

Roland Digital Piano

SERVICE NOTES

Issued by RJA

HP505-RW/SB/PE KSC-66-RW/SB/PE

Revise Information

July 9, 2012

p. 54, p. 54, p. 60

Add cautions for system update.



Copyright © 2012 Roland Corporation

All rights reserved. No part of this publication may be reproduced in any form without the written permission of Roland Corporation.

Table of Contents

Cautionary Notes	3	Assembling the HP505	46
Color Variations on HP507/505/503 Series	3	Painting and Coating Methods (HP505-PE)	48
Specifications	4	Parts List (HP505-RW/SB/PE)	49
Location of Controls	8	Parts List (KSC-66-RW/SB/PE)	52
Location of Controls Parts List	9	Verifying the Version	53
Exploded View (All)	10	Data Backup and Restore Operations	53
Exploded View (Fig.A)	12	Performing a Factory Reset	54
Exploded View (Fig.A) Parts List	13	Updating the System	54
Plain View (Fig.A) (1)	14	Test Mode	55
Plain View (Fig.A) (1) Parts List	15	Verifying the Internal Songs by Destination	60
Plain View (Fig.A) (2)	16	Wiring Diagram/Block Diagram	62
Exploded View (Fig.B)	18	Circuit Board (Main Board)	64
Exploded View (Fig.B) Parts List	19	Circuit Diagram (Main Board: 1/7)	66
Plain View (Fig.B) (1)	20	Circuit Diagram (Main Board: 2/7)	68
Plain View (Fig.B) (2)	21	Circuit Diagram (Main Board: 3/7)	70
Exploded View (Fig.C)	22	Circuit Diagram (Main Board: 4/7)	72
Exploded View (Fig.C) Parts List	23	Circuit Diagram (Main Board: 5/7)	74
Exploded View (Fig.D)	24	Circuit Diagram (Main Board: 6/7)	76
Exploded View (Fig.E)	26	Circuit Diagram (Main Board: 7/7)	78
Exploded View (Fig.E) Parts List	27	Circuit Board (Panel L/R, D-Volume, DIN-Pedal Board)	80
Exploded View (Fig.F)	28	Circuit Diagram (Panel L Board)	82
Exploded View (Fig.F) Parts List	29	Circuit Diagram (Panel R Board)	84
Exploded View (Fig.G, H)	30	Circuit Diagram (D-Volume Board)	86
Exploded View (Fig.G, H) Parts List	30	Circuit Diagram (DIN-Pedal Board)	86
Exploded View (Stand, Pedal)	31	Circuit Board (Multiamp-D Board)	87
Plain View (Stand, Pedal) (1)	32	Circuit Diagram (Multiamp-D Board: 1/3)	88
Plain View (Stand, Pedal) (1) Parts List	33	Circuit Diagram (Multiamp-D Board: 2/3)	90
Plain View (Stand, Pedal) (2)	34	Circuit Diagram (Multiamp-D Board: 3/3)	92
Exploded View (Stand, Pedal) (Fig.J)	36	Circuit Board (Front Jack Board)	94
Exploded View (Stand, Pedal) (Fig.J) Parts List	37	Circuit Diagram (Front Jack Board)	96
Keyboard Parts List (PHA3-D)	38	Circuit Board (USB-HF Board)	98
Disassembly Procedure	39	Circuit Diagram (USB-HF Board)	98
Important Notes When Assembling	44		
Greasing Point	45		

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. 53) in the Service Notes and save the data. After completing the procedure, restore the backed-up data to the product.

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.

Color Variations on HP507/505/503 Series

		RW	SB	PE
HP507	Piano	HP507-RW	HP507-SB	HP507-PE
	Stand	KSC-64-RW	KSC-64-SB	KSC-64-PE
HP505	Piano	HP505-RW	HP505-SB	HP505-PE
	Stand	KSC-66-RW	KSC-66-SB	KSC-66-PE
HP503	Piano	HP503-RW	HP503-SB	
	Stand	KSC-66-RW	KSC-66-SB	

Specifications

HP505: Digital Piano

Keyboard

Keyboard

88 keys (PHA III Ivory Feel Keyboard with Escapement)

Touch Sensitivity

Key Touch: 5 levels, Fixed Touch

Keyboard Modes

Whole

Dual (volume balance adjustable)

Split (split point adjustable)

Twin Piano

Pedals

Damper (Progressive Damper Action Pedal, capable of continuous detection)

Soft (capable of continuous detection)

Sostenuto (function assignable)

Sound Generator

Piano Sound

SuperNATURAL Piano Sound

Sound Generator

Conforms to GM2/GS/XG Lite

Max. Polyphony

128 voices

Tones

Grand Piano: 10 tones

Early Piano: 6 tones

E.Piano: 10 tones

Strings: 14 tones

Other: 307 tones (including 8 drum sets, 1 SFX set)

Temperaments

8 types, selectable temperament key

Stretched Tuning

On, Off

Master Tuning

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

Transpose

Key Transpose: -6→+5 (in semitones)

Playback Transpose: -6→+5 (in semitones)

Effects

Ambience (Off, 10 levels)

Brilliance (Off, -10–0→+10)

Only for Piano Tones:

Soundboard Behavior (Off, 10 levels)

Cabinet Resonance (Off, 10 levels)

Damper Resonance (Off, 10 levels)

String Resonance (Off, 10 levels)

Key Off Resonance (Off, 10 levels)

Only for Organ Tones:

Rotary Speaker Effect (Slow/Fast)

Metronome

Tempo

Quarter note = 10 to 500

Beat

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

Volume

11 levels

SMF Recorder

Tracks

3 tracks

Song Save Format

Standard MIDI Files (Format 0)

Songs

Recorder section: 1 song

Internal Memory: Max. 99 songs

Note Storage

Approx. 30,000 notes

Controls

Song Select, Play/Stop, Rec, Rewinding, Fast-forwarding, Previous song, Next song, Part Mute, Mute Volume, Tempo, Tempo Mute, All Songs Play, Count-in, Song Balance, AB Repeat

Tempo

Quarter note = 10 to 500

Resolution

120 ticks per quarter note

Audio/Audio CDs

Playback

File Format: Audio File (WAV 44.1 kHz/16-bit linear format)
Audio CDs (CD-DA) (when using optional CD drive)

Recording

(with Keyboard, SMF data, Audio from Input jacks)
File Format: Audio File (WAV 44.1 kHz/16-bit linear format)

Transpose

Playback Transpose (with Audio from Input jacks): -6→+5 (in semitones)

Tempo

Audio Playback Speed: 75–125%

Controls

Song Select, Play/Stop, Rec, Rewinding, Fast-forwarding, Previous song, Next song, Tempo, All, Songs Play, Song Balance, AB Repeat
Center Cancel (with Audio from Input jacks)

Internal Memory

Song Save Format

Standard MIDI Files (Format 0)

Songs

Max. 99 songs

External Memory

External Storage

USB Flash Memory

Playable Song Format

Standard MIDI Files (Format 0/1)
Roland Original Format (i-Format)
Audio File (WAV 44.1 kHz/16-bit linear format)
Audio CDs (CD-DA) (when using optional CD drive)

Song Save Format

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

Others

Internal Songs

Piano Masterpieces: 75 songs
Selections: 10 songs or greater
Hanon: 20 songs
Czerny #100: 100 songs

Rated Power Output

30 W x 2
5 W x 2

Volume Level (SPL)

107 dB

* This figure was measured according to the method that is based on Roland's technical standard.

Speakers

Cabinet Speakers: 12 cm x 2
Spatial/Nearfield Speakers: 5 cm x 2

Display

Custom LCD

Language

English

Control

Volume (Slider)

Other Functions

Panel Lock, MIDI Visual Control

Connectors

DC In jack
Pedal connector
Input jacks (L/Mono, R): RCA phono type
Output jacks (L/Mono, R): 1/4-inch phone type
USB COMPUTER port
USB MEMORY port
MIDI connectors (In, Out)
Phones jack (Stereo, with Twin Piano Individual Mode) x 2: Stereo 1/4-inch phone type

Power Consumption

11 W (10 W to 36 W)
11 W: Average power consumption while piano is played with volume at center position
10 W: Power consumption immediately after power-up; nothing being played
36 W: Rated power consumption

Dimensions (including piano stand)

(With Music Rest)

1,387 (W) x 430 (D) x 1,072 (H) mm

54-5/8 (W) x 16-15/16 (D) x 42-1/4 (H) inches

(When folding down the Music Rest)

1,387 (W) x 458 (D) x 899 (H) mm

54-5/8 (W) x 18-1/16 (D) x 35-7/16 (H) inches

Weight (including piano stand)

HP505-RW/HP505-SB: 55.5kg / 122 lbs 6 oz

HP505-PE: 57.5kg / 126 lbs 13 oz

Accessories

Owner's Manual (#5100023840)

Roland 60 Classical Piano Masterpieces (#02892389)

AC Adaptor (#5100028861)

Power Cord (for AC Adaptor) (#02562456, #5100012293, #01903356,
#5100018086, #03785590)

Headphone Hook (Supplied with the stand.) (#5100020982)

Options (sold separately)

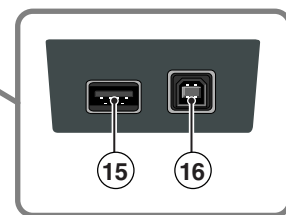
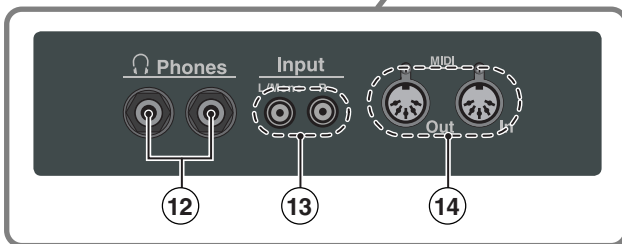
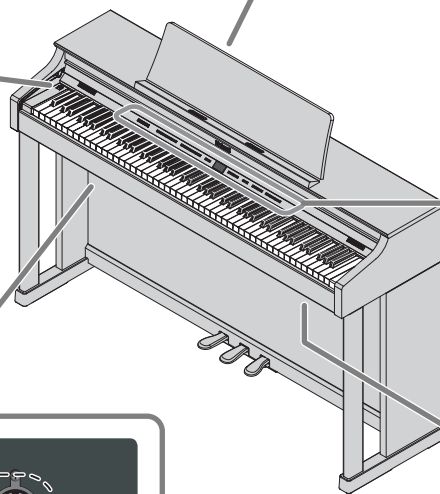
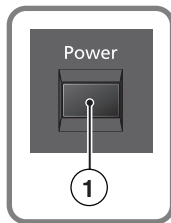
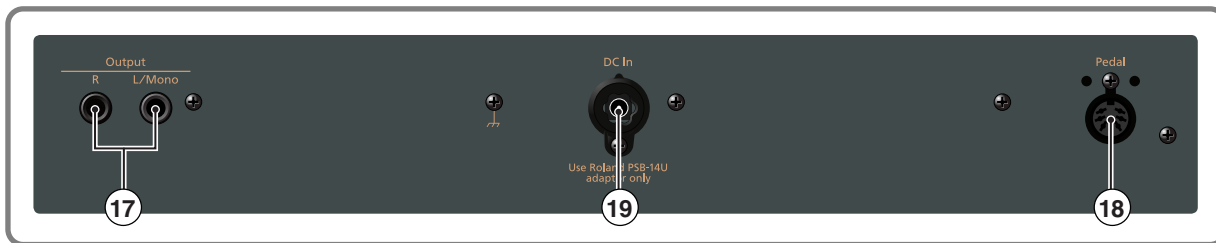
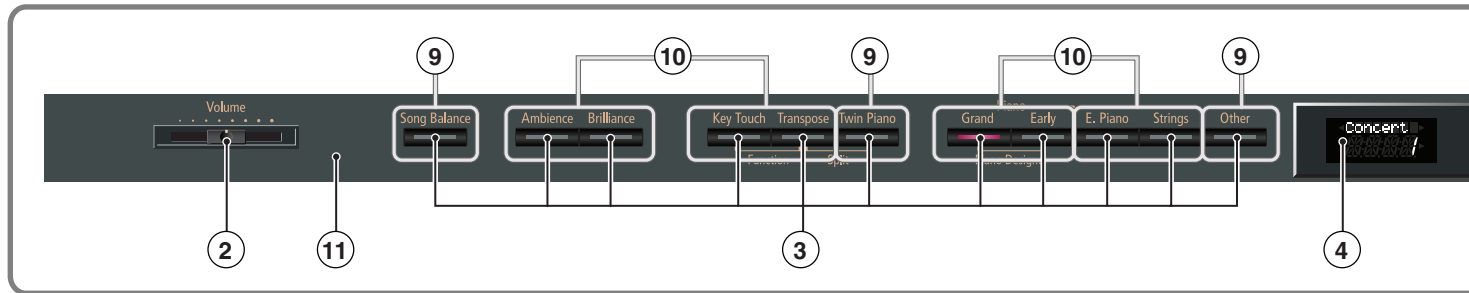
USB Flash Memory

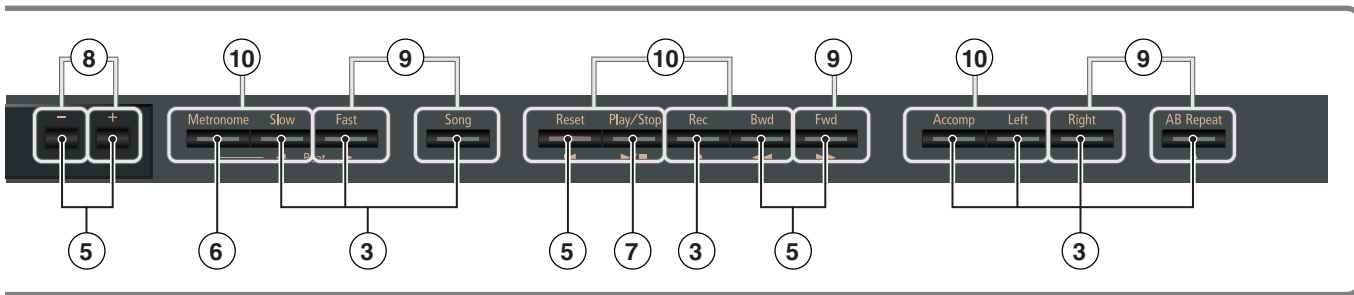
USB CD Drive (CD-01A)

* *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.*

Location of Controls

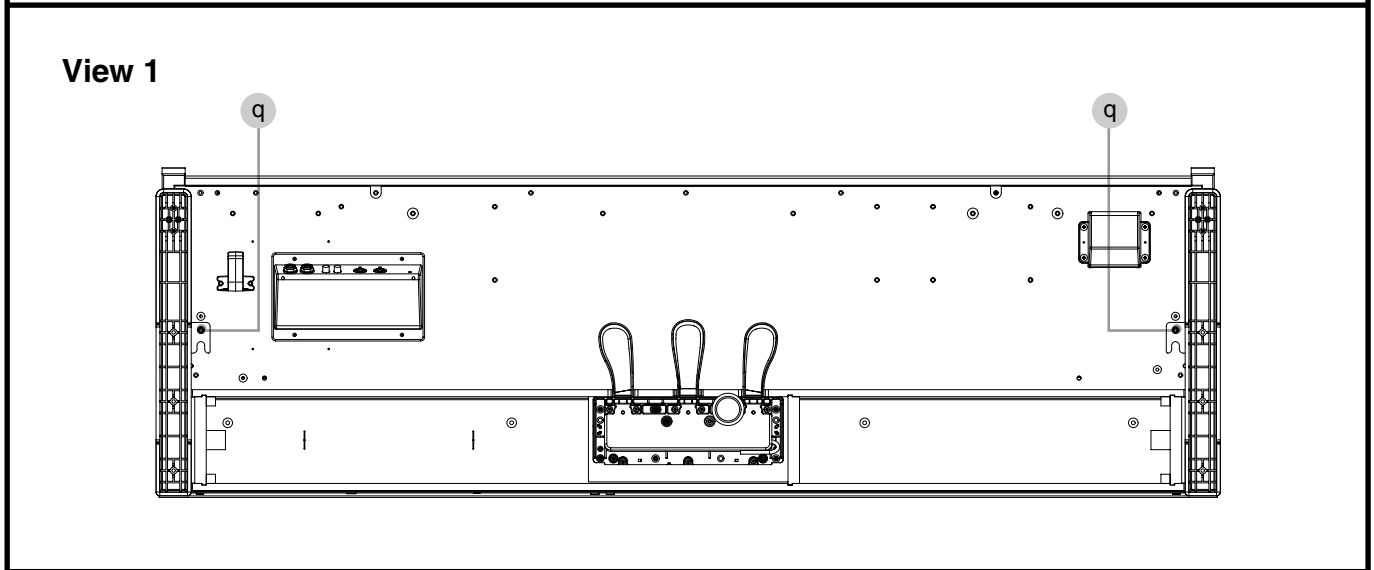
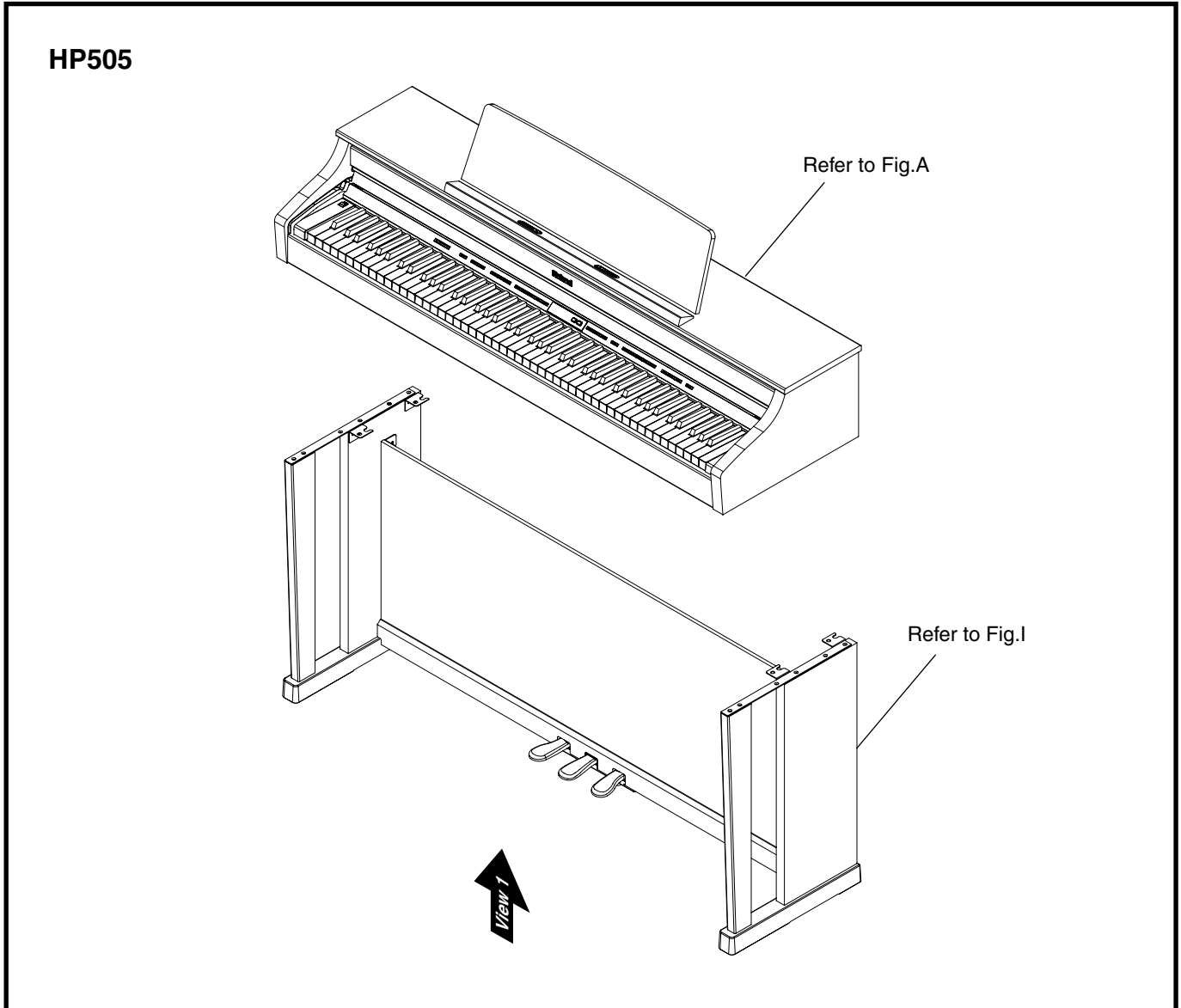




Location of Controls Parts List

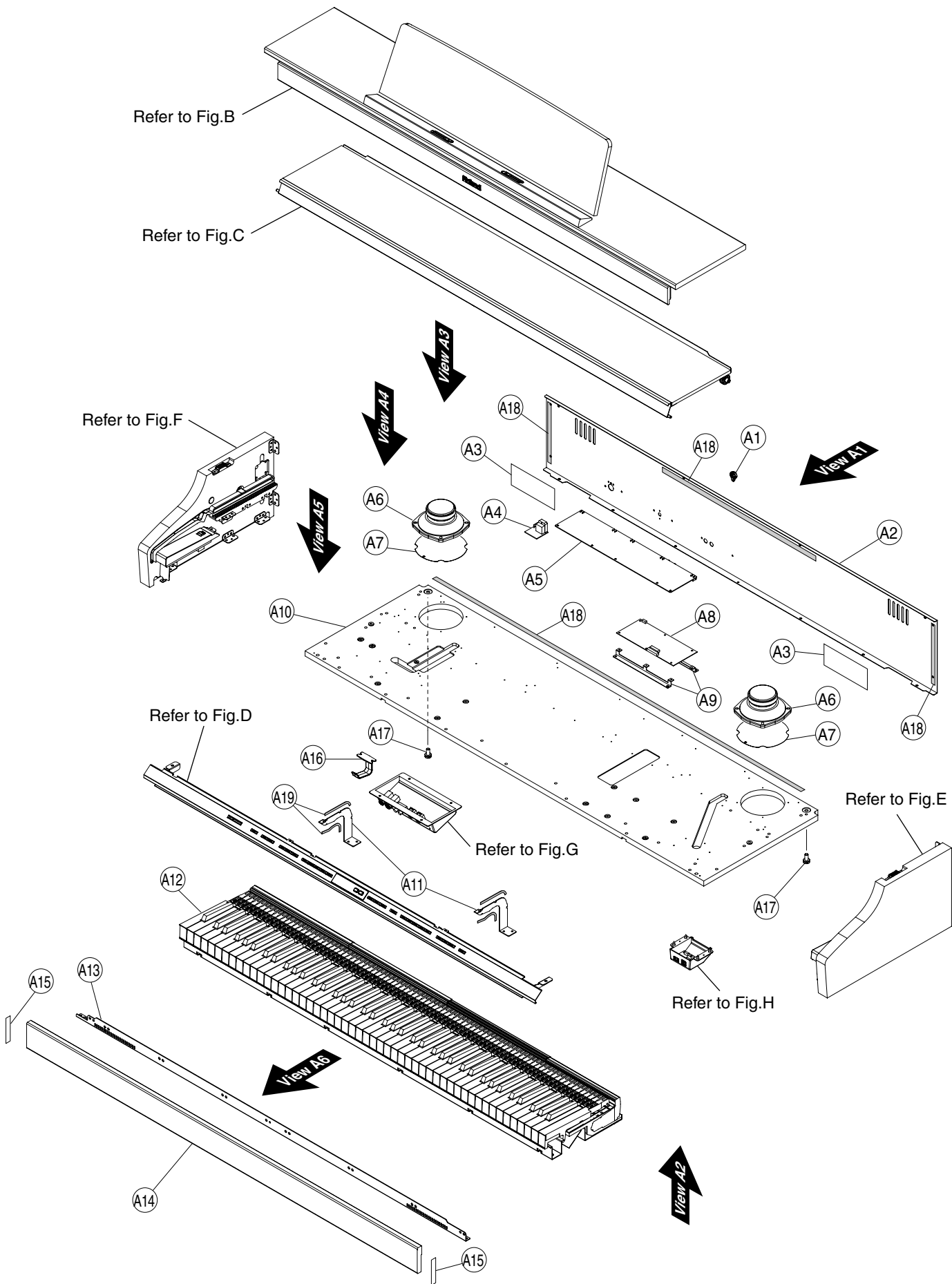
No.	Part Code	Part Name	Description	Q'ty
1	5100010764	PUSH SWITCH	SY16-5-4(U99S2)/T	1
	12499175	BUTTON	JSPUE0011A	1
2	5100015571	SLIDE POTENTIOMETER	RS30111FA002	1
	22485192	SLIDE KNOB	BLK/LCG	1
	5100008101	SLIDE KNOB ESCUTCHEON		1
3	02781634	TACT SWITCH	SKRGAED010	19
	03230656	LED (RED)	SLR-343VCT32	19
4	5100023169	LCD	C-55612GNFU-LW-ADN	1
	5100022909	DISPLAY COVER		1
5	02781634	TACT SWITCH	SKRGAED010	5
6	02781634	TACT SWITCH	SKRGAED010	1
	04902023	LED (RED/GREEN)	SPI-325MUWT31	1
7	02781634	TACT SWITCH	SKRGAED010	1
	5100000443	LED	SLI-343MGT32	1
8	03126878	D S-KEYTOP	SX1H-B BLK	2
9	5100008100	ZL S-KEYTOP	MD1H BLK	8
10	5100008099	ZL S-KEYTOP	MD2H BLK	8
11	5100022906	FRONT PANEL EXP	except for Japan	1
12	13449252	6.5MM JACK	YKB21-5006 (STEREO W/SW)	2
	22150756	JACK NUT 2	PLASTIC/BLK	2
13	03784323	RCA CONNECTOR	YKC21-5450	1
14	13429676	MIDI CONNECTOR	YKF51-5048V (TWIN)	1
15	04459190	USB CONNECTOR A TYPE FEMALE	YKF45-0033N	1
16	5100009531	USB CONNECTOR B TYPE FEMALE	YKF45-0044N	1
17	13449275	6.5MM JACK	YKB21-5074	2
18	00340223	DIN SOCKET	YKF51-5031	1
19	5100024850	DC JACK	HEC3800-01-010	1
	5100009656	DC PLUG SUPPORTER		1

Exploded View (All)



No.	Part Code	Part Name	Description	Q'ty
q	40679101	SCREW M5X20	TRUSS MACHINE FE BZC	2

Exploded View (Fig.A)

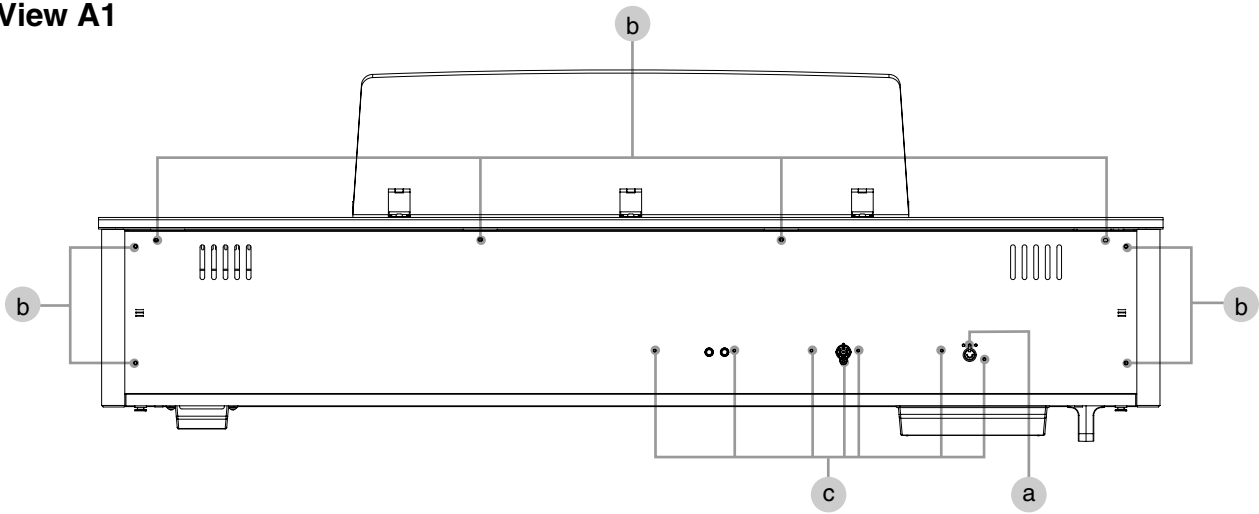


Exploded View (Fig.A) Parts List

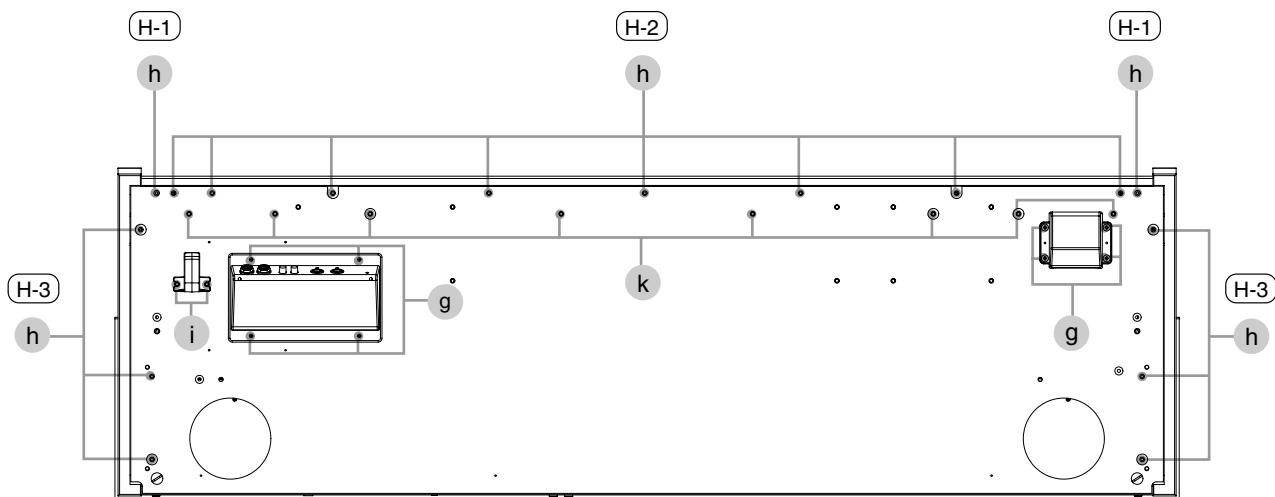
No.	Part Code	Part Name	Description	Q'ty
A1	510009656	DC PLUG SUPPORTER		1
A2	5100022902	REAR PANEL		1
A3	5100024286	DUST COVER		2
	5100022772	PANEL SHEET		1
	* This unit includes the following parts.			
A4	*****	DIN-PEDAL BOARD		1
	*****	PANEL L BOARD	Refer to Exploded View (Fig.D) (p. 24)	1
	*****	PANEL R BOARD	Refer to Exploded View (Fig.D) (p. 24)	1
	*****	D-VOLUME BOARD	Refer to Exploded View (Fig.D) (p. 24)	1
A5	5100022077	MULTI AMP-D BOARD		1
A6	5100008774	SPEAKER	PD12371A04	2
A7	5100008006	SPEAKER COVER		2
A8	5100023061	MAIN BOARD ASSY		1
A9	03909867	MAIN BOARD HOLDER		2
A10	5100022824	BOTTOM BOARD		1
A11	03909778	CENTER HOLDER		2
A12	5100021718	KEYBOARD ASSY	PHA3-D	1
A13	5100000378	BLIND ANGLE		1
A14	04568245	LOWER BLIND		1
	04456245	LOWER BLIND	for RW	1
	5100007881	LOWER BLIND	for PE	1
A15	5100010041	LOWER BLIND CUSHION	only for PE	2
A16	5100020982	PHONES HOOK		1
A17	22285342	CONNECTING PIN	228-342	2
A18	40122612	NITTO ACETATE TAPE #5	BLACK W10MM 30M 20P	-
A19	40122812	ACETATE TAPE	NITTO #5 BLACK W15MM 30M	-

Plain View (Fig.A) (1)

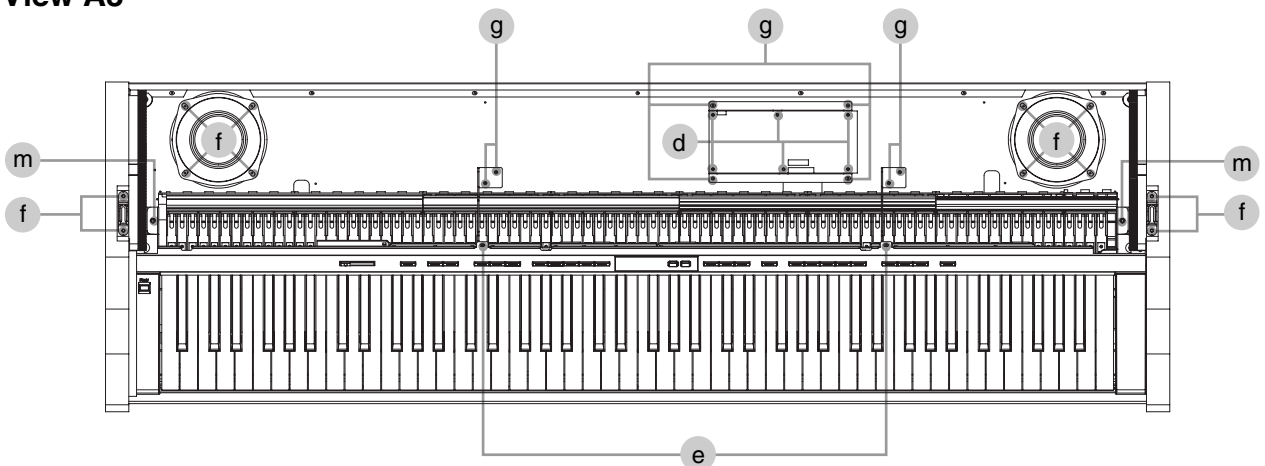
View A1



View A2



View A3



Plain View (Fig.A) (1) Parts List

View A1

No.	Part Code	Part Name	Description	Q'ty
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	1
b	40011123	SCREW 4X8	BINDING TAPTITE B FE BZC	8
c	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC	7

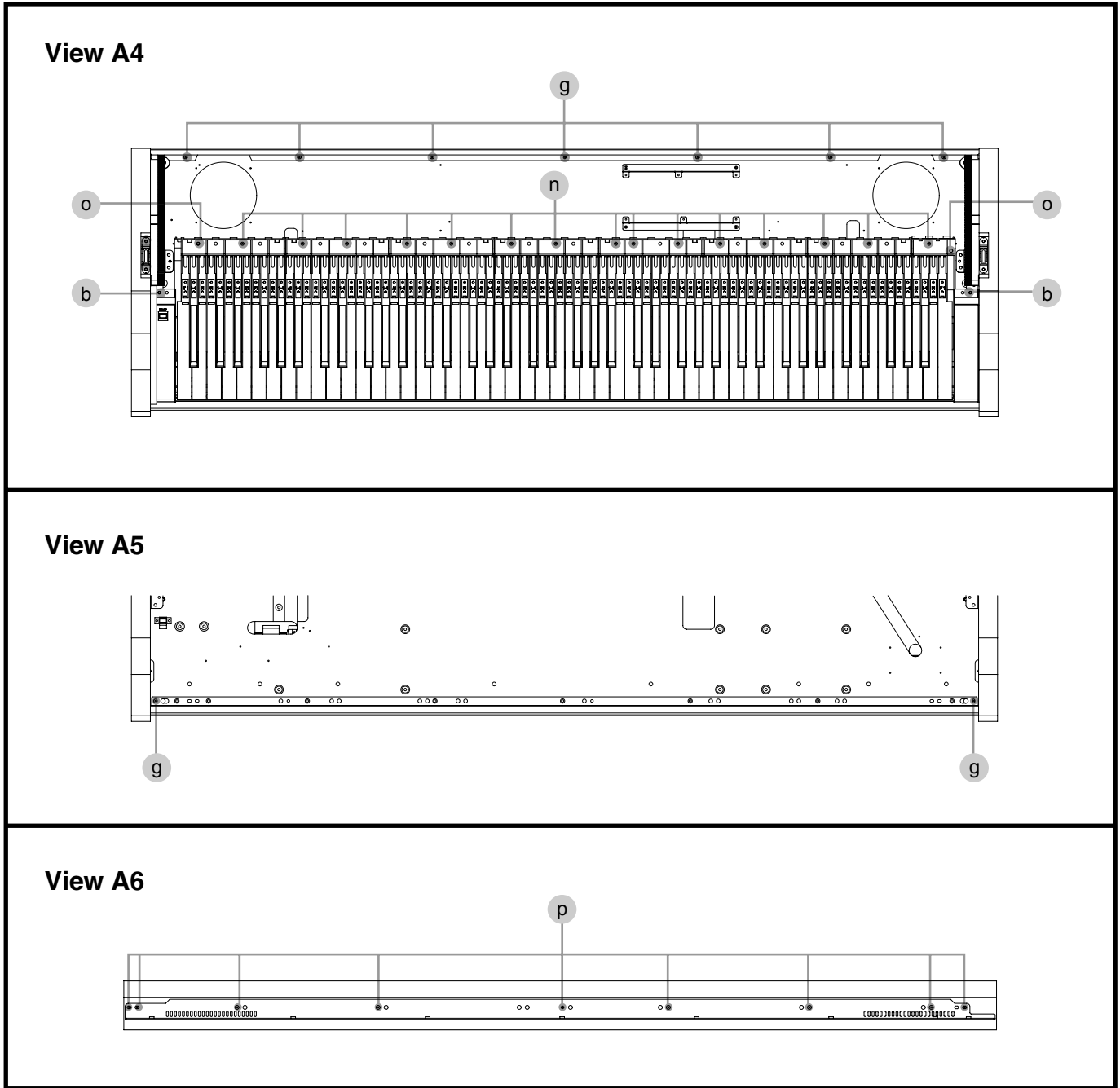
View A2

No.	Part Code	Part Name	Description	Q'ty
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	8
h	40128512	SCREW 4X25X20	PAN WASHER HEAD TAPTITE B BZC	16
i	40126267	SCREW M4X16	PAN MACHINE W/SW+PW FE BZC	2
k	40010134	SCREW M4X20	TRUSS MACHINE BZC	8

View A3

No.	Part Code	Part Name	Description	Q'ty
d	40011056	SCREW 3X6	BINDING TAPTITE B ZC	6
e	40011101	SCREW 3X8	BINDING TAPTITE B BZC	2
f	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	12
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	8
m	40127267	SCREW 4X14	TRUSS TAPTITE S FE BZC	2

Plain View (Fig.A) (2)



View A4

No.	Part Code	Part Name	Description	Q'ty
b	40011123	SCREW 4X8	BINDING TAPTITE B FE BZC	2
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	7
n	40346201	SCREW 4X20	TRUSS TAPPING TWIN BZC	15
o	40012923	SCREW M4X25	PAN MACHINE W/SW+PW ZC	2

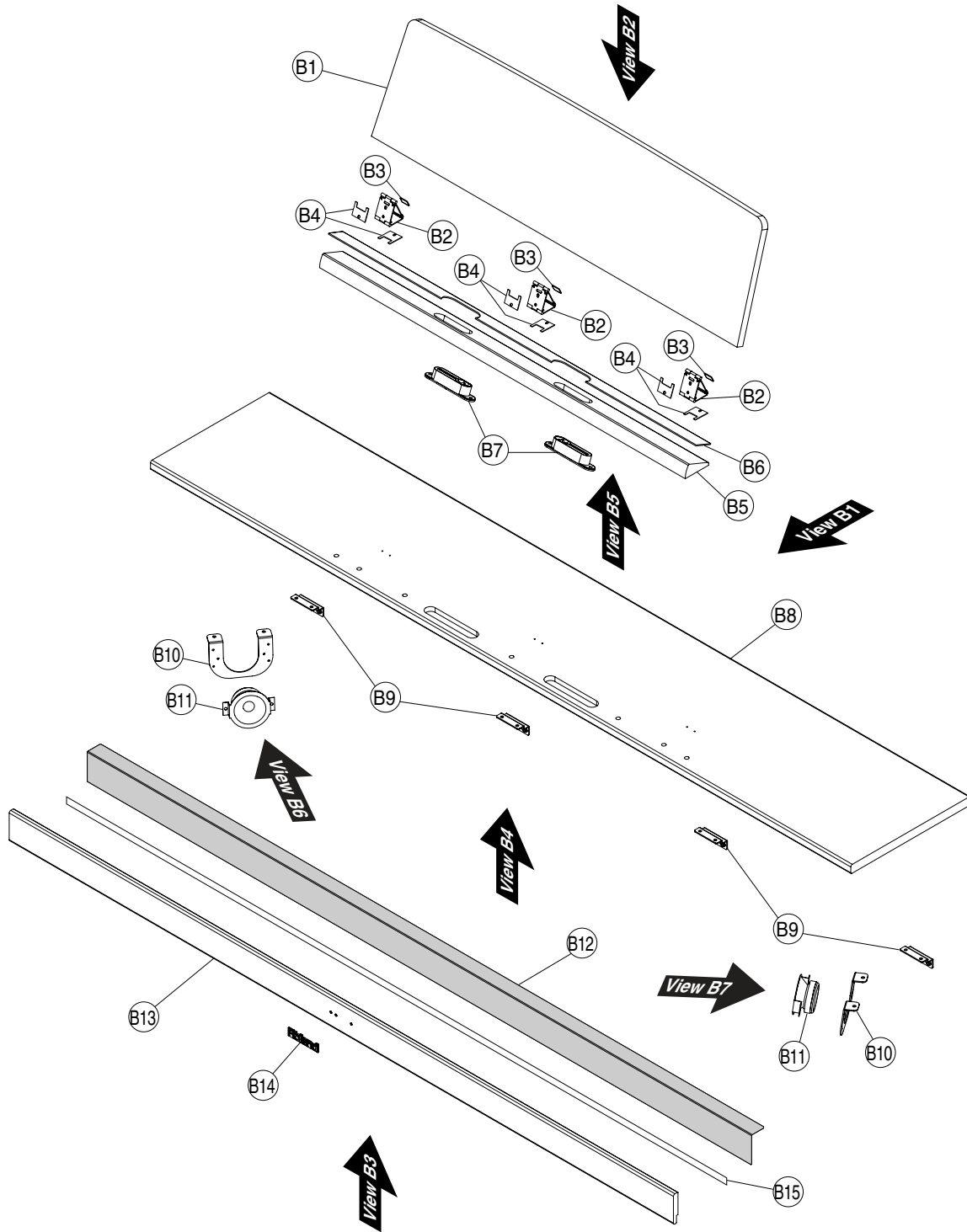
View A5

No.	Part Code	Part Name	Description	Q'ty
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	2

View A6

No.	Part Code	Part Name	Description	Q'ty
p	40127545	SCREW 4X10	TRUSS TAPPING A FE BZC	9

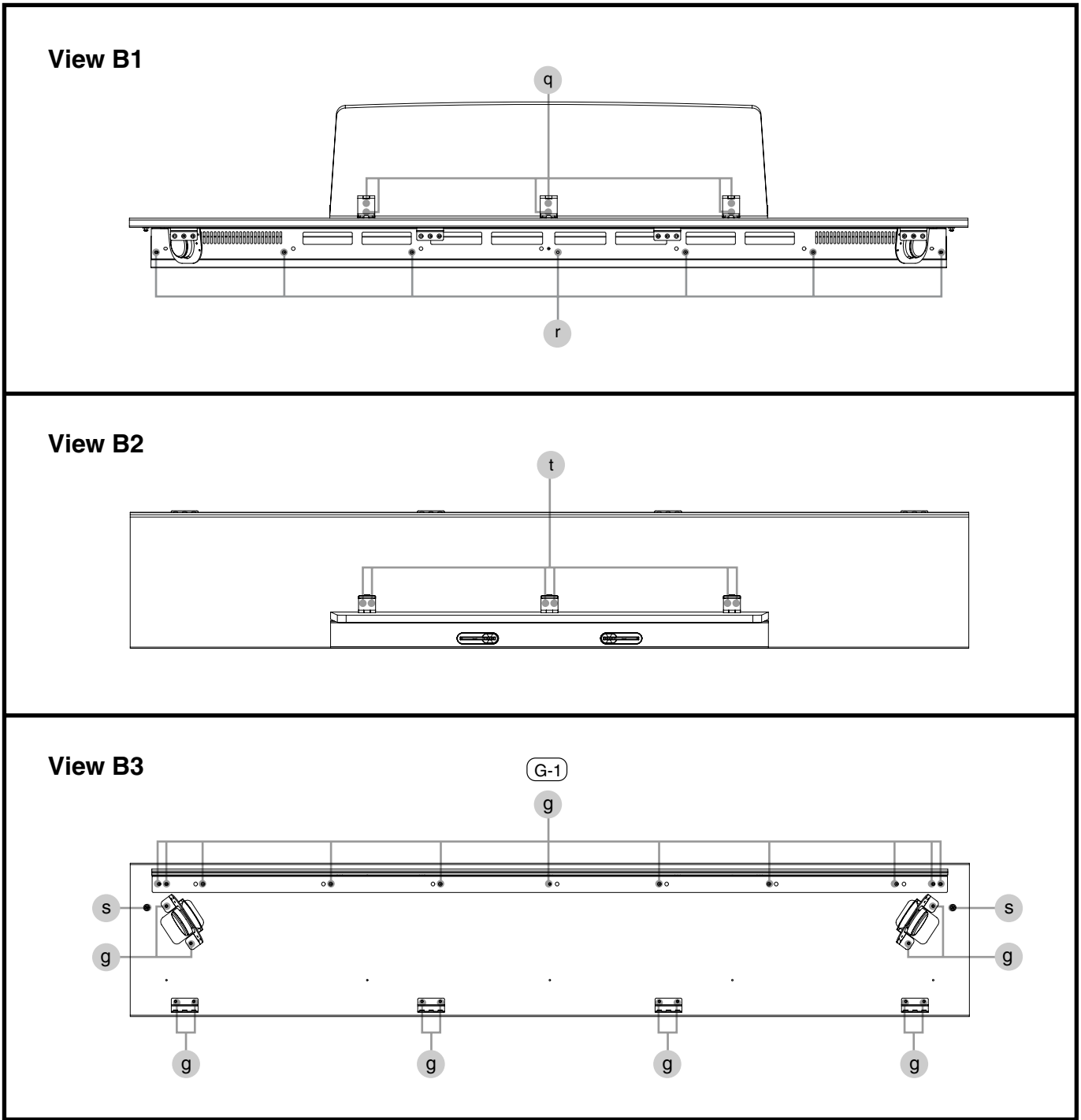
Exploded View (Fig.B)



Exploded View (Fig.B) Parts List

No.	Part Code	Part Name	Description		Q'ty
B1	5100022830	MUSIC REST		for RW	1
	5100022829	MUSIC REST		for SB	1
	5100023606	MUSIC REST		for PE	1
B2	22325182	MR HINGE ASSY	232-182		3
B3	5100008952	HINGE CUSHION A			3
B4	5100010042	HINGE CUSHION B		only for PE	6
B5	5100008121	MUSIC STOPPER		for RW	1
	5100008119	MUSIC STOPPER		for SB	1
	5100008120	MUSIC STOPPER		for PE	1
B6	5100010045	STOPPER FELT		only for PE	1
B7	5100024778	SCORE STOPPER ASSY			2
B8	5100022832	TOP BOARD		for RW	1
	5100022831	TOP BOARD		for SB	1
	5100023608	TOP BOARD		for PE	1
B9	04452090	TOP BOARD HOLDER			4
B10	04452445	TW HOLDER			2
B11	02895345	TWEETER	E52AP45-62F		2
B12	5100028203	BLIND ANGLE	W/GRILLE CLOTH		1
B13	5100023621	UPPER BLIND		for RW	1
	5100023622	UPPER BLIND		for SB	1
	5100023605	UPPER BLIND		for PE	1
B14	00890990	ROLAND BADGE	12 GOLD	for other than PE	1
B15	40122612	ACETATE TAPE	NITTO #5 BLACK W10MM 30M 20P	only for PE	-

Plain View (Fig.B) (1)



View B1

No.	Part Code	Part Name	Description	Q'ty
q	40010789	SCREW 3X10	BINDING TAPPING A FE BZC	6
r	40010645	SCREW 4X8	TRUSS TAPPING A FE BZC	7

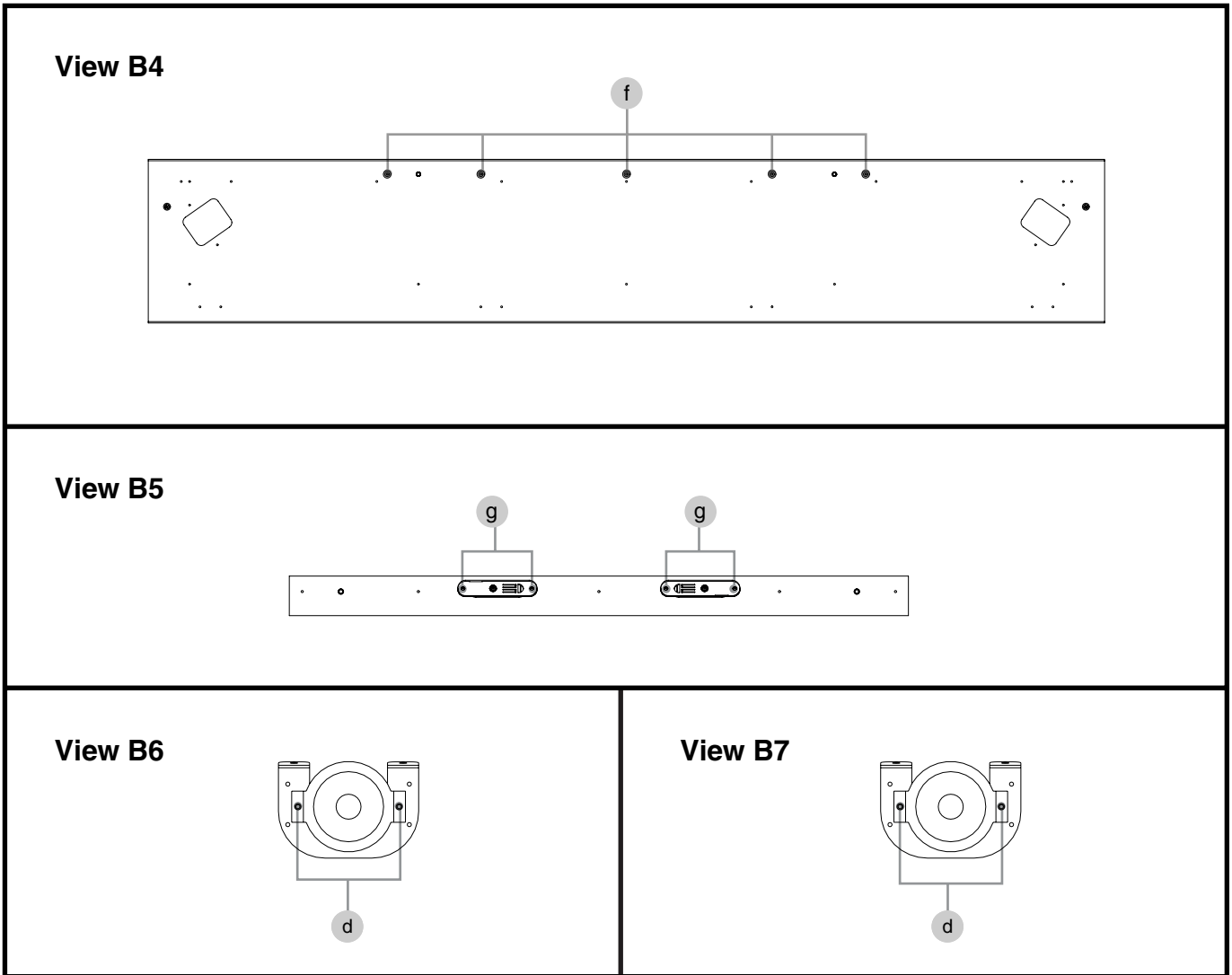
View B2

No.	Part Code	Part Name	Description	Q'ty
t	40010790	SCREW 3X16	BINDING TAPPING A BZC	6

View B3

No.	Part Code	Part Name	Description	Q'ty
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	23
s	01906367	SHOULDER SCREW	1065	2

Plain View (Fig.B) (2)



View B4

No.	Part Code	Part Name	Description	Q'ty
f	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	5

View B5

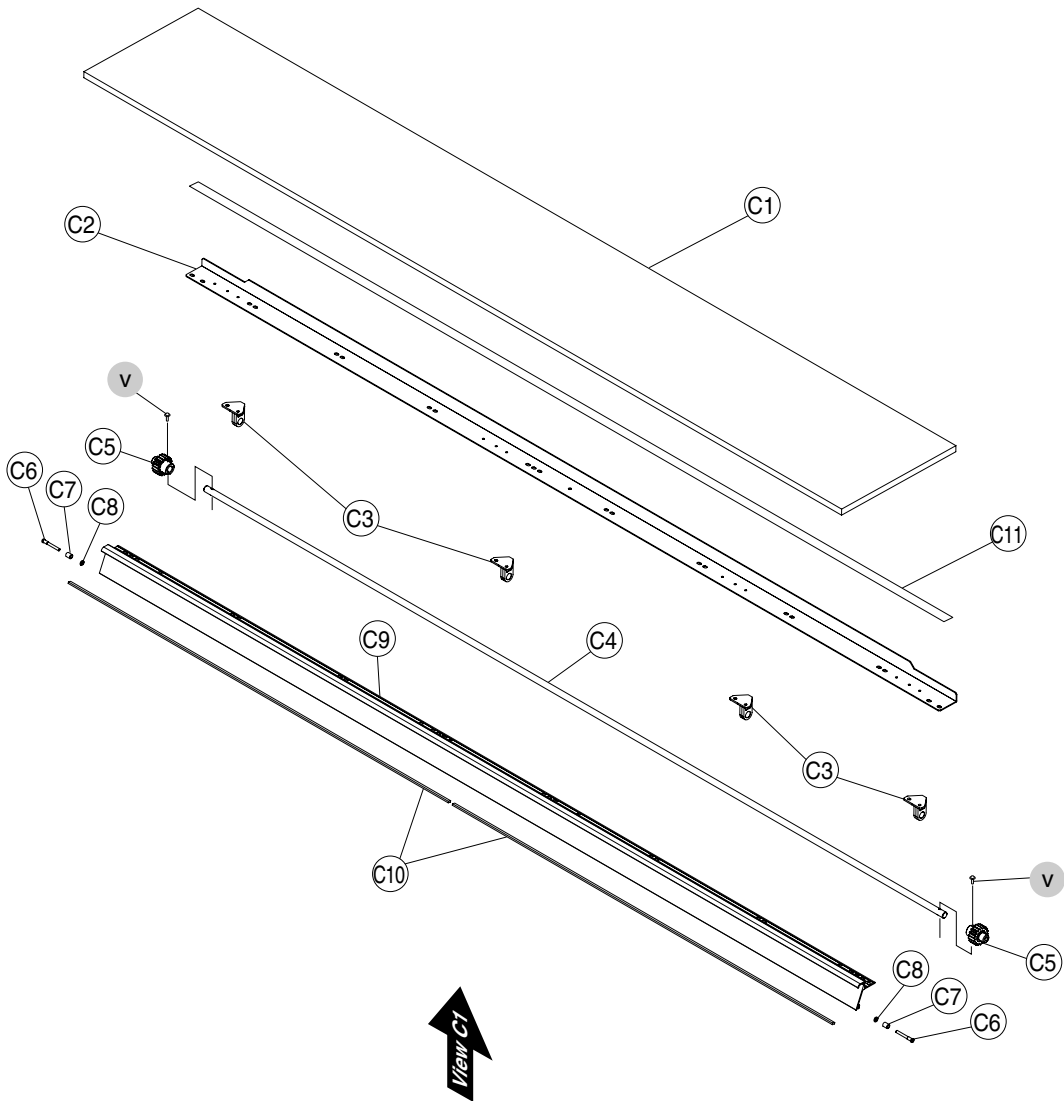
No.	Part Code	Part Name	Description	Q'ty
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	4

View B6, B7

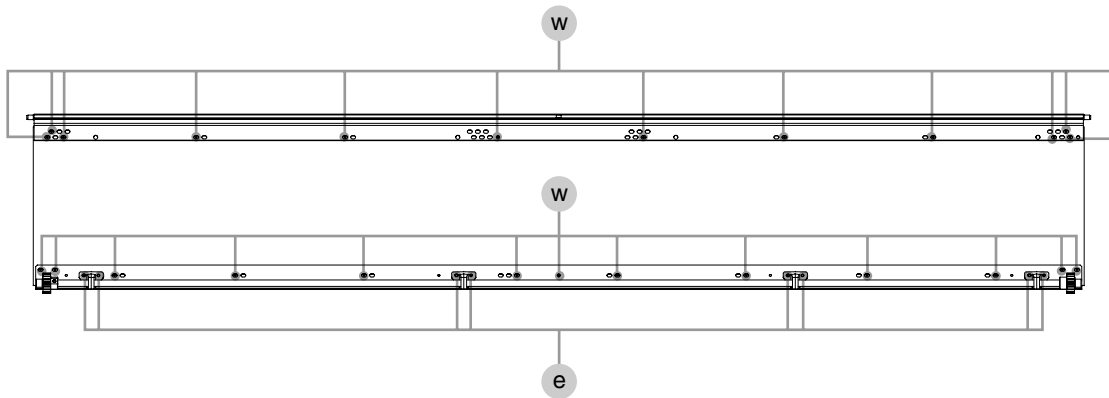
No.	Part Code	Part Name	Description	Q'ty
d	40011056	SCREW 3X6	BINDING TAPTITE B ZC	4

Exploded View (Fig.C)

Fig. C



View C1



Exploded View (Fig.C) Parts List

Fig.C

No.	Part Code	Part Name	Description	Q'ty
C1	04568223	LID BOARD		1
	04457056	LID BOARD	for RW	1
	5100008344	LID BOARD	for SB	1
			for PE	1
C2	5100009208	LID ANGLE		1
C3	5100020975	LID SHAFT STAY BUSH		4
C4	5100020971	LID SHAFT		1
C5	04349578	LID GEAR	811-1668-1	2
C6	03452078	GUIDE PIN		2
C7	03569767	LID GUIDE BUSH		2
C8	40569512	WASHER T1X3.2X6		2
C9	5100009110	LID BLIND		1
	5100007917	LID BLIND	for RW	1
			for SB, PE	1
C10	5100020859	LID BLIND CUSHION		2
C11	40122612	ACETATE TAPE	NITTO #5 BLACK W10MM 30M 20P	-
v	40012967	SCREW M3X10	PAN MACHINE W/SW+PW BZC	2

View C1

No.	Part Code	Part Name	Description	Q'ty
e	40011101	SCREW 3X8	BINDING TAPTITE B BZC	8
w	40239401	SCREW 3.5X8	BINDING TAPPING A BZC	25

Exploded View (Fig.D)

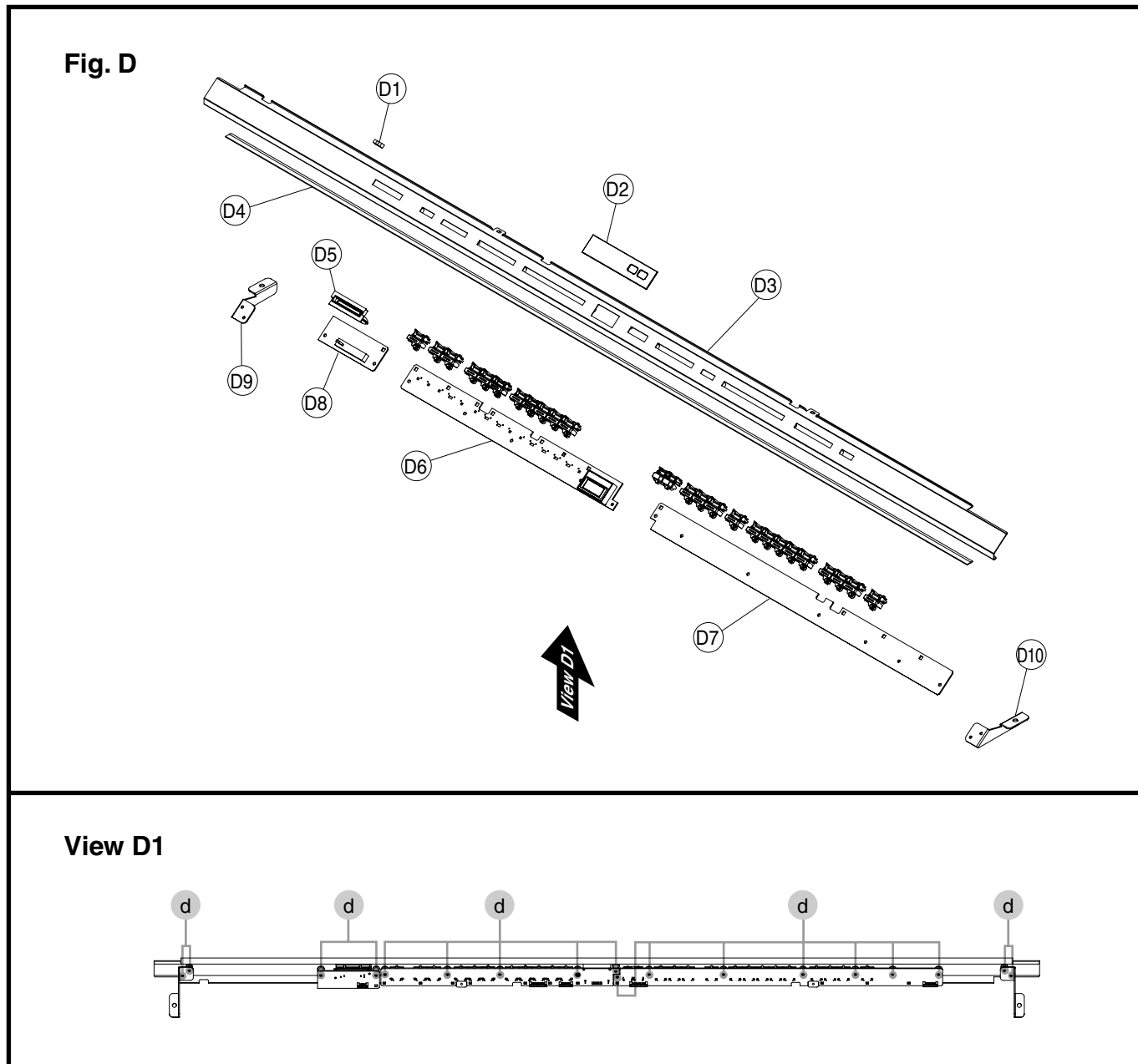


Fig.D

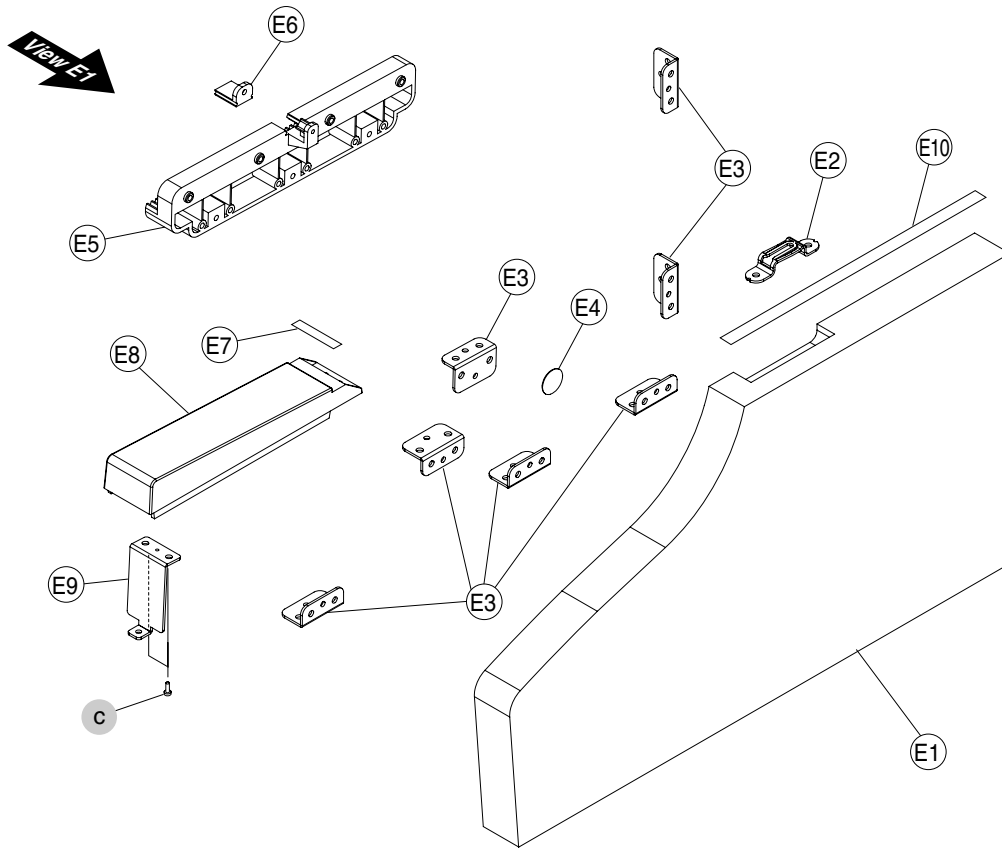
No.	Part Code	Part Name	Description	Q'ty
D1	22485192	SLIDE KNOB	BLK/LCG	1
D2	5100022909	DISPLAY COVER		1
D3	5100022906	FRONT PANEL EXP	except for Japan	1
D4	03012323	KEY FELT		1
D5	5100008101	SLIDE KNOB ESCUTCHEON		1
	5100022772	PANEL SHEET		1
		* This unit includes the following parts.		
D6	*****	PANEL L BOARD		1
D7	*****	PANEL R BOARD		1
D8	*****	D-VOLUME BOARD		1
	*****	DIN-PEDAL BOARD	Refer to Exploded View (Fig.A) (p. 12)	1
D9	04453634	SIDE ANGLE L		1
D10	04453645	SIDE ANGLE R		1

View D1

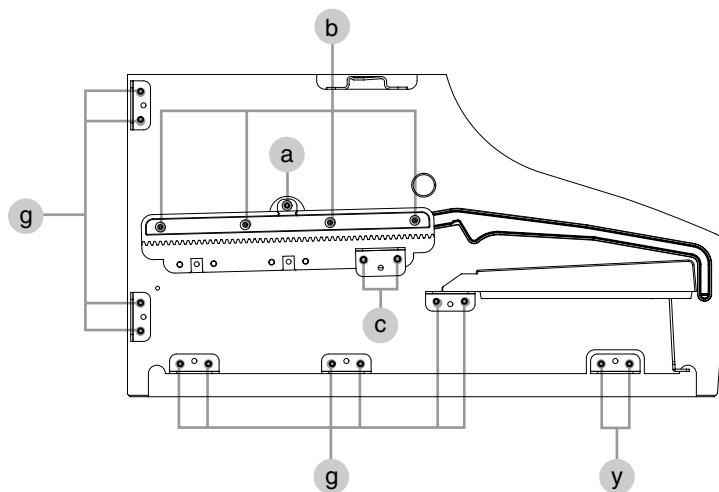
No.	Part Code	Part Name	Description	Q'ty
d	40011056	SCREW 3X6	BINDING TAPTITE B ZC	18

Exploded View (Fig.E)

Fig. E



View E1



Exploded View (Fig.E) Parts List

Fig.E

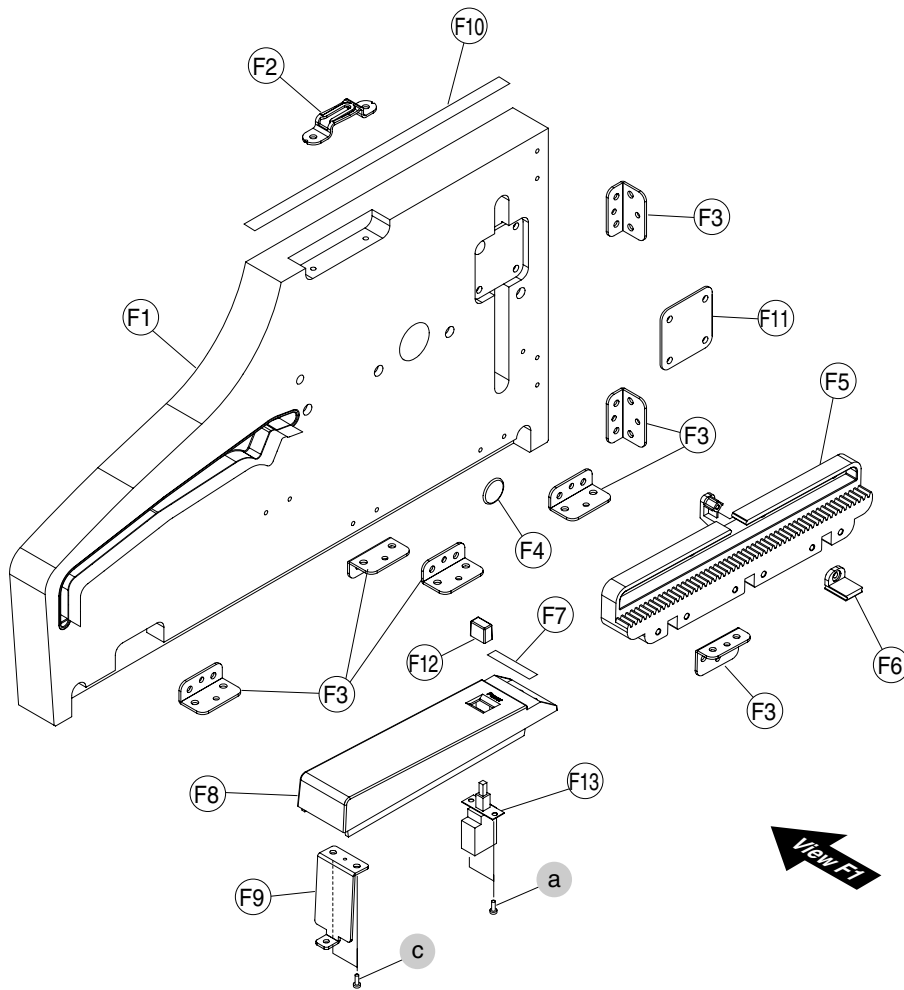
No.	Part Code	Part Name	Description		Q'ty
E1	5100028196	SIDE PANEL R	W/LID GUIDE R	for RW	1
	5100028198	SIDE PANEL R	W/LID GUIDE R	for SB	1
	5100028200	SIDE PANEL R	W/LID GUIDE R	for PE	1
E2	00900534	BRACKET			1
E3	04451989	ANGLE			7
E4	40455345	FREE CAP 8 BLK			1
E5	04349590	LID RAIL			1
E6	04349567	LID RAIL STOPPER			1
E7	5100024651	FELT			1
E8	04349589	END BLOCK R		for RW	1
	04457012	END BLOCK R		for SB, PE	1
E9	04452023	END BLOCK HOLDER			1
E10	02901523	SIDE PANEL CUSHION		only for PE	1
c	40238501	SCREW 4X8	BINDING TAPTITE P FE BZC		2

View E1

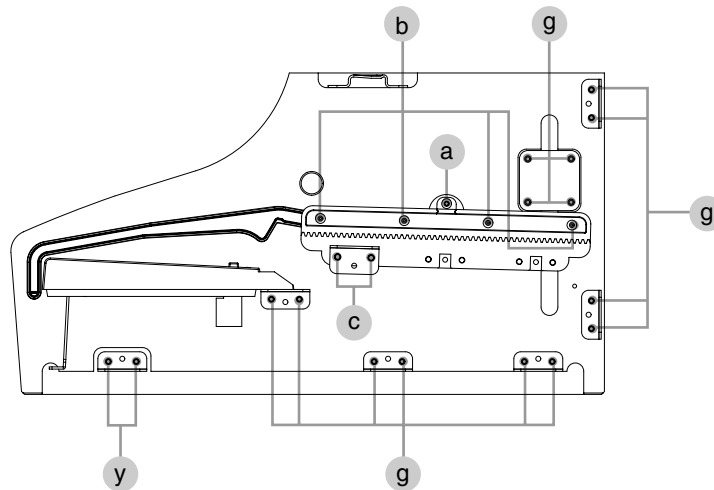
No.	Part Code	Part Name	Description	Q'ty
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	1
b	40563023	SCREW 3X16	FLAT TAPPING A ZC	4
c	40238501	SCREW 4X8	BINDING TAPTITE P FE BZC	2
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	10
y	40010656	SCREW 4X12	TRUSS TAPPING A FE BZC	2

Exploded View (Fig.F)

Fig. F



View F1



Exploded View (Fig.F) Parts List

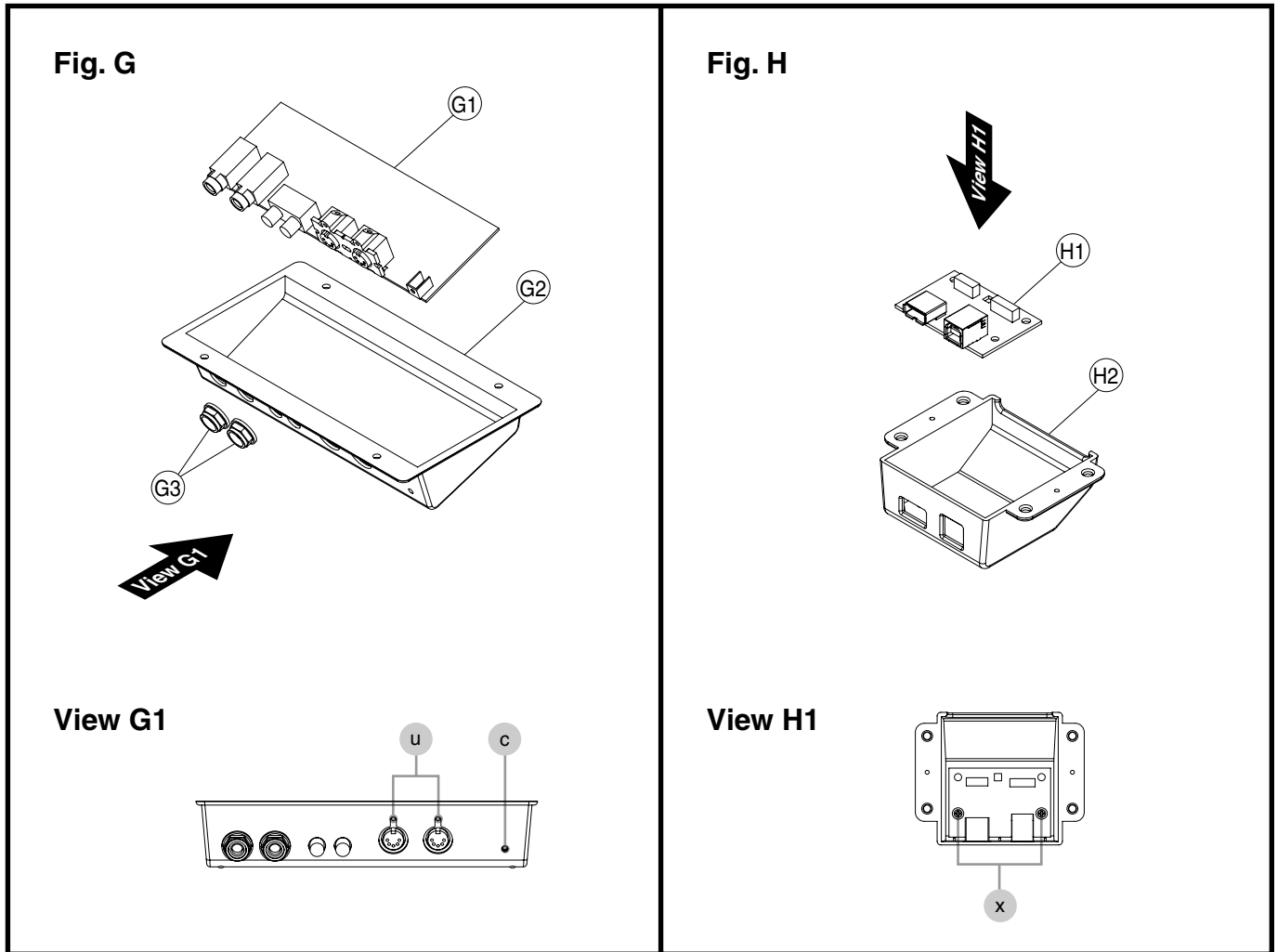
Fig.F

No.	Part Code	Part Name	Description	Q'ty	
F1	5100028195	SIDE PANEL L	W/LID GUIDE L	for RW	1
	5100028197	SIDE PANEL L	W/LID GUIDE L	for SB	1
	5100028199	SIDE PANEL L	W/LID GUIDE L	for PE	1
F2	00900534	BRACKET			1
F3	04451989	ANGLE			7
F4	40455345	FREE CAP 8 BLK			1
F5	04349590	LID RAIL			1
F6	04349567	LID RAIL STOPPER			1
F7	5100024651	FELT			1
F8	5100008013	END BLOCK L		for RW	1
	5100008015	END BLOCK L		for SB, PE	1
F9	04452023	END BLOCK HOLDER			2
F10	02901523	SIDE PANEL CUSHION		only for PE	1
F11	5100023024	PLATE			1
F12	12499175	BUTTON	JSPUE0011A		1
F13	5100010764	PUSH SWITCH	SY16-5-4(U99S2)/T		1
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC		2
c	40238501	SCREW 4X8	BINDING TAPTITE P FE BZC		2

View F1

No.	Part Code	Part Name	Description	Q'ty
a	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	1
b	40563023	SCREW 3X16	FLAT TAPPING A ZC	4
c	40238501	SCREW 4X8	BINDING TAPTITE P FE BZC	2
g	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	14
y	40010656	SCREW 4X12	TRUSS TAPPING A FE BZC	2

Exploded View (Fig.G, H)



Exploded View (Fig.G, H) Parts List

Fig.G

No.	Part Code	Part Name	Description	Q'ty
G1	5100021171	FRONT JACK BOARD ASSY		1
G2	5100019870	FRONT JACK CASE		1
G3	22150756	JACK NUT 2	PLASTIC/BLK	2

View G1

No.	Part Code	Part Name	Description	Q'ty
c	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC	1
u	40011323	SCREW 3X10	BINDING TAPTITE P BZC	2

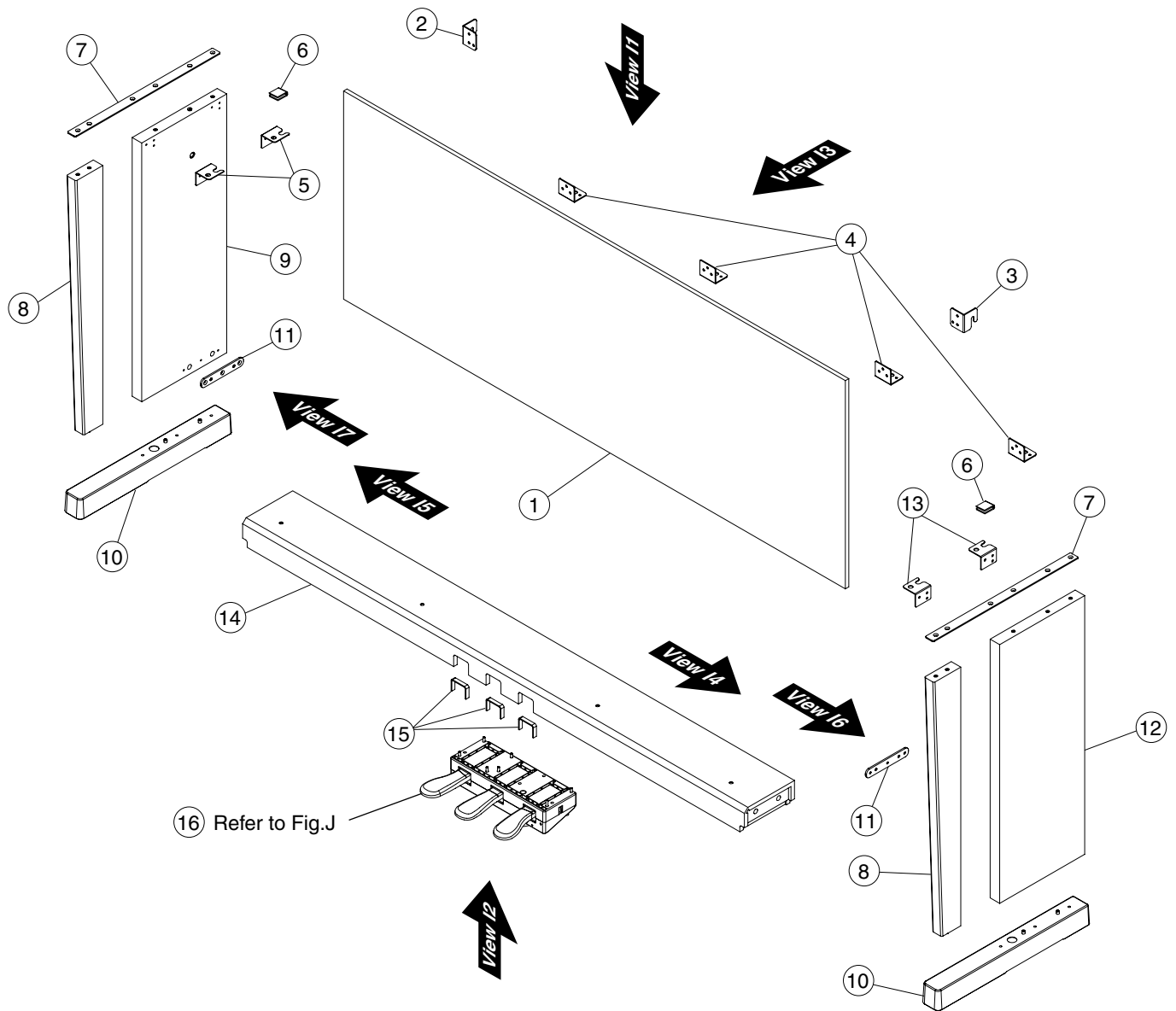
Fig.H

No.	Part Code	Part Name	Description	Q'ty
H1	5100021745	USB-HF BOARD ASSY		1
H2	5100022599	USB CASE		1

View H1

No.	Part Code	Part Name	Description	Q'ty
x	40011301	SCREW 3X6	BINDING TAPTITE P FE BZC	2

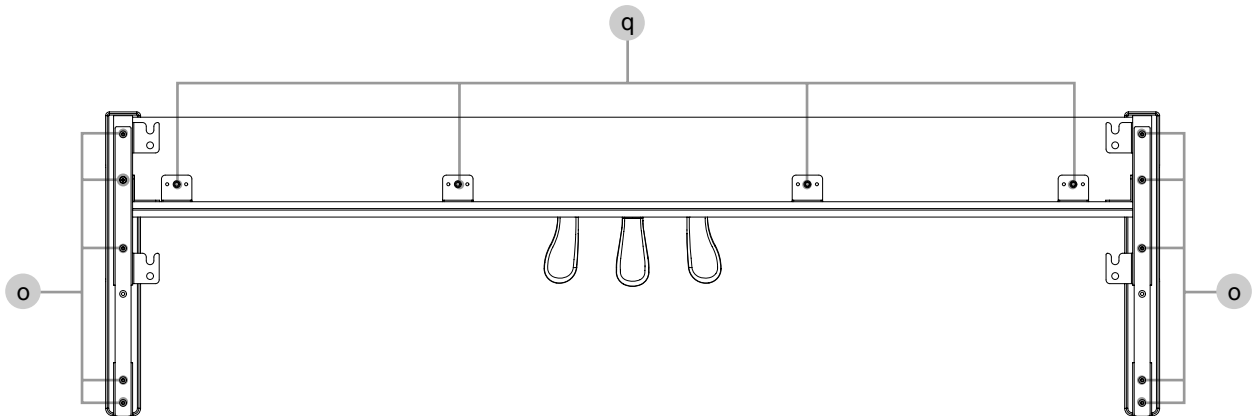
Exploded View (Stand, Pedal)



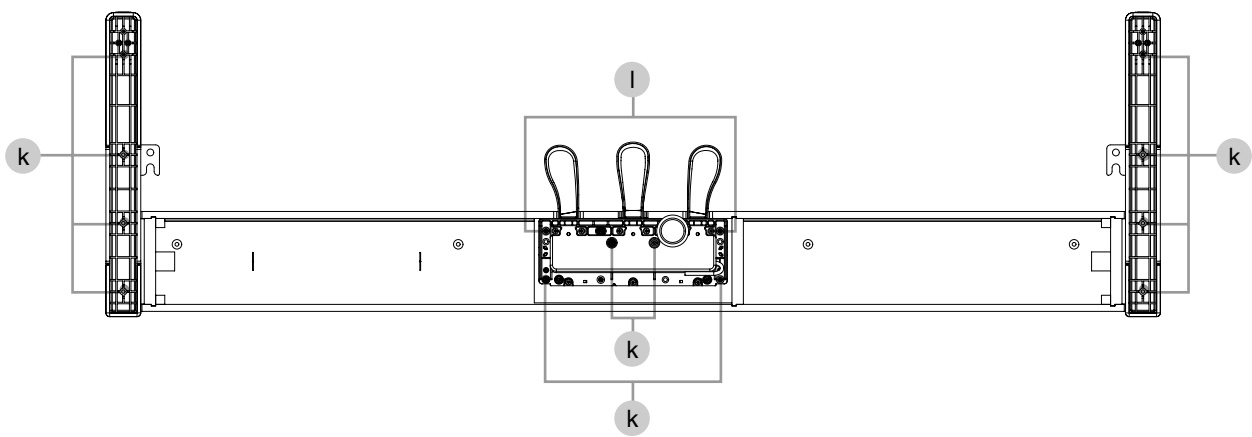
No.	Part Code	Part Name	Description		Q'ty
1	5100023629	REAR BOARD		for RW	1
	5100008263	REAR BOARD		for SB, PE	1
2	04906223	REAR BOARD HOLDER L			1
3	04906234	REAR BOARD HOLDER R			1
4	04453012	STAND HOLDER			4
5	5100009206	JOINT HOLDER L			2
6	01128578	HOLDER CUSHION			2
7	04453145	JOINT PLATE			2
8	5100022848	LEG		for RW	2
	5100022988	LEG		for SB	2
	5100023623	LEG		for PE	2
9	5100023625	SIDE BOARD L		for RW	1
	5100023624	SIDE BOARD L		for SB	1
	5100023632	SIDE BOARD L		for PE	1
10	5100018610	TOE BLOCK	W HOLE(411-1796-1)	for RW	2
	5100018613	TOE BLOCK	W HOLE	for SB	2
	5100018615	TOE BLOCK	W HOLE	for PE	2
11	04453023	PEDAL BOARD HOLDER			2
12	5100023626	SIDE BOARD R		for RW	1
	5100023627	SIDE BOARD R		for SB	1
	5100023628	SIDE BOARD R		for PE	1
13	5100009207	JOINT HOLDER R			2
14	5100023636	PEDAL BOARD		for RW	1
	5100023637	PEDAL BOARD		for SB, PE	1
15	22245308	PEDAL BOARD FELT	224-308		3
16	5100013563	PEDAL UNIT	W/O ADJUST BOLT		1

Plain View (Stand, Pedal) (1)

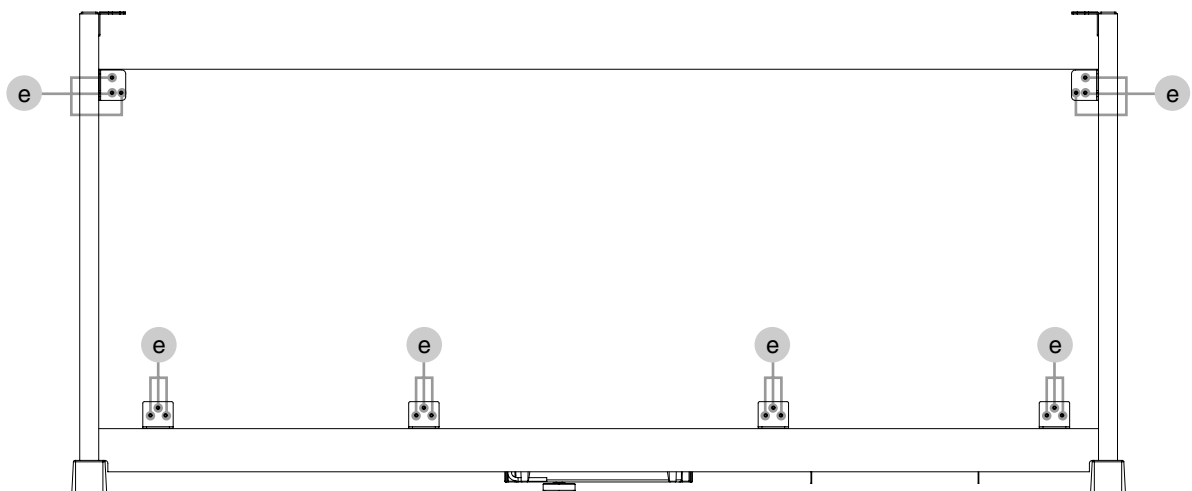
View I1



View I2



View I3



Plain View (Stand, Pedal) (1) Parts List

View I1

No.	Part Code	Part Name	Description	Q'ty
o	40019601	SCREW 4X35	FLAT HEAD TAPPING A1 FE BZC	10
q	40679101	SCREW M5X20	TRUSS MACHINE FE BZC	4

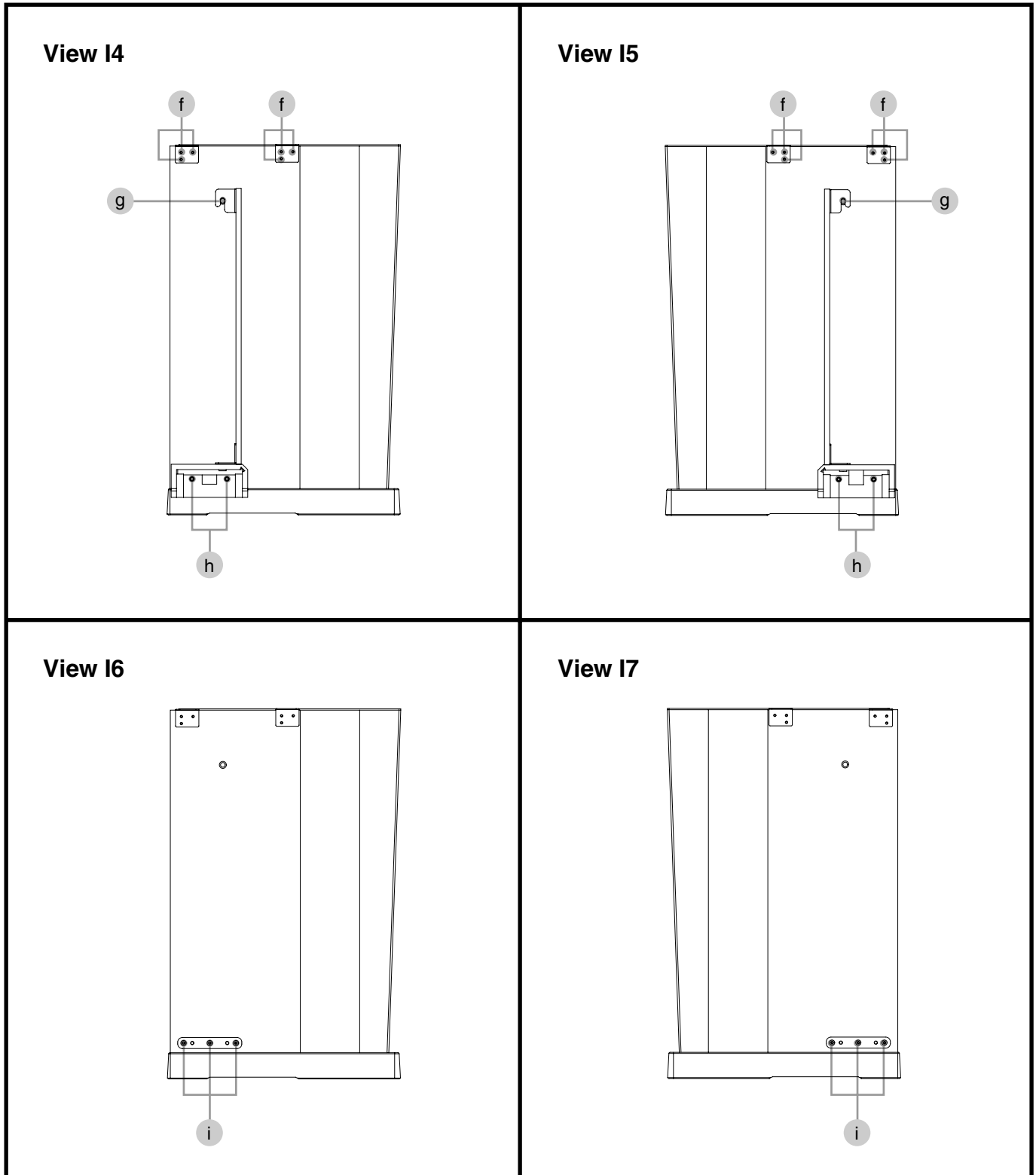
View I2

No.	Part Code	Part Name	Description	Q'ty
k	40017634	SCREW 4X40	TRUSS TAPPING A FE BZC	12
l	40782023	SCREW M4X40	PAN MACHINE W/SW ZC	2

View I3

No.	Part Code	Part Name	Description	Q'ty
e	40010645	SCREW 4X8	TRUSS TAPPING A FE BZC	18

Plain View (Stand, Pedal) (2)



View I4, I5

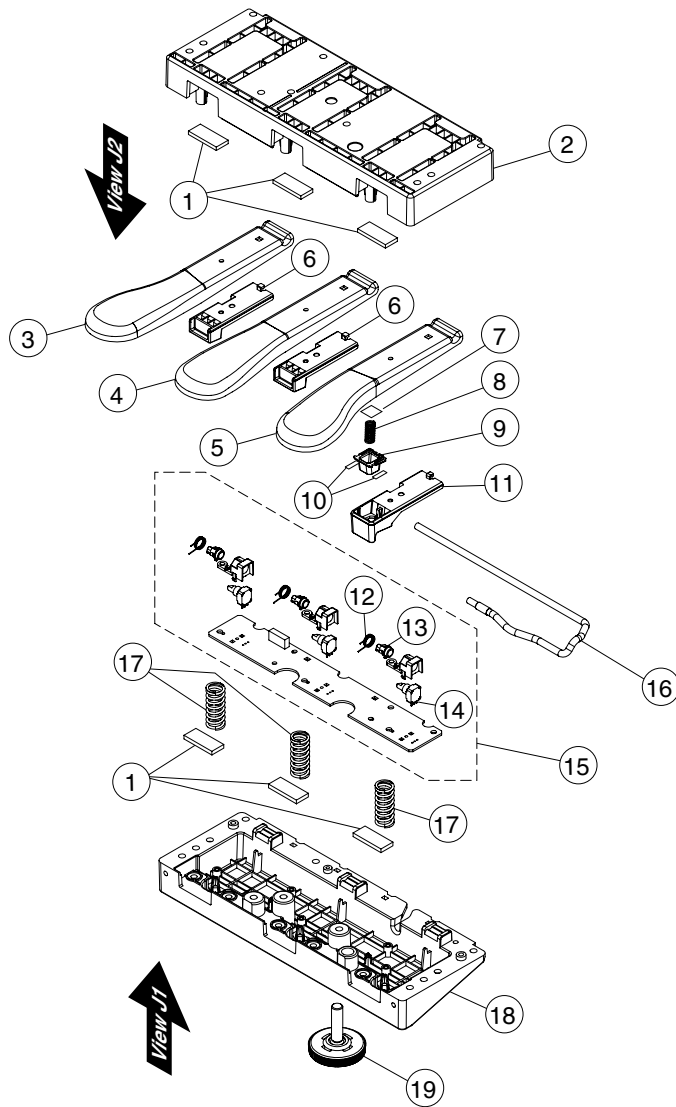
No.	Part Code	Part Name	Description	Q'ty
f	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	12
g	40784167	SCREW M5X20	PAN MACHINE W/SW FE BZC	2
h	40782501	SCREW M5X40	ORIGINAL TRUSS MACHINE FE BZC	4

View H6, H7

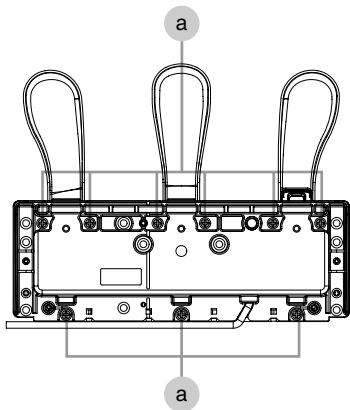
No.	Part Code	Part Name	Description	Q'ty
i	40017678	SCREW 4X20	FLAT TAPPING A FE BZC	6

Exploded View (Stand, Pedal) (Fig.J)

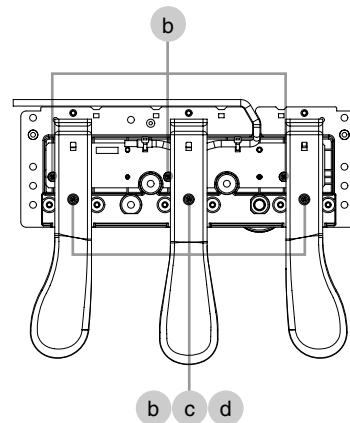
Fig. J



View J1



View J2



Exploded View (Stand, Pedal) (Fig.J) Parts List

Fig.J

No.	Part Code	Part Name	Description	Q'ty
	5100013563	PEDAL UNIT	W/O ADJUST BOLT	1
		<i>* This unit includes the following parts.</i>		
1	*****	FELT		6
2	*****	UPPER CHASSIS		1
3	*****	PEDAL LEFT		1
4	*****	PEDAL CENTER		1
5	*****	PEDAL RIGHT		1
6	*****	ACTUATOR		2
7	*****	CUSHION		1
8	*****	COILED SPRING		1
9	*****	STOPPER		1
10	*****	STOPPER CUSHION		2
11	*****	ACTUATOR		1
15	*****	PEDAL BOARD ASSY		1
		<i>* This unit includes the following parts.</i>		
12	*****	TORSION SPRING		3
13	*****	VR LEVER		3
14	*****	ROTARY POTENTIOMETER	RK09Y11L0003	3
16	*****	ANGLE-DIN PEDAL CABLE		1
17	*****	COILED SPRING		3
18	*****	BOTTOM CHASSIS		1
19	5100007426	ADJUST BOLT		1

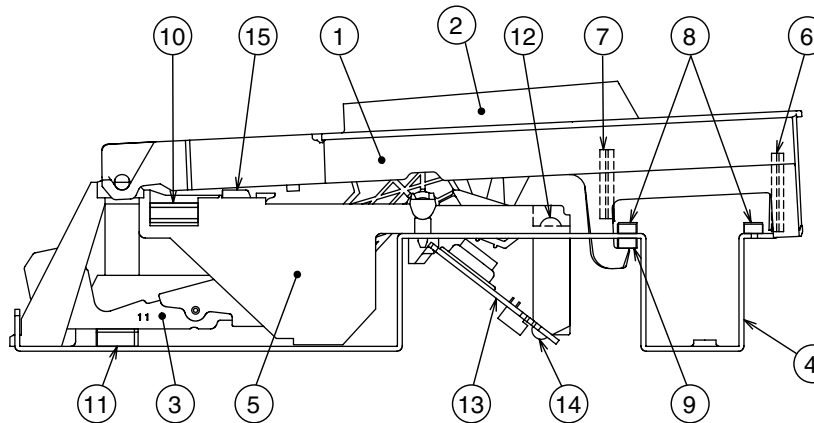
View J1

No.	Part Code	Part Name	Description	Q'ty
a	40012501	SCREW 4X12	BINDING TAPTITE P FE BZC	9

View J2

No.	Part Code	Part Name	Description	Q'ty
b	40012256	SCREW 3X10	BINDING TAPTITE B FE ZC	6
c	40011801	SPRING WASHER M3	ZC	3
d	40127023	WASHER M3X8X0.5	FEBC	3

Keyboard Parts List (PHA3-D)



No.	Part Code	Part Name	Description	Q'ty
	5100021718	KEYBOARD ASSY	PHA3-D	
1	5100015632	N-KEY A	PHA3-D	7
	5100015633	N-KEY B	PHA3-D	8
	5100015634	N-KEY C	PHA3-D	7
	5100015635	N-KEY D	PHA3-D	7
	5100015641	N-KEY E	PHA3-D	7
	5100015642	N-KEY F	PHA3-D	7
	5100015643	N-KEY G	PHA3-D	7
	5100015644	N-KEY A-DASH	PHA3-D	1
	5100015645	N-KEY C-DASH	PHA3-D	1
2	04450812	SHARP KEY	PHA2	36
3	73561001	HAMMER-1	PHA2	24
	73561012	HAMMER-2	PHA2	24
	73561023	HAMMER-3	PHA2	24
	73561034	HAMMER-4	PHA2	16
4	*****	PA-5 CHASSIS 88P		1
5	02895767	SUB CHASSIS	PA-5 12P	7
	02895778	SUB CHASSIS	PA-5 4P	1
6	01894923	GUIDE BUSHING C		52
7	00019912	GUIDE BUSHING S-KEY	PA-4	36
8	5100012563	KEY CUSHION A		2
9	02904401	KEY CUSHION B		1
10	02016945	HAMMER CUSHION B	PA-5	1
11	02904390	HAMMER CUSHION D	PA-5	1
12	40012256	SCREW 3X10	BINDING TAPTITE B FE ZC	37
13	5100014683	PWB ASSY SET	PHA3-B	1
14	40011267	SCREW 3X6	BINDING TAPTITE P FE ZC	22
15	04347623	JACK 12P	PHA2	8

* The cables (#5100015298, #5100018836, #04890701) aren't included in this unit (#5100021718).

* For disassembly and maintenance of keyboard, refer to the Service Notes for PHA3.

Disassembly Procedure

NOTE

- When disassembling the unit, a table or stand for temporary placement of the unit may become necessary. To ensure safe operations, we recommend providing a table or stand assured of supporting 45 kg or more, and space measuring at least 3.0 m wide.
- To prevent accidents, when performing disassembly of the unit, be sure to first switch off the power to the unit and unplug the power cord.

* To remove the main components, disassemble in the sequence described below. After completing servicing, take care to ensure that the wiring is restored to its original state and placement. Tightly re-secure all removed hardware fixtures.

Removing the Top Board

1. Remove the 4 screws from the back.



2. Slide the Top Board toward the front, **detach the connector on the Side Panel L side of the tweeter cable**, then lift the Top Board.

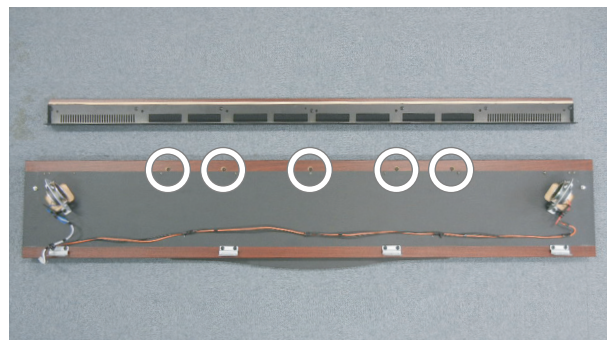


Removing the Score Stopper

1. Remove the Top Board (as described above).
2. Remove the 11 screws from the Upper Blind and detach it from the Top Board (**Plain View (Fig.B) (1)** (p. 20), **G-1** in **View B3**).



3. Remove the 5 screws securing the Top Board in place from underneath (**Plain View (Fig.B) (2)** (p. 21), **f** in **View B4**).



4. Remove the 2 screws securing the Music Stopper in place from below and detach the Score Stopper.



Removing the Lid Board

1. Remove the Top Board (as described above).
2. Remove the 1 screw each on the left and right securing the Lid Rail Stopper in place, and detach the Lid Rail Stopper.



3. Line up with the notch in the gear and lift up the Lid Board.



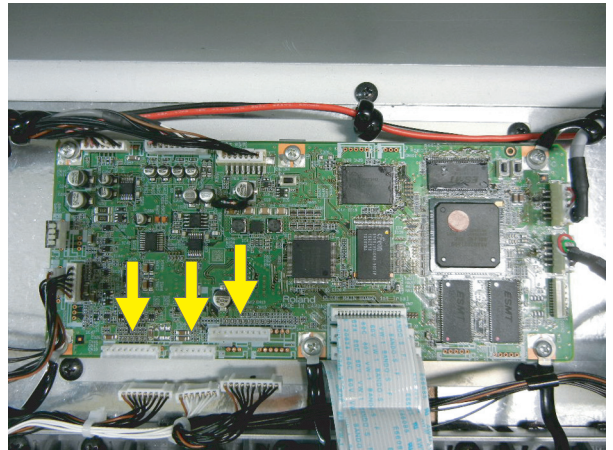
4. Angle the Lid Board diagonally front to back and detach the guide from the rail.

* Be careful not to scratch the Side Panel at this time.

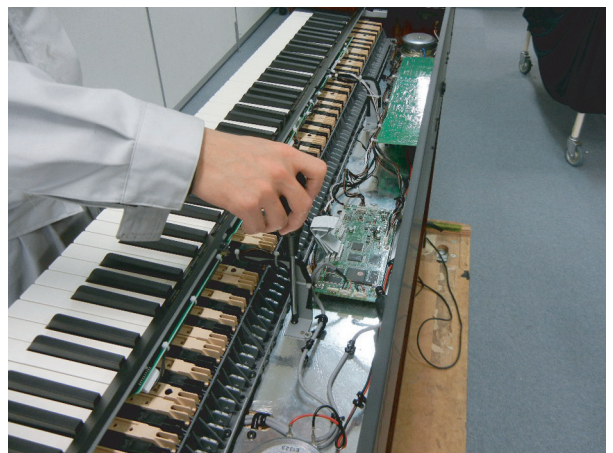


Removing the Front Panel

1. Remove the Top Board (as described above).
2. Remove the Lid Board (as described above).
3. Detach the wiring from the Main Board (3 locations).



4. Remove the 2 screws each on the left and right securing the Center Holder.



5. Remove the 1 screw each on the left and right securing Side Angles L and R in place.



6. Detach the Front Panel.



Removing the End Block R

1. Remove the Top Board (as described above).
2. Remove the Lid Board (as described above).
3. Remove the Front Panel (as described above).
4. Remove the 1 screw securing the holder for the Side Panel in place.



5. Remove the 1 screw securing the unit in place from below (**Plain View (Fig.A) (1)** (p. 14), H-1 in View A2).



Removing the End Block L

The power switch is located on End Block L. After step 5 of detaching End Block R, follow the procedure described below to detach it.

6. Turn End Block L upside down, remove the 2 screws securing the power switch in place, and remove End Block L.



Removing the Lower Blind

1. Remove the Top Board (as described above).
2. Remove the Lid Board (as described above).
3. Remove the Front Panel (as described above).
4. Remove the left and right End Blocks (as described above).
5. Remove the 8 screws securing the Lower Blind in place from below (**Plain View (Fig.A) (1)** (p. 14), **H-2** in **View A2**).



6. Remove the 1 screw each on the left and right securing the Lower Blind in place from above (**Plain View (Fig.A) (2)** (p. 16), **g** in **View A5**).



7. Detach the Lower Blind.



* The Lower Blind may fall when the screws are removed. To prevent it from falling, support the part as you carry out this operation.

Removing the Keyboard

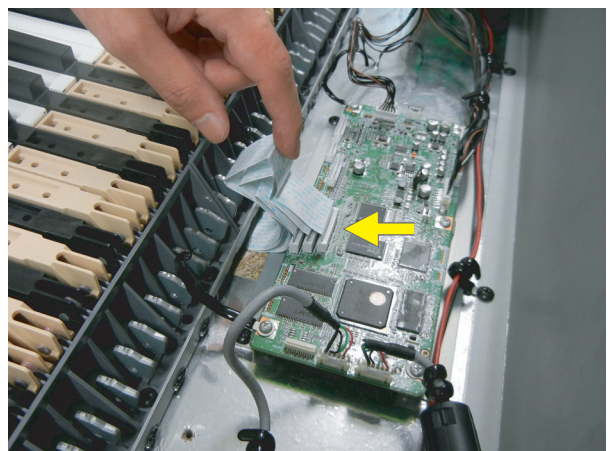
1. Remove the Top Board (as described above).
2. Remove the Lid Board (as described above).
3. Remove the Front Panel (as described above).
4. Remove the left and right End Blocks (as described above).
5. Remove the Lower Blind.
6. Remove the 8 screws securing the keyboard in place from below (**Plain View (Fig.A) (1)** (p. 14), **k** in **View A2**).



7. Remove the 17 screws securing the keyboard in place from above (**Plain View (Fig.A) (2)** (p. 16), **n** and **o** in **View A4**).



8. From the Main Board, remove the flat cables for keyboard (3 locations).



9. Remove the keyboard.

Removing the Side Panel

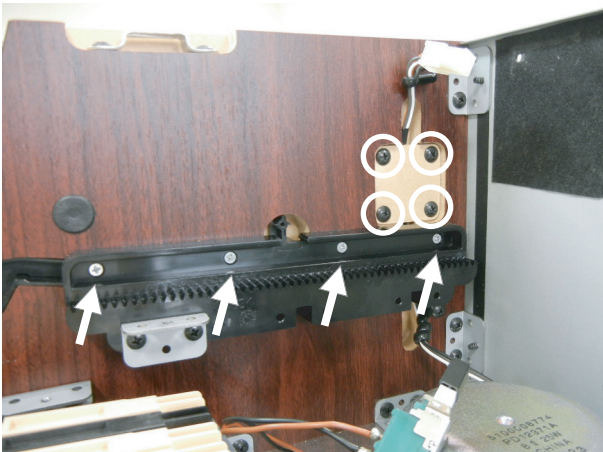
1. Disconnect the pedal cable.
2. Remove the Top Board (as described above).
3. Remove the Lid Board (as described above).
4. Remove the Front Panel (as described above).
5. Remove the End Block (as described above).
6. Remove the screws (one each on the left and right) securing the unit and stand in place (**Exploded View (All)** (p. 10), **q** in **View 1**), and detach the unit from the stand.



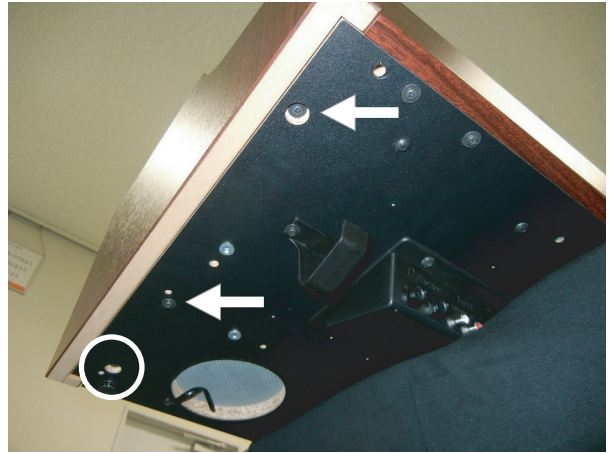
* When detaching or installing the unit, take care not to damage the Front Jack Case or USB Case on the underside.

The cable connected to the tweeter is on Side Panel L.

When removing Side Panel L, before proceeding with the procedure described below, remove the Lid Rail and Plate (4 screws each), and detach the cable.



7. Remove the 3 screws securing the unit in place from below (**Plain View (Fig.A) (1)** (p. 14), **H-3** in **View A2**).



8. Remove the 2 screws securing the unit in place from the back.



* The Side Panel may fall when the screws are removed. To prevent it from falling, support the part as you carry out this operation.

Removing the Front Jack Board

* Replacing the wiring connected to the Front Jack Board requires removal of the keyboard, but when replacing only the Front Jack Board, removing the keyboard is not necessary.

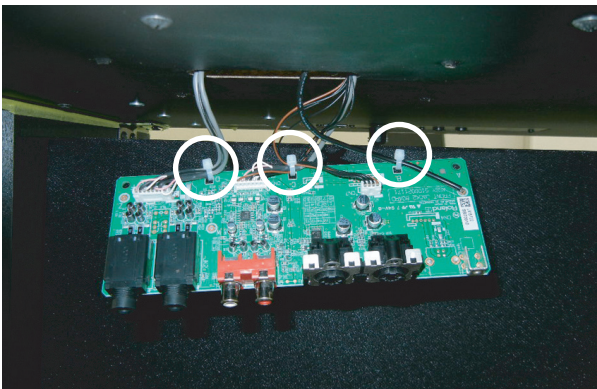
1. Remove the 4 screws securing the Front Jack Case.



2. Remove the 3 screws and the 2 Jack Nut 2s securing the Front Jack Board.



3. Cut the cable ties (3 locations) and detach the connectors (3 locations), then **remove the solder from the ground wire.**



Removing the USB-HF Board

Replacing the USB-HF Board requires removal of the keyboard.

After replacement, when attaching the USB-HF Board, attach the ferrite core shown in the photo so that it is recessed in the hole in the Bottom Board.

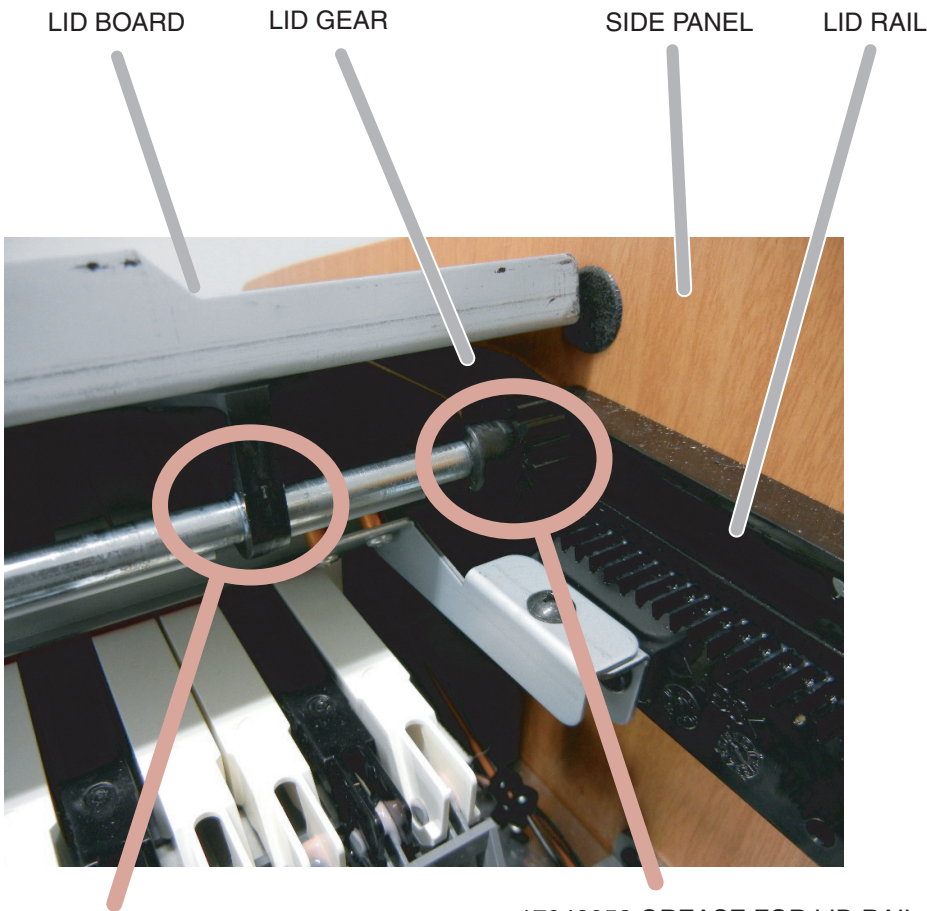


Important Notes When Assembling

When Attaching the Top Board

When attaching the Top Board, first secure it in place using the screws on the left and right. Next, lift the center section of the Top Board to align the screw locations, then fasten the remaining screws.

Greasing Point



17049545 GREASE FOR KEY
FLOIL G-424F WHITE 100CC
Apply the grease to right and left side,
and move LID for spreading grease
equally around the LID GEAR.

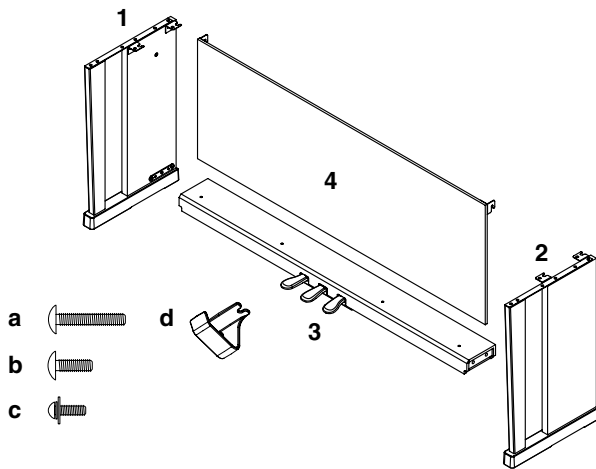
17048053 GREASE FOR LID RAIL
FLOIL G-953 100CC (PINK)
The grease must be applies to the place
which is in contact with LID GEAR uniformly.

Assembling the HP505

- * To move the piano, lift it carefully—all the while keeping it level.
- * Be careful not to pinch your hands or drop this unit on your foot during assembly or transport.
- * Make sure to enlist the help of at least one other person when assembling this unit and moving it to a different location.
- * The screwdriver needed to perform the assembly is not supplied. You'll need to have ready a flathead screwdriver that matches the size of the screws.
- * All screws should be tightened provisionally first, then tightened later. To tighten a screw provisionally, screw it in until about half of its length is no longer visible. Do not use an electric screwdriver when tightly securing the screws. Otherwise, you risk stripping the threads.
- * After firmly tightening all the screws, place the unit at a location that is level and sure to remain stable. The unit must never be placed on top of deep-pile carpet. Otherwise, you risk causing damage to the pedals due to instability and unnecessary movement.
- * The surface of the piano unit and the stand are very delicate; handle with care to avoid scratching them.
- * Do not place the piano unit directly on the floor. Doing so will damage the bottom panel case and the connectors and holders on the bottom of the piano.

Check the Parts

Before you begin assembling the stand, check that all the parts were supplied.



- 1: Side Board (Left) (#*****)
- 2: Side Board (Right) (#*****)
- 3: Pedal Board (#*****)
- 4: Rear Board (#5100023629, #5100008263)

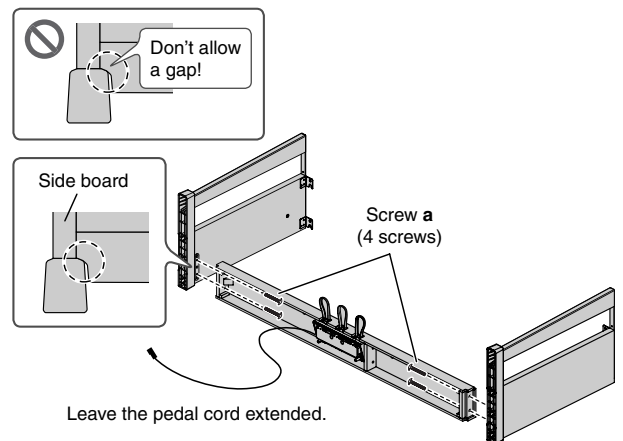
- a: Screw M5 x 40 (#40782501) x 4
- b: Screw M5 x 20 (#40679101) x 6
- c: Screw M4 x 16 (#40126267) x 2
- d: Headpiece hook (#5100020982)

* You will also need to have Phillips screwdrivers (size: #2).

1. As shown in the illustration, place the left and right side boards on the pedal board so that the metal brackets are on the inside, and fasten them provisionally using screws **a** (M5 x 40 mm).
2. Firmly tighten the screws **a** (4 locations) that you tightened provisionally in step 1.

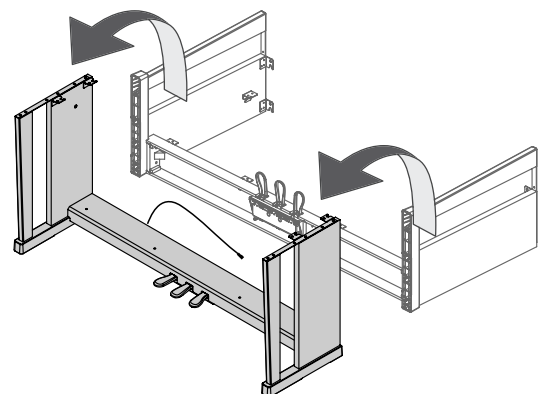
* When attaching the pedal board, do not allow any gap to remain between the side board and pedal board when the pieces are assembled.

As seen from the bottom



3. With the help of another person, raise the left and right side boards to an upright position.

* Take care that the pedal boards are not twisted.

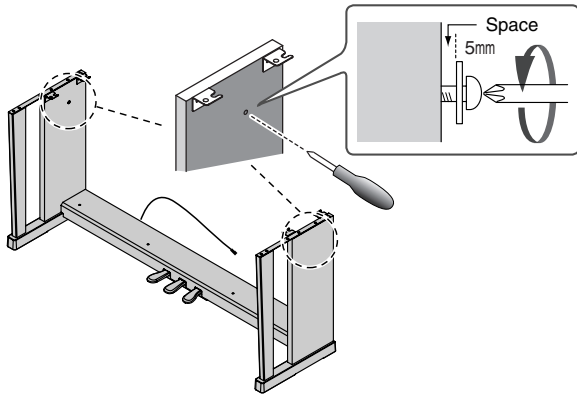


Assembly Procedure

Stand Assembly

- At first, assemble the entire stand in a temporary fashion, without really tightening the screws. Then, after checking the overall alignment of the boards (and gently shifting certain parts where necessary), go around and tightly fasten each of the screws.
- If necessary, spread out a blanket or similar material to prevent the stand or floor from being scratched during assembly.
- Be careful not to pinch the pedal cord during assembly.

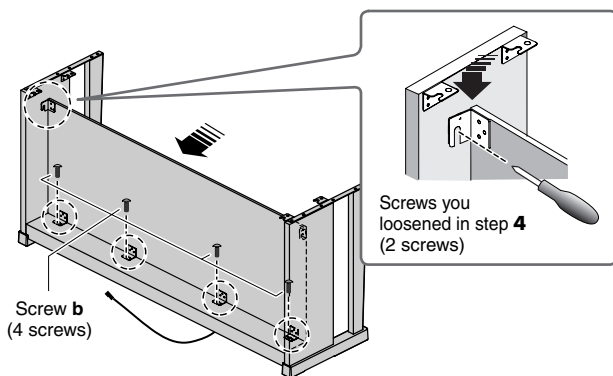
- Loosen the screws attached to the left and right side boards approximately three turns, so that they protrude about 5 mm, as shown in the illustration.



- Hook the metal brackets of the rear board over the screws you loosened, as shown in the illustration.
- Use 4 screws **b** (M5 x 20 mm) to provisionally fasten the pedal board.
- Securely tighten the two side board screws and four pedal board screws.

* When attaching the rear board, before tightening the screws, adjust things as necessary at all the points where there are screws so as to assure that the rear board is aligned in parallel with the pedal board.

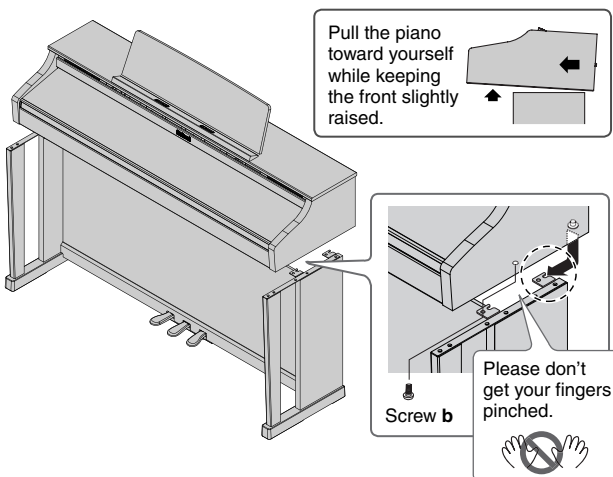
Rear view



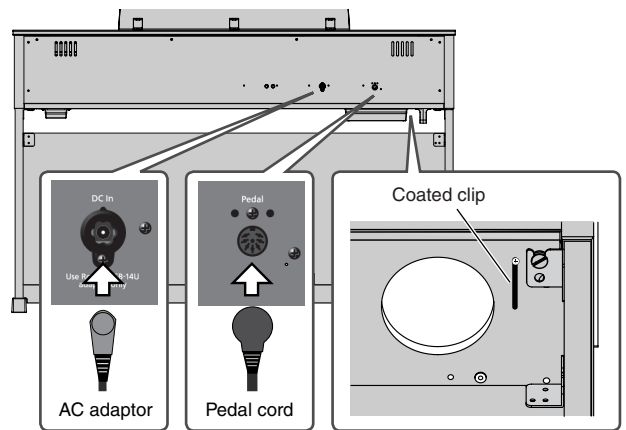
Install the Piano onto the Stand

- Align the screws on the bottom of the piano (one each at left and right) with the metal brackets on the side boards. Then, while lifting the front of the piano one or two centimeters, pull it toward yourself so that the screws engage the metal brackets.
- Fasten the piano to the stand with the screw **b** (M5 x 20 mm).

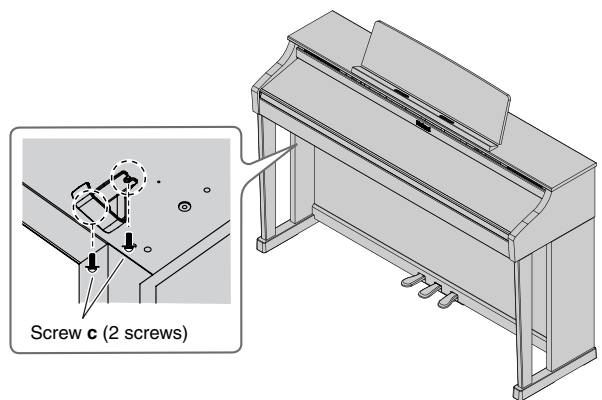
* When handling the piano, firmly grasp it. Be careful, so you do not get your fingers pinched.



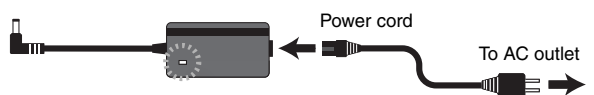
- Connect the AC adaptor to the DC In jack on the back of the piano, and connect the pedal cord to the Pedal connector. As needed, use the coated clip on the bottom of the piano to fasten the power cord and the pedal cord.



- Fasten the headphone hook using screws **c** (M4 x 16 mm).

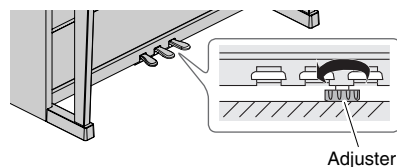


- Connect the supplied AC adaptor and power cord.



* Place the AC adaptor so the side with the indicator faces upwards and the side with textual information faces downwards. The indicator will light when you plug the AC adaptor into an AC outlet.

- Adjust the Adjuster. Turn the adjuster to lower it until the adjuster is in firm contact with the floor. In particular, when you've placed the piano on carpet, you must turn the adjuster until it is pressing firmly against the floor.

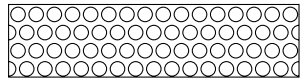


* The pedal may be damaged if there is a gap between the adjuster and the floor.

When moving the Piano

When you need to move the unit, you should first close the keyboard cover, disconnect the AC adaptor, and raise the adjusters of the stand. When moving the unit, at least two people should work together and lift the unit carefully, all the while keeping it level, and being very careful so as not to pinch your hands or drop the unit on your feet.

Painting and Coating Methods (HP505-PE)



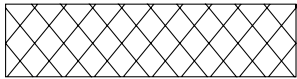
3. wax



buff



sander

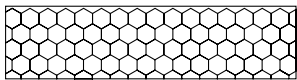


2. top coating (polyester enamel) 3 times coating

coating to use
• polyester enamel

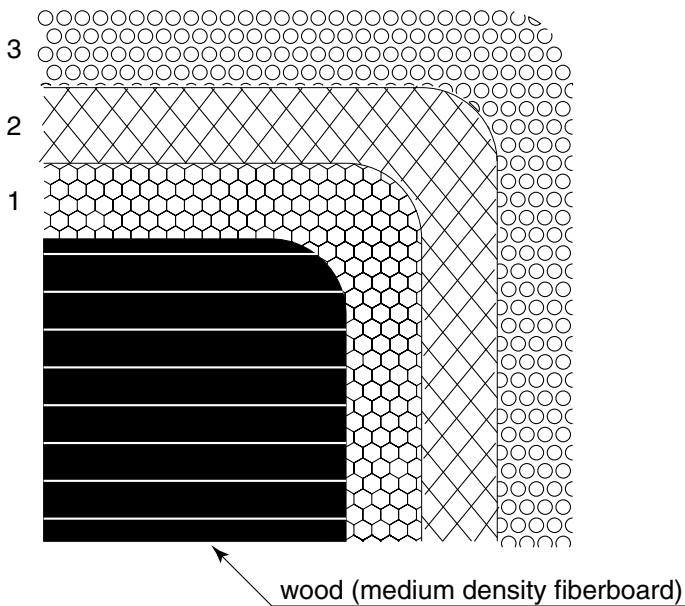


sander



1. under painting (polyester surfacer) 3 times painting

painting to use
• polyester surfacer



Parts List (HP505-RW/SB/PE)

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.

- Part supplied only as a component in a complete assembly
- Copyright does not permit the part to be supplied
- Part is sold commercially

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

CASING					
#	5100022832	TOP BOARD		for RW	1
#	5100022830	MUSIC REST		for RW	1
#	5100023621	UPPER BLIND		for RW	1
	04568223	LID BOARD		for RW	1
	5100009110	LID BLIND		for RW	1
#	5100028195	SIDE PANEL L	W/LID GUIDE L	for RW	1
#	5100028196	SIDE PANEL R	W/LID GUIDE R	for RW	1
	5100008013	END BLOCK L		for RW	1
	04349589	END BLOCK R		for RW	1
	04568245	LOWER BLIND		for RW	1
#	5100022831	TOP BOARD		for SB	1
#	5100022829	MUSIC REST		for SB	1
#	5100023622	UPPER BLIND		for SB	1
	04457056	LID BOARD		for SB	1
	5100007917	LID BLIND		for SB, PE	1
#	5100028197	SIDE PANEL L	W/LID GUIDE L	for SB	1
#	5100028198	SIDE PANEL R	W/LID GUIDE R	for SB	1
	5100008015	END BLOCK L		for SB, PE	1
	04457012	END BLOCK R		for SB, PE	1
	04456245	LOWER BLIND		for SB	1
#	5100023608	TOP BOARD		for PE	1
#	5100023606	MUSIC REST		for PE	1
#	5100023605	UPPER BLIND		for PE	1
	5100008344	LID BOARD		for PE	1
#	5100028199	SIDE PANEL L	W/LID GUIDE L	for PE	1
#	5100028200	SIDE PANEL R	W/LID GUIDE R	for PE	1
	5100007881	LOWER BLIND		for PE	1
#	5100022824	BOTTOM BOARD			1
#	5100022905	FRONT PANEL DOM		for Japan	1
#	5100022906	FRONT PANEL EXP		except for Japan	1
	5100019870	FRONT JACK CASE			1
#	5100022902	REAR PANEL			1
	5100022599	USB CASE			1
CHASSIS					
	04451989	ANGLE			14
#	5100028203	BLIND ANGLE	W/GRILLE CLOTH		1
	5100000378	BLIND ANGLE			1
	00900534	BRACKET			2
	03909778	CENTER HOLDER			2
	04452023	END BLOCK HOLDER			2
	5100009208	LID ANGLE			1
	03909867	MAIN BOARD HOLDER			2
	22325182	MR HINGE ASSY	232-182		3
#	5100023024	PLATE			1
	04453634	SIDE ANGLE L			1
	04453645	SIDE ANGLE R			1
	04452090	TOP BOARD HOLDER			4
	04452445	TW HOLDER			2
KNOB, BUTTON					
	22485192	SLIDE KNOB	BLK/LCG		1
	12499175	BUTTON	JSPUE0011A		1
	03126878	D S-KEYTOP	SX1H-B BLK		2
	5100008099	ZL S-KEYTOP	MD2H BLK		8
	5100008100	ZL S-KEYTOP	MD1H BLK		8
SWITCH					
	5100010764	PUSH SWITCH	SY16-5-4(U99S2)/T		1
	02781634	TACT SWITCH	SKRGAED010		26

JACK, EXT TERMINAL				
	13449275	6.5MM JACK	YKB21-5074	2
	13449252	6.5MM JACK	YKB21-5006 (STEREO W/SW)	2
#	5100024850	DC JACK	HEC3800-01-010	1
	00340223	DIN SOCKET	YKF51-5031	1
	13429676	MIDI CONNECTOR	YKF51-5048N(TWIN)	1
	03784323	RCA CONNECTOR	YKC21-5450	1
	04459190	USB CONNECTOR A TYPE FEMALE	YKF45-0033N	1
	5100009531	USB CONNECTOR B TYPE FEMALE	YKF45-0044N	1
DISPLAY UNIT				
#	5100023169	LCD	C-55612GNFU-LW-ADN	1
SPEAKER, BUZZER				
	5100008774	SPEAKER	PD12371A04	2
	02895345	TWEETER	E52AP45-62F	2
KEYBOARD ASSY				
	5100021718	KEYBOARD ASSY	PHA3-D	1
PWB ASSY				
#	5100023061	MAIN BOARD ASSY		1
#	5100022077	MULTI AMP-D BOARD		1
	5100021171	FRONT JACK BOARD ASSY		1
#	5100022772	PANEL SHEET		1
	* This unit includes the following parts.			
	*****	PANEL L BOARD		1
	*****	PANEL R BOARD		1
	*****	D-VOLULME BOARD		1
	*****	DIN-PEDAL BOARD		1
	5100021745	USB-HF BOARD ASSY		1
DIODE				
	04902023	LED (RED/GREEN)	SPI-325MUWT31	1
	03230656	LED (RED)	SLR-343VCT32	19
	5100000443	LED	SLI-343MGT32	1
POTENTIOMETER				
	5100015571	SLIDE POTENTIOMETER	RS30111FA002	1
WIRING, CABLE				
	5100021502	WIRING	1061#28 4X950-PHR-PHR-F	1
	5100021763	WIRING USB-TP	5X650-PHR-PHR	1
#	5100023520	WIRING	1061#28 6X700-51065-51065-F	1
	03120145	WIRING	7X450-P2.0-PHR-PHR-F	1
	5100021764	WIRING	1061#28 9X650-PHR-PHR-F	1
	02343890	WIRING	10X500-P2.0-PHR-PHR-F	1
	02344023	WIRING	12X200-P2.0-PHR-PHR-F	1
	5100015298	WIRING	20624 FWR-P=1.25-K1-18-900	1
	5100018836	WIRING	20624 FWR-P=1.25-K1-20-550	1
	04890701	WIRING	FWR-P=1.25-K-22-600	1
#	5100023867	WIRING	W01 (PW SW)	1
#	5100023523	WIRING	W02 (PHONES)	1
#	5100023583	WIRING	W03 (SP OUT A)	1
#	5100023584	WIRING	W04 (SP OUT B)	1
#	5100023519	WIRING	W05 (MAIN BUS)	1
#	5100023510	WIRING	W12 (RCA IN)	1
	5100021762	WIRING	W14 (USB FUNC)	1
#	5100023521	WIRING	W15 (VOL)	1
#	5100023585	WIRING	W21 (TW)	1
	5100011700	WIRING	W22 (LUG-DIP)	1
SCREWS				
	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC	8
	40012967	SCREW M3X10	PAN MACHINE W/SW+PW BZC	2
	40010134	SCREW M4X20	TRUSS MACHINE BZC	8
	40012923	SCREW M4X25	PAN MACHINE W/SW+PW ZC	2
	40011056	SCREW 3X6	BINDING TAPTITE B ZC	28
	40011301	SCREW 3X6	BINDING TAPTITE P FE BZC	2
	40011101	SCREW 3X8	BINDING TAPTITE B BZC	10
	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	5
	40011323	SCREW 3X10	BINDING TAPTITE P BZC	2
	40010789	SCREW 3X10	BINDING TAPPING A FE BZC	6
	40563023	SCREW 3X16	FLAT TAPPING A ZC	8

SCREWS						
	40010790	SCREW 3X16	BINDING TAPPING A BZC	6		
	40239401	SCREW 3.5X8	BINDING TAPPING A BZC	25		
	40127545	SCREW 4X10	TRUSS TAPPING A FE BZC	9		
	40010656	SCREW 4X12	TRUSS TAPPING A FE BZC	4		
	40127267	SCREW 4X14	TRUSS TAPTITE S FE BZC	2		
	40012145	SCREW 4X14	TRUSS TAPPING A FE BZC	85		
	40346201	SCREW 4X20	TRUSS TAPPING TWIN BZC	15		
	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC	17		
	40128512	SCREW 4X25X20	PAN WASHER HEAD TAPTITE B BZC	17		
	40010645	SCREW 4X8	TRUSS TAPPING A FE BZC	7		
	40238501	SCREW 4X8	BINDING TAPTITE P FE BZC	8		
	40011123	SCREW 4X8	BINDING TAPTITE B FE BZC	15		
	01906367	SHOULDER SCREW	1065	2		
	22285342	CONNECTING PIN	228-342	2		
	22150756	JACK NUT 2	PLASTIC/BLK	2		
	40569512	WASHER T1X3.2X6		2		
MISCELLANEOUS						
	5100008121	MUSIC STOPPER	for RW	1		
	5100008119	MUSIC STOPPER	for SB	1		
	5100008120	MUSIC STOPPER	for PE	1		
	00890990	ROLAND BADGE	12 GOLD	1		
	5100010042	HINGE CUSHION B	only for RW, SB	6		
	5100010045	STOPPER FELT	only for PE	1		
	5100010041	LOWER BLIND CUSHION	only for PE	2		
	02901523	SIDE PANEL CUSHION	only for PE	2		
	5100008101	SLIDE KNOB ESCUTCHEON		1		
	5100009656	DC PLUG SUPPORTER		1		
	5100008006	SPEAKER COVER		2		
#	5100022909	DISPLAY COVER		1		
#	5100024286	DUST COVER		2		
#	5100024651	FELT		2		
	03012323	KEY FELT		1		
	5100020859	LID BLIND CUSHION		2		
	03670423	FERRITE CORE	ESD-SR-160(C0600004R0)	2		
	5100005456	FERRITE CORE	ESD-SR-100(292-08033-01-00)	1		
	40455345	FREE CAP 8 BLK		2		
	12199584	GROUNDING TERMINAL	M1698	7		
	03452078	GUIDE PIN		2		
	5100008952	HINGE CUSHION A		3		
	04349578	LID GEAR	811-1668-1	2		
	03569767	LID GUIDE BUSH		2		
	04349590	LID RAIL		2		
	04349567	LID RAIL STOPPER		2		
	5100020971	LID SHAFT		1		
	5100020975	LID SHAFT STAY BUSH		4		
#	5100024778	SCORE STOPPER ASSY		2		
	40017378	COATING CLIP	CS-7	18		
	40016523	INSULOK TIE 100M/M T-18R	(1000 PCS ORDERING PER)	31		
	40018790	VINYL TIE	120M/M BLK	-		
	40122612	ACETATE TAPE	NITTO #5 BLACK W10MM 30M 20P	-		
	40122812	ACETATE TAPE	NITTO #5 BLACK W15MM 30M	-		
	40232123	ACETATE TAPE	NITTO #5 BLACK W20MM 30M 20P	-		
	40238734	ACETATE TAPE	NITTO #5 BLACK W50MM 30M	-		
	40122534	DOUBLE-FACED TAPE	#500 W3MM 20M 136P	-		
	40122490	DOUBLE-FACED TAPE	#500 W5MM 20M 40P	-		
	40345056	DOUBLE-FACED TAPE	#500 W10MM 20M 20P(CM)	-		
	40122901	DOUBLE-FACED TAPE	#501F W10MM 20M 20P (CM)	-		
	40122923	DOUBLE-FACED TAPE	#501F W20MM 20M	-		
	40567623	DOUBLE-FACED TAPE	#575 W15MM 30M	-		
	40122556	DOUBLE-FACED TAPE	#575X W30MM 30M 10P 30CM	-		
	17041858	GREASE FOR KEY	MOLYKOTE G-1039 (50 GRAM)	-		
	17049545	GREASE FOR KEY	FLOIL G-424F WHITE 100CC	-		
	17049543	GREASE FOR KEY	FLOIL G-336A WHITE (93 GRAM)	-		
	17041428	GREASE FOR KEY	FLOIL CR-125L WHITE 100CC	-		
	17048053	GREASE FOR LID RAIL	FLOIL G-953 100CC (PINK)	-		
ACCESSORIES (Standard)						
	△	5100028861	AC ADAPTOR	PSB-14U	1	
	△	03017878	AC CORD SET PSE	100V ARK-VFF 2.5M	for 100V	1
	△	02562456	AC CORD SET	120V 1.0M (NON POLAR)	for 117VU, 117VU/CS	1
	△	5100012293	AC CORD SET	117VBL 1.0M FOR PSB	for 117VBL	1
	△	01903356	AC CORD SET	230V 1.0M FOR PSB	for 230VEU	1
	△	5100018086	AC CORD SET	230VE 1.0M FOR EPS	for 230VE	1
	△	03785590	AC CORD SET	SC-078-NA05 240VA	for 240VA	1
#		5100023838	OWNER'S MANUAL	JAPANESE		1
#		5100023840	OWNER'S MANUAL	ENGLISH		1
		02892389	SONGBOOK (NOT FOR SALE)	60 CLASSICAL PIANO MASTERPIEC		1

Parts List (KSC-66-RW/SB/PE)

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.

- Part supplied only as a component in a complete assembly
- Copyright does not permit the part to be supplied
- Part is sold commercially

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

CASING					
#	5100023625	SIDE BOARD L		for RW	1
#	5100023626	SIDE BOARD R		for RW	1
#	5100022848	LEG		for RW	2
	5100018610	TOE BLOCK	W HOLE(411-1796-1)	for RW	2
#	5100023629	REAR BOARD		for RW	1
#	5100023636	PEDAL BOARD		for RW	1
#	5100023624	SIDE BOARD L		for SB	1
#	5100023627	SIDE BOARD R		for SB	1
#	5100022988	LEG		for SB	2
	5100018613	TOE BLOCK	W HOLE	for SB	2
	5100008263	REAR BOARD		for SB, PE	1
#	5100023637	PEDAL BOARD		for SB, PE	1
#	5100023632	SIDE BOARD L		for PE	1
#	5100023628	SIDE BOARD R		for PE	1
#	5100023623	LEG		for PE	2
	5100018615	TOE BLOCK	W HOLE	for PE	2
CHASSIS					
	5100009206	JOINT HOLDER L			2
	5100009207	JOINT HOLDER R			2
	04453145	JOINT PLATE			2
	04453023	PEDAL BOARD HOLDER			2
	04906223	REAR BOARD HOLDER L			1
	04906234	REAR BOARD HOLDER R			1
	04453012	STAND HOLDER			4
SCREWS					
	40126267	SCREW M4X16	PAN MACHINE W/SW+PW FE BZC		2
	40782023	SCREW M4X40	PAN MACHINE W/SW ZC		2
	40679101	SCREW M5X20	TRUSS MACHINE FE BZC		6
	40784167	SCREW M5X20	PAN MACHINE W/SW FE BZC		2
	40782501	SCREW M5X40	ORIGINAL TRUSS MACHINE FE BZC		4
	40012256	SCREW 3X10	BINDING TAPTITE B FE ZC		6
	40010645	SCREW 4X8	TRUSS TAPPING A FE BZC		18
	40012501	SCREW 4X12	BINDING TAPTITE P FE BZC		9
	40010678	SCREW 4X20	TRUSS TAPPING A FE BZC		12
	40017678	SCREW 4X20	FLAT TAPPING A FE BZC		6
	40019601	SCREW 4X35	FLAT HEAD TAPPING A1 FE BZC		10
	40017634	SCREW 4X40	TRUSS TAPPING A FE BZC		14
	40011801	SPRING WASHER M3	ZC		3
	40127023	WASHER M3X8X0.5	FEBC		3
	5100007426	ADJUST BOLT	211-1453-1		1
MISCELLANEOUS					
	5100013563	PEDAL UNIT	W/O ADJUST BOLT		1
	22245308	PEDAL BOARD FELT	224-308		3
	01128578	HOLDER CUSHION			2
	5100020982	PHONES HOOK			1
	40018790	VINYL TIE	120M/M BLK		-
	40016523	INSULOK TIE 100M/M T-18R	(1000 PCS ORDERING PER)		2

Verifying the Version

Verification is possible in the Test Mode. For more information, refer to **Test Mode** (p. 55).

Data Backup and Restore Operations

Items Required

- USB memory devices x 2 (recommended: M-UF2G)
- * Provide one each for backing up setting items and for backing up song data.

Formatting a USB Memory Device

1. Connect the USB memory device to the unit's USB memory connector (on the right side of the unit's bottom panel).
2. Hold down the [Key Touch] button and press the [Transpose] button. The unit enters the Function mode.
3. Press the [Slow] or [Fast] button to choose **Format**.
4. Press the [Song] button.
5. Press the [+] button to choose **USB**.
6. Press the [Song] button. A confirmation message is displayed.
 - * Pressing the [Slow] button returns the unit to the original screen without formatting.
7. Press the [Fast] button. Formatting of the USB memory device starts.
 - * Never switch off the power or detach the USB memory device while the message **Working** is displayed on the screen.
 - * If the message **Error** appears on the screen, refer to "Error Messages" (Owner's Manual, p. 53).
8. Press the [Key Touch] or [Transpose] button. The unit exits the Function mode.

Backing Up Setting Items

Setting items stored in memory in the unit using the Memory Backup feature (Owner's Manual, p. 41) and setting items that are saved automatically (**Memos** on p. 45 through 50 of the Owner's Manual) are returned to their factory-default values by executing a factory reset, updating the system, or executing the Test Mode. Before you start, follow the procedure described below to back these up on a USB memory device.

1. Follow **Formatting a USB Memory Device** (p. 53) to format the USB memory device.
2. While leaving the unit's power switched off, connect the formatted USB memory device to the unit's USB memory connector (on the right side of the unit's bottom panel).
3. Hold down the [Grand] button and the [Other] button at the same time and switch on the power. When the unit starts up, the message **Ext Bkup** appears, and the [Play/Stop] button flashes.
4. Press the [Play/Stop] button. The message **Backup?** appears.

5. Press the [Song] button. The backup operation starts.
 - * To cancel the backup, switch off the power without pressing the [Song] button.
 - * Never switch off the power or detach the USB memory device while the message **Working** is displayed on the screen.

When the message **Ext Bkup DONE** appears, the backup has finished.
6. Switch off the power.

Backing Up Song Data

Song data saved in internal memory (**User**) is lost when a factory reset is executed in the Test Mode. Before you start, follow the procedure described below to back this up on a USB memory device.

1. Follow **Formatting a USB Memory Device** (p. 53) to format the USB memory device.
2. Connect the formatted USB memory device to the unit's USB memory connector (on the right side of the unit's bottom panel).
3. Hold down the [Key Touch] button and press the [Transpose] button. The unit enters the Function mode.
4. Press the [Slow] or [Fast] button to choose **CopySong**.
5. Press the [Song] button. The Copy Song screen appears.
6. Press the [-] button to choose **User -> USB**.
7. Press the [Fast] button. The copy source select screen appears.
8. Press the [-] button to choose **All**.
9. Press the [Fast] button. The copy destination select screen appears.
 - * Pressing the [Metronome] button returns the unit to the function screen without executing copying.
10. Press the [Song] button. The song data is copied.
 - * Never switch off the power or detach the USB memory device while the message **Working** is displayed on the screen.
 - * If the message **Error** appears on the screen, refer to "Error Messages" (Owner's Manual, p. 53).
11. Press the [Key Touch] or [Transpose] button. The unit exits the Function mode.

Restoring Setting Items

1. While leaving the unit's power switched off, connect the USB memory device containing the backed-up setting items to the unit's USB memory connector (on the right side of the unit's bottom panel).
2. Hold down the [Early] button and the [Other] button at the same time and switch on the power. When the unit starts up, the message **Ext Rstr** appears and the [Rec] button flashes.
3. Press the [Rec] button. The message **Restore?** is displayed.
4. Press the [Song] button. The restore operation starts.
 - * To cancel the restore operation, switch off the power without pressing the [Song] button.
 - * Never switch off the power or detach the USB memory device while the message **Working** is displayed on the screen.

When the message **Ext Rstr DONE** appears, the restore operation has finished.
5. Switch off the power.

Restoring Song Data

1. Connect the USB memory device containing the backed-up song data to the unit's USB memory connector (on the right side of the unit's bottom panel).
2. Hold down the [Key Touch] button and press the [Transpose] button. The unit enters the Function mode.
3. Press the [Slow] button or the [Fast] button to choose **CopySong**.
4. Press the [Song] button. The Copy Song screen appears.
5. Press the [+] button to choose **USB -> User**.
6. Press the [Fast] button. The copy source select screen appears.
7. Press the [-] button to choose **All**.
8. Press the [Fast] button. The copy destination select screen appears.
 - * Pressing the [Metronome] button returns the unit to the function screen without executing copying.
9. Press the [Song] button. The song data is copied.
 - * Never switch off the power or detach the USB memory device while the message **Working** is displayed on the screen.
 - * If the message **Error** appears on the screen, refer to "Error Messages" (Owner's Manual, p. 53).
10. Press the [Key Touch] or [Transpose] button. The unit exits the Function mode.
 - * When the system update is carried out or the Main Board is replaced, the song data may not be restored because capacity of the internal memory varies according to the system version.

Performing a Factory Reset

You can carry this out in the Test Mode. For more information, refer to **Test Mode** (p. 55).



Executing a Test-mode factory reset resets setting items stored in the unit's memory using the Memory Backup feature (Owner's Manual, p. 41) and setting items that are saved automatically (**Memos** on pages 45 through 50 of the Owner's Manual) to their factory-default values, and causes all songs saved in the unit's memory to be lost. (Songs saved in internal memory when the unit is shipped from the factory are not deleted.) Follow the procedure in **Data Backup and Restore Operations** (p. 53) to save the data.

Updating the System



When the Main Board has been replaced, be sure to follow the procedure described below. This updates the system and also adds internal songs matched to the destination.

The update files are different for each product manufacturing plant. Refer to **Selecting the Update File** (p. 54) and select the proper file.

To set the internal songs correctly to match the destination, precisely carry out the procedures in **System Update** and **3. Destination Setting** (p. 56) in **Test Mode**. To verify whether these have been carried out correctly, also carry out **Verifying the Internal Songs by Destination** (p. 60).



Performing a system update might reset setting items stored in the unit's memory using the (Owner's Manual, p. 41) and setting items that are saved automatically (**Memos** on pages 45 through 50 of the Owner's Manual) to their factory-default setting values, and causes all songs saved in the unit's memory to be lost. (Songs saved in internal memory when the unit is shipped from the factory are not deleted.) Follow the procedure in **Data Backup and Restore Operations** (p. 53) to save the data.

Items Required

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

Selecting the Update File

The update files are different for each product manufacturing plant (RJA, RES, or ROD). As shown below, examine the information on the rear panel of the product being serviced to determine the plant where the unit was manufactured, and select the correctly matching update file.



Manufactured by RJA (**MADE IN JAPAN** on the label)



Manufactured by RES (**MADE IN ITALY** on the label)



Manufactured by ROD (**ASSEMBLED IN THE U.S.A.** on the label)

Procedure

- Using the computer, format the USB memory device as FAT.
 - * For more information on how to carry out formatting, refer to the documentation for the computer you're using.
- Copy the entire folder that is the update file (the folder named **R043_HP505**) to the root directory of the formatted USB memory device.
- Connect the USB memory device just described to the unit's USB memory connector (on the right side of the unit's bottom panel).
- Hold down the [Rec] button and switch on the unit's power. Continue to hold down the [Rec] button until the message **LOADING** appears on the screen (approximately 8 seconds). The update starts automatically, and a fraction display in the format of **n/100** indicates the progress. The update takes approximately 70 seconds to complete.
 - * Never switch off the power or detach the USB memory device while the update is in progress. Doing so may cause malfunction.

When the message **COMPLETE.** appears on the screen, then update has finished.
- Detach the USB memory device and reset the power.

Measures Against System Update Failure

If the update should happen to fail, first check the following.

- Are the update files correct?
- Is the USB memory device free of corruption?
- Is the USB memory device formatted as FAT?

If a check of the foregoing matters finds no problems, try performing the update again.

Test Mode



Executing a **3. Destination Setting** (p. 56) and **4. Factory Reset** (p. 56) resets setting items stored in the unit's memory using the Memory Backup feature (Owner's Manual, p. 41) and setting items that are saved automatically (**Memos** on pages 45 through 50 of the Owner's Manual) to their factory-default values, and causes all songs saved in the unit's memory to be lost. (Songs saved in internal memory when the unit is shipped from the factory are not deleted.) Follow the procedure in **Data Backup and Restore Operations** (p. 53) to save the data.

Items Required

- MIDI cable
- USB cable
- USB memory device (supports high speed, recommended: M-UF1G or M-UF2G)
- Headphones (with 1/4-inch stereo phone plug)
- Audio cables
- Amp-equipped monitor speaker
- Audio device or electronic musical instrument equipped with audio output jacks (MT series device, etc.)

Entering the Test Mode

Hold down the [Grand], [Early], and [Strings] buttons at the same time and switch on the power. Continue to hold down the buttons until the version appears on the LCD screen.



Quitting the Test Mode

Switch off the power.

Skipping Test Items

Holding down the [AB Repeat] button and pressing the [Song Balance] button quits the current test item and advances operation to the next test item.

Holding down the [AB Repeat] button and pressing the [Ambience] button quits the current test item and returns operation to the previous test item.

Test Items

- Version Check** (p. 56)
- Model Setting** (p. 56)
- Destination Setting** (p. 56)
- Factory Reset** (p. 56)
- DSP Test** (p. 57)
- Switch Test** (p. 57)
- LED-equipped Switch Test** (p. 57)
- Sound Test** (p. 58)
- MIDI/USB Test** (p. 58)
- Jacks Sense Test** (p. 59)
- Pedal Test** (p. 59)
- Volume Test** (p. 59)
- LCD Screen Display Test** (p. 59)
- Device Test** (p. 59)
- Model, Destination and Version Check** (p. 60)
- Auto Off Function Check** (p. 60)

1. Version Check



Verify the program version.

Also, press the [+] button twice and verify that the indication displayed matches the destination as shown below.

Destination	Indication
Europe	EUR
North America	US
Other than the above	BASE



* Main Boards supplied for service use are installed with BASE-use data.

Press the [Metronome] button to advance to the next test item.

2. Model Setting



Press the following buttons to make the setting for the model of the unit being tested.

Button	Model
[Grand] + [Rec]	This makes the setting for the HP505.



Press the [Metronome] button to advance to the next test item.

3. Destination Setting



This makes the setting for the product's destination information.

Press one of the buttons shown in the chart below to select the destination, then press the [Metronome] button.

Button	Destination
[Early]	This sets the destination to Japan.
[E. Piano]]	This sets the destination to North America or Europe.
[Grand]	This sets the destination to elsewhere than the above.



When the destination has been set, the following test item (4. Factory Reset) is executed automatically.

If changing the destination setting is not necessary, hold down the [AB Repeat] button and press the [Song Balance] button.

4. Factory Reset



This item is executed automatically when the destination setting has been made.

Executing a factory reset returns the parameters for which Memory Backup has been performed to their factory defaults.

To execute the factory reset, press the [Rec] button.

When the factory reset has finished, execution automatically advances to the next test item.

To advance to the next test item without executing a factory reset, hold down the [AB Repeat] button and press the [Song Balance] button.

5. DSP Test



This tests the operation of the sound source.
 If no error occurs, execution automatically advances to the next test item.
 If an error occurs, **ERR** is displayed on the LCD screen and an applicable button flashes.



Flashing button	Error description
Grand	Sound-source chip internal-RAM checksum error
Early	Sound-source chip external-RAM checksum error

If an error occurs, then to advance to the next item, hold down the [AB Repeat] button and press the [Song Balance] button.

6. Switch Test

This tests the operation of switches with no LEDs.
 All LEDs light up at this time.
 Press buttons displayed on the LCD screen.



When testing of all switches has finished, execution automatically advances to the next test item.

7. LED-equipped Switch Test

This tests the operation of switches with LEDs.
 The switches to test are indicated at random by a flashing LED. Press the buttons as instructed by the flashing LEDs. The number of remaining switches is displayed on the LCD screen.

LEDs that light up red (left side of the panel; 11 LEDs)



[Song Balance], [Ambience], [Brilliance], [Key Touch], [Transpose], [Twin Piano], [Grand], [Early], [E. Piano], [Strings] and [Other]

LEDs that light up red (right side of the panel; 9 LEDs)



[Metronome], [Slow], [Fast], [Song], [Rec], [Accomp], [Left], [Right] and [AB Repeat]

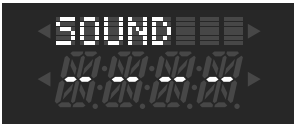
LEDs that light up green (2)



[Metronome] and [Play/Stop]

When testing of all switches and LEDs has finished, execution automatically advances to the next test item.

8. Sound Test



Buttons written in the following table flash.

Connect the amp-equipped monitor speakers to the **Output L/Mono, R** jacks and the audio devices or digital instruments to the **Input L/Mono, R** jacks. Pressing each button shown below makes the corresponding sound play, and releasing the button makes the sound stop and the button lights up.

Button	Display	Tone	Output Destination
[Ambience]	SOUND DRCT	Piano (direct sound)	
[Brilliance]	SOUND REVB	Piano (reverb)	
[Key Touch]	SOUND A L. SIN	Sine wave	Output L/Mono jack L channel of left side Phones jack (No sound from right side Phones jack) L channel of full-range speaker
[Transpose]	SOUND A R. SIN	Sine wave	Output R jack R channel of left side Phones jack (No sound from right side Phones jack) R channel of full-range speaker
[Twin Piano]	SOUND A C. SIN	Sine wave	Output L/Mono, R jack L/R channel of left side Phones jack (No sound from right side Phones jack) L/R channel of full-range speaker
[E. Piano]	SOUND B L. SIN	Sine wave	Output L/Mono jack L channel of right side Phones jack (No sound from left side Phones jack) L channel of tweeter
[Strings]	SOUND B R. SIN	Sine wave	Output R jack R channel of right side Phones jack (No sound from left side Phones jack) R channel of tweeter
[Other]	SOUND B C. SIN	Sine wave	Output L/Mono, R jack L/R channel of right side Phones jack (No sound from left side Phones jack) L/R channel of tweeter
[Song] (Mute Check)	SOUND Mute	-	-

Verify that the sine wave is free of audible distortion.

Input audio signal via the **Input L/Mono, R** jacks and verify that the audio is output from the built-in speakers.

Press the [Metronome] button to advance to the next test item.

9. MIDI/USB Test



MIDI Connector Test

Connect the **MIDI IN** and **MIDI OUT** connectors using the MIDI cable (loop connection).

Verify that the right sign changes from _ (disconnected) to **o** (connected) according to the state of the MIDI connectors.

USB Connector Test

Connect the **USB (MIDI)** connector and the external memory connector using the USB cable.

Verify that the sign of the middle changes from _ (disconnected) to **o** (connected) according to the state of the USB connectors.

USB Memory Device Test

Connect the USB memory device to the external memory connector.

Verify that the left sign changes from _ (disconnected) to **o** (connected) after a few seconds.

* **o** does not appear if the USB memory device does not support high speed. In such cases, * is displayed and execution does not advance to the next test item.

To force execution to advance to the next test item, hold down the [AB Repeat] button and press the [Song Balance] button.

When the required checks have finished, execution automatically advances to the next test item.

10. Jacks Sense Test



Insert a plug in succession to each jack of **Phones** (left and right), **Input L/Mono** and **Input R**.

Verify that the sign of the left (**Phones**), middle (**Input L/Mono**) and right (**Input R**) changes from **_** (disconnected) to **o** (connected) according to the state of the each jack.

Press the [Metronome] button to advance to the next test item.

11. Pedal Test



For each pedal, depress it slowly, then when it is fully depressed, slowly release it.

Depending on how much the pedal is depressed, the value changes from **0** (not depressed) to **127** (fully depressed).

* *Depressing pedals at two or more locations at the same time results in an error. If this happens, go back to the previous item ([AB Repeat] + [Ambience]) and redo the operation.*

When testing of all pedals has finished, execution automatically advances to the next test item.

12. Volume Test



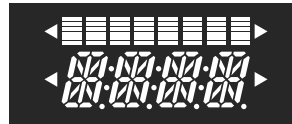
Operate the **Volume** control and confirm that a value displayed on the LCD screen changes **0** to **1023**.

When the maximum and minimum value are detected, execution automatically advances to the next test item.

13. LCD Screen Display Test



Press the [Grand], [Early], [E. Piano], [Strings] and [Other] buttons in succession and verify the state of the LCD screen.



Grand (all pixels on)



Early (all pixels off)



E. Piano (8s)



Strings (asterisks)



Other (dots)

Press the [Metronome] button to advance to the next test item.

14. Device Test



If no error occurs, the [Metronome] button flashes. Press the button to advance to the next test item.

If an error occurs, **ER** is displayed beside the device name with malfunction.

To advance to the next test item, hold down the [AB Repeat] button and press the [Song Balance] button.

15. Model, Destination and Version Check



The model name is displayed again.

Press the [Metronome] button to change the display to the model name, destination, version and Boot version, and make sure they are correct.

When the Boot version is displayed, press the [Metronome] button to advance to the next test item.

16. Auto Off Function Check

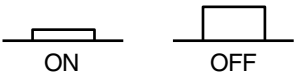


Press the [Rec] button to turn off the power.

If the Auto Off Function has some troubles, **Err** is displayed without being turned off the power.



If the power is turned off correctly, the test mode is completed.
Return the power button to the off position.



Verifying the Internal Songs by Destination

If the procedures in **System Update** and **3. Destination Setting** in **Test Mode** are not carried out correctly, the internal songs are not correctly set to match the destination. Use the procedure described below to verify whether the correct setting has been made.

1. Press the [Song] button.
2. Hold down the [Song] button and press the [+] or [-] button to select the category.
3. Verify the following two points for the product's destination.

For North America

- **SELECTIONS**, **CZERNY 100**, and **HANON** can be selected.
- The first song in **SELECTIONS** is **My Heart Will Go On**.

For Europe

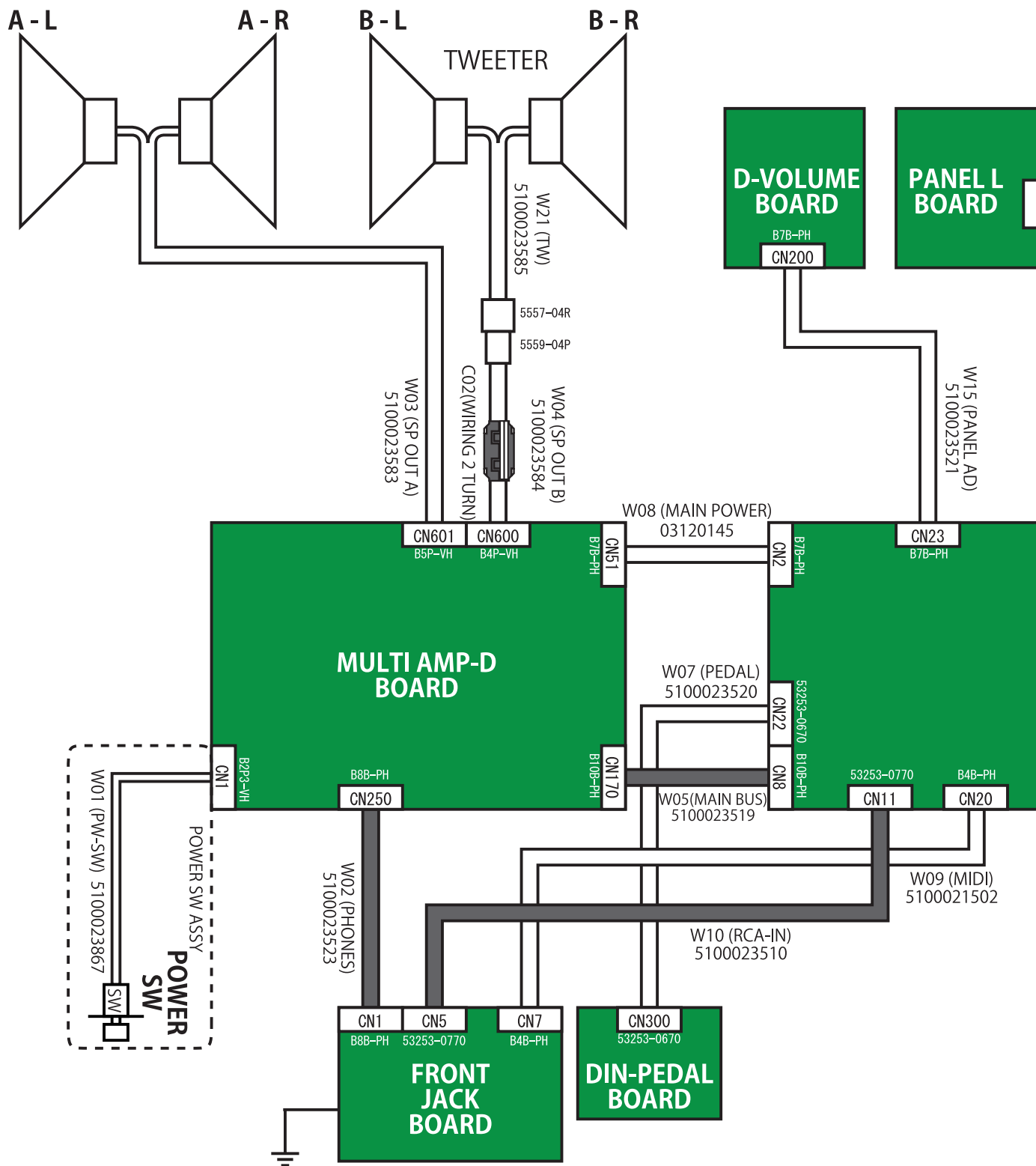
- **ONE_FINGER**, **CZERNY 100**, and **HANON** can be selected.
- The first song in **ONE_FINGER** is **About Strange Lands and People**.

For other than the above

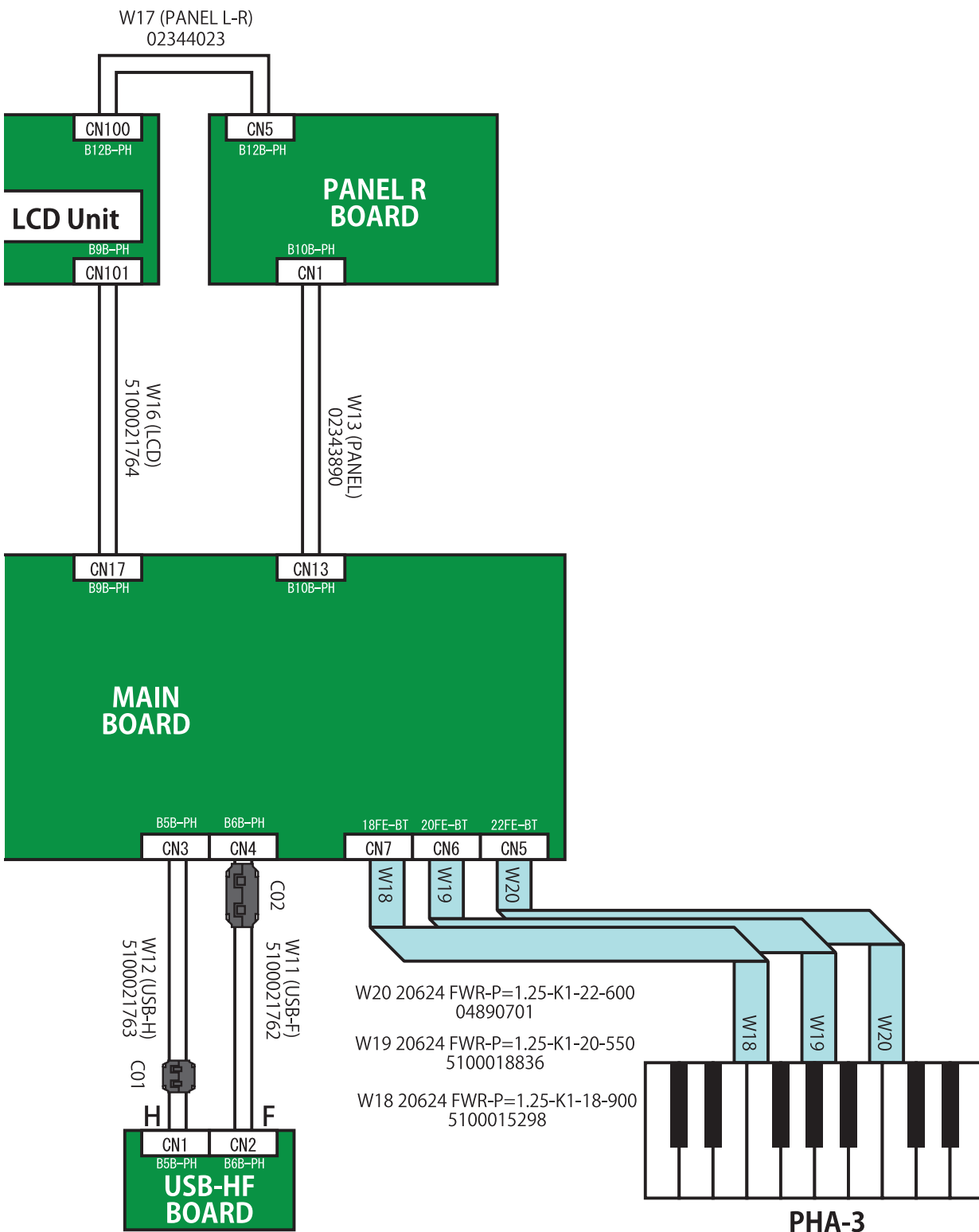
- **SELECTIONS**, **CZERNY 100**, and **HANON** can be selected.
- The first song in **SELECTIONS** is **Triumphal March from Aida**.

If the setting is not correct, redo the operations in **Updating the System** (p. 54) and **3. Destination Setting** (p. 56).

Wiring Diagram/Block Diagram



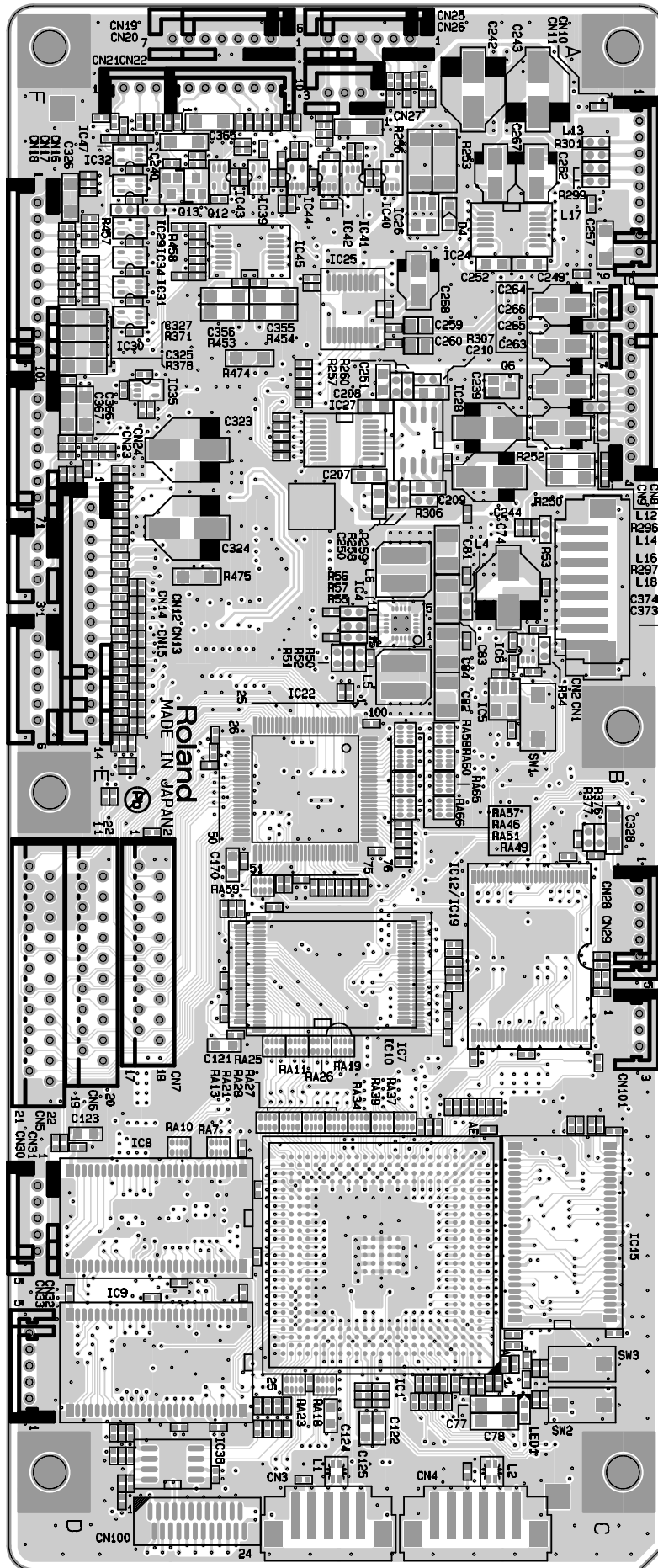
No.	Part Code	Part Name	Description	Q'ty
W01	5100023867	WIRING	W01 (PW SW)	1
W02	5100023523	WIRING	W02 (PHONES)	1
W03	5100023583	WIRING	W03 (SP OUT A)	1
W04	5100023584	WIRING	W04 (SP OUT B)	1
W05	5100023519	WIRING	W05 (MAIN BUS)	1
W07	5100023520	WIRING	1061#28 6X700-51065-51065-F	1
W08	03120145	WIRING	7X450-P2.0-PHR-PHR-F	1
W09	5100021502	WIRING	1061#28 4X950-PHR-PHR-F	1
W10	5100023510	WIRING	W12 (RCA IN)	1
W11	5100021762	WIRING	W14 (USB FUNC)	1
W12	5100021763	WIRING USB-TP	5X650-PHR-PHR	1

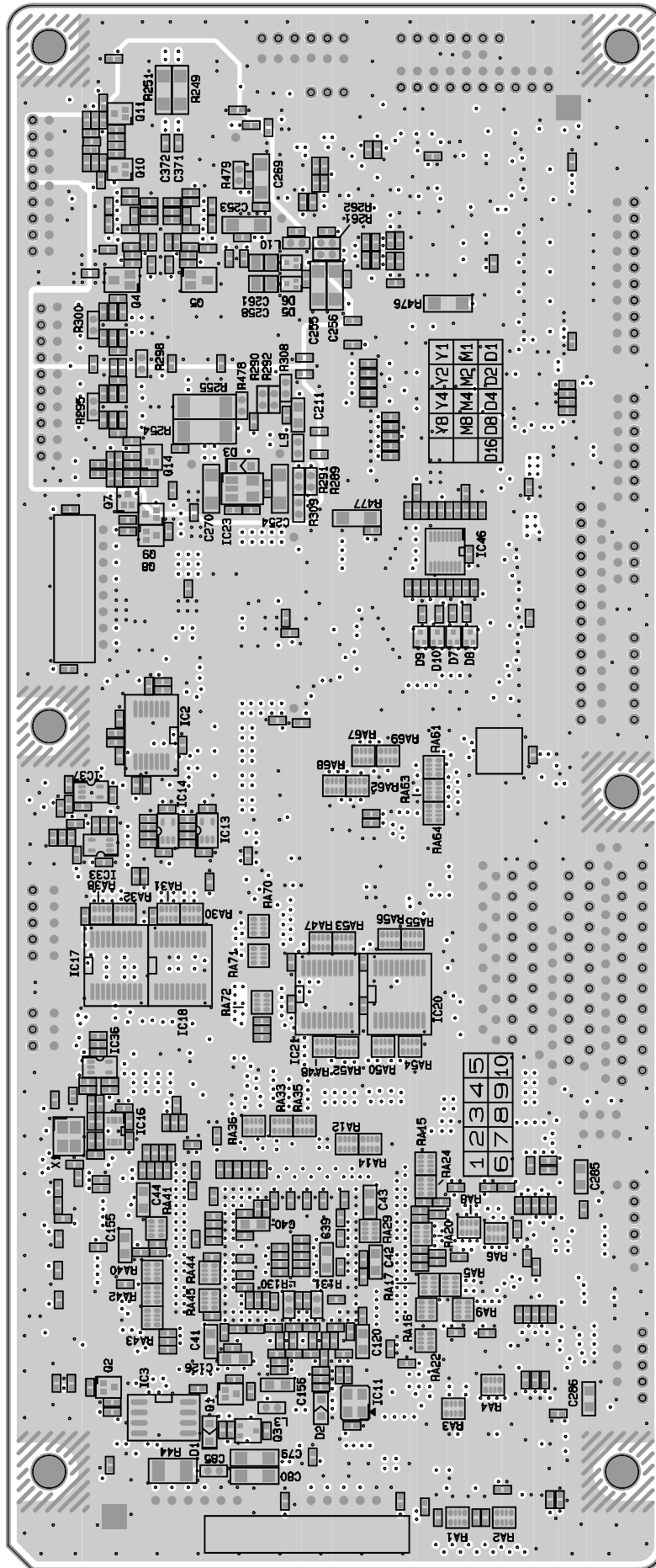


PHA-3

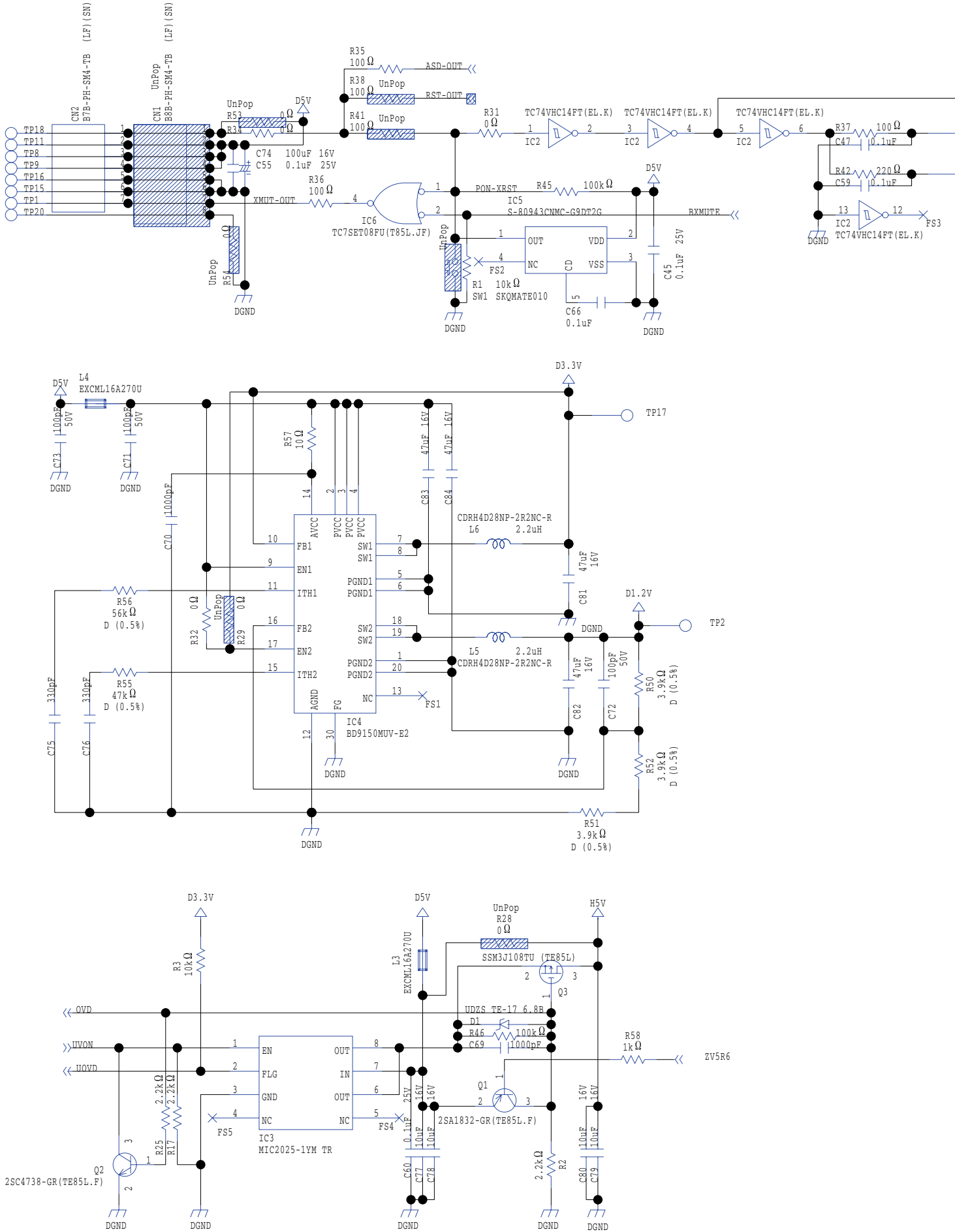
No.	Part Code	Part Name	Description	Q'ty
W13	02343890	WIRING	10X500-P2.0-PHR-PHR-F	10
W15	5100023521	WIRING	W15 (VOL)	1
W16	5100021764	WIRING	1061#28 9X650-PHR-PHR-F	1
W17	02344023	WIRING	12X200-P2.0-PHR-PHR-F	1
W18	5100015298	WIRING	20624 FWR-P=1.25-K1-18-900	1
W19	5100018836	WIRING	20624 FWR-P=1.25-K1-20-550	1
W20	04890701	WIRING	FWR-P=1.25-K-22-600	1
W21	5100023585	WIRING	W21 (TW)	1
C01	5100005456	FERRITE CORE	ESD-SR-100(292-08033-01-00)	1
C02	03670423	FERRITE CORE	ESD-SR-160(C0600004R0)	2

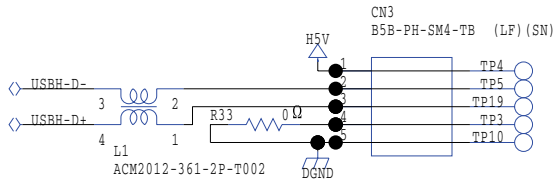
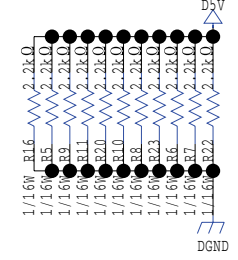
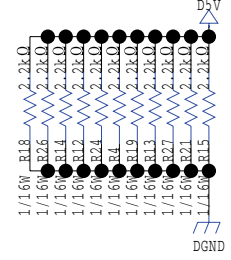
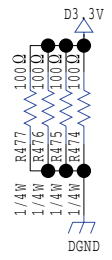
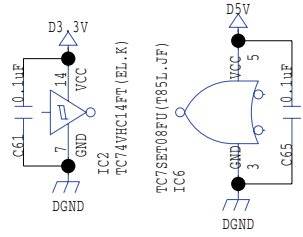
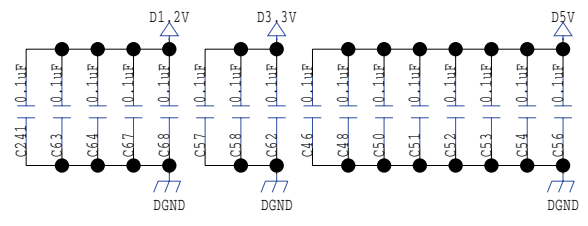
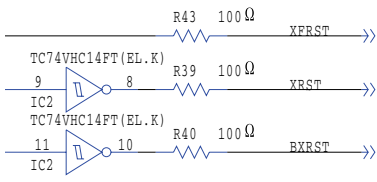
Circuit Board (Main Board)



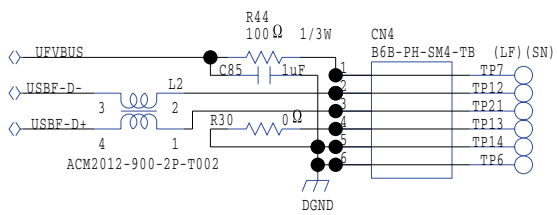


Circuit Diagram (Main Board: 1/7)

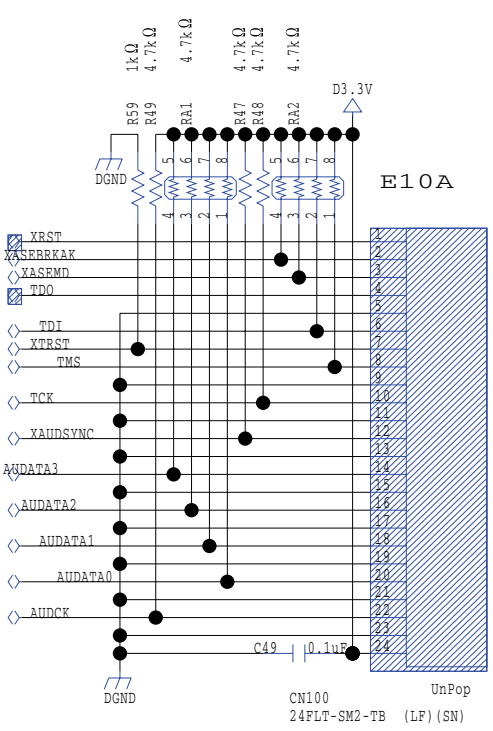




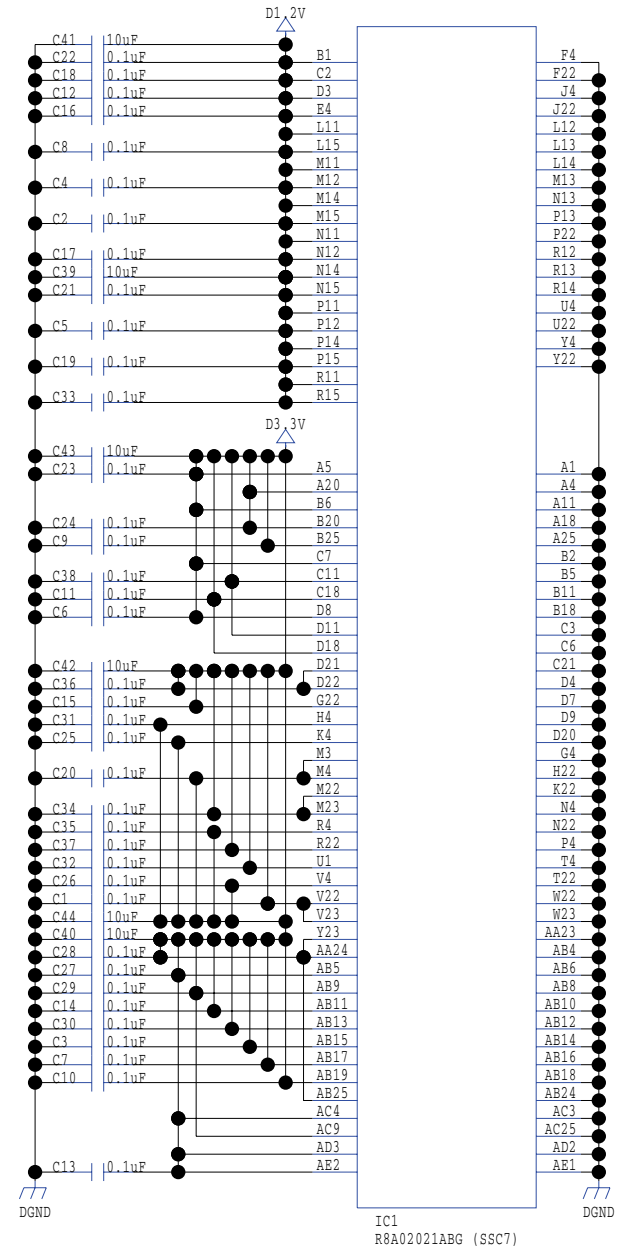
USB H



USB F

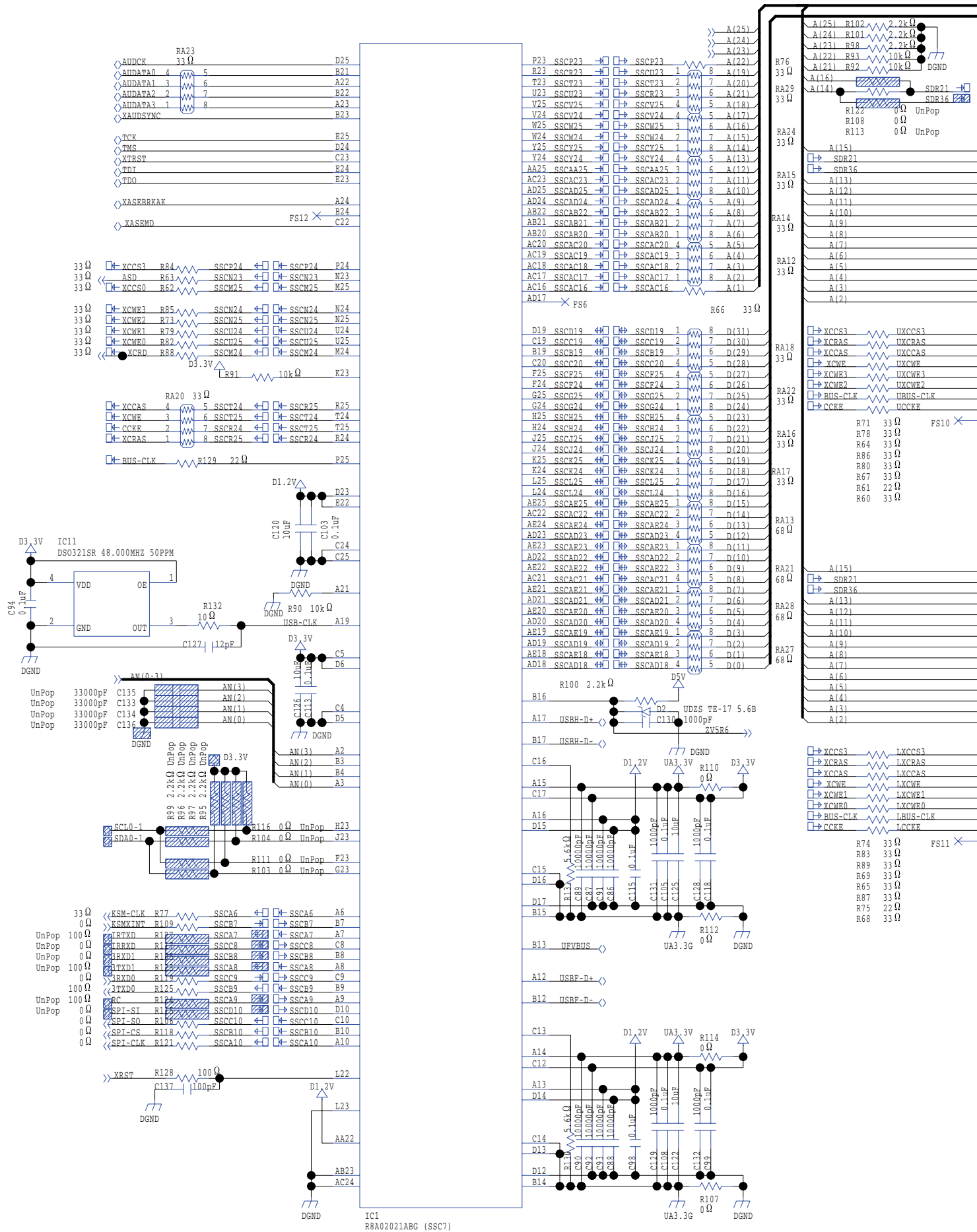


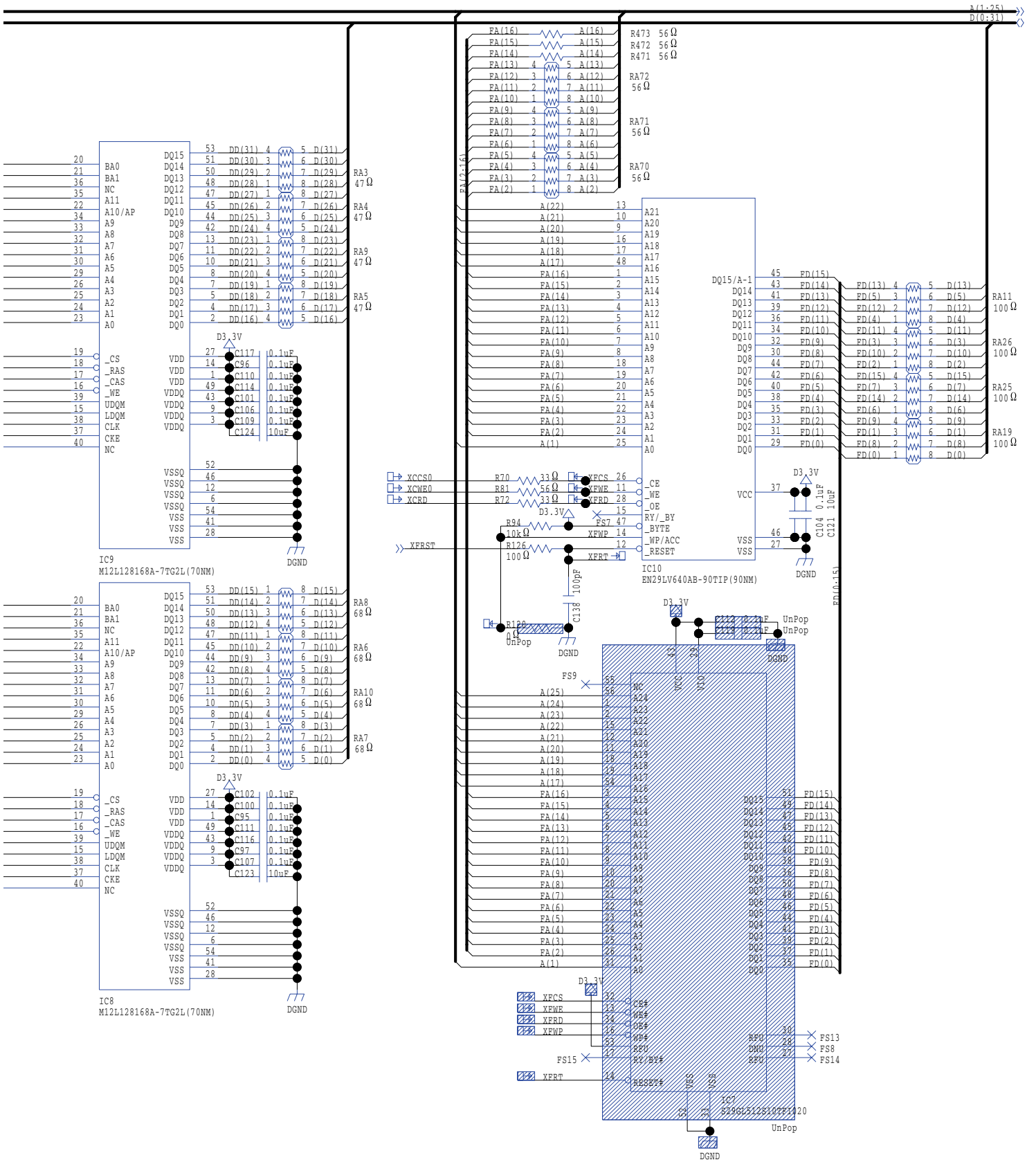
CN100 24PLT-SM2-TB (LF) (SN)



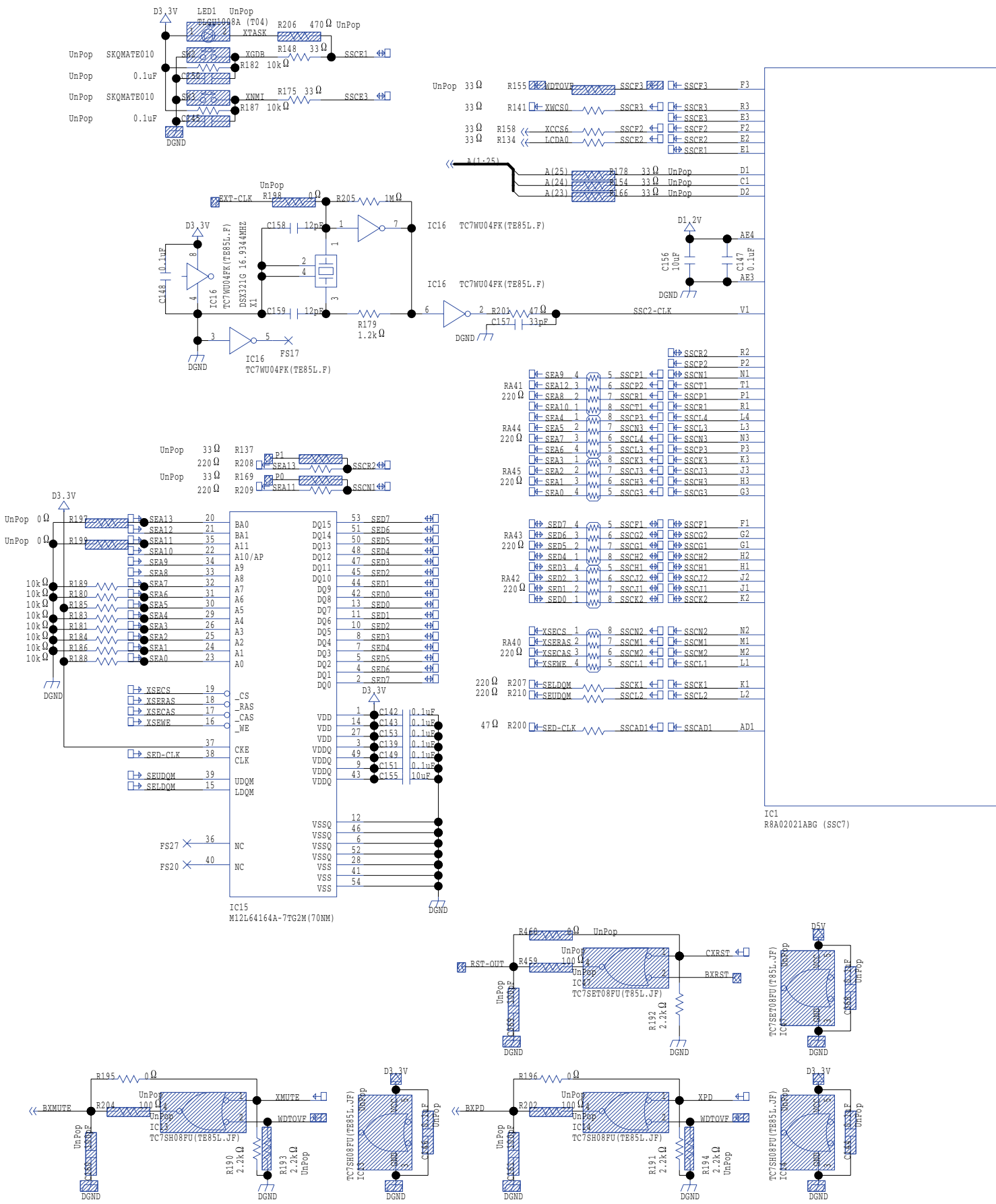
IC1 R8A02021ABG (SSC7)

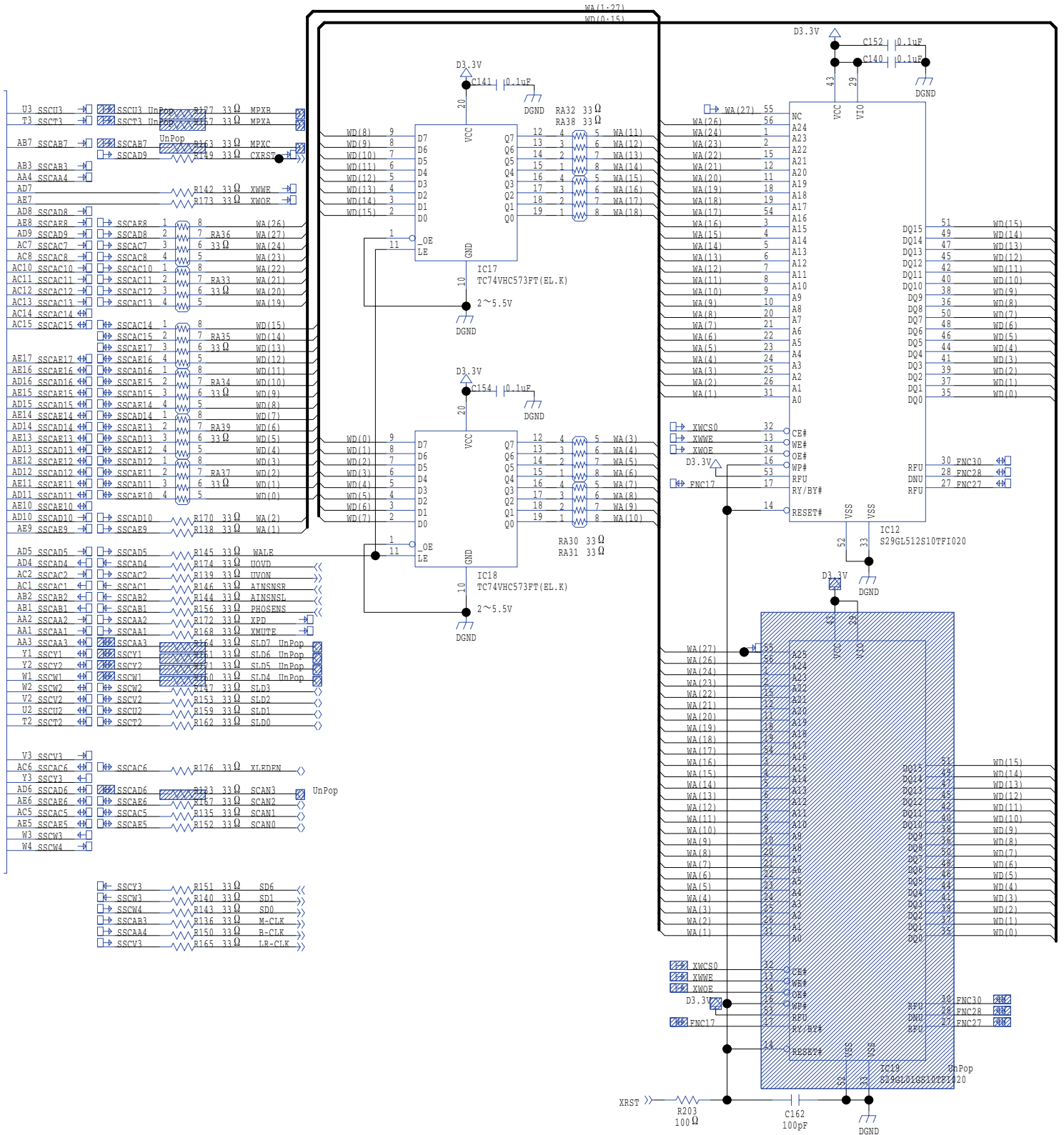
Circuit Diagram (Main Board: 2/7)



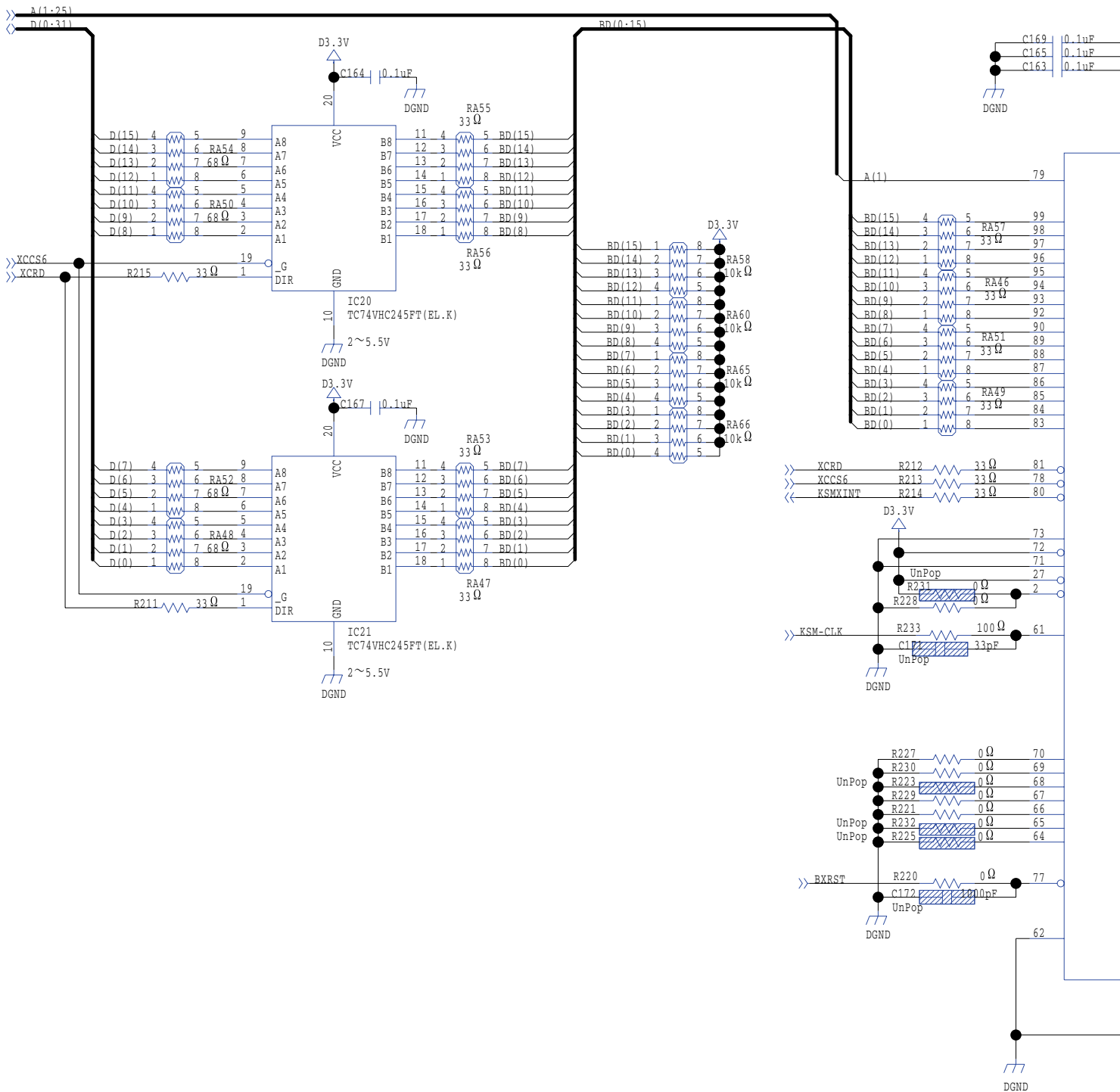


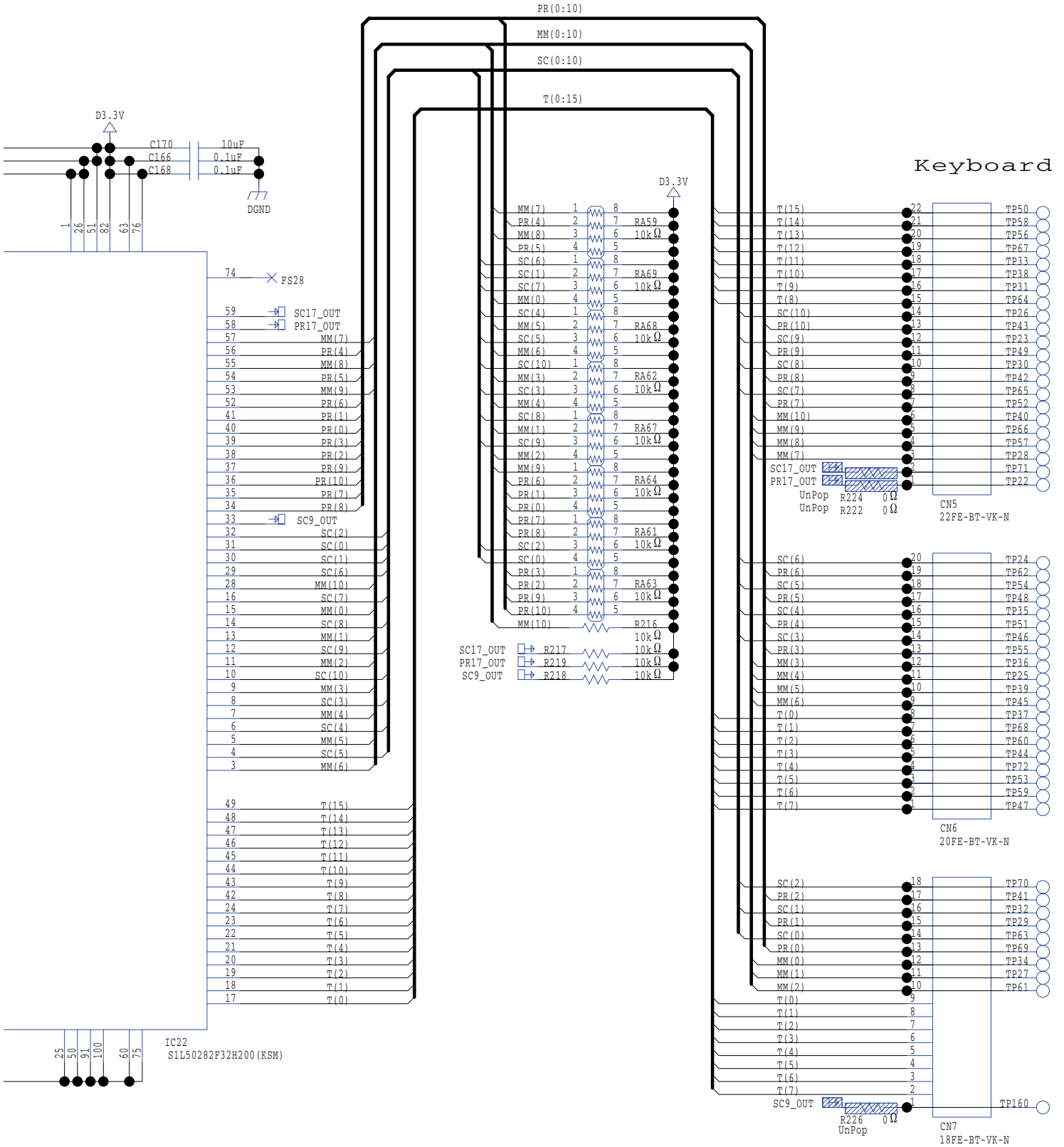
Circuit Diagram (Main Board: 3/7)



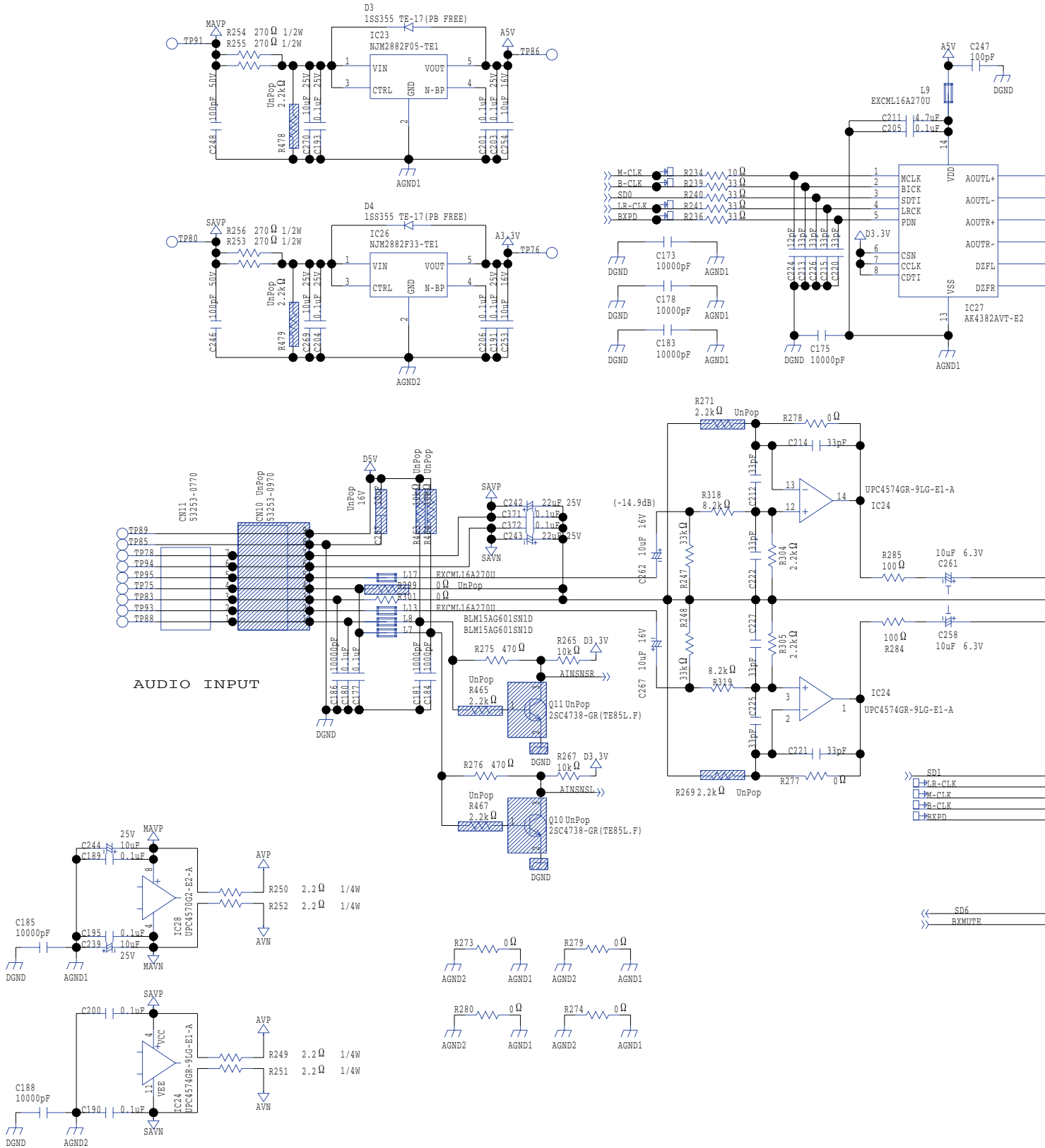


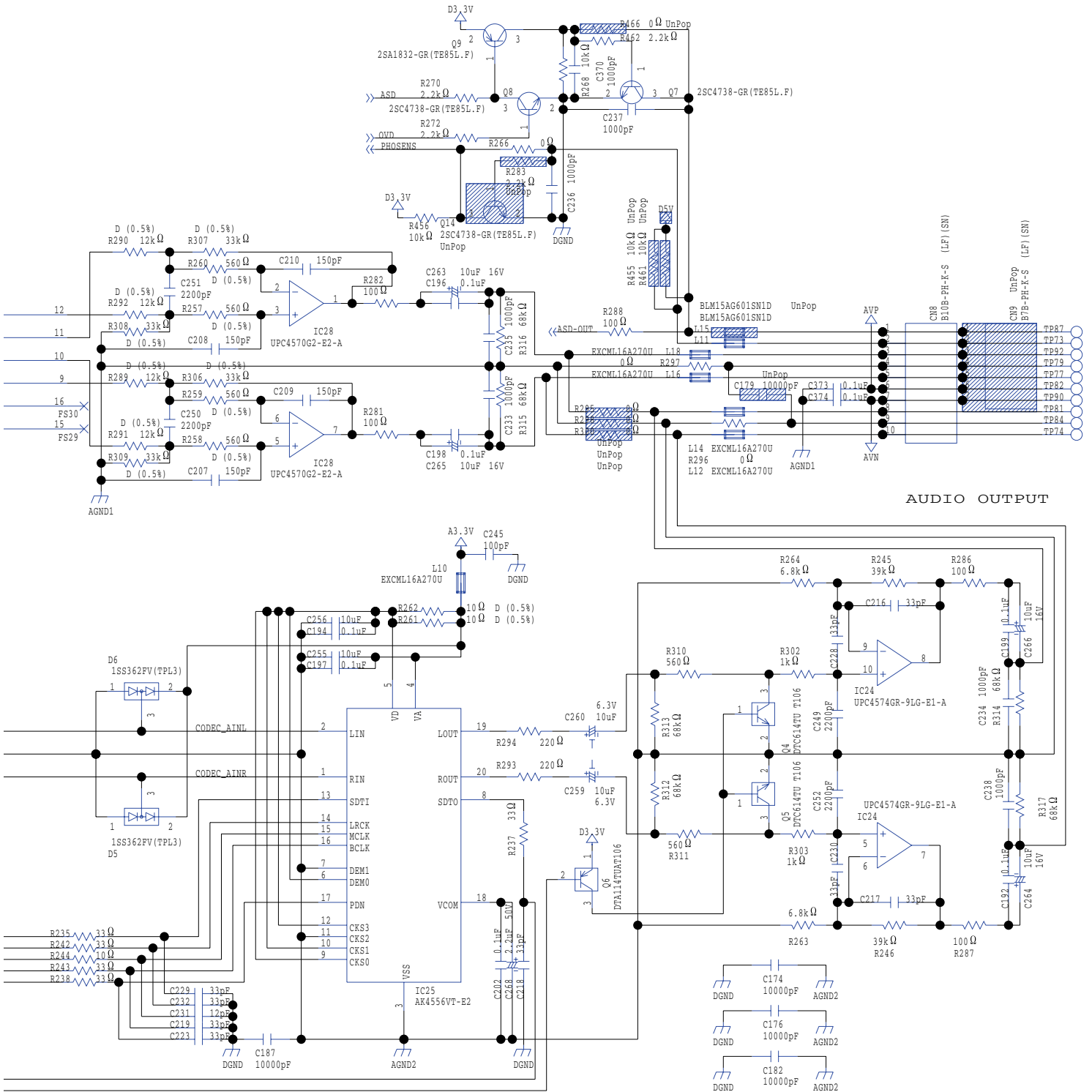
Circuit Diagram (Main Board: 4/7)



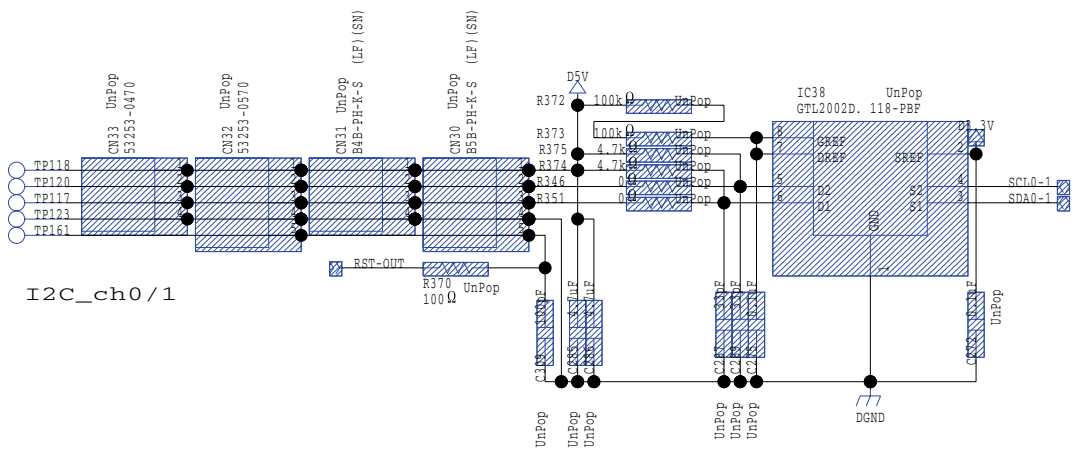
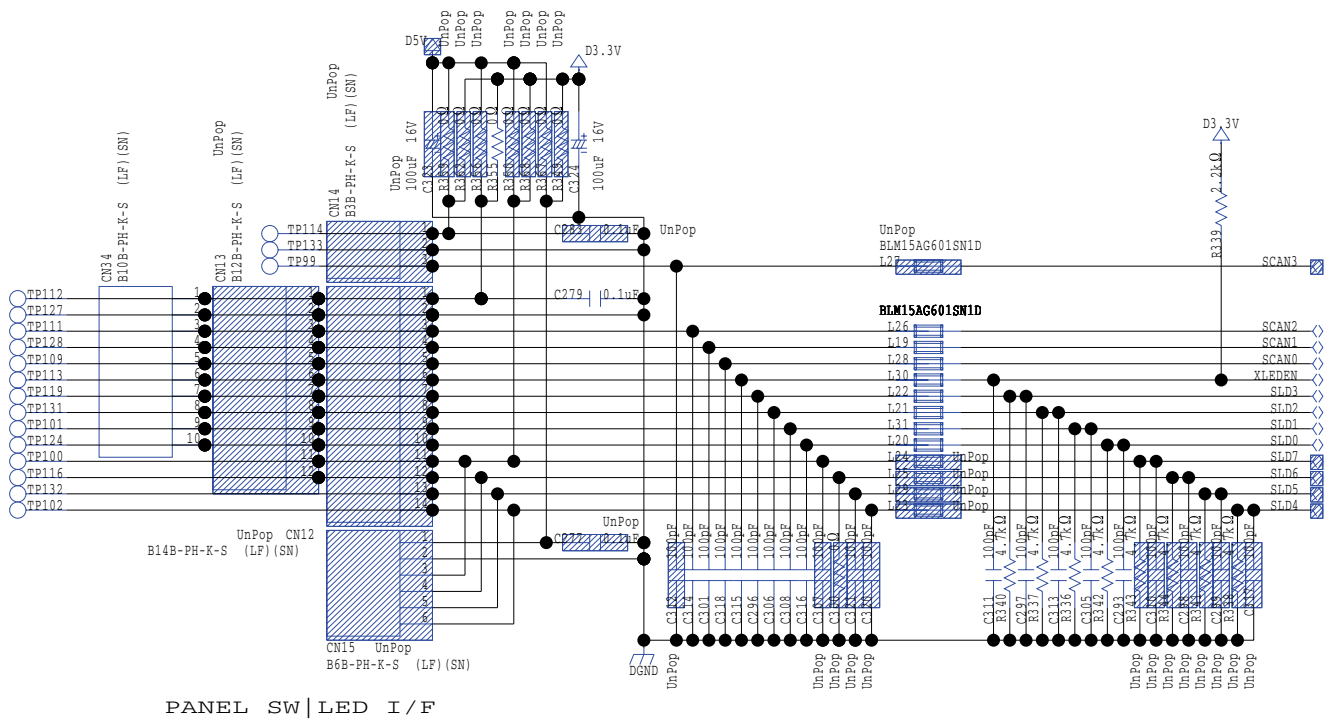


Circuit Diagram (Main Board: 5/7)

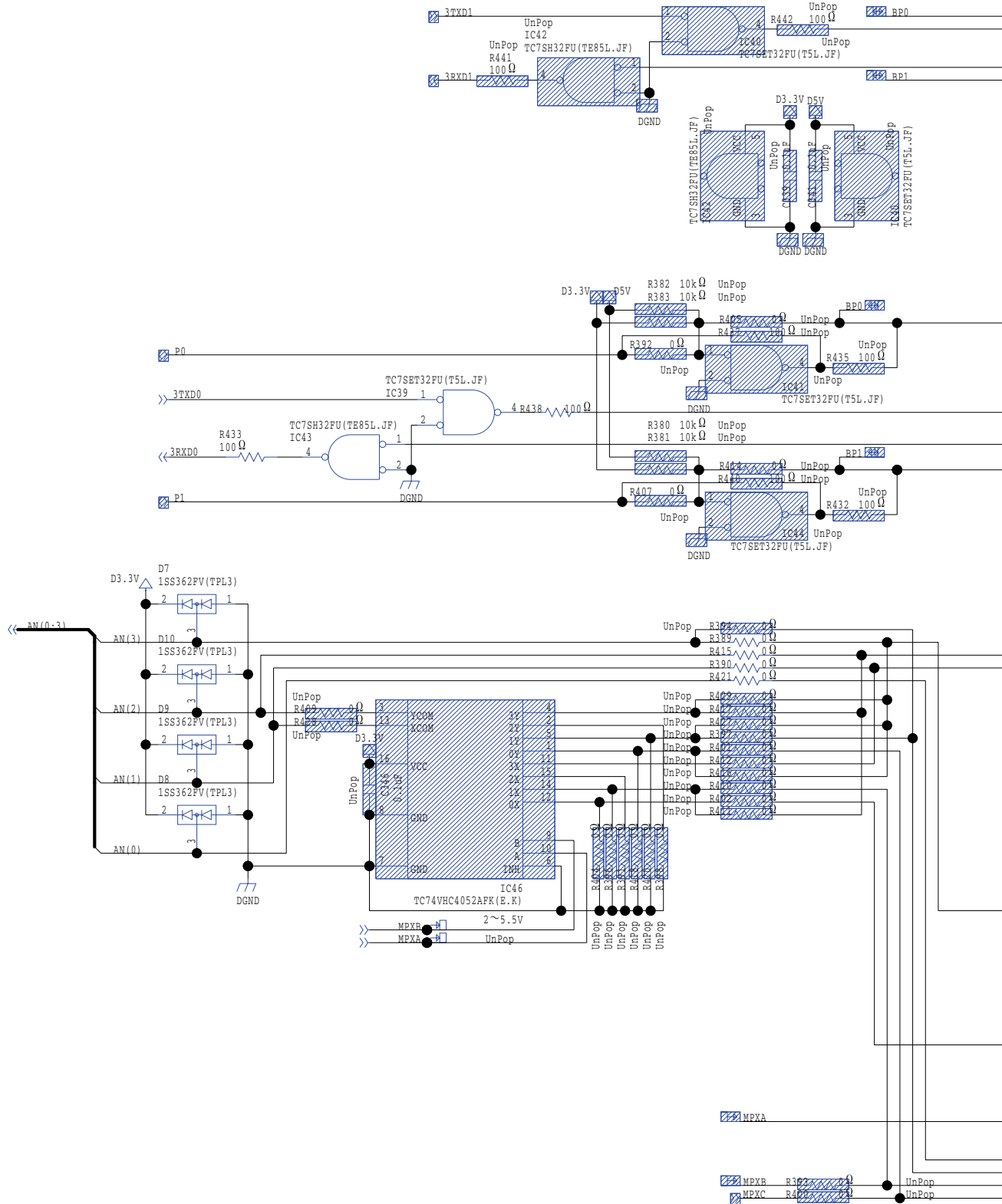


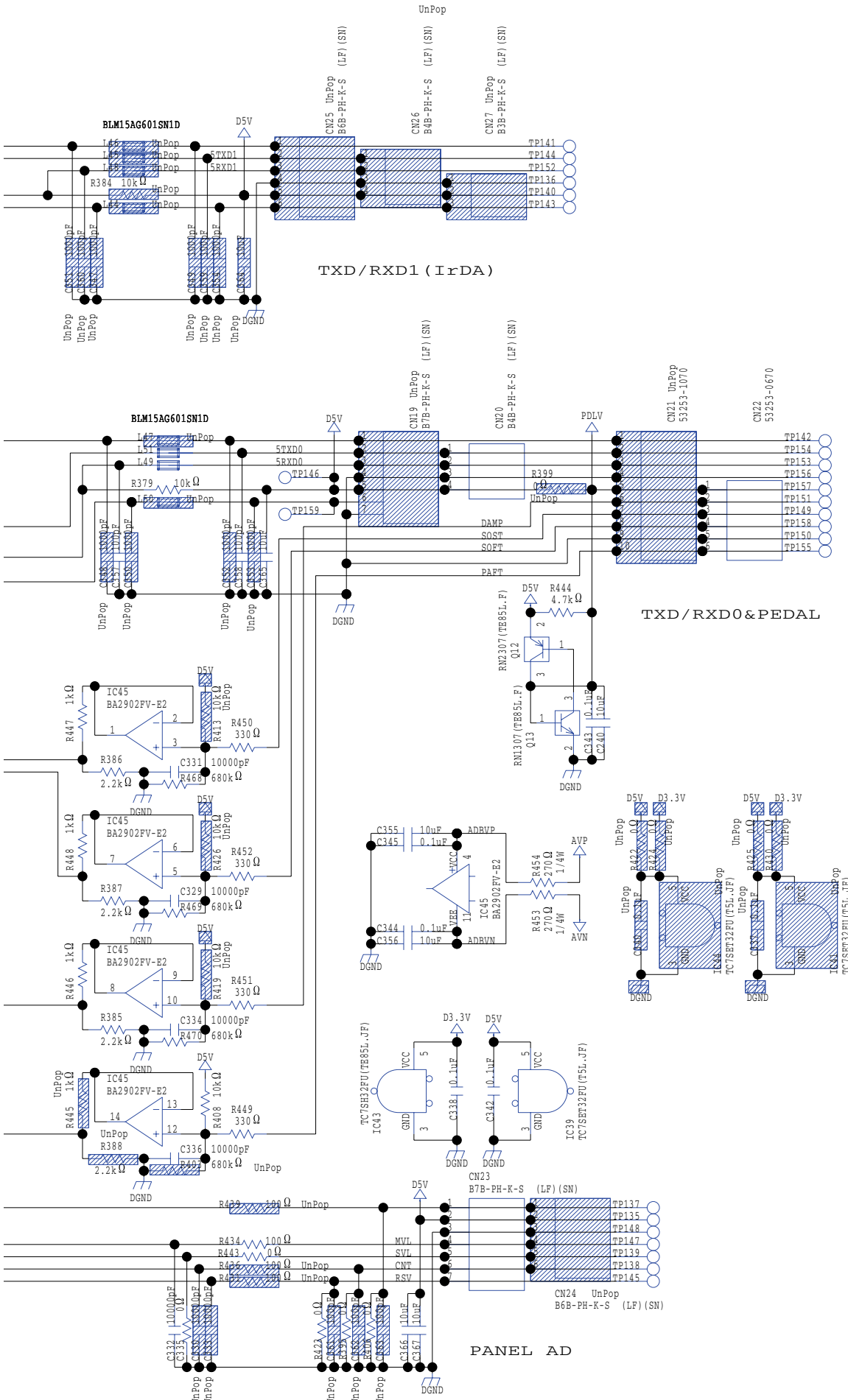


Circuit Diagram (Main Board: 6/7)

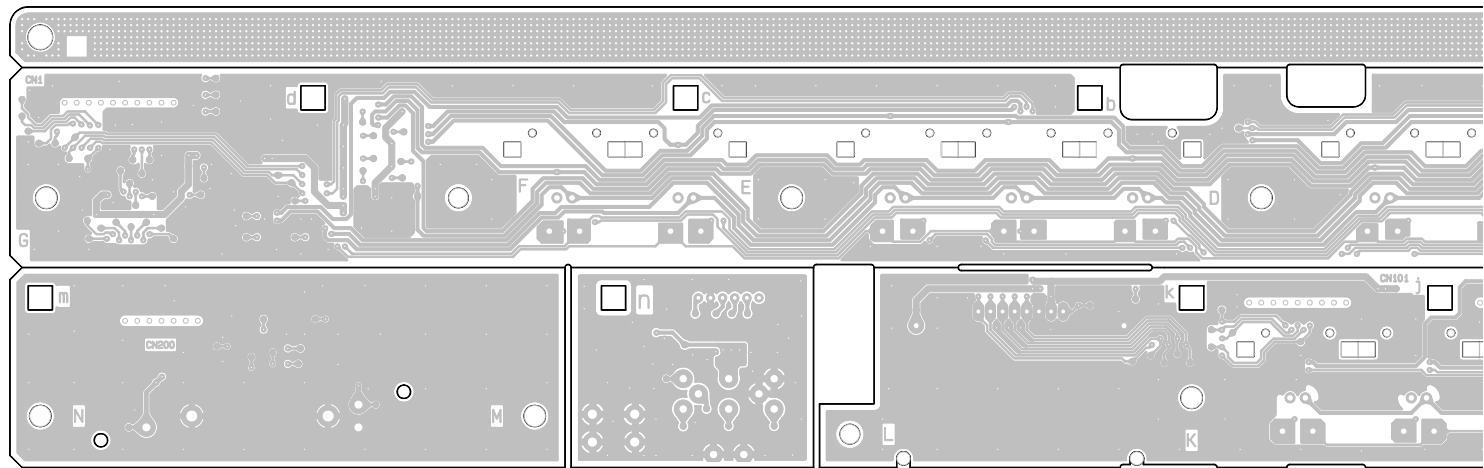
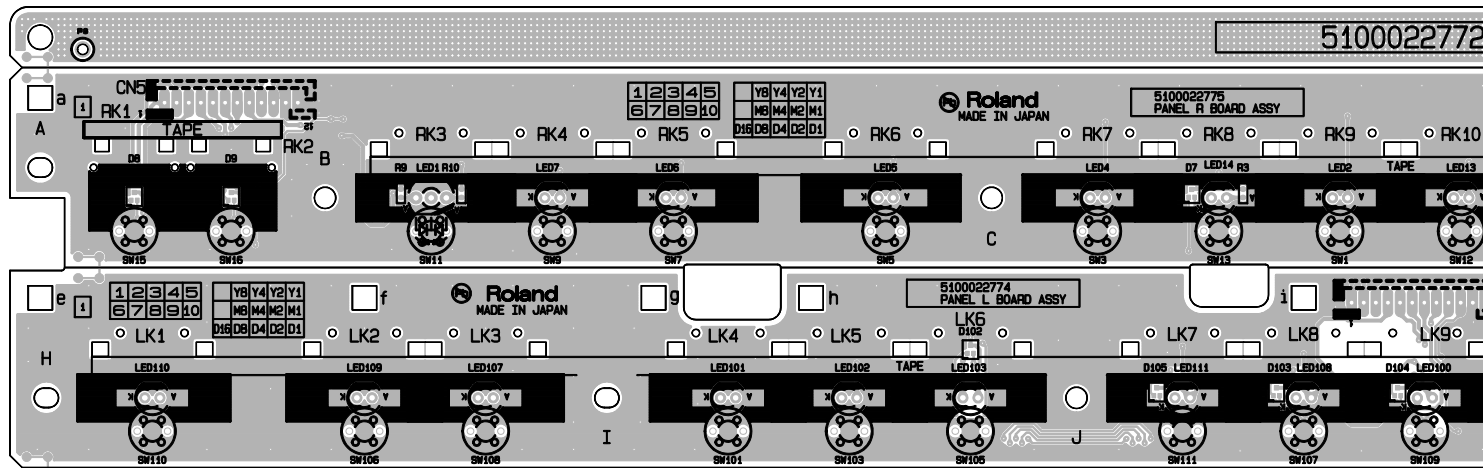


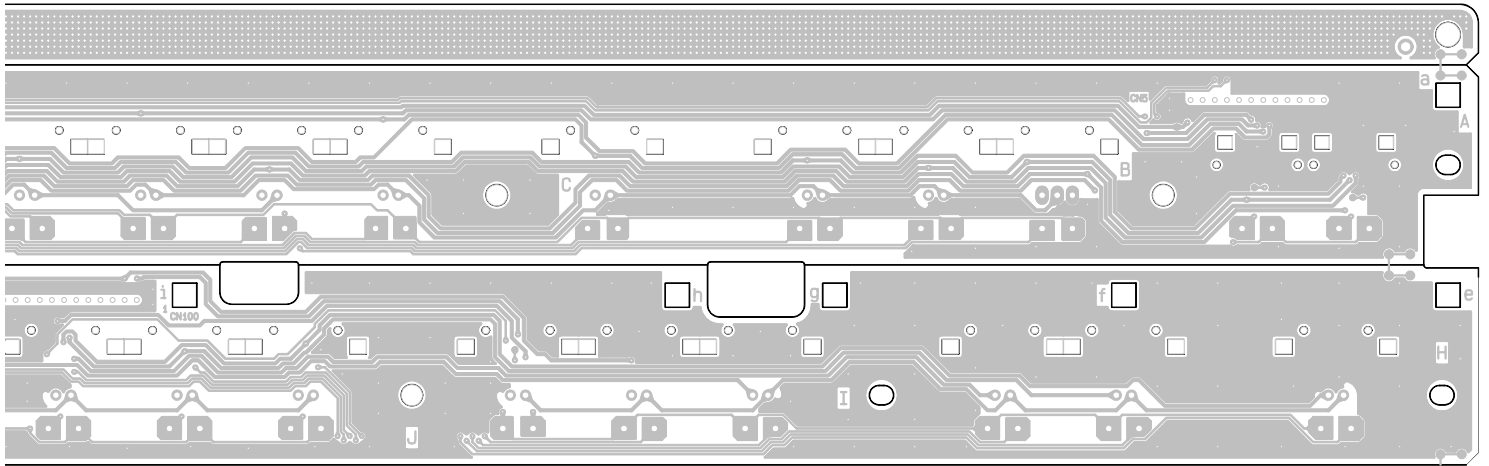
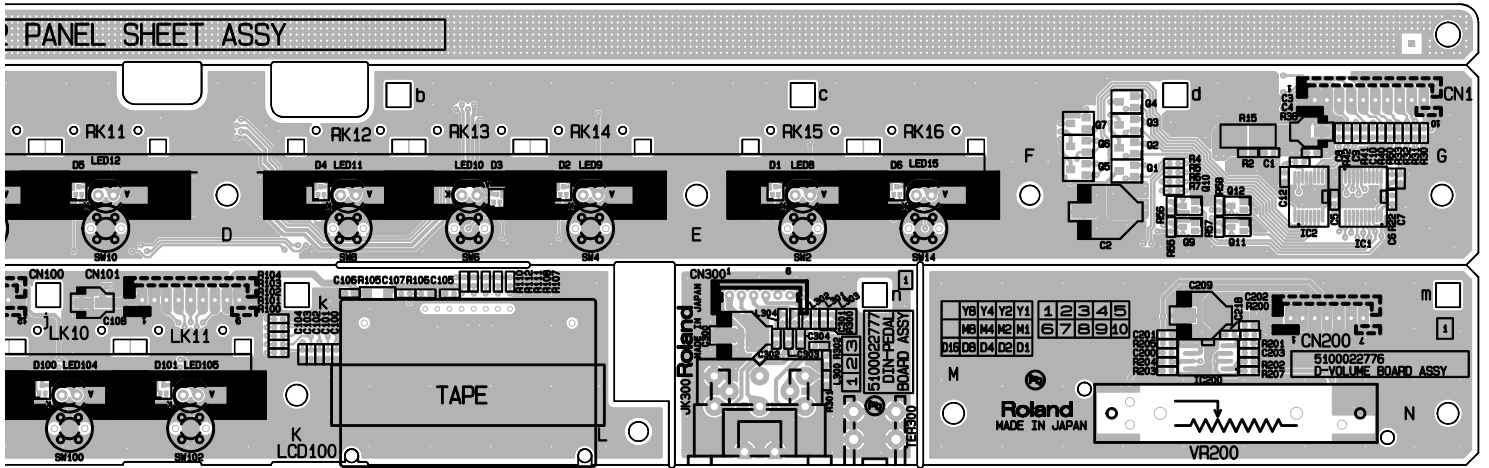
Circuit Diagram (Main Board: 7/7)



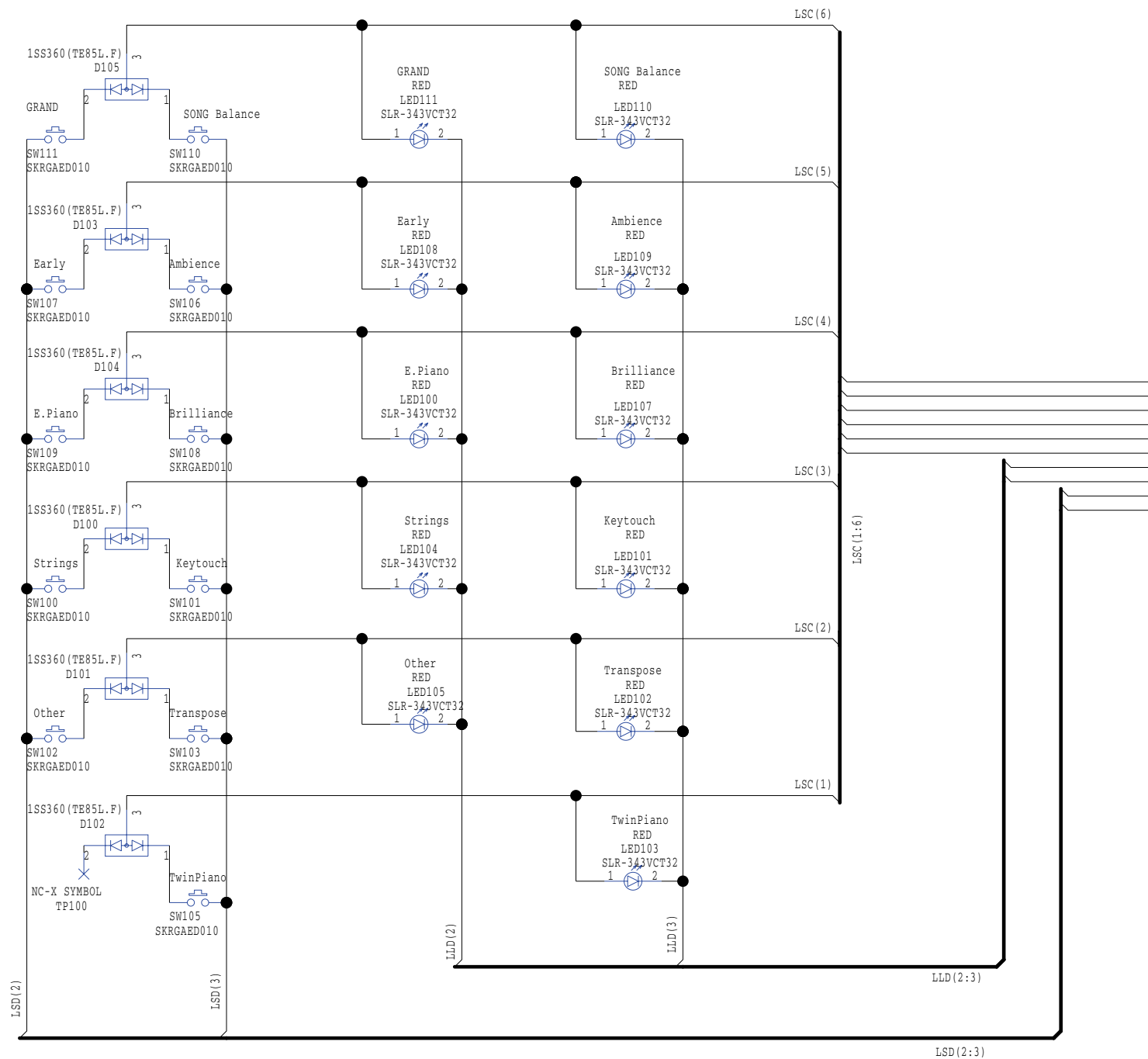


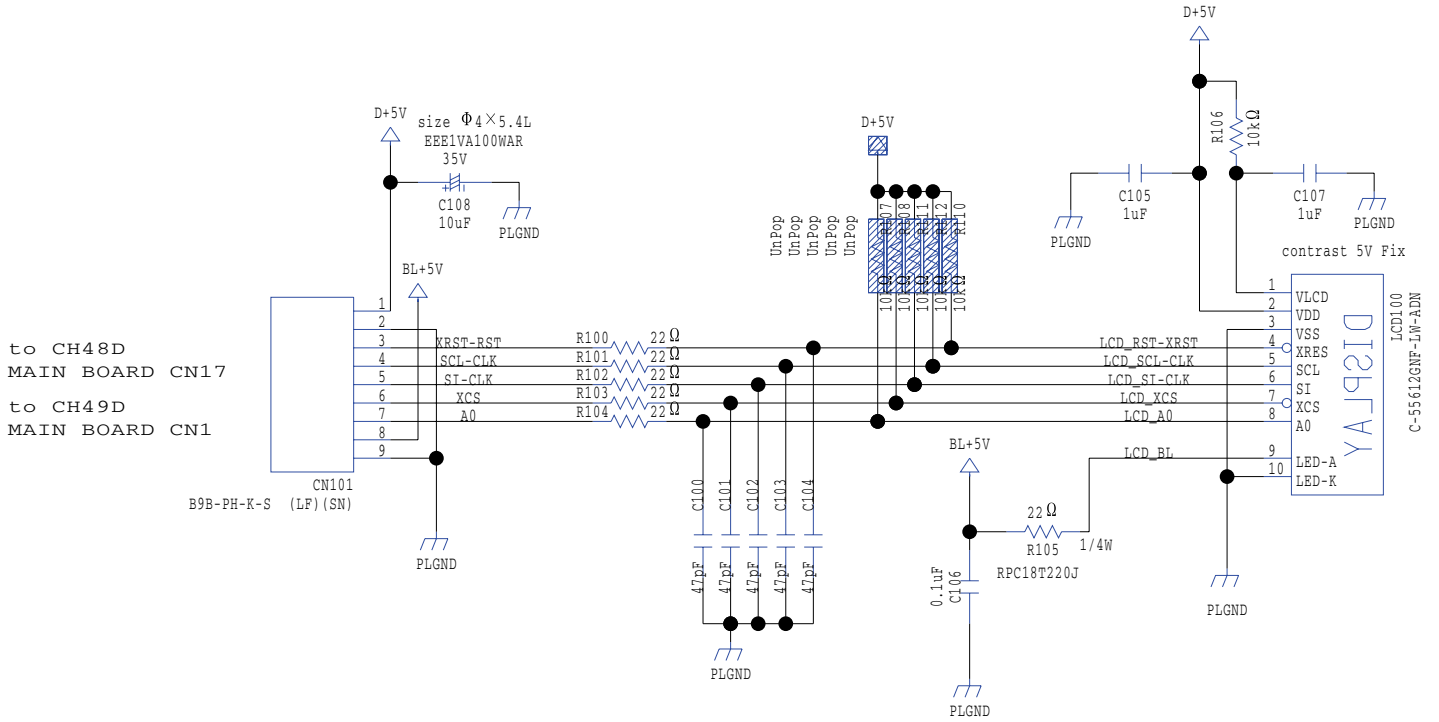
Circuit Board (Panel L/R, D-Volume, DIN-Pedal Board)



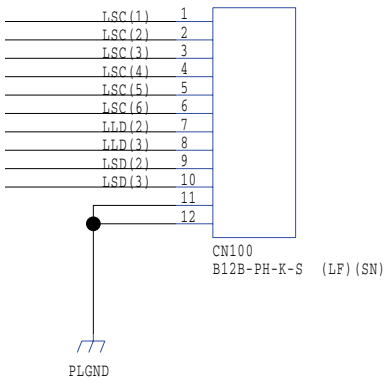


Circuit Diagram (Panel L Board)

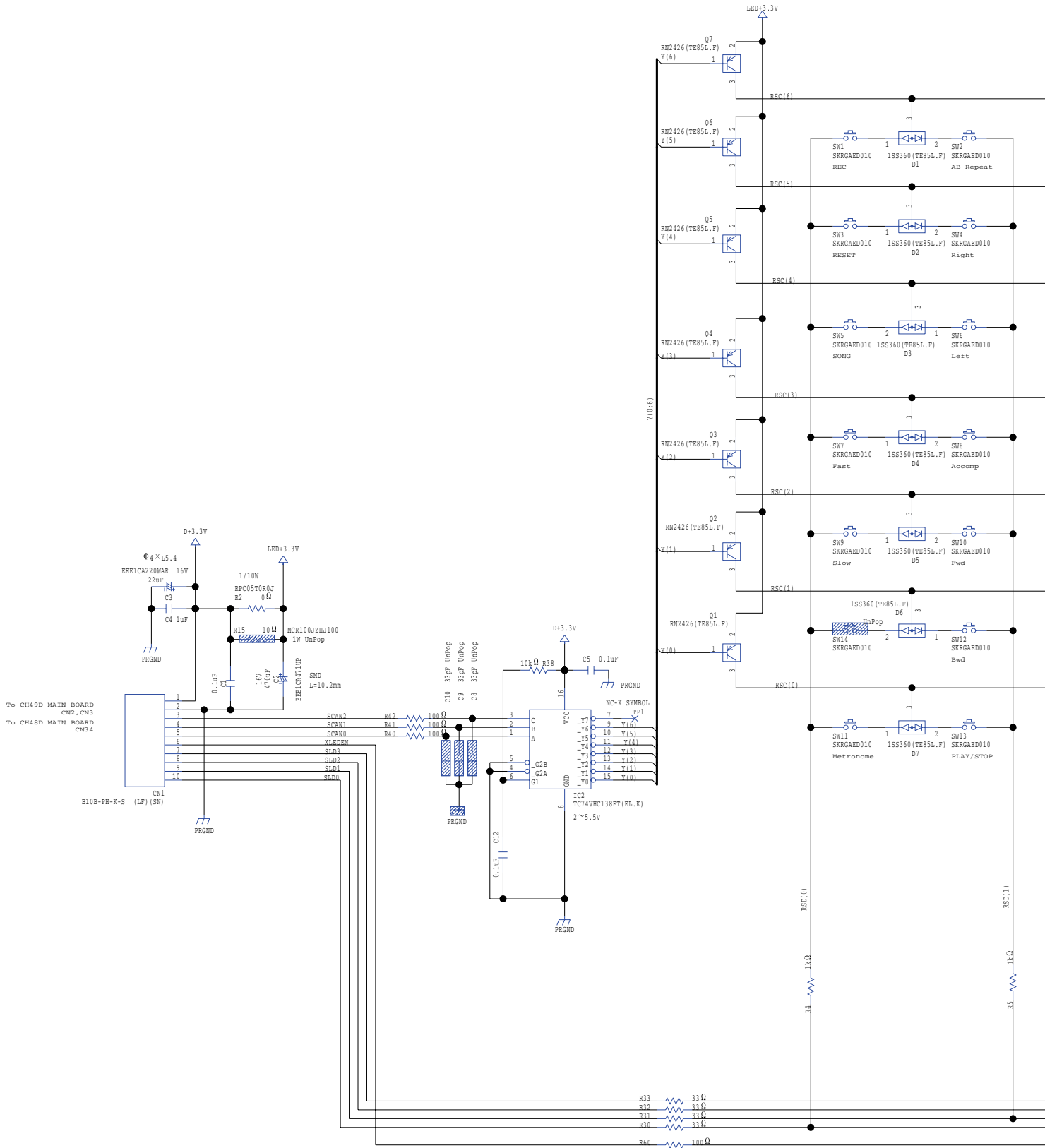


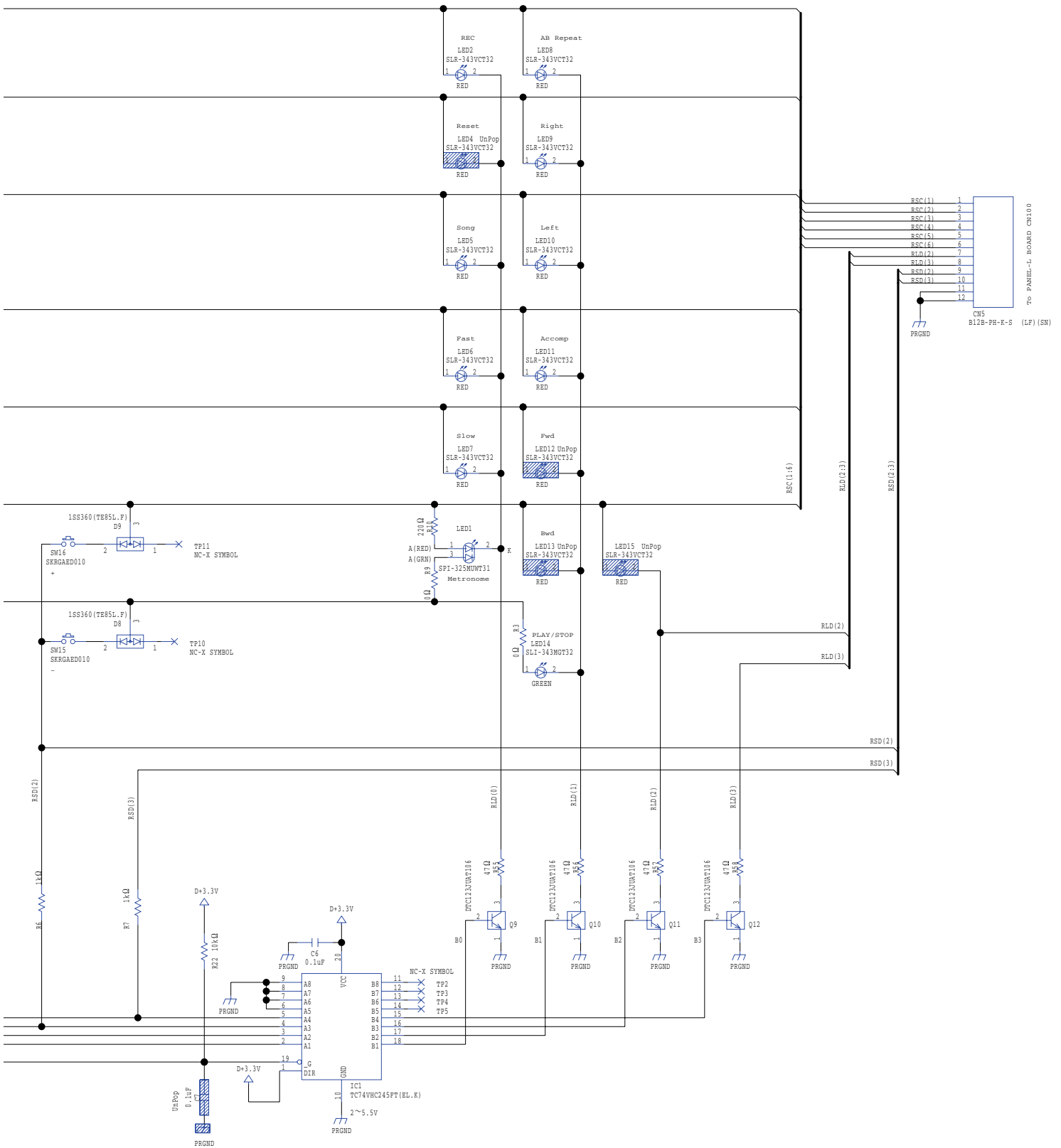


to PANEL-R BOARD CN5

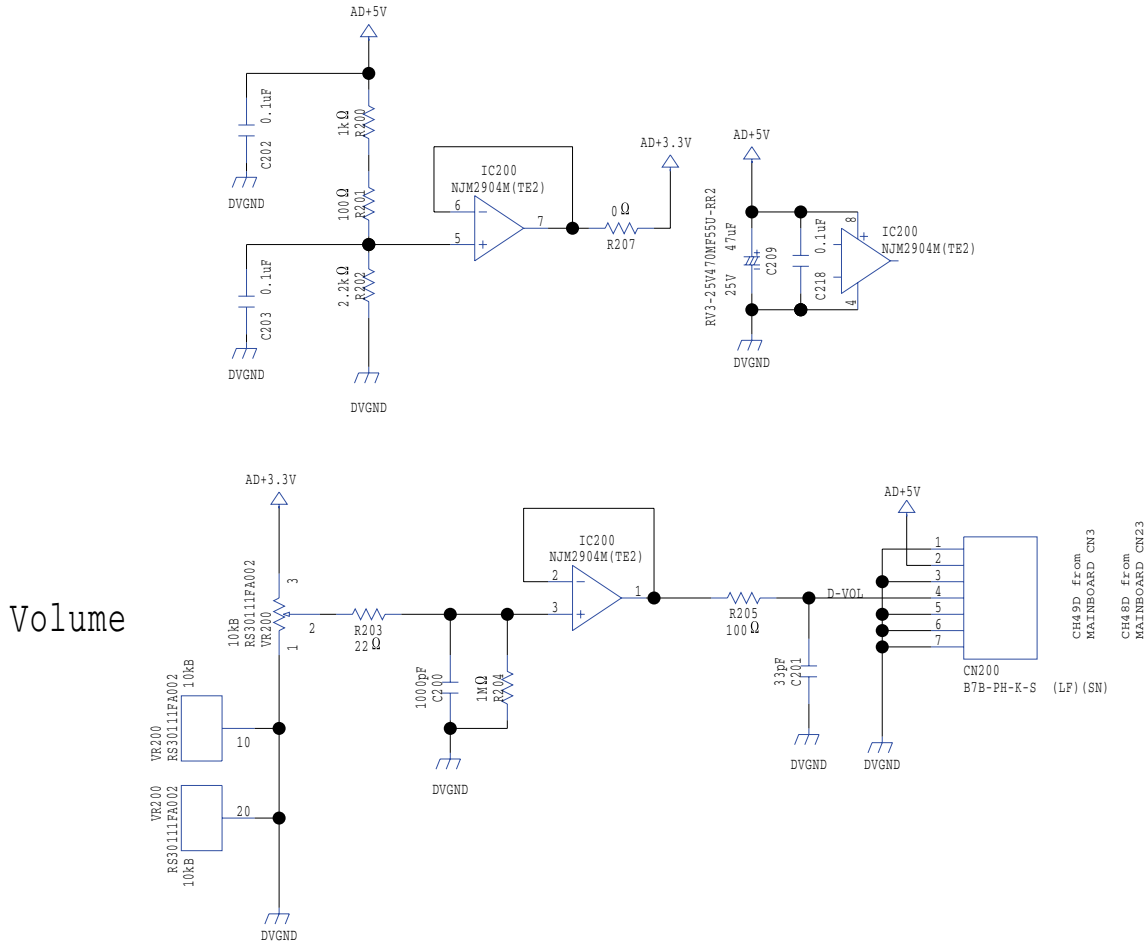


Circuit Diagram (Panel R Board)

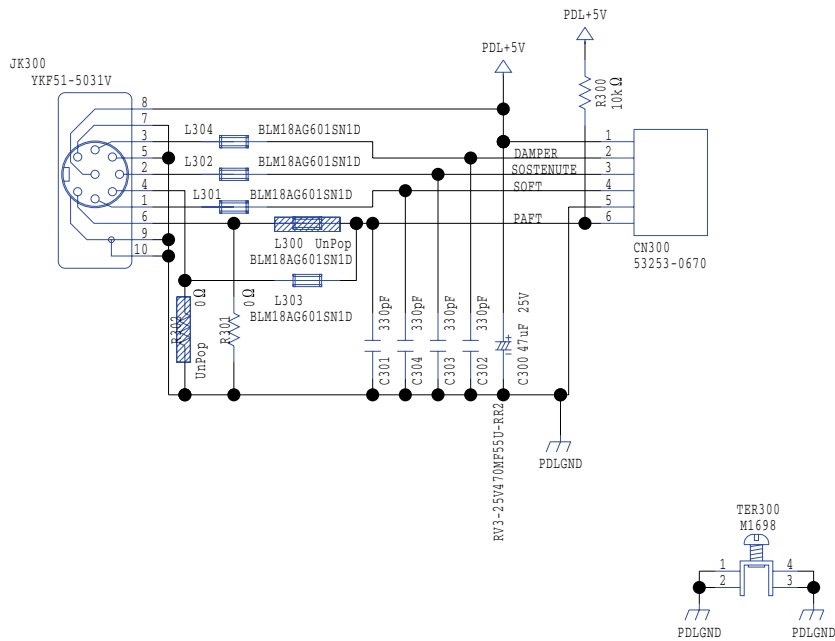




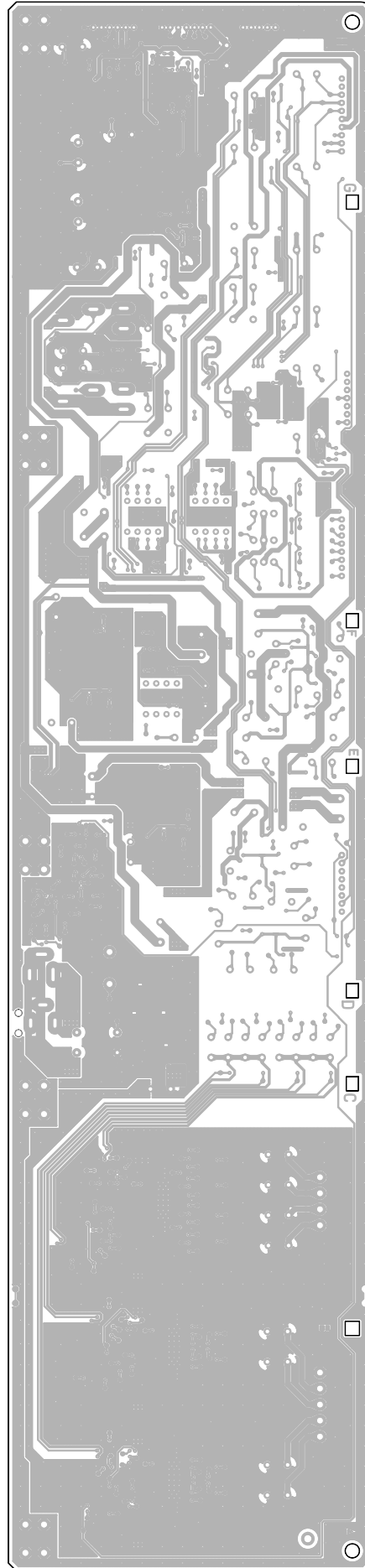
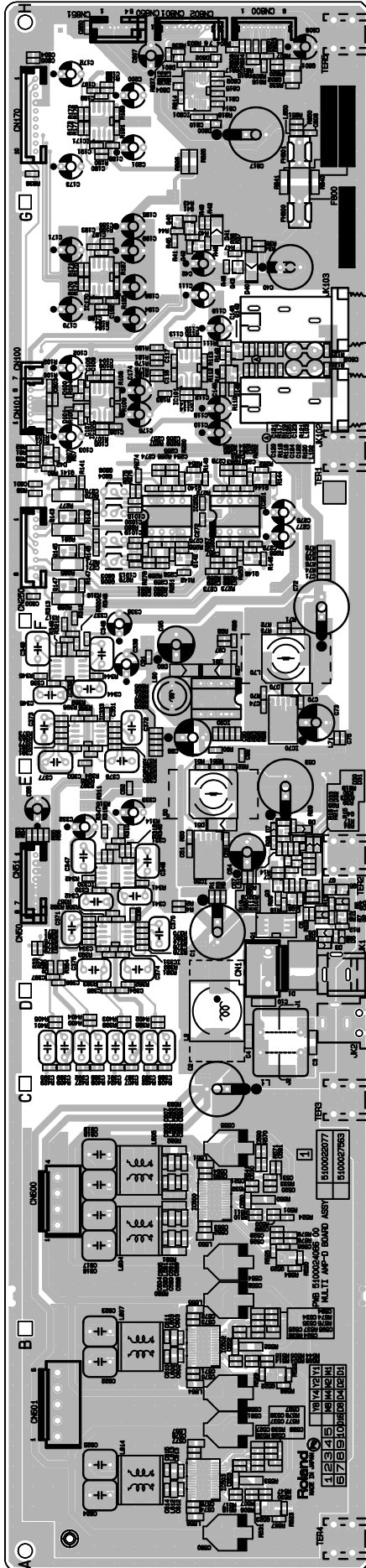
Circuit Diagram (D-Volume Board)



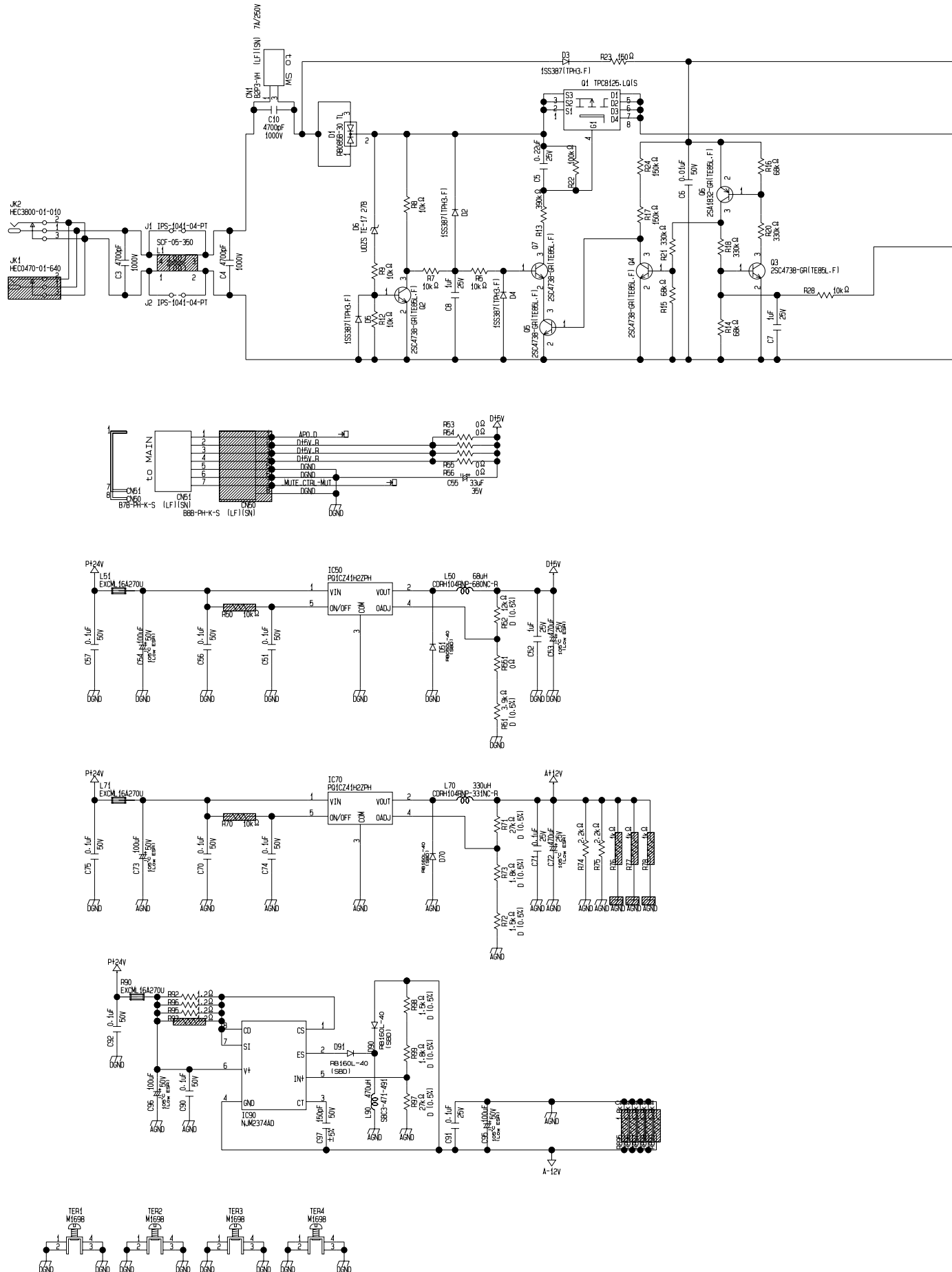
Circuit Diagram (DIN-Pedal Board)

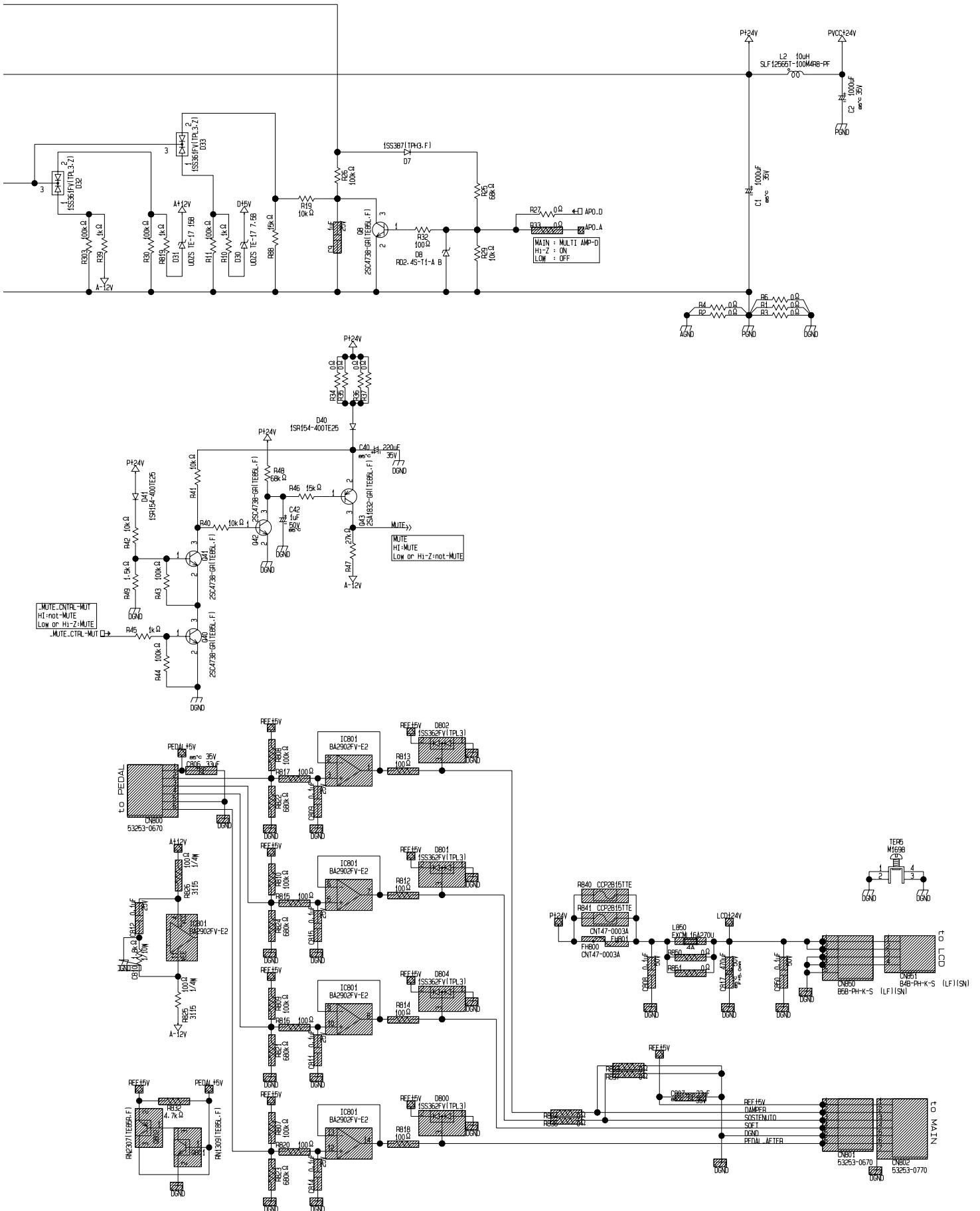


Circuit Board (Multiamp-D Board)

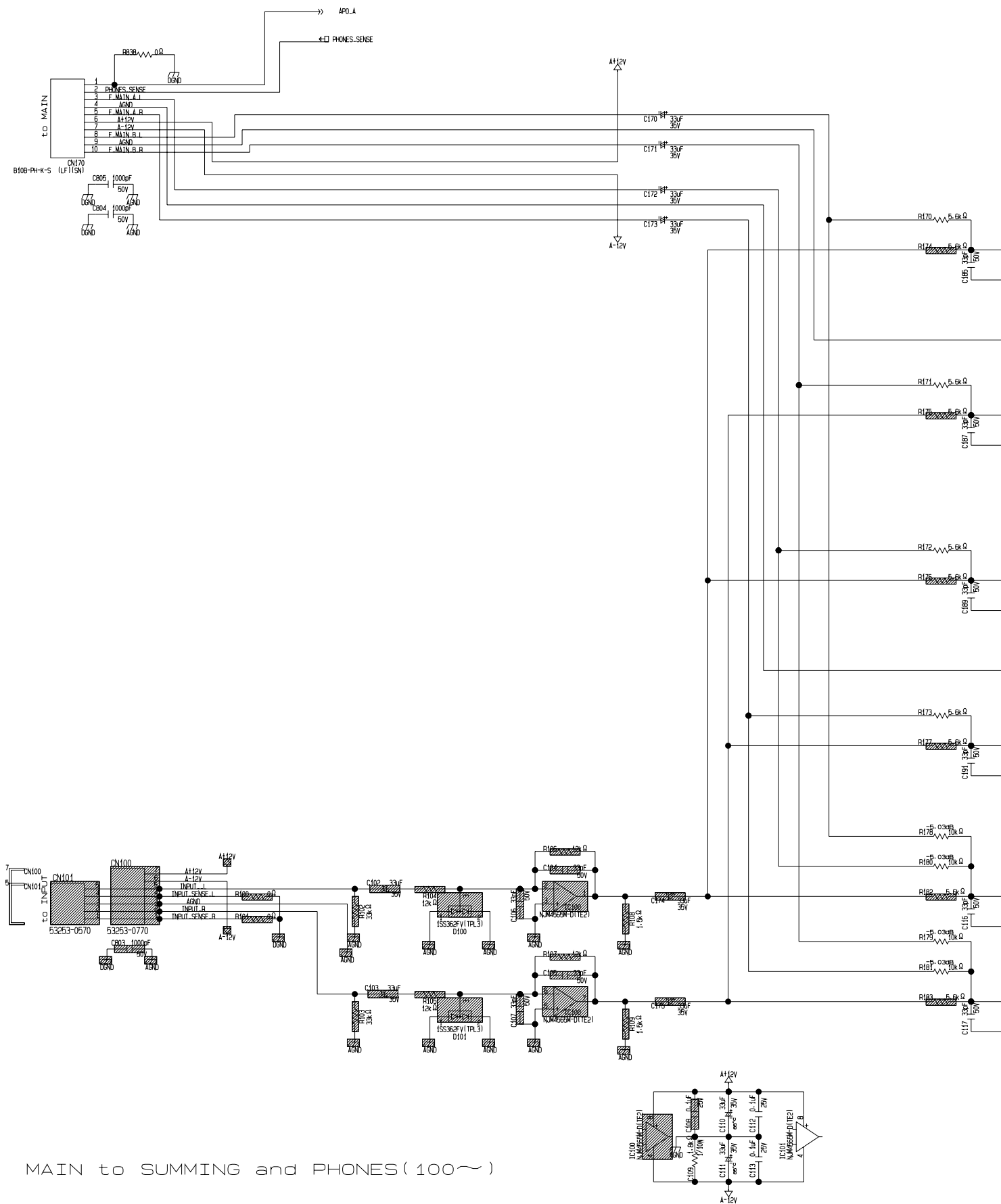


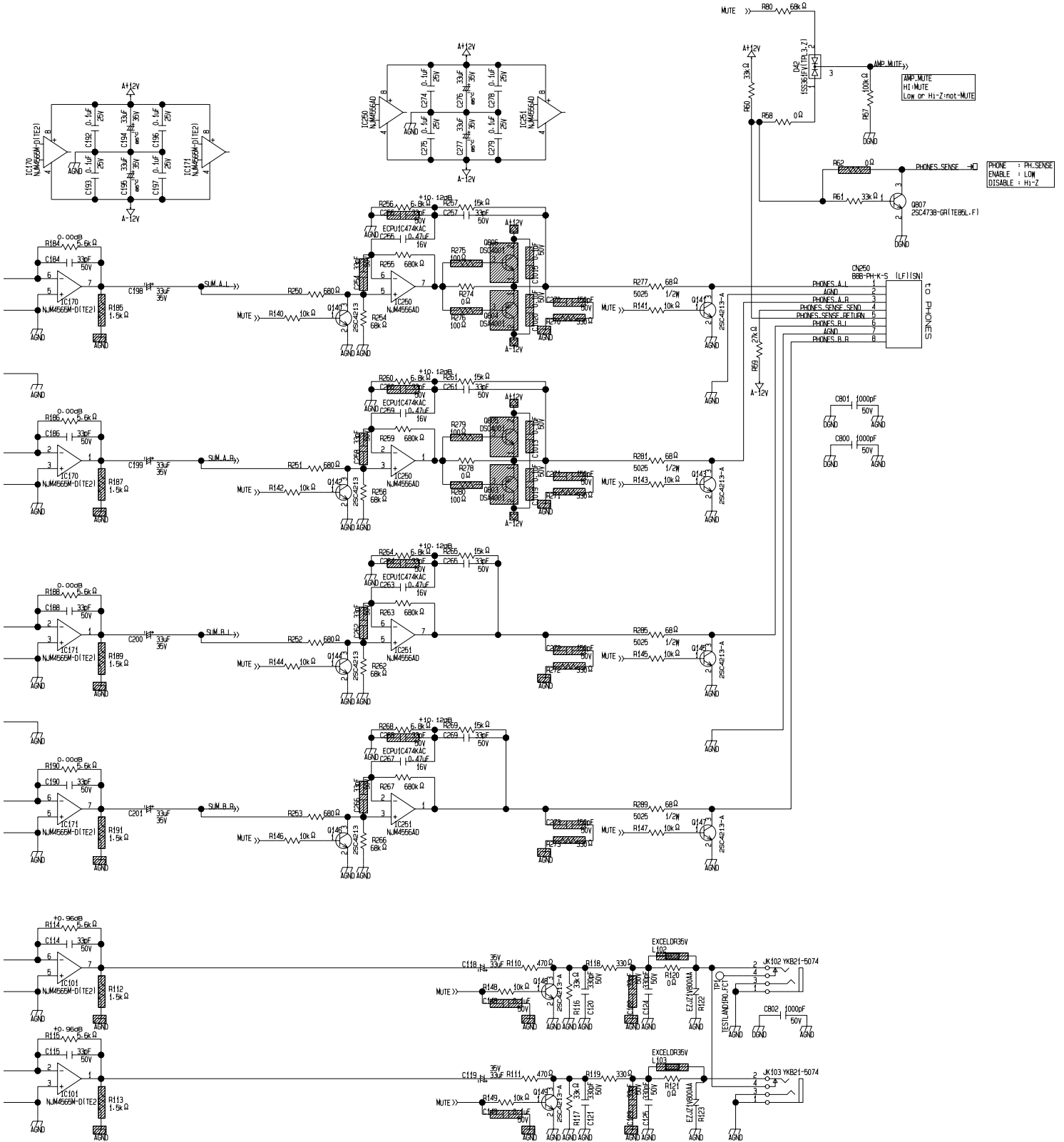
Circuit Diagram (Multiamp-D Board: 1/3)



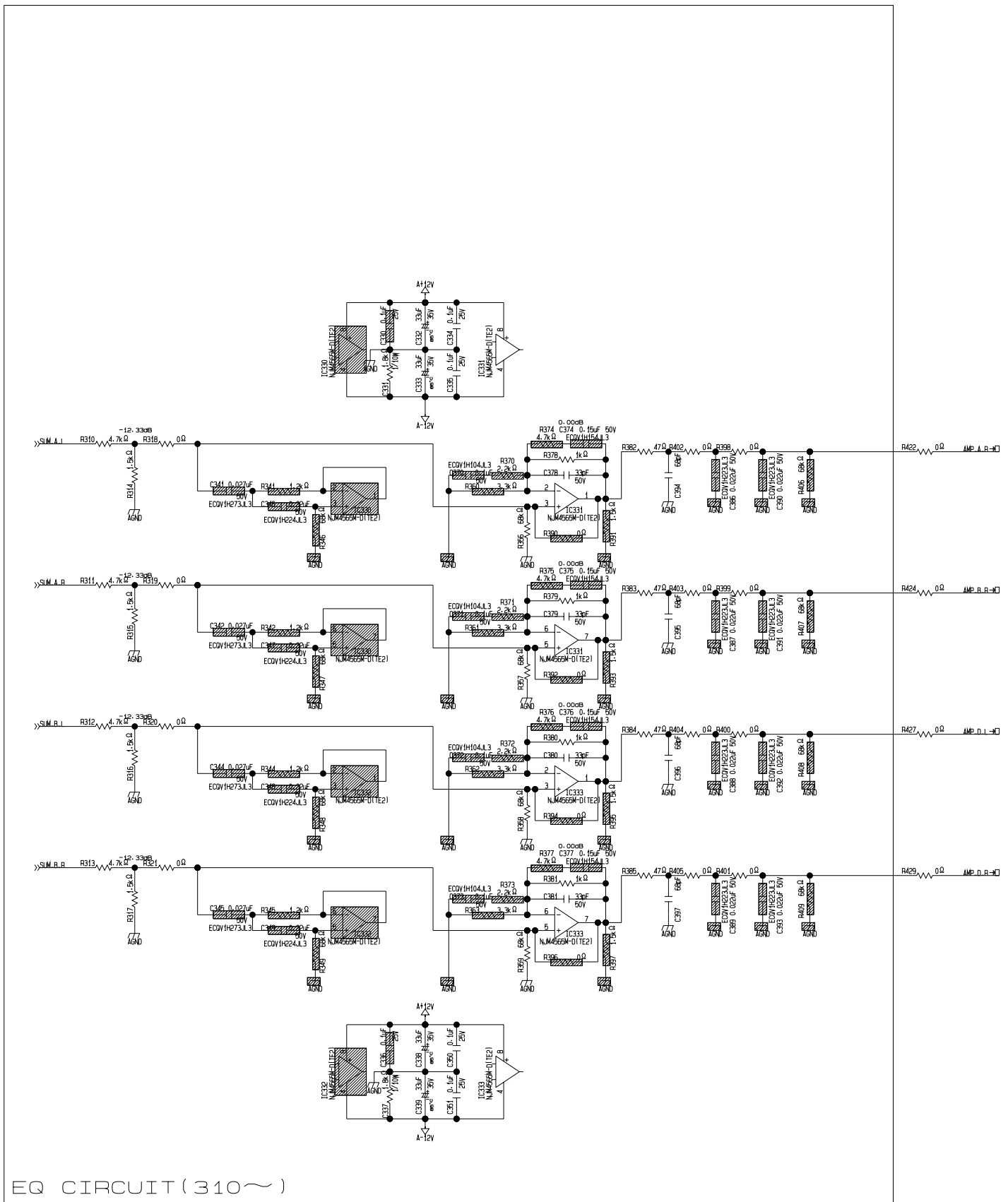


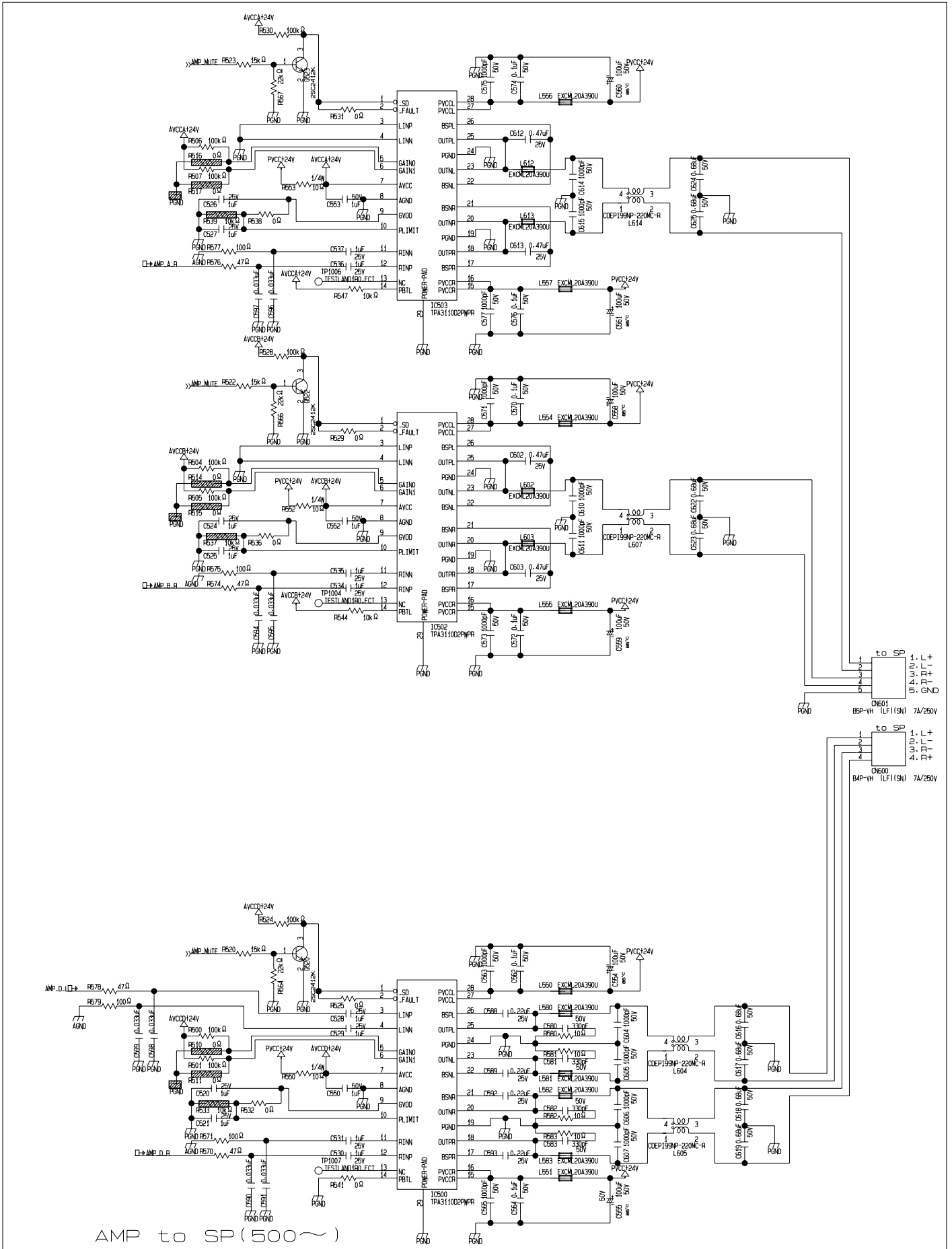
Circuit Diagram (Multiamp-D Board: 2/3)





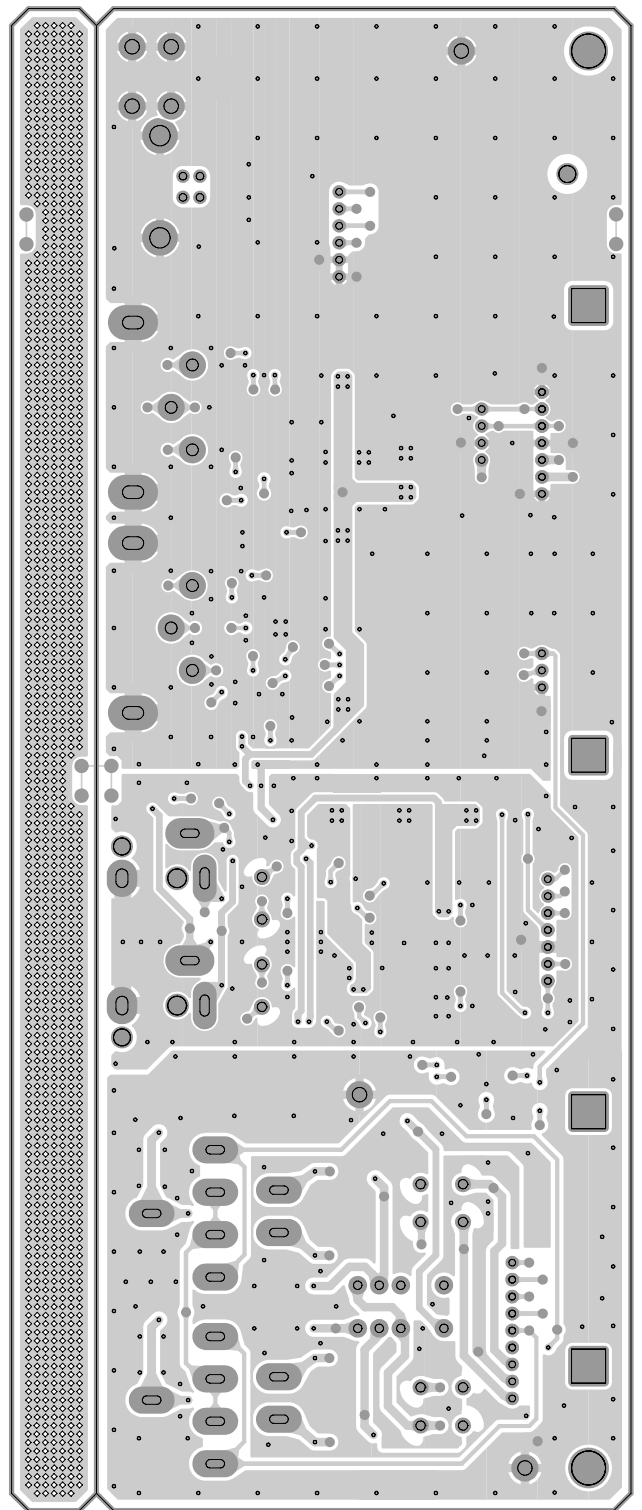
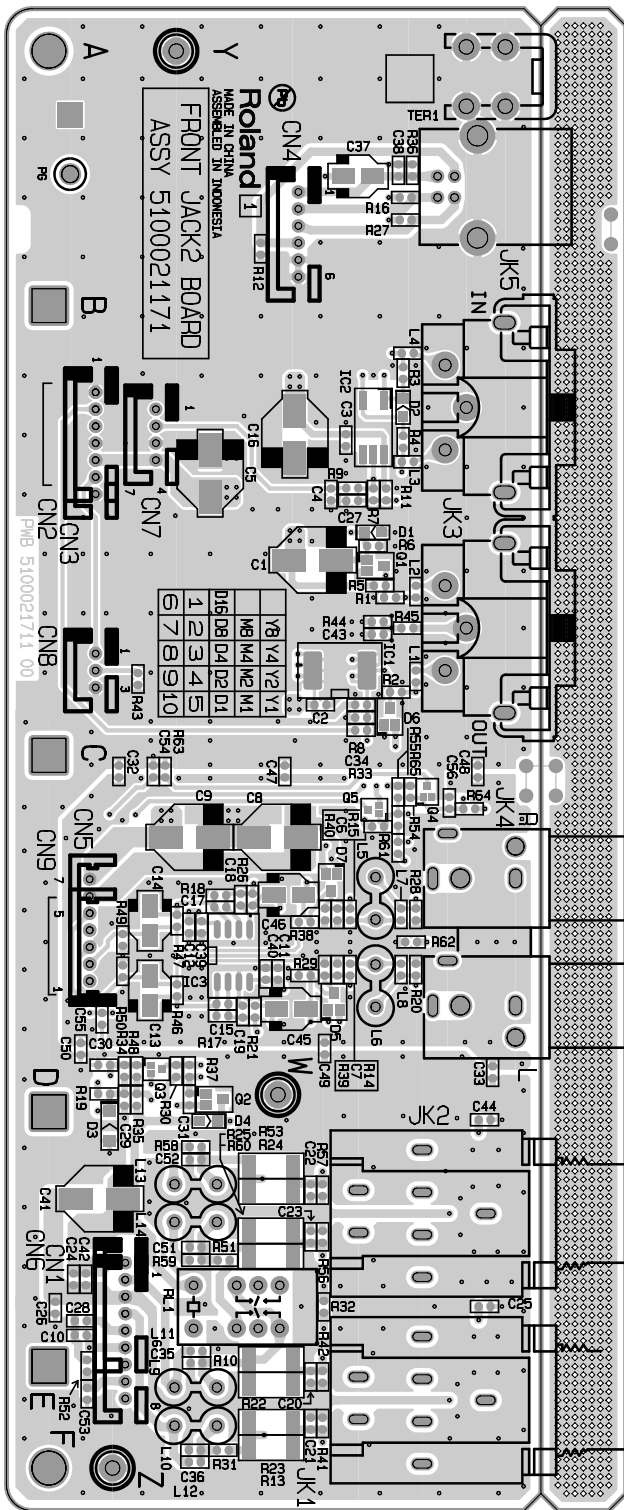
Circuit Diagram (Multiamp-D Board: 3/3)



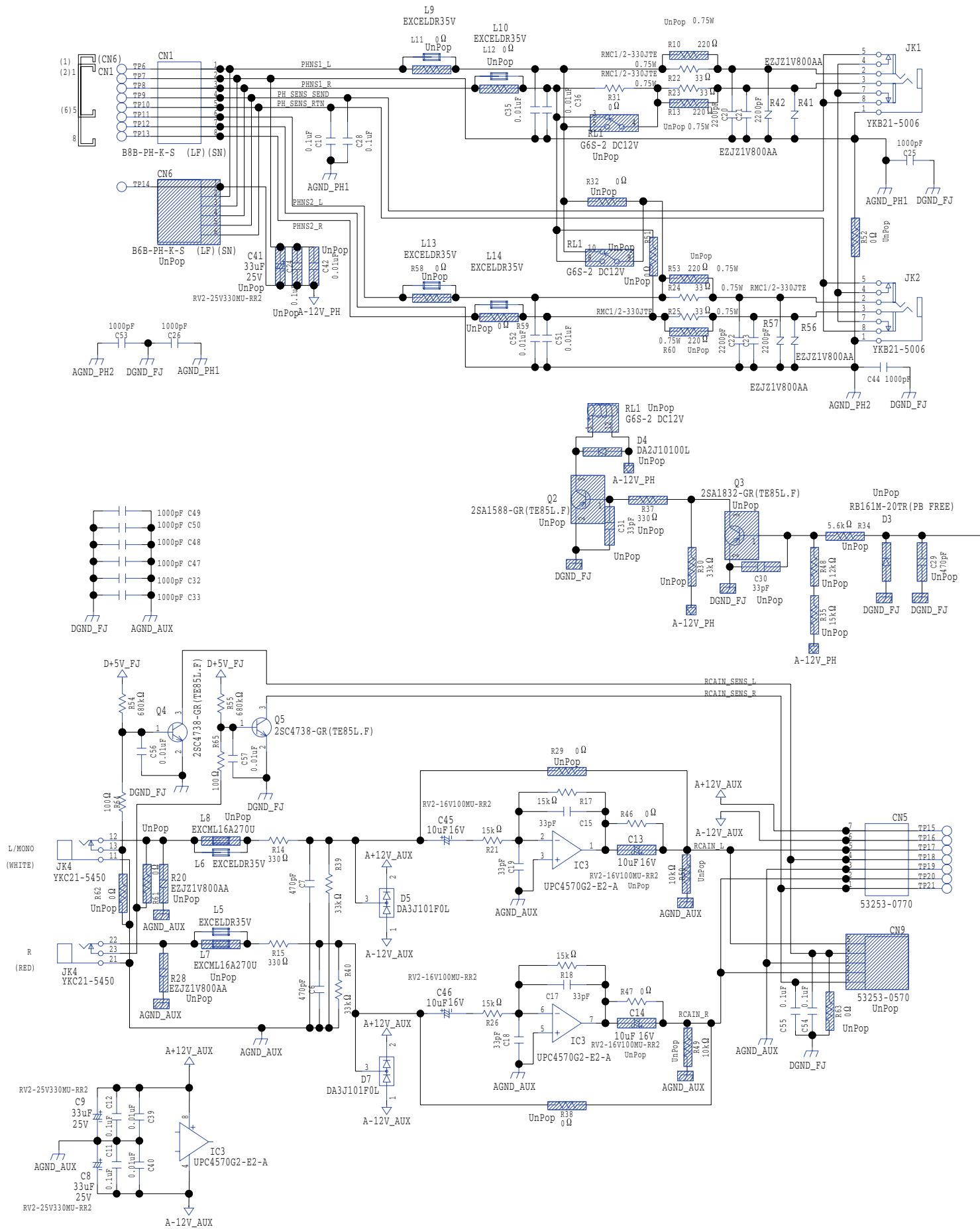


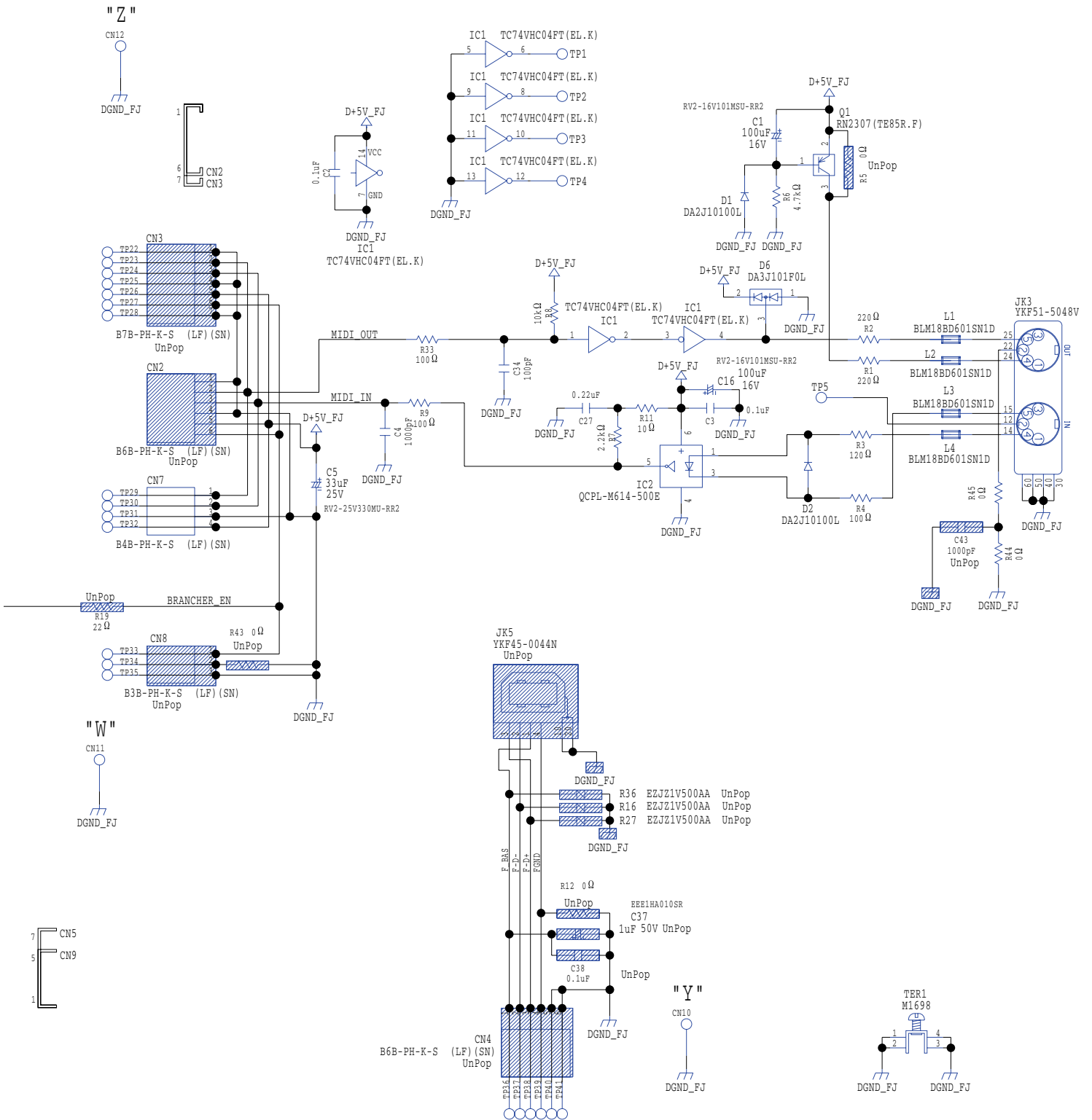
AMP to SP(500~)

Circuit Board (Front Jack Board)

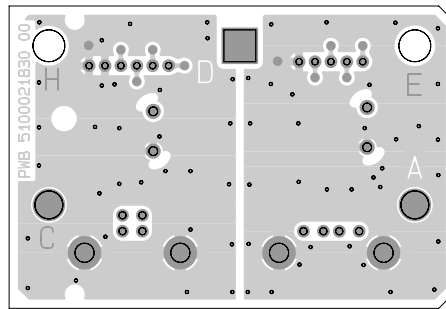
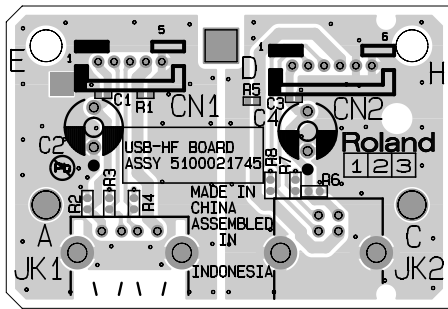


Circuit Diagram (Front Jack Board)

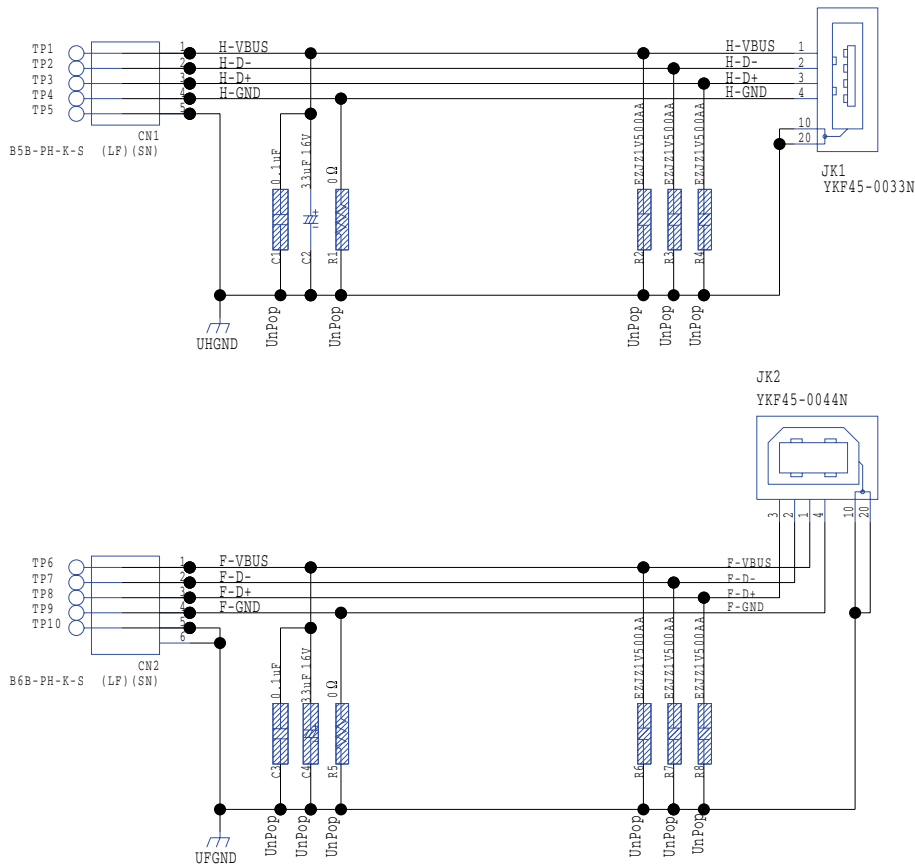




Circuit Board (USB-HF Board)



Circuit Diagram (USB-HF Board)



- CN: 1-2
- JK: 1-2
- R: 1-8
- C: 1-4