PSG1405005AE

Service Manual

CD Stereo System

Simplified

Model No. SA-PM250GS
SA-PM250GSX
SA-PM250GT

Product Color: (S)...Silver Type

Remote Control | SB-PM02 | SA-PM250 | SB-PM02

Notes: Please use this manual together with service manual Model No.[SA-PM250EB/EC/EE/EF/EG-S, Order no. PSG1403006CE].

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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Panasonic

1 Safety Precautions

1.1. General Guidelines

1. **IMPORTANT SAFETY NOTICE**

   There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. measure the resistance value, with an ohmmeter between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1MΩ and 5.2MΩ. When the exposed metal does not have a return path to the chassis, the reading must be ∞

1.1.2. Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15μF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

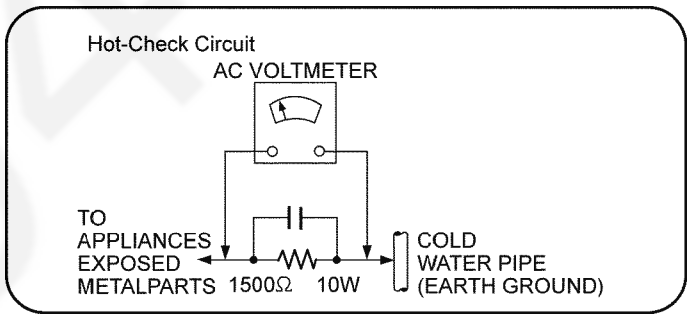


Figure. 1

1.2. Caution for AC Cord (GS/GSX only)

(For the AC mains plug of three pins)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

Before use

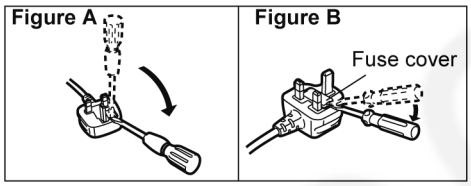
Remove the connector cover.

How to replace the fuse

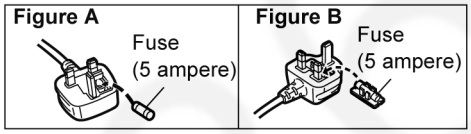
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



1.3. Before Repair and Adjustment

Disconnect AC power, discharge AC Capacitors (C1702, C1710, C1725, C1727 and C1728) through a 10W, 1W resistor to ground.

Caution : DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

- Current consumption at AC 110 - 240V, at 50/60Hz in NO SIGNAL mode (at volume minimum in FM mode) should be ~200 mA. (For GS/GSX)
- Current consumption at AC 110V, at 60Hz in NO SIGNAL mode (at volume minimum in FM mode) should be ~200 mA. (For GT)

1.4. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

1.5. Caution For Fuse Replacement

CAUTION:

Replace with the same type fuse:

(Manufacturer: Skygate, Type: SCT, F1700, T2A, 250V)

1.6. Safety Part Information

Safety Parts List:

There are special components used in this equipment which are important for safety.

These parts are marked by ⚠ in the Schematic Diagrams, Exploded View & Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
⚠	23	RGN3453B-K	NAME PLATE	GS/GSX
⚠	23	RGN3453D-K	NAME PLATE	GT
⚠	29	RMV0442	SMPS COVER SHEET	
⚠	301	RAE1028Z-V	TRAVERSE UNIT	
⚠	A2	K2CA2YY00257	AC CORD	GT
⚠	A2	K2CP2YY00061	AC CORD	GS/GSX
⚠	A2	K2CQ2YY00119	AC CORD	GS/GSX
⚠	A2	K2CT2YY00097	AC CORD	GS/GSX
⚠	A3	RQT9926-B	O/I BOOK (En)	GS/GSX
⚠	A3	RQT9931-G	O/I BOOK (Cn/Ar)	GS/GSX
⚠	A3	RQT9932-K	O/I BOOK (Co)	GT
⚠	C1702	F0CAF224A105	0.22uF	
⚠	C1710	F1BAF471A013	470pF	
⚠	C1725	F0CAF104A105	0.1uF	
⚠	C1727	F1BAF1020020	1000pF	
⚠	C1728	F1BAF1020020	1000pF	
⚠	F1700	K5G202Y00006	FUSE	
⚠	L1702	G0B922G00002	LINE FILTER	
⚠	P1751	K2AA2B000011	AC INLET	
⚠	PC1702	B3PBA0000579	PHOTO COUPLER	
⚠	PCB5	REP5070AA	SMPS P.C.B.	(RTL)
⚠	R1724	ERJ12YJ105U	1M 1/2W	
⚠	R1726	ERJ12YJ105U	1M 1/2W	
⚠	T1700	G4DYZ0000077	TRANSFORMER	
⚠	Z1752	D4EAY511A182	VARISTOR	

2 Warning

2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices.

Examples of typical ES devices are IC (integrated circuits) and some field-effect transistors and semiconductor "chip" components.

The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION:
   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

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2.2. Precaution of Laser Diode

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Caution:

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wavelength: 790 nm (CD)
Maximum output radiation power from pickup: 100 μW/VDE
Laser radiation from the pickup unit is safety level, but be sure the followings:

1. Do not disassemble the pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

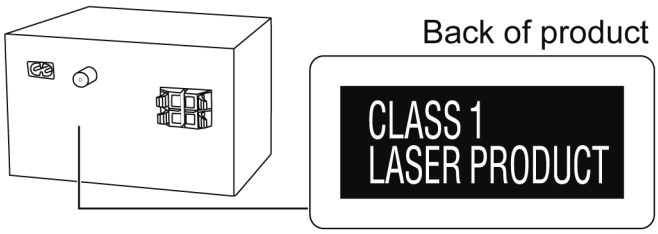


Figure. 2-1

2.3. Service caution based on Legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of “PbF” is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used. (Definition: The letter of “PbF” is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
  RFKZ03D01K----------(0.3mm 100g Reel)
  RFKZ06D01K----------(0.6mm 100g Reel)
  RFKZ10D01K----------(1.0mm 100g Reel)

Note

* Ingredient: Tin (Sn), 96.5%, Silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

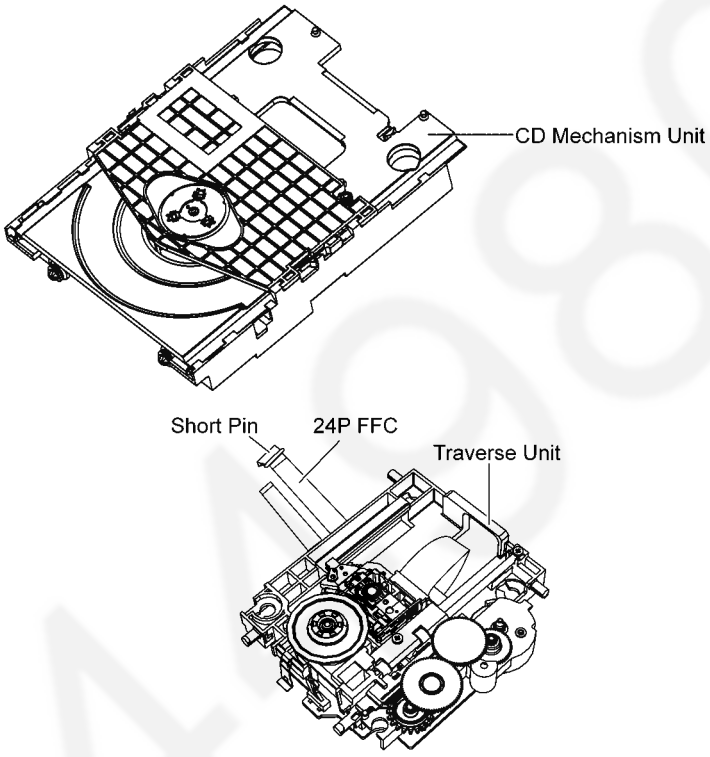
2.4. Handling Precaution for Traverse Unit

The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the Traverse Unit.

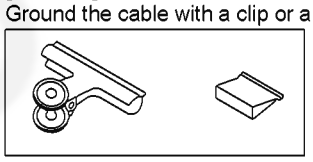
2.4.1. Cautions to Be Taken in Handling the Optical Pickup Unit

The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Special care must be taken avoid caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed should be short-circuited with a short pin or a clip.
3. The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the flexible cable.
4. The antistatic FFC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FFC.



[Caution]
Ground the cable with a clip or a short pin.



Clip or Short Pin

Figure. 2-2

2.4.2. Grounding for electrostatic breakdown prevention

Some devices such as the CD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

2.4.2.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet.

2.4.2.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity form your body.

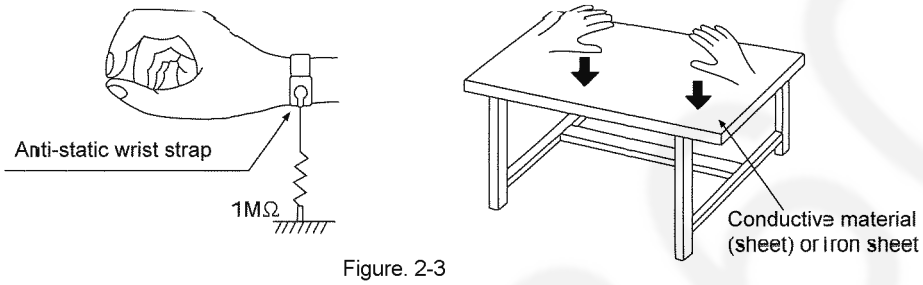


Figure. 2-3

3 Service Navigation

3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model. Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

3.2. Notes

1) This service manual does not contains the following information

This simplified service manual is base on SA-PM250EB-S. Please refer to the original service manual, SA-PM250EB/EC/EE/EF/EG-S (Order No. PSG1403006CE) for the below mention contents.

- General/Introduction
- Location of Controls and Components
- Service Mode
- Troubleshooting Guide
- Disassembly and Assembly Instructions
- Disassembly and Assembly of Traverse Unit
- Service Position
- Voltage and Waveform Measurement
- Appendix Information of Schematic Diagram

2) This service manual contains include the following information

- Safety Precautions
- Warning
- Service Navigation
- Specifications
- Block Diagram
- Schematic Diagram
- Printed Circuit Board
- Exploded View and Replacement Parts List

3.3. Different Points

Ref. No.	Parts No.		Parts name & Description	Remarks
	SA-PM250EB-S	SA-PM250GS/GSX/GT-S		
4	RYP1985-S1	RYP1985A-S1	FRONT PANEL ASS'Y	
5	RKQX1015C-K2	RKQX1015A-K2	REAR CABINET	GT
		RKQX1015C-K2	REAR CABINET	GS/GSX
23	RGN3453-K	RGN3453B-K	NAME PLATE	GS/GSX ⚠
		RGN3453D-K	NAME PLATE	GT ⚠
P1	RPG0L46	RPG0L51	PACKING CASE	GS/GSX
		RPG0L53	PACKING CASE	GT
A2	K2CT2YY00097	K2CA2YY00257	AC CORD	GT ⚠
		K2CP2YY00061	AC CORD	GS/GSX ⚠
		K2CQ2YY00119	AC CORD	GS/GSX ⚠
		K2CT2YY00097	AC CORD	GS/GSX ⚠
A3	RQT9926-B	RQT9926-B	O/I BOOK (En)	GS/GSX ⚠
		RQT9931-G	O/I BOOK (Cn/Ar)	GS/GSX ⚠
		RQT9932-K	O/I BOOK (Co)	GT ⚠
A5	K1YZ02000013		ANTENNA PLUG ADAPTOR	
A6		N1DYYYY00011	AM LOOP ANTENNA	GT
A7		J0KG00000037	FERRITE CORE	GT
PCB2	REP5069AA	REP5069BA	MAIN P.C.B.	(RTL) GS/GSX
		REP5069DA	MAIN P.C.B.	(RTL) GT
PCB3	REP5069AB	REP5069BB	TUNER P.C.B.	(RTL) GS/GSX
		REP5069DB	TUNER P.C.B.	(RTL) GT
PCB4	REP5069AC	REP5069BC	BLUETOOTH P.C.B.	(RTL) GS/GSX
		REP5069DC	BLUETOOTH P.C.B.	(RTL) GT
IC52	VUEALLPT094	VUEALLPT087	IC	(E.S.D) GT
		VUEALLPT091	IC	(E.S.D) GS/GSX
L52	-	G2A380Y00002	ANTENNA COIL	GT
L54	-	G1C4R7MA0495	CHIP INDUCTOR	GT
LB8018	-	J0JDC0000102	INDUCTOR	GT
LB8019	-	J0JDC0000102	INDUCTOR	GT
JK52	-	K4AC02B00042	JK AM ANTENNA TERMINAL	GT
L53	-	D0GBR00J0004	0 1/10W	GT
W1	-	ERJ3GEY0R00V	0 1/10W	GS/GSX
R80	D0GAR00J0005	-	0 1/16W	
R81	-	D0GAR00J0005	0 1/16W	GS/GSX
R82	-	D0GAR00J0005	0 1/16W	GT
R450	-	D0GB680JA065	68 1/10W	GT
R6002	D0GBR00J0004	D0GBR00J0004	0 1/10W	GS/GSX
		J0JGC0000063	INDUCTOR	GT
R8041	D0GB153JA065	D0GB333JA065	33K 1/10W	GT
		D0GB822JA065	8.2K 1/10W	GS/GSX
R8200	D0GBR00J0004	-	0 1/10W	
R8201	-	D0GBR00J0004	0 1/10W	GT
R8202	-	D0GBR00J0004	0 1/10W	GS/GSX
C52	-	F1H1A474A107	0.47uF 10V	GT
C64	-	F1H1H3R0B050	3.0pF 50V	GT
C65	-	F1H1H3R0B050	3.0pF 50V	GT
C461	-	F1H1H102B047	1000pF 50V	GT
C6014	-	F1H1H101B052	100pF 50V	GT

4 Specifications

■ Amplifier Section

RMS Output Power Stereo Mode

Front Ch (both ch driven)

10 W per channel (6 Ω), 1 kHz, 10% THD

Total RMS Stereo mode power	20 W
PMPO output power (For GS/GSX)	220 W

■ Tuner, Terminals Section

Preset Station	FM 30 stations
(For GT)	AM 15 stations
Frequency Modulation (FM)	
Frequency range	87.50 MHz to 108.00 MHz (50 kHz step)
Antenna terminals	75 Ω (unbalanced)
Amplitude Modulation (AM) (For GT)	
Frequency range	522 kHz to 1629 kHz (9 kHz step) 520 kHz to 1630 kHz (10 kHz step)

■ Disc Section

Disc played (8 cm or 12 cm)

CD, CD-R/RW (CD-DA, MP3*)

Pick up	
Wavelength	790 nm (CD)

*MPEG-1 Layer 3, MPEG-2 Layer 3

■ USB Section

USB port	
USB Standard	USB 2.0 full speed
Media file format support	MP3 (*.mp3)
USB device file system	FAT 12, FAT 16, FAT 32
USB port power	DC OUT 5 V, 500 mA

■ Bluetooth Section

Version	Bluetooth® Ver. 2.1 + EDR
Class	Class 2
Supported profiles	A2DP, AVRCP
Operating Frequency	2.4 GHz band FH-SS
Operation distance	10 m Line of sight

■ Speaker Section

Speaker unit(s)	
Full range	10 cm cone type x 1 per channel
Impedance	6 Ω
Dimensions (W x H x D)	139 mm x 224 mm x 136 mm
Mass	1.3 kg

■ General

Power supply	
(For GT)	AC 110 V, 60 Hz
(For GS/GSX)	AC 110 to 240 V, 50/60 Hz
Power consumption	14 W
Dimensions (W x H x D)	184 mm x 123 mm x 228 mm
Mass	1.1 kg
Operating temperature range	0°C to +40°C
Operating humidity range	35% to 80% RH (no condensation)
Power consumption in standby mode:	
(With “BLUETOOTH STANDBY” set to “OFF”)	0.2 W (approximate)
(With “BLUETOOTH STANDBY” set to “ON”)	0.3 W (approximate)

Note:

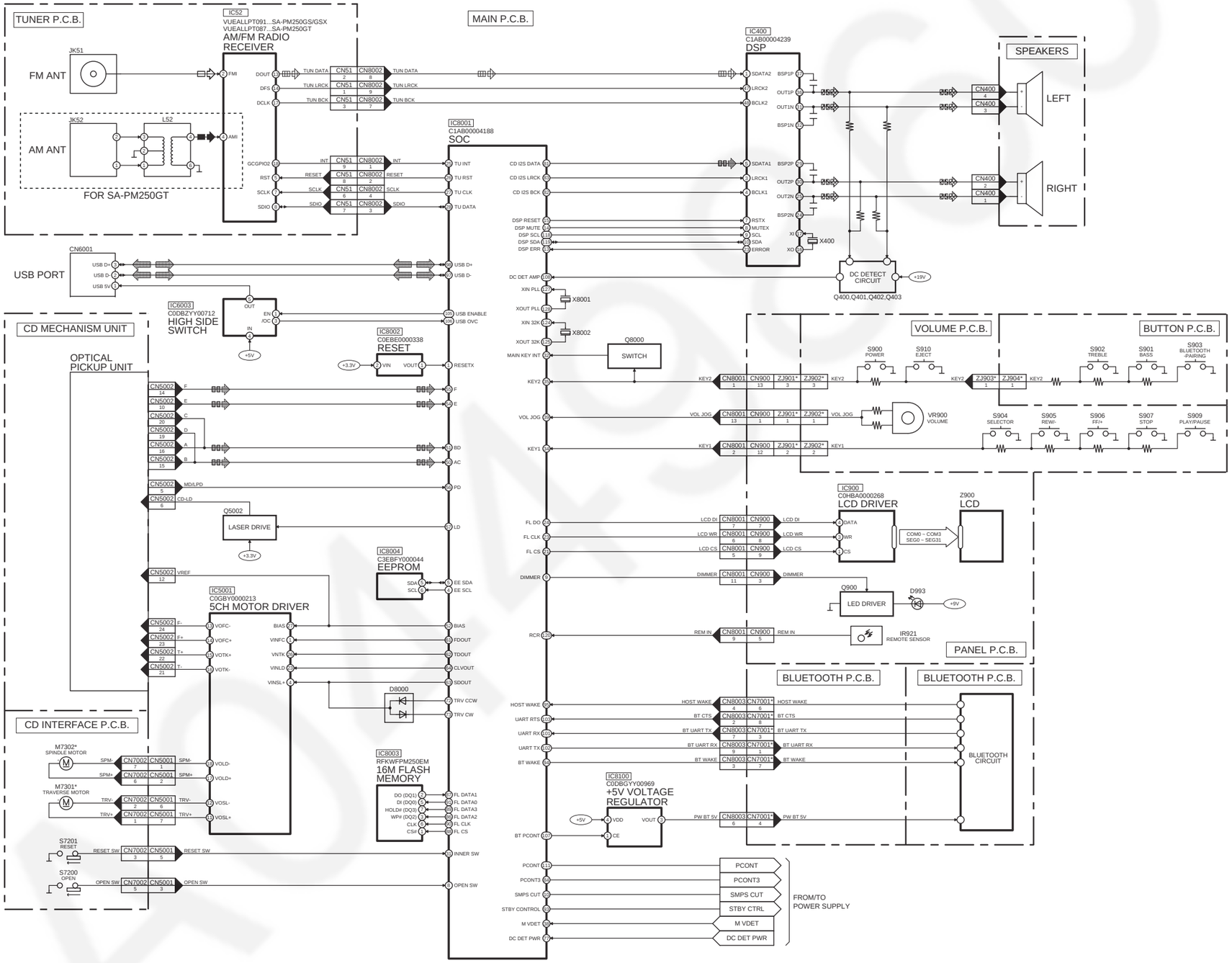
1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

■ System : SC-PM250GS-S	Music center: SA-PM250GS-S Speaker: SB-PM02EG1-K
■ System : SC-PM250GSX-S	Music center: SA-PM250GSX-S Speaker: SB-PM02EG1-K
■ System : SC-PM250GT-S	Music center: SA-PM250GT-S Speaker: SB-PM02GT1-K

5 Block Diagram

5.1. SYSTEM CONTROL & AUDIO BLOCK DIAGRAM

: CD AUDIO INPUT SIGNAL LINE : TUNER AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE : FM SIGNAL LINE : AM SIGNAL LINE : USB SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SA-PM250GS/GSX/GT SYSTEM CONTROL & AUDIO BLOCK DIAGRAM

6 Schematic Diagram

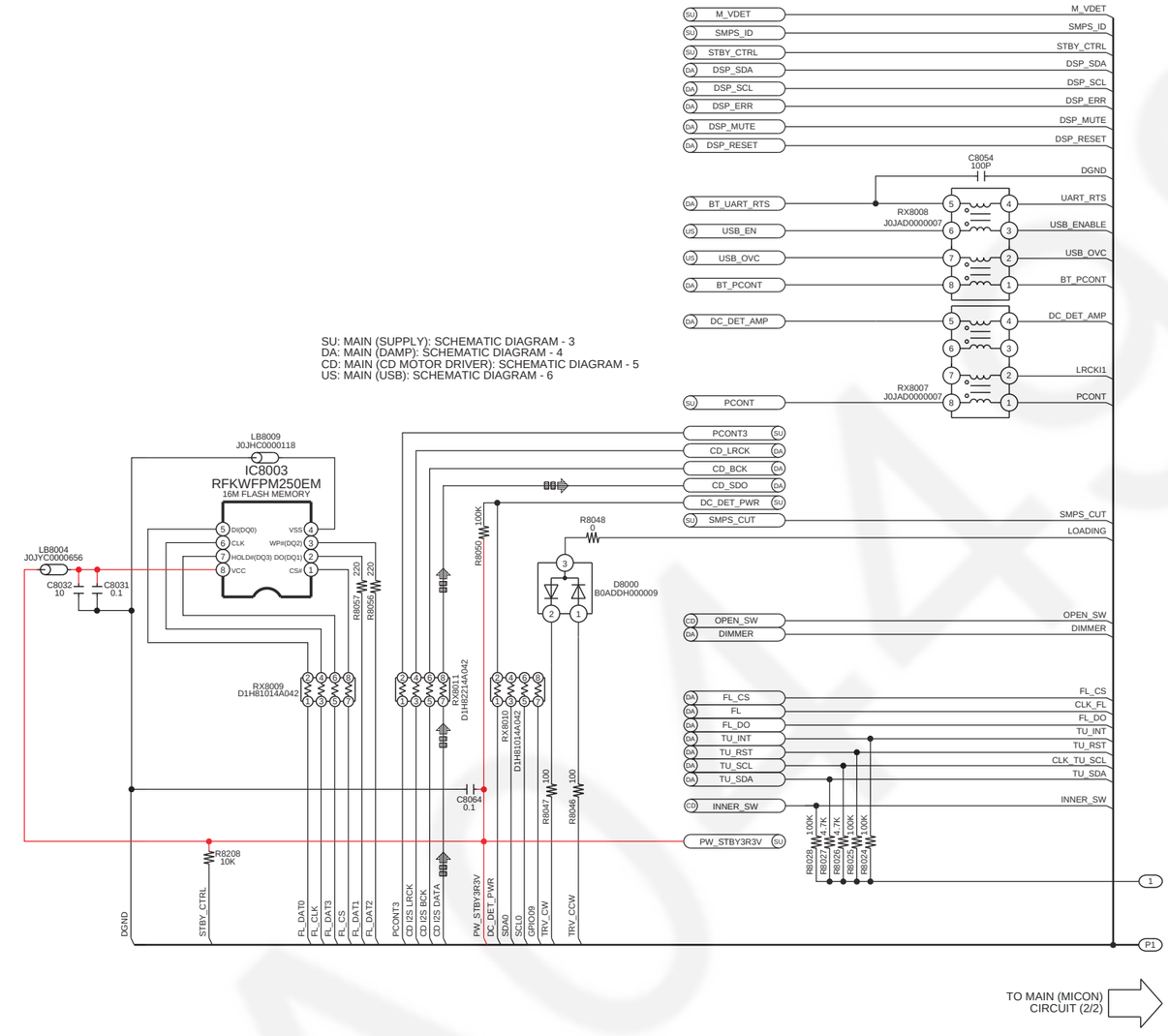
6.1. MAIN (MICON) CIRCUIT (1/2)

SCHEMATIC DIAGRAM - 1

B MAIN (MICON) CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE

SU: MAIN (SUPPLY): SCHEMATIC DIAGRAM - 3
DA: MAIN (DAMP): SCHEMATIC DIAGRAM - 4
CD: MAIN (CD MOTOR DRIVER): SCHEMATIC DIAGRAM - 5
US: MAIN (USB): SCHEMATIC DIAGRAM - 6



NOTE: " * " REF IS FOR INDICATION ONLY

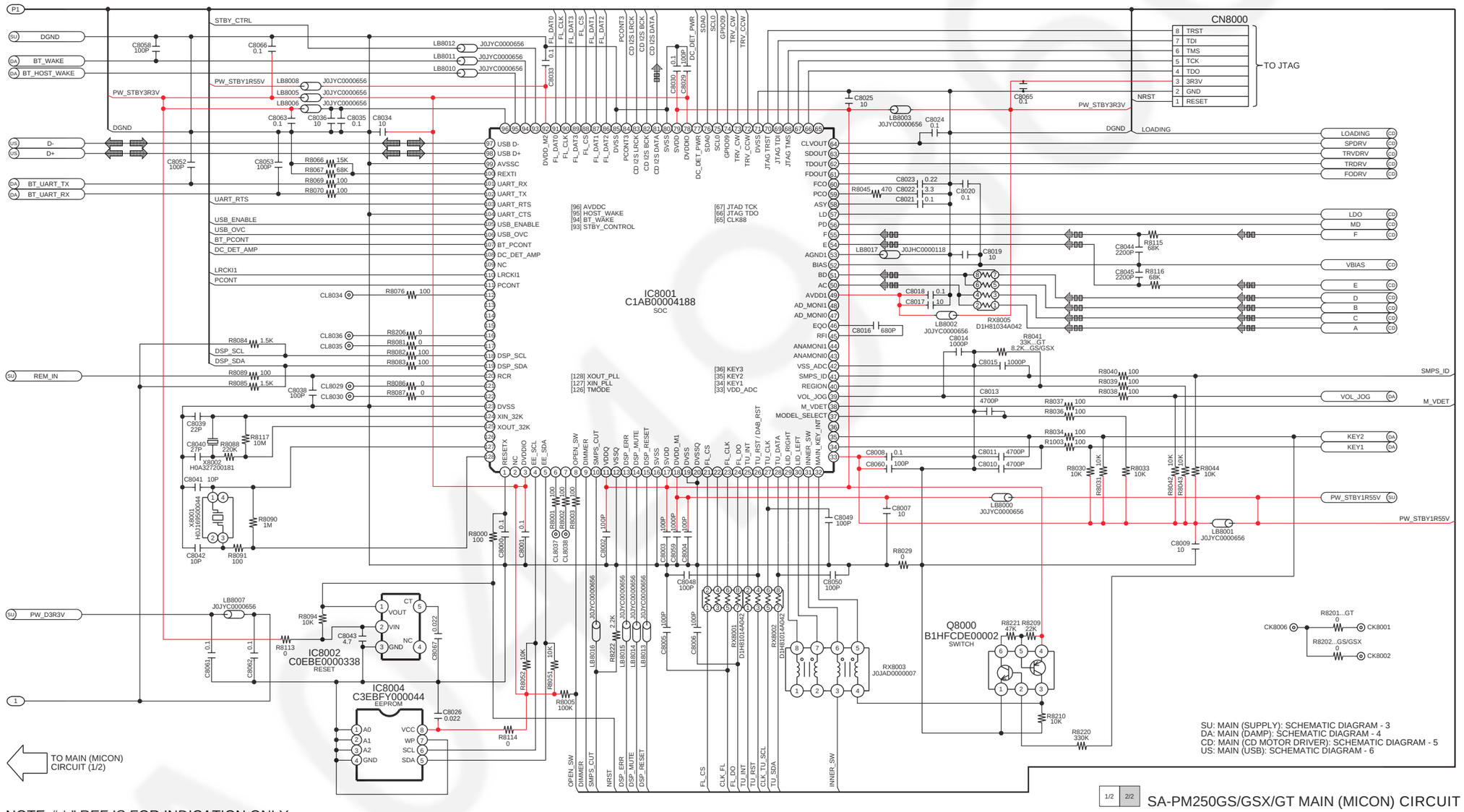
1/2 2/2 SA-PM250GS/GSX/GT MAIN (MICON) CIRCUIT

6.2. MAIN (MICON) CIRCUIT (2/2)

SCHEMATIC DIAGRAM - 2

B MAIN (MICON) CIRCUIT

—— : +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : USB SIGNAL LINE



1/2 2/2 SA-PM250GS/GSX/GT MAIN (MICON) CIRCUIT

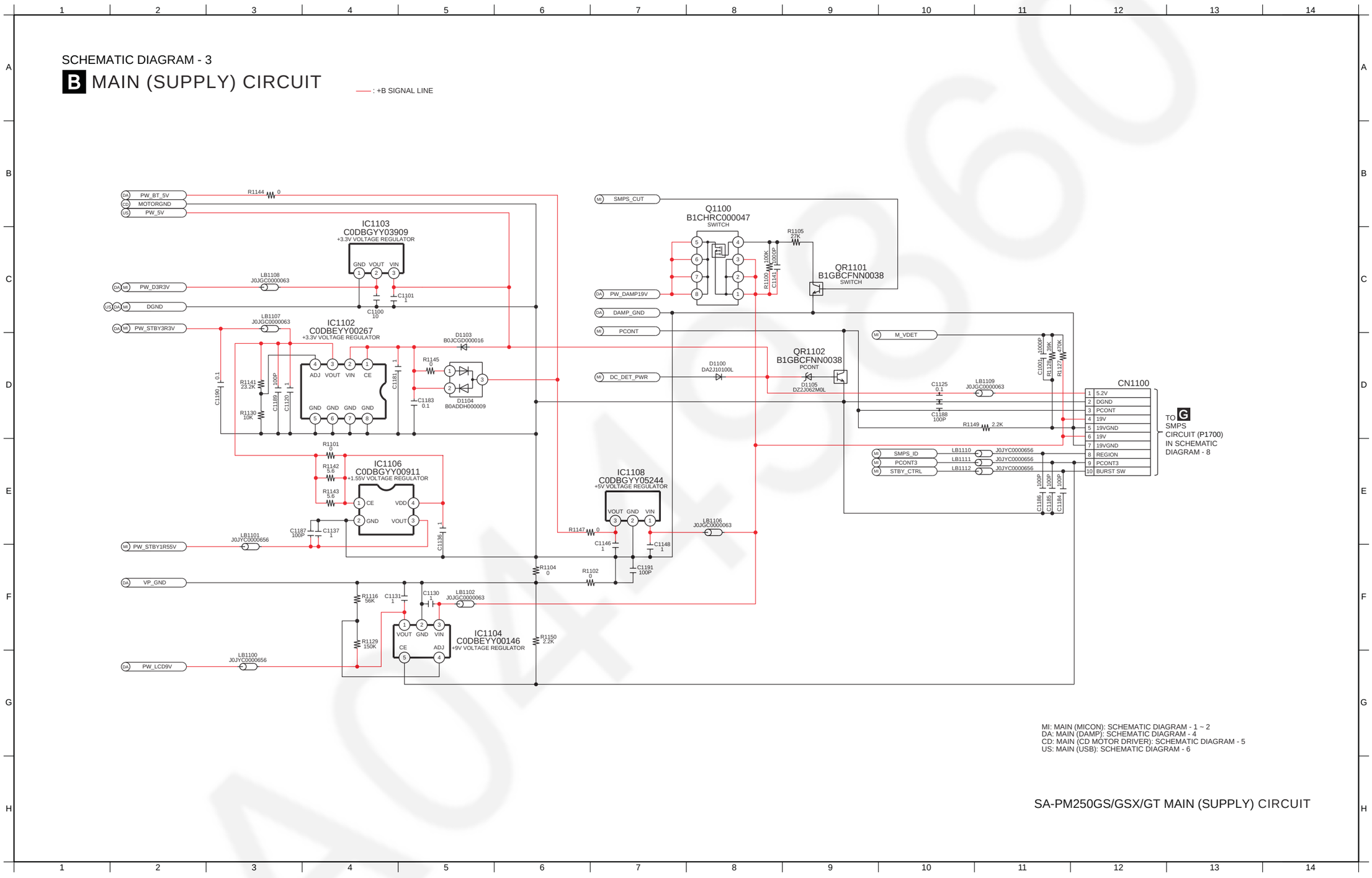
NOTE: " * " REF IS FOR INDICATION ONLY

6.3. MAIN (SUPPLY) CIRCUIT

SCHEMATIC DIAGRAM - 3

B MAIN (SUPPLY) CIRCUIT

—— : +B SIGNAL LINE



MI: MAIN (MICON): SCHEMATIC DIAGRAM - 1 ~ 2
DA: MAIN (DAMP): SCHEMATIC DIAGRAM - 4
CD: MAIN (CD MOTOR DRIVER): SCHEMATIC DIAGRAM - 5
US: MAIN (USB): SCHEMATIC DIAGRAM - 6

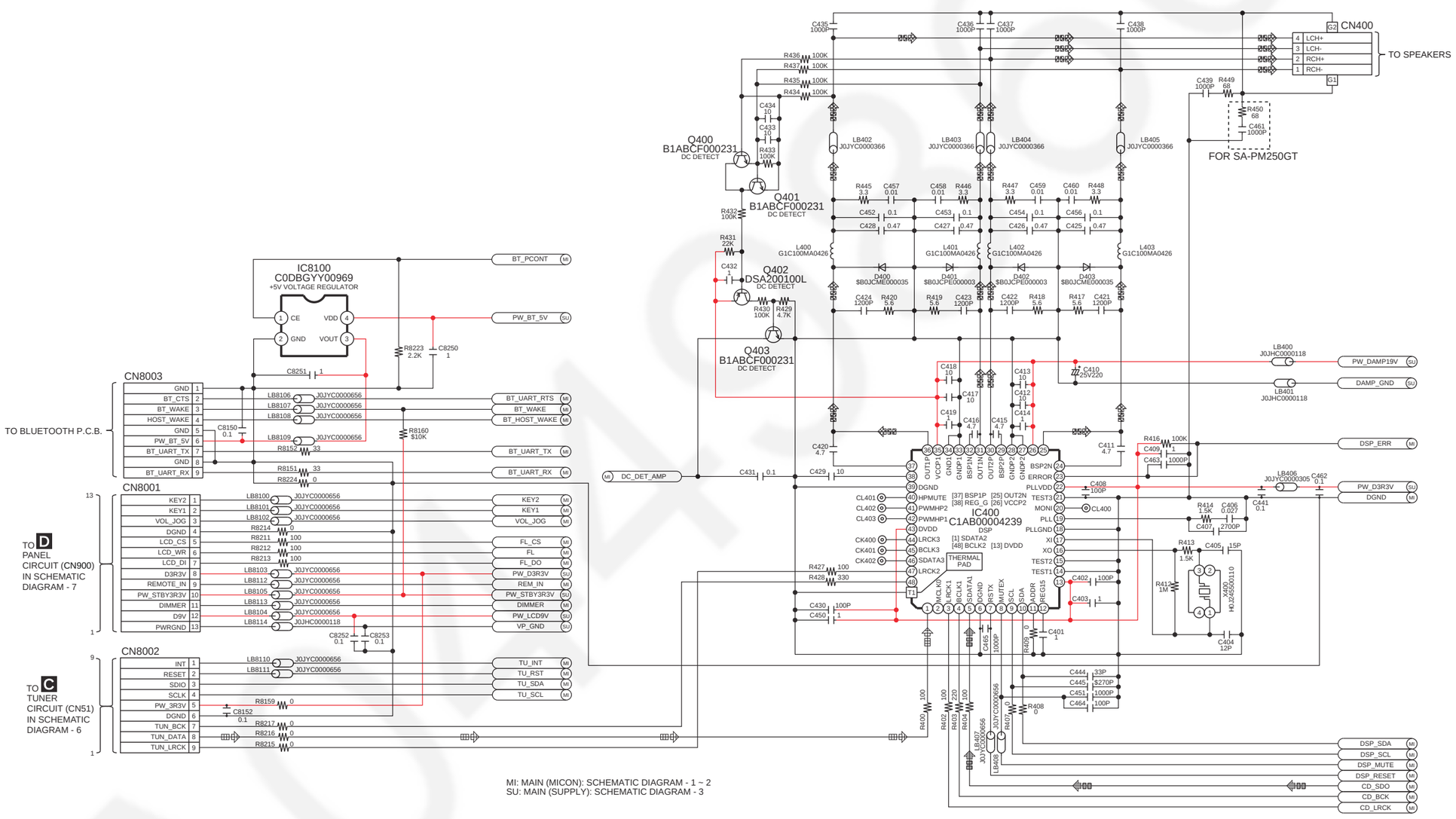
SA-PM250GS/GSX/GT MAIN (SUPPLY) CIRCUIT

6.4. MAIN (DAMP) CIRCUIT

SCHEMATIC DIAGRAM - 4

B MAIN (DAMP) CIRCUIT

: +B SIGNAL LINE : CD AUDIO INPUT SIGNAL LINE : TUNER AUDIO INPUT SIGNAL LINE : AUDIO OUTPUT SIGNAL LINE



MI: MAIN (MICON): SCHEMATIC DIAGRAM - 1 ~ 2
SU: MAIN (SUPPLY): SCHEMATIC DIAGRAM - 3

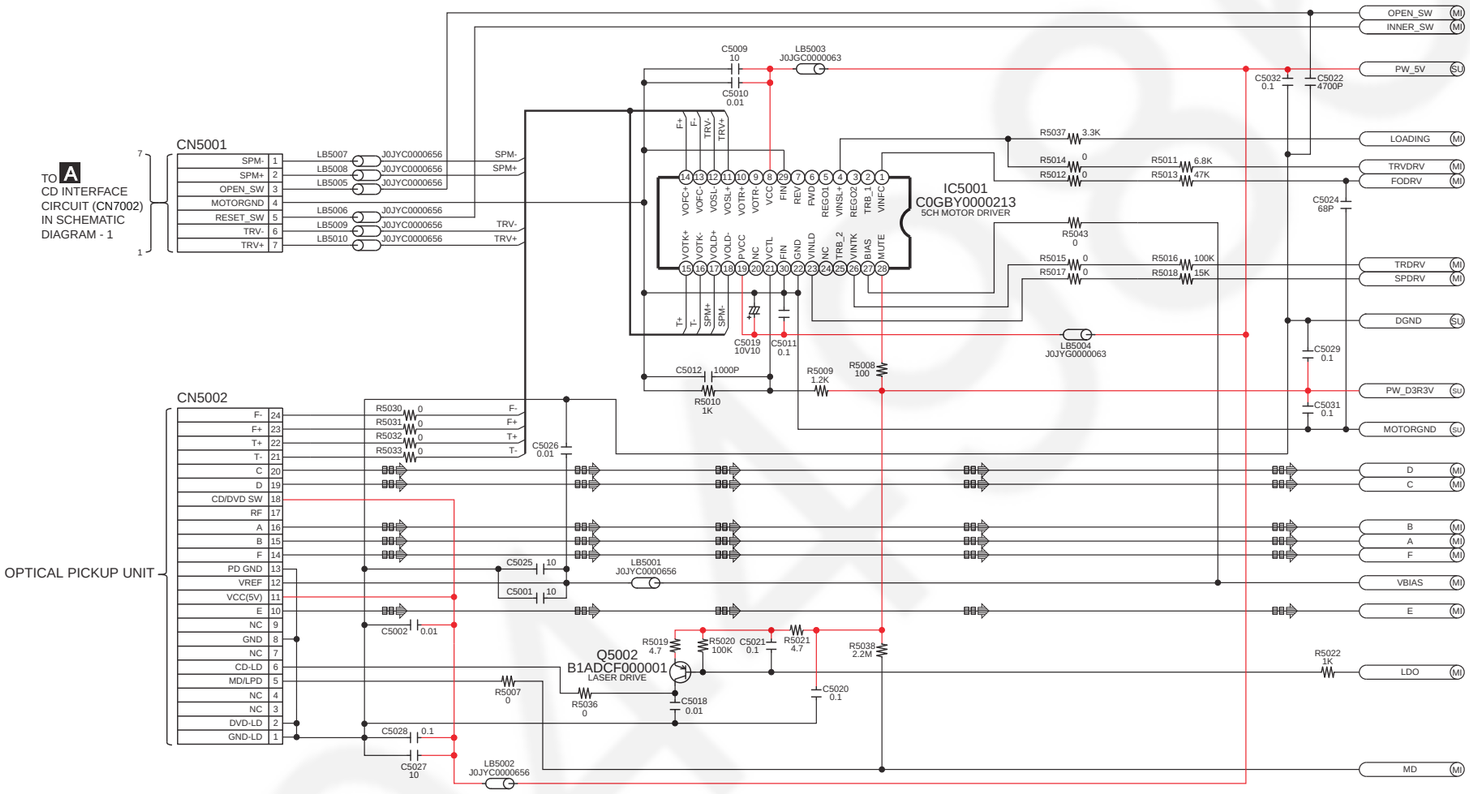
SA-PM250GS/GSX/GT MAIN (DAMP) CIRCUIT

6.5. MAIN (CD MOTOR DRIVER) CIRCUIT

SCHEMATIC DIAGRAM - 5

B MAIN (CD MOTOR DRIVER) CIRCUIT

—— : +B SIGNAL LINE ▯▯▯▷ : CD AUDIO INPUT SIGNAL LINE



MI: MAIN (MICON): SCHEMATIC DIAGRAM - 1 ~ 2
SU: MAIN (SUPPLY): SCHEMATIC DIAGRAM - 3

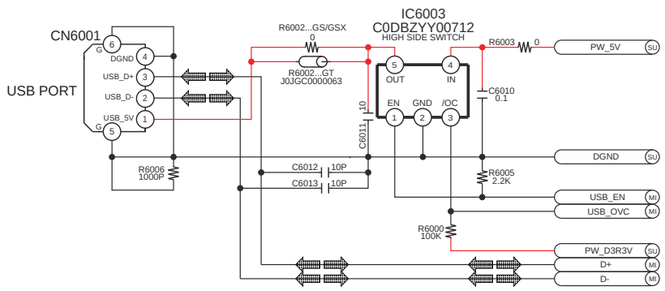
SA-PM250GS/GSX/GT MAIN (CD MOTOR DRIVER) CIRCUIT

6.6. MAIN (USB) & TUNER CIRCUIT

SCHEMATIC DIAGRAM - 6

B MAIN (USB) CIRCUIT

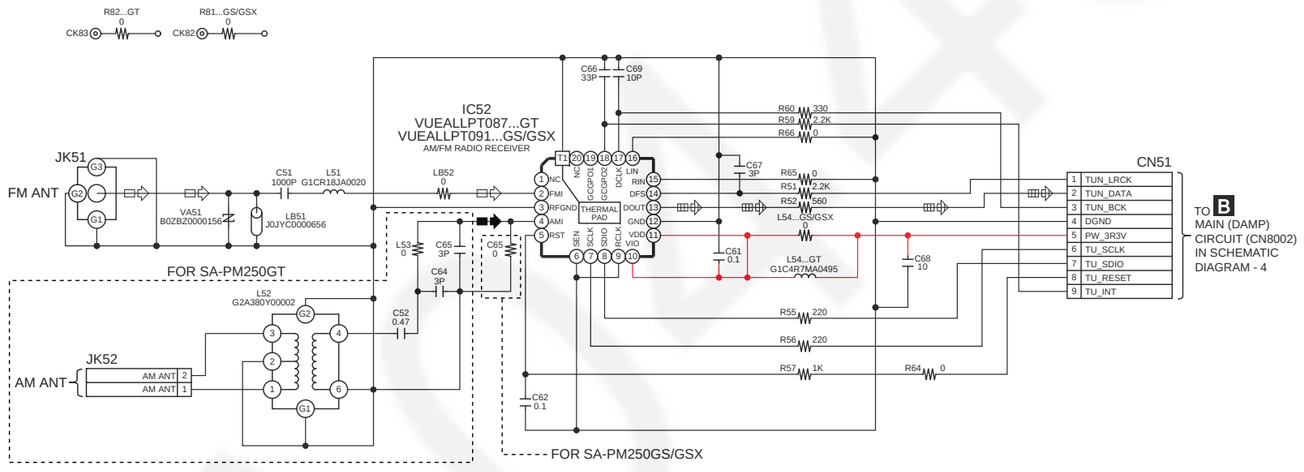
—— : +B SIGNAL LINE ⇒ : USB SIGNAL LINE



MI: MAIN (MICON): SCHEMATIC DIAGRAM - 1 ~ 2
SU: MAIN (SUPPLY): SCHEMATIC DIAGRAM - 3

C TUNER CIRCUIT

—— : +B SIGNAL LINE ⇒ : TUNER AUDIO INPUT SIGNAL LINE ⇒ : FM SIGNAL LINE ⇒ : AM SIGNAL LINE



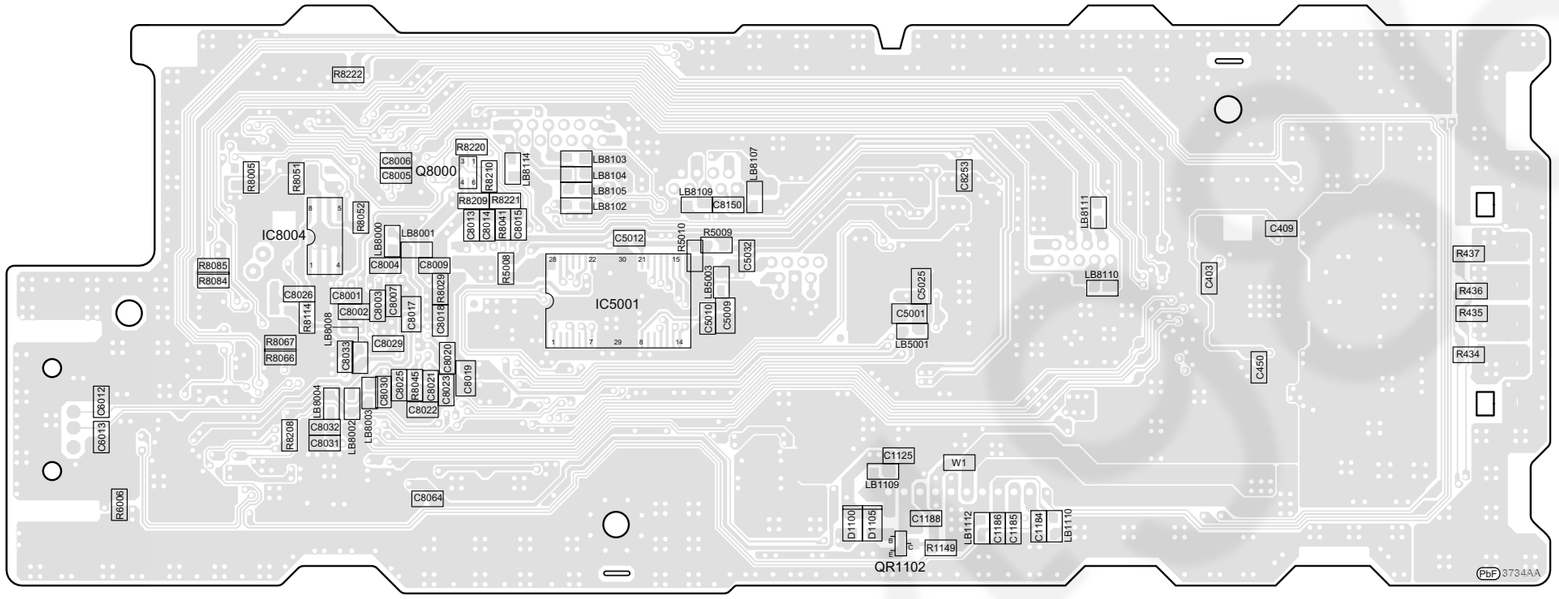
NOTE: " * " REF IS FOR INDICATION ONLY

SA-PM250GS/GSX/GT MAIN (USB) / TUNER CIRCUIT

7 Printed Circuit Board

7.1. MAIN P.C.B. (Side A)

B MAIN P.C.B. (REP5069BA...GS/GSX)
(REP5069DA...GT)



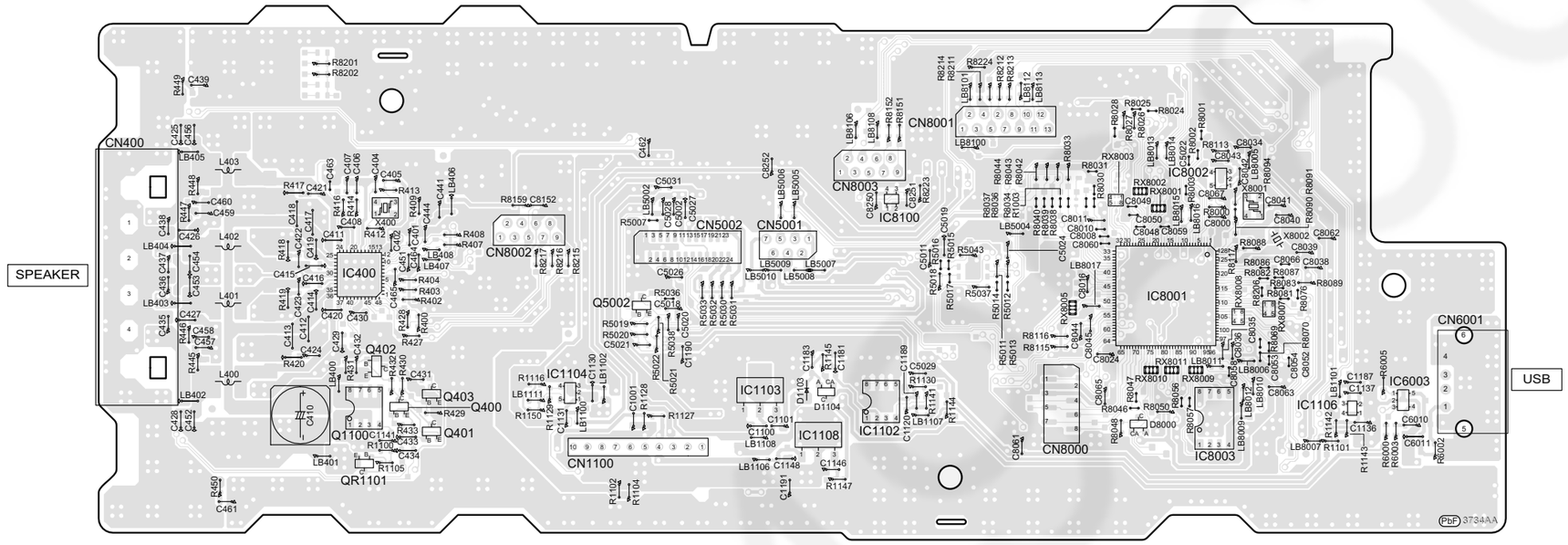
(SIDE A)

NOTE: " * " REF IS FOR INDICATION ONLY

SA-PM250GS/GT/GSX
MAIN P.C.B.

7.2. MAIN P.C.B. (Side B)

B MAIN P.C.B. (REP5069BA...GS/GSX)
(REP5069DA...GT)



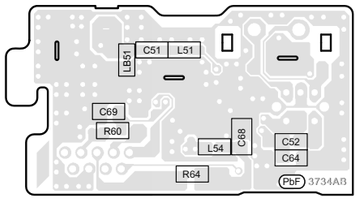
(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY

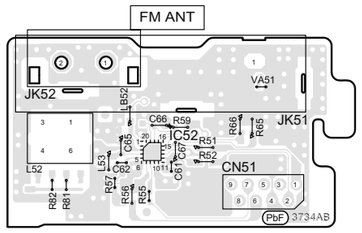
SA-PM250GS/GT/GSX
MAIN P.C.B.

7.3. TUNER P.C.B.

C TUNER P.C.B. (REP5069BB...GS/GSX)
(REP5069DB...GT)



(SIDE A)



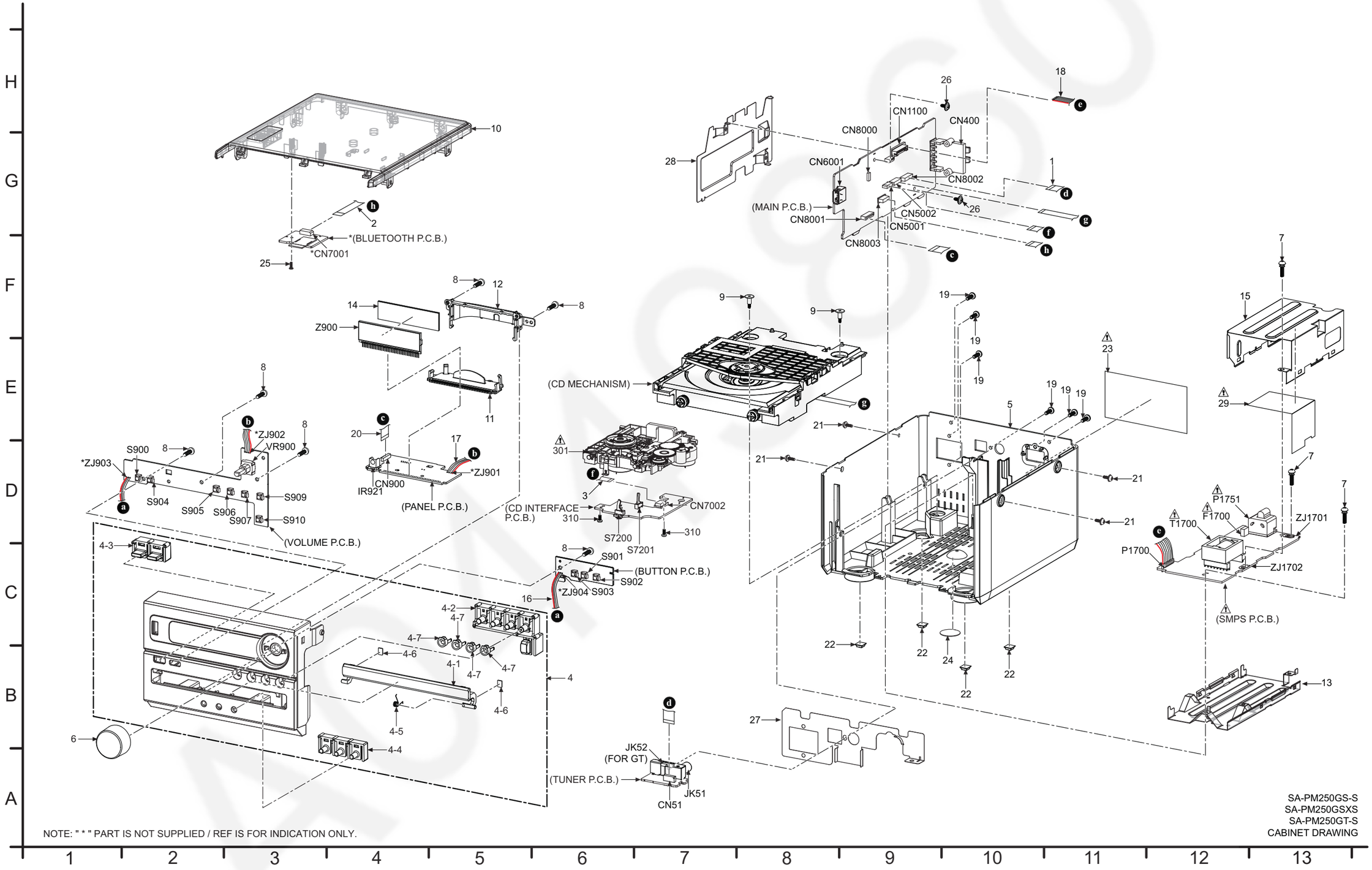
(SIDE B)

NOTE: " * " REF IS FOR INDICATION ONLY

SA-PM250GS/GT/GSX
TUNER P.C.B.

8 Exploded View and Replacement Parts List

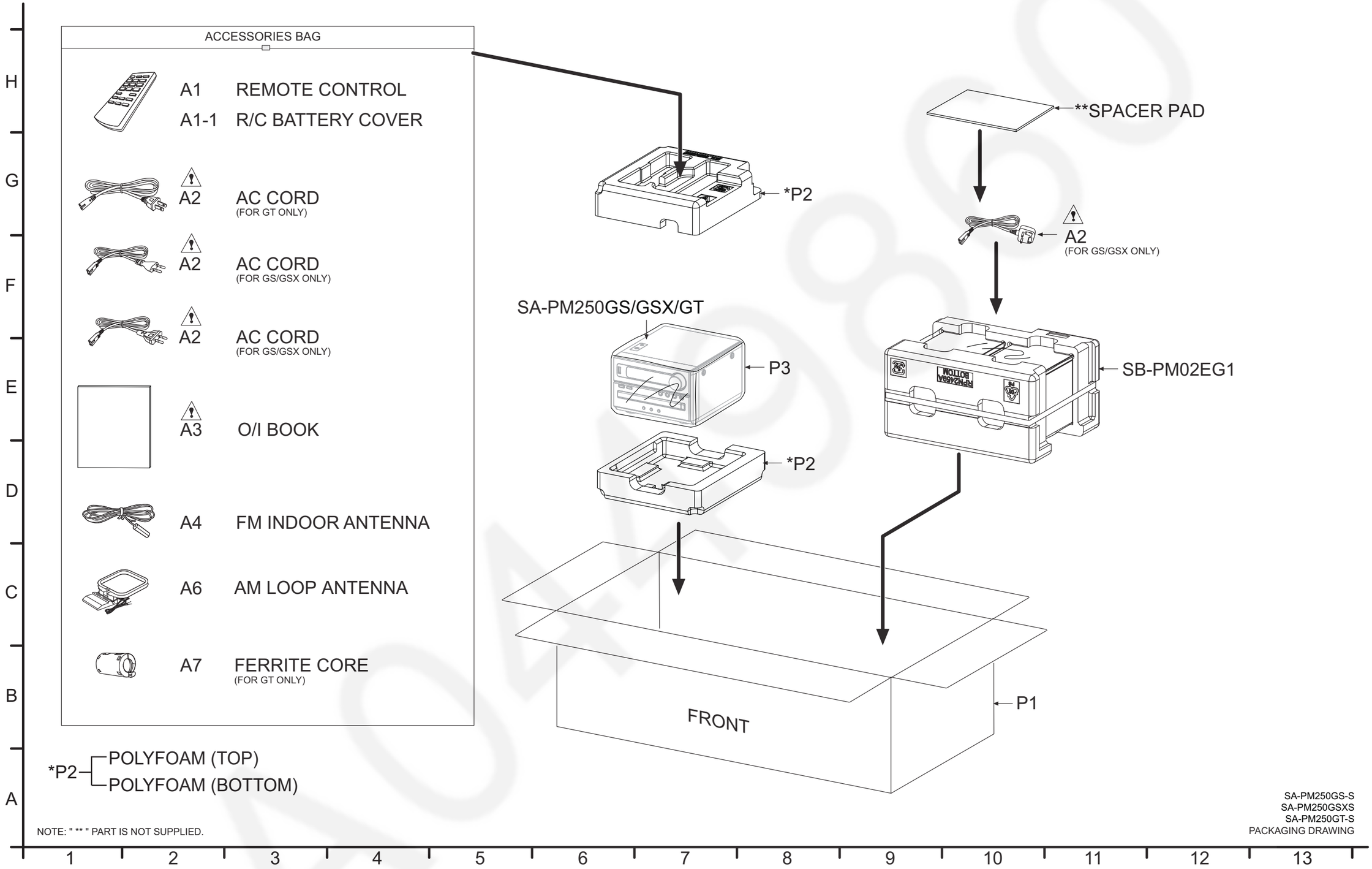
8.1. Cabinet Parts Location



SA-PM250GS-S
SA-PM250GSXS
SA-PM250GT-S
CABINET DRAWING

NOTE: " * " PART IS NOT SUPPLIED / REF IS FOR INDICATION ONLY.

8.2. Packaging



8.3. Mechanical Repacement Parts List

Important Safety Notice

Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Note:

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- All parts mentioned are supplied by PAVCJM unless indicated likewise.
- Reference for O/I book languages are as follows:

Ar:	Arabic	Du:	Dutch	It:	Italian	Sp:	Spanish
Cf:	Canadian French	En:	English	Ko:	Korean	Sw:	Swedish
Cz:	Czech	Fr:	French	Po:	Polish	Co:	Traditional Chinese
Da:	Danish	Ge:	German	Ru:	Russian	Cn:	Simplified Chinese
Pe:	Persian	Ur:	Ukraine	Pr:	Portuguese	Fi:	Finnish

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			CABINET AND CHASSIS		
	1	REE1947	9P FFC (TUNER - MAIN)	1	
	2	REE1948	9P FFC (BLUE-TOOTH - PANEL)	1	
	3	REE1949	7P FFC (CD INTERFACE - MAIN)	1	
	4	RYP1985A-S1	FRONT PANEL ASS'Y	1	
	4-1	RGKX0450-3S	CD LID	1	
	4-2	RGUX1023-2S1	FUNCTION BUTTON	1	
	4-3	RGUX1024-2S	POWER BUTTON	1	
	4-4	RGUX1025-2S	BASS BUTTON	1	
	4-5	RMBX0073	CD LID SPRING	1	
	4-6	RMGX0033	CUSHION RUBBER	2	
	4-7	RGKX1043-K1	BUTTON ORNAMENT	4	
	5	RKQX1015A-K2	REAR CABINET	1	GT
	5	RKQX1015C-K2	REAR CABINET	1	GS/GSX
	6	RGWV0047-S	VOLUME KNOB	1	
	7	RHD26043-1	SCREW	3	
	8	RHD26046-L	SCREW	6	
	9	RHDX031008	SCREW	2	
	10	RKMX1005D-K3	TOP CABINET	1	
	11	RMNX1011-W2	LCD HOLDER BASE	1	
	12	RMNX1012A-W2	LCD HOLDER COVER	1	
	13	RMKX1020-3	SMPS CHASSIS	1	
	14	RMXX1008-2	LCD DIFFUSER SHEET	1	
	15	RSCX1040-2	SMPS SHIELD	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	16	RWJ1A03113XX	3P WIRE (BASS BUTTON-FUNCTION BUTTON)	1	
	17	RWJ1A04075XX	4P WIRE (PANEL-FUNCTION BUTTON)	1	
	18	REX1726-1	10P WIRE (SMPS - MAIN)	1	
	19	XTB3+10JFJ	SCREW	6	
	20	REE1950	13P FFC (MAIN - LCD)	1	
	21	XTW3+10SFJK	SCREW	4	
	22	RKAX0042-K	LEG CUSHION	4	
⚠	23	RGN3453B-K	NAME PLATE	1	GS/GSX
⚠	23	RGN3453D-K	NAME PLATE	1	GT
	24	RMQX1069-K	BOTTOM COVER SHEET	1	
	25	VHD1224-1A	SCREW	1	
	26	RHD30092-1	SCREW	2	
	27	RSC1281	REAR SHIELD	1	
	28	RSC1282	MAIN PCB SHIELD	1	
⚠	29	RMV0442	SMPS COVER SHEET	1	
			TRAVERSE DECK		
⚠	301	RAE1028Z-V	TRAVERSE UNIT	1	
	310	XTN2+6GFJ	SCREW	2	
			PACKING MATERI-ALS		
	P1	RPG0L51	PACKING CASE	1	GS/GSX
	P1	RPG0L53	PACKING CASE	1	GT
	P2	RPNX1070	POLYFOAM	1	
	P3	RPFX1039-1	MIRAMAT SHEET	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			ACCESSORIES		
	A1	N2QAYB000984	REMOTE CONTROL	1	
	A1-1	RKK-AKX18PHK	R/C BATTERY COVER	1	
⚠	A2	K2CA2YY00257	AC CORD	1	GT
⚠	A2	K2CP2YY00061	AC CORD	1	GS/GSX
⚠	A2	K2CQ2YY00119	AC CORD	1	GS/GSX
⚠	A2	K2CT2YY00097	AC CORD	1	GS/GSX
⚠	A3	RQT9926-B	O/I BOOK (En)	1	GS/GSX
⚠	A3	RQT9931-G	O/I BOOK (Cn/Ar)	1	GS/GSX
⚠	A3	RQT9932-K	O/I BOOK (Co)	1	GT
	A4	RSAX0002	FM INDOOR ANTENNA	1	
	A6	N1DYYYY00011	AM LOOP ANTENNA	1	GT
	A7	J0KG00000037	FERRITE CORE	1	GT

8.4. Electrical Replacement Parts List

Important Safety Notice

Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Note:

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- Capacitor value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF), F=Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1000 (OHM).
- All parts mentioned are supplied by PAVCJM unless indicated likewise.

E.S.D. standards for Electrostatically Sensitive Devices, refer to "PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATIC SENSITIVE (ES) DEVICES" section.

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIR-CUITS BOARDS		
	PCB1	REP5071A	CD INTERFACE P.C.B.	1	(RTL)
	PCB2	REP5069BA	MAIN P.C.B.	1	(RTL) GS/GSX
	PCB2	REP5069DA	MAIN P.C.B.	1	(RTL) GT
	PCB3	REP5069BB	TUNER P.C.B.	1	(RTL) GS/GSX
	PCB3	REP5069DB	TUNER P.C.B.	1	(RTL) GT
	PCB4	REP5069BC	BLUETOOTH P.C.B.	1	(RTL) GS/GSX
	PCB4	REP5069DC	BLUETOOTH P.C.B.	1	(RTL) GT
⚠	PCB5	REP5070AA	SMPS P.C.B.	1	(RTL)
	PCB6	REP5070AB	PANEL P.C.B.	1	(RTL)
	PCB7	REP5070AB	VOLUME P.C.B.	1	(RTL)
	PCB8	REP5070AB	BUTTON P.C.B.	1	(RTL)
			INTEGRATED CIR-CUITS		
	IC52	VUEALLPT087	IC	1	(E.S.D) GT
	IC52	VUEALLPT091	IC	1	(E.S.D) GS/GSX
			COILS AND INDUC-TORS		
	L52	G2A380Y00002	ANTENNA COIL	1	GT
	L54	G1C4R7MA0495	CHIP INDUCTOR	1	GT

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	LB8018	J0JDC0000102	INDUCTOR	1	GT
	LB8019	J0JDC0000102	INDUCTOR	1	GT
			JACKS		
	JK52	K4AC02B00042	JK AM ANTENNA TERMINAL	1	GT
			CHIP JUMPERS		
	L53	D0GBR00J0004	0 1/10W	1	GT
	W1	ERJ3GEY0R00V	0 1/10W	1	GS/GSX
			RESISTORS		
	R81	D0GAR00J0005	0 1/16W	1	GS/GSX
	R82	D0GAR00J0005	0 1/16W	1	GT
	R450	D0GB680JA065	68 1/10W	1	GT
	R6002	D0GBR00J0004	0 1/10W	1	GS/GSX
	R6002	J0JGC0000063	INDUCTOR	1	GT
	R8041	D0GB333JA065	33K 1/10W	1	GT
	R8041	D0GB822JA065	8.2K 1/10W	1	GS/GSX
	R8201	D0GBR00J0004	0 1/10W	1	GT
	R8202	D0GBR00J0004	0 1/10W	1	GS/GSX
			CAPACITORS		
	C52	F1H1A474A107	0.47uF 10V	1	GT
	C64	F1H1H3R0B050	3.0pF 50V	1	GT
	C65	F1H1H3R0B050	3.0pF 50V	1	GT
	C461	F1H1H102B047	1000pF 50V	1	GT
	C6014	F1H1H101B052	100pF 50V	1	GT

IPSG1405