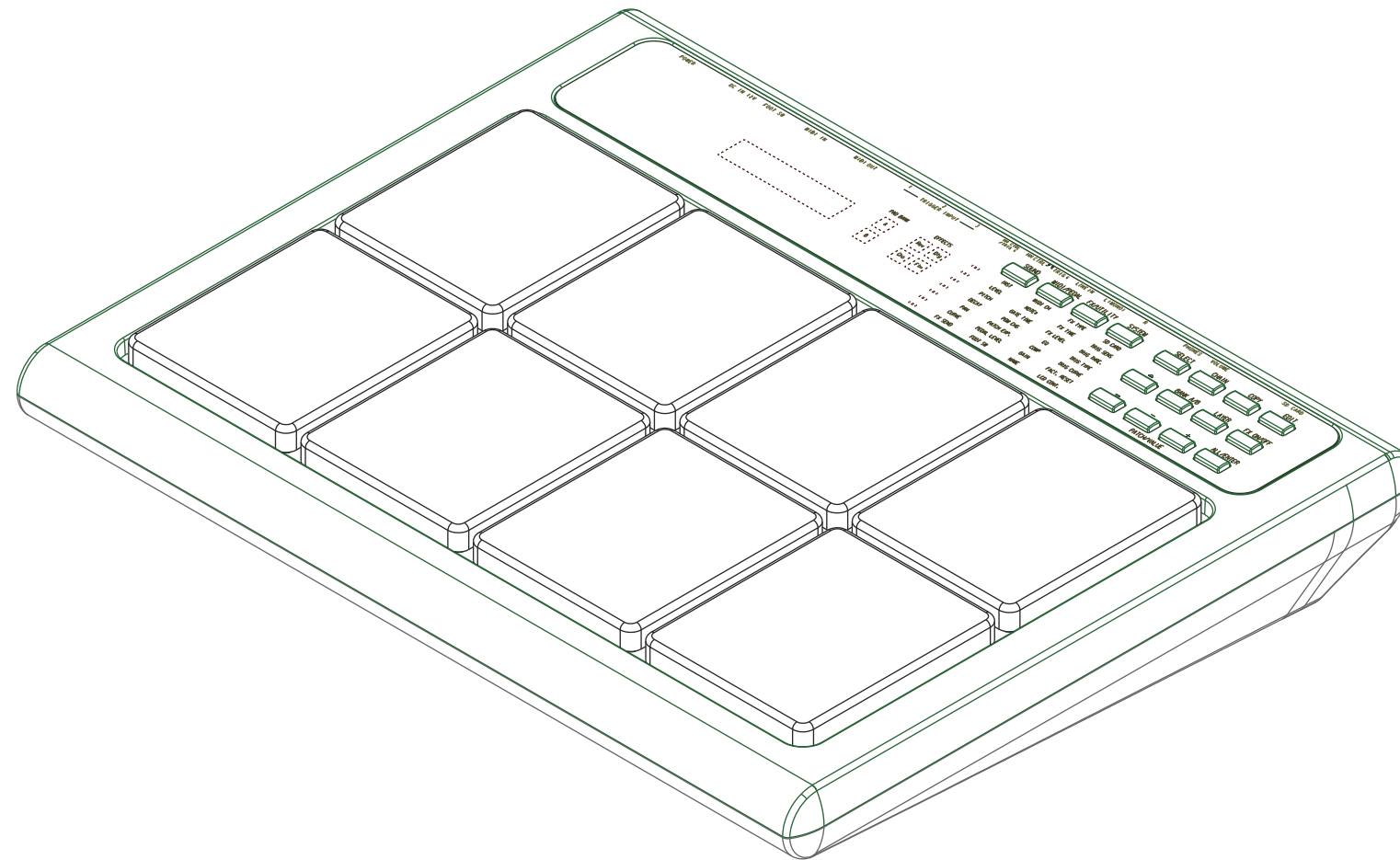
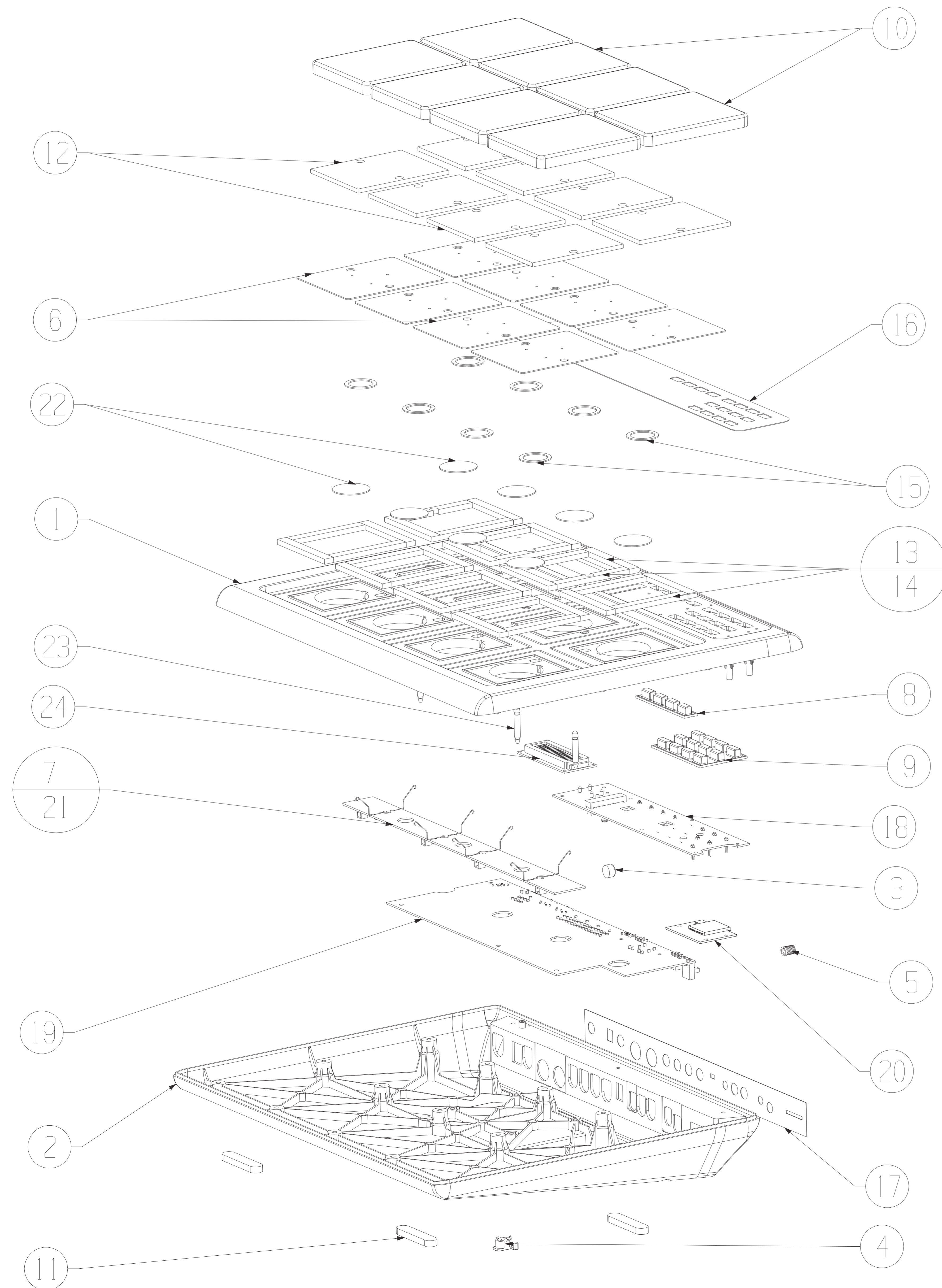


SPD-20X/SPD-20X-BK SERVICE MANUAL



2017. 11. 24 p. 2 Added parts for SPD-20X-BK.

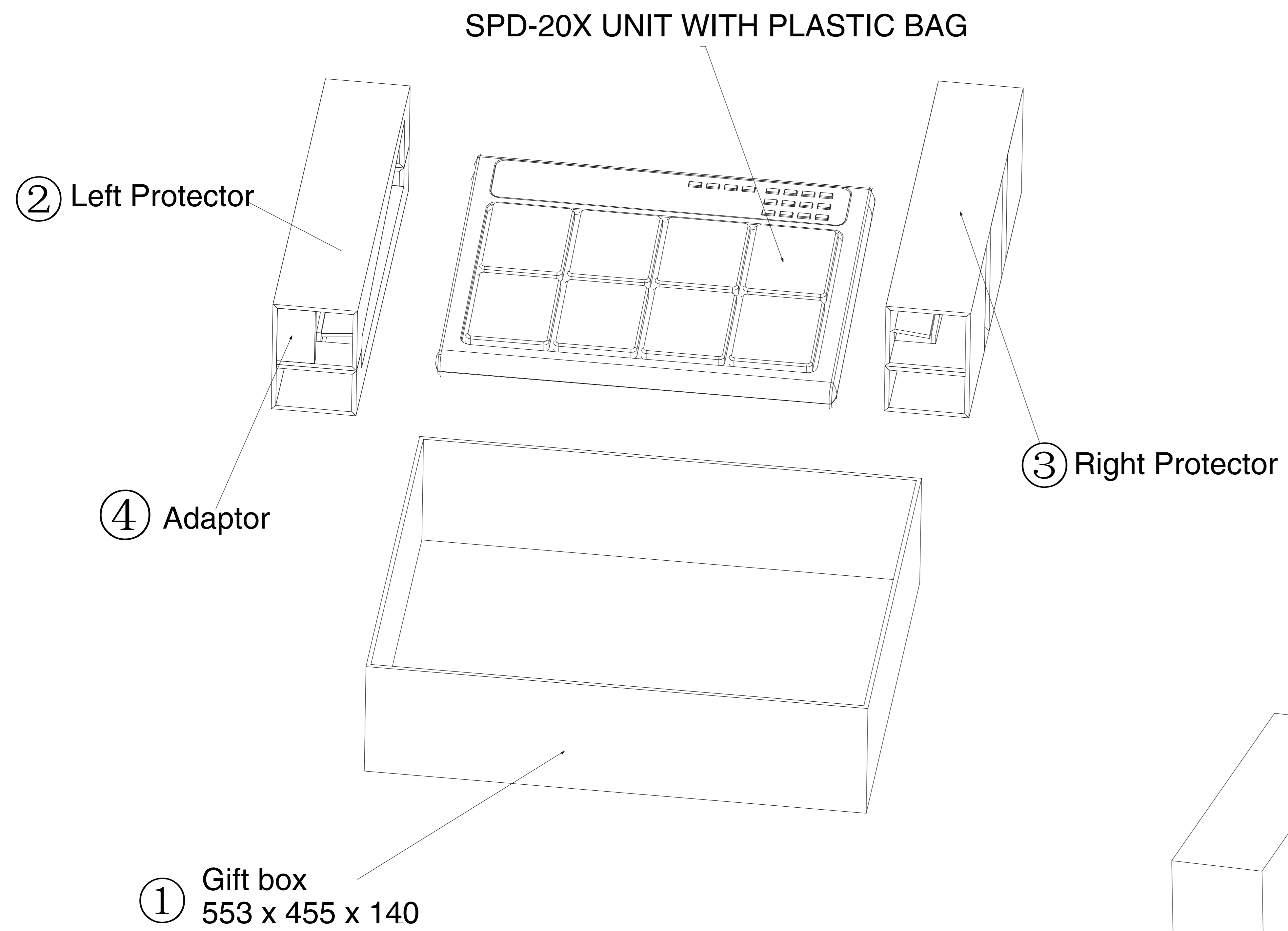
EXPLODED VIEW FOR PAD



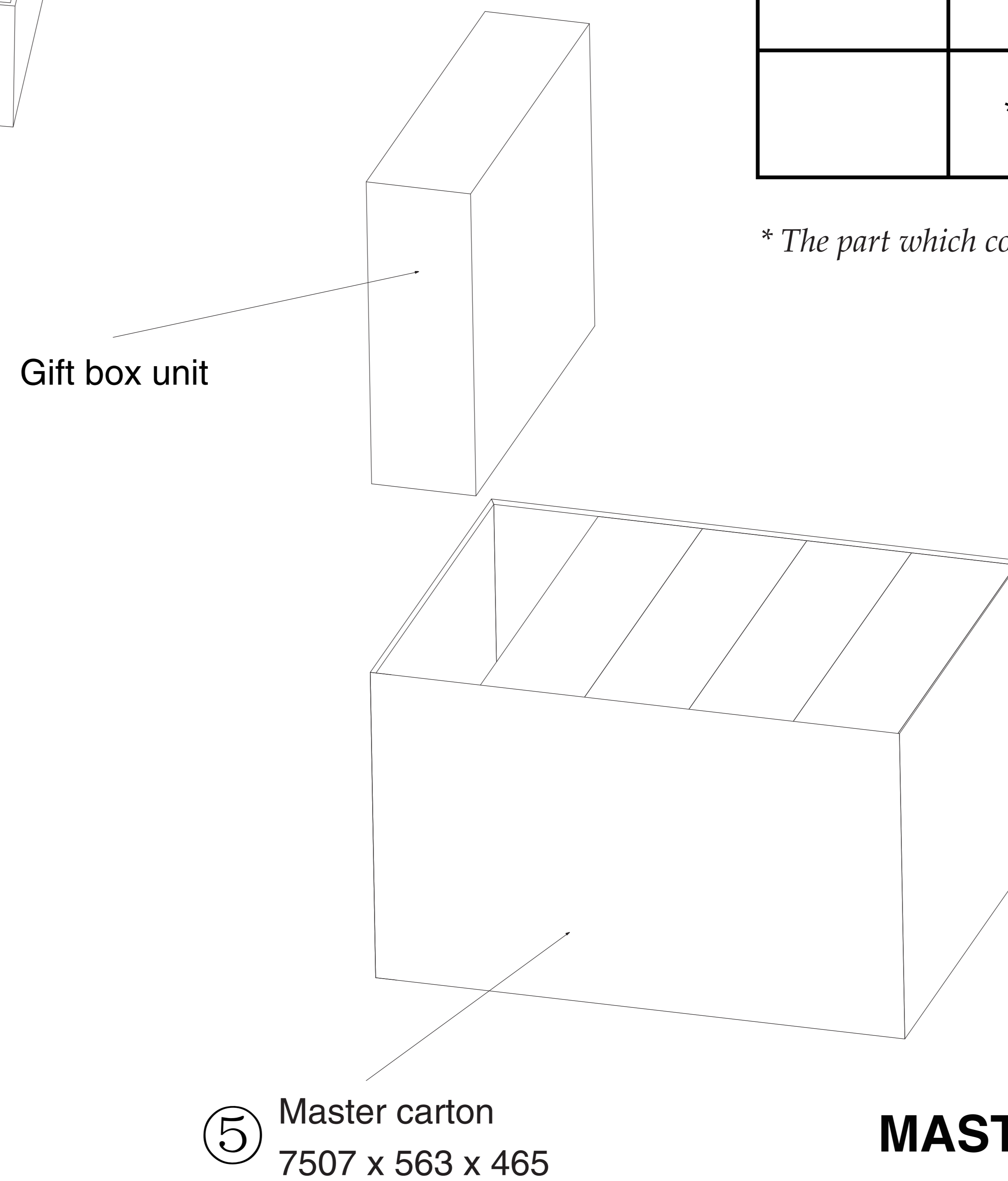
No.	Part Code	Part Name	Q'ty
1	0333661017 17042121	TOP CASE (for SPD-20X) TOP CASE (for SPD-20X-BK)	1 1
2	0333661018 17042122	BOTTOM CASE (for SPD-20X) BOTTOM CASE (for SPD-20X-BK)	1 1
3	*****	POWER BUTTON	1
4	*****	CABLE CLAMP	1
5	*****	KNOB	1
6	*****	PAD METAL BOARD	8
7	*****	T-SPRING	4
8	*****	RUBBER SWITCH (4 POINTS)	1
9	0344639246	RUBBER SWITCH (4 X 3)	1
10	0344639247	RUBBER PAD COVER	8
11	*****	RUBBER FOOT	4
12	0344639250	PAD CUSHION (PORON)	8
13	*****	EV (WITH HOLE)	3
14	*****	EV (WITHOUT HOLE)	29
15	*****	2MM DOUBLE STICKER	8
16	0353809027	FRONT COVER	1
17	0353809028	REAR COVER	1
18	17042119	PANEL BOARD	1
19	17042120	MAIN BOARD	1
20	*****	SD BOARD	1
21	*****	CONNECTION BOARD	1
22	0551000779	PIEZO SENSOR	8
23	*****	PCB SUPPORT HOLDER	3
24	0173162003	LCD UNIT	1

* The part which code is ***** is not supplied.

PACKAGING EXPOLED VIEW



GIFT BOX PACKAGING

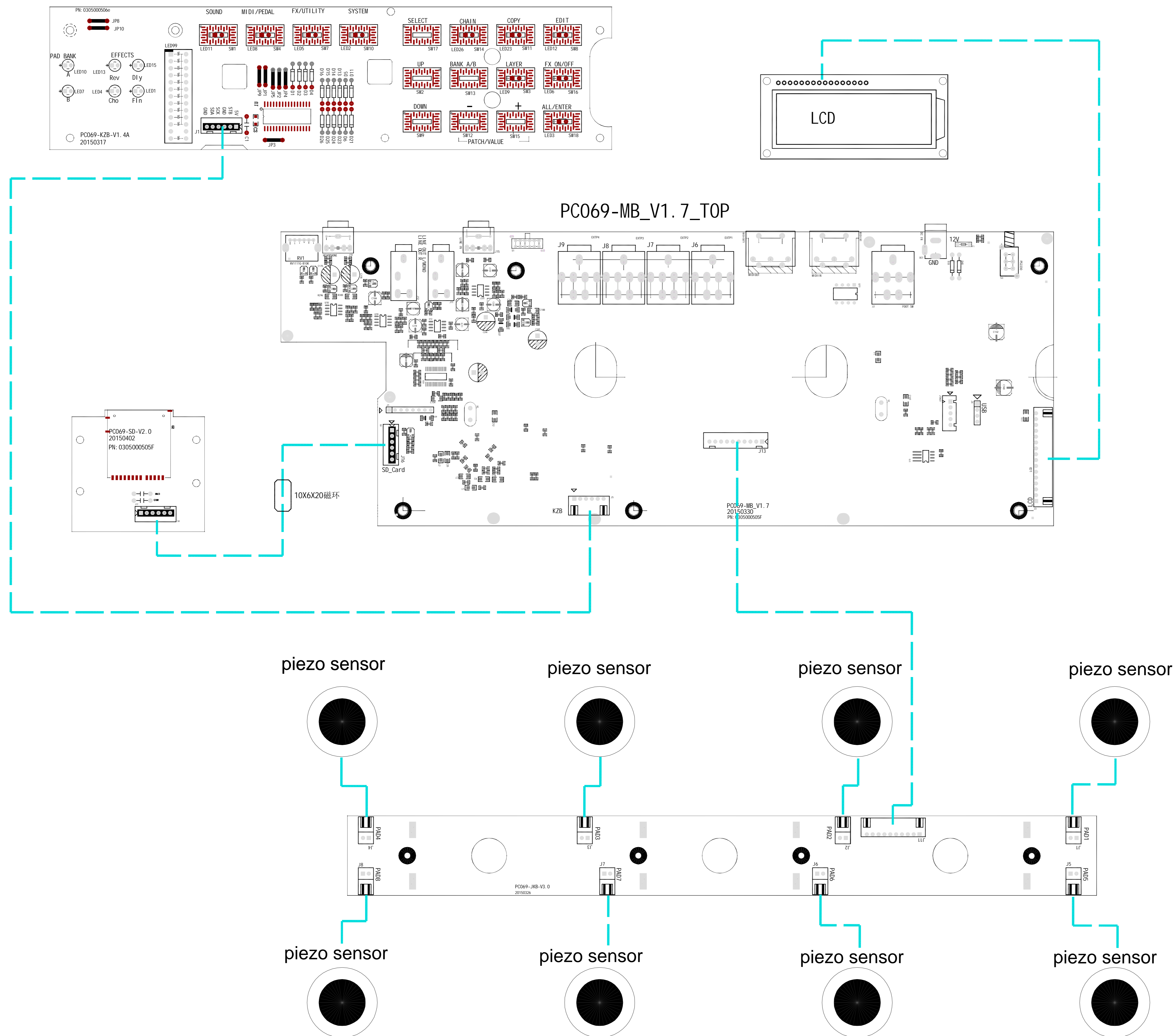


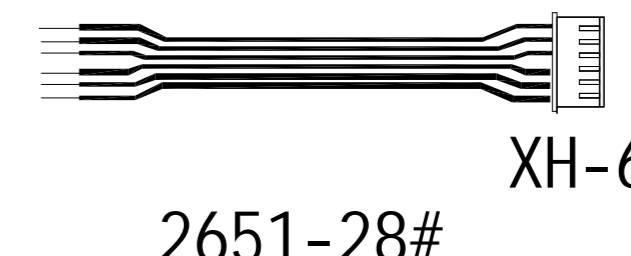
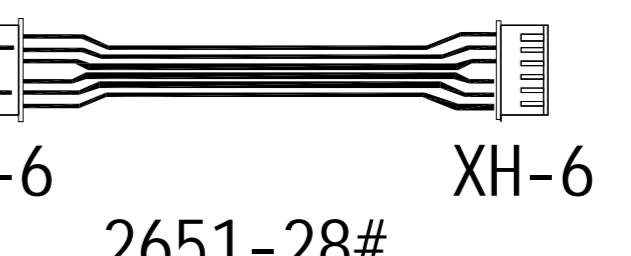
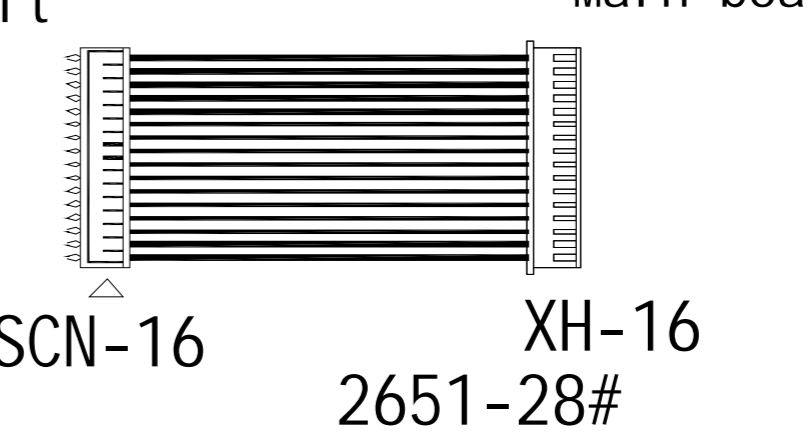
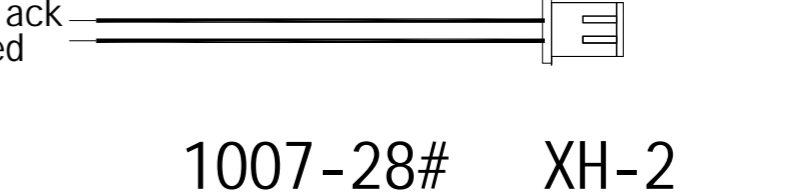
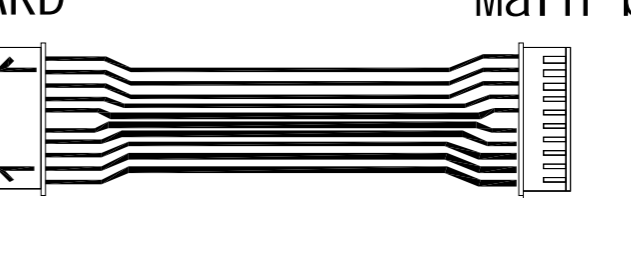
MASTER CARTON PACKAGING

No.	Part Code	Description	Q'ty
①	*****	GIFT BOX	1
②	*****	PROTECTION SIDE (LEFT)	1
③	*****	PROTECTION SIDE (RIGHT)	1
④	0462222619 0462222621	AC ADPTOR + POWER CORD (220V EU) AC ADPTOR + POWER CORD (220V IN)	1
⑤	*****	MASTER CARTON	1
	*****	OWNER'S MANUAL	1
	*****	PLASTIC BAG	1

* The part which code is ***** is not supplied.

CONNECTION



PCB CONNECTION CABLE BOM					1-1
NO.		LENGTH(mm)	QTY	ACTION	
1-1-1	PANEL CONTROL BOARD J1 Main board J5  XH-6 2651-28#	L=200	1	Soldering	
1-1-2	SD CARD BOARD Main board J16  XH-6 XH-6 2651-28#	L=170	1	Assembling	
1-1-3	LCD unit Main board J3  SCN-16 XH-16 2651-28#	L=250	1	Soldering	
1-1-4	PIEZO SENSOR Main BOARD  black red 1007-28# XH-2	L=60	8	Soldering	
1-1-5	Main BOARD Main board J13  XH-10 XH-10 2651-28#	L=100	1	Assembling	

TEST MODE (VER 011)

To Enter TEST MODE, hold both [SELECT] and [CHAIN] button, and then boot SPD-20X.

To check Firmware Version:

F	W		V	E	R	:		a	a	a						
S	U	M	:		b	b	b	b	b	b	b	b				

aaa: the current FirmWare version number. *Update via SD card.*

bbbbbbbb: Firmware checksum, don't care.

After several seconds, Display change to:

C	a	I	.		S	B	_	S	U	M	.	.	.			

At this moment, system will calculate SoundBank checksum, to check the integrity of the SoundBank. This feature is only available on MP-3 and later units. MP-1 & MP-2 units can't get the calculation result.

To check SoundBank, after Firmware check, wait 6 to 7 minutes, Display change to:

S	o	u	n	d	B	a	n	k	:		c	c	c	c		
S	U	M	:		d	d	d	d	d	d	d	d				

cccc: Soundbank firmware (bootloader) version.(not the FirmWare version). *Only updateable in factory.*

ddddddd: SoundBank checksum. If one unit has different checksum, it will not sound, or some instruments will not sound. *Update via SD card.*

To check other features instead of SoundBank checksum,
Press [▲], [BANK A/B], [LAYER] or [FX ON/OFF] when calculating SoundBank checksum.

Press [▲] to check LCD and LED.

Display LCD will be full-on and later comes numbers & letters. After that all button/indicator LED blink several times.

Press [BANK A/B] to check Pads.

Pad number will be shown on upper screen and velocity on lower screen. Strike each pad multiple times with same velocity (to check equality) and max velocity (to check crosstalk). If crosstalk problem happens, strike on one PAD other PAD's name will be displayed.

Press [LAYER] to check SD card.

Display will be updated when SD card is inserted or ejected.

Press [FX ON/OFF] to check buttons.

Press any button, its name will be displayed. *Can't return to other check modes.*

Power OFF to exit test mode.

PAD NO.



TEST MODE (VER 010)

To Enter TEST MODE, hold both [SELECT] and [CHAIN] button, and then boot SPD-20X.

Pls be aware that in VER 010 test mode, test order is determined, you must follow the sequence.

To check Firmware Version:

F	W		V	E	R	:		a	a	a						
S	U	M	:		b	b	b	b	b	b	b	b				

aaa: the current FirmWare version number. *Update via SD card.*

Bbbbbbbb: Firmware checksum, don't care.

Soundbank version and checksum is not available in this version.

To check LCD and LED:

After several seconds, LCD & LED tests will be followed automatically.

Display LCD will be full-on and later comes numbers & letters. After that all button/indicator LED blink several times.

To check Pads:

After LCD & LED check, it goes to PAD check automatically.

Pad number will be shown on upper screen and velocity on lower screen. Strike each pad multiple times with same velocity (to check equality) and max velocity (to check crosstalk).

If crosstalk problem happens, strike on one PAD other PAD's name will be displayed.

To check Buttons:

After Pad check, Press [SELECT] and [CHAIN] again to check buttons.

Press any button, its name will be displayed.

To check SD card:

After Button check, Press to [SELECT] and [COPY] to check SD card.

Display will be updated when SD card is inserted or ejected.

Power OFF to exit test mode.

TO RESTORE TO FACTORY SETTINGS (all version)

Boot Device Normally.

Press [EDIT] button.

Press [SYSTEM] button.

Use [▲] or [▼] to select FACT.RESET.

▲	F	A	C	T	O	R	Y		R	E	S	E	T		
					P	R	E	S	S	[E	N	T	E	R]

Press [ALL/ENTER]

▲	F	A	C	T	O	R	Y		R	E	S	E	T		
								S	u	r	e	?	Y	e	s

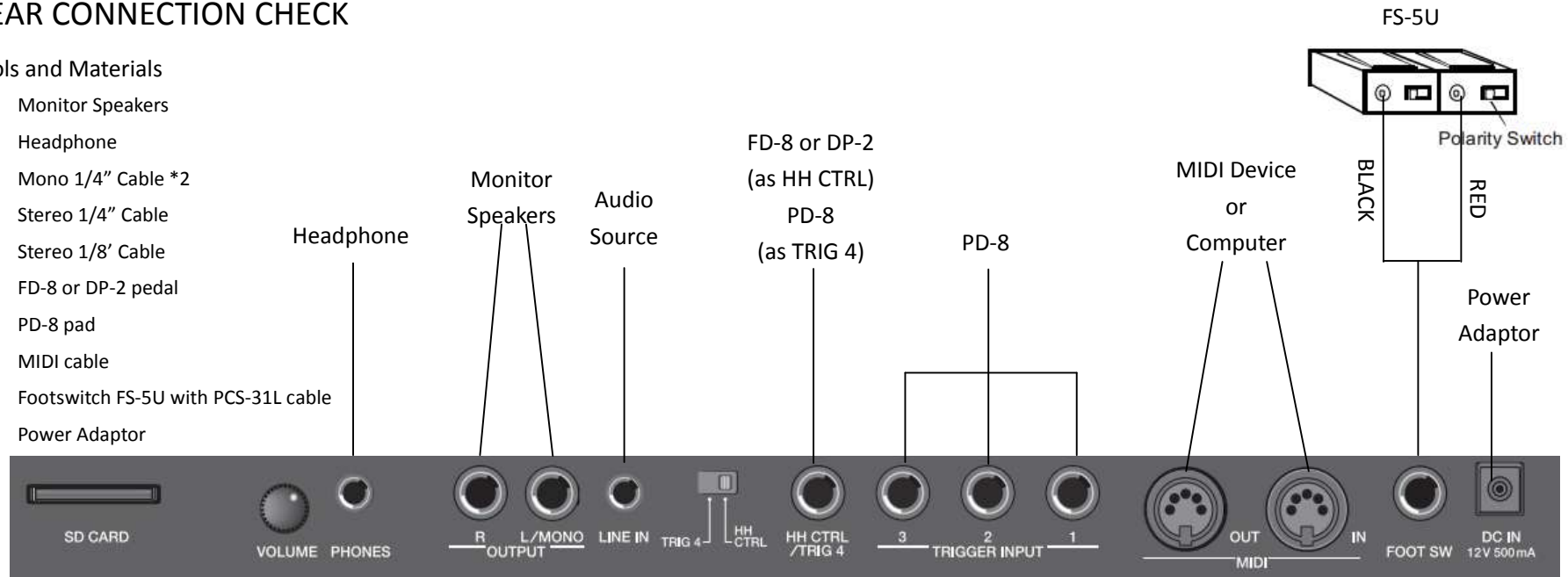
Use [-] or [+] to select Yes.

Press [ALL/ENTER] again to confirm.

REAR CONNECTION CHECK

Tools and Materials

- Monitor Speakers
- Headphone
- Mono 1/4" Cable *2
- Stereo 1/4" Cable
- Stereo 1/8" Cable
- FD-8 or DP-2 pedal
- PD-8 pad
- MIDI cable
- Footswitch FS-5U with PCS-31L cable
- Power Adaptor



Connect all rear jacks as shown in the diagram and power on.

To check PHONES:

Connect a headphone to [PHONE] jack. Listen to the headphone while striking on pads. In the Headphone it should be stereo output. Meanwhile, rotate [VOLUME] knob to check it.

To check OUTPUTs:

Connect [OUTPUT] jacks to Monitor Speakers via 1/4" Cable*2. Both speakers should have sound when striking pad.

To check LINE IN:

Connect [LINE IN] jack to any audio source via Stereo 1/8" Cable. Play the audio source and listen in Headphone or Monitor Speakers.

To check HH CTRL:

Turn the switch to [HH CTRL], press down DP-2 or FD-8, there should be a close pedal (pedal chick) sound. Instrument belong to HH group should be able to be controlled by the pedal. For example, default PATCH 1, PAD 8 can be controlled by pedal.

To check TRIGGER INPUTs:

Turn the switch to [TRIG 4]. Connect PD-8 to any TRIGGER INPUT via 1/4" stereo cable. Press [EDIT] button, then press [SOUND] or [MIDI/PEDAL] button.

Strike PD-8 from TRIG 4 to TRIG 1. Its name will be displayed on the top-right screen.

For example, TRIG 1 Head: EX1H, TRIG 1 Rim: EX1R.

Press [EDIT] again to exit.

To check MIDI:

Connect MIDI jacks to any MIDI device or computer. Be aware of note differences on midi devices.

Strike any pad and then check sound on device or data on computer.

Send note from midi device or computer, check sound on SPD-20X.

To check FOOT SW:

Connect FS-5U as instructed via PCS-31L cable. Press down switch pedal to change patch forward or backward. Make sure the FOOT SW function is set to PATCH SHIFT under [MIDI/PEDAL] → [FOOT SW] menu.

To check DC IN:

Drag the power adaptor output jack multiple times, and check the power will be cut off or not.

UPDATE MODE

How to update Firmware

Save the firmware file on SD card, name it as SPD20AFW.BIN. Insert SD card. Boot SPD-20X while holding both [-] and [+] buttons.

S	P	D	-	2	0	X		U	P	D	A	T	E		
F	i	r	m	w	a	r	e		U	p	d	?			

Press [ALL/ENTER] in this screen. Wait until it shows COMPLETED. It might take 10 seconds.

How to update Soundbank

Save the soundbank file on SD card, name it as SPD20ASB.BIN. Insert SD card. Boot SPD-20X while holding both [-] and [+] buttons. Use [▲] or [▼] to swap menu.

S	P	D	-	2	0	X		U	P	D	A	T	E		
S	o	u	n	d	b	a	n	k		U	p	d	?		

Press [ALL/ENTER] in this screen. Wait until it shows COMPLETED. It might take 1.5 - 2 hours.

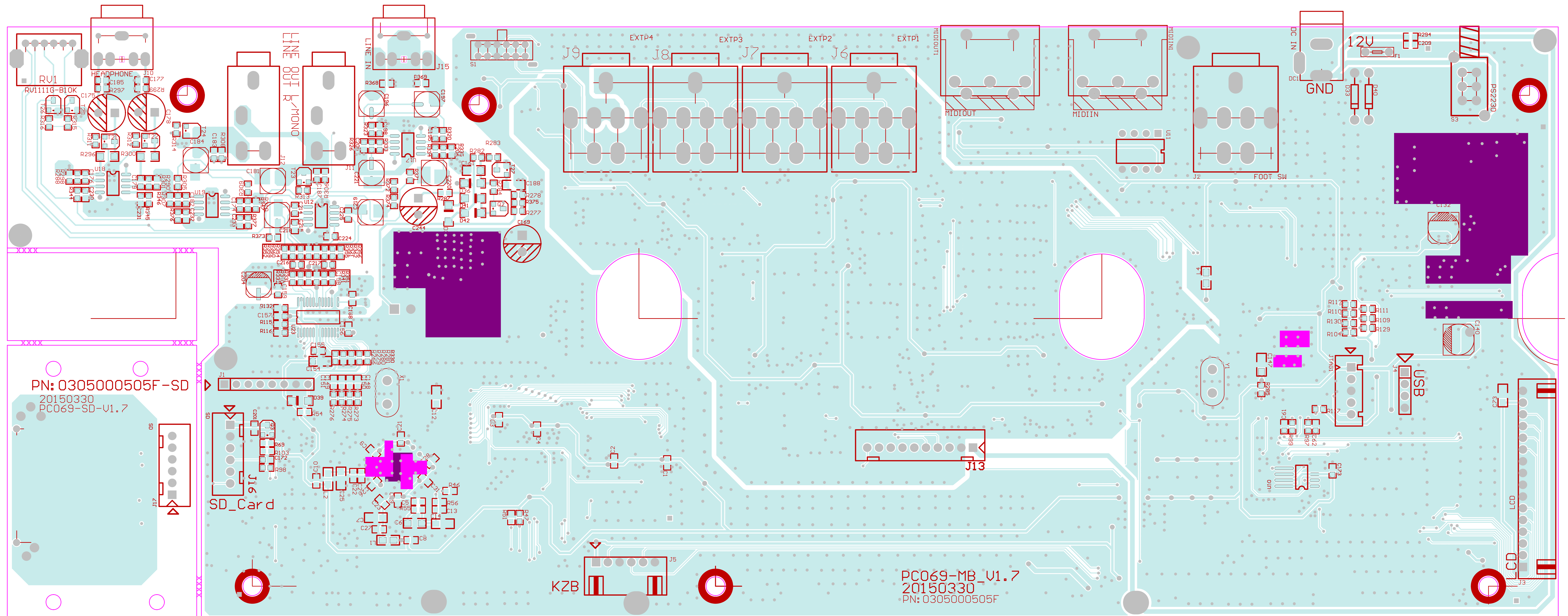
How to update Patches:

Save the patch file on SD card, name it as SPD20ASP.BIN. Insert SD card. Boot SPD-20X while holding both [-] and [+] buttons. Use [▲] or [▼] to swap menu.

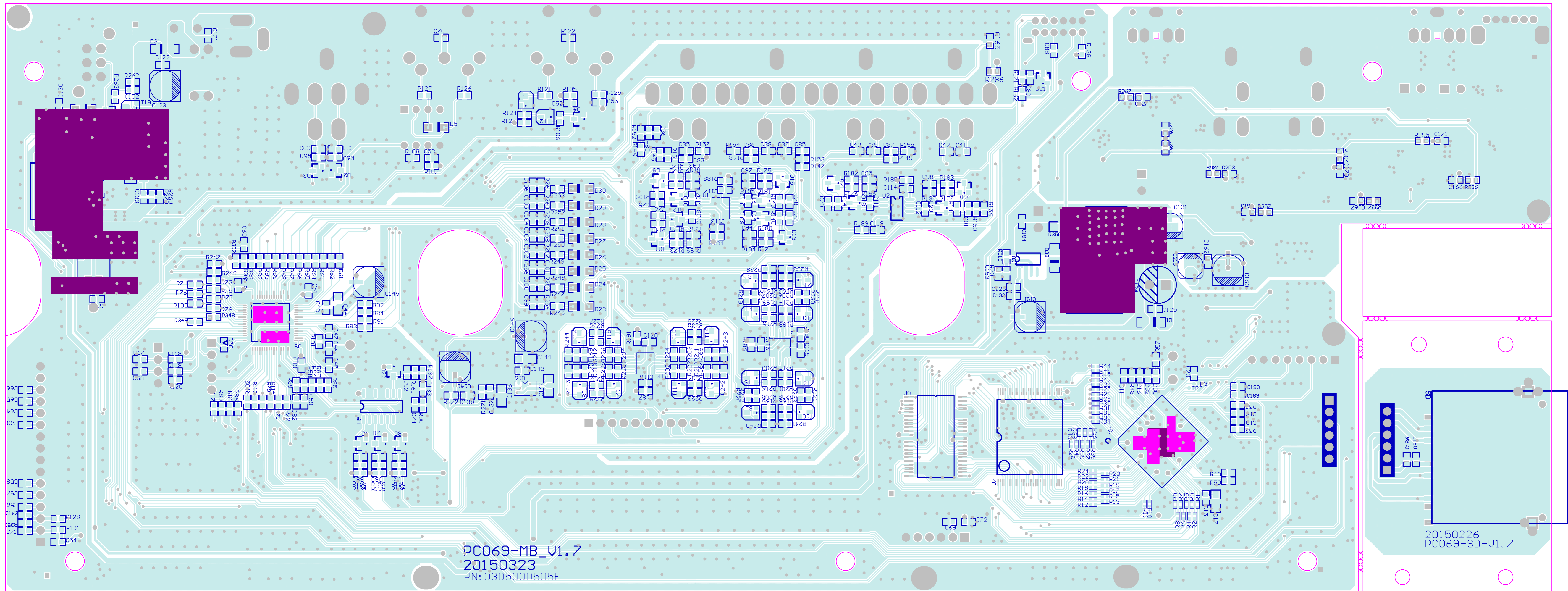
S	P	D	-	2	0	X		U	P	D	A	T	E		
S	p	i	F	l	a	s	h		U	p	d	?			

Press [ALL/ENTER] in this screen. Wait until it shows COMPLETED. It might take 30 seconds.

MAIN BOARD(TOP) PC069-MB-V1.7

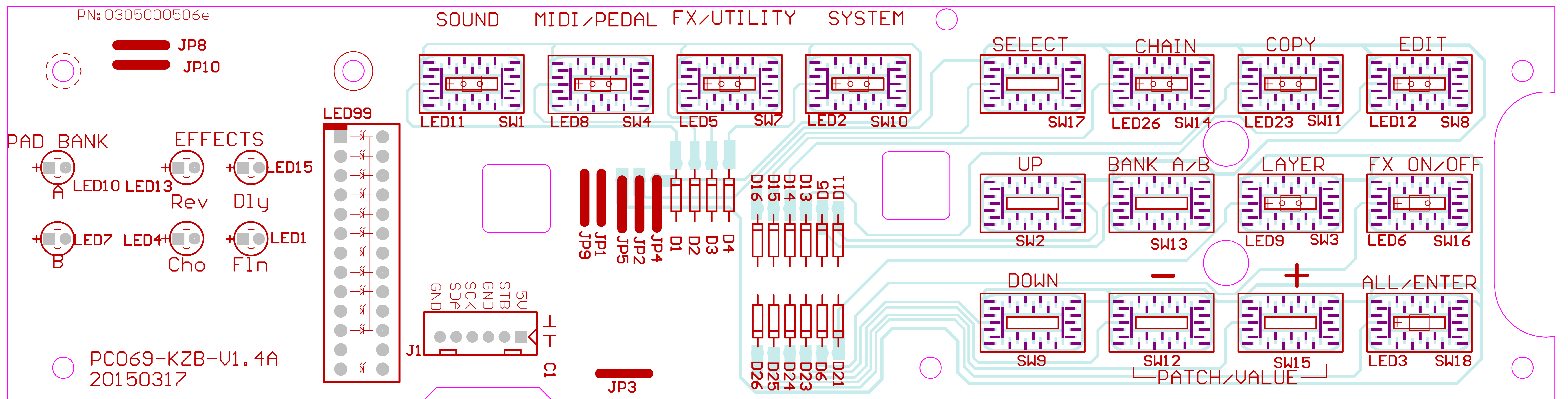


MAIN BOARD (BOTTOM) PC069-MB-V1.7



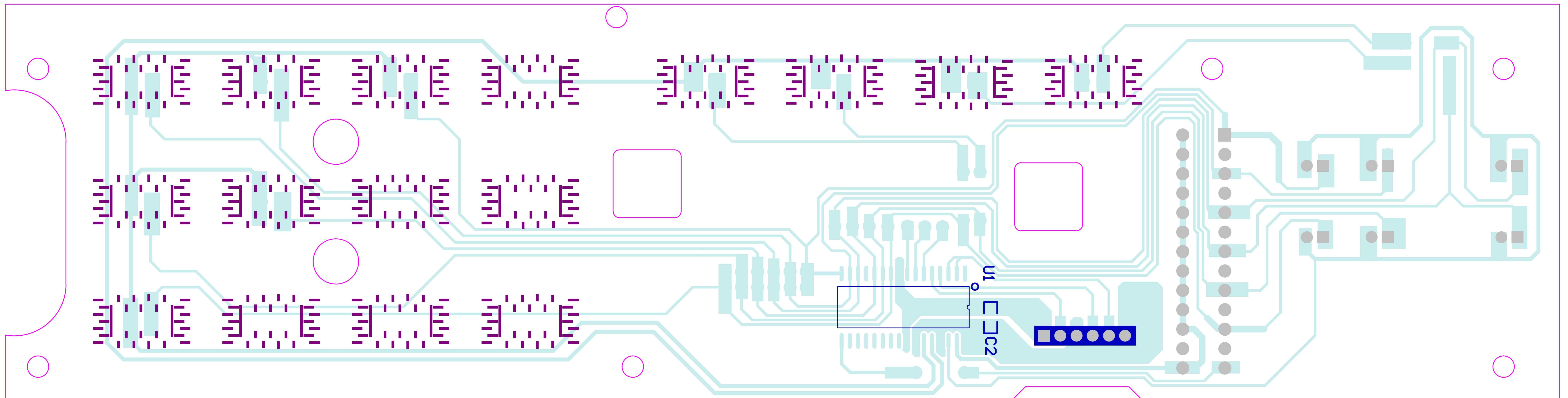
PANEL CONTROL BOARD(TOP)

PC069-KZB-V1.4A



PANEL CONTROL BOARD(BOTTOM)

PC069-KZB-V1.4A



SD CARD BOARD

PC069-SD-V2.0

