

DIGITAL PIANO

SERVICE NOTES

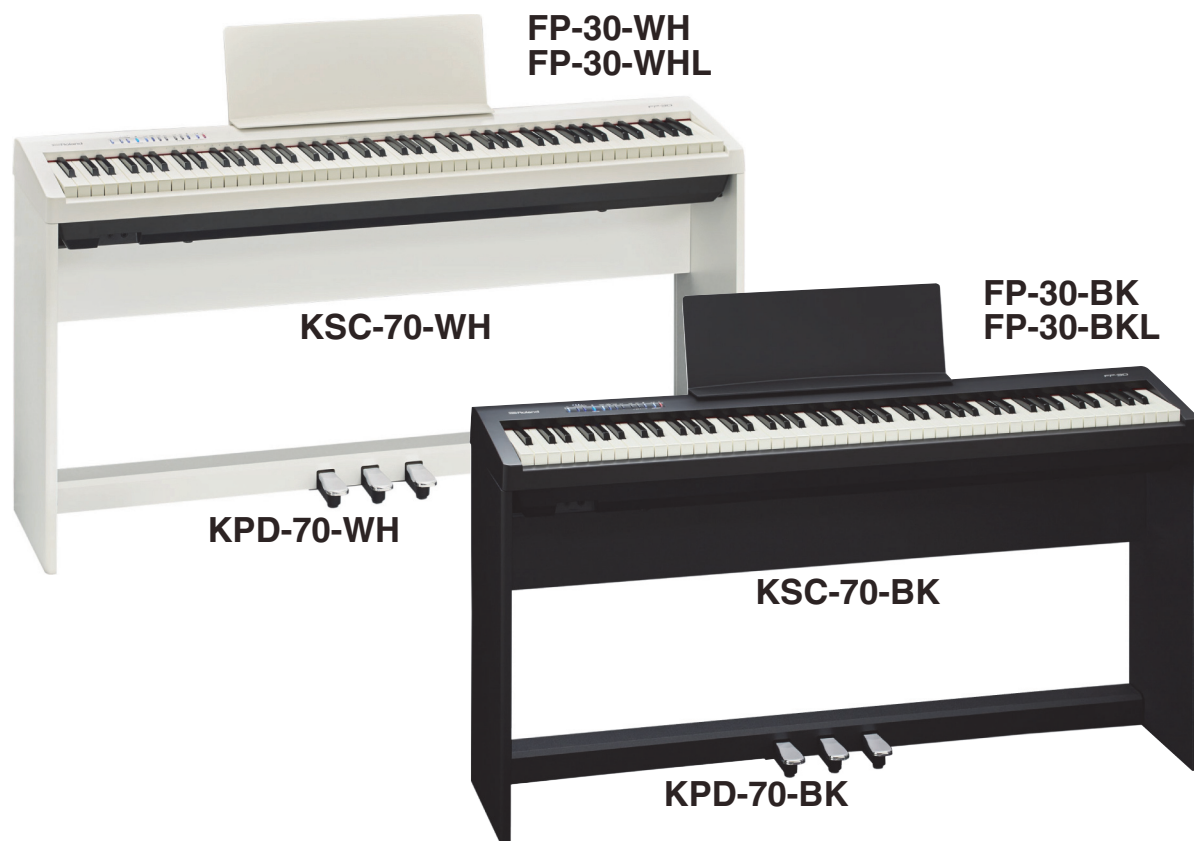
Issued by RJA

FP-30-BK/WH

FP-30-BKL/WHL

KSC-70-BK/WH

KPD-70-BK/WH



Revise Information

May. 23, 2016

p. 16

Added parts.

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Cautionary Notes

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

User Data Cannot Be Backed Up

This product cannot back up user data to external media.

Part Replacement

When replacing components near the power-supply circuit or a heat-generating circuit (such as a circuit provided with a heat sink or including a cement resistor), carry out the procedure according to the instructions with respect to the part number, direction, and attachment position (mounting so as to leave an air gap between the component and the circuit board, etc.).

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.)

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.

Specifications

Roland FP-30: 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 (volume balance adjustable)

Split (split point adjustable, volume balance adjustable)

Twin Piano

Pedals

Accessory pedal

Damper

Optional pedals

Damper (capable of continuous detection)

Soft (capable of continuous detection)

Sostenuto (function assignable)

Sound Generator

Piano Sound

SuperNATURAL Piano Sound

MIDI Format

Conforms to GM2, GS

Max. Polyphony

128 voices

Tones

Piano: 6 Tones

E.Piano: 7 Tones

Other: 22 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 (Off, 1–4)

Brilliance (Mellow, Normal, Bright)

Only for Piano Tones:

String Resonance (Always On)

Damper Resonance (Always On)

Key Off Resonance (Always On)

Metronome

Tempo

Quarter note = 20–250

Beat

0/4, 2/4, 3/4, 4/4, 5/4, 6/4

SMF Recorder

Part

1 part

Save Format

Standard MIDI Files (Format 0)

Note Storage

Approx. 30,000 notes

Controls

Song Select

Play/Stop

Rec

Tempo

Count-in

Mix Balance

All Song Play

Tempo

Quarter note = 20–250

Resolution

120 ticks per quarter note

Rhythm

Rhythms

8 types

Controls

Rhythm Select
Start/Stop
Tempo

Tempo

Quarter note = 20–250

Audio

Playback

File Format: Audio File (WAV 44.1 kHz, 16-bit linear format)

Controls

Song Select
Play/Stop

Internal Memory

Save Song

Standard MIDI Files (Format 0)

Songs

Max. 1 song

External Memory

External Storage

USB Flash Memory

Playable Song Format

Standard MIDI Files (Format 0, 1)
Audio File (WAV, 44.1 kHz, 16-bit linear format)

Save Format

Standard MIDI Files (Format 0)

Bluetooth

MIDI, Turning music sheet: Bluetooth Ver 4.0)

Other

Internal Songs

30 songs

Connectors

DC In jack
USB COMPUTER port: USB Type B
USB MEMORY port: USB Type A
Phones jacks (usable as output jack) x 2: Stereo miniature phone type, Stereo 1/4-inch phone type

Rated Power Output

11 W x 2

Speakers

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

Volume Level (SPL)

102 dB (This value was measured according to the method that is based on Roland's technical standard.)

Language

English

Control

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

Other Functions

Panel Lock
Tone Demo
Auto Off

Power Supply

AC adaptor

Power Consumption

8 W (3–22 W)
8 W: Average power consumption while piano is played with volume at center position
3 W: Power consumption immediately after power-up; nothing being played
22 W: Rated power consumption

Dimensions

With music rest detached:
1,300 (W) x 284 (D) x 150 (H) mm
51-3/16 (W) x 11-7/8 (D) x 5-7/8 (H) inches
With music rest:
1,300 (W) x 324 (D) x 328 (H) mm
51-3/16 (W) x 12-13/16 (D) x 12-7/8 (H) inches
With music rest and dedicated stand KSC-70:
1,300 (W) x 324 (D) x 925 (H) mm
51-3/16 (W) x 12-13/16 (D) x 36-3/8 (H) inches

Weight

With music rest detached:

14.1 kg

31 lbs 2 oz

With music rest and dedicated stand KSC-70:

23 kg

50 lbs 12 oz

Accessories

Owner's Manual (#5100048796)

Music Rest (#5100047933, #5100047934)

Cushion (for Music Rest) (#5100050340)

AC Adaptor (#04236112)

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

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

Damper pedal (#*****)

Options (sold separately)

Dedicated Stand: KSC-70

Dedicated Pedal Board: KPD-70

Keyboard Stand: KS-12

Damper Pedal: DP-10

Headphones

USB Flash Memory *

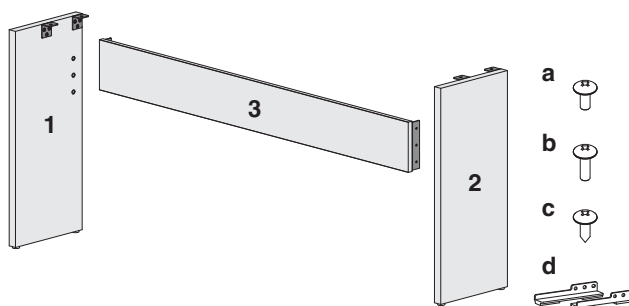
* Use USB Flash Memory sold by Roland. We cannot guarantee operation if other products are used.

* Printed matters will not be supplied after the end of the production. Then, download the electronic file from the Roland web site.

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

Contents of KSC-70

KSC-70 consists of the following parts.



1: Side Board (Left) (#*****)

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

3: Center Board (#*****)

a: Screws M5 x 12 (#40238145) x 6

b: Screws M5 x 20 (#40679101) x 4

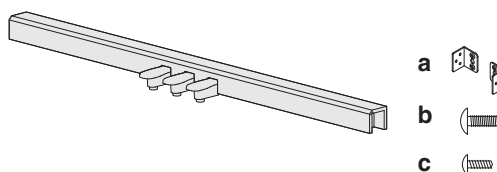
c: Screws 4 x 14 (#40012145) x 6

d: Stabilizers (for left: #5100021794, for right: #5100021795)

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

Contents of KPD-70

KPD-70 consists of the following parts.



Pedal Board (#*****)

a: Installation Hardware (#5100046677) x 2

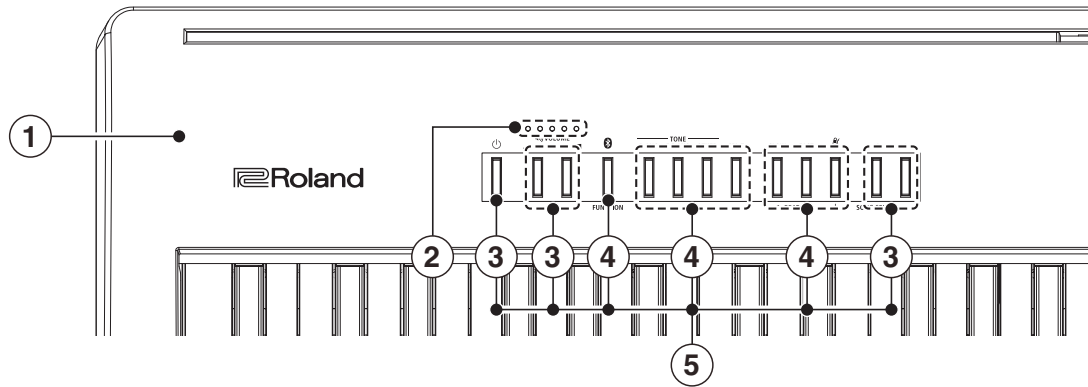
b: Screws M6 x 18 (#5100047133) x 2

c: Screws 4 x 14 (#40012145) x 6

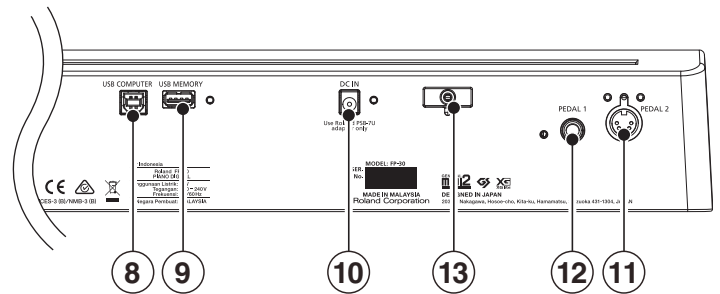
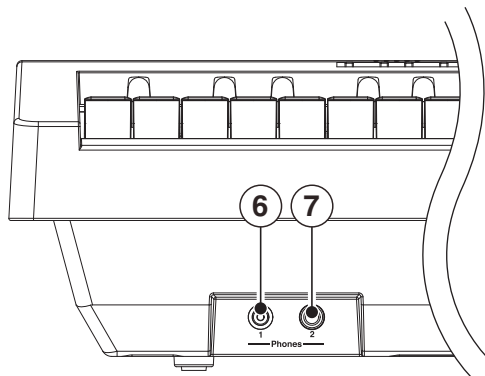
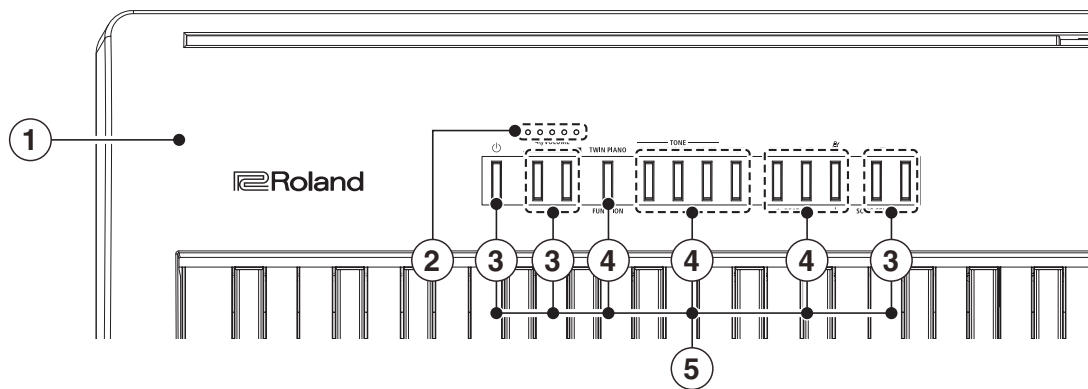
* For detail, refer to **Exploded View (Fig.B)** (p. 12).

Location of Controls

FP-30-BK/WH

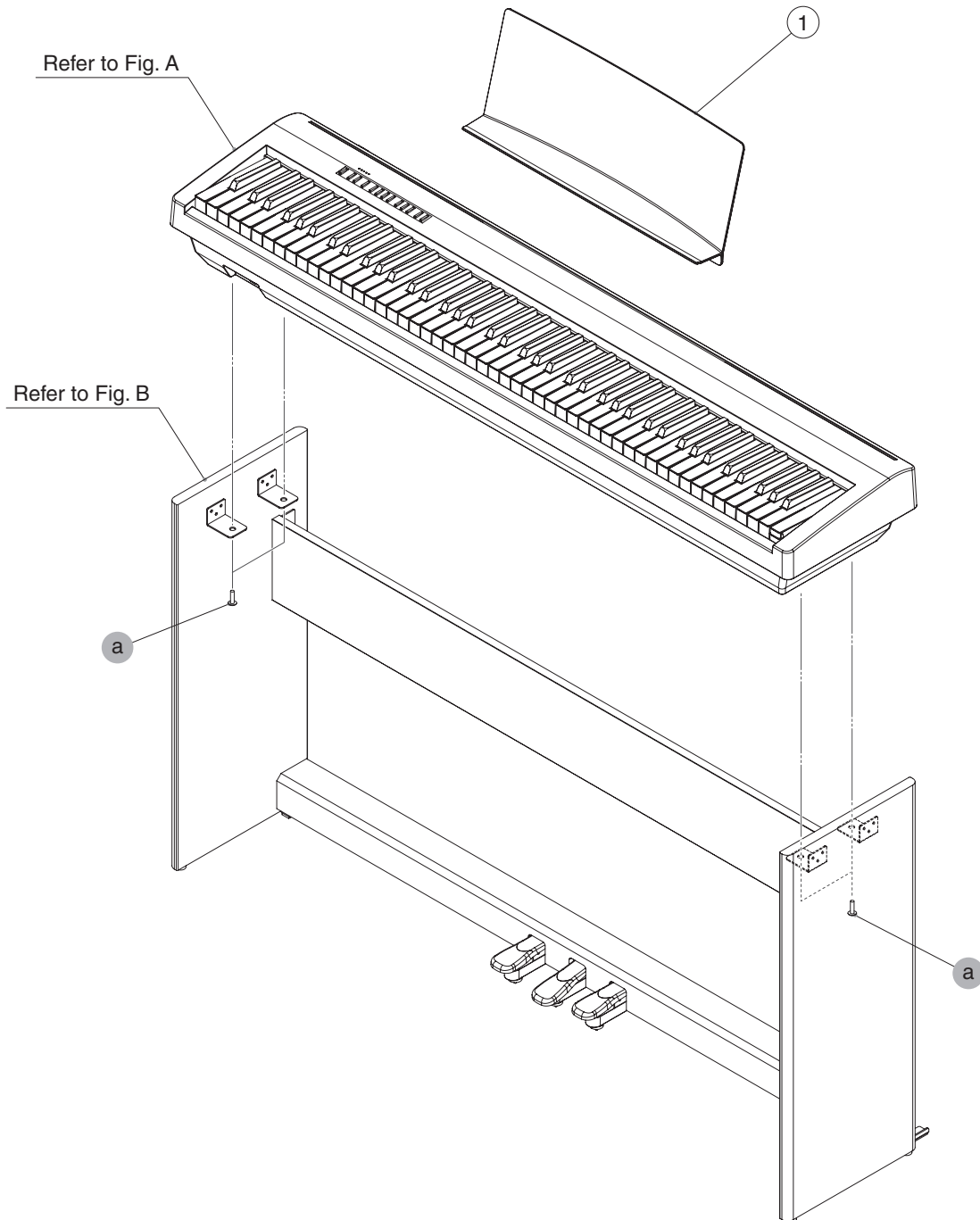


FP-30-BKL/WHL



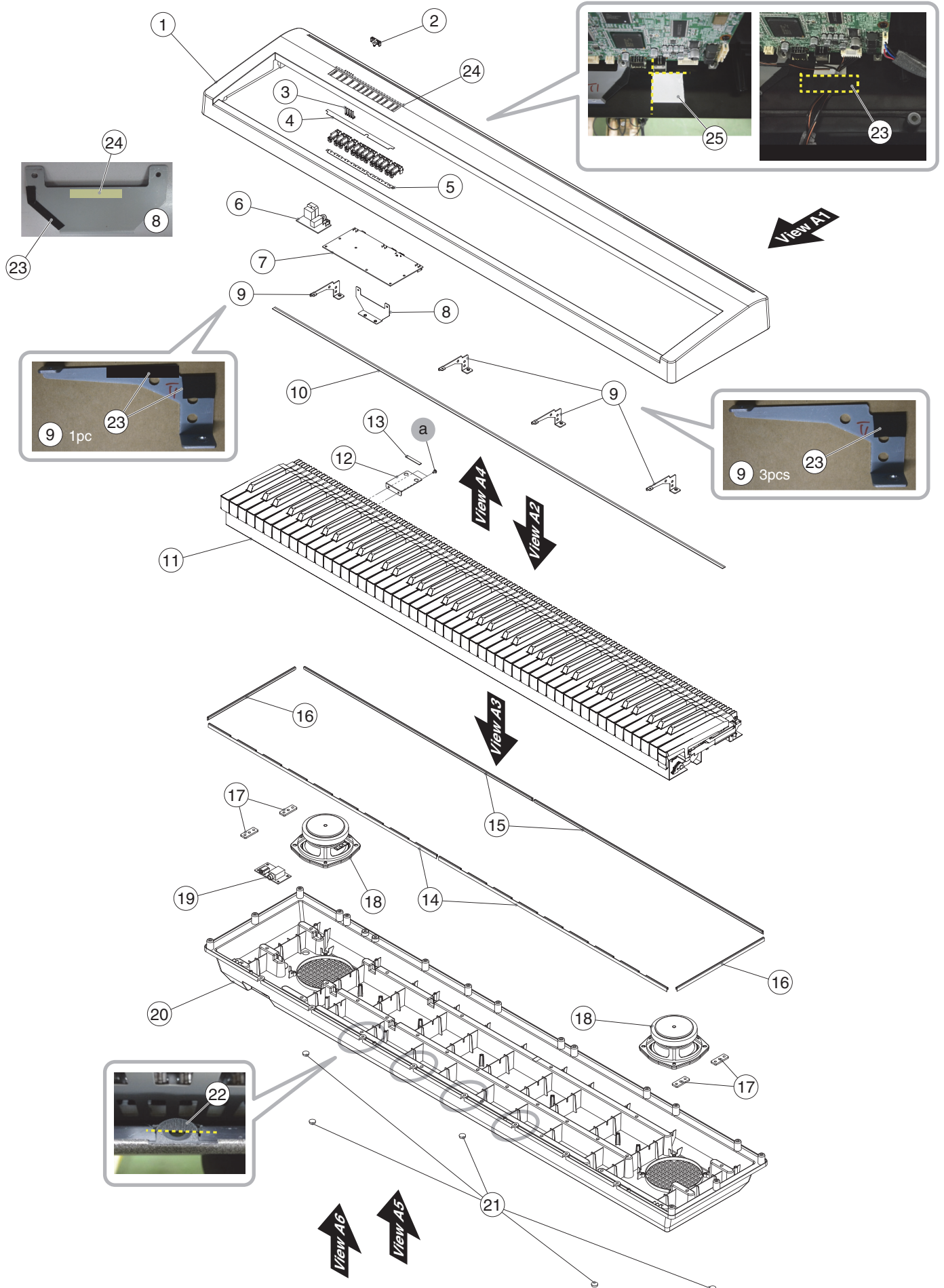
No.	Part Code	Part Name	Description	Q'ty
1	5100047896	TOP CASE		for BK 1
	5100047897	TOP CASE		for WH 1
	5100049761	TOP CASE		for BKL 1
	5100049764	TOP CASE		for WHL 1
2	5100047918	LED INDICATOR		1
3	5100047913	KEYTOP	MX2H CLR	5/2
4	5100047917	KEYTOP	MX4H CLR	2
5	01458501	TACT SWITCH	SKQMAK	13
6	04452945	3.5MM JACK	YKB21-5344N	1
7	13449252	6.5MM JACK	YKB21-5006 (STEREO W/SW)	1
8	5100009531	USB CONNECTOR B TYPE FEMALE	YKF45-0044N	1
9	04459190	USB CONNECTOR A TYPE FEMALE	YKF45-0033N	1
10	02900312	DC JACK	HEC0470-01-640	1
11	00340223	DIN SOCKET	YKF51-5031	1
12	13449275	6.5MM JACK	YKB21-5074	1
13	5100027106	CORD HOOK	40516-014	1

Exploded View



No.	Part Code	Part Name	Description	Q'ty
1	5100047933	MUSIC REST		for BK, BKL
	5100047934	MUSIC REST		for WH, WHL
a	40679101	SCREW M5X20	TRUSS MACHINE FE BZC	4

Exploded View (Fig.A)



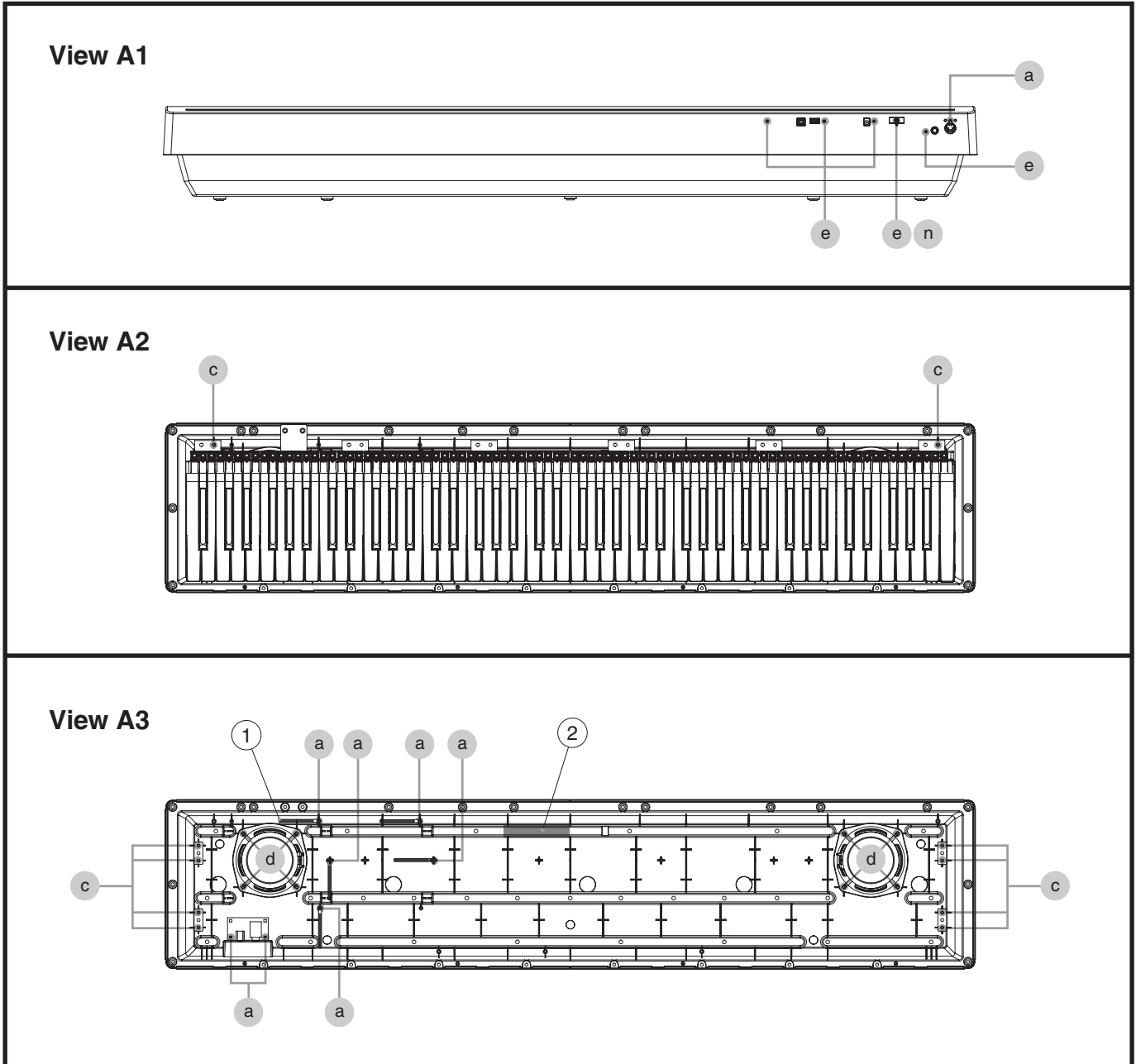
Exploded View (Fig.A) Parts List

No.	Part Code	Part Name	Description		Q'ty
1	5100047896	TOP CASE		for BK	1
	5100047897	TOP CASE		for WH	1
	5100049761	TOP CASE		for BKL	1
	5100049764	TOP CASE		for WHL	1
2	5100027106	CORD HOOK	40516-014		1
3	5100047918	LED INDICATOR			1
4	5100048657	KEYTOP CUSHION			1
5	5100048658	TACT SW CUSHION			1
	5100047904	JACK SHEET ASSY			1
		* This unit includes the following parts.			
6	*****	PEDAL BOARD			1
19	*****	PHONES BOARD			1
7	5100047899	MAIN BOARD ASSY		for FP-30-**	1
	5100048790	MAIN BOARD ASSY		for FP-30-**L	1
8	5100048942	CONDUCTION PLATE A			1
9	5100047911	CENTER HOLDER			4
10	03012323	KEY FELT			1
11	5100034009	KEYBOARD ASSY	PX-7B		1
12	5100048943	CONDUCTION PLATE B			1
13	5100049500	SOFT GASKET	NLCG-010050D L=37		1
14	5100049095	CUSHION A			2
15	5100049096	CUSHION B			2
16	5100049097	CUSHION C			2
17	5100047922	SCREW HOLDER			4
18	5100047143	SPEAKER	F1204-E34C		2
20	5100047920	BOTTOM CASE			1
21	5100049094	FOOT	SJ-5012 BLK		5
22	5100050374	BOTTOM CASE SPACER			4
23	40122789	ACETATE TAPE	NITTO #156A W15MM 30M		-
24	5100021076	DOUBLE SIDED ADHESIVE TAPE	NITTO #5000NS W5MM		-
25	40122556	DOUBLE FACED ADHESIVE TAPE	#575X W30MM 30M 10P 30CM		-
a	40011056	SCREW 3X6	BINDING TAPTITE B ZC		2

Disassembly Procedure

1. Remove screws securing the Top Case to the Bottom Case. (**Plain View (Fig.A) (2)** (p. 11), **View A6**, screw **b** (x 6) and **c** (x 20))
2. Lift the Top Case from the front side and disconnect the wiring connected to the Main Board (4 locations).
3. Remove the Top Case.
4. Remove the screws securing the keyboard from underneath. (**Plain View (Fig.A) (2)** (p. 11), **View A5**, screw **b** (x 27))
5. Remove the screws securing the keyboard from above. (**Plain View (Fig.A) (1)** (p. 10), **View A2**, screw **c** (x 2))
6. Detach the keyboard.
When the keyboard is detached, speakers and the Phones Board can be replaced.

Plain View (Fig.A) (1)



View A1

No.	Part Code	Part Name	Description	Q'ty
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	1
e	40459534	SCREW M3X10	PAN MACHINE W/SW+PW BZC	5
n	40011789	NUT M3	HEX ZC	1

View A2

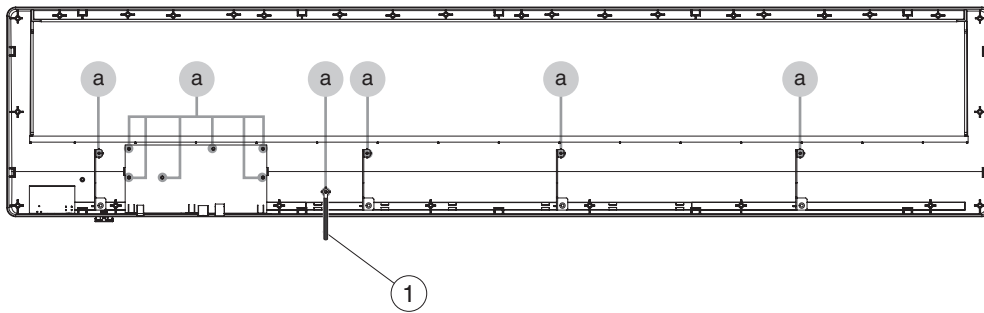
No.	Part Code	Part Name	Description	Q'ty
c	40012490	SCREW 4X10	BINDING TAPTITE P BZC	2

View A3

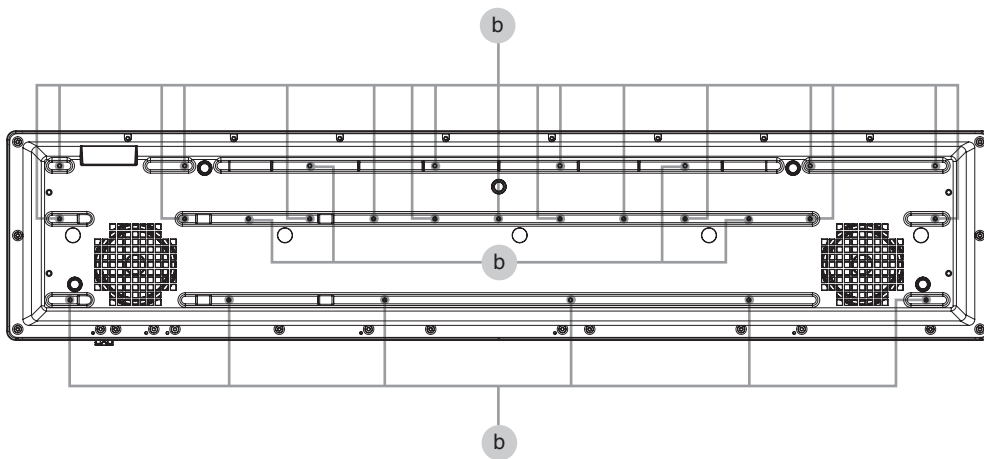
No.	Part Code	Part Name	Description	Q'ty
1	40017378	COATING CLIP	CS-7	5
2	40122789	ACETATE TAPE	NITTO #156A W15MM 30M	-
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	7
c	40012490	SCREW 4X10	BINDING TAPTITE P BZC	8
d	5100047746	SCREW 4X14	BINDING TAPTITE P BZC	8

Plain View (Fig.A) (2)

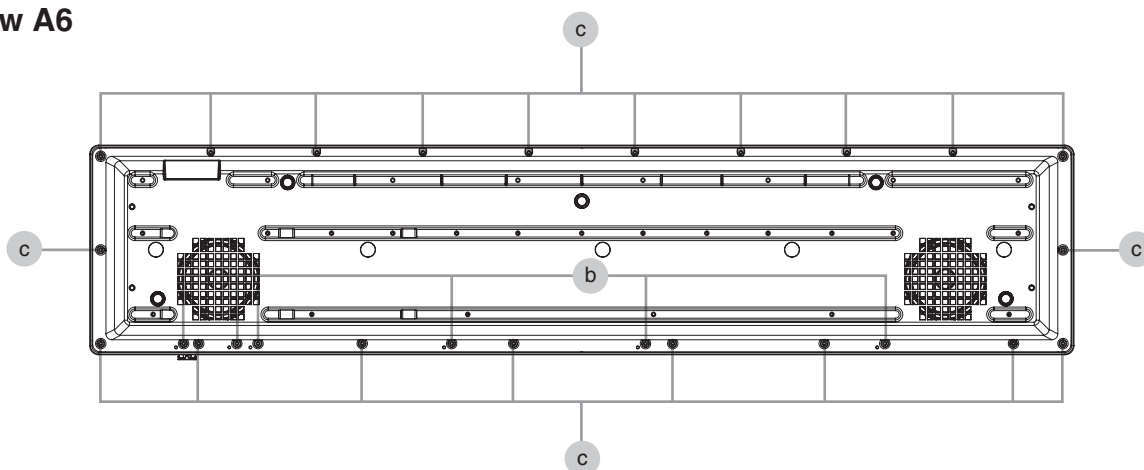
View A4



View A5

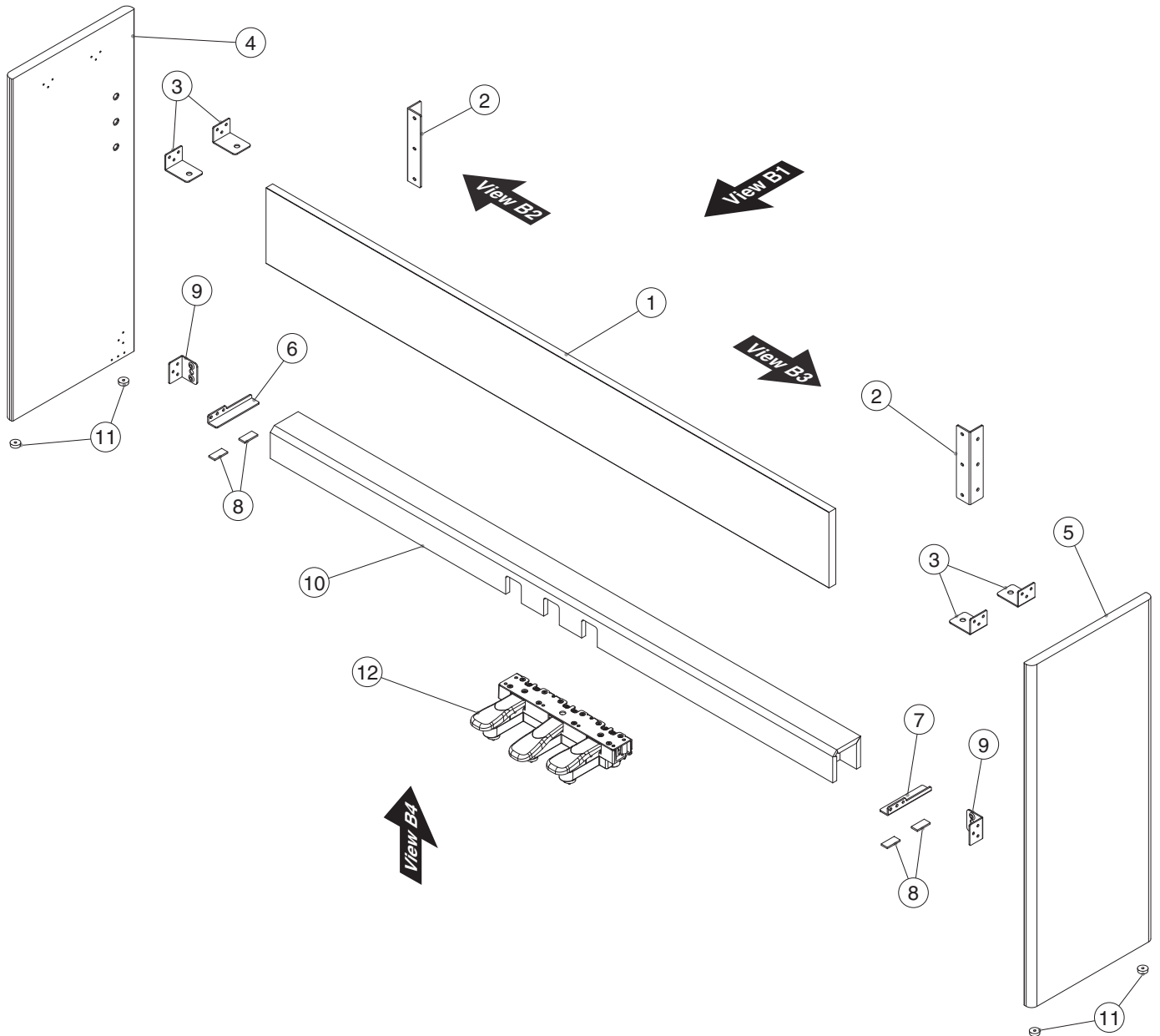


View A6



No.	Part Code	Part Name	Description	Q'ty
1	40017378	COATING CLIP	CS-7	1
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	11
b	40012301	SCREW 4X8	BINDING TAPTITE B FE ZC	33
c	40012490	SCREW 4X10	BINDING TAPTITE P BZC	20

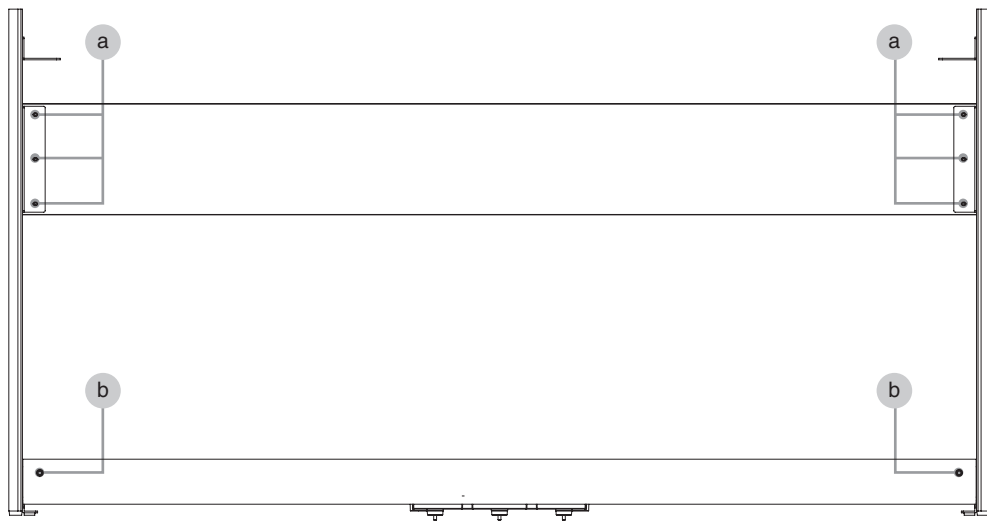
Exploded View (Fig.B)



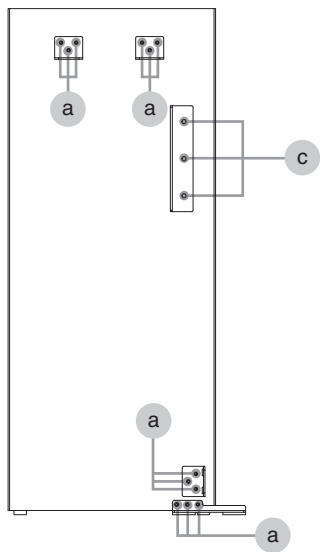
No.	Part Code	Part Name	Description	Q'ty
1	5100047927	CENTER BOARD	for BK	1
	5100047928	CENTER BOARD	for WH	1
2	5100046679	CENTER BOARD HOLDER		2
3	5100047929	ANGLE		4
4	5100047923	SIDE BOARD L	for BK	1
	5100047925	SIDE BOARD L	for WH	1
5	5100047924	SIDE BOARD R	for BK	1
	5100047926	SIDE BOARD R	for WH	1
	5100021794	STAND HOLDER L		1
	* This unit includes the following parts.			
6	*****	STAND HOLDER L		1
8	*****	STAND HOLDER CUSHION		2
	5100021795	STAND HOLDER R		1
	* This unit includes the following parts.			
7	*****	STAND HOLDER R		1
8	*****	STAND HOLDER CUSHION		2
9	5100046677	PEDAL HOLDER		2
10	5100048655	PEDAL BOARD	for BK	1
	5100048656	PEDAL BOARD	for WH	1
11	5100047118	FOOT		4
12	510006011	CP-3 DIN PEDAL UNIT (F-110)		1

Plain View (Fig.B)

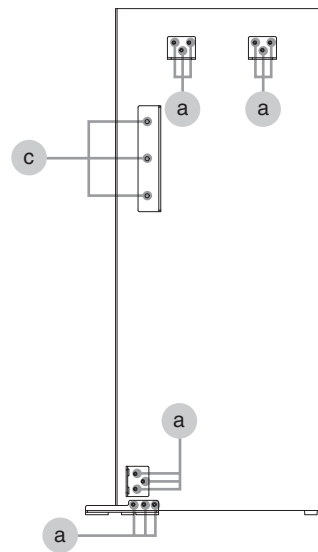
View B1



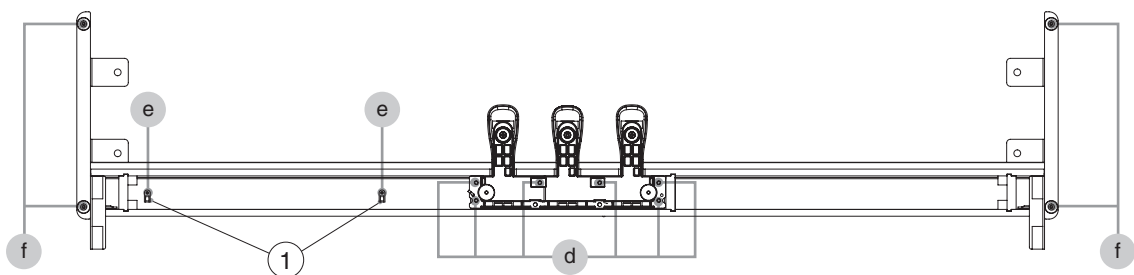
View B2



View B3



View B4



Plain View (Fig.B) Parts List

View B1

No.	Part Code	Part Name	Description	Q'ty
a	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	6
b	5100047133	SCREW M6X18	TRUSS MACHINE TC BZC	2

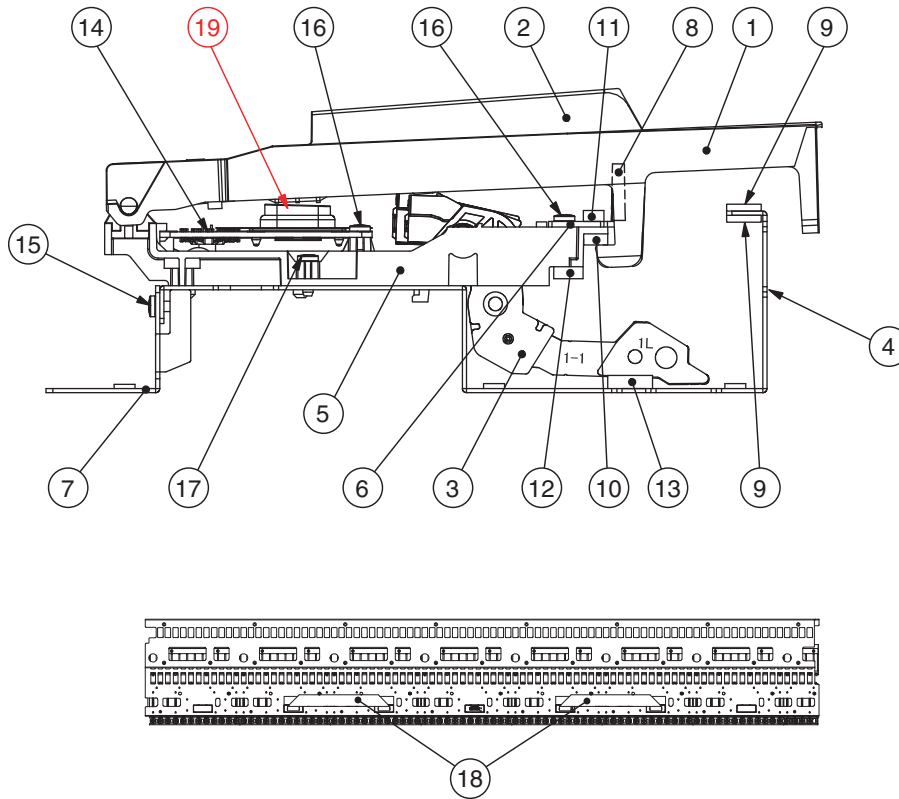
View B2, B3

No.	Part Code	Part Name	Description	Q'ty
a	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	24
c	40238145	SCREW M5X12	TRUSS MACHINE BZC	6

View B4

No.	Part Code	Part Name	Description	Q'ty
1	40677478	LOCKING TOOL FOR INSULOK TIE	SKM-2	2
d	40782023	SCREW M4X40	PAN MACHINE W/SW ZC	6
e	40010645	SCREW 4X8	TRUSS TAPPING A FE BZC	2
f	40675701	SCREW 3.5X16	BINDING TAPPING A FE BZC	4

Keyboard Parts List (PX-7B)



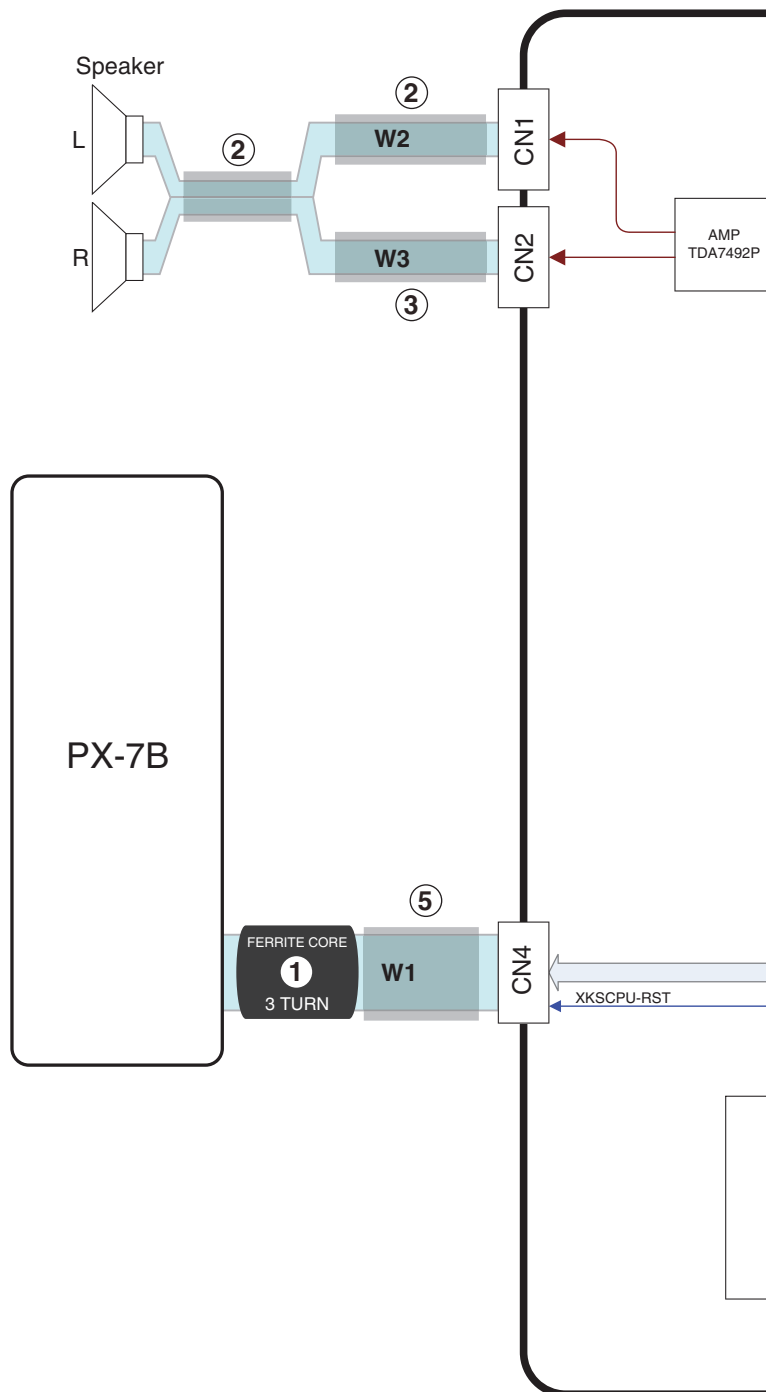
No.	Part Code	Part Name	Description	Q'ty
	5100034009	KEYBOARD ASSY	PX-7B	
1	5100016416	N-KEY C	PX-7 (C6200269R0)	7
	5100016417	N-KEY D	PX-7 (C6200270R0)	7
	5100016418	N-KEY E	PX-7 (C6200271R0)	7
	5100016419	N-KEY F	PX-7 (C6200272R0)	7
	5100016420	N-KEY G	PX-7 (C6200273R0)	7
	5100016421	N-KEY A	PX-7 (C6200274R0)	7
	5100016422	N-KEY B	PX-7 (C6200275R0)	8
	5100016423	N-KEY A DASH	PX-7 (C6200276R0)	1
	5100016424	N-KEY C DASH	PX-7 (C6200277R0)	1
2	5100016425	S-KEY	PX-7 (C6200278R0)	36
3	5100016251	HAMMER-1 FOR N-KEY	PX-7 (61100160)	13
	5100016252	HAMMER-2 FOR N-KEY	PX-7 (61100170)	13
	5100016253	HAMMER-3 FOR N-KEY	PX-7 (61100180)	13
	5100016254	HAMMER-4 FOR N-KEY	PX-7 (61100190)	13
	5100016255	HAMMER-1 FOR S-KEY	PX-7 (611001A0)	9
	5100016256	HAMMER-2 FOR S-KEY	PX-7 (611001B0)	9
	5100016257	HAMMER-3 FOR S-KEY	PX-7 (611001C0)	9
	5100016258	HAMMER-4 FOR S-KEY	PX-7 (611001D0)	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	5100016412	KEYBOARD HOLDER	PX-7 (C6300217R0)	6
8	5100016262	GUIDE BUSHING	PX-7	88
9	5100019110	KEY CUSHION A	PX-7 (C5000254R0)	2
10	5100019663	KEY CUSHION B	PX-7	1
11	5100028252	KEY CUSHION E	PX-7	1
12	5100019111	HAMMER CUSHION A	PX-7	1
13	5100019664	HAMMER CUSHION B	PX-7	1
14	5100037315	PWB SET	PX-7B	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	5100033937	FLAT CABLE	A-1.0-20X230-4/8-0.7X0.05	2
19	5100047674	RUBBER SWITCH	12P	8

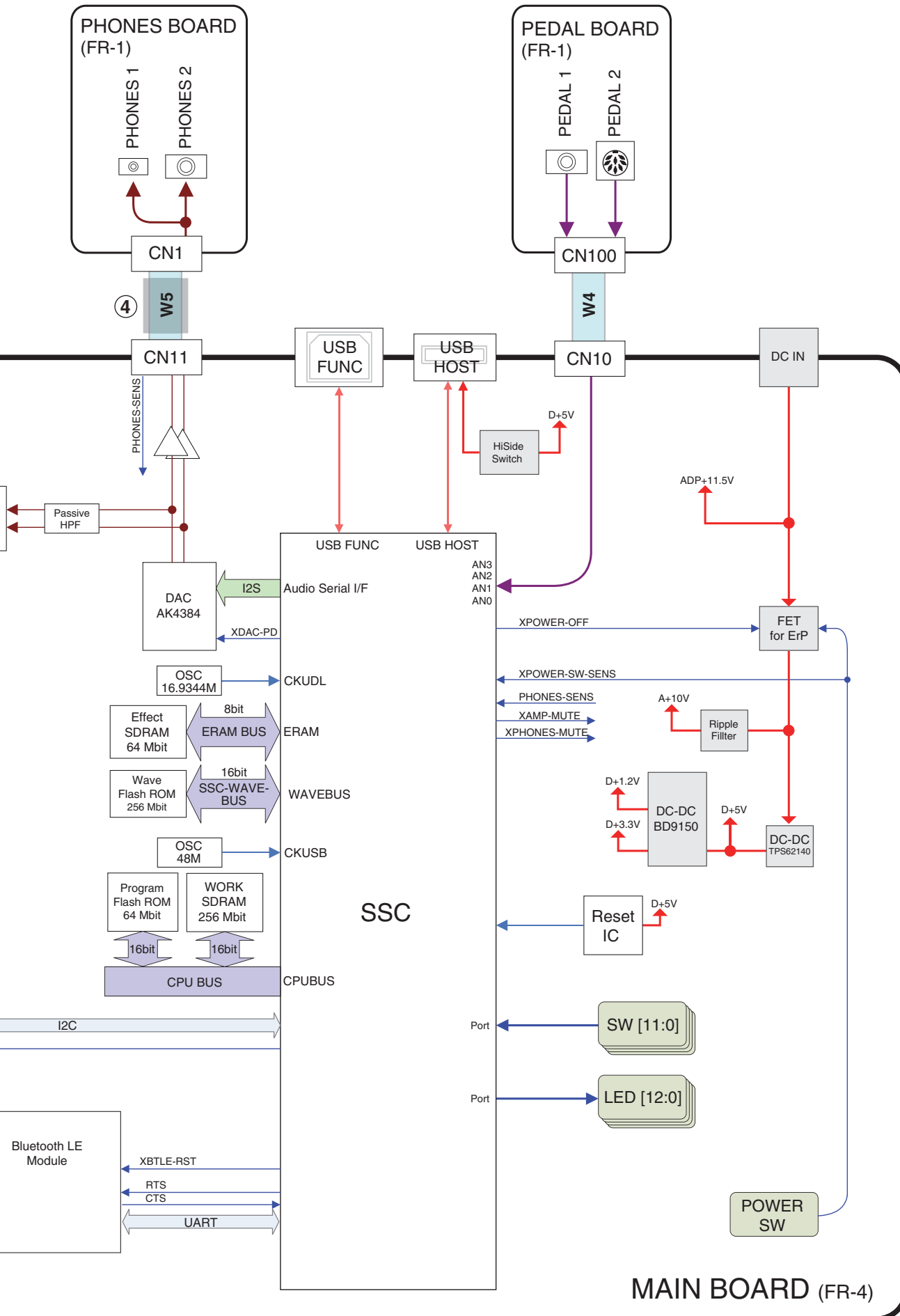
* The cable (#5100048746) is not included in this unit (#5100034009).

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

Block Diagram/Wiring Diagram

No.	Part Code	Part Name	Description	Q'ty
1	03670423	FERRITE CORE	ESD-SR-160(C0600004R0)	1
2	5100049479	ABSORPTIVE FELT A		2
3	5100049480	ABSORPTIVE FELT B		1
4	5100049481	ABSORPTIVE FELT C		1
5	5100049568	ABSORPTIVE FELT D		1
W1	5100048746	WIRING	W01 (KEY)	1
W2	5100048747	WIRING	W02 (MAIN-SPL)	1
W3	5100048748	WIRING	W03 (MAIN-SPR)	1
W4	5100048744	WIRING	1061#28 7X150-PHR-PHR-F	1
W5	5100048745	WIRING	1061#28 8X450-PHR-PHR-F	1





Parts List (FP-30-BK/WH/BKL/WHL)

Safety Precautions:

The parts marked Δ 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				
#	5100047896	TOP CASE		1
#	5100047897	TOP CASE	for BK	1
#	5100049761	TOP CASE	for WH	1
#	5100049764	TOP CASE	for BKL	1
#	5100049764	TOP CASE	for WHL	1
#	5100047920	BOTTOM CASE		1
CHASSIS				
#	5100047911	CENTER HOLDER		4
#	5100048942	CONDUCTION PLATE A		1
#	5100048943	CONDUCTION PLATE B		1
#	5100047922	SCREW HOLDER		4
KNOB, BUTTON				
#	5100047913	KEYTOP	MX2H CLR	3
#	5100047917	KEYTOP	MX4H CLR	2
SWITCH				
	01458501	TACT SWITCH	SKQMATE010	13
JACK, EXT TERMINAL				
	04452945	3.5MM JACK	YKB21-5344N	1
	13449275	6.5MM JACK	YKB21-5074	1
	13449252	6.5MM JACK	YKB21-5006 (STEREO W/SW)	1
	02900312	DC JACK	HEC0470-01-640	1
	00340223	DIN SOCKET	YKF51-5031	1
	04459190	USB CONNECTOR A TYPE FEMALE	YKF45-0033N	1
	5100009531	USB CONNECTOR B TYPE FEMALE	YKF45-0044N	1
SPEAKER, BUZZER				
	5100047143	SPEAKER	F1204-E34C	2
KEYBOARD ASSY				
	5100034009	KEYBOARD ASSY	PX-7B	1
PWB ASSY				
#	5100047899	MAIN BOARD ASSY	for FP-30-**	1
#	5100048790	MAIN BOARD ASSY	for FP-30-**L	1
#	5100047904	JACK SHEET ASSY		1
		* This unit includes the following parts.		
	*****	PHONES BOARD		1
	*****	PEDAL BOARD		1
WIRING, CABLE				
#	5100048746	WIRING	W01 (KEY)	1
#	5100048747	WIRING	W02 (MAIN-SPL)	1
#	5100048748	WIRING	W03 (MAIN-SPR)	1
#	5100048744	WIRING	1061#28 7X150-PHR-PHR-F	1
#	5100048745	WIRING	1061#28 8X450-PHR-PHR-F	1
SCREWS				
	40459534	SCREW M3X10	PAN MACHINE W/SW+PW BZC	5
	40011056	SCREW 3X6	BINDING TAPTITE B ZC	4
	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	19
	40012301	SCREW 4X8	BINDING TAPTITE B FE ZC	33
	40012490	SCREW 4X10	BINDING TAPTITE P BZC	30
	5100047746	SCREW 4X14	BINDING TAPTITE P BZC	8
	40011789	NUT M3	HEX ZC	1

MISCELLANEOUS

#	5100047918	LED INDICATOR		1
	03670423	FERRITE CORE	ESD-SR-160(C0600004R0)	1
#	5100049094	FOOT	SJ-5012 BLK	5
	5100027106	CORD HOOK	40516-014	1
	12199584	GROUNDING TERMINAL	M1698	4
#	5100049095	CUSHION A		2
#	5100049096	CUSHION B		2
#	5100049097	CUSHION C		2
#	5100048657	KEYTOP CUSHION		1
#	5100048658	TACT SW CUSHION		1
#	5100049479	ABSORPTIVE FELT A		2
#	5100049480	ABSORPTIVE FELT B		1
#	5100049481	ABSORPTIVE FELT C		1
#	5100049568	ABSORPTIVE FELT D		1
	03012323	KEY FELT		1
#	5100050374	BOTTOM CASE SPACER		4
#	5100049500	SOFT GASKET	NLCG-010050D L=37	1
	40017378	COATING CLIP	CS-7	6
	40016523	INSULOK TIE 100M/M T-18R	(1000 PCS ORDERING PER)	6
	40016545	LOCKING TOOL FOR INSULOK TIE	SKM-1	2
	40122789	ACETATE TAPE	NIITTO #156A W15MM 30M	-
	40122556	DOUBLE FACED ADHESIVE TAPE	#575X W30MM 30M 10P 30CM	-
	5100021076	DOUBLE SIDED ADHESIVE TAPE	NIITTO #5000NS W5MM	-
	17041858	GREASE FOR KEY	MOLYKOTE G-1039 (50 GRAM)	-
	17049543	GREASE FOR KEY	FLOIL G-336A WHITE (93 GRAM)	-

ACCESSORIES (Standard)

#	5100047933	MUSIC REST		for BK, BKL	1
#	5100047934	MUSIC REST		for WH, WHL	1
#	5100050340	CUSHION	SJ-1020C CLR (4 PCS/1 SHEET)		1
#	5100048796	OWNER'S MANUAL	MULTILANGUAGE		1
#	5100048795	OWNER'S MANUAL	JAPANESE		1
	△	04236112	AC ADAPTOR	PSB-7U(S)DC WITHOUT AC CORD	1
	△	5100048283	AC CORD SET	100V EYEGLASS ARK-VFF 1.0M	for 100V
	△	5100012293	AC CORD SET	117VBL 1.0M FOR PSB	for 117VBL
	△	02562456	AC CORD SET	120V 1.0M (NON POLAR)	for 117VU, 117VU/CS
	△	5100019558	AC CORD SET	220V CCC SP505A-IS037 1.0M	for 220VCN
	△	5100039367	AC CORD SET	SP021A+IS037 220VK 2.5M 2P	for 220VK
	△	5100018086	AC CORD SET	230VE 1.0M FOR EPS	for 230VE
	△	01903356	AC CORD SET	230V 1.0M FOR PSB	for 230VEU
	△	5100033404	AC CORD SET	240V SP501-IS037 PSB 1.0M	for 240VA

Parts List (KSC-70-BK/WH)

Safety Precautions:

The parts marked Δ 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.
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- 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				
#	5100047927	CENTER BOARD	for BK	1
#	5100047923	SIDE BOARD L	for BK	1
#	5100047924	SIDE BOARD R	for BK	1
#	5100047928	CENTER BOARD	for WH	1
#	5100047925	SIDE BOARD L	for WH	1
#	5100047926	SIDE BOARD R	for WH	1
CHASSIS				
#	5100047929	ANGLE		4
	5100046679	CENTER BOARD HOLDER		2
	5100021794	STAND HOLDER L		1
	5100021795	STAND HOLDER R		1
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	24
MISCELLANEOUS				
	5100047118	FOOT		4

Parts List (KPD-70-BK/WH)

Safety Precautions:

The parts marked Δ 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				
#	5100048655	PEDAL BOARD		1
#	5100048656	PEDAL BOARD	for BK	1
	510006011	CP-3 DIN PEDAL UNIT (F-110)	for WH	1
CHASSIS				
	5100046677	PEDAL HOLDER		2
WIRING, CABLE				
	5100005700	DIN PEDAL CABLE		1
SCREWS				
	40782023	SCREW M4X40	PAN MACHINE W/SW ZC	6
#	5100047133	SCREW M6X18	TRUSS MACHINE TC BZC	2
	40010645	SCREW 4X8	TRUSS TAPPING A FE BZC	2
	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	6
MISCELLANEOUS				
	04781901	FELT		6
	40016523	INSULOK TIE 100M/M T-18R	(1000 PCS ORDERING PER)	2
	40677478	LOCKING TOOL FOR INSULOK TIE	SKM-2	2

Verifying the Version

1. Hold down **SLOW** and **FAST**, and press and hold .

* After releasing your finger from , continue to hold down **SLOW** and **FAST**.

The center LED of the five LEDs above **VOLUME** lights up and the unit becomes the version-display state.

2. Release your fingers from **SLOW** and **FAST**.

Next, when **FAST** is pressed, the lighting position of the five **VOLUME** LEDs moves from center to right, and when **SLOW** is pressed, the lighting position of them moves to left and return to the center. At this time, three kinds of versions are displayed as shown below.



VOLUME LED	Type of Version
- - ○ - -	Program version
- - - ○ -	Bluetooth LE version
- - - - ○	Keyboard version

○: light, -: dark

Each version can be verified by combination of light and dark buttons as shown in the table below.

Integer Portion of the Version Number	FUNCTION	PIANO
0	-	-
1	-	○
2	○	-
3	○	○

○: light, -: dark

Decimal Portion of the Version Number	E.PIANO	OTHER	SPLIT		
00	-	-	-	-	-
01	-	-	-	-	○
02	-	-	-	○	-
03	-	-	-	○	○
04	-	-	○	-	-
05	-	-	○	-	○
06	-	-	○	○	-
07	-	-	○	○	○
08	-	○	-	-	-
09	-	○	-	-	○
10	-	○	-	○	-
11	-	○	-	○	○
12	-	○	○	-	-
13	-	○	○	-	○
14	-	○	○	○	-
15	-	○	○	○	○
16	○	-	-	-	-
17	○	-	-	-	○
18	○	-	-	○	-
19	○	-	-	○	○
20	○	-	○	-	-
21	○	-	○	-	○
22	○	-	○	○	-
23	○	-	○	○	○
24	○	○	-	-	-
25	○	○	-	-	○
26	○	○	-	○	-
27	○	○	-	○	○
28	○	○	○	-	-
29	○	○	○	-	○
30	○	○	○	○	-
31	○	○	○	○	○

○: light, -: dark

3. Press and hold  to turn off the power.

Data Backup and Restore Operations

The following settings and data are saved in the unit's memory if the power is turned off.

- Key touch
- Brilliance
- Ambience
- Master Tuning
- Bluetooth ON/OFF
- Bluetooth MIDI/Page-turning
- Bluetooth Mode1/Mode2
- Bluetooth Pairing Information
- Auto Off
- Volume
- USB Memory Mode
- Songs saved in the unit

When the Main Board is replaced or the factory reset is executed, these are lost or reset to the factory-default values.

These cannot be backed up onto the external media. Writing them down on paper is also not possible.

* Although the data recorded in the unit can be copied to the USB memory device, they can not be restored to the unit.



Performing a Factory Reset


1. Hold down **FUNCTION**, and press and hold .

* After releasing your finger from , continue to hold down **FUNCTION**.

After short interval,  and  flash.

2. Release your finger from **FUNCTION**.

3. To execute the factory reset, press . To cancel the operation, press .

When  is pressed, the factory reset starts and the buttons from **PIANO** until **SPLIT** light up in sequence.

When all buttons except buttons without LED (**VOLUME** [-] (left), **VOLUME** [+] (right), **SLOW** and **FAST**) light up, the factory reset has finished.

4. Press and hold  to turn off the power.

Updating the System

Items Required

- Computer
- USB memory device (recommended: M-UF2G)
- Update file (obtained via Service Net)

Formatting a USB Memory Device

1. Connect a USB memory device to the **USB MEMORY** connector.
2. Hold down **▶/■**, and press and hold **⏻**.

* After releasing your finger from **⏻**, continue to hold down **▶/■**.

After short interval, **▶/■** and **●** flash.

3. Release your finger from **▶/■**.
4. To execute formatting, press **●**. To cancel the operation, press **▶/■**. Pressing **●** executes formatting. When all buttons other than buttons without LED (**VOLUME [-]** (left), **VOLUME [+]** (right), **SLOW** and **FAST**) light up, the formatting has finished.
5. Detach the USB memory device and press and hold **⏻** to turn off the power.

Update Procedure

1. Follow **Formatting a USB Memory Device** (p. 25) to format the USB memory device.
2. Copy the entire folder that is the update file (the folder named R068_FP30) to the root folder of the formatted USB memory device.
3. Connect the USB memory device just described to the **USB MEMORY** connector.
4. Hold down **⏻**, and press and hold **⏻**. When all buttons other than buttons without LED (**VOLUME [-]** (left), **VOLUME [+]** (right), **SLOW** and **FAST**) light up, the update starts.
5. Release your finger. While the update is in progress, the following buttons flash in sequence. **FUNCTION** -> **PIANO** -> **E.PIANO** -> **OTHER** -> **SPLIT** -> **⏻** -> **▶/■** -> **●** When the buttons above light up at the same time, update has finished.
6. Detach the USB memory device and press and hold **⏻** to turn off the power.

Test Mode

Items Required

- USB memory device (recommended: M-UF2G)
 - USB cable
 - Headphones (with 1/4-inch phone plug and miniature phone plug)
 - Special pedal (KPD-70)
 - Damper pedal (DP-10)
 - Mobile Device with Bluetooth function (iPhone or etc.)
 - Music score application (piaScore or etc.)
 - Software available MIDI data transmit and receive (GarageBand or etc.)
- * Install these to the mobile device with Bluetooth function just described.

Entering the Test Mode

1. Hold down **PIANO**, **E.PIANO** and **OTHER** and press and hold **⏻**.
* After releasing your finger from **⏻**, continue to hold down **PIANO**, **E.PIANO** and **OTHER**.

When the unit enters the test mode, five **VOLUME** LEDs light up.

2. Release your fingers from **PIANO**, **E.PIANO** and **OTHER**.

Quitting the Test Mode

Press and hold **⏻** to turn off the power.

Skipping Test Items

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

Holding down **●** and pressing **PIANO** quits the current test item and returns operation to the previous test item.

Test Items




1. **LED Test** (p. 26)
2. **Verifying the Version** (p. 26)
3. **Bluetooth Function Setting** (p. 28)
4. **Factory Reset** (p. 28)
5. **DSP Test** (p. 29)
6. **Sound Test** (p. 29)
7. **BLE Test** (p. 29)
8. **Switch Test (without LED)** (p. 29)
9. **Switch Test (with LED)** (p. 29)
10. **Pedal Test** (p. 29)
11. **USB Memory Test** (p. 29)
12. **USB Function Test** (p. 29)
13. **Jacks Sense Test** (p. 30)
14. **Device Test** (p. 30)
15. **Verifying Power Off** (p. 30)
16. **Bluetooth Test** (p. 30)

* 16. **Bluetooth Test** is performed in the normal mode.

1. LED Test




This item tests the operation of each LED.

- Verify that the state of each LED is as shown below.


LED	State
POWER	o
Five VOLUME LEDs	o (all light up)
FUNCTION	o
PIANO	o
E.PIANO	o
OTHER	o
SPLIT	o
	o
	o
	*

o: light, *: flashing

- Press **SLOW** or **FAST** to verify that the state of the LEDs changes as shown in the table below.

	<- SLOW		FAST ->	
POWER	o	o	o	o
Five VOLUME LEDs	o	-	o	*
FUNCTION	o	-	o	*
PIANO	o	-	o	*
E.PIANO	o	-	o	*
OTHER	o	-	o	*
SPLIT	o	-	o	*
	o	-	o	*
	o	-	o	*
	*	-	o	*

o: light, -: dark, *: flashing

- Press  to advance to the next test item.

2. Verifying the Version

Verify each kind of version.

Each time **SLOW** or **FAST** is pressed, the lighting position of the five **VOLUME** LEDs moves. At this time, nine kinds of versions or builds are displayed as shown below.



VOLUME LED	Type of Version
- - - - -	Program Version
- - - - o	Boot Version
- - - o -	Keyboard Version
- - - o o	Bluetooth LE Version
- - o - -	Program Build
- - o o -	Boot Build
- - o o o	Bluetooth LE Build
- - o o o o	Wave Version
- o - - -	Wave Build

o: light, -: dark

- Press **SLOW** several times to make all of the five **VOLUME** LEDs go dark.

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	FUNCTION	PIANO
0	-	-
1	-	o
2	o	-
3	o	o

Decimal Portion of the Version Number	E.PIANO	OTHER	SPLIT		
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
16	o	-	-	-	-
17	o	-	-	-	o
18	o	-	-	o	-
19	o	-	-	o	o
20	o	-	o	-	-
21	o	-	o	-	o
22	o	-	o	o	-
23	o	-	o	o	o
24	o	o	-	-	-
25	o	o	-	-	o
26	o	o	-	o	-
27	o	o	-	o	o
28	o	o	o	-	-
29	o	o	o	-	o
30	o	o	o	o	-
31	o	o	o	o	o

o: light, -: dark

(Example) for ver. 1.01

FUNCTION: -

PIANO: o

E.PIANO: -

OTHER: -



SPLIT: -



: -

: o

- 2. Press **FAST** once to light up the rightmost LED in the five **VOLUME** LEDs.
At this time, each LED lights up or goes dark to display the Boot Version as shown in the tables in step 1.
- 3. Press **FAST** once to light up the second LED from the right in the five **VOLUME** LEDs.
At this time, each LED lights up or goes dark to display the Keyboard Version as shown in the tables below.

* This table is different from the tables for Program Version and Boot Version.

Version	Build	FUNCTION	PIANO	E.PIANO	OTHER	SPLIT		
0.01	001	-	-	-	-	-	-	o
0.02	002	-	-	-	-	-	o	-
0.03	003	-	-	-	-	-	o	o
0.04	004	-	-	-	-	o	-	-
0.05	005	-	-	-	-	o	-	o
0.06	006	-	-	-	-	o	o	-
0.07	007	-	-	-	-	o	o	o
0.08	008	-	-	-	o	-	-	-
0.09	009	-	-	-	o	-	-	o
0.10	010	-	-	-	o	-	o	-
0.11	011	-	-	-	o	-	o	o
0.12	012	-	-	-	o	o	-	-
0.13	013	-	-	-	o	o	-	o
0.14	014	-	-	-	o	o	o	-
0.15	015	-	-	-	o	o	o	o
0.16	016	-	-	o	-	-	-	-
0.17	017	-	-	o	-	-	-	o
0.18	018	-	-	o	-	-	o	-
0.19	019	-	-	o	-	-	o	o
0.20	020	-	-	o	-	o	-	-
0.21	021	-	-	o	-	o	-	o
0.22	022	-	-	o	-	o	o	-
0.23	023	-	-	o	-	o	o	o
0.24	024	-	-	o	o	-	-	-
0.25	025	-	-	o	o	-	-	o
0.26	026	-	-	o	o	-	o	-
0.27	027	-	-	o	o	-	o	o
0.28	028	-	-	o	o	o	-	-
0.29	029	-	-	o	o	o	-	o
0.30	030	-	-	o	o	o	o	-
0.31	031	-	-	o	o	o	o	o
0.32	032	-	o	-	-	-	-	-
0.33	033	-	o	-	-	-	-	o
0.34	034	-	o	-	-	-	o	-
0.35	035	-	o	-	-	-	o	o
0.36	036	-	o	-	-	o	-	-
0.37	037	-	o	-	-	o	-	o
0.38	038	-	o	-	-	o	o	-
0.39	039	-	o	-	-	o	o	o
0.40	040	-	o	-	o	-	-	-
0.41	041	-	o	-	o	-	-	o
0.42	042	-	o	-	o	-	o	-
0.43	043	-	o	-	o	-	o	o
0.44	044	-	o	-	o	o	-	-
0.45	045	-	o	-	o	o	-	o
0.46	046	-	o	-	o	o	o	-
0.47	047	-	o	-	o	o	o	o
0.48	048	-	o	o	-	-	-	-
0.49	049	-	o	o	-	-	-	o
0.50	050	-	o	o	-	-	o	-
0.51	051	-	o	o	-	-	o	o
0.52	052	-	o	o	-	o	-	-
0.53	053	-	o	o	-	o	-	o
0.54	054	-	o	o	-	o	o	-
0.55	055	-	o	o	-	o	o	o
0.56	056	-	o	o	o	-	-	-
0.57	057	-	o	o	o	-	-	o
0.58	058	-	o	o	o	-	o	-
0.59	059	-	o	o	o	-	o	o
0.60	060	-	o	o	o	o	-	-
0.61	061	-	o	o	o	o	-	o
0.62	062	-	o	o	o	o	o	-
0.63	063	-	o	o	o	o	o	o
0.64	064	o	-	-	-	-	-	-
0.65	065	o	-	-	-	-	-	o
0.66	066	o	-	-	-	-	o	-
0.67	067	o	-	-	-	-	o	o
0.68	068	o	-	-	-	o	-	-
0.69	069	o	-	-	-	o	-	o
0.70	070	o	-	-	-	o	o	-
0.71	071	o	-	-	-	o	o	o
0.72	072	o	-	-	o	-	-	-
0.73	073	o	-	-	o	-	-	o

Version	Build	FUNCTION	PIANO	E.PIANO	OTHER	SPLIT		
0.74	074	o	-	-	o	-	o	-
0.75	075	o	-	-	o	-	o	o
0.76	076	o	-	-	o	o	-	-
0.77	077	o	-	-	o	o	-	o
0.78	078	o	-	-	o	o	o	-
0.79	079	o	-	-	o	o	o	o
0.80	080	o	-	o	-	-	-	-
0.81	081	o	-	o	-	-	-	o
0.82	082	o	-	o	-	-	o	-
0.83	083	o	-	o	-	-	o	o
0.84	084	o	-	o	-	o	-	-
0.85	085	o	-	o	-	o	-	o
0.86	086	o	-	o	-	o	o	-
0.87	087	o	-	o	-	o	o	o
0.88	088	o	-	o	o	-	-	-
0.89	089	o	-	o	o	-	-	o
0.90	090	o	-	o	o	-	o	-
0.91	091	o	-	o	o	-	o	o
0.92	092	o	-	o	o	o	-	-
0.93	093	o	-	o	o	o	-	o
0.94	094	o	-	o	o	o	o	-
0.95	095	o	-	o	o	o	o	o
0.96	096	o	o	-	-	-	-	-
0.97	097	o	o	-	-	-	-	o
0.98	098	o	o	-	-	-	o	-
0.99	099	o	o	-	-	-	o	o
1.00	100	o	o	-	-	o	-	-
1.01	101	o	o	-	-	o	-	o
1.02	102	o	o	-	-	o	o	-
1.03	103	o	o	-	-	o	o	o
1.04	104	o	o	-	o	-	-	-
1.05	105	o	o	-	o	-	-	o
1.06	106	o	o	-	o	-	o	-
1.07	107	o	o	-	o	-	o	o
1.08	108	o	o	-	o	o	-	-
1.09	109	o	o	-	o	o	-	o
1.10	110	o	o	-	o	o	o	-
1.11	111	o	o	-	o	o	o	o
1.12	112	o	o	o	-	-	-	-
1.13	113	o	o	o	-	-	-	o
1.14	114	o	o	o	-	-	o	-
1.15	115	o	o	o	-	-	o	o
1.16	116	o	o	o	-	o	-	-
1.17	117	o	o	o	-	o	-	o
1.18	118	o	o	o	-	o	o	-
1.19	119	o	o	o	-	o	o	o
1.20	120	o	o	o	o	-	-	-
1.21	121	o	o	o	o	-	-	o
1.22	122	o	o	o	o	-	o	-
1.23	123	o	o	o	o	-	o	o
1.24	124	o	o	o	o	o	-	-
1.25	125	o	o	o	o	o	-	o
1.26	126	o	o	o	o	o	o	-
1.27	127	o	o	o	o	o	o	o

o: light, -: dark

4. In the same way, press **SLOW** or **FAST** to verify the other versions or builds.





* Verify Program Version and Boot Version using the tables in step 1 and verify the versions or builds from Keyboard Version until Wave Build using the tables in step 3.

5. Press  to advance to the next test item.

3. Bluetooth Function Setting

This item sets the unit to have or not have the Bluetooth function.

The leftmost LED in the five **VOLUME** LEDs lights up.

- If  is printed above the **FUNCTION** button, hold down **PIANO** and press  .
The Bluetooth function is set available and **PIANO** lights up.
- If **TWIN PIANO** is printed above the **FUNCTION** button, hold down **E.PIANO** and press  .
The Bluetooth function is set unavailable and **E.PIANO** lights up.
- Press  to advance to the next test item.

* When the Bluetooth function is set available or unavailable, the next 4. **Factory Reset** is executed automatically.

4. Factory Reset

This item resets the product being tested to its factory defaults.

The second LED from the left in the five **VOLUME** LEDs lights up and **SPLIT** flashes.

- Press **SPLIT**.
While the factory reset is in progress, **PIANO**, **E.PIANO**, **OTHER** and **SPLIT** light up in sequence, and when the operation has finished, execution automatically advances to the next test item.

5. DSP Test

This item tests the operation of the sound-source device automatically.

The center LED in the five **VOLUME** LEDs lights up.

When the operation has finished correctly, ● flashes.

Press ● to advance to the next test item.

If an error occurs, all LEDs flash rapidly. If **FAST** is pressed at this time, while pressing, the following buttons light up to display the location of the error.

- ● lights up: Checksum error of the internal RAM for the sound-source device
- ▶/■ lights up: Checksum error of the external RAM for the sound-source device

6. Sound Test



This item tests the output of speakers and **Phones 1 and 2**.

The second LED from the right in the five **VOLUME** LEDs lights up.

1. Press each button shown in the table below and verify that the corresponding sound is produced from the corresponding output device.

* When the headphones are connected, the sound is not produced from the internal speakers.

* The same sound is produced from **Phones 1** (miniature) and **Phones 2** (1/4-inch).

Button	Tone	Output Device
FUNCTION	Piano (direct sound)	
PIANO	Piano (reverb)	
E.PIANO	Sine wave	L channel of the internal speakers L channel of Phones 1 and 2 jacks
OTHER	Sine wave	R channel of the internal speakers
		R channel of Phones 1 and 2 jacks
SPLIT	Sine wave	L and R channels of the internal speakers
		L and R channels of Phones 1 and 2 jacks
	Hold down SPLIT and press this, and verify that the sound from the headphones disappears.	
	Hold down SPLIT and press this, and verify that the sound from the speakers disappears.	

2. Detach the headphones.
3. Press ● to advance to the next test item.

7. BLE Test

The rightmost LED in the five **VOLUME** LEDs lights up.

Skip this test item in servicing. (● + **FUNCTION**)

8. Switch Test (without LED)

This item tests the operation of switches without LEDs.

The leftmost and rightmost LEDs in the five **VOLUME** LEDs light up.

1. Press **SLOW** and then press **FAST**.
Execution automatically advances to the next test item.

9. Switch Test (with LED)

This item tests the operation of switches with LEDs.

The leftmost LED in the five **VOLUME** LEDs flashes.

1. Press **VOLUME** [-] (left) three times.
Flashing of LED moves to the second LED from the right.
2. Press **VOLUME** [+] (right) twice.
When this is pressed once, flashing of LED moves to the rightmost and when this is pressed once more, the LED goes off, and then **FUNCTION** flashes.
3. Press the flashing buttons in sequence.
When operation test for all switches has finished, execution automatically advances to the next test item.

10. Pedal Test

This item tests the operation of pedals.

The second LED from the left and the rightmost LED in the five **VOLUME** LEDs light up.

1. Connect the DP-10 to the **PEDAL 1** jack and connect the KPD-70 to the **PEDAL 2** jack.
2. Depress each pedal slowly, then when it is fully depressed, slowly release it.
Depending on the depth of the pedal, the five **VOLUME** LEDs light up.
* Depressing pedals at two or more locations at the same time results in an error. At this time, go back to the previous item (● + **PIANO**) and enter this test item again.

When the test for all pedals has finished, ● flashes.

3. Press ● to advance to the next test item.

11. USB Memory Test

This item tests the operation of the **USB MEMORY** connector.

The center LED and the rightmost LED in the five **VOLUME** LEDs light up.

1. Connect the USB memory device to the **USB MEMORY** connector.
When the test has finished, ● flashes.
2. Detach the USB memory device, then press ● to advance to the next test item.

12. USB Function Test

This item tests the operation of the **USB COMPUTER** connector.

The second LED from the right and the rightmost LED in the five **VOLUME** LEDs light up.

1. Using the USB cable, connect the **USB MEMORY** connector to the **USB COMPUTER** connector.
When the test has finished, ● flashes.
2. Detach the USB cable, then press ● to advance to the next test item.

13. Jacks Sense Test

This item tests the switch operation of each jack.

The leftmost and rightmost LEDs in the five **VOLUME** LEDs light up.

1. Connect the headphones plug (miniature) to the **Phones 1** jack. **PIANO** lights up.
2. Disconnect the plug from the **Phones 1** jack. **PIANO** goes dark.
3. Connect the headphones plug (1/4-inch) to the **Phones 2** jack. **PIANO** lights up and ● flashes.
4. Disconnect the plug and press ● to advance to the next test item.

14. Device Test

The operation of each device is tested automatically.

The second LED from the left, the second LED from the right and the rightmost LED in the five **VOLUME** LEDs light up.

When the test has finished correctly, ● flashes.

Press ● to advance to the next test item.

If an error occurs, all LEDs flash rapidly. If **FAST** is pressed at this time, while pressing, the following buttons light up to display the location of the error.

- ▲ lights up: Boot error
- ▲ and ● light up: Updater error
- ▲ and ▶/■ light up: Data error
- ▲, ▶/■ and ● light up: Wave ROM error
- **SPLIT** lights up: Program error
- **SPLIT** and ● light up: Bluetooth LE error

15. Verifying Power Off

This item verifies that the power can be turned off correctly.

Buttons other than **VOLUME** [-] (left), **VOLUME** [+] (right), **SLOW** and **FAST**, and all of the five **VOLUME** LEDs light up.

1. Press and hold ⏻ .
Buttons and LEDs other than ⏻ go off.
2. Release your finger.
⏻ goes off.

This completes the testing in the Test Mode.

The following tests are performed in the normal mode.

16. Bluetooth Test

This item tests the Bluetooth function.

* In this section, we will explain with iPhone as an example for the mobile device with Bluetooth function.

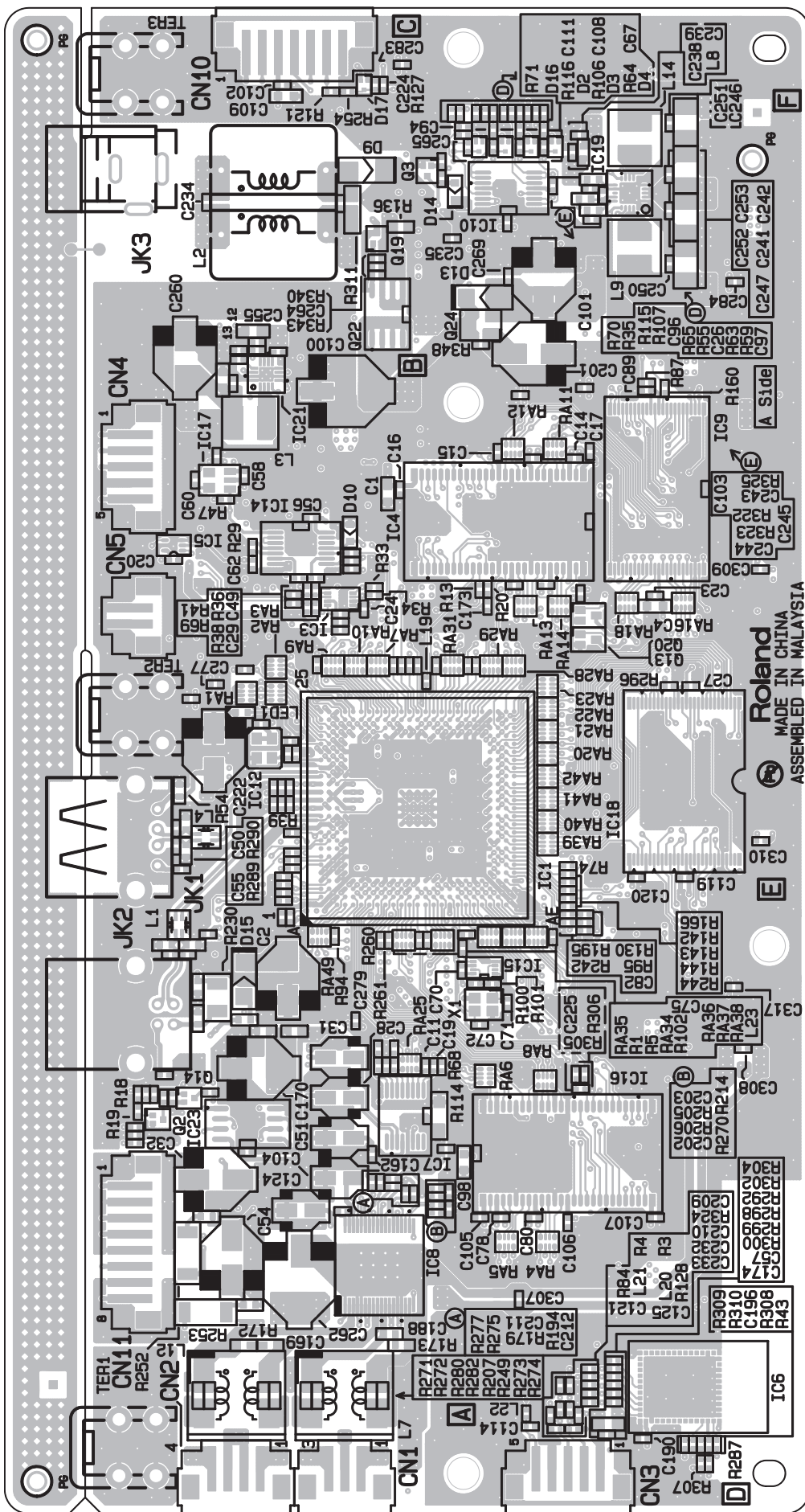
Verifying the Bluetooth MIDI Function

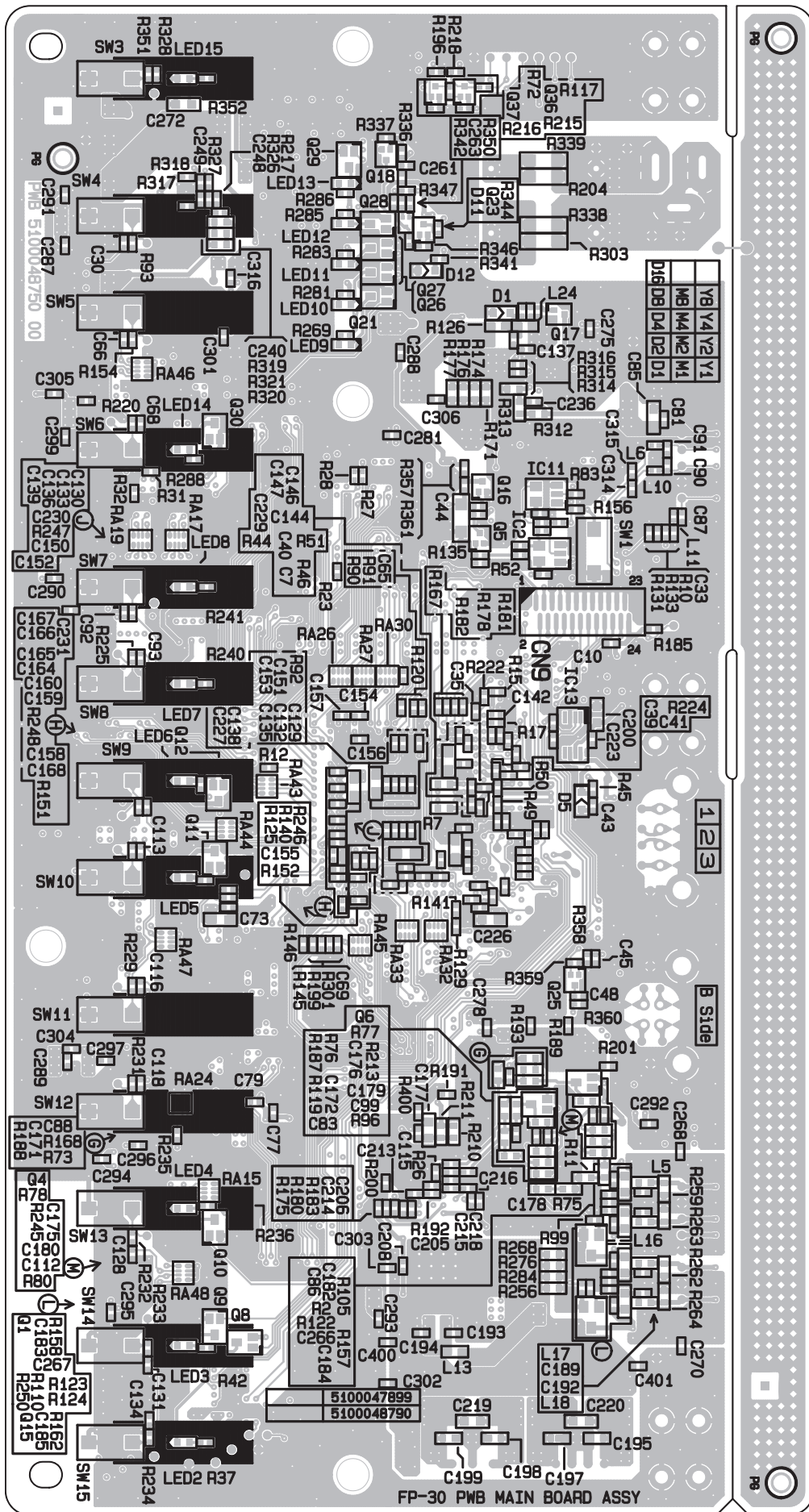
1. On the iPhone, enter **Settings** and set **Bluetooth** off.
2. Press and hold ⏻ on the FP-30 to turn on the power.
3. Hold down **FUNCTION** and press A0 (leftmost) on the keyboard.
4. Hold down **FUNCTION** and press B0 on the keyboard.
The Bluetooth MIDI function of the FP-30 becomes on.
5. On the iPhone, enter **Settings** and set **Bluetooth** on.
* **FP-30** does not appear on the Bluetooth screen. Pairing operation should be carried out not on the Bluetooth screen but in GarageBand. Advance to the next step as it is.
6. Start GarageBand on the iPhone.
7. Tap 🎛 (or 🎛) at the upper right of the GarageBand screen.
8. Tap **Bluetooth MIDI Devices**.
9. Tap **FP-30**, and when you are requested to pair, tap **Pair**.
Connected is displayed at the right of **FP-30** and **FUNCTION** on the FP-30 lights up.
This completes pairing.
10. Press and hold **VOLUME** [-] (left) on the FP-30 to set the volume to minimum.
11. Play the keyboard of the FP-30 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**, and tap ⓘ at the right of **FP-30**, and **Forget This Device**.
* Cancel of registration should be carried out not in GarageBand but on the **Bluetooth** screen.

Verifying the Page-turning Function

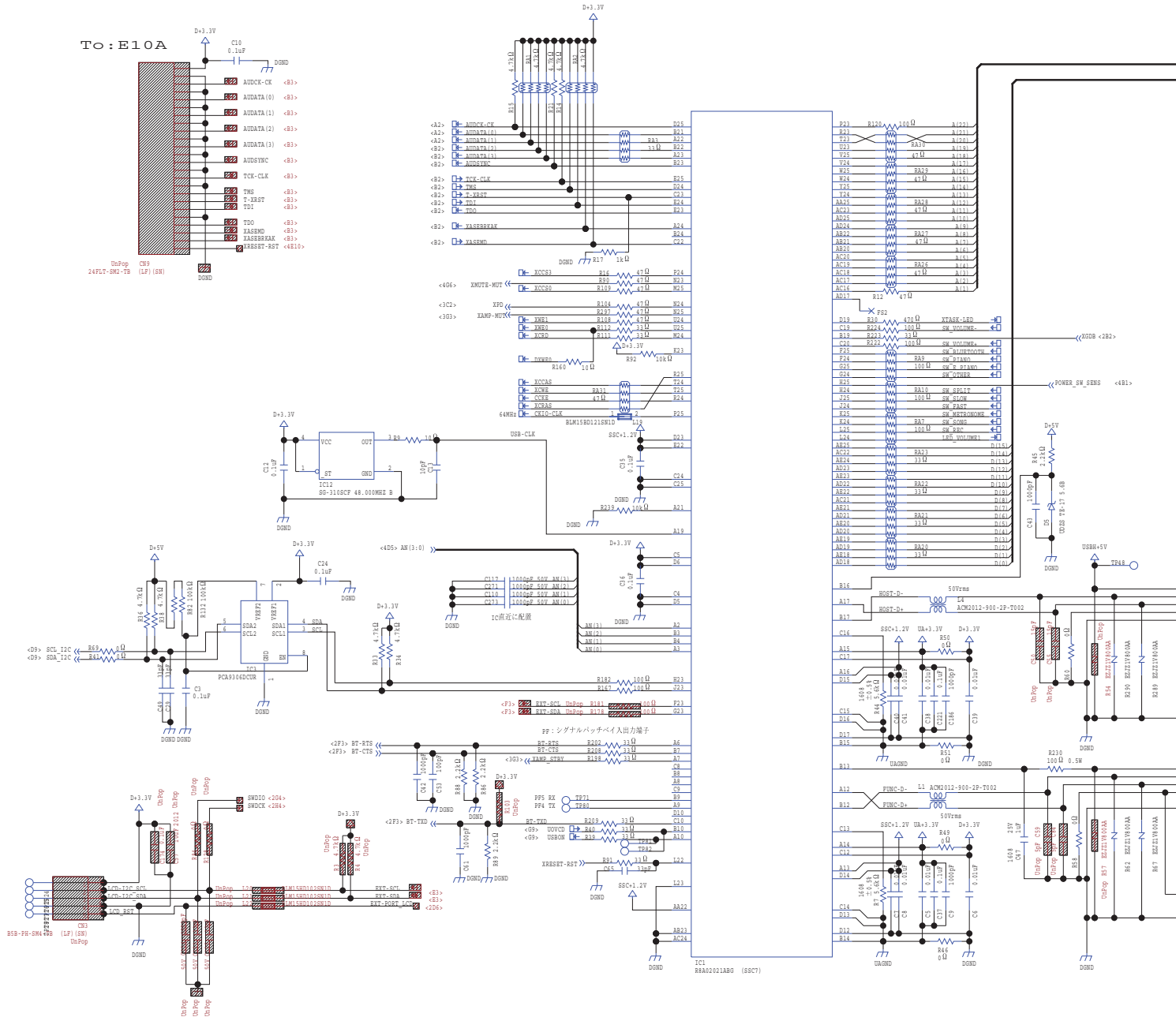
1. On the iPhone, enter **Settings** and set **Bluetooth** off.
2. Hold down **FUNCTION** and press A0 (leftmost) on the keyboard of the FP-30.
3. Hold down **FUNCTION** and press C1 on the keyboard.
The page-turning function of the FP-30 becomes on.
4. On the iPhone, enter **Settings** and set **Bluetooth** on.
5. Tap **FP-30** displayed on the **Bluetooth** screen, and when you are requested to pair, tap **Pair**.
Connected is displayed at the right of **FP-30** and **FUNCTION** on the FP-30 lights up.
This completes pairing.
6. Hold down **FUNCTION** and press C#1 on the keyboard.
Page-turning mode of the FP-30 changes to MODE 1 (setting when shipping).
7. Start piaScore on the iPhone.
8. Tap any score to spread it on the screen.
9. Depress the center or left pedal of the FP-30 (KPD-70) to verify that it is possible to turn pages. (regular order by the center pedal and reverse order by the left pedal)
10. Tap **Settings** and **Bluetooth** on the iPhone, and tap ⓘ at the right of **FP-30**, and **Forget This Device**.

Circuit Board (Main Board)

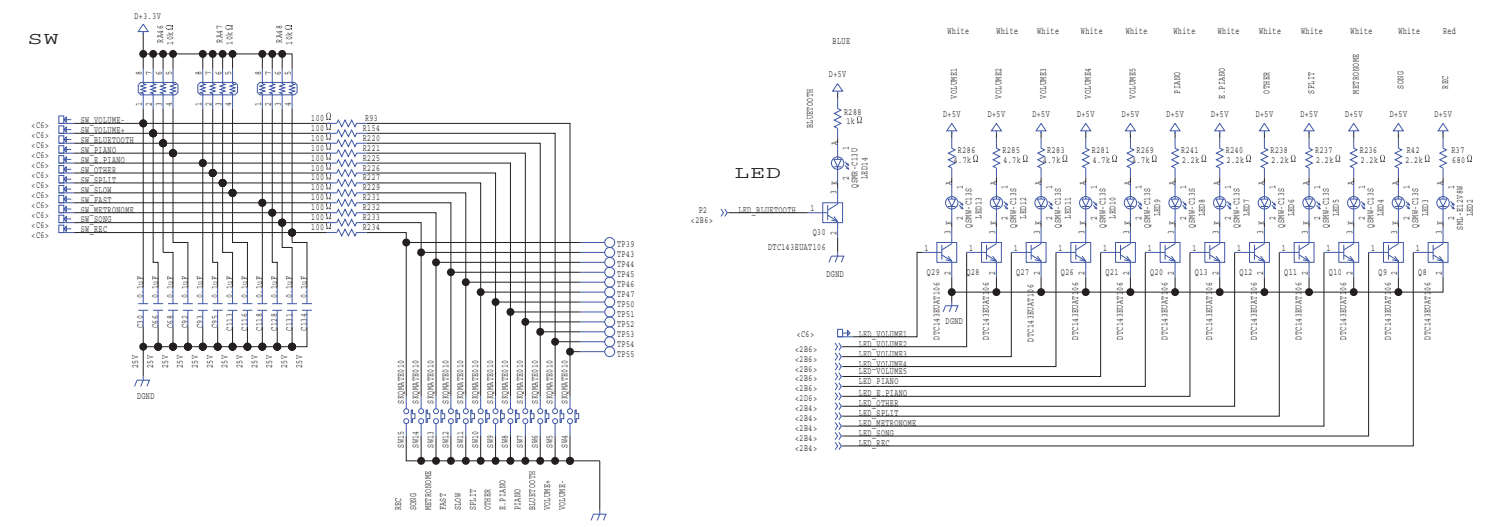


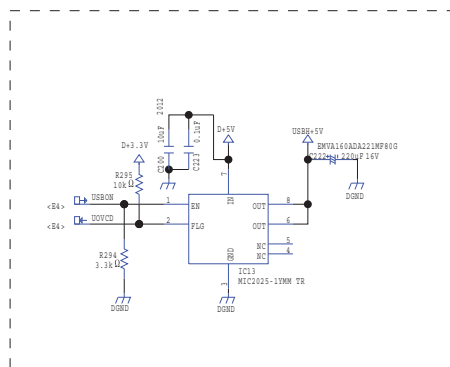
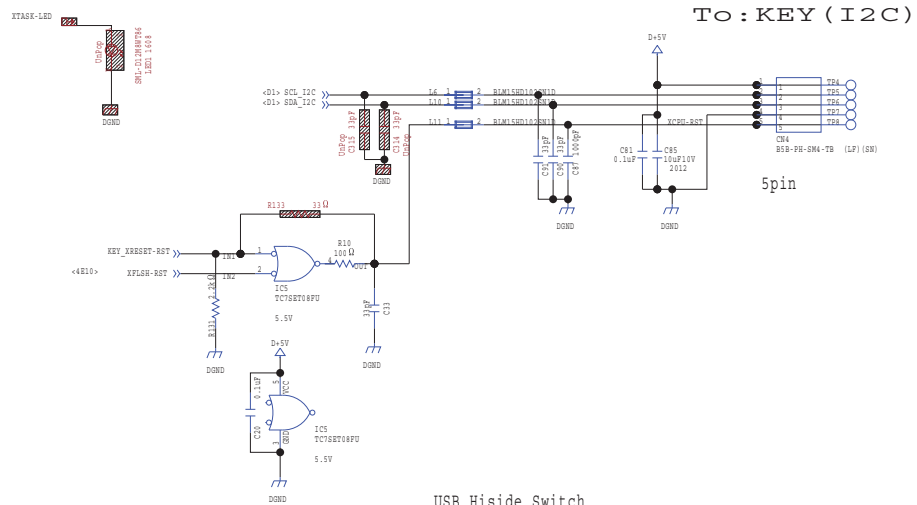
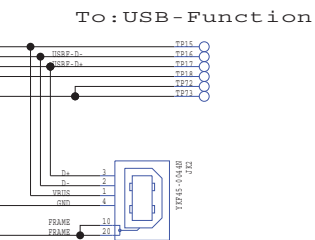
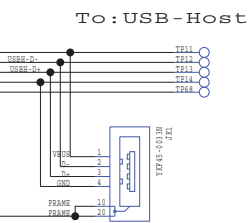
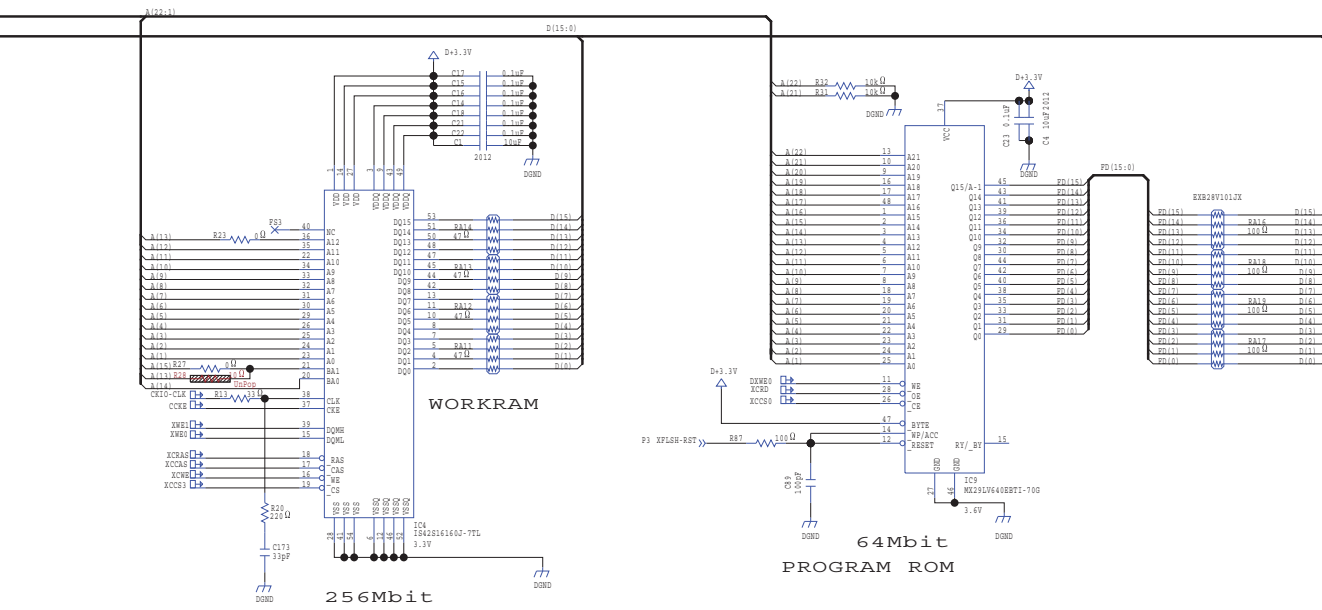


Circuit Diagram (Main Board for FP-30-BK/WH: 1/4)

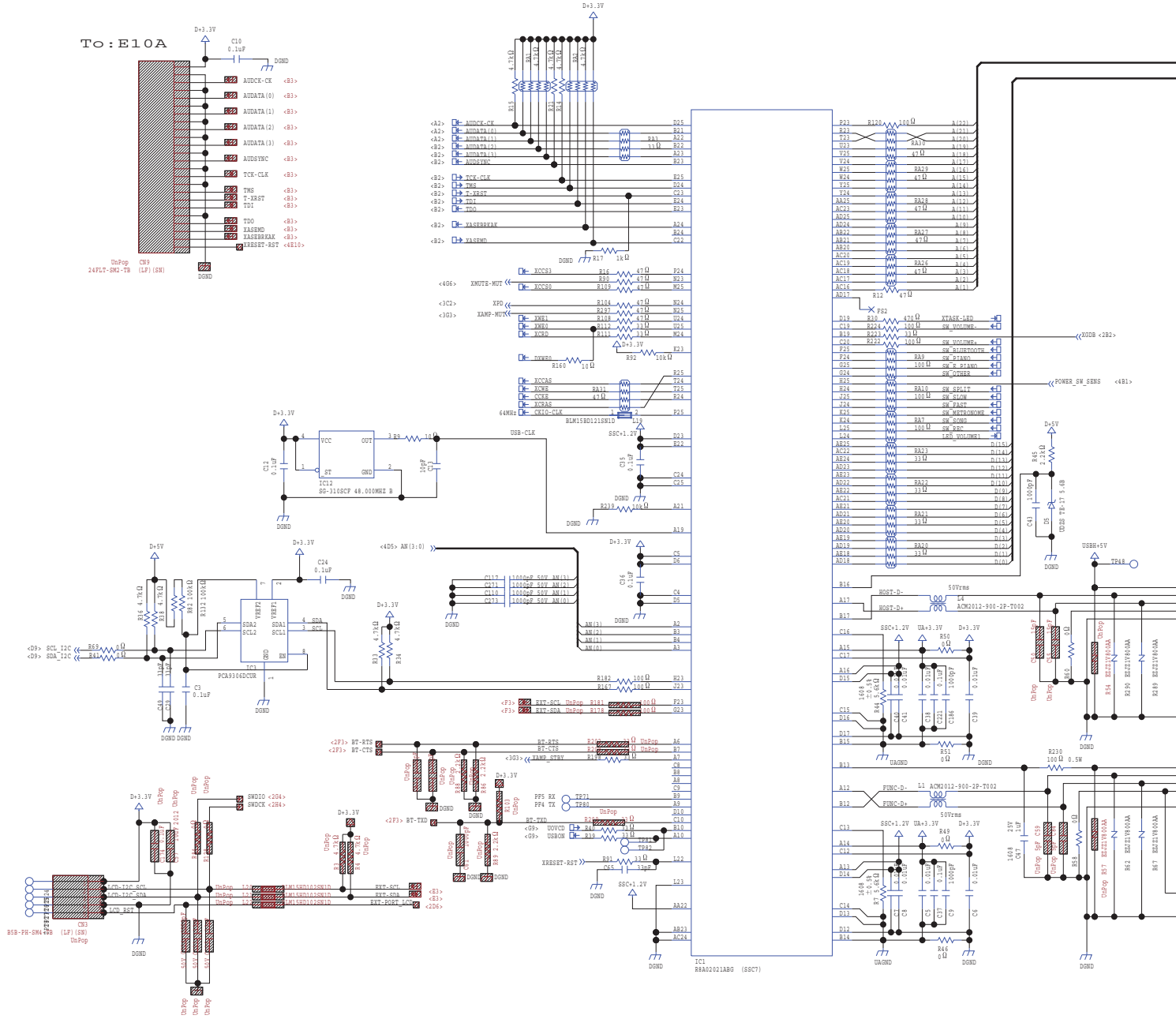


PANEL

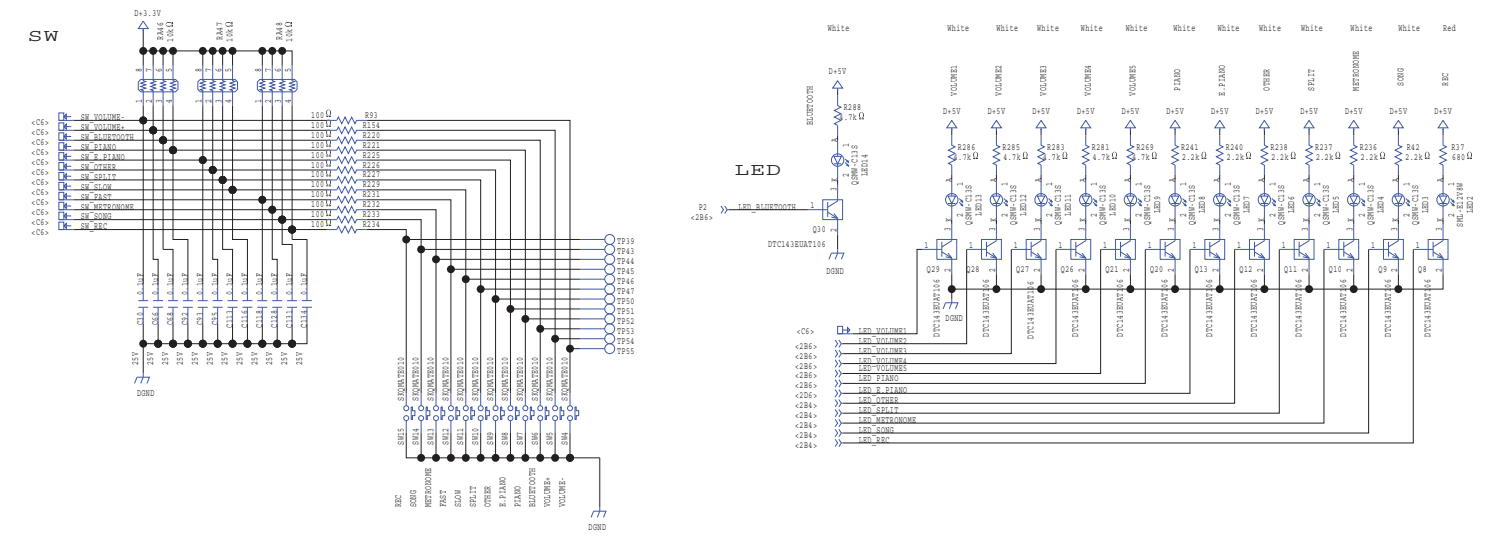


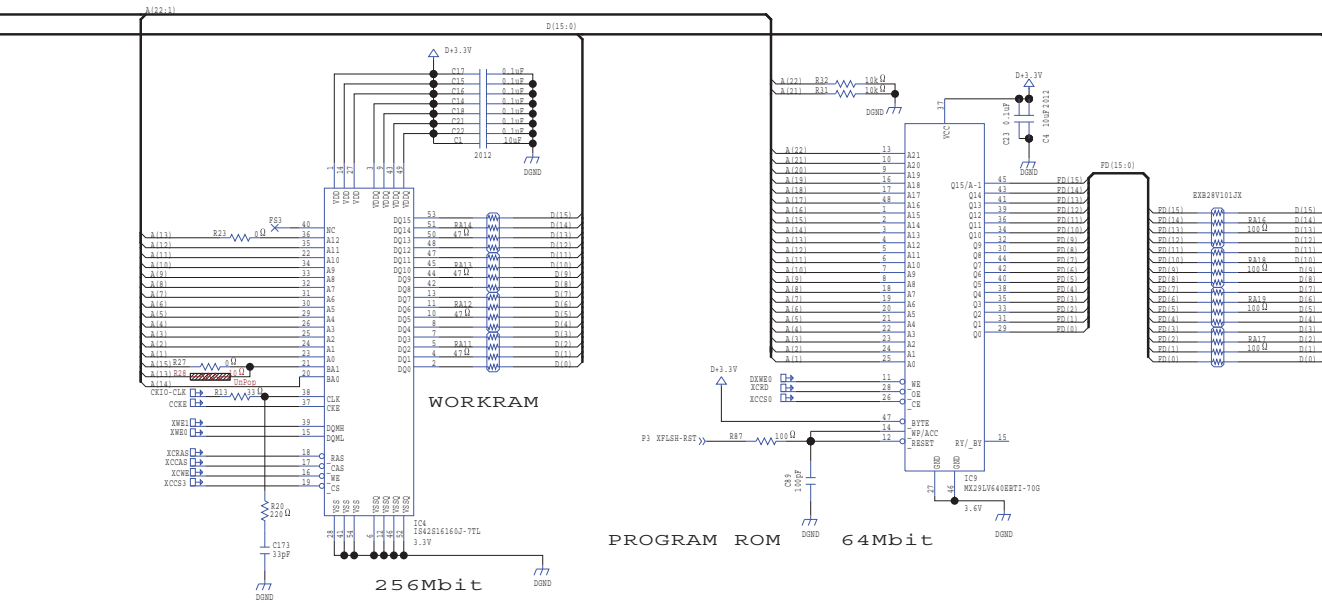


Circuit Diagram (Main Board for FP-30-BKL/WHL: 1/4)

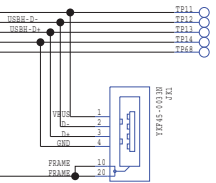


PANEL

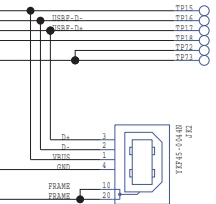




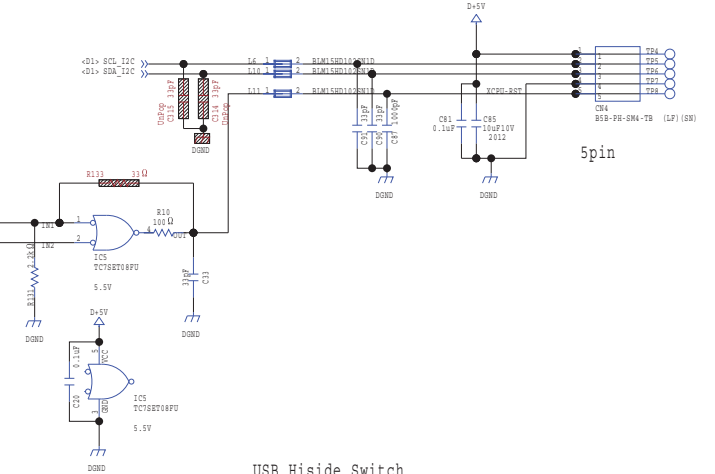
To: USB-Host



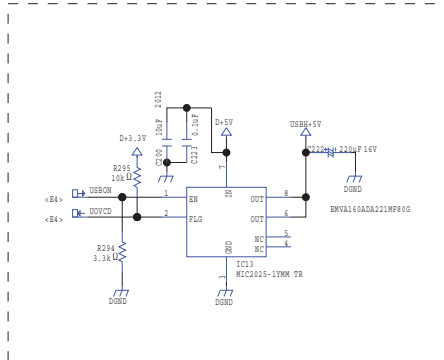
To: USB-Function



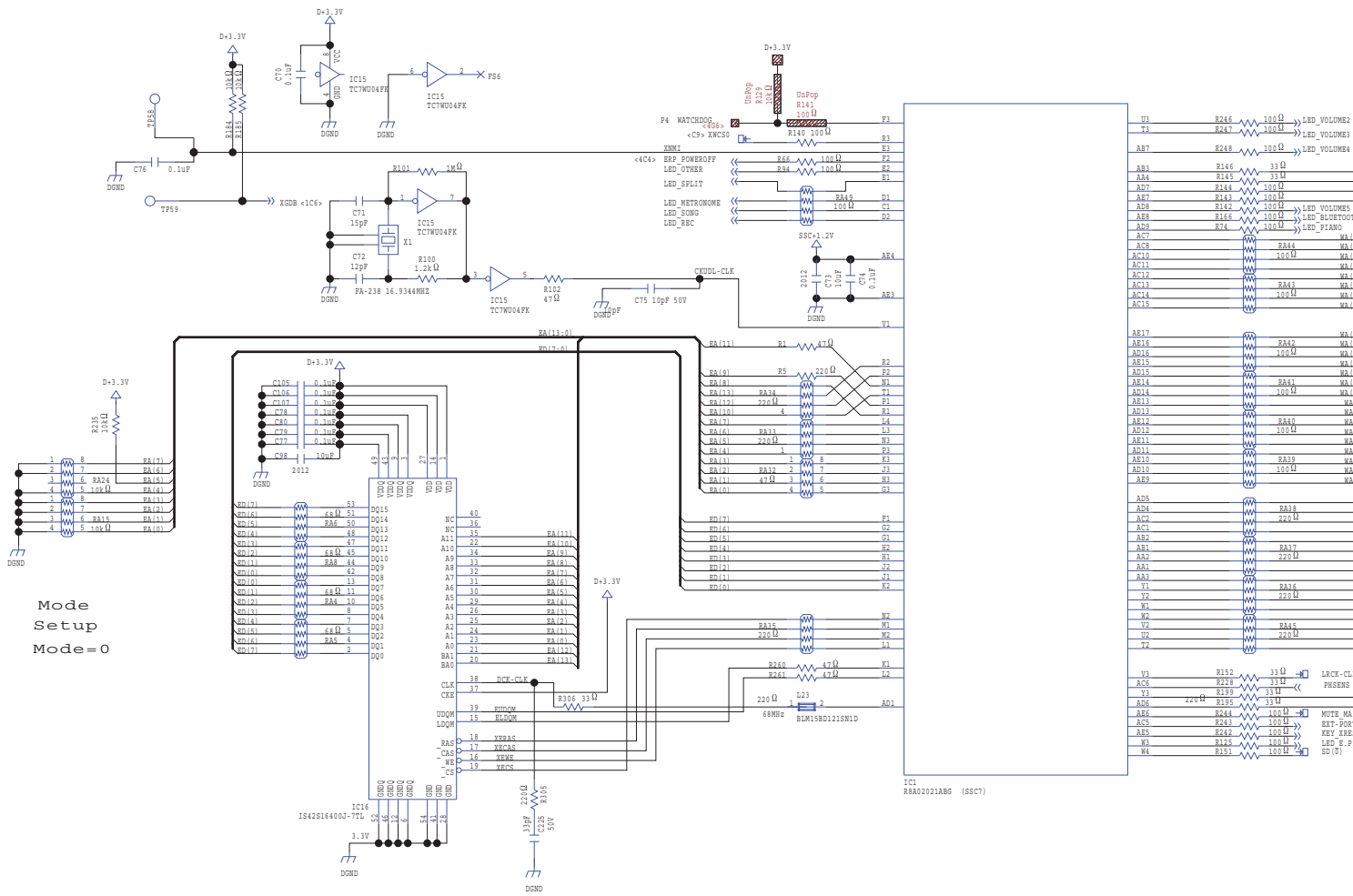
To: KEY (I2C)



USB Hicide Switch

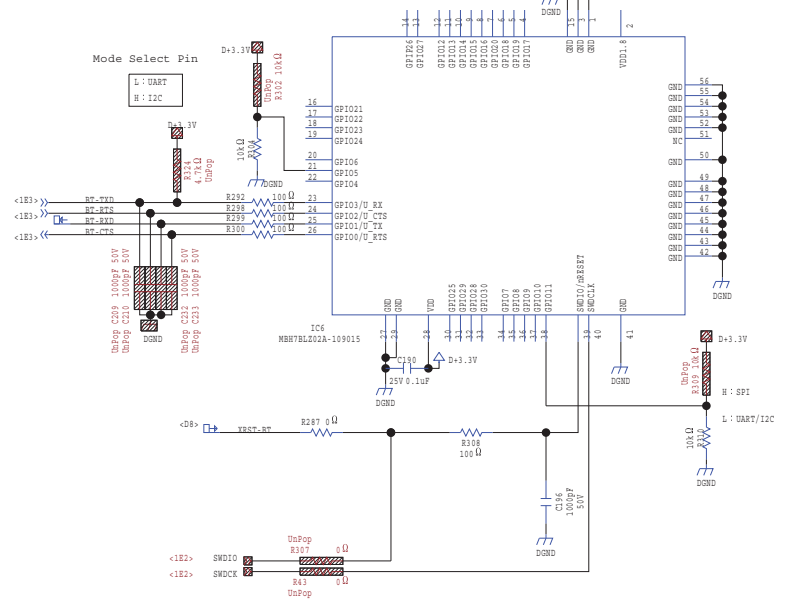


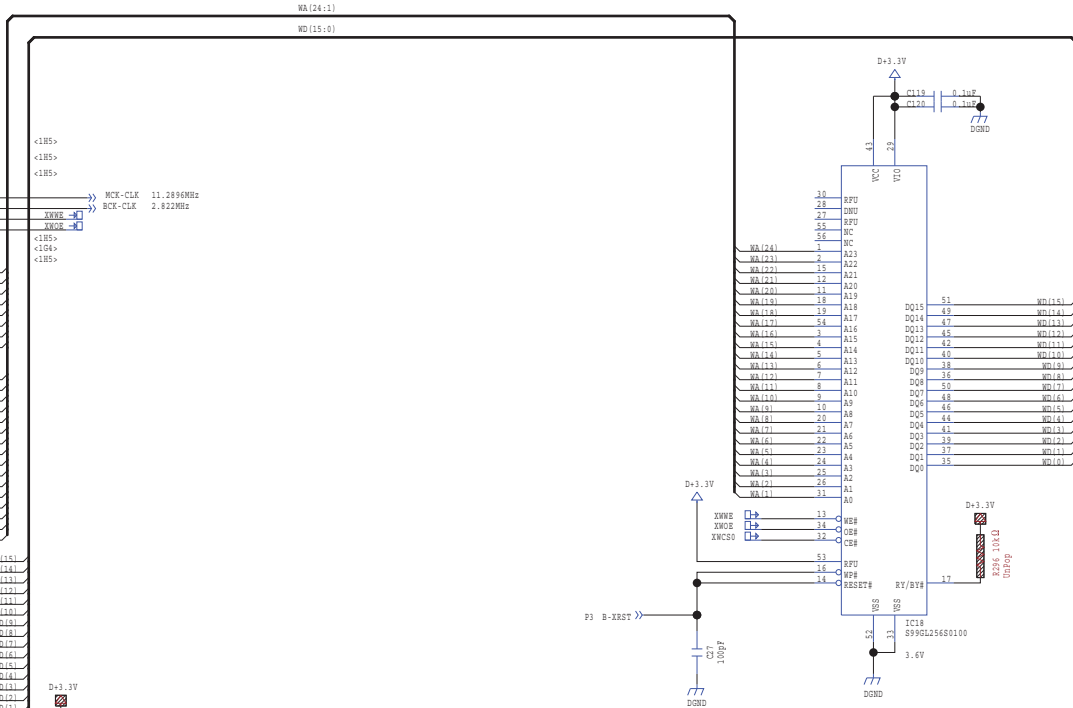
Circuit Diagram (Main Board for FP-30-BK/WH: 2/4)



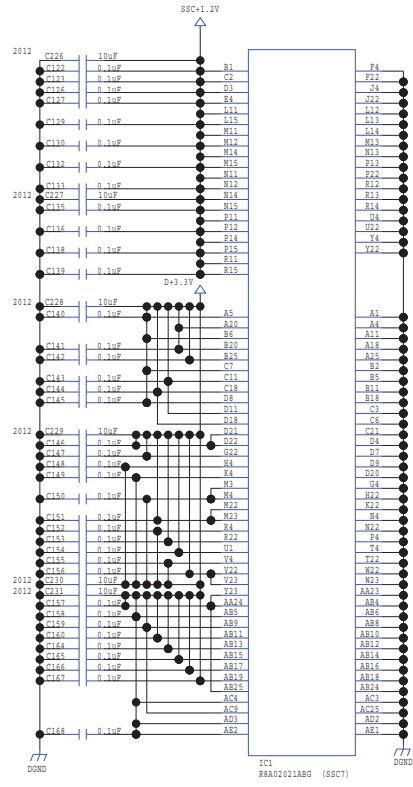
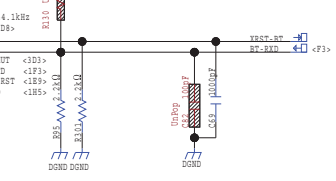
ERAM

BT LE module

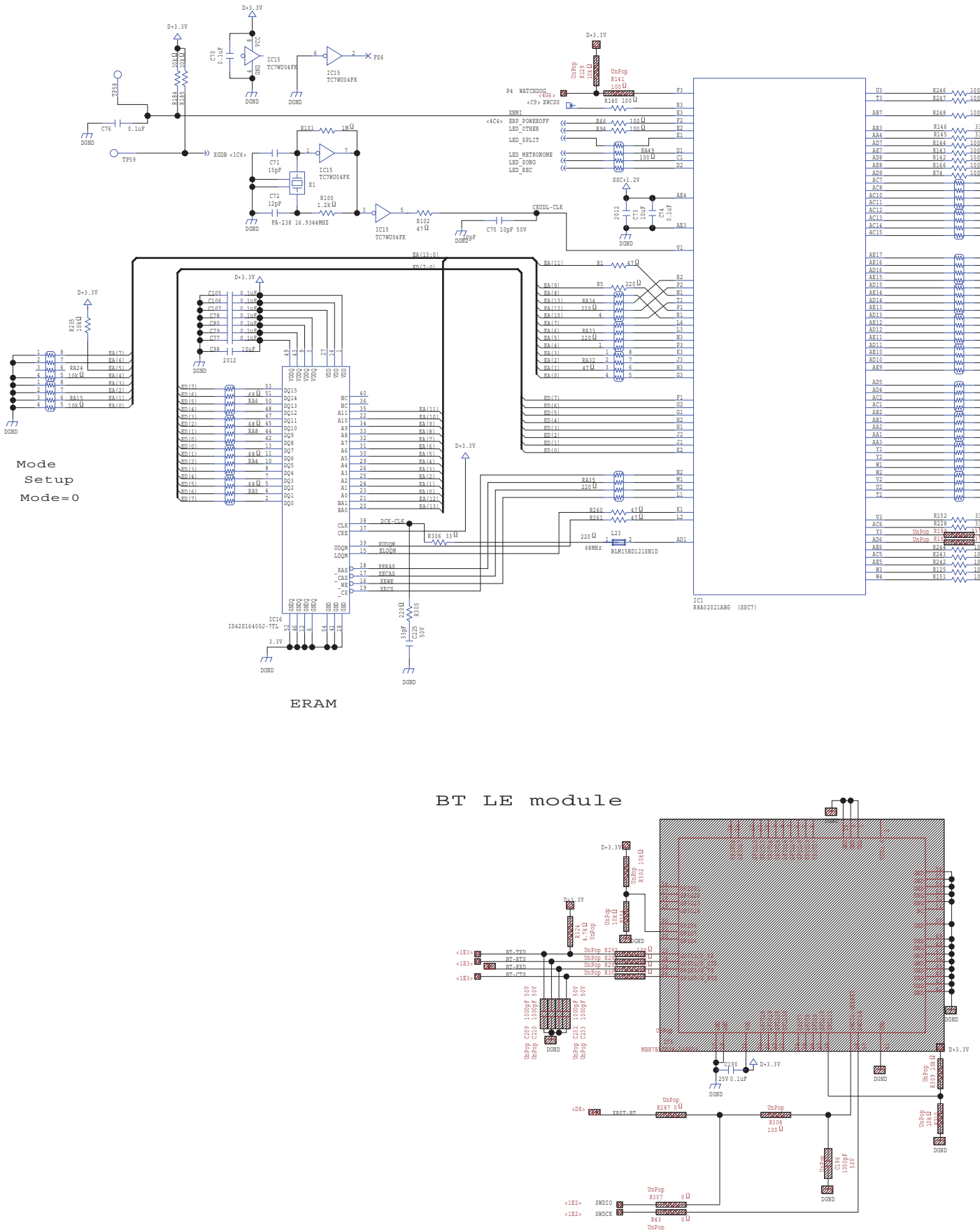


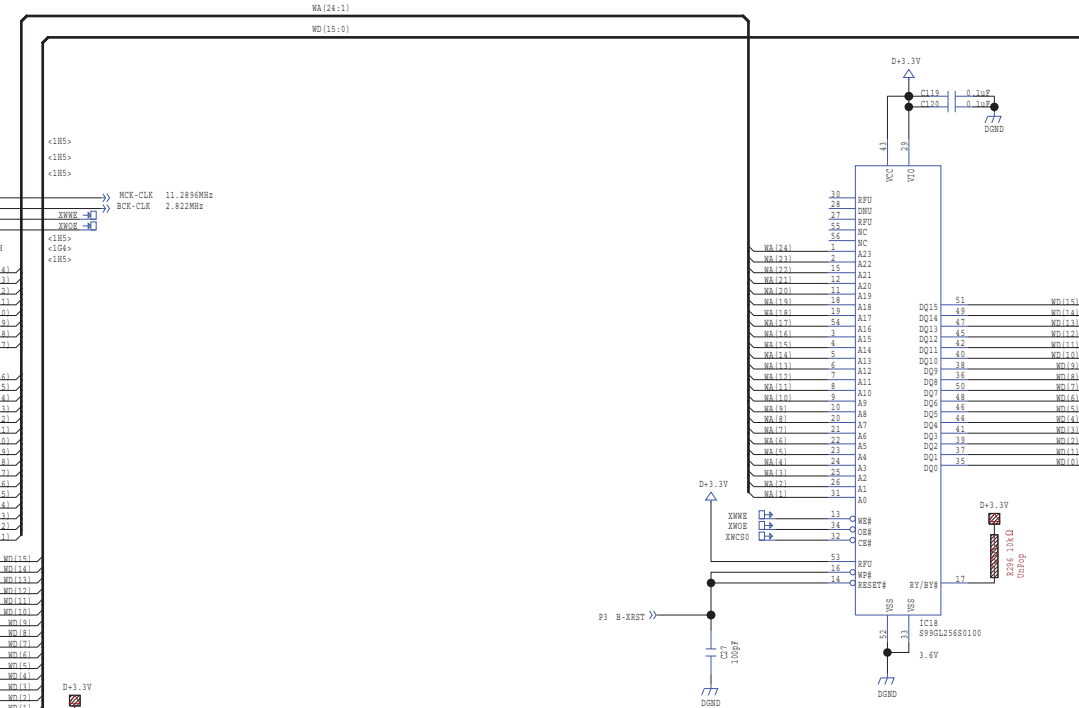


WAVEROM

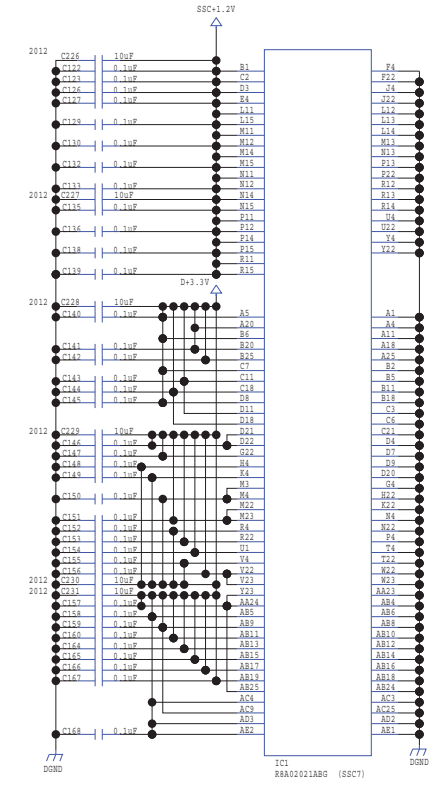
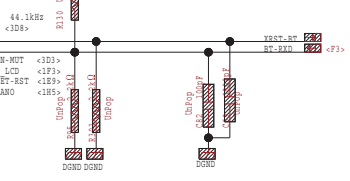


Circuit Diagram (Main Board for FP-30-BKL/WHL: 2/4)

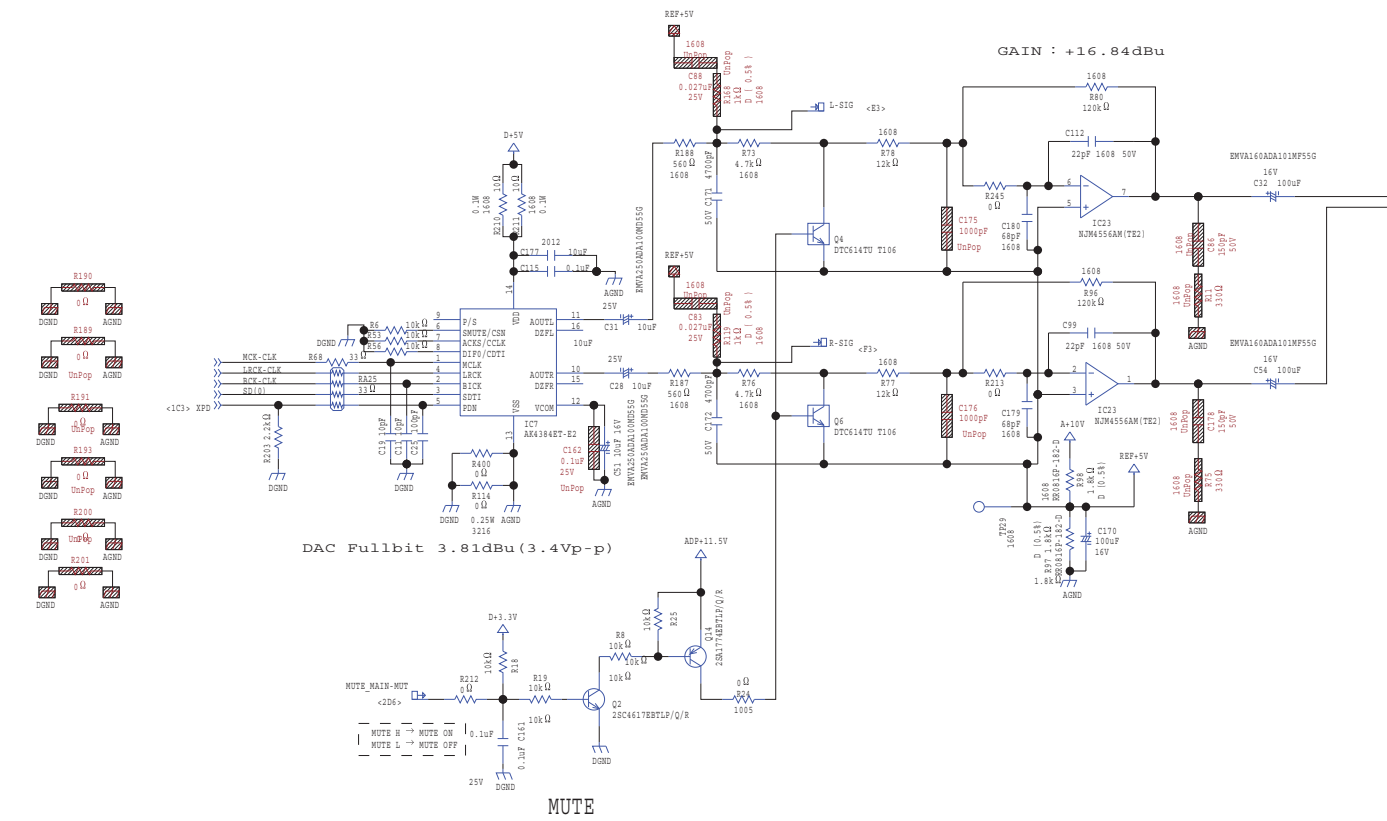




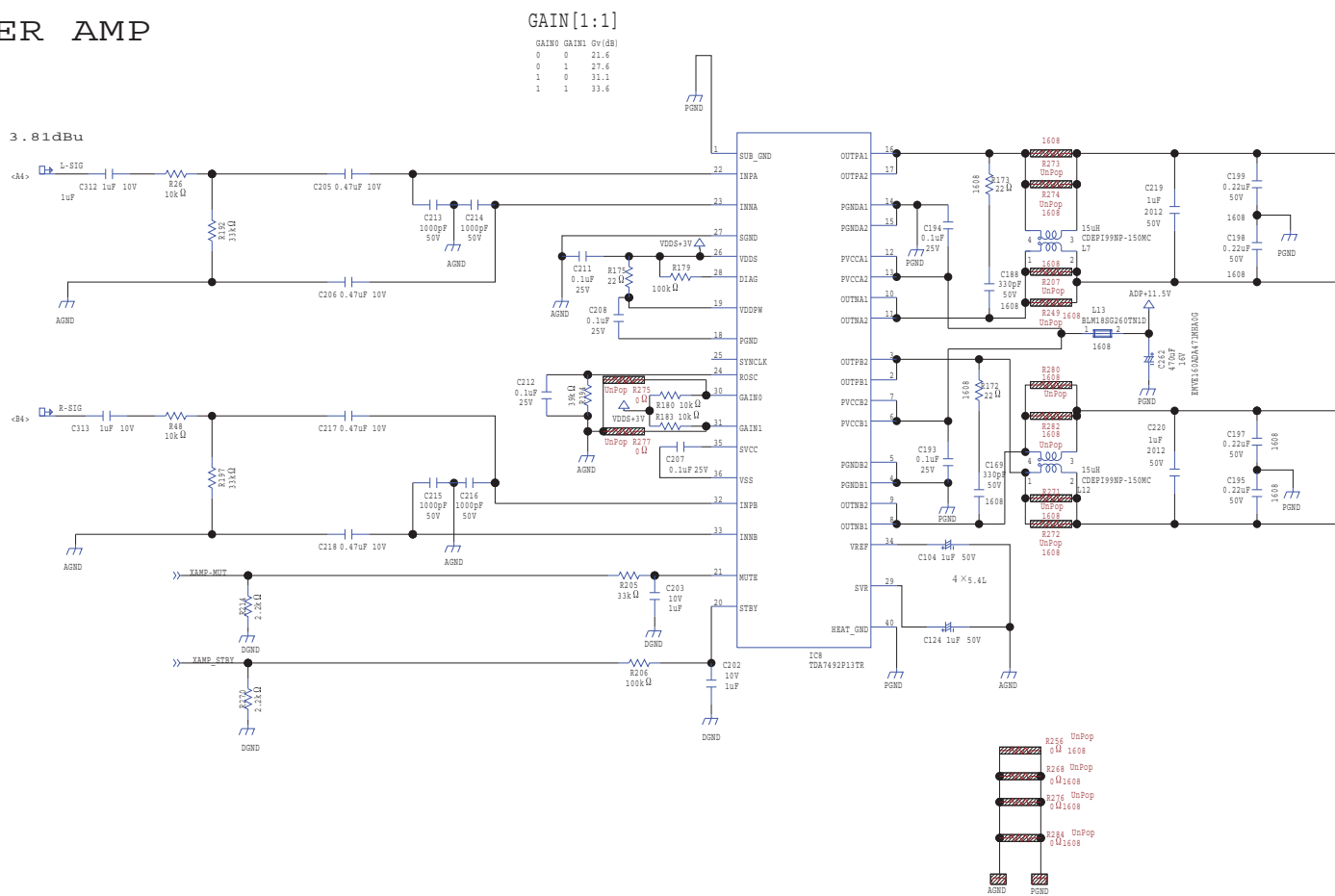
WAVEROM

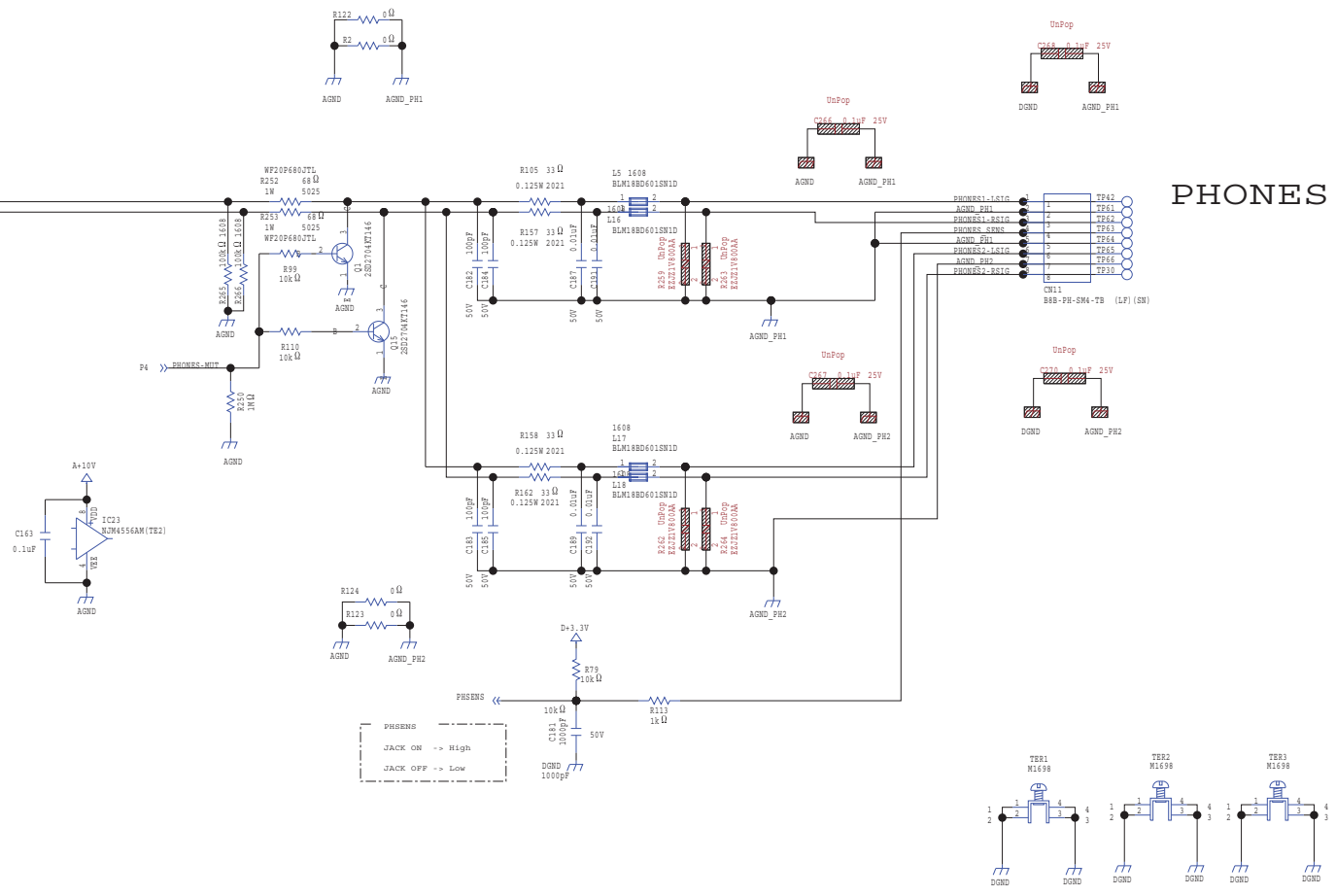


Circuit Diagram (Main Board: 3/4)

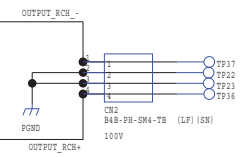
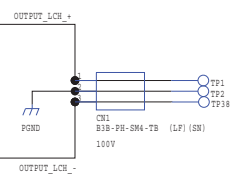


POWER AMP

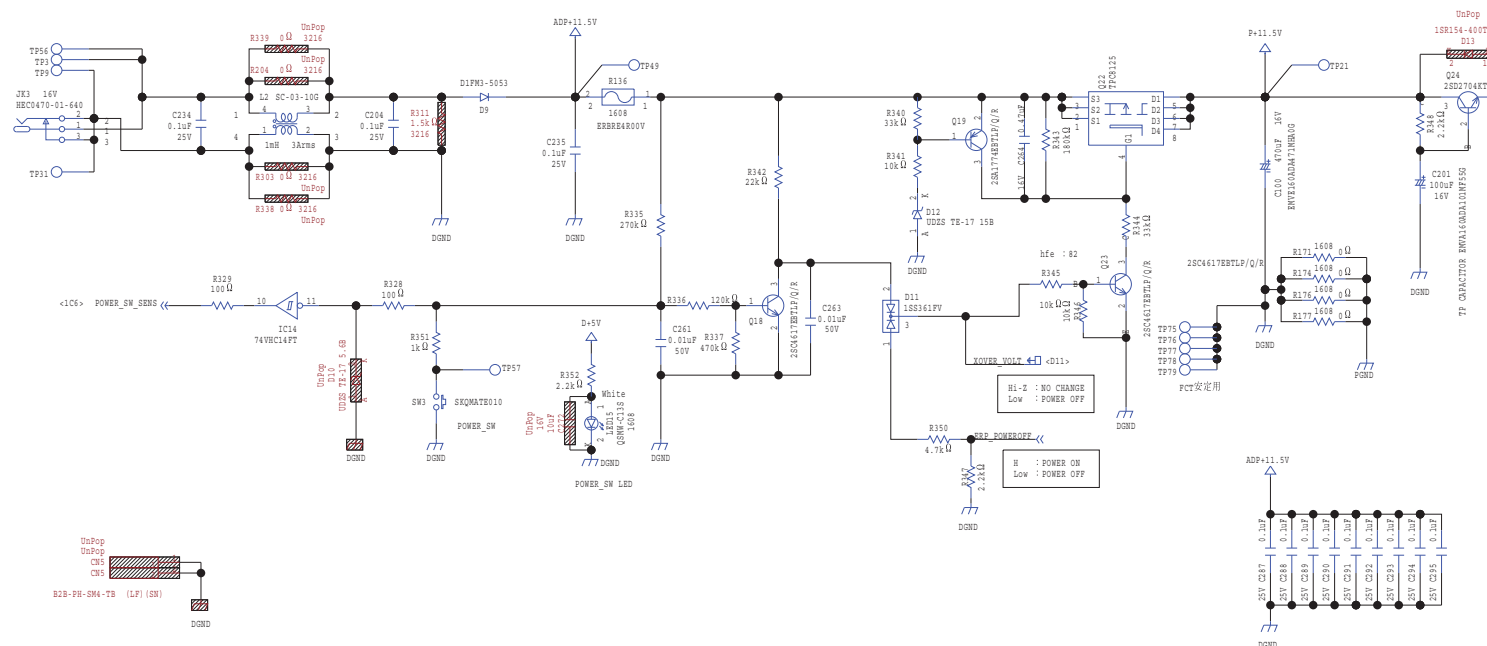




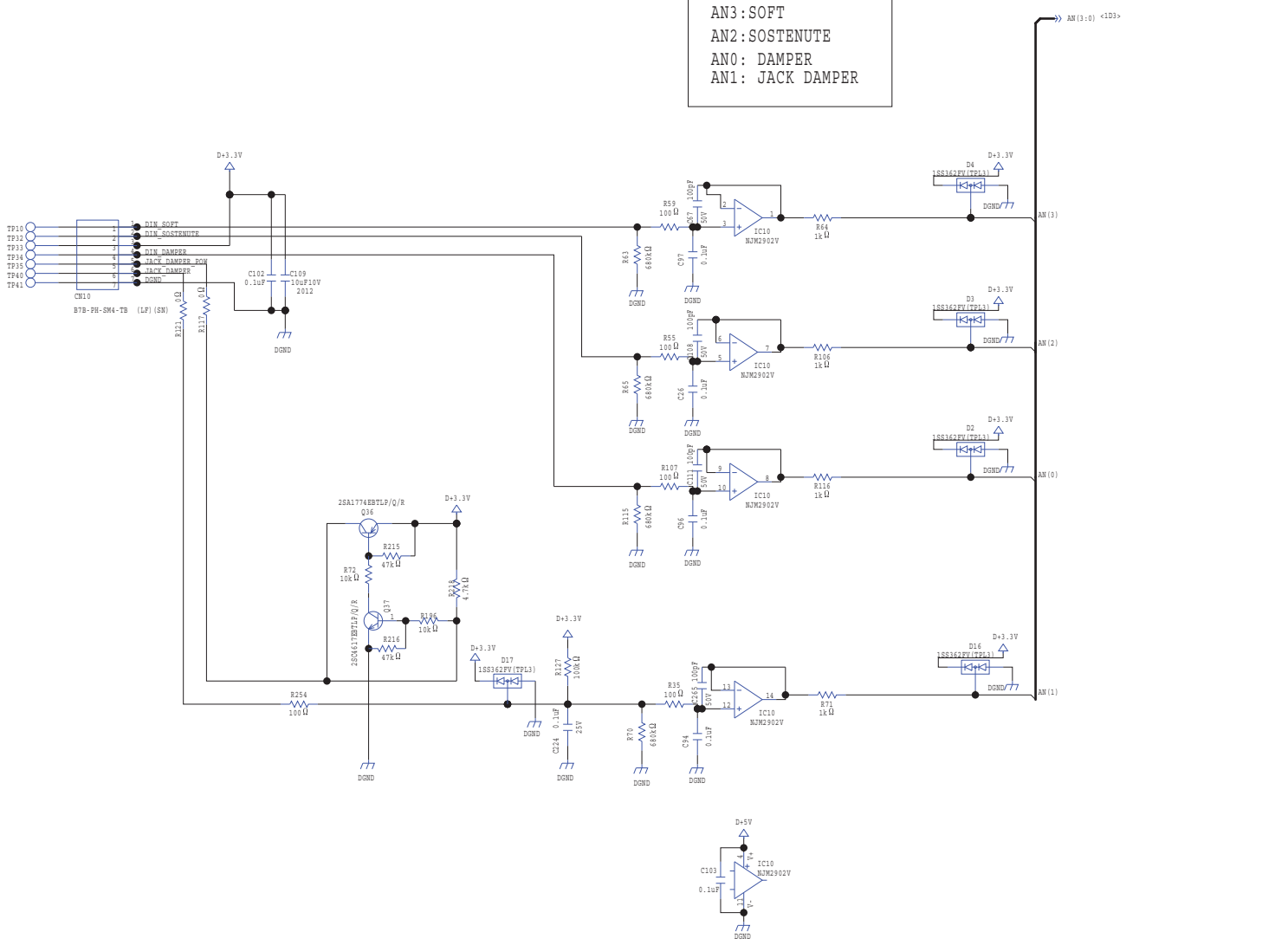
Output Level : 34.0dBu

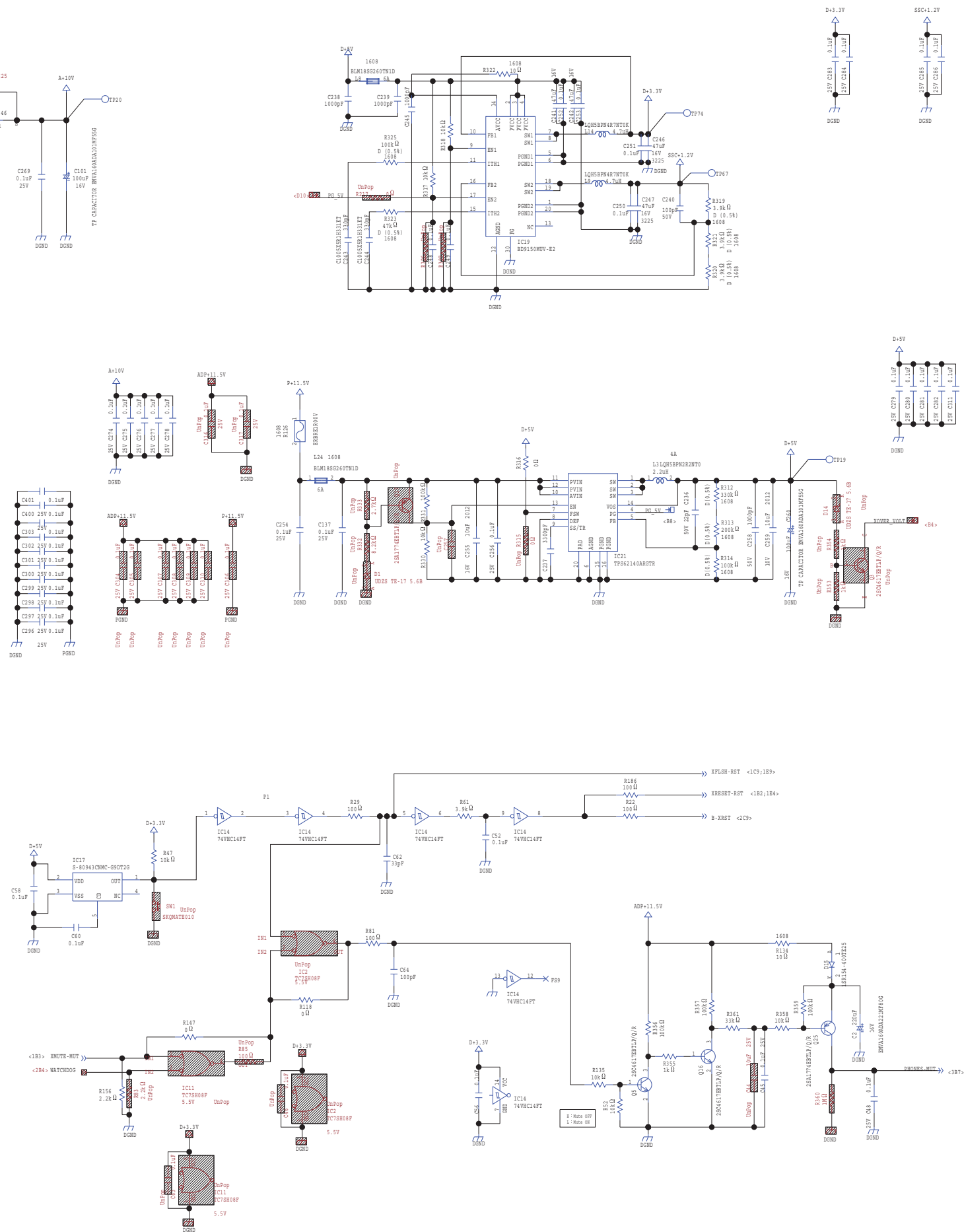


Circuit Diagram (Main Board: 4/4)

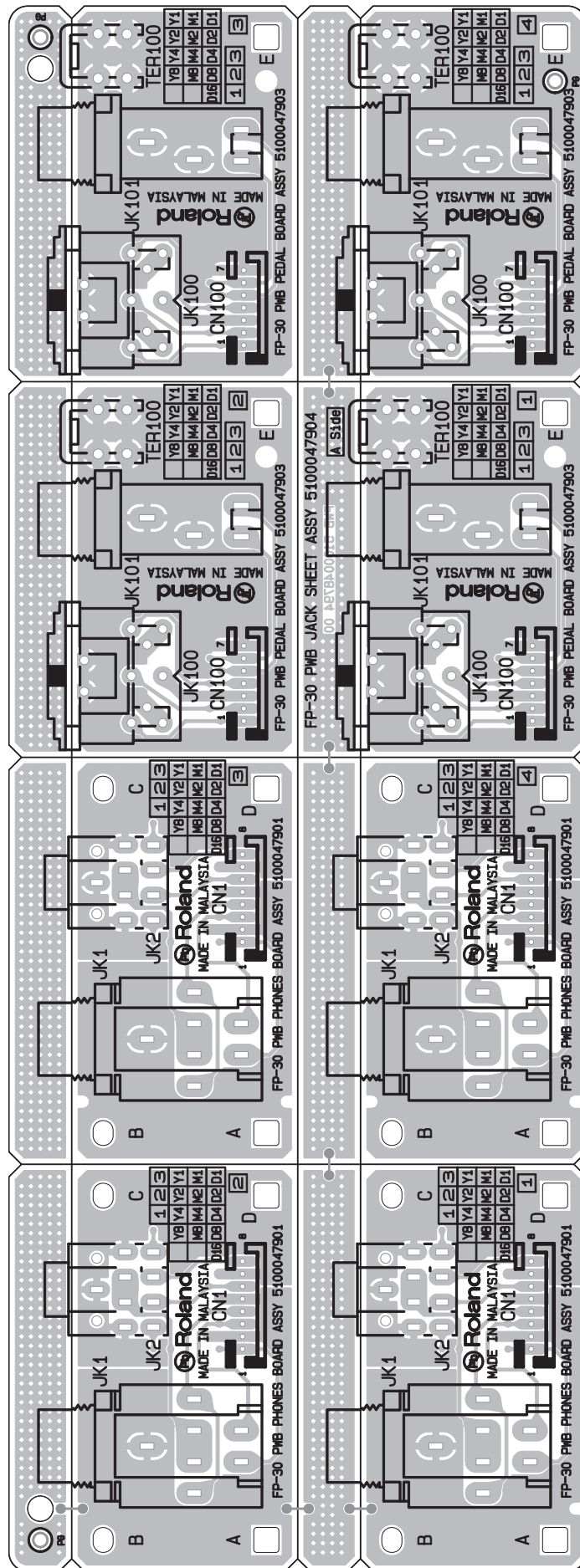


AN3 : SOFT
 AN2 : SOSTENUTE
 AN0 : DAMPER
 AN1 : JACK DAMPER

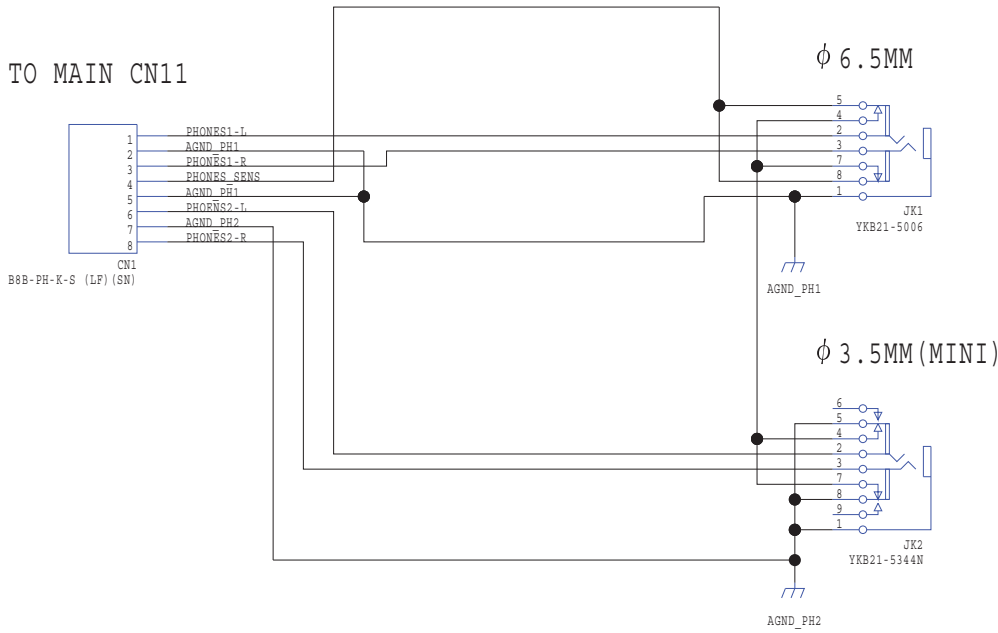




Circuit Board (Phones, Pedal Board)



Circuit Diagram (Phones Board)



Circuit Diagram (Pedal Board)

