Pioneer DJ

Service Manual

DDJ-400

ORDER NO.
QRT1023

DJ CONTROLLER

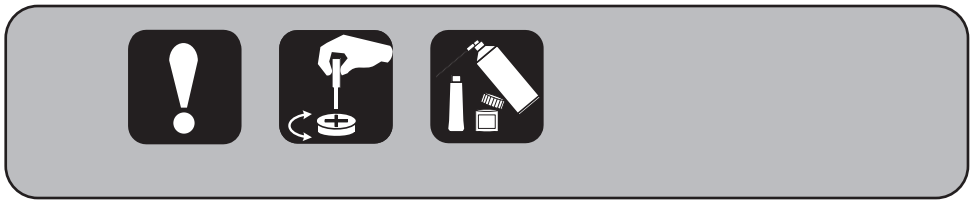
DDJ-400

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

Model	Type	Power Requirement	Remarks
DDJ-400	SXJ	DC 5 V (USB bus power only)	
DDJ-400	XJCN	DC 5 V (USB bus power only)	

THIS SERVICE MANUAL SHOULD BE USED TOGETHER WITH THE FOLLOWING MANUAL(S).

Model	Order No.	Remarks
DDJ-400	QRT1024	SCHEMATIC DIAGRAM, PCB CONNECTION DIAGRAM, PCB PARTS LIST



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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.

CAUTION
Since the fuse may be in the neutral of the mains supply, disconnect the mains to de-energize the phase conductors.

CONTENTS

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

1.2 NOTES ON REPLACING

■ Parts that is defficult to replace

The part listed below is difficult to replace as a discrete component part.
It the failure of suspected that are listed in the table, replace whole ASSY.

ASSY Name	Parts that is Difficult to Replace			
	Ref. No	Part No.	Function	Remarks
MAIN ASSY	CN101	VKN2097	FFC CONNECTOR	Terminal part with through-hole
	CN102	VKN1262	FFC CONNECTOR	Terminal part with through-hole
	CN103	VKN1256	FFC CONNECTOR	Terminal part with through-hole
	JA101	DKN1237	USB-B JACK	Terminal part with through-hole
	JA702	AKB7181	MASTER OUTPUT RCA JACK	Terminal part with through-hole

■ Lubrication during Reassembly of the Jog Dial

When reassembling the Jog Dial after replacing the Jog Dial or Control Panel, be sure to apply grease to the shaft and shaft bearing of the Jog Dial.
For details on how to lubricate, see "Procedure for applying grease during reassembly of the Jog Dial" in "7. DISASSEMBLY."
Be sure to use the specified grease.

■ Parts that require simultaneous replacement

Two photointerrupters are provided for detection of Jog Dial rotations.
When replacement of photointerrupters is required because of abnormalities in detected waveforms, etc., be sure to replace both photointerrupters at the same time.
Corresponding Part No.: RPI-579N1
Parts that require simultaneous replacement: PC1201, PC1202 (DCK1 ASSY) / PC2401, PC2402 (PNL2 ASSY)

After replacement, confirm it is correctly attached according "6-1. SERVICE MODE : ②-3 Photo interrupter check mode ."

1.3 SERVICE NOTICE

■ Monitoring of power supply and voltage

This unit always monitors for power supply and voltage.
After an error is detected, this unit will shut itself off immediately and all indicators are turned off.
After the unit shuts itself off because of an error, the defective point may produce heat, which may be dangerous.
Therefore, disconnect the USB cable and wait for a while before turning the unit back on.
Repair the unit according to the diagnostic procedures described in “5.3 MONITORING OF POWER SUPPLY AND VOLTAGE.”

■ Demo Mode

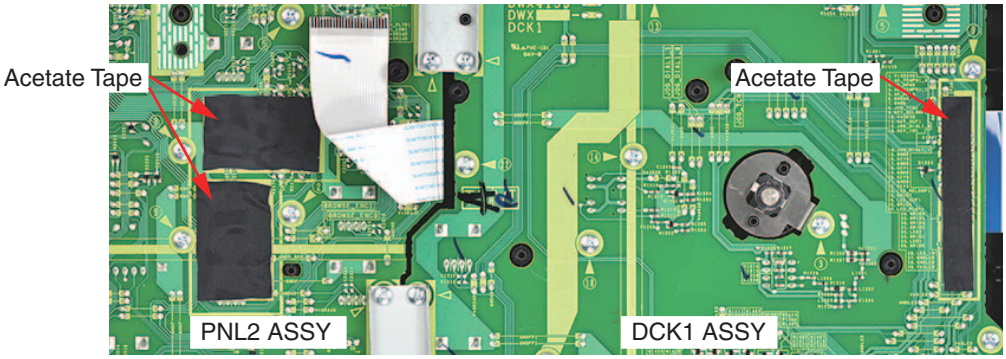
This unit will automatically enter demo mode if it is left unoperated for 10 minutes in normal operation mode.
To cancel this mode, operate any control or button of this unit.
The default setting of time to switch to the demo mode is 10 minutes.
Demo mode can be invalidated or it’s possible to change time until start demo mode in the setting of utilities mode.
(For details, refer to the operating instructions)

How to modify when rattling of product is occurred

- Place the blocks at 8 points (■) under the control panel (Height more than 25 mm and Diameter ϕ lower than 30 mm is recommended), and attach the chassis part according to the screw tightening order manually.
  (The block is available at the home center, etc)(Refer to "7 DISASSEMBLY" about the screw tightening order.)
- When there is no block, place the whole surface of the control panel to the curing mat, and attach the chassis part according to the screw tightening order manually.
- Take care not to press the screwdriver strongly to the product in any case.
- Do not use the electric screwdriver.

Paste Acetate Tape on the back face of PCB

When Acetate Tape is peeled off during PCB replacement and repair.
Perform paste of new Acetate Tape.
(Position : Paste into silk frame of PCB)



2. SPECIFICATIONS

2.1 ACCESORIES

• USB cable	(DDE1150)
• Operating instructions (Quick start guide)	(SXJ : DRH1505) (XJCN : DRH1506)
• Warranty (SXJ only)	
• Warranty (for some regions) *1	

*1 : 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 (Quick Start Guide)”.
— For the Japanese region, the corresponding information is provided on the back cover of the “Operating Instructions (Quick Start Guide)”.

2.2 SPECIFICATIONS

General – Main Unit

Power supply ..... DC 5 V
Rated current ..... 500 mA
Main unit weight ..... 2.1 kg (4.6 lb)
Max. dimensions ..... 482 mm (W) × 58.5 mm (H) × 272.4 mm (D)
(19.0 in. (W) × 2.3 in. (H) × 10.7 in. (D))
Tolerable operating temperature ..... +5 °C to +35 °C
Tolerable operating humidity ..... 5 % to 85 % (no condensation)

Audio Section

Sampling rate ..... 44.1 kHz
D/A converter ..... 24 bits
Rated output level/Load impedance
MASTER OUT ..... 2.1 Vrms/10 kΩ
Frequency characteristic
USB ..... 20 Hz to 20 kHz
S/N ratio (rated output, A-WEIGHTED)
USB ..... 103 dB
Total harmonic distortion
USB ..... 0.005 %
Input impedance
MIC ..... 3 kΩ or higher
Output impedance
MASTER OUT ..... 1 kΩ or less
HEADPHONES ..... 10 Ω or less

Input / Output terminals

MIC terminal
1/4” TS jack ..... 1 set
MASTER OUT output terminal
RCA pin jack ..... 1 set
HEADPHONES output terminal
3.5 mm stereo mini jack ..... 1 set
USB terminal
B type ..... 1 set

- The specifications and design of this product are subject to change without notice.
-

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedures	Check points
1	Check the firmware version in Service Mode. (The firmware version can be checked on PC/Mac. -> Refer to 8.2 UPDATING OF THE FIRMWARE)	The version of the firmware must be the latest. Update firmware to the latest one, if it is not the lasted.
2	Confirm whether the customer complaint has been resolved. If the problem pointed out by the customer occurs with a specific source or operation, such as PC input, MIC input, Fader, or VOL, input that specific source then perform that specific operation for checking.	The customer compain must not be reppeared. Audio and operations must be normal.
3	Check the each operation. Enter Service mode.	There must be no errors in operations of each button, jog dial, LEDs, VOL, fader control, and rotary encoder.
4	Check the analog audio output. Connect this unit to a PC/Mac with the DJ application (rekordbox DJ) installed, via USB, then play back audio.	Audio and operations of MASTER output / HEADPHONE output must be normal (Not noise etc.).
5	Check the analog audio input. Input an audio signal via MIC.	Audio and operations must be normal.
6	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding audio.

Item to be checked regarding audio	
Distortion	Volume too high
Noise	Volume fluctuating
Volume too low	Sound interrupted

3.2 JIGS LIST

■ Jigs List

Jig Name	Part No.	Purpose of use / Remarks
USB cable	GGP1193	For PC connection
License-key card for Service	GGP1522	For activation of rekordbox dj

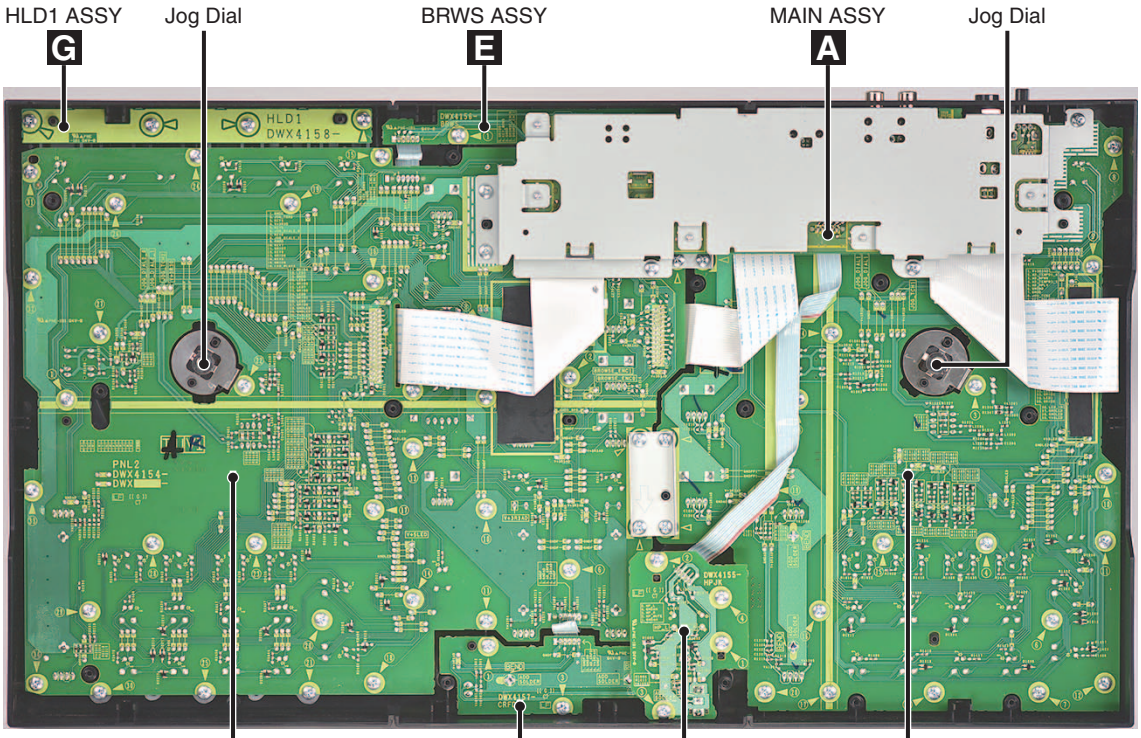
■ Lubricants and Glues List

Name	Part No.	Remarks
Acetate Cloth Tape	GYH1001	Refer to 1.3 SERVICE NOTICE : ■ Paste Acetate Tape on the back face of PCB.
Grease	GEM1100	Refer to “7. DISASSEMBLY : [4-1] Procedure for applying grease during reassembly of the Jog Dial”

MODE	CHECK CONTENTS	OBJECT	OPERATION POINT / SETTING		INDICATION POINT	STATE	CHECK
SERVICE MODE 1	Version	Firmware			**[1st column]** Left/Right DECK:[HOT CUE][BEAT LOOP] [BEAT JUMP][SAMPLER] **[2nd column]** Left/Right DECK:PAD Upper section Right DECK:CUE **[3rd column]** Left/Right DECK:PAD Lower section Right DECK:PLAY/PAUSE		❑ Ver.___
	Operating Element	All LED light on	Browser section	ROTARY SELECTOR	All LED	Light on by pressing button	❑
		All LED dimmer out		ROTARY SELECTOR	All LED	Dimmer out by pressing button	❑
		All LED light off		ROTARY SELECTOR	All LED	Light off by pressing button	❑
		Push SW (With LED)	Deck section	IN/4BEAT Left/Right	IN/4BEAT Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				OUT Left/Right	OUT Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				RELOOP EXIT Left/Right	RELOOP EXIT Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				BEAT SYNC Left/Right	BEAT SYNC Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				CUE Left/Right	CUE Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				PLAY/PAUSE Left/Right	PLAY/PAUSE Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				HOT CUE mode Left/Right	HOT CUE mode Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				BEAT LOOP mode Left/Right	BEAT LOOP mode Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				BEAT JUMP mode Left/Right	BEAT JUMP mode Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				SAMPLER mode Left/Right	SAMPLER mode Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD1 Left/Right	Perfomance PAD1 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD2 Left/Right	Perfomance PAD2 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD3 Left/Right	Perfomance PAD3 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD4 Left/Right	Perfomance PAD4 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD5 Left/Right	Perfomance PAD5 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD6 Left/Right	Perfomance PAD6 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD7 Left/Right	Perfomance PAD7 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				Perfomance PAD8 Left/Right	Perfomance PAD8 Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
			Mixer section	HEADPHONES CUE Master	HEADPHONES CUE Master	Light on by pressing button, Light off by releasing button	❑
				HEADPHONES CUE CH 1/2	HEADPHONES CUE CH 1/2	Light on by pressing button, Light off by releasing button	❑ / ❑
			Effect section	BEAT FX ON/OFF	BEAT FX ON/OFF	Light on by pressing button, Light off by releasing button	❑
		Push SW (Without LED)	Browser section	ROTARY SELECTOR	All LED	Repeat in order of light on => dimmer out => light off by pressing button	❑
				LOAD Left/Right	CUE Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
			Deck section	SHIFT Left/Right	None	*1	❑ / ❑
				JOG(TOUCH) Left/Right	PLAY/PAUSE Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				CUE/LOOP CALL ◀ Left/Right	IN/4BEAT Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
				CUE/LOOP CALL ▶ Left/Right	OUT Left/Right	Light on by pressing button, Light off by releasing button	❑ / ❑
			Effect section	BEAT ◀ / ▶	HEADPHONES CUE CH1/2	Light on by pressing button, Light off by releasing button	❑ / ❑
				FX SELECT	HEADPHONES CUE Master	Light on by pressing button, Light off by releasing button	❑
		Volume operation	**[TYPE A]**				
			Browser section	ROTARY SELECTOR	Perfomance PAD (Eight PAD)	Lighting point of LED in PAD moves acccording to rotation motion	❑
			Deck section	JOG dial Left/Right	Perfomance PAD (Eight PAD) Left/Right	Lighting point of LED in PAD moves acccording to rotation motion	❑ / ❑
			[TYPE B]				
			Deck section	TEMPO slider Left/Right	CHANNEL LEVEL INDICATOR Left/Right	Indicator display changes according to position of VR	❑ / ❑
			Mixer section	TRIM CH1/CH2		Indicator display changes according to position of VR	❑ / ❑
				EQ HI CH1/CH2		Indicator display changes according to position of VR	❑ / ❑
				EQ MID CH1/CH2		Indicator display changes according to position of VR	❑ / ❑
				EQ LOW CH1/CH2		Indicator display changes according to position of VR	❑ / ❑
				FILTER CH1/CH2		Indicator display changes according to position of VR	❑ / ❑
				Channel fader CH1/CH2		Indicator display changes according to position of VR	❑ / ❑
			[TYPE C]				
			Effect section	BEAT FX LEVEL/DEPTH	CHANNEL LEVEL INDICATOR Left+Right	Indicator display changes according to position of VR	❑
			Mixer section	Cross fader		Indicator display changes according to position of VR	❑
				MASTER LEVEL		Indicator display changes according to position of VR	❑
				HEADPHONES MIXING		Indicator display changes according to position of VR	❑
				HEADPHONES LEVEL		Indicator display changes according to position of VR	❑
		Slide SW	**[TYPE D]**				
			Effect section	BEAT FX CH SELECT	[HOT CUE] [BEAT LOOP] [BEAT JUMP] Right	LED of each button light on and light off according to position of switch (Light off in several seconds after light on)	❑

*1 At the time of all LED light on or all LED dimmer out :
- Previous mode by pressing button (Left DECK)
- Next mode by pressing button (Right DECK)

3.3 PCB LOCATIONS



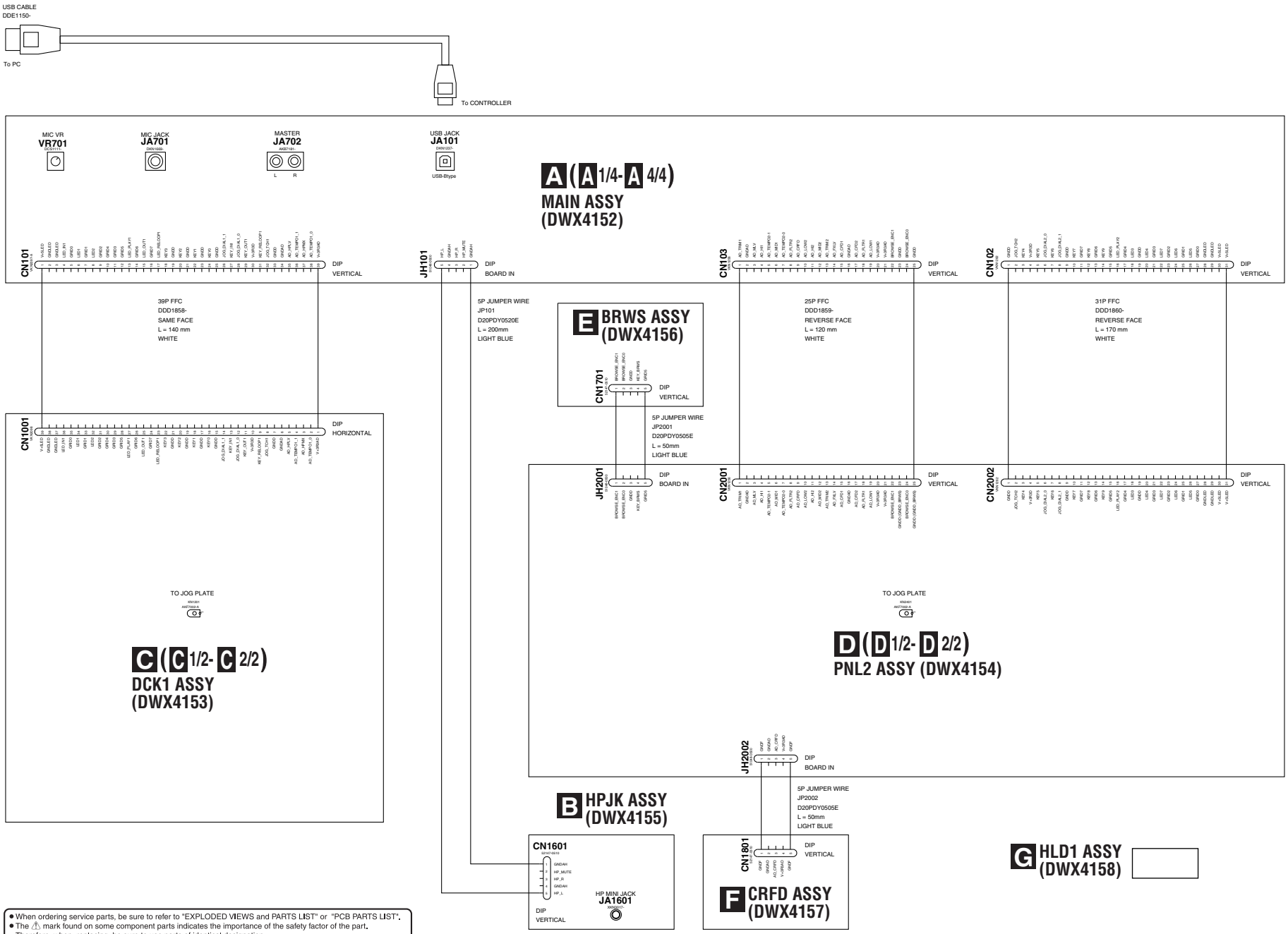
NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

Mark No. Description **Part No.**

LIST OF ASSEMBLIES

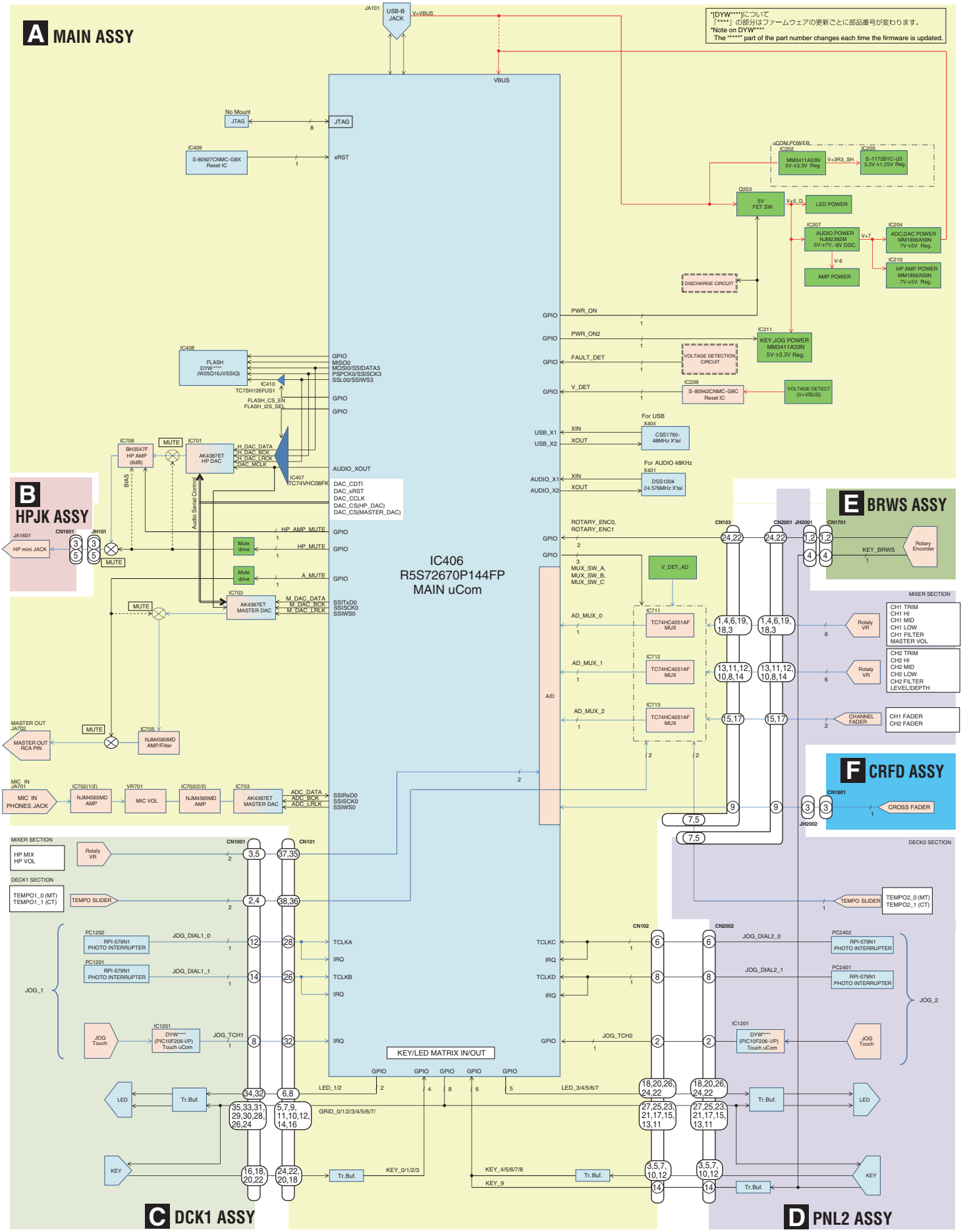
	1..MAIN ASSY	DWX4152
NSP	1..PNL1 ASSY	DWM2684
	2..DCK1 ASSY	DWX4153
	2..HPJK ASSY	DWX4155
	2..BRWS ASSY	DWX4156
	2..CRFD ASSY	DWX4157
	2..HLD1 ASSY	DWX4158
	1..PNL2 ASSY	DWX4154

4. BLOCK DIAGRAM

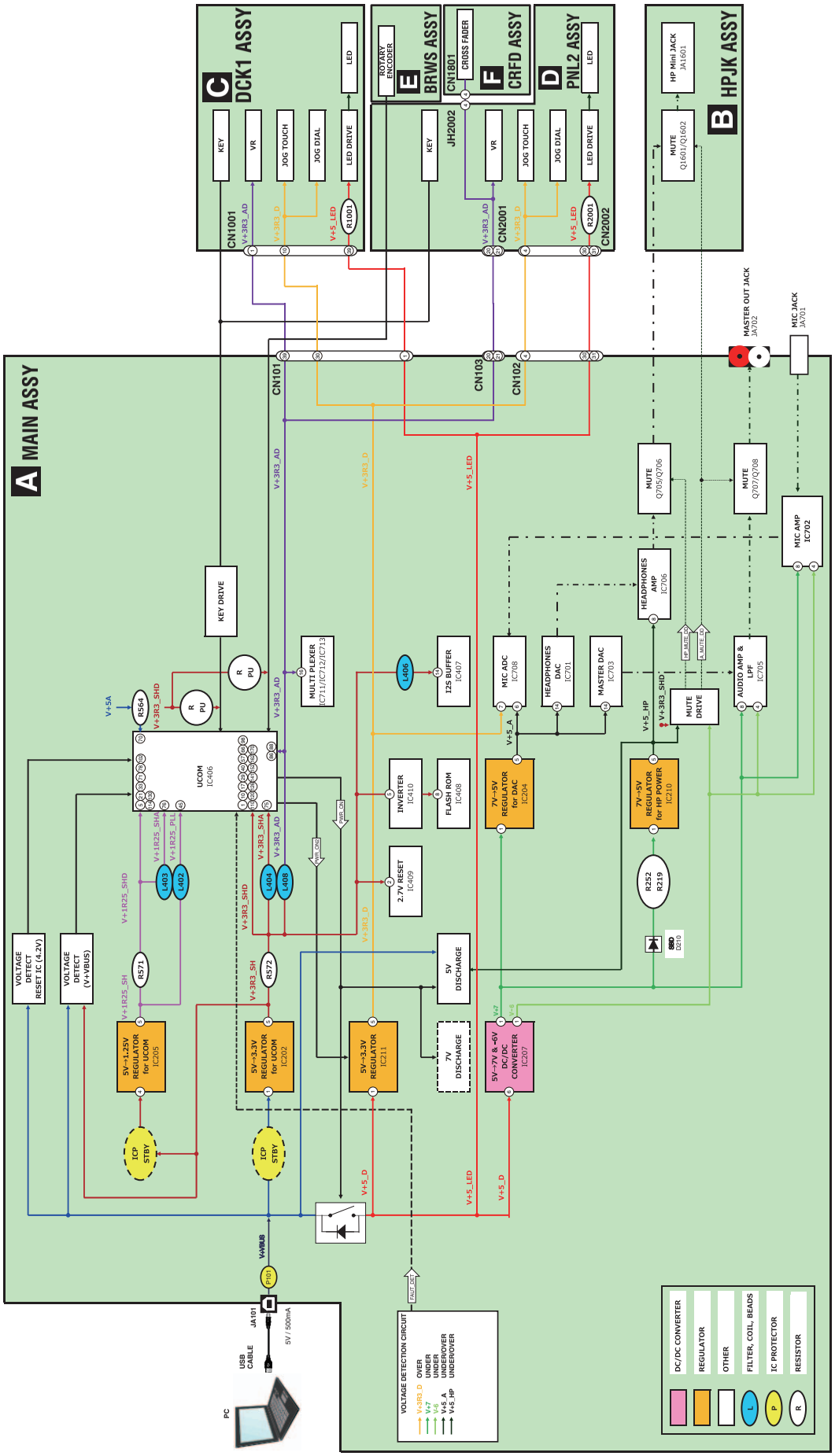


- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- : The power supply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

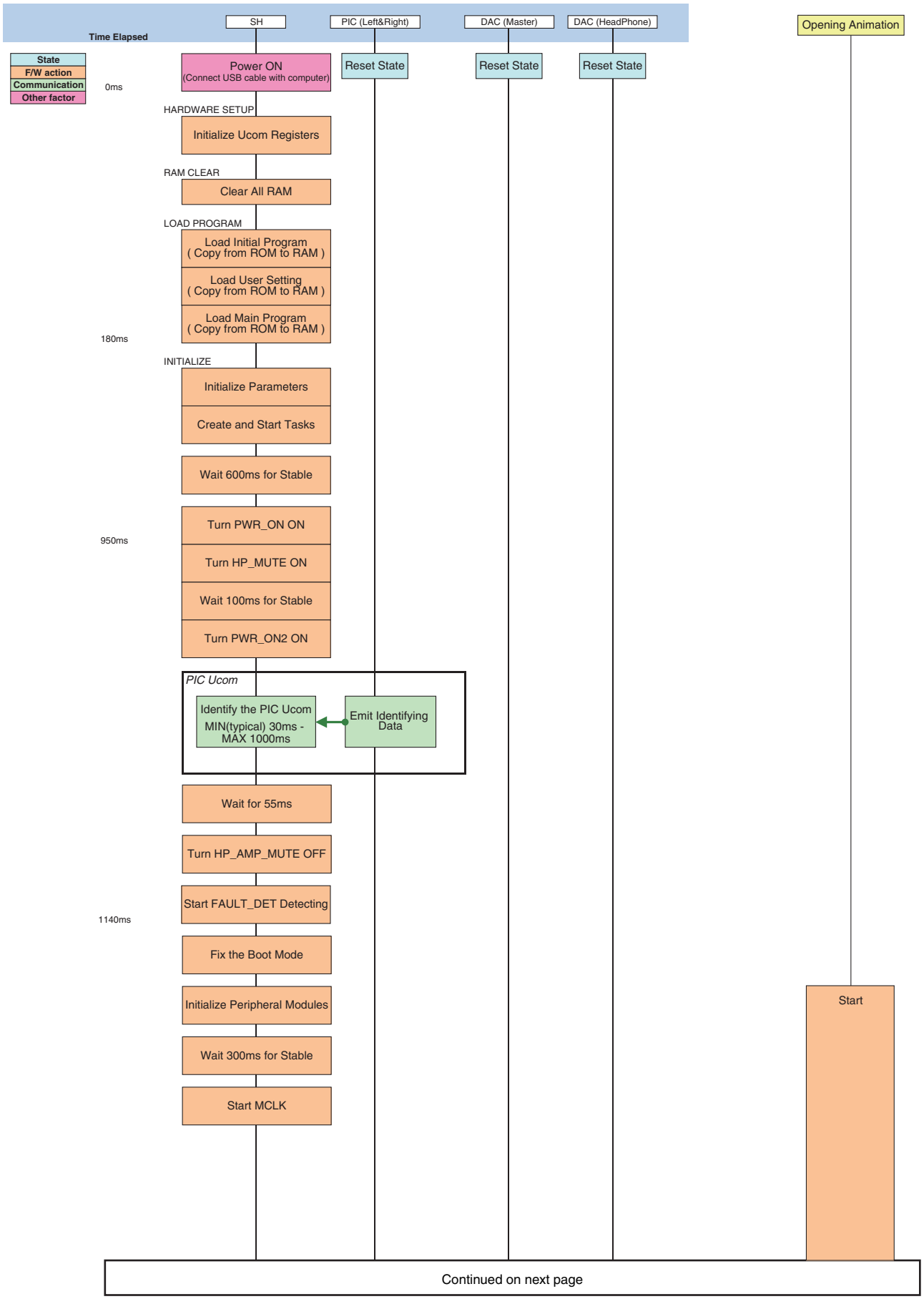
4.2 BLOCK DIAGRAM

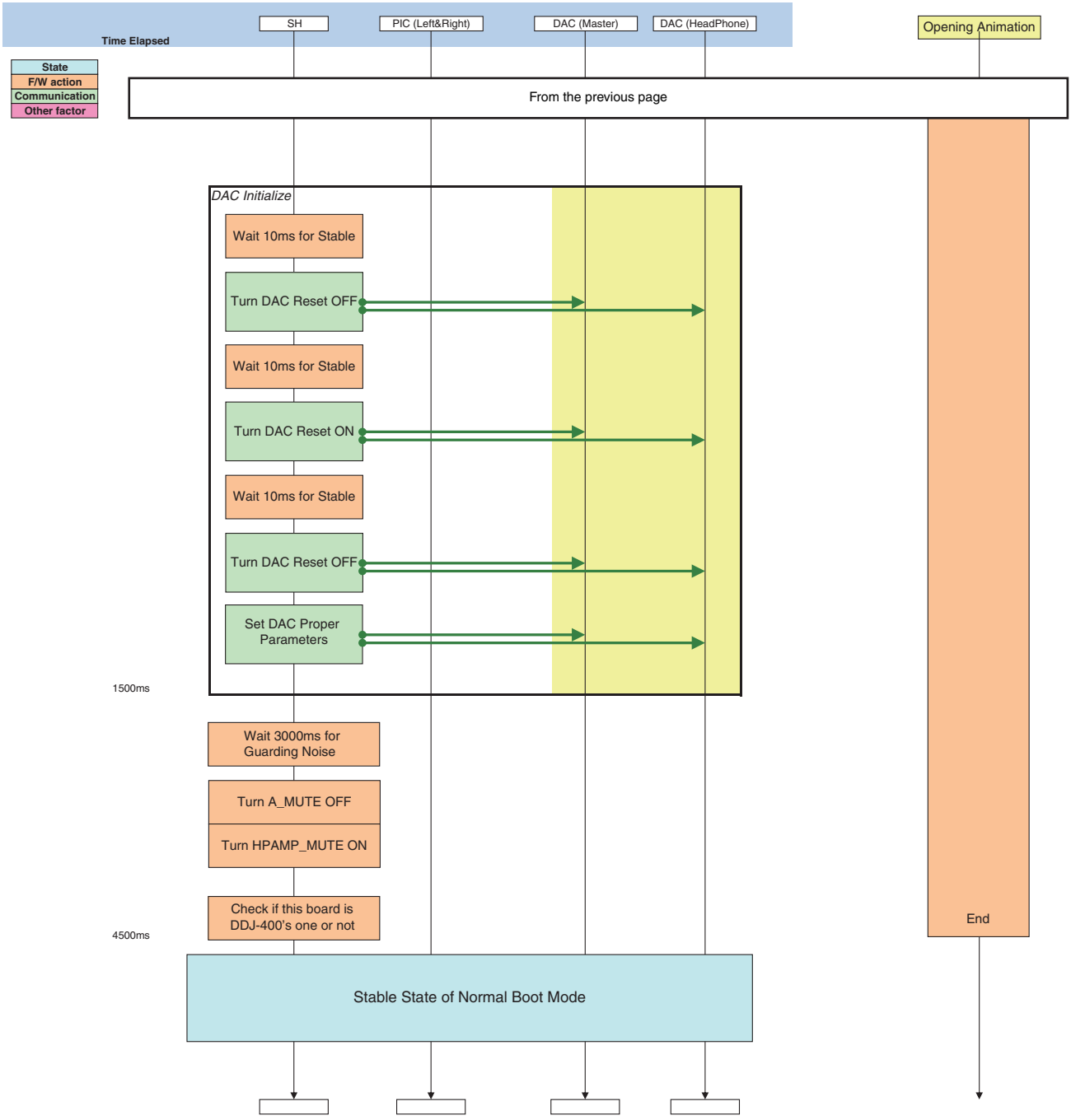


4.3 POWER BLOCK DIAGRAM



5. DIAGNOSIS
5.1 STARTUP SEQUENCE




Time Elapsed
SH
PIC (Left&Right)
DAC (Master)
DAC (HeadPhone)
Opening Animation
State
F/W action
Communication
Other factor
From the previous page
DAC Initialize
Wait 10ms for Stable
Turn DAC Reset OFF
Wait 10ms for Stable
Turn DAC Reset ON
Wait 10ms for Stable
Turn DAC Reset OFF
Set DAC Proper Parameters
1500ms
Wait 3000ms for Guarding Noise
Turn A_MUTE OFF
Turn HPAMP_MUTE ON
Check if this board is DDJ-400's one or not
4500ms
Stable State of Normal Boot Mode
End

5.2 TROUBLESHOOTING

In this section, causes of failure, diagnostics points, and corrective measures can be searched for according to symptoms.
If there is an error indication, see to "5.6 ERROR INDICATION" before disassembly this unit and check the abnormal contents.
For the relationship of each power-supply and signal system, see “4.3 POWER BLOCK DIAGRAM.”
If software of the product is updated before performing diagnostics, check that software updating has been performed properly before proceeding to diagnostics.
If software updating has not been performed properly, update the software, following the instructions in “8.2 UPDATING OF THE FIRMWARE.”

Contents

Waveform numbers and voltage confirmation-point numbers described in this section correspond to the numbers on the circuit diagrams and PCB diagrams.
Be sure to check the failure points, as well as check for failure in their peripheral circuits.

[0] Prior Confirmation

[0-1] Checking in Service Mode

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	-	Service mode	Identify a failure point.	After a failure point is identified, see the section referenced in this manual	6.1 SERVICE MODE

[0-2] Checking Internal Cables

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Disconnection, breakage, or loose connection of internal cables	Cables	Check that all the cables are securely connected. Check that there is no breakage in the cables.	Securely connect a cable if it is not connected. If a cable is broken, replace it. Note: If an FFC cable is disconnected, be careful of the orientation of the contacts when reconnecting it, referring to the printed guide on the board.	4.1 OVERALL WIRING DIAGRAM

[1] Failure in Startup (Failure in power-on)

[1-1] Failure in the power system

In a case where the unit is not started after the USB cable is connected and the unit is turned ON (all LED are not light)

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Failure in the power system (1)	MAIN ASSY	Check that the voltage of the direct pin of USB jack (JA101) is in the range of 4.75–5.25 V.	If the voltage is outside the range of 4.75–5.25 V, failure in the USB-bus power, USB cable and USB jack (JA101).	4.3 POWER BLOCK DIAGRAM 5.3 MONITORING OF POWER SUPPLY AND VOLTAGE
2	Failure in USB-bus power	MAIN ASSY	Check that the V+VBUS voltage is lower than that of the direct pin of USB jack (JA101) by approximately 0.1 to 0.2 V.	If the voltage is 0 V, the wire for the IC protector (P101) may be broken.	4.3 POWER BLOCK DIAGRAM
3	Power failure in the UCOM	MAIN ASSY	Check that the V+3R3_SH voltage is higher than 3.0 V.	If the normal voltage of V+3R3_SH is not restored, IC202 or a part that is connected to V+3R3_SH on the MAIN ASSY may be defective, or connection may be poor.	4.3 POWER BLOCK DIAGRAM
4	Power failure in the UCOM	MAIN ASSY	If the V+3R3_SH voltage is higher than 3.0 V, check that Q203 (5V FET SW) is functioning properly.	If the PWR_ON signal is "L," V+5D, V+5_LED will not be output, because Q203 is not turned ON. The error-detection circuit may have been activated. Go to [5]. If the PWR_ON signal is "H," the error-detection circuit is not activated. Check the voltages of all power ICs. If they are normal, see "[1-2] Failure in the microcomputer system."	4.3 POWER BLOCK DIAGRAM 10.11 VOLTAGES / WAVEFORMS
5	Power failure in the UCOM	MAIN ASSY	Check if the error-detection circuit has been activated.	If the FAULT_DET signal is "L," the error-detection circuit has been activated. Go to [6]. If the FAULT_DET signal is "H," the error-detection circuit is not activated. Check the voltages of all power ICs. If they are normal, see "[1-2] Failure in the microcomputer system."	4.3 POWER BLOCK DIAGRAM
6	Failure in the power system (2) Identification of defective power system	MAIN ASSY	Deactiveate the voltage monitoring circuit then check the section with improper voltage.	The voltage monitoring circuit can be deactivated by removing R267 (0 Ω) on the FAULT_DET. See the notes in “5.3 MONITORING OF POWER SUPPLY AND VOLTAGE” before proceeding to further diagnostics. To identify the section with improper voltage, check the voltage at each point on the MAIN ASSY.	4.3 POWER BLOCK DIAGRAM 5.3 MONITORING OF POWER SUPPLY AND VOLTAGE 10.11 VOLTAGES / WAVEFORMS

[1-2] Failure in the microcomputer system

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Power failure in the UCOM	MAIN ASSY	Check the power terminal of the UCOM (IC406).	Check the power and voltage are normal. Check the power line and the parts, such as coils (beads), resistors, and capacitors. If no problem was found with the parts, power line, and conduction between the power supply and GND, the UCOM (IC406) may be defective.	4.3 POWER BLOCK DIAGRAM 10.11 VOLTAGES / WAVEFORMS
2	UCOM Reset circuit error	MAIN ASSY	Check the Reset terminal (pin 46) of the UCOM (IC406).	In normal operation the voltage of the Reset terminal (Pin 46) is high. If it is low, check if the voltage at V+3R3_SHD is 2.7 V or less. Check the reset line, resistors, capacitors, and the Reset IC (IC409).	10.11 VOLTAGES / WAVEFORMS ④
3	UCOM X'tal error	MAIN ASSY	Check the oscillation waveforms of the X'tal (X404).	If the oscillation waveforms are abnormal, check the resistor on the oscillation-signal line, the capacitor, and X'tal (X404). If nothing is wrong with these parts, the UCOM (IC406) may be defective.	10.11 VOLTAGES / WAVEFORMS ⑤
4	UCOM startup error	MAIN ASSY	After startup, check the lighting statuses of the LEDs. (For example, although some of the LEDs light and blink, the unit is not started up properly.)	Perform the re-update o the firmware (8.2 UPDATING OF THE FIRMWARE). If the normal status is not recovered after all above steps are performed, the UCOM (IC406), FLASH ROM (IC408) or FLASH ROM peripheral parts may be defective.	5.6 ERROR INDICATION 8.2 UPDATING OF THE FIRMWARE

[2] Display

[2-1] Any one of the LEDs does not light

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Defective LED, Defective LED signal line	Periphery of the abnormal LED	Check the difference in electrical potentials between the positive and negative electrodes of the LED (normally, it must be approx. 2.2 V).	If the difference is outside the normal range, the signal lines at the periphery of the corresponding LED, resistors, or the LED itself may be defective.	-

[2-2] Several LEDs do not light or abnormal light

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Defective LED signal line,Defective UCOM	MAIN ASSY	Check the control signal (GRID*, LED*) of the target LED.	If the control signal is abnormal, the UCOM (IC406), GRID signal line and LED signal line may be defective.	10.11 VOLTAGES / WAVEFORMS ⑰⑱⑲⑳㉑㉙
2	Defective transistor for LED drive	DCK1 ASSY PNL2 ASSY	Check the transistors for LED drive.	If the signal waveform is abnormal, the transistor may be defective.	10.11 VOLTAGES / WAVEFORMS ㊱㊲
3	Defective LED	Periphery of the abnormal LED	Check the connections of the LED and the forward voltage (approx. 3.2 V: blue, 2.2 V: others) between both ends of the LED.	If the signal waveform is abnormal, the LED may be defective.	-

[3] Operations

Operation of other than MIC LEVEL volume operating elements can be confirmed in Service Mode.
If the MIC LEVEL volume do not function, see “[6] AUDIO IN”.

[3-1] Tact switch do not function.

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY Periphery of the abnormal button	Check the control signal (GRID*, LED*) of the target tact switch..	**When the matrix key is pressed :** Normally, repeat High/Low in grid cycle when a tact switch is ON, and High (approx. 3.3 V) when it is OFF. If it is not, tact switch is defective, signal line, FFC, or connector may be in failure. **When the direct key is pressed :** Normally, Low(approx 0 V) when a tact switch is ON, and High (approx 3.3 V) when it is OFF. If it is not, the tact switch is defective, signal line, FCC, or connector may be in failure.	10.11 VOLTAGES / WAVEFORMS ⑰⑱⑲⑳㉑㉒
2	Defective UCOM (IC406)	MAIN ASSY	If the symptom persists after the above corrections.	The UCOM (IC406) may be defective.	-

[3-2] Rotary selector not controllable

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Loose connection / defective parts	BRWS ASSY PNL2 ASSY MAIN ASSY	Check that BROWSE rotation detection signal (BROWSE_ENC_0/1).	If the signals are not normal, signal line, FFC, jumper wire, connector, resistor, the rotary selector may be defective.	10.11 VOLTAGES / WAVEFORMS ㉓㉔
2	Defective UCOM (IC406)	MAIN ASSY	If the symptom persists after the above corrections.	The UCOM (IC406) may be defective.	-

[3-3] Rotary volumes / Slide volumes / Faders not controllable

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY CRFD ASSY MAIN ASSY	Check the AD signal (AD_*) of the target VRs, sliders or faders. For the signal connected to the multiplexer (IC711, IC712, IC713), also check the AD signal (AD_MUX_*) after switching.	If the voltage of the signal line does not change between 3.3 V and 0 V when the VRs, sliders, or faders are operated, the corresponding operating element, signal line, multiplexer (IC711, IC712, IC713), FFC, jumper wire, connector, resistor, or capacitor may be defective. If the voltage of the AD_TEMPO 1_1/2_1 signal line is not 1.65 V, or if the voltage of the AD_TEMPO 1_0/2_0 signal line does not change between 3.3 V and 0 V when the tempo slider is moved, the tempo slider, signal line, multiplexer (IC711, IC712, IC713), FFC, jumper wire, connector, resistor or capacitor may be defective.	10.11 VOLTAGES / WAVEFORMS ⑮⑯㉚㉛㉜㉝㉞
2	Defective UCOM (IC406)	MAIN ASSY	If the symptom persists after the above corrections.	The UCOM (IC406) may be defective.	-

[3-4] Abnormalities regarding the Jog dial

After the Jog dial Assy is disassembled then reassembled, be sure to check that the load value for the Jog dial is within the specified range. Refer to the "6.1 SERVICE MODE_②-2: Measurement mode of the load of JOG dial".

[3-4-1] Turning of the Jog dial is not detected

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY	Check the Jog dial rotation detection signal (JOG_DIAL1_0/1_1 and JOG_DIAL2_0/2_1).	If either waveform is abnormal, connection of signal line, resistor, capacitor and the photo interrupters (PC1201, PC1202, PC2401 and PC2402) may be defective.	10.11 VOLTAGES / WAVEFORMS ㉕㉗㉘
2	Defective photo interrupter	DCK1 ASSY PNL2 ASSY	Check the phases of the Jog dial rotation detection signal waveforms (JOG_DIAL1_0/1_1 and JOG_DIAL2_0/2_1) Are identical to those described in "②-3: Photo Interrupter check mode" in "6.1 SERVICE MODE" when the Jog dial is turned.	If the waveforms are normal but the phases are not correct, the photointerrupters (PC1201, PC1202, PC2401 and PC2402) may be mounted improperly.	10.11 VOLTAGES / WAVEFORMS ㉕㉗㉘
3	Defective UCOM (IC406)	MAIN ASSY	If the symptom persists after the above corrections.	The UCOM (IC406) may be defective.	-

[3-4-2] Touching of the Jog dial is not detected, or touching is detected although the Jog dial is not touched.

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY	Check the signal level of Pin 4 of IC1201/IC2401.	The signal is "H" while the Jog dial is not touched and becomes "L" when it is touched. If it is abnormal, go to [2]. If it is normal, go to [5].	10.11 VOLTAGES / WAVEFORMS ㉖
2	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY	Check the signal level of Pin 3 of IC1201/IC2401.	The signal produces a pulse waveform in the frequency range of 900 to 1300 kHz while the Jog dial is not touched and a pulse waveform in the frequency range of 400 to 700 kHz while it is touched. If it is normal, IC1201/IC2401 may be defective. If the signal produces a pulse waveform in the frequency range of 900 to 1300 kHz regardless of the jog dial's being touched or not, go to [3]. For other abnormal, go to [4].	10.11 VOLTAGES / WAVEFORMS ㉟
3	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY	Check the connection between Jog dial top face plate (DAH3209) and IC1201/IC2401. As the surface of the Plate is coated, a conduction check must be performed on the plate side surface facing the Jog dial (DNK6763) through their gap.	Possible causes are poor connection between the aluminum plate of the Jog dial and the KN1201/KN2401 metal fittings for grounding, or poor connection or a defective part in the circuits between the KN1201/KN2401 and IC1201/IC2401.	-
4	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY	Check the connection between KN1201/KN2401 and IC1201/IC2401.	Poor connection or a defective part in the circuits between the KN1201/KN2401 and IC1201/IC2401.	-
5	Loose connection / defective parts	DCK1 ASSY PNL2 ASSY	Check the connection between IC1201/IC2401 and UCOM (IC406).	If the connection is properly made, the UCOM (IC406) may be defective.	-

[3-4-3] Jog dial turns too freely. (The load value for the Jog dial is outside the specified range.)

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Improper assembly of the Jog dial	Jog dial ASSY	Check the load value for the Jog dial is within the specified range, referring to “Advanced Setting” in “6.1 SERVICE MODE_②-2: Measurement mode of the load of JOG dial.”	If the load value is outside the specified range, detach the Jog dial then reapply grease. See "Procedure for applying grease during reassembly of the Jog Dial" in "7. DISASSEMBLY."	6.1 SERVICE MODE 7. DISASSEMBLY

[3-4-4] Resistance to turning the Jog dial is too strong. (The load value for the Jog dial is outside the specified range.)

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Improper assembly of the Jog dial	Jog dial ASSY	Check the load value for the Jog dialis within the specified range, referring to “Advanced Setting” in “6.1 SERVICE MODE_②-2: Measurement mode of the load of JOG dial.”	If the load value is outside the specified range, perform manual running-in rotations of the Jog dial. See "Procedure for applying grease during reassembly of the Jog Dial" in "7. DISASSEMBLY."	6.1 SERVICE MODE 7. DISASSEMBLY

[4] USB connection

[4-1] Unit cannot be recognized by the PC when connected to the PC via USB connection.

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
0	Wrong setting of the application installed on the PC	Setting of the application installed on the PC	Check the setting of the application installed on the PC is appropriate.	The PC will not recognize the unit if the setting of the application installed on the PC is inappropriate.	Operating Instructions
1	Failure in startup	MAIN ASSY	Check the lighting statuses of the LEDs during startup.	If no LED lights, see [1] Failure in Startup.	[1] Failure in Startup (14 page)
2	Defective UCOM (IC406)	MAIN ASSY	Check the communication waveforms of the USB_DP/DN lines.	If the unit is connected to a PC via the USB cable, communication will be performed through the USB DP/DN lines. If communication cannot be performed, check the USB cable, connectors, internal cables, resistors, capacitors, and filters. If nothing is wrong with them, UCOM (IC406) is defective. Check the items listed in “[1-2] Failure in the microcomputer system”.	10.11 VOLTAGES / WAVEFORMS ①② [1-2] Failure in the microcomputer system (15 page)

[5] AUDIO OUT

[5-1] MASTER OUT is not output.

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
0	Wrong setting of the application installed on the PC	Setting of the application installed on the PC	Check the output setting of the application installed on the PC is appropriate.	The signal will not output if the output setting of the application installed on the PC is inappropriate.	Operating Instructions
1	-	MAIN ASSY	Check the audio signal is output from DAC (IC703 pin 10, 11) for MASTER OUT.	If MASTER connector outputs, go to [3]. If MASTER connector does not output, go to [2].	10.11 VOLTAGES / WAVEFORMS ⑩
2	Loose connection / defective parts	MAIN ASSY	Check the digital input signals to DAC (IC703: Pin1-5) for MASTER OUT.	If any of those signals is abnormal, connection of the corresponding signal line may be loose, resistor, capacitor, UCOM (IC406) may be defective. If all signals are normal, the DAC (IC703) and its peripheral circuitry do not function properly.	10.11 VOLTAGES / WAVEFORMS ⑥⑦⑧⑨
3	Mute signal loose connection / defective parts	MAIN ASSY	Check the level of the A_MUTE_DD audio muting signal.	Normally, A_MUTE_DD signal must be Low (Approx. -6 V, muting canceled). When it is High (Approx. 3.3 V), muting is activated and no sound is output. The A_MUTE_DD signal becomes High, possibly because connection of the corresponding signal line is loose, muting circuit (Q707, Q708) or muting drive circuit (Q709, Q710 Q711, Q713 etc.) is defective.	-
4	Mute signal loose connection / defective parts	MAIN ASSY	Check the level of the A_MUTE audio muting signal.	Normally, A_MUTE signal must be Low (Approx. 0 V, muting canceled). When it is High (Approx. 3.3 V), muting is activated and no sound is output. The MUTE signal becomes High, possibly because connection of the corresponding signal line is loose, transistor (Q709) or UCOM (IC406) is defective.	-
5	MASTER OUT line loose connection/ defective parts	MAIN ASSY	Identify the point where the audio signal is interrupted on the line from pins 10 and 11 of IC703 (DAC for MASTER OUT) to the jack for MASTER OUT (JA702).	If the audio signal abnormal, connection of the corresponding signal line my be loose , resistor, capacitor, transistor, OP amp (IC705) or jack for MASTER OUT may be defective.	10.11 VOLTAGES / WAVEFORMS ⑪⑫

[5-2] HEAD PHONE signal is not output.

Check first MASTER OUT is normal. If the MASTER OUT is abnormal, see [5-1] MASTER OUT is not output.

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
0	Wrong setting of the application installed on the PC	Setting of the application installed on the PC	Check the output setting of the application installed on the PC is appropriate.	The signal will not output if the output setting of the application installed on the PC is inappropriate.	Operating Instructions
1	Loose connection / defective parts	MAIN ASSY	Check the audio signal (HP_AMP_L/R), using pins 5 and 7 of the JH101 on the MAIN ASSY.	If no audio signal is output, the MAIN ASSY may be defective. Go to [2]. If an audio signal is output, connection between the HPJK and MAIN ASSYs may be loose, connections inside the HPJK ASSY may be loose, or these **ASSYs may be defective. Go to [6].** If an audio signal is small, it way be in " Function limit mode at low voltage mode ". See "5.4 ABOUT FUNCTION LIMIT MODE AT LOW VOLTAGE"	10.11 VOLTAGES / WAVEFORMS ⑬⑭ 5.4 ABOUT FUNCTION LIMIT MODE AT LOW VOLTAGE
2	-	MAIN ASSY	Check the audio output signal, using pins 10 and 11 of the HP DAC (IC701).	If an audio signal is output, go to [4]. If an audio signal is not output, go to [3].	-
3	Loose connection / defective parts	MAIN ASSY	Check the audio input signal, using pins 1 - 5 of the HP AMP (IC701).	If any of those signals is abnormal, connection of the corresponding signal line may be loose or resistor, capacitor or UCOM (IC406) may be defective. If all signals are normal, the DAC (IC701) and its peripheral circuitry do not function properly.	10.11 VOLTAGES / WAVEFORMS ⑥⑦⑧⑨ Note: measurement point is different
4	Loose connection / defective parts	MAIN ASSY	Check the audio input signal, using pins 3 and 5 of the HP AMP (IC706).	If the input signal is abnormal, connection of the audio input signal line may be loose, resistor or capacitor may be defective. If the input signal is normal go to [5].	-
5	Mute signal loose connection / defective parts	MAIN ASSY	Check the level of the muting signal (IC706 pin 2) for HP AMP.	Normally, muting signal must be High (Approx. 3.3 V, muting canceled). When it is Low (Approx. 0 V), muting is activated and no sound is output. The signal line may be defective. If the muting signal is High and normal, the HP AMP or mute circuit (Q705, Q706) may be defective.	-
6	Loose connection / defective parts	HPJK ASSY	Identify the point where the audio signal is interrupted on the line from JH101 to the jack for HP output (JA1601).	If the audio signals is abnormal, connection of the corresponding signal line may be loose, resistor, capacitor, jack for HP output or mute circuit (Q1601, Q1602) may be defective.	-

[6] AUDIO IN

[6-1] MIC INPUT signal is not output

Check first MASTER OUT is normal. If the MASTER OUT is abnormal, see [5-1] MASTER OUT is not output.

No.	Cause / Symptom	Diagnostics Point	Item to be Checked	Faulty Part Isolation / Corrective Action	Reference
1	Loose connection / defective parts	MAIN ASSY	Check the audio signal (MIC_IN), using pin2 of the MIC input jack (JA701).	If no signal is output, the MIC jack or MIC cable may be defective. If an signal is output, connection of the corresponding signal line may be loose, resistor, capacitor, OP amp, MIC volume ADC (IC708) may be defective.	-
2	Loose connection / defective parts	MAIN ASSY	Check the audio signal, using pin1 of the ADC (IC708) for MIC.	If no signal is output, connection of the corresponding signal line may be loose or the resistor, capacitor, OP amp, MIC volume, jack terminal may be defective.If an signal is output, the ADC (IC708) and its peripheral circuitry may be defective.	-
3	Loose connection / defective parts	MAIN ASSY	Check the digital input/output signals of the ADC (IC708: pins 9 - 13) for MIC.	If any of those signals is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, UCOM (IC406) may be defective. If all signals are normal, the ADC (IC708) and its peripheral circuitry do not function properly.	10.11 VOLTAGES / WAVEFORMS ⑥⑦⑧⑨ Note: measurement point is different

5.3 MONITORING OF POWER SUPPLY AND VOLTAGE

■ **MAIN uCOM (IC406) of this unit always monitors for power and voltage failure of the unit and will shut the unit off immediately after an error is detected.**

• Content to be monitored

Power supply voltage drop and power supply voltage rise generated by short-circuiting between any power-supply IC and GND or excess current inside the MAIN ASSY

Power to be monitored: V+5_A, V+5_HP, V+7, V-6, V+3R3_D

• MAIN UCOM detection terminal and its terminal voltage

TP terminal near the R267 of MAIN ASSY or IC406 (MAIN UCOM) pin 107 FAULT_DET.

Normal: Approximately 3.3 V

Abnormal: 0 V

• Timing of monitoring start

After the unit is turned ON : After 1000 ms

• Timing upon judgment as a failure

After an error is detected : After 50 ms

• LED indication when an error is generated

All LEDs are unlit.

• Restoration method

If the unit shuts itself down because an error is detected, disconnect the USB cable after perform diagnosis, wait for a while and then connect the USB cable on again.

• Diagnostic procedure

① Disconnect the USB cable.

② Check with the tester whether the monitoring voltage is short-circuited to the GND.
If it is short-circuited, repair the abnormal part and check it becomes normal voltage.

③ Remove R267 from the MAIN ASSY. Note: This step will disable power monitoring.

④ Reconnect the USB cable.

⑤ As the unit is turned on in a normal way, check each voltage in this state.
Note: Because power will be forcibly supplied even if any voltage is abnormal, if abnormal voltage continues, defective point may produce heat, which may be dangerous. Therefore, during diagnosis, be sure to disconnect the USB cable several seconds after they are connected so that forcible powering will not continue.

⑥ If voltage of any power IC is abnormal, circuit that uses that power or power IC itself may be defective.

⑦ Repair the defective part then check that the power and voltage of the repaired part becomes normal.

⑧ Return R267 to its original position on the MAIN ASSY.
Note: This step will enable power monitoring.

■ **Circuit of this unit monitors for power and voltage failure from USB bus power and will shut the unit off immediately after an error is detected.**

• Content to be monitored

Power supply voltage failure from the USB bus power

Power to be monitored: V+VBUS

• MAIN UCOM detection terminal and its terminal voltage

TP terminal of V_DET signal of MAIN ASSY or IC406 (MAIN UCOM) pin 108 V_DET.

Normal: HI (3.3 V)

Abnormal (V+VBUS 4.2 V or less) : LOW (0 V)

• Timing of monitoring start

After the unit is turned ON : After 1000 ms

• Timing upon judgment as a failure

After an error is detected : Within 1 ms

• LED indication when an error is generated

All LEDs are unlit.

• Restoration method

If the unit shuts itself down because an error is detected, disconnect the USB cable after perform diagnosis, wait for a while and then connect the USB cable on again.

• Diagnostic procedure

① Connect the USB cable and then check the V+VBUS power.

② If voltage is abnormal, circuit that uses that power or power IC itself may be defective.

5.4 ABOUT FUNCTION LIMIT MODE AT LOW VOLTAGE

This product always monitors voltage drop of the VBUS power (power to be supplied via a USB cable), which may be caused by connection of a peripheral device that is not covered under warranty or an erroneous operation. If an abnormality is detected, product will limit the maximum output level of the headphone so that it can operate in a lower power-consumption mode.
If an abnormality is generated, check the connected headphones and computer.

• Content to be monitored

Drop in power voltage in the MAIN ASSY to be supplied via a USB cable
(Function limit mode at low voltage transition condition V+VBUS : 4.2 V to 4.5 V)
* Refer to “5.3 MONITORING OF POWER SUPPLY AND VOLTAGE” when 4.2 V or less.
Power voltages to be monitored : V+VBUS

• Microcomputer Detection terminal and its terminal voltage

TP terminal for service of MAIN ASSY [V_DET_AD].
Normal : Approximately 2.3 V to 2.6 V
Abnormal : < 2.3 V

• Timing of monitoring start

After the unit is turned ON : After 500 ms

• Timing upon judgment as a failure

After an error is detected : After 50 ms

• Headphone level when an error is generated

Maximum output level of the headphone is suppressed to approximately 15%.
If normal power voltage is recovered, suppressed maximum output level of the headphone will return to its original level.

• PAD LED of when an error occurs

Both Pad6 LEDs on the left and right deck blink.
When power voltage returns to normal condition, blink is cancelled.

• Items to be checked

① Check if headphones with impedance outside the range of the guaranteed specifications (impedance 32 ohms or less) are connected.
② Check if a monaural plug is connected to the headphones connector.
③ Connected computer may not be able to supply enough USB power (may not meet USB standards).

5.5 OPERATION CHECK WITH rekordbox

[Install rekordbox]

Below is a brief description of how to install rekordbox on PC / Mac. For details, refer to the operating instructions.
Please note that it is not necessary to install driver software for DDJ-400. (It operates with OS standard built-in driver) PC / Mac environment etc. for installing rekordbox etc. are as follows.

Minimum operating environment

Supported operating systems	CPU and required memory
Mac: macOS High Sierra 10.13 / Sierra 10.12 / OS X 10.11 (latest version)	Intel® processor Core™ i7, i5, i3
	4 GB or more of RAM
Windows: Windows® 10 / Windows® 8.1 / Windows® 7 (latest service pack) 32 bit / 64 bit	Intel® processor Core™ i7, i5, i3
	4 GB or more of RAM

Others	
USB port	A USB 2.0 port is required to connect the PC/Mac with this unit.
Display resolution	Resolution of 1 280 × 768 or greater
Internet connection	An Internet connection is required for registering the rekordbox user account and downloading the software.

- To obtain the latest operating and environment, compatibility, and the latest OS system, please refer to "Operating environment" of "rekordbox.com".
  https://rekordbox.com
- Please use latest version and service pack of OS.

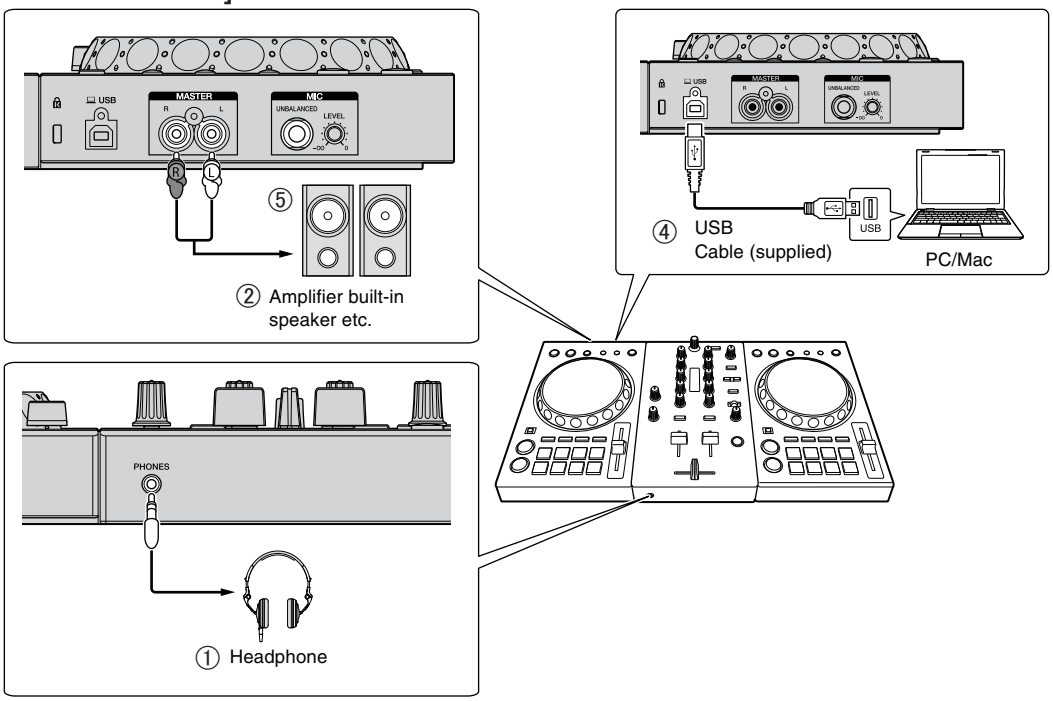
Please download rekordbox software by accessing "rekordbox.com".
To download it, you need to register the user account of "rekordbox".
Unzip the downloaded file and double-click on the decompressed file to launch the installer.
Please read the contents of license agreement carefully. If you agree, select [Agree] and then click [Next] (in case of macOS and OS X [Continue]) to start the installation.
When the installation is completed, an installation completion message is displayed.
Click [Finish] to complete the rekordbox installer (in case of macOS and OS X,click [Close]).

- Please use the latest version of rekordbox. If the version is old, it may not support this product.
- In order to use rekordbox's [PERFORMANCE] mode (mode where DJ performance function can be used), activation by license key is required separately.

[Operating procedure]

① Connect the headphones to the [PHONES] jack.
② Connect the device such as a powered speaker, power amplifier, component stereo, etc. to the [MASTER] terminal.
③ Turn on the PC / Mac.
④ Connect this product to the PC / Mac via a supplied USB cable.
(When connecting to USB Type-C terminal, USB Type-C (male) - USB A (female) cable is required separately)
⑤ Turn on the devices connected to the [MASTER] terminal (powered speaker, power amplifier, component stereo, etc.).

[Connection method]



[Starting rekordbox]

It is necessary to register an account for using rekordbox.
It is necessary to activate rekordbox dj using the supplied license key.
For details about each procedure, click [**Manual**] under [**Support**] of the following site, and then refer to “rekordbox Introduction.”
https://rekordbox.com

For mac OS/OS X
In Finder, open [**Applications**] folder, and then double-click [**rekordbox**] icon.

For Windows 10
In [**Start**] menu, click [**rekordbox**] icon under [**Pioneer**].

For Windows 8.1
In [**Apps view**], click [**rekordbox**] icon.

For Windows 7
In the Windows [**Start**] menu, click [**rekordbox**] icon under [**All Programs**] > [**Pioneer**] > [**rekordbox X.X.X**].

[Checking audio setup]

Check that [**Audio**] settings of [**Preferences**] on rekordbox are set as followings.

For mac OS/OS X
[**Audio**]: [**DDJ-400**]
[**Output channels**]:
[**Master Output**]: [**DDJ-400 : MASTER** + audio device name on Mac]
[**Headphones Output**]: [**DDJ-400 : PHONES**]

* When [**PC MASTER OUT**] is off, [**Master Output**] in the [**Audio**] setting is [**DDJ-400 : MASTER**].

For Windows
[**Audio**]: [**DDJ-400 WASAPI**]
[**Output channels**]:
[**Master Output**]: [**DDJ-400 WASAPI : MASTER** + audio device name on PC]
[**Headphones Output**]: [**DDJ-400 WASAPI : PHONES**]

* When [**PC MASTER OUT**] is off, [**Master Output**] in the [**Audio**] setting is [**DDJ-400 WASAPI : MASTER**].

* PC MASTER OUT is a function to output the master sound of rekordbox dj from the speaker of PC/Mac. By the default, PC MASTER OUT is set to on.

Adding audio tracks into [Collection]

The [**Collection**] screen contains a list of audio track files managed by rekordbox.
Register audio tracks on your PC/Mac to rekordbox, and analyze them so they can be used on rekordbox.

1 Click [Collection] on the tree view.
A list of tracks which are registered in [**Collection**] is displayed.

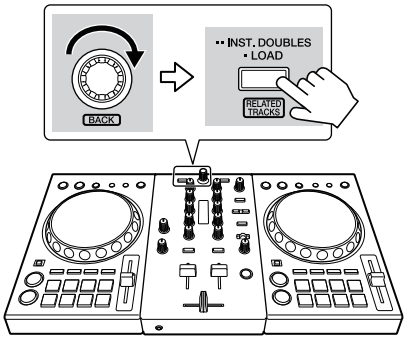
2 Open Finder or Windows Explorer, and then drag & drop audio track files or folders with audio track files into the track list.
Audio track files are added into [**Collection**], and then analyzing of waveform information for audio track files starts. Wait until analyzing of all audio track files is completed.

[Loading an audio track into a deck]

This section explains how to load a track into Deck 1 (left) as an example.

Turn the rotary selector to select a track from [Collection], and then press the [LOAD] button on Deck 1 (left).

The selected track is loaded.



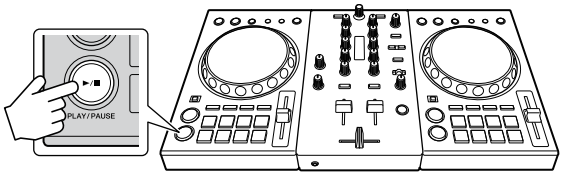
[Playing a track]

This section explains how to output sound from Deck 1 (left) as an example.

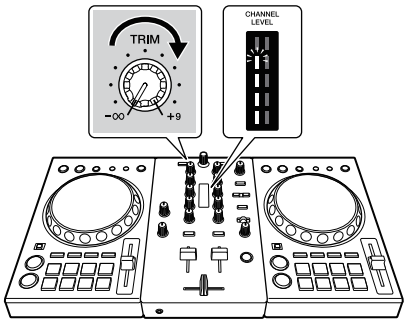
1 Set the positions of the knobs, etc., as shown below.

Names of knobs, etc.	Position
TRIM knob	Turned fully counterclockwise
EQ (HI/MID/LOW) knobs	Center position
FILTER knob	Center position
Channel fader	Bottom position
MASTER LEVEL knob	Turned fully counterclockwise
Crossfader	Center position

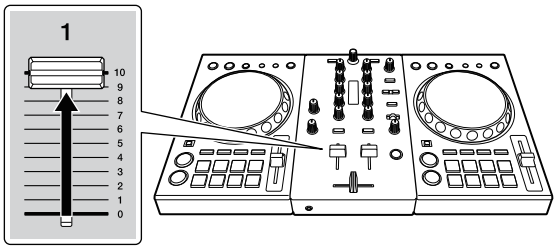
2 Press the [PLAY/PAUSE ▶/ ❚❚] button to play the track.



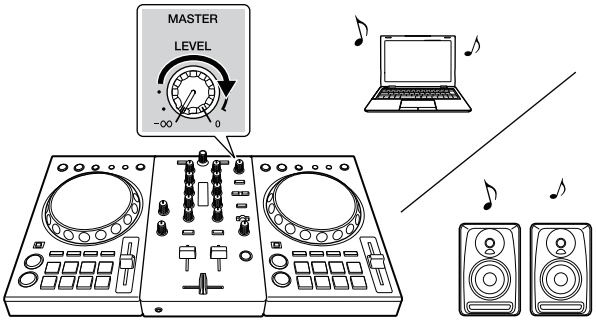
3 Turn the [TRIM] knob.
Adjust the [**TRIM**] knob so that the [**CHANNEL LEVEL**] indicator's orange indicator lights at the peak level.



4 Move the channel fader to the maximum level.



5 Turn the [MASTER LEVEL] knob to adjust the audio level of the speakers.
Adjust the audio level output from the [**MASTER**] output terminals to an appropriate level.



* To adjust the volume for speakers of PC/Mac, operate speakers of PC/Mac instead of using the [**MASTER LEVEL**] knob.

[Monitoring the sound with headphones]

This section explains how to output sound from Deck 1 (left) as an example.

1 Set the positions of the knobs as shown below.

Names of knobs, etc.	Position
HEADPHONES MIXING knob	Center positon
HEADPHONES LEVEL knob	Turned fully counterclockwise

2 Press the Headphone [CUE] button of the channel 1.

3 Turn the [HEADPHONES LEVEL] knob.
Adjust the output level from the [PHONES] output terminal.

[Closing the system]

1 Close rekordbox.

2 Disconnect the USB cable from the PC/Mac.

5.6 ERROR INDICATION

No.	Abmormality	LED / Indication	Note
1	Power Supply Abnormality	All LED's right off	This state is entered when an error is detected in the USB bus power supply status. If abnormality is detected at startup, no opening display will be done.
2	MAIN UCOM FLASH-ROM Abnormality	All Level Meter's (Left CH / Right CH) is blinking	This happens when FLASH-ROM is not written correctly, such as when the update fails. Even in this case you can continue updating. The same LED display will be done in the update mode.

6. SERVICE MODE

6.1 SERVICE MODE

Outline of Service Mode

There are two service mode for this unit.

Service Mode ①

① – 1 Version check mode
① – 2 Check mode of the buttons, knobs, etc
① – 3 Factory reset mode
① – 4 Voltage value display mode
① – 5 Voltage value fluctuation range check mode
① – 6 Cross fader calibration mode

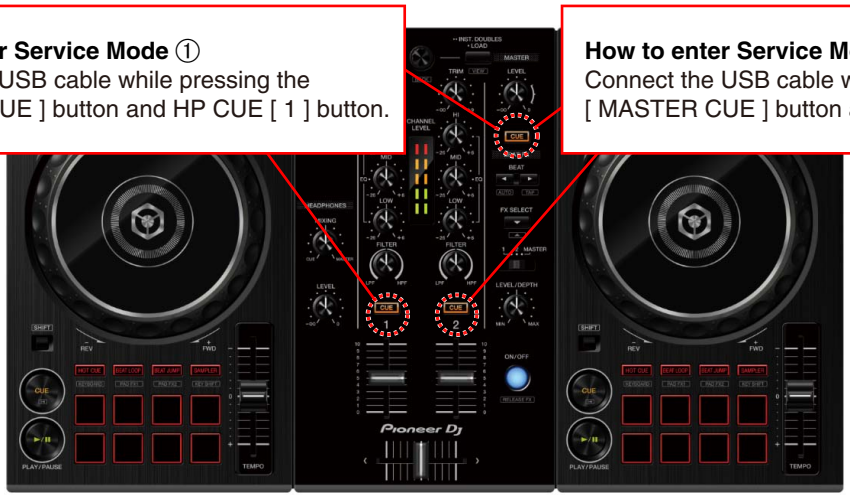
Service Mode ②

② – 1 Version check mode
② – 2 Measurement mode of the load of JOG dial
② – 3 Photo interrupter check mode

Startup Method in Service Mode

How to enter Service Mode ①
Connect the USB cable while pressing the [MASTER CUE] button and HP CUE [1] button.

How to enter Service Mode ②
Connect the USB cable while pressing the [MASTER CUE] button and HP CUE [2] button.



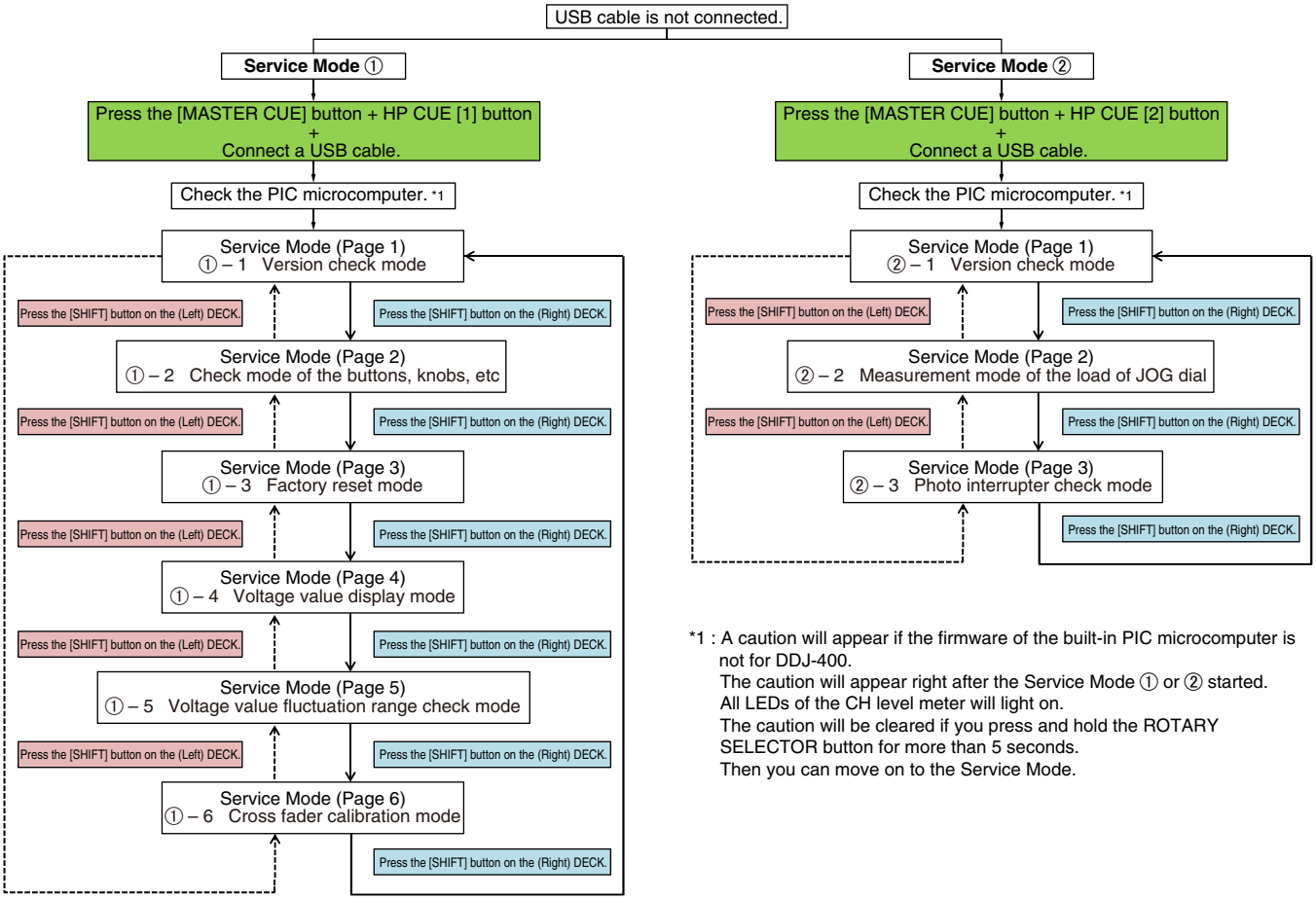
Method for Quittng the Service Mode

Please disconnect the USB cable connected to this unit.

Caution when the board is mix-mounted

When DDJ-400's firmware is written on DDJ-SB3's board by mistake, 2 red LEDs of CH level meter blink.

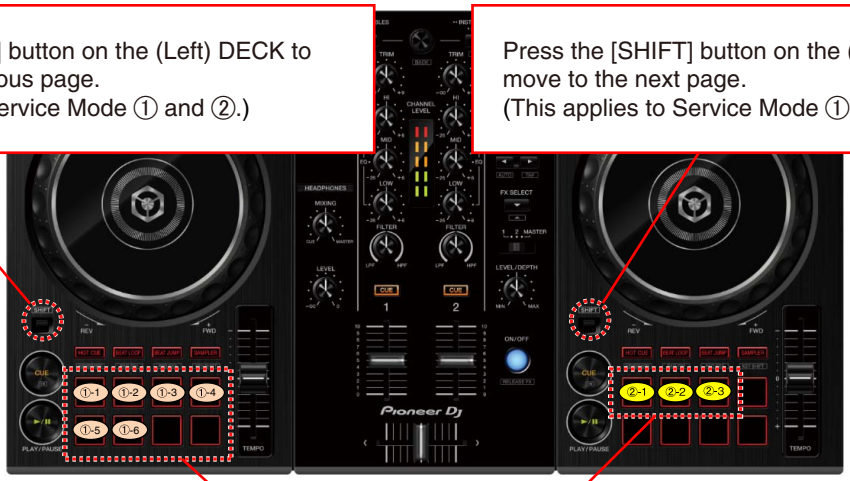
How to Mode changing and Page changing



*1 : A caution will appear if the firmware of the built-in PIC microcomputer is not for DDJ-400.
The caution will appear right after the Service Mode ① or ② started.
All LEDs of the CH level meter will light on.
The caution will be cleared if you press and hold the ROTARY SELECTOR button for more than 5 seconds.
Then you can move on to the Service Mode.

Press the [SHIFT] button on the (Left) DECK to move to the previous page.
(This applies to Service Mode ① and ②.)

Press the [SHIFT] button on the (Right) DECK to move to the next page.
(This applies to Service Mode ① and ②.)



When you press the [SHIFT] button to enter the new test page,
LED corresponding to each page will blink Red for a moment (for 1 to 2 seconds).
After the "Red-blinking" is over and the light is off, testing of each page will start.

Service Mode ① – 1 Version check mode

Mode outline

This mode is to check the version of the firmware. Version is displayed using the deck LEDs.

Advanced Setting

* When all horizontal LEDs are turned off, it means zero (0).
* 1st digit can express 1-8.

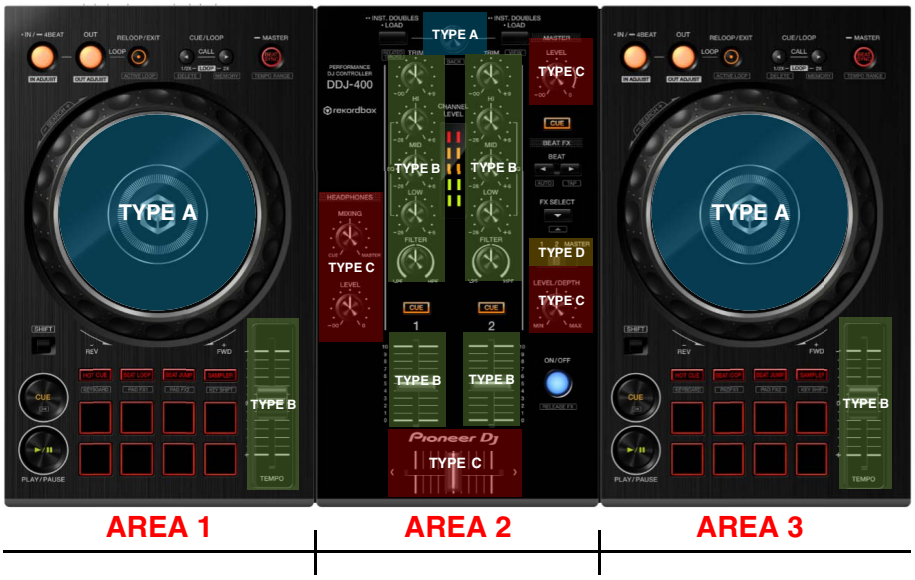
Service Mode ① – 2 Check mode of the buttons, knobs, etc

Mode outline

This is to check the operation of all the buttons, knobs, etc. on the top surface.
*All buttons : Light on when button is pressed and light off when button is released.

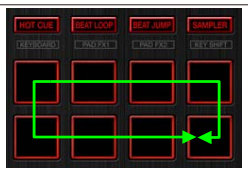
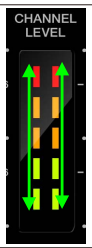
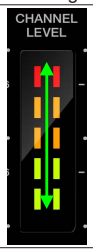
Advanced Setting

When entered this mode, all LEDs light on.
By pushing ROTARY SELECTOR button, LEDs change "all light on -> all dimmer out -> all light off -> all light on …."
Operation of all the buttons, knobs, etc. can be done when LEDs are all light off.



	Element type	UI part name	Trigger	LED to check
	Push type SW (with LED)		Press	Its own LED
	Push type SW (no LED)	ROTARY SELECTOR	Press	All LEDs light on -> All dimmer out -> All light off
		SHIFT(Left/Right)	Nothing	(Use to change the mode)
		LOAD(Left/Right)	Press	CUE
		CUE/LOOP CALL ◁ (Left/Right)	Press	IN/-4BEAT
		CUE/LOOP CALL ▷ (Left/Right)	Press	OUT
		BEAT ◁	Press	HP CUE 1
		BEAT ▷	Press	HP CUE 2
		FX SELECT	Press	MASTER CUE
		JOG (TOUCH) (Left/Right)	Touch	PLAY/PAUSE
TYPE A	JOG dials (rotation), Rotary selector		Rotate	TYPE A (* 1)
TYPE B	TEMPO sliders, Channel faders, TRIM knobs, HI/MID/LOW EQ knobs, FILTER knobs		Rotate(Slide)	TYPE B (* 2)
TYPE C	MASTER LEVEL knob, Cross fader, HEADPHONES MIXING knob, HEADPHONES LEVEL knob, FX LEVEL/ DEPTH knob		Rotate(Slide)	TYPE C (* 3)
TYPE D	Slide switch		Slide	TYPE D (* 4)

Caution : Except for TYPE A and TYPE D, the number of lighting LEDs will change based on the position of each knob/fader.
(i.e., when volume is minimum, all LEDs will light off; when volume is maximum, all LEDs will light on.)

TYPE A (* 1)	TYPE B (* 2)	TYPE C (* 3)	TYPE D (* 4)
Rotation operation of the rotary encoder will be displayed using the following 8 LEDs.	Position of the knob/fader will be displayed using the following 5 LEDs according to the move. LEDs will light on according to the position of the knob/fader right after each knob/fader is moved.	Position of the knob/fader will be displayed using the following LEDs according to the move. LEDs will light on according to the position of the knob/fader right after each knob/fader is moved. * CROSSFADER: All LEDs will light off when it is in far left; All LEDs will light on when it is in far right.	Operation of the Slide switch will be displayed using 3 LEDs of right Pad mode buttons.
			

For preventing from forgetting check.
When in all light off mode, controller monitors the operation records of each controls in 3 areas.
If you have checked all controls, FX ON/OFF is blinked for a few seconds.
When you move to next or previous page without check completion, following LEDs are blinked for a few seconds.

- When check in area 1 is not completed, left 8 Pads are blinked for a few seconds.
- When check in area 2 is not completed, CH 1 HP CUE and CH 2 HP CUE are blinked for a few seconds.
- When check in area 3 is not completed, right 8 Pads are blinked for a few seconds.

Judgement condition of operation completion

- Buttons : You press the button once at least.
- Faders : You slide the fader to right edge and left edge once at least.*1
  Or you slide the fader to top edge and bottom edge once at least.*1
- Knobs : You turn the knob fully clockwise and fully counterclockwise once at least.*1
- JOG touch : You touch the top surface once at least.
- JOG rotation : You rotate it clockwise one turn.*2
- Rotary selector : You rotate it clockwise 24 clicks.*3
- Slide switch : You slide to left and right position once at least.

*1 If microcomputer can read the value less than 51 and the value more than 972 from A/D converter, it judges OK.
*2 Do not rotate JOG dial more than 45 turns. If you rotate it more than 45 turns, microcomputer can not judge properly.
If you turn JOG dial counterclockwise, microcomputer will ignore.
*3 Do not rotate the rotary selector more than 1365 turns. If you roatate it more than 1365 turns, microcomputer can not judge properly.
If you turn the rotary selector counterclockwise, microcomputer will ignore.

If you want to transit to next or previous page when operation check is not completed.
Once you switch to "All Light ON mode" or "All dimmer out mode" by pressing the rotary selector, you can transit to next or previous page.

For PLAY/PAUSE, CUE, BEAT FX ON/OFF and 8 PADs.
If top LEDs of the Channel level meter are blink or light off when these buttons are pressed, the check result is NG.

Service Mode ① – 3 Factory reset Mode

Mode outline

Following settings will be reset back to the factory default by pressing and holding both of left and right BEAT SYNC buttons for 1 sec.

Advanced Setting

	Setting item	Setting value (Factory default setting = Bold)
1	MIDI controller setting	Forcibly general MIDI controller mode. **When rekordbox is launched, it will be in the appropriate mode to function of rekordbox dj.**
2	Master output in monaural or stereo setting	Monaural **Stereo**
3	Master output peak limiter setting	Peak limiter is disabled. **Peak limiter is enabled.**
4	Demo mode setting	Demo mode is disabled. Demo mode starts when there is no operation for 1 minute. Demo mode starts when there is no operation for 5 minutes. **Demo mode starts when there is no operation for 10 minutes.**

When both of left and right BEAT SYNC buttons are pressed and held at the same time, LEDs of these buttons will light on.
After factory reset is completed, all PADs will light on in red.
When factory reset fails, left and right BEAT SYNC buttons will blink.

Service Mode ① – 4 Voltage value display Mode

This mode is for design development. It is not used in service.

Service Mode ① – 5 Voltage value fluctuation range check Mode

This mode is for design development. It is not used in service.

Service Mode ① – 6 Cross fader calibration Mode

Mode outline

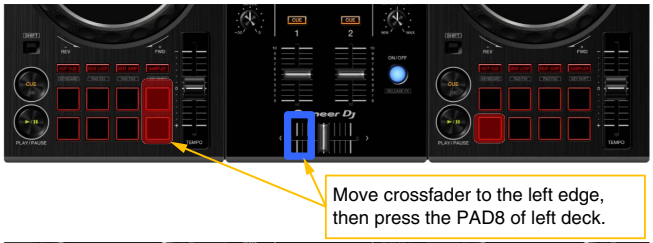
This mode adjusts the cross fader.

Advanced Setting

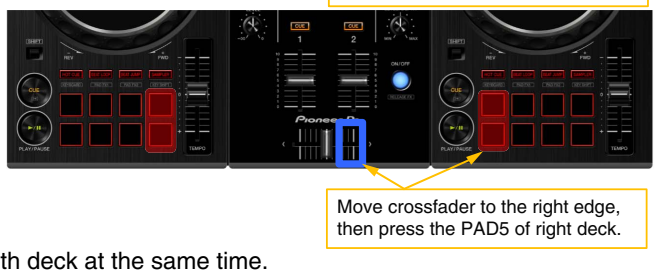
When this mode is entered, PAD8 of left deck and PAD5 of right deck light on. And HP CUEs of both deck light on.

[Operation procedures of cross fader calibration]

① Move crossfader to the left edge, then press the PAD8 of left deck.
-> PAD4 and PAD8 of left deck light on.
(MAX value of the crossfader is memorized at this time.)



② Move crossfader to the right edge, then press the PAD5 of right deck.
-> PAD1 and PAD5 of right deck light on.
(Min value of the crossfader is memorized at this time.)



③ Press the CH1 HP CUE button and CH2 HP CUE button of both deck at the same time.
-> SAMPLER of left deck and HOT CUE of right deck light on, too.
(End of memorizing crossfader values.)

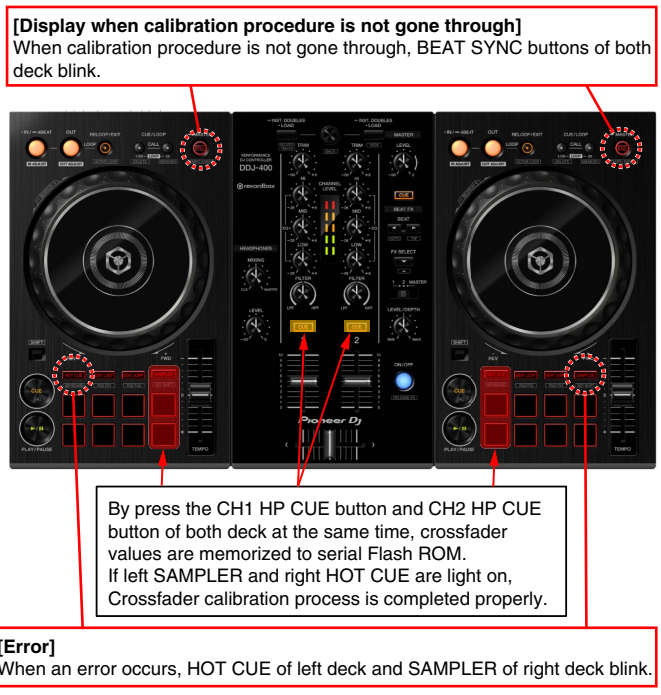
[Estimated errors]

- It occurs when CH1 HP CUE button and CH2 HP CUE button of both deck are pressed without going through the operation procedure 1 and 2.
- It occurs when the magnitude relationship between MAX value and MIN value is wrong.

When error occurred and re-calibration operation is needed, press the SHIFT buttons to re-entry this mode.

[Display when calibration procedure is not gone through]
When calibration procedure is not gone through, BEAT SYNC buttons of both deck blink.

Timing BEAT SYNC LEDs blink :
At normal boot mode, cross fader calibration mode of Service Mode and Utility Mode.



Service Mode ② – 1 Version check Mode

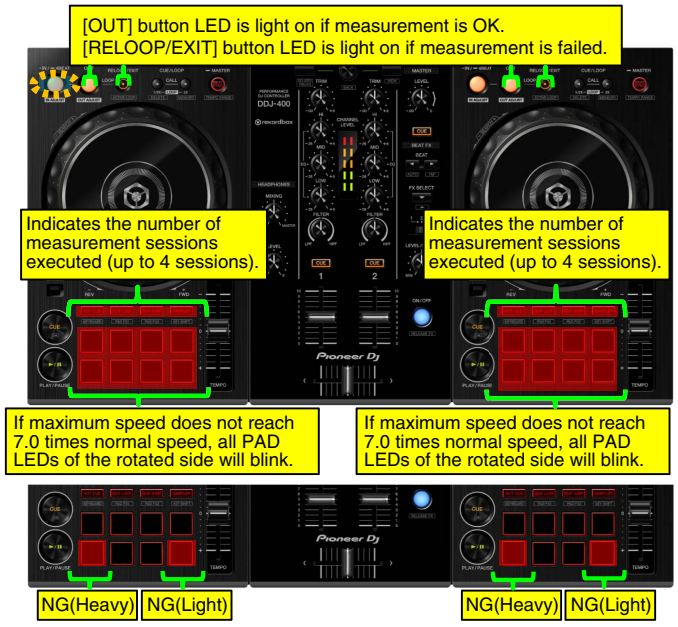
Mode outline

This mode is to check the version of the firmware. Version is displayed using the deck LEDs. Same as Service Mode ① - 1.

Service Mode ② – 2 Measurement mode of the load of JOG dial

Mode outline

This is the measurement mode of the load of Jog dial.
When measurement mode starts, IN/4BEAT button of the left DECK will light on.



Advanced Setting

① Spin the Jog dial swiftly.
To start measurement, maximum Jog dial rotation speed must be 7 times normal speed or higher.
If maximum speed does not reach 7 times normal speed, PAD LEDs (8 PADs) will blink several times.

② Number of sessions will be displayed up to four sessions on LED as follows.

End of 1st session	HOT CUE lights on
End of 2nd session	BEAT LOOP lights on
End of 3rd session	BEAT JUMP lights on
End of 4th session	SAMPLER lights on

(After the end of 4th session remain unchanged)

③ If measurement is OK, [OUT] button LED lights on.
If measurement failed, [RELOOP/EXIT] button LED is light on.

④ When the measurement failed, PAD LED indicates as follows.

NG(Heavy)	PAD[5] lights on
NG(Light)	PAD[8] lights on

When Jog dial is rotated swiftly, measurement for the top speed and the time required for slowdown.
When rotation speed of the Jog dial exceeds 7 times normal speed, time required for slowdown will be assessed whether it is in the range or not. Result will be displayed on LED.

Top speed : Top speed (when normal speed is defined as one rotation in 1.8 sec)
Time required for slowdown : Time required for the Jog dial to decrease its rotation speed from 3 times to 1.5 times normal speed

OK	[OUT] button lights on
NG	[RELOOP/EXIT] button lights on (Heavy : PAD[5] lights on / Light : PAD[8] lights on)

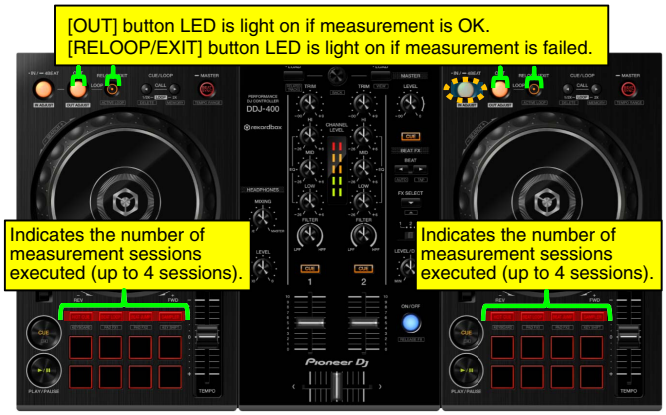
Number of measurement sessions executed is displayed up to 4 sessions.
Measurement can be continued 5 sessions and more, however the number of sessions will not be displayed.
When the session ended, result will be displayed on LED.
Regulation value is 90 ± 40 [msec].

> If measurement result is NG (Heavy), turn the Jog dial by manually again (Running-in rotation).
> If measurement result is NG (Light), remove the Jog dial once and wipe off the grease tentatively, then apply the grease again and turn the Jog dial by manually (Running-in rotation).
> (For details, refer to “7. DISASSEMBLY [4-1] Procedure for applying grease during reassembly of the Jog dial”.)

Service Mode ② – 3 Photo interrupter check Mode

Mode outline

This is to check the status of photo interrupter.
When mode starts, IN/4BEAT button of the right DECK will light on.



Advanced Setting

① Spin the Jog dial swiftly.
To start measurement, maximum Jog dial rotation speed must be 10 times normal speed or higher.
If maximum speed does not reach 10 times normal speed, no result will be displayed.

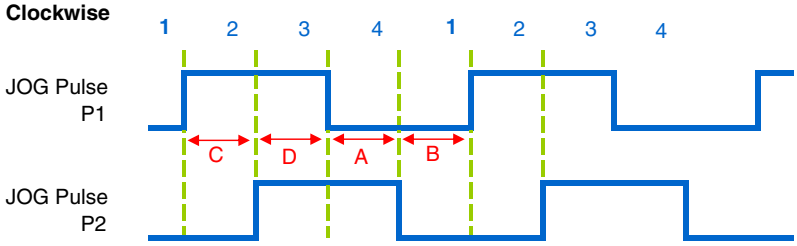
② Number of sessions will be displayed up to four sessions on LED as follows.

End of 1st session	HOT CUE lights on
End of 2nd session	BEAT LOOP lights on
End of 3rd session	BEAT JUMP lights on
End of 4th session	SAMPLER lights on

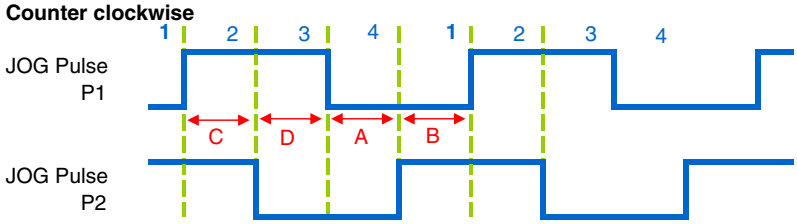
(After the end of 4th session remain unchanged)

③ If measurement result is OK, [OUT] button LED lights on, If measurement failed, [RELOOP/EXIT] button LED lights on.

Clockwise



Counter clockwise



Time A - D will be memorized in each range of the speed: x16 – x14 / x11 – x9 / x6 – x4.

OK When phase relation is normal, and the minimum value of all the A - D is 10 usec or greater, and the time of [x11 – x9] (clockwise: "B"; counterclockwise: "A") is 200 usec or greater. ..... [OUT] button lights on

NG When none of these conditions described above is not satisfied. ..... [RELOOP/EXIT] button lights on

If measurement result is NG, re-attach the photo interrupter so as not inclination again.

6.2 ABOUT THE DEVICE

Device Information List (Other than General-Purpose Logic IC, Op-Amp IC)

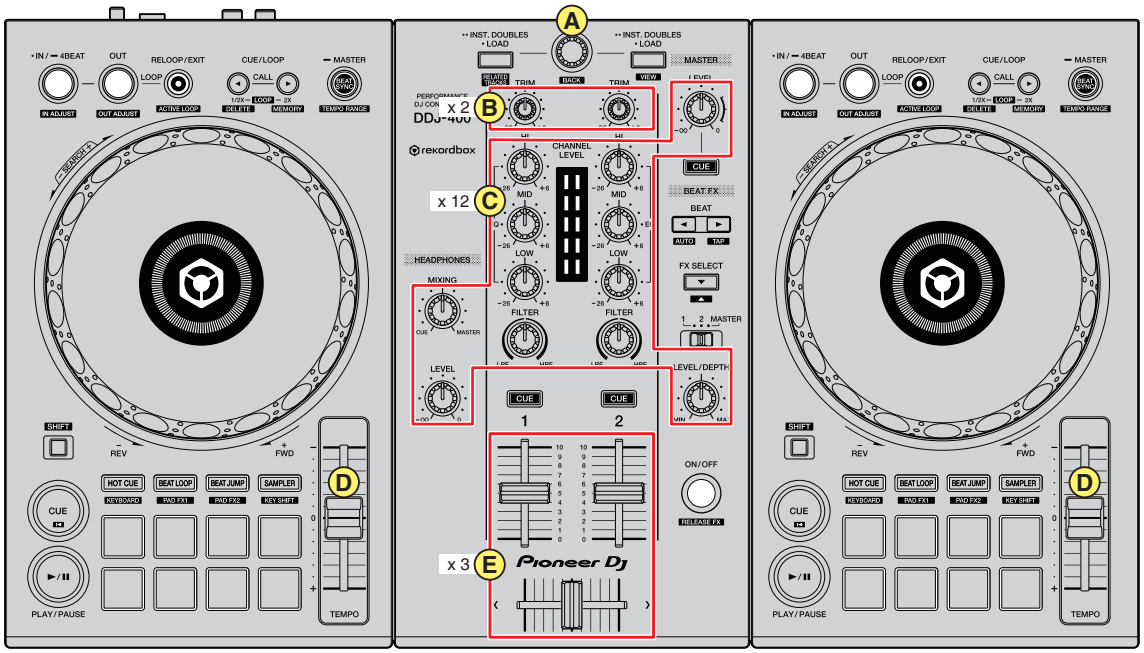
ASSY	Referrence No.	Device Name	Part No.	Function
MAIN ASSY	IC202	REGULATOR	MM3411A33N	Regulator for V+3R3_SH
	IC204	REGULATOR	MM1856A50N	Regulator for V+5_A
	IC205	REGULATOR	S-1172B1C-U5	Regulator for V+1R25_SH
	IC207	DC/DC CONVERTER	NJM2392M	DC/DC converter for V+7/V-6
	IC209	RESET IC	S-80942CNMC-G9C	POWER OFF DETECTOR IC for V_DET
	IC210	REGULATOR	MM1856A50N	Regulator for V+5_HP
	IC211	REGULATOR	MM3411A33N	Regulator for V+3R3_D
	IC406	SH UCOM	R5S72670P144FP	UCOM for LED,KEY,USB,Audio control
	IC408	FLASH (16Mb)	DYW****	FLASH Memory for SH UCOM (Firmware)
	IC409	RESET IC	S-80927CNMC-G8X	Reset IC for SH UCOM
	IC701	HEADPHONES ADC	AK4387ET	Headphone D/A converter
	IC703	MASTER ADC	AK4387ET	Master D/A converter
	IC706	HEADPHONE AMP IC	BH3547F	Headphone Amplifier
	IC708	MIC ADC	AK5358AET	MIC A/D converter
DSK1 ASSY	IC1201	JOG Touch UCOM (Capacitance Sensors IC)	DYW****	Touch detection for JOG DIAL
	PC1201	PHOTO INTERRUPTER	RPI-579N1	Rotation detection for JOG DIAL
	PC1202	PHOTO INTERRUPTER	RPI-579N1	Rotation detection for JOG DIAL
PNL2 ASSY	IC2401	JOG Touch UCOM (Capacitance Sensors IC)	DYW****	Touch detection for JOG DIAL
	PC2401	PHOTO INTERRUPTER	RPI-579N1	Rotation detection for JOG DIAL
	PC2402	PHOTO INTERRUPTER	RPI-579N1	Rotation detection for JOG DIAL

Note : About DYW ****
Part number of " **** " changes every time the firmware is updated.

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.

[1] Knobs and Volumes Location



• Top view

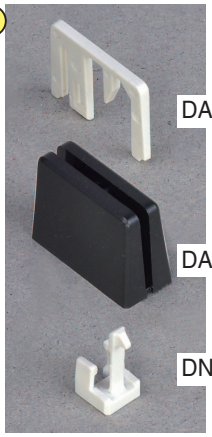
Ⓐ DAA1273 x 1

Ⓑ DAA1390 x 2

Ⓒ DAA1324 x 12

Ⓓ DNK6769 x 2

Ⓔ



DAC2685 x 3

DAC2684 x 3

DNK6009 x 3

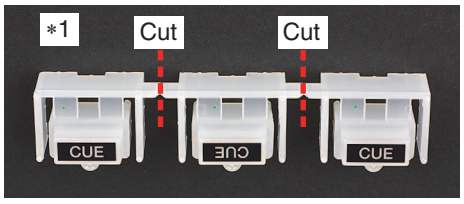
[2] Notes on Replacing Buttons

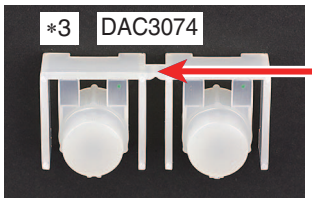
Notes

∗1: Buttons (DAC2663, DAC2875, DAC3380, DAC3408, DAC3416) are supplied as two or three buttons connected. Cut them by nipper before use.

∗2: Buttons (DAC3020, DAC3381, DAC3417) are also supplied two buttons connected, but don't cut and use them as they are.

∗3: Button (DAC3074) is also supplied as two buttons connected. For the Deck section, don't cut the connection and use them as they are. For the Effect section, cut and use either of the two.





Deck section : Don't cut
Effect section :Cut(Use either of the two)

[3] Disassembly

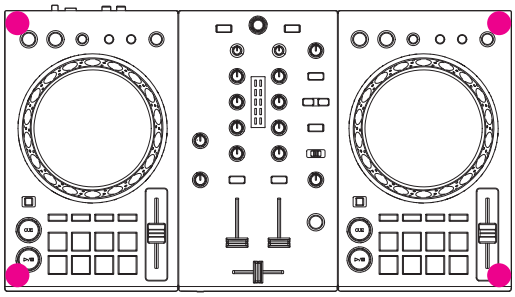
[3-1] Diagnosis

① Remove the 15 screws. (BPZ30P120FTB)

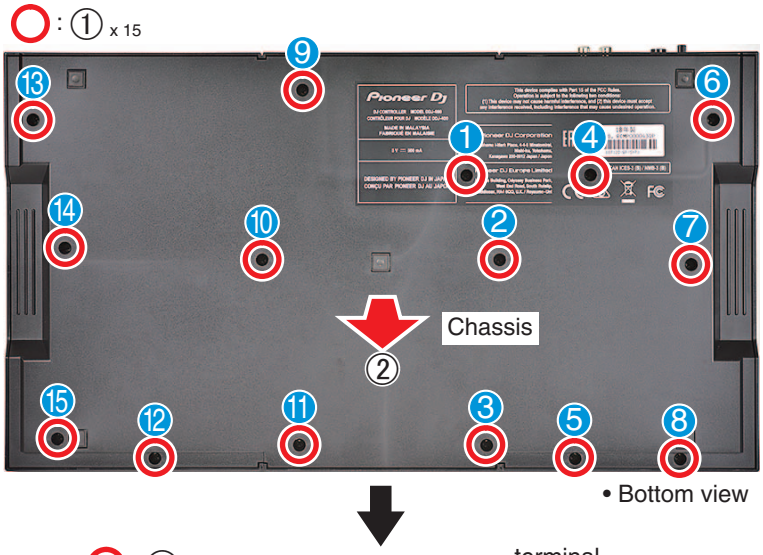
Notes on assembling:

Attach the screws in the order as shown by blue numbers.

After the attachment, push the four corners of the upper-panel to confirm it doesn't rattle.



If the product rattles, refer to **"1.3 SERVICE NOTICE ■How to modify when rattling of product is occurred"**.

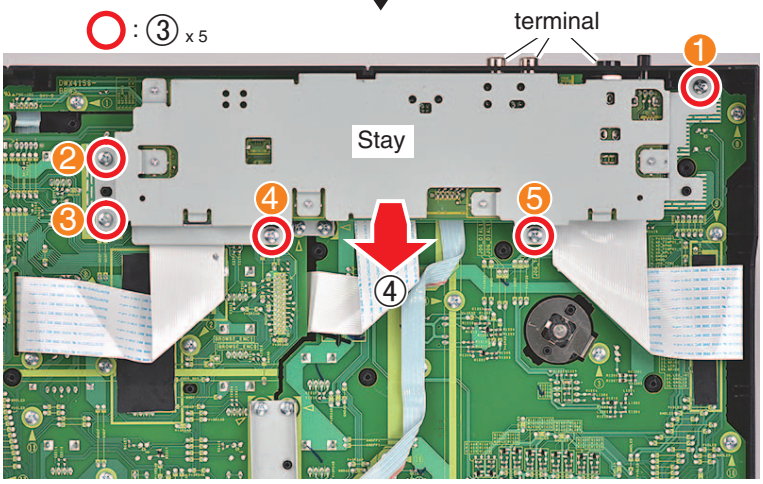


② Remove the Chassis.

③ Remove the five screws. (BPZ30P100FTC)

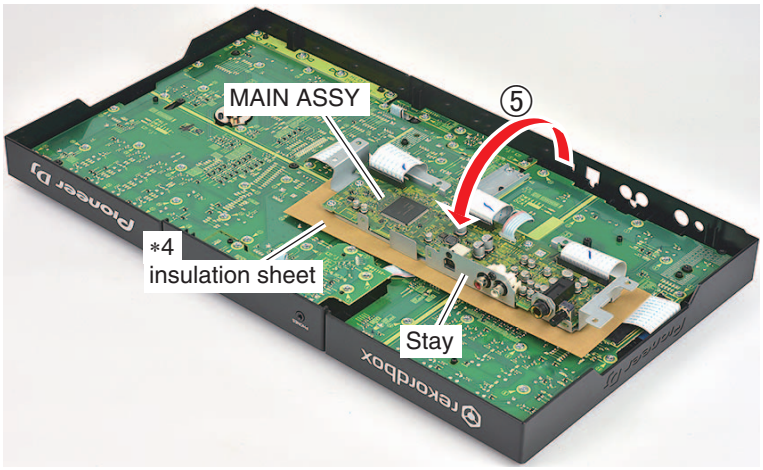
Note on assembling:

Attach the screws in the order as shown by orange numbers.



④ Lift up the FFC side of the Stay (with the MAIN ASSY), draw the rear side terminal out from the hole of the Control Panel, and then remove the Stay.

Note: Pay attention to the three FFCs and one jumper wire connected.



⑤ Reverse the Stay (with the MAIN ASSY).

Note

*4: Before turning the power on, lay the insulation sheet (about 260 x 120 mm) under the Stay.

Diagnosis

[3-2] MAIN ASSY, HPJK ASSY

Remove the Chassis and Stay.
(Refer to **"[3-1] Diagnosis"**.)
When removing only the HPJK ASSY, removal of the Stay is not necessary.
(Refer to step ② to ④ of this section.)

---

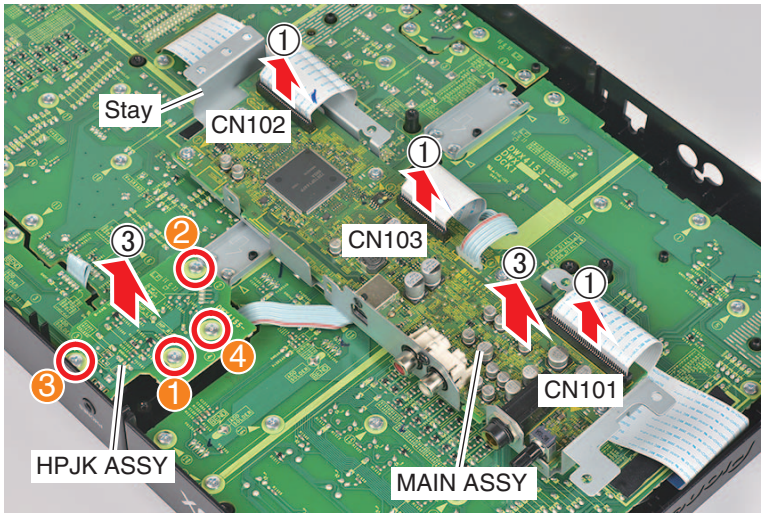
① Disconnect the three connectors.
② Remove the four screws. (BPZ30P100FTC)

Note on assembling:
Attach the screws in the order as shown by orange numbers.

③ Remove the MAIN ASSY (with the Stay) and the HPJK ASSY.

Note: Two PCBs are connected with jumper wire.

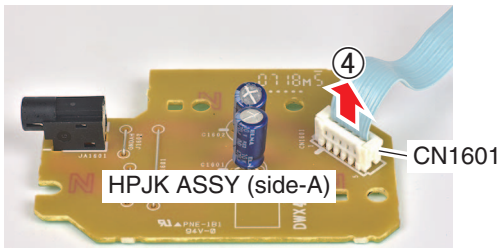
○ : ② x 4



Front

④ Disconnect the connector and then remove the HPJK ASSY.

Note: Connector has a lock mechanism.

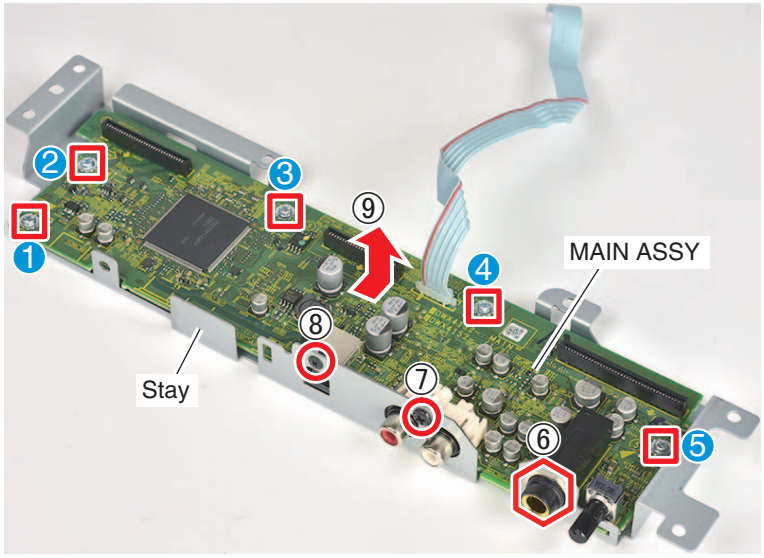


□ : ⑤ x 5

⑤ Remove the five screws. (ASZ26P050FTC)

Note on assembling:
Attach the screws in the order as shown by blue numbers.

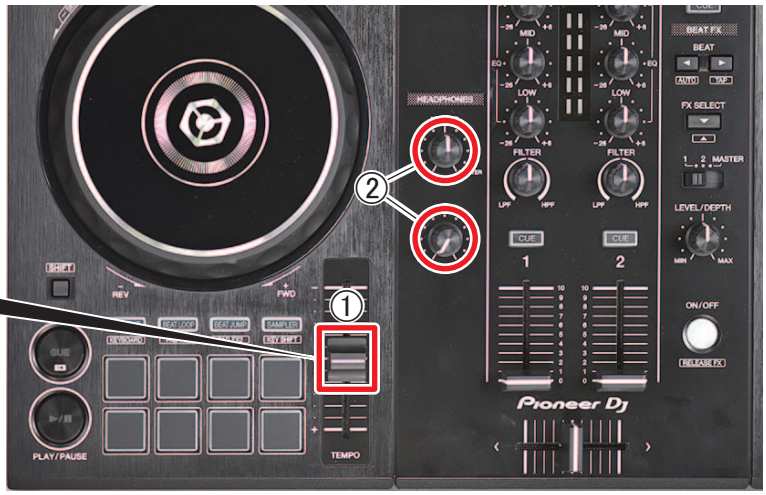
⑥ Remove the Nut (M12). (NKX2FNI)
⑦ Remove the screw. (BPZ30P080FTB)
⑧ Remove the screw. (DBA1340)
⑨ Remove the MAIN ASSY from the Stay.



[3-3] DCK1 ASSY

① Remove the Knob/PLS. (DNK6769)

Note: It is easily removed with a thin ribbon.



② Remove the two Knob/PLSs. (DAA1324)

Note: It is easily removed with a dessert spoon.

Remove the Chassis.
(Refer to step ①, ② of **"[3-1] Diagnosis"** .)

Remove the MAIN ASSY and HPJK ASSY.
(Refer to **"[3-2] MAIN ASSY, HPJK ASSY"** .)

---

③ Remove the eight screws (BPZ30P100FTC) and then remove the two Plates.

Note on assembling:

Attach the screws in the order as shown by orange numbers.

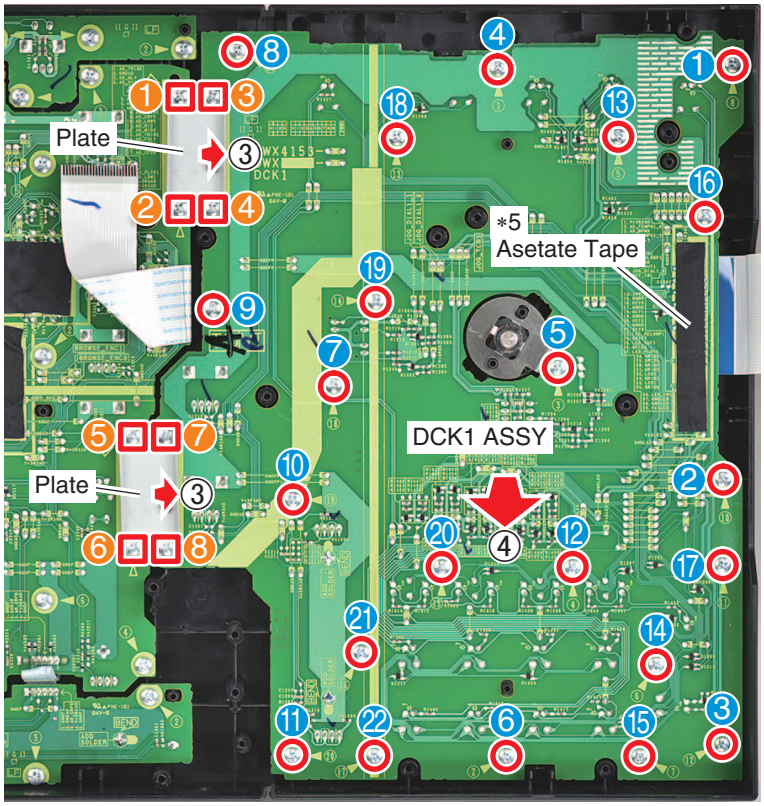
④ Remove the 22 screws (BPZ30P100FTC) and then remove the DCK1 ASSY.

Notes on assembling:

Attach the screws to the Control Panel in a flat state (For details, refer to **"1.3 SERVICE NOTICE ■How to modify when rattling of product is occurred"**) and in the order as shown by blue numbers.
Take care not to follow the order shown by the silk, which are different.

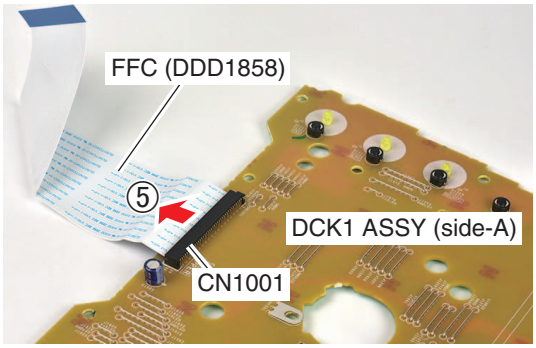
∗5: When replacing the DCK1 ASSY, or when Asetate Tape on the side-B is removed, paste new Asetate Tape. (For details, refer to **"1.3 SERVICE NOTICE ■Paste Asetate Tape on the back face of PCB"**.)

□ : ③ x 8 ○ : ④ x 22



• Bottom view

⑤ Disconnect the connector, and remove the 39P FFC (DDD1858).



[3-4] PNL2 ASSY, BRWS ASSY, CRFD ASSY

① Remove the Knob/PLS. (DNK6769)

Note: It is easily removed with a thin ribbon.

② Remove the Dial Knob S (B). (DAA1273)

Note

*6: As the dessert spoon cannot be applied for this knob, apply the adhesive tape around to remove it.

When removing only the BRWS ASSY, this is the only Knob to be removed. (Refer to step ⑧ to ⑩ of this section.)

③ Remove the three Slider Knobs.

Notes: Three Slider Knobs have lock mechnisms. (Refer to below)

*7: When removing only the CRFD ASSY, remove only Slider Knob of near side. (Refer to step ⑦, ⑨ to ⑩ of this section.)

④ Remove the 10 Knob/PLSs. (DAA1324)
⑤ Remove the two Knob. (DAA1390)

Note: It is easily removed with a dessert spoon.

Disassembly / Assembly of the Slider Knob

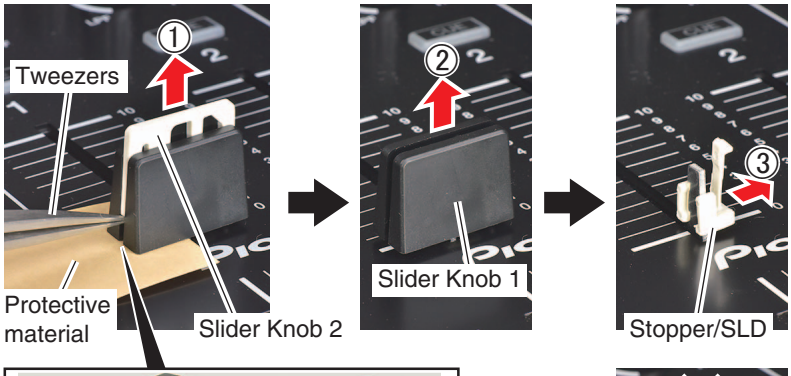
① Push up the lower edge of the Slider Knob 2 with tweezers and then remove the Slider Knob 2.

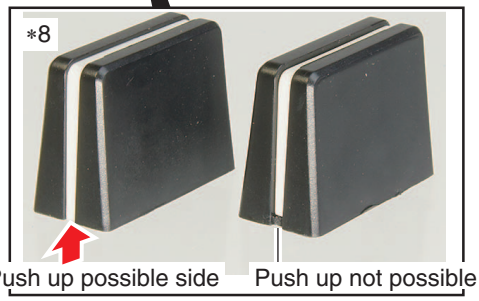
Note

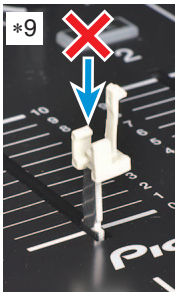
*8: Push up of the Slider Knob 2 is only possible from one side.

② Remove the Slider Knob 1 upward.

③ Remove the Stopper/SLD horizontally.



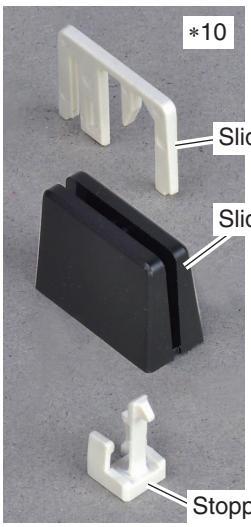


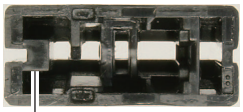


Notes on assembling

*9: Don't insert the Stopper/SLD from above.

*10: Pay attention to the direction of each Knob and Stopper.

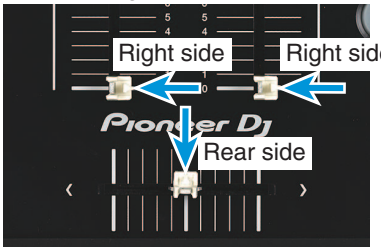




Bottom side of the Slider Knob 1

Direct the concave side toward the opposite side from the Stopper/SLD.

*10 Mounting direction for each Stopper/SLD.



Remove the Chassis.
(Refer to step ①, ② of **"[3-1] Diagnosis"**.)

Remove the MAIN ASSY and HPJK ASSY.
(Refer to **"[3-2] MAIN ASSY, HPJK ASSY"**.)

When removing only the BRWS ASSY, removal of the HPJK ASSY is not necessary.
(Refer to step ②, ⑧ to ⑩ of this section.)

When removing only the CRFD ASSY, removal of the MAIN ASSY is not necessary.
(Refer to step ③, ⑦, ⑨ to ⑩ of this section.)

---

⑥ Remove the eight screws (BPZ30P100FTC) and then remove the two Plates.

Note on assembling:

Attach the screws in the order as shown by orange numbers.

⑦ Remove the three screws. (BPZ30P100FTC)

Note on assembling:

Attach the screws in the order as shown by pink numbers.

⑧ Remove the five screws. (BPZ30P100FTC)

Note on assembling:

Attach the screws in the order as shown by violet numbers.

⑨ Remove the 34 screws (BPZ30P100FTC) and then remove the PNL2 ASSY (with the BRWS ASSY and CRFD ASSY).

Notes on assembling:

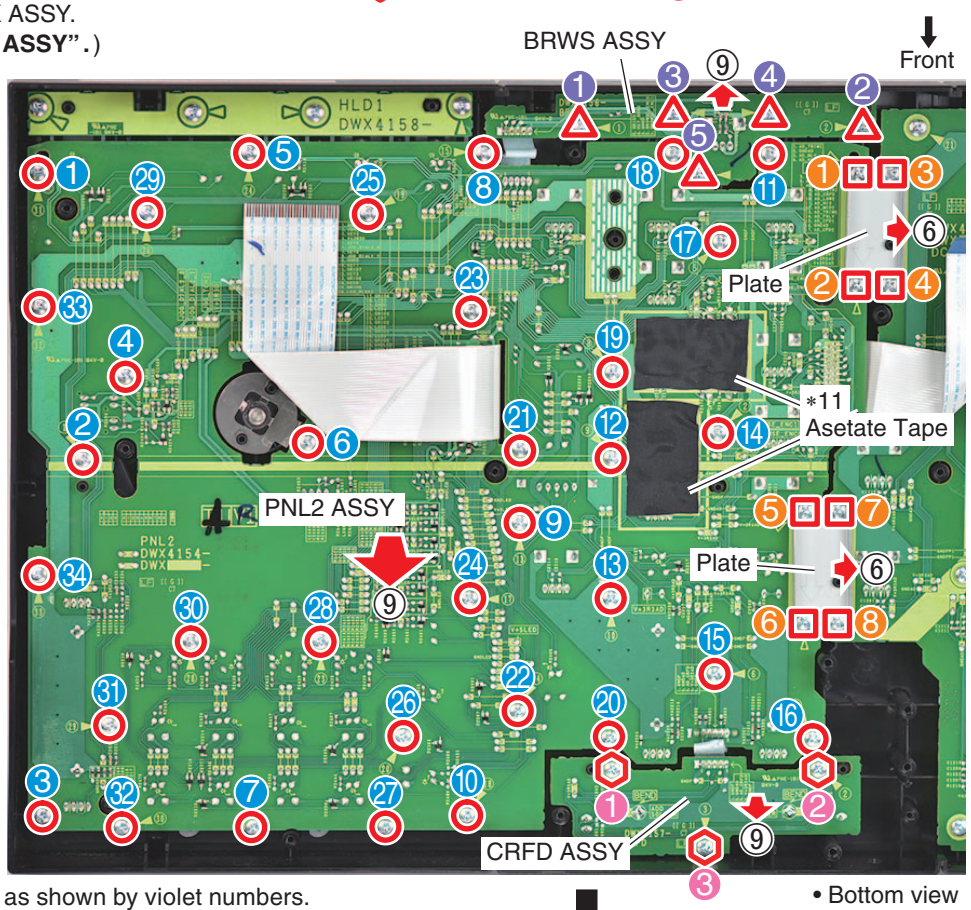
Attach the screws to the Control Panel in a flat state (For details, refer to **"1.3 SERVICE NOTICE ■How to modify when rattling of product is occurred"**) and in the order as shown by blue numbers.
Take care not to follow the order shown by the silk, which are different.

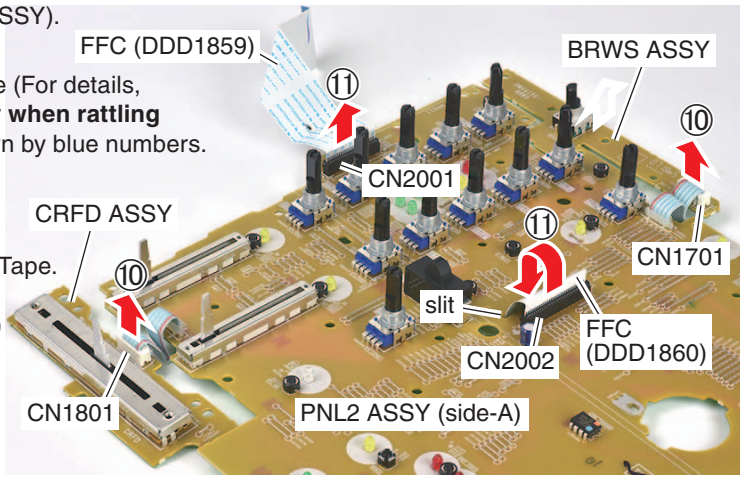
∗11: When replacing the PNL2 ASSY, or when Asetate Tape on the side-B is removed, paste new Asetate Tape. (For details, refer to **"1.3 SERVICE NOTICE ■Paste Asetate Tape on the back face of PCB"**.)

⑩ Remove the two connectors and then remove the BRWS ASSY and CRFD ASSY.

Note: Two connectors have lock mechanisms.

⑪ Disconnect the two connectors, and remove the 31P FFC (DDD1860) through the slit of the PNL2 ASSY.





[3-5] HLD1 ASSY

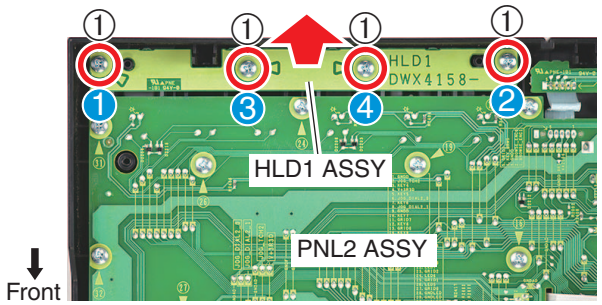
Remove the Chassis. (Refer to step ①, ② of **"[3-1] Diagnosis"**.)

---

① Remove the four screws (BPZ30P100FTC) and then remove the HLD1 ASSY.

Notes on assembling:

Attach the screws in the order as shown by blue numbers.



[3-6] Jog Dial Section

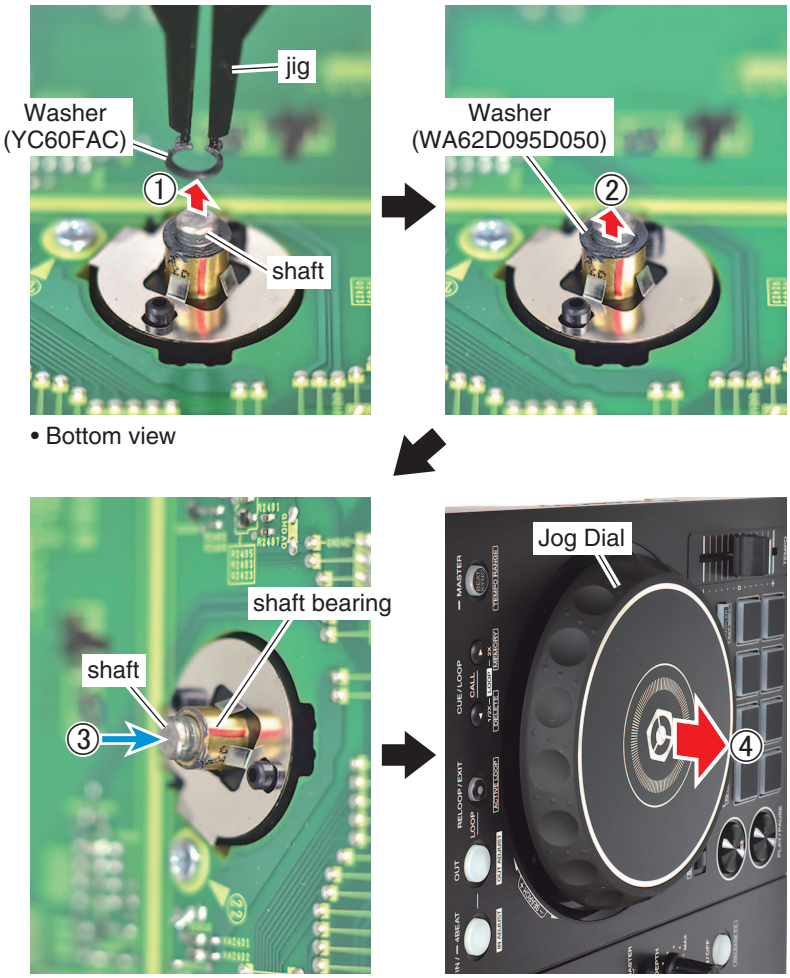
Remove the Chassis.
(Refer to step ①, ② of **"[3-1] Diagnosis"**.)
When you remove the Jog dial section, it is not necessary to remove the each board ASSY.
Figures show only the Right DECK side, but the Left DECK side is similar, too.

---

① Remove the Washer on the board side (YC60FAC).
② Remove the Washer. (WA62D095D050)
③ Stand the Main Unit vertically, and then push the shaft of Jog Dial peaking from the bearing.
④ Pull out the Jog Dial from the upper-panel, and then remove it.
⑤ Remove the Washer (WA62D095D050) from the shaft of the Jog Dial.

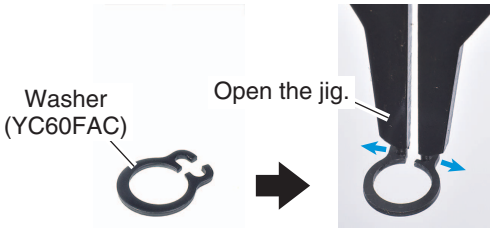
Note on assembling:

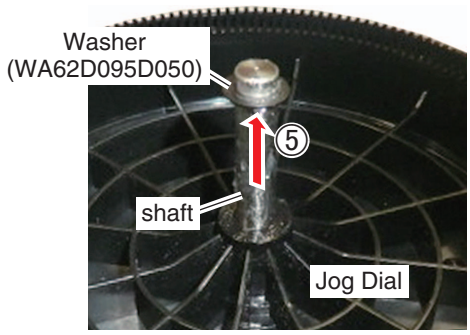
Wipe old grease off, and then apply new grease.
(Refer to **"[4-1] Procedure for applying grease during reassembly of the Jog Dial"**.)



For Disassembly/Assembly of Washer (YC60FAC)

Use the jig. (Tapered snap ring pryor is recommended.)





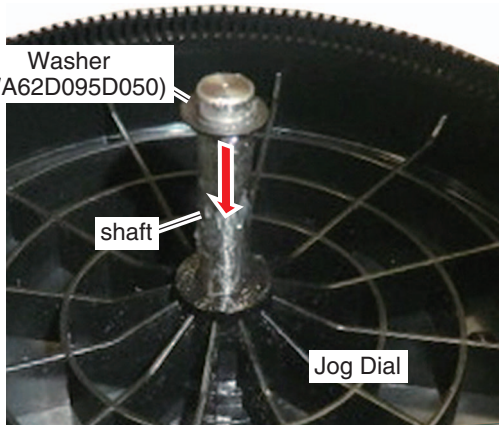
[4] Notes on Assembling

[4-1] Procedure for applying grease during reassembly of the Jog Dial

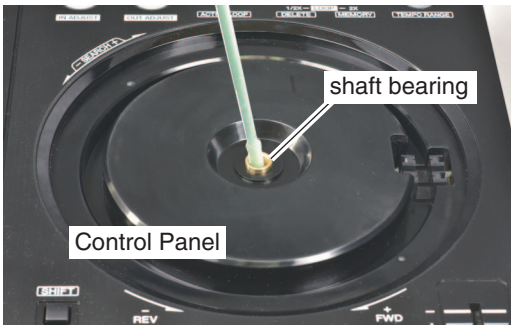
Note: After the Jog Dial is removed, carefully wipe off the grease from the Jog Dial, as well as from the shaft bearing of the Control Panel, then apply new grease, in the following manner:
Grease to be used: GEM1100

(1) Apply grease to the tip and base of the shaft of the Jog Dial one round each.

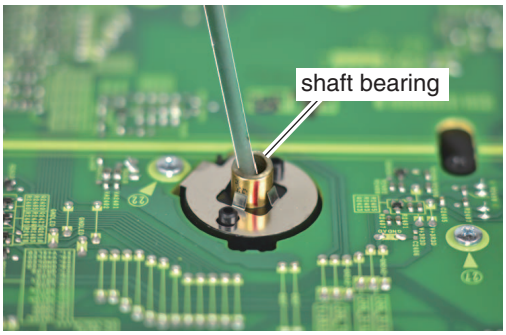
(2) Insert the Washer (WA62D095D050) on the shaft and place it at the base of the shaft.



(3) Apply grease lightly to the shaft bearing of the Control Panel up to the depth of approximately 10 mm from the upper-panel side. Then turn the Control Panel over and apply grease from the opposite side in the same manner.

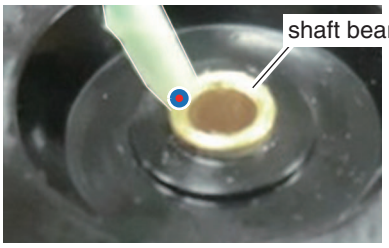


• Top view



• Bottom view

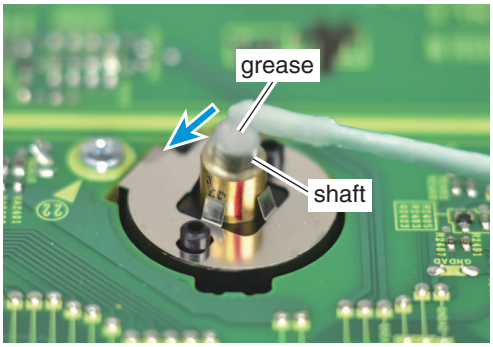
(4) Turn the Control Panel over again, then apply a small amount of grease to one point of the shaft bearing on the upper-panel side.



• Top view

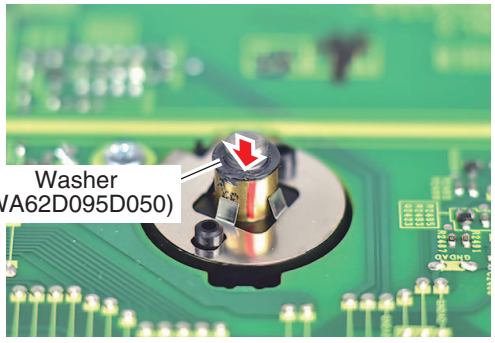
(5) Insert the Jog Dial in the shaft bearing while turning it.

(6) Turn the Control Panel over, and then wipe off the excess grease.

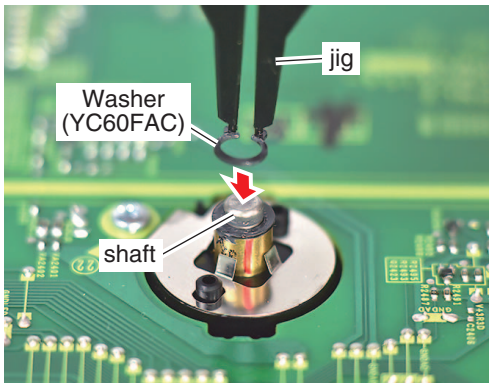


• Bottom view

(7) Insert the Washer (WA62D095D050) on the shaft.

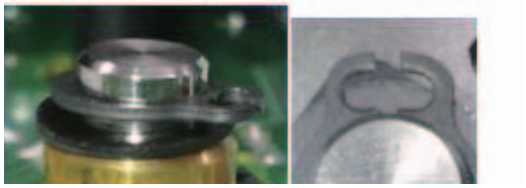


(8) Fit the Washer (YC60FAC) on the groove of the shaft.



Washer must be fit rightly on the shaft groove without slanting, etc.

OK



NG

(9) Turn the Control Panel over, and then check if the Jog Dial rotates properly.

(10) Perform manual running-in rotations of the Jog Dial, following the procedure below.

① Turn the Jog Dial manually 50 rotations.

② Perform failure judgment of the Jog Dial.
For details of the measurement method, refer to "②**-2: Measurement mode of the load of JOG dial**" in "**6-1. SERVICE MODE.**"

③-1 In the case of failure because of excessive load, repeat the following procedure until a good result is obtained in failure judgment.
Manually turn the Jog Dial 50 rotations then perform failure judgment of the Jog Dial again.

③-2 In the case of failure because of insufficient load, apply grease again.
(Repeat the above procedures from Step (1).)

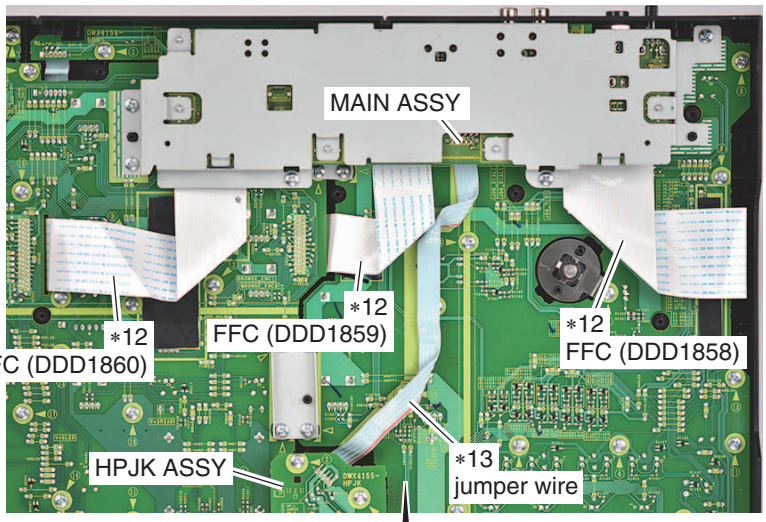
Note:
After removing the Jog Dial, wipe off the grease tentatively.

[4-2] Styling of the FFCs and cables

∗12: Styling of the three FFCs follows the right photo.

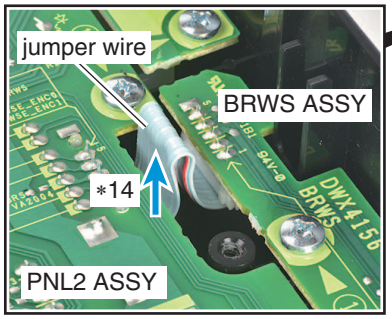
For folding, refer to "**[4-4] Folding the FFCs".**

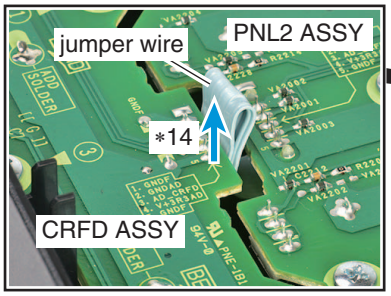
∗13: Styling of the jumper wire between the MAIN ASSY and HPJK ASSY follows the guide of the silk on side-B of the DCK1 ASSY.

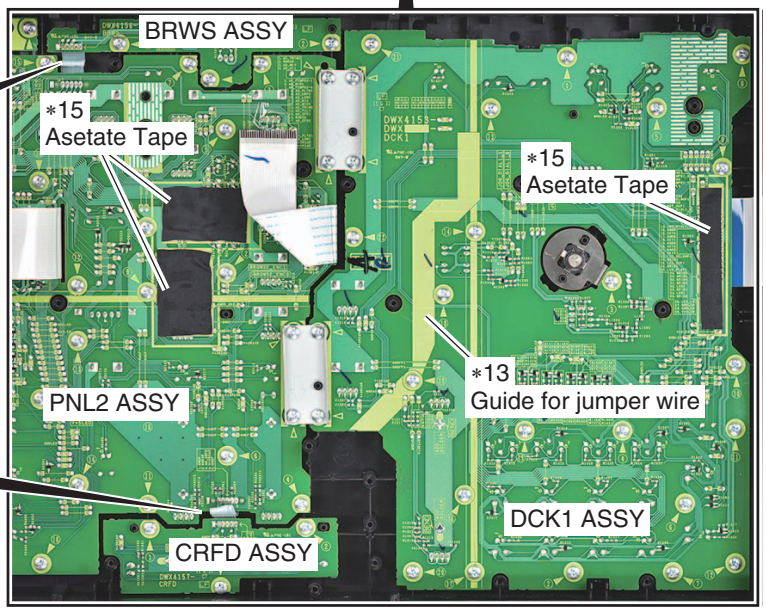


• Bottom view

∗14: When styling both jumper wires between the PNL2 ASSY and BRWS ASSY, and between the PNL2 ASSY and CRFD ASSY, let the extra length stick out from the bottom (Chassis) face.





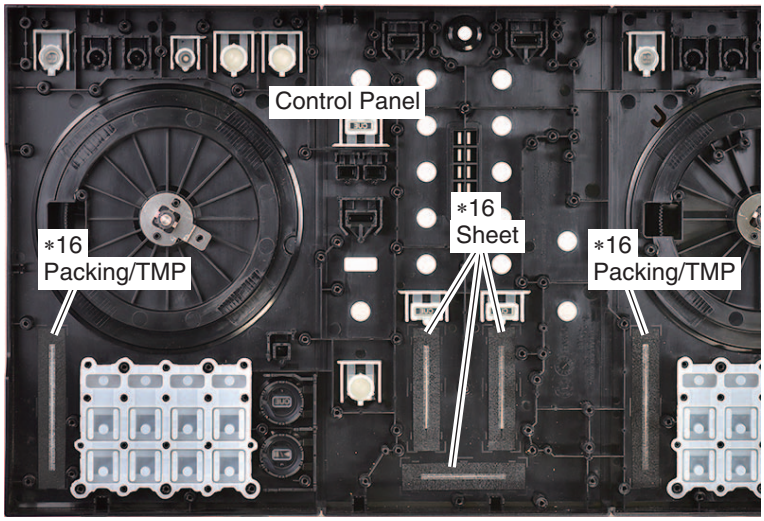


∗15: When replacing the Asetate Tape on side-B of the DCK1 ASSY or PNL2 ASSY, refer to **"1.3 SERVICE NOTICE ■Paste Asetate Tape on the back face of PCB"**.

[4-3] Sheet, Packing/TMP

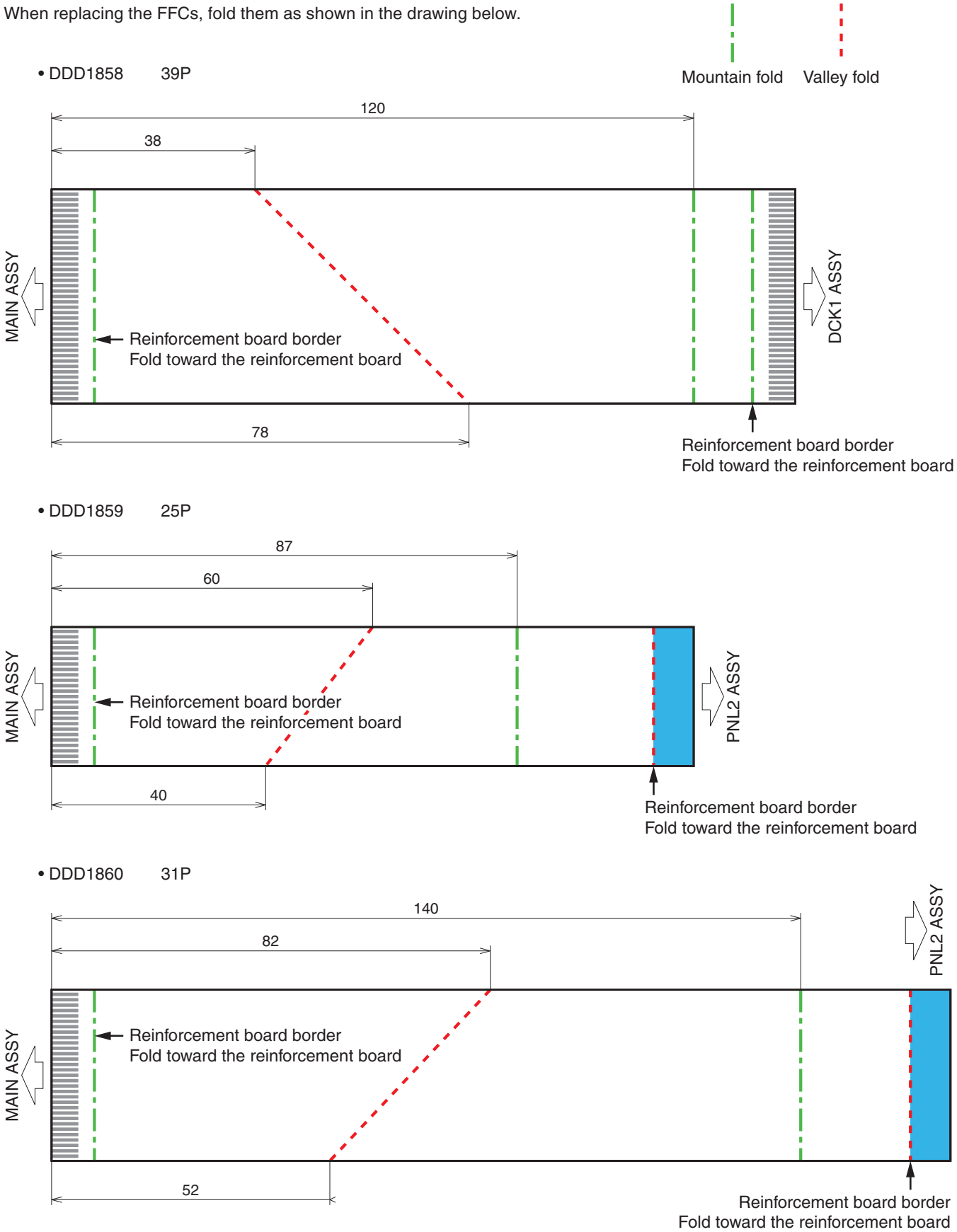
∗16: When replacing the Control Panel, or when the Sheet (DEC3795) and/or Packing/TMP inside the Control Panel is damaged, apply or replace them with new Sheet and/or Packing/TMP.

• Bottom view



[4-4] Folding the FFCs

When replacing the FFCs, fold them as shown in the drawing below.



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 or PCB Assemblies are replaced.

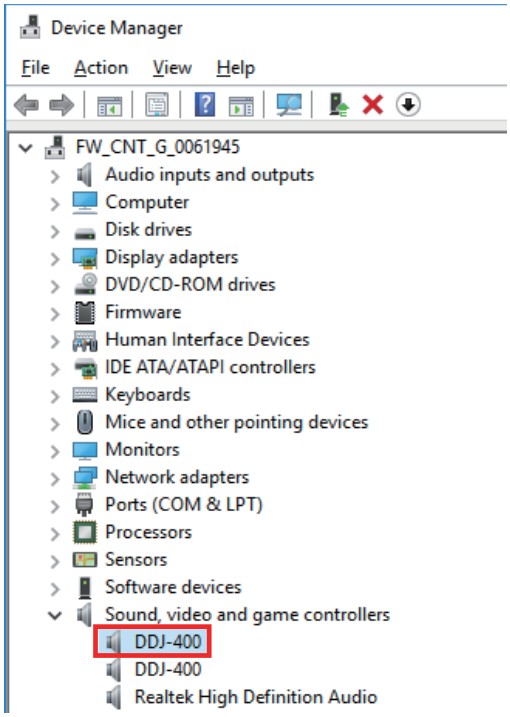
• IC and PCB ASSY storing for firmware / user setting value / cross fader calibration value FLASH ROM (IC408: MAIN ASSY) MAIN ASSY	⇨ • Cross fader calibration (6.1 SERVICE MODE : ①-6 Cross fader calibration mode) • Confirmation of the version of the firmware • Updating to the latest version of the firmware • Be changed user setting to condition before the repair (when be possible)
• Jog dial	⇨ • Judging the quality of the Jog dial load (6.1 SERVICE MODE : ②-2 Measurement mode of the load of Jog dial)
• PC1201, PC1202, PC2401, PC2402 (DCK1 ASSY, PNL2 ASSY)	⇨ • Judging the quality of mounting and connection of the photointerrupter (6.1 SERVICE MODE : ②-3 Photo interrupter check mode)
• Cross fader related parts	⇨ • Cross fader calibration (6.1 SERVICE MODE : ①-6 Cross fader calibration mode)

8.2 UPDATING OF THE FIRMWARE

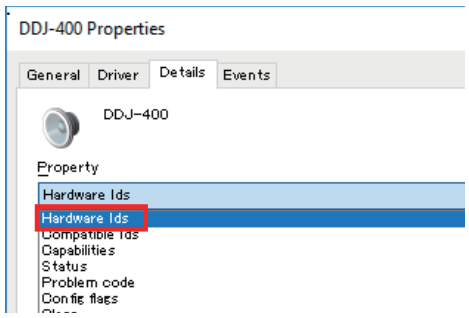
■ Confirmation of the Firmware Version

[How to confirm the firmware version on Windows]

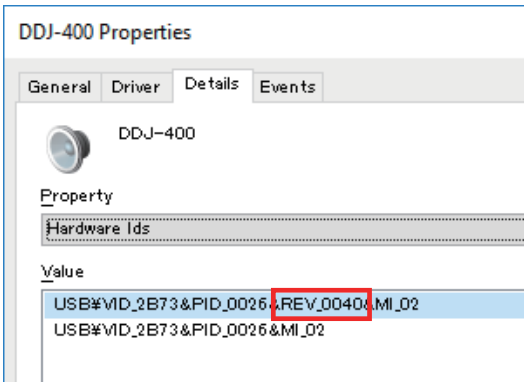
1. Right-click DDJ-400 in the [Sound, video, and game controllers] of Device Manager and select the [Properties].



2. Select the [Details] tab and then select the [Hardware Ids] of property.

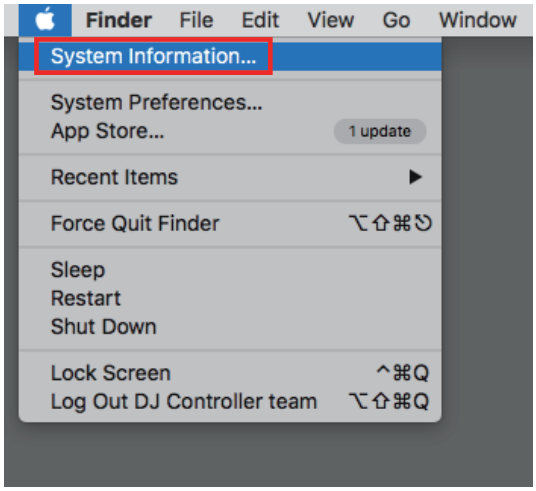


3. Version number is [XXXX] of [REV_XXXX] in the character string following [USB\VID_2B73&PID_0026 &].
In the example shown below, version number is 0.40.

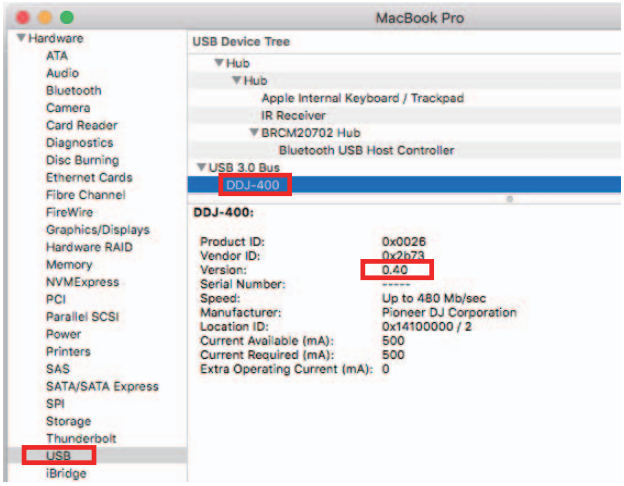


[How to confirm the firmware version on Mac]

1. While holding down the [Option] key on the keyboard, open the Apple Menu and select the [System Information].



2. Select the [USB] in the item of [Hardware] and confirm the firmware version by click [DDJ-400].
In the example shown below, version number is 0.40.



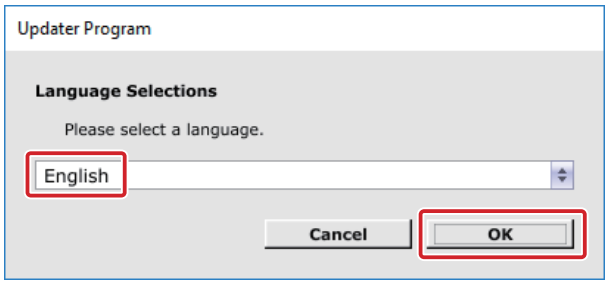
Updating of the Firmware

Connect this main unit to the PC / Mac with a USB cable, and update it by executing a dedicated update program.

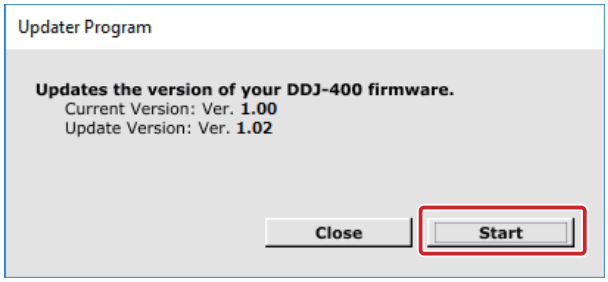
File name
Windows: DDJ-400_vxxx.exe * xxx is the version number. If it is Ver1.00,
it is DDJ-400_v100.exe / DDJ-400_v100_MAC.dmg
Mac: DDJ-400_vxxx_MAC.dmg * In the case of Mac, double-click the dmg file and icon will appear so execute it.
Note: Please close all DJ applications such as rekordbox when updating.

Update procedure

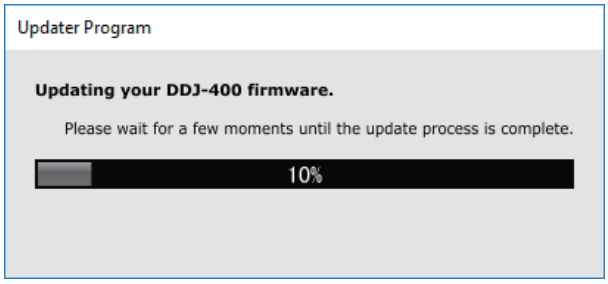
① When starting, select the language and click [OK].



② Confirm the version and click [Start].



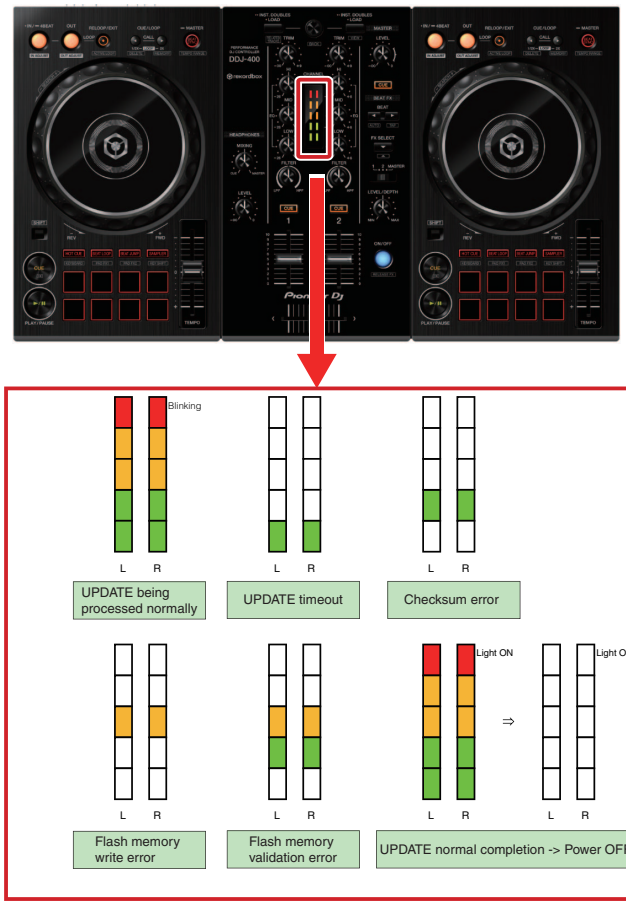
③ Wait until the progress bar reaches 100%.
When it reaches 100%, automatically restarts.



* Correspondence after update failure

If an error occurs during firmware update, after restartup (USB cable inserted/removed), it startup in "Update Mode". In the "Update Mode", All left and right CH level meters blink and the unit does not migrate to normal mode.
Please perform update from PC / Mac again in this state.
If it still does not return to normal, it is possible UCOM (IC406), FLASH ROM (IC408) and FLASH ROM peripheral parts are failed.

About main unit display



Update application side error display

Error content	Application error ID
Update file does not exist	0x0E01
File memory allocation error	0x0E02
File size is different.	0x0E03
Invalid version value in file	0x0E04
CRC mismatch in file	0x0E05
Version value is unexpected	0x0E11
USB is not connected before communication starts	0x0E21
Different start modes	0x0E31
Memory allocation error	0x0E32
Checksum mismatch	0x0E33
Write error	0x0E34
Verify error	0x0E35
No reply will come.	0x0E36
USB was disconnected while updating	0x0E37
Send and receive unknown code	0x0E41
Time out (Data transmission from the application is interrupted)	-

8.3 ITEMS FOR WHICH USER SETTING 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, 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	Operation Button Deck (Left)	Lighting LED	Setting Value (Factory defalt setting = Bold)	Part Name
Stereo/Monaural setting	HOT CUE	HOT CUE	**Stereo (Light ON)**	IC408 (MAIN ASSY)
			Monaural (Light OFF)	
Master output peak limiter setting	BEAT LOOP	BEAT LOOP	**Enable(Light ON)**	
			Disable (Light OFF)	
MIDI controller mode setting	BEAT JUMP	BEAT JUMP	**When rekordbox is launched, it will be in the appropriate mode to function of rekordbox dj When rekordbox is not launched, general MIDI controller mode (Light OFF)**	
			Forcibly general MIDI controller mode (Light OFF)	
Demo mode setting	PAD 1	PAD 1	Demo mode OFF	
	PAD 2	PAD 2	1 minute	
	PAD 3	PAD 3	5 minutes	
	PAD 4	PAD 4	**10 minutes**	

Each of the above items can be set in Utilities modes.
To enter Utilities mode,
while pressing both SHIFT and PLAY/PAUSE buttons on the left deck, connect the USB cable to the main unit (to turn on the unit).
For changing the settings, refer to the operating instructions of the unit.

Sheet for confirmation of the user setting

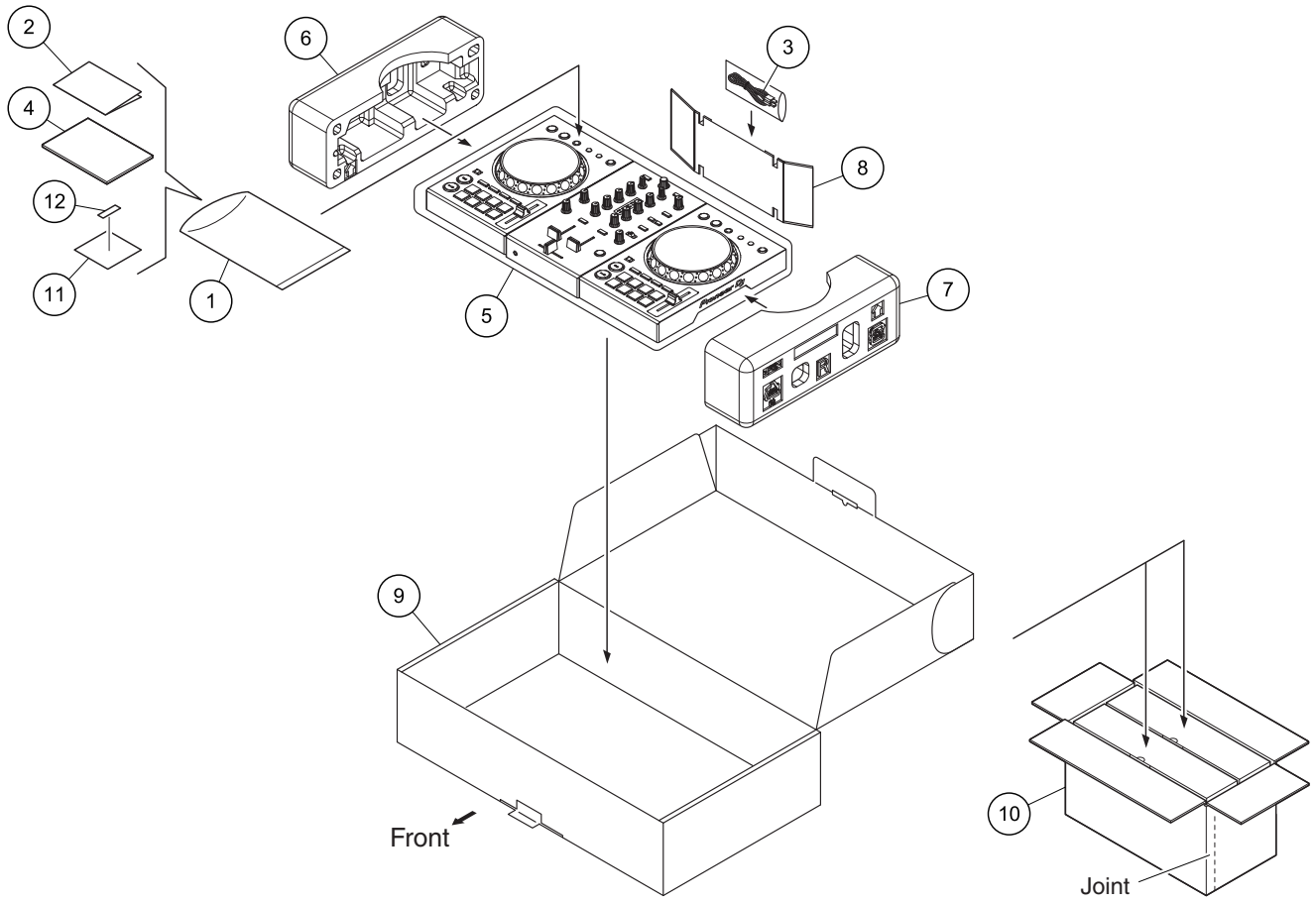
Stereo/Monaural setting		Master output peak limiter setting		MIDI controller mode setting	
Stereo	Monaural	Enable	Disable	Prioritize rekordbox launch	Forced MIDI controller

Demo mode setting			
Demo mode OFF	1 minute	5 minutes	10 minutes

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

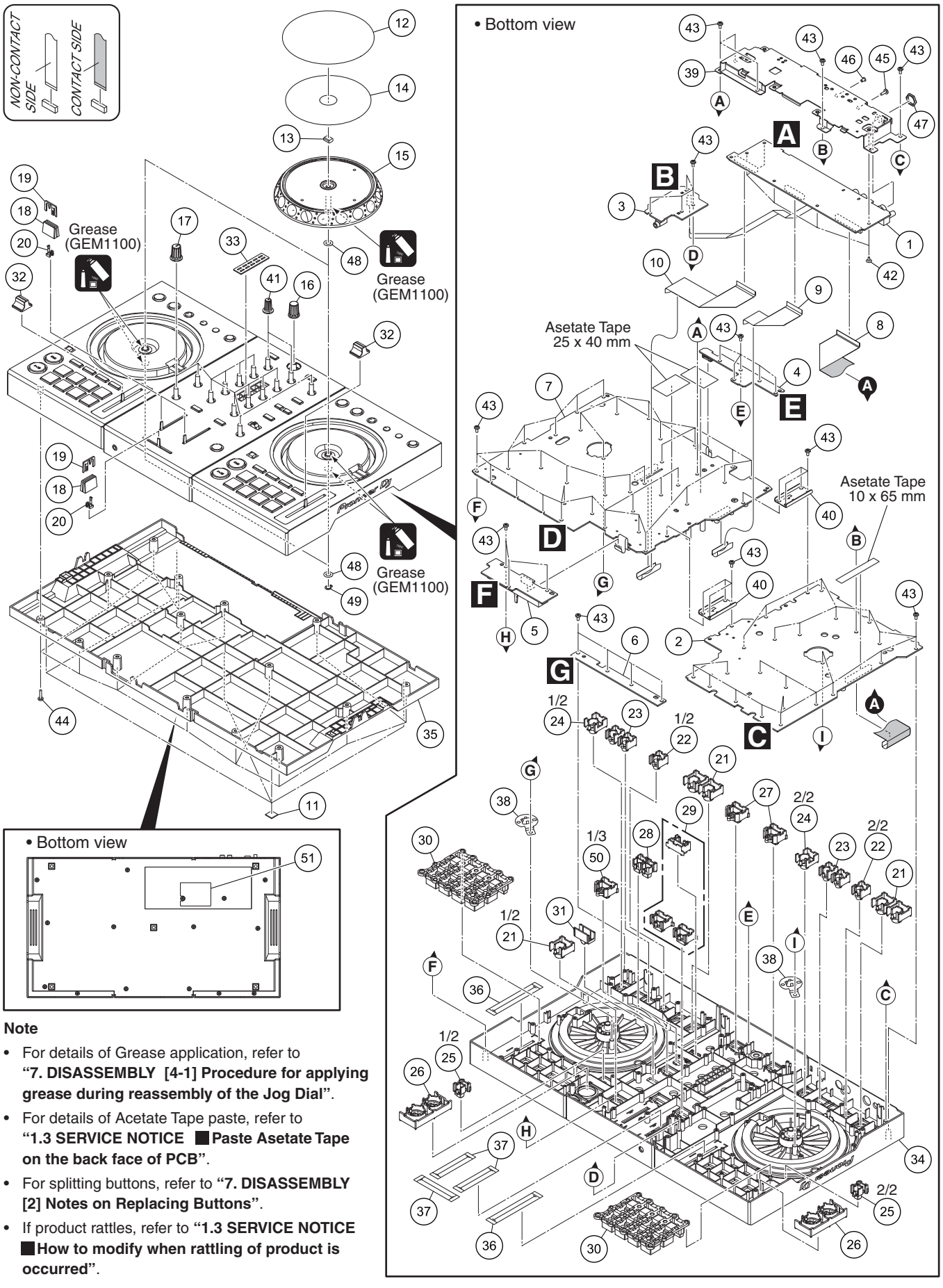
Mark	No.	Description	Part No.
NSP	1	Polyethylene Bag	AHG7117
NSP	2	Warranty	See Contrast table (2)
	3	USB Cable	DDE1150
	4	Operating Instructions (Quick Start Guide)	See Contrast table (2)
	5	Packing Sheet	AHG7053
	6	Packing Pad	DHA1978
	7	Packing Pad	DHA1979
	8	Partition/ACC	DHC1085
	9	Packing Case	See Contrast table (2)
	10	Master Carton	See Contrast table (2)
NSP	11	Leaflet	DRM1410
NSP	12	License Key Label ASSY	DXA2304

(2) CONTRAST TABLE

SXJ and XJCN are constructed the same except for the following:

Mark	No.	Symbol and Description	SXJ	XJCN
NSP	2	Warranty	DRY1270	Not used
	4	Operating Instructions (Quick Start Guide)	DRH1505	DRH1506
	9	Packing Case	DHG3628	DHG3629
	10	Master Carton	DHG3631	DHG3632

9.2 EXTERIOR SECTION



Note

- For details of Grease application, refer to **"7. DISASSEMBLY [4-1] Procedure for applying grease during reassembly of the Jog Dial"**.
- For details of Acetate Tape paste, refer to **"1.3 SERVICE NOTICE ■ Paste Asetate Tape on the back face of PCB"**.
- For splitting buttons, refer to **"7. DISASSEMBLY [2] Notes on Replacing Buttons"**.
- If product rattles, refer to **"1.3 SERVICE NOTICE ■ How to modify when rattling of product is occurred"**.

(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN ASSY	DWX4152
	2	DCK1 ASSY	DWX4153
	3	HPJK ASSY	DWX4155
	4	BRWS ASSY	DWX4156
	5	CRFD ASSY	DWX4157
	6	HLD1 ASSY	DWX4158
	7	PNL2 ASSY	DWX4154
	8	FFC	DDD1858
	9	FFC	DDD1859
	10	FFC	DDD1860
	11	Rubber Foot	VEB1349
	12	Plate	DAH3209
	13	Gasket/JOG	DEC3539
	14	Ds Tape/JOG	DEH1042
	15	Jog Dial	DNK6763
	16	Dial Knob S (B)	DAA1273
	17	Knob/PLS	DAA1324
	18	Slider Knob 1	DAC2684
	19	Slider Knob 2	DAC2685
	20	Stopper/SLD	DNK6009
	21	Button/LOP	DAC3074
	22	Button/MT	DAC2875
	23	Button/CAL	DAC3020
	24	Button	DAC3408
	25	Button S (Black)	DAC2663
	26	Button	DAC3417
	27	Button	DAC3151
	28	Button	DAC3381
	29	Button	DAC3380
	30	Button	DEB2063
	31	SW Cap	DAC2753
	32	Knob/PLS	DNK6769
	33	Panel	DAH3210
	34	Control Panel	DNK6765
	35	Chassis	DNK6764
	36	Packing/TMP	DEC3392
	37	Sheet	DEC3795
	38	Plate/CND	DNH3137
	39	Stay	DNH3354
	40	Plate	DNH3353
	41	Knob	DAA1390
	42	Screw	ASZ26P050FTC
	43	Screw	BPZ30P100FTC
	44	Screw	BPZ30P120FTB
	45	Screw	BPZ30P080FTB
	46	Screw (M3 x 5)	DBA1340
	47	Nut (M12)	NKX2FNI
	48	Washer	WA62D095D050
	49	Washer	YC60FAC
	50	Button	DAC3416
NSP	51	Name Label	See Contrast table (2)

(2) CONTRAST TABLE

SXJ and XJCN are constructed the same except for the following:

Mark	No.	Symbol and Description	SXJ	XJCN
NSP	51	Name Label	Not used	DRW2768

Pioneer DJ

Service Manual

DDJ-400

ORDER NO.
QRT1024

DJ CONTROLLER

DDJ-400

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

Model	Type	Power Requirement	Remarks
DDJ-400	SXJ	DC 5 V (USB bus power only)	
DDJ-400	XJCN	DC 5 V (USB bus power only)	

THIS SERVICE MANUAL SHOULD BE USED TOGETHER WITH THE FOLLOWING MANUAL(S).

Model	Order No.	Remarks
DDJ-400	QRT1023	BLOCK DIAGRAM, EXPLODED VIEWS AND PARTS LIST etc.

Pioneer DJ Corporation 6F, Yokohama i-Mark Place, 4-4-5 Minatomirai, Nishi-ku, Yokohama, Kanagawa 220-0012 Japan

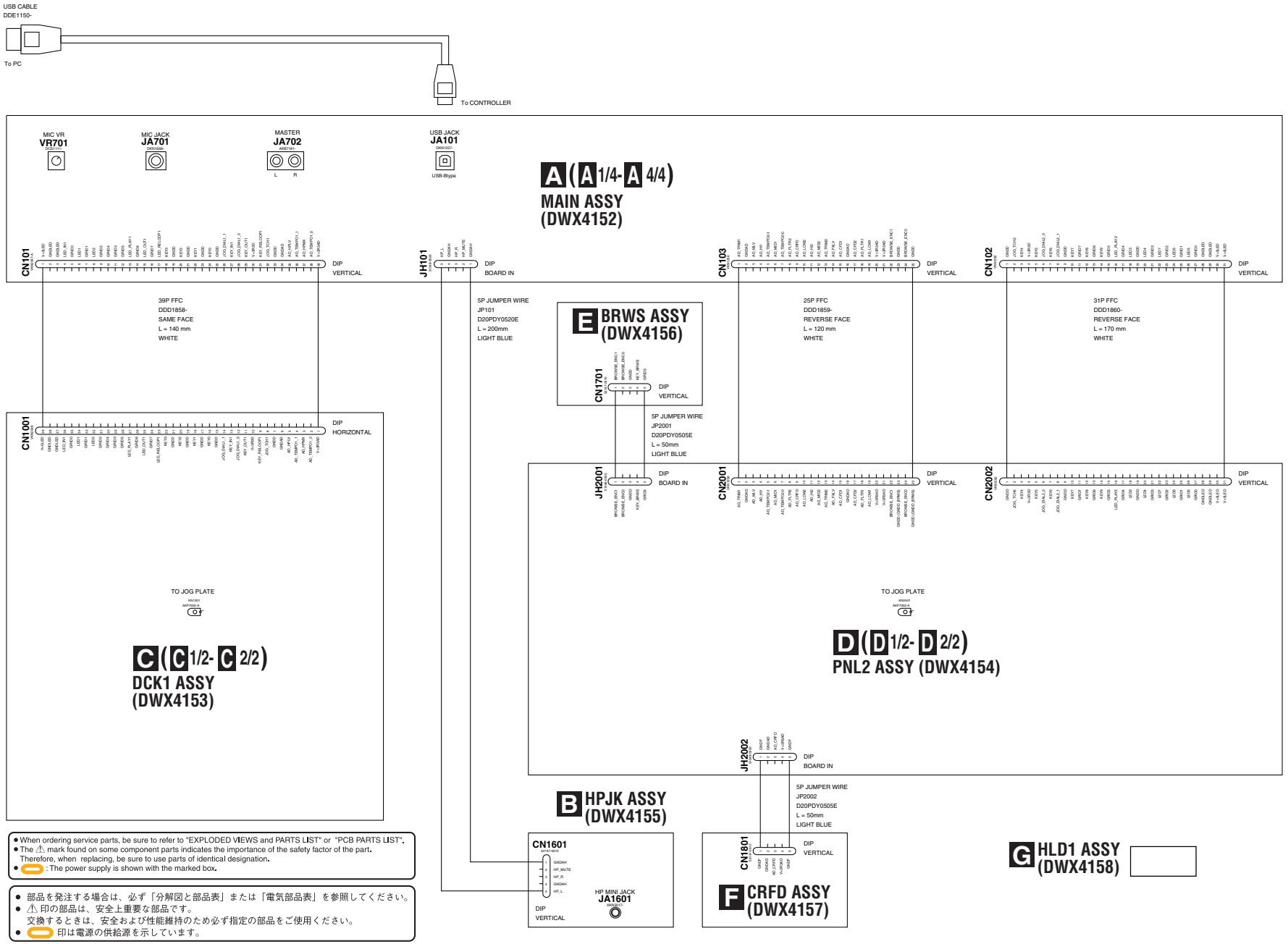
SAFETY INFORMATION

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.

CAUTION
Since the fuse may be in the neutral of the mains supply, disconnect the mains to de-energize the phase conductors.

CONTENTS

10. SCHEMATIC 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.
- : The power supply is shown with the marked box.

- 部品を発注する場合は、必ず「分解図と部品表」または「電気部品表」を参照してください。
- ⚠ 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。
- 印は電源の供給源を示しています。

BOARD IF BLOCK

A 1/4 MAIN ASSY (DWX4152)

The check point for service.
(Legend silk indication on the PCB.)

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE NO. 466001. MFD. BY LITTELFUSE INC. FOR P101.

USB-B JACK

Littelfuse Inc.
466001.
1.0A/63V

USB (PC)

JA101 DKN1237-A

CN101 VKN2097-A

C 1/2
CN1001

CN102 VKN1262

D 1/2
CN2002

D 1/2
CN2001

CN103 VKN1256

JH101 51048-0500

B HPJK ASSY (DWX4155)

HEADPHONES OUT

CN1601 52147-0510

HP Mini JACK

JA1601 KKN3017-0

HEAD PHONE

(HP) : Headphone Audio Signal (Lch)

Δ印の部品は、指定部品(安全規格適合部品)を必ず使用すること。
The Δ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μF, p : pF

*RESISTORS
Indicated in Ω, ±5% tolerance
unless otherwise noted. k : kΩ, M : MΩ.

NOTES
NM is No Mount
RS1/10SR***J
RS1/4SA***J
CKSRYB***K
CEAT***M

NOTES
NM is No Mount
RS1/16SS***J
RS1/10SR***J
CCSSCH***J
CKSSYB***K
CKSRYB***K

*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μF, p : pF

*RESISTORS
Indicated in Ω, ±5% tolerance
unless otherwise noted. k : kΩ, M : MΩ.

/ 付き信号は、SB3信号名/400 信号名です。
The signal name including "/" is SB3 signal name / 400 singal name.

DDJ-400

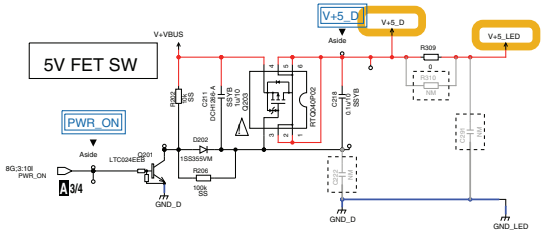
5 6 7 8

F E D C B A

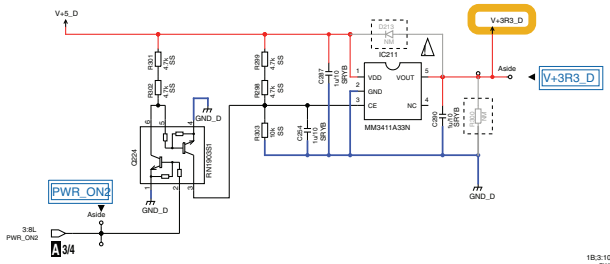
A 2/4 MAIN ASSY (DWX4152)

POWER BLOCK

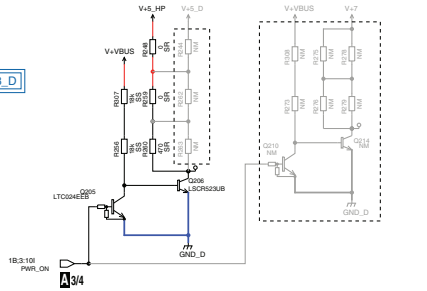
5V FET SW



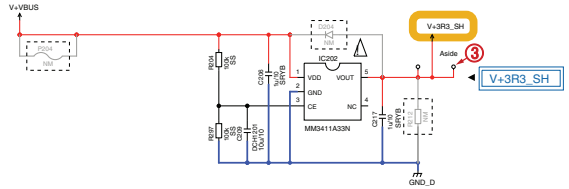
5V to 3.3V REGULATOR



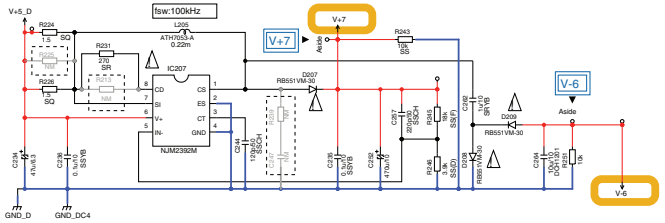
5V DISCHARGE / 7V DISCHARGE



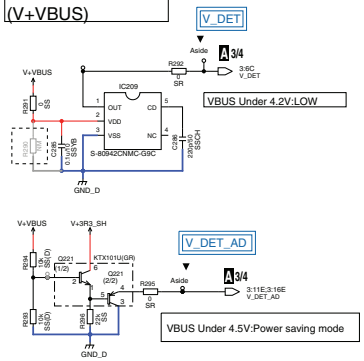
5V to 3.3V REGULATOR for UCOM



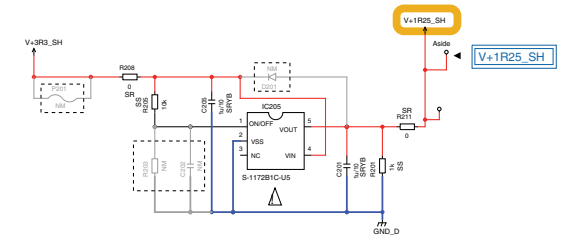
5V to 7V&-6V DC-DC CONVERTER for AUDIO POWER



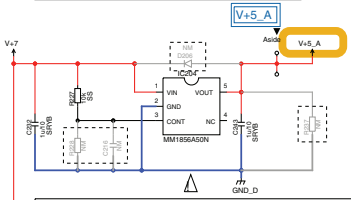
VOLTAGE DETECT (V+VBUS)



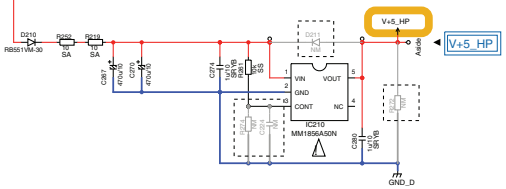
3.3V to 1.25V REGULATOR for UCOM



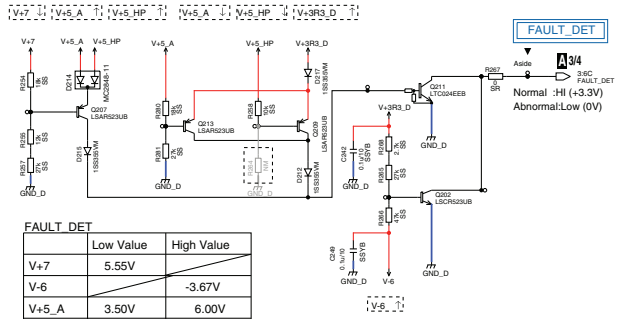
7V to 5V REGULATOR for DAC



7V to 5V REGULATOR for HP POWER



VOLTAGE DETECTION CIRCUIT



FAULT_DET

	Low Value	High Value
V+7	5.55V	
V-6		-3.67V
V+5_A	3.50V	6.00V
V+5_HP	2.10V	6.00V
V+3R3_D		4.20V

▲ 印の部品は、指定部品(安全規格適合部品)を必ず使用すること。
The ▲ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

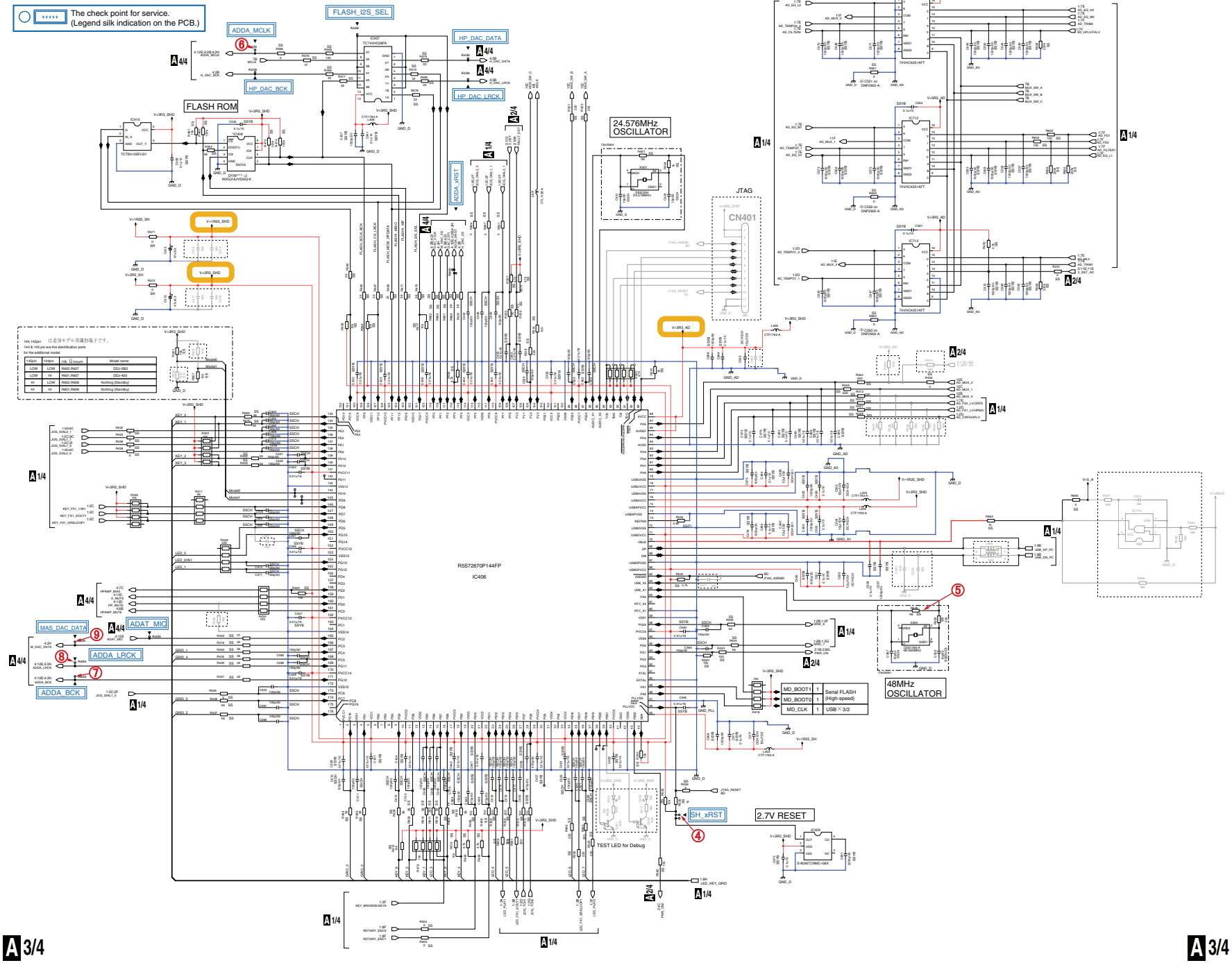
○ ***** The check point for service. (Legend silk indication on the PCB.)

A 2/4

A 3/4 MAIN ASSY (DWX4152)

UCOM BLOCK

The check point for service.
(Legend silk indication on the PCB.)



DDJ-400

A 3/4

A 3/4

AUDIO IN/OUT BLOCK

The check point for service.
(Legend silk indication on the PCB.)

A 4/4 MAIN ASSY (DWX4152)

DDJ-400

HEADPHONES DAC

HEADPHONES AMP

MUTE DRIVE

MIC JACK

MIC AMP1

MIC AMP2

MIC ADC

MASTER DAC

AUDIO AMP & LPF

MASTER OUT JACK

(MIC) MIC Input Signal
(MAS) : Master Output Signal (Lch)
(HP) : Headphone Audio Signal (Lch)

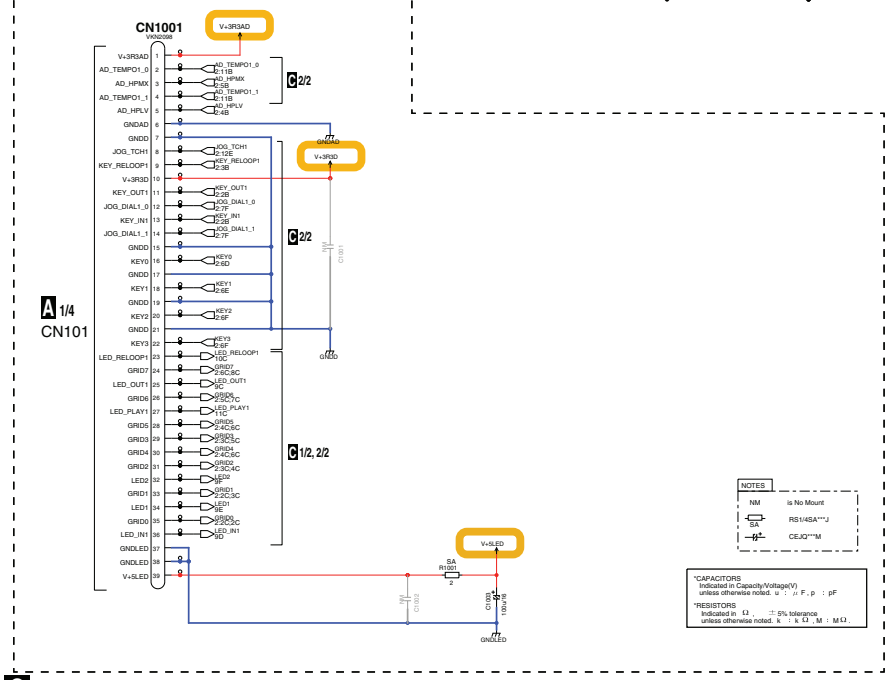
A 4/4

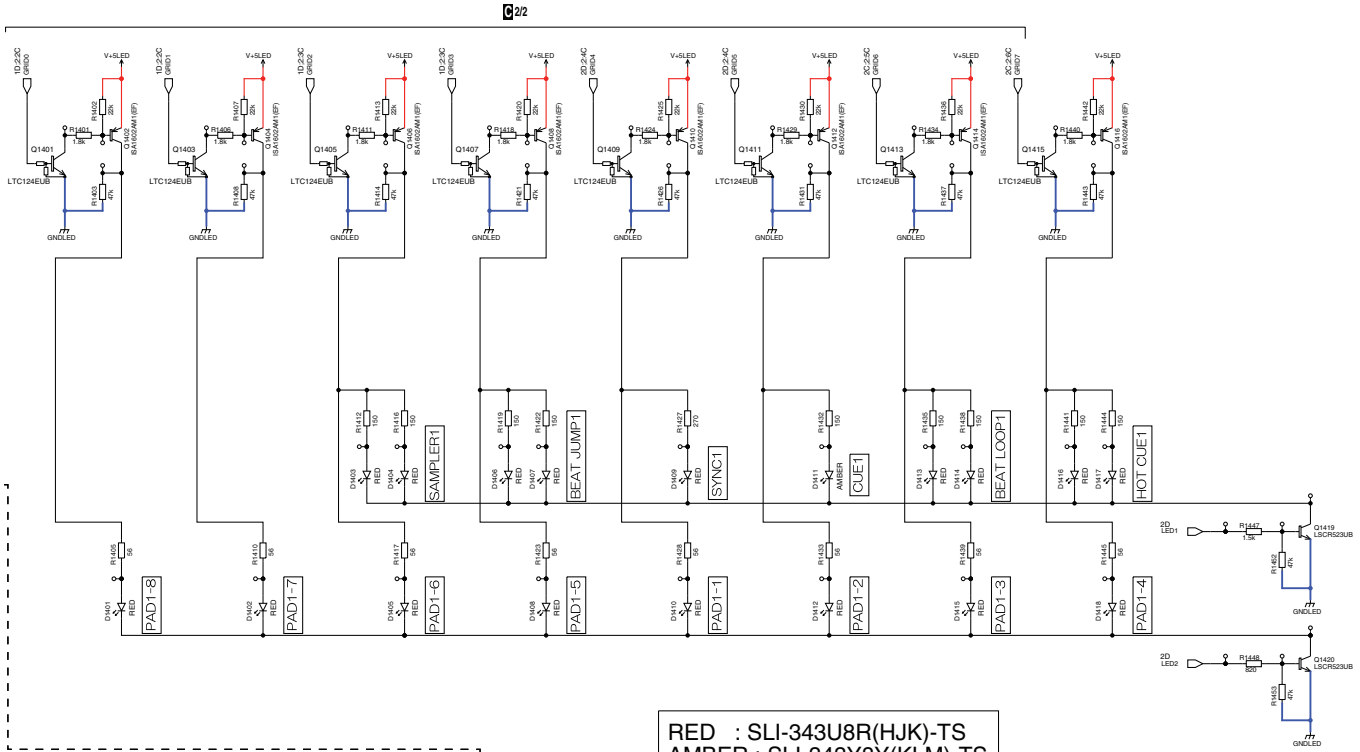
LED BLOCK

C 1/2 DCK1 ASSY (DWX4153)

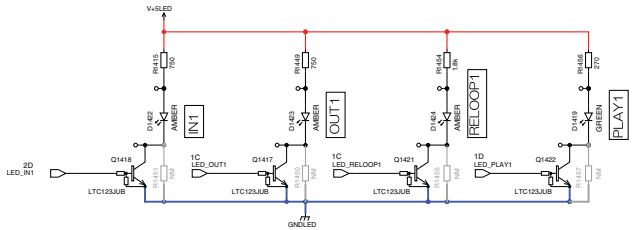
C 2/2

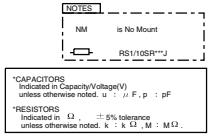
BOARD IF BLOCK





RED : SLI-343U8R(HJK)-TS
AMBER : SLI-343Y8Y(KLM)-TS
GREEN : SLI-343M8G(GHJ)-TS





C 1/2

C 1/2

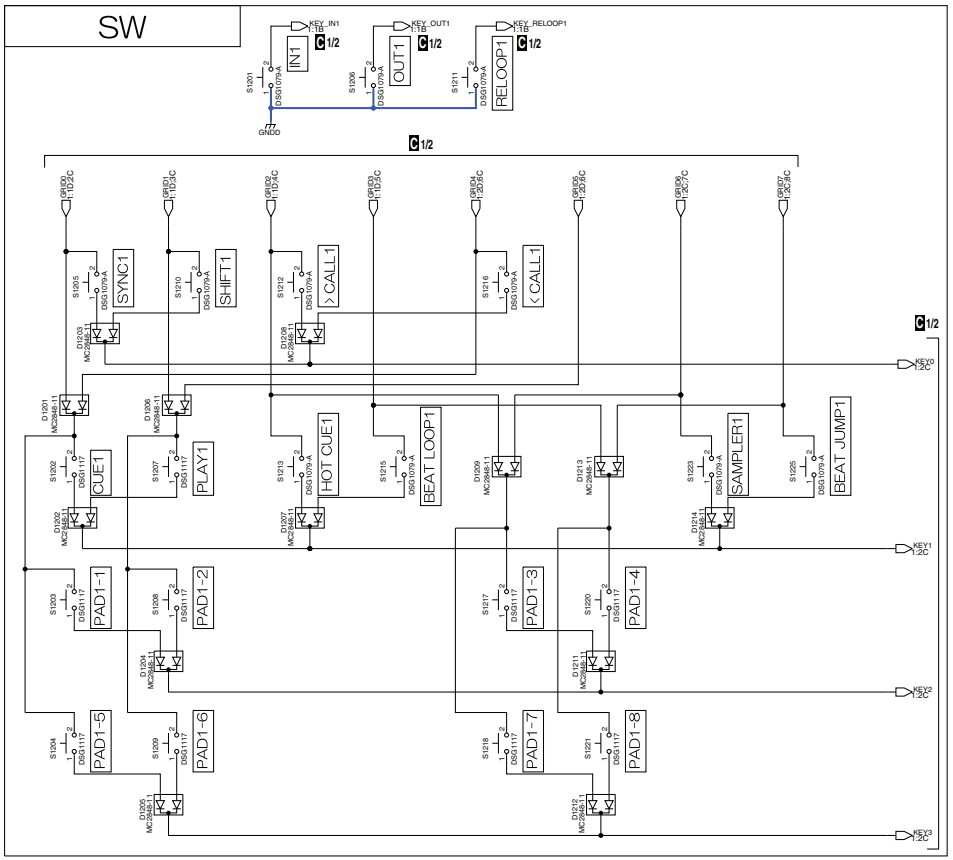
DDJ-400

SW VR JOG BLOCK

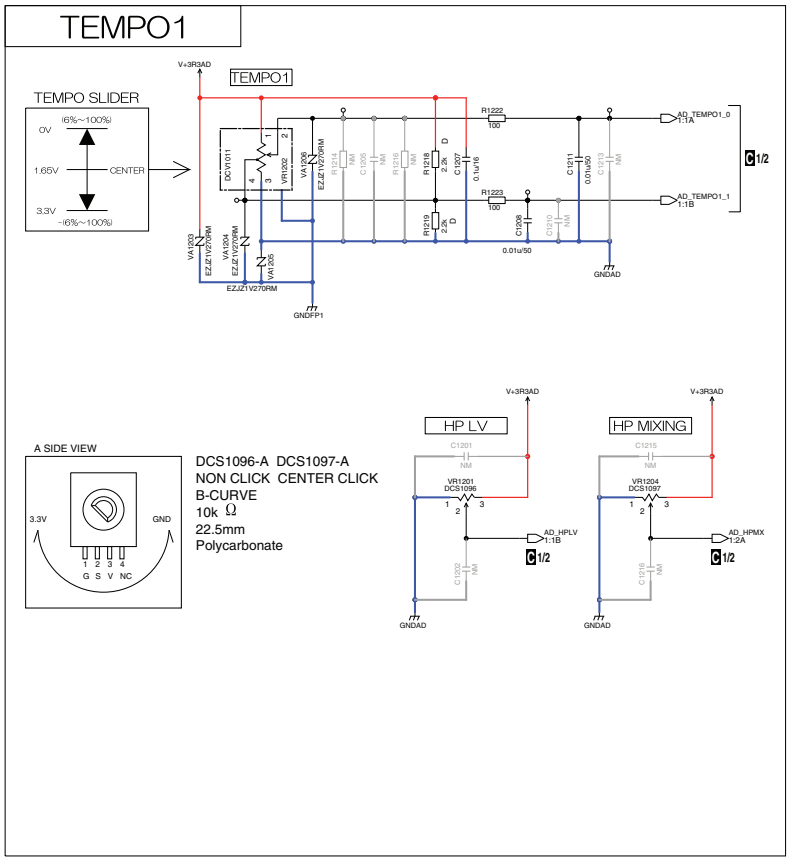
The check point for service.
(Legend silk indication on the PCB.)

C 2/2 DCK1 ASSY (DWX4153)

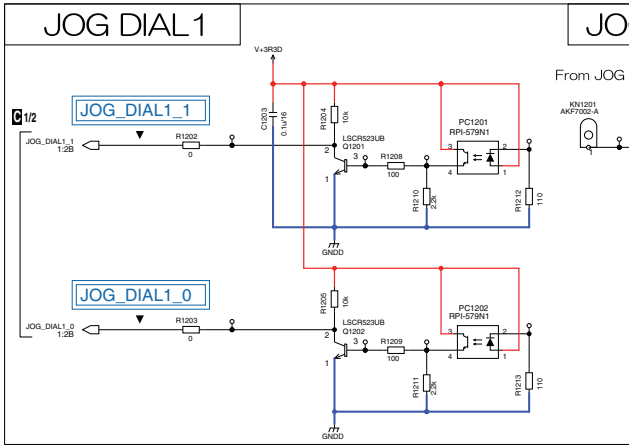
SW



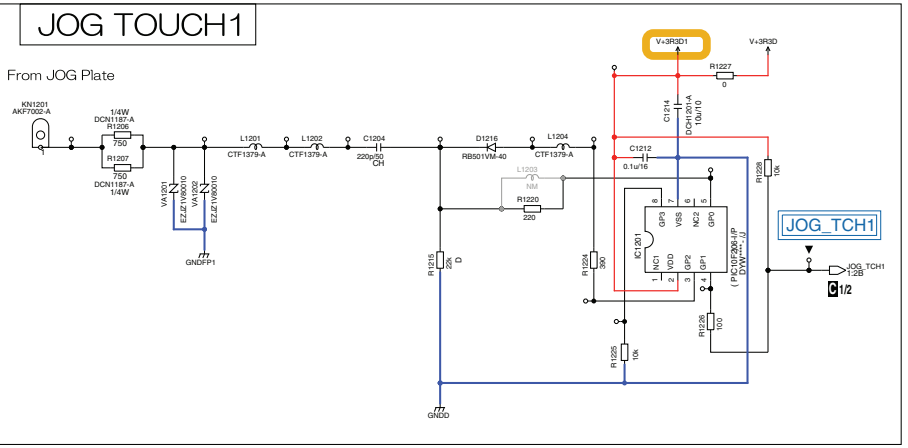
TEMPO1



JOG DIAL1



JOG TOUCH1



NOTES
NM is No Mount
RS1/10SR***J
RS1/10SR***D
CKSRYB***K
CCSRCH***J

*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μ F , p : pF

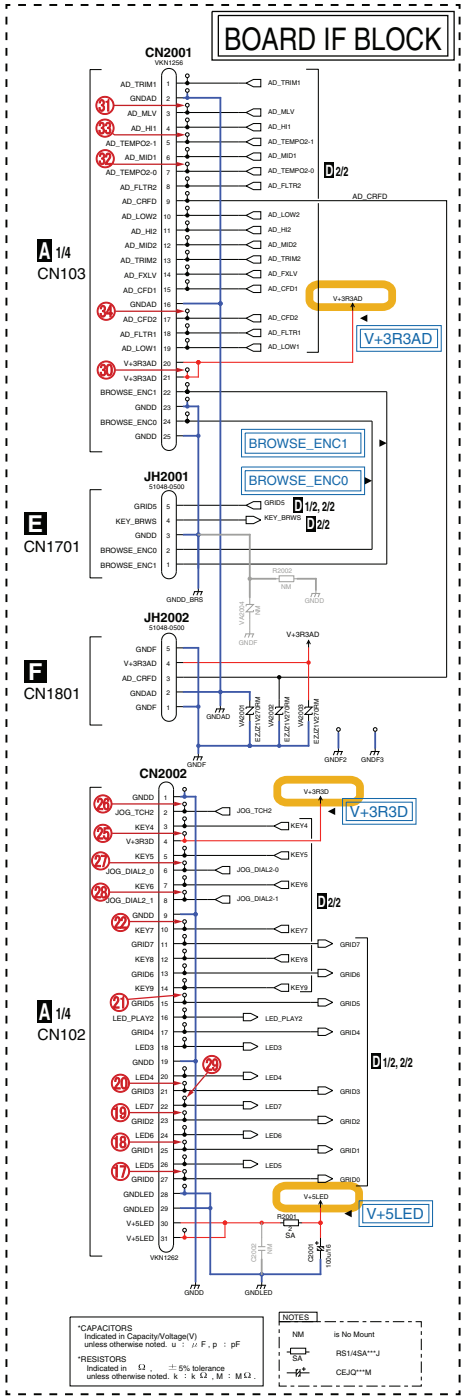
*RESISTORS
Indicated in Ω , : ±5% tolerance
unless otherwise noted. k : k Ω , M : M Ω .

C 2/2

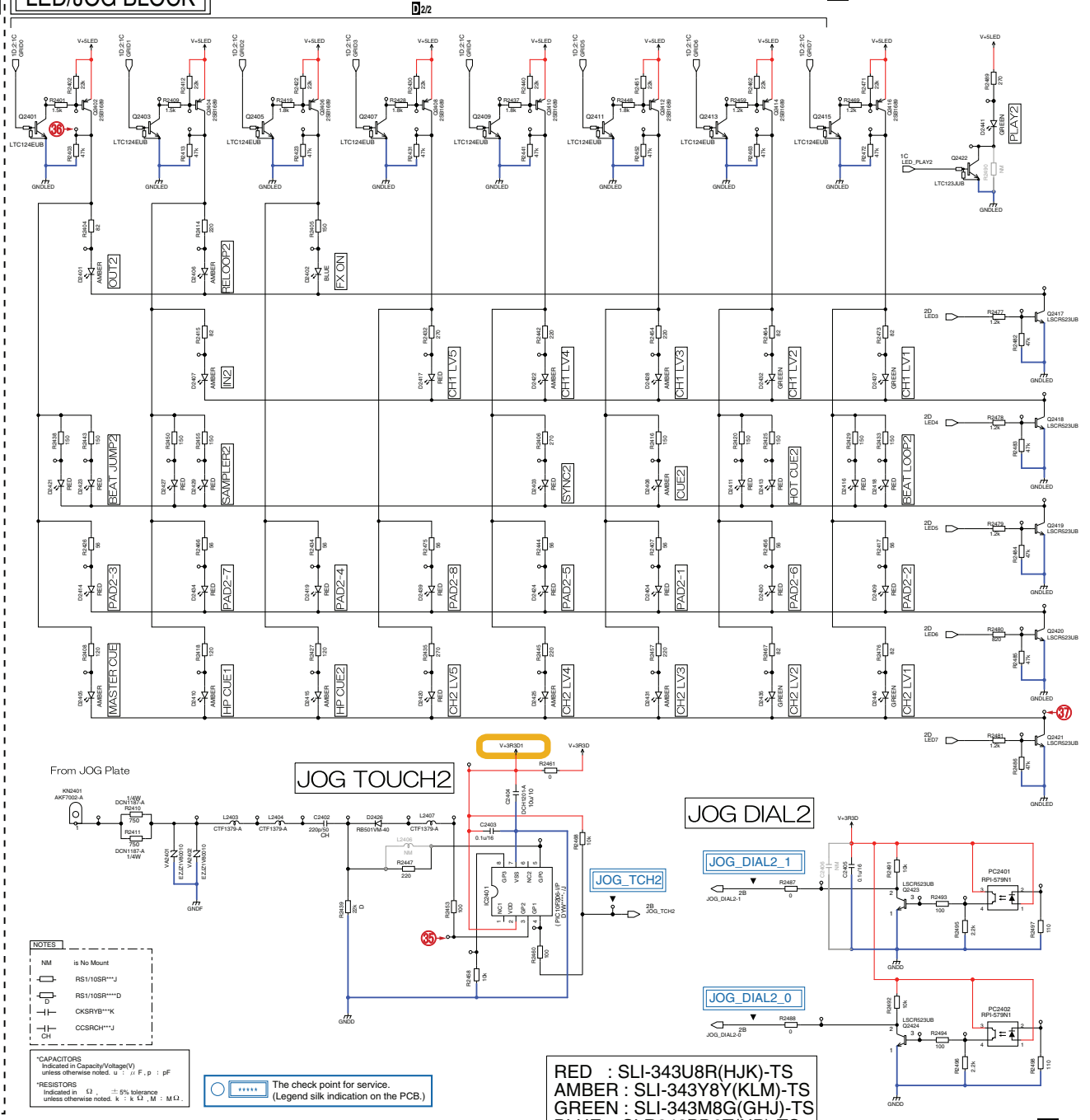
C 2/2

DDJ-400

BOARD IF BLOCK



LED/JOG BLOCK

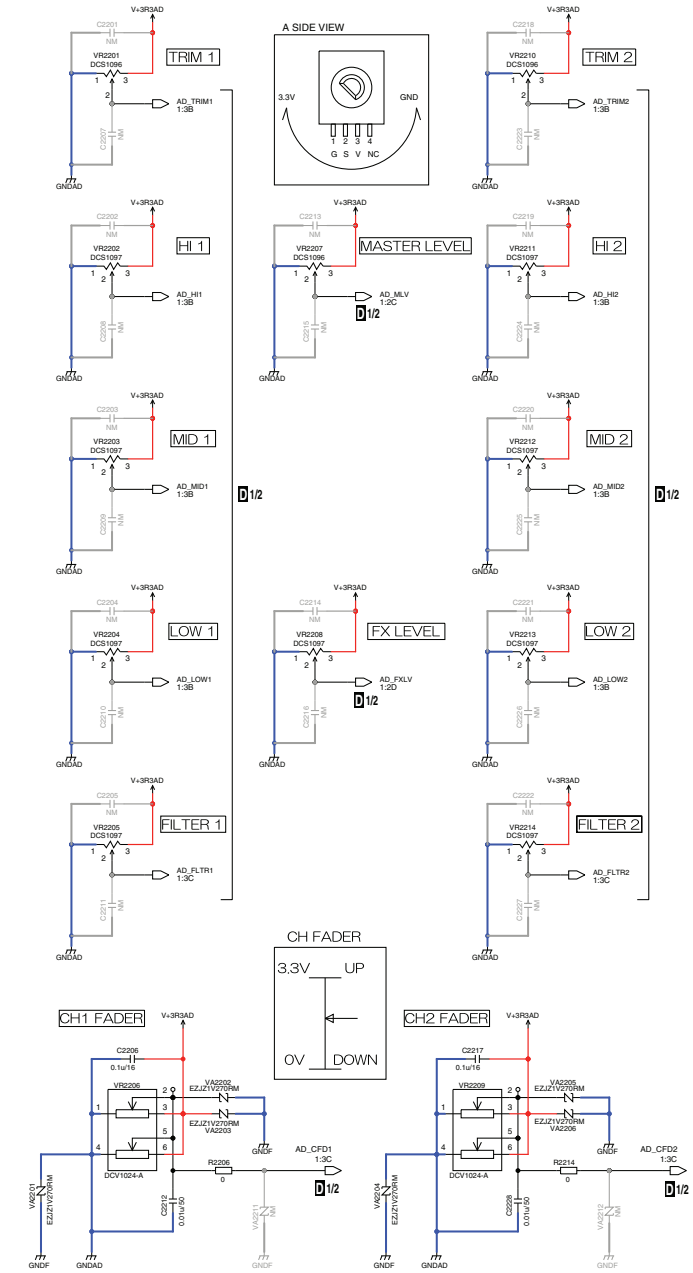


D 1/2 PNL2 ASSY (DWX4154)

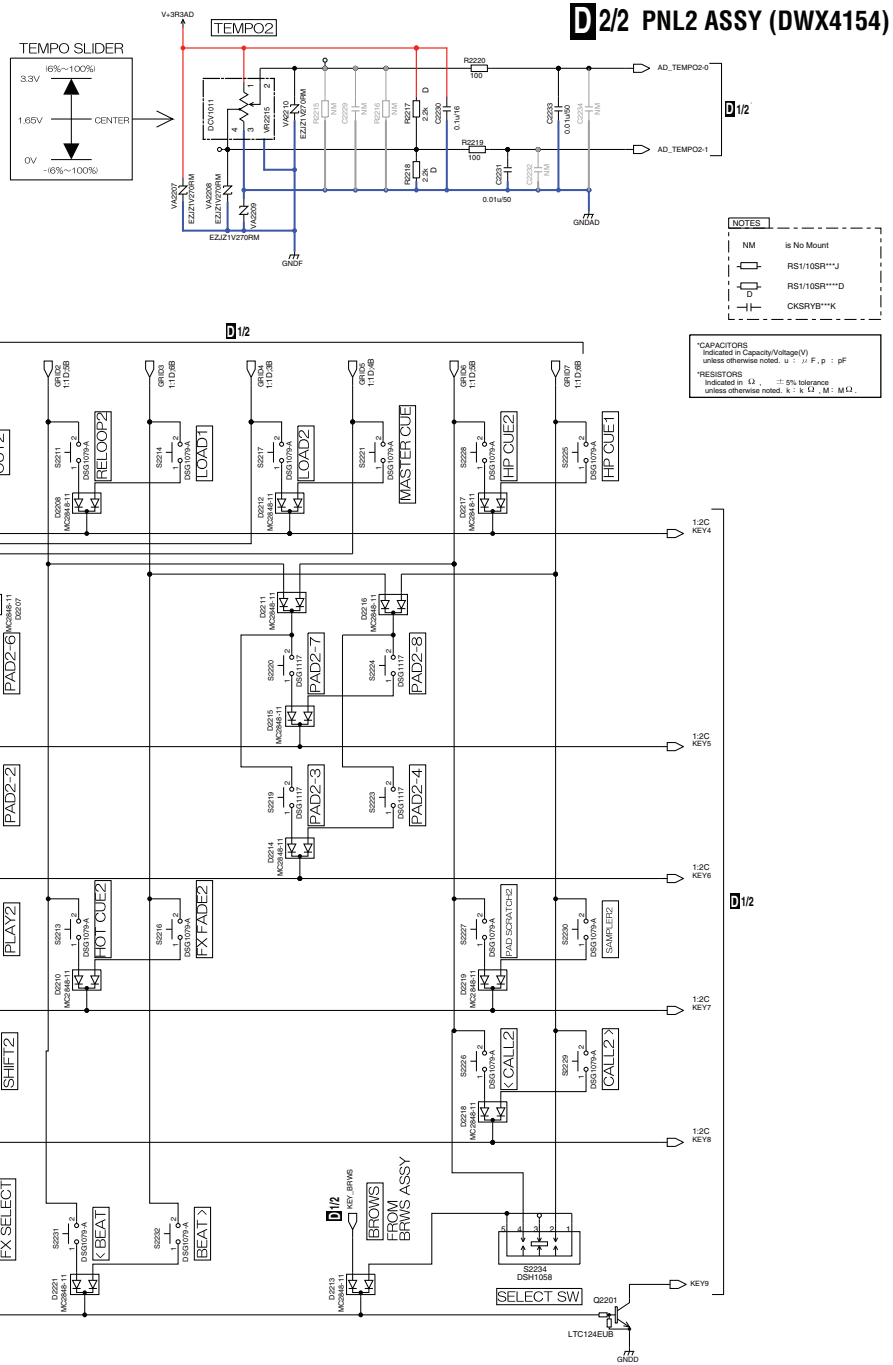
D 1/2

D 1/2

SW/VR BLOCK



D 2/2 PNL2 ASSY (DWX4154)

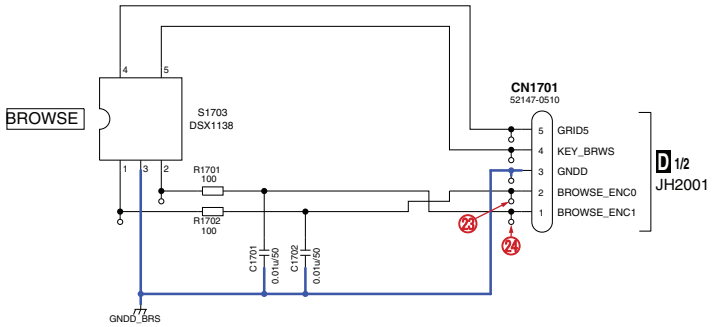


DDJ-400

D 2/2

BRWS BLOCK

E BRWS ASSY (DWX4156)



NOTES

RS1/10SR***J

CKSRYB***K

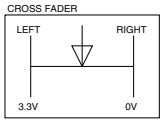
*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μF, p : pF

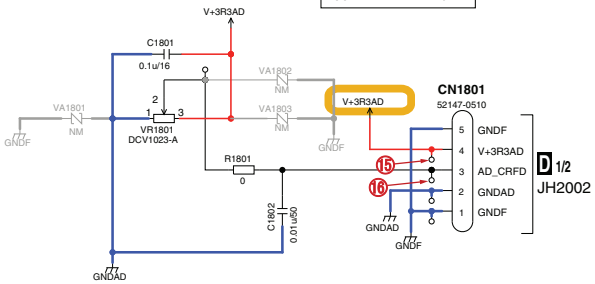
*RESISTORS
Indicated in Ω, ±5% tolerance
unless otherwise noted. k : kΩ, M : MΩ.

CRFD BLOCK

F CRFD ASSY (DWX4157)

CROSS FADER





NOTES

NM is No Mount

RS1/10SR***J

CKSRYB***K

*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μF, p : pF

*RESISTORS
Indicated in Ω, ±5% tolerance
unless otherwise noted. k : kΩ, M : MΩ.

G HLD1 ASSY (DWX4158)

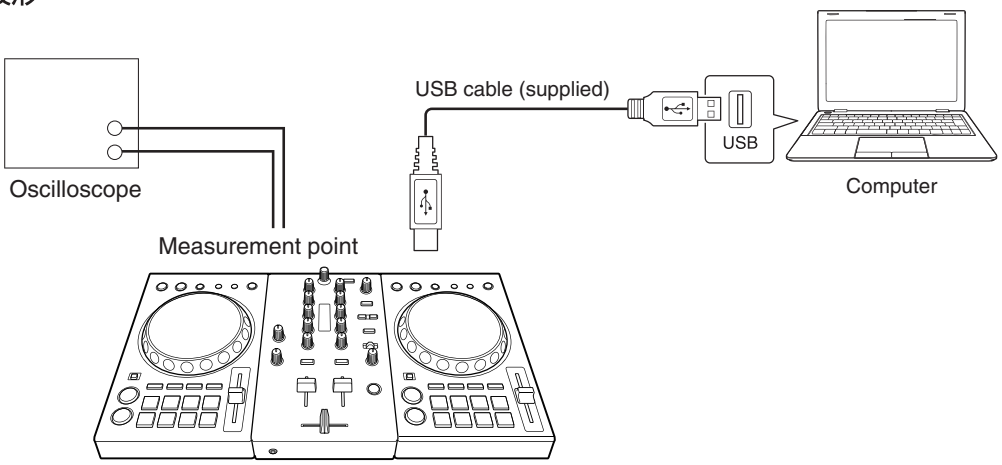
10.11 VOLTAGES / WAVEFORMS

■ Voltage of each part and error circuit expected

■ 各部の電圧と不良箇所

電源名称 Power Supply Name	正常電圧レベル [V] Normal Voltage Level			電圧異常時に予測される不良箇所 Error circuit expected by abnormality voltage
	MIN	TYP	MAX	
V+VBUS	4.75	5	5.25	USB Connection, P101
V+3R3_SH	3.267	3.3	3.63	SH UCOM(IC406), IC202
V+1R25_SH	1.235	1.25	1.265	SH UCOM(IC406), IC205
V+3R3_D	3.267	3.3	3.63	SH UCOM(IC406), ADC(IC708), IC211
V+3R3_AD	3.267	3.3	3.63	VOLUME/FADER CIRCUIT, L408
V+5_D	4.75	5	5.25	LED CIRCUIT, Q203
V+5_LED	4.75	5	5.25	LED CIRCUIT, Q203
V+7	6.87	7	7.16	ANALOG AUDIO CIRCUIT, IC207
V-6	-7	-6.6	-6	ANALOG AUDIO CIRCUIT, IC207
V+5_A	4.9	5	6	SH UCOM(IC406), ADC(IC708), DAC(IC701, IC703), IC204
V+5_HP	4.9	5	6	ANALOG AUDIO CIRCUIT, HEADPHONE AMP(IC706), IC210

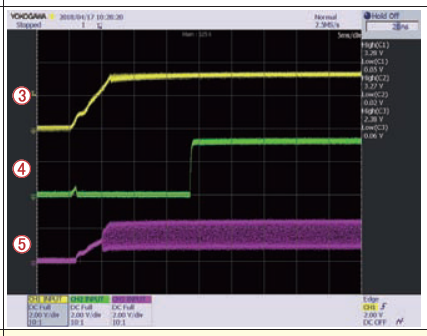
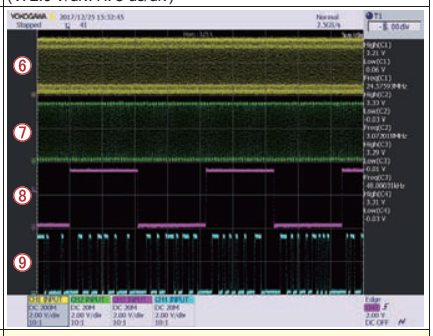
■ Waveform of each part
■ 各部の波形

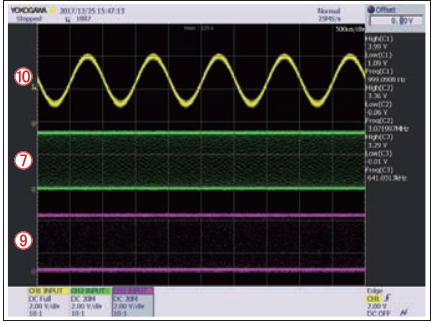
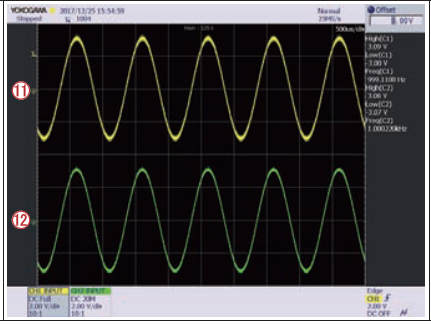
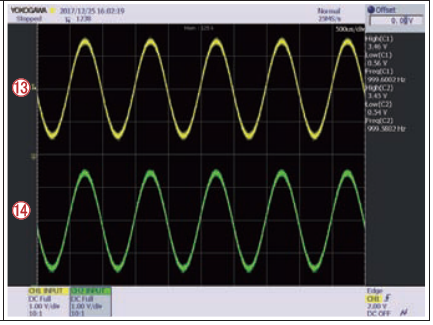


Note:
The indicated voltage values of the oscilloscope in this section are reference values and may vary, depending on the settings of the oscilloscopes and probes.
The numerics circled with a frame denote numbers for the measurement points indicated in the Schematic diagrams and PCB diagrams.

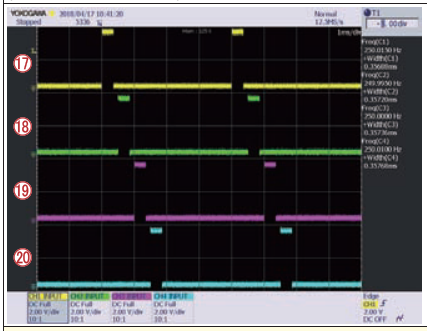
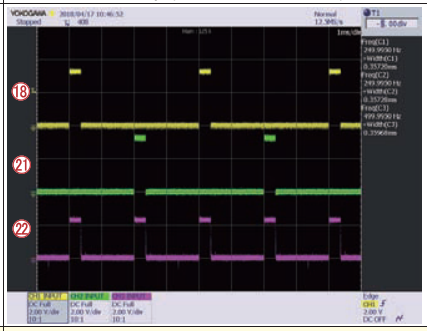
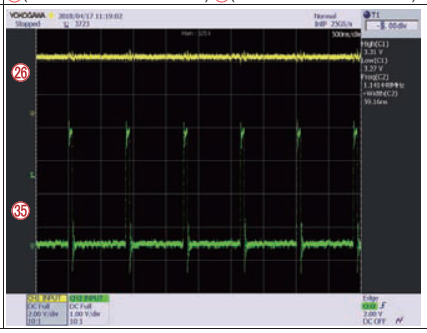
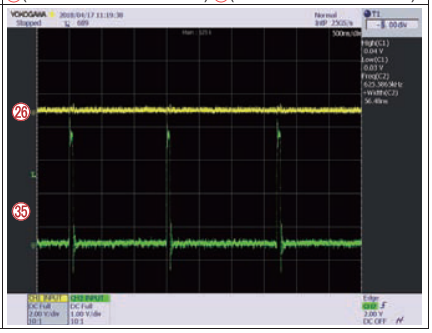
注意：
オシロスコープの表示電圧値は参考値であり、オシロスコープの設定やプローブによって変化します。
◯ で囲まれた数字は回路図及び PCB 図の各測定ポイントの番号を示します。

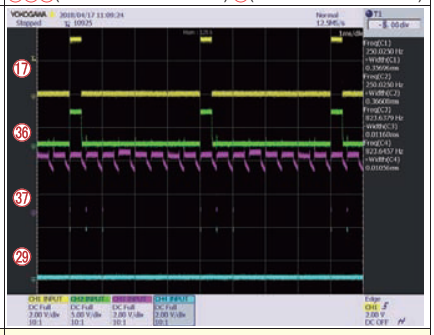
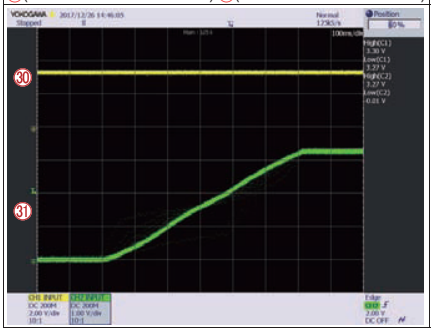
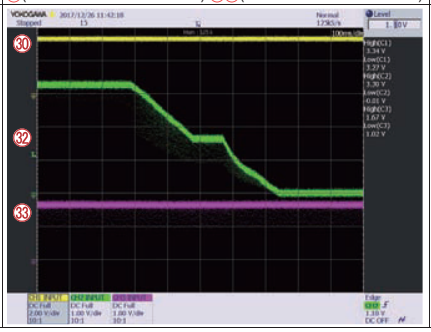
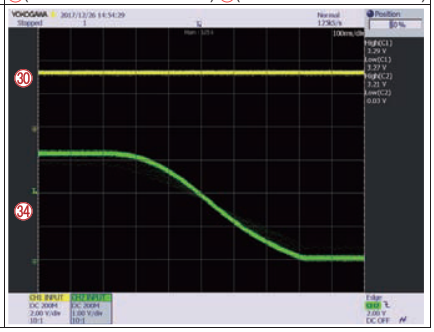
A MAIN ASSY

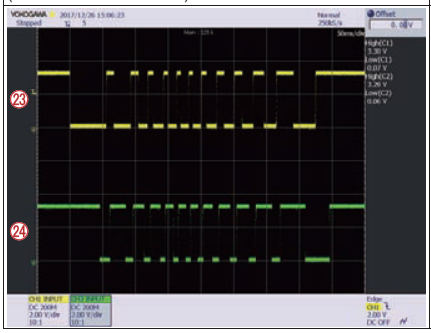
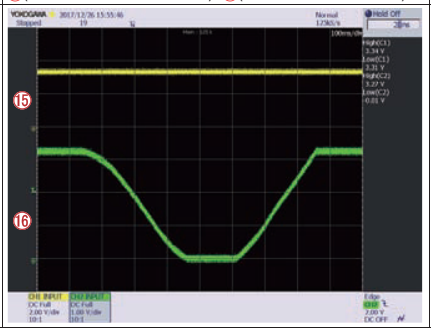
USB DP/DN (1)	MAIN UCOM Start up	DAC I2S (1)
① D124-C (USB_DP) ② D123-C (USB_DN) ① D124-C (USB_DP) ZOOM ② D123-C (USB_DN) ZOOM	③ TP/IC202-Pin 5 (V+3R3_SH) ④ TP/IC409-Pin 1 (SH_xRST) ⑤ R548-R555 (USB_X2)	⑥ TP/IC407-Pin 8 (ADDA_MCLK) ⑦ TP/IC406-Pin 171 (ADDA_BCK) ⑧ TP/IC406-Pin 169 (ADDA_LRCK) ⑨ TP/IC406-Pin 166 (MAS_DAC_DATA)
(V: 2.0 V/div. H: 5 ms/div ZOOM=V: 2.0 V/div. H: 200 us/div)	Mode: Power ON (V: 2.0 V/div. H: 5 ms/div)	Mode: 1 kHz Playback, MASTER output (V: 2.0 V/div. H: 5 us/div)
		

DAC I2S (2)	MASTER OUT	HEADPHONE OUT
⑩ TP/IC703-Pin 11 (MAS_DAC_L) ⑦ TP/IC406-Pin 171 (ADDA_BCK) ⑨ TP/IC406-Pin 166 (MAS_DAC_DATA)	⑪ TP/IC705-Pin 7 (MAS_OUT_L) ⑫ TP/IC705-Pin 1 (MAS_OUT_R)	⑬ TP/IC706-Pin 1 (HP_AMP_L) ⑭ TP/IC706-Pin 7 (HP_AMP_R)
Mode: 1 kHz Playback, MASTER output (V: 2.0 V/div. H: 500 us/div.)	Mode: 1 kHz Playback, MASTER output (V: 2.0 V/div. H: 500 us/div.)	Mode: 1 kHz Playback, HEADPHONE output (V: 1.0 V/div. H: 500 us/div.)
		

D PNL2 ASSY

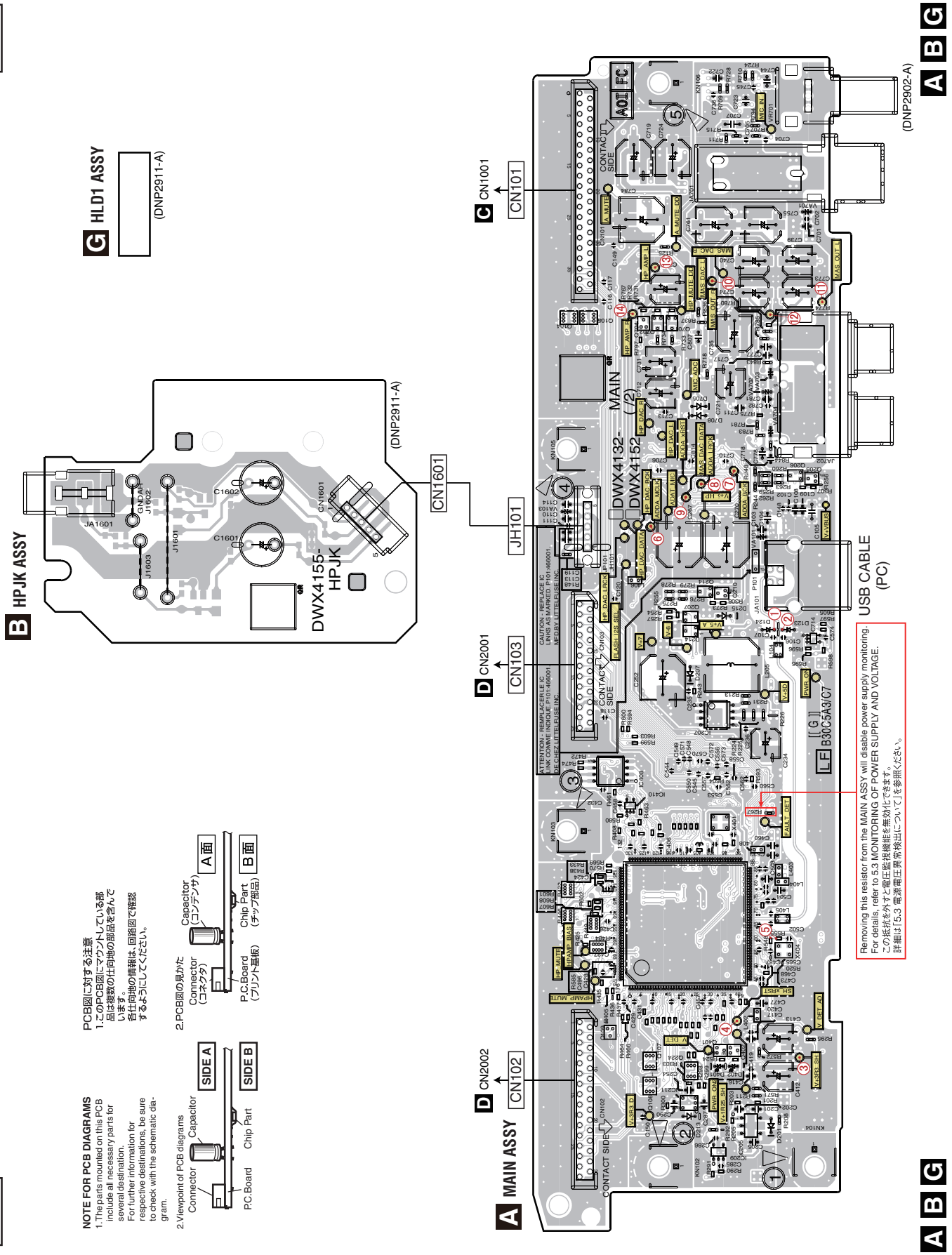
GRID Control	KEY Operation (CH2 Play)	
⑰ **TP/CN2002-Pin 27 (GRID0)** ⑱ **TP/CN2002-Pin 25 (GRID1)** ⑲ **TP/CN2002-Pin 23 (GRID2)** ⑳ **TP/CN2002-Pin 21 (GRID3)**	⑱ **TP/CN2002-Pin 25 (GRID1)** ㉑ **TP/CN2002-Pin 15 (GRID5)** ㉒ **TP/CN2002-Pin 10 (KEY7)**	
(V: 2.0 V/div. H: 1 ms/div.)	Mode: Push PLAY Key (V: 2.0 V/div. H: 1 ms/div.)	
		
Jog Touch Operation (CH2)	**Jog Touch Operation (CH2)**	**Jog Touch Operation (CH2)**
㉕ **TP/CN2002-Pin 4 (V+3R3D)** ㉖ **TP/CN2002-Pin 2 (JOG_TCH2)**	㉖ **TP/CN2002-Pin 2 (JOG_TCH2)** ㉟ **TP/IC2401-Pin 3 (Freq.)** Freq.: 1.0-1.2MHz	㉖ **TP/CN2002-Pin 2 (JOG_TCH2)** ㉟ **TP/IC2401-Pin 3 (Freq.)** Freq.: 0.3 -0.8MHz
Mode: Operate Jog Touch (RELEASE -> TOUCH -> RELEASE) ㉕(V: 2.0 V/div. H: 100 ms/div.) ㉖(V: 1.0 V/div. H: 100 ms/div.)	Mode: Operate Jog Touch (RELEASE) ㉖(V: 2.0 V/div. H: 500 ns/div.) ㉟(V: 1.0 V/div. H: 500 ns/div.)	Mode: Operate Jog Touch (Touch) ㉖(V: 2.0 V/div. H: 500 ns/div.) ㉟(V: 1.0 V/div. H: 500 ns/div.)
		

Jog Dial Operation (CH2)	LED Drive (Master Cue)	LED Drive (Master Cue)
㉗ TP/CN2002-Pin 6 (JOG_DIAL2-0) ㉘ TP/CN2002-Pin 8 (JOG_DIAL2-1) ㉗ TP/CN2002-Pin 6 (JOG_DIAL2-0) ZOOM ㉘ TP/CN2002-Pin 8 (JOG_DIAL2-1) ZOOM	⑰ TP/CN2002-Pin 27 (GRID0) ㊱ TP/Q2402-C (V+5LED_GRID0) ㊲ TP/Q2421-C (GNDLED_LED7) ㉙ TP/CN2002-Pin 22 (LED7)	⑰ TP/CN2002-Pin 27 (GRID0) ㊱ TP/Q2402-C (V+5LED_GRID0) ㊲ TP/Q2421-C (GNDLED_LED7) ㉙ TP/CN2002-Pin 22 (LED7)
Mode: Operate Jog Dial (STOP -> DIAL -> STOP) (V: 2.0 V/div. H: 50 ms/div. ZOOM=V: 2.0 V/div. H: 5 ms/div)	Mode: Push Master Cue KEY (light) ⑰㊲㉙(V: 2.0 V/div. H: 1 ms/div.) ㊱(V: 5.0 V/div. H: 1 ms/div.)	Mode: Push Master Cue KEY (dark light) ⑰㊲㉙(V: 2.0 V/div. H: 1 ms/div.) ㊱(V: 5.0 V/div. H: 1 ms/div.)
		
Volume Operation (Master Level)	**TEMPO Slider Operation (CH2)**	**CH Fader Operation (CH2)**
㉚ TP/CN2001-Pin 21 (V+3R3AD) ㉛ TP/CN2001-Pin 3 (AD_MLV)	㉚ TP/CN2001-Pin 21 (V+3R3AD) ㉜ TP/CN2001-Pin 7 (AD_TEMPO2-0) ㉝ TP/CN2001-Pin 5 (AD_TEMPO2-1)	㉚ TP/CN2001-Pin 21 (V+3R3AD) ㉞ TP/CN2001-Pin 17 (AD_CFD2)
Mode : Operate Master Level (MIN -> MAX) ㉚(V: 2.0 V/div. H: 100 ms/div.) ㉛(V: 1.0 V/div. H: 100 ms/div.)	Mode : Operate TEMPO Slider (UP -> DOWN) ㉚(V: 2.0 V/div. H: 100 ms/div.) ㉜㉝(V: 1.0 V/div. H: 100 ms/div.)	Mode : Operate CH2 Fader (UP -> DOWN) ㉚(V: 2.0 V/div. H: 100 ms/div.) ㉞(V: 1.0 V/div. H: 100 ms/div.)
		

E BRWS ASSY	F CRFD ASSY	
Rotary Selector Operation (BROWSE)	**CROSS Fader Operation**	
㉓ TP/CN1701-Pin 2 (BROWSE_ENC0) ㉔ TP/CN1701-Pin 1 (BROWSE_ENC1)	⑮ TP/CN1801-Pin 4 (V+3R3AD) ⑯ TP/CN1801-Pin 3 (AD_CRFD)	
Mode: Rotate BROWSE ENCORDER (V: 2.0 V/div H: 50 ms/div)	Mode: Operate CROSS Fader (RIGHT -> LEFT -> RIGHT) ⑮(V: 2.0 V/div H: 100 ms/div) ⑯(1.0 V/div H: 100 ms/div)	
		

11. PCB CONNECTION DIAGRAM

11.1 MAIN ASSY, HPJK ASSY and HLD1 ASSY



11. PCB CONNECTION DIAGRAM

SIDE A

NOTE FOR PCB DIAGRAMS

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

2.Viewpoint of PCB diagrams

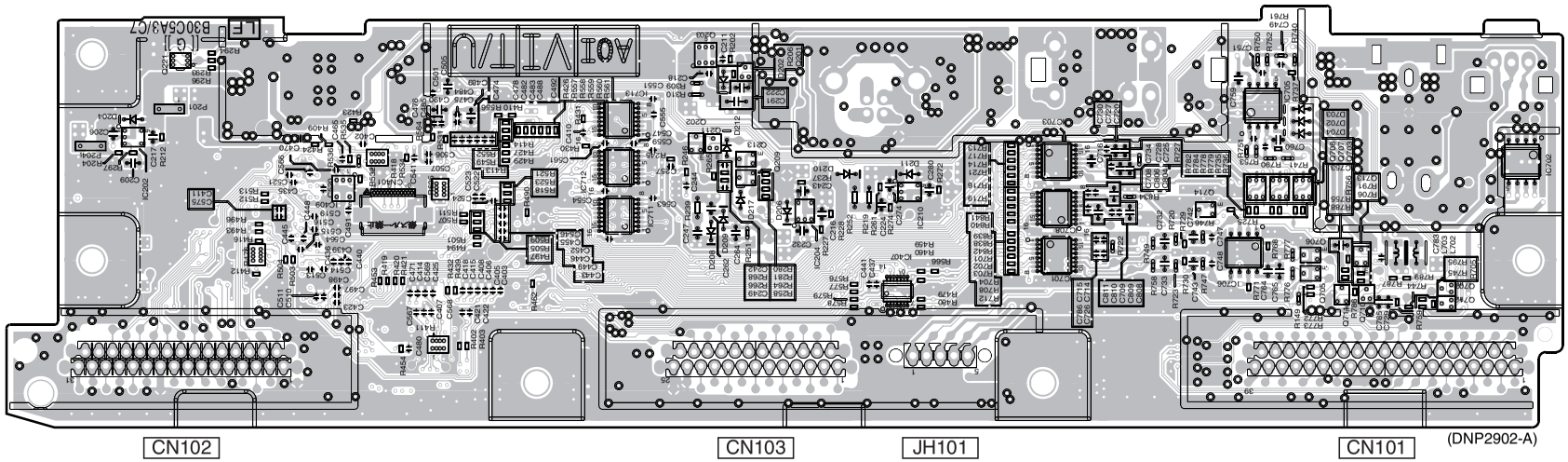
PCB図に対する注意

1.このPCB図にマウントしている部品は複数の仕向地の部品を含んでいます。
各仕向地の情報は、回路図で確認するようにしてください。

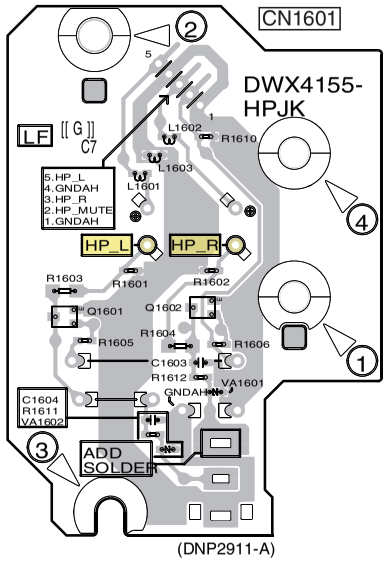
2.PCB図の見かた

SIDE B

A MAIN ASSY



B HPJK ASSY

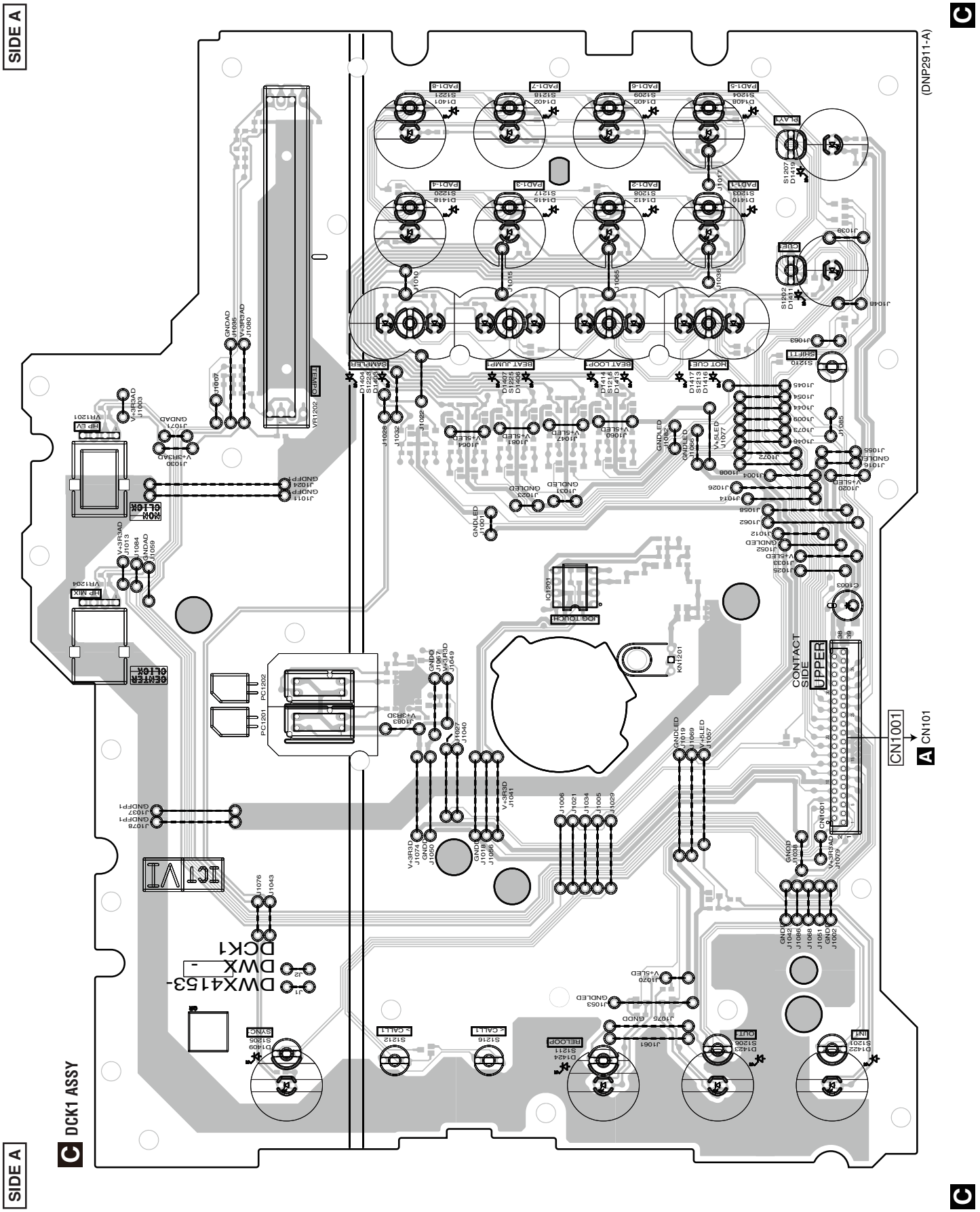


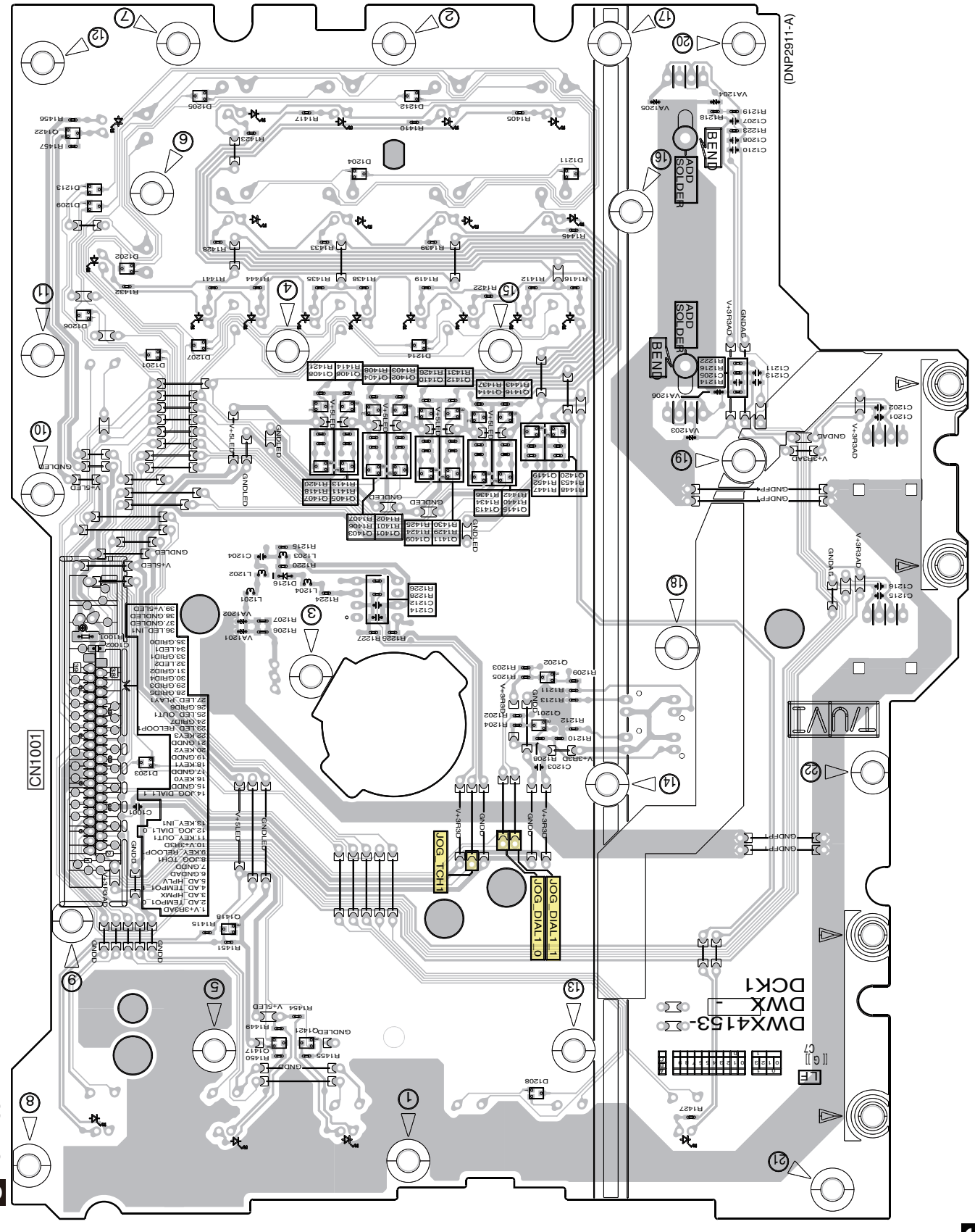
G HLD1 ASSY

(DNP2911-A)

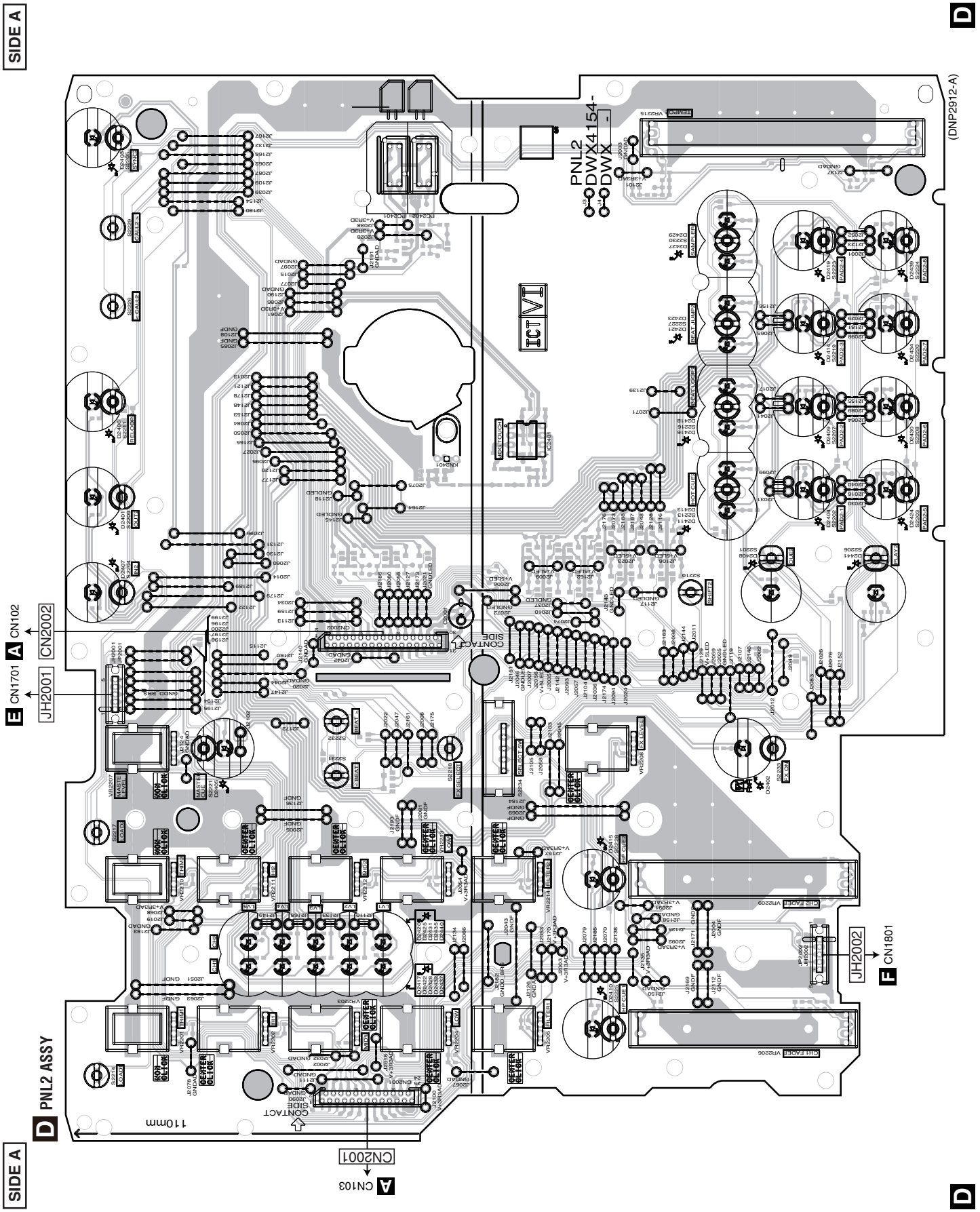
A B G

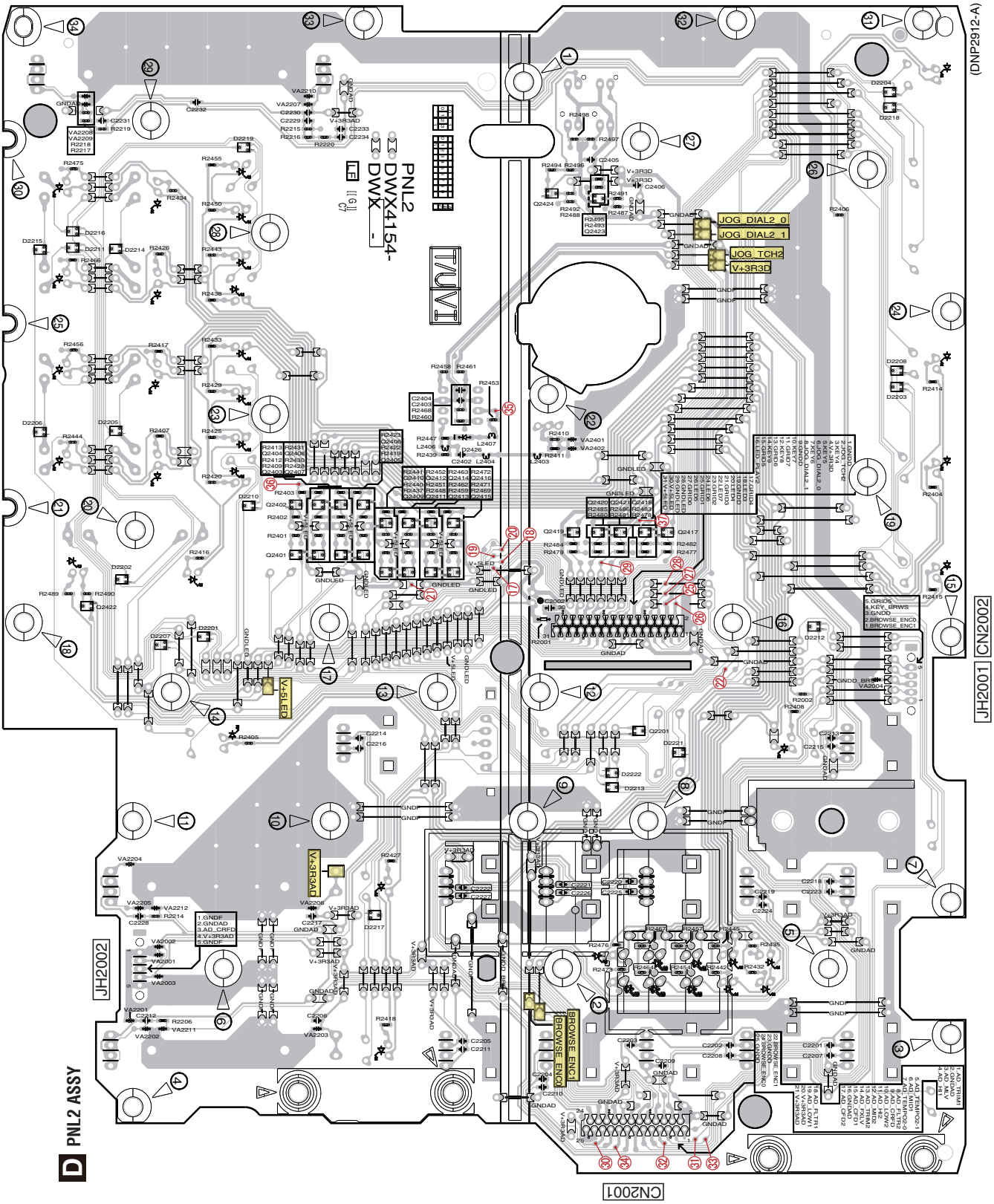
11.2 DCK1 ASSY



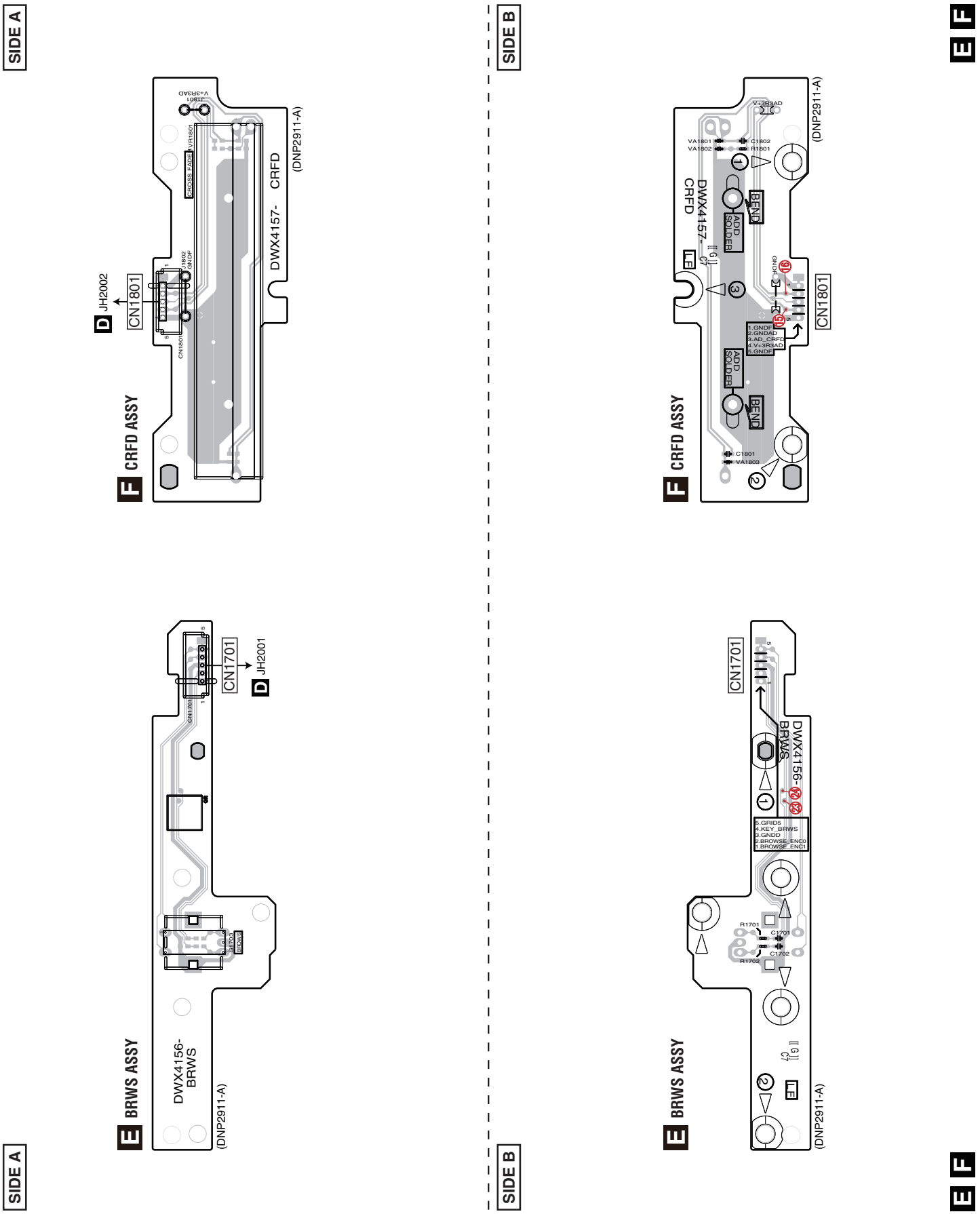

DCK1 ASSY
SIDE B
DWX4153-
DWX
DCK1
CN1001
(DNP2911-A)
ADD SOLDER
BEND
JOG_TCH1
JOG_DIAL1_0
JOG_DIAL1_1
TUVI

11.3 PNL2 ASSY




PNL2
DWX4154-
DWX
(DNP2912-A)
PNL2 ASSY
JH2002
JH2001
CN2002
CN2001
JOG_DIAL2_0
JOG_DIAL2_1
JOG_TCH2
V+3R3D
V-SLED
BROWSE_ENC1
BROWSE_ENC2

11.4 BRWS ASSY and CRFD ASSY



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.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 ····· RD1/4PU 5 6 1 J
47 kΩ → 47 × 10³ → 473 ····· RD1/4PU 4 7 3 J
0.5 Ω → R50 ····· RN2H R 5 0 K
1 Ω → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10¹ → 5621 ····· RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

		1..MAIN ASSY	DWX4152
NSP		1..PNL1 ASSY	DWM2684
		2..DCK1 ASSY	DWX4153
		2..HPJK ASSY	DWX4155
		2..BRWS ASSY	DWX4156
		2..CRFD ASSY	DWX4157
		2..HLD1 ASSY	DWX4158
		1..PNL2 ASSY	DWX4154

Mark	No.	Description	Part No.

A

Unit Number: DWX4152
Unit Name: MAIN ASSY

SEMICONDUCTORS

⚠	IC	202,211 Regulator IC	MM3411A33N
⚠	IC	204,210 Regulator IC	MM1856A50N
⚠	IC	205 Regulator IC	S-1172B1C-U5
⚠	IC	207 DC-DC Converter IC	NJM2392M
	IC	209 IC	S-80942CNMC-G9C
	IC	406 Flash Blank UC IC	R5S72670P144FP
	IC	407 IC	TC74VHC08FK
	IC	408 Flash ROM	DYW2102*
		*Part number of the initial firmware equipped	
	IC	409 IC	S-80927CNMC-G8X
	IC	410 Buffer Logic IC	TC7SH126FUS1
	IC	701,703 Audio DAC	AK4387ET
	IC	702 Dual OP-AMP	NJM4565MD
	IC	705 IC	NJM4580MD
	IC	706 Headphone AMP IC	BH3547F
	IC	708 AD Converter IC	AK5358AET
	IC	711,712,713 Logic IC	74VHC4051AFT
	Q	104,105 Resistor Built-IN TR	RN1903S1
	Q	107,108 Resistor Built-IN TR	RN1903S1
	Q	109,201 Resistor Built-IN TR	LTC024EEB
	Q	202,206,705,706 Bipolar TR	LSCR523UB
⚠	Q	203 FET	RTQ040P02
	Q	205,211 Resistor Built-IN TR	LTC024EEB
	Q	207,209,213,713 Bipolar TR	LSAR523UB
	Q	221 Transistor	KTX101U
	Q	224 Resistor Built-IN TR	RN1903S1

Mark	No.	Description	Part No.
	Q	704,710 Resistor Built-IN TR	LTC024EEB
	Q	707,708 Transistor	IMX9
	Q	709,712 Resistor Built-IN TR	LTA024EEB
	Q	711 Bipolar TR	LSCR523UB
	D	202,212,215 Switching Diode	1SS355VM
⚠	D	207,208,209 Schottky Diode	RB551VM-30
	D	210 Schottky Diode	RB551VM-30
	D	214 Diode	MC2848-11
	D	217,702,704 Switching Diode	1SS355VM
	D	705,708 Schottky Diode	RB501VM-40

MISCELLANEOUS

	L	104 Coil	ATH7015
	L	205 Power Inductor	ATH7053
	L	401 Chip Beads	VTL1129
	L	402,403,404,406,408 Inductor	CTF1793
	X	401 Crystal(24.576MHz)	DSS1204
	X	404 Resonator	CSS1760
	JH	101 5P Cable Holder	51048-0500
	JP	101 Jumper Wire	D20PDY0520E
⚠	P	101 Protector(1.000A)	DEK1097
	VA	103,701,702,703 Varistors	EZJZ1V270RM
	VA	704 Varistors	EZJZ1V270RM
	VR	701 Potentiometer	DCS1111
	CN	101 39P Connector	VKN2097
	CN	102 31P Connector	VKN1262
	CN	103 25P Connector	VKN1256
	JA	101 USB Connector	DKN1237
	JA	701 6.5 DIA Jack	DKN1669
	JA	702 Pin Jack(2P)	AKB7181

RESISTORS

	R	125	RS1/10SR102J
	R	201	RS1/16SS102J
	R	202,205,227,243,258,261	RS1/16SS103J
	R	204,206	RS1/16SS104J
	R	208,211,248,259,267,292	RS1/10SR0R0J
	R	219,252	RS1/4SA100J
	R	224,226	RS1/8SQ1R5J
	R	231	RS1/10SR271J
	R	245	RS1/16SS1802F
	R	246	RS1/16SS3901D
	R	251	RS1/10SR103J
	R	254,256,280,307	RS1/16SS183J
	R	255	RS1/16SS123J
	R	257,265,281	RS1/16SS273J

Mark	No.	Description	Part No.
	R	260	RS1/10SR471J
	R	266	RS1/16SS473J
	R	268	RS1/16SS272J
	R	291,405	RS1/16SS0R0J
	R	293,294	RS1/16SS1002D
	R	295,309	RS1/10SR0R0J
	R	296	RS1/16SS223J
	R	297	RS1/16SS104J
	R	298,299,301,302	RS1/16SS472J
	R	303,408,412,416,425	RS1/16SS103J
	R	401	RS1/16SS105J
	R	402,403,406,409,415,424	RS1/16SS560J
	R	404	RS1/16SS102J
	R	411	RAB4CQ560J
	R	413,414,427,429,450	RS1/16SS221J
	R	418,422,446	RAB4CQ103J
	R	419,420,421,460	RS1/16SS220J
	R	423,459	RS1/16SS101J
	R	426,431,432,433,438,439	RS1/16SS0R0J
	R	430	RS1/16SS472J
	R	434	RAB4CQ101J
	R	435,436,437,454,463,464	RS1/16SS560J
	R	449	RAB4CQ221J
	R	453	RS1/16SS470J
	R	461,477	RS1/16SS103J
	R	462,472,474	RS1/16SS104J
	R	465,467,469	RS1/16SS330J
	R	466,471,475,482,485,487	RS1/16SS560J
	R	476	RAB4CQ103J
	R	479,480	RS1/16SS220J
	R	488,489,491	RS1/16SS560J
	R	490,493,496,507,511	RS1/16SS472J
	R	492,499,506,518,521,522	RS1/16SS221J
	R	494,497,501,503,504,566	RS1/16SS0R0J
	R	495,498,505,509,512,513	RS1/16SS101J
	R	514,582	RS1/16SS101J
	R	520,530,532,586	RS1/16SS103J
	R	523,549,552,591,592	RS1/16SS221J
	R	525	RAB4CQ472J
	R	531,535,564	RS1/16SS102J
	R	533	RS1/16SS5601F
	R	534	RS1/16SS472J
	R	536,571,572	RS1/10SR0R0J
	R	548	RS1/16SS105J
	R	555	RS1/16SS331J
	R	569,570,580,609,610,612	RS1/16SS560J
	R	576,701,702,703,704	RS1/16SS470J
	R	577,578,579	RS1/16SS330J
	R	593,594,599,600	RS1/16SS224J
	R	601,607	RS1/16SS103J
	R	603,604,708,716	RS1/16SS101J
	R	605,651,659,663	RS1/16SS0R0J
	R	606,611	RS1/16SS221J
	R	706,737,738,744,745	RS1/16SS473J
	R	707	RS1/10SR1501D
	R	709	RS1/10SR6802D
	R	710	RS1/10SR1801D
	R	711,752,753	RS1/10SR3301D
	R	713,714,717,721	RS1/16SS470J
	R	715,720,723,761	RS1/10SR0R0J
	R	722,727	RS1/10SR100J
	R	724	RS1/10SR9101D
	R	728	RS1/10SR7500D
	R	729,730,755,767,778,779	RS1/16SS103J
	R	740,741	RS1/10SR4701D
	R	746,747	RS1/10SR271J
	R	750,751	RS1/10SR1002D
	R	756	RS1/16SS104J
	R	768,771	RS1/16SS472J
	R	772,773,791	RS1/16SS223J
	R	774,775,786,787,788,789	RS1/16SS473J
	R	776,777	RS1/10SR471J
	R	780,781,783,785	RS1/10SR331J
	R	782,784,795	RS1/16SS103J
	R	790	RS1/10SR0R0J
	R	794	RS1/10SR3301D
	R	797	RS1/16SS0R0J
	R	836	RS1/10SR1001D
	R	837	RS1/10SR7500D
	R	838,839,840	RS1/16SS470J
	R	841	RS1/16SS220J
	R	842	RS1/16SS101J
	R	843,844	RS1/10SR330J

CAPACITORS

	C	102	CKSSYB103K16
	C	104,209,264	DCH1201
	C	108	CKSRYB104K16
	C	109,201,205,206,217,232	CKSRYB105K10
	C	118,120	CKSSYB102K50
	C	148,402,403,405	CCSSCH101J50
	C	211	DCH1266
	C	218,235,236,242,249,285	CKSSYB104K10
	C	234,412,413	CEVW470M6R3
	C	243,254,262,274,280,287	CKSRYB105K10
	C	244	CCSSCH121J50
	C	252,267,270	CEVW471M10
	C	257,286,425	CCSSCH221J50
	C	290	CKSRYB105K10
	C	401,404	CCSSCH120J50
	C	406,407,408,411,414,415	CCSSCH101J50
	C	410,437	CKSSYB102K50
	C	418,421,422,423,435,436	CCSSCH101J50
	C	424,426,427,428,429,430	CKSSYB103K16
	C	431,433,434,438,442,444	CKSSYB103K16
	C	432,441,458,469,470	CKSSYB104K10
	C	439,443,446,449,471	CCSSCH101J50
	C	440	CCSSCH221J50
	C	445,448,454,456	CKSSYB471K50
	C	447,450,452,455,457,459	CKSSYB103K16
	C	461,462,463,464,465,483	CKSSYB103K16
	C	466,468,475,476,493,494	CKSSYB102K50
	C	473,474,478,482,484,485	CKSSYB104K10
	C	477,489,490,503,504,505	DCH1201
	C	480,496,497,498,510,511	CCSSCH101J50
	C	487	CCSSCH120J50
	C	488,492	CKSSYB103K16
	C	491	CKSSYB222K50

Mark	No.	Description	Part No.
	C	495,507,544,545,547,548	CKSSYB102K50
	C	499,500,501,506,546,554	CKSSYB104K10
	C	502	CCSSCH100D50
	C	513,514,515,516,519,520	CCSSCH101J50
	C	521,522,523,524,564,565	CCSSCH101J50
	C	533	DCH1201
	C	549,550,552,553,555,556	CKSSYB102K50
	C	557,558,560,562,570,571	CKSSYB102K50
	C	561,713,714	CKSSYB104K10
	C	566,575	CCSSCH101J50
	C	568,569	CCSSCH221J50
	C	572,573,702,708,709,715	CKSSYB102K50
	C	701	CKSRYB104K25
	C	704	CCSSCH561J50
	C	705	CKSSYB332K50
	C	706,710	CKSSYB103K16
	C	707	ACG1147
	C	712,721,731	CEVW470M6R3
	C	716,722,723,727,728	CKSRYB104K16
	C	717,718	CCSRCH222J50
	C	719,724	CEVW101M16
	C	726	CKSSYB104K10
	C	729,742,743	CKSRYB105K10
	C	730,734,782	CKSSYB102K50
	C	732,733,765,804	DCH1201
	C	735	CCH1565
	C	739,740,773,774	CEVW220M16
	C	744,807	DCH1263
	C	745	CCSSCH221J50
	C	747,748,783,814	CKSSYB103K16
	C	749,750	CCSSCH681J50
	C	751,752	CCSSCH181J50
	C	753	CKSQYB475K6R3
	C	755,761	CCH2090
	C	766	CEVW470M6R3
	C	781	CKSRYB104K25
	C	784	CEVW331M6R3
	C	785	CKSRYB105K10
	C	786	CKSSYB102K50
	C	806,809,811	CKSSYB104K10
	C	808,810	DCH1201

PNL1 ASSY
Consist of
DCK1 ASSY
HPJK ASSY
BRWS ASSY
CRFD ASSY
HLD1 ASSY

B C E F G

Unit Number: DWM2684
Unit Name: PNL1 ASSY

SEMICONDUCTORS

IC	1201 Flash Written UC IC	DYW1962*
	*Part number of the initial firmware equipped	
Q	1201,1202,1419 Bipolar TR	LSCR523UB
Q	1401,1403,1405 Transistor	LTC124EUB
Q	1402,1404,1406 Transistor	ISA1602AM1
Q	1407,1409,1411 Transistor	LTC124EUB
Q	1408,1410,1412 Transistor	ISA1602AM1
Q	1413,1415 Transistor	LTC124EUB
Q	1414,1416 Transistor	ISA1602AM1
Q	1417,1418,1421 Transistor	LTC123JUB
Q	1420 Bipolar TR	LSCR523UB
Q	1422 Transistor	LTC123JUB
Q	1601,1602 Chip Transistor	INC2002AC1
D	1201,1202,1203,1204 Diode	MC2848-11
D	1205,1206,1207,1208 Diode	MC2848-11
D	1209,1211,1212,1213 Diode	MC2848-11
D	1214 Diode	MC2848-11
D	1216 Schottky Diode	RB501VM-40
D	1401,1402,1403,1404 LED(Red)	SLI-343U8R(HJK)
D	1405,1406,1407,1408 LED(Red)	SLI-343U8R(HJK)
D	1409,1410,1412,1413 LED(Red)	SLI-343U8R(HJK)
D	1411,1422,1423 LED(Amber)	SLI-343Y8Y(KLM)
D	1414,1415,1416,1417 LED(Red)	SLI-343U8R(HJK)
D	1418 LED(Red)	SLI-343U8R(HJK)
D	1419 LED(Green)	SLI-343M8G(GHJ)
D	1424 LED(Amber)	SLI-343Y8Y(KLM)

MISCELLANEOUS

L	1201,1202,1204 Inductor	CTF1379
KN	1201 Earth Terminal	AKF7002
PC	1201,1202 Photo Interrupter	RPI-579N1
S	1201,1205,1206 Tact Switch	DSG1079
S	1202,1203,1204 Tact Switch	DSG1117
S	1207,1208,1209 Tact Switch	DSG1117
S	1210,1211,1212 Tact Switch	DSG1079
S	1213,1215,1216 Tact Switch	DSG1079
S	1217,1218,1220 Tact Switch	DSG1117
S	1221 Tact Switch	DSG1117
S	1223,1225 Tact Switch	DSG1079
S	1703 Rotary Encoder	DSX1138
VA	1201,1202 SMD Varistor	EZJZ1V80010
VA	1203,1204,1205 Varistors	EZJZ1V270RM
VA	1206 Varistors	EZJZ1V270RM
VR	1201 Potentiometer	DCS1096
VR	1202 Variable Resistor	DCV1011
VR	1204 Potentiometer	DCS1097
VR	1801 Variable Resistor	DCV1023
CN	1001 39P Connector	VKN2098
CN	1601 5P Jumper Connector	52147-0510
CN	1701 5P Jumper Connector	52147-0510
CN	1801 5P Jumper Connector	52147-0510
JA	1601 Stereo Mini Jack	XKN3017

RESISTORS

R	1001	RS1/4SA2R0J
R	1202,1203,1227	RS1/10SR0R0J
R	1204,1205,1225,1228	RS1/10SR103J
R	1206,1207	DCN1187
R	1208,1209,1222,1223,1226	RS1/10SR101J
R	1210,1211	RS1/10SR222J
R	1212,1213	RS1/10SR111J
R	1215	RS1/10SR2202D
R	1218,1219	RS1/10SR2201D
R	1220	RS1/10SR221J

Mark	No.	Description	Part No.
R	1224		RS1/10SR391J
R	1401,1406,1411,1418,1424		RS1/10SR182J
R	1402,1407,1413,1420,1425		RS1/10SR223J
R	1403,1408,1414,1421,1426		RS1/10SR473J
R	1405,1410,1417,1423,1428		RS1/10SR560J
R	1412,1416,1419,1422,1432		RS1/10SR151J
R	1415,1449		RS1/10SR751J
R	1427,1456		RS1/10SR271J
R	1429,1434,1440,1454		RS1/10SR182J
R	1430,1436,1442		RS1/10SR223J
R	1431,1437,1443,1452,1453		RS1/10SR473J
R	1433,1439,1445		RS1/10SR560J
R	1435,1438,1441,1444		RS1/10SR151J
R	1447		RS1/10SR152J
R	1448		RS1/10SR821J
R	1601,1602		RS1/10SR272J
R	1603,1604		RS1/4SA0R0J
R	1605,1606		RS1/10SR103J
R	1611,1612,1801		RS1/10SR0R0J
R	1701,1702		RS1/10SR101J

CAPACITORS

C	1003		CEJQ101M16
C	1203,1207,1212,1603,1604		CKSRYB104K16
C	1204		CCSRCH221J50
C	1208,1211,1701,1702,1802		CKSRYB103K50
C	1214		DCH1201
C	1601,1602		CEAT471M10
C	1801		CKSRYB104K16

D

Unit Number: DWX4154
Unit Name: PNL2 ASSY

SEMICONDUCTORS

IC	2401	Flash Written UC IC	DYW1962*
	*Part number of the initial firmware equipped		
Q	2201,2401,2403	Transistor	LTC124EUB
Q	2402,2404	Chip Transistor	2SB1689
Q	2405,2407,2409	Transistor	LTC124EUB
Q	2406,2408	Chip Transistor	2SB1689
Q	2410,2412	Chip Transistor	2SB1689
Q	2411,2413,2415	Transistor	LTC124EUB
Q	2414,2416	Chip Transistor	2SB1689
Q	2417,2418,2419	Bipolar TR	LSCR523UB
Q	2420,2421,2423	Bipolar TR	LSCR523UB
Q	2422	Transistor	LTC123JUB
Q	2424	Bipolar TR	LSCR523UB
D	2201,2202,2203,2204	Diode	MC2848-11
D	2205,2206,2207,2208	Diode	MC2848-11
D	2210,2211,2212,2213	Diode	MC2848-11
D	2214,2215,2216,2217	Diode	MC2848-11
D	2218,2219,2221,2222	Diode	MC2848-11
D	2401,2405,2406	LED(Amber)	SLI-343Y8Y(KLM)
D	2402	Blue LED	SLR343BD2T(NP)
D	2403,2404,2409,2411	LED(Red)	SLI-343U8R(HJK)
D	2407,2408,2410	LED(Amber)	SLI-343Y8Y(KLM)
D	2413,2414,2416,2417	LED(Red)	SLI-343U8R(HJK)
D	2415,2422,2425	LED(Amber)	SLI-343Y8Y(KLM)
D	2418,2419,2420,2421	LED(Red)	SLI-343U8R(HJK)
D	2423,2424,2427,2429	LED(Red)	SLI-343U8R(HJK)
D	2426	Schottky Diode	RB501VM-40
D	2428,2431	LED(Amber)	SLI-343Y8Y(KLM)
D	2430,2434,2439	LED(Red)	SLI-343U8R(HJK)
D	2432,2435,2437	LED(Green)	SLI-343M8G(GHJ)
D	2440,2441	LED(Green)	SLI-343M8G(GHJ)

MISCELLANEOUS

L	2403,2404,2407	Inductor	CTF1379
JH	2001,2002	5P Cable Holder	51048-0500
JP	2001,2002	Parallel Jumper	D20PDY0505E
KN	2401	Earth Terminal	AKF7002
PC	2401,2402	Photo Interrupter	RPI-579N1
S	2201,2202,2203	Tact Switch	DSG1117
S	2204,2205,2209	Tact Switch	DSG1079
S	2206,2207,2208	Tact Switch	DSG1117
S	2210,2211,2213	Tact Switch	DSG1079
S	2214,2216,2217	Tact Switch	DSG1079
S	2218,2221,2225	Tact Switch	DSG1079
S	2219,2220,2223	Tact Switch	DSG1117
S	2224	Tact Switch	DSG1117
S	2226,2227,2228	Tact Switch	DSG1079
S	2229,2230,2231	Tact Switch	DSG1079
S	2232,2233	Tact Switch	DSG1079
S	2234	Slide Switch	DSH1058
VA	2001,2002,2003	Varistors	EZJZ1V270RM
VA	2201,2202,2203	Varistors	EZJZ1V270RM
VA	2204,2205,2206	Varistors	EZJZ1V270RM
VA	2207,2208,2209	Varistors	EZJZ1V270RM
VA	2210	Varistors	EZJZ1V270RM
VA	2401,2402	SMD Varistor	EZJZ1V80010
VR	2201,2207,2210	Potentiometer	DCS1096
VR	2202,2203,2204	Potentiometer	DCS1097
VR	2205,2208,2211	Potentiometer	DCS1097
VR	2206,2209	Variable Resistor	DCV1024
VR	2212,2213,2214	Potentiometer	DCS1097
VR	2215	Variable Resistor	DCV1011
CN	2001	25P Connector	VKN1256
CN	2002	31P Connector	VKN1262

RESISTORS

R	2001		RS1/4SA2R0J
R	2206,2214		RS1/10SR0R0J
R	2217,2218		RS1/10SR2201D
R	2219,2220		RS1/10SR101J
R	2401,2409		RS1/10SR152J
R	2402,2412,2422,2430		RS1/10SR223J
R	2403,2413,2423,2431		RS1/10SR473J
R	2404,2415		RS1/10SR820J
R	2405,2416,2420,2425,2429		RS1/10SR151J
R	2406,2432,2435		RS1/10SR271J
R	2407,2417,2426,2434,2444		RS1/10SR560J
R	2408,2418,2427		RS1/10SR121J
R	2410,2411		DCN1187
R	2414,2442,2445,2447,2454		RS1/10SR221J
R	2419,2428,2437,2448		RS1/10SR182J

Mark	No.	Description	Part No.
R	2433,2438,2443,2450,2455		RS1/10SR151J
R	2439		RS1/10SR2202D
R	2440,2451,2462,2471		RS1/10SR223J
R	2441,2452,2463,2472,2482		RS1/10SR473J
R	2453,2460		RS1/10SR101J
R	2456,2466,2475		RS1/10SR560J
R	2457		RS1/10SR221J
R	2458,2468,2491,2492		RS1/10SR103J
R	2459,2469,2477,2478,2479		RS1/10SR122J
R	2461,2487,2488		RS1/10SR0R0J
R	2464,2467,2473,2476		RS1/10SR820J
R	2480		RS1/10SR821J
R	2481		RS1/10SR122J
R	2483,2484,2485,2486		RS1/10SR473J
R	2489		RS1/10SR271J
R	2493,2494		RS1/10SR101J
R	2495,2496		RS1/10SR222J
R	2497,2498		RS1/10SR111J

CAPACITORS

C	2001		CEJQ101M16
C	2206,2217,2230,2403,2405		CKSRYB104K16
C	2212,2228,2231,2233		CKSRYB103K50
C	2402		CCSRCH221J50
C	2404		DCH1201