

Service Manual

CD Stereo System

Model No. **SA-AKX18PH**
SA-AKX18PN

Product Color: (K)...Black Type



Please refer to the original service manual for:

- CD Mechanism Unit (BRS12C) , Order No. PSG1303059AE
- Speaker system SB-AKX18PN-K, Order No. PSG1401008CE

⚠ 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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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 Δ 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 $1M\Omega$ and $5.2M\Omega$.
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 $1.5k\Omega$, 10 watts resistor, in parallel with a $0.15\mu F$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1-1.
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.

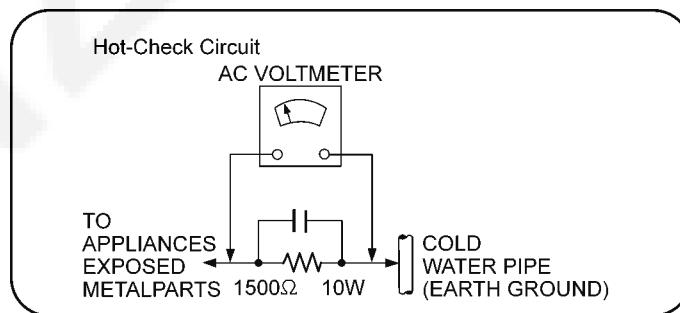


Figure 1-1

1.2. Before Use (For PH only)

Be sure to disconnect the mains cord before adjusting the voltage selector as shown in Figure 1-2.

Use a minus(-) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used.

Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries, the correct voltage is already set.)

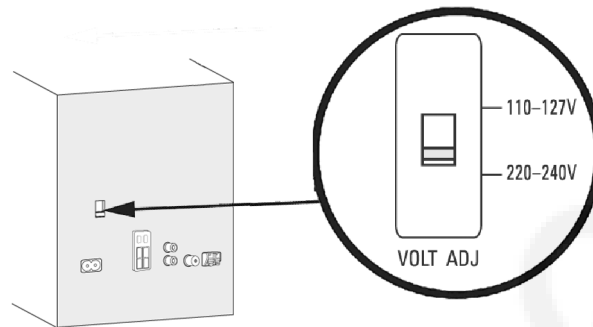


Figure 1-2

1.3. Before Repair and Adjustment

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 110~127 V / 220~240 V, 50/60 Hz in Power ON, FM Tuner at volume minimal mode should be ~ 250 mA (PH).

Current consumption at AC 120 V, 60 Hz in Power ON, FM Tuner at volume minimal mode should be ~ 250 mA (PN).

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.

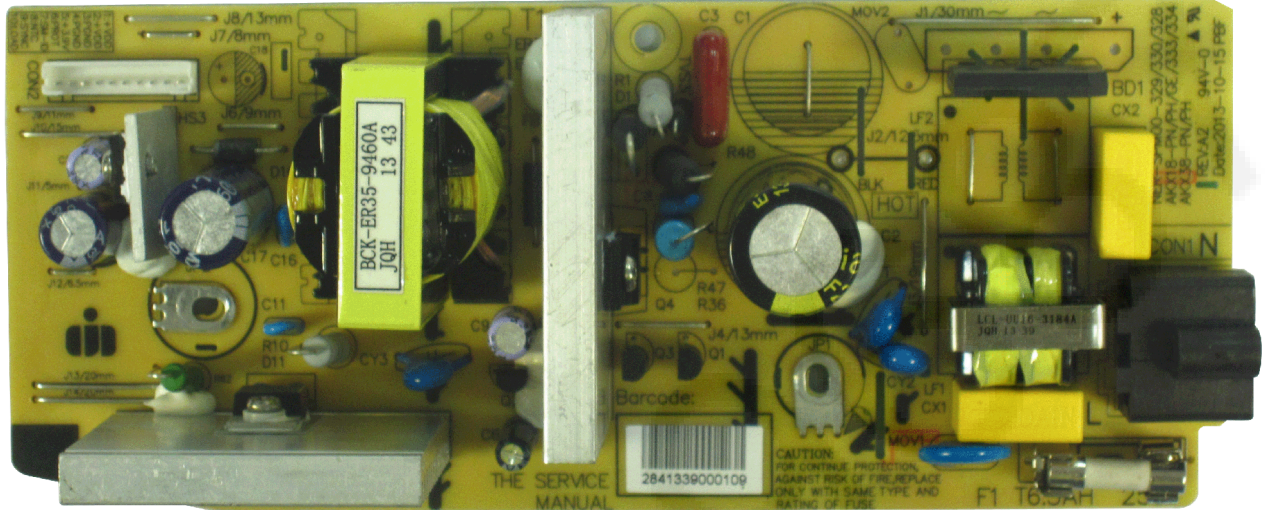
1.5. Power Supply using SMPS

This model uses Switching Mode Power Supply (SMPS) to provide the power supply to the unit. Here is the supplied part no. for the SMPS Module

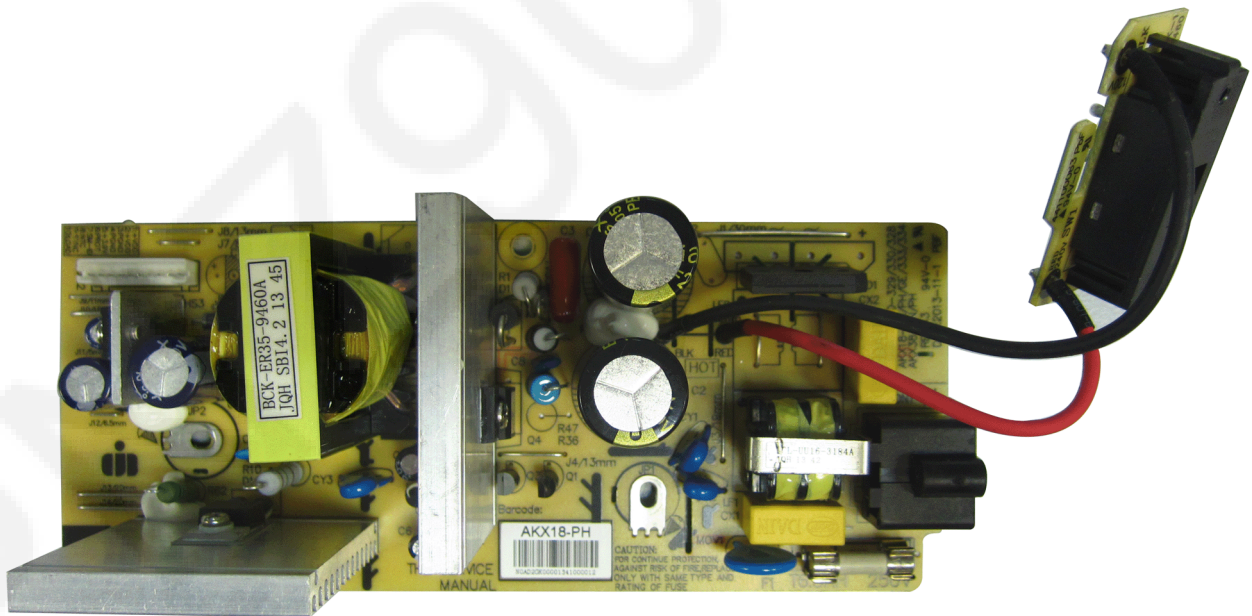
- 1) N0AB2GK00001 (For PN)
- 2) N0AD2GK00001 (For PH)

Disconnect AC power to discharge the AC Capacitors (C1 (PH), C2) through a 10 Ω , 10 W resistor to ground.

1.5.1. For PN



1.5.2. For PH



1.6. Safety Parts 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
⚠	13	RGR0443M-A1A	REAR APNEL	PN
⚠	13	RGR0443N-A2A	REAR PANEL	PH
⚠	26	RKM07132-K1	TOP CABINET	
⚠	301	RAE1044Z-V	TRAVERSE UNIT	
⚠	A2	K2CB2CB00022	AC CORD	PN
⚠	A2	K2CQ2YY00119	AC CORD	PH
⚠	A3	RQT9894-M	O/I BOOK (En/Sp)	
⚠	PCB6	N0AB2GK00001	SMPS MODULE	PN
⚠	PCB6	N0AD2GK00001	SMPS MODULE	PH

2 Warning

2.1. Prevention of Electrostatic 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).

IMPORTANT SAFETY NOTICE

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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:

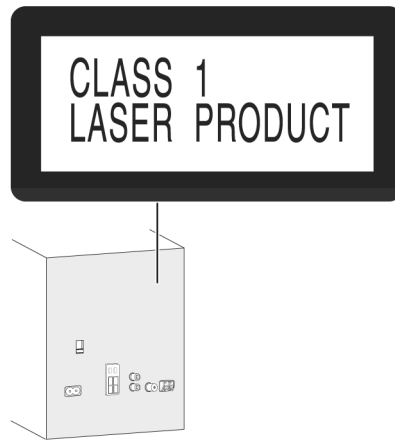
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wavelength: 790 nm (CD)

Maximum output radiation power from pickup: 100 μ W/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.



2.3. 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 ($662 \pm 86^\circ\text{F}$).

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 Precautions 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 FPC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexi-

ble cable, cut off the antistatic FPC.

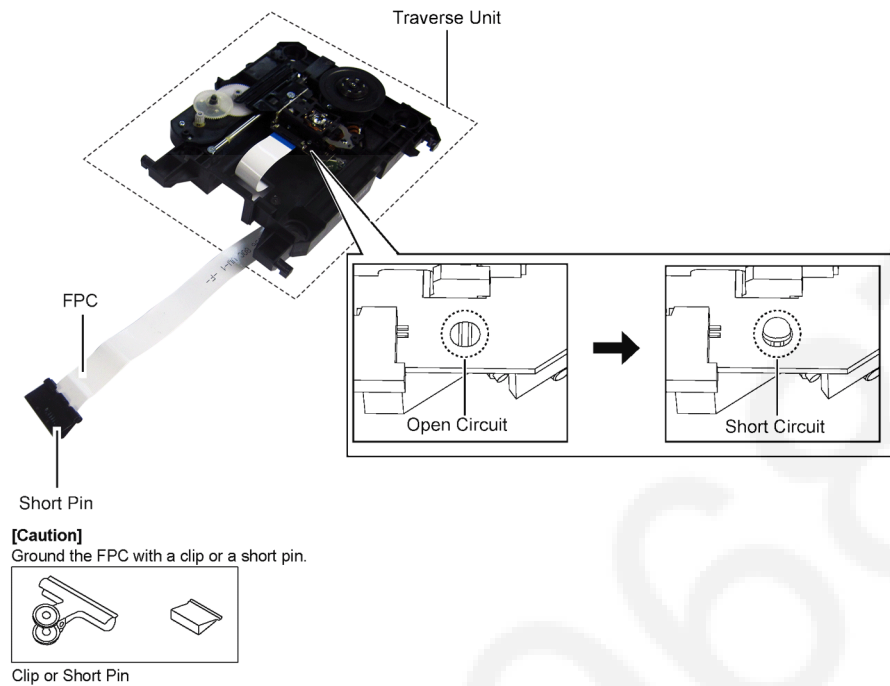


Figure A

2.5. Grounding for electrostatic breakdown prevention

- As for parts that use optical pick-up (laser diode), the optical pick-up is destroyed by the static electricity of the working environment. Repair in the working environment that is grounded.

2.5.1. Worktable grounding

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

2.5.2. Human body grounding

- Use the anti-static wrist strap to discharge the static electricity from your body Figure 2-3.

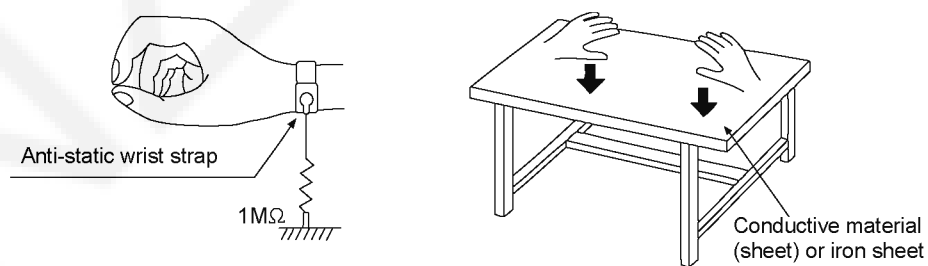


Figure 2-3

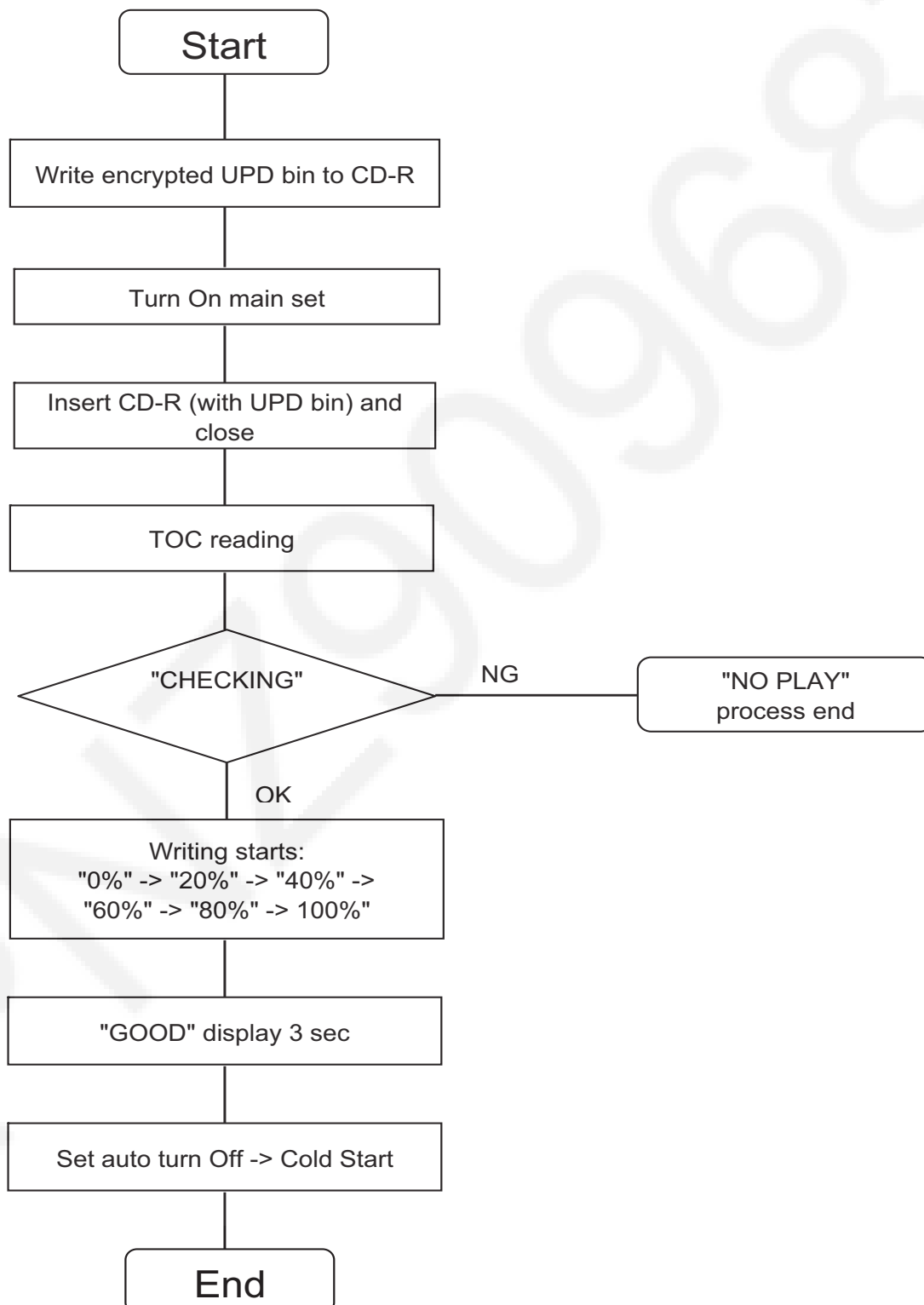
3 Service Navigation

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.

3.1.1. Firmware Update Procedure



4 Specifications

■ Amplifier section

RMS output power stereo mode

Front Ch (both ch driven)	175 W per channel (4 Ω, 1 kHz, 30% THD
Total RMS stereo mode power	350 W

■ Tuner, terminals section

Preset memory

FM 30 stations
AM 15 stations

Frequency modulation (FM)

Frequency range	87.50 MHz to 108.00 MHz (50 kHz step) (for PH) 87.5 MHz to 108.0 MHz (100 kHz step) (for PN) 87.9 MHz to 107.9 MHz (200 kHz step) (for PN) 75 Ω (unbalanced)
Antenna terminals	

Amplitude modulation (AM)

Frequency range	522 kHz to 1629 kHz (9 kHz step) (for PH) 520 kHz to 1630 kHz (10 kHz step) (for PH) 520 kHz to 1710 kHz (10 kHz step) (for PN)
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Aux Input

Pin jack

■ Disc section

Discs played (8 cm or 12 cm)

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

Pick up

Wavelength	790 nm(CD)
------------	------------

■ Bluetooth section

Version

Bluetooth® Ver.2.1 +EDR

Output

Class 2

Supported profile

A2DP, AVRCP, SPP

Operating frequency

2402 MHz to 2480 MHz

Operating distance

10 m line of sight

■ USB section

USB Port

USB standard	USB 2.0 full speed
Media file format support	MP3 (*.mp3)
USB device file system	FAT12, FAT16, FAT32
USB port power	500 mA (max)

USB recording

Bit rate	128 kbps
USB recording speed	1x, 3x (CD only)
Recording file format	MP3 (*.mp3)

■ General

Power supply

AC 110 to 127/220 to 240 V,
50/60 Hz (for PH)
AC 120 V, 60 Hz (for PN)

Power consumption

50 W

Dimensions (W x H x D)

230 mm x 335 mm x 243 mm

Mass

2.7 kg

Operating temperature range

0 °C to +40 °C

Operating humidity range

35% to 80% RH
(no condensation)

Power Consumption in standby mode

0.5 W (approximate)
(for PH)
0.4 W (approximate) (for PN)

Power Consumption in standby mode (With "STANDBY BLUETOOTH" set to "ON")

0.6 W (approximate)
(for PH)
0.5 W (approximate) (for PN)

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

■ System: SC-AKX18PN-K

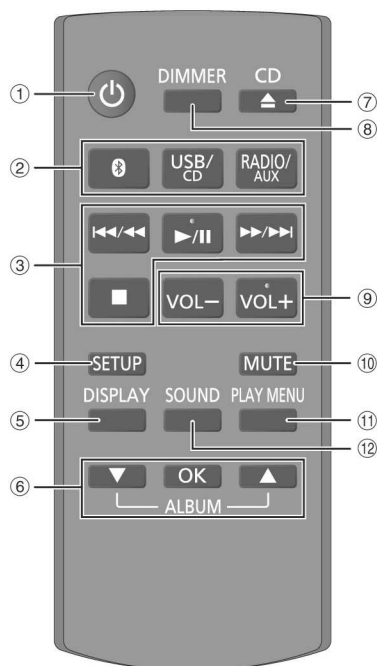
Main Unit: SA-AKX18PN-K
Front Speakers: SB-AKX18PN-K

■ System: SC-AKX18PH-K

Main Unit: SA-AKX18PH-K
Front Speakers: SB-AKX18PN-K

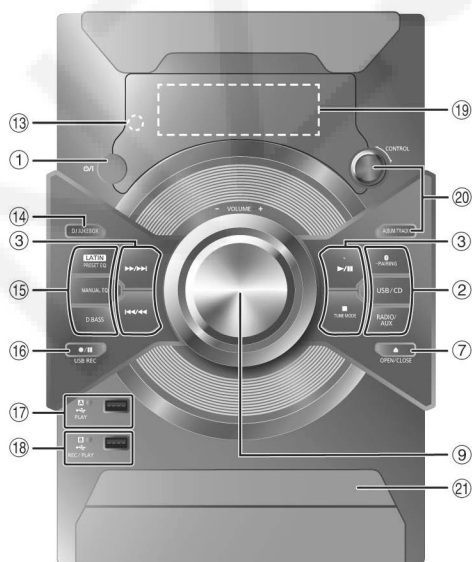
5 Location of Controls and Components

5.1. Remote Control Key Button Operation



- ① **Standby/on switch** [⏻], [⏻/⏮]
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② Select the audio source
- ③ Basic playback control buttons
- ④ Enter setup menu
- ⑤ Change displayed information
- ⑥ Selection/OK
- ⑦ Open the CD lid
- ⑧ **Change the brightness of the display panel**
Press again to cancel.
- ⑨ Adjust the volume
- ⑩ **Mute the sound**
Press again to cancel. "MUTE" is also cancelled when the volume is adjusted or this system is turned off.
- ⑪ Enter playback menu
- ⑫ Enter sound menu

5.2. Main Unit Key Button Operation



- ① **Standby/on switch** [⏻], [⏻/⏮]
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② Select the audio source
- ③ Basic playback control buttons
- ⑦ Open the CD lid
- ⑨ Adjust the volume
- ⑬ **Remote control sensor**
Distance: Within approximately 7 m
Angle: Approximately 20° up and down, 30° left and right
- ⑭ Enter DJ jukebox
- ⑮ Select the sound effect
- ⑯ Control recording operation
- ⑰ **USB A**
USB Port (⚡)
USB status indicator
Play MP3 tracks
Record MP3 tracks on **USB B**
- ⑱ **USB B**
USB Port (⚡)
USB status indicator
Record sound or music tracks
Play MP3 tracks
- ⑲ Display
- ⑳ **Select MP3 album or track**
Press [ALBUM / TRACK] to select album or track.
Search track or album
Rotate [CONTROL] to search.
To start playing the selection, press [▶/⏮].
- ㉑ Disc tray

6 Service Mode

6.1. Cold-Start

Here is the procedure to carry out cold-start or initialize to shipping mode.

1. Unplug AC power cord
2. Press & hold [POWER] button
3. Plug AC power cord while [POWER] button being pressed
FL Display will show “-----”
4. Release [POWER] button

6.2. Sales Demonstration Lock Function

6.2.1. Entering into Sales demonstration lock mode

Here is the procedures to enter into the Sales demonstration lock mode.

Step 1: Turn on the unit.

Step 2: Select to any mode function.

Step 3: Press and hold [▲OPEN/CLOSE] and [CD] keys for 5 sec or more.

The display will show upon entering into this mode for 2 sec..



Note: [▲OPEN/CLOSE] button is invalid and the main unit displays “LOCKED” while the lock function mode is entered.

6.2.2. Cancellation of Sales demonstration lock mode

Step 1: Turn on the unit.

Step 2: Select to any mode function.

Step 3: Set volume to Vol 19.

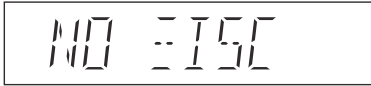
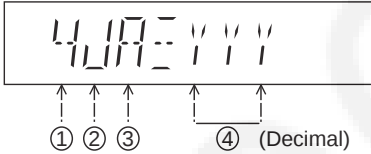
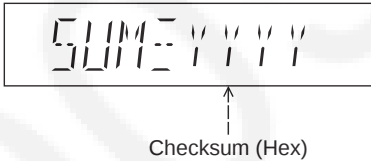
Step 4: Press and hold [▲OPEN/CLOSE] and [CD] keys for 5 sec or more.

The display will show upon entering into this mode for 2 sec..



6.3. Doctor Mode Table

6.3.1. Doctor Mode Table 1

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Doctor Mode	To enter into Doctor Mode		In CD Mode: 1. Press [■] button on main unit follow by [4] and [7] on remote control. 2. To exit, press [DELETE] button on remote control or, press [POWER, ⬤/I] button on Main Unit
EEPROM checksum check	Displaying of 1. Year Develop. 2. Model Type. 3. ROM Type. 4. Firmware Version.	(Display 1)  Version No. (001 ~ 999) -> specific for each firmware (Display 2) 	In CD mode: 1. Enter into Doctor Mode
Cold Start	To active cold start upon next AC power up when reset start is execute the next time.		In Doctor Mode: 1. Press [SLEEP] button on the remote control.

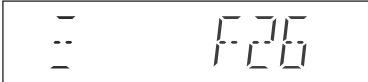
6.3.2. Doctor Mode Table 2

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Volume Setting Check	To check the volume setting of the main unit.	 Press [7]: VOL50 Press [8]: VOL35 Press [9]: VOL0	In Doctor Mode: 1. Press [7], [8], [9] button on the remote control.
FL Display Check	To check the FL segment display. All segments will light up while all LED blink at 0.5s intervals.		In Doctor mode: 1. Press [1] button on the remote control. 2. To cancel this mode, press [0] button on the remote control.
Traverse Test	To determine the traverse unit operation for inner & outer access track. In this mode, ensure the CD is in the main unit.	 The counter will increment by one. When reach 99999999 will change to 00000000 Cancellation Display 	In Doctor Mode: 1. Press [10]→[1]→[2] button on the remote control. 2. To cancel this mode, press [0] button on the remote control.
Reliability Test (Combination)	To determine the traverse unit operation & open/close operation of the mechanism. In this mode, ensure the CD is in the main unit.	 The counter will increment by one. When reach 99999999 will change to 00000000 Cancellation Display 	In Doctor Mode: 1. Press [10]→[1]→[5] button on the remote control. 2. To cancel this mode, press [0] button on the remote control.
Loading Test	To determine the open & close operation of the CD Mechanism Unit. In this mode, the tray will open & close automatically.	 The counter will increment by one. When reach 99999999 will change to 00000000 Cancellation Display 	In Doctor Mode: 1. Press [10]→[2]→[1] button on the remote control. 2. To cancel this mode, press [0] button on the remote control.

6.3.3. Doctor Mode Table 3

Item		FL Display	Key Operation																																																																		
Mode Name	Description		Front Key																																																																		
CD Self- Adjustment Test	To display result of self-adjustment for CD.	E- - - E- - - - - ↑ Display of auto adjustment result Reference table: <table><tr><th>ERROR Code Status Condition</th><th>0</th><th>1</th><th>2</th><th>4</th><th>6</th><th>8</th><th>A</th><th>C</th><th>E</th><th>F</th></tr><tr><td>AOC1/AOC2</td><td>O</td><td>※</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>-</td></tr><tr><td>ABC2/ABC1</td><td>O</td><td>-</td><td>X</td><td>O</td><td>X</td><td>O</td><td>X</td><td>O</td><td>X</td><td>-</td></tr><tr><td>2ndAOC1</td><td>O</td><td>-</td><td>O</td><td>X</td><td>X</td><td>O</td><td>O</td><td>X</td><td>X</td><td>-</td></tr><tr><td>FAGC/TAGC</td><td>O</td><td>-</td><td>O</td><td>O</td><td>O</td><td>X</td><td>X</td><td>X</td><td>X</td><td>-</td></tr><tr><td>AGC2</td><td>O</td><td>-</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>O</td><td>△</td></tr></table> O : OK; X : NG (In case that time out happens.) ※: Either one of FO AOC, TR AOC and FO coarse AGC is NG. △: If the AGC is NG (ignore others).	ERROR Code Status Condition	0	1	2	4	6	8	A	C	E	F	AOC1/AOC2	O	※	O	O	O	O	O	O	O	-	ABC2/ABC1	O	-	X	O	X	O	X	O	X	-	2 nd AOC1	O	-	O	X	X	O	O	X	X	-	FAGC/TAGC	O	-	O	O	O	X	X	X	X	-	AGC2	O	-	O	O	O	O	O	O	O	△	In Doctor Mode: 1. Press [10]→[1]→[4] button on the remote control. To cancel this mode, press [0] button on the remote control.
ERROR Code Status Condition	0	1	2	4	6	8	A	C	E	F																																																											
AOC1/AOC2	O	※	O	O	O	O	O	O	O	-																																																											
ABC2/ABC1	O	-	X	O	X	O	X	O	X	-																																																											
2 nd AOC1	O	-	O	X	X	O	O	X	X	-																																																											
FAGC/TAGC	O	-	O	O	O	X	X	X	X	-																																																											
AGC2	O	-	O	O	O	O	O	O	O	△																																																											
CD LSI Version Check	For checking CD LSI Version and checksum information.	(Display 1) ↑ Year Develop ↑ ROM Type - - - 777 ↑ Version (Decimal) after 2 sec (Display 2) 50M- - - ↑ Checksum (Hex)	In Doctor Mode: 1. Press [4] button on the remote control. To cancel this mode, press [0] button on the remote control.																																																																		

6.4. Self-Diagnostic Mode

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Self Diagnostic Mode	To enter into self diagnostic checking		Step 1: Select CD mode (Ensure no disc is inserted). Step 2: Press & hold [■] button follow by [▶▶/▶▶] on main unit for 2 seconds.
Error Code Information	System will perform a check on any unusual/error code from the memory	Example: 	Step 1: In self diagnostic mode, Press [■] on main unit. To exit, press [⏏/I] on main unit or remote control.
Delete error code	To clear the stored in memory (EEPROM IC)		Step 1: In self diagnostic mode, Press [0] on remote control. To exit, press [⏏/I] on main unit or remote control.

6.5. Self-Diagnostic Error Code Table

Self-Diagnostic Function provides information on any problems occurring for the unit and its respective components by displaying the error codes. These error code such as U**, H** and F** are stored in memory and held unless it is cleared. The error code is automatically display after entering into self-diagnostic mode.

6.5.1. Power Supply Error Code Table

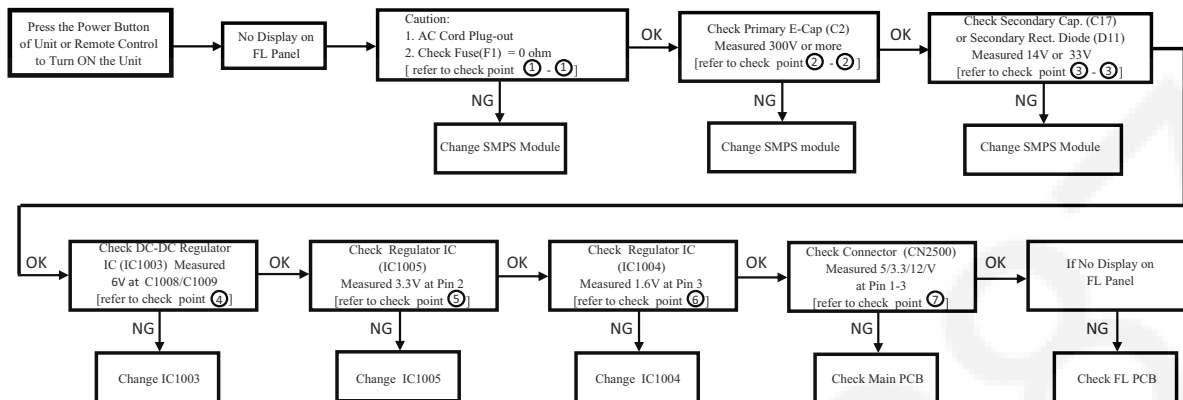
Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F61	Power Amp IC output abnormal	Upon power on, PCONT=HIGH, DC_DET_AMP after checking LSI.		Press [■] on main unit for next error.
F76		DC_DET_PWR		
F61-76		Both DCDT (NG)		

6.5.2. CD Mechanism Error Code Table

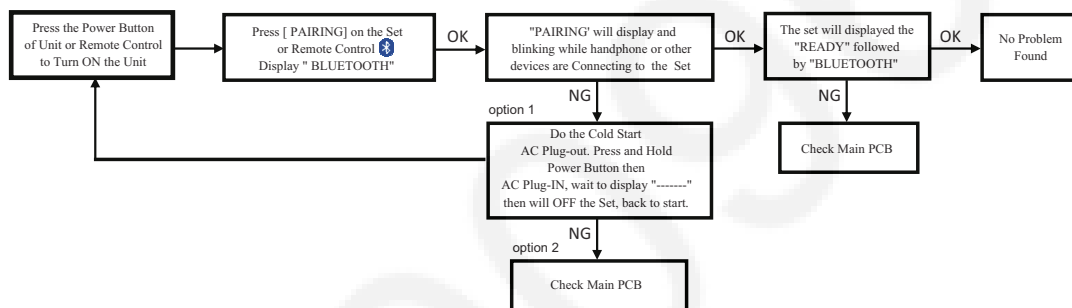
Error Code	Diagnostic Contents	Description of error	Automatic FL Display	Remarks
CD H15	CD Open Abnormal	During operation POS_SW_R On fail to be detected with 4 sec. Error No. shall be clear by force or during cold start.		Press [■] on main unit for next error.
CD H16	CD Closing Abnormal	During operation POS_SW_CEN On fail to be detected with 4 sec. Error No. shall be clear by force or during cold start.		Press [■] on main unit for next error.
F26	Communication between CD servo LSI and micro-p abnormal.	During switch to CD function, if SENSE = "L" within failsafe time of 20ms.		Press [■] on main unit for next error.

7 Troubleshooting Guide

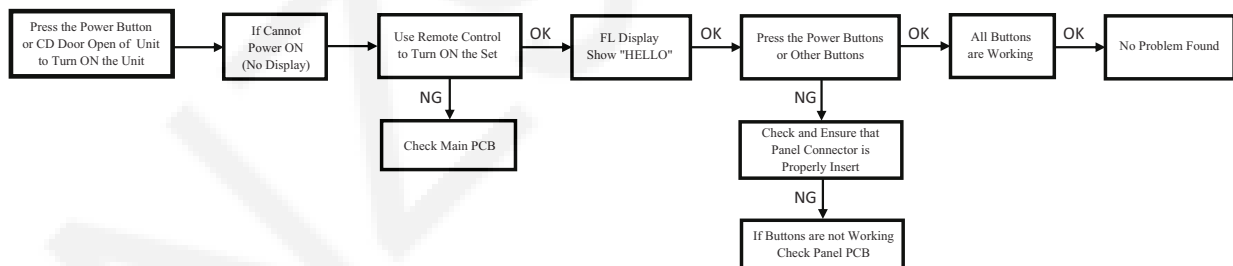
7.1. No Power or No Display



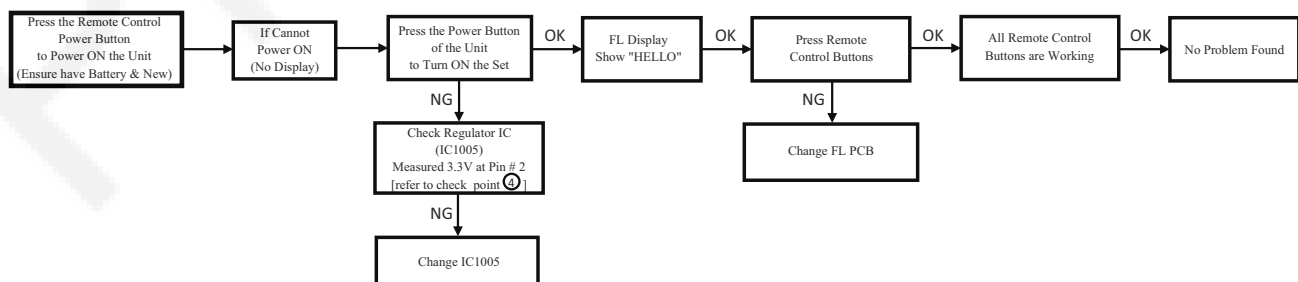
7.2. Bluetooth® Pairing Failure



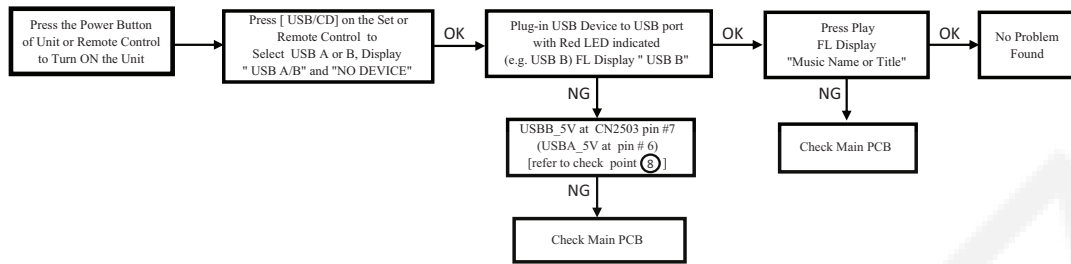
7.3. No Key Function



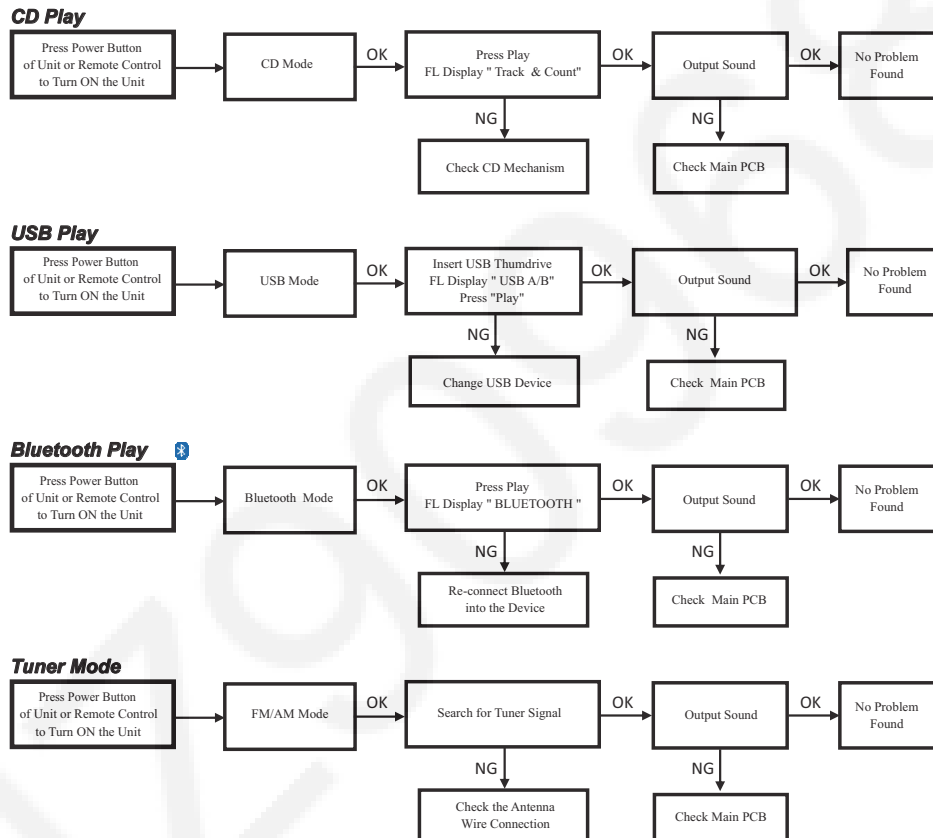
7.4. No Remote Control Function



7.5. USB Device Cannot DetectPress

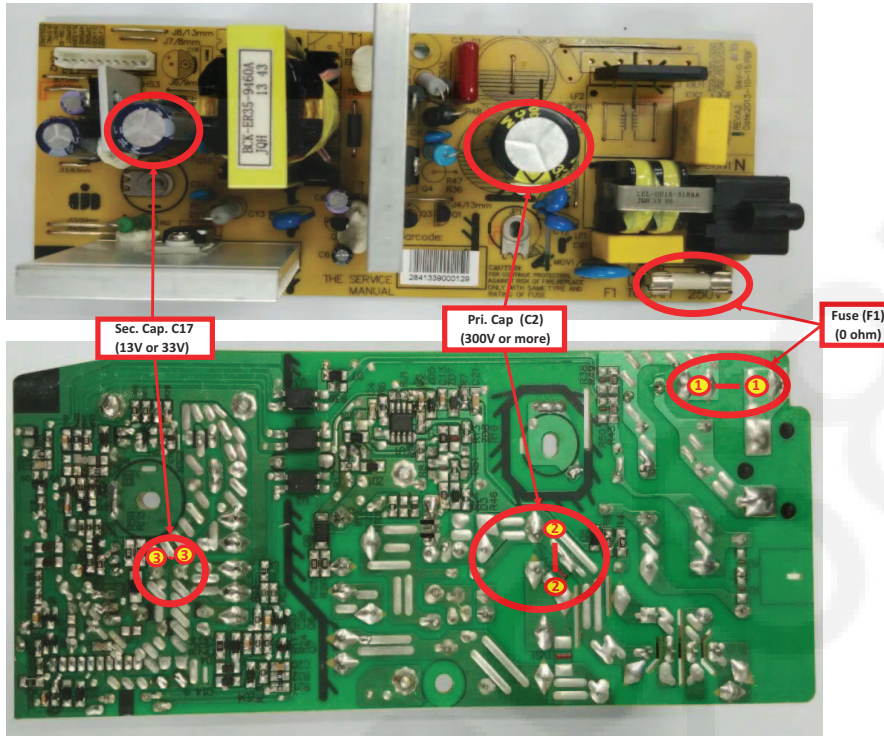


7.6. No Output Sound

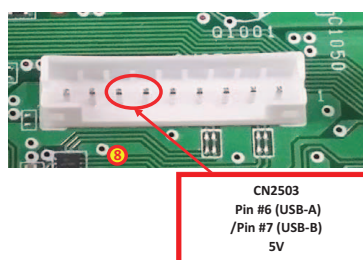
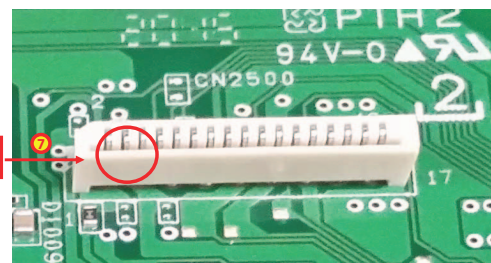
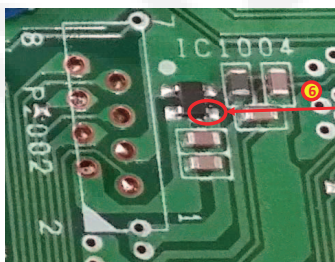
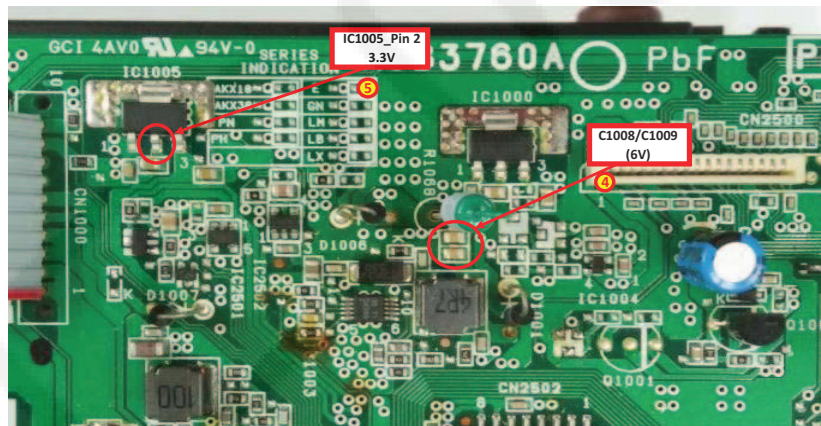


7.7. Check Point

SMPS Module



Main PCB



8 Disassembly and Assembly Instructions

- Illustration is based on SA-AKX18PH-K.
- This section describes the disassembly and/or assembly procedures for all major printed circuit boards & main components for the unit. (You may refer to the section of “Main components and P.C.B Locations” as described in this service manual)
- Before carrying out the disassembly process, please ensure all the safety precautions & procedures are followed.
- During the disassembly and/or assembly process, please handle with care as there may be chassis components with sharp edges.
- Avoid touching heatsinks due to its high temperature after prolong use.
- Be sure to use proper service tools, equipments or jigs during repair.
- Select items from the following indexes when disassembly or replacement are required.
- Disassembly of Top Cabinet
- Disassembly of Front Panel Unit
- Disassembly of Panel P.C.B. and LCD P.C.B.
- Disassembly of USB P.C.B.
- Disassembly of Rear Panel
- Disassembly of Main P.C.B.
- Disassembly of SMPS Module and Voltage Selector P.C.B.
- Disassembly of CD Mechanism Unit
- Disassembly of CD Interface P.C.B.

8.1. Type of Screws

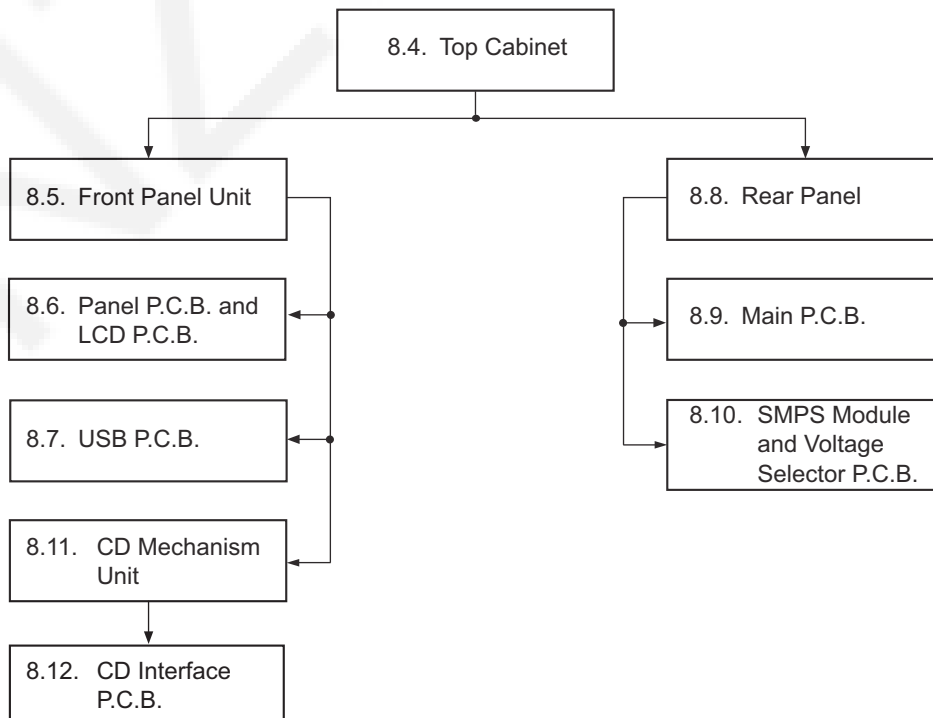
CAUTION NOTE:

Please use original screw and at correct locations.

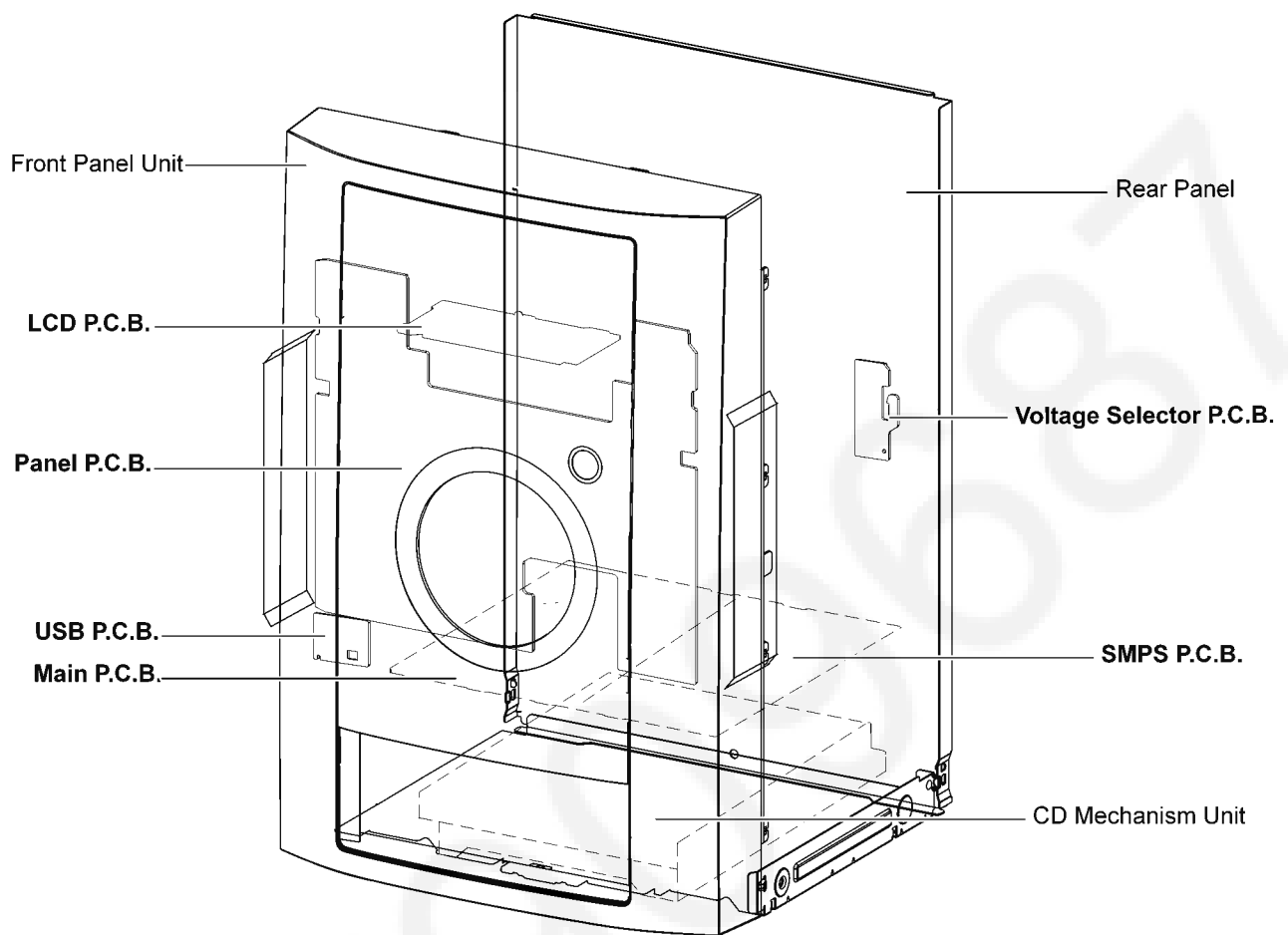
Below shown is part no. of different screw types used:

- | | |
|------------------------|----------------------|
| a :RHD30007-K2J | e :RHD26043-1 |
| b :RHD30119-S | f :RHDX031008 |
| c :RHD26046-L | g :XTN2+6GFJ |
| d :RHD30111-31 | |

8.2. Disassembly Flow Chart



8.3. Main Components and P.C.B. Locations

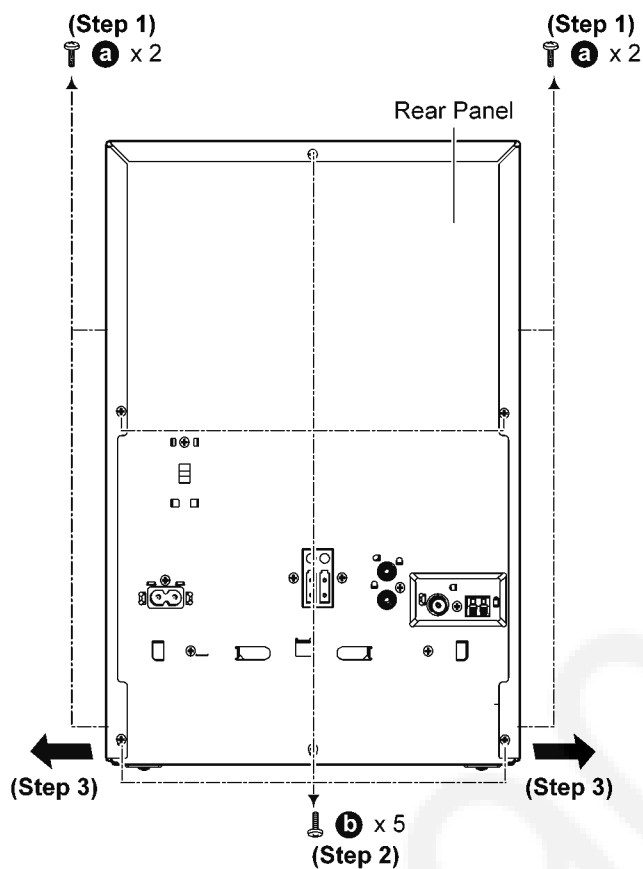


8.4. Disassembly of Top Cabinet

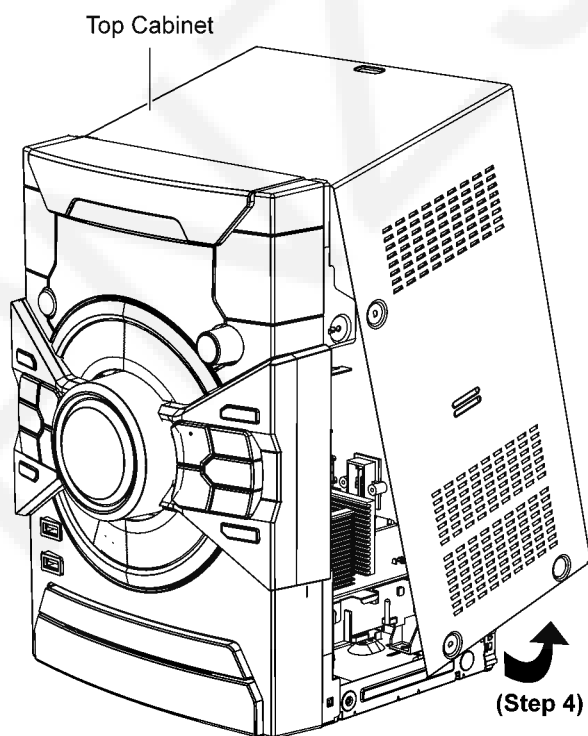
Step 1 Remove 4 screws.

Step 2 Remove 5 screws.

Step 3 Release both sides of Top Cabinet outwards as arrow shown.



Step 4 Slightly lift up to remove Top Cabinet.



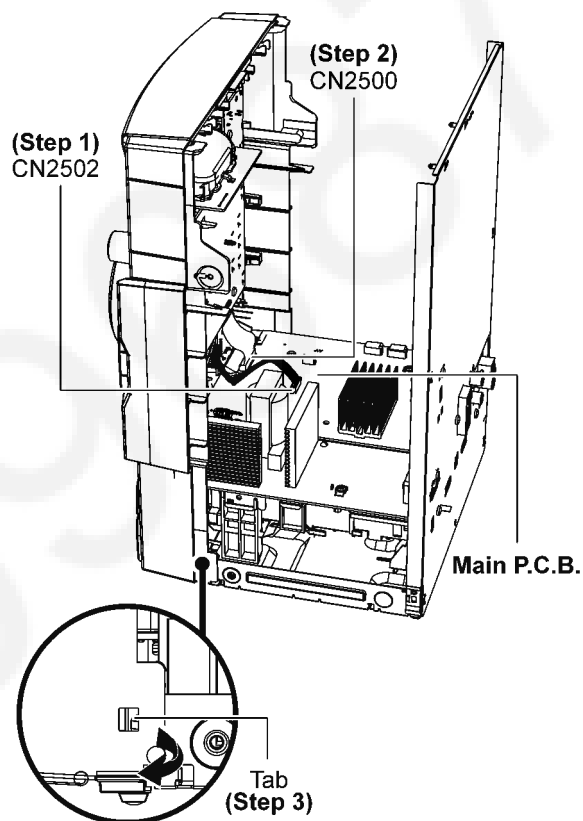
8.5. Disassembly of Front Panel Unit

• Refer to "Disassembly of Top Cabinet".

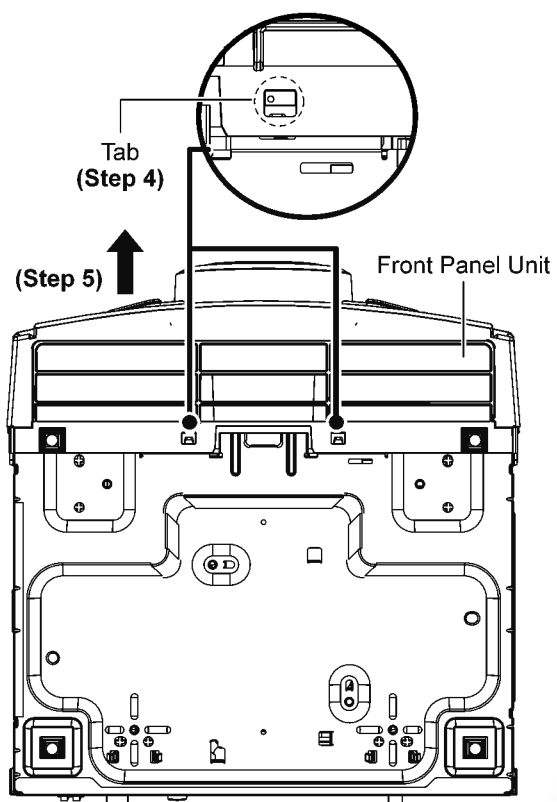
Step 1 Detach 8P Cable Wire at the connector (CN2502) on Main P.C.B..

Step 2 Detach 17P FFC at the connector (CN2500) on Main P.C.B..

Step 3 Release tabs on both side of the Front Panel Unit.



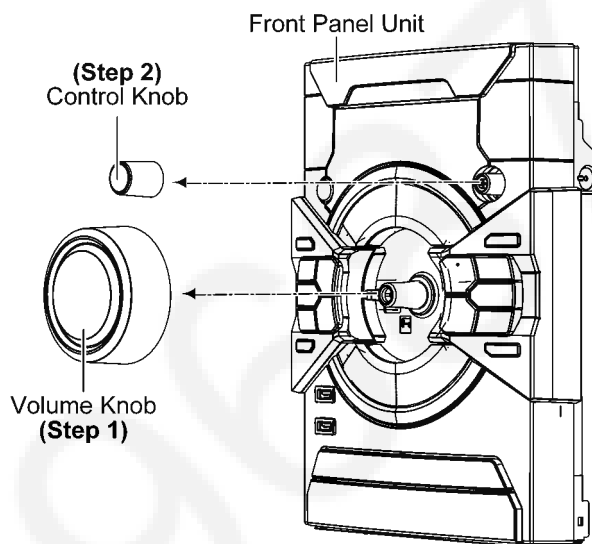
Step 4 Release tabs at bottom of unit.
Step 5 Detach to remove Front Panel Unit



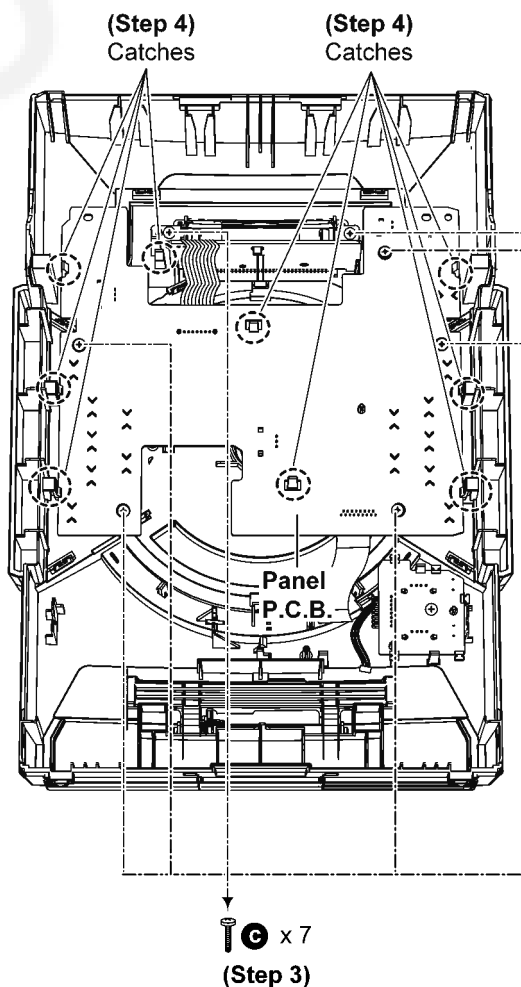
8.6. Disassembly of Panel P.C.B. and LCD P.C.B.

- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Front Panel Unit".

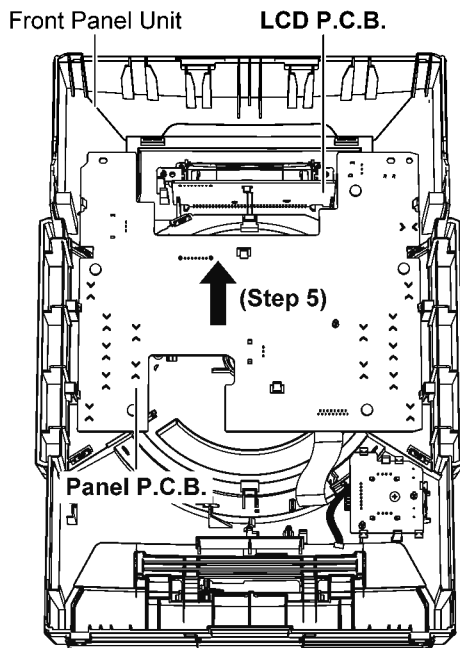
Step 1 Remove Volume Knob.
Step 2 Remove Control Knob.



Step 3 Remove 7 screws.
Step 4 Release catches.



Step 5 Remove Panel P.C.B. and LCD P.C.B..



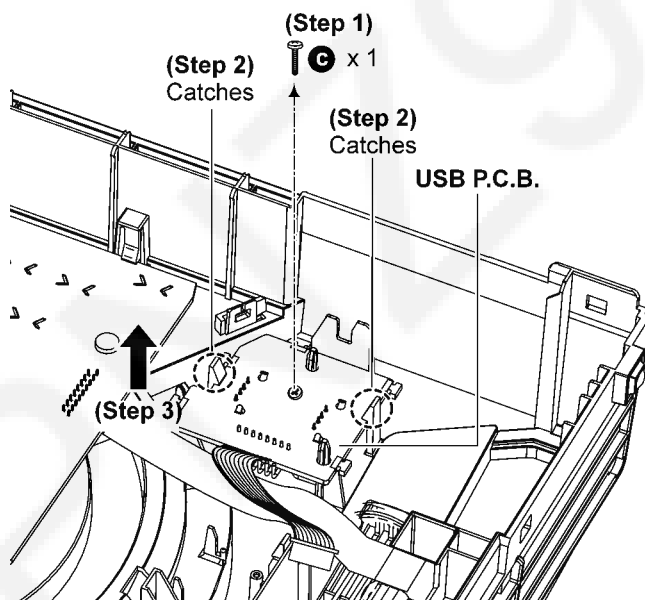
8.7. Disassembly of USB P.C.B.

- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Front Panel Unit".
- Refer to "Disassembly of Panel P.C.B. and LCD P.C.B."

Step 1 Remove 1 screw.

Step 2 Remove catches.

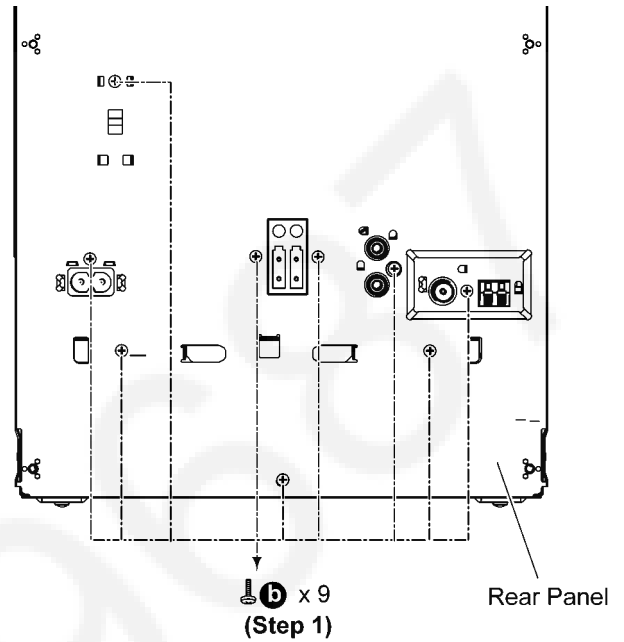
Step 3 Remove USB P.C.B..



8.8. Disassembly of Rear Panel.

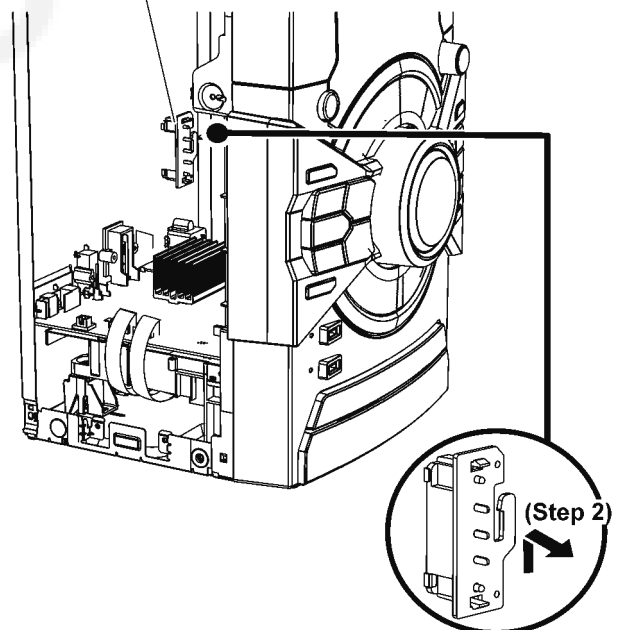
- Refer to "Disassembly of Top Cabinet".

Step 1 Remove 9 screws.



Step 2 Detach Voltage Selector P.C.B..

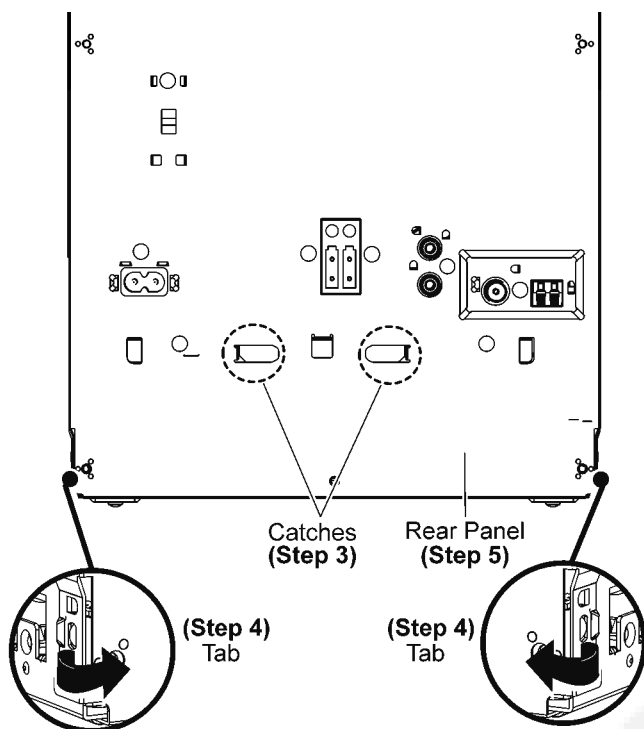
Voltage Selector P.C.B.



Step 3 Lift up Inner Chassis Unit to release the catches between the Inner Chassis Unit and the Rear Panel.

Step 4 Release tabs.

Step 5 Release Rear Panel.



8.9. Disassembly of Main P.C.B.

- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Rear Panel".

Step 1 Detach 10P Cable Wire at the connector (CON2) on SMPS P.C.B..

Step 2 Detach 24P FFC at the connector (P2005) on Main P.C.B..

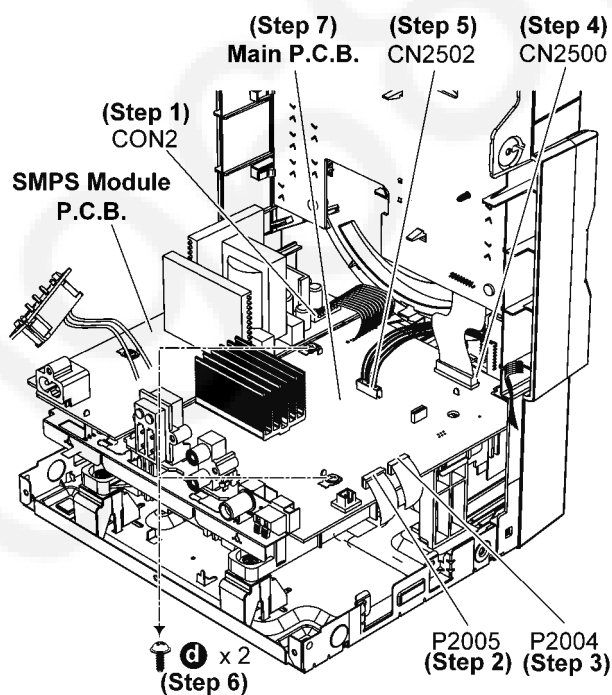
Step 3 Detach 10P FFC at the connector (P2004) on Main P.C.B..

Step 4 Detach 17P FFC at the connector (CN2500) on Main P.C.B..

Step 5 Detach 8P Cable at the connector (CN2502) on Main P.C.B..

Step 6 Remove 2 screws.

Step 7 Remove Main P.C.B..



8.10. Disassembly of SMPS Module and Voltage Selector P.C.B.

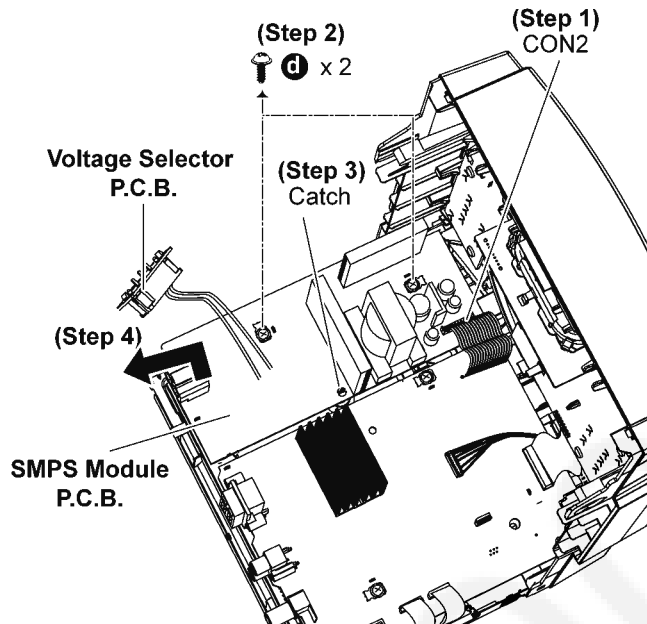
- Refer to “Disassembly of Top Cabinet”.
- Refer to “Disassembly of Rear Panel”.

Step 1 Detach 10P Cable Wire at the connector (CON2) on SMPS Module.

Step 2 Remove 2 screws.

Step 3 Release catch.

Step 4 Remove SMPS Module and Voltage Selector P.C.B..

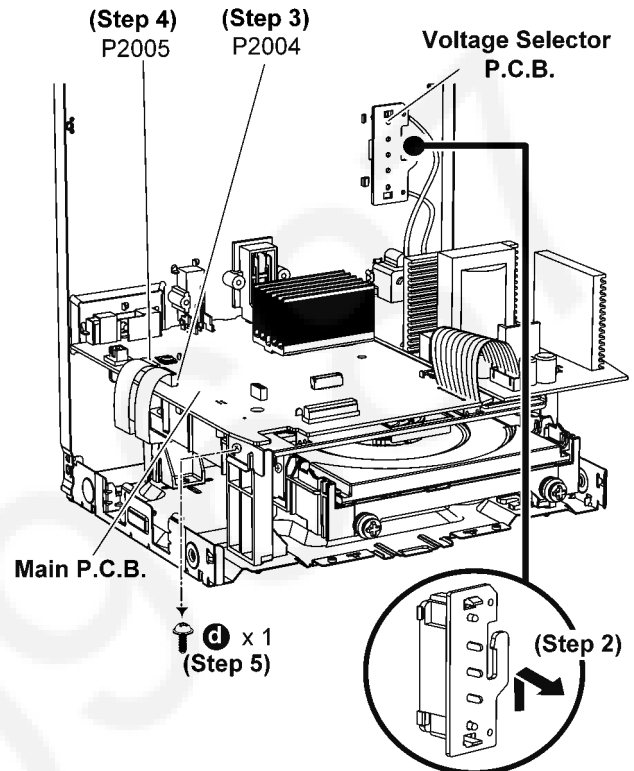


Step 2 Detach Voltage Selector P.C.B..

Step 3 Detach 10P FFC at a connector (P2004) on Main P.C.B..

Step 4 Detach 24P FFC at a connector (P2005) on Main P.C.B..

Step 5 Remove 1 screw.

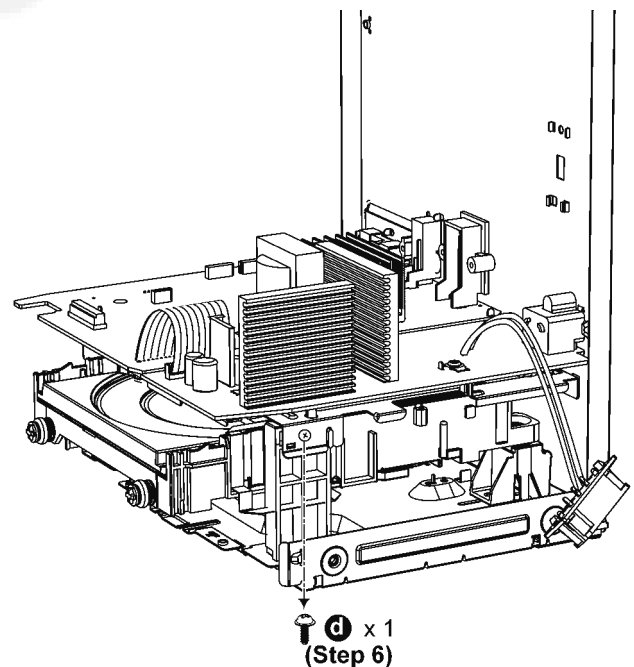
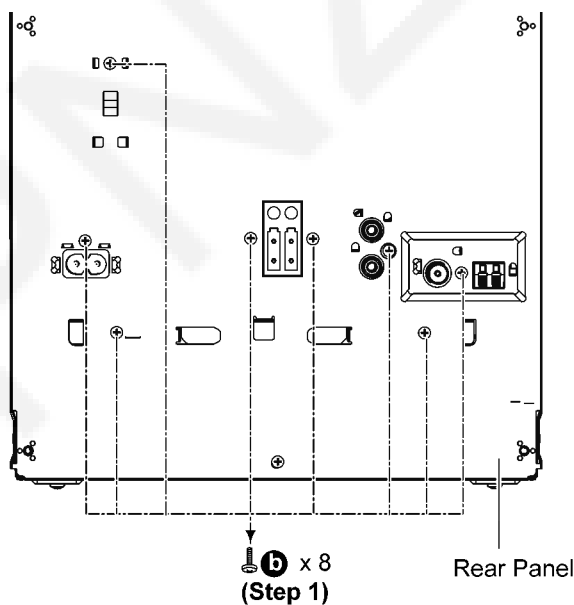


Step 6 Remove 1 screw.

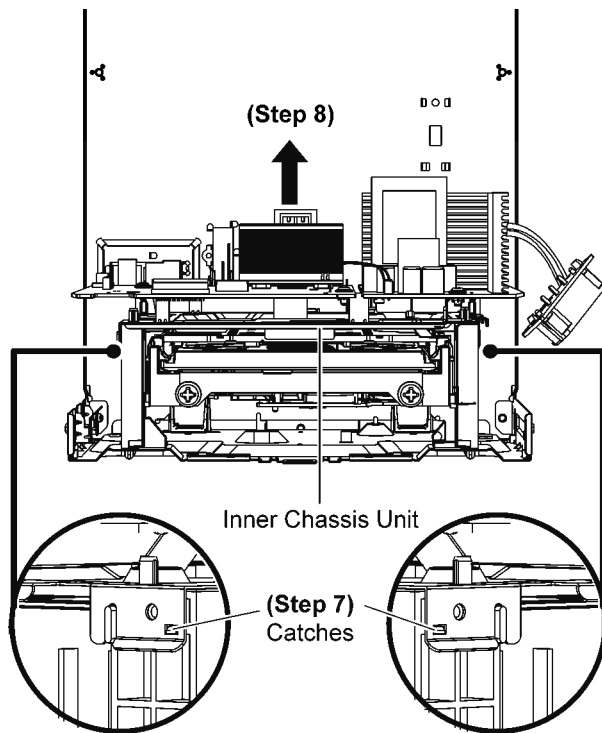
8.11. Disassembly of CD Mechanism Unit

- Refer to “Disassembly of Top Cabinet”.
- Refer to “Disassembly of Front Panel Unit”.

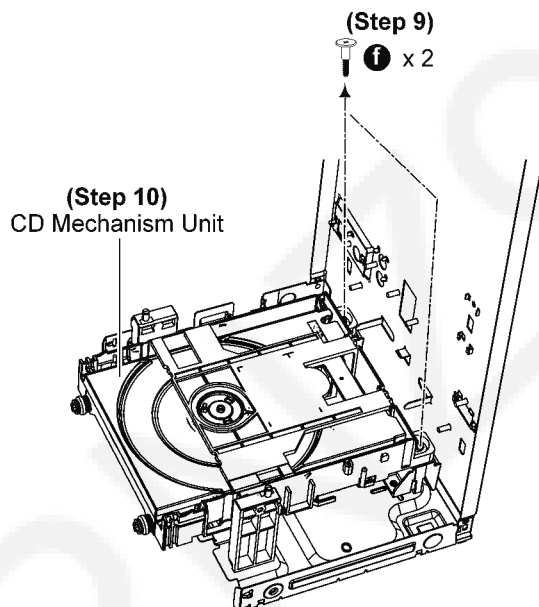
Step 1 Remove 8 screws.



Step 7 Release catches.
Step 8 Detach Inner Chassis Unit.



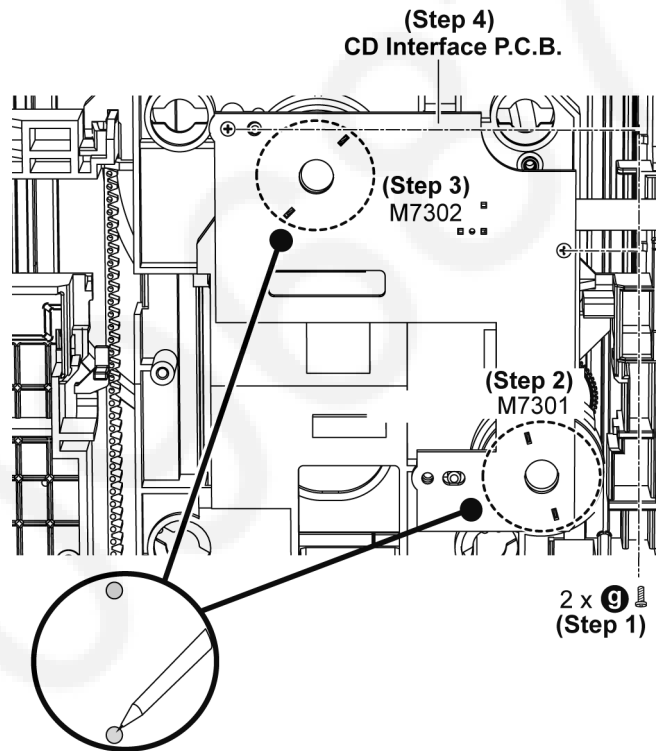
Step 9 Remove 2 screws.
Step 10 Remove CD Mechanism Unit.



8.12. Disassembly of CD Interface P.C.B.

- Refer to "Disassembly of Top Cabinet".
- Refer to "Disassembly of Front Panel Unit".
- Refer to "Disassembly of CD Mechanism Unit".

Step 1 Remove 2 screws.
Step 2 Desolder pins of the motor (M7301).
Step 3 Desolder pins of the motor (M7302).
Step 4 Remove CD Interface P.C.B..



9 Service Position

Note: For description of the disassembly procedures, see the Section 8.

9.1. Checking of Panel P.C.B. and LCD P.C.B.

Step 1 Remove Top Cabinet.

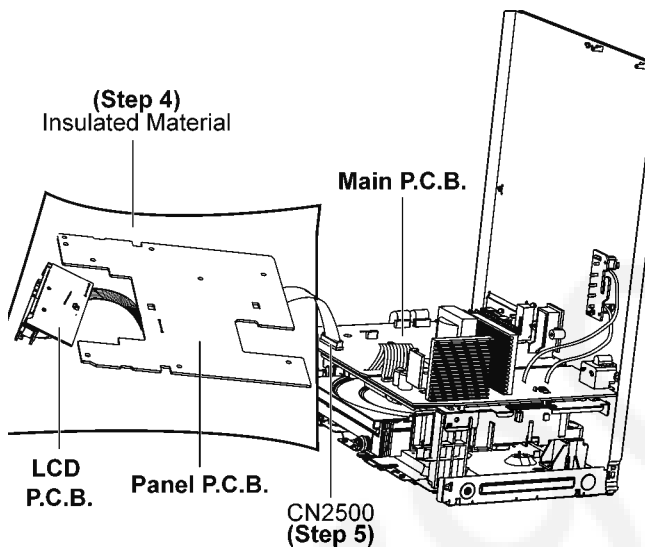
Step 2 Remove Front Panel Unit.

Step 3 Remove the Panel P.C.B. and the LCD P.C.B..

Step 4 Positioned the Panel P.C.B. and LCD P.C.B. on the insulated material as shown.

Step 5 Attach 17P FFC at a connector (CN2500) on the Main P.C.B..

Step 6 Panel P.C.B. and LCD P.C.B. can be checked as diagram shown.



9.2. Checking and Repairing of Main P.C.B. and SMPS P.C.B.

Step 1 Remove Top Cabinet.

Step 2 Remove Front Panel Unit.

Step 3 Remove Rear Panel.

Step 4 Remove Main P.C.B..

Step 5 Remove SMPS Module and Voltage Selector P.C.B..

Step 6 Positioned the Main P.C.B., SMPS Module and the Voltage Selector P.C.B. on the insulated material.

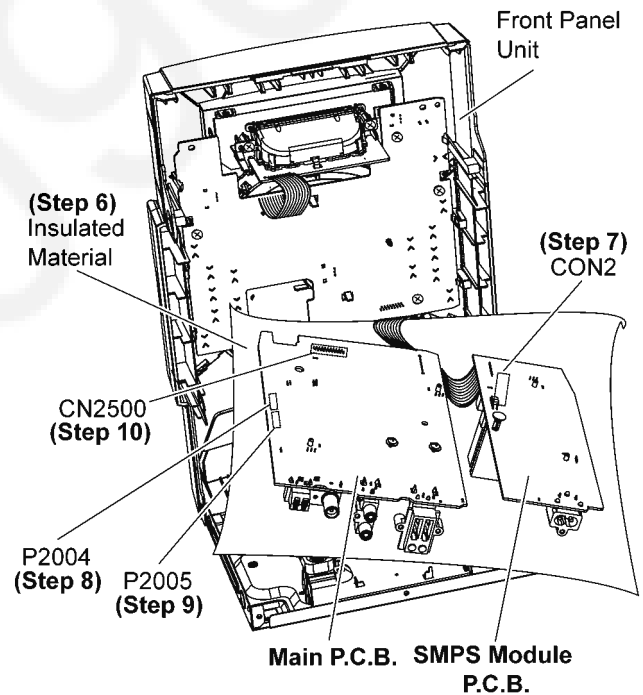
Step 7 Attach 10P Cable at a connector (CON2) on the SMPS Module.

Step 8 Attach 10P FFC at a connector (P2004) on the main P.C.B..

Step 9 Attach 24P FFC at a connector (P2005) on the Main P.C.B..

Step 10 Attach 17P FFC at a connector (CN2500) on the Main P.C.B..

Step 11 Main P.C.B. and SMPS P.C.B. can be checked as diagram shown.

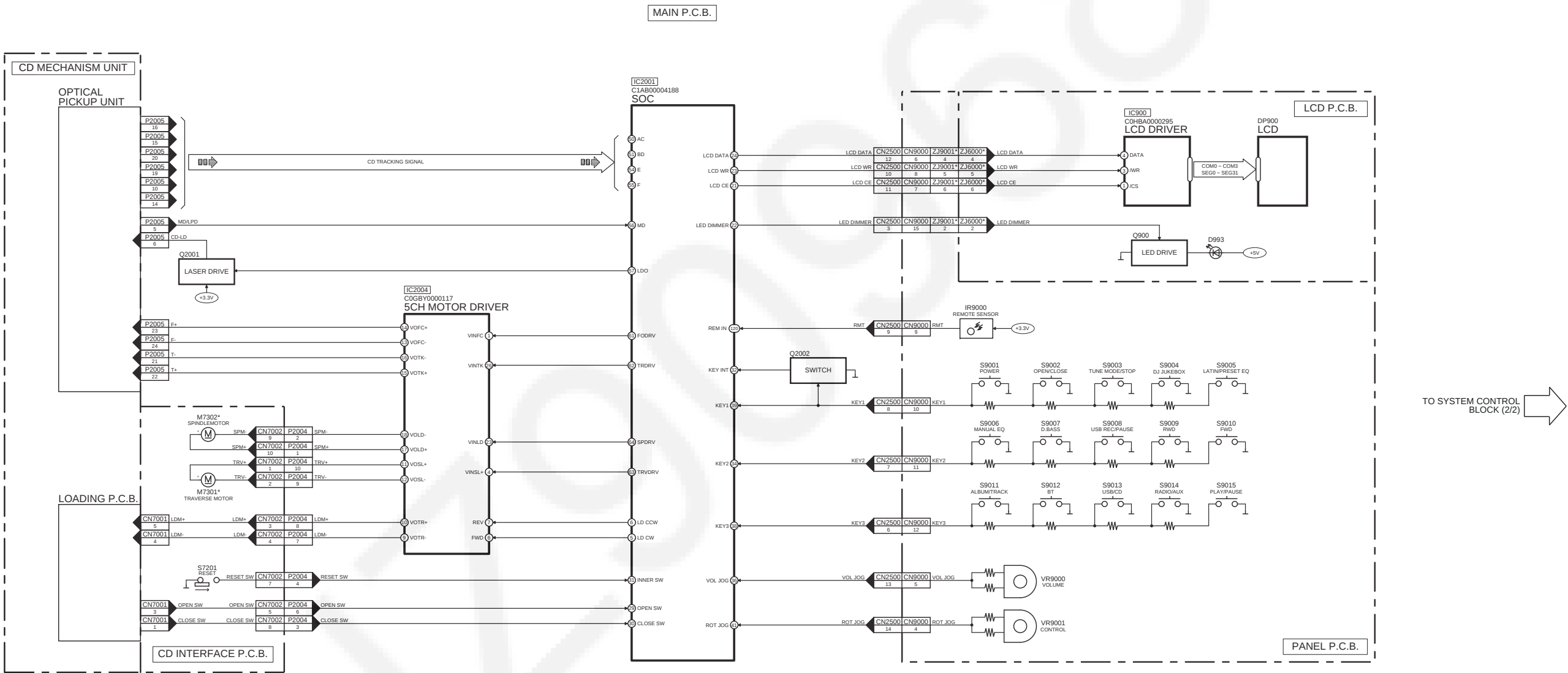


PNZ909687

10 Block Diagram

10.1. System Control

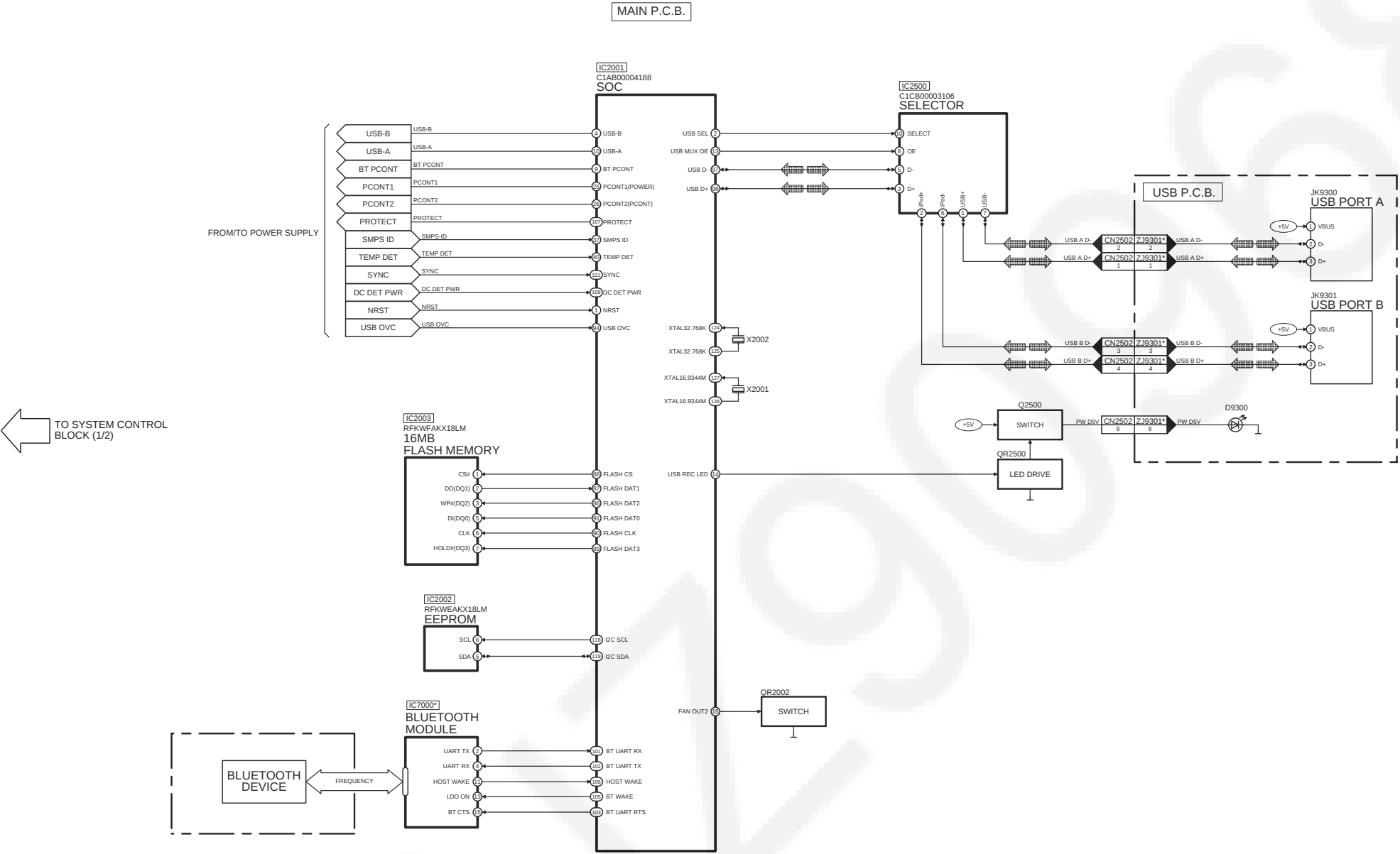
⏮ : CD AUDIO INPUT SIGNAL LINE ⏭ : AUDIO OUTPUT SIGNAL LINE ⏮ : USB SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SA-AKX18PH/PN SYSTEM CONTROL (1/2) BLOCK DIAGRAM

 : CD AUDIO INPUT SIGNAL LINE
  : AUDIO OUTPUT SIGNAL LINE
  : USB SIGNAL LINE

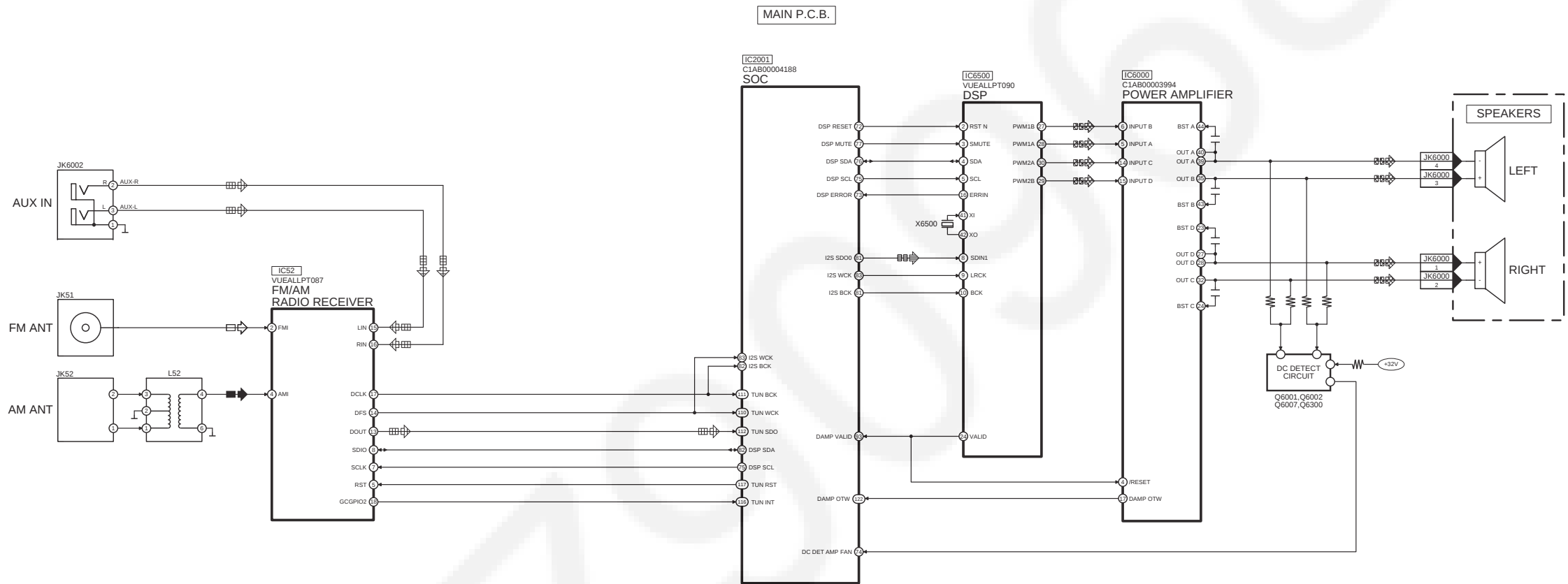


NOTE: “ * ” REF IS FOR INDICATION ONLY

SA-AKX18PH/PN SYSTEM CONTROL (2/2) BLOCK DIAGRAM

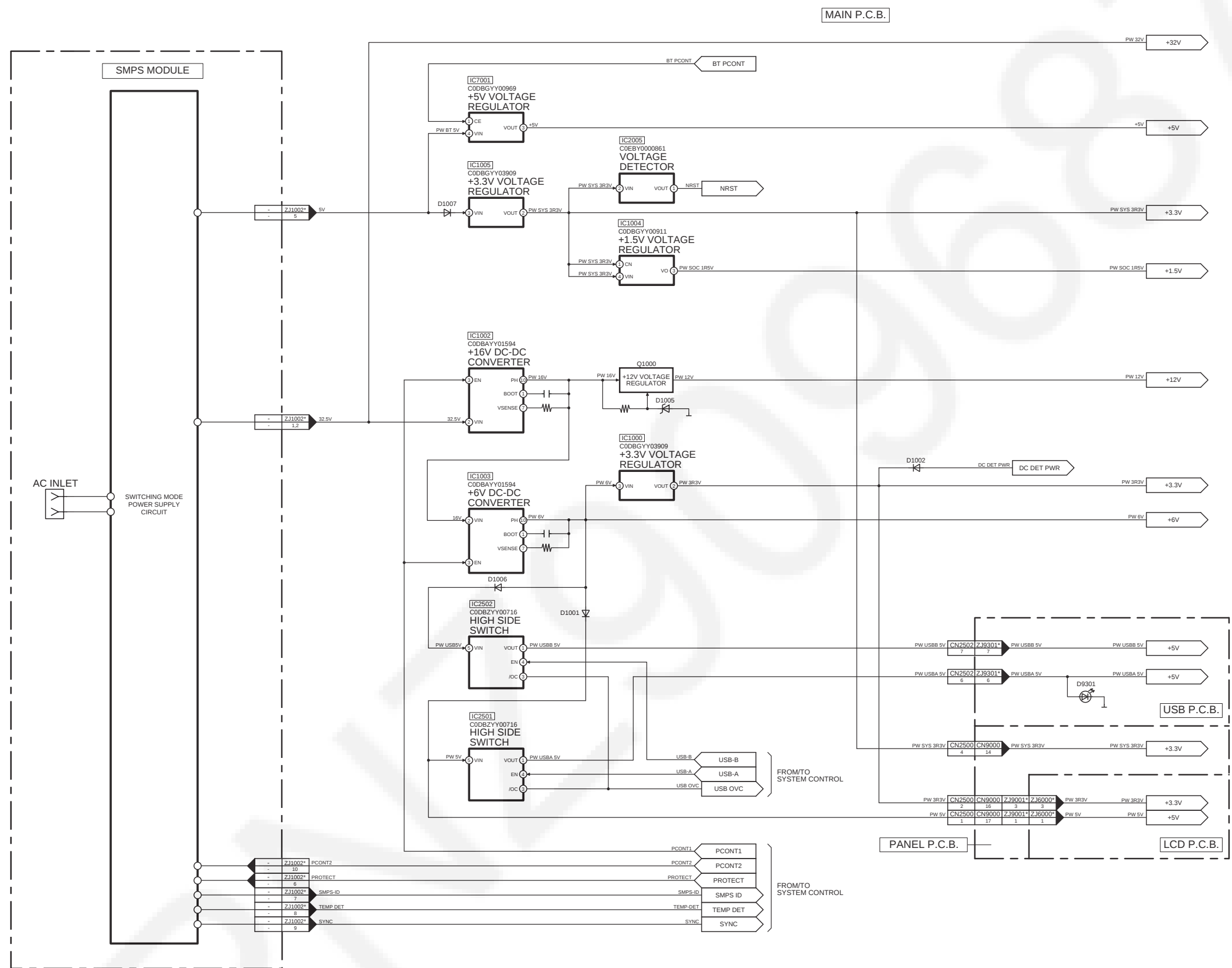
10.2. Audio

 : CD AUDIO INPUT SIGNAL LINE
  : TUNER/AUX AUDIO INPUT SIGNAL LINE
  : AUDIO OUTPUT SIGNAL LINE
  : FM SIGNAL LINE
  : AM SIGNAL LINE



SA-AKX18PH/PN AUDIO BLOCK DIAGRAM

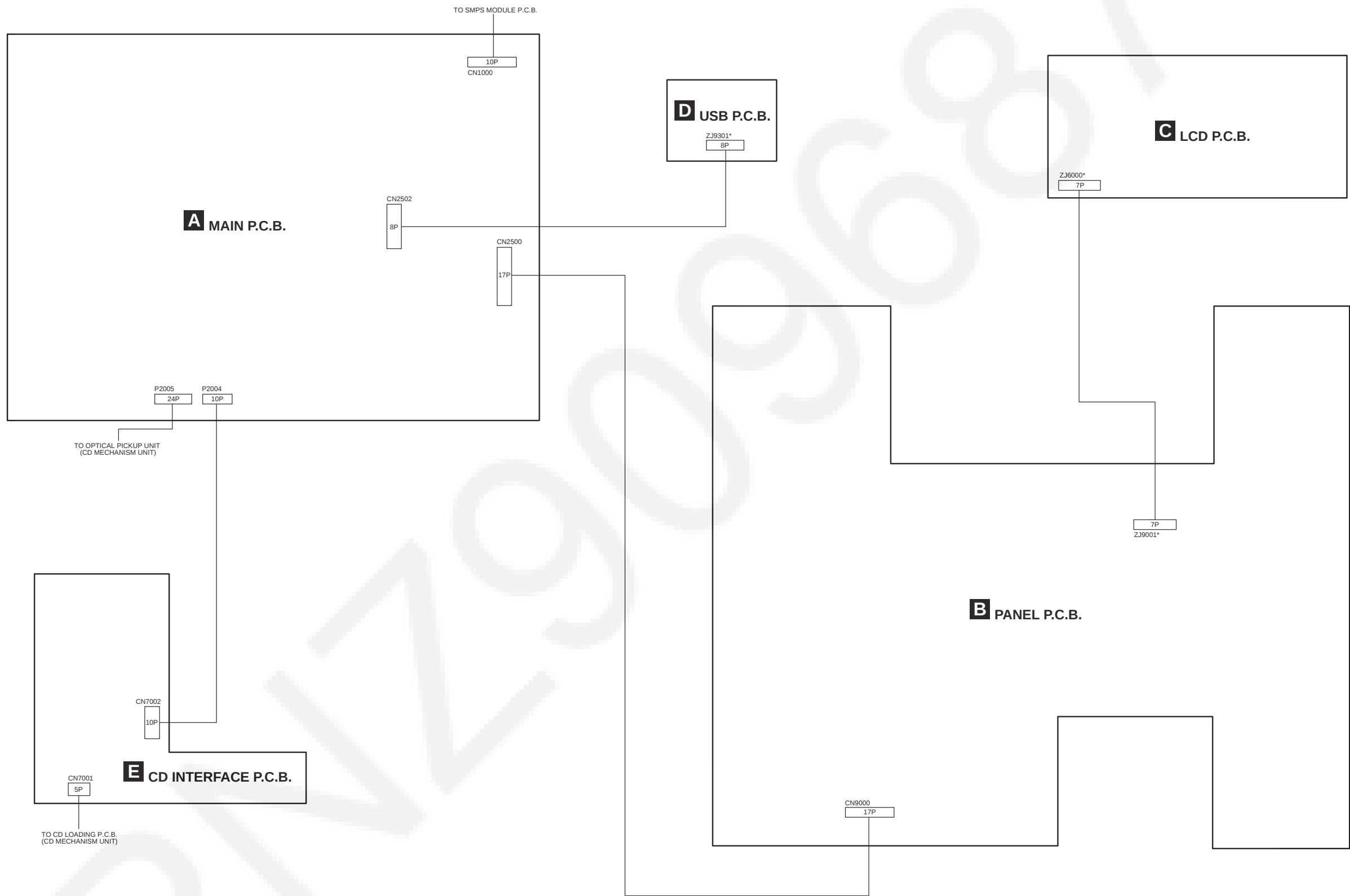
10.3. Power Supply



NOTE: “ * ” REF IS FOR INDICATION ONLY

SA-AKX18PH/PN POWER SUPPLY BLOCK DIAGRAM

11 Wiring Connection Diagram



NOTE: " * " REF IS FOR INDICATION ONLY.

SA-AKX18PH/PN WIRING CONNECTION DIAGRAM

12 Schematic Diagram

12.1. Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

S7201:	Reset switch
S9001:	Power switch (⏻/⏻).
S9002:	Open/Close switch (⏏).
S9003:	Tune Mode / Stop (■) switch.
S9004:	DJ Jukebox switch.
S9005:	Latin Preset EQ switch.
S9006:	MANUAL EQ switch.
S9007:	D.BASS switch.
S9008:	USB REC / PAUSE switch.
S9009:	Rewind (⏮/⏮) switch.
S9010:	Forward (⏭/⏭) switch.
S9011:	Album Track switch.
S9012:	Bluetooth Pairing switch.
S9013:	USB / CD switch.
S9014:	RADIO / AUX switch.
S9015:	Play/Pause (⏮/⏭) switch.
VR9000:	Volume Jog.
VR9001:	Control Jog.

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high quality sound (capacitors), low-noise (resistors), etc are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

• Resistor

Unit of resistance is OHM [Ω] (K=1,000, M=1,000,000).

• Capacitor

Unit of capacitance is μF, unless otherwise noted. F=Farads, pF=pico-Farad.

• Coil

Unit of inductance is H, unless otherwise noted.

• *

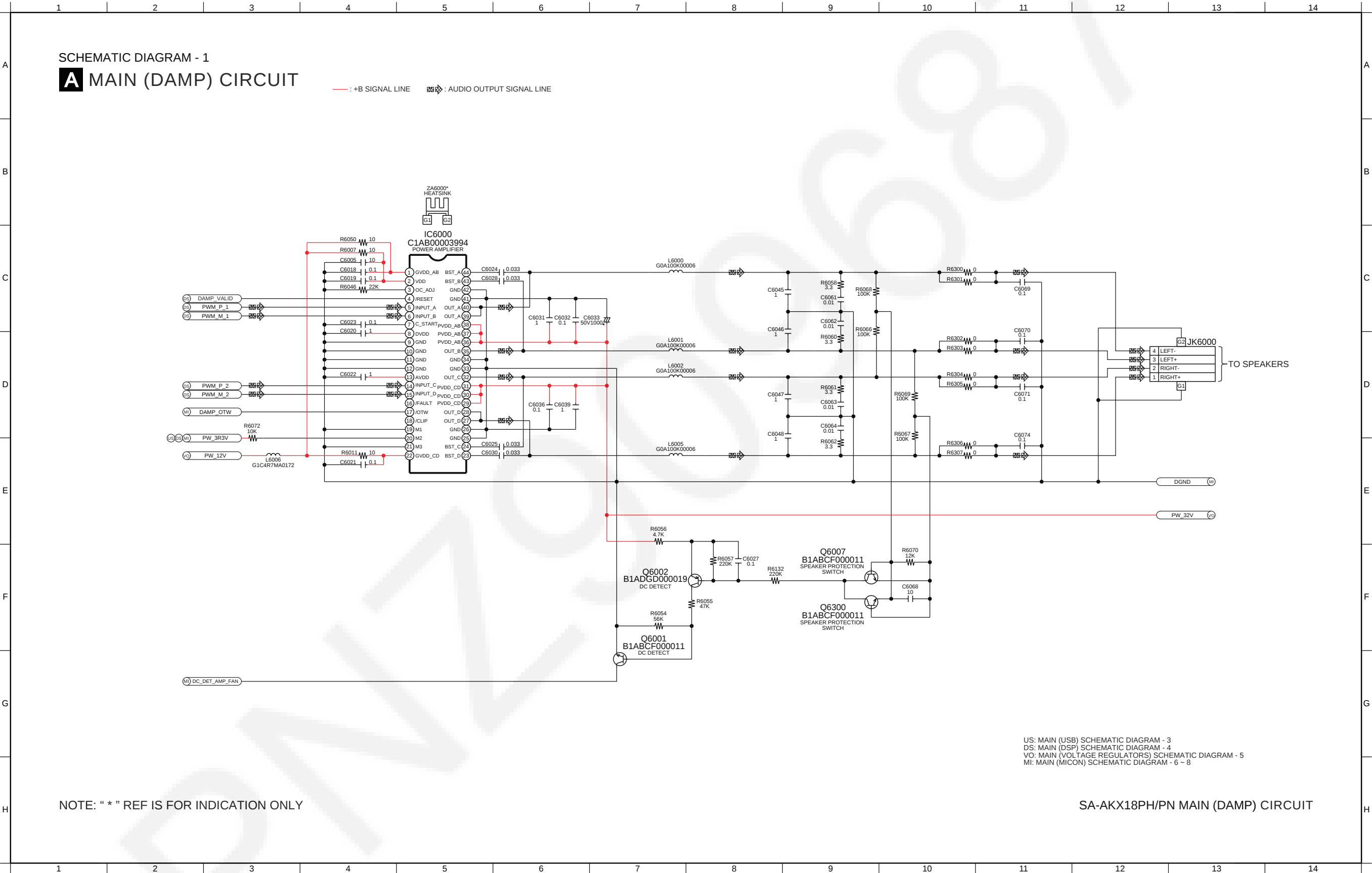
REF IS FOR INDICATION ONLY.

• Voltage and signal line

—	: +B signal line
⏮	: CD Audio input signal line
⏭	: AUX/Tuner Audio input signal line
⏮	: Audio output signal line
⏭	: USB signal line
⏮	: AM signal line
⏭	: FM signal line

PNZ909687

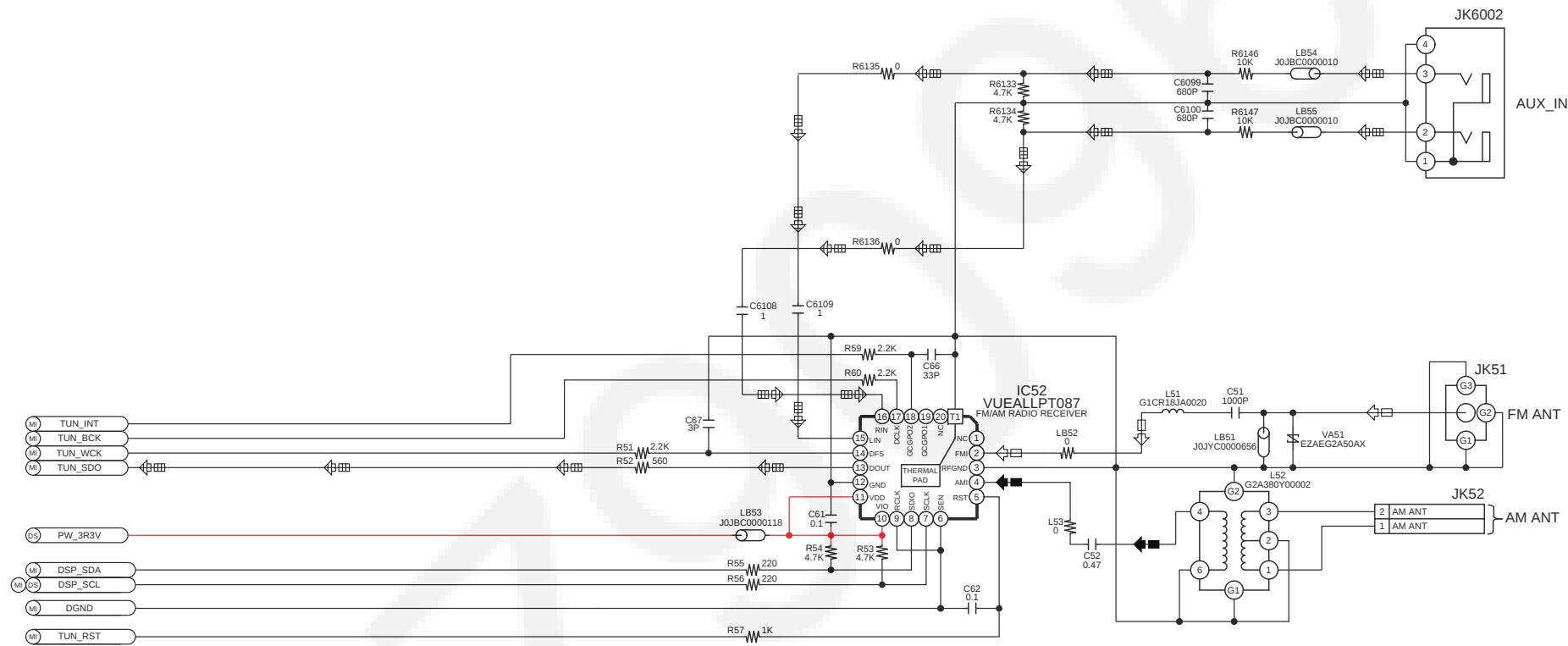
12.2. MAIN (Damp/Tuner/AUX/USB/DSP/Bluetooth/Voltage Regulators/Micon) Circuit



SCHEMATIC DIAGRAM - 2

A MAIN (TUNER / AUX) CIRCUIT

— : +B SIGNAL LINE  : TUNER/AUX AUDIO INPUT SIGNAL LINE  : FM SIGNAL LINE  : AM SIGNAL LINE



DS: MAIN (DSP) SCHEMATIC DIAGRAM - 4
MI: MAIN (MICON) SCHEMATIC DIAGRAM - 6 ~ 8

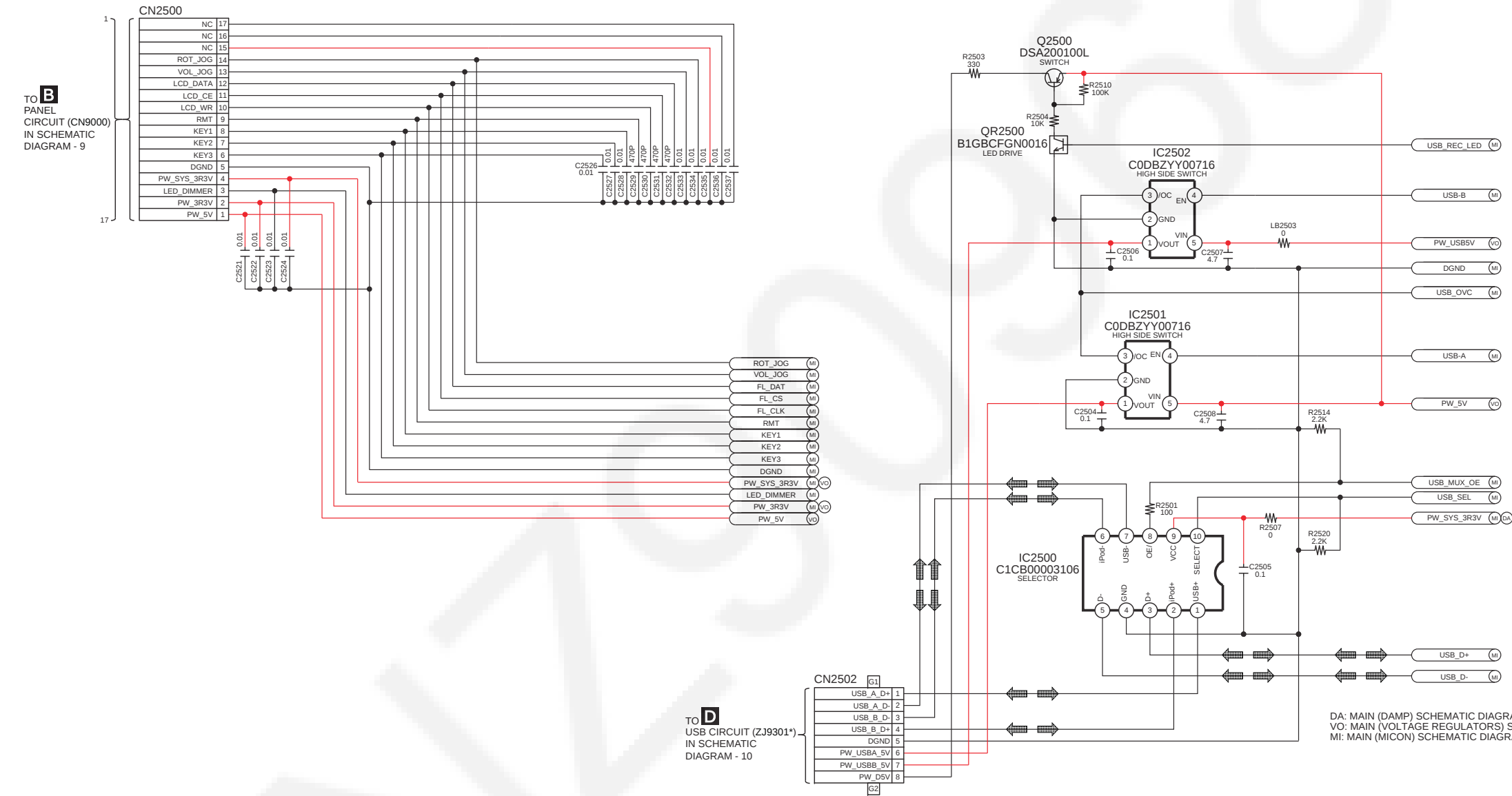
NOTE: “*” REF IS FOR INDICATION ONLY

SA-AKX18PH/PN MAIN (TUNER / AUX) CIRCUIT

SCHEMATIC DIAGRAM - 3

A MAIN (USB) CIRCUIT

: +B SIGNAL LINE : USB SIGNAL LINE



NOTE: " * " REF IS FOR INDICATION ONLY

SA-AKX18PH/PN MAIN (USB) CIRCUIT

A MAIN (DSP) CIRCUIT



1	2	3
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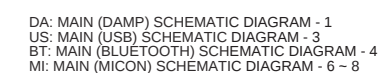
A MAIN (BLUETOOTH) CIRCUIT



SA-AKX18PH/PN MAIN (DSP) / MAIN (BLUETOOTH) CIRCUIT

A MAIN (VOLTAGE REGULATORS) CIRCUIT

— : +B SIGNAL LINE



SA-AKX18PH/PN MAIN (VOLTAGE REGULATORS) CIRCUIT

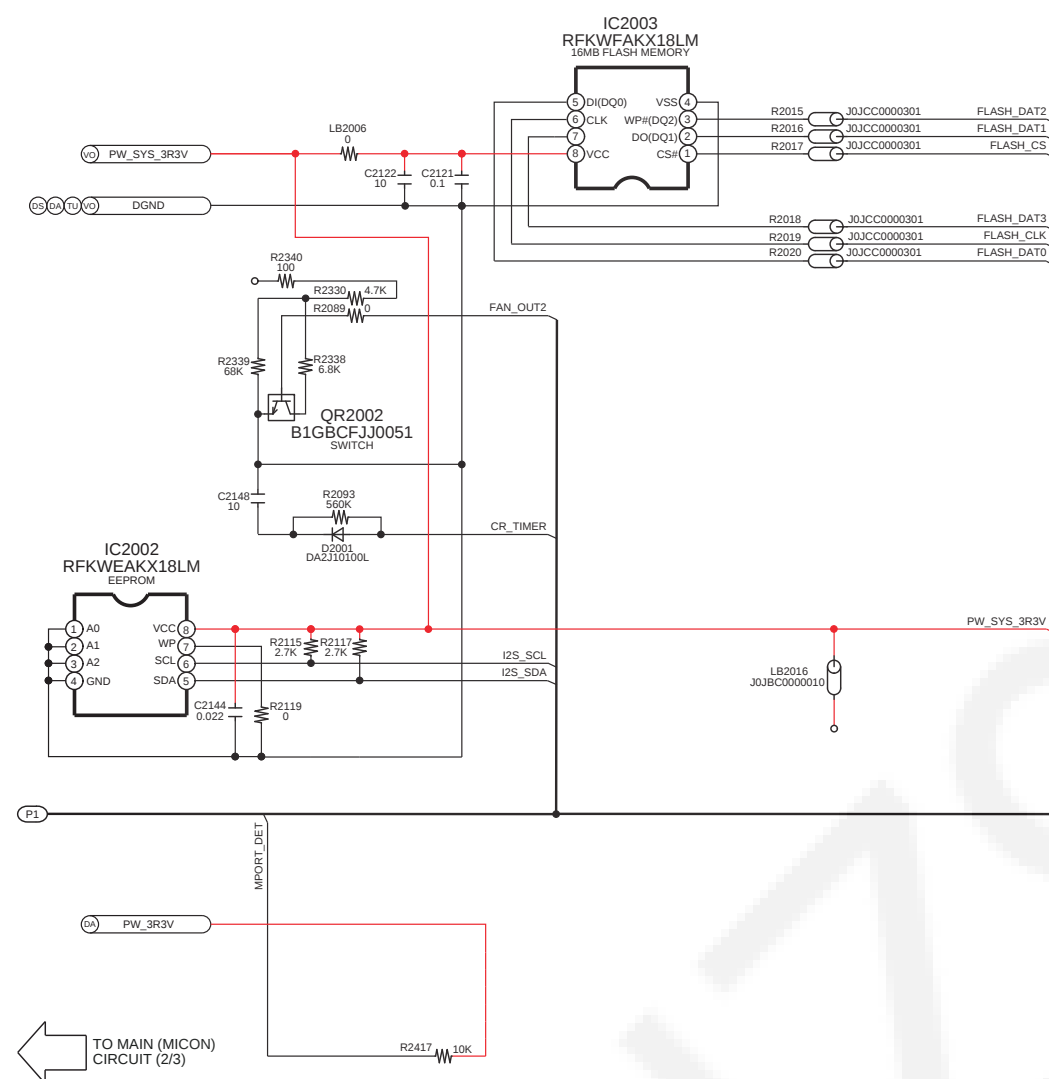
A MAIN (MICON) CIRCUIT



SCHEMATIC DIAGRAM - 8

A MAIN (MICON) CIRCUIT

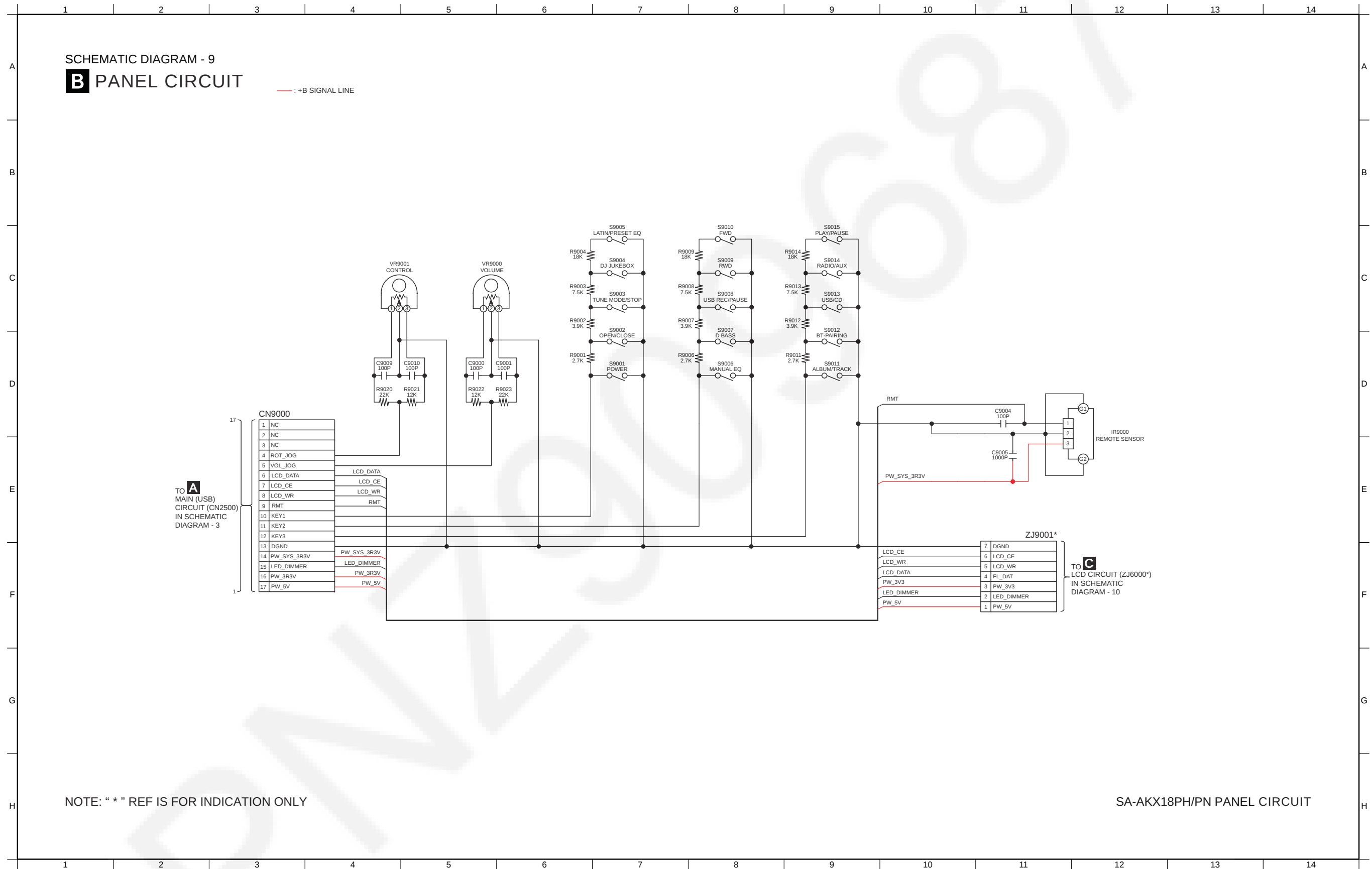
— : +B SIGNAL LINE



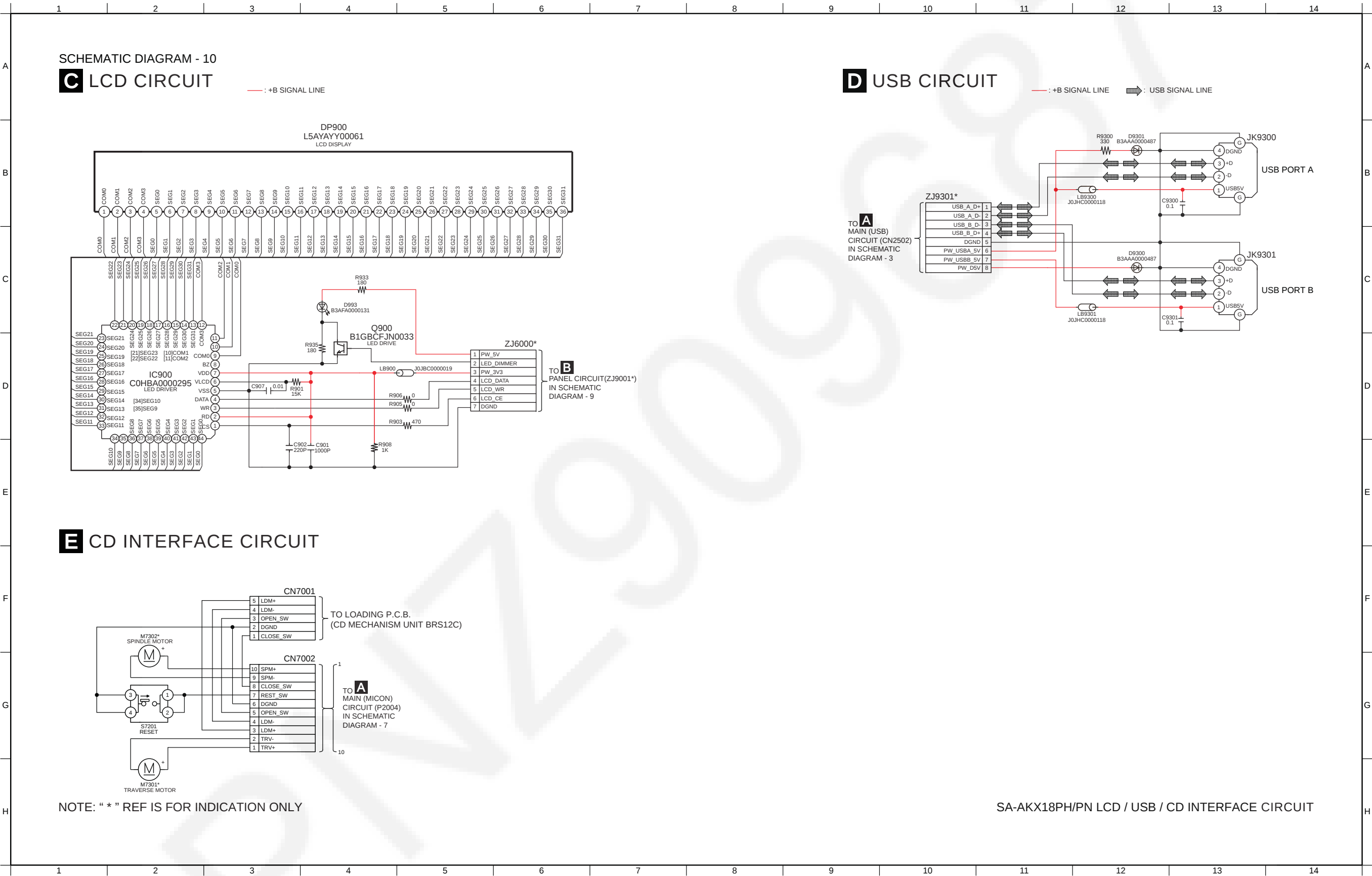
DA: MAIN (DAMP) SCHEMATIC DIAGRAM - 1
 TU: MAIN (TUNER/AUX) SCHEMATIC DIAGRAM - 2
 DS: MAIN (DSP) SCHEMATIC DIAGRAM - 4
 VO: MAIN (VOLTAGE REGULATORS) SCHEMATIC DIAGRAM - 5

1/3 2/3 3/3 SA-AKX18PH/PN MAIN (MICON) CIRCUIT

12.3. Panel Circuit

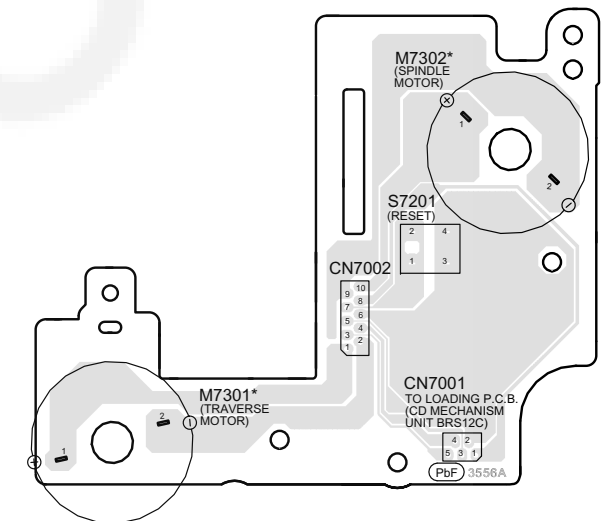
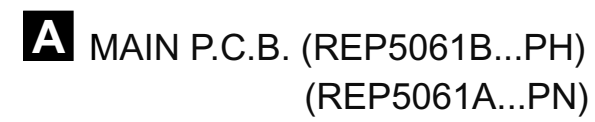


12.4. LCD, USB & CD Interface Circuit

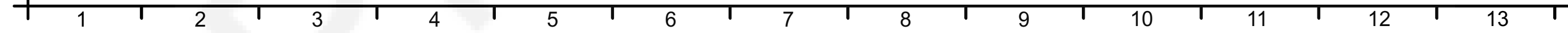


13.1. Main P.C.B. & CD Interface P.C.B.

13.1. Main P.C.B. & CD Interface P.C.B.

SA-AKX18PH/PN
MAIN / CD INTERFACE P.C.B.

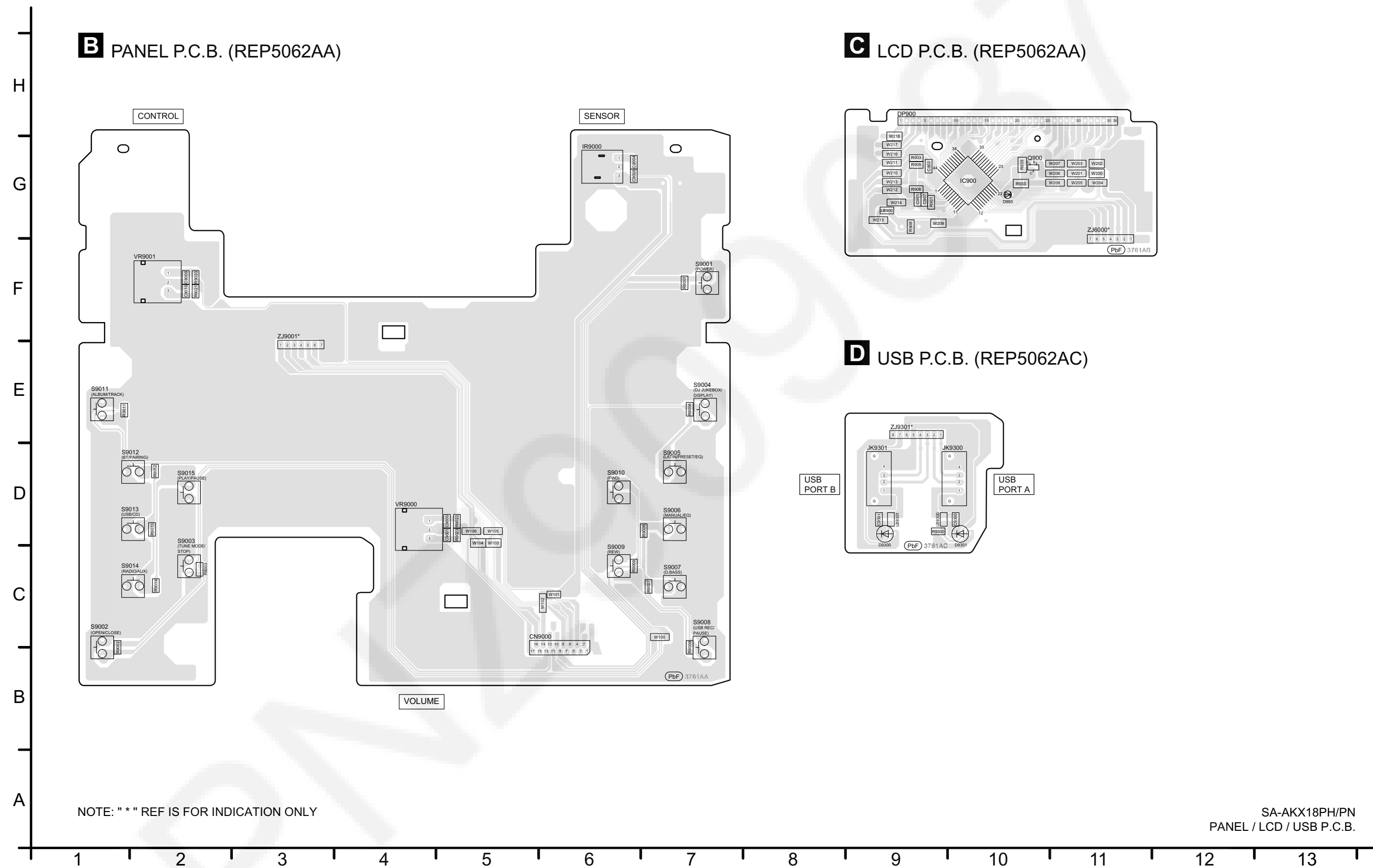
A B C D E F G H



NOTE: " * " REF IS FOR INDICATION ONLY

50

13.2. Panel, LCD & USB P.C.B.



14 Appendix Information of Schematic Diagram

14.1. Voltage Chart

Note:

- Indication Voltage Values are in standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
- Therefore, there may exist some errors in voltage values, depending on the internal impedance of the DC circuit tester.
- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point because it may differ from actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

14.1.1. Main P.C.B. (1/3)

REF NO.	IC52																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TUNER	0	0.6	0	0	3.2	0	3.2	3.2	0	3.3	3.3	0	1.5	1.6	0	0	1.6	3.3	0	0
STANDBY	0	0	0	0	3.2	0	3.2	3.2	0	3.2	3.3	0	1.6	1.6	0	0	1.6	3.3	0	0

REF NO.	IC1000																			
MODE	1	2	3																	
CD PLAY	0	3.3	5.9																	
STANDBY	0	3.3	5.9																	

REF NO.	IC1002																			
MODE	1	2	3	4	5	6	7	8	9	10										
CD PLAY	21.8	32.7	2.9	2.3	0.5	2.6	0.8	0.9	0	15.6										
STANDBY	21.8	32.7	2.9	2.3	0.5	2.6	0.8	0.9	0	15.6										

REF NO.	IC1003																			
MODE	1	2	3	4	5	6	7	8	9	10										
CD PLAY	12	13.4	2.9	2.4	0.5	2.6	0.8	0.8	0	5.9										
STANDBY	12	13.4	2.9	2.4	0.5	2.6	0.8	0.8	0	5.9										

REF NO.	IC1004																			
MODE	1	2	3	4																
CD PLAY	3.2	0	1.6	3.2																
STANDBY	3.2	0	1.6	3.2																

REF NO.	IC1005																			
MODE	1	2	3																	
CD PLAY	0	3.2	4.2																	
STANDBY	0	3.2	4.2																	

REF NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.2	3.2	3.2	3.2	3.1	3.2	0	0	0	1.1	3.2	0	0	0	0	0	3.2	1.6	0	0
STANDBY	3.2	3.2	3.2	3.2	0	0	0	0	3.1	0	3.2	0	0	0	0	0	3.2	1.6	0	0

REF NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	2.6	3.2	0.1	3.2	2.9	2.9	0	0	3.3	0	3.3	0.1	1.6	1.6	0.5	0.9	0.8	1.6	1.6	1
STANDBY	2.6	3.2	0	3.2	2.9	2.9	0	0	3.3	0	3.3	0	1.6	1.6	0	1.6	0.8	1.6	1.6	1

REF NO.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	0	1.6	1.6	2	2	3.2	3.2	3.2	3.2	1.6	1.6	0	1.6	1.6	0	1.9	1.6	1.7	1.7
STANDBY	1	0	1.6	1.6	1.6	2	3.2	1.5	3.2	1.6	1.6	1.6	0	1.6	1.6	0	3.3	0	1.6	1.6

REF NO.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	1.6	1.6	1.6	1.6	1.6	0	1.6	1.6	1.6	1.6	0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	0
STANDBY	1.6	1.6	1.6	1.6	1.6	0	1.6	1.5	1.5	1.3	0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	0

SA-AKX18PH/PN MAIN P.C.B.

14.1.2. Main P.C.B. (2/3)

REF NO.	IC2001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0.7	1.6	1.6	0	0	2.9	1.1	2.7	2.9	0.2	0.2	1.6	3.3	3.3	0	3.2	0	0	0	0
STANDBY	0	1.6	1.6	0	0	3.2	1.6	3.2	3.2	0	0	1.6	3.3	3.3	0	3.2	0	0	0	1.2
REF NO.	IC2001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CD PLAY	3.2	3.2	0	0	3.2	0	0	3.2	3.2	1.6	1.6	1.6	0	0	0	3.3	3.2	3.2	3.2	3.2
STANDBY	2	2	2	0	3.1	2	0.2	3.2	1.2	1.2	1.1	1.2	3.2	3.2	3.2	1.2	1.4	3.2	3.2	3.2
REF NO.	IC2001																			
MODE	121	122	123	124	125	126	127	128												
CD PLAY	1.8	3.3	0	1.5	1.4	0	1.4	1.4												
STANDBY	1.8	1	0	1.4	1.5	1.5	1.4	1.4												
REF NO.	IC2004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	5.9	2.6	1.6	2.6	0	0	5.9	0	0	3.1	2.9	2.9	3.1	3	3.1	3.6	2.5	5.9	2.4
STANDBY	1.6	5.9	2.6	1.6	2.6	0	0	5.9	0	0	3	3	3	3	3	3	3	3	5.9	2.4
REF NO.	IC2004																			
MODE	21	22	23	24	25	26	27	28	29	30										
CD PLAY	1.5	0	1.8	5.9	5.9	1.6	1.6	3.3	0	0										
STANDBY	1.5	0	1.6	5.9	5.9	1.6	1.6	3.3	0	0										
REF NO.	IC2005																			
MODE	1	2	3	4																
CD PLAY	3.2	3.2	0	0																
STANDBY	3.2	3.2	0	0																
REF NO.	IC2500																			
MODE	1	2	3	4	5	6	7	8	9	10										
CD PLAY	1.6	1.5	1.5	0	1.5	1.5	1.5	0	3.3	3.2										
STANDBY	1.5	1.5	1.5	0	1.5	1.5	1.5	0	3.3	3.2										
REF NO.	IC2501																			
MODE	1	2	3	4	5															
CD PLAY	0	0	1.5	2.3	5.2															
STANDBY	0	0	1.5	2.4	5.2															
REF NO.	IC2502																			
MODE	1	2	3	4	5															
CD PLAY	5.5	0	1.5	3.2	5.5															
STANDBY	5.5	0	1.5	3.2	5.5															
REF NO.	IC6000																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	12.5	12.5	1.2	3.3	1.7	1.7	2.7	2.7	3.3	0	0	0	7.8	1.7	1.7	3.3	3.3	3.3	0	2.8
STANDBY	12.6	12.5	1.2	3.3	1.7	1.7	2.7	3.3	0	0	0	0	7.8	1.7	1.7	3.3	3.3	3.3	0	2.8

SA-AKX18PH/PN MAIN P.C.B.

14.1.3. Main P.C.B. (3/3)

REF NO.	IC6000																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	12.6	27.9	27.7	0	0	16.3	16.3	32.6	32.6	1.4	16.3	0	0	16.3	32.6	32.6	32.6	16.3	16.3
STANDBY	0	12.6	27.9	27.9	0	0	16.3	16.3	32.6	32.6	2.3	16.3	0	0	16.3	32.6	32.6	32.6	16.3	16.3
REF NO.	IC6000																			
MODE	41	42	43	44																
CD PLAY	0	0	27.8	27.8																
STANDBY	0	0	27.9	27.9																
REF NO.	IC6500																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	3.2	3.2	3.2	3.2	0	0	0.8	1.6	1.6	3.3	0	1.5	1.5	0	0	0	0	1.7	1.7
STANDBY	0	3.2	3.2	3.2	3.2	0	0	0	1.6	1.6	3.3	0	1.5	1.5	0	0	0	0	1.7	1.7
REF NO.	IC6500																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.3	0	1.5	3.3	0	3.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	0	0	0	0	3.3
STANDBY	3.3	0	1.5	3.3	0	3.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	0	0	0	0	3.3
REF NO.	IC6500																			
MODE	41	42	43	44	45	46	47	48												
CD PLAY	1.4	1.5	0	0	3.3	0	0	0												
STANDBY	1.4	1.5	0	0	0	0	0	0												
REF NO.	IC7000																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0	3.2	0	3.2	0	0	0	0	4.6	0	0	0	3.2	0	0	0				
STANDBY	0	3.2	0	3.2	0	0	0	0	4.6	0	0	0	3.2	0	0	0				
REF NO.	IC7001																			
MODE	1	2	3	4																
CD PLAY	3.1	0	4.6	5																
STANDBY	3.1	0	4.6	5																
REF NO.	Q1000				Q1700				Q2001				Q2002				Q2500			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	12.8	16.1	13.4		3.3	3.3	0.3		2.9	1.9	2.2		0	0.1	0.6		5.2	0	5.2	
STANDBY	12.8	16.1	13.4		3.3	3.3	0.3		2.9	1.9	2.2		0	0.1	0.6		5.2	0	5.2	
REF NO.	Q6001				Q6002				Q6007				Q6300				QR1003			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	3.2	0		32.6	0	12		16.3	11.7	0		16.3	11.7	0		0	0	2.2	
STANDBY	0	3.2	0		32.6	0	12		16.3	11.7	0		16.3	11.7	0		0	0	2.2	
REF NO.	QR2002				QR2500															
MODE	E	C	B		E	C	B													
CD PLAY	0	0	0		0	5.2	0													
STANDBY	0	0	0		0	5.2	0													

SA-AKX18PH/PN MAIN P.C.B.

14.1.4. LCD P.C.B.

REF NO.	IC900																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2.6	3.3	0.1	3.2	0	2.9	3.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
STANDBY	2.6	3.3	0.1	3.2	0	2.9	3.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

REF NO.	IC900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
STANDBY	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

REF NO.	IC900																			
MODE	41	42	43	44																
CD PLAY	1.5	1.5	1.5	1.5																
STANDBY	1.5	1.5	1.5	1.5																

REF NO.	Q900																			
MODE	E	C	B																	
CD PLAY	0	0.1	3.2																	
STANDBY	0	0.1	3.2																	

SA-AKX18PH/PN LCD P.C.B.

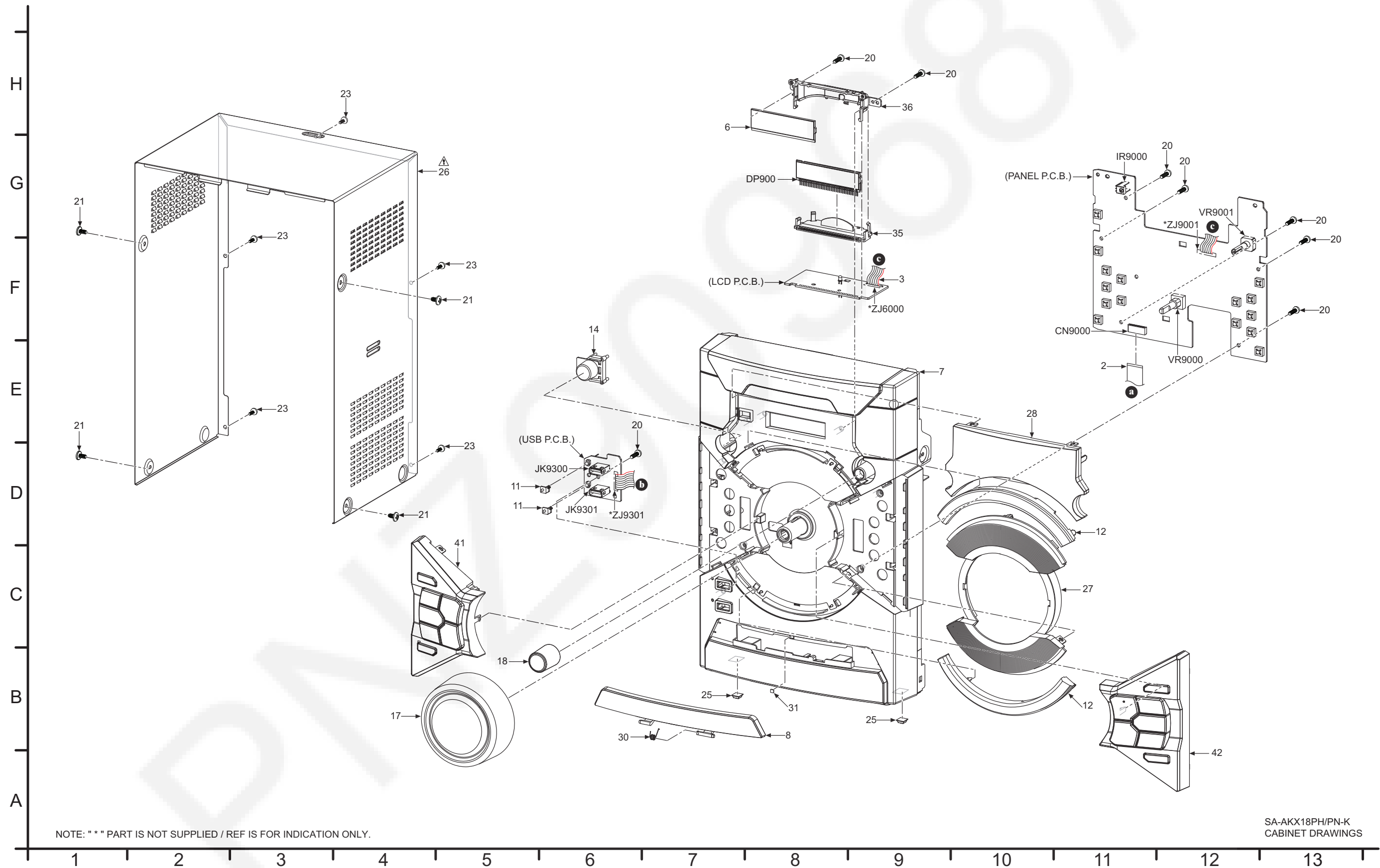
14.1.5. Waveform Table

WF No. IC2001-124 (PLAY) 2.1Vp-p(10msec/div)	WF No. IC2001-125 (PLAY) 3.4Vp-p(20usec/div)	WF No. IC6000-5,6,14,15 (PLAY) 4.2Vp-p(5msec/div)	WF No. IC6000-27 (PLAY) 58Vp-p(1usec/div)
WF No. IC6500-27,30 (PLAY) 5Vp-p(1usec/div)	WF No. IC6500-41 (PLAY) 250Vp-p(20nsec/div)	WF No. IC6500-42 (PLAY) 1.5Vp-p(2nsec/div)	

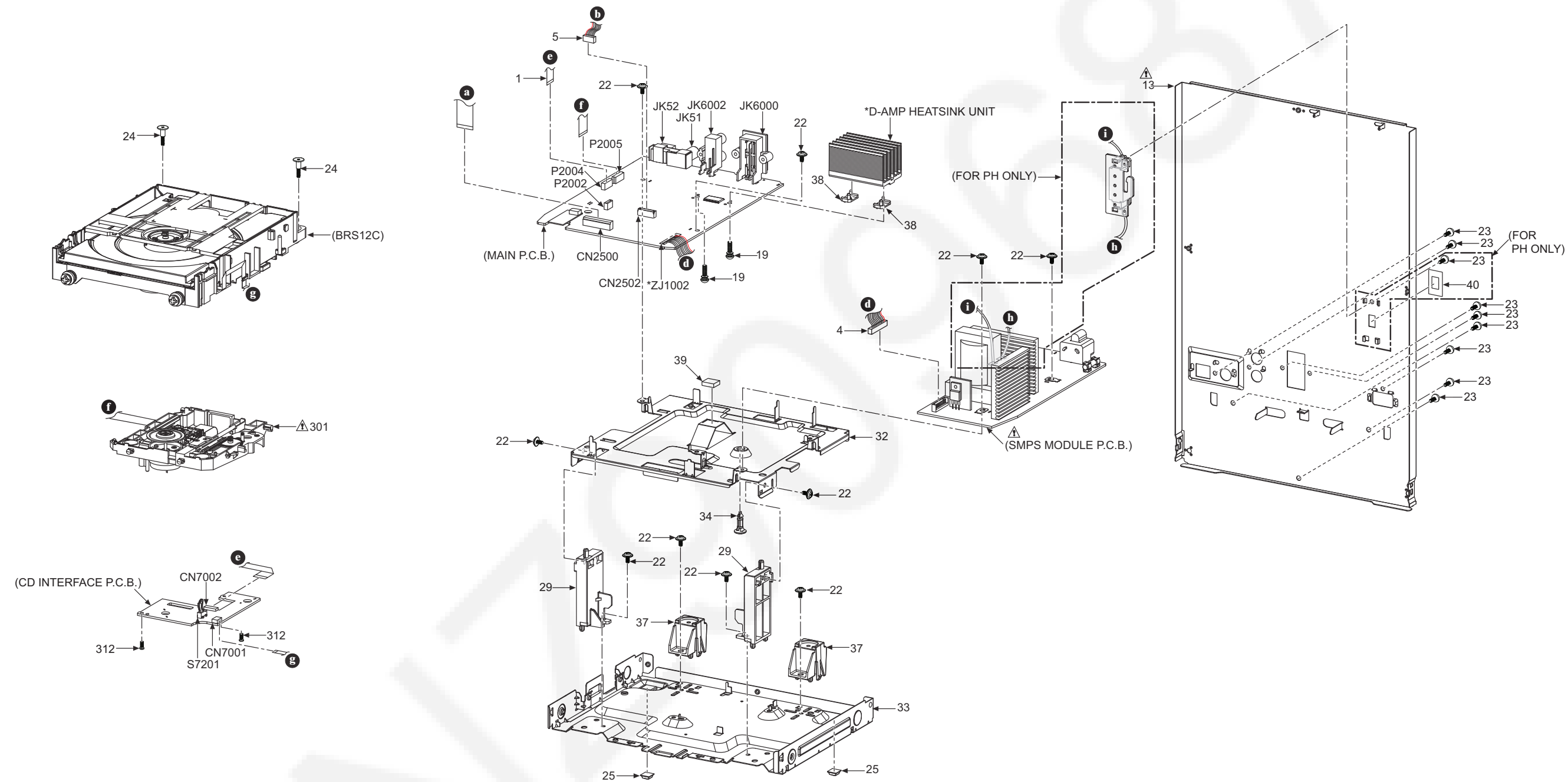
15 Exploded View and Replacement Parts List

15.1. Exploded View and Mechanical Replacement Part List

15.1.1. Cabinet Parts Location



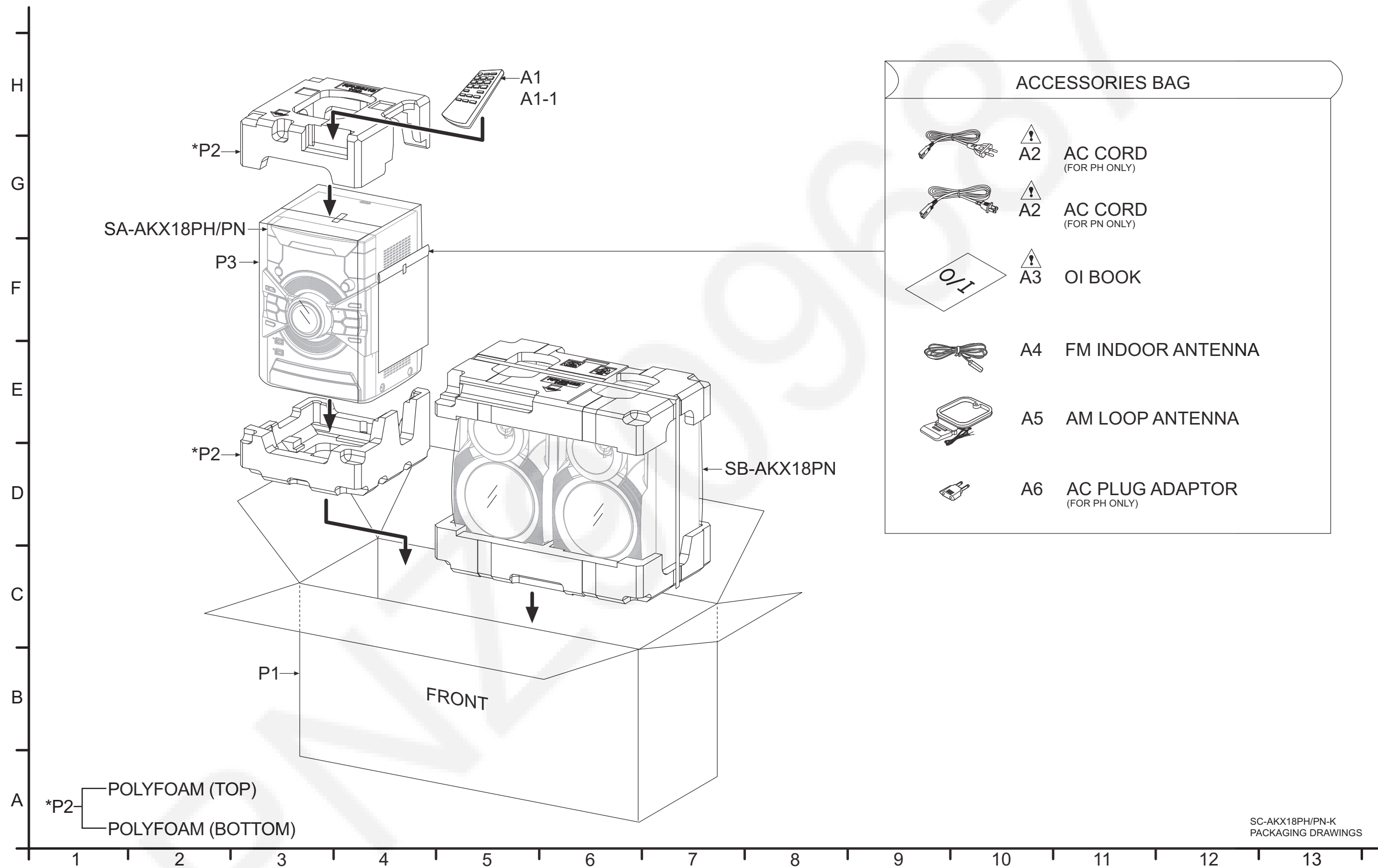
H
G
F
E
D
C
B
A



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

SA-AKX18PH/PN-K
CABINET DRAWINGS

15.1.2. Packaging



SC-AKX18PH/PN-K
PACKAGING DRAWINGS

15.1.3. Mechanical Replacement Part 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	REE1730	10P FFC (MAIN-CD INTERFACE)	1	
	2	REE1733	17P FFC (MAIN-PANEL)	1	
	3	REX1588	7P WIRE (PANEL-LCD)	1	
	4	REX1683	10P WIRE (SMPS-MAIN)	1	
	5	REX1688	8P WIRE (USB-MAIN)	1	
	6	RMXX1008-2	LCD DIFFUSER SHEET	1	
	7	RFKGAKX18LK	FRONT PANEL ASS'Y	1	
	8	RGK2544-K	CD LID	1	
	11	RGL0800-Q	USB REC LIGHT PIECE	2	
	12	RGK2449-K	RING ORNAMENT TOP/BOTTOM	2	
	13	RGR0443M-A1A	REAR PANEL	1	PN
	13	RGR0443N-A2A	REAR PANEL	1	PH
	14	RGU2948-K	POWER BUTTON	1	
	17	RGW0428-S2	VOLUME KNOB	1	
	18	RGW0435-K	SKIP KNOB	1	
	19	RHD26043-1	SCREW	2	
	20	RHD26046-L	SCREW	8	
	21	RHD30007-K2J	SCREW	4	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	22	RHD30111-31	SCREW	10	
	23	RHD30119-S	SCREW	13	PN
	23	RHD30119-S	SCREW	14	PH
	24	RHD30119-S	SCREW	2	
	25	RKAX0042-K	LEG CUSHION	4	
	26	RKM0713-K1	TOP CABINET	1	
	27	RKW1027-Q	CENTER ORNAMENT	1	
	28	RKW1063-Q	FL WINDOW	1	
	29	RMA2442	CHASSIS SUPPORT	2	
	30	RMB0930	CD LID SPRING	1	
	31	RMGX0033A-K	CD LID CUSHION	1	
	32	RMK0837-1	INNER CHASSIS	1	
	33	RMKX1031A-1	BOTTOM CHASSIS	1	
	34	RMNX0298	PCB SPACER	1	
	35	RMNX1011-W2	LCD HOLDER BASE	1	
	36	RMNX1012A-W2	LCD HOLDER COVER	1	
	37	RMQ2134	MECHA HOLDER	2	
	38	RMZX1022-1	HEATSINK SPACER	2	
	39	RSC1228	RADIATOR SHEET	1	
	40	RMN1079	VOLTAGE SELECTOR COVER PC SHEET	1	PH
	41	RFKNAKX18PNL	LEFT BUTTON ASS'Y	1	
	42	RFKNAKX18PNR	RIGHT BUTTON ASS'Y	1	
			TRAVERSE DECK		
	301	RAE1044Z-V	TRAVERSE UNIT	1	
	312	XTN2+6GFJ	SCREW	2	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PACKING MATERIALS		
	P1	RPG0K57	PACKING CASE	1	PN
	P1	RPG0K58	PACKING CASE	1	PH
	P2	RPN2641	POLYFOAM	1	
	P3	RPF0198-1	BAG (MIRAMAT SHEET)	1	
			ACCESSORIES		
	A1	N2QAYB000944	REMOTE CONTROL	1	
	A1-1	RKK-AKX18PHK	R/C BATTERY COVER	1	
⚠	A2	K2CB2CB00022	AC CORD	1	PN
⚠	A2	K2CQ2YY00119	AC CORD	1	PH
⚠	A3	RQT9894-1M	O/I BOOK (En/Sp)	1	
	A4	RSAX0002	FM INDOOR ANTENNA	1	
	A5	N1DY0000011	AM LOOP ANTENNA	1	
	A6	K2DAY000002	AC PLUG ADAPTOR	1	PH

15.2. Electrical Replacement Parts List

Important Safety Notice

Components identified by Δ 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.
- Parts mentioned [SPG] in the Remarks column are supplied by JAPAN.

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 CIRCUIT BOARDS		
	PCB1	REP5061A	MAIN P.C.B.	1	(RTL), PN
	PCB1	REP5061B	MAIN P.C.B.	1	(RTL), PH
	PCB2	REP5062AA	PANEL P.C.B.	1	(RTL)
	PCB3	REP5062AA	LCD P.C.B.	1	(RTL)
	PCB4	REP5062AC	USE P.C.B.	1	(RTL)
	PCB5	REP4945A	CD INTERFACE P.C.B.	1	(RTL)
Δ	PCB6	N0AB2GK00001	SMPS MODULE	1	PN
Δ	PCB6	N0AD2GK00001	SMPS MODULE	1	PH
	PCB7	RSNE031B0	BLUETOOTH MODULE	1	(E.S.D)
			INTEGRATED CIRCUITS		
	IC52	VUEALLPT087	IC	1	(E.S.D)
	IC900	C0HBA0000295	IC	1	(E.S.D)
	IC1000	C0DBGYY03909	IC	1	(E.S.D)
	IC1002	C0DBAYY01594	IC	1	(E.S.D)
	IC1003	C0DBAYY01594	IC	1	(E.S.D)
	IC1004	C0DBGYY00911	IC	1	(E.S.D)
	IC1005	C0DBGYY03909	IC	1	(E.S.D)
	IC2001	C1AB00004188	IC	1	(E.S.D)
	IC2002	RFKWEAKX18LM	IC	1	(E.S.D)
	IC2003	RFKWFAXX18LM	IC	1	(E.S.D)
	IC2004	C0GBY0000117	IC	1	(E.S.D)
	IC2005	C0EBY0000861	IC	1	(E.S.D)
	IC2500	C1CB00003106	IC	1	(E.S.D)
	IC2501	C0DBZYY00716	IC	1	(E.S.D)

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	IC2502	C0DBZYY00716	IC	1	(E.S.D)
	IC6000	C1AB00003994	IC	1	(E.S.D)
	IC6500	VUEALLPT090	IC	1	(E.S.D)
	IC7001	C0DBGYY00969	IC	1	(E.S.D)
			TRANSISTORS		
	Q900	B1GBCFJN0033	TRANSISTOR	1	(E.S.D)
	Q1000	B1AAKD000012	TRANSISTOR	1	(E.S.D)
	Q2001	B1ADCF000001	TRANSISTOR	1	(E.S.D)
	Q2002	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q2500	DSA200100L	TRANSISTOR	1	(E.S.D)
	Q6001	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q6002	B1ADGD000019	TRANSISTOR	1	(E.S.D)
	Q6007	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	Q6300	B1ABCF000011	TRANSISTOR	1	(E.S.D)
	QR2002	B1GBCFJJ0051	TRANSISTOR	1	(E.S.D)
	QR2500	B1GBCFGN0016	TRANSISTOR	1	(E.S.D)
			DIODES		
	D993	B3AFA0000131	DIODE	1	(E.S.D)
	D1000	B0JCPG000032	DIODE	1	(E.S.D)
	D1001	B0EAKM000117	DIODE	1	(E.S.D)
	D1002	B0ADDJ000032	DIODE	1	(E.S.D)
	D1005	DZ2J130M0L	DIODE	1	(E.S.D)
	D1006	B0EAKM000117	DIODE	1	(E.S.D)
	D1007	B0EAKM000117	DIODE	1	(E.S.D)
	D1008	DA2J10100L	DIODE	1	(E.S.D)
	D2001	DA2J10100L	DIODE	1	(E.S.D)
	D2002	DA2J10100L	DIODE	1	(E.S.D)
	D9300	B3AAA0000487	DIODE	1	(E.S.D)
	D9301	B3AAA0000487	DIODE	1	(E.S.D)
	DZ1000	B0JCPD000025	DIODE	1	(E.S.D)

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			VARISTORS		
	VR9000	EVEKE2F3524B	VOLUME JOG	1	
	VR9001	K9AA012Y0012	SELECTOR JOG	1	
	VA51	EZAEG2A50AX	ESD SUPPRESSOR	1	
			SWITCHES		
	S7201	K0L1BA000158	SW RESET	1	
	S9001	EVQ21405RJ	SW POWER	1	
	S9002	EVQ21405RJ	SW OPEN/CLOSE	1	
	S9003	EVQ21405RJ	SW TUNE MODE/STOP	1	
	S9004	EVQ21405RJ	SW DJ JUKEBOX	1	
	S9005	EVQ21405RJ	SW LATIN PRESET EQ	1	
	S9006	EVQ21405RJ	SW MANUAL EQ	1	
	S9007	EVQ21405RJ	SW D BASS	1	
	S9008	EVQ21405RJ	SW USB REC	1	
	S9009	EVQ21405RJ	SW RWD	1	
	S9010	EVQ21405RJ	SW FWD	1	
	S9011	EVQ21405RJ	SW ALBUM TRACK PAIRING	1	
	S9012	EVQ21405RJ	SW BT	1	
	S9013	EVQ21405RJ	SW USB/CD	1	
	S9014	EVQ21405RJ	SW RADIO/AUX	1	
	S9015	EVQ21405RJ	SW PLAY/PAUSE	1	
			CONNECTORS		
	CN2500	K1MY17AA0124	17P CONNECTOR	1	
	CN2502	K1KA08AA0104	8P CONNECTOR	1	
	CN7001	K1MY05BA0539	5P CONNECTOR	1	
	CN7002	K1MN10B00016	10P CONNECTOR	1	
	CN9000	K1MN17B00032	17P CONNECTOR	1	
	P2002	K1MN08A00048	8P CONNECTOR	1	
	P2004	K1MN10AA0076	10P CONNECTOR	1	
	P2005	K1MY24A00001	24P CONNECTOR	1	
			COILS AND INDUCTORS		
	L51	G1CR18JA0020	INDUCTOR	1	
	L52	G2A380Y00002	ANTENNA COIL	1	
	L1000	G1C4R7MA0445	INDUCTOR	1	
	L1001	G1C100MA0445	INDUCTOR	1	
	L1002	G1C100MA0291	INDUCTOR	1	
	L6000	G0A100K00006	CHOKE COIL	1	
	L6001	G0A100K00006	CHOKE COIL	1	
	L6002	G0A100K00006	CHOKE COIL	1	
	L6005	G0A100K00006	CHOKE COIL	1	
	L6006	G1C4R7MA0172	INDUCTOR	1	
	L7000	J0JYC0000305	INDUCTOR	1	
	LB51	J0JYC0000656	INDUCTOR	1	
	LB53	J0JBC0000118	INDUCTOR	1	
	LB54	J0JBC0000010	INDUCTOR	1	
	LB55	J0JBC0000010	INDUCTOR	1	
	LB900	J0JBC0000019	INDUCTOR	1	
	LB2002	J0JBC0000010	INDUCTOR	1	
	LB2003	J0JBC0000010	INDUCTOR	1	
	LB2004	J0JBC0000010	INDUCTOR	1	
	LB2005	D0GB100JA065	INDUCTOR	1	
	LB2006	D0GBR00J0004	INDUCTOR	1	
	LB2007	J0JBC0000010	INDUCTOR	1	
	LB2010	J0JBC0000134	INDUCTOR	1	
	LB2011	G1C100KA0101	INDUCTOR	1	
	LB2012	J0JHC0000045	INDUCTOR	1	
	LB2013	J0JHC0000045	INDUCTOR	1	
	LB2014	J0JBC0000134	INDUCTOR	1	
	LB2015	J0JBC0000010	INDUCTOR	1	
	LB2016	J0JBC0000010	INDUCTOR	1	
	LB2024	J0JCC0000309	INDUCTOR	1	
	LB6500	J0JBC0000010	INDUCTOR	1	
	LB6501	J0JBC0000010	INDUCTOR	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	LB9300	J0JHC0000118	INDUCTOR	1	
	LB9301	J0JHC0000118	INDUCTOR	1	
	R2004	J0JCC0000309	INDUCTOR	1	
	R2005	J0JCC0000309	INDUCTOR	1	
	R2006	J0JCC0000309	INDUCTOR	1	
	R2013	J0JCC0000309	INDUCTOR	1	
	R2014	J0JCC0000309	INDUCTOR	1	
	R2015	J0JCC0000301	INDUCTOR	1	
	R2016	J0JCC0000301	INDUCTOR	1	
	R2017	J0JCC0000301	INDUCTOR	1	
	R2018	J0JCC0000301	INDUCTOR	1	
	R2019	J0JCC0000301	INDUCTOR	1	
	R2020	J0JCC0000301	INDUCTOR	1	
	R2022	J0JCC0000215	INDUCTOR	1	
	R2023	J0JCC0000309	INDUCTOR	1	
	R2024	D0GBR00J0004	INDUCTOR	1	
	R2027	J0JCC0000215	INDUCTOR	1	
	R2028	J0JCC0000215	INDUCTOR	1	
	R2029	J0JCC0000215	INDUCTOR	1	
	R2033	J0JCC0000309	INDUCTOR	1	
	R2034	D0GBR00J0004	INDUCTOR	1	
	R2039	J0JCC0000309	INDUCTOR	1	
	R2048	J0JCC0000309	INDUCTOR	1	
	R2049	J0JCC0000309	INDUCTOR	1	
	R2053	J0JCC0000309	INDUCTOR	1	
	R2068	J0JCC0000309	INDUCTOR	1	
	R2069	J0JCC0000309	INDUCTOR	1	
	R2070	J0JCC0000309	INDUCTOR	1	
	R2071	J0JCC0000309	INDUCTOR	1	
	R2072	J0JCC0000309	INDUCTOR	1	
	R2073	J0JCC0000309	INDUCTOR	1	
	R2095	J0JCC0000309	INDUCTOR	1	
	R2096	J0JCC0000309	INDUCTOR	1	
	R2097	J0JCC0000309	INDUCTOR	1	
	R2103	J0JCC0000309	INDUCTOR	1	
	R2104	J0JCC0000309	INDUCTOR	1	
	R2105	J0JCC0000309	INDUCTOR	1	
	R2107	J0JCC0000309	INDUCTOR	1	
	R2155	J0JCC0000309	INDUCTOR	1	
	R2172	J0JCC0000309	INDUCTOR	1	
	R2173	J0JCC0000309	INDUCTOR	1	
	R2174	J0JCC0000309	INDUCTOR	1	
	R2175	J0JCC0000309	INDUCTOR	1	
	R2176	J0JCC0000309	INDUCTOR	1	
	R2177	J0JCC0000309	INDUCTOR	1	
	R2178	J0JCC0000309	INDUCTOR	1	
	R2179	J0JCC0000309	INDUCTOR	1	
	R2180	J0JCC0000309	INDUCTOR	1	
	R2181	J0JCC0000309	INDUCTOR	1	
	R2187	J0JCC0000309	INDUCTOR	1	
	R2188	J0JCC0000309	INDUCTOR	1	
	R2189	J0JCC0000309	INDUCTOR	1	
	R2201	J0JCC0000117	INDUCTOR	1	
	R2202	J0JCC0000117	INDUCTOR	1	
	R2311	J0JCC0000309	INDUCTOR	1	
			OSCILLATORS		
	X2001	H0J169500044	OSCILLATOR	1	
	X2002	H0A327200181	OSCILLATOR	1	
	X6500	H0J245500110	OSCILLATOR	1	
			LCD DISPLAY		
	DP900	L5AYAYY00061	LCD DISPLAY	1	
			REMOTE SENSOR		
	IR9000	B3RAD0000204	REMOTE SENSOR	1	
			JACKS		
	JK51	K4ZZ02000103	JK FM ANTENNA	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	JK52	K4AC02B00042	JK AM ANTENNA	1	
	JK6000	K4AL04B00001	JK SPEAKERS	1	
	JK6002	K2HA2YYA0009	JK AUX IN	1	
	JK9300	K1FY104A0034	USB PORT A	1	
	JK9301	K1FY104A0034	USB PORT B	1	
			CHIP JUMPERS		
	L53	D0GBR00J0004	0 1/10W	1	
	LB52	D0GBR00J0004	0 1/10W	1	
	LB2503	D0GBR00J0004	0 1/10W	1	
	W100	D0GFR00JA017	0 1/4W	1	
	W101	D0GBR00JA008	0 1/10W	1	
	W102	D0GFR00JA017	0 1/4W	1	
	W103	D0GDR00JA017	0 1/8W	1	
	W104	D0GDR00JA017	0 1/8W	1	
	W105	D0GFR00JA017	0 1/4W	1	
	W106	D0GFR00JA017	0 1/4W	1	
	W200	D0GDR00JA017	0 1/8W	1	
	W201	D0GFR00JA017	0 1/4W	1	
	W202	D0GDR00JA017	0 1/8W	1	
	W203	D0GFR00JA017	0 1/4W	1	
	W204	D0GFR00JA017	0 1/4W	1	
	W205	D0GFR00JA017	0 1/4W	1	
	W206	D0GFR00JA017	0 1/4W	1	
	W207	D0GFR00JA017	0 1/4W	1	
	W208	D0GFR00JA017	0 1/4W	1	
	W209	D0GDR00JA017	0 1/8W	1	
	W210	D0GFR00JA017	0 1/4W	1	
	W211	D0GFR00JA017	0 1/4W	1	
	W212	D0GFR00JA017	0 1/4W	1	
	W213	D0GFR00JA017	0 1/4W	1	
	W214	D0GFR00JA017	0 1/4W	1	
	W215	D0GFR00JA017	0 1/4W	1	
	W216	ERJ8GEY0R00V	0 1/4W	1	
	W217	ERJ8GEY0R00V	0 1/4W	1	
	W218	ERJ8GEY0R00V	0 1/4W	1	
			RESISTORS		
	R51	D0GB222JA065	2.2K 1/10W	1	
	R52	D0GB561JA065	560 1/10W	1	
	R53	D0GA472JA023	4.7K 1/16W	1	
	R54	D0GA472JA023	4.7K 1/16W	1	
	R55	D0GA221JA023	220 1/16W	1	
	R56	D0GB221JA065	220 1/10W	1	
	R57	D0GA102JA023	1K 1/16W	1	
	R59	D0GB222JA065	2.2K 1/10W	1	
	R60	D0GB222JA065	2.2K 1/10W	1	
	R901	D0GB153JA065	15K 1/10W	1	
	R903	D0GB471JA065	470 1/10W	1	
	R905	D0GBR00J0004	0 1/10W	1	
	R906	D0GBR00J0004	0 1/10W	1	
	R908	D0GB102JA065	1K 1/10W	1	
	R933	D0GD181JA052	180 1/8W	1	
	R935	D0GD181JA052	180 1/8W	1	
	R1004	D1BB7501A074	7.5K 1/10W	1	
	R1005	D1BB5602A074	56K 1/10W	1	
	R1006	D1BB1002A074	10K 1/10W	1	
	R1007	D0GB683JA065	68K 1/10W	1	
	R1008	D0GB153JA065	15K 1/10W	1	
	R1016	D0GB563JA065	56K 1/10W	1	
	R1025	D0GBR00J0004	0 1/10W	1	
	R1026	D0GB124JA065	120K 1/10W	1	
	R1027	D1BB1002A074	10K 1/10W	1	
	R1030	D0GB153JA065	15K 1/10W	1	
	R1031	D0GB563JA065	56K 1/10W	1	
	R1033	D0GBR00J0004	0 1/10W	1	
	R1038	D0GB391JA065	390 1/10W	1	
	R1044	D0GB222JA065	2.2K 1/10W	1	
	R1064	D0GB103JA065	10K 1/10W	1	
	R1066	D0GB4R7JA065	4.7 1/10W	1	
	R1067	D0GBR00J0004	0 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R1068	ERG2SJ470E	47 2W	1	
	R1069	D0GBR00J0004	0 1/10W	1	
	R1070	D0GB222JA065	2.2K 1/10W	1	
	R2001	D0GB103JA065	10K 1/10W	1	
	R2002	D0GB334JA065	330K 1/10W	1	
	R2012	D0GB471JA065	470 1/10W	1	
	R2021	D0GBR00J0004	0 1/10W	1	
	R2026	D0GB102JA065	1K 1/10W	1	
	R2035	D0GB101JA065	100 1/10W	1	
	R2036	D0GB105JA065	1M 1/10W	1	
	R2037	D0GB104JA065	100K 1/10W	1	
	R2038	D0GB106JA065	10M 1/10W	1	
	R2050	D0GBR00J0004	0 1/10W	1	
	R2051	D0GBR00J0004	0 1/10W	1	
	R2052	D0GBR00J0004	0 1/10W	1	
	R2054	D0GBR00J0004	0 1/10W	1	
	R2055	D0GBR00J0004	0 1/10W	1	
	R2057	D0GBR00J0004	0 1/10W	1	
	R2063	D0GBR00J0004	0 1/10W	1	
	R2065	D0GBR00J0004	0 1/10W	1	
	R2067	D0GBR00J0004	0 1/10W	1	
	R2074	D0GB683JA065	68K 1/10W	1	
	R2075	D0GB153JA065	15K 1/10W	1	
	R2076	D0GBR00J0004	0 1/10W	1	
	R2086	D0GBR00J0004	0 1/10W	1	
	R2089	D0GBR00J0004	0 1/10W	1	
	R2093	D0GB564JA065	560K 1/10W	1	
	R2099	D0GBR00J0004	0 1/10W	1	
	R2100	D0GBR00J0004	0 1/10W	1	
	R2102	D0GBR00J0004	0 1/10W	1	
	R2106	D0GB103JA065	10K 1/10W	1	
	R2108	D0GB103JA065	10K 1/10W	1	
	R2110	D0GB222JA065	2.2K 1/10W	1	
	R2111	D0GB222JA065	2.2K 1/10W	1	
	R2114	D0GB333JA065	33K 1/10W	1	
	R2115	D0GB272JA065	2.7K 1/10W	1	
	R2117	D0GB272JA065	2.7K 1/10W	1	
	R2118	D0GB103JA065	10K 1/10W	1	
	R2119	D0GBR00J0004	0 1/10W	1	
	R2121	D0GB103JA065	10K 1/10W	1	
	R2123	D0GB103JA065	10K 1/10W	1	
	R2127	D0GB103JA065	10K 1/10W	1	
	R2129	D0GB272JA065	2.7K 1/10W	1	PH
	R2129	D0GBR00J0004	0 1/10W	1	PN
	R2131	D0GB103JA065	10K 1/10W	1	
	R2135	D0GB123JA065	12K 1/10W	1	PN
	R2135	D0GB333JA065	33K 1/10W	1	PH
	R2139	D0GB103JA065	10K 1/10W	1	
	R2149	D0GB103JA065	10K 1/10W	1	
	R2150	D0GB103JA065	10K 1/10W	1	
	R2151	D0GB103JA065	10K 1/10W	1	
	R2152	D0GB103JA065	10K 1/10W	1	
	R2153	D0GB683JA065	68K 1/10W	1	
	R2154	D0GB683JA065	68K 1/10W	1	
	R2156	D0GB101JA065	100 1/10W	1	
	R2157	D0GB122JA065	1.2K 1/10W	1	
	R2158	D0GB102JA065	1K 1/10W	1	
	R2159	D0GB682JA065	6.8K 1/10W	1	
	R2160	D0GBR00J0004	0 1/10W	1	
	R2161	D0GB473JA065	47K 1/10W	1	
	R2162	D0GBR00J0004	0 1/10W	1	
	R2163	D0GBR00J0004	0 1/10W	1	
	R2164	D0GB104JA065	100K 1/10W	1	
	R2165	D0GBR00J0004	0 1/10W	1	
	R2166	D0GB153JA065	15K 1/10W	1	
	R2167	D0GB4R7JA065	4.7 1/10W	1	
	R2168	D0GB104JA065	100K 1/10W	1	
	R2169	D0GB4R7JA065	4.7 1/10W	1	
	R2170	D0GB102JA065	1K 1/10W	1	
	R2171	D0GBR00J0004	0 1/10W	1	
	R2182	D0GB103JA065	10K 1/10W	1	
	R2183	D0GB103JA065	10K 1/10W	1	
	R2184	D0GB103JA065	10K 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R2185	D0GBR00J0004	0 1/10W	1	
	R2186	D0GBR00J0004	0 1/10W	1	
	R2192	D0GBR00J0004	0 1/10W	1	
	R2222	D0GBR00J0004	0 1/10W	1	
	R2312	D0GBR00J0004	0 1/10W	1	
	R2314	D0GBR00J0004	0 1/10W	1	PN
	R2315	D0GBR00J0004	0 1/10W	1	PH
	R2520	D0GB222JA065	2.2K 1/10W	1	
	R2330	D0GB472JA065	4.7K 1/10W	1	
	R2338	D0GB682JA065	6.8K 1/10W	1	
	R2339	D0GB683JA065	68K 1/10W	1	
	R2340	D0GB101JA065	100 1/10W	1	
	R2417	D0GB103JA065	10K 1/10W	1	
	R2419	D0GB103JA065	10K 1/10W	1	
	R2420	D0GB103JA065	10K 1/10W	1	
	R2421	D0GB103JA065	10K 1/10W	1	
	R2422	D0GB103JA065	10K 1/10W	1	
	R2423	D0GB103JA065	10K 1/10W	1	
	R2496	D0GBR00J0004	0 1/10W	1	
	R2498	D0GB473JA065	47K 1/10W	1	
	R2499	D0GB222JA065	2.2K 1/10W	1	
	R2501	D0GB101JA065	100 1/10W	1	
	R2503	D0GB331JA065	330 1/10W	1	
	R2504	D0GB103JA065	10K 1/10W	1	
	R2507	D0GBR00J0004	0 1/10W	1	
	R2510	D0GB104JA065	100K 1/10W	1	
	R2514	D0GB222JA065	2.2K 1/10W	1	
	R6007	D0GB100JA065	10 1/10W	1	
	R6011	D0GB100JA065	10 1/10W	1	
	R6046	D0GB223JA065	22K 1/10W	1	
	R6050	D0GB100JA065	10 1/10W	1	
	R6054	D0GB563JA065	56K 1/10W	1	
	R6055	D0GB473JA065	47K 1/10W	1	
	R6056	D0GB472JA065	4.7K 1/10W	1	
	R6057	D0GB224JA065	220K 1/10W	1	
	R6058	D0GB3R3JA065	3.3 1/10W	1	
	R6060	D0GB3R3JA065	3.3 1/10W	1	
	R6061	D0GB3R3JA065	3.3 1/10W	1	
	R6062	D0GB3R3JA065	3.3 1/10W	1	
	R6066	D0GB104JA065	100K 1/10W	1	
	R6067	D0GB104JA065	100K 1/10W	1	
	R6068	D0GB104JA065	100K 1/10W	1	
	R6069	D0GB104JA065	100K 1/10W	1	
	R6070	D0GB123JA065	12K 1/10W	1	
	R6072	D0GB103JA065	10K 1/10W	1	
	R6132	D0GB224JA065	220K 1/10W	1	
	R6133	D0GB472JA065	4.7K 1/10W	1	
	R6134	D0GB472JA065	4.7K 1/10W	1	
	R6135	D0GBR00J0004	0 1/10W	1	
	R6136	D0GBR00J0004	0 1/10W	1	
	R6146	D0GB103JA065	10K 1/10W	1	
	R6147	D0GB103JA065	10K 1/10W	1	
	R6300	D0GFR00J0005	0 1/4W	1	
	R6301	D0GFR00J0005	0 1/4W	1	
	R6302	D0GFR00J0005	0 1/4W	1	
	R6303	D0GFR00J0005	0 1/4W	1	
	R6304	D0GFR00J0005	0 1/4W	1	
	R6305	D0GFR00J0005	0 1/4W	1	
	R6306	D0GFR00J0005	0 1/4W	1	
	R6307	D0GFR00J0005	0 1/4W	1	
	R6501	D0GB152JA065	1.5K 1/10W	1	
	R6502	D0GB105JA065	1M 1/10W	1	
	R6503	D0GBR00J0004	0 1/10W	1	
	R6504	D0GB103JA065	10K 1/10W	1	
	R6505	D0GBR00J0004	0 1/10W	1	
	R6506	D0GBR00J0004	0 1/10W	1	
	R6511	D0GB470JA065	47 1/10W	1	
	R6512	D0GB470JA065	47 1/10W	1	
	R6521	D0GB470JA065	47 1/10W	1	
	R6522	D0GB470JA065	47 1/10W	1	
	R6531	D0GB103JA065	10K 1/10W	1	
	R6532	D0GB103JA065	10K 1/10W	1	
	R6541	D0GB103JA065	10K 1/10W	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	R6542	D0GB103JA065	10K 1/10W	1	
	R6550	D0GB221JA065	220 1/10W	1	
	R6551	D0GB221JA065	220 1/10W	1	
	R6552	D0GBR00J0004	0 1/10W	1	
	R6553	D0GBR00J0004	0 1/10W	1	
	R6554	D0GB101JA065	100 1/10W	1	
	R6556	D0GB101JA065	100 1/10W	1	
	R6557	D0GB101JA065	100 1/10W	1	
	R6559	D0GB101JA065	100 1/10W	1	
	R6581	D0GB103JA065	10K 1/10W	1	
	R6582	D0GB103JA065	10K 1/10W	1	
	R6587	D0GB103JA065	10K 1/10W	1	
	R6594	D0GBR00J0004	0 1/10W	1	
	R7001	D0GB222JA065	2.2K 1/10W	1	
	R9001	D0GB272JA065	2.7K 1/10W	1	
	R9002	D0GB392JA065	3.9K 1/10W	1	
	R9003	D0GB752JA065	7.5K 1/10W	1	
	R9004	D0GB183JA065	18K 1/10W	1	
	R9006	D0GB272JA065	2.7K 1/10W	1	
	R9007	D0GB392JA065	3.9K 1/10W	1	
	R9008	D0GB752JA065	7.5K 1/10W	1	
	R9009	D0GB183JA065	18K 1/10W	1	
	R9011	D0GB272JA065	2.7K 1/10W	1	
	R9012	D0GB392JA065	3.9K 1/10W	1	
	R9013	D0GB752JA065	7.5K 1/10W	1	
	R9014	D0GB183JA065	18K 1/10W	1	
	R9020	D0GB223JA065	22K 1/10W	1	
	R9021	D0GB123JA065	12K 1/10W	1	
	R9022	D0GB123JA065	12K 1/10W	1	
	R9023	D0GB223JA065	22K 1/10W	1	
	R9300	D0GB331JA065	330 1/10W	1	
			CAPACITORS		
	C51	F1H1H102A831	1000pF 50V	1	
	C52	F1H1A474A107	0.47uF 10V	1	
	C61	F1H1H104B047	0.1uF 50V	1	
	C62	F1H1H104B047	0.1uF 50V	1	
	C66	F1H1H330B052	33pF 50V	1	
	C67	F1H1H3R0B050	3pF 50V	1	
	C901	F1H1H102B047	1000pF 50V	1	
	C902	F1H1H221B047	220pF 50V	1	
	C907	F1H1H103B047	0.01uF 50V	1	
	C1000	F1J1A106A043	10uF 10V	1	
	C1001	F1J1A106A043	10uF 10V	1	
	C1002	F1K1E1060001	10uF 25V	1	
	C1003	F1H1H470B052	47pF 50V	1	
	C1004	F1H1H102A831	1000pF 50V	1	
	C1005	F1H1H104B047	0.1uF 50V	1	
	C1008	F1J1A106A043	10uF 10V	1	
	C1009	F1J1A106A043	10uF 10V	1	
	C1013	F1H1H470B052	47pF 50V	1	
	C1015	F1H1H821B052	820pF 50V	1	
	C1016	F1H1H104B047	0.1uF 50V	1	
	C1018	F1H1H103B047	0.01uF 50V	1	
	C1019	F1H1H103B047	0.01uF 50V	1	
	C1020	F1J1E4750002	4.7uF 25V	1	
	C1021	F2A1H220A216	22uF 50V	1	
	C1022	F1H1H104B047	0.1uF 50V	1	
	C1023	F1H1H104B047	0.1uF 50V	1	
	C1024	F1H1A105A028	1uF 10V	1	
	C1025	F1H1A105A028	1uF 10V	1	
	C1030	F1H1H182B047	1800pF 50V	1	
	C1031	F1H1H104B047	0.1uF 50V	1	
	C1032	F2A1C101A208	100uF 16V	1	
	C1033	F1H1H103B047	0.01uF 50V	1	
	C1044	F1J1A106A043	10uF 10V	1	
	C1045	F1J1A106A043	10uF 10V	1	
	C1046	F1H1H104B047	0.1uF 50V	1	
	C1047	F1H1H104B047	0.1uF 50V	1	
	C1048	F1H1H104B047	0.1uF 50V	1	
	C1049	F1H1H104B047	0.1uF 50V	1	
	C2004	F1H1H1010005	100pF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2005	F1H1H1010005	100pF 50V	1	
	C2006	F1H1H1010005	100pF 50V	1	
	C2007	F1H1H1010005	100pF 50V	1	
	C2104	F1H1C104A041	0.1uF 16V	1	
	C2105	F1H1C104A041	0.1uF 16V	1	
	C2107	F1H1C104A041	0.1uF 16V	1	
	C2108	F1H1C104A041	0.1uF 16V	1	
	C2110	F1H1C104A041	0.1uF 16V	1	
	C2111	F1H1C104A041	0.1uF 16V	1	
	C2112	F1H1C104A041	0.1uF 16V	1	
	C2113	F1H1C104A041	0.1uF 16V	1	
	C2114	F1H1C2240011	0.22uF 16V	1	
	C2115	F1J1A335A005	3.3uF 10V	1	
	C2116	F2A1C101A208	100uF 16V	1	
	C2117	F1H1C104A041	0.1uF 16V	1	
	C2118	F1H1H681B052	680pF 50V	1	
	C2119	F2A0J331A183	330uF 6.3V	1	
	C2120	F1H1C104A041	0.1uF 16V	1	
	C2121	F1H1C104A041	0.1uF 16V	1	
	C2122	F1H0J1060006	10uF 6.3V	1	
	C2123	F1H0J1060006	10uF 6.3V	1	
	C2124	F1H0J1060006	10uF 6.3V	1	
	C2125	F1H0J1060006	10uF 6.3V	1	
	C2126	F1H0J1060006	10uF 6.3V	1	
	C2127	F1H0J1060006	10uF 6.3V	1	
	C2128	F1H1H8R0B051	8pF 50V	1	
	C2129	F1H1H8R0B051	8pF 50V	1	
	C2130	F1H1H220B052	22pF 50V	1	
	C2131	F1H1H270B052	27pF 50V	1	
	C2132	F1H1H1010005	100pF 50V	1	
	C2133	F1H1H102A831	1000pF 50V	1	
	C2134	F1H1H102A831	1000pF 50V	1	
	C2135	F1H1H102A831	1000pF 50V	1	
	C2136	F1H1H102A831	1000pF 50V	1	
	C2137	F1H1H102A831	1000pF 50V	1	
	C2138	F1H1H102A831	1000pF 50V	1	
	C2140	F2A1C330A243	33uF 16V	1	
	C2141	F1H1C104A041	0.1uF 16V	1	
	C2144	F1H1H223A219	0.022uF 50V	1	
	C2147	F1H1C104A041	0.1uF 16V	1	
	C2148	F1J1A106A043	10uF 10V	1	
	C2162	F1J1A106A043	10uF 10V	1	
	C2163	F1H1H103B047	0.01uF 50V	1	
	C2164	F1J1A106A043	10uF 10V	1	
	C2165	F1H1C104A041	0.1uF 16V	1	
	C2166	F1H1H103B047	0.01uF 50V	1	
	C2167	F1H1H103B047	0.01uF 50V	1	
	C2168	F1H1H222A219	2200pF 50V	1	
	C2169	F1H1H222A219	2200pF 50V	1	
	C2170	F1J1A106A043	10uF 10V	1	
	C2171	F1H1H103B047	0.01uF 50V	1	
	C2172	F1H1C104A041	0.1uF 16V	1	
	C2173	F1H1H102A831	1000pF 50V	1	
	C2178	F1H1E105A153	1uF 25V	1	
	C2179	F1H1H103B047	0.01uF 50V	1	
	C2180	F2A1C101A208	100uF 16V	1	
	C2181	F2A1C101A208	100uF 16V	1	
	C2182	F2A1C101A208	100uF 16V	1	
	C2183	F1H1H680A831	68pF 50V	1	
	C2184	F1J1A106A043	10uF 10V	1	
	C2504	F1H1C104A041	0.1uF 16V	1	
	C2505	F1H1H104B047	0.1uF 50V	1	
	C2506	F1H1C104A041	0.1uF 16V	1	
	C2507	F1J1A475A112	4.7uF 10V	1	
	C2508	F1J1A475A112	4.7uF 10V	1	
	C2521	F1G1H103A835	0.01uF 50V	1	
	C2522	F1G1H103A835	0.01uF 50V	1	
	C2523	F1G1H103A835	0.01uF 50V	1	
	C2524	F1G1H103A835	0.01uF 50V	1	
	C2526	F1G1H103A835	0.01uF 50V	1	
	C2527	F1G1H103A835	0.01uF 50V	1	
	C2528	F1G1H103A835	0.01uF 50V	1	
	C2529	F1G1H471A830	470pF 50V	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	C2530	F1G1H471A830	470pF 50V	1	
	C2531	F1G1H471A830	470pF 50V	1	
	C2532	F1G1H471A830	470pF 50V	1	
	C2533	F1G1H103A835	0.01uF 50V	1	
	C2534	F1G1H103A835	0.01uF 50V	1	
	C2535	F1G1H103A835	0.01uF 50V	1	
	C2536	F1G1H103A835	0.01uF 50V	1	
	C2537	F1G1H103A835	0.01uF 50V	1	
	C6005	F1J1C106A059	10uF 16V	1	
	C6018	F1H1H104B047	0.1uF 50V	1	
	C6019	F1H1H104B047	0.1uF 50V	1	
	C6020	F1H1E105A153	1uF 25V	1	
	C6021	F1H1H104B047	0.1uF 50V	1	
	C6022	F1H1E105A153	1uF 25V	1	
	C6023	F1H1H104B047	0.1uF 50V	1	
	C6024	F1H1H333B055	0.033uF 50V	1	
	C6025	F1H1H333B055	0.033uF 50V	1	
	C6027	F1H1H104B047	0.1uF 50V	1	
	C6028	F1H1H333B055	0.033uF 50V	1	
	C6030	F1H1H333B055	0.033uF 50V	1	
	C6031	F1J1H105A918	1uF 50V	1	
	C6032	F1H1H104B047	0.1uF 50V	1	
	C6033	F2A1H102A201	1000uF 50V	1	
	C6036	F1H1H104B047	0.1uF 50V	1	
	C6039	F1J1H105A918	1uF 50V	1	
	C6045	ECQV1H105JL3	1uF 50V	1	
	C6046	ECQV1H105JL3	1uF 50V	1	
	C6047	ECQV1H105JL3	1uF 50V	1	
	C6048	ECQV1H105JL3	1uF 50V	1	
	C6061	F1H1H103B047	0.01uF 50V	1	
	C6062	F1H1H103B047	0.01uF 50V	1	
	C6063	F1H1H103B047	0.01uF 50V	1	
	C6064	F1H1H103B047	0.01uF 50V	1	
	C6068	F1J1A106A043	10uF 10V	1	
	C6069	F1H1H104B047	0.1uF 50V	1	
	C6070	F1H1H104B047	0.1uF 50V	1	
	C6071	F1H1H104B047	0.1uF 50V	1	
	C6074	F1H1H104B047	0.1uF 50V	1	
	C6099	F1H1H681B052	680pF 50V	1	
	C6100	F1H1H681B052	680pF 50V	1	
	C6108	F1H1A105A028	1uF 10V	1	
	C6109	F1H1A105A028	1uF 10V	1	
	C6500	F2A1C470A722	47uF 16V	1	
	C6501	F2A1C220A243	22uF 16V	1	
	C6502	F2A1C220A243	22uF 16V	1	
	C6521	F1H1C474A140	0.47uF 16V	1	
	C6523	F1H0J1050012	1uF 6.3V	1	
	C6525	F1H0J1050012	1uF 6.3V	1	
	C6527	F1H0J1050012	1uF 6.3V	1	
	C6528	F1H0J1060006	10uF 6.3V	1	
	C6529	F1H0J1050012	1uF 6.3V	1	
	C6550	F1H1H102A831	1000pF 50V	1	
	C6551	F1H1H102A831	1000pF 50V	1	
	C6560	F1H1H1200004	12pF 50V	1	
	C6561	F1H1H1200004	12pF 50V	1	
	C6591	F1H0J1050012	1uF 6.3V	1	
	C6592	F1H1H104B047	0.1uF 50V	1	
	C7000	F1H1H104B047	0.1uF 50V	1	
	C7001	F1H1A105A113	1uF 10V	1	
	C7002	F1H1A105A113	1uF 10V	1	
	C9000	F1H1H101B052	100pF 50V	1	
	C9001	F1H1H101B052	100pF 50V	1	
	C9004	F1H1H101B052	100pF 50V	1	
	C9005	F1H1H102B047	1000pF 50V	1	
	C9009	F1H1H101B052	100pF 50V	1	
	C9010	F1H1H101B052	100pF 50V	1	
	C9300	F1H1H104B047	0.1uF 50V	1	
	C9301	F1H1H104B047	0.1uF 50V	1	

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