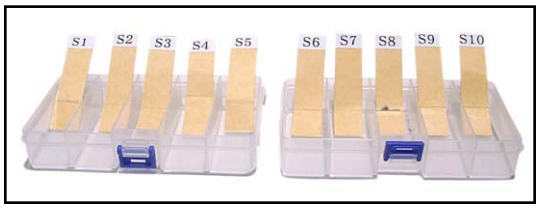
DISASSEMBLY

1. Precautions

■ About repair

- The figures in this chapter show a prototype, so the appearance of parts may slightly differ from the actual parts.
- To avoid damages to the instrument and floor, lay the instrument on a mattress or blanket before starting disassembling.
- There are several kinds of screws. Be sure to use the correct type of screws when assembling. It is advisable to sort the screws as shown below after removing them.



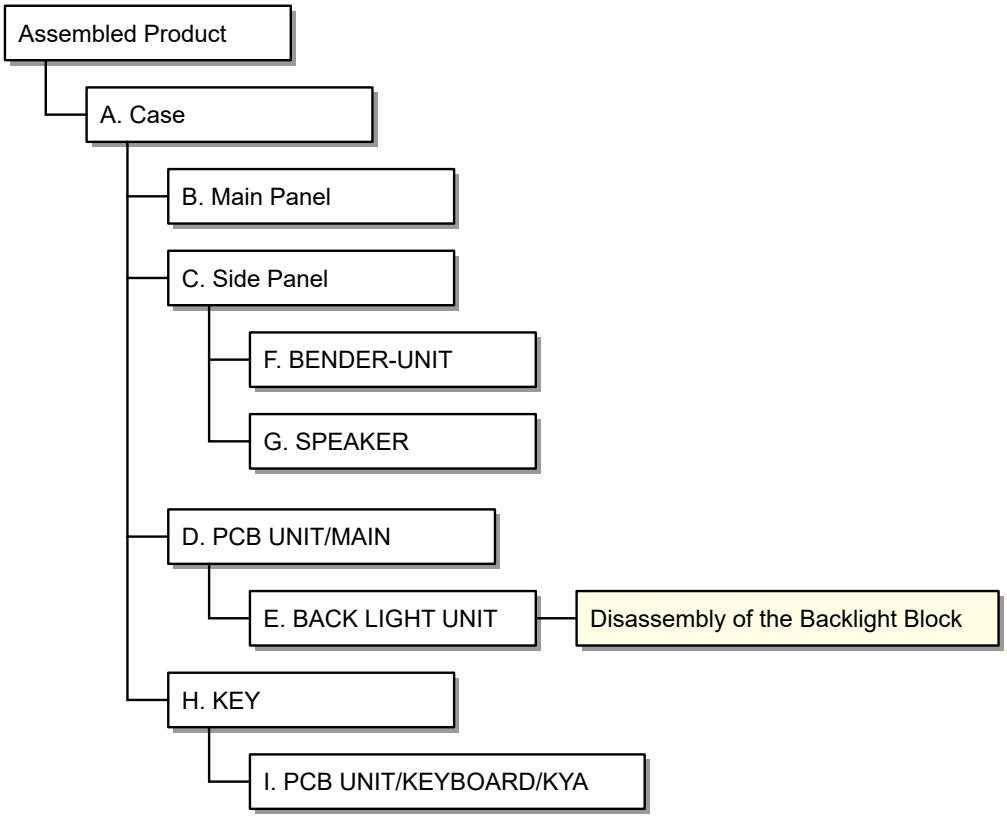
- If a screw cap is attached to the screw, remove it.
  When assembling, reattach the screw cap.
- Check how cables are wired before removing cables.
  When assembling, wire the cables in the same manner as they were before disassembly.
- If a cable is bound by cable tie, tape or similar item, remove it as necessary.
  When assembling, bind the cable as it was before disassembly.
- The number of pins of ribbon cable is sometimes different from the number of pads of PCB.
  Solder the pin No. 1 (orange) of cable on the pad No. 1 of PCB.

■ Before starting repair or servicing

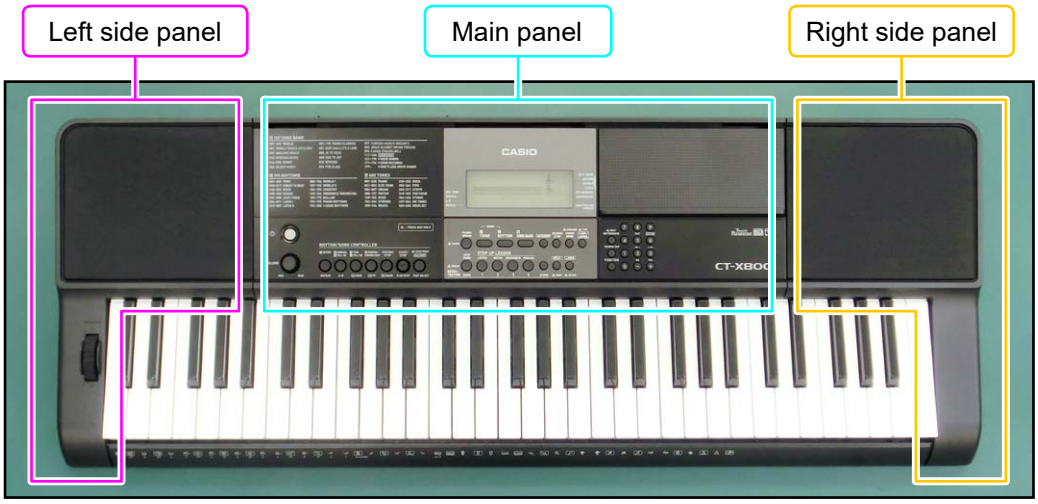
- Remove the AC adaptor, AC cord or batteries.
- Remove accessories such as the music stand.

2. Disassembly Procedure

■ Flowchart

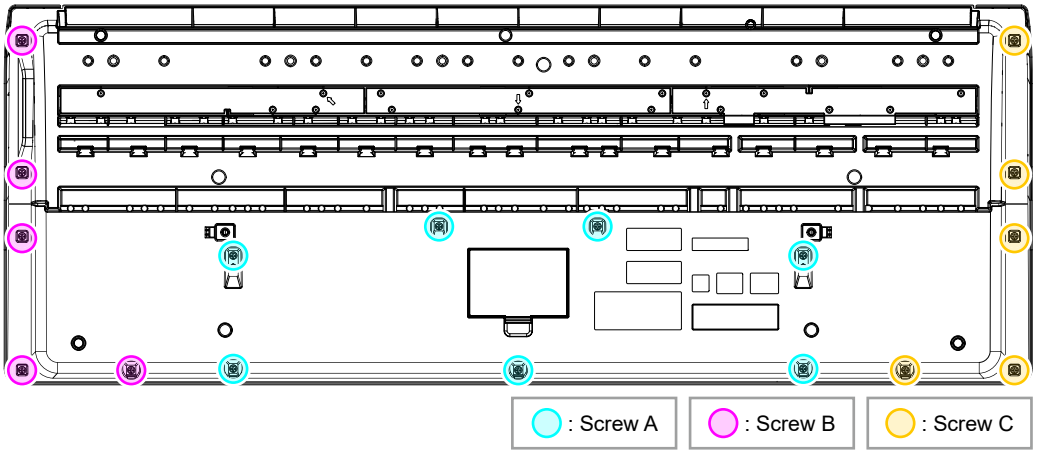


A. Removing the Case



A-1. Undo screws on the bottom surface.

- To remove the main panel, undo 7 screw A.
- To remove the left side panel, undo 7 screw A and 5 screw B.
- To remove the right side panel, undo 7 screw A and 5 screw C.



Notes on Assembly

- Check that cables are not covering the screw hole before tightening a screw.

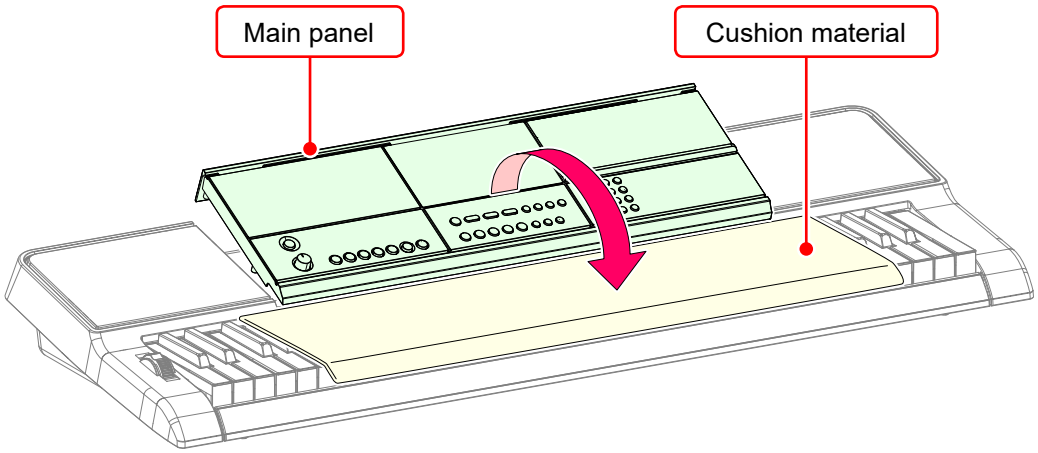
A-2. Place the digital keyboard with the keyboard facing up.

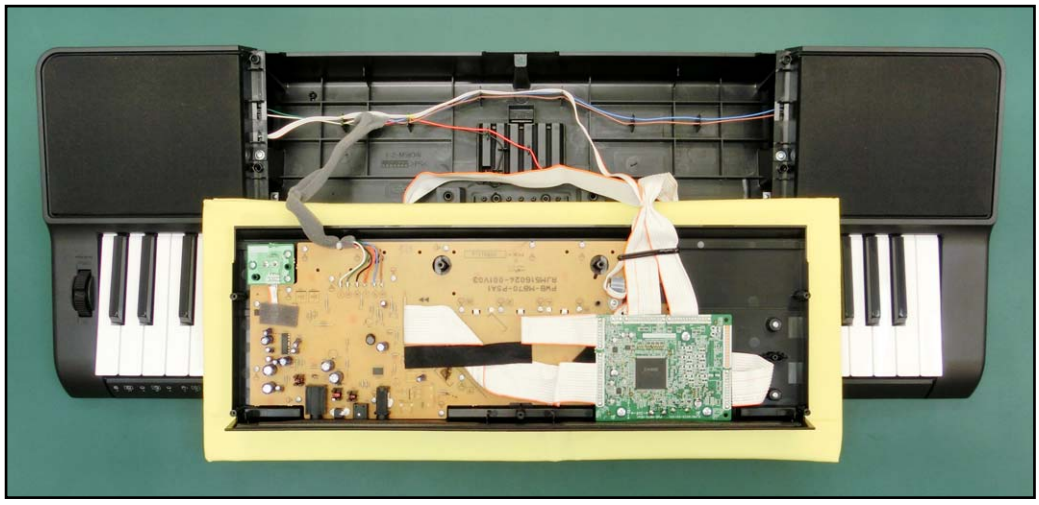
NOTE: The panel(s) and lower case are not secured at this point.
Hold the panel(s) with your hands when turning over the digital keyboard.

A-3. Lift the main panel and turn it over.

NOTE: The main panel and lower case are connected with cables. Use caution so as not to apply too much tension to the cables when lifting the main panel.

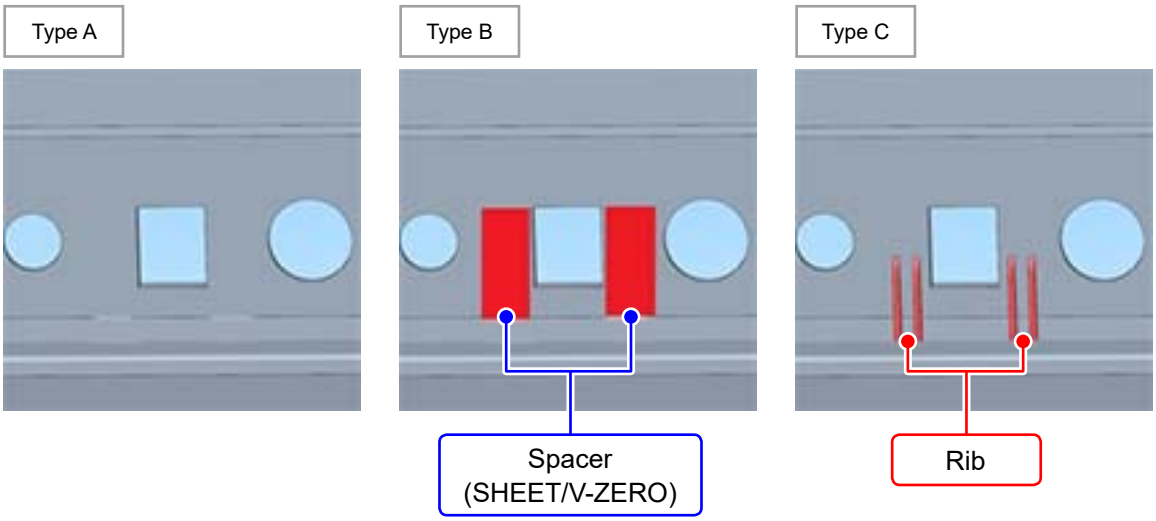
NOTE: Mat a cushion material (cloth etc.) not to damage the keyboard before placing the main panel.





Checking the Main Panel Type and Attaching the Spacer

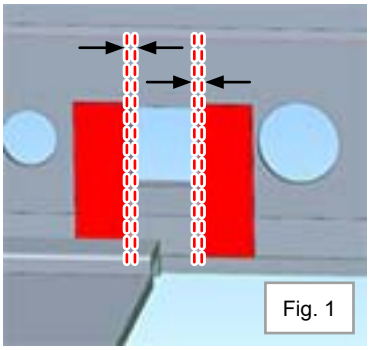
- There are three types of the power terminal opening (on the reverse side) of the main panel.
  For Type A, attach the spacer (SHEET/V-ZERO) the same way as Type B.
  No spacer is necessary for Type C.

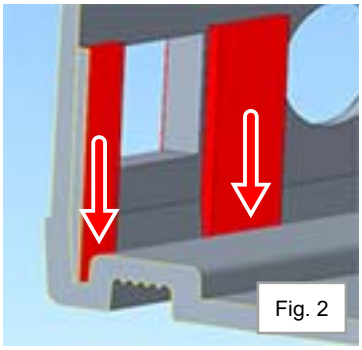


<Spacer Position>

Code No.	Parts Name	Specification	Q'ty	Remarks
10609381	SHEET/V-ZERO	RJM517844-001V01	2	Black

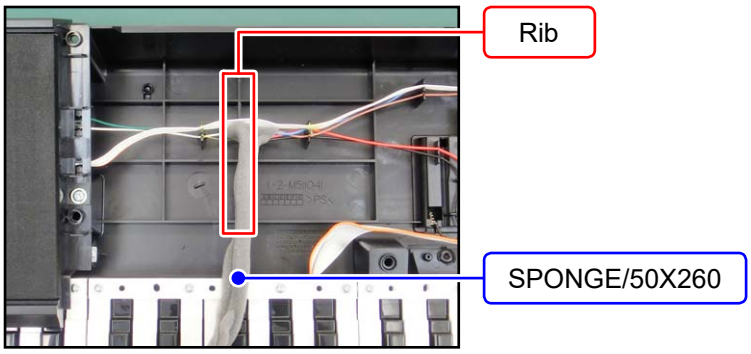
- Fig. 1: Attach the spacer at 0 to 1.0 mm from the edge of the terminal opening.
- Fig. 2: Position the spacer against the bottom surface of the lower case.



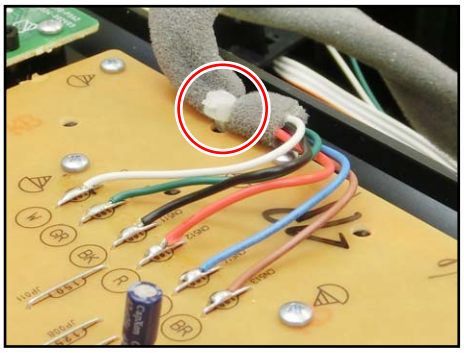


Notes on Assembly

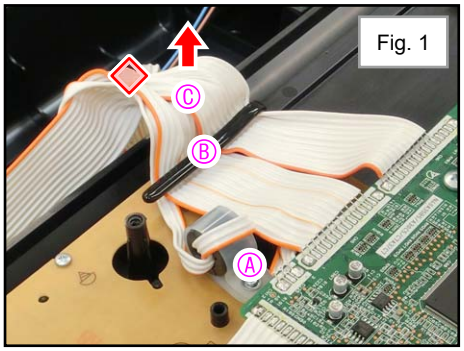
- When any of lead wires is replaced, arrange the lead wires to the rib of lower case and bundle the 6 lead wires with SPONGE/50X260.
  * For the affixing position of sponge, refer to the rib of lower case shown in the figure below.

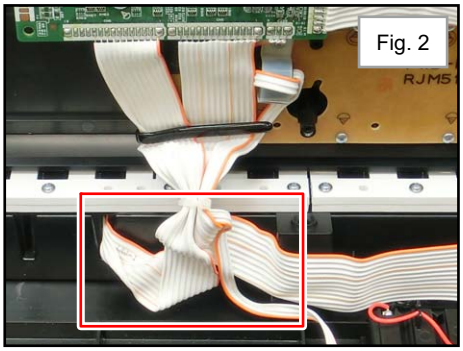


- Before assembling the main panel, check the knot of cable tie that fixes lead wires to PSA1 PCB is in the correct direction.
  – The knot should be laterally facing the PCB.
    * If the main panel is closed while the knot faces upward, it interferes with the keyboard and the main panel may float.



- Fig. 1: Before assembling the main panel, arrange ribbon cables (x3) as shown in the figure below and bundle them with a cable tie.
  Ⓐ Fold and tuck an excess length of the pitch bend cable under the KYA PCB cable
  Ⓑ Hold the ribbon cables with a clip
  Ⓒ Fold the ribbon cables upward (approx. 90 degrees)
- Fig. 2: When assembling the main panel, hold the cables shown in the red frame in the figure below by hand and close the main panel.





◇ : Cable tie

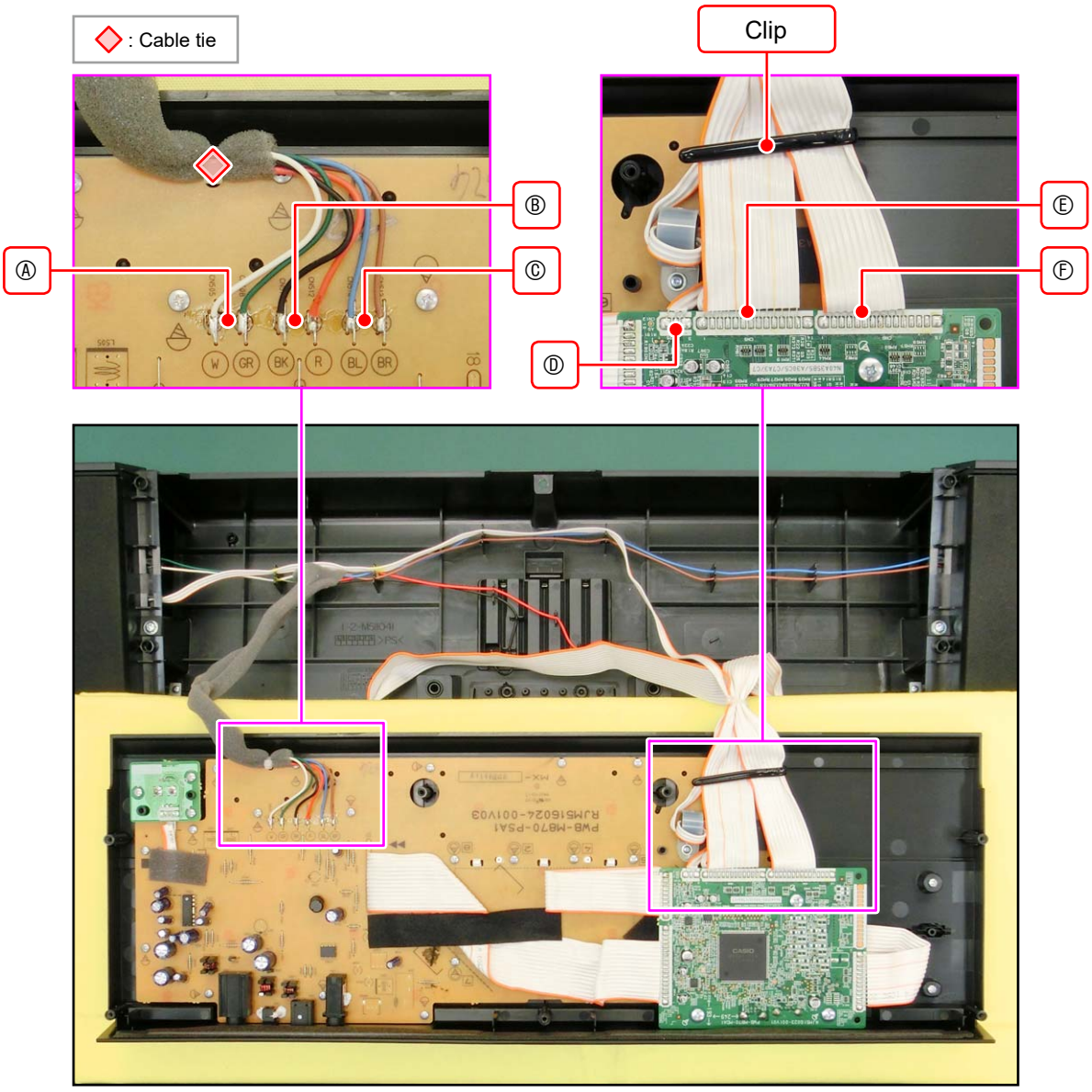
B. Removing the Main Panel

B-1. Unsolder to disconnect the following cables and remove the main panel.

NOTE: Release the ribbon cables from the clip.

MEMO: The lead wires are fixed to the hole of PSA1 PCB with a cable tie.

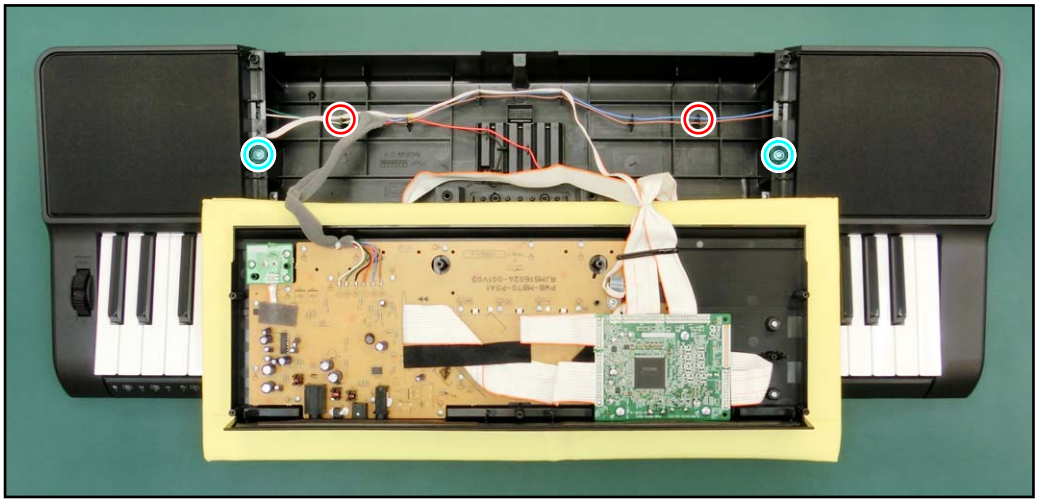
Cable / Remarks			Connected From
Ⓐ	2 lead wires	From the left: White, green	Left speaker
Ⓑ	2 lead wires	From the left: Black, red	Battery springs
Ⓒ	2 lead wires	From the left: Blue, brown	Right speaker
Ⓓ	Ribbon cable	3-pin	Pitch bend
Ⓔ	Ribbon cable	13-pin (PCB: 14 pads)	KYA1 PCB
Ⓕ	Ribbon cable	11-pin (PCB: 15 pads)	KYA2 PCB



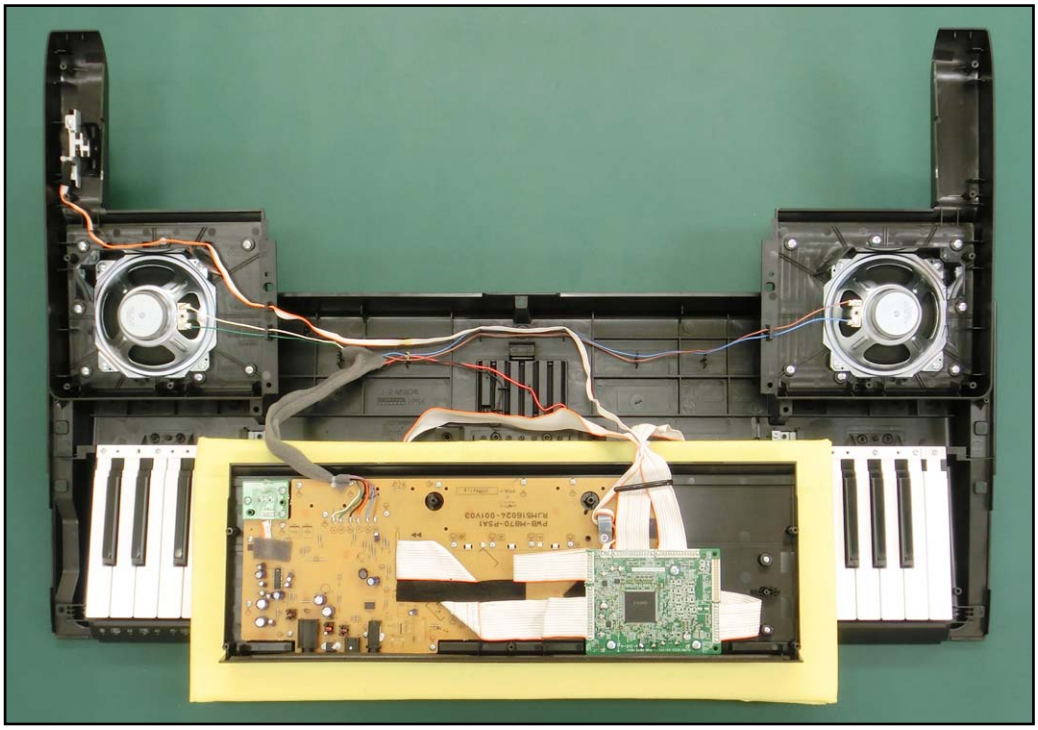
C. Removing the Side Panel

C-1. Undo 2 screws (S4).

C-2. Remove the side panel cables from the rib of lower case and remove left side panel or right side panel.
To completely remove the side panel, refer to the next page.



: S4 : Rib



■ Left Side Panel

(1) Unsolder to disconnect the following cables.

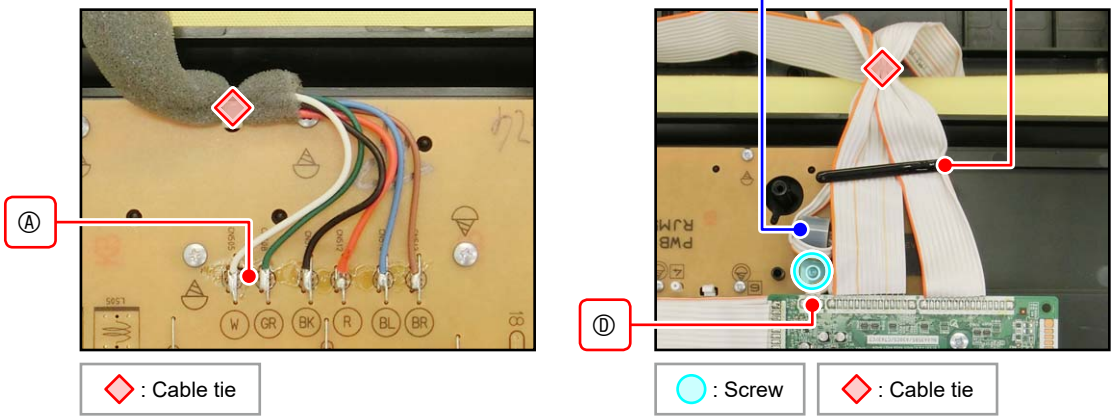
NOTE: Release the cables from the cable tie and clip.

NOTE: Remove the cables from the rib of lower case.

MEMO: The lead wires are bundled with sponge tape.

(2) Undo 1 screw and remove the FERRITE CORE.

	Cable / Remarks		Connected From
Ⓐ	2 lead wires	From the left: White, green	PSA1 PCB
Ⓓ	Ribbon cable	3-pin	MDA1 PCB

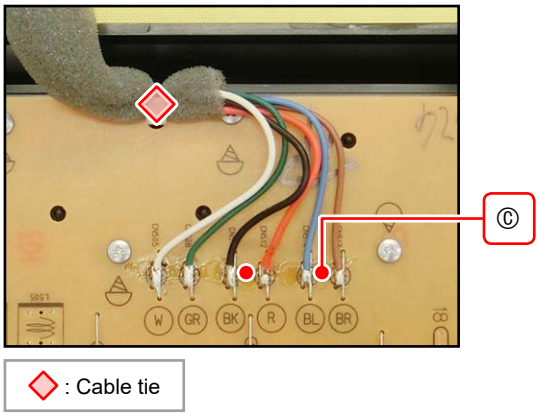


■ Right Side Panel

(1) Unsolder to disconnect the following cable.

NOTE: Remove the cable from the rib of lower case.

MEMO: The lead wires are bundled with sponge tape.



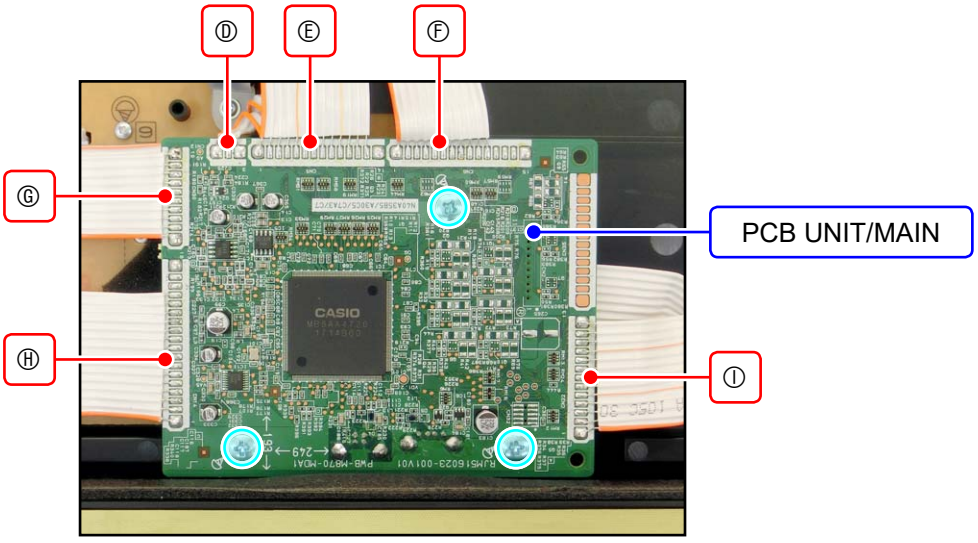
	Cable / Remarks		Connected From
Ⓒ	2 lead wires	From the left: Blue, brown	PSA1 PCB

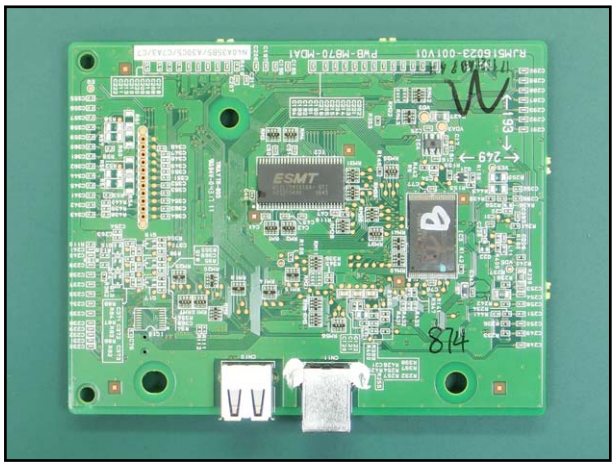
D. Removing the PCB UNIT/MAIN

D-1. Unsolder to disconnect the following cables.

Cable / Remarks			Connected From
Ⓓ	Ribbon cable	3-pin	Pitch bend
Ⓔ	Ribbon cable	13-pin (PCB: 14 pads)	KYA1 PCB
Ⓕ	Ribbon cable	11-pin (PCB: 15 pads)	KYA2 PCB
Ⓖ	Ribbon cable	10-pin	PSA1 PCB
Ⓗ	Ribbon cable	15-pin (PCB: 18 pads)	PSA1 PCB
Ⓘ	Ribbon cable	13-pin	PSA1 PCB

D-2. Undo 3 screws and remove the PCB UNIT/MAIN.





E. Removing the BACK LIGHT UNIT

MEMO: BACK LIGHT UNIT is configured with PSA1 PCB, PSA2 PCB, and backlight component.

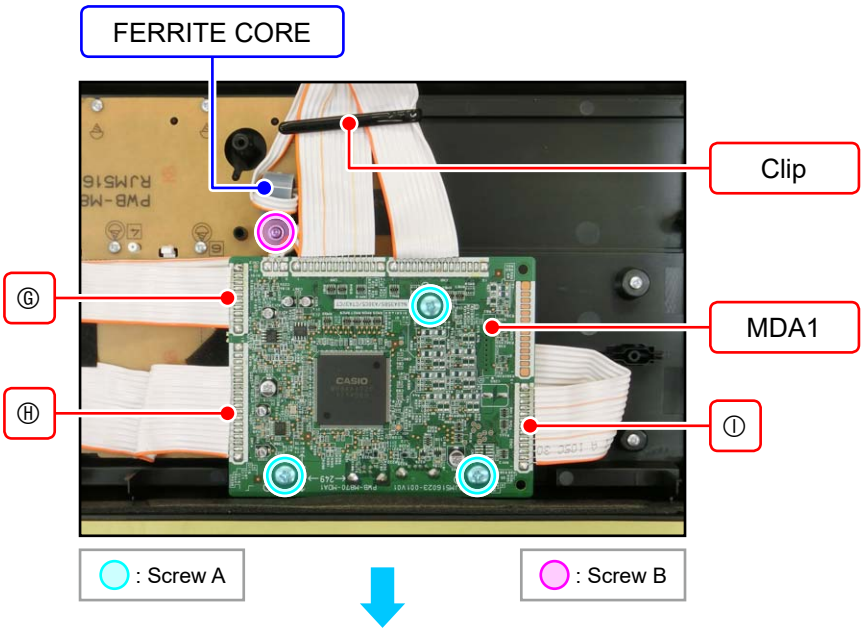
E-1. Unsolder to disconnect the following cables.

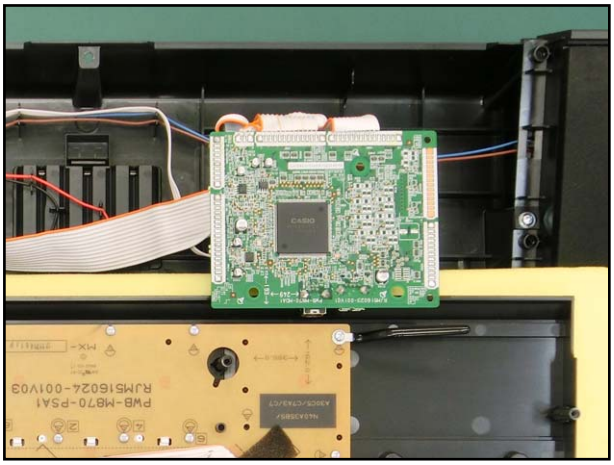
NOTE: Release the cables from the clip.

MEMO: BACK LIGHT UNIT (PSA1 PCB, PSA2 PCB) can be removed without disconnecting cable Ⓓ, and cable Ⓔ, and cable Ⓕ.

Cable / Remarks			Connected From
Ⓖ	Ribbon cable	10-pin	PSA1 PCB
Ⓗ	Ribbon cable	15-pin (PCB: 18 pads)	PSA1 PCB
Ⓘ	Ribbon cable	13-pin	PSA1 PCB

E-2. Undo 3 screw A and 1 screw B, and then remove the MDA1 PCB and FERRITE CORE (for cable Ⓓ) from the PSA1 PCB.

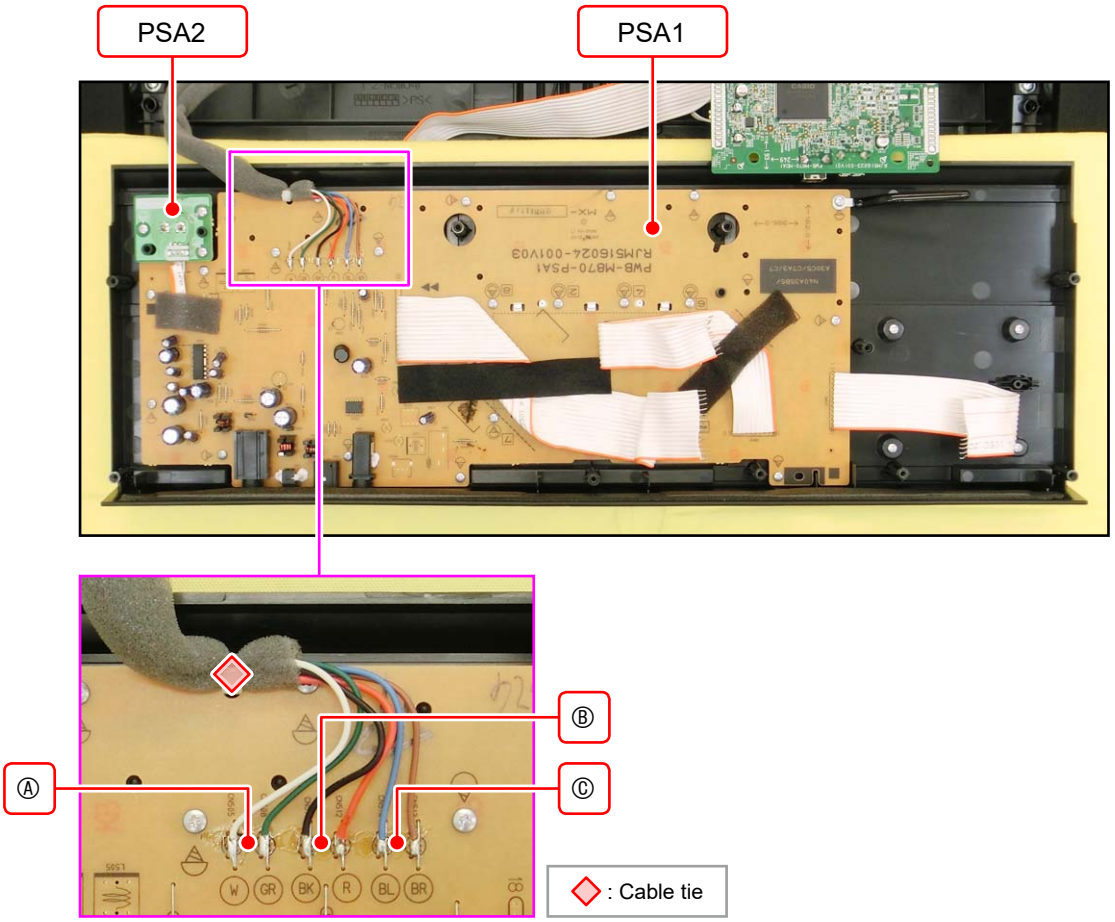




E-3. Unsolder to disconnect the following cables.

MEMO: The lead wires are fixed to the hole of PSA1 PCB with a cable tie.

Cable / Remarks			Connected From
Ⓐ	2 lead wires	From the left: White, green	Left speaker
Ⓑ	2 lead wires	From the left: Black, red	Battery springs
Ⓒ	2 lead wires	From the left: Blue, brown	Right speaker

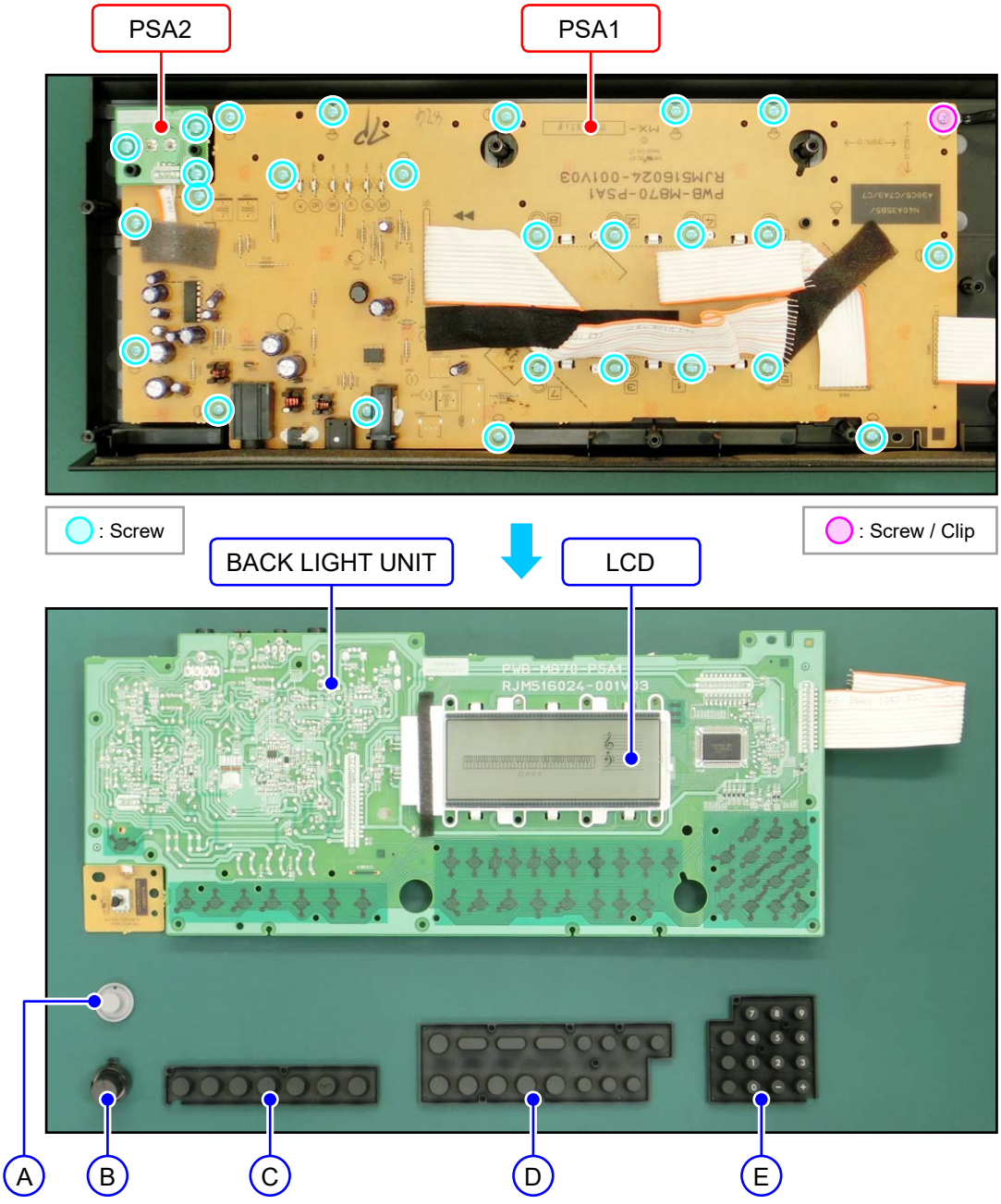


E-4. Undo 27 screws and then remove the BACK LIGHT UNIT (w/ FABRIC TAPE, PACKING, KNOB, SPONGE (2 sheets)) , rubber keys (4 pcs.), and LCD.

MEMO: One screw is tightened with the clip.

NOTE: The LCD may be stuck on the BACK LIGHT UNIT.
Use caution when handling the BACK LIGHT UNIT to prevent the LCD from dropping.

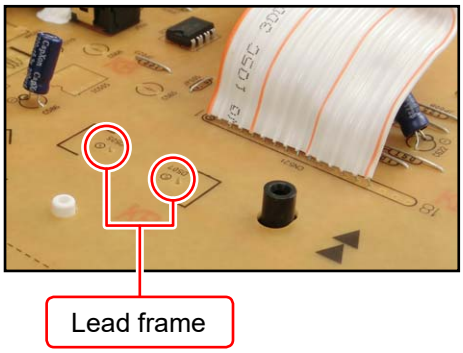
E-5. Remove the KNOB from the PSA2 PCB.

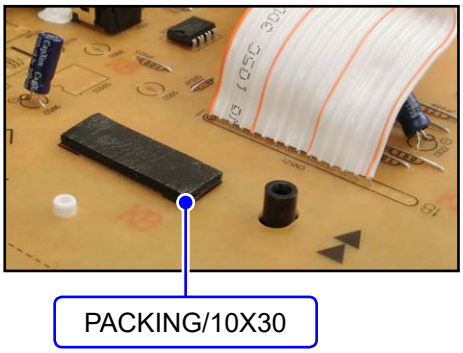


A: RUBBER BUTTON/A (for Power button)
B: KNOB
C: RUBBER BUTTON/A
D: RUBBER BUTTON/B
E: RUBBER BUTTON/C

Notes on Assembly

- When replacing the BACK LIGHT UNIT, attach PACKING/10X30 to PSA1 PCB as shown in the figure below.
  * Attach tha packing in accordance with silk-printed solid line (square bracket x2).
  – For protect the ribbon cable from lead frame of backlight LED protruding from PCB

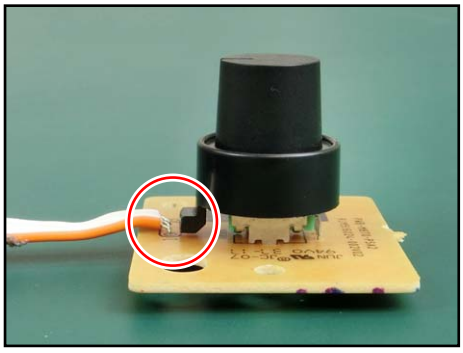




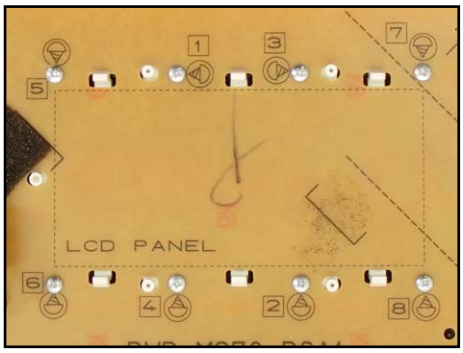
- When attaching the KNOB, push it to the back surely.
  – The gap between knob (convex part) and PCB should be less than 1 mm

  Reference: When setting the nob to max. sound volume, min. sound volume, or medium sound volume position, 1 mm gap gauge should not be inserted at each position.

- Before assembling the BACK LIGHT UNIT, check the ribbon cable of PSA2 PCB is parallel to the PCB.
  * If the ribbon cable is floating, it may interfere with the rotation of knob.



- Before assembling the LCD, check that the LCD surfaces on the main panel side and LCD side are free from dust and dirt.
- Be sure that the LCD is in the correct orientation when assembling.
- Tighten the screws at LCD part in the silk-printed order.
  If not tightened correctly, it may cause LCD display errors.

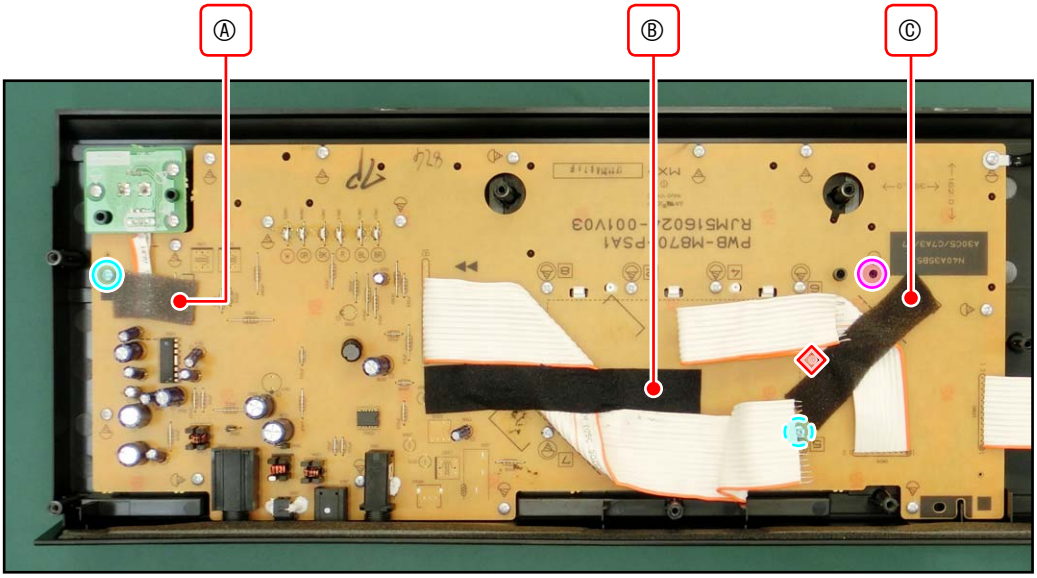


- Arrange the ribbon cables of PSA1 PCB as shown in the figure below and fix them with sponge or fabric tape.

  Ⓐ 3-pin ribbon cable:
  – Carry out the wire arrangement in such a way to fold the cable
  – Fix the cable with SPONGE/20X40
  * For the affixing position of sponge, refer to the silk-printed solid line (square bracket)
  * The sponge should not exist on the screw.

  Ⓑ 15-pin ribbon cable:
  – Mountain-fold the cable in accordance with silk-printed dashed line (2 positions)
  – Fix the cable with FABRIC TAPE/20X120
  * For the affixing position of fabric tape, refer to the edge surface of cable

  Ⓒ 10-pin ribbon cable:
  – Accordion-fold the cable in accordance with silk-printed dashed line
  – Fix the cable with SPONGE/20X80
  * For the affixing position of sponge, refer to the silk-printed solid line (center of 2 square brackets).
  * The sponge should not exist on the screw, screw hole (for ferrite core) and boss.



: Screw | : Screw hole | : Boss

■ Disassembly of the Backlight Block

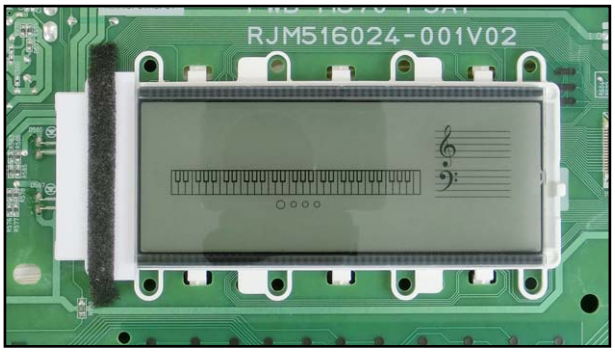
(1) Remove the LCD (A).

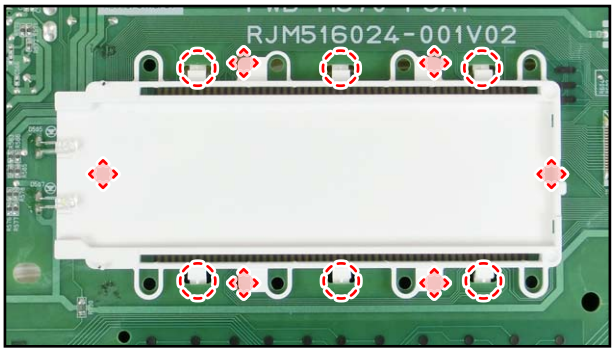
(2) Peel off the SPONGE/8X75 (B), and then remove the TOP PIECE (C), FILM (D), BACK LIGHT PLATE (E), and RUBBER CONNECTOR (2 pcs, F).

(3) Unhook the hook on the back surface of PSA1 PCB and remove the REFLECTOR (G).

NOTE: When removing the REFLECTOR, check hook and boss of REFLECTOR are disengaged from the PCB.

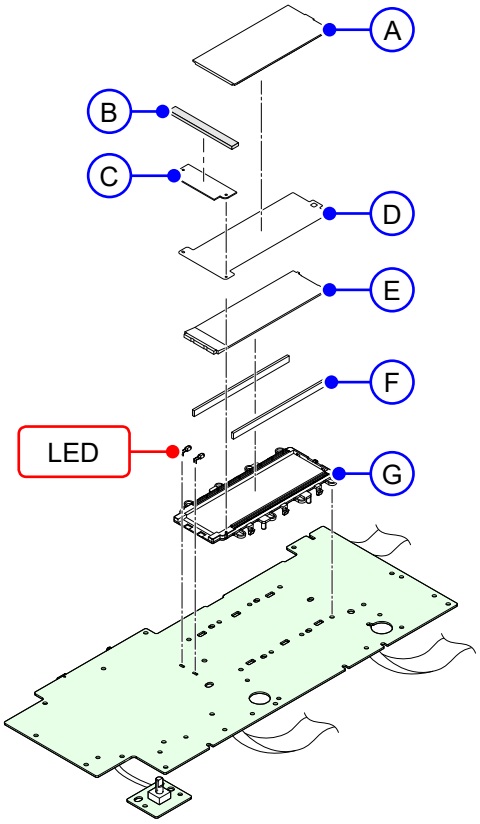
NOTE: Remove the REFLECTOR not to apply load to LED as much as possible.
If the LED is bended, push the LED softly to adjust the position after the REFLECTOR is attached.

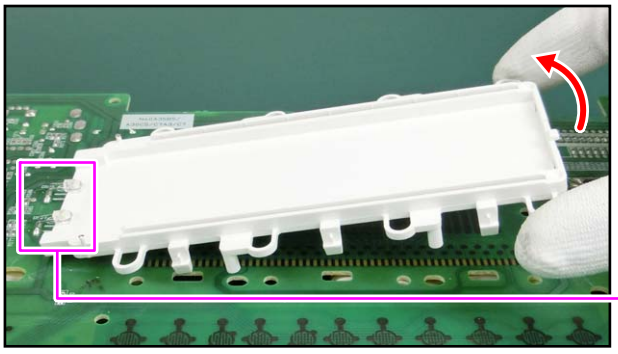


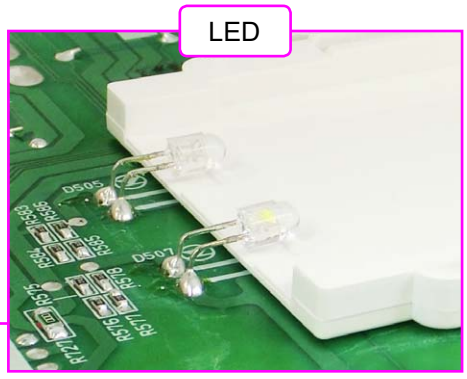


○ : Hook

◇ : Boss







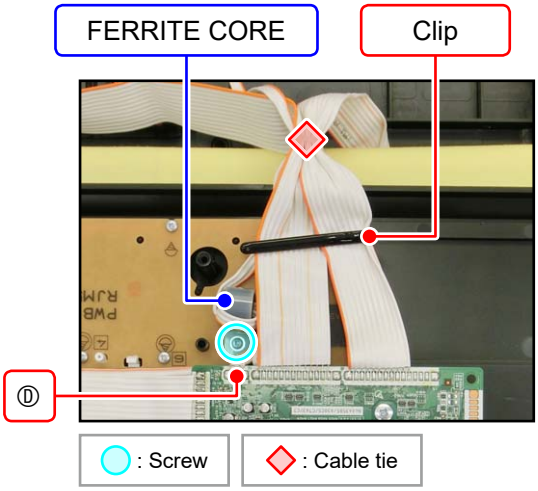
F. Removing the BENDER UNIT

F-1. Unsolder to disconnect the following cable.

Cable / Remarks			Connected From
Ⓓ	Ribbon cable	3-pin	MDA1 PCB

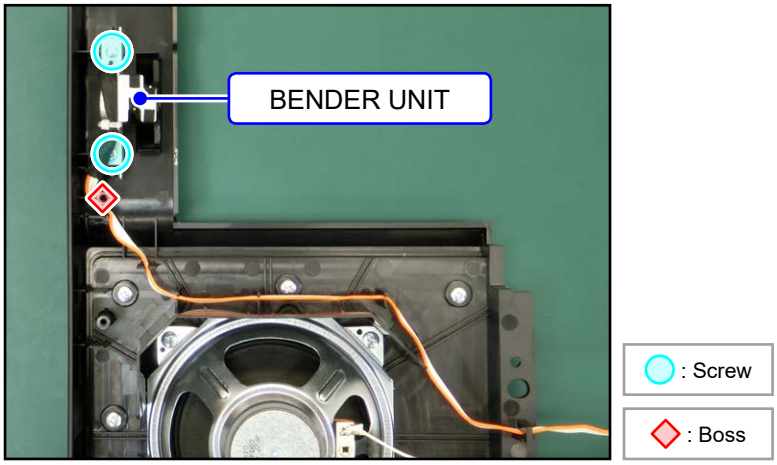
F-2. Undo 1 screw and remove the FERRITE CORE.

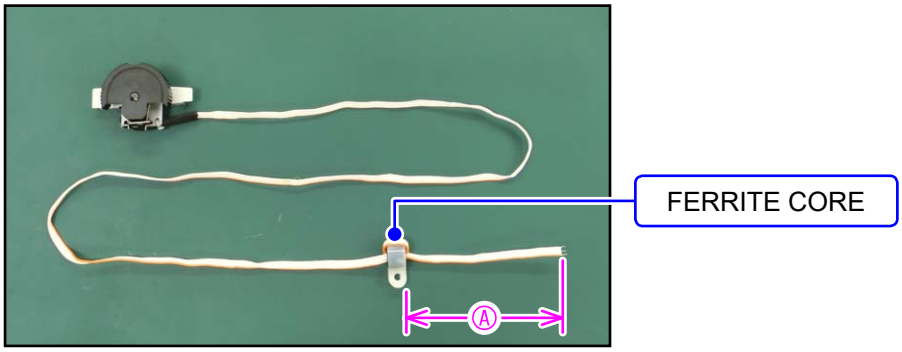
NOTE: Release the pitch bend cable from the cable tie and clip.



F-3. Undo 2 screws and remove the BENDER UNIT (w/ FERRITE CORE).

NOTE: Remove the pitch bend cable from the ribs of lower case and side panel.





Notes on Assembly

- When replacing the BENDER UNIT, attach the FERRITE CORE to the cable as shown in the figure above (Ⓐ = 80mm).
  * Wrap the cable around the FERRITE CORE once
- Arrange the pitch bend cable on the outside of the boss as shown in the figure above.
  * The pitch bend cable, if arranged inside the boss, may interfere with the rotation of the pitch bend

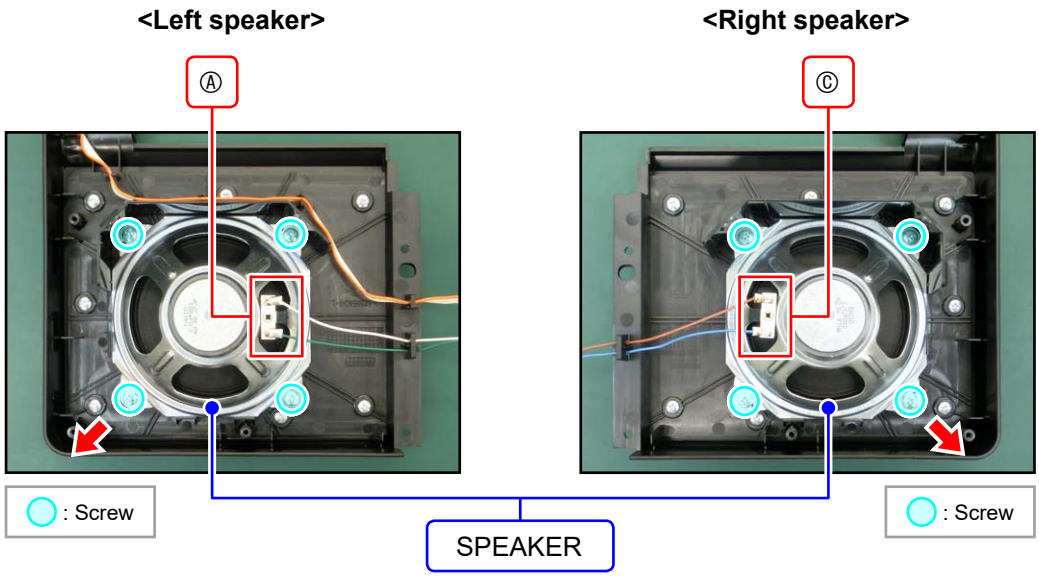
G. Removing the SPEAKER

G-1. Unsolder to disconnect the following cable.

NOTE: Remove the speaker cable from the ribs of lower case as necessary.

	Cable / Remarks		Connected From
Ⓐ	2 lead wires	From the above: White, green	PSA1 PCB
Ⓒ	2 lead wires	From the above: Brown, blue	PSA1 PCB

G-2. Undo 4 screws and remove the SPEAKER.



Notes on Assembly

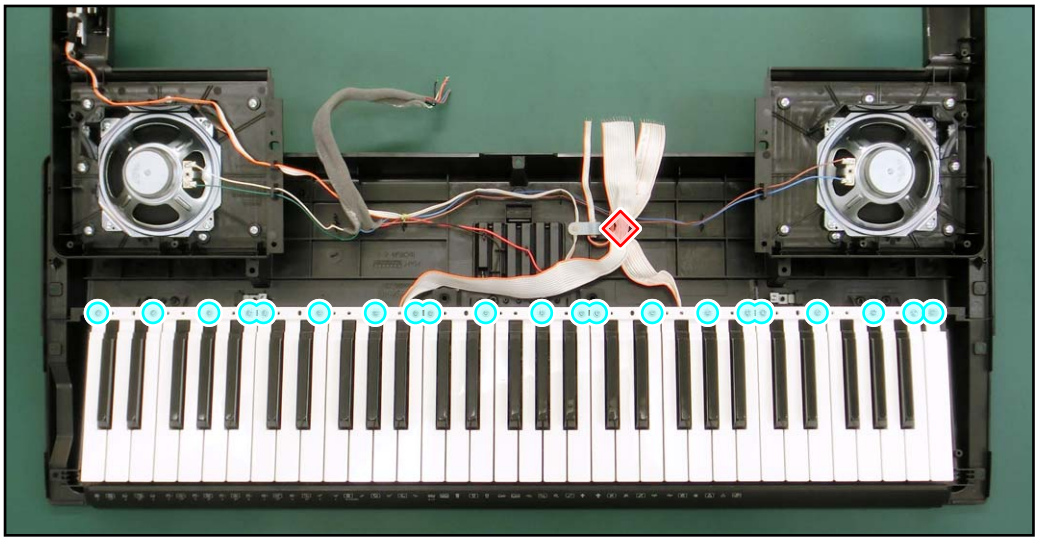
- Tighten the screws while pushing the speaker toward the arrow shown in the figure above.

H. Removing the KEY

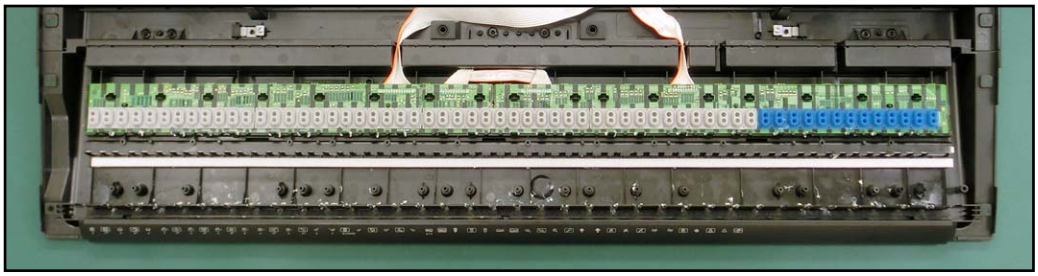
H-1. Remove the main panel, left side panel, and right side panel.
For disassembly procedure, refer to the applicable section.

H-2. Undo 21 screws and then remove the WHITE KEY and BLACK KEY.

NOTE: When removing the KYA PCB, untie the KYA PCB cables (x2) and pitch bend cable.



: Screw : Cable tie



Notes on Assembly

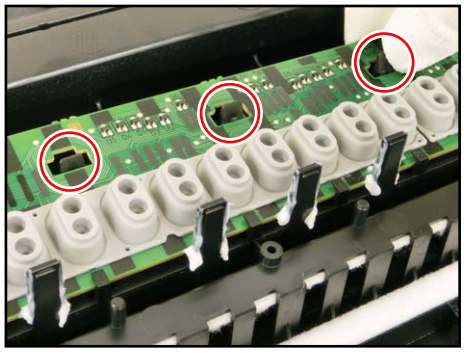
- After assembling the KEY, press the keys to check that the keys move smoothly.

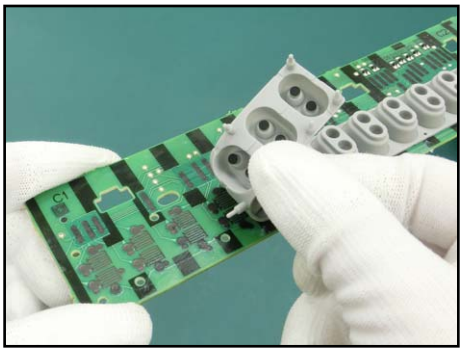
I. Removing the PCB UNIT/KEYBOARD/KYA

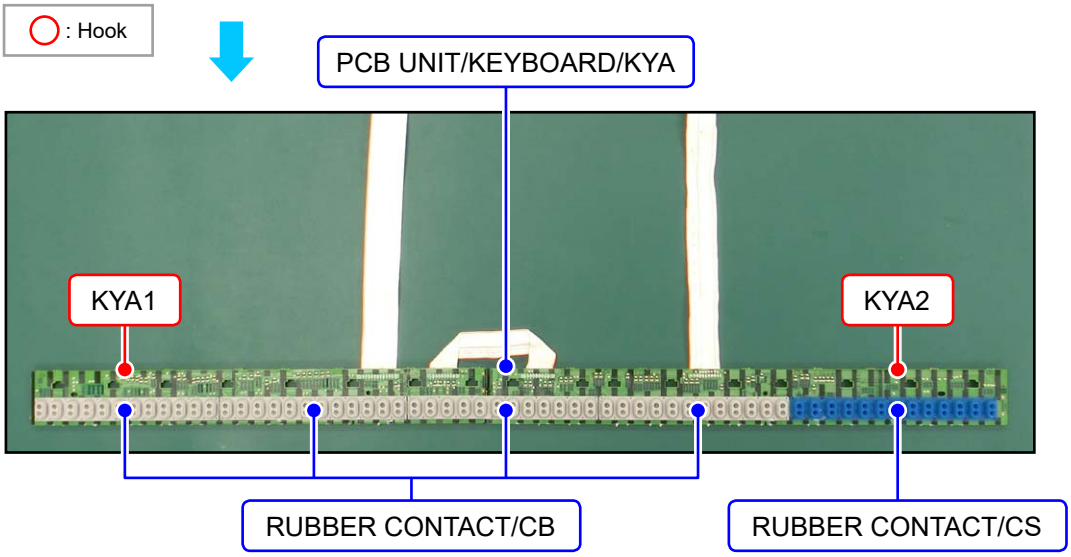
I-1. Unhook and remove the PCB UNIT/KEYBOARD/KYA (w/ RUBBER CONTACT/CB, RUBBER CONTACT/CS).

I-2. Remove 4 RUBBER CONTACT/CB and RUBBER CONTACT/CS.

MEMO: The RUBBER CONTACT/CS differs from the others in length.

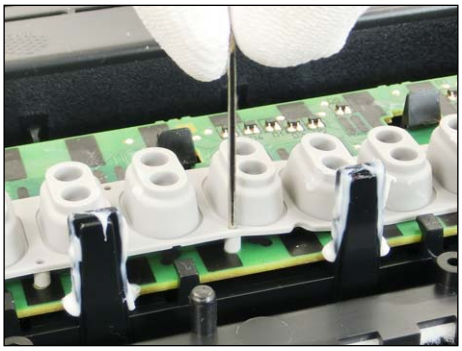




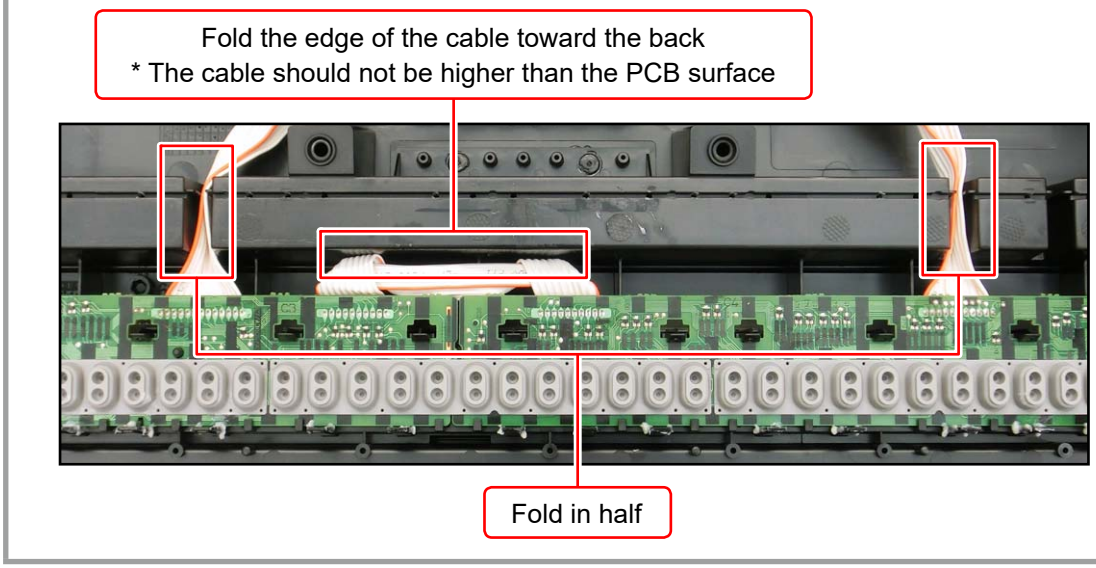


Notes on Assembly

- To install the RUBBER CONTACT, lightly insert the tip of a rubber into the PCB first, and then press it in using the end of a paper clip.
  * Do not press with too much force. Doing so may damage the rubber.



• Arrange the KYA PCB cables as shown in the figure below.



FUNCTION TEST

1. Overview

■ Test Items

To test this product, first launch the built-in diagnostic program, and then perform the following tests in sequence.

No.	Item	Necessary Items
A	Button Test	–
B	Pitch Bend Test	–
C	LCD Test	–
D	Model Test	–
E	ROM Version Check	–
F	Pedal Test	SP-3 or SP-20 pedal (sold separately)
G	USB Test	PC, USB cable
H	USB Flash Drive Test	USB flash drive
I	RAM Test	–

MEMO: Testing requires the AC adaptor or 6 AA-size dry batteries with enough capacity.

MEMO: For information about PC system requirements, refer to the User's Guide.

MEMO: Be sure to use a USB flash drive formatted by the digital keyboard system.
For how to format the USB f ash drive, refer to the User's Guide.

■ Launching the Diagnostic Program

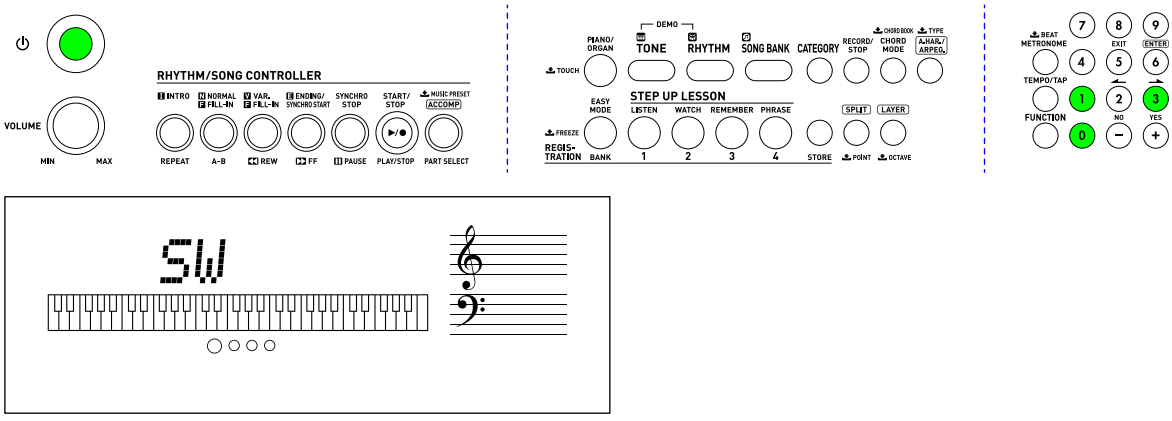
(1) Connect the AC adaptor or load the 6 AA-size dry batteries.

(2) Adjust the sound volume so that it is at about 1/3 of the full volume.

(3) While holding down [0], [1], and [3] buttons, turn on the power.
When the diagnostic program is launched, "SW" or "SW : 22" appears.

MEMO: If the buttons are pressed long, "SW: 22" may appear.

NOTE: Be sure to turn off the power when the test is finished.
To turn off the power, hold down [⏻] button until the screen shuts down.



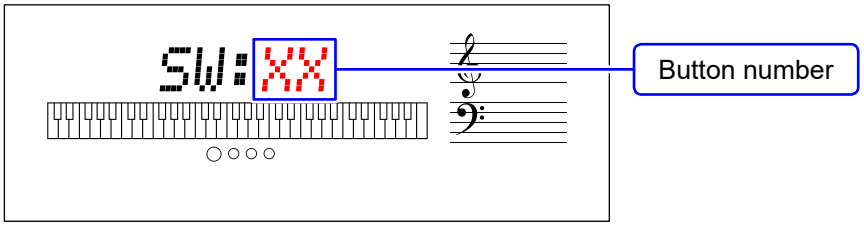
2. Test Procedure

A. Button Test

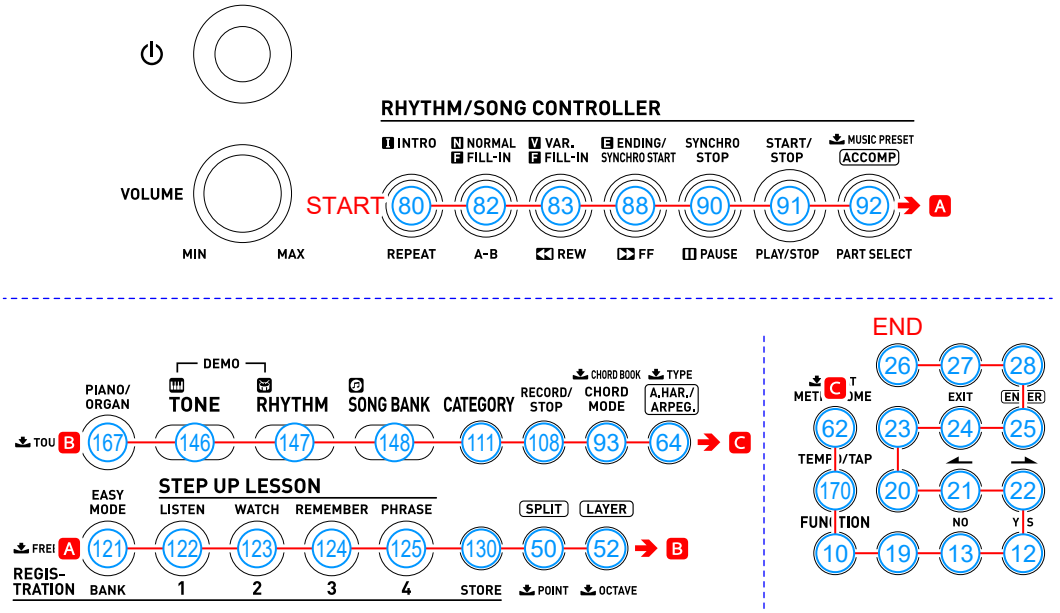
NOTE: Check there is no uncomfortable feeling when pressing the button.
If the button gets lodged or does not return to the correct position, evaluate the test as NG.

A-1. Press the buttons in the sequence to check that the keys operate properly.
For the button sequence, refer to the following figure.

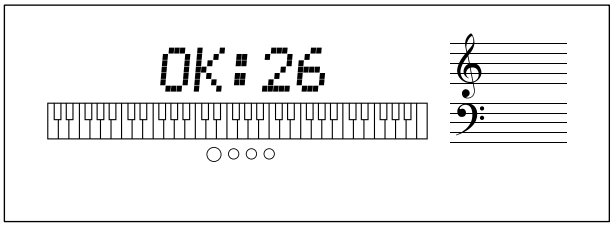
- **OK:** The confirmation tone (cowbell) sounds, and “SW :” and “button number (XX)” appear. When press the last button, the completion tone sounds, and “OK :” and “button number (XX)” appear.
- **NG:** If the buttons are pressed in a wrong sequence, the error tone sounds, and “SW :” and “button number (XX)” appear.



<Sequence of the button to press / Button number>



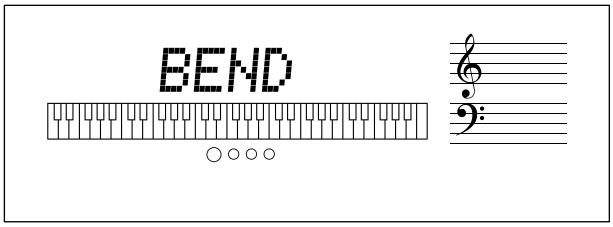
A-2. Check that the following screen appears when you press the last button in the sequence.



B. Pitch Bend Test

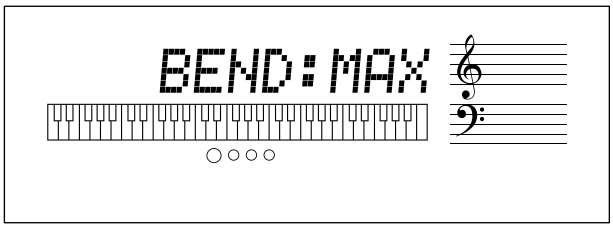
NOTE: Check that the pitch bend wheel rotates smoothly.
If you feel a catch in the pitch bend wheel or it does not rotate smoothly, evaluate the test as NG.

B-1. Press [0] button to display the following screen.



B-2. Rotate the pitch bend wheel all the way up, and check that the following screen appears.

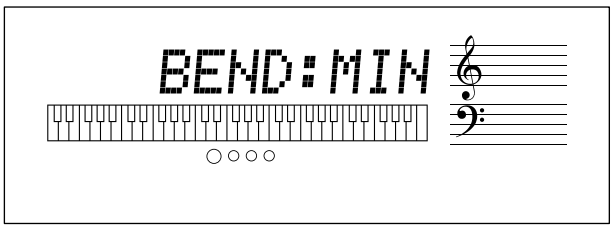
MEMO: The confirmation tone (cowbell) sounds.



B-3. Return the pitch bend wheel to the original position.

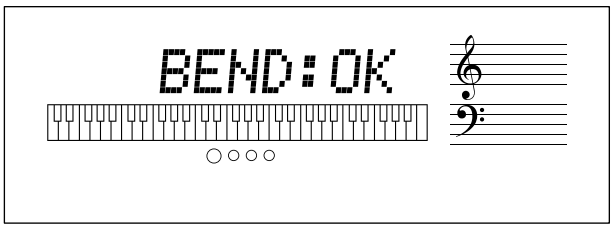
B-4. Rotate the pitch bend wheel all the way down, and check that the following screen appears.

MEMO: The confirmation tone (cowbell) sounds.



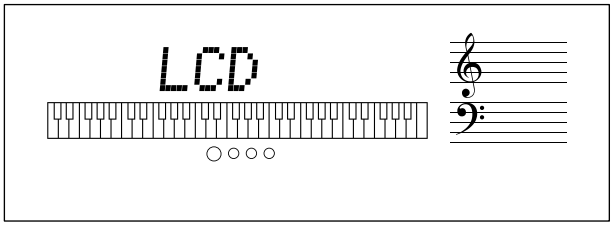
B-5. Return the pitch bend wheel to the original position, and check that the following screen appears.

MEMO: The confirmation tone (triangle) sounds.

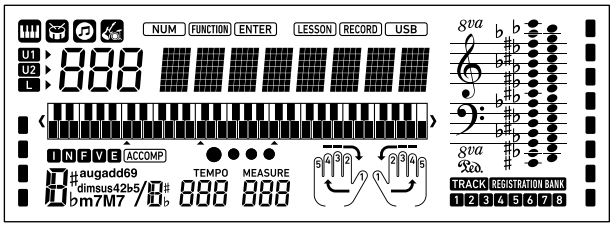


C. LCD Test

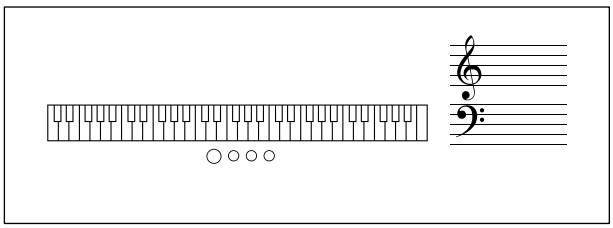
C-1. Press [0] button to display the following screen.



C-2. Press [0] button and check that all segments are lit.

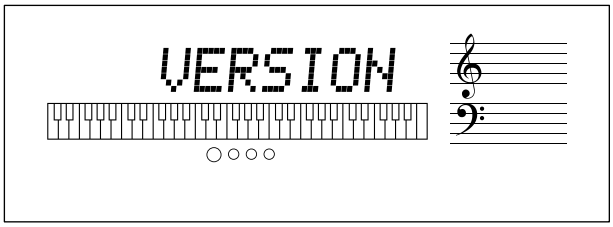


C-3. Press [0] button and check that all segments are turned off.

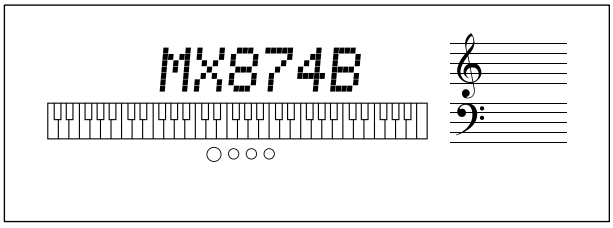


D. Model Test

D-1. Press [0] button to display the following screen.



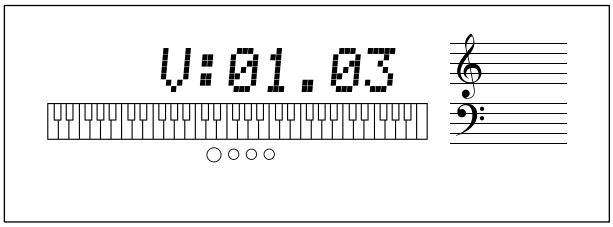
D-2. Press [0] button and check that the model name is “MX874B”.



E. ROM Version Check (This item is not an inspection)

E-1. Press [0] button to display the ROM version.

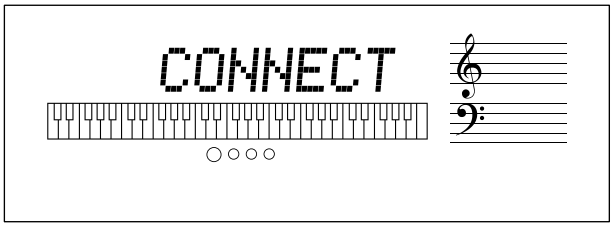
NOTE: The displayed ROM version may differ depending on the individual products. (The figure shown below indicates an example of display)



F. Pedal Test

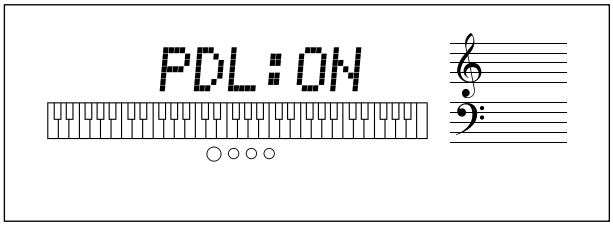
NOTE: This test cannot be performed without a pedal.

F-1. Press [0] button to display the following screen.

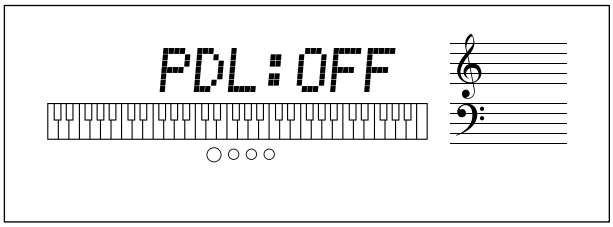


F-2. Connect the pedal to the PEDAL jack.

F-3. Press the pedal and check that the following screen appears.



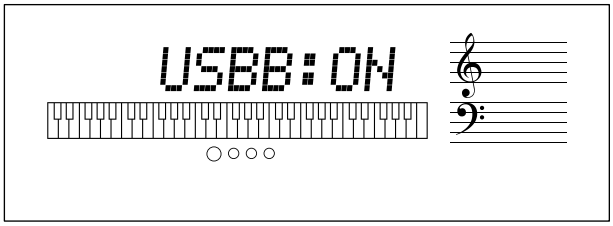
F-4. Release the pedal and check that the following screen appears.



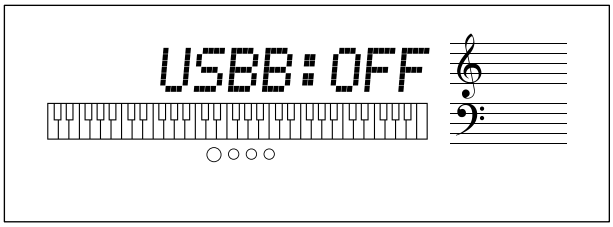
G. USB Test

NOTE: This test cannot be performed without a PC and USB cable.

G-1. Connect the USB port of digital keyboard and PC with a USB cable, and then check that the following screen appears.



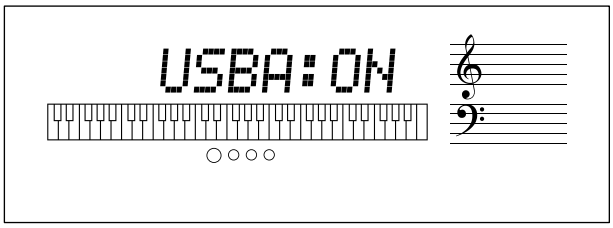
G-2. Disconnect the USB cable from the digital keyboard and check that the following screen.



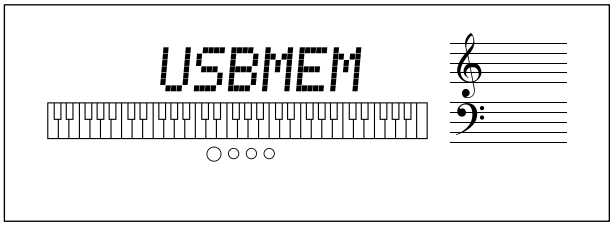
H. USB Flash Drive Test

NOTE: This test cannot be performed without a USB flash drive.

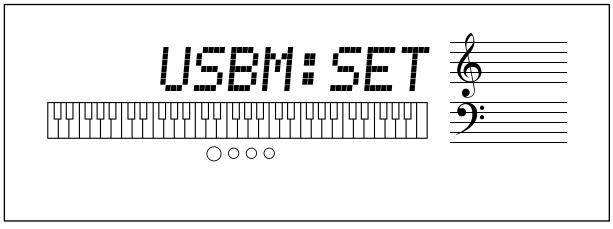
H-1. Insert a USB flash drive into the USB flash drive port and check that the following screen.

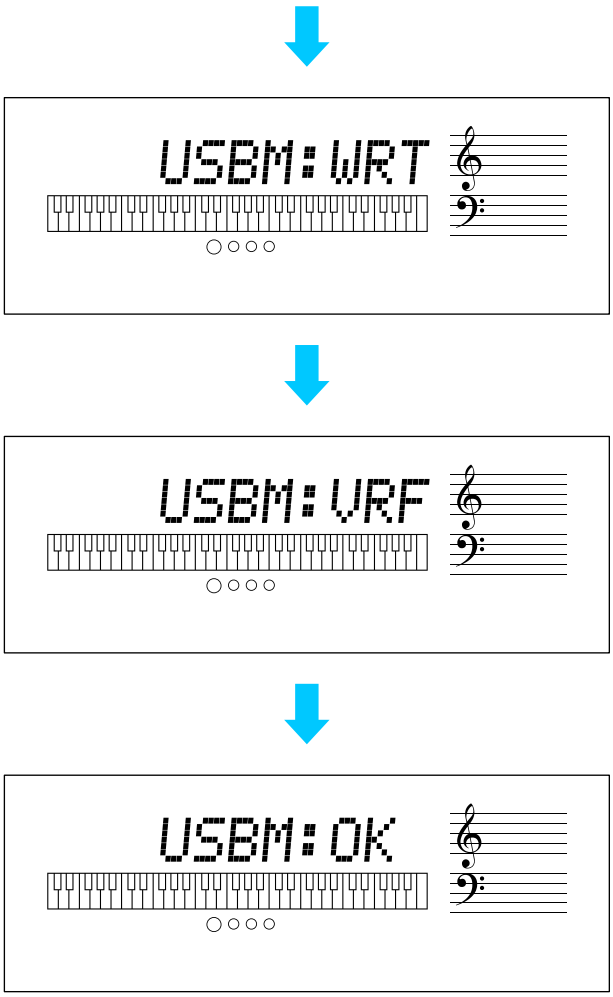


H-2. Press [0] button to display the following screen.

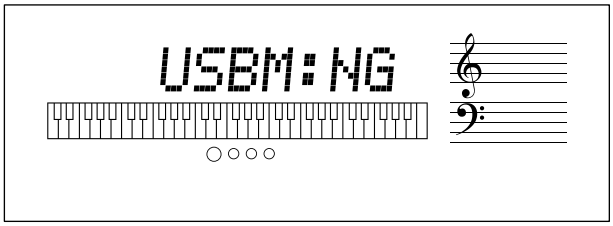


H-3. Press [0] button to begin the test and check that the screen changes as figure below.



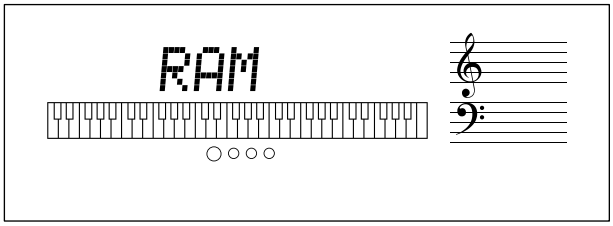


H-4. Remove the USB flash drive from the digital keyboard and check that the following screen.

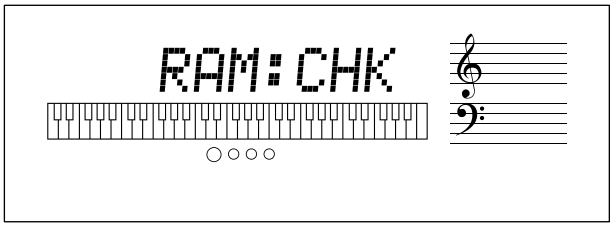


I. RAM Test

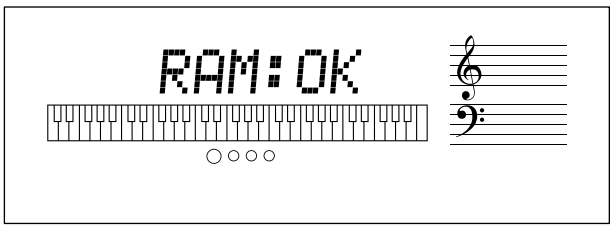
I-1. Press [0] button to display the following screen.



I-2. Press [0] button to begin the test.

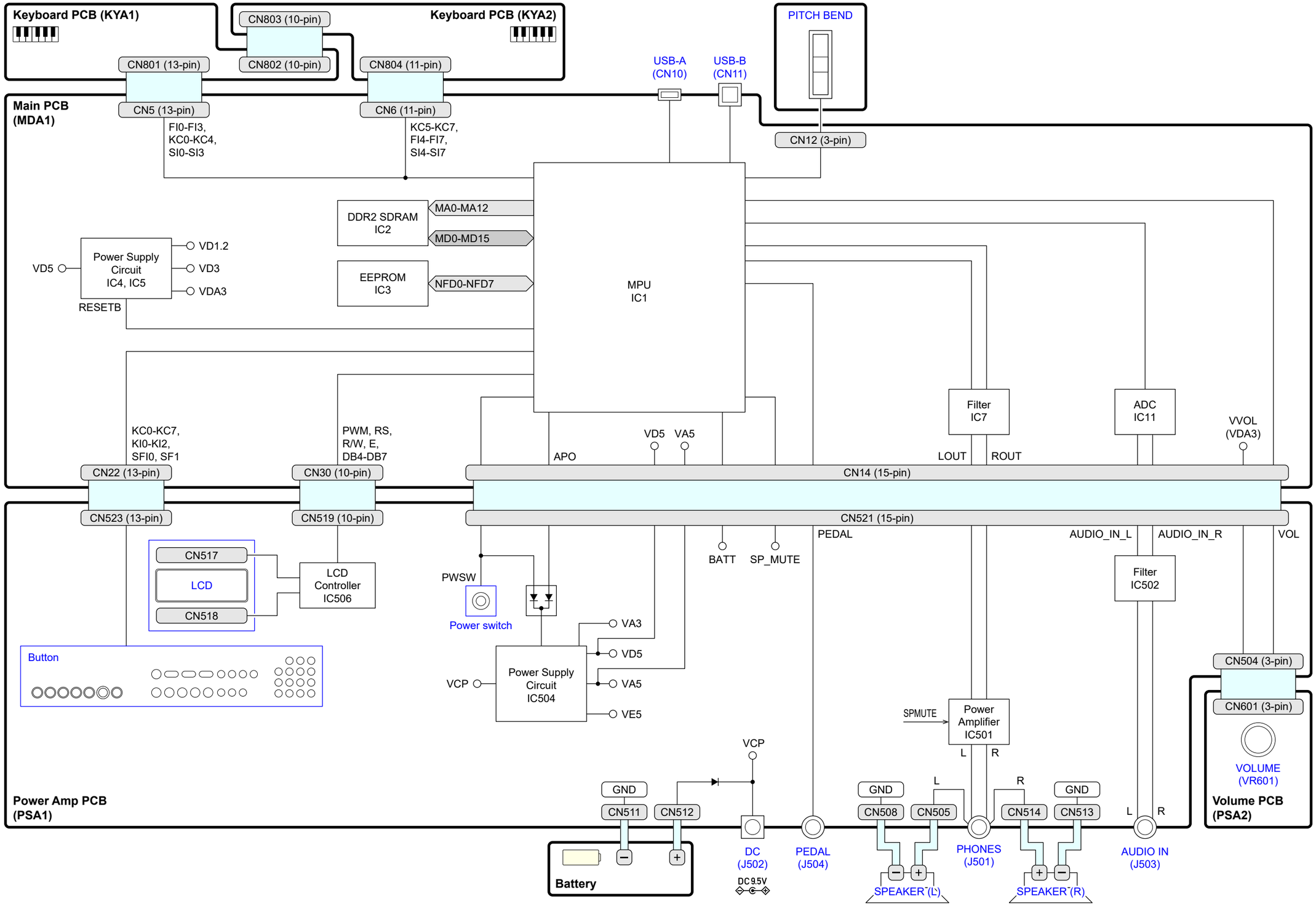


I-3. Check that the following screen.



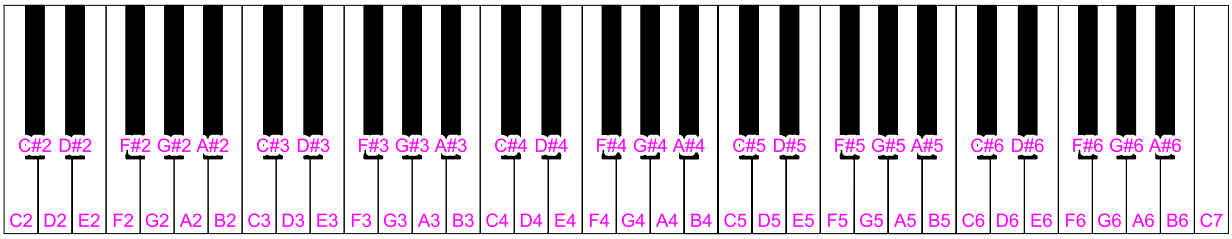
I-4. Turn off the power by holding down [⏻] button until the screen shuts down.

BLOCK AND WIRING DIAGRAM



CIRCUIT DESCRIPTION

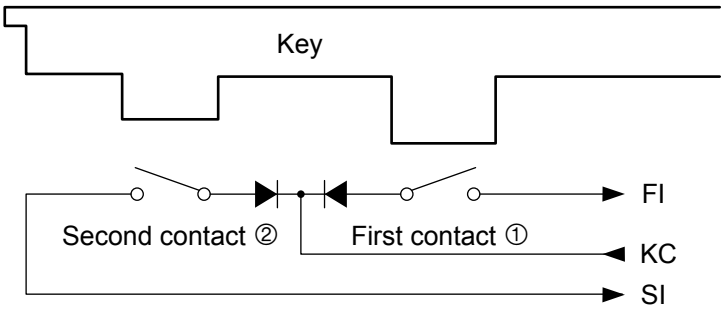
■ Nomenclature of Keys



■ Key Matrix

Each key has two contacts, the first contact ① and second contact ②.

NOTE: The diagram below illustrates how the contacts work.



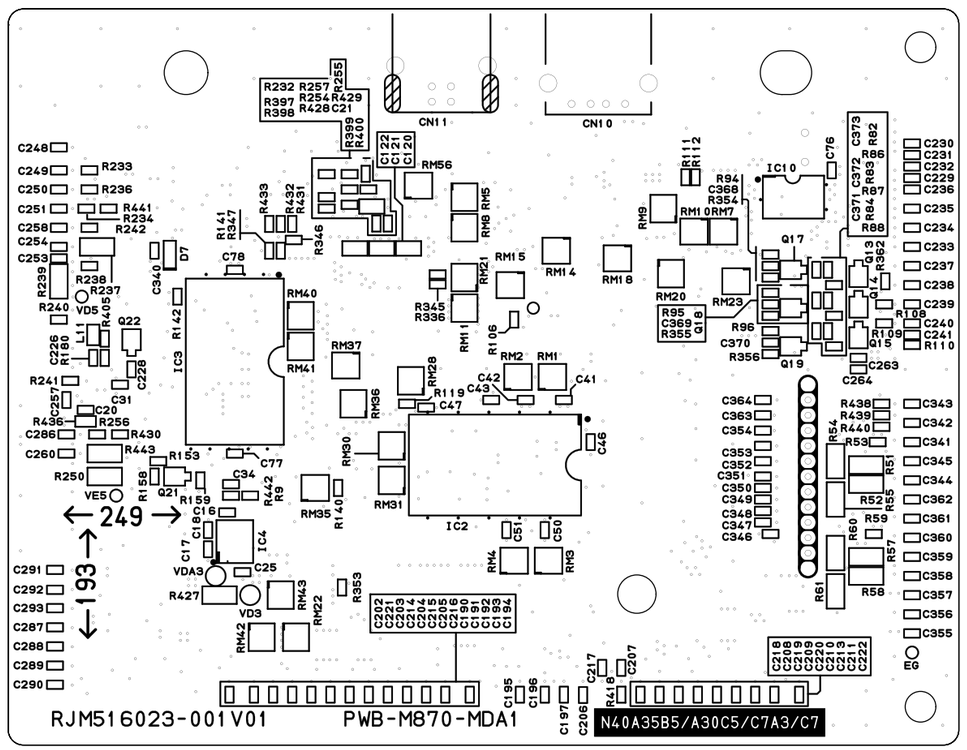
	KC0	KC1	KC2	KC3	KC4	KC5	KC6	KC7
FI0	C2①	C2#①	D2①	D2#①	E2①	F2①	F2#①	G2①
SI0	C2②	C2#②	D2②	D2#②	E2②	F2②	F2#②	G2②
FI1	G2#①	A2①	A2#①	B2①	C3①	C3#①	D3①	D3#①
SI1	G2#②	A2②	A2#②	B2②	C3②	C3#②	D3②	D3#②
FI2	E3①	F3①	F3#①	G3①	G3#①	A3①	A3#①	B3①
SI2	E3②	F3②	F3#②	G3②	G3#②	A3②	A3#②	B3②
FI3	C4①	C4#①	D4①	D4#①	E4①	F4①	F4#①	G4①
SI3	C4②	C4#②	D4②	D4#②	E4②	F4②	F4#②	G4②
FI4	G4#①	A4①	A4#①	B4①	C5①	C5#①	D5①	D5#①
SI4	G4#②	A4②	A4#②	B4②	C5②	C5#②	D5②	D5#②
FI5	E5①	F5①	F5#①	G5①	G5#①	A5①	A5#①	B5①
SI5	E5②	F5②	F5#②	G5②	G5#②	A5②	A5#②	B5②
FI6	C6①	C6#①	D6①	D6#①	E6①	F6①	F6#①	G6①
SI6	C6②	C6#②	D6②	D6#②	E6②	F6②	F6#②	G6②
FI7	G6#①	A6①	A6#①	B6①	C7①			
SI7	G6#②	A6②	A6#②	B6②	C7②			

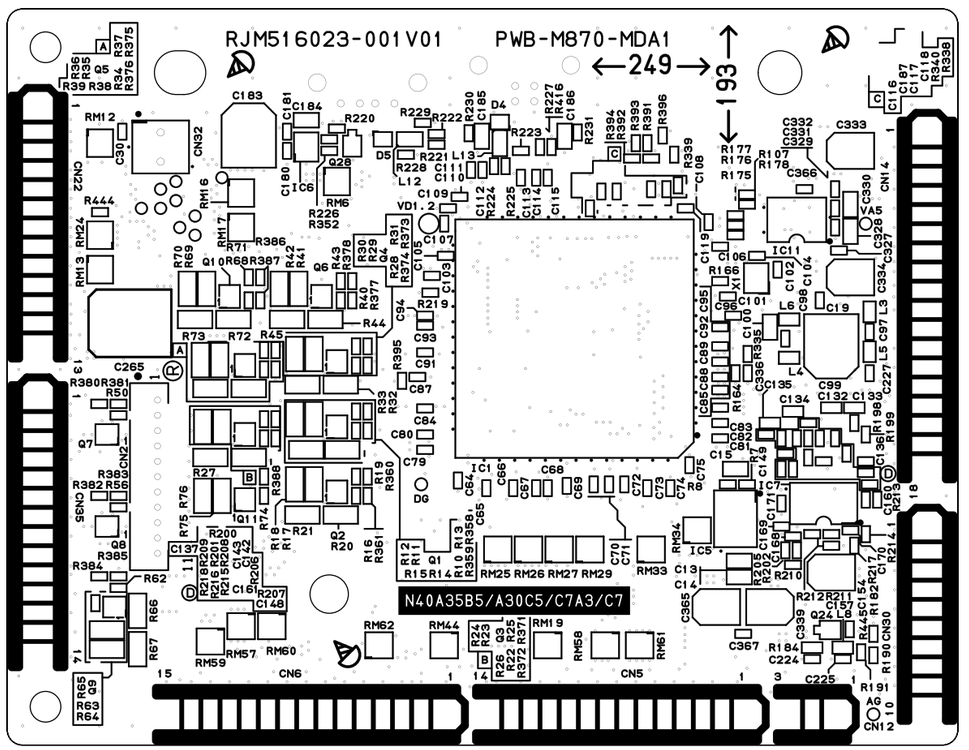
■ Button Matrix

	KI0	KI1	KI2	SFI0	SFI1
KC0			INTRO, REPEAT	VAR. FILL-IN, ◀◀ REW	NORMAL FILL-IN, A-B
KC1	TONE	[ACCOMP], PART SELECT, MUSIC PRESET	ENDING/ SYNCHRO START, ▶▶ FF	START/STOP, PLAY/STOP	SYNCHRO STOP, ▮▮ PAUSE
KC2	PIANO/ORGAN, TOUCH	CATEGORY	SONG BANK	RECORD/STOP	RHYTHM
KC3	SPLIT, POINT	EASY MODE, BANK, FREEZE	LAYER, OCTAVE	A.HAR./ARPEG., TYPE	STORE
KC4	Area 1, LISTEN	Area 2, WATCH	Area 3, REMEMBER	Area 4, PHRASE	CHORD MODE, CHORD BOOK
KC5	METRONOME, BEAT	+	FUNCTION	1	4
KC6	TEMPO/TAP	0	2	5	7
KC7	–	3	6	8	9

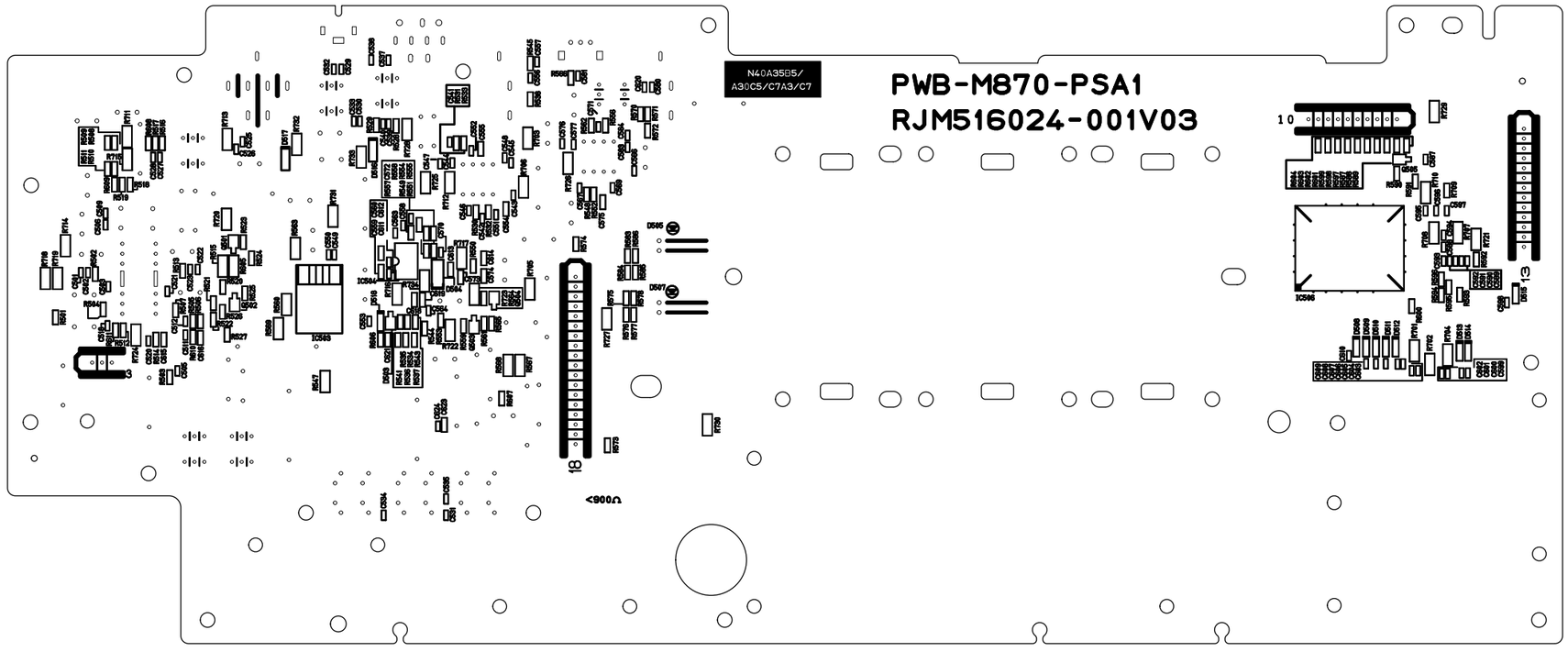
PRINTED CIRCUIT BOARDS

Main PCB: M870-MDA1

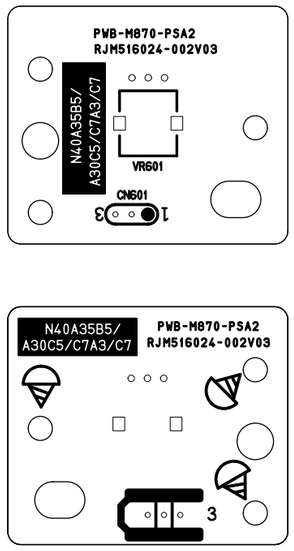




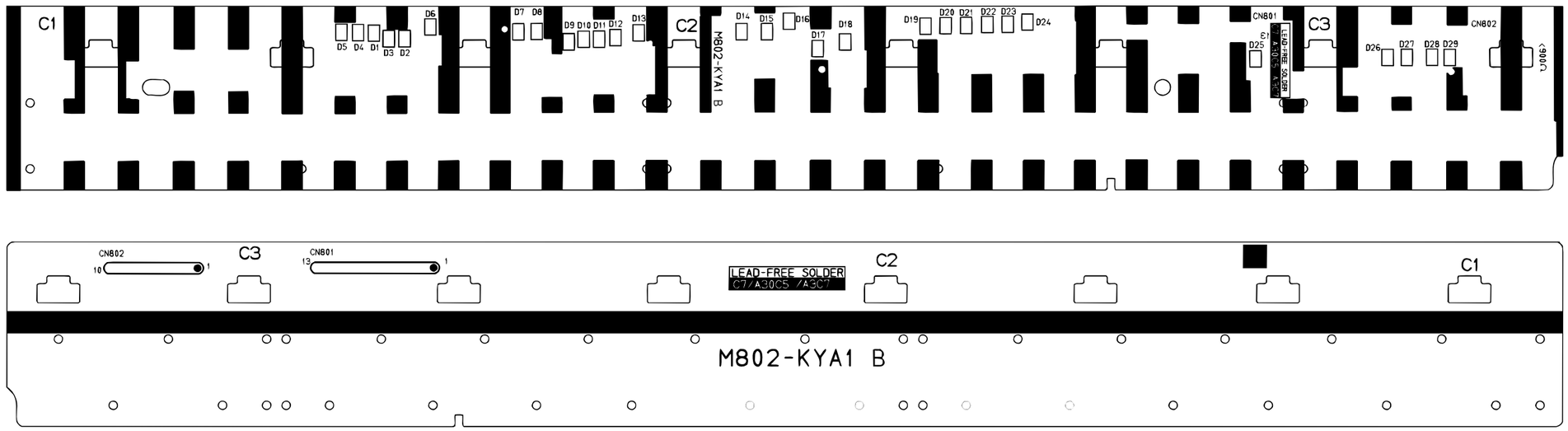
Power Amp PCB: M870-PSA1



Volume PCB: M870-PSA2



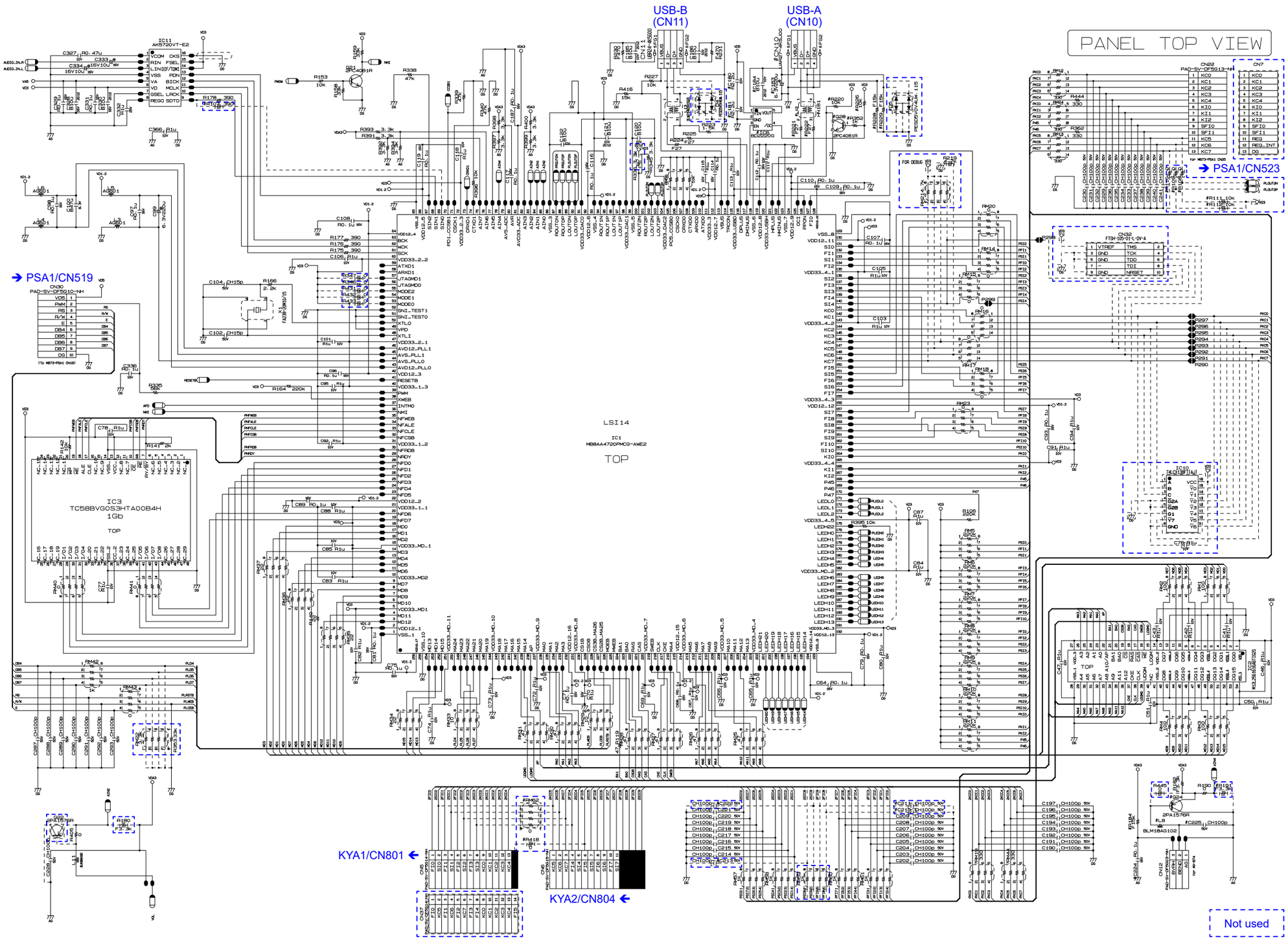
Keyboard PCB: M802-KYA1



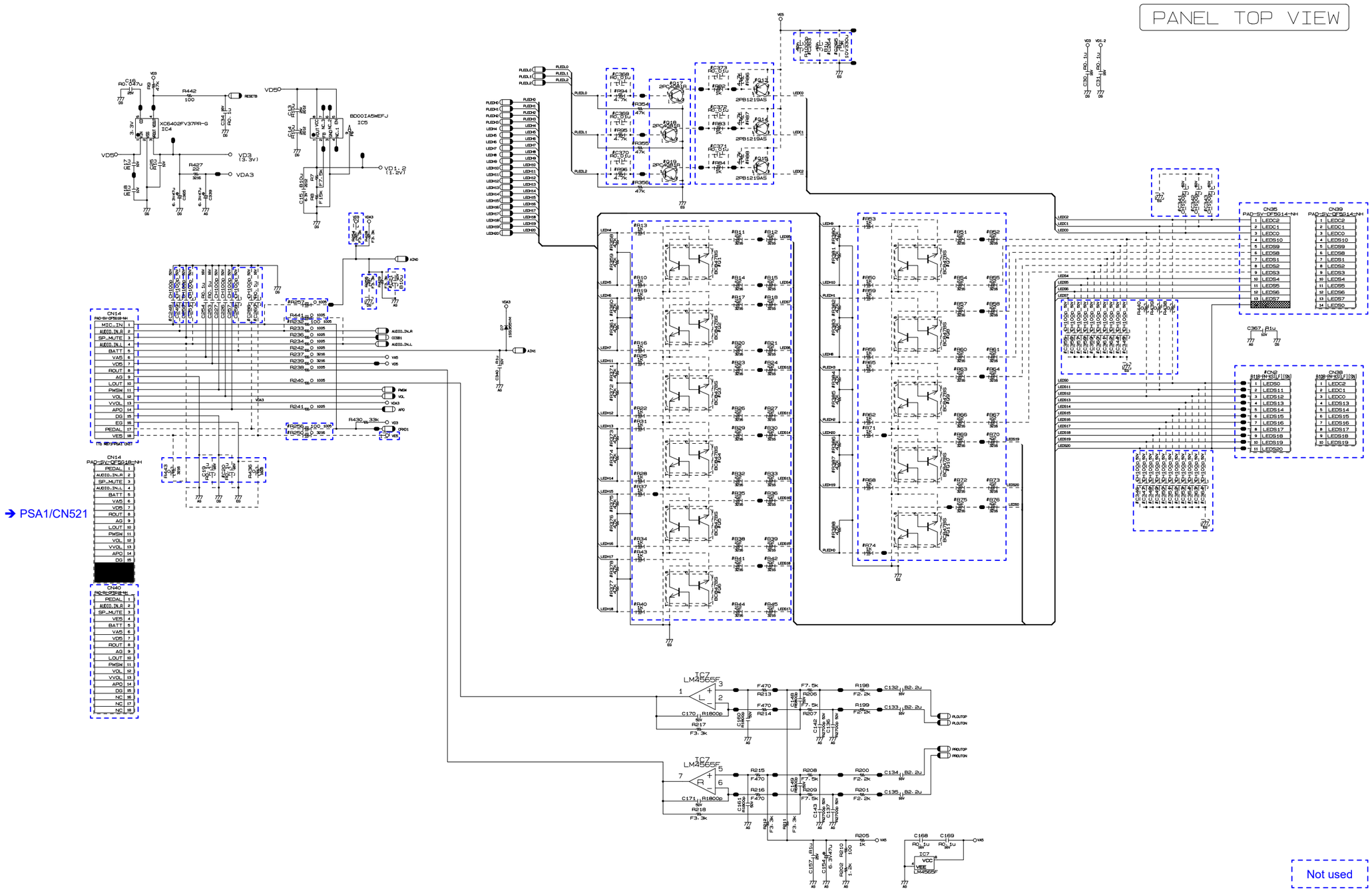
Keyboard PCB: M802-KYA2

SCHEMATIC DIAGRAMS

Main PCB: M870-MDA1 (1/2)

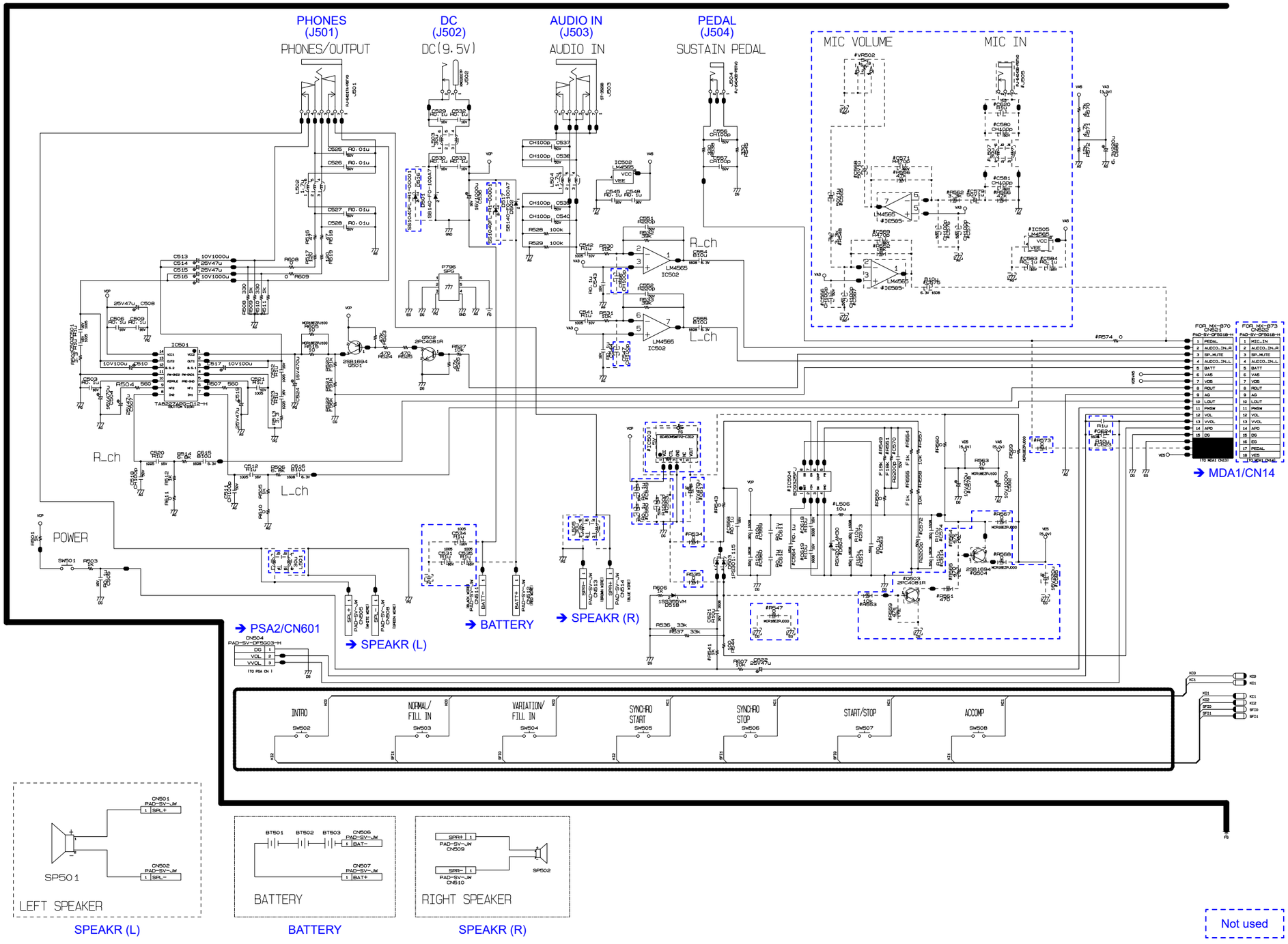


Main PCB: M870-MDA1 (2/2)

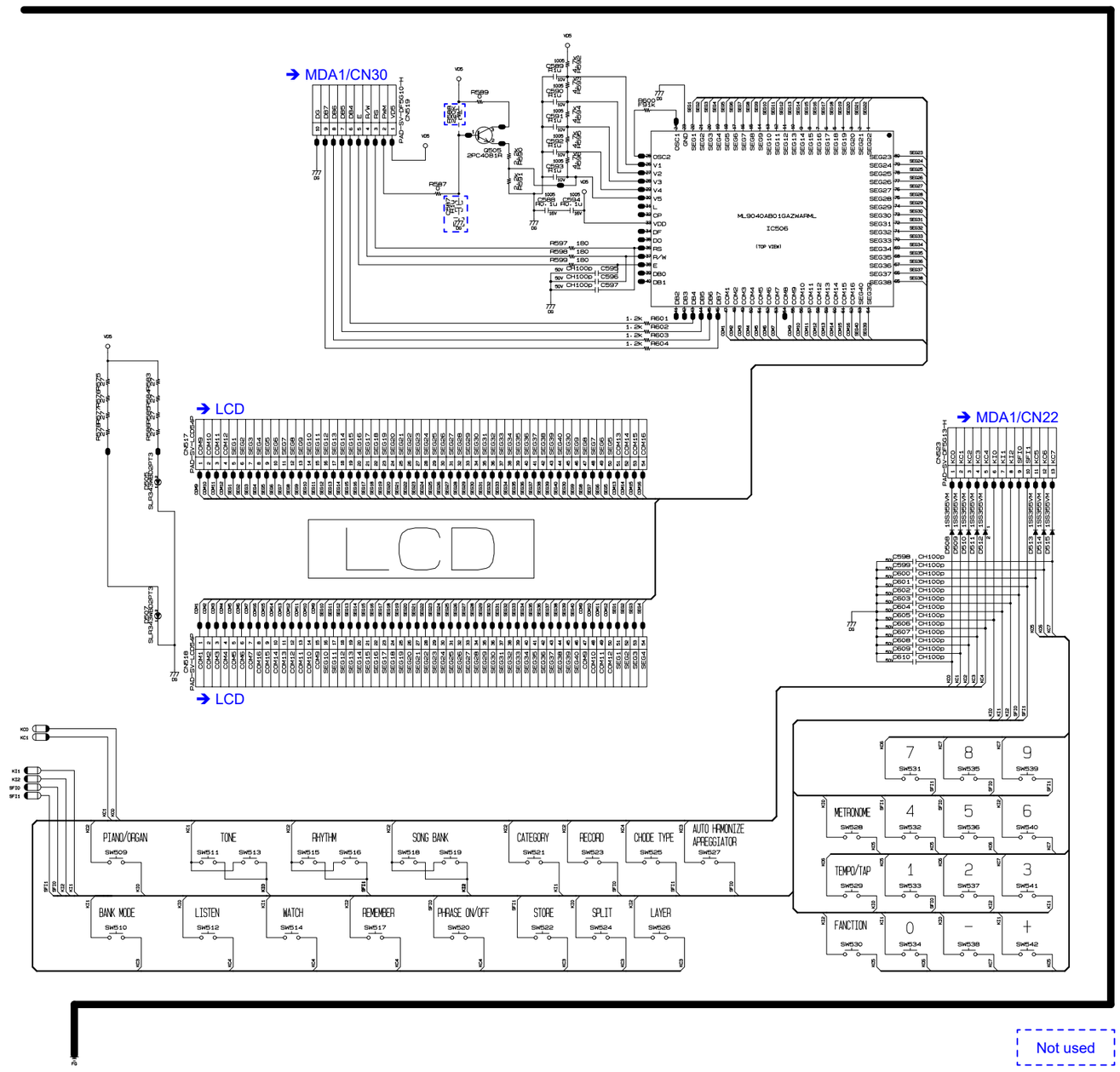


➔ PSA1/CN521

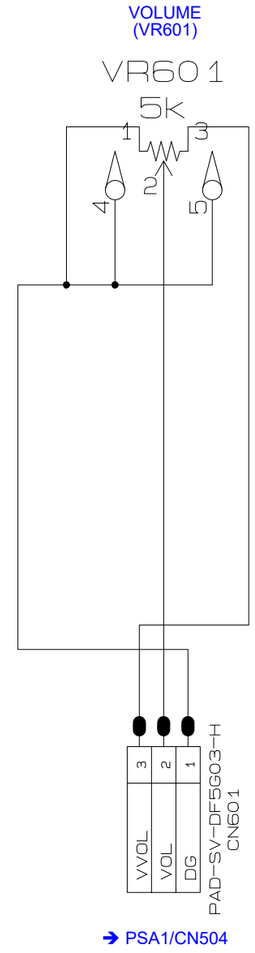
Power Amp PCB: M870-PSA1 (1/2)



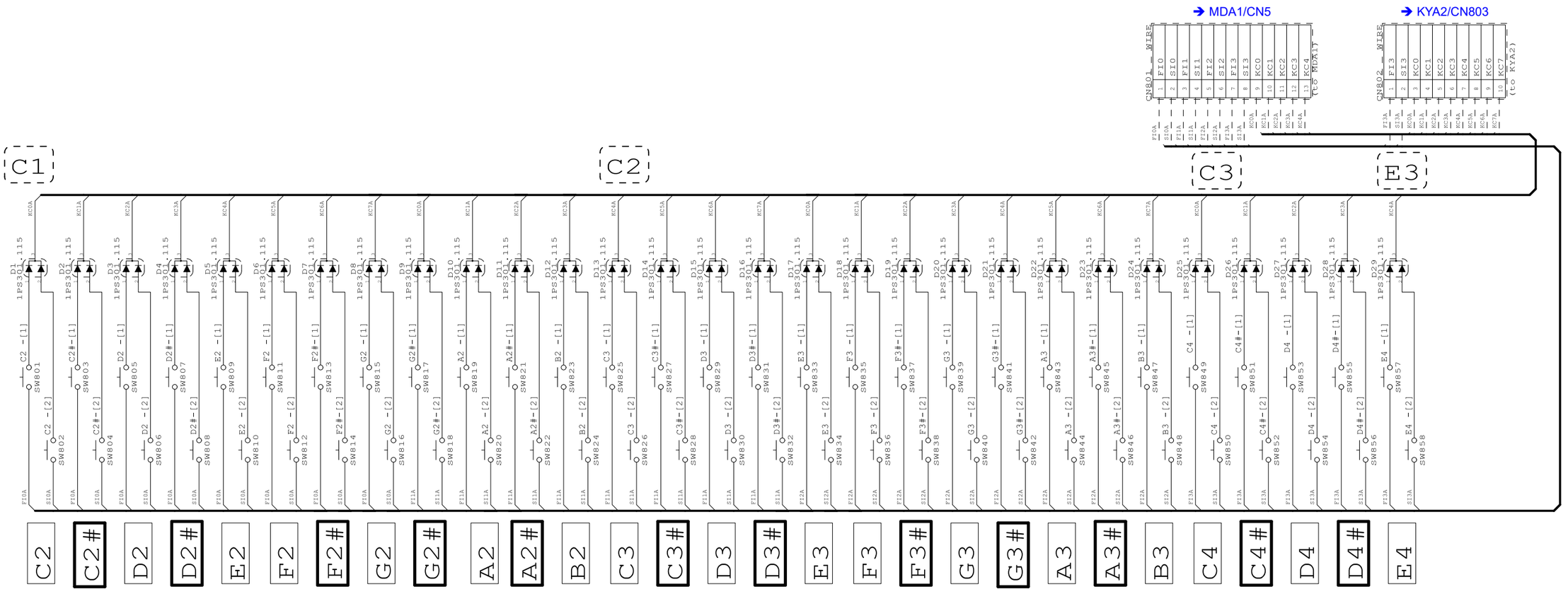
Power Amp PCB: M870-PSA1 (2/2)



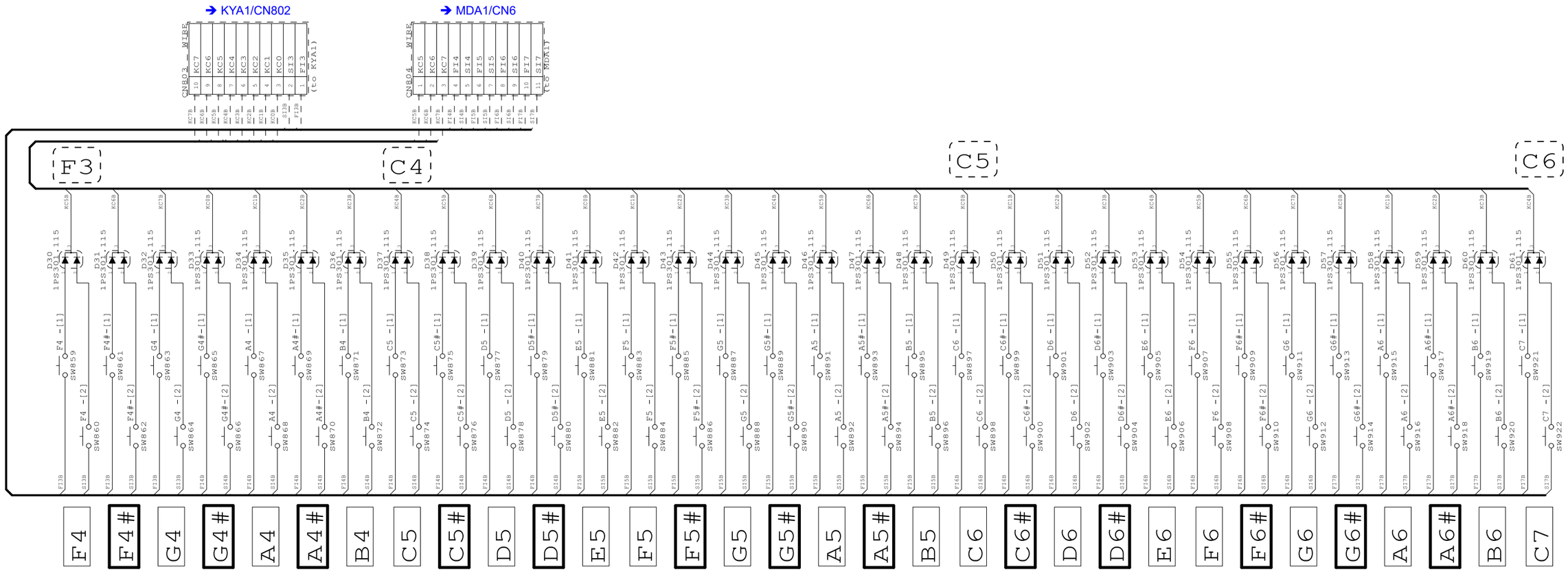
Volume PCB: M870-PSA2



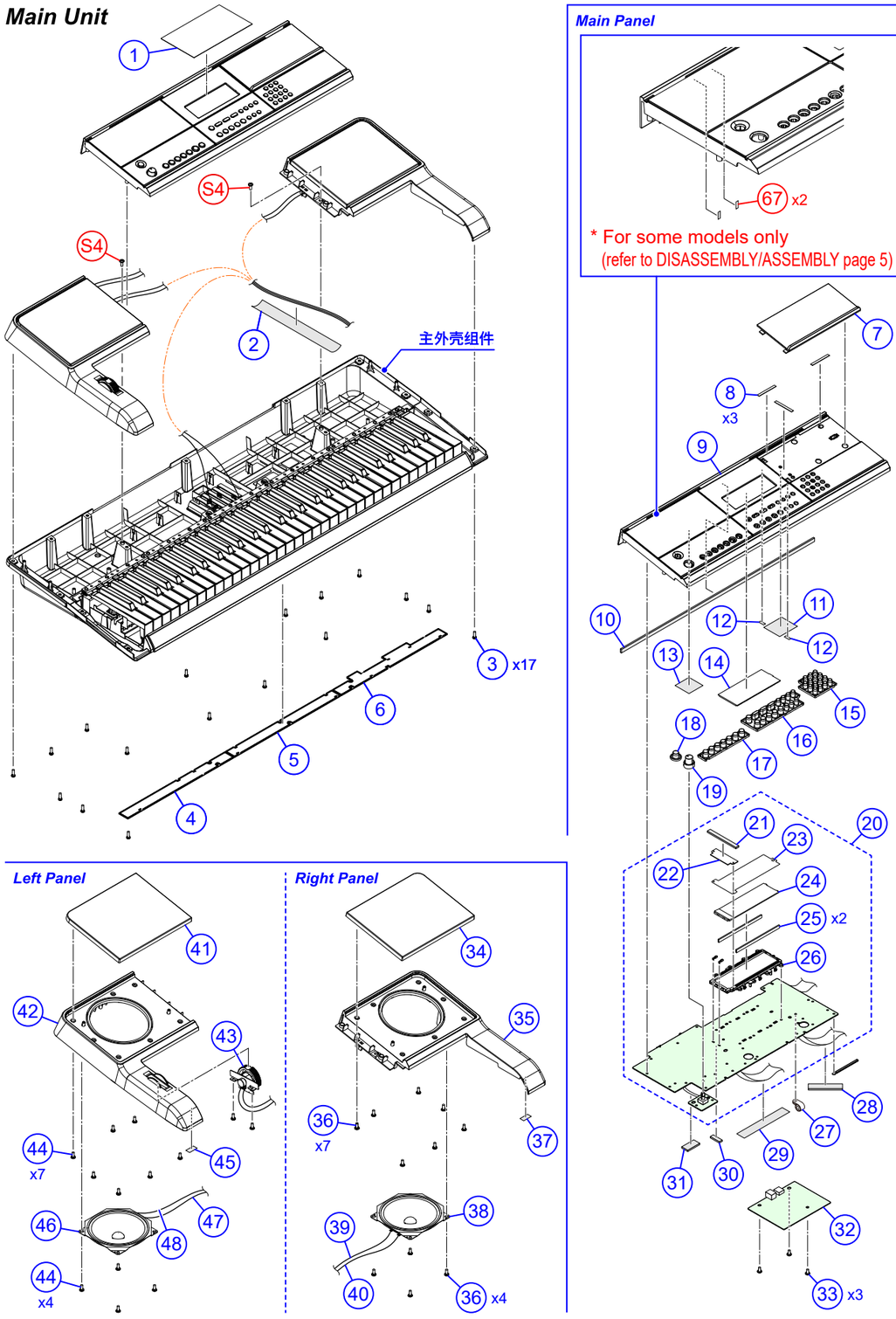
Keyboard PCB: M802-KYA1



Keyboard PCB: M802-KYA2



EXPLODED VIEW



PARTS LIST

CT-X870IN_DI

N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Main Unit				
N	1	10568212	DISPLAY PLATE	RJM516224-003V02	1	X	
N	2	10563768	SPONGE/50X260	RJM516354-001V01	1	X	for Wires
	3	10517162	SCREW	RJM514943-001V01	17	X	
	4	10521852	LOWER COVER/A	RJM508655-001V05	1	X	
	5	10521853	LOWER COVER/B	RJM508656-001V05	1	X	
	6	10521854	LOWER COVER/C	RJM508657-001V05	1	X	
	S4	10203788	SCREW	S-WLB0-4X10Z3NQ	2	X	
			Main Panel				
N	7	10558735	PLATE	RJM516106-002V01	1	X	
N	8	10540407	FABRIC TAPE/5X45	RJM515372-001V01	3	X	
N	9	10564562	CASE/PANEL	RJM516103-004V01	1	X	
	10	10136565	PACKING/8X510	M441190-002V01	1	X	
N	11	10563769	SHEET/V-ZERO	RJM516425-001V01	1	X	
	12	69210550	FABRIC TAPE/5X13	M412026-1	2	X	
N	13	10568196	SHEET/V-ZERO	RJM516523-001V01	1	X	
N	14	10567929	LCD	UNC-LTNN014320-02	1	X	
N	15	10558740	RUBBER BUTTON/C	RJM516089-002V01	1	X	
N	16	10558739	RUBBER BUTTON/B	RJM516088-002V01	1	X	
N	17	10558738	RUBBER BUTTON/A	RJM516087-002V01	1	X	
N	18	10564553	RUBBER BUTTON/A	RJM511139-007V01	1	X	Power button
	19	10553264	KNOB/for ROTARY	RJM515607-001V01	1	C	
N	20	10566275	BACK LIGHT UNIT	TK-RJM516205*003	1	X	PSA1/PSA2
	21	10270485	SPONGE/8X75	M441167-001V01	1	X	
	22	10131094	TOP PIECE	RJM502565-001V01	1	X	
N	23	10559870	FILM	RJM516225-001V01	1	X	
N	24	10557981	BACK LIGHT PLATE	RJM516108-001V01	1	X	
N	25	10559868	RUBBER CONNECTOR/for LCD	RJM516226-001V01	2	X	
N	26	10557978	REFLECTOR	RJM516107-001V01	1	X	
	J502	10537493	JACK/DC	KM02007P	1	A	DC terminal
	J501	10478582	JACK/PHONE	PJ-64017A-PBTV0	1	B	PHONES jack
	J504	10490438	JACK/SUSTAIN	PJ-64043B-PBTV0	1	C	PEDAL jack
	J503	10305131	JACK/AUDIO IN	ST-3529B	1	B	AUDIO IN jack
	VR601	10554608	VARIABLE RESISTOR	F-09KH1-CASIO-3	1	B	Volume
	27	10204256	FERRITE CORE	TRCN16-13	1	X	for Bender cable
	28	10048978	SPONGE/20X80	M440721-1	1	X	for Ribbon cable
	29	10164446	FABRIC TAPE/20X120	RJM502073-002V01	1	X	for Ribbon cable
	30	10139463	PACKING/10X30	RJM503575-001V01	1	X	for LED leads
	31	10127790	SPONGE/20X40	RJM503059-001V02	1	X	for Ribbon cable
N	32	10573314	PCB UNIT/MAIN	TK-RJM516571*001	1	A	MDA1
	CN10	10432772	USB CONNECTOR (type A)	UAR27-4K5J00	1	C	USB-A port
	CN11	10236624	USB CONNECTOR (type B)	UBR24-4K5G00	1	C	USB-B port
N	33	10517163	SCREW	RJM514945-001V01	3	X	
	67	10609381	SHEET/V-ZERO	RJM517844-001V01	2	B	Spacer*
				* For some models only (refer to DISASSEMBLY/ASSEMBLY Page 5)			

<Notes>

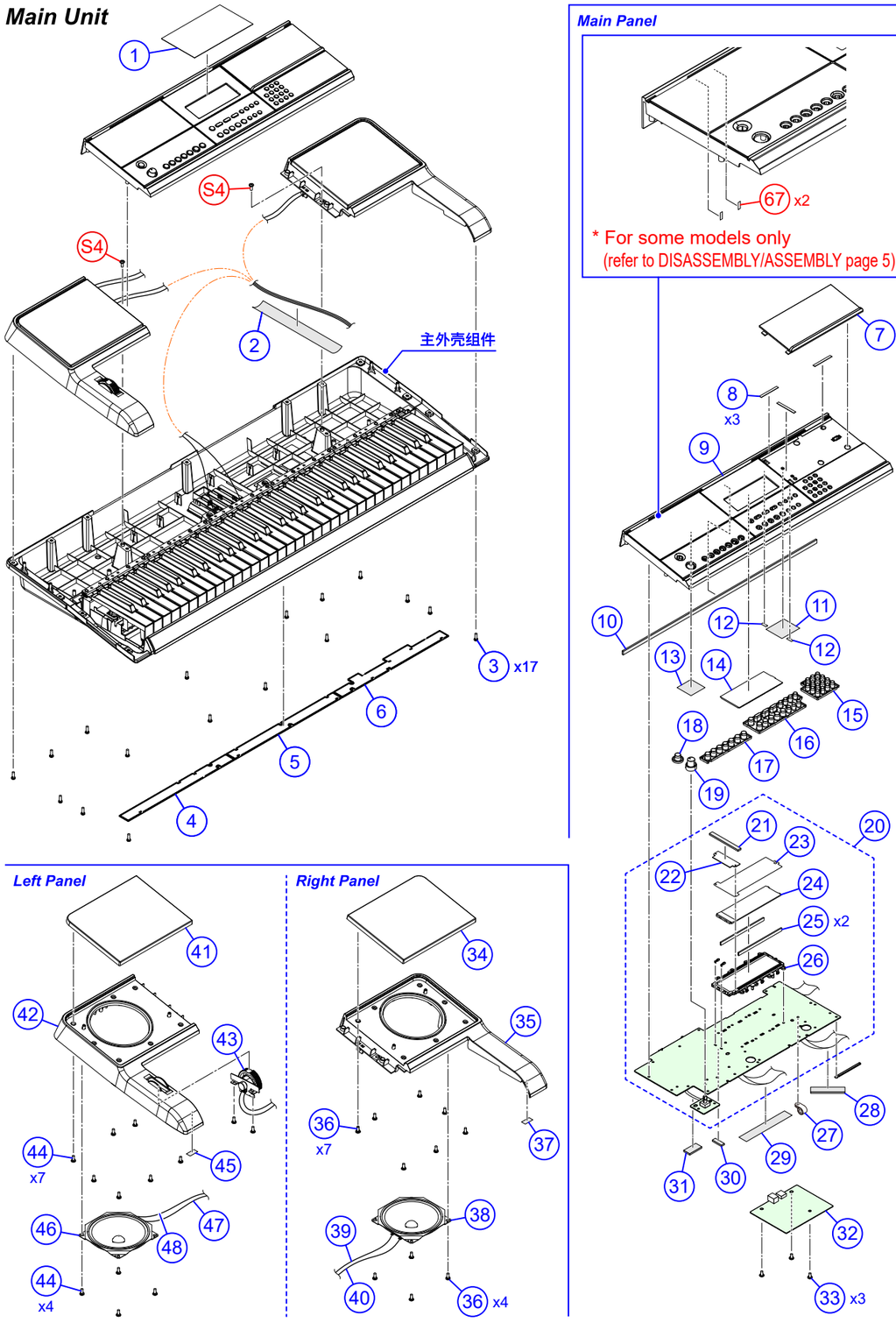
Price Code : Refer the latest “Parts Price Code” at “PARTS FINDER” on the Casio Service Website (https://www.servicecasio.com).

N : New parts

Q’ty : Quantity used per unit

R : Rank (A: Essential, B: Stock recommended, C: Others, X: No stock recommended)

EXPLODED VIEW



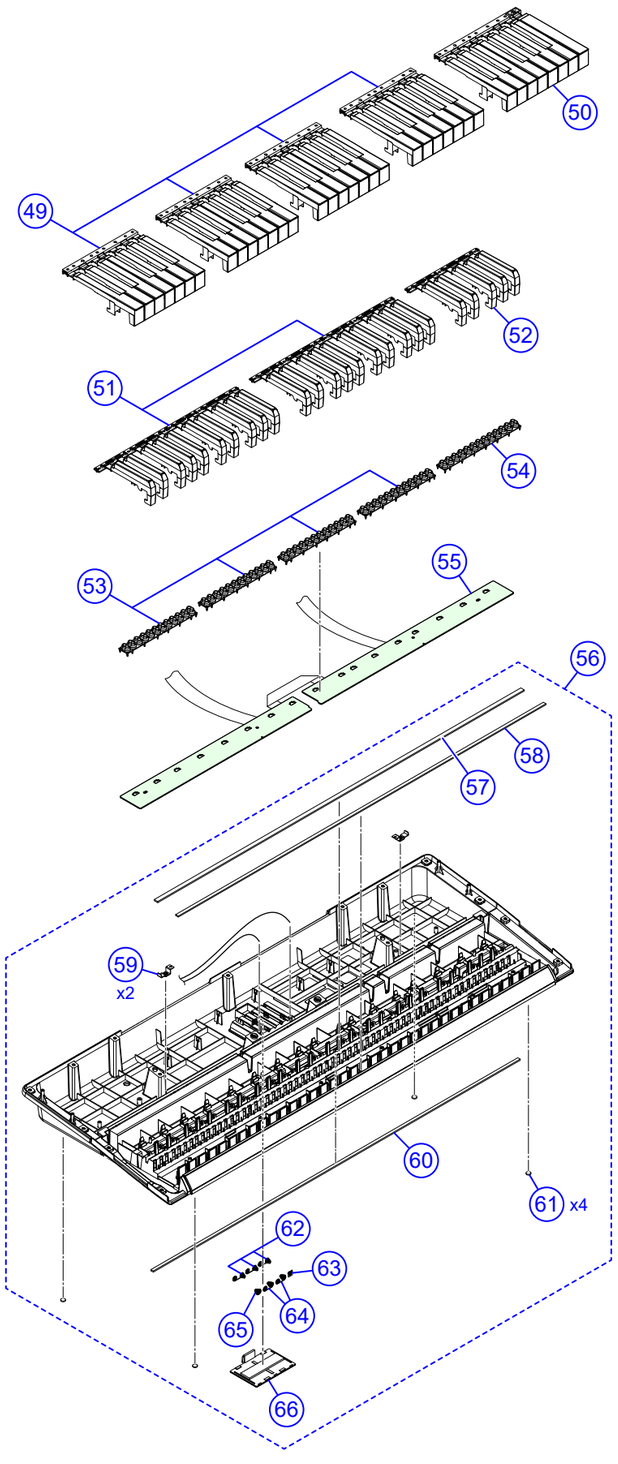
PARTS LIST

CT-X870IN_DI

N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Right Panel				
N	34	10566331	SPEAKER COVER/RIGHT	RJM516119*002V02	1	X	
N	35	10558742	SIDE PANEL/RIGHT	RJM516105-002V01	1	X	
N	36	10517163	SCREW	RJM514945-001V01	11	X	
N	37	10537088	FABRIC TAPE/20X10	M411742-004V01	1	X	
	38	10472328	SPEAKER	CJ12FD02	1	X	
	39	10377007	WIRE	1007TASC24850B3030	1	X	Blue
	40	10377008	WIRE	1007TASC24850T3030	1	X	Brown
			Left Panel				
N	41	10566329	SPEAKER COVER/LEFT	RJM516118*002V02	1	X	
N	42	10564563	SIDE PANEL/LEFT	RJM516104-003V01	1	X	
N	43	10566277	BENDER UNIT	TK-RJM516439*001	1	C	Pitch bend
N	44	10517163	SCREW	RJM514945-001V01	11	X	
N	45	10537088	FABRIC TAPE/20X10	M411742-004V01	1	X	
	46	10472328	SPEAKER	CJ12FD02	1	X	
N	47	10564948	WIRE	1007TASC24500W3030	1	X	White
N	48	10564947	WIRE	1007TASC24500G3030	1	X	Green

EXPLODED VIEW

Main Case Unit



PARTS LIST

CT-X870IN_DI

N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Main Case Unit				
	49	10399802	WHITE KEY/CB	RJM507243*004V03	4	B	
	50	10399803	WHITE KEY/CS	RJM507244*004V03	1	C	
	51	10406652	BLACK KEY/10p	RJM506595-005V03	2	B	
	52	10406653	BLACK KEY/5p	RJM506595-006V03	1	B	
	53	10269451	RUBBER CONTACT/CB	RJM507656-001V01	4	B	
	54	10452739	RUBBER CONTACT/CS	RJM507657-001V02	1	C	
	55	10313200	PCB UNIT/KEYBOARD/KYA	TK-RJM508618*002	1	C	KYA1/KYA2
N	56	10560275	CASE UNIT/MAIN	TK-RJM516221*002	1	X	
	57	10513861	FELT/LOWER LIMIT/KEYBOARD	RJM508593-001V03	1	X	
	58	10513862	FELT/DAMPER/KEYBOARD	RJM509138-001V02	1	X	
	59	10284332	BRACKET/for STAND	M440866-001V02	2	X	
	60	10513859	FELT/UPPER LIMIT/KEYBOARD	M440342-001V04	1	X	
N	61	10555159	RUBBER FOOT	RJM515614-006V01	4	X	
	62	69271070	BATTERY TERMINAL/B	M440677-1	3	X	
	63	10400576	BATTERY TERMINAL/+	RJM511046-001V01	1	X	
	64	69271060	BATTERY TERMINAL/A	M440676-1	2	X	
	65	10380432	BATTERY TERMINAL/-	M440002-001V03	1	X	
N	66	10560276	COVER UNIT/BATTERY	TK-RJM516219*002	1	X	
			Accessory				
N	-	10558733	MUSIC STAND	RJM516109-002V01	1	C	

SPECIFICATIONS

Keyboard	61 standard size keys
Touch Response	3 types, Off
Maximum Polyphony	48 notes (24 for certain tones)
Tones	
Built-in Tones	600
Functions	Layer, Split, Piano/Organ button
Reverb	1 to 20, Off
Chorus	1 to 10, Tone
Metronome	
Beats per Measure	0 to 9
Tempo Range	20 to 255
Song Bank	
Demo Song	1
Built-in Songs	160
User Songs	10*1
User-recorded songs	6 (Refer “Recorder” below.)*1
Step Up Lesson	
Lessons	3 (Listen, Watch, Remember), Easy Mode
Lesson Part	L, R, LR
Functions	Repeat, Voice Fingering Guide, Note Guide, Performance Evaluation
Auto Accompaniment	
Built-in Rhythms	195
User Rhythms	10*2
Chord Book Function	Chord guide
Registration	32 (4 setups × 8 banks)
Recorder	Real-time recording, playback
Keyboard Play	5 songs, 6 tracks
Playing Along with a Built-in Songs	1 song (L, R, LR)
Memory Capacity	Approximately 40,000 notes (1 song)
Other Functions	
Transpose	±1 octaves (–12 to +12 semitones)
Octave Shift	Upper 1/Upper 2/Lower, ±3 octaves
Tuning	A4 = 415.5 to 465.9 Hz (Initial Default: 440.0 Hz)
Preset Scales	17
Music Preset	310
One Touch Preset	195
Auto Harmonize	12 types
Arpeggiator	100 types
MIDI	16 multi-timbre received, GM Level 1 standard

Musical Information Function	Tone, Rhythm, Song Bank numbers and names, staff notation, fingering, pedal operation, tempo, measure and beat number, chord name, etc.
Pitch Bend Wheel	Pitch Bend Range 0 to 24 semitones
USB Flash Drive	SMF direct playback, data storage, data loading, data deleting, USB flash drive format
Inputs/Outputs	
USB flash drive port	TYPE A
USB port	TYPE B
PEDAL jack	Standard jack (6.3mm): sustain, sostenuto, soft, rhythm
Phones/Output jack	Stereo standard jack (6.3mm) Output Impedance: 167 Ω, Output Voltage: 4.5 V (RMS) MAX
Audio In jack	Stereo mini jack (3.5mm) Input Impedance: 10 kΩ, Input Sensitivity: 200 mV
Power Jack	DC 9.5 V
Power Supply	2-way
Batteries	6 AA-size alkaline batteries
Battery Life	Approximately 3 hours continuous operation on alkaline batteries
AC Adaptor	AD-E95100L
Auto Power Off	Approximately 30 minutes after last operation; Can be disabled.
Speakers	12 cm × 2 (Output: 2.5 W + 2.5 W)
Power Consumption	9.5 V ⎓ 7.5 W
Dimensions	94.8 × 35.0 × 10.9 cm (37 $^{5}/_{16}$ × 13 $^{3}/_{4}$ × 4 $^{5}/_{16}$ inch)
Weight	Approximately 4.4 kg (9.7 lbs) (without batteries)

*1 Maximum capacity per song: Approximately 320 kilobytes

*2 Maximum capacity per rhythm: Approximately 64 kilobytes (1 kilobyte = 1,024 bytes)