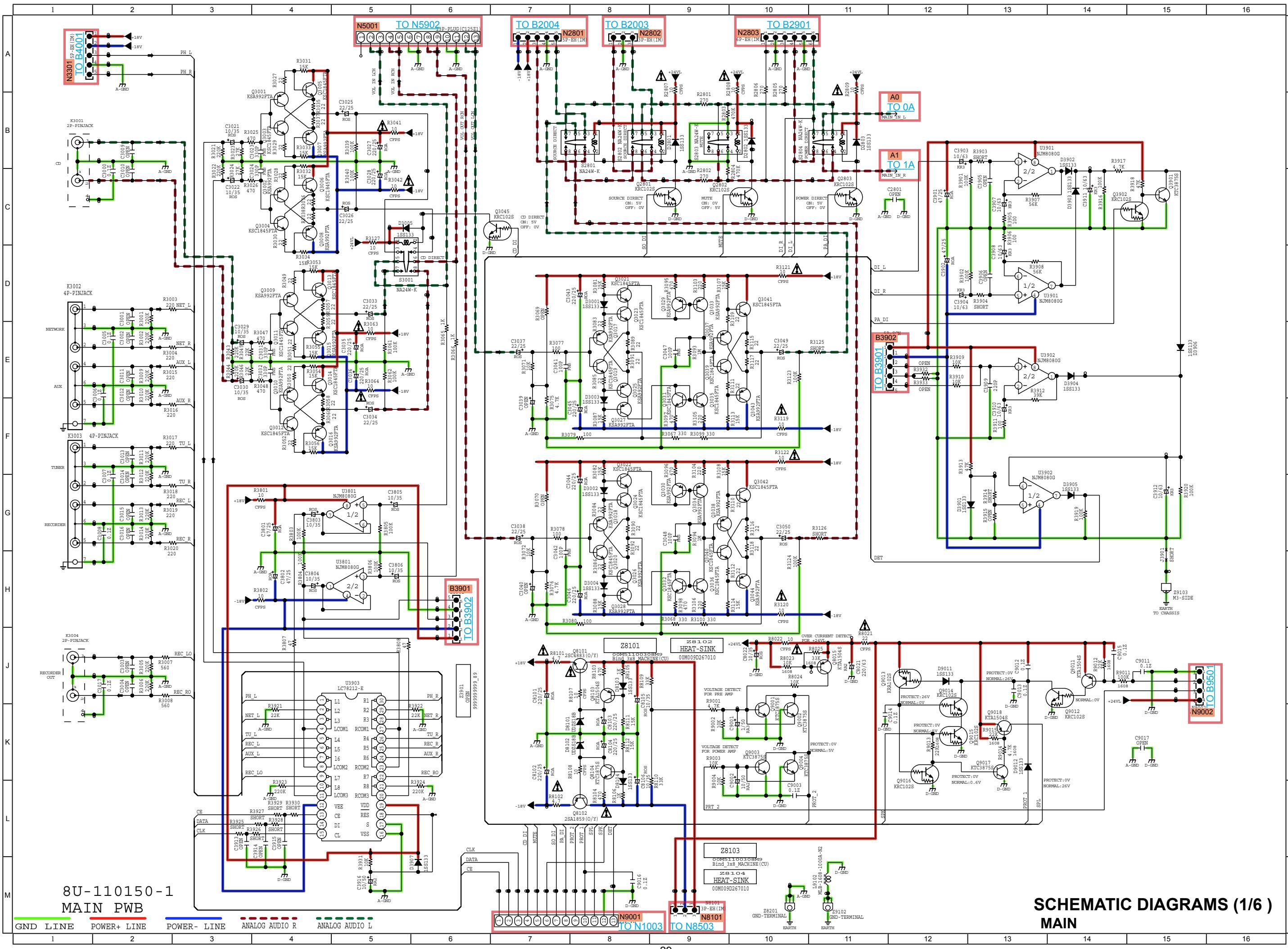
When soldering, use the Lead-free Solder (Sn-Ag-Cu).











A

B

C

D

E

F

G

H

I

J

K

L

M

A

B

C

D

E

F

G

H

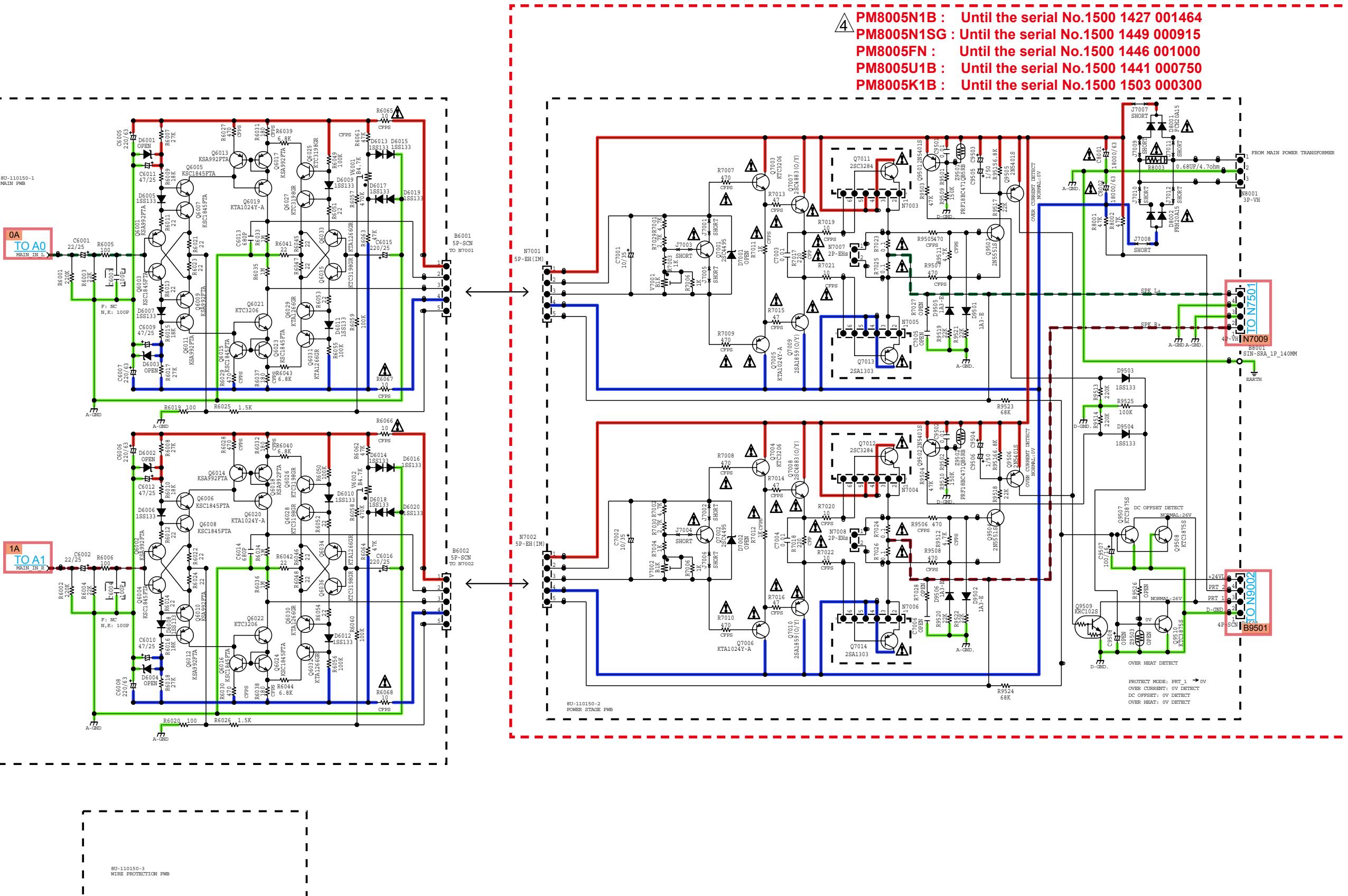
I

J

K

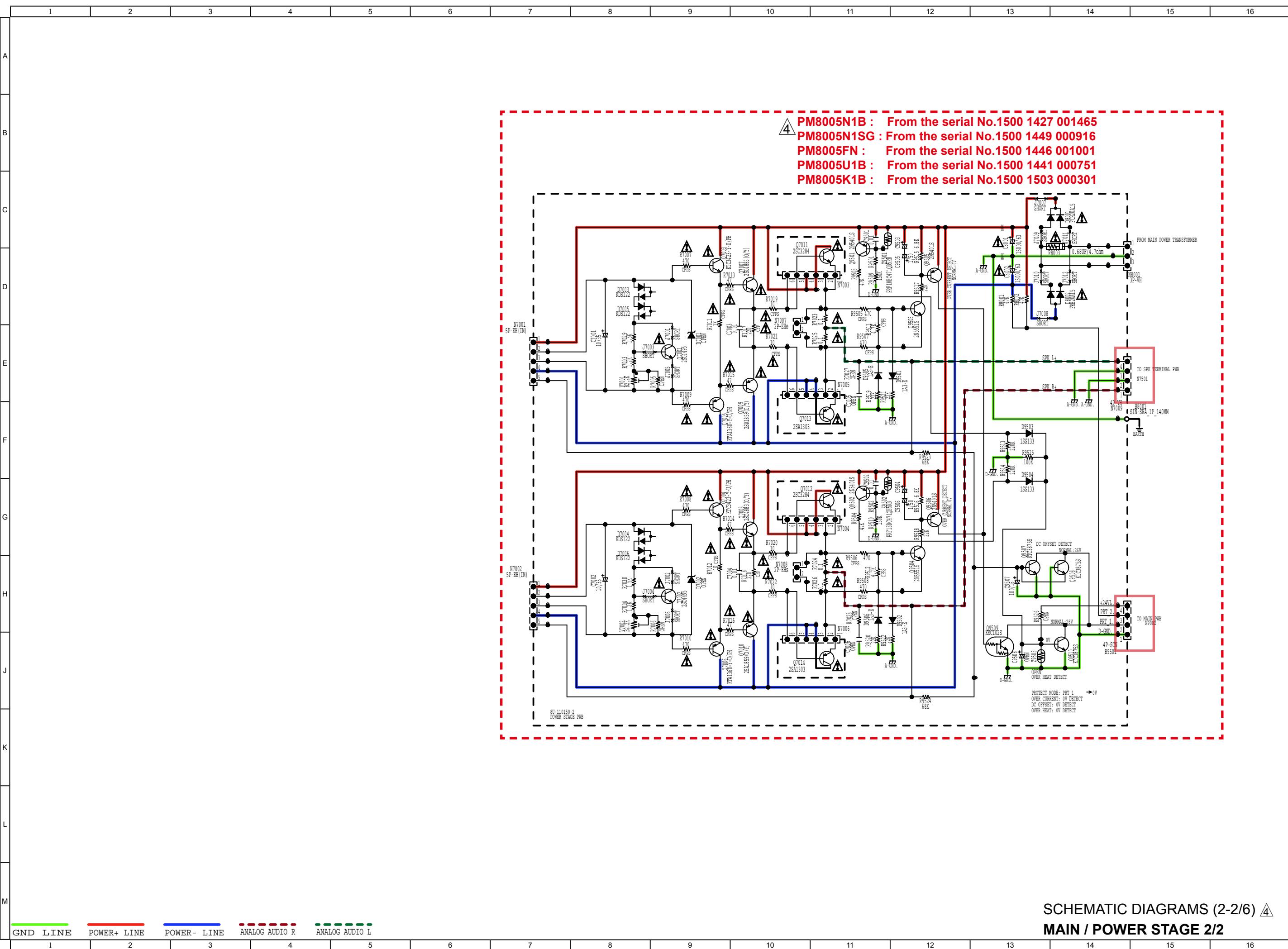
L

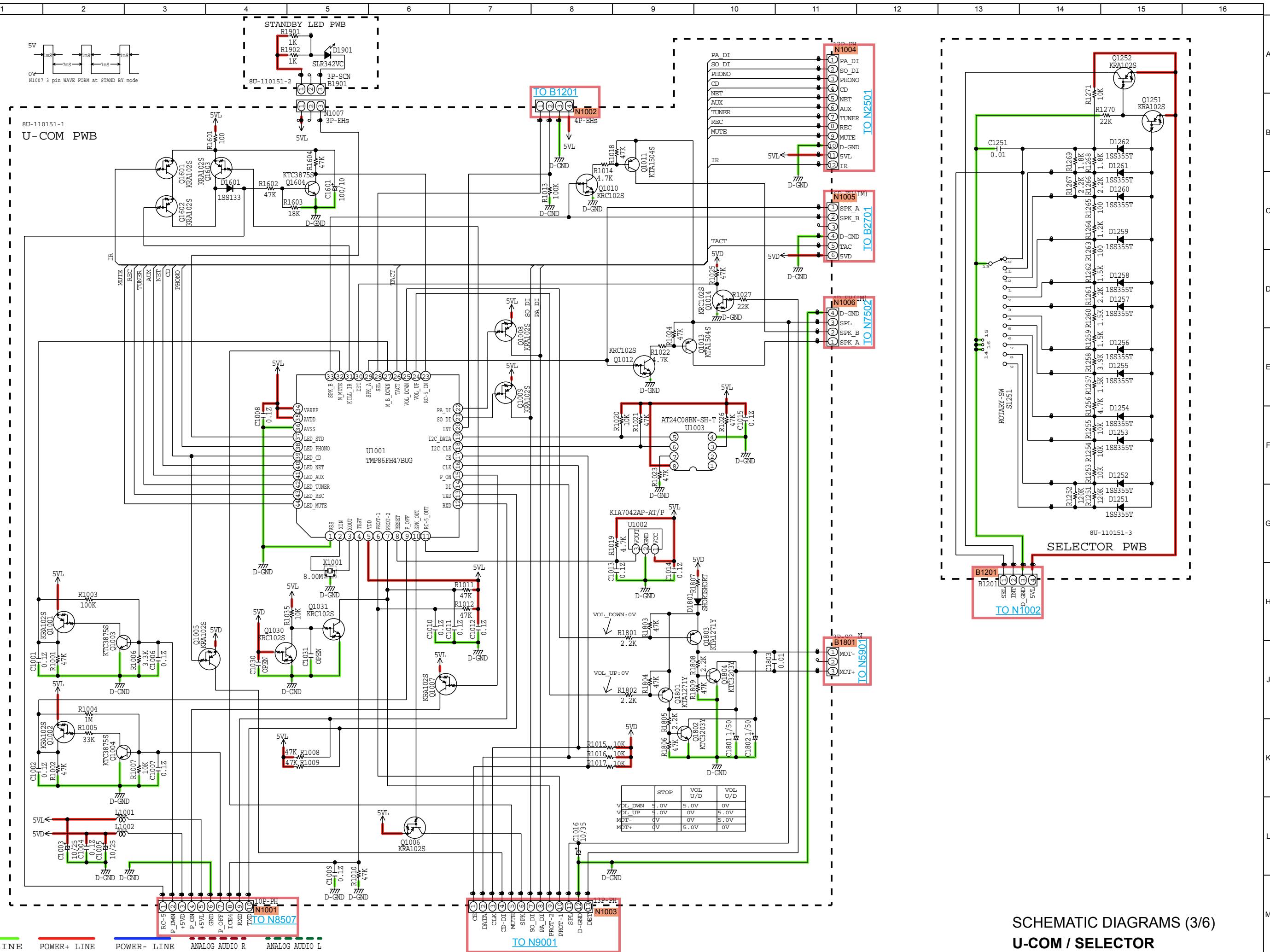
M

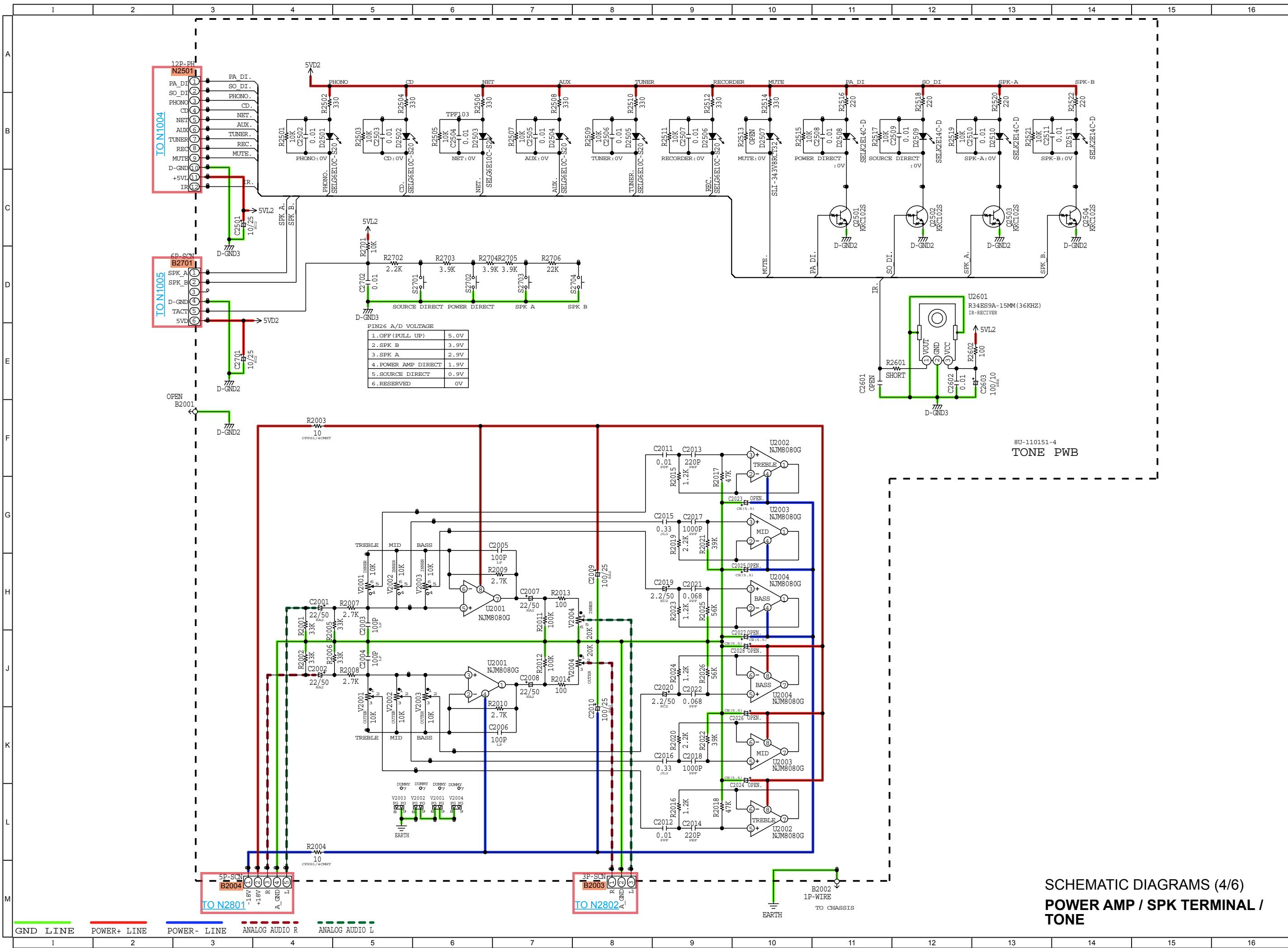


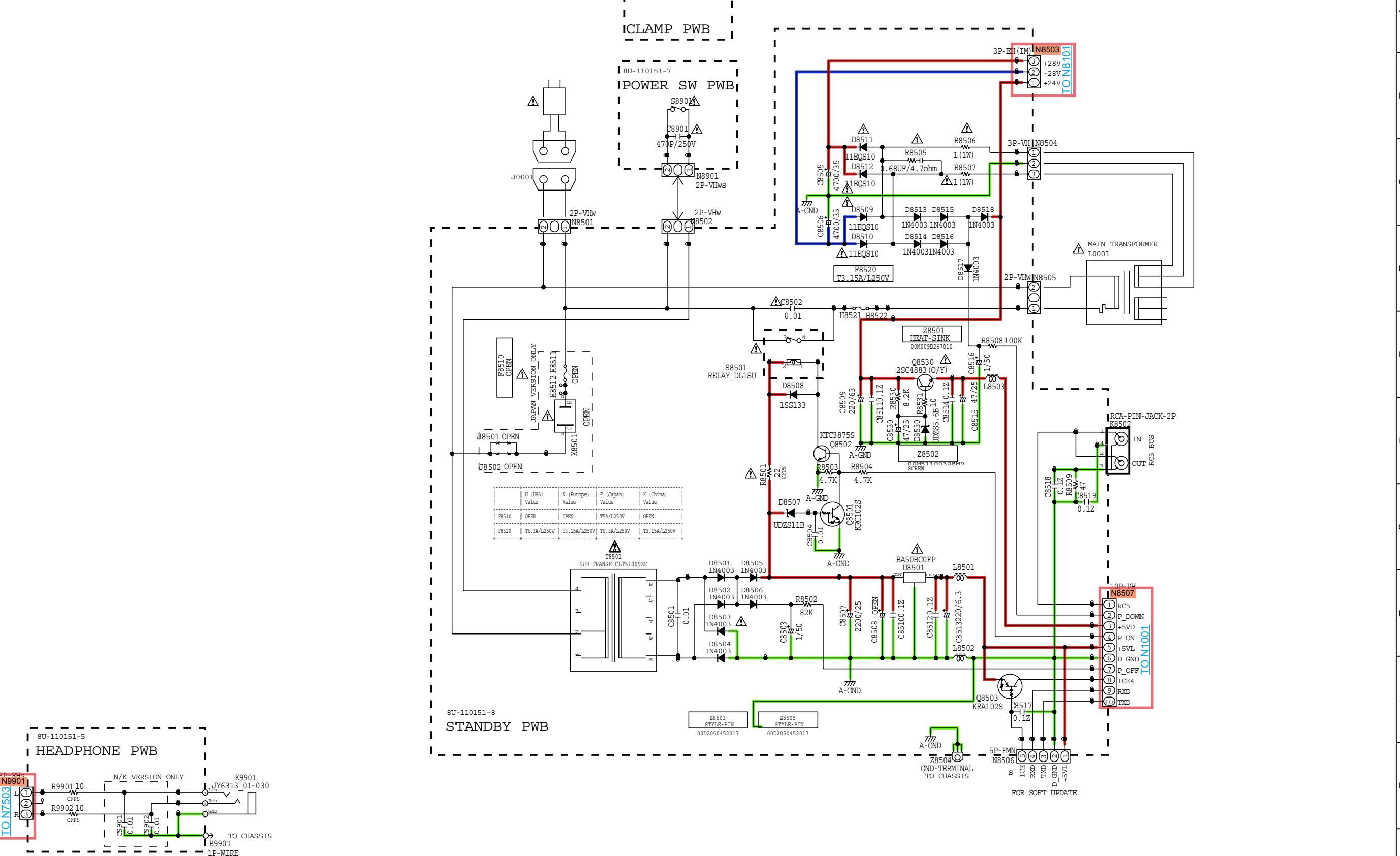
SCHEMATIC DIAGRAMS (2-1/6) **4**
MAIN / POWER STAGE 1/2

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO R ANALOG AUDIO L

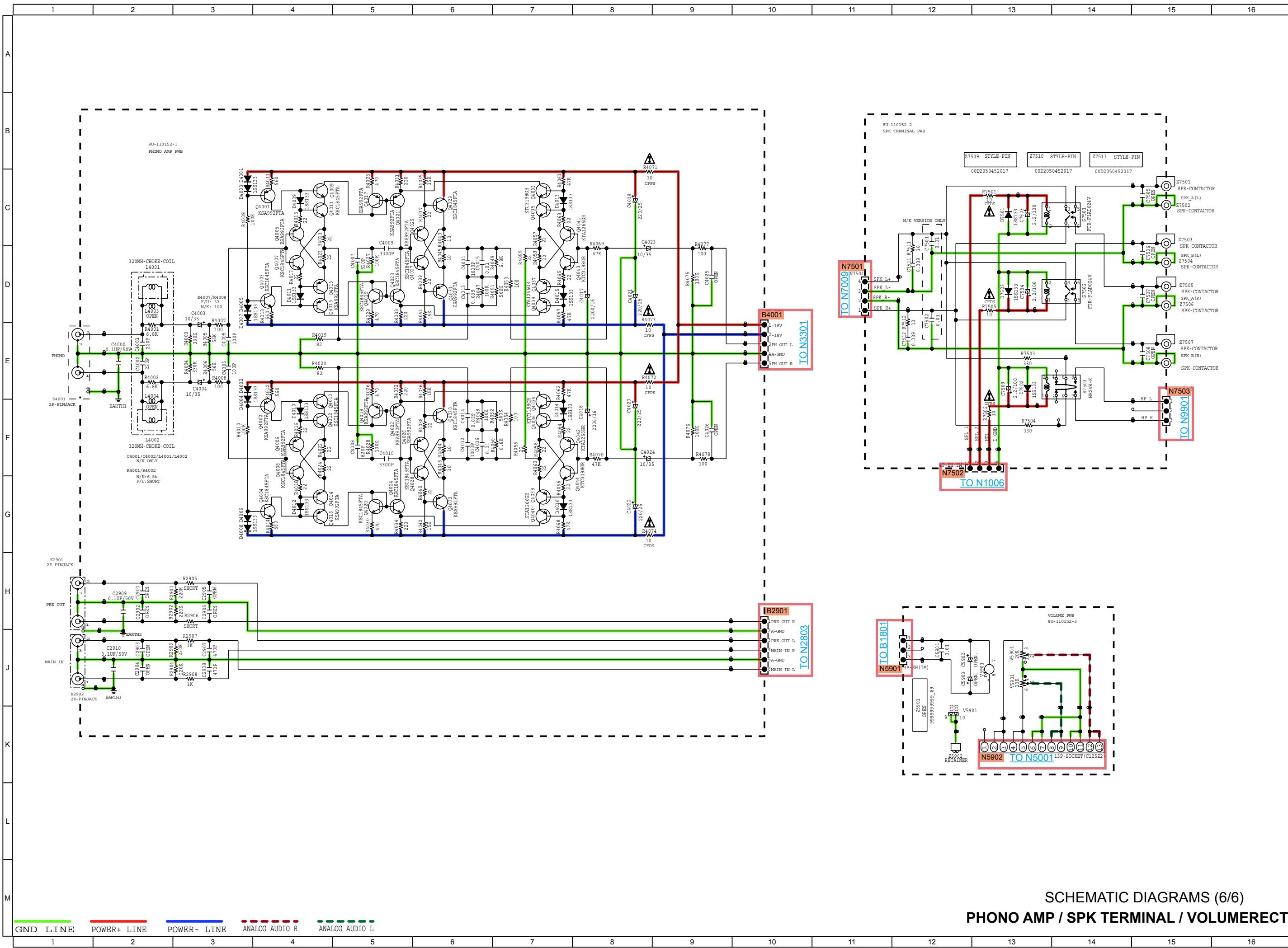






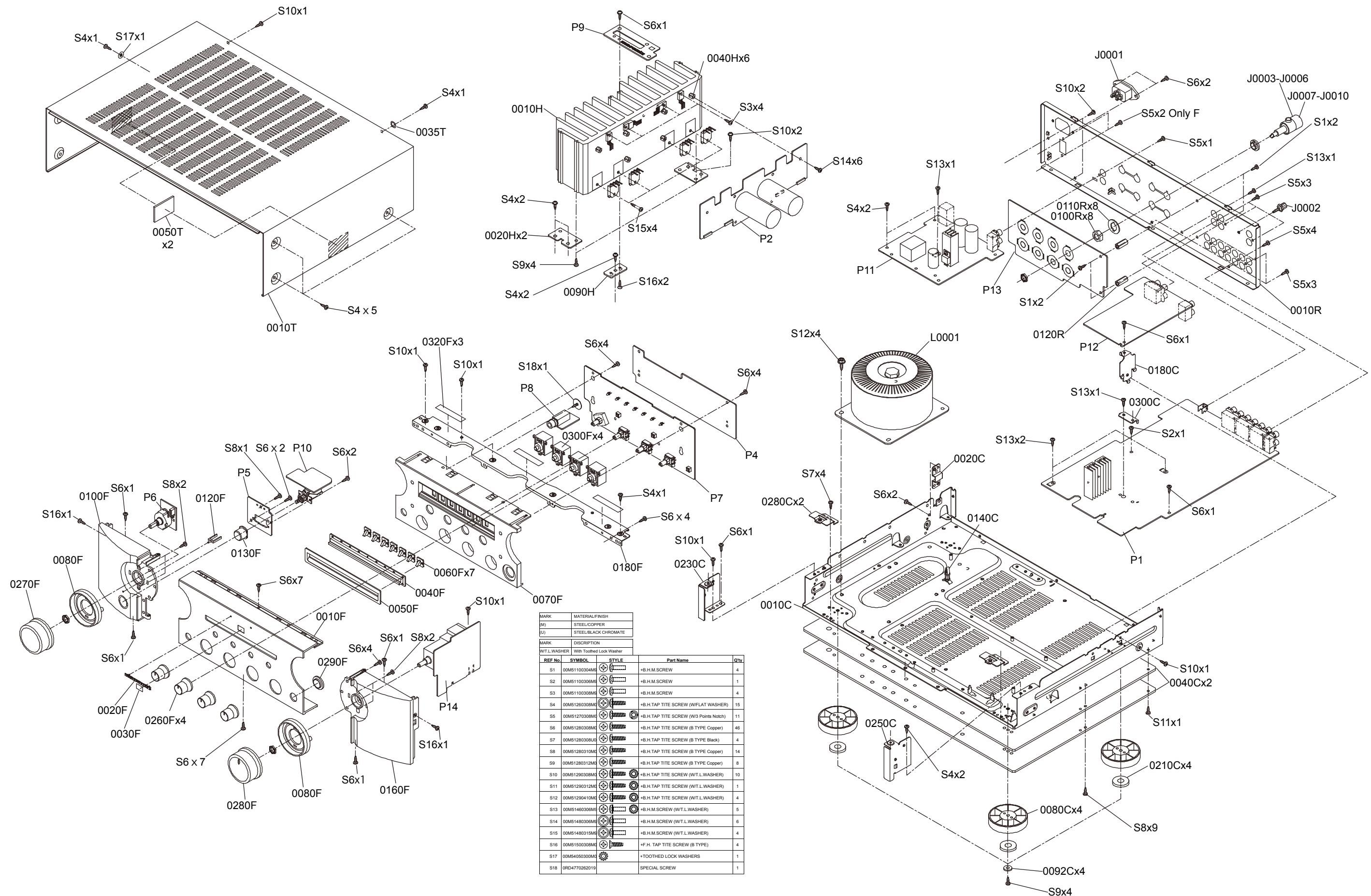


SCHEMATIC DIAGRAMS (5/6)
HEADPHONE / POWER SW / STANDBY



EXPLODED VIEW

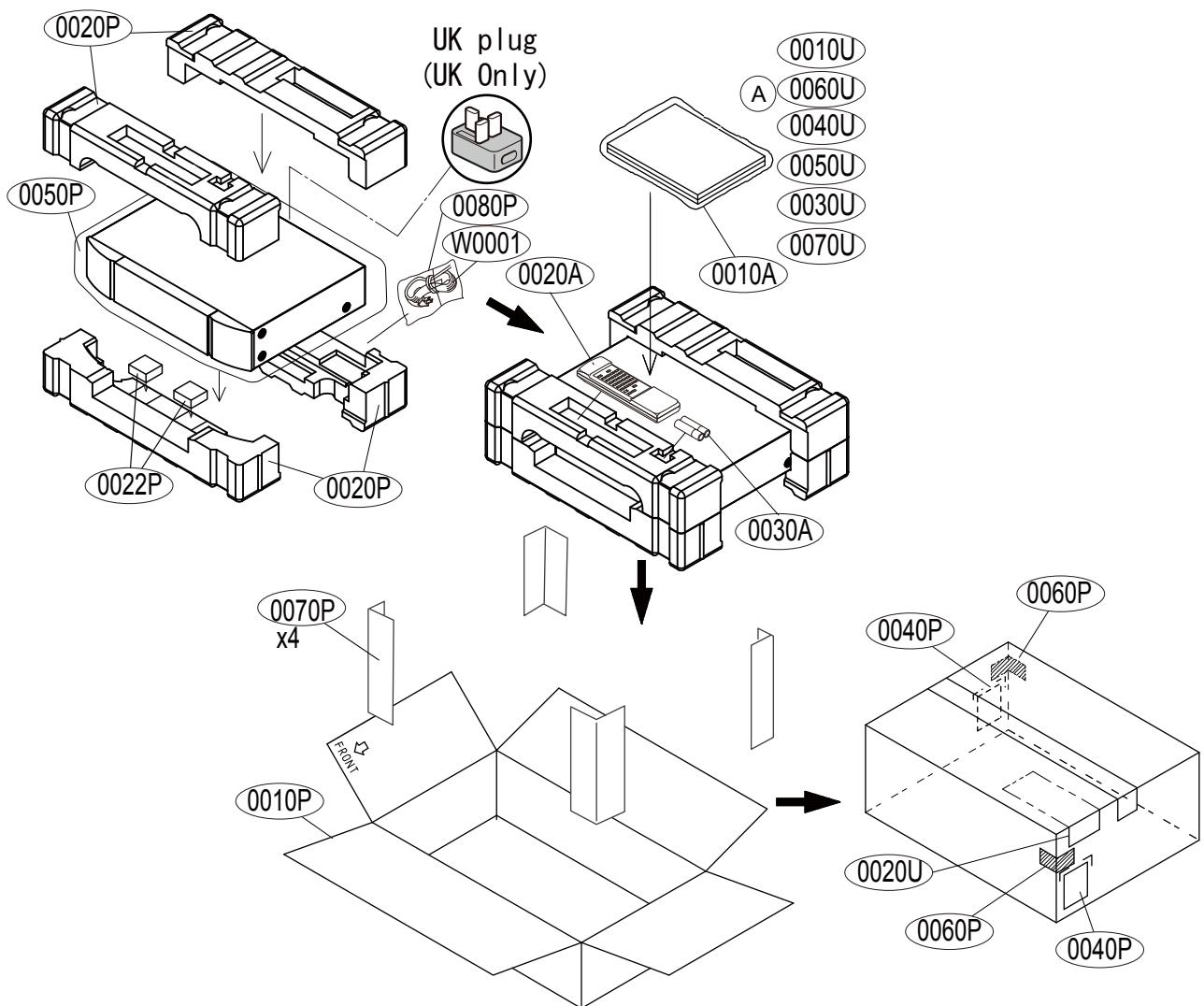
Please see the last chapter for the part list.



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

PACKING VIEW

Please see the last chapter for the part list.



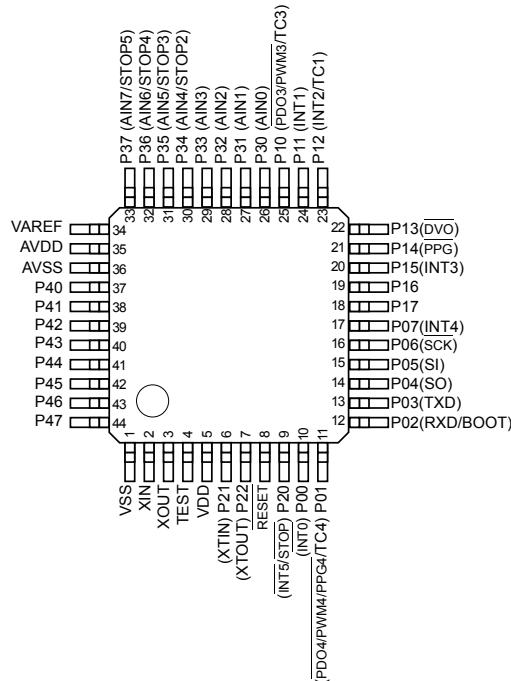
SEMICONDUCTORS

Only major semiconductors are shown, general semiconductors etc. are omitted to list.

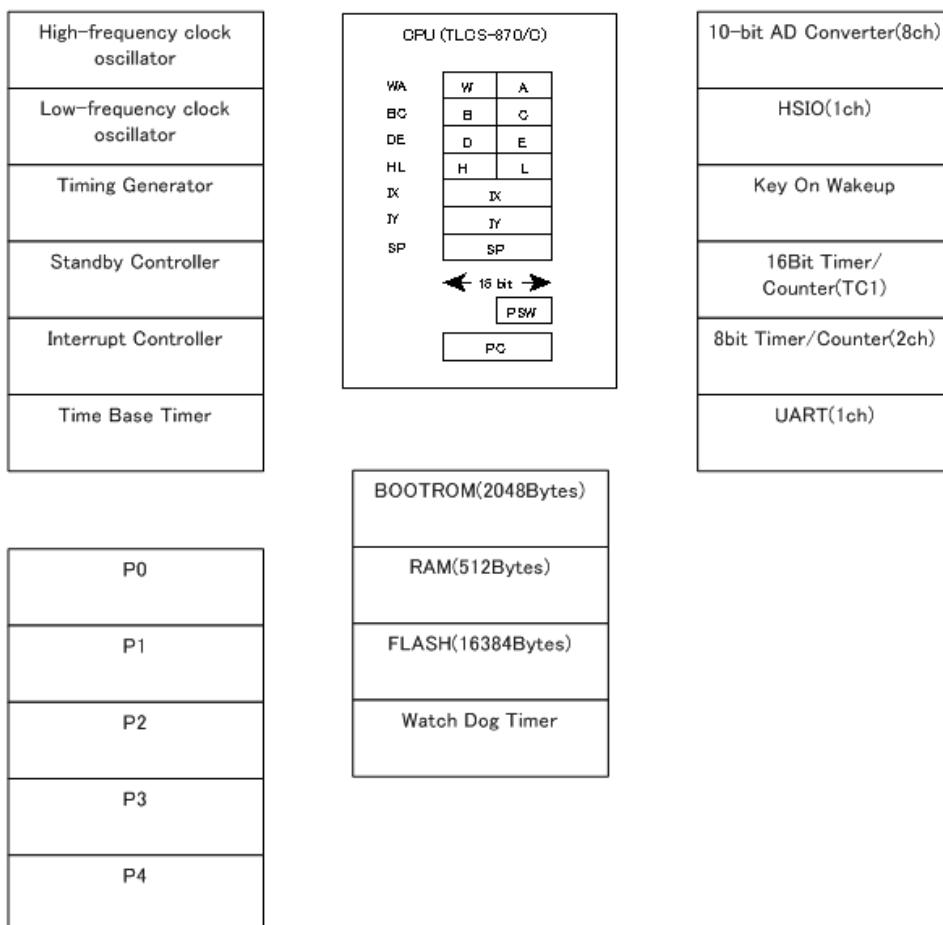
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

TMP86FH47BUG (U1001)



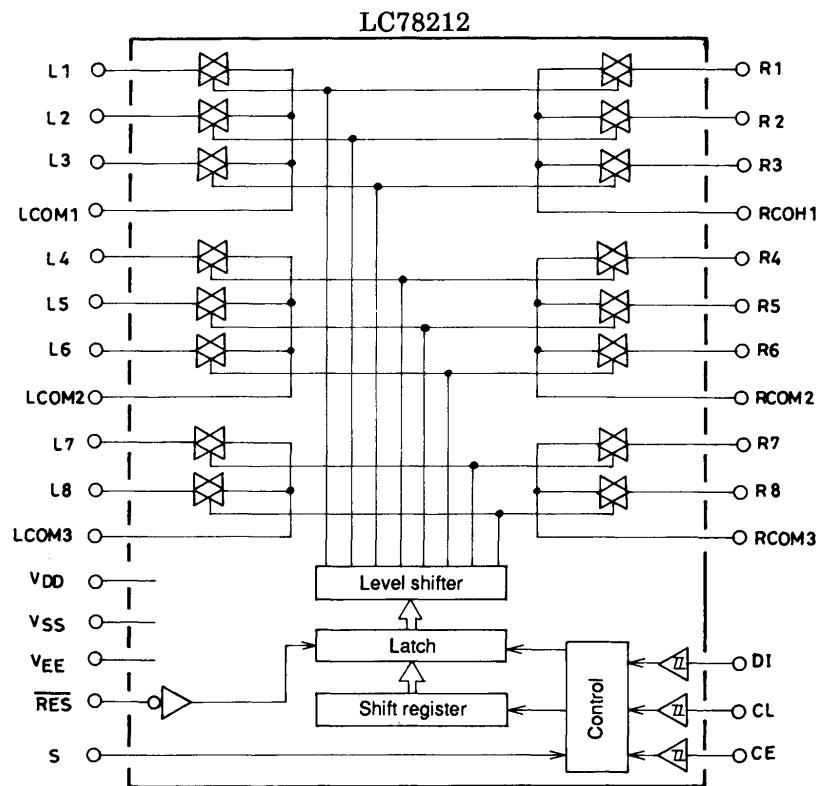
TMP86FH47BUG Block Diagram



TMP86FH47BUG 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:Voltage 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	10K	Detect Power Down(primary power supply on/off detection). Observe 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	RXD	-	-	-	47k	Pull Up
13	P03 (TXD)	I/O	O	RXD	-	-	-	47k	Pull Up
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	I	INT	H	-	-	100k	Input Selector Interrupt
21	P14 (PPG)	I/O	O	SD_DI	L	H	H	-	Relay operation port on source direct mode
22	P13 (DVO)	I/O	O	PA_DI	L	H	H	-	Relay operation port on power amp direct mode
23	P12 (INT2/TC1)	I/O	I	RC-5_IN	L	-	H	47k	RC-5 Input
24	P11 (INT1)(BOOT2)	I/O	O	VOL_UP	L	H	H	10k	Volume Up
25	P10 (PWM3/TC3/PD03) (BOOT1)	I/O	O	VOL_DOWN	L	H	H	10k	Volume Down
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	-	Checking port for amp power supply off confirm
28	P32 (AIN2)	I/O	I	SEL	L	-	-	-	Input Selector A/D
29	P33 (AIN3)	I/O	O	SPK_A	H	L	L	-	Speaker A Relay On
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 (flashing in protection mode 1/2)
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_NET	L	H	H	-	NET LED
41	P44	I/O	O	LED_TUNER	L	H	H	-	TUNER LED
42	P45	I/O	O	LED_AUX	L	H	H	-	AUX LED
43	P46	I/O	O	LED_REC	L	H	H	-	REC LED
44	P47	I/O	O	LED_MUTE	L	H	H	-	MUTE LED (flashing in protection mode 1)

LC78212 (U3903)



REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
V7001,7002	00MRA02220761	2.2KOHM NVZ6THT B222 PM8005N1B : From the serial No.1500 1427 001465 PM8005N1SG : From the serial No.1500 1449 000916 PM8005FN : From the serial No.1500 1446 001001 PM8005U1B : From the serial No.1500 1441 000751 PM8005K1B : From the serial No.1500 1503 000301	00MRA02220761	2		4
Z8101	nsp	SCREW	00M51100308M9	1		
Z8102	nsp	HEAT SINK	00M009D267010	1		
Z8103	nsp	SCREW	00M51100308M9	1		
Z8104	nsp	HEAT SINK	00M009D267010	1		
Z8105,8106	nsp	TAPE PERMACEL PTFE FILM P-422 15MM X 33M	554010001002S	2		
Z8201	nsp	GND TERMINAL FOR PCB	00MYL01010241	1		
Z9102	nsp	GND TERMINAL FOR PCB	00MYL01010241	1		
Z9103	nsp	M3 SCREW TERMINAL	00D2051034007	1		
Z9501,9502	252310006513S	PRF18BC471QB5RB	252310006513S	2		

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
N8504	nsp	JST 3P-PLUG B3P-VH P=3.96M/M		00MYP06006860	1	
N8505	nsp	CONNECTOR 2P B3P-VH		00MYP04000760	1	
N8506	nsp	05FMN-SSTK-A FFC CONNECTOR		00MYJ07060400	1	
N8507	nsp	B10B-PH-K-S (LF)(SN)		00MYJ06006300	1	
N8901	nsp	2P PLUG B2P3S-VH		00MYP06013300	1	
N9901	nsp	S3B-EH		00MYP06003930	1	
S1251	00D2120407002	ROTALY SW.(SRRM-12)		00D2120407002	1	
S2701-2704	66201000830AS	TACT SW		66201000830AS	4	
! S8501	00D2140241002	RELAY DL1SU TV-8		00D2140241002	1	
! S8901	66105000300AS	POWER SWITCH (TV-5)		66105000300AS	1	
! T8501	10101014200AM	SUB TRANS (N) A363	N/K	10101014200AM	1	
! T8501	10101014400AM	SUB TRANS (U) A363	U	10101014400AM	1	
! T8501	10101014300AM	SUB TRANS (F) A363	F	10101014300AM	1	
V2001-2003	750100020070	4K14K124003J		750100020070	3	
V2004	750100030000	RK14K1240D0P		750100030000	1	
X1001	00MFQ08004061	CSTS MG 8MHZ TAPING(15PF)		00MFQ08004061	1	
Z8501	nsp	HEAT SINK		00M009D267010	1	
Z8502	nsp	SCREW		00M51100308M9	1	
Z8503	nsp	STYLE PIN		00D2050452017	1	
Z8504	nsp	GND TERMINAL FOR PCB		00MYL01010241	1	
Z8505	nsp	STYLE PIN		00D2050452017	1	

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
S01	nsp	SCREW:CD LID EARTH		00M51100304M9	4	
S02	nsp	SCREW		00M51100306M9	1	
S03	nsp	SCREW		00M51100308M9	4	
S04	nsp	B.T.SCREW EX600240		00M51260308M0	15	
S05	nsp	SCREW		00M51270308M0	11	
S05	nsp	SCREW	F	00M51270308M0	13	
S06	nsp	SCREW		00M51280308M0	46	
S07	nsp	SCREW-B		00M51280308U0	4	
S08	nsp	SCREW		00M51280310M0	14	
S09	nsp	SCREW		00M51280312M0	8	
S10	nsp	SCREW		00M51290308M0	10	
S11	nsp	SCREW		00M51290312M0	1	
S12	nsp	SCREW		00M51290410M0	4	
S13	nsp	SCREW		00M51460306M9	5	
S14	nsp	SCREW		00M51480306M9	6	
S15	nsp	SCREW		00M51480315M9	4	
S16	nsp	SCREW		00M51500308M0	4	
S17	nsp	SCREW		00M54050300M0	1	
S18	nsp	SPECIAL SCREW		0RD4770262019	1	

PACKING

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

※The parts listed b NOTE: The symbols in the column Remarks indicate the following destinations.

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

REF No.	Part No.	Part Name	Remarks	Q'ty	New	Ver
0010P	53121038500AM	PACKING CASE		53121038500AM	1	*
0070P	537210014001M	REINFORCE		537210014001M	4	
0040T	nso	LABEL (HOT SURFACE CAUTION)		544510081006M	1	
0020P	53361021900AM	CUSHION ASSY		53361021900AM	1	*
H-1001P	nsp	CUSHION BOTTOM		53361018900AM	1	*
L-1002P	nsp	CUSHION TOP		53361019000AM	1	*
0022P	nsp	CUSHION PAD		53261003000AD	2	*
0050P	nsp	CABINET COVER		00D5050131076	1	
0080P	nsp	POLY COVER		00D5050038072	1	
! HW0001	00MZC01803080	# 2P AC CORD 10A 250V CLASS2	N	00MZC01803080	1	
! HW0001	00MZC01803100	# AC CORD UL/CSA 10A 125V	U	00MZC01803100	1	
! HW0001	00D2062249001	AC CORD (E1C)	K	00D2062249001	1	
! LW0001	611050028007S	AC CORD 2P(JP)	F	611050028007S	1	
0020A	30701015800AM	RC002PMISA		30701015800AM	1	
0030A	nsp	BATTERY (R03X2) EASTPOWER		69105000500AS	1	
A	-	ENVELOPE SUB ASSY		-	1	
H-0010A	nsp	ENVELOPE		535510048005S	1	
H-0060U	54111109400AM	GETTING STARTED (N)	N	54111109400AM	1	*
H-0060U	54111109500AM	GETTING STARTED (U)	U	54111109500AM	1	*
H-0060U	54111109700AM	GETTING STARTED (K)	K	54111109700AM	1	*
H-0060U	54111109600AM	GETTING STARTED (F)	F	54111109600AM	1	*
H-0010U	35201026700AM	INST.MANUAL(CD-ROM. N)	N	35201026700AM	1	*
H-0010U	35201026800AM	INST.MANUAL(CD-ROM. U)	U	35201026800AM	1	*
H-0010U	35201026500AM	INST.MANUAL(CD-ROM. K)	K	35201026500AM	1	*
H-0010U	54111110300AM	INST.MANUAL(F)	F	54111110300AM	1	*
H-0040U	nsp	SHEET SERVICE ADRESS(F)	F	00M416K851235	1	
H-0050U	nsp	SAFETY INSTRUCTIONS (N)	N	54311027200AM	1	
H-0050U	nsp	SAFETY INSTRUCTIONS (U)	U	54311029900AM	1	
H-0050U	nsp	SAFETY INSTRUCTIONS (E1C)	K	54311029800AD	1	
H-0050U	nsp	SAFETY INSTRUCTIONS (E1C)	F	54111093410AD	1	
H-0030U	nsp	WARRANTY CANADA	U	00M183J854018	1	
H-0030U	nsp	USER CARD (F)	F	00M21AK865019	1	
L-0070U	nsp	GOST FLY SHEET	N	54311030200AM	1	*
0060P	nsp	LABEL FOR PKG SG	SG	54411091014M	2	
0020U	nsp	WARRANTY USA	U	54311010512AM	1	
0020U	nsp	WARRANTY FOR CHINA MARANTZ	K	8W5431016600M	1	
0020U	nsp	WARRANTY F (HOSHOU SHO)	F	00M27AK854013	1	
0040P	nsp	CONT.LABEL SUB ASSY	N1B	8W5451024600M	1	
0040P	nsp	CONT.LABEL SUB ASSY	N1SG	8W5451024500M	1	
0040P	nsp	CONT.LABEL SUB ASSY	U	8W5451024800M	1	
0040P	nsp	CONT.LABEL SUB ASSY	K	8W5451024900M	1	