

ROLAND DIGITAL PIANO

FP-10-BK/BKL

KSCFP10-BK

SERVICE NOTES

Issued by RJA



Revise Information

Jan. 14, 2020	p. 9, p. 11	Added a procedure and corrected an error.
Oct. 15, 2018	p. 10	Changed screws.
Apr. 5, 2021	p. 22	Changed the BLE version table.
	p. 8	Added a part.
May. 10, 2022	p. 17	Changed the keyboard unit.
Jun. 23, 2013	p. 23	Added a test item.

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Cautionary Notes

Before beginning the procedure, please read through this document. The matters described may differ according to the model.

Back Up User Data!

User data may be lost during the course of the procedure. Refer to **Data Backup and Restore Operations** (p. 22) in the Service Notes and save the data. After completing the procedure, restore the backed-up data to the product.

Parts List

A component whose part code is ***** will not be supplied as a service part because one of the following reasons applies.

- Because it is supplied as an assembled part (under a different part code).
- Because a number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Because supply is prohibited due to copyright restrictions.
- Because reissuance is restricted.
- Because the part is made to order (at current market price).
- Because it is carried in electronic data on the Roland web site.
- Because it is a package or an accessory irrelevant to the function maintenance of the main body.
- Because it can be replaced with an article on the market. (battery or etc.)
- Because it is sold as a product.

Circuit Diagram

In the circuit diagram, "NIU" is an abbreviation for "Not in Use," and "UnPop" is an abbreviation for "Unpopulated." They both mean non-mounted components. The circuit board and circuit board diagram show silk-screened indications, but no components are mounted.

There are cases that the circuit diagrams are omitted. This omission will happen to the highly integrated digital circuit boards (e.g. Main Board etc) that are virtually impossible to repair nor analyze.

Specification

Roland FP-10: Digital piano

[Keyboard]

Keyboard

88 keys (PHA-4 Standard Keyboard: with Escapement and Ivory Feel)

Touch Sensitivity

Key Touch: 5 types, fixed touch

Keyboard Mode

Whole

Dual

Twin Piano

Pedals

Damper (capable of half pedal when optional pedal connected)

Accessory pedal DP-2 (Pedal switch)

Optional pedal DP-10 (capable of half pedal)

[Sound Generator]

Piano Sound

SuperNATURAL Piano Sound

Max. Polyphony

96 voices

Tones

Piano: 4 Tones

E.Piano: 2 Tones

Other: 9 Tones

Stretched Tuning (only for piano tones)

Always On

Master Tuning

415.3 Hz–466.2 Hz (adjustable in increments of 0.1 Hz)

Transpose

-6– +5 (in semitones)

Effects

Ambience (0–10)

Brilliance (-10– +10)

Only for Piano Tones:

String Resonance (Always On)

Damper Resonance (Always On)

Key Off Resonance (Always On)

[Metronome]

Tempo

Quarter note = 10–500

Beat

0/4, 2/2, 3/2, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 3/8, 6/8, 8/8, 9/8, 12/8

Volume

10 levels

[Bluetooth]

MIDI

Bluetooth Ver 4.0

[Internal Songs]

Internal Songs

Listening: 17 songs

Tone Demo: 15 songs

[Others]

Connectors

DC In jack

USB COMPUTER port: USB Type B

Update port: USB Type A

Phones jacks (usable as output jack) x 1: Stereo miniature phone type

Rated Power Output

6 W x 2

Speakers

12 cm (4-3/4 inches) x 2

Language

English

Control

Volume (with the speaker volume and the headphones volume automatically select function)

Other Functions

Auto Off

Power Supply

AC adaptor

Power Consumption

4 W (3–6 W)

4 W: Average power consumption while piano is played with volume at center position

3 W: Power consumption immediately after power-up; nothing being played

6 W: Rated power consumption

Dimensions

With music rest detached:

1,284 (W) x 258 (D) x 140 (H) mm

50-9/16 (W) x 10-3/16 (D) x 5-9/16 (H) inches

With music rest:

1,284 (W) x 298 (D) x 324 (H) mm

50-9/16 (W) x 11-3/4 (D) x 12-13/16 (H) inches

With music rest and dedicated stand KSCFP10:

1,284 (W) x 298 (D) x 929 (H) mm

50-9/16 (W) x 11-3/4 (D) x 36-5/8 (H) inches

Without music rest and dedicated stand KSCFP10, Stabilizers mounted:

1,292 (W) x 343 (D) x 745 (H) mm

50-7/8 (W) x 13-9/16 (D) x 29-3/8 (H) inches

Weight

With music rest detached:

12.3 kg

27 lbs 2 oz

With music rest and dedicated stand KSCFP10:

19.7 kg

43 lbs 7 oz

Accessories

Owner's Manual (#5100061924)

Music Rest (#5100061706)

AC Adaptor (#5100061927)

Power Cord (for connecting AC Adaptor) (#02562456, #5100012293,

#5100018086, #01903356, #5100033404, #5100019558, #5100039367)

Pedal switch (#*****)

Options (sold separately)

Dedicated Stand: KSCFP10

Keyboard Stand: KS-12

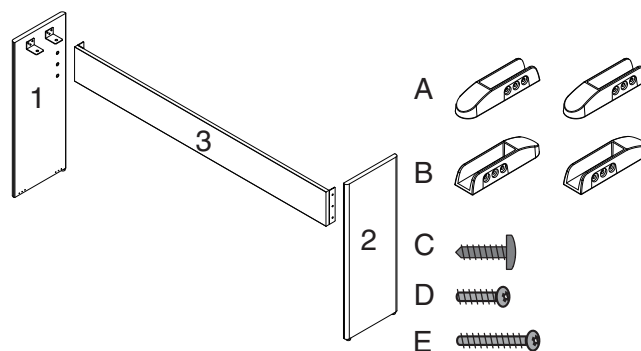
Damper Pedal: DP-10

Carrying Bag: CB-88RL, CB-76RL

Headphones

Contents of KSCFP10

KSCFP10 consists of the following parts.



1: Side board left (#*****)

2: Side board right (#*****)

3: Center board (#*****)

A: Stabilizers screw holes left (#5100063645) x 2

B: Stabilizers screw holes right (#5100063800) x 2

C: Screw with pointed tip (4x14mm) (#40012145) x 12

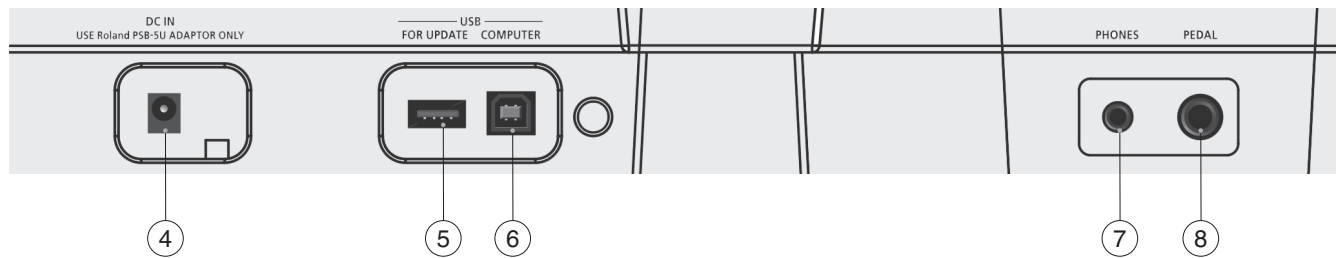
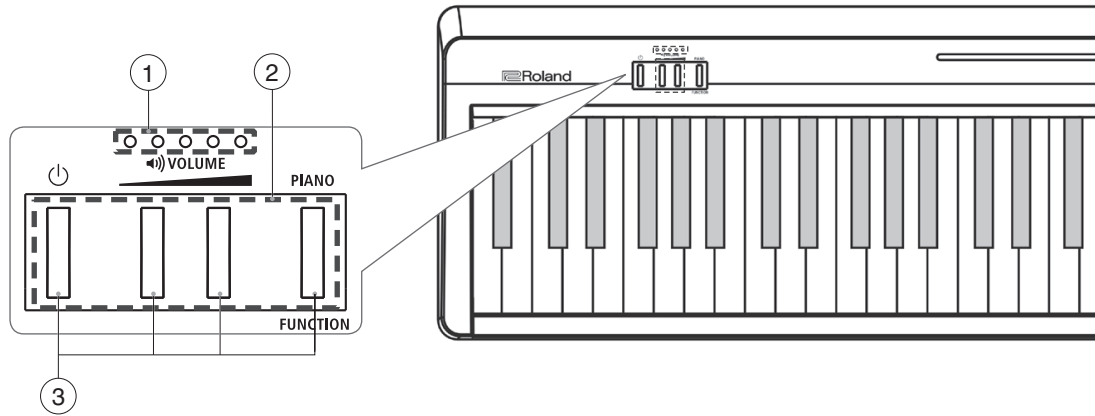
D: Shorts screws (M5x12mm) (#40238145) x 6

E: Long screws (M5x20mm) (#40679101) x 4

* For detail, refer to **Exploded View (Fig.B)** (p. 12)

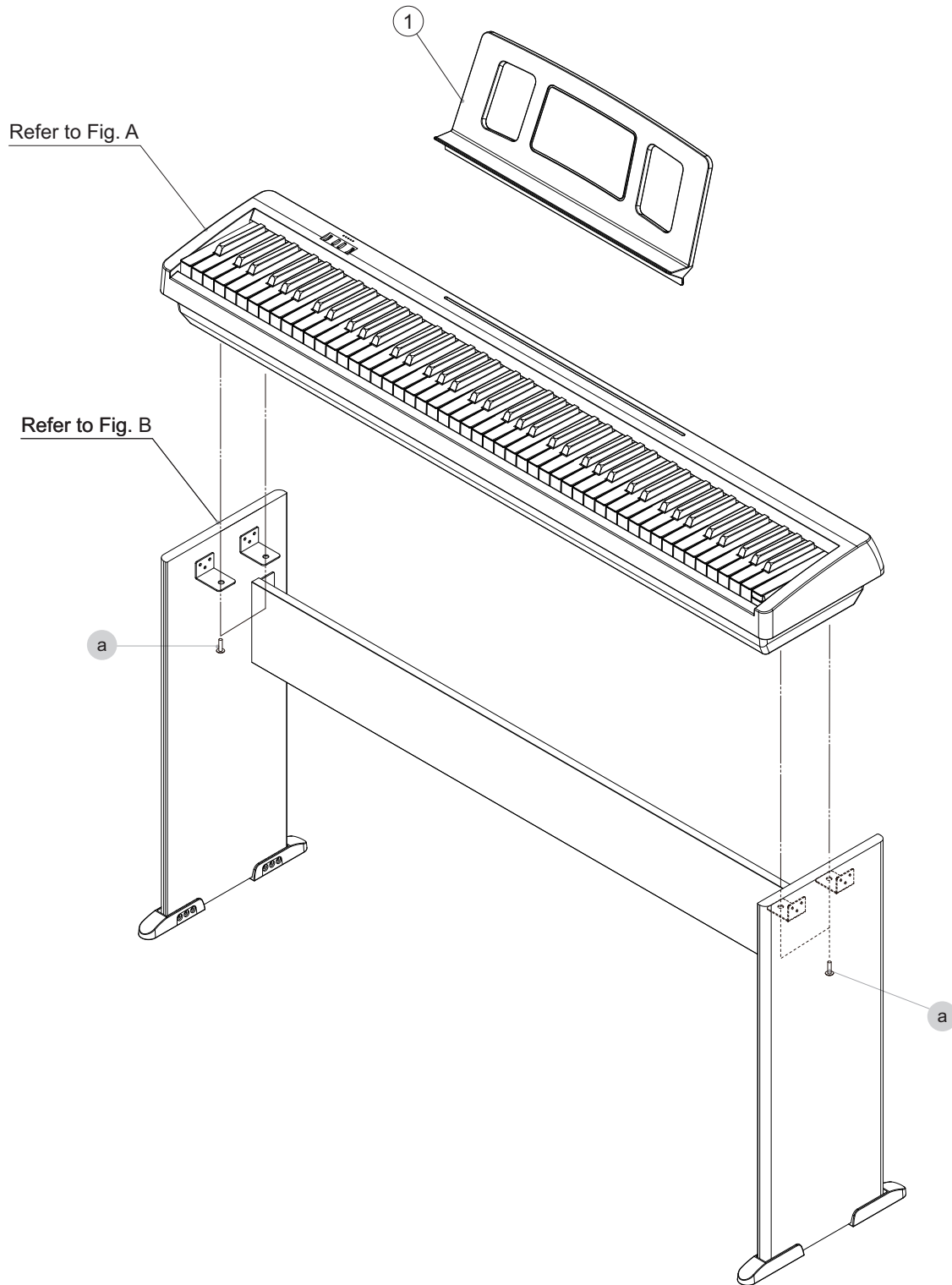
* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Location of Controls



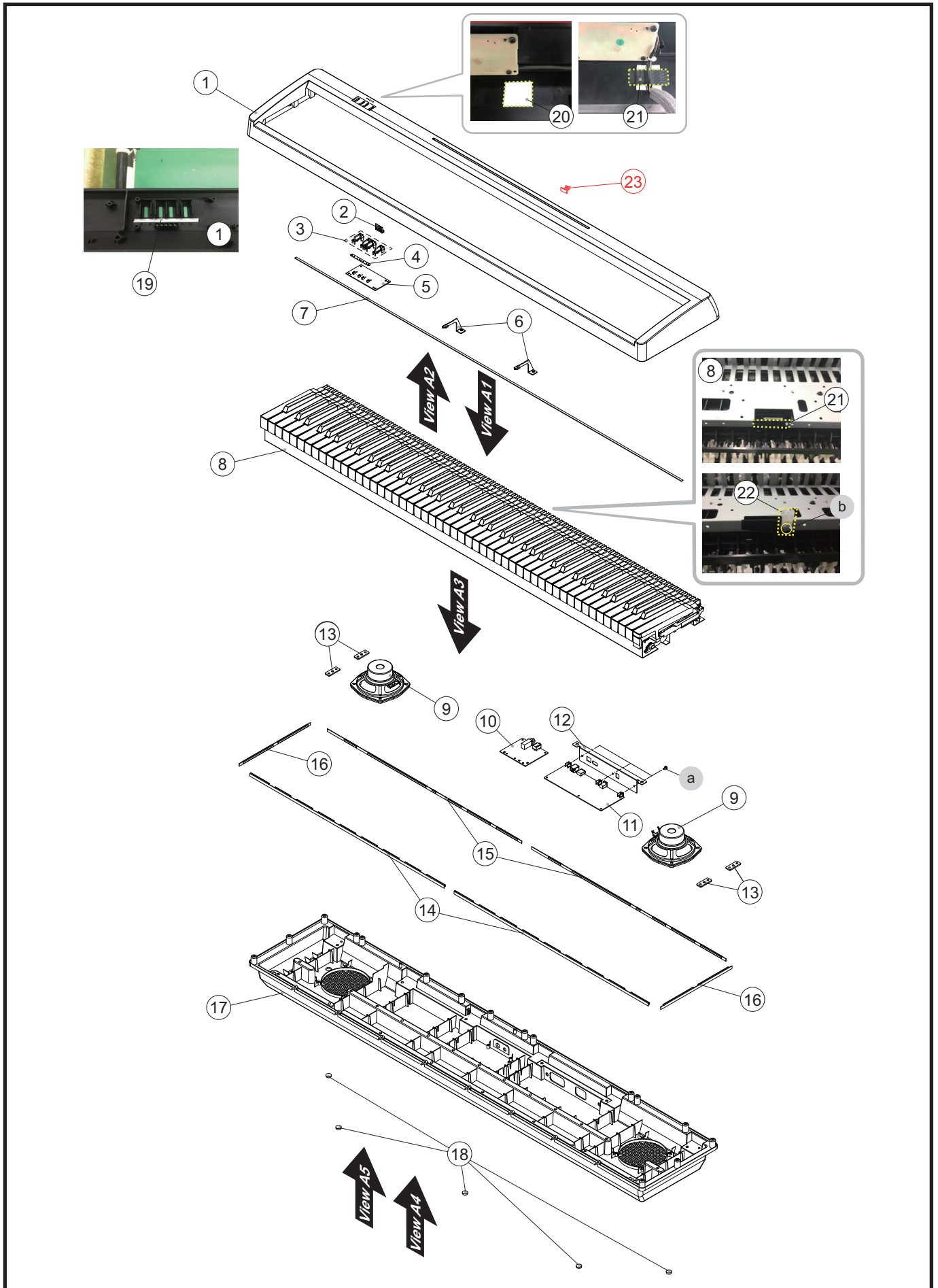
No.	Part Code	Part Name	Description	Q'ty
1	5100061709	LED INDICATOR		1
2	5100047917	KEYTOP	MX4H CLR	1
3	01458501	TACT SWITCH	SKQMATE010	4
4	02900312	DC JACK	HEC0470-01-640	1
5	04459190	USB CONNECTOR A TYPE FEMALE	YKF45-0033N	1
6	5100009531	USB CONNECTOR B TYPE FEMALE	YKF45-0044N	1
7	04452945	3.5MM JACK	YKB21-5344N	1
8	13449275	6.5MM JACK	YKB21-5074	1

Exploded View



No.	Part Code	Part Name	Description	Q'ty
1	5100061706	MUSIC REST	for FP-10-BK/BKL	1
a	40679101	SCREW M5X20	TRUSS MACHINE FE BZC	4

Exploded View (Fig.A)

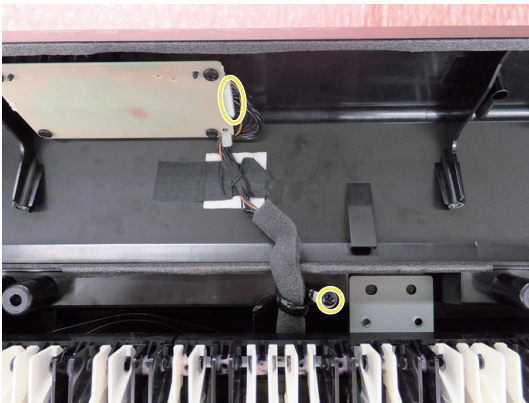


Exploded View (Fig.A) Parts List

No.	Part Code	Part Name	Description	Q'ty
1	5100061705	TOP CASE		1
2	5100061709	LED INDICATOR		1
3	5100047917	KEYTOP	MX4H CLR	1
4	5100061710	TACT SW CUSHION		1
5	5100061169	PANEL BOARD ASSY		1
6	5100063190	CENTER HOLDER		2
7	5100061707	KEY FELT		1
8	5100066077	KEYBOARD ASSY	PX-7D SV SERVICE ASSY	1
9	5100061729	SPEAKER	FR-5IN-06-CF15C	2
10	5100061168	JACK BOARD ASSY		1
11	5100055261	MAIN BOARD ASSY		1
12	5100061708	MAIN BOARD HOLDER		1
13	5100047922	SCREW HOLDER		4
14	5100049095	CUSHION A		2
15	5100063476	REAR CUSHION		2
16	5100063477	SIDE CUSHION		2
17	5100061720	BOTTOM CASE		1
18	5100049094	FOOT	SJ-5012 BLK	5
19	5100021076	DOUBLE SIDED ADHESIVE TAPE	NITTO #5000NS W5MM	-
20	40122556	DOUBLE FACED ADHESIVE TAPE	#575X W30MM 30M	-
21	40232123	ACETATE TAPE	NITTO #5 BLACK W20MM 30M 20P	-
22	40016545	LOCKING TOOL FOR INSULOK TIE	SKM-1	1
23	5100054922	USB CAP	FOR HOST USBC-2	1
a	40459534	SCREW M3X10	PAN MACHINE W/SW+PW(5.8MM) BZC	3
b	40011056	SCREW 3X6	BINDING TAPTITE B ZC	1

Disassembly Procedure

- Remove screws securing the Top Case to the Bottom Case. (Plain View (Fig.A) (2) (p. 11), View A5, screw a (x 20))
- Remove screws securing the Center Holder to the Bottom Case. (Plain View (Fig.A) (2) (p. 11), View A4, screw D (x 20))
- Lift the Top Case from the front side and remove a screw fixing the wiring connected to the Panel Board, cut a bundling-tie and disconnect the connector.



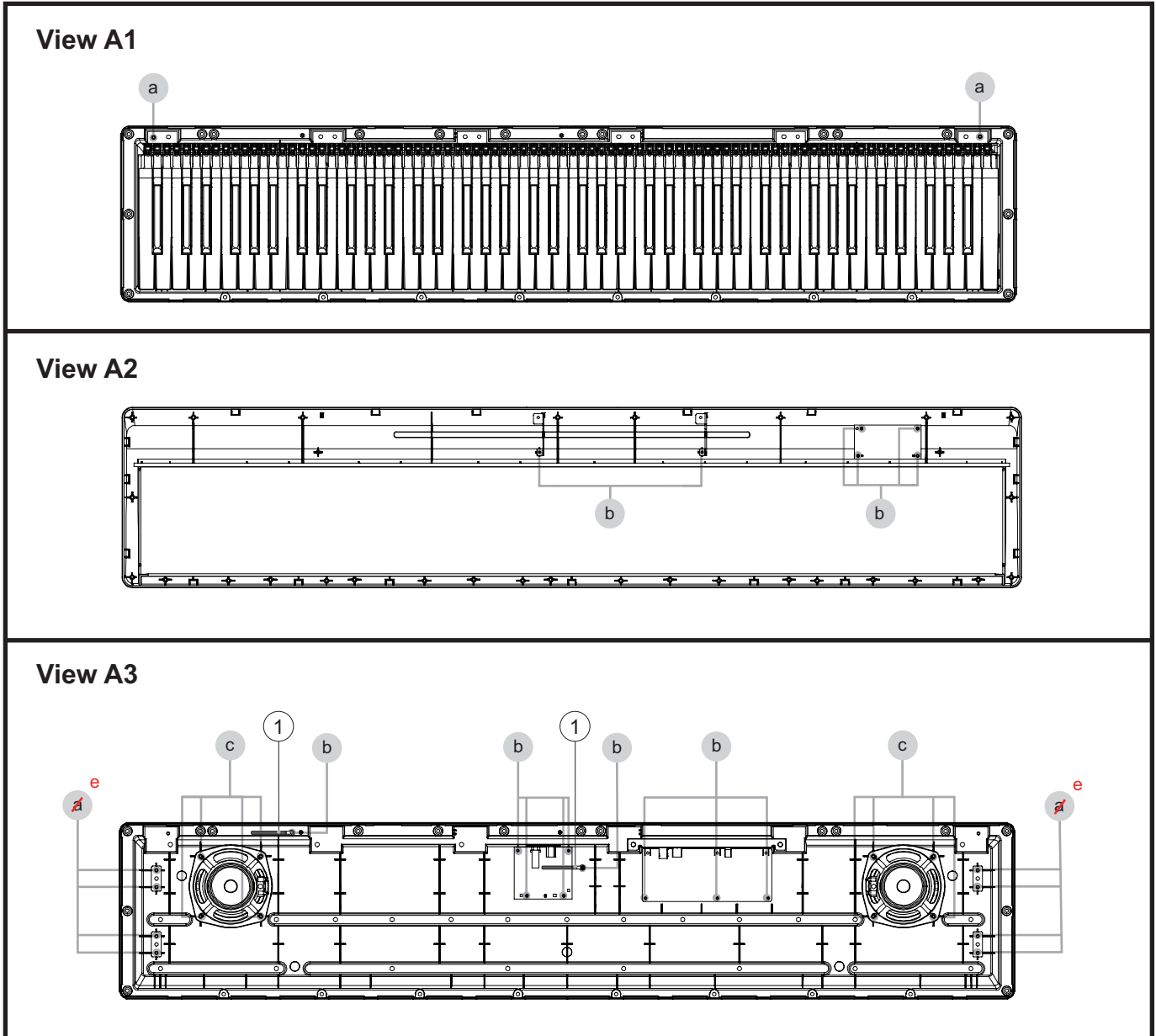
- Detach the Top Case.
- Remove the screws securing the keyboard from underneath. (Plain View (Fig.A) (2) (p. 11), View A4, screw d (x 29))
- Remove the screws securing the keyboard from above. (Plain View (Fig.A) (1) (p. 10), View A1, screw a (x 2))

- Lift the keyboard from the rear side and remove a screw fixing the wiring connected to the Main Board, cut a bundling-tie and disconnect the connector.



- Detach the keyboard. When the keyboard is detached, Speakers, the Jack Board and Main Board can be replaced.

Plain View (Fig.A) (1)



View 1

No.	Part Code	Part Name	Description	Q'ty
a	5100065041	SCREW 4X10	BINDING TAPTITE P ZC	2

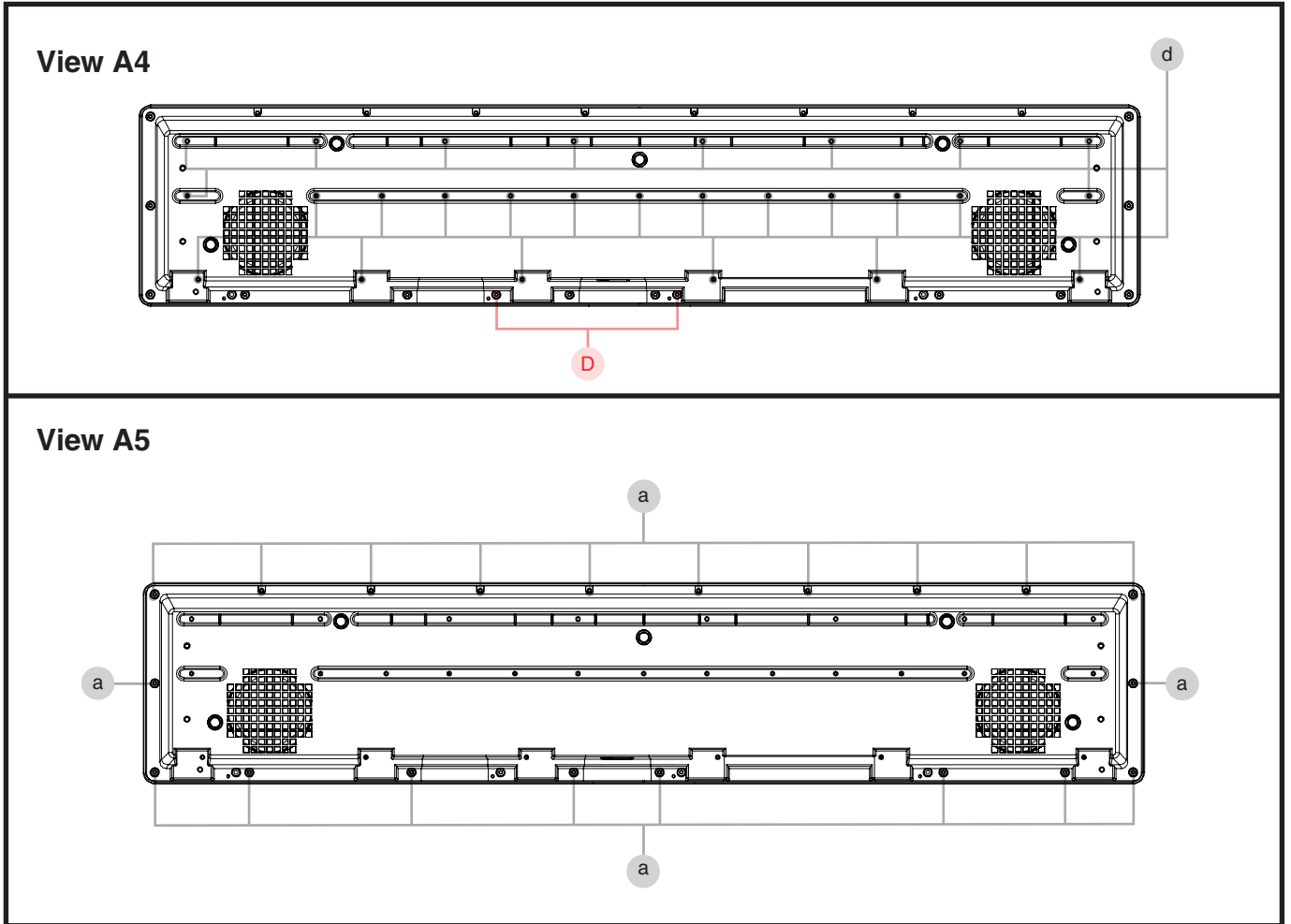
View 2

No.	Part Code	Part Name	Description	Q'ty
b	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	6

View 3

No.	Part Code	Part Name	Description	Q'ty
1	40017378	COATING CLIP	CS-7	2
a	5100065041	SCREW 4X10	BINDING TAPTITE P ZC	8
e	40012490	SCREW SCREW 4X10	BINDING TAPTITE P BZC	8
b	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	9
c	5100047746	SCREW 4X14	BINDING TAPTITE P BZC	8

Plain View (Fig.A) (2)



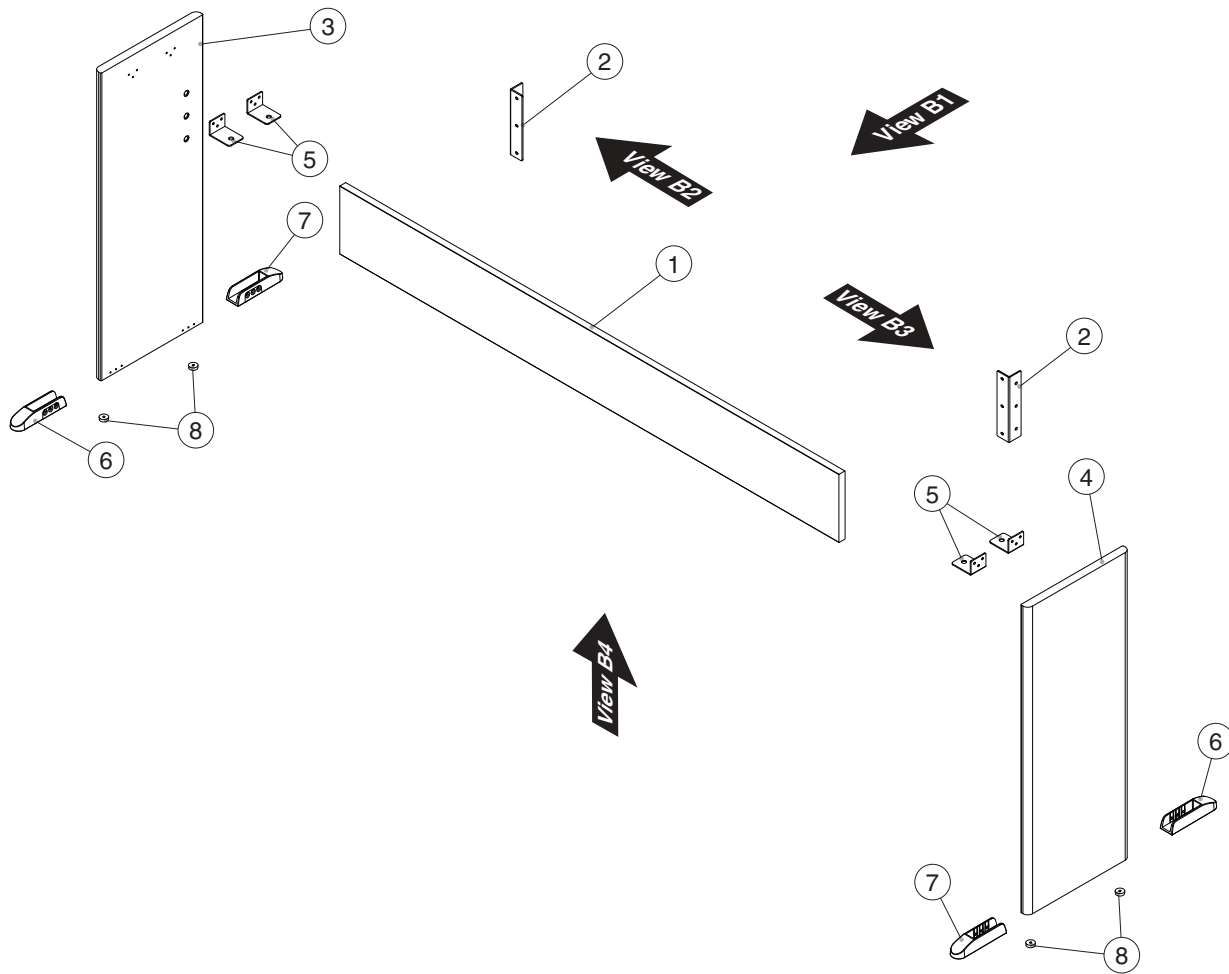
View 4

No.	Part Code	Part Name	Description	Q'ty
d, D	40012345	SCREW 4X10	BINDING TAPTITE B BZC	29

View 5

No.	Part Code	Part Name	Description	Q'ty
a	5100065041	SCREW 4X10	BINDING TAPTITE P ZC	20

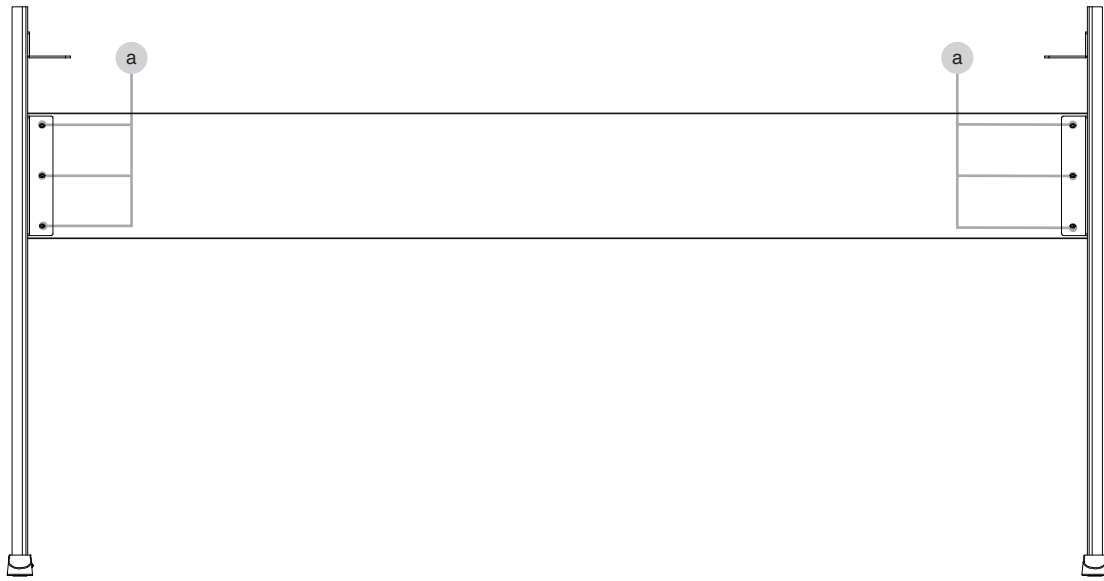
Exploded View (Fig.B)



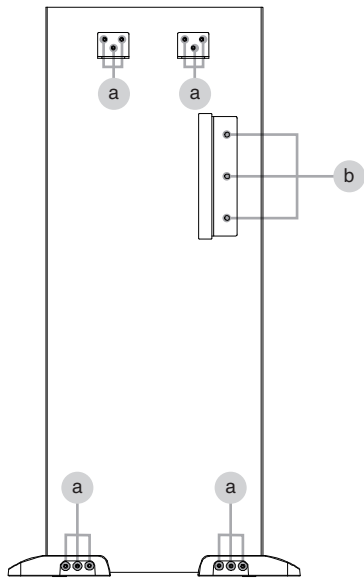
No.	Part Code	Part Name	Description	Q'ty
1	5100061723	CENTER BOARD		1
2	5100046679	CENTER BOARD HOLDER		2
3	5100061721	SIDE BOARD L		1
4	5100061722	SIDE BOARD R		1
5	5100047929	ANGLE		4
6	5100063645	TOE BLOCK		2
7	5100063800	TOE BLOCK		2
8	5100047118	FOOT		4

Plain View (Fig.B)

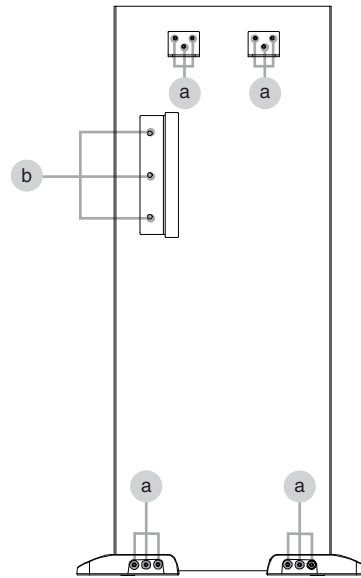
View B1



View B2



View B3



View B4



Plain View (Fig.B) Parts List

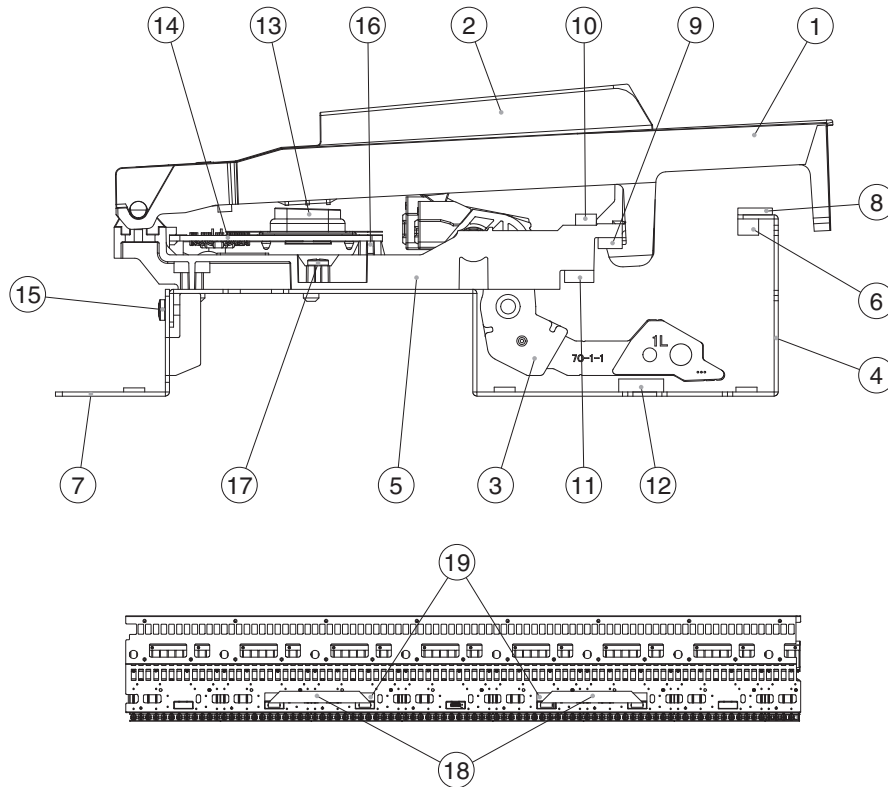
View B1, View B2, View B3

No.	Part Code	Part Name	Description	Q'ty
a	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	30
b	40238145	SCREW M5X12	TRUSS MACHINE BZC	6

View B4

No.	Part Code	Part Name	Description	Q'ty
c	40675701	SCREW 3.5X16	BINDING TAPPING A FE BZC	4

Keyboard Parts List (PX-7D) (until 2022.5)

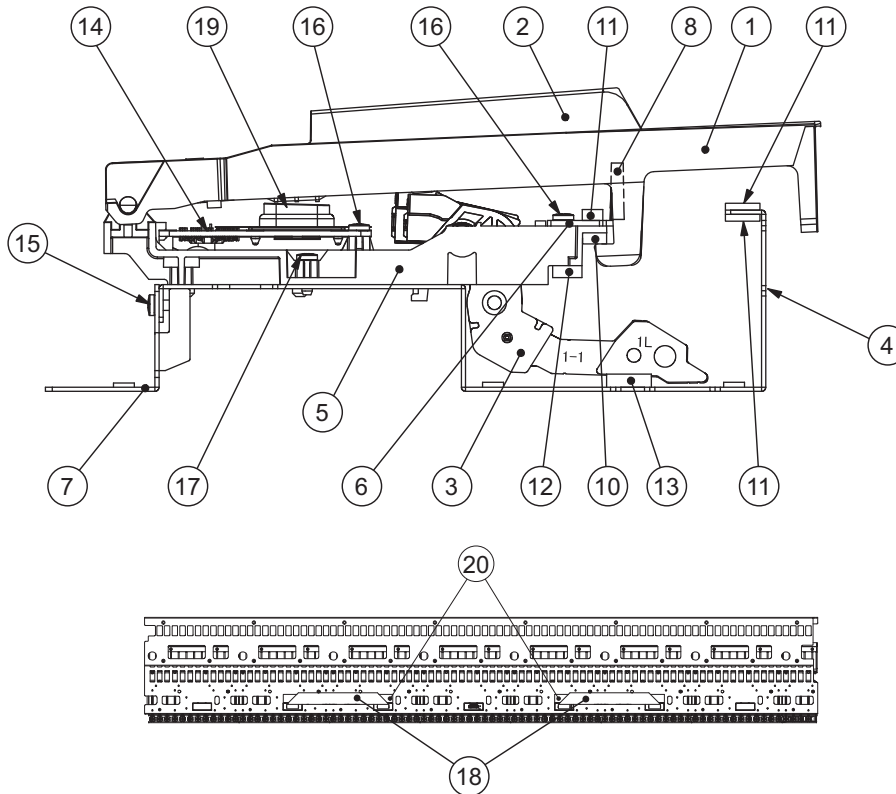


No.	Part Code	Part Name	Description	Q'ty
	5100066077	KEYBOARD ASSY	PX-7D SV SERVICE ASSY	
1	5100046363	N-KEY C	PX-7C	7
	5100046364	N-KEY D	PX-7C	7
	5100046365	N-KEY E	PX-7C	7
	5100046366	N-KEY F	PX-7C	7
	5100046367	N-KEY G	PX-7C	7
	5100046361	N-KEY A	PX-7C	7
	5100046362	N-KEY B	PX-7C	8
	5100046368	N-KEY A DASH	PX-7C	1
	5100046369	N-KEY C DASH	PX-7C	1
2	5100055829	S-KEY EBONY	PX-7C	36
3	5100048710	HAMMER-1 FOR N-KEY	PX-7C	13
	5100048711	HAMMER-2 FOR N-KEY	PX-7C	13
	5100048712	HAMMER-3 FOR N-KEY	PX-7C	13
	5100048713	HAMMER-4 FOR N-KEY	PX-7C	13
	5100048714	HAMMER-1 FOR S-KEY	PX-7C	9
	5100048715	HAMMER-2 FOR S-KEY	PX-7C	9
	5100048716	HAMMER-3 FOR S-KEY	PX-7C	9
	5100048717	HAMMER-4 FOR S-KEY	PX-7C	9
4	*****	CHASSIS 88P	PX-7	1
5	*****	SUB CHASSIS 12P	PX-7D	7
	*****	SUB CHASSIS 4P	PX-7D	1
6	5100064543	HAMMER STOP CUSHION A	PX-7D	1
7	5100046729	KEYBOARD HOLDER	PX-7C	6
8	5100048726	KEY STOP CUSHION A	PX-7C	1
9	5100019663	KEY CUSHION B	PX-7	1
10	5100048727	KEY STOP CUSHION B	PX-7	1
11	5100019111	HAMMER CUSHION A	PX-7	1
12	5100019664	HAMMER CUSHION B	PX-7	1
13	5100047674	RUBBER SWITCH 12P	12P	8
14	5100057436	PWB SET	PX-7C	1
15	40011056	SCREW 3X6	BINDING TAPTITE B ZC	12
16	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	22
17	40012256	SCREW 3X10	BINDING TAPTITE B FE ZC	60
18	5100048969	FLAT CABLE	SML2CD-20X222-BDX8(BL)-P1.0-S4	2
19	5100034564	DOUBLE-FACED TAPE	NITTO TAPE #501L W15MM 50M	-

* The wiring (#5100047148) is not included in this unit (#5100066077).

* For disassembly and maintenance of the keyboard, refer to the Service Notes for PX-7B/C/D.

Keyboard Parts List (PX-7C) (from 2022.5)

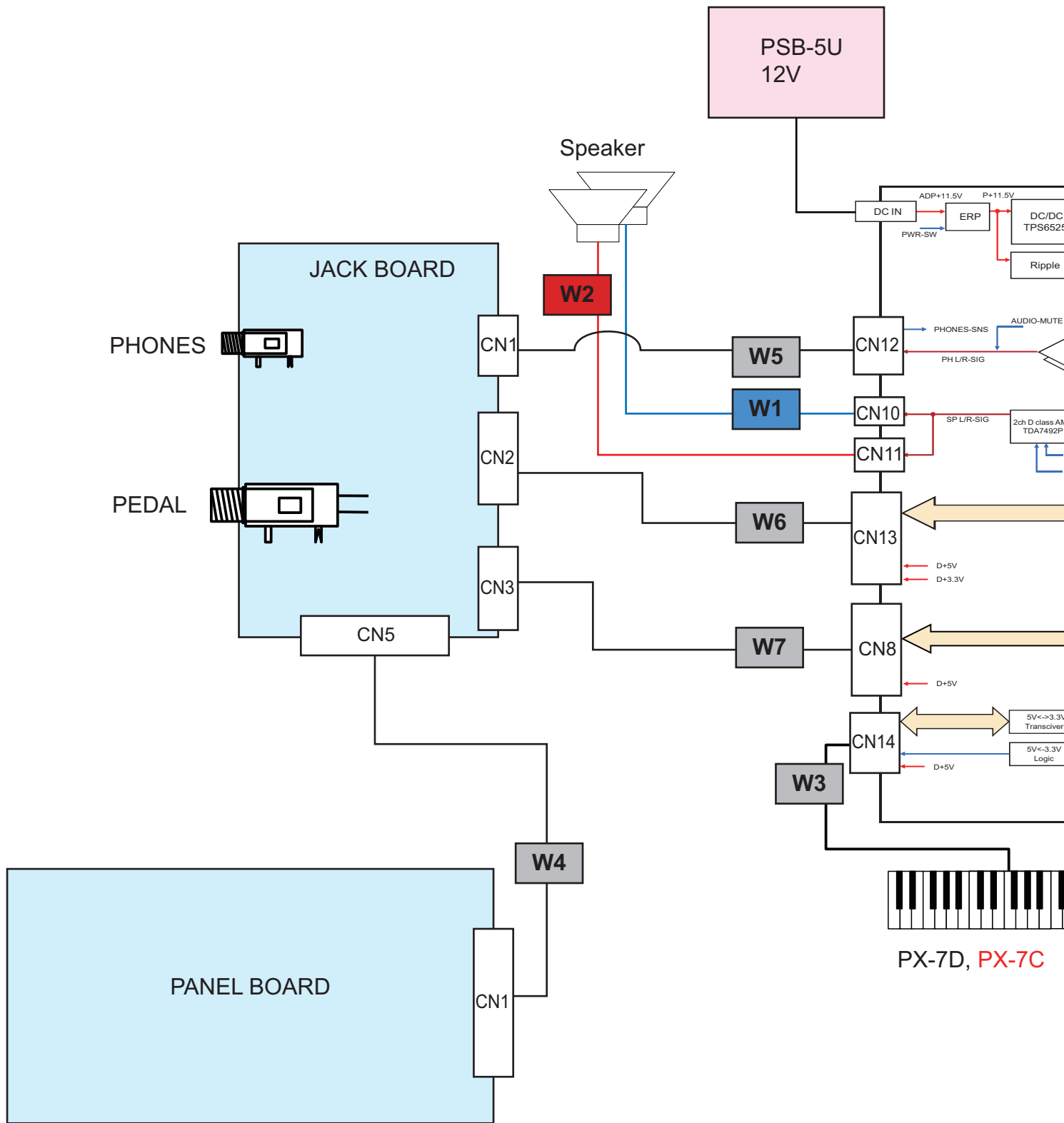


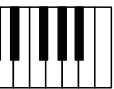
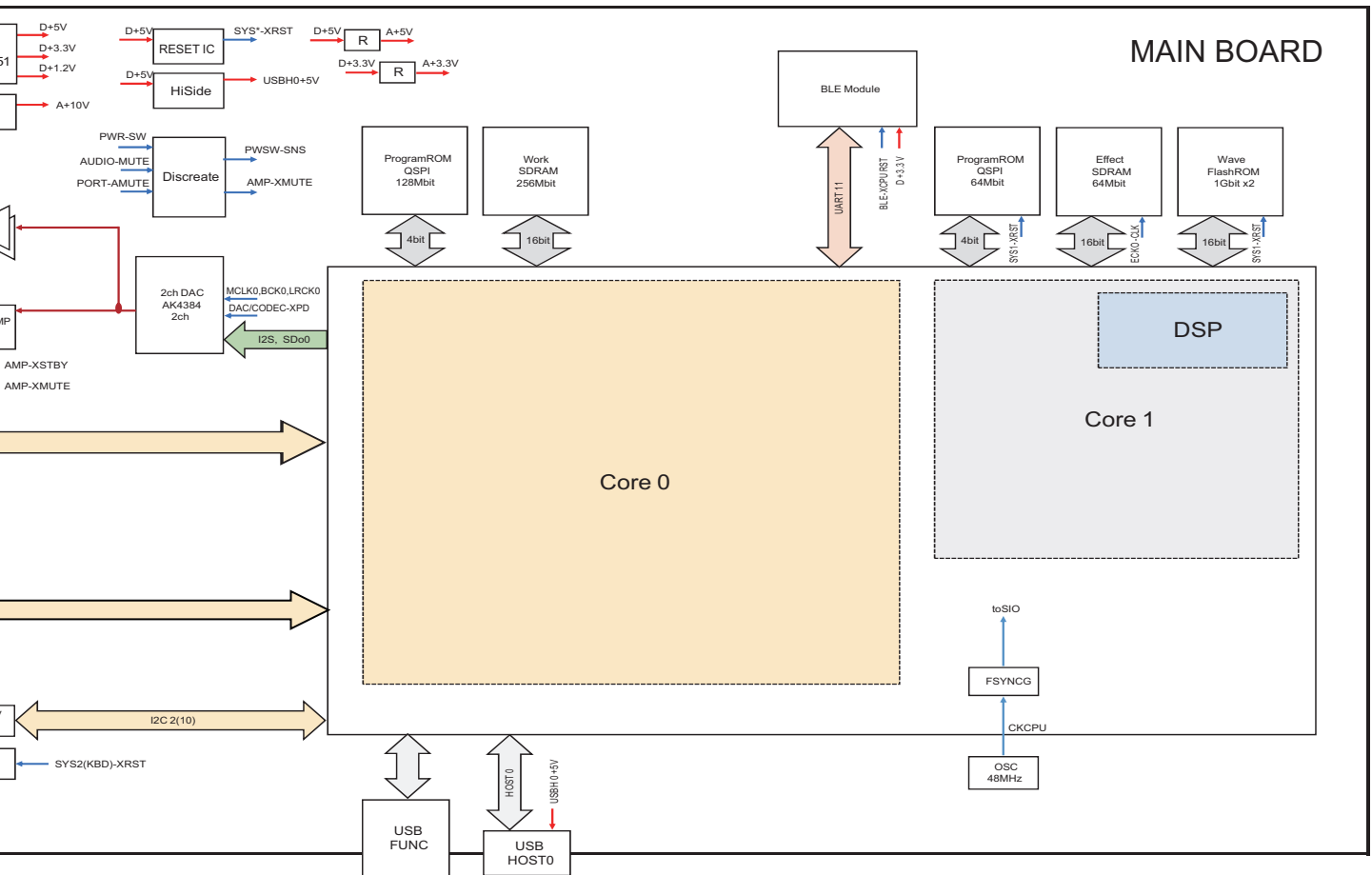
No.	Part Code	Part Name	Description	Q'ty
	5100054674	KEYBOARD ASSY	PX-7C SV SERVICE ASSY	
1	5100046363	N-KEY C	PX-7C	7
	5100046364	N-KEY D	PX-7C	7
	5100046365	N-KEY E	PX-7C	7
	5100046366	N-KEY F	PX-7C	7
	5100046367	N-KEY G	PX-7C	7
	5100046361	N-KEY A	PX-7C	7
	5100046362	N-KEY B	PX-7C	8
	5100046368	N-KEY A DASH	PX-7C	1
	5100046369	N-KEY C DASH	PX-7C	1
2	5100046370	S-KEY	PX-7C	36
3	5100048710	HAMMER-1 FOR N-KEY	PX-7C	13
	5100048711	HAMMER-2 FOR N-KEY	PX-7C	13
	5100048712	HAMMER-3 FOR N-KEY	PX-7C	13
	5100048713	HAMMER-4 FOR N-KEY	PX-7C	13
	5100048714	HAMMER-1 FOR S-KEY	PX-7C	9
	5100048715	HAMMER-2 FOR S-KEY	PX-7C	9
	5100048716	HAMMER-3 FOR S-KEY	PX-7C	9
	5100048717	HAMMER-4 FOR S-KEY	PX-7C	9
4	*****	CHASSIS 88P	PX-7	1
5	*****	SUB CHASSIS 12P	PX-7	7
	*****	SUB CHASSIS 4P	PX-7	1
6	*****	GUIDE HOLDER	PX-7	1
7	5100046729	KEYBOARD HOLDER	PX-7C	6
8	5100046717	GUIDE BUSHING	PX-7C	88
9	5100048726	KEY STOP CUSHION A	PX-7C	2
10	5100019663	KEY CUSHION B	PX-7	1
11	5100048727	KEY STOP CUSHION B	PX-7	3
12	5100019111	HAMMER CUSHION A	PX-7	1
13	5100019664	HAMMER CUSHION B	PX-7	1
14	5100068954	PWB SET	PX-7C	1
15	40011056	SCREW 3X6	BINDING TAPTITE B ZC	12
16	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	52
17	40012256	SCREW 3X10	BINDING TAPTITE B FE ZC	60
18	5100048969	FLAT CABLE	SML2CD-20X222-BDX8(BL)-P1.0-S4	2
19	5100047674	RUBBER SWITCH	12P	8
20	5100034564	DOUBLE-FACED TAPE	NITTO TAPE #501L W15MM 50M	-

* The wiring (#5100047148) is not included in this unit (#5100066077).

* For disassembly and maintenance of the keyboard, refer to the Service Notes for PX-7B/C/D.

Block Diagram/Wiring Diagram





No.	Part Code	Part Name	Description	Q'ty
W1	5100061625	WIRING	W01 (SPL)	1
W2	5100061626	WIRING	W02 (SPR)	1
W3	5100047148	WIRING	1061#28 7X280-PHR-PHR-F	1
W4	5100056950	WIRING	1061#28 11X550-PHR-PHR-F	1
W5	5100061629	WIRING	1061#28 5X390-PHR-PHR-F	1
W6	5100056949	WIRING	1061#28 10X280-PHR-PHR-F	1
W7	5100061631	WIRING	1061#28 8X280-PHR-PHR-F	1

Parts List (FP-10-BK/BKL)

Safety Precautions:

The parts marked \triangle have safety-related characteristics. Use only listed parts for replacement.

Due to one or more of the following reasons, parts with parts code ***** cannot be supplied as service parts.

- Supply is prohibited due to copyright restrictions.
- It is carried in electronic data on the Roland web site.
- The part is made to order (at current market price).
- It can be replaced with an article on the market. (battery or etc.)
- It is a package or an accessory irrelevant to the function maintenance of the main body.
- A number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Reissuance is restricted.
- It is supplied as an assembled part (under a different part code).

Note: The parts marked # are new. (initial parts) The description "Q'ty" means a necessary number of the parts per one product.

CASING					
#	5100061705	TOP CASE			1
#	5100061720	BOTTOM CASE			1
CHASSIS					
#	5100063190	CENTER HOLDER			2
#	5100061708	MAIN BOARD HOLDER			1
	5100047922	SCREW HOLDER			4
KNOB, BUTTON					
	5100047917	KEYTOP	MX4H CLR		1
SWITCH					
	01458501	TACT SWITCH	SKQMATE010		4
JACK, EXT TERMINAL					
	04452945	3.5MM JACK	YKB21-5344N		1
	13449275	6.5MM JACK	YKB21-5074		1
	02900312	DC JACK	HEC0470-01-640		1
	04459190	USB CONNECTOR A TYPE FEMALE	YKF45-0033N		1
	5100009531	USB CONNECTOR B TYPE FEMALE	YKF45-0044N		1
SPEAKER, BUZZER					
#	5100061729	SPEAKER	FR-5IN-06-CF15C		2
KEYBOARD ASSY					
#	5100066077	KEYBOARD ASSY	PX-7D SV SERVICE ASSY	until 2022.5	1
	5100054674	KEYBOARD ASSY	PX-7C SV SERVICE ASSY	from 2022.5	1
PWB ASSY					
#	5100055261	MAIN BOARD ASSY			1
#	5100061168	JACK BOARD ASSY			1
#	5100061169	PANEL BOARD ASSY			1
WIRING, CABLE					
#	5100061629	WIRING	1061#28 5X390-PHR-PHR-F		1
	5100047148	WIRING	1061#28 7X280-PHR-PHR-F		1
#	5100061631	WIRING	1061#28 8X280-PHR-PHR-F		1
	5100056949	WIRING	1061#28 10X280-PHR-PHR-F		1
	5100056950	WIRING	1061#28 11X550-PHR-PHR-F		1
#	5100061625	WIRING	W01 (SPL)		1
#	5100061626	WIRING	W02 (SPR)		1
SCREWS					
	40459534	SCREW M3X10	PAN MACHINE W/SW+PW(5.8MM) BZC		3
	40011056	SCREW 3X6	BINDING TAPTITE B ZC		1
	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC		15
	40012345	SCREW 4X10	BINDING TAPTITE B ZC		29
#	5100065041	SCREW 4X10	BINDING TAPTITE P ZC		30
	40012490	SCREW 4X10	BINDING TAPTITE P BZC		22
	5100047746	SCREW 4X14	BINDING TAPTITE P BZC		8
					8

MISCELLANEOUS				
#	5100061709	LED INDICATOR		1
	5100054922	USB CAP	FOR HOST USBC-2	1
	5100049094	FOOT	SJ-5012 BLK	5
#	5100061707	KEY FELT		1
#	5100061989	ABSORPTIVE FELT	50X25	1
#	5100061992	ABSORPTIVE FELT	245X25	3
#	5100061991	ABSORPTIVE FELT	360X25	1
#	5100061990	ABSORPTIVE FELT	450X25	1
#	5100061988	ABSORPTIVE FELT	730X25	1
	5100049095	CUSHION A		2
#	5100063476	REAR CUSHION		2
#	5100063477	SIDE CUSHION		2
#	5100061710	TACT SW CUSHION		1
	40017378	COATING CLIP	CS-7	2
	40016545	LOCKING TOOL FOR INSULOK TIE	SKM-1	1
	40016523	INSULOK TIE 100M/M T-18R	(1000 PCS ORDERING PER)	3
	40232123	ACETATE TAPE	NITTO #5 BLACK W20MM 30M 20P	-
	40122556	DOUBLE FACED ADHESIVE TAPE	#575X W30MM 30M	-
	5100021076	DOUBLE SIDED ADHESIVE TAPE	NITTO #5000NS W5MM	-
	17049543	GREASE FOR KEY	FLOIL G-336A WHITE (93 GRAM)	-
	17041858	GREASE FOR KEY	MOLYKOTE G-1039 (50 GRAM)	-

ACCESSORIES (Standard)						
#	5100061706	MUSIC REST		for FP-10-BK, BKL	1	
#	△	5100061927	AC ADAPTOR WITHOUT AC CORD	PSB-5U	1	
	△	5100048283	AC CORD SET	100V EYEGLASS ARK-VFF 1.0M	(19) for 100V	1
	△	02562456	AC CORD SET	120V 1.0M (NON POLAR)	(22, 28) for 117VU, 117VU/CS	1
	△	5100012293	AC CORD SET	117VBL 1.0M FOR PSB	(26) for 117VBL	1
	△	5100018086	AC CORD SET	230VE 1.0M FOR EPS	(38) for 230VE/EU	1
	△	01903356	AC CORD SET	230V 1.0M FOR PSB	(38) for 230VE/EU	1
	△	5100033404	AC CORD SET	240V SP501-IS037 PSB 1.0M	(59) for 240VA	1
	△	5100019558	AC CORD SET	220V CCC SP505A-IS037 1.0M	(65) for 220VCN	1
	△	5100039367	AC CORD	SP021A+IS037 220VK 2.5M 2P	(66) for 220VK	1
#	5100061924	OWNER'S MANUAL		MULTILINGUAGE		1

Parts List (KSCFP10-BK)

<p>Safety Precautions: The parts marked △ have safety-related characteristics. Use only listed parts for replacement.</p>	<p>Due to one or more of the following reasons, parts with parts code ***** cannot be supplied as service parts.</p> <ul style="list-style-type: none"> • Supply is prohibited due to copyright restrictions. • It is carried in electronic data on the Roland web site. • The part is made to order (at current market price). • It can be replaced with an article on the market. (battery or etc.) • It is a package or an accessory irrelevant to the function maintenance of the main body. • A number of circuit boards are grouped together and supplied as a single circuit board (under a different part code). <ul style="list-style-type: none"> • Reissuance is restricted. • It is supplied as an assembled part (under a different part code).
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Note: The parts marked # are new. (initial parts) The description "Q'ty" means a necessary number of the parts per one product.

CASING				
#	5100061723	CENTER BOARD		1
#	5100061721	SIDE BOARD L		1
#	5100061722	SIDE BOARD R		1
#	5100063645	TOE BLOCK		2
#	5100063800	TOE BLOCK		2

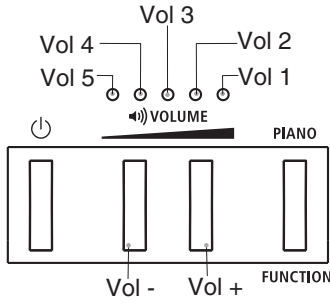
CHASIS				
	5100047929	ANGLE		4
	5100046679	CENTER BOARD HOLDER		2

SCREWS				
	40238145	SCREW M5X12	TRUSS MACHINE BZC	6
	40679101	SCREW M5X20	TRUSS MACHINE FE BZC	4
	40675701	SCREW 3.5X16	BINDING TAPPING A FE BZC	4
	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	30

MISCELLANEOUS				
	5100047118	FOOT		4

Notation of Buttons and LEDs

In this service notes, names of buttons and LEDs are described as follows.



Verifying the Version

1. Hold down **Vol +** and turn on the power.
2. When **Vol 1** flashes, release your finger. **Vol 2-5** light up or go dark to display the Program version as shown below.

Program (Vol 1 flashes)

Vol				Version
5	4	3	2	
o	-	-	-	1.00
-	o	-	-	1.01
o	o	-	-	1.02
-	-	o	-	1.03
o	-	o	-	1.04
-	o	o	-	1.05
o	o	o	-	1.06
-	-	-	o	1.07
o	-	-	o	1.08
-	o	-	o	1.09
o	o	-	o	1.10
-	-	o	o	1.11
o	-	o	o	1.12
-	o	o	o	1.13
o	o	o	o	1.14

o: lights up, -: goes off

3. Press **Vol +**. **Vol 1** lights up. **Vol 2-5** light up or go dark to display the Bluetooth LE version as shown below.

Bluetooth LE (Vol 1 lights up)

Vol				Version
5	4	3	2	
o	-	-	-	1.02
-	-	-	-	2.00

o: lights up, -: goes off

- * To return to the display of the Program Version (step 2) at this time, press **Vol -**.

4. Press **Vol +**. **Vol 1** goes dark. **Vol 2-5** light up or go dark to display the Keyboard version as shown below.

Keyboard (Vol 1 goes dark)

Vol				Version
5	4	3	2	
o	-	-	-	1.01
-	o	-	-	1.02
o	o	-	-	1.03
-	-	o	-	1.04
o	-	o	-	1.05
-	o	o	-	1.06
o	o	o	-	1.07
-	-	-	o	1.08
o	-	-	o	1.09
-	o	-	o	1.10
o	o	-	o	1.11
-	-	o	o	1.12
o	-	o	o	1.13
-	o	o	o	1.14
o	o	o	o	1.15

o: lights up, -: goes off

- * To return to the display of the BLE Version (Step 3) at this time, press **Vol -**.

5. Turn off the power.

Data Backup and Restore Operations

Items Required

- Computer
- USB memory device

Backup Operation

1. Format a USB memory device using the FAT32 file system.
2. Connect the USB memory device just described to the **Memory for Update** connector on the unit.
3. Hold down **Vol +** and turn on the power.
4. When **Vol 1** flashes, release your finger. The version information is displayed.
5. Hold down **Function** and press C1, E1 and G1 on the keyboard in this order. (The leftmost: A0)

The LEDs become the following state.

- Vol 1: Flashes
- Vol 2: Flashes
- Vol 3: Lights up
- Vol 4: Lights out
- Vol 5: Lights out
- FUNCTION: Lights out

6. To execute the backup operation, press **Vol +**. To cancel, press **FUNCTION**. When **Vol 1-5** flash, the back up operation has finished.
7. Detach the USB memory device and turn off the power.
 - * If the backup operation fails, **Vol 1, 3, 5, and Vol 2, 4** flash alternately. **Format** the USB memory device again and redo the operation from step 1.
 - * After backup operation has finished, the file of **R072F_BAK.BIN** is made in the root folder of the USB memory device. For the fail of the restore operation, copy the file to the computer.
 - * Pairing information of Bluetooth can not be backed up. When returning the product to the customer, request him/her to pair by himself/herself again.

Restore Operation

1. Connect the USB memory device containing the backed-up user data to the **Memory for Update** connector.
2. Hold down **Vol +** and turn on the power.
3. When **Vol 1** flashes, release your finger.
Version information is displayed.
4. Hold down **FUNCTION** and press F1, A1 and C2 on the keyboard in this order. (The leftmost: A0)
The LEDs become the following state.

Vol 1:	Lights out
Vol 2:	Lights out
Vol 3:	Lights up
Vol 4:	Flashes
Vol 5:	Flashes
FUNCTION:	Lights out
5. To execute the restore operation, press **Vol -**. To cancel, press **FUNCTION**.
When **Vol 1-5** flash, the restore operation has finished.
6. Detach the USB memory device and turn off the power.
 - * If the restore operation fails, **Vol 1, 3, 5**, and **Vol 2, 4** flash alternately. In this case, format the USB memory device again, copy **R072F_BAK.BIN** which has been copied to the computer to the root folder of the USB memory device and redo the operation from step **1**.

Performing a Factory Reset

1. Hold down **Vol +** and **FUNCTION** and turn on the power.
2. When LEDs become the following state, release your fingers.

Vol 1:	Flashes
Vol 2:	Flashes
Vol 3:	Lights out
Vol 4:	Lights up
Vol 5:	Lights up
3. To execute the factory reset, press **Vol +**. To cancel, press **Vol -** or **Function**.
Vol 1-3 flash while the factory reset is in progress. Never switch off the power while execution is in progress.
When the factory reset has finished, the **Vol 1-5** flash.
4. Reset the power.

Updating the System

Items Required

- Computer
- USB memory device
- Update file (obtained via Service Net)

Procedure

1. Format a USB memory device using the FAT32 file system.
2. Copy the update file (R072_UPA.BIN) to the root folder of the USB memory device just described.
3. Connect the USB memory device just described to the **Memory for Update** connector on the unit.

4. Hold down **FUNCTION** and turn on the power.
The update starts. While the update is in progress, **Vol 5-1** flash and go dark repeatedly in sequence. The time required to update is approximately 2 minutes.
 - * Never switch off the power or detach the USB memory device while the update is in progress.

When **Vol 1-5** flash, the restore operation has finished.
5. Detach the USB memory device and reset the power.

Test Mode

* Starting with the system version 1.05, a test item (**3. Model Setting**) has been added. Update the system program to the latest version before executing.

Items Required

- USB memory device
- USB cable
- Headphones (with a miniature phone plug)
- DP-10
 - * Set the switch on the side panel to **CONTINUOUS**.
- Mobile Device with Bluetooth function (iPhone, Android or etc.)
- Software program of Bluetooth MIDI

Entering the Test Mode

1. Hold down **Vol +**, **Vol -** and **FUNCTION** and turn on the power.
2. When **Vol 1-5** light up, release your fingers.

Quitting the Test Mode

Switch off the power.

Skipping Test Items

Holding down **FUNCTION** and pressing **Vol +** quits the current test item and advances operation to the next test item.

Holding down **FUNCTION** and pressing **Vol -** quits the current test item and returns operation to the previous test item.

Test items

1. **LED Test** (p. 24)
2. **Verifying the Version** (p. 24)
3. **Model Setting** (p. 24)
4. **Bluetooth Function Setting** (p. 24)
5. **BLE Test** (p. 24)
6. **Switches and LEDs Test** (p. 24)
7. **Sound Test** (p. 25)
8. **Mute Test** (p. 25)
9. **Pedal Test** (p. 25)
10. **USB Test** (p. 25)
11. **Jacks Sense Test** (p. 25)
12. **Device Test** (p. 26)
13. **Bluetooth Function** (p. 26)
14. **Factory Reset** (p. 26)
15. **Bluetooth Test** (p. 26)

* **15. Bluetooth Test** is executed in the normal mode.

1. LED Test

This item tests the operation of each LED.

1. Verify that **Vol 1–5** light up and **FUNCTION** flashes.
2. Press **FUNCTION** to advance to the next test item.

2. Verifying the Version

This item verifies the various versions and whether the Bluetooth function is enable or not.

When the unit enters this test item, **Vol 1** flashes momentarily and the unit says “ichi” in Japanese.

1. Press **Vol +** several times to verify that the unit says in the sequence shown below.
“ichi” → “ni” → “san” → “bow-wow” → “mew-mew” → “ding”
2. Press **Vol -** several times to verify that the unit says in the reverse of the sequence shown above.
3. Press **Vol +** or **Vol -** to let the unit say “ichi.”
At this time, each LED lights up or goes dark to display the Program version as shown in the tables below.

Integer Portion of the Version Number	Vol 5	Vol 4
0	-	-
1	-	o
2	o	-
3	o	o

Decimal Portion of the Version Number	Vol 3	Vol 2	Vol 1	FUNCTION
00	-	-	-	-
01	-	-	-	o
02	-	-	o	-
03	-	-	o	o
04	-	o	-	-
05	-	o	-	o
06	-	o	o	-
07	-	o	o	o
08	o	-	-	-
09	o	-	-	o
10	o	-	o	-
11	o	-	o	o
12	o	o	-	-
13	o	o	-	o
14	o	o	o	-
15	o	o	o	o

o: lights up, -: goes off

(Example) for ver. 1.01

Vol 5: Lights out
 Vol 4: Lights up
 Vol 3: Lights out
 Vol 2: Lights out
 Vol 1: Lights out
FUNCTION: Lights up

4. Press **Vol +** or **Vol -** to let the unit say “ni.”
At this time, each LED lights up or goes dark to display the Loader version as shown in the tables of step 3.
5. Press **Vol +** or **Vol -** to let the unit say “san.”
At this time, each LED lights up or goes dark to display the Keyboard CPU version as shown in the tables of step 3.
6. Press **Vol +** or **Vol -** to let the unit say “bow-wow.”
At this time, each LED lights up or goes dark to display the Bluetooth LE version as shown in the tables of step 3.

7. Press **Vol +** or **Vol -** to let the unit say “mew-mew.”
At this time, **Vol 1** or **Vol 2** lights up to indicate whether the Bluetooth function is enable or not.
Vol 1 Lights up: Bluetooth function is enable.
Vol 2 Lights up: Bluetooth function is not enable.
8. Press **Vol +** or **Vol -** to let the unit say “ding.”
At this time, **Vol 1** and **Vol 3** light up to indicate the model set to the unit being tested.
Vol 1 and Vol 3 light up: FP-10-BK
* When **Vol 1** flashes, no model is set.
9. Press **FUNCTION** to advance to the next test item.

3. Model Setting

This item sets a model to the unit being tested.
When the unit enters this test item, **Vol 2** flashes momentarily.

Vol 1 flashes.

1. To set FP-10-BK, press **Vol +** or **Vol -** to make **Vol 1** and **Vol 3** light up. **FUNCTION** flashes.
* For the correct model name, refer to the model name sticker affixed to the center back on the bottom of the unit.
2. Press **FUNCTION** to advance to the next test item.

4. Bluetooth Function Setting

This item sets the unit to have or not have the Bluetooth function.
When the unit enters this test item, **Vol 1** and **Vol 2** flash momentarily.

Vol 1 and **Vol 2** flash.

1. To set that Bluetooth function is enable (FP-10-BK), press **Vol +**. To set that Bluetooth function is not enable (FP-10-BKL), press **Vol -**. **FUNCTION** flashes.
* For the correct model name, refer to the model name sticker affixed to the center back on the bottom of the unit.
2. Press **FUNCTION** to advance to the next test item.

5. BLE Test

When the unit enters this test item, **Vol 3** flashes momentarily.
This test is not executed in servicing. Press **FUNCTION** to advance to the next test item.

6. Switches and LEDs Test

This item tests the operation of the switches and LEDs.
When the unit enters this test item, **Vol 1** and **Vol 3** flash momentarily.

Vol 1 flashes.

1. Press **Vol +** and verify that the LEDs flash in the sequence shown below with each press.
Vol 1 → Vol 2 → Vol 3 → Vol 4 → Vol 5
* Pressing **Vol +** produces the piano sound.
2. When **Vol 5** is flashing, press **Vol -**. **FUNCTION** flashes.
3. Press **FUNCTION** to advance to the next test item.

7. Sound Test

This item tests the outputs of speakers and the **PHONES** jack.
When the unit enters this test item, **Vol 2** and **Vol 3** flash momentarily.

Vol 1 flashes and **Vol 2-4** light up.

1. Press **Vol -** and verify that the LEDs flash in the sequence shown below with each press.
Vol 1 → **Vol 2** → **Vol 3** → **Vol 4** → **Vol 1** (repeated)
2. Press **Vol -** to make **Vol 1** flashes.
3. Press **Vol +** and verify that the piano sounds with no effect are produced from the left and right speakers.
4. Press **Vol -** to make **Vol 2** flashes.
5. Press **Vol +** and verify that the piano sounds with reverb are produced from the left and right speakers.
6. Press **Vol -** to make **Vol 3** flashes.
7. Press **Vol +** and verify that the sound is produced from the left speaker only.
8. Press **Vol -** to make **Vol 4** flashes.
9. Press **Vol +** and verify that the sound is produced from the right speaker only.
10. Connect the headphones to the **PHONES** jack.
11. Verify in the same way as steps **2-9**.
12. Disconnect the headphones, and press **FUNCTION** to advance to the next test item.

8. Mute Test

This item tests the mute operations of speakers and the **PHONES** jack.
When the unit enters this test item, **Vol 1**, **Vol 2** and **Vol 3** flash momentarily.

Vol 1 flashes and **Vol 2** and **Vol 3** light up.

1. Press **Vol -** and verify that the LEDs flash in the sequence shown below with each press.
Vol 1 → **Vol 2** → **Vol 3** → **Vol 1** (repeated)
2. Press **Vol -** to make **Vol 1** flashes.
3. Hold down any key to produce sound and press **Vol +** to verify that sounds from the left and right speakers are muted.
4. Press **Vol -** to make **Vol 2** flashes and verify in the same as step **3**.
5. Press **Vol -** to make **Vol 3** flashes and verify in the same as step **3**.
6. Connect the headphones to the **PHONES** jack.
7. Verify in the same way as steps **2-4**.
8. Press **Vol -** to make **Vol 3** flashes.
9. Hold down any key to produce sounds and press **Vol +** to verify that sounds are not muted and sine wave sounds are added.
10. Disconnect the headphones, and press **FUNCTION** to advance to the next test item.

9. Pedal Test

This item tests the operation of pedals.
When the unit enters this test item, **Vol 4** flashes momentarily.

All LEDs go dark.

1. Connect the DP-10 to the **PEDAL** connector.
2. Slowly depress the DP-10.
Vol 3 and **Vol 4** change as shown below.

Vol 4 lights out	Vol 3 lights out
	↓
Vol 4 lights up	Vol 3 lights out
	↓
Vol 4 lights up	Vol 3 lights up

3. Slowly release the DP-10.
Vol 3 and **Vol 4** change as shown below.

Vol 4 lights up	Vol 3 lights up
	↓
Vol 4 lights up	Vol 3 lights out
	↓
Vol 4 lights out	Vol 3 lights out

4. Press **FUNCTION** to advance to the next test item.

* This test detects states that pedal is depressed fully and half. If the detection is not in order, **Vol 3** and **Vol 4** will flash.

10. USB Test

This item tests the operations of the **USB (Computer, Memory for Update)** connectors.

When the unit enters this test item, **Vol 1** and **Vol 4** flash momentarily.

1. Connect the USB memory device to the **USB Memory for Update** connector.
Vol 1 lights up.
2. Detach the USB memory device.
Vol 1 goes dark.
3. Using the USB cable, connect the **USB Computer** connector to the **USB Memory for Update** connector.
Vol 2 lights up.
4. Disconnect the USB cable.
Vol 2 goes dark.
5. Press **FUNCTION** to advance to the next test item.

11. Jacks Sense Test

This item tests the switch operation of **PHONES** jack.
When the unit enters this test item, **Vol 2** and **Vol 4** flash momentarily.

1. Connect the headphones to the **PHONES** jack.
Vol 1 lights up.
2. Detach the headphones.
Vol 1 goes dark.
3. Press **FUNCTION** to advance to the next test item.

12. Device Test

This item tests the operation of each device automatically.

When the unit enters this test item, **Vol 1**, **Vol 2** and **Vol 4** flash momentarily.

Vol 1–Vol 5 are light up, while testing is in progress. When the testing is completed correctly, **Vol 1–Vol 5** go dark.

When the result is not OK, **Vol 1–Vol 5** flash.

When **Vol +** is pressed, the test result for each device is displayed in the following sequence.

General Result → Program ROM0 → Program ROM1 → Effect RAM → Wave ROM → Keyboard CPU → Bluetooth LE

At this time, the rest result for each device (OK or not OK) is displayed by **Vol 3–Vol 5**, lighting (OK) or flashing (not OK) as shown in the table below.

	Vol 5	Vol 4	Vol 3	Vol 2	Vol 1
General Result	*	*	*	*	*
Program ROM0	o/*	-	-	-	-
Program ROM1	-	o/*	-	-	-
Effect RAM	o/*	o/*	-	-	-
Wave ROM	-	-	o/*	-	-
Keyboard CPU	o/*	-	o/*	-	-
Bluetooth LE	-	o/*	o/*	-	-

o: lights up (OK), -: goes off, *: flashes (not OK)

When all devices are OK, **FUNCTION** flashes.

Press **FUNCTION** to advance to the next test item.

13. Bluetooth Function

This item verifies the setting of the Bluetooth function and the destination.

When the unit enters this test item, **Vol 3** and **Vol 4** flash momentarily.

1. Verify the setting of the Bluetooth function by the status of **Vol 1** and **Vol 2**.
Vol 1 lights up: Bluetooth function is enable.
Vol 2 lights up: Bluetooth function is not enable.
2. Press **FUNCTION** to advance to the next test item.

14. Factory Reset

This performs a factory reset.

When the unit enters this test item, **Vol 1**, **Vol 3** and **Vol 4** flash momentarily.

1. Press **Vol +**.
The factory reset is executed.
Vol 1–Vol 5 are lighting while testing is in progress.
When the testing is finished, **Vol 1–Vol 5** go dark and **FUNCTION** flashes.
2. Press **FUNCTION**.
Vol 1, **Vol 3** and **Vol 4** flash momentarily.
Vol 1–Vol 5 and **FUNCTION** go dark.
3. Switch off the power.




This completes the testing in the Test Mode.

The following tests are performed in the normal mode.

15. Bluetooth Test

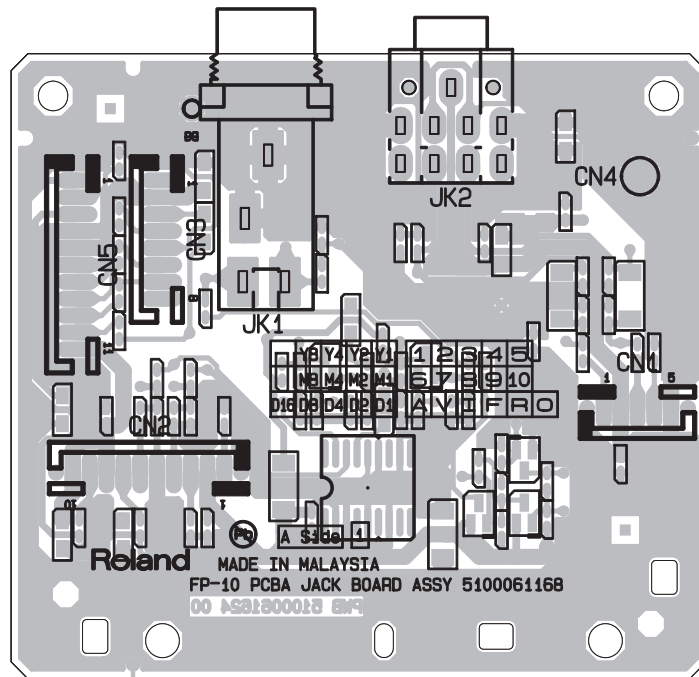
This item tests the **Bluetooth** function.

* For explanation in this section, we will use iPhone as an example of the mobile device equipped with Bluetooth function and GarageBand as an example for Bluetooth MIDI application.

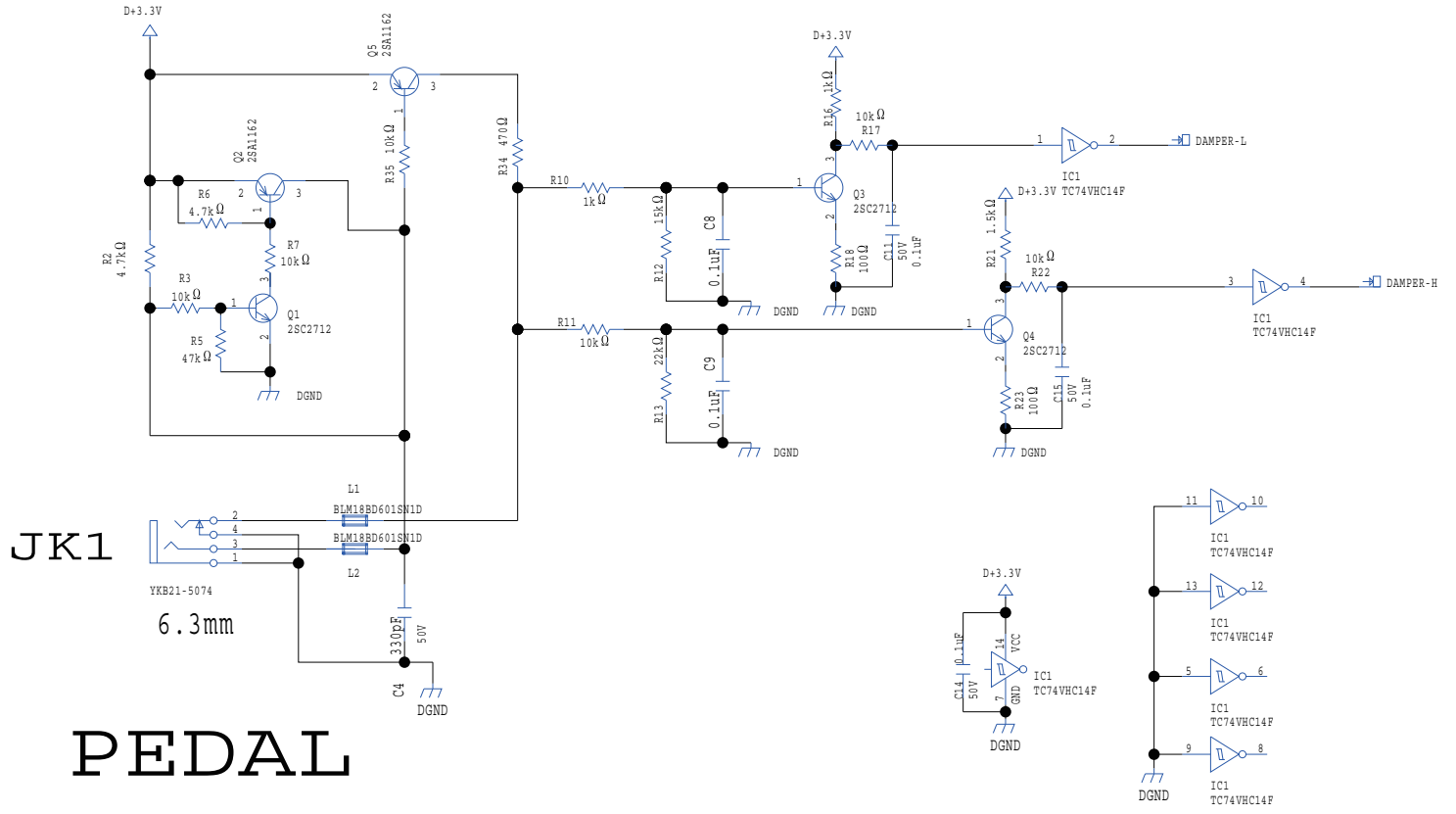
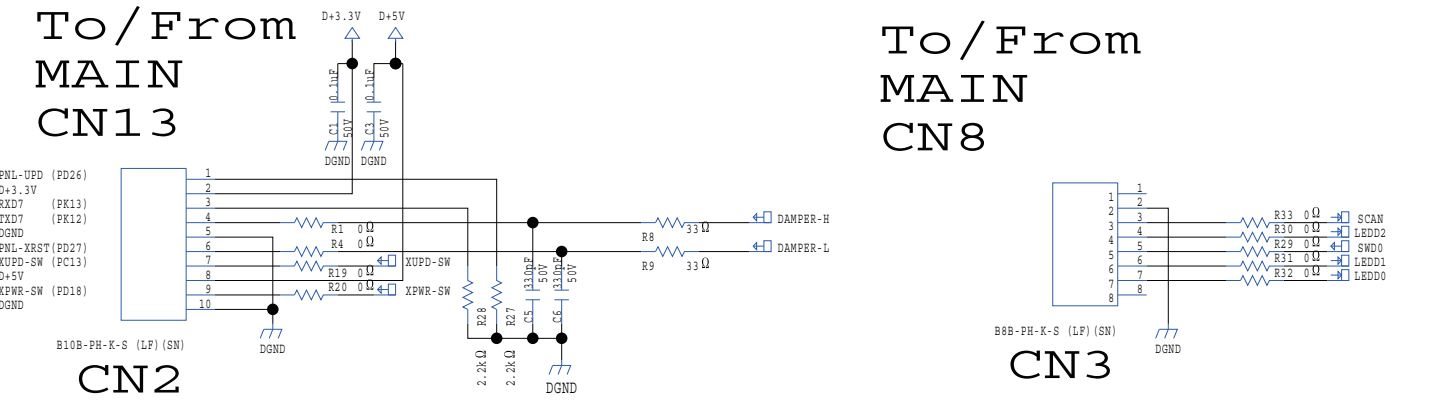
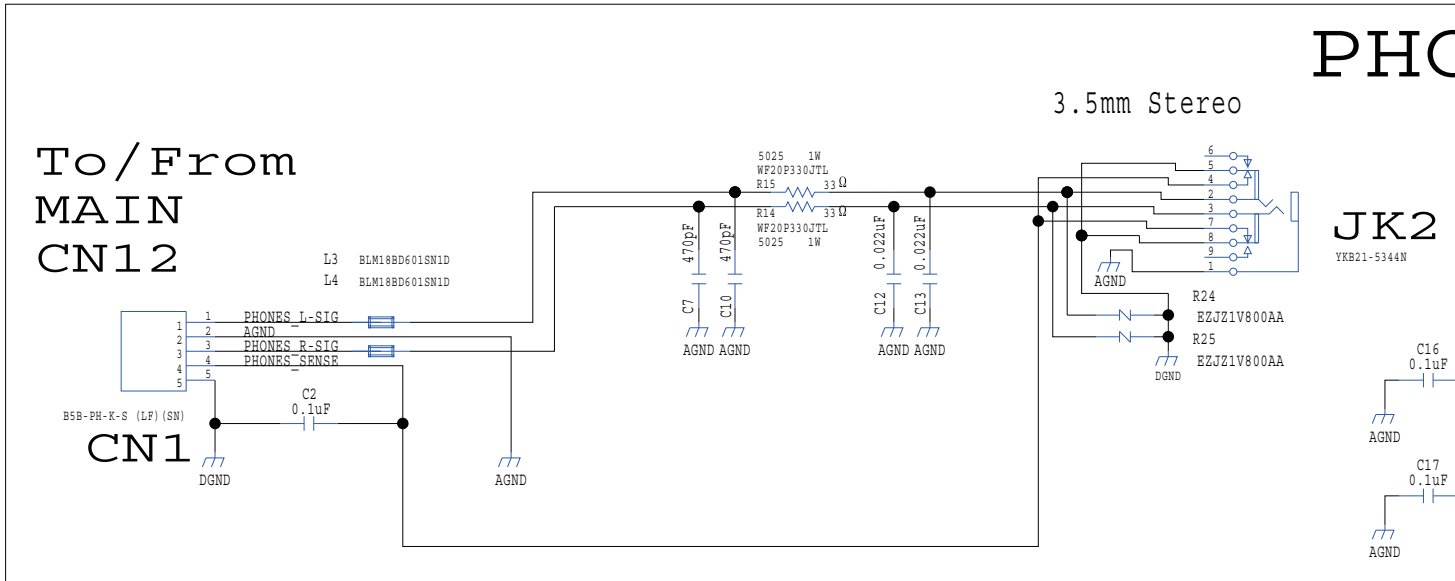
1. On the iPhone, enter **Settings** and set **Bluetooth** off.
2. Place the iPhone near the FP-10.
3. Turn on the power to the FP-10.
4. Hold down **FUNCTION** of the FP-10 and press C#7 on the keyboard. (the rightmost key is C8.)
The Bluetooth function of the FP-10 becomes on.
5. On the iPhone, enter **Settings** and set **Bluetooth** on.
6. Start GarageBand on the iPhone.
7. Tap  (or ) upper right of the GarageBand screen and tap **Song Settings**.
* Based on iOS or GarageBand version, function or command arranging might be different.
8. Tap **Advanced**, and then tap **Bluetooth MIDI Devices**.
9. Tap **FP-10**, and when you are requested to pair, tap **Pair**.
When pairing succeeds, **Connected** is displayed on the right of **FP-10**.
10. Adjust the volume of the FP-10 to minimum.
11. Play the keyboard of the FP-10 to verify that sound is produced from the iPhone.
* To adjust the sound volume, use volume buttons on the iPhone.
12. Tap **Settings** and **Bluetooth** on the iPhone, and tap  at the right of **FP-10** to forget this device.
13. Follow the procedure in **14. Factory Reset** (p. 26) to execute a factory reset.

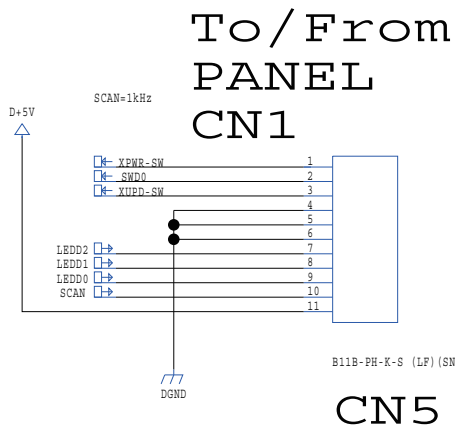
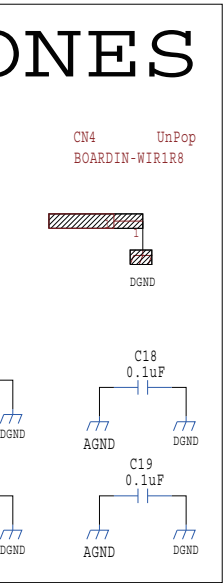
* By executing the factory reset, the pairing information of the mobile device with Bluetooth function which was used for the inspection is deleted from the FP-10. However, the information of the Bluetooth device paired by the customer is also erased. When returning the product to the customer, request him/her to pair by himself/herself again.

Circuit Board (Jack Board)

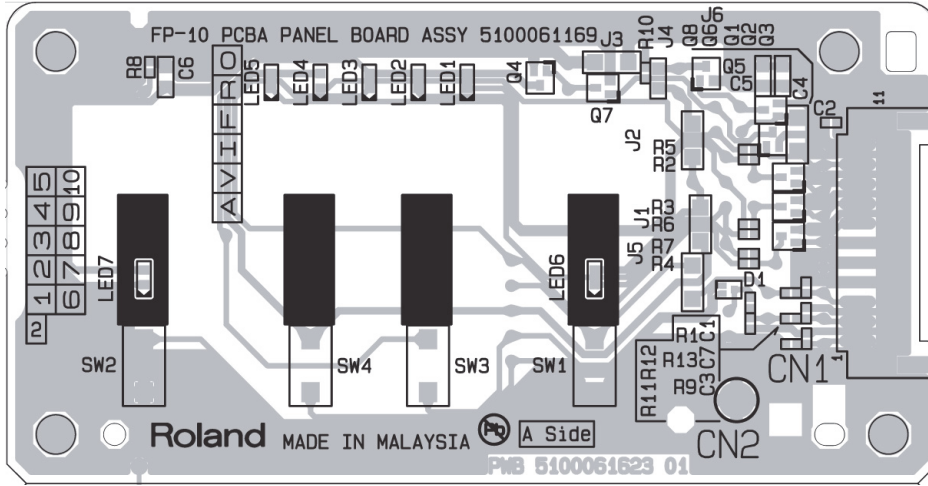


Circuit Diagram (Jack Board)

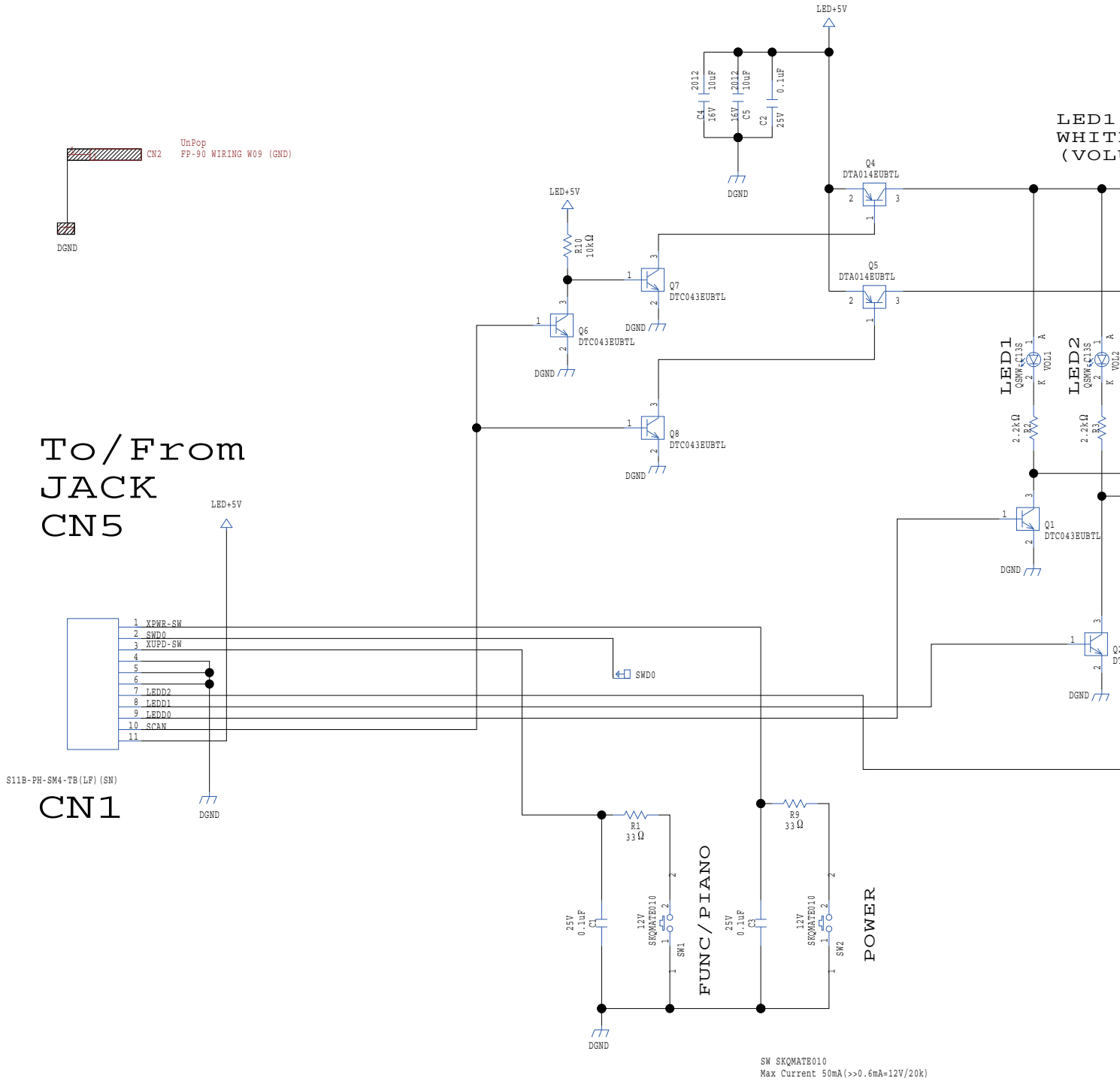




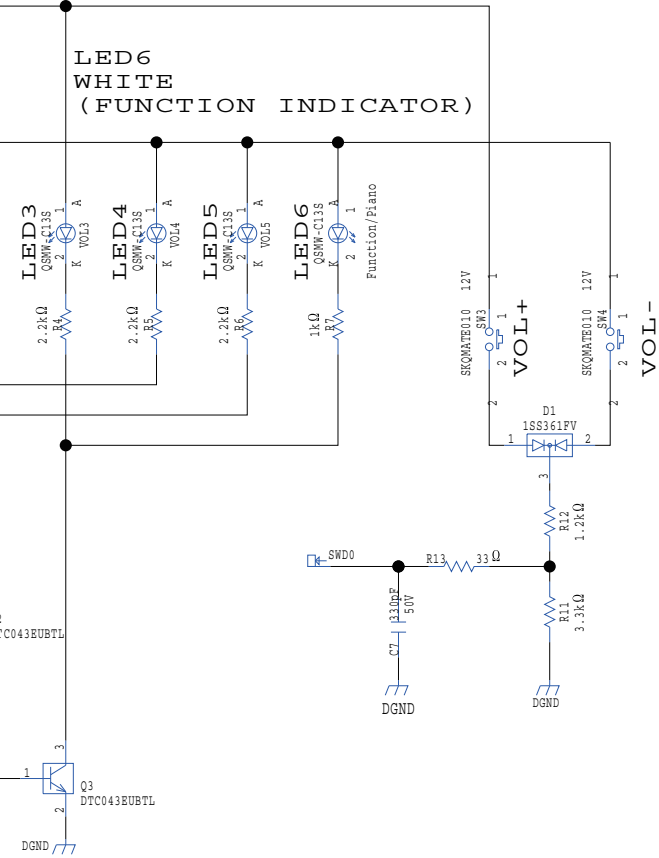
Circuit Board (Panel Board)



Circuit Diagram (Panel Board)



- LED5
E
(VOLUME INDICATOR)



LED7
WHITE
(POWER INDICATOR)

