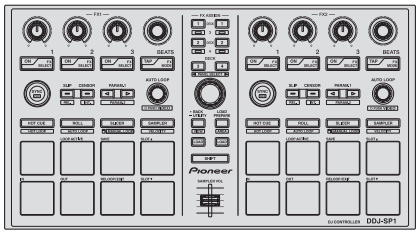
Pioneer

Service Manual



DDJ-SP1

ORDER NO.
RRV4493

DJ Controller

DDJ-SP1

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
DDJ-SP1	CKSUVYXE5	DC 5 V (USB-bus power only)	
DDJ-SP1	XECN5	DC 5 V (USB-bus power only)	

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ⓒPIONEER CORPORATION 2013

K-MZV OCT. 2013 Printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ºC.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ºC in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 ABOUT OPERATING ENVIRONMENT

To use this unit, an optional DJ mixer (DJM-900SRT, etc.) or a DJ controller (DDJ-S1, etc.) that can be used for authentication of Serato DJ is required.
By connecting this unit with a PC on which Serato DJ has been installed, control operations using Serato DJ are enabled.
For connection of a PC and this unit, USB 2.0 ports are required. On the PC, two USB 2.0 ports are required; one for this unit and the other for a DJ mixer or DJ controller that can be used for authentication of Serato DJ.

[Minimum operating environment required for Serato DJ]

As of August 21, 2013, the specifications indicated below must be met for use of Serato DJ. As for the Windows OS, the latest service pack must be applied. As for MAC OS X, the latest release of the versions (10.6.8, 10.7.5, and 10.8.4, as of August 21, 2013) must be applied.
Serato DJ that can support the DDJ-SP1 is planned to be released October 1, 2013 (Version 1.5).

Please Note: Currently we do not support **Windows 8** for Serato DJ.

	Mac	Windows
Operating System	Mac OS X 10.6 / 10.7 / 10.8 [1]	Windows 7
Processor	32 bit: Intel 2.0 Ghz Core 2 Duo 64 bit: Intel 2.4 Ghz Core 2 Duo	32 bit: Intel 2.0 Ghz Core 2 Duo 64 bit: Intel 2.4 Ghz Core 2 Duo
	Note: AMD processors are not supported. Read more.	
RAM	32 bit: 2 GB 64 bit: 4 GB	32 bit: 2 GB 64 bit: 4 GB
	Note: If you have a large library, you will benefit from having more RAM.	
Screen Resolution	1280 x 720	
USB	Available USB 2.0 port	

[Minimum operating environment required for Serato Video]

As of August 21, 2013, the specifications indicated below must be met for use of Serato Video. As for the Windows OS, the latest service pack must be applied. As for MAC OS X, the latest release of the versions (10.6.8, 10.7.5, and 10.8.4, as of August 21, 2013) must be applied.
The latest version of Serato Video as of August 21, 2013, is Version 1.1. As Serato Video is plugin software of Serato DJ, to use Serato Video with the DDJ-SP1, Serato DJ must have been installed on the connected PC beforehand.

Please Note: Currently we do not support **Windows 8** for Serato Video.

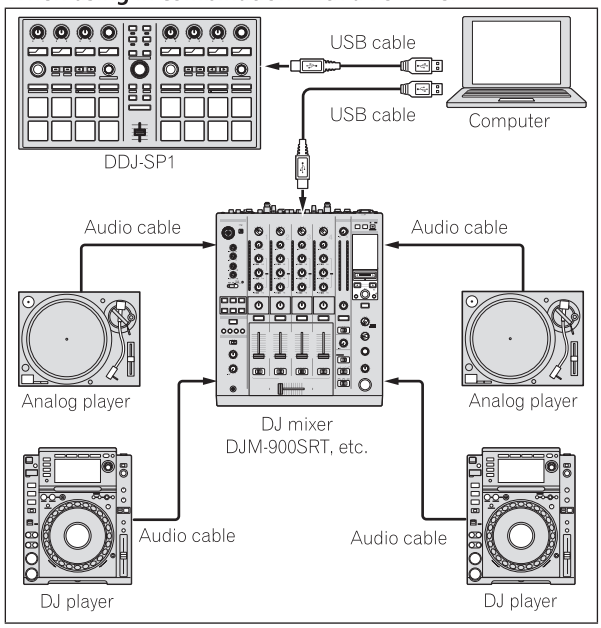
Windows computers using Intel graphics cards are not currently supported by Serato Video. Please read this FAQ.

	Mac	Windows
Operating System	Mac OS X 10.6 / 10.7 / 10.8 [2]	Windows 7
Processor	2.0 Ghz Macbook or better	2.0 GHz Core Duo or better
RAM	2 GB	
HDD Space	5GB Free	
Graphics Cards	Nvidia 8400 or better **or** ATI 1650 or better	

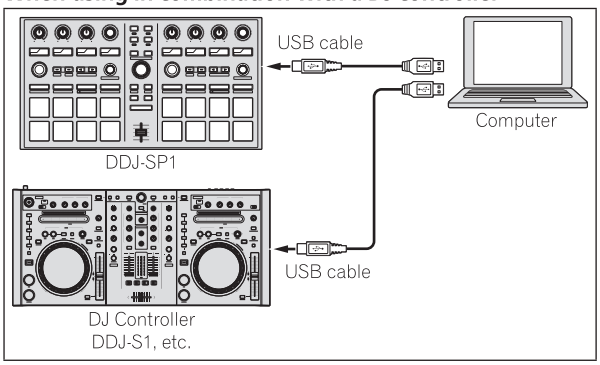
*With a PC that uses a graphic engine built in an Intel CPU, Serato Video cannot be used.
(An alarm message will be displayed on the GUI if a video panel is to be opened.)

<Connection example>

When using in combination with a DJ mixer



When using in combination with a DJ controller



1.3 ABOUT DEMO MODE

This unit will automatically enter Demo mode if it is left unoperated for 10 minutes in Normal Operation mode, and a demonstration with LED illumination will start.
To cancel this mode, operate any control or button of this unit.
To disable Demo mode, change the setting in the Utility settings.
(For details, refer to the operating instructions (Advanced Edition) of the unit.)

2. SPECIFICATIONS

General – Main Unit
Power supply ..... DC 5 V
Rated current ..... 500 mA
Main unit weight ..... 1.4 kg (3.1 lb)
Max. dimensions ..... 328 mm (W) × 47.4 mm (H) × 178.7 mm (D)
(13 in. (W) × 1.9 in. (H) × 7.1 in. (D))
Tolerable operating temperature
..... +5 °C to +35 °C (+41 °F to +95 °F)
Tolerable operating humidity ..... 5 % to 85 % (no condensation)

Input / Output terminals
USB terminal
B type ..... 1 set

Accessories

- USB cable
  (408-USB-132)
- Operating Instructions (Basic Edition)
  (CKSUVYXE5: 502-DDJSCA-3311, 502-DDJSCA-3312)
  (XECN5: 502-DDJSCB-3313)
- Warranty (for some regions)
  The included warranty is for the European region.
  For the North American region, the corresponding information is provided on the last page of both the English and French versions of the “Operating Instructions (Basic Edition)(502-DDJSCA-3311)”.
- Serato Video voucher

3. BASIC ITEMS FOR SERVICE
3.1 CHECK POINTS AFTER SERVICING

Items to be checked after servicing
To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedures	Check points
1	Check the firmware version.	The firmware version must be the latest one. If it is not the latest one, be sure to update it.
2	Confirm whether the customer complain has been solved.	The customer complain must not be reappeared. Audio and operations must be normal.
3	Confirmation of operation of operating elements and LEDs.	Each confirmation items work with service mode normally.
4	Check the connection of each interface.	
	USB B	The device must be properly recognized by the PC.
5	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

3.2 JIGS LIST

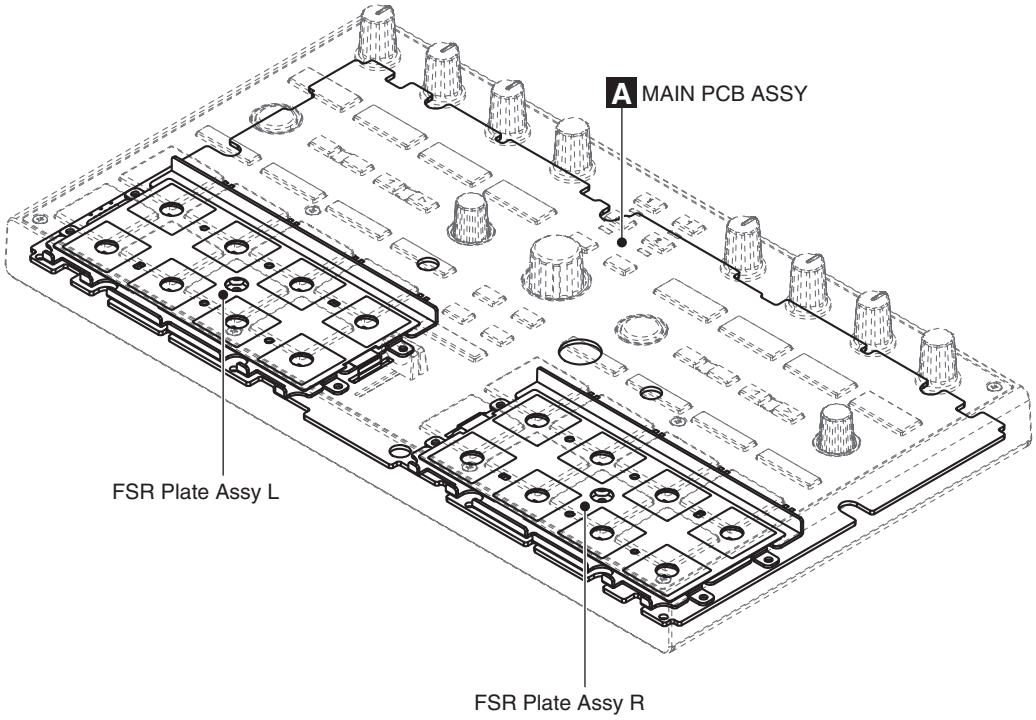
Jigs List

Jig Name	Part No.	Purpose of use / Remarks
USB cable	GGP1193	for PC connection

Lubricants and Glues List

Name	Part No.	Remarks
Adhesive	GYL1001	Refer to "9.2 EXTERIOR SECTION".

3.3 PCB LOCATIONS



NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

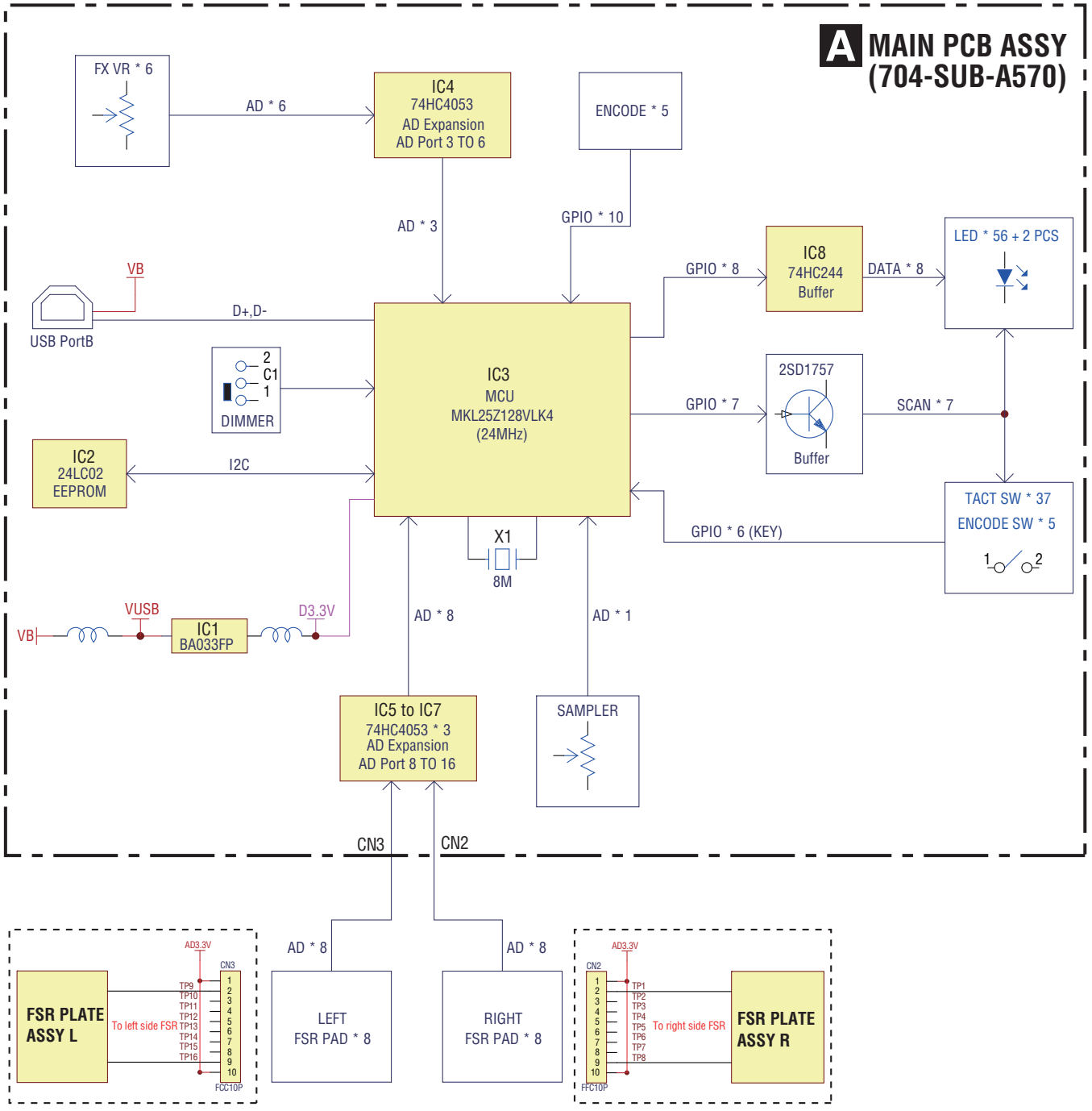
Mark No. Description Part No.

LIST OF ASSEMBLIES

MAIN PCB ASSY	704-SUB-A570
FSR Plate Assy L	704-SUB-A571
FSR Plate Assy R	704-SUB-A572

4. BLOCK DIAGRAM

4.1 OVERALL BLOCK DIAGRAM



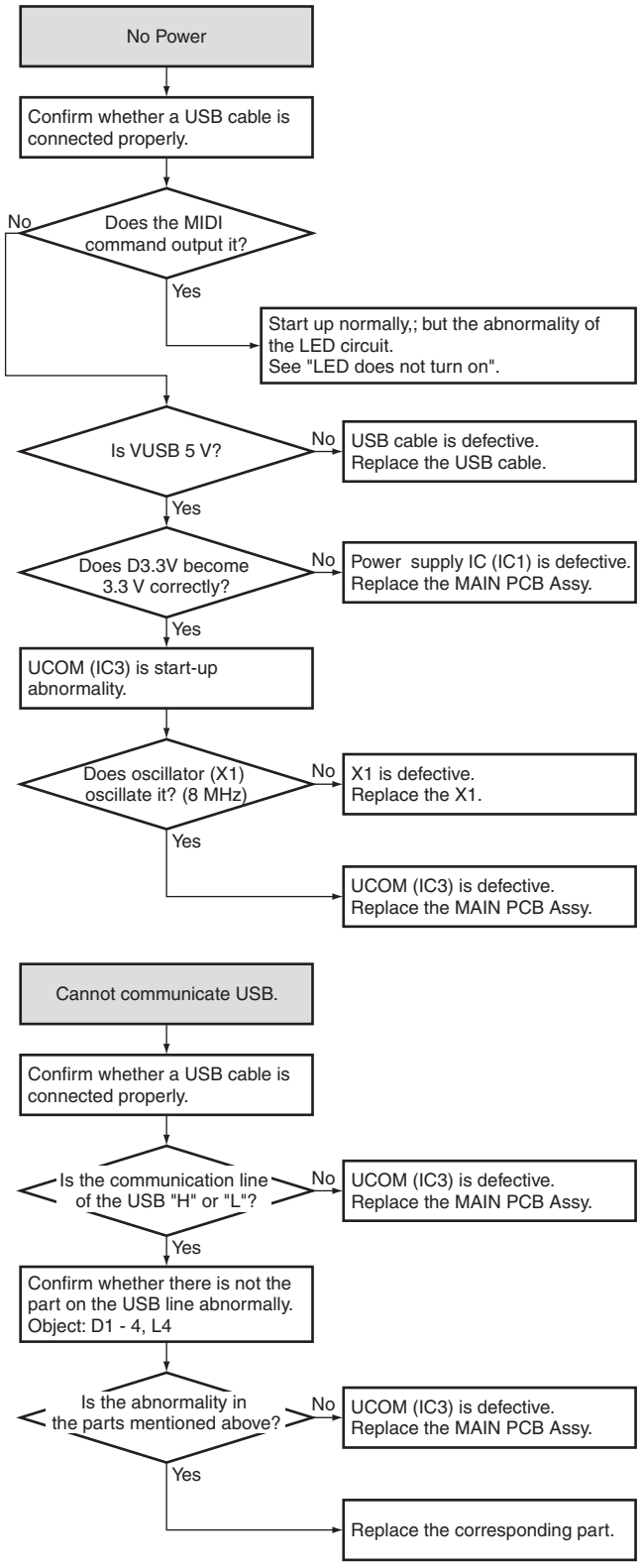
- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

5. DIAGNOSIS
5.1 TROUBLESHOOTING

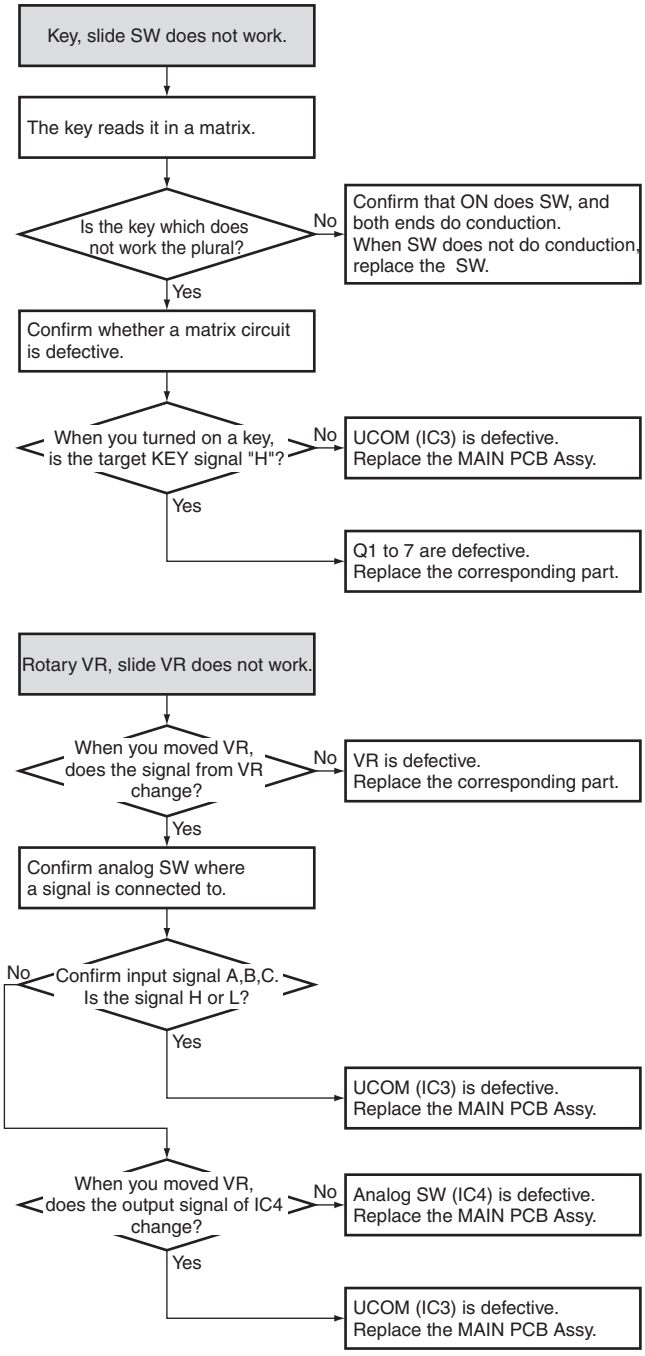
[0] Service mode

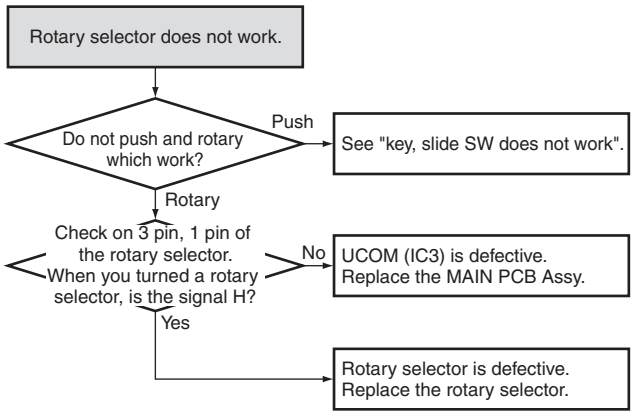
Diagnose an abnormal point by the Service mode.

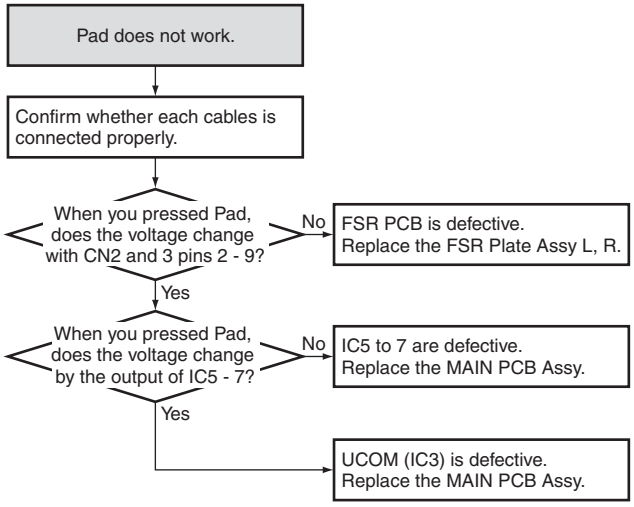
[1] Abnormality about start-up and communication

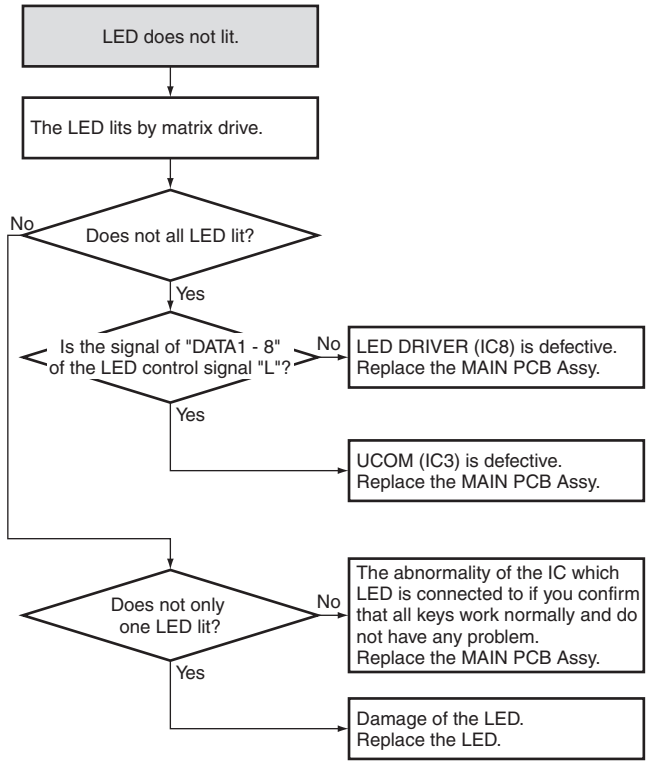


[2] Abnormality about operation element and LED

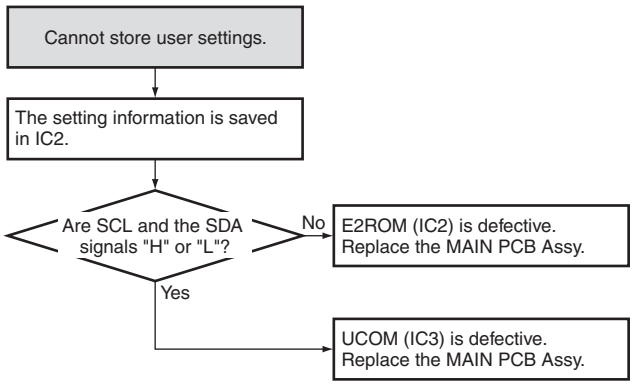








[3] Abnormality about settings



6. SERVICE MODE
6.1 SERVICE MODE

1. Testable Items

The testable items in Service mode are listed below.

① Checking the firmware version
② Checking the status of all LEDs unlit
③ Checking the status of all LEDs lit in the highest-level luminance
④ Checking the status of all LEDs lit in the mid-level luminance
⑤ Checking the status of all LEDs lit in the low-level luminance
⑥ Testing the buttons
⑦ Testing the velocity sensitivity and aftertouch of the pads
⑧ Testing the slide switch
⑨ Testing the rotary VRs, slider VR, and rotary encoders
⑩ Checking drift of the rotary VRs and slider VR

2. How to Enter Service Mode

[Preconditions]

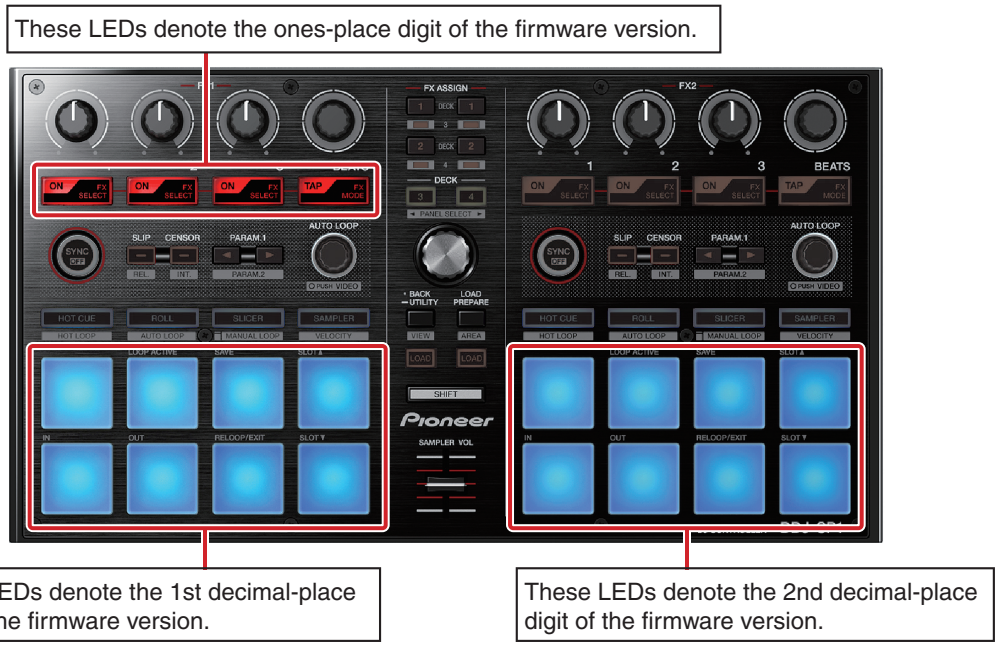
- A USB cable must not be connected to this unit.
- The DIMMER switch must be set to OFF.

[How to enter]

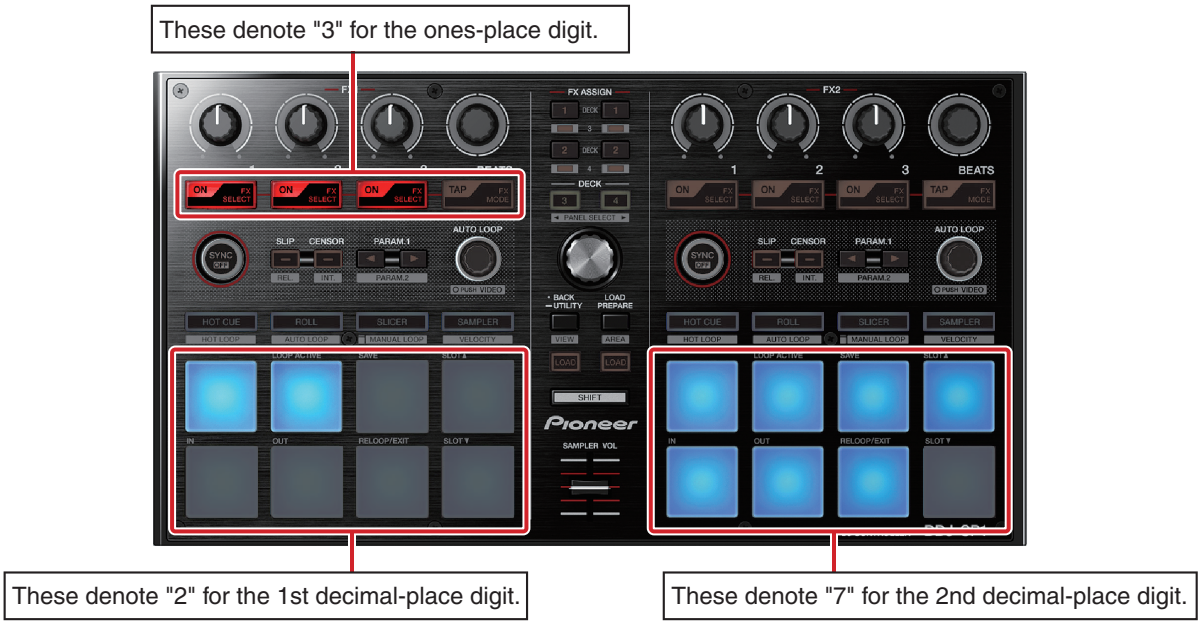
To establish Service mode, while simultaneously holding the Effect Parameter 1 and TAP buttons on the left deck pressed, connect a USB cable.
Note that the device (PC, etc.) to be connected with this unit via a USB cable must be able to supply sufficient power to this unit.

[Condition after enter]

- The unit starts in Service mode.
- Immediately after Service mode is entered, Mode 0 is selected, and the firmware version is expressed with the LEDs shown below.



For example, if the firmware version is "3.27," the LEDs are lit as shown below.



- As the maximum number of LEDs for the 1st and 2nd decimal-place digits is 8, the future version numbers will not include 9.
- The LEDs that are not used for displaying the firmware version will be unlit.
- While this unit is in Service mode, the unit cannot enter DIMMER mode.

3. How to Quit Service Mode

[Operation method]

- To quit Service mode, disconnect the USB cable.
  While this unit is powered (the USB cable is connected), this unit cannot shift to Normal mode from Service mode.

4. Modes of Service Mode

[Operation method]

- To advance Modes to the next one, turn the rotary selector for browsing clockwise.
- To turn back to previous Modes, turn the rotary selector for browsing counterclockwise.

[Detailed mode outline]

① When the rotary selector for browsing is turned 1 click clockwise in Mode 9 or counterclockwise in Mode 1:
→ Mode 0 is entered. Mode 0 is used for confirmation of the firmware version and factory reset.

② When the rotary selector for browsing is turned 1 click clockwise in Mode 0 or counterclockwise in Mode 2:
→ Mode 1 is entered. Mode 1 is used for checking the status of all LEDs unlit.

③ When the rotary selector for browsing is turned 1 click clockwise in Mode 1 or counterclockwise in Mode 3:
→ Mode 2 is entered. Mode 2 is used for checking the status of all LEDs lit in the highest-level luminance.

④ When the rotary selector for browsing is turned 1 click clockwise in Mode 2 or counterclockwise in Mode 4:
→ Mode 3 is entered. Mode 3 is used for checking the status of all LEDs lit in the mid-level luminance.

⑤ When the rotary selector for browsing is turned 1 click clockwise in Mode 3 or counterclockwise in Mode 5:
→ Mode 4 is entered. Mode 4 is used for checking the status of all LEDs lit in the low-level luminance.

⑥ When the rotary selector for browsing is turned 1 click clockwise in Mode 4 or counterclockwise in Mode 6:
→ Mode 5 is entered. Mode 5 is used for testing that all buttons function properly.

⑦ When the rotary selector for browsing is turned 1 click clockwise in Mode 5 or counterclockwise in Mode 7:
→ Mode 6 is entered. Mode 6 is used for testing that the velocity sensitivity and aftertouch for all pads function properly.

⑧ When the rotary selector for browsing is turned 1 click clockwise in Mode 6 or counterclockwise in Mode 8:
→ Mode 7 is entered. Mode 7 is used for testing that the slide switch functions properly.

⑨ When the rotary selector for browsing is turned 1 click clockwise in Mode 7 or counterclockwise in Mode 9:
→ Mode 8 is entered. Mode 8 is used for checking that all rotary VRs, slider VR, and rotary encoders function properly.

⑩ When the rotary selector for browsing is turned 1 click clockwise in Mode 8 or counterclockwise in Mode 0:
→ Mode 9 is entered. Mode 9 is used for checking drift of all rotary VRs and the slider VR.

[Remarks]

The flowchart of mode shifting in Service mode is shown below.

While simultaneously holding the Effect Parameter 1 and TAP buttons on the left deck pressed, connect a USB cable to this unit.

↓

The unit starts in Service mode.

↓

Mode 0:
For confirmation of the firmware version and factory reset

↕

Mode 1:
For checking the status of all LEDs unlit

↕

Mode 2:
For checking the status of all LEDs lit in the highest-level luminance

↕

Mode 3:
For checking the status of all LEDs lit in the mid-level luminance

↕

Mode 4:
For checking the status of all LEDs lit in the low-level luminance

↔

Mode 5:
For checking that all buttons function properly

↕

Mode 6:
For checking that the velocity sensitivity for all pads function properly

↕

Mode 7:
For checking that the slide switch functions properly

↕

Mode 8:
For checking that all rotary VRs, slider VR, and rotary encoders function properly

↕

Mode 9:
For checking drift of all rotary VRs and the slider VR

To advance Modes to the next one, turn the rotary selector for browsing clockwise.
To turn back to previous Modes, turn the rotary selector for browsing counterclockwise.

5. Checking the Status of All LEDs Unlit

[Switch operation]

To enter a submode for checking the status of all LEDs unlit, after the unit starts in Service mode, turn the rotary selector for browsing 1 click clockwise.

[Description of the modes]

① The only LED for Pad 1 on the left deck flashes, and other LEDs are unlit.
② When the rotary selector for browsing is pressed, the LED for Pad 1 on the left deck goes dark (all LEDs unlit).
If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

6. Checking the Status of All LEDs Lit in the Highest-Level Luminance

[Switch operation]

To enter a submode for checking the status of all LEDs lit in the highest-level luminance, after the unit starts in Service mode, turn the rotary selector for browsing 2 clicks clockwise.

[Description of the modes]

① The only LED for Pad 2 on the left deck flashes, and other LEDs are unlit.
② When the rotary selector for browsing is pressed, all LEDs light in the highest-level luminance. If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

7. Checking the Status of All LEDs Lit in the Mid-Level Luminance

[Switch operation]

To enter a submode for checking the status of all LEDs lit in the mid-level luminance, after the unit starts in Service mode, turn the rotary selector for browsing 3 clicks clockwise.

[Description of the modes]

① The only LED for Pad 3 on the left deck flashes, and other LEDs are unlit.
② When the rotary selector for browsing is pressed, all LEDs light in the mid-level luminance. If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

8. Checking the Status of All LEDs Lit in the Low-Level Luminance

[Switch operation]

To enter a submode for checking the status of all LEDs lit in the low-level luminance, after the unit starts in Service mode, turn the rotary selector for browsing 4 clicks clockwise.

[Description of the modes]

① The only LED for Pad 4 on the left deck flashes, and other LEDs are unlit.
② When the rotary selector for browsing is pressed, all LEDs light in the low-level luminance. If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

9. Testing the Buttons

Mode 5 is used for testing operations of the operating elements shown below.

[Switch operation]

To enter a submode for testing operations of the buttons, after the unit starts in Service mode, turn the rotary selector for browsing 5 clicks clockwise.

[Operation method]

① The only LED for Pad 5 on the left deck flashes, and other LEDs are unlit.
② When the rotary selector for browsing is pressed, the LED for Pad 5 on the left deck goes dark (all LEDs unlit).
If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

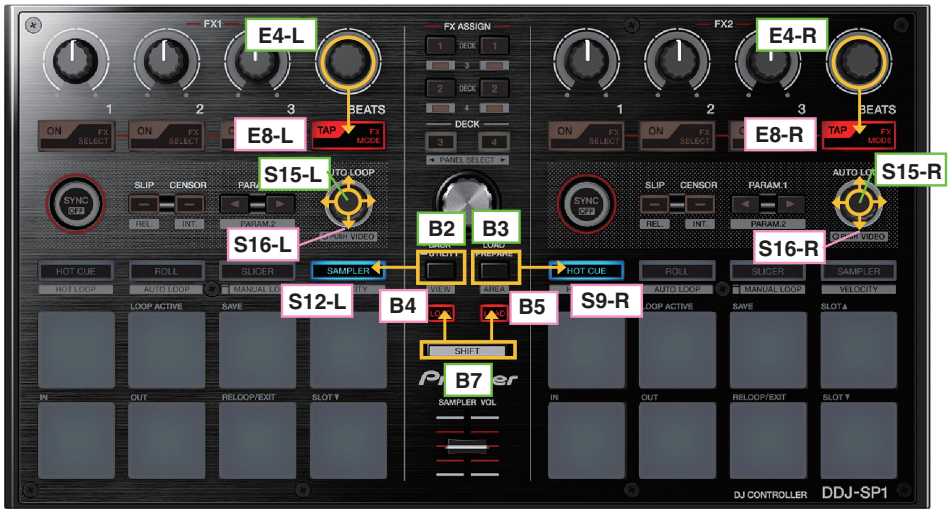
③ Press any button, rubber pad, or rotary encoder.

[Description of the modes]

① If a button or rubber pad in which an LED is built in is pressed, the LED lights.
When the same button or rubber pad is pressed again, the LED goes dark.
② When a button or rotary encoder without LED is pressed, the corresponding LED indicated in Table 1 below will light.
When the same button or rotary encoder is pressed again, the LED goes dark.

Table 1

Code	Operating element without a built-in LED	Code	LED for confirmation of operation
E4-L	FX BEATS control on the left deck	E8-L	TAP button on the left deck
E4-R	FX BEATS control on the right deck	E8-R	TAP button on the right deck
S15-L	AUTO LOOP control on the left deck	S16-L	AUTO LOOP indicator on the left deck
S15-R	AUTO LOOP control on the right deck	S16-R	AUTO LOOP indicator on the right deck
B2	BACK button	S12-L	SAMPLER mode button on the left deck
B3	LOAD PREPARE button	S9-R	HOT CUE mode button on the right deck
B7	SHIFT button	B4	LOAD button on the left deck
		B5	LOAD button on the right deck



10. Operation Test of the Velocity Sensitivity and Aftertouch for the Pads

Mode 6 is used for testing the velocity sensitivity and aftertouch of the operating elements shown below.

[Switch operation]

To enter a submode for testing the velocity sensitivity and aftertouch of the operating elements, after the unit starts in Service mode, turn the rotary selector for browsing 6 clicks clockwise.

[Operation method]

① The only LED for Pad 6 on the left deck flashes, and other LEDs are unlit.
② If the rotary selector for browsing is pressed, Pads 1 on the right and left decks light and other LEDs go dark.
If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

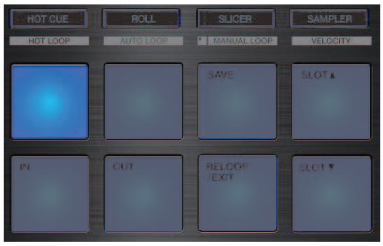
③ Press a rubber pad or hold a rubber pad pressed.

[Description of the modes]

- Values obtained in response to the speed of an initial keypress (velocity sensitivity) or the amount of force applied after initial impact (aftertouch) will be converted to 8-step data (3-bit resolution).
- If a rubber pad on the left deck is held pressed, the number of the lit rubber pads on the right deck will increase/decrease in response to force applied to the pad on the left.
- If a rubber pad on the right deck is held pressed, the number of the lit rubber pads on the left deck will increase/decrease in response to force applied to the pad on the right.
  (With the minimum amount of force applied, one LED is lit, and with the maximum amount of force applied, all 8 LEDs are lit.)

[Display examples]

- When the amount of force applied is minimum (the converted value is "0"), only pad LED 1 on the left (right) deck is lit.

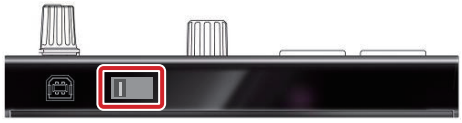


- When the amount of force applied is medium (the converted value is "3"), pad LEDs 1–4 on the left (right) deck are lit and the other LEDs are unlit.

- When the amount of force applied is maximum (the converted value is "7"), all pad LEDs on the left (right) deck are lit.

11. Testing the Slide Switch

Mode 7 is used for testing operations of the operating element shown below.



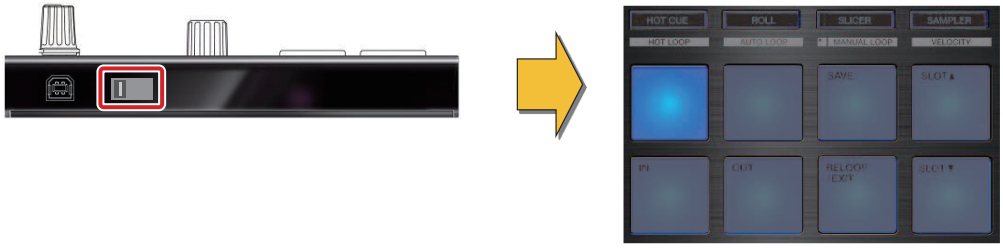
[Switch operation]

To enter a submode for testing the slide switch, after the unit starts in Service mode, turn the rotary selector for browsing 7 clicks clockwise.

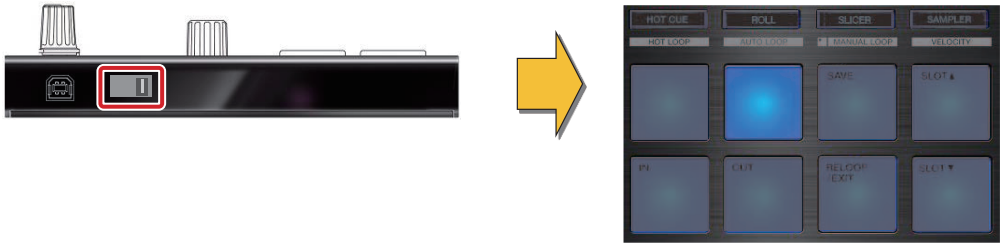
[Operation method]

① The only LED for Pad 7 on the left deck flashes, and other LEDs are unlit.
② If the rotary selector for browsing is pressed, Pad 1 or 2 on the left deck lights and other LEDs are unlit. If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

- When the slide switch is set to the left position, only the LED for Pad 1 on the left deck is lit and other LEDs are unlit.



- When the slide switch is set to the right position, only the LED for Pad 2 on the left deck is lit and other LEDs are unlit.



12. Testing the rotary VRs, slider VR, and rotary encoders

Mode 8 is used for testing operations of the operating elements shown below.

[Switch operation]

To enter a submode for testing the rotary VRs, slider VR, and rotary encoders, after the unit starts in Service mode, turn the rotary selector for browsing 8 clicks clockwise.

[Operation method]

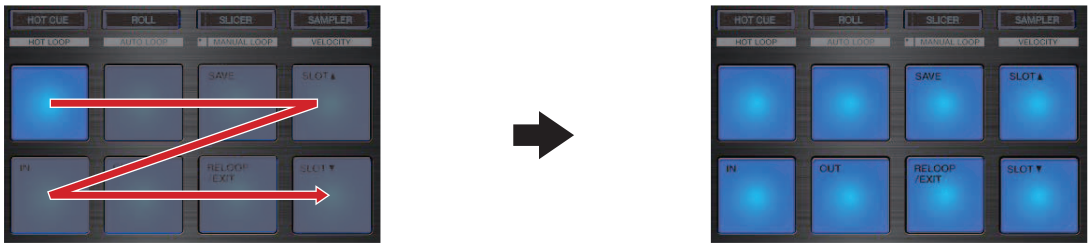
① The only LED for Pad 8 on the left deck flashes, and other LEDs are unlit.
② If the rotary selector for browsing is pressed, Pads 1 on the right and left decks light and other LEDs are unlit.
If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

[Description of the modes]

① Turn a rotary VR or a rotary encoder clockwise or counterclockwise, or slide the slider VR up or down.

② When a rotary VR is turned or the slider VR is moved, a VR value obtained will be converted via the A/D converter to an 8-step value (3-bit resolution).
According to the angle of turning a rotary VR or the distance of sliding the slider VR, the number of the pad LEDs lit changes from 1 (minimum) to 8 (maximum).

• Changes in the number of pad LEDs lit, according to increase in the angle of turning a rotary VR or the distance of sliding the slider VR:



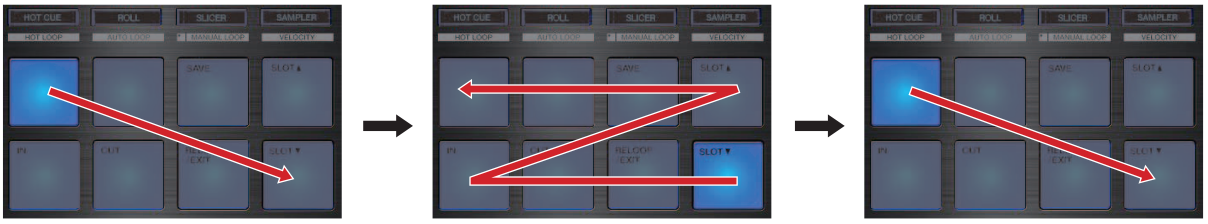
③ When a rotary encoder is turned clockwise

Each time a rotary encoder is turned 1 click, the pad LEDs to be lit on the right deck will change, as shown below:

To be repeated in the same way

④ When a rotary encoder is turned counterclockwise

Each time a rotary encoder is turned 1 click, the pad LEDs to be lit on the right deck will change, as shown below:



To be repeated in the same way

13. Checking Drift of the Rotary VRs and Slider VR

Mode 9 is used for checking drift of the operating elements shown below.

[Switch operation]

To enter a submode for checking drift of all rotary VRs and the slider VR, after the unit starts in Service mode, turn the rotary selector for browsing 9 clicks clockwise.

[Description of the modes]

① The only LED for Pad 1 on the right deck flashes, and other LEDs are unlit.
② When the rotary selector for browsing is pressed, the LED for Pad 1 on the right deck goes dark (all LEDs unlit).
If the rotary selector for browsing is pressed again, the unit returns to the status of ①.

To start monitoring drift of a rotary VR or the slider VR, press the corresponding button indicated in Table 2 below.

Table 2

Code	Operating element whose drift is to be monitored	Code	Button to be used to start drift monitoring
E1-L	Effect Parameter 1 control on the left deck	E5-L	Effect Parameter 1 button on the left deck
E2-L	Effect Parameter 2 control on the left deck	E6-L	Effect Parameter 2 button on the left deck
E3-L	Effect Parameter 3 control on the left deck	E7-L	Effect Parameter 3 button on the left deck
E1-R	Effect Parameter 1 control on the right deck	E5-R	Effect Parameter 1 button on the right deck
E2-R	Effect Parameter 2 control on the right deck	E6-R	Effect Parameter 2 button on the right deck
E3-R	Effect Parameter 3 control on the right deck	E7-R	Effect Parameter 3 button on the right deck
B6	SAMPLER VOL fader	B4	LOAD button on the left deck

- Immediately after a button indicated in Table 2 is pressed, an A/D conversion value for the corresponding rotary VR or the slider VR will be obtained.
- An obtained A/D conversion value will be used as a reference value for calculating drift. Drift is defined as a difference between the latest value and the reference value.
- The pad LEDs are used to express a drift value. The association between drift values and the LEDs to be lit is indicated in Table 3.

Table 3

Difference between the latest and the reference values	LED to be lit (code)
Latest value – reference value = +1	S1-R
Latest value – reference value = +2	S1-R, S2-R
Latest value – reference value = +3	S1-R, S2-R, S3-R
Latest value – reference value = +4	S1-R, S2-R, S3-R, S4-R
Latest value – reference value = +5	S1-R, S2-R, S3-R, S4-R, S5-R
Latest value – reference value = +6	S1-R, S2-R, S3-R, S4-R, S5-R, S6-R
Latest value – reference value = +7	S1-R, S2-R, S3-R, S4-R, S5-R, S6-R, S7-R
Latest value – reference value = +8 or greater	S1-R, S2-R, S3-R, S4-R, S5-R, S6-R, S7-R, S8-R
Latest value – reference value = -1	S8-L
Latest value – reference value = -2	S7-L, S8-L
Latest value – reference value = -3	S6-L, S7-L, S8-L
Latest value – reference value = -4	S5-L, S6-L, S7-L, S8-L
Latest value – reference value = -5	S4-L, S5-L, S6-L, S7-L, S8-L
Latest value – reference value = -6	S3-L, S4-L, S5-L, S6-L, S7-L, S8-L
Latest value – reference value = -7	S2-L, S3-L, S4-L, S5-L, S6-L, S7-L, S8-L
Latest value – reference value = -8 or less	S1-L, S2-L, S3-L, S4-L, S5-L, S6-L, S7-L, S8-L

- While drift values for a rotary VR or the slider VR are being monitored, the maximum and minimum drift values will be retained until resetting is performed.
- The LED for the button used for triggering monitoring flashes while drift values are being monitored.
  For example, the LED for the Effect Parameter 1 button on the left deck flashes while drift values for the Effect Parameter 1 control on the left deck are being monitored.
- If the button used for triggering monitoring is pressed again during drift monitoring, the reference value will be updated, all pad LEDs will be unlit, then drift monitoring will restart.

14. Factory Reset

[Switch operation]

Mode 0 (for confirmation of the firmware version) of Service mode must be selected.

[Operation method]

Simultaneously hold the SYNC buttons on the left and right decks pressed for at least 2 seconds.

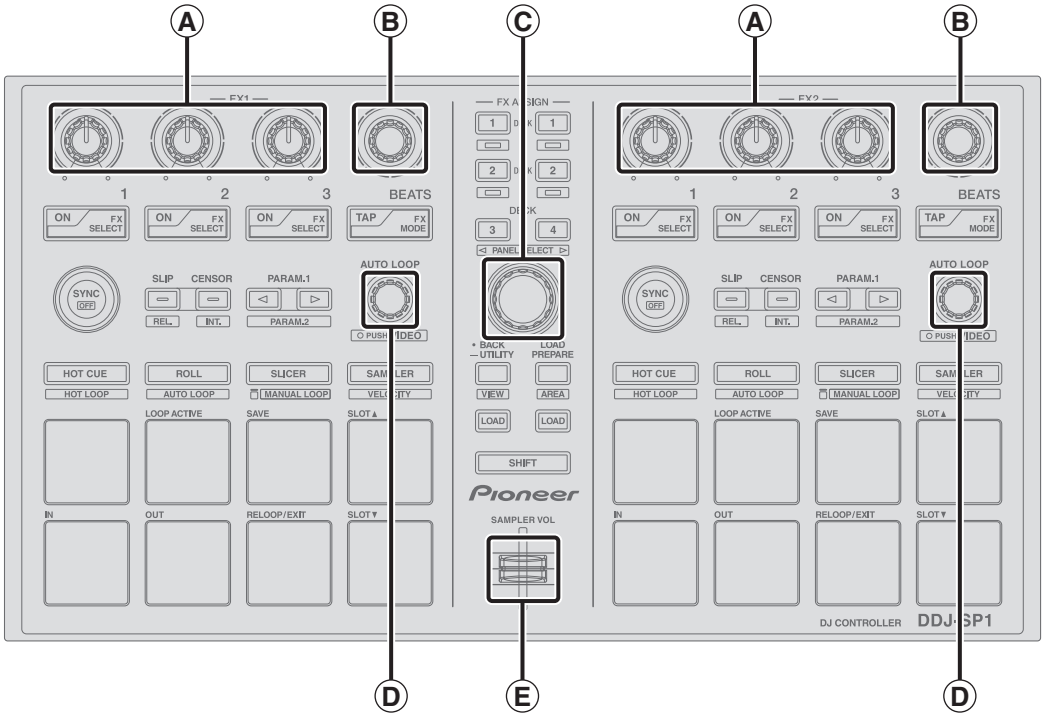
[Description of the modes]

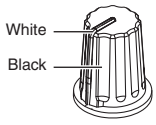
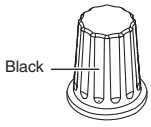
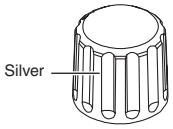
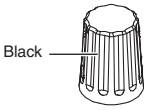
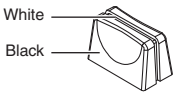
- The LEDs for the SYNC buttons on the left and right decks light.
- The settings for UTILITY mode are reset to the initial values, then those values are stored in nonvolatile memory.
- The LEDs for the SYNC buttons on the left and right decks go dark after initialization is completed.

7. DISASSEMBLY

Note:
Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Knobs and Volumes Location



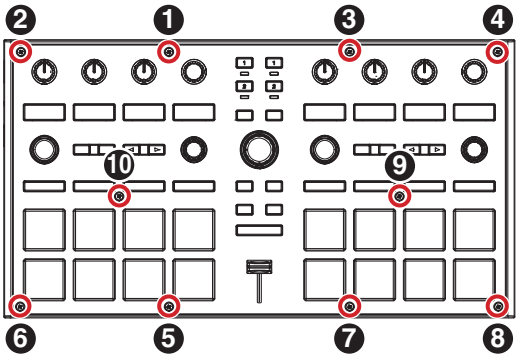
(A) 100-S1-3006 ×6	(B) 100-S1-3007 ×2	(C) 100-SN-3010A ×1	(D) 100-SN-3030 ×2	(E) 100-SN-3083 ×1
				
White Black	Black	Silver	Black	White Black

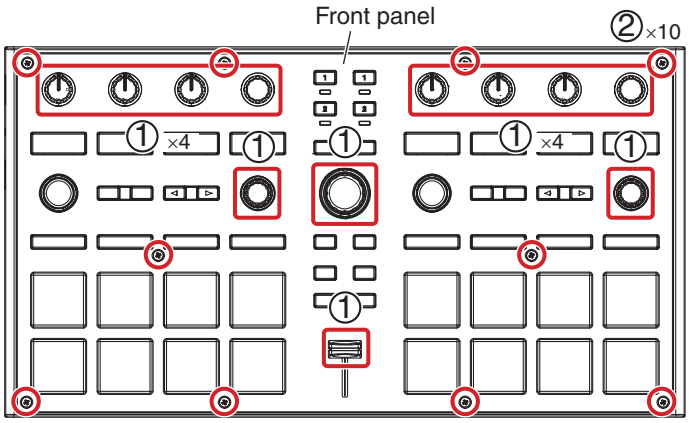
Disassembly

[1] Top Section

(1) Remove the all nobs.
(2) Remove the Front panel by removing the 10 screws.
(602-BTF2609-685B)

Screw tightening order





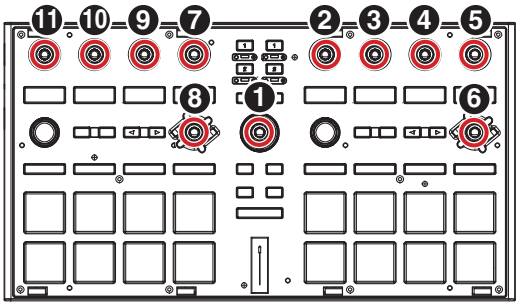
About the double-back tape that is used for securing the front panel and the Chassis

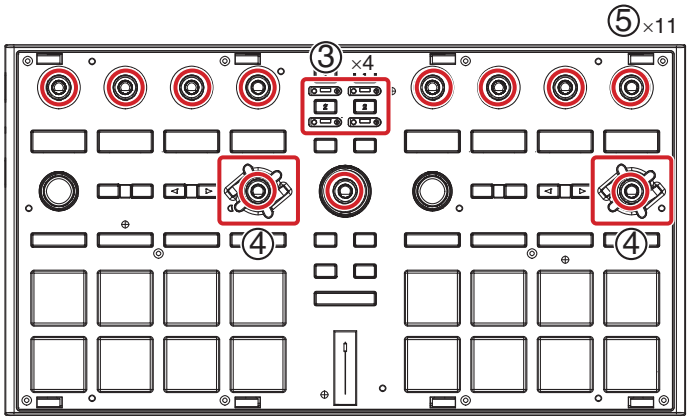
When detaching the front panel
The front panel and the Chassis are secured with 2 pieces of double-back tape at the locations shown in the photo below.
Slowly peel off the tape, taking care that you will not deform the front panel.

When reattaching the front panel
① Neatly remove any residue of double-back tape from the back of the front panel and the Chassis Assy.
② Stick 2 pieces (5 mm × 70 mm) of NITTO No. 500 double-back tape to the locations shown in the photo below then remove the paper liner.
Note: Even if double-back tape was not used in the initial state, be sure to attach double-back tape when reattaching the front panel.

(3) Remove the four LED lenses.
(4) Remove the two LIMPID lenses.
(5) Remove the 11 nuts and 11 washers.

Nut, washer tightening order

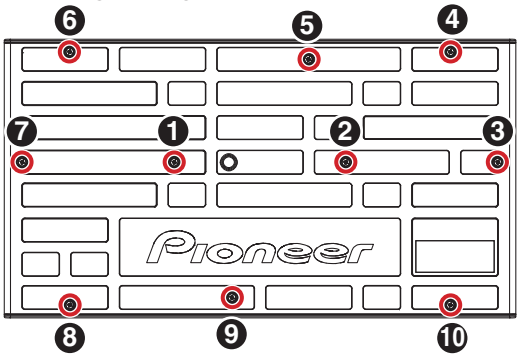


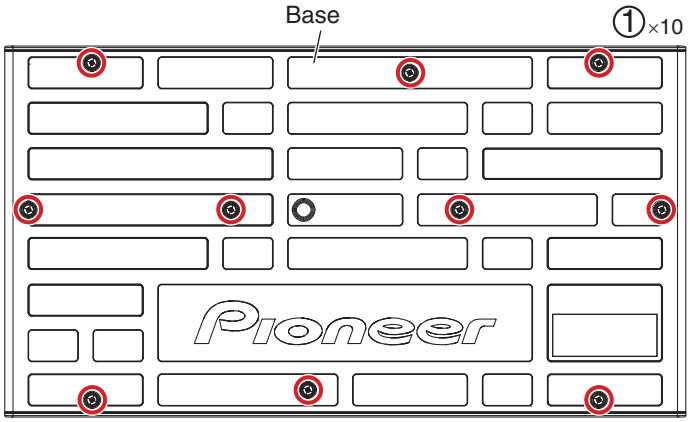


[2] Bottom Section

(1) Remove the Base by removing the 10 screws. (602-CDN88-563)

Screw tightening order

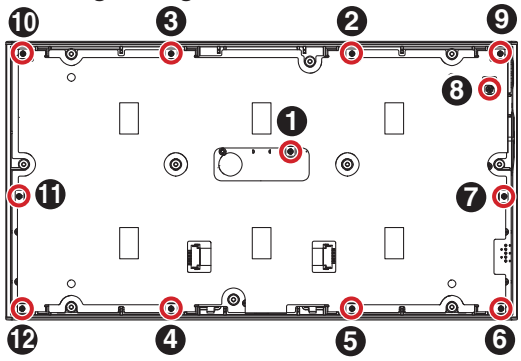


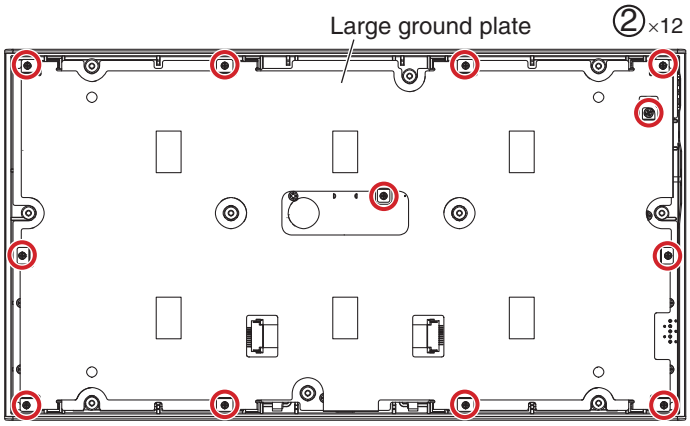


• Bottom view

(2) Remove the Large gound plate by removing the 12 screws. (602-SL24F-099)

Screw tightening order



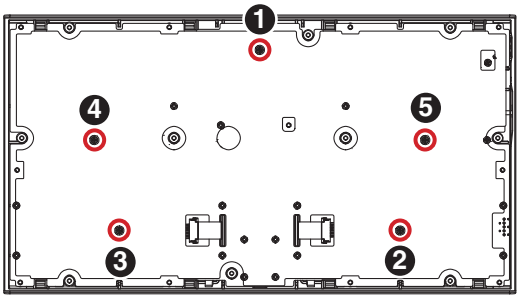


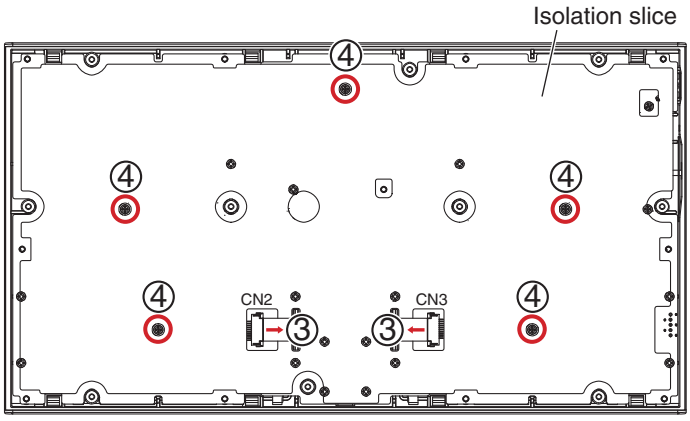
• Bottom view

(3) Disconnect the two connectors. (CN2, 3)

(4) Remove the Isolation slice by removing the five screws. (602-900-565)

Screw tightening order

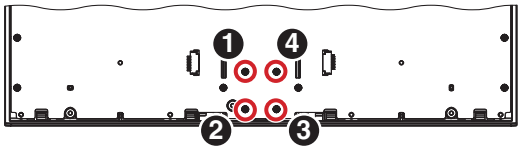


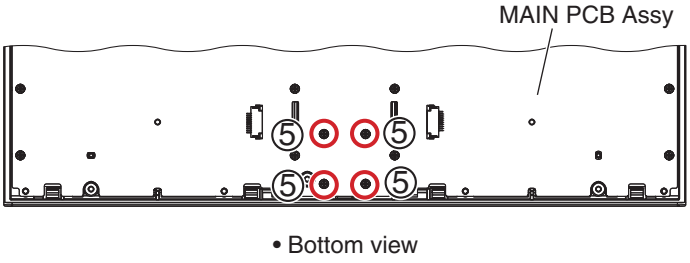


• Bottom view

(5) Remove the four screws.
(602-SF24F-099)

Screw tightening order

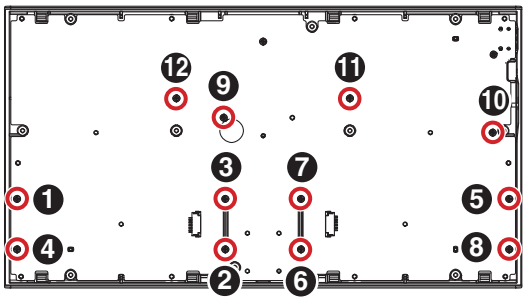


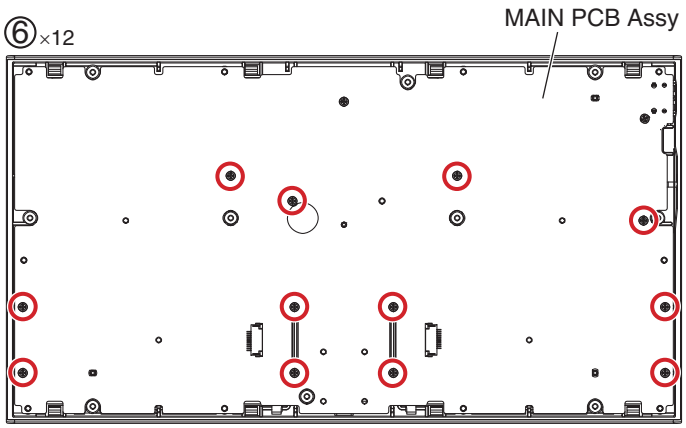


• Bottom view

(6) Remove the 12 screws.
(602-SL24F-099)

Screw tightening order



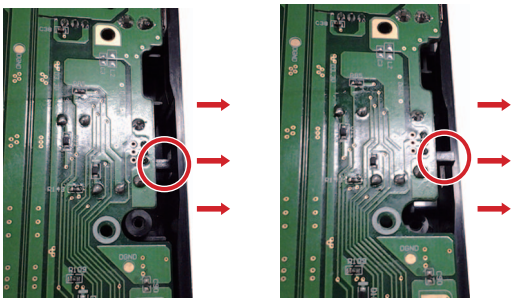


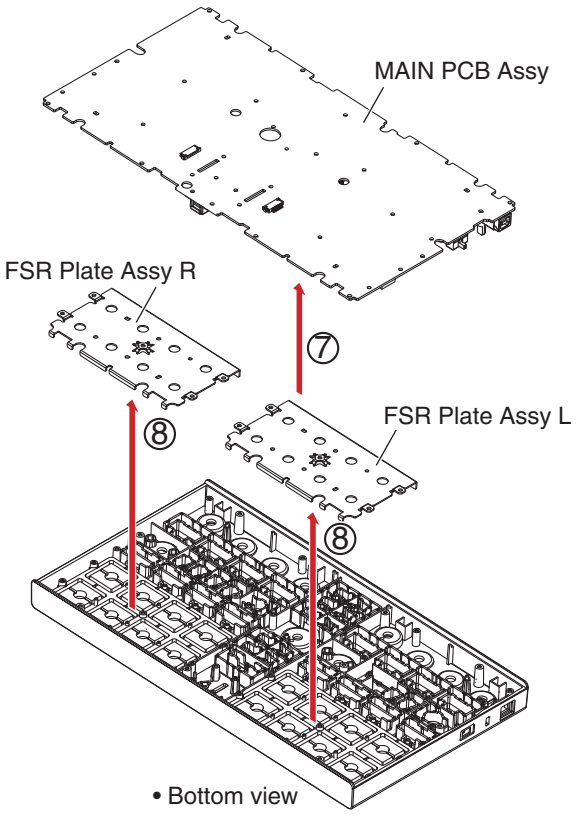
• Bottom view

(7) Remove the MAIN PCB Assy.
(8) Remove the FSR Plate Assy L and R.

Note:
When the MAIN PCB Assy is detached or reattached, the slide switch on the Assy interferes with the chassis. Therefore, widen the part of the chassis where the slide switch interferes during detachment and reattachment of the Assy.

During detachment of the PCB	During reattachment of the PCB





• Bottom view

8. EACH SETTING AND ADJUSTMENT

8.1 NECESSARY ITEMS TO BE NOTED

After repairing, be sure to check the version of the firmware, and if it is not the latest one, update to the latest version.
Perform the each item when the following parts are replaced.

- IC storing firmware and PCB Assy
  IC2 (MAIN PCB Assy),
  MAIN PCB Assy

⇒

- Confirmation of the version of the firmware
- Updating to the latest version of the firmware
- Factory reset
- Be changed user setting to condition before the repair (when be possible)

8.2 UPDATING OF THE FIRMWARE

Caution:

DO NOT disconnect the USB cable until updating is completed.

Preparations

- Update file for DDJ-SP1
  When the downloaded zip file is unzipped, the update file appears. **Place the update file on the desktop.**

e.g.) DDJ-SP1_V101.jar

DDJ-SP1_V101.jar

- A computer where Java has been installed
  If Java has not been installed, please download the Java Runtime Environment (JRE) at: http://java.com and install it on your computer.

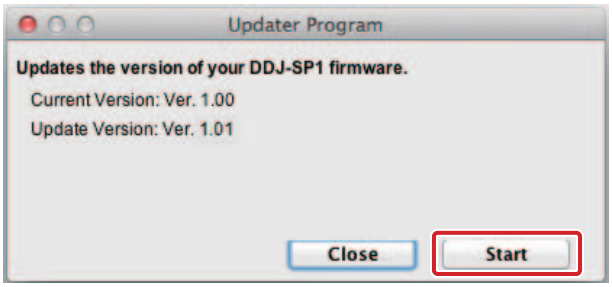
Updating Procedures

Note: Close all applications on your computer before running this updating procedure.

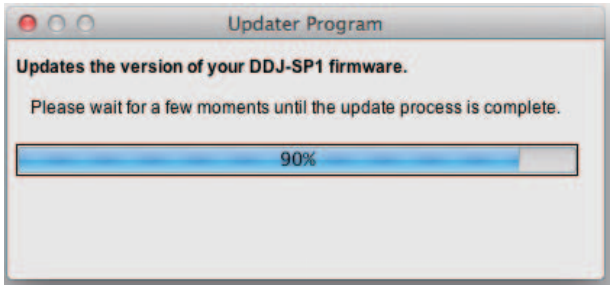
① Connect the above prepared computer to DDJ-SP1 via the USB cable included with the product while pressing the right effect parameter 1 button and right [TAP] button.

② Make sure of LED flash of the two [SYNC] buttons and fringe of the two [AUTO LOOP] knobs before releasing your finger from these buttons.

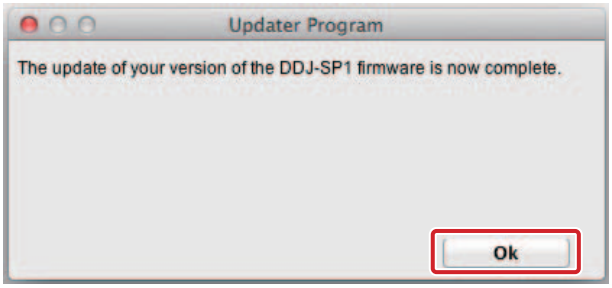
③ When the update file for DDJ-SP1 (DDJ-SP1_Vxxx.jar) is activated, the following dialogue is displayed. Click the [Start] button.



④ The update of the firmware starts.



⑤ When the firmware update process is complete, click the [OK] button.



Make sure of LED lighting of the two [SYNC] buttons and fringe of the two [AUTO LOOP] knobs on DDJ-SP1 before disconnecting the USB cable from DDJ-SP1.

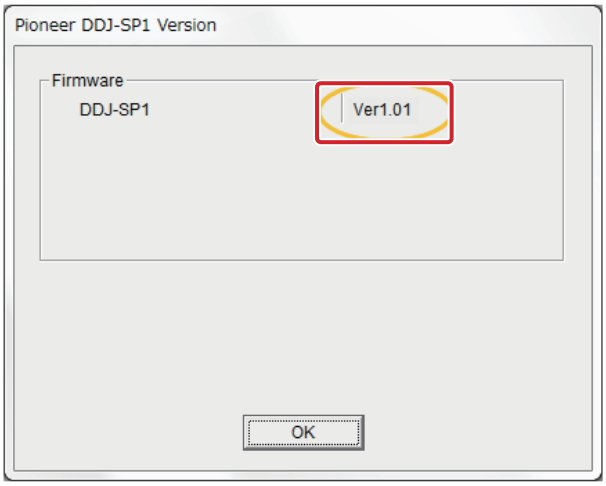
Note: Please note that if you fail to update, disconnect the USB cable from DDJ-SP1 and start from Step ① of the above Updating Procedures.

How to check the Firmware Version

For Windows

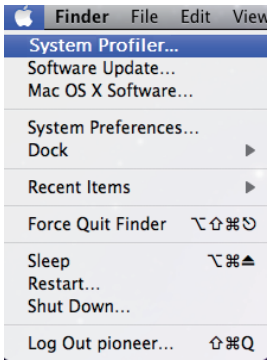
Software to confirm the firmware version for DDJ-SP1
When the downloaded zip file is unzipped,
DDJ-SP1_Version
Check.exe appears. Then, launch it. If [Security Warning] dialogue appears on the screen, click [Run] button.

Confirm the firmware version.

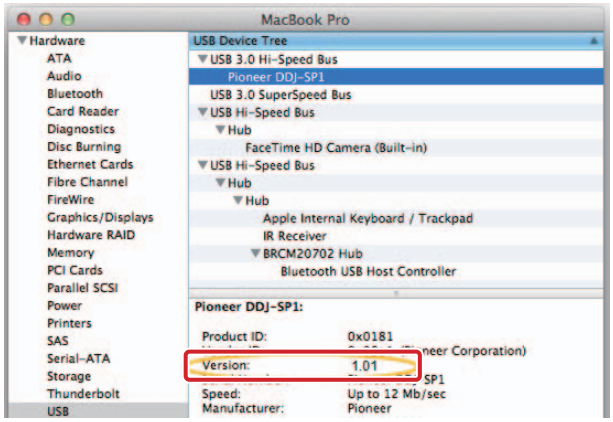


For Mac

Open the Apple menu while pressing the option key, then select “System Profiler.”



Select the [USB] from the [Hardware] to display the name of the controller. Select the controller to display the firmware version.



8.3 ITEMS FOR WHICH USER SETTINGS ARE AVAILABLE

This unit is provided with user settable items, as shown below.
Although no serious operational problems occur even if data for such user settable items are cleared during repair, it is recommended that you take note of those settings before starting repair.
Use the Check Sheet shown below, to which you can transcribe the settings.
If the corresponding part or board Assy is replaced for repair, change the user resettable settings to those noted on the Check Sheet before starting repair. If resetting is not possible, when returning the repaired product, be sure to tell the customer that the Utility settings have been cleared and will have to be reset, as required.

Item for Which User's Setting is Available		Setting Value (The factory default settings are indicated in bold.) / Indication method	Part Name	Content to be Stored
Sampler velocity mode	Velocity curve selection	**Curve1** / Curve2 / Curve3 / Curve4 Pad 1 flashing / Pad 2 flashing / Pad 3 flashing / Pad 4 flashing	IC2 (EEPROM) (MAIN PCB Assy)	UTILITY setting
	After touch setting	**After-touch disabled** / After-touch enabled Pad 1 flashing / Pad 2 flashing		
	Setting of method to enter	**Switch to sampler velocity mode when [SHIFT] + [SAMPLER] buttons are pressed** / Switch to sampler velocity mode when [SAMPLER] button is pressed for over 1 second. Switch to sampler velocity mode when [SHIFT] + [SAMPLER] buttons are pressed → Pad 1 flashing Switch to sampler velocity mode when [SAMPLER] button is pressed for over 1 second → Pad 2 flashing		
Setting of DJ software to be used		**Serato DJ used** / Software other than Serato DJ used Serato DJ used → Pad 1 unlit Software other than Serato DJ used → Pad 1 lit		
Demo mode setting		**Turns demo mode on** / Turns demo mode off Pad 1 lit / Pad 1 unlit		
Setting of slip mode flashing		**Slip mode flashing enabled** / Slip mode flashing disabled Pad 1 flashing / Pad 2 flashing		
Setting of illumination when tracks are loaded		**Illumination type 1** / Illumination type 2 Pad 1 flashing / Pad 2 flashing		
Advanced MIDI settings		**Advanced MIDI settings disabled** / Advanced MIDI settings enabled Pad 1 flashing / Pad 2 flashing		

Each of the above items can be set in Utility mode.
To enter Utility mode, hold the BACK button pressed for at least 1 second.
Then turn the rotary selector. Any one of the FX1 [Effect Parameter 1] to FX2 [TAP] buttons flash, and the items corresponding to each button can be set.
(For details, refer to the operating instructions (Advanced Edition) of the unit.)

Sheet for confirmation of the user setting

Sampler velocity mode							
Velocity curve selection				After touch setting		Setting of method to enter	
Curve1	Curve2	Curve3	Curve4	enabled	disabled	[SHIFT] + [SAMPLER] button	[SAMPLER] button over 1second

Setting of DJ software to be used	
Serato DJ	Other than Serato DJ

Demo mode setting	
ON	OFF

Setting of slip mode flashing	
enabled	disabled

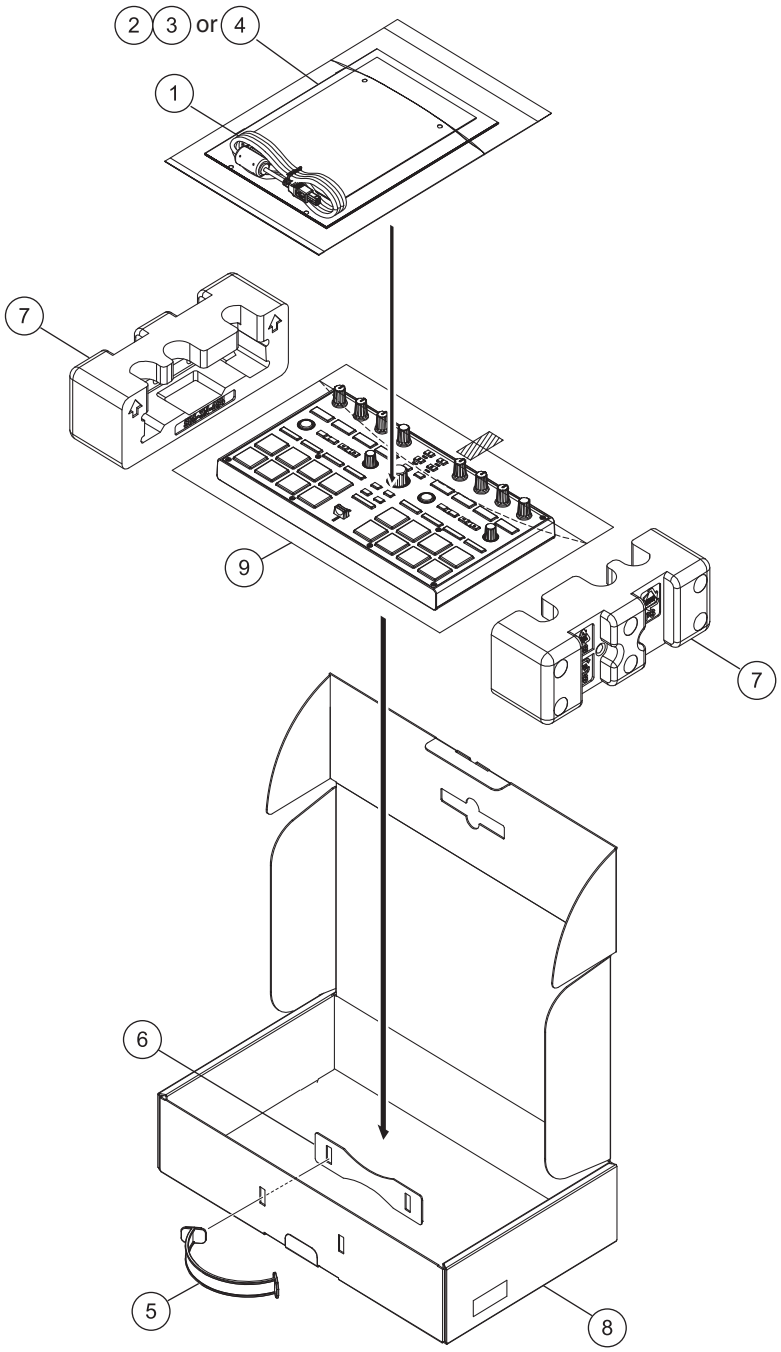
Setting of illumination when tracks are loaded	
Type 1	Type 2

Advanced MIDI settings	
enabled	disabled

9. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

9.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

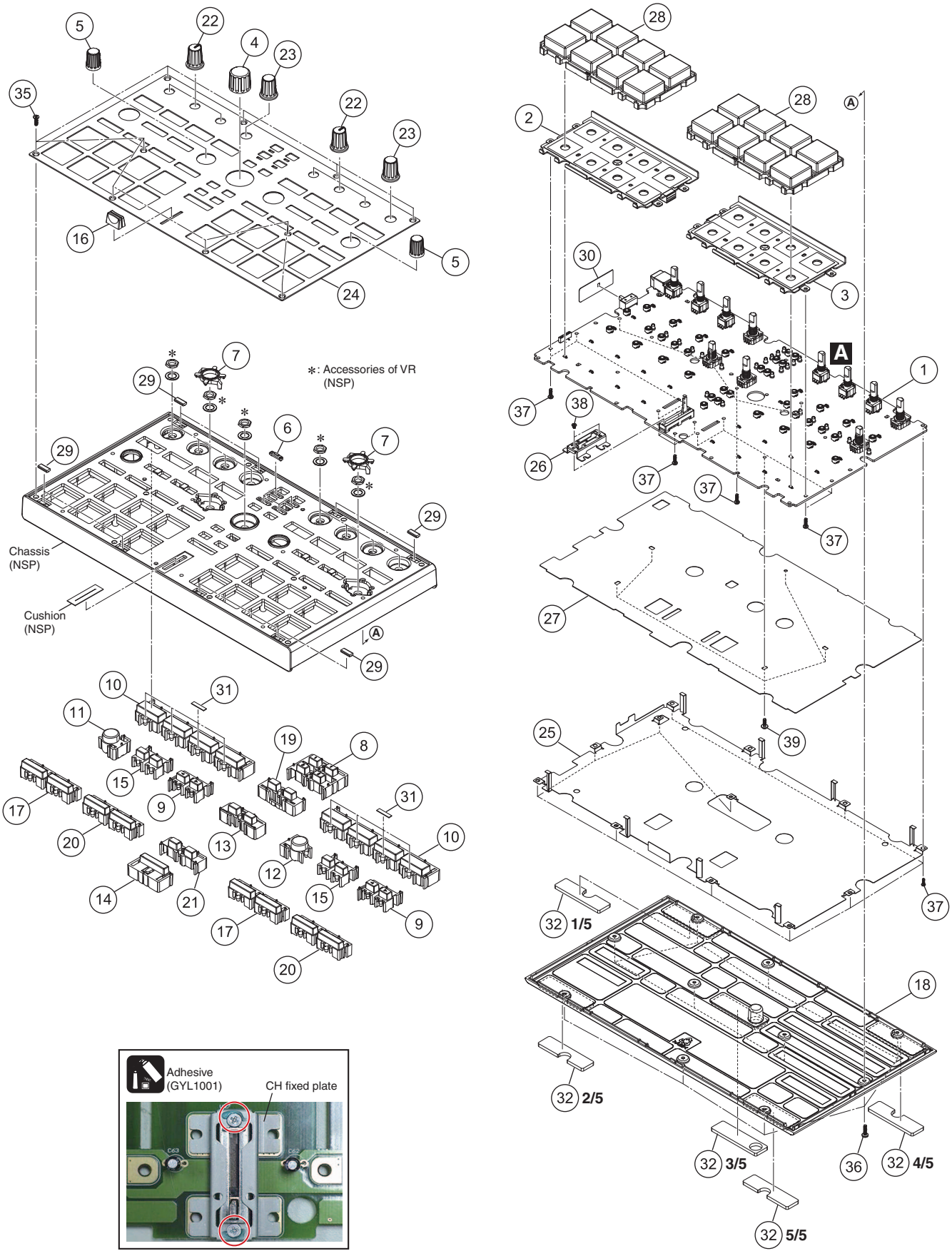
Mark	No.	Description	Part No.
	1	USB Cable (L = 1500 mm)	408-SUB-132
	2	Operating Instructions	See Contrast table (2)
	3	Operating Instructions	See Contrast table (2)
	4	Operating Instructions	See Contrast table (2)
	5	Handle	100-DDJLE-3012
	6	Handle Base	100-DDJLE-3013
	7	Polyfoam	506-SN-654
	8	Gift Box	See Contrast table (2)
	9	Soft Bag	509-SN-325

(2) CONTRAST TABLE

DDJ-SP1/CKSUVYXE5 and XECN5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DDJ-SP1 /CKSUVYXE5	DDJ-SP1 /XECN5
	2	Operating Instructions (En, Fr, De, It, Nl)	502-DDJSCA-3311	Not used
	3	Operating Instructions (Es, Pt, Ru, Ko, Ja)	502-DDJSCA-3312	Not used
	4	Operating Instructions (Zhcn)	Not used	502-DDJSCB-3313
	8	Gift Box	507-SN-3429	507-SCB-3429

9.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN PCB Assy	704-SUB-A570
	2	FSR Plate Assy L	704-SUB-A571
	3	FSR Plate Assy R	704-SUB-A572
	4	Browser Knob	100-SN-3010A
	5	Little Knob	100-SN-3030
	6	LED Lens	100-SN-3032
	7	LIMPID Lens	100-SN-3033
	8	4 Key Button	100-SN-3034
	9	2 Key Button	100-SN-3035
	10	FX Button	100-SN-3036
	11	Left Sync Button	100-SN-3037
	12	Right Sync Button	100-SN-3038
	13	2 Key Black Button	100-SN-3040S
	14	Shift Button	100-SN-3041
	15	Twin Key Button	100-SN-3042
	16	Small VR Knob	100-SN-3083
	17	HOT CUE Button	100-SNA-2993
	18	Base	See Contrast table (2)
	19	3&4 Button	100-SNA-3039
	20	Slicer Button	100-SNB-2993
	21	Load Button	100-SNB-3039
	22	FX Rotate Knob	100-S1-3006
	23	Rotate Knob	100-S1-3007
	24	Front Panel	300-SN-2079
	25	Large Ground Plate	300-SN-2080
	26	CH Fixed Plate	300-SN-2082
	27	Isolation Slice	501-SN-2569
	28	Pad Soft Knob	604-SN-612
	29	Gasket	612-SN-476
	30	Power Himilon	612-SN-493
	31	Button Cushion	612-SN-494
	32	Foot Pad Assy	701-SN-5314
	33	•••••	
	34	•••••	
	35	Screw 2.6*9	602-BTF2609-685B
	36	Screw 2.6*10	602-CDN88-563
	37	Screw	602-SL24F-099
	38	Screw	602-STS2003-677
	39	Screw WBTP2.6*8 TTB	602-900-565

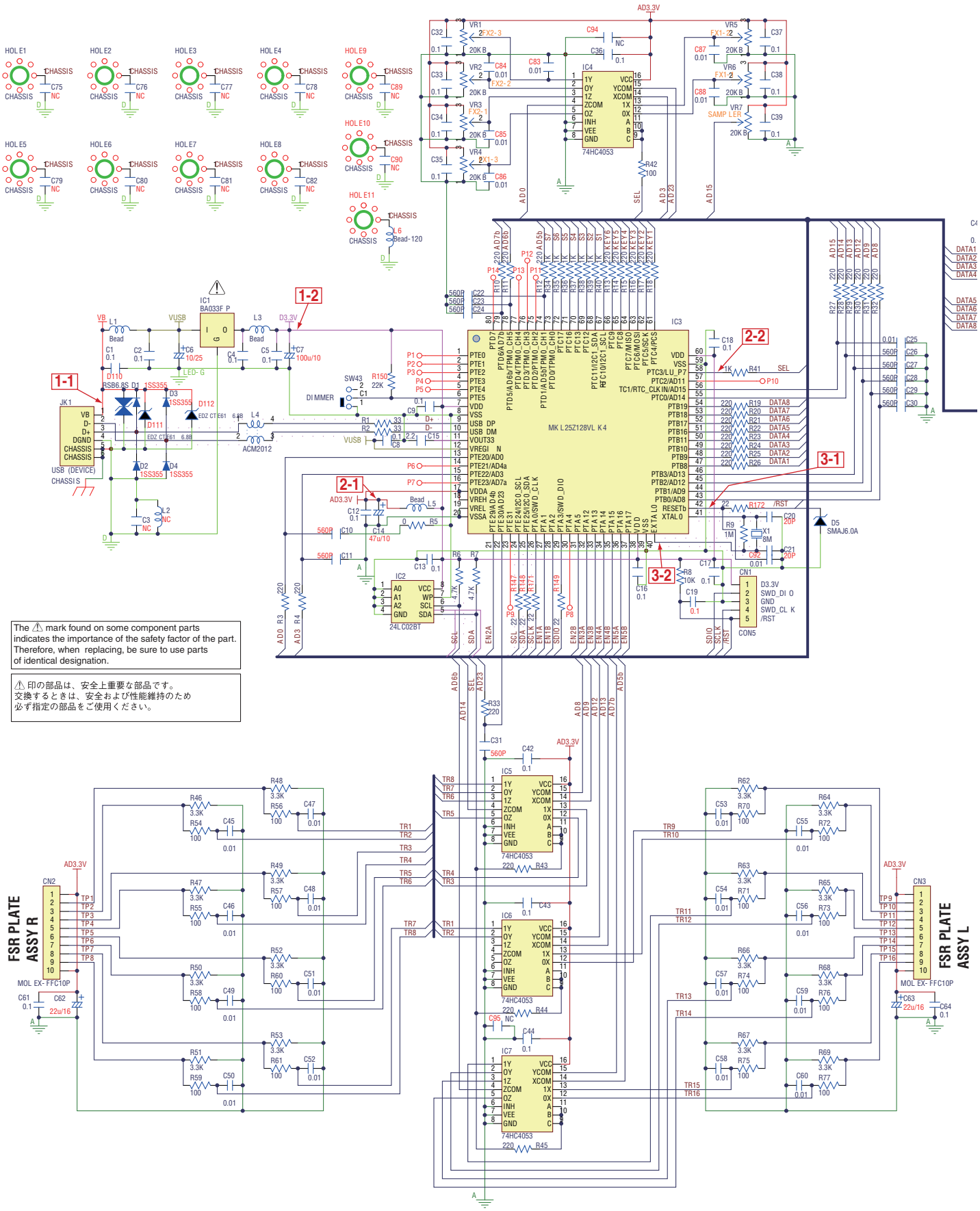
(2) CONTRAST TABLE

DDJ-SP1/CKSUVYXE5 and XECN5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DDJ-SP1 /CKSUVYXE5	DDJ-SP1 /XECN5
	18	Base	100-SNA-3029	100-SNB-3029

10. SCHEMATIC DIAGRAM

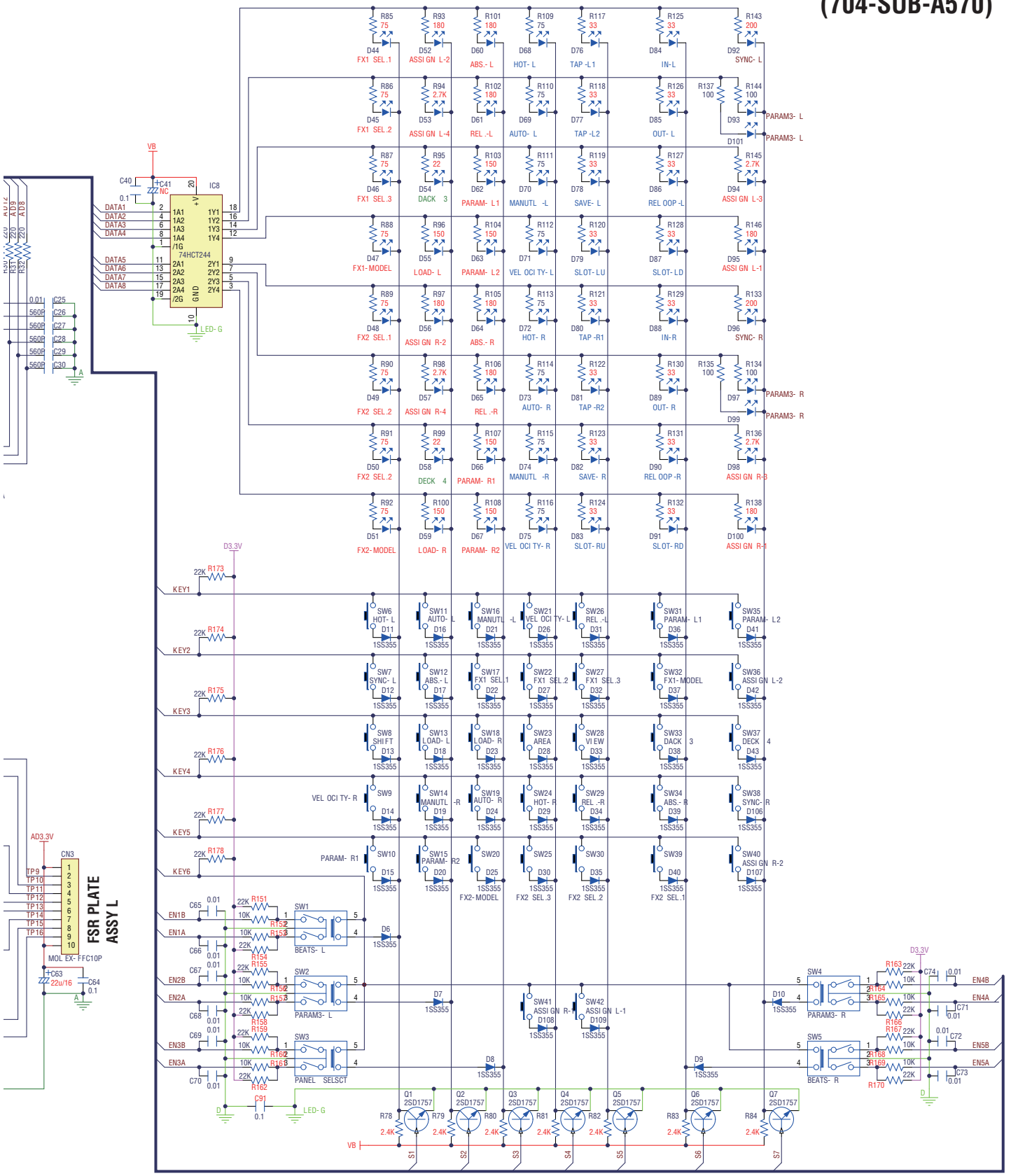
10.1 MAIN PCB ASSY



The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

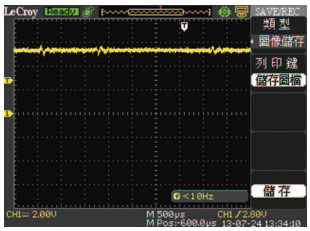
⚠ 印の部品は、安全上重要な部品です。
交換するときは、安全および性能維持のため
必ず指定の部品をご使用ください。

A MAIN PCB ASSY (704-SUB-A570)

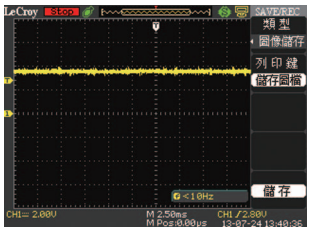


10.2 WAVEFORMS

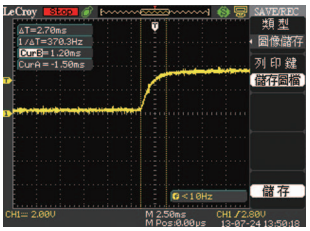
1-1 JK1 Pin 1 (for 5V)



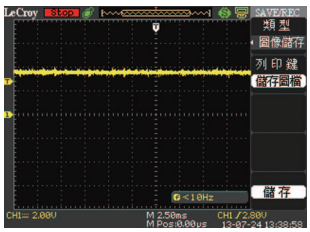
2-1 C14 + side (for AD3.3V)



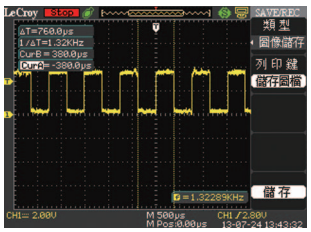
3-1 IC3 Pin 42 (/RST)



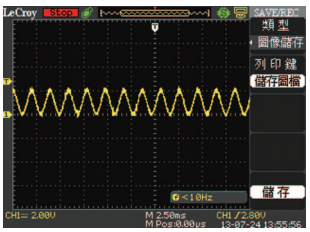
1-2 C7 + side (for D3.3V)



2-2 IC3 Pin 58 (SEL)



3-2 IC3 Pin 40 (Extalo)



A

B

C

D

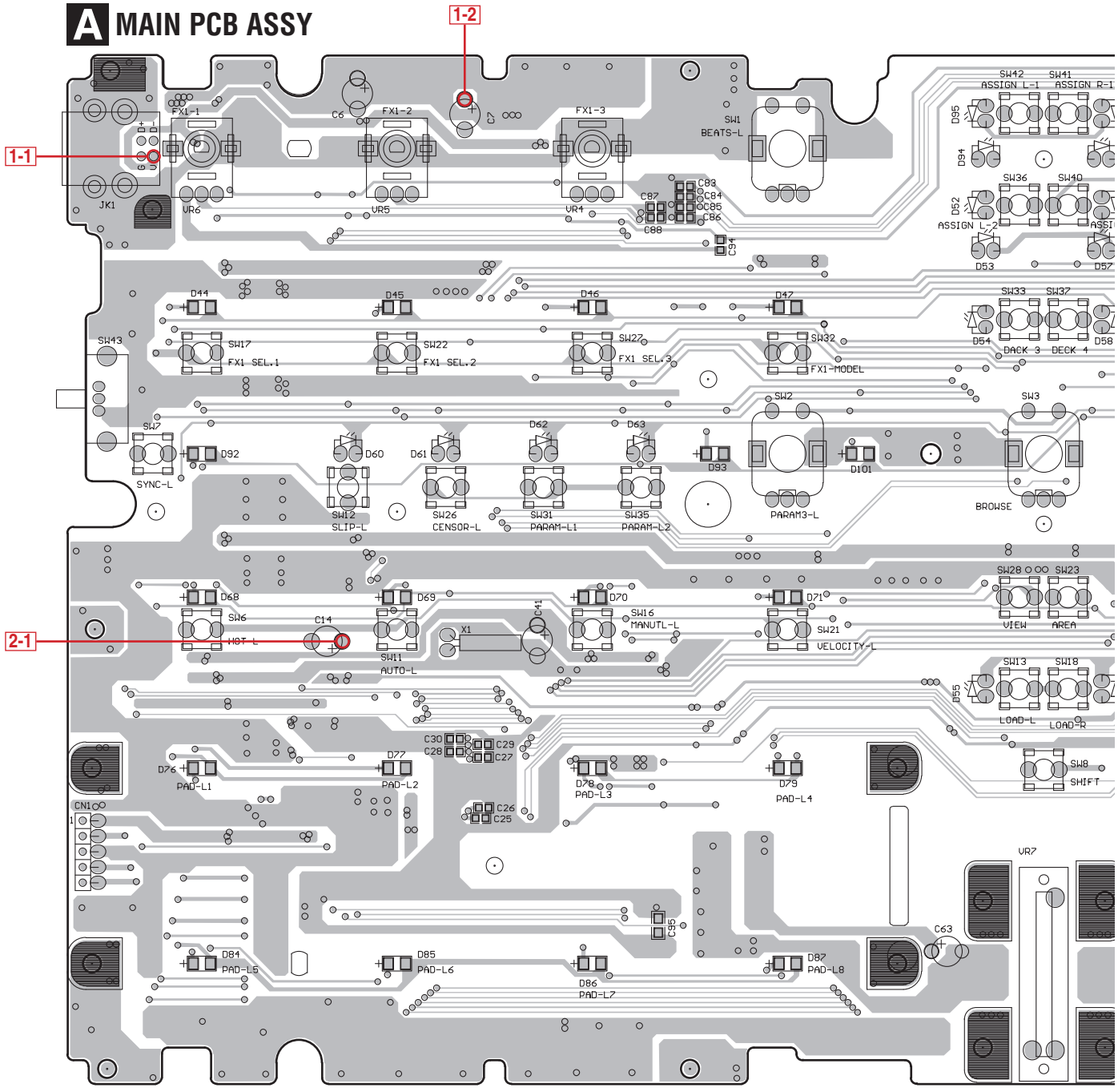
E

F

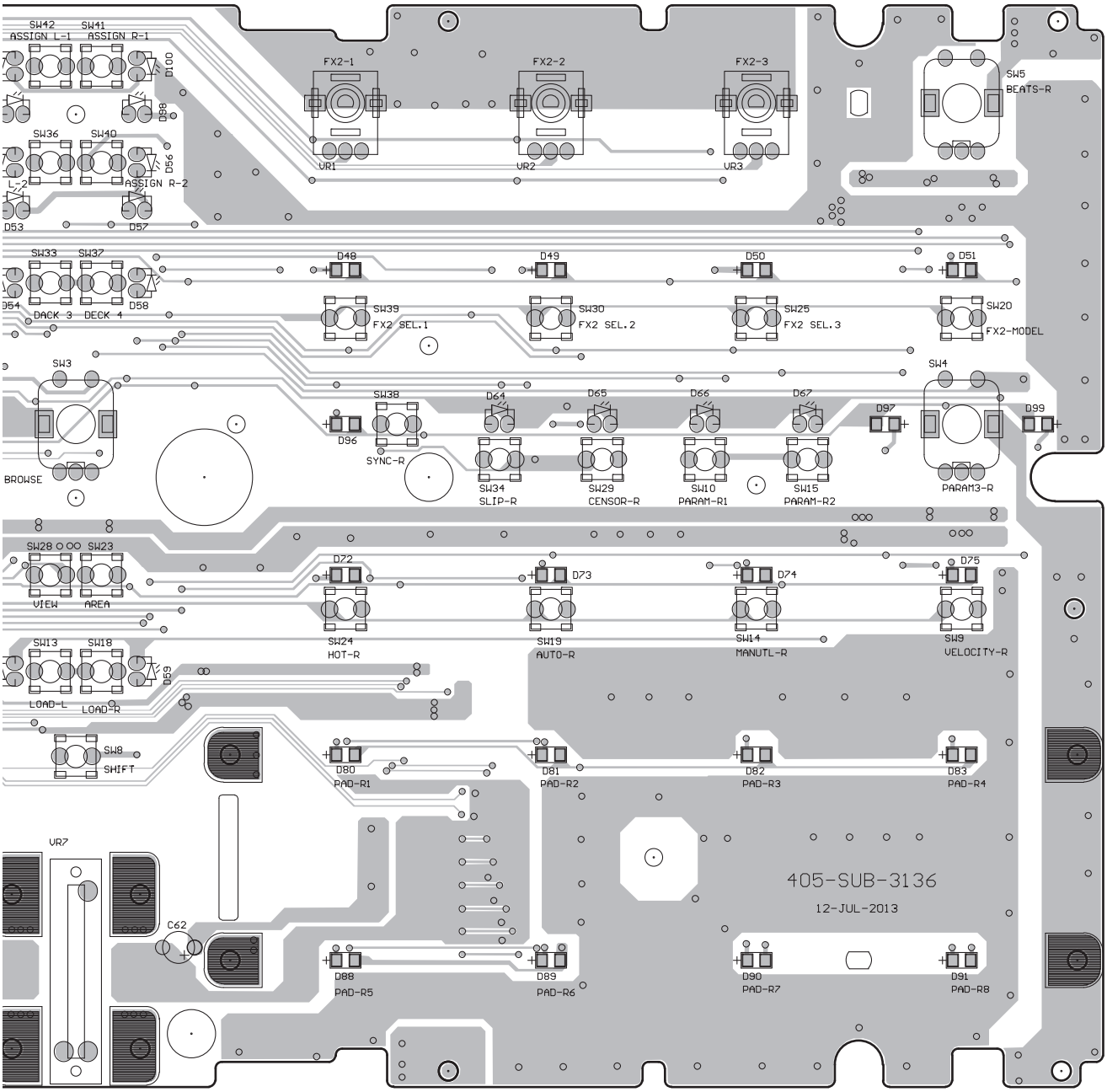
11. PCB CONNECTION DIAGRAM

11.1 MAIN PCB ASSY

SIDE A



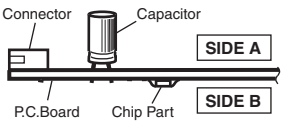
SIDE A



NOTE FOR PCB DIAGRAMS :

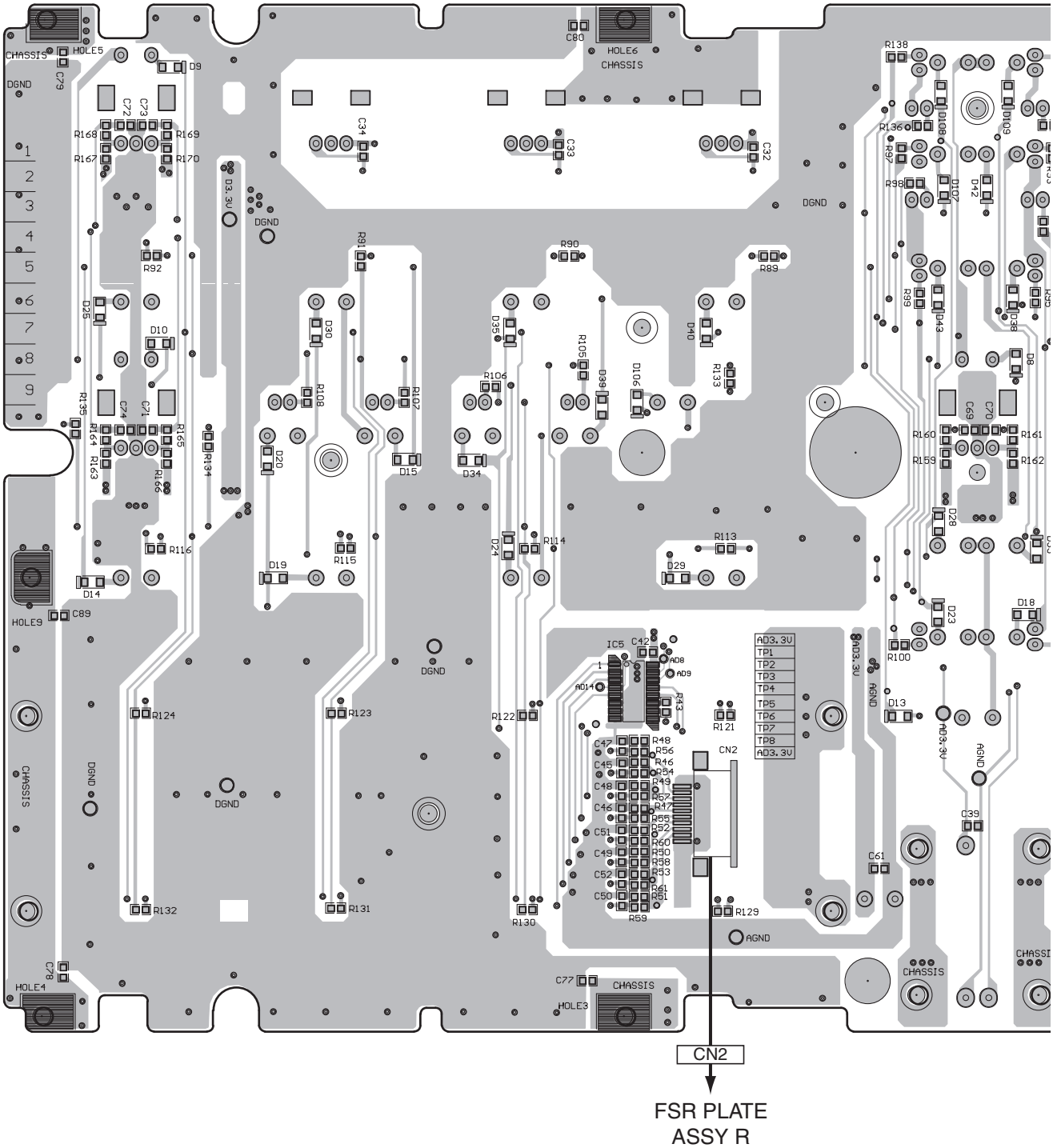
1. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

2. View point of PCB diagrams.



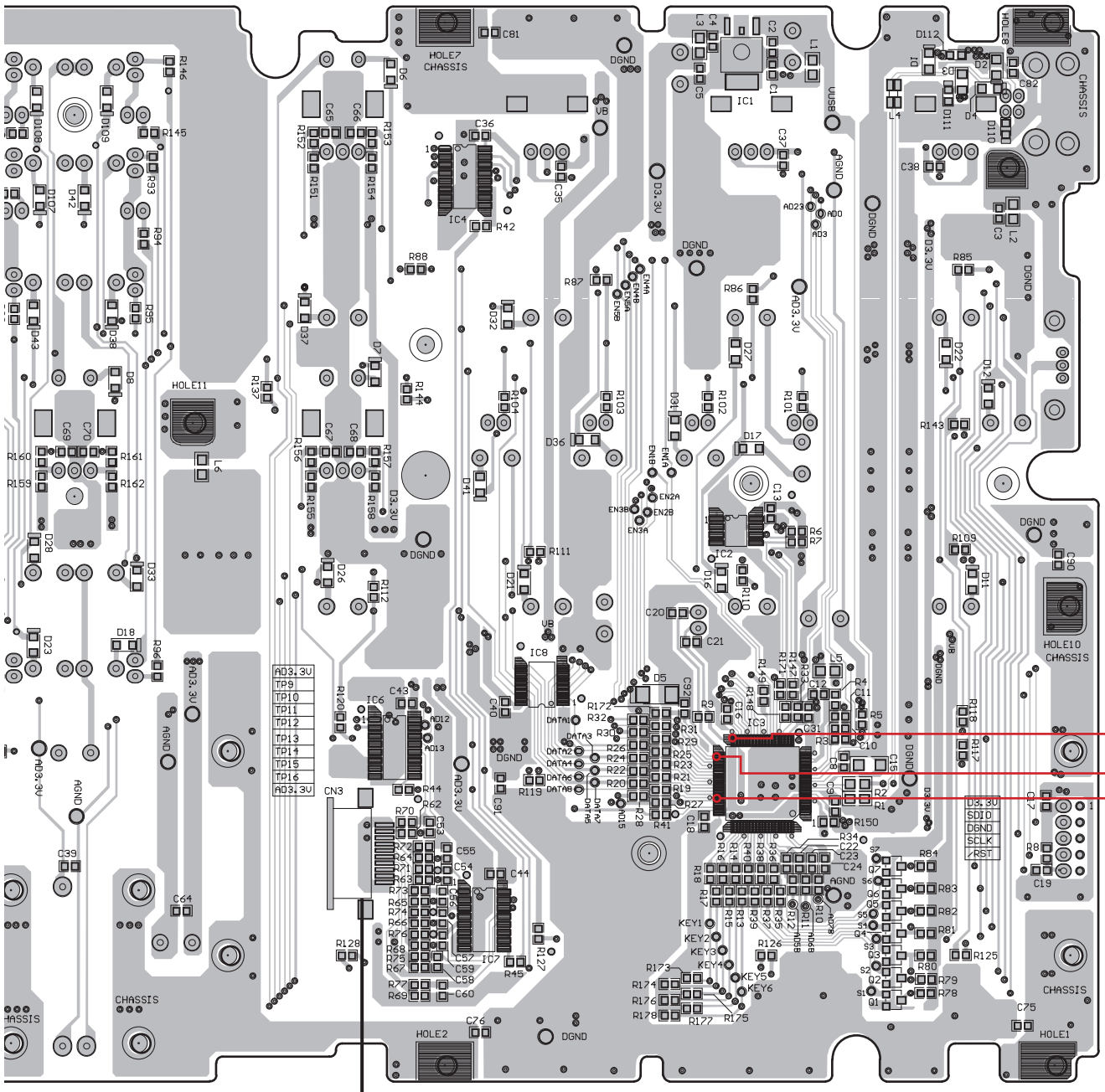
SIDE B

A MAIN PCB ASSY



IC5

SIDE B



IC4 IC1
IC6 IC8 IC2
IC7 IC3 Q1-Q7

12. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*

● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

● *Although the cables that are directly mounted on each PCB Assy are listed individually as electrical parts of the corresponding PCB Assy in the parts list, those cables are included with each PCB Assy for service when it is supplied.*

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

		MAIN PCB ASSY	704-SUB-A570

Mark	No.	Description	Part No.

A MAIN PCB ASSY

SEMICONDUCTORS

	Q 1-7	CHIP TRANSISTOR	416-MC6000-374
	D 110	ESD DIODE	414-DJ1100G-207
	D 1-4,6-43,106-109	SWITCHING DIODE	414-CD1000-075A
	D 111,112	ESD DIODE	414-RMP3-285
	D 5	TVS DIODE	414-UDJ200-284
	D 54,58	LED(YELLOW GREEN)	410-DJ5000-252T
	D 52,53,55-57,59-67	LED (RED)	410-DJ5000-253T
	D 94,95,98,100	LED (RED)	410-DJ5000-253T
	D 68-91	CHIP LED BLUE	410-SUB-424
	D 44-51	CHIP LED RED	410-SUB-425
	D 92,93,96,97,99,101	CHIP LED WHITE	410-S1-419

MISCELLANEOUS

	JK 1	USB FIXED PLATE	300-SN-2083
	L 4	COMMON MODE FILTERS	415-FU800-305
	JK 1	USB JACK	420-S1-377
	L 1,3,5	TDK CHIP BEAD	415-FU801-316
	L 6	CHIP BEAD	415-IS201-382
	CN 2,3	10P FFC CONNECTOR	404-CDMIX2-1142
	SW 43	SLIDE SW	403-DV300-5007
	SW 2,4	ENCODER	403-COMBO-424
	SW 6-42	TACT SW	403-DDJLE-419
	SW 1,3,5	ENCODER	403-DDJLE-418
	X 1	QUARTZ CRYSTAL (8 MHz)	427-DV300-5017V

RESISTORS

	VR 1-6	ROTARY VR	418-S1-694
	VR 7	SLIDE VR	418-SUB-704
	0	CHIP RESISTOR	412-900-975
	R 133,143	CHIP RESISTOR	412-I1-1261
	R 95,99,147-149,171,172	CHIP RESISTOR	412-CDVD2001-554

CAPACITORS

	C 62,63	CAPACITOR	413-SPPW3-236
	C 14	ELEC.CAPACITOR	413-810-920
	C 15	CHIP CAPACITOR	413-U5000-1005
	0	ELEC.CAPACITOR	413-HT801K-192
	C 7	ELEC.CAPACITOR	413-HMA2200-5017
	C 1,2,4,5,8,9,12,13	CHIP CAPACITOR	413-DCM280-773
	C 16-19,32-40,42-44	CHIP CAPACITOR	413-DCM280-773
	C 61,64,91	CHIP CAPACITOR	413-DCM280-773