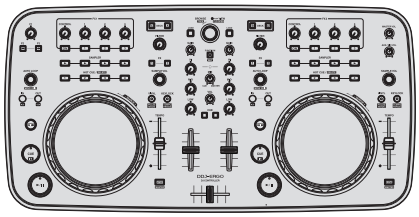
Pioneer

Service Manual



DDJ-ERGO-V

ORDER NO.
RRV4269

DJ Controller

DDJ-ERGO-V

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

Model	Type	Power Requirement	Remarks
DDJ-ERGO-V	XJ5	DC 5 V	

This product is a model for destinations worldwide (except China and Korea).
It operates only on USB-bus power. No need to use an AC adapter.

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ⓒ**PIONEER CORPORATION 2011**

K-IZV NOV. 2011 Printed in Japan

SAFETY INFORMATION

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

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

Health & Safety Code Section 25249.6 - Proposition 65

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

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

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

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

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

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 SERVICE NOTICE

Voltage Monitoring

This unit always monitors for power failure and will shut itself off immediately after an error is detected.
A power failure is indicated with flashing of the illumination LED of the channel fader for left side deck (deck A or C).
Other LEDs are unlit after an error is generated.
After the unit shuts itself off because of an error, disconnect the USB cable and wait at least 1 minute before turning the unit back on.
Repair the unit according to the diagnostic procedures described in “5.3 VOLTAGE MONITORING.”

On Point-of-Sale Demo Mode

This product is provided with a Demo mode to be used when displayed on a stand in a shop.
Demonstrations with lighting of the LEDs on the control panel are automatically performed even if this product is connected with a PC without the DJ application (VIRTUAL DJ LE) being started on the PC.
This mode will be established if no transmission or reception of MIDI signals is performed for 1 minute after the controller is turned ON.
After VIRTUAL DJ LE is started, Normal Operation mode will be entered.

On the EEPROM on the IFPW ASSY

No program has been stored in the EEPROM (IC104) on the IFPW Assy (blank ROM) when it is supplied as a part for service.
After the EEPROM is replaced, be sure to copy the program for the USB controller to it. For details, see “8.2 HOW TO PROGRAM COPY FOR USB CONTROLLER.”

2. SPECIFICATIONS

General – Main Unit

Power supply ..... DC 5 V
Power consumption ..... 500 mA
Main unit weight ..... 2.9 kg (6.4 lb)
Max. dimensions
..... 554.8 mm (W) × 103.2 mm (H) × 279.8 mm (D)
(21.8 in. (W) × 4.1 in. (H) × 11 in. (D))
Tolerable operating temperature
..... +5 °C to +35 °C (+41 °F to +95 °F)
Tolerable operating humidity
..... 5 % to 85 % (no condensation)

Audio Section

Rated output level
MASTER OUT 1 ..... 4.2 Vrms
MASTER OUT 2 ..... 2.1 Vrms
Total harmonic distortion
MASTER OUT 1 ..... 0.006 %
MASTER OUT 2 ..... 0.006 %
Frequency characteristic
MASTER OUT 1 ..... 20 Hz to 20 kHz
MASTER OUT 2 ..... 20 Hz to 20 kHz
S/N ratio (when playing on computer)
MASTER OUT 1 ..... 101 dB (at rated output)
MASTER OUT 2 ..... 101 dB (at rated output)
Input impedance
AUX ..... 24 kΩ
MIC ..... 11 kΩ
Output impedance
MASTER OUT 1 ..... 1 kΩ or less
MASTER OUT 2 ..... 1 kΩ or less
PHONES ..... 10 Ω or less

Input / Output terminals
USB terminal
B type ..... 1 set
MASTER OUT 1 output terminal
TRS phone jack (Ø 6.3 mm) ..... 1 set
MASTER OUT 2 output terminal
RCA pin jacks ..... 1 set
PHONES output terminal
Stereo phone jack (Ø 6.3 mm) ..... 1 set
Stereo mini phone jack (Ø 3.5 mm) ..... 1 set
AUX input terminal
RCA pin jacks ..... 1 set
MIC input terminal
Phone jack (Ø 6.3 mm) ..... 1 set

For improvement purposes, specifications and design of this unit and the included software are subject to change without notice.

Accessories

- USB cable
  (DDE1128)
- VIRTUAL DJ LE software CD-ROM
  (DXX2685)
- Driver software/operating instructions CD-ROM
  (DRU1001)
- Read Before Use (Important)
  (DRH1122)
- Quick Start Guide
  (DRH1123)
- Hardware Diagram for Virtual DJ (Table of Supported Functions)
  (DRH1124)
- Warranty card
- Service network list (for Japanese customers)

3. BASIC ITEMS FOR SERVICE
3.1 CHECK POINTS AFTER SERVICING

Items to be checked after servicing

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

No.	Procedures	Check points
1	Confirm that 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, AUX/MIC input, Fader, or Volume, input that specific source then perform that specific operation for checking.	The customer complain must not be reappeared. Audio and operations must be normal.
2	Confirmation of operation of operating elements Enter Service mode.	There must be no errors in operations of each button, Rotary selector, Volume, Fader, Slider and JOG.
3	Check the analog audio output. Connect this unit with a PC with the DJ application (Virtual DJ LE) installed, via USB, then operate the DJ application (Virtual DJ LE).	There must be no errors, such as noise, in audio signals and operations of the MASTER/HEADPHONES outputs.
4	Check the analog audio input. Input an audio signal via AUX/MIC.	Audio and operations must be normal.
5	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
Noise
Volume too low
Volume too high
Volume fluctuating
Sound interrupted

3.2 JIGS LIST

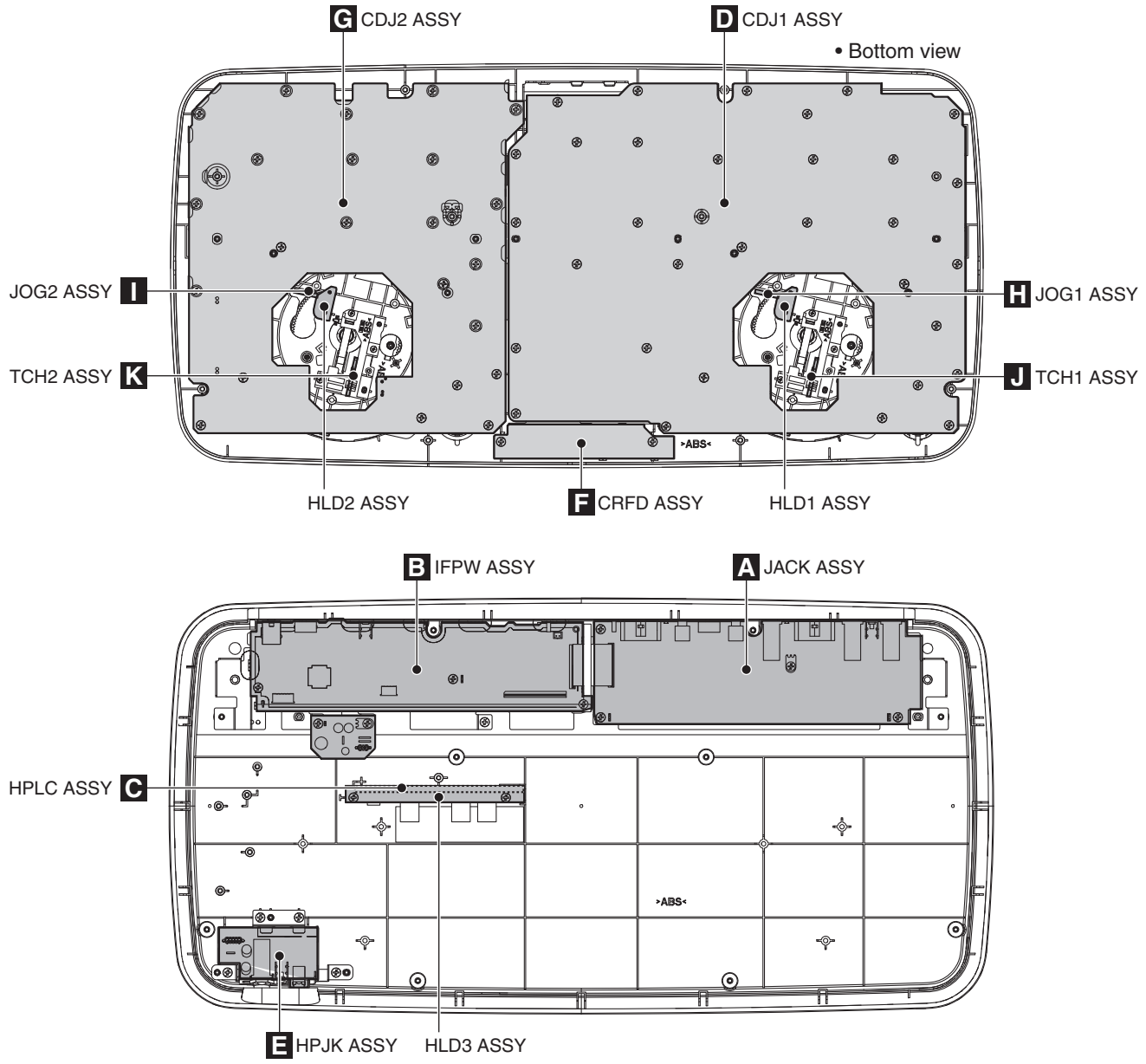
■ Jigs List

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

■ Lubricants and Glues List

Name	Part No.	Remarks
Lubricating oil	GYA1001	Refer to “9.4 JOG SECTION”.

3.3 PCB LOCATIONS

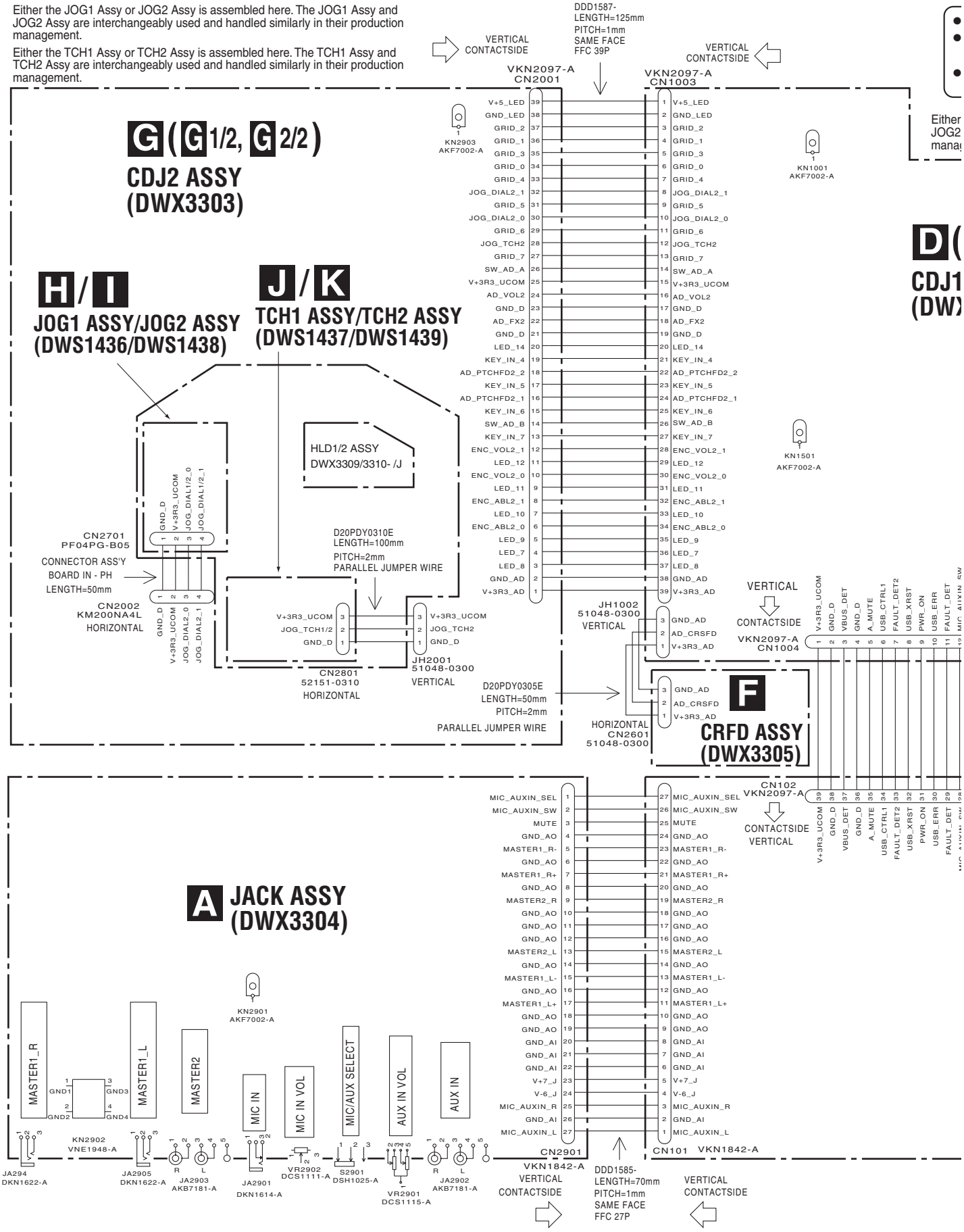


NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

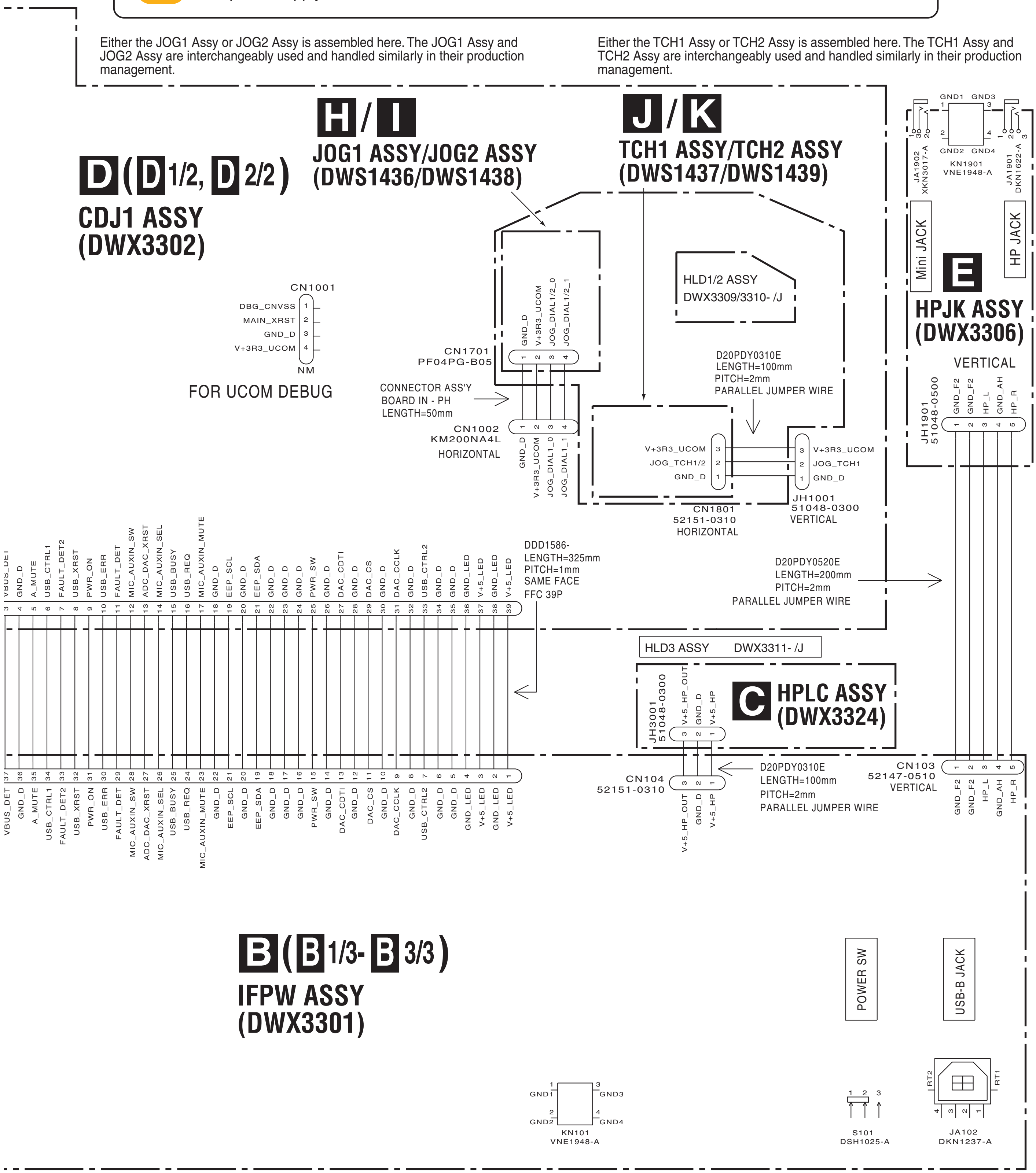
LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	PLMX ASSY	DWM2450
	2	JOG1 ASSY	DWS1436
	2	TCH1 ASSY	DWS1437
	2	JOG2 ASSY	DWS1438
	2	TCH2 ASSY	DWS1439
	2	CDJ1 ASSY	DWX3302
	2	HLD1 ASSY	DWX3309
	2	HLD2 ASSY	DWX3310
NSP	1	PLJK ASSY	DWM2451
	2	CDJ2 ASSY	DWX3303
	2	JACK ASSY	DWX3304
	2	CRFD ASSY	DWX3305
	2	HPJK ASSY	DWX3306
	2	HLD3 ASSY	DWX3311
	2	HPLC ASSY	DWX3324
	1	IFPW ASSY	DWX3301

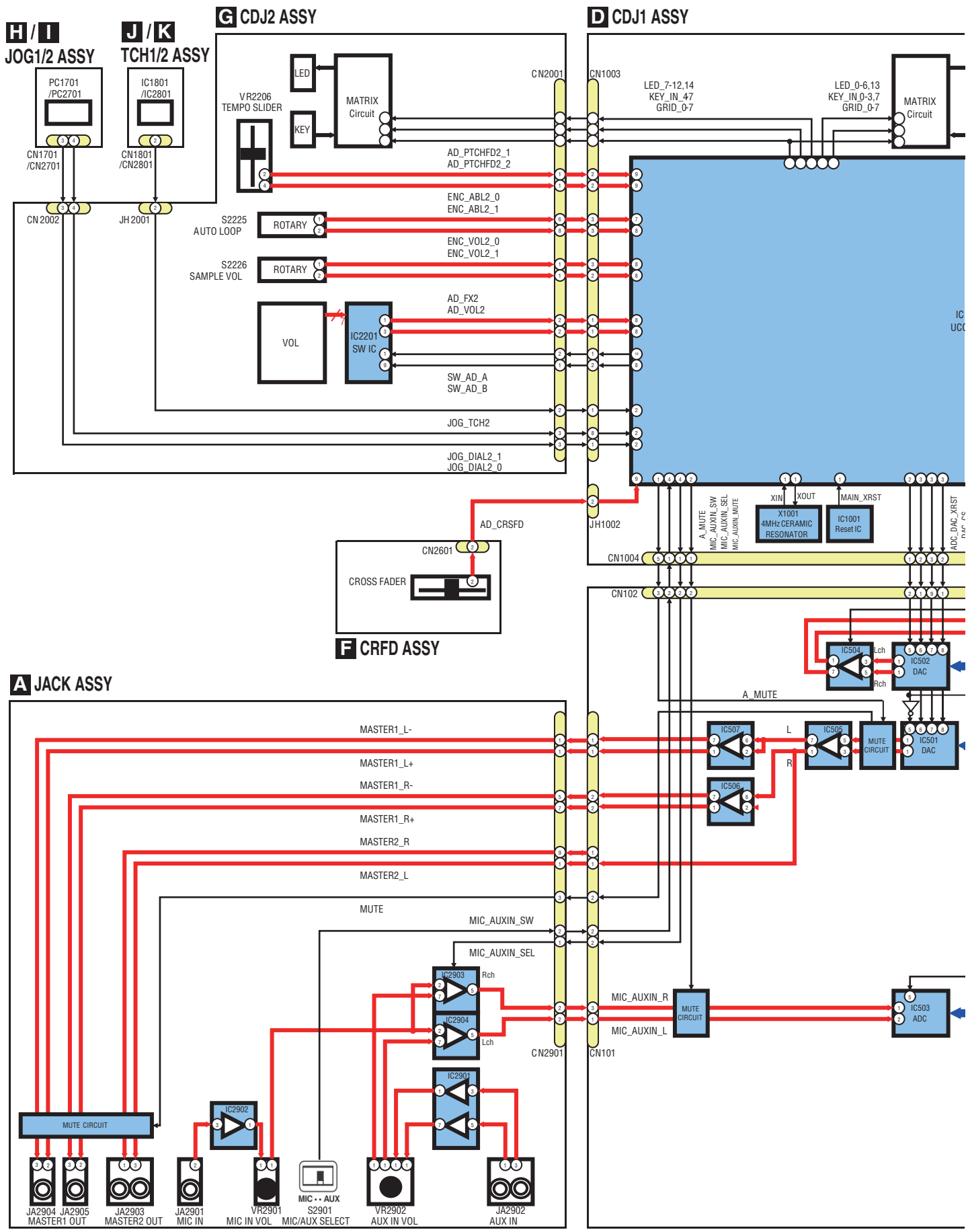
4. BLOCK DIAGRAM
4.1 OVERALL WIRING DIAGRAM

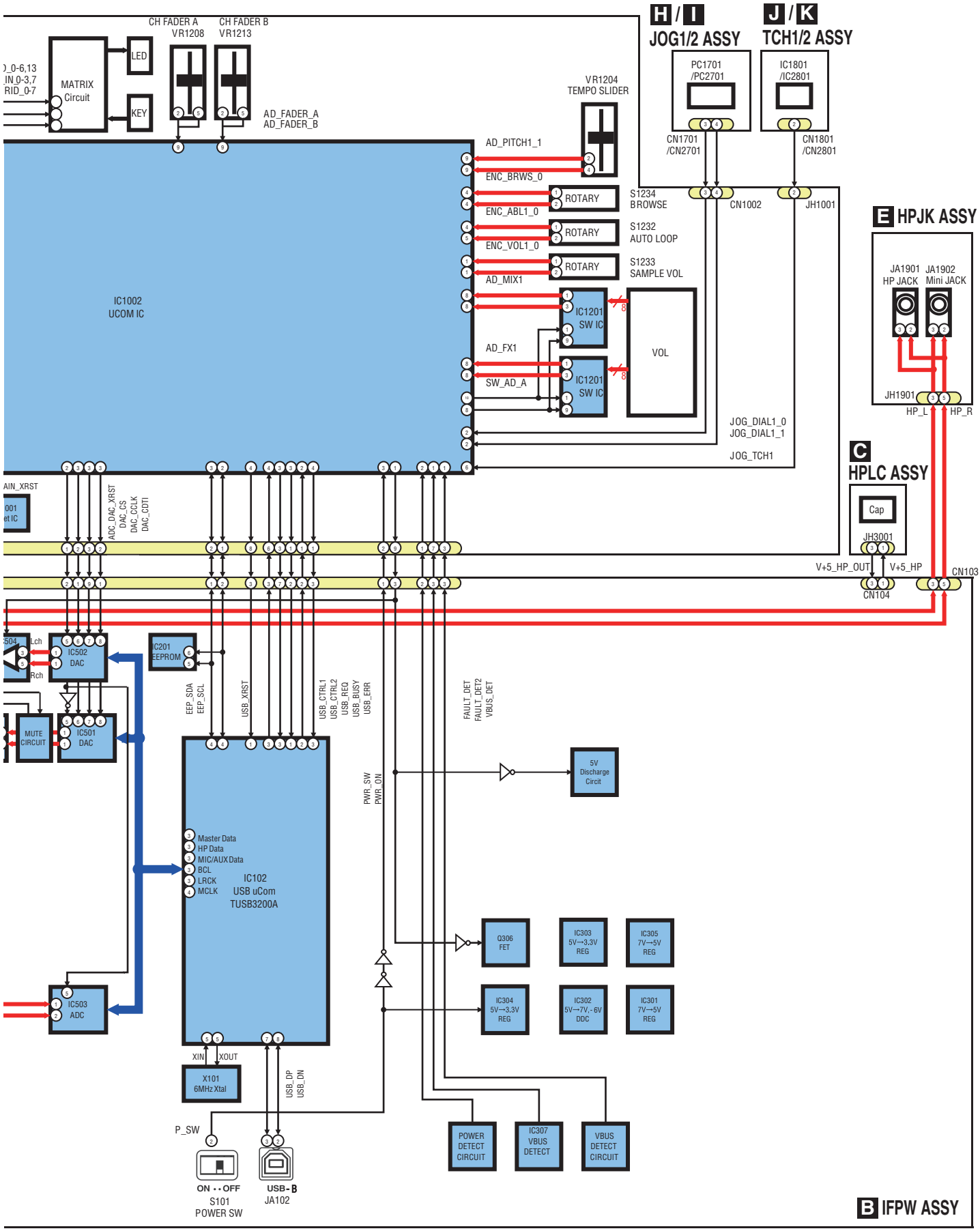


- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- (marked box) : The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

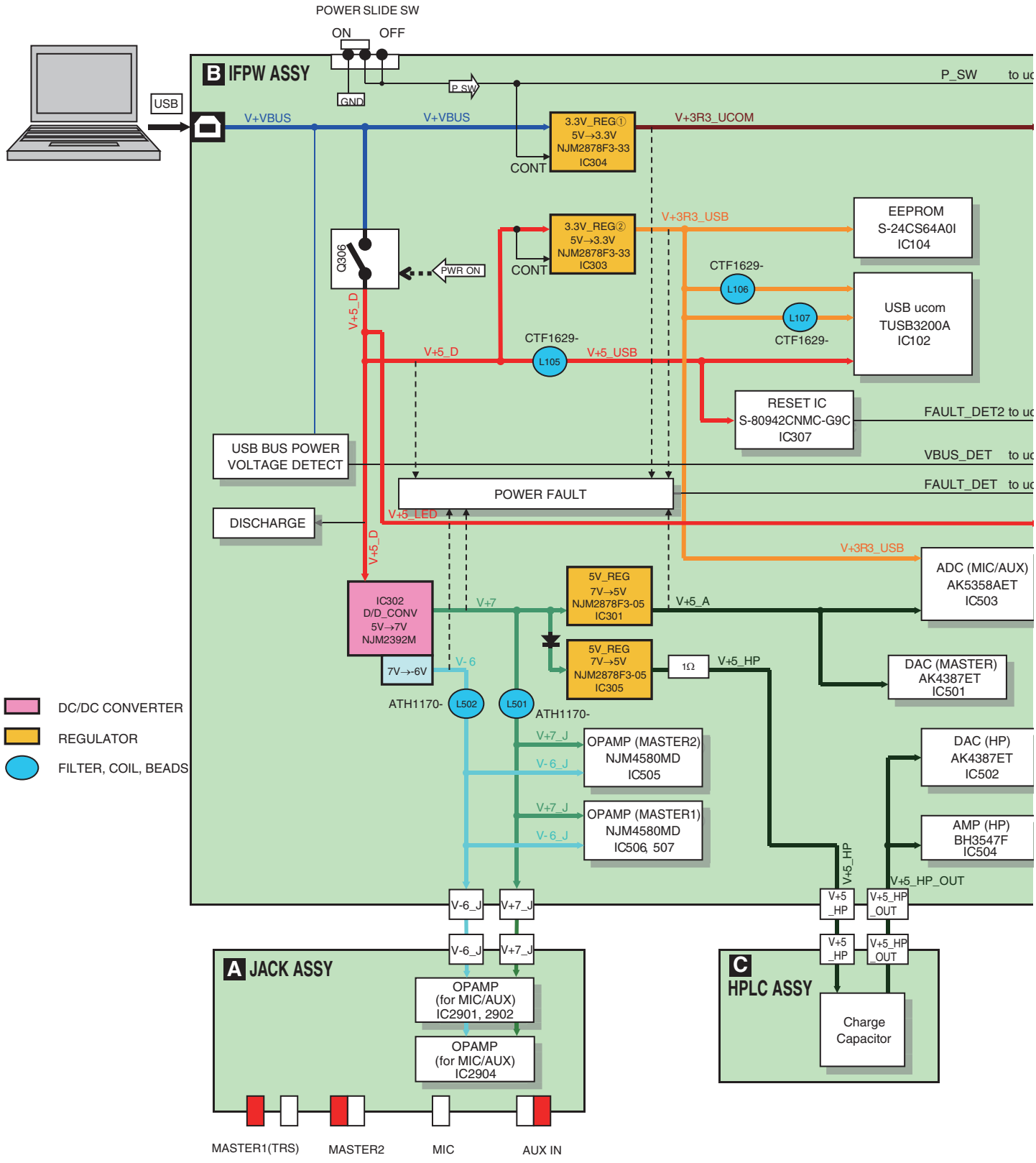


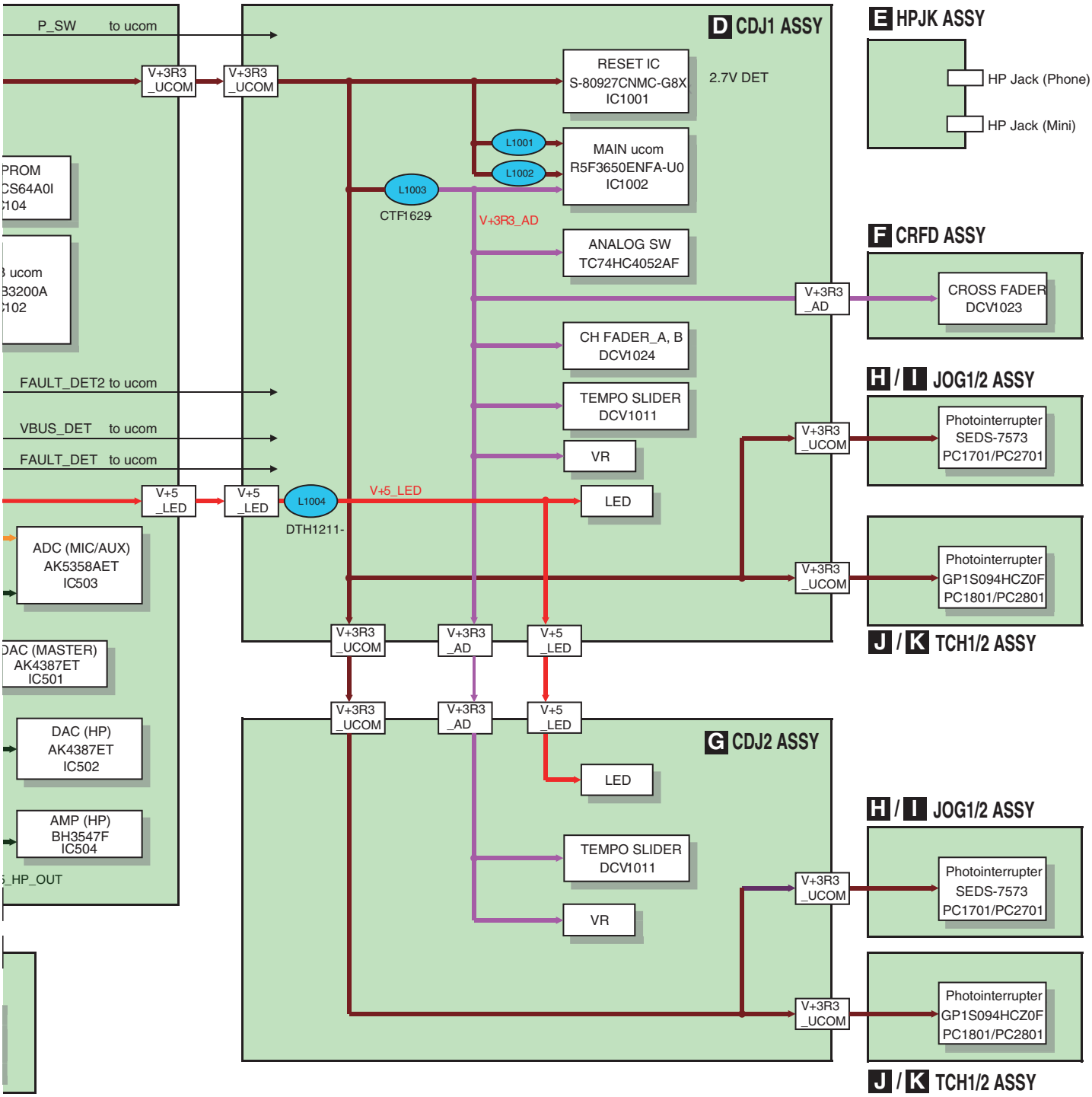
4.2 OVERALL BLOCK DIAGRAM



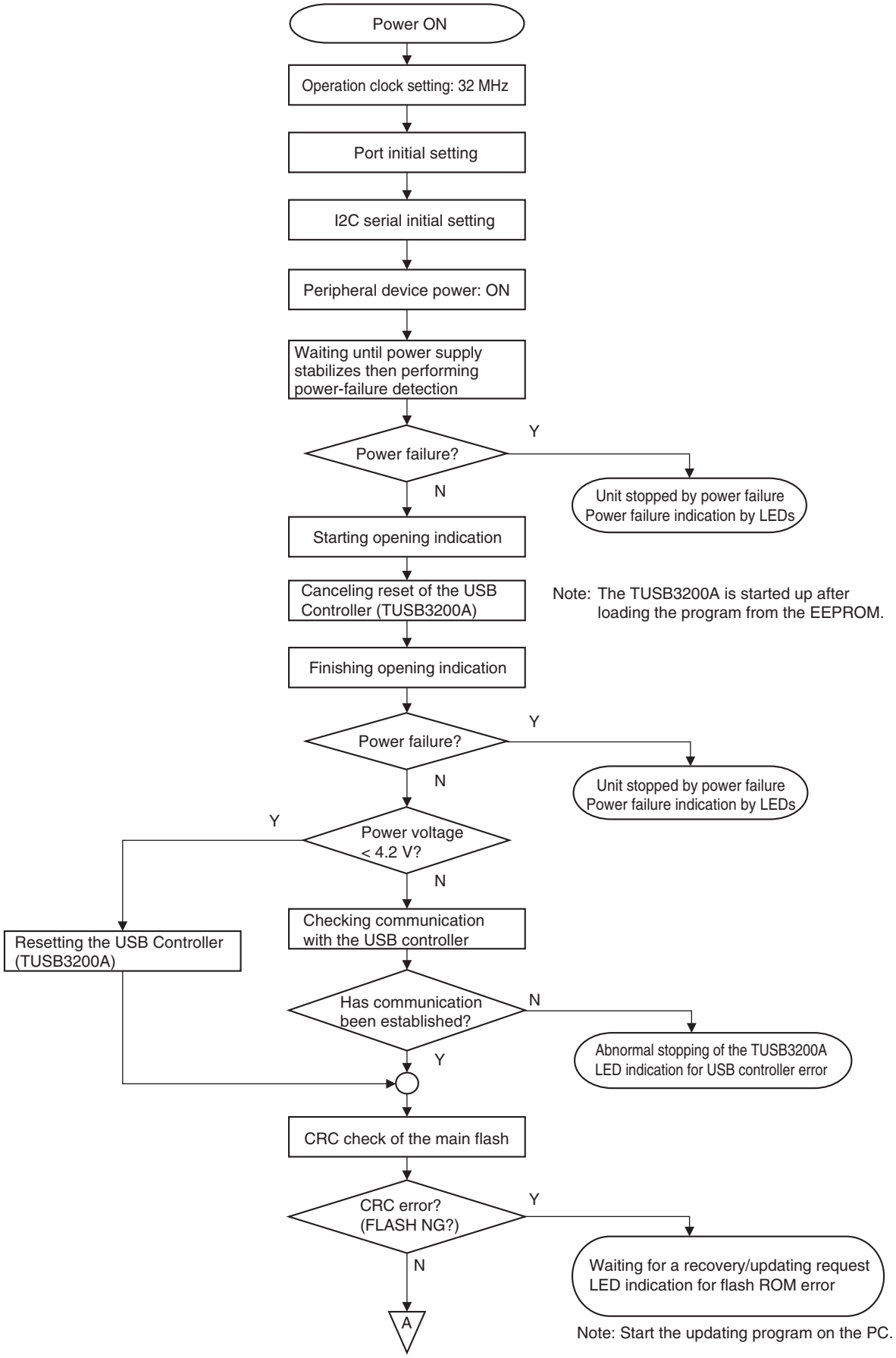

H / I
JOG1/2 ASSY
J / K
TCH1/2 ASSY
E HPJK ASSY
C
HPLC ASSY
B IFPW ASSY
CH FADER A
VR1208
CH FADER B
VR1213
MATRIX
Circuit
LED
KEY
AD_FADER_A
AD_FADER_B
VR1204
TEMPO SLIDER
PC1701
/PC2701
IC1801
/IC2801
CN1701
/CN2701
CN1801
/CN2801
AD_PITCH1_1
ENC_BRWS_0
ROTARY
S1234
BROWSE
ENC_ABL1_0
S1232
AUTO LOOP
ENC_VOL1_0
S1233
SAMPLE VOL
AD_MIX1
IC1002
UCOM IC
IC1201
SW IC
VOL
AD_FX1
SW_AD_A
CN1002
JH1001
JOG_DIAL1_0
JOG_DIAL1_1
JOG_TCH1
JA1901
HP JACK
JA1902
Mini JACK
JH1901
HP_L
HP_R
Cap
JH3001
V+5_HP_OUT
V+5_HP
CN104
CN103
ADC_DAC_XRST
DAC_CS
DAC_CCLK
DAC_CDTI
IC502
DAC
IC201
EEPROM
IC501
DAC
MUTE
CIRCUIT
EEP_SDA
EEP_SCL
USB_XRST
USB_CTRL1
USB_CTRL2
USB_REQ
USB_BUSY
USB_ERR
FAULT_DET
FAULT_DET2
VBUS_DET
PWR_SW
PWR_ON
5V
Discharge
Circit
Master Data
HP Data
MIC/AUX Data
BCL
LRCK
MCLK
IC102
USB uCom
TUSB3200A
IC503
ADC
XIN
XOUT
X101
6MHz Xtal
USB_DP
USB_DN
P_SW
ON • • OFF
S101
POWER SW
USB-B
JA102
Q306
FET
IC303
5V→3.3V
REG
IC305
7V→5V
REG
IC304
5V→3.3V
REG
IC302
5V→7V, - 6V
DDC
IC301
7V→5V
REG
POWER
DETECT
CIRCUIT
IC307
VBUS
DETECT
VBUS
DETECT
CIRCUIT

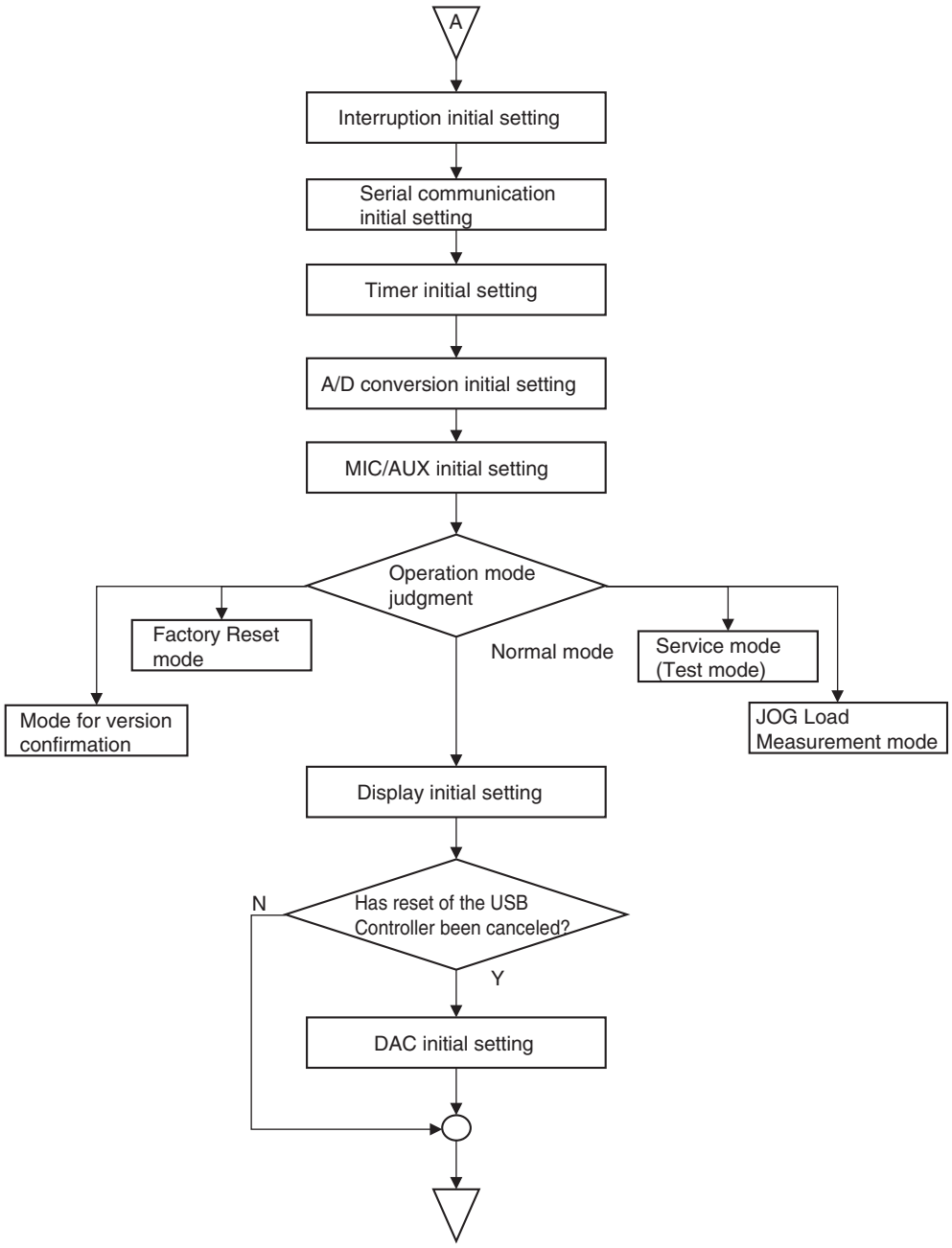
4.3 POWER BLOCK DIAGRAM




P_SW to ucom
V+3R3 _UCOM
V+3R3 _UCOM
D CDJ1 ASSY
RESET IC S-80927CNMC-G8X IC1001
2.7V DET
L1001
L1002
MAIN ucom R5F3650ENFA-U0 IC1002
L1003
CTF1629
V+3R3_AD
ANALOG SW TC74HC4052AF
E HPJK ASSY
HP Jack (Phone)
HP Jack (Mini)
F CRFD ASSY
V+3R3 _AD
CROSS FADER DCV1023
CH FADER_A, B DCV1024
TEMPO SLIDER DCV1011
VR
H / I JOG1/2 ASSY
V+3R3 _UCOM
Photointerrupter SEDS-7573 PC1701/PC2701
FAULT_DET2 to ucom
VBUS_DET to ucom
FAULT_DET to ucom
V+5 _LED
V+5 _LED
L1004
DTH1211-
V+5_LED
LED
V+3R3 _UCOM
Photointerrupter GP1S094HCZ0F PC1801/PC2801
J / K TCH1/2 ASSY
ADC (MIC/AUX) AK5358AET IC503
DAC (MASTER) AK4387ET IC501
DAC (HP) AK4387ET IC502
AMP (HP) BH3547F IC504
V+3R3 _UCOM
V+3R3 _AD
V+5 _LED
G CDJ2 ASSY
LED
TEMPO SLIDER DCV1011
VR
H / I JOG1/2 ASSY
Photointerrupter SEDS-7573 PC1701/PC2701
Photointerrupter GP1S094HCZ0F PC1801/PC2801
J / K TCH1/2 ASSY

5. DIAGNOSIS
5.1 POWER ON SEQUENCE





* To normal main loop processing
- Power failure monitoring/Power voltage monitoring
- Power ON/OFF SW monitoring
- MIC/AUX switching
- Detection of change in operating elements
- DAC control
- USB transmission (transmission of operating element data)
- USB reception (reception and indication of display data)

5.2 TROUBLESHOOTING

Contents

[0] Prior Confirmation
[0-1] Checking in Service Mode
[0-2] Checking Internal Cables

[1] Failure in Startup (Failure in power-on)
[1-1] Failure in the power system
[1-2] Failure in the microcomputer system

[2] Display (LED indicators)
[2-1] Any one of the LEDs does not light.
[2-2] Several LEDs do not light or abnormal light

[3] Operations (Buttons/Rotary selectors/Volumes/Faders /Sliders/JOG)
[3-1] The buttons are disabled.
[3-2] Rotary selector not controllable
[3-3] VRs or faders or sliders not controllable
[3-4] Abnormalities regarding the JOG

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

[5] AUDIO OUT
[5-1] The MASTER OUT1/MASTER OUT2 is not output.
[5-2] The HEAD PHONE signal is not output.

[6] AUDIO IN
[6-1] The input signal to AUX/MIC is not output

[7] Basic Operation Check of the MAIN UCOM

[0] Prior Confirmation

[0-1] Checking in Service Mode

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	———	Service mode	Identify a failure point.	After a failure point is identified, see the section referenced in this manual.	6. SERVICE MODE

[0-2] Checking Internal Cables

No.	Cause	Diagnostics Point	Item to be Checked	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

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Failure in the power system (1)	LED indications of the unit	Set the POWER switch to ON. Check if the CH Fader LED on the left deck is flashing.	If it is, power failure in other than V+VBUS and V+3R3_UCOM is suspected. See “6 Failure in the power system (2)” in this table.	4.3 POWER BLOCK DIAGRAM 5.3 VOLTAGE MONITORING
2	Failure in USB-bus power	IFPW Assy V+VBUS	Set the POWER switch to OFF. Check that the voltage of the V+VBUS power line 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 and its periphery may be suspected. Check the USB cable and USB connector.	4.3 POWER BLOCK DIAGRAM 10.12 VOLTAGES ①
3	Control error of the V+3R3_UCOM regulator on the IFPW Assy	IFPW Assy CDJ1 Assy	Set the POWER switch to ON. Check the voltage at Pin 1 (CONT) of the V+3R3_UCOM regulator.	If the voltage at Pin 1 (CONT) of the V+3R3_UCOM regulator is low, the S101 power switch or Q301, or their peripheral circuits may be defective.	4.3 POWER BLOCK DIAGRAM

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
4	Power failure in the MAIN UCOM on the IFPW Assy	IFPW Assy	Set the POWER switch to ON. If V+3R3_UCOM is abnormal (2.7 V or less)	Disconnect the FFC connected between the IFPW Assy and CDJ 1 Assy. If the voltage of the V+3R3_UCOM returns to a normal level, the regulator (IC304) or its peripheral circuits may be defective.	4.3 POWER BLOCK DIAGRAM 10.12 VOLATGES ②
5	Power failure in the MAIN UCOM	CDJ1 Assy CDJ2 Assy JOG1, JOG2 Assy TCH1, TCH2 Assy	Set the POWER switch to ON. If V+3R3_UCOM is abnormal (2.7 V or less)	Disconnect the cables from the JOG1, JOG2, TCH1, and TCH2 Assys. If the voltage at V+3R3_UCOM returns to a normal level, the internal circuits of the JOG1, JOG2, TCH1, or TCH2 Assy may be defective. If the voltage does not return to a normal level, the MAIN UCOM (IC1002) or its peripheral circuits and the circuits to which power is supplied from the V+3R3_UCOM may be defective.	4.3 POWER BLOCK DIAGRAM 10.12 VOLATGES ②
6	Power failure (2) Identification of defective Assy	JACK Assy HPJK Assy HPLC Assy	Disconnect the cables from each Assy in order to confirm which Assy's power is abnormal.	If the voltage returns to a normal level when the cables from either the JACK Assy or HPJK Assy are disconnected, the internal circuits of the corresponding Assy may be defective. If the voltage returns to a normal level when the cables from the HPLC Assy are disconnected, either the internal circuits of the HPLC Assy or the circuit to which power is supplied from V+5_HP_OUT inside the IFPW Assy may be defective.	4.1 OVERALL WIRTING DIAGRAM 4.3 POWER BLOCK DIAGRAM
7	Power failure (3) Identification of defective power system	FAULT_DET IFPW Assy	Deactivate the voltage monitoring circuit then check the section with improper voltage.	The voltage monitoring circuit can be deactivated by removing R337 (0 Ω) on the FAULT_DET. See the notes in "5.3 VOLTAGE MONITORING" before proceeding to further diagnostics. To identify the section with improper voltage, check the voltage at each point on the IFPW Assy.	4.3 POWER BLOCK DIAGRAM 5.3 VOLTAGE MONITORING 10.12 VOLATGES 10.13 WAVEFORMS ①②⑤⑥⑦⑧⑨⑩ ⑫⑬1238

[1-2] Failure in the microcomputer system

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Power failure in the MAIN UCOM	CDJ1 Assy	Check the power terminal of the MAIN UCOM (IC1002).	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 MAIN UCOM (IC1002) may be defective.	10.12 VOLATGES ②
2	MAIN UCOM Reset circuit error	CDJ1 Assy	Check the Reset terminal (pin 12) of the MAIN UCOM (IC1002).	In normal operation the voltage of the Reset terminal (Pin 17) is high. If it is low, check if the voltage at V+3R3_UCOM is 2.7 V or less. Check the reset line, resistors, capacitors, and the Reset IC (IC1001).	10.12 VOLATGES 10.13 WAVEFORMS ②
3	MAIN UCOM X'tal error	CDJ1 Assy	Check the oscillation waveforms of the X'tal (X1001).	In normalcy, oscillate it at 24 MHz. If the oscillation waveforms are abnormal, check the resistor on the oscillation-signal line, the capacitor, and X'tal (X1001). If nothing is wrong with these parts, the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 44
4	MAIN UCOM startup error	CDJ1 Assy	After startup, check the lighting statuses of the LEDs. (For example, although some of the LEDs light properly, the unit is not started up properly.)	Refer to "6.6 ERRROR DISPLAY". If there is no corresponding error indication, reload the program via USB. (8.3 HOW TO FIRMWARE UPDATE) If the normal status is not recovered after all above steps are performed, the MAIN UCOM (IC1002) may be defective.	6.6 ERROR DISPLAY 8.3 HOW TO FIRMWARE UPDATE
5	Power failure in the USB Controller	IFPW Assy	Check if a voltage error was detected. Check the power terminal of the USB Controller (IC102).	If the detected voltage error is confirmed, check conduction between the power supply and GND. 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 USB Controller (IC102) may be defective.	5.3 VOLTAGE MONITORING 10.13 WAVEFORMS ⑤⑦8

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
6	USB Controller Reset circuit error	IFPW Assy	Check the voltage of Reset terminal (pin 10) of the USB Controller (IC102).	In normal operation, the voltage of the Reset terminal (pin 10) is high. If the voltage of the Reset terminal is low, check the reset line, resistors, capacitors. If no problem is found, the USB Controller (IC102) or MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 4
7	USB Controller X'tal error	IFPW Assy	Check the oscillation waveforms of the X'tal (X101).	In normalcy, oscillate it at 6 MHz. If the oscillation waveforms are abnormal, check the resistor on the oscillation-signal line, the capacitor, and X'tal (X101). If nothing is wrong with these parts, the USB CONTROLLER (IC102) may be defective.	10.13 WAVEFORMS 5
8	I2C communication error of USB Controller start up	IFPW Assy	Check the I2C communication waveforms of the EEPROM (IC104) immediately after startup.	Data of the EEPROM (IC104) are loaded only during startup. If an error is generated, check the power supply to the EEPROM, resistors, capacitors. If no problem is found, the EEPROM (IC104) or USB Controller (IC102) may be defective.	10.13 WAVEFORMS 6 7
9	EEPROM error	IFPW Assy	Reload the program via USB.	If no problem is found with the communication waveform in "8.2 HOW TO PROGRAM COPY FOR USB CONTROLLER" above, reload the program via USB. If reloading is successfully performed, the USB Controller (IC102) may be defective. If reloading fails, the EEPROM (IC104) may be defective.	8.2 HOW TO PROGRAM COPY FOR USB CONTROLLER

[2] Display (LED indicators)

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

No.	Cause	Diagnostics Point	Item to be Checked	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 that does not light (normally, it must be within approx. 2.0–3.6 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.	10. SCHEMATIC DIAGRAM 10.13 WAVEFORMS 65 66 67 68

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

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Defective LED signal line, Defective MAIN UCOM	CDJ1 Assy CDJ2 Assy	Check the output signal of MAIN UCOM (IC1002).	If the output signal is abnormal, the MAIN UCOM (IC1002) and LED signal line may be defective.	10. SCHEMATIC DIAGRAM 10.13 WAVEFORMS 65 66 67 68
2	Defective LED	Periphery of the abnormal LED	Check the connections of the LED then check the forward voltage (approx. 2.2 V) between both ends of the LED.	If the signal waveform is abnormal, the LED may be defective.	10. SCHEMATIC DIAGRAM 10.13 WAVEFORMS 65 66 67 68
3	Defective transistor for LED drive	CDJ1 Assy CDJ2 Assy	Check the transistors for LED drive.	If the signal waveform is abnormal, the transistor may be defective.	10. SCHEMATIC DIAGRAM 10.13 WAVEFORMS 65 66 67 68

[3] Operations (Buttons / Rotary selectors / Volumes / Faders / Sliders / JOG)

[3-1] The buttons are disabled.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connection, defective switches, defective diodes, defective transistors	CDJ1 Assy CDJ2 Assy Periphery of the abnormal button	Check that the signal line from the corresponding switch to the transistor at the switching-detection section up to the MAIN UCOM (IC1002) is all right.	If other switches that are connected to the same signal line operate normally, the corresponding switch or the diode on the signal line for the corresponding switch may be defective. If other switches do not operate either, a transistor in the switching-detection section or its peripheral circuits may be defective.	10.13 WAVEFORMS 49 50 51
2	Defective MAIN UCOM (IC1002)	CDJ1 Assy	If the symptom persists after the above corrections.	The MAIN UCOM (IC1002) may be defective.	[7] Basic Operation Check of the MAIN UCOM

[3-2] Rotary selector not controllable

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Defective AUTO_LOOP	CDJ1 Assy CDJ2 Assy	Check that the signal lines (ENC_ABL1_0/1, ENC_ABL2_0) are normal during rotation of the rotary selector.	If the signals are not normal, signal line, resistor, the rotary selector may be defective.	10.13 WAVEFORMS 60 61
2	Defective SAMPLE VOL	CDJ1 Assy CDJ2 Assy	Check that the signal lines (ENC_VOL1_0/1, ENC_ABL2_0) are normal during rotation of the rotary selector.	If the signals are not normal, signal line, resistor, the rotary selector may be defective.	10.13 WAVEFORMS 60 61
3	Defective BROWSE	CDJ1 Assy	Check that the signal lines (ENC_BRWS_0/1) are normal during rotation of the rotary selector.	If the signals are not normal, signal line, resistor, the rotary selector may be defective.	10.13 WAVEFORMS 60 61
4	Defective MAIN UCOM (IC1002)	CDJ1 Assy	If the symptom persists after the above corrections.	The MAIN UCOM (IC1002) may be defective.	[7] Basic Operation Check of the MAIN UCOM

[3-3] VRs, Faders or sliders not controllable

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connection	CDJ1 Assy CDJ2 Assy CRFD Assy	Check that the signal lines (AD_****) between the VRs/faders/sliders and MAIN UCOM (IC1002) are all right.	If the signals are not normal, signal line, resistor, capacitor may be defective.	———
2	Defective VR, Defective Fader, Defective Slider	CDJ1 Assy CDJ2 Assy CRFD Assy	Check the voltage at each signal line when the corresponding VR is turned or the corresponding fader/slider is moved.	VRs: If the voltage of the signal line does not change between 3.3 V and 0 V, that VR may be defective. Faders: If the voltage of the signal line does not change between 3.3 V and 0 V, that VR may be defective. Tempo slider: If the value of the voltage of the AD_PITCH1/2_2 signal is other than 1.65 V, or if the voltage of the AD_PITCH1/2_1 signal does not change between 3.3 V and 0 V, the tempo slider may be defective.	10.13 WAVEFORMS 16 52 56 57 58 59
3	Defective VOL SW IC, Loose connection	CDJ1 Assy CDJ2 Assy	Check the voltage of the signal output from the VOL SW ICs (IC1201, IC1202, IC2201) while the VR is turned.	If the voltage output from the VOL SW IC does not fluctuate within the range between 3.3 V and 0 V at the AD_MIX1/2, AD_VOL1/2, or AD_FX1/2 signal line after selection, one of the VOL SW ICs (IC1201, IC1202, IC2201) or the SW_AD_A/B switching-signal line may be defective.	10.13 WAVEFORMS 16 53 54 55
4	Defective MAIN UCOM (IC1002)	CDJ1 Assy	If the symptom persists after the above corrections.	The MAIN UCOM (IC1002) may be defective.	[7] Basic Operation Check of the MAIN UCOM

[3-4] Abnormalities regarding the JOG dial

After the JOG 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 "8.4 JOG DIAL ROTATION LOAD ADJUSTMENT".

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
Turning of the JOG dial is not detected.					
1	Loose connection	CDJ1 Assy CDJ2 Assy JOG1/2 Assy	Check the JOG_DIAL1/2_0 and JOG_DIAL1/2_1 waveforms while the Jog dial is rotated.	If either waveform is abnormal, connection of that signal line may be loose or the resistor or the capacitor may be defective.	10.13 WAVEFORMS ②63 64
2	Defective JOG1/2 photo interrupter	JOG1/2 Assy	Check the JOG_DIAL1/2_0 and JOG_DIAL1/2_1 waveforms while the Jog dial is rotated.	If either waveform is abnormal, the photo interrupters (PC1701, PC2701) may be defective.	10.13 WAVEFORMS ②63 64
3	Defective MAIN UCOM (IC1002)	CDJ1 Assy	If the symptom persists after the above corrections.	The MAIN UCOM (IC1002) may be defective.	[7] Basic Operation Check of the MAIN UCOM
Pressing on the JOG dial cannot be detected.					
4	Loose connection	CDJ1 Assy CDJ2 Assy TCH1/2 Assy	Check the signal level of the JOG_TCH1/2 when the JOG dial is pressed.	If the signal level of the JOG_TCH1/2 does not become L when the dial is pressed and H when the dial is released (not pressed,) loose connection of the signal line or a defective resistor, capacitor, transistor may be suspected.	10.13 WAVEFORMS ②62
5	Defective TCH1/2 photo interrupter	TCH1/2 Assy	Check the signal level of the JOG_TCH1/2 when the JOG dial is pressed.	If the signal level of the JOG_TCH1/2 does not become L when the dial is pressed and H when the dial is released (not pressed,) a defective photo interrupter (IC1801, IC2801) and peripheral circuit may be suspected.	10.13 WAVEFORMS ②62
6	Defective MAIN UCOM (IC1002)	CDJ1 Assy	If the symptom persists after the above corrections.	The MAIN UCOM (IC1002) may be defective.	[7] Basic Operation Check of the MAIN UCOM
Noise is heard when the JOG dial is turned.					
7	Defective gear, Defective JOG dial B	JOG section	There may be any scratches on the gear or some foreign matter between the gears.	If there are any scratches, replace the scratched gear with a new one. If there is any foreign matter, remove it then replace the gears with new ones. Gears to be replaced: Load gear, Encoder gear, JOG shaft	———
			There may be any scratches or some foreign matter on the JOG dial B or the Roller B Assy.	If there are any scratches, replace the scratched gear with a new one. If any foreign matter is attached, remove it.	———
The JOG dial turns too freely. (The load value for the JOG dial is outside the specified range.)					
8	Improper adjustment or assembly of the JOG dial	JOG section	Check that the load value for the JOG dial is within the specified range, referring to “Measuring method” in “8.4 JOG Dial Rotation Load Adjustment.”	If it is outside the specified range, adjust the position of the Adjust Plate to change the load value for the JOG dial, referring to “Load adjustment method” in “8.4 JOG Dial Rotation Load Adjustment.”	8.4 JOG DIAL ROTATION LOAD ADJUSTMENT
				During the above adjustment, if the upper-limit adjustment position of the Adjust Plate is reached, oil may have been spattered on the Adjust Plate. Replace the washer, load gear, and cam plate with new ones, then reassemble.	8.4 JOG DIAL ROTATION LOAD ADJUSTMENT
Resistance to turning the JOG dial is too strong. (The load value for the JOG dial is outside the specified range.					
9	Improper adjustment of the JOG dial or defective washer, gear, or cam plate	JOG section	Check that the load value for the JOG dial is within the specified range, referring to “Measuring method” in “8.4 JOG Dial Rotation Load Adjustment.”	If it is outside the specified range, adjust the position of the Adjust Plate to change the load value for the JOG dial, referring to “Load adjustment method” in “8.4 JOG Dial Rotation Load Adjustment.”	8.4 JOG DIAL ROTATION LOAD ADJUSTMENT
				During the above adjustment, if the lower-limit adjustment position of the Adjust Plate is reached, shavings from the worn-out washer may have increased the friction. Replace the washer, load gear, and cam plate with new ones, then reassemble.	8.4 JOG DIAL ROTATION LOAD ADJUSTMENT

[4] USB connection

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

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
0	Wrong input setting of the application installed on the PC	Input setting of the application installed on the PC	Check that the input setting of the application installed on the PC is appropriate.	The PC will not recognize the unit if the input setting of the application installed on the PC is inappropriate.	Operating instructions
1	Failure in startup	IFPW Assy CDJ1 Assy	Check the lighting statuses of the LEDs during startup.	If no LED lights, see [1] Failure in Startup.	[1] Failure in Startup
2	Defective USB Controller	IFPW 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, check the items listed in "[1-2] Failure in the microcomputer system".	[1-2] Failure in the microcomputer system 10.13 WAVEFORMS 14 15

[5] AUDIO OUT

[5-1] The MASTER OUT1/MASTER OUT2 is not output.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
0	Wrong input setting of the application installed on the PC	Input setting of the application installed on the PC	Check that the input setting of the application installed on the PC is appropriate.	The PC will not recognize the unit if the input setting of the application installed on the PC is inappropriate.	Operating instructions
1	———	MASTER OUT1 terminal MASTER OUT2 terminal	Identify the connector(s) that do(es) not output signals.	Check if no signal is output from both MASTER 1 and 2 or either of them. • If neither MASTER 1 nor 2 connector outputs, go to [2]. • If only the MASTER 1 connector does not output, go to [7]. • If only the MASTER 2 connector does not output, go to [8].	———
2	Loose connection /defective parts	IFPW Assy	Check the audio signal (MASTER2_L/R), using pins 15 and 19 of the CN101 on the IFPW Assy.	If audio signal is output, loose connection or defective parts in the JACK Assy may be suspected. • If an audio signal is output, go to [7] or [8]. • If an audio signal is not output, go to [3].	10.13 WAVEFORMS 33 36
3	———	IFPW Assy	Check that an audio signal is output from DAC (IC501 pin 10, 11).	• If an audio signal is output, go to [4] or [5]. • If an audio signal is not output, go to [6].	10.13 WAVEFORMS 33 34 35
4	Mute signal Loose connection /defective parts	IFPW Assy	Check the levels of the MUTE and A_MUTE audio muting signals.	Normally, the MUTE signal must be low (muting canceled). When it is high, muting is activated and no sound is output. The MUTE signal becomes high, possibly because connection of the corresponding signal line is loose or the Muting circuit (Q501) or Muting Drive circuit (Q502, Q508, Q509, D506, etc.) is defective.	1012 VOLTAGES 10.13 WAVEFORMS 13 14 22 23
5	Mute signal Loose connection /defective parts	IFPW Assy CDJ1 Assy	Check the level of the A_MUTE audio muting signal.	Normally, the A_MUTE signal must be low (muting canceled). When it is high, muting is activated and no sound is output. The A_MUTE signal becomes high, possibly because connection of the signal line is loose or the transistor (Q507) or MAIN UCOM (IC1002) is defective.	1012 VOLTAGES 10.13 WAVEFORMS 13 14 22 23
6	Loose connection /defective parts	IFPW Assy	Check the digital input signals to DAC (IC501) for MASTER OUT. • MCLK: pin 1 • BCLK: pin 2 • MASTER_DATA: pin 3 • LRCK: pin 4 • ADC_DAC_XRST: pin 5	If any of those signals is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, USB Controller (IC102), or MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 11 12 13 21 31 32
7	MASTER OUT1 Loose connection /defective parts	JACK Assy IFPW Assy	Identify the point where the audio signal is interrupted on the line from CN101 to the jacks (JA2904/JA2905).	The audio signal may be interrupted by a loose connection of the signal line or by a defective resistor, capacitor, transistor, operational amps (IC506, IC507,) or jacks.	10.13 WAVEFORMS 33 34 35
8	MASTER OUT2 Loose connection /defective parts	JACK Assy IFPW Assy	Identify the point where the audio signal is interrupted on the line from CN101 to the jacks (JA2903).	The audio signal may be interrupted by a loose connection of the signal line or by a defective resistor, capacitor, transistor, or jacks.	10.13 WAVEFORMS 33 36

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

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
0	Wrong input setting of the application installed on the PC	Input setting of the application installed on the PC	Check that the input setting of the application installed on the PC is appropriate.	The PC will not recognize the unit if the input setting of the application installed on the PC is inappropriate.	Operating instructions
1	Loose connection	IFPW Assy HPLC Assy HPJK Assy	Check the connections between the IFPW Assy and HPLC Assy, and between the IFPW Assy and HPJK Assy.	If normal, go to [2].	———
2	Loose connection /defective parts	IFPW Assy	Check the audio signal (HP_L/R), using pins 3 and 5 of the CN103 on the IFPW Assy.	If no audio signal is output, connection between the IFPW and HPLC Assys may be loose or these Assys may be defective. Go to [3]. If an audio signal is output, connection between the IFPW and HPJK Assys may be loose, connections inside the HPJK Assy may be loose, or these Assys may be defective. Go to [8].	10.13 WAVEFORMS 37 38
3	Loose connection /defective parts	IFPW Assy HPLC Assy	Check the voltages, using pin 1 (V+5_HP), pin3 (V+5_HP_OUT) of the CN104 on the IFPW Assy .	The normal voltage level is approximately 5 V. If the voltage is abnormal, the HPLC Assy may be defective, connection of the V+5_HP and V+5_HP_OUT lines on the IFPW Assy may be loose, or a connection IC (5V REG IC305, DAC IC502 for HP, HP AMP IC504, etc.) may be defective. If the voltage is normal, go to [4].	10.12 VOLTAGES ⑭⑮
4	———	IFPW Assy	Check the audio output signal, using pins 10 and 11 of the HP DAC (IC502).	• If an audio signal is output, go to [5]. • If an audio signal is not output, go to [7].	10.13 WAVEFORMS 37 38
5	Loose connection /defective parts	IFPW Assy	Check the audio input signal, using pins 3 and 5 of the HP AMP (IC504). Check the audio output signal, using pins 1 and 7 of the HP AMP (IC504).	If the output signal is normal, connection of the audio signal between HP AMP IC504 and CN103 may be loose. If the input signal is abnormal, connection of the audio input signal line may be loose or the resistor or capacitor may be defective. If the input signal is normal but the output signal is abnormal, go to [6].	———
6	Mute signal Loose connection /defective parts	IFPW Assy	Check the level of the muting signal for the HP AMP at Pin 2 of IC504.	The level must be high (muting canceled) in normal state. When it is low, muting is activated and no sound is output. The muting signal level becomes high, possibly because connection of the corresponding PWR_ON signal line is loose. If the muting signal level is high (normal,) the HP AMP may be defective.	10.12 VOLTAGES
7	Loose connection /defective parts	IFPW Assy	Check the digital input signals to DAC (IC502) for HP. • MCLK: pin 1 • BCLK: pin 2 • MASTER_DATA: pin 3 • LRCK: pin 4 • ADC_DAC_XRST: pin 5	If any of those signals is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, USB Controller (IC102), or MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 11 12 13 21 31 32
8	Loose connection /defective parts	HPJK Assy	Identify the point where the audio signal is interrupted on the line from JH1901 to the jacks (JA1901/JA1902).	The audio signal may be interrupted by a loose connection of the signal line or by a defective resistor, capacitor, or jack.	———

[6] AUDIO IN

[6-1] The input signal to AUX/MIC is not output

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
0	Defective input signal, wrong setting of the AUX/MIC selector, or wrong input setting of the application on the PC	Input signal to the AUX IN/MIC connector, setting of the AUX/MIC selector, or the input setting of the application on the PC	Check that the signal input to the unit is normal. Check that the AUX/MIC selector is correctly set. Check that the input setting of the application installed on the PC is appropriate.	If the input setting of the application installed on the PC is not appropriate, the signal input to the AUX_IN/MIC connector will not be output.	Operating instructions
1	———	AUX IN/MIC input terminal AUX/MIC selector switch	Identify the connector(s) whose input signal(s) is(are) not output.	Check if the signal can be input neither AUX nor MIC or either of them. • If neither of them can receive signals, go to [2]. • If only the AUX connector cannot receive signals, go to [8]. • If only the MIC connector cannot receive signals, go to [9].	———
2	———	IFPW Assy	Check that the selected MIC_AUXIN_L/R audio signals are input to Pins 1 and 3 of CN101 on the IFPW Assy.	• If an audio signal is input, go to [3]. • If an audio signal is not input, go to [7].	———
3	———	IFPW Assy	Check that the selected audio signals are input to Pins 1 and 2 of ADC (IC503).	• If an audio signal is input, go to [4]. • If an audio signal is not input, go to [5] or [6].	———
4	Loose connection /defective parts	IFPW Assy	Check the digital input/output signals to ADC (IC503). • MIC_AUX_DATA: pin 9 • LRCK: pin 10 • MCLK: pin 11 • BCLK: pin 12 • ADC_DAC_XRST: pin 13	If any signal is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, or ADC (IC503) may be defective. Or the USB Controller (IC102) or MAIN UCOM (IC1002) may be defective. If all signals are normal, connection of the MIC_AUX_DATA signal line may be loose or the USB Controller (IC102) may be defective.	10.13 WAVEFORMS 11 12 13 26 29
5	Loose connection /defective parts	IFPW Assy	Check the ADC_MUTE signal.	Normally, the ADC_MUTE signal must be low (muting canceled). When it is high, muting is activated and no sound is output. the ADC_MUTE signal becomes low, possibly because connection of the corresponding signal line is loose or the Muting circuit (Q505) or Muting Drive circuit (Q504, Q503, etc.) is defective.	10.12 VOLTAGES 10.13 WAVEFORMS ②13 24 25
6	Loose connection /defective parts	IFPW Assy	Check the MIC_AUXIN_MUTE signal.	Normally, the MIC_AUXIN_MUTE signal must be low (muting canceled). When it is high, muting is activated and no sound is output. The MIC_AUXIN_MUTE signal becomes high, possibly because connection of the signal line is loose or the transistor (Q510) or MAIN UCOM (IC1002) is defective.	10.12 VOLTAGES 10.13 WAVEFORMS ②13 24 25
7	Loose connection /defective parts	JACK Assy	Check the Audio output signal (MIC_AUXIN_L/R), using pin 5 of IC2903/IC2904 (SW AMP).	If no signal is output, the voltages of V+7_J and V-6_J power inside the JACK Assy may be abnormal or the SW AMP (IC2903/IC2904) may be defective.	———
8	Loose connection /defective parts	JACK Assy	Check the external Audio input signal (AUX IN), using pin 7 for IC2903/IC2904 (SW AMP).	If a signal is input, go to [10]. If no signal is input, check for the audio signal that is input to the AUX connector (JA2902) and transmitted to the SW AMP (IC2903, IC2904). If the input signal is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, OP AMP (IC2901), AUX IN VOL (VR2901), or jack (JA2902) may be defective.	———
9	Loose connection /defective parts	JACK Assy	Check the MIC Audio input signal, using pin 2 for IC2903/IC2904 (SW AMP).	If a signal is input, go to [10]. If no signal is input, check for the audio signal that is input to the MIC connector (JA2901) and transmitted to the SW AMP (IC2903, IC2904). If the input signal is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, OP AMP (IC2901), MIC IN VOL (VR2902), or jack (JA2901) may be defective.	———
10	Loose connection /defective parts	JACK Assy IFPW Assy CDJ1 Assy	Check the switching control signal from Pin 1 of the SW AMP (IC2903/IC2904) when the AUX/MIC selector (S2901) is switched.	Normally, the switching control signal is low when the selector is set to AUX and high when the selector is set to MIC. If the switching control signal is not normal, the MIC_AUXIN_SEL or MIC_AUXIN_SW signal line may be loose, or the resistor, transistor, MAIN UCOM (IC1002), or switch (S2901) may be defective.	10.12 VOLTAGES 10.13 WAVEFORMS 26 27 28

[7] Basic Operation Check of the MAIN UCOM

Note: First, check if the voltage at each section is OK.
Operation checking of all operating elements and LEDs can be performed in Service mode. With regard to operation checking of LED lighting, besides lighting of each LED, check that all LEDs can be simultaneously lit or unlit.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Failure in LED lighting	CDJ1 Assy CDJ2 Assy	In each mode where the abnormal LED should be lit, check the GRID signals (GRID_0 to GRID_7) relating to the abnormal LED between the MAIN UCOM and the transistor for driving the corresponding LED.	If the waveform is abnormal, connection of the GRID signal line may be loose or the resistor, capacitor, or transistor may be defective. If nothing is wrong with these parts, the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 45 46 47 48
2		CDJ1 Assy CDJ2 Assy	In each mode where the abnormal LED should be lit, check the LED-driving signal between the transistor for driving the corresponding LED and the abnormal LED.	If the waveform is abnormal, connection of the LED-driving signal line may be loose or the resistor, transistor, or diode may be defective.	10.13 WAVEFORMS 65 66 67 68
3		CDJ1 Assy CDJ2 Assy	In each mode where the abnormal LED should be lit, check the LED-control signal (LED_0 to LED_14) corresponding to the abnormal LED between the transistor for driving the corresponding LED and the MAIN UCOM.	If the waveform is abnormal, connection of the LED-control signal line may be loose or the resistor, capacitor, or transistor may be defective. If nothing is wrong with these parts, the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 65 66 67 68
4	Failure in key operation	CDJ1 Assy CDJ2 Assy	When pressing the abnormal key, check the GRID signal (GRID_0 to GRID_7) corresponding to the abnormal key between the MAIN UCOM and the switch for the corresponding key (S****).	If the waveform is abnormal, connection of the KEY-detection signal line may be loose or the resistor, capacitor, or transistor may be defective. If nothing is wrong with these parts, the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 45 46 47 48
5		CDJ1 Assy CDJ2 Assy	When pressing the abnormal key, check the KEY detection signal between the abnormal key and the transistor for key detection.	If the waveform is abnormal, connection of the KEY-detection signal line may be loose or the switch, transistor, or diode may be defective.	10.13 WAVEFORMS 49 50 51
6		CDJ1 Assy CDJ2 Assy	When pressing the abnormal key, check the KEY-detection signal (KEY_IN_0 to KEY_IN_7) corresponding to the abnormal key between the transistor for key detection and the MAIN UCOM.	If the waveform is abnormal, connection of the KEY-detection signal line may be loose or the resistor, capacitor, or transistor may be defective. If nothing is wrong with these parts, the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 49 50 51
7	Failure in VR control	CDJ1 Assy CDJ2 Assy	Check the waveform of each input signal to the VOL SW and MAIN UCOM when you operate the abnormal operating element.	If the waveform is abnormal, connection of that signal line or VOL-SW-control signal (SW_AD_A/B) line may be loose or the resistor or capacitor may be defective. If nothing is wrong with them, the VOL SW (IC1201, IC1202, IC2201) or MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 16 52 53 54 55
8	Failure in operation of the slider, fader, rotary switch, or Jog dial (touching and rotating)	CDJ1 Assy CDJ2 Assy	Check the waveform of each input signal to the MAIN UCOM when you operate the abnormal operating element.	If the waveform is abnormal, connection of the corresponding signal line may be loose or the resistor, capacitor, or transistor may be defective. If nothing is wrong with these parts, the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 16 56 57 58 59 60 61 62 63 64
9	After lighting of the LEDs at startup is finished, key operation is disabled or LED lighting is not interlocked with the application.	CDJ1 Assy IFPW Assy	Check the communication waveform between the USB Controller (IC102) and MAIN UCOM (IC1002). USB_XRST USB_REQ USB_BUSY USB_ERR USB_CTRL1 USB_CTRL2 EEP_SCL EEP_SDA	Normally, the USB Controller (IC102) and MAIN UCOM (IC1002) communicate periodically. Check that each communication-signal line is all right, referring to "10.13 WAVEFORMS." If any waveform is abnormal, connection of that signal line may be loose or the resistor or the capacitor may be defective. If nothing is wrong with these parts, the USB Controller (IC102) or MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 4 6 7 16 17 18 19 20
10	Failure in operation of the volume for MASTER VOL or HP VOL, or abnormal ooutput level.	CDJ1 Assy IFPW Assy	Check the waveforms of the control signals of DAC for the MASTER OUT (IC501) and for HP (IC502).	Communication between the MAIN UCOM and DAC is performed only upon startup or while the MASTER_VOL or HP_VOL is operated. If the communication control waveform (DAC_CS, DAC_CSN, DAC_CCLK, DAC_CDTI) is abnormal, connection of that signal line may be loose or the resistor or capacitor may be defective. If nothing is wrong with these parts, the DAC for MASTER OUT (IC501) or for HP (IC502) or the MAIN UCOM (IC1002) may be defective.	10.13 WAVEFORMS 39 40 41 42

5.3 VOLTAGE MONITORING

The MAIN UCOM 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 IFPW Assy
Power to be monitored: V+5_D, V+5_A, V+7, V-6, V+3R3_USB

• MAIN UCOM Detection terminal and its terminal voltage

FAULT_DET signal TP terminal on IFPW Assy or IC1002 (MAIN UCOM) pin 20 FAULT_DET on CDJ1 Assy.
Normal: Approximately 3.3 V
Abnormal: 0 V

• Timing of monitoring start

1.25 sec after the unit is turned ON

• Timing upon judgment as a failure

50 msec after an error is detected

• LED indication when an error is generated

A power failure is indicated with flashing of the illumination LED of the channel fader for left side deck (deck A or C). Other LEDs are unlit after an error is generated.

• Restoration method

If the unit shuts itself down because of failure, perform diagnosis, disconnect the USB cable, then after about 30 seconds turn the unit back on again.

• Diagnostic procedure

① Disconnect the USB cable.
② Remove R337 from the IFPW Assy. Note: This step will disable power monitoring.
③ Reconnect the USB cable.
④ 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, the 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.
⑤ If the voltage of any power IC is abnormal, the circuit that uses that power or the power IC itself may be defective.
⑥ Repair the defective part then check that the power and voltage of the repaired part becomes normal.
⑦ Return R337 to its original position on the IFPW Assy.
Note: This step will enable power monitoring.

5.4 ABOUT POWER-SAVING MODE

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, the 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 PC.

• Content to be monitored

Drop in power voltage in the IFPW Assy to be supplied via a USB cable
Power voltages to be monitored: V+VBUS, V+5_USB

• Microcomputer Detection terminal and its terminal voltage

VBUS_DET signal TP terminal on IFPW Assy or IC1002 (MAIN_UCOM) pin 1 VBUS_DET input terminal on CDJ1 Assy.
Normal: 2.3 V to 2.6 V
Abnormal: 2.3V or less
FAULT_DET2 signal TP terminal on IFPW Assy or IC1002 (MAIN_UCOM) pin 18 FAULT_DET2 input terminal on CDJ1 Assy.
Normal: Approximately 3.3 V
Abnormal: 0 V

• Timing of monitoring start

1.25 sec after the unit is turned ON

• Timing upon judgment as a failure

50 msec after an error is detected

• LED indication when an error is generated

V+VBUS (V+5_USB): 4.2–4.5 V
The maximum output level of the headphone is suppressed to approximately 15%, and the LEDs for the selected decks (Decks A or C, and B or D) flash at intervals of 1 sec.
If normal power voltage is recovered, the suppressed maximum output level of the headphone will return to its original level.
V+VBUS (V+5_USB): 4.2 V or less
The product will be restarted, with the maximum output level of the headphone suppressed to approximately 3%. If power voltage has been recovered after startup, the LEDs for the selected decks (Decks A or C, and B or D) flash at intervals of 0.5 sec. The unit can be operated in the normal way. If power voltage has not been recovered after restart, only the LEDs for the selected decks (Decks A or C, and B or D) flash at intervals of 0.2 sec, with all other LEDs unlit. The unit cannot be operated in the normal way.

• Items to be checked

① Check if two sets of headphones are simultaneously connected.
② Check if headphones with impedance outside the range of the guaranteed specifications (impedance 32 ohms or less) are connected.
③ Check if a monaural plug is connected to the Headphones connector.
④ The connected PC may not be able to supply enough USB power (may not meet USB standards).

5.5 OPERATION CHECK METHODS, USING VIRTUAL DJ

[Preparations]

Install VIRTUAL DJ LE (DJ software) on the PC. For details on installation, refer to the operation manual of the unit.
If the OS of the PC is Windows, the driver software for outputting audio from the PC must be installed beforehand.
The requirements of a PC on which VIRTUAL DJ LE can be installed are as shown below.

Minimum operating environment

Supported operating systems	CPU and required memory
Mac OS X 10.5.x	Intel® processor
	1 GB or more of RAM
Windows® XP (SP3 or later)	Intel® Pentium® 4 or AMD Athlon™ XP processor
	512 MB or more of RAM

Others	
Hard disk	Free space of 50 MB or greater
Optical drive	Optical disc drive on which the CD-ROM can be read
USB port	A USB 2.0 port is required to connect the computer with this unit.
Display resolution	Resolution of 1 024 x 768 or greater

Recomended operating environment

Supported operating systems		CPU and required memory
Mac OS X 10.6.x		Intel® processor
		2 GB or more of RAM
Windows® 7 Professional	32-bit version	Intel® Core™ 2 or AMD Athlon™ X2 processor
		1 GB or more of RAM

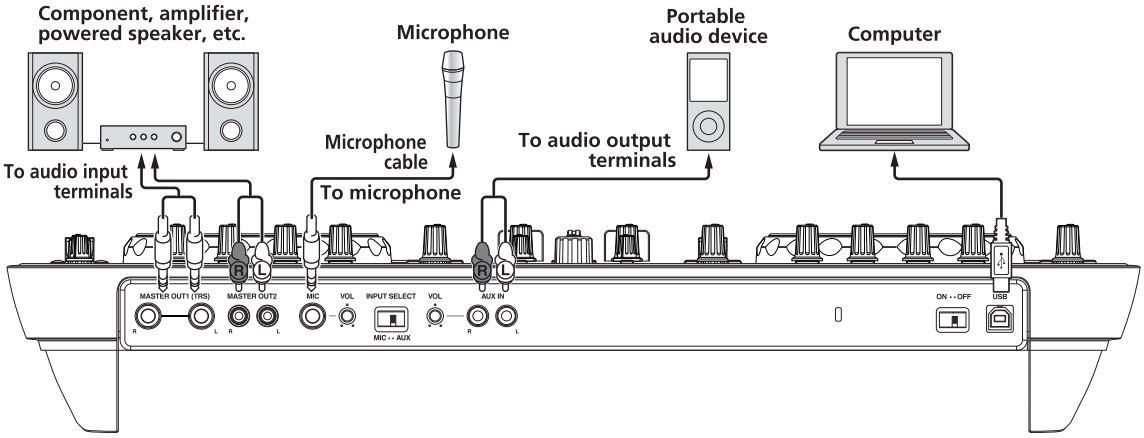
Others	
Hard disk	Free space of 200 MB or greater
Display resolution	Resolution of 1 280 x 1 024 or greater (Windows) Resolution of 1 440 x 900 or greater (Mac)

The conditions below must be satisfied in order to conduct video mixing.

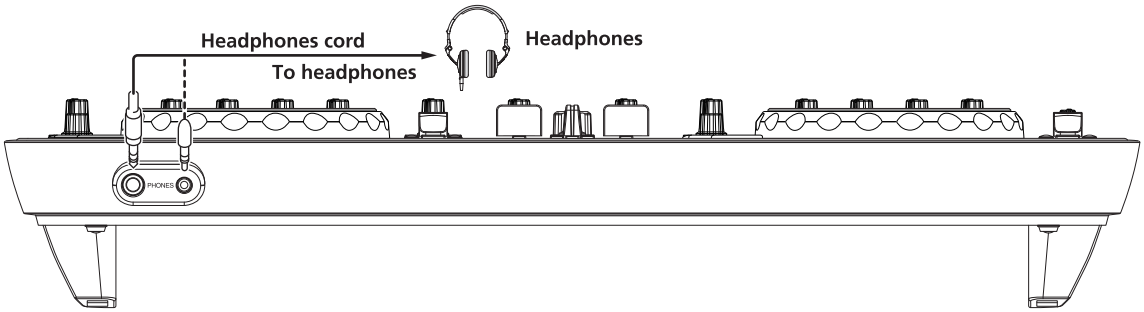
- Mac
  - ATI™ or NVIDIA® video chipset with 256 MB of dedicated DDR3 RAM
  - Video card must support dual-screen output.
- Windows
  - ATI™ or NVIDIA® video card with 256 MB of dedicated DDR3 RAM
  - Video card must support dual-screen output.

[Connection]

Rear panel



Front panel



[Startup of the System]

• Starting up the DDJ-ERGO-V

1. Connect this unit and a PC, using a USB cable.
2. Start up the connected PC.
3. Slide the ON/OFF switch of this unit to ON to turn it on.
4. Turn on the connected microphone(s) and external equipment.

• Starting up VIRTUAL DJ LE

(Windows)

1. From the Start menu of the Windows, select All Programs, VIRTUAL DJ LE, then VirtualDJ LE(DDJ-ERGO).
   When VIRTUAL DJ LE is started for the first time, the serial number input window will be displayed.
   Enter the serial number for servicing for VIRTUAL DJ LE, which is posted on the Niis Web site, then click on OK.
2. After the VIRTUAL DJ LE window is displayed, click on CONFIG located in the upper right portion of the window.
   The Settings window is displayed. Select the Sound Setup tab and set the following items in the order described below.
   ① [Inputs]: Select MICROPHONE.
   ② [Sound card]: Select Pioneer DDJ ASIO. Check the "Ultra-latency".
   ③ [Outputs]: Select [Master: Chan 1&2/Headphones: Chan 3&4].
3. Click on Apply then OK.

(Macintosh)

1. With the Finder, open the Applications folder then double-click on the VIRTUAL DJ LE icon.
   (Enter the serial number in the same way as that for Windows.)
2. After the VIRTUAL DJ LE is displayed, click on CONFIG located in the upper left portion of the window.
   The Settings window is displayed. Select the Sound Setup tab and set the following items in the order described below.
   ① [Inputs]: Select MICROPHONE.
   ② [Sound card]: Select [4-IN/4-OUT CARD] and [PIONER DDJ-ERGO]. Check the "Ultra-latency".
   ③ [Outputs]: Select [Master: Chan 1&2/Headphones: Chan 3&4].
3. Click on Apply then OK.

[Loading and Playing a Track]

1. While holding the SHIFT button pressed, turn the rotary selector to select a folder or an item.
2. After releasing the SHIFT button, turn the rotary selector to select a track.
3. Press the LOAD button to load the selected track onto the deck.
4. Play the track by pressing the [►/II] button.

[Outputting Audio]

1. Adjust the level of the audio signal output from each deck, using the GAIN control and the channel fader.
   For switching the decks from which the audio signal is output, use the cross fader.
2. Adjust the audio level from the speakers, using the MASTER VOL control, in order to confirm that the audio signal is output without a problem. The MASTER VOL and HEADPHONE VOL controls on the controller are not interlocked with the GUI VOL controls for VIRTUAL DJ LE.
   If no sound is output even if you turn the above-mentioned controls on the controller, check if the GUI VOL controls for VIRTUAL DJ LE are set to MIN.
   Select a deck to be monitored via the headphones using the HEADPHONE [CUE] button and adjust the audio level, using the HEADPHONE [VOL] control, in order to confirm that the audio signal is output without a problem.

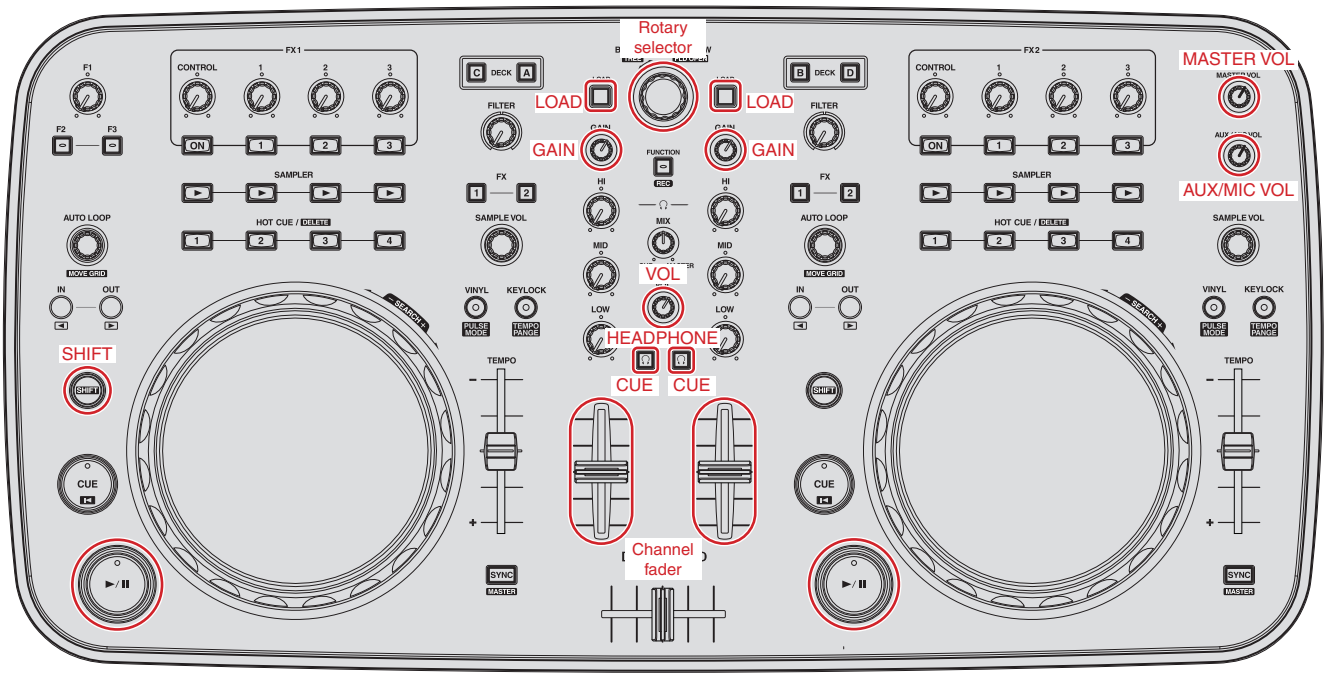
[Inputting Audio]

Example: When inputting audio from external equipment

1. Connect the external equipment via the AUX IN connector then set the AUX/MIC selector to AUX.
2. Adjust the input audio level, turning the AUX IN VOL control on the rear panel. Adjust the output audio level, turning the AUX/MIC VOL control on the upper right of the control panel, then check that the audio signal is output properly.

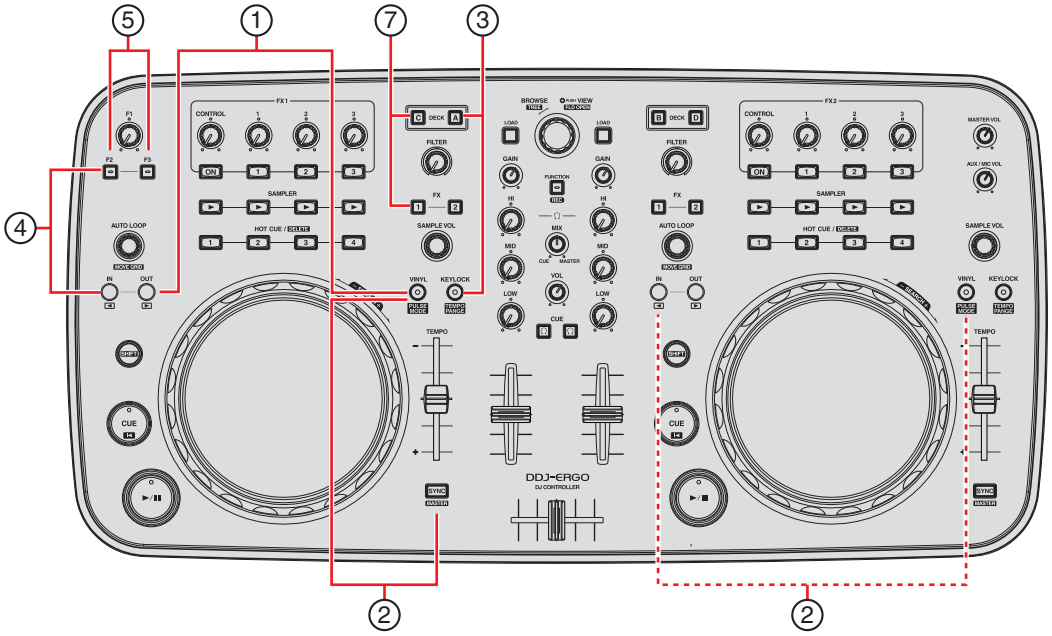
* The details see operating instructions.

[Operation elements to use at the operation check]



6. SERVICE MODE
6.1 HOW TO ENTER EACH MODE

How to start up and enter various modes in a manner other than the usual is described below.



① **Program for USB Controller copy mode**
While simultaneously holding the LOOP OUT and VINYL buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
Data for the TUSB firmware in the MAIN_UCOM will be copied to the EEPROM.
During copying, the FUNCTION LED is lit.
For details, see “8.2 HOW TO PROGRAM COPY FOR USB CONTROLLER.”

② **Firmware update**
Set the Power switch to ON without pressing any other buttons.
Data for all areas in the ROM, excluding those for the boot area, will be rewritten.
For details, see “8.3 HOW TO FIRMWARE UPDATE.”

③ **Version of the firmware Confirmation mode (with hardware alone)**
While simultaneously holding the DECK A and KEYLOCK buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
The version number will be indicated with the LEDs on the controller, with no need for starting up any application.
For details, see “6.2 FIRMWARE VERSION CONFIRMATION METHODS.”

④ **Service mode**
While simultaneously holding the LOOP IN and F2 buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
In this mode, you can check if each element on the controller can operate and each LED can light properly, with no need for starting up any application.
For details, see “6.3 SERVICE MODE.”

⑤ **JOG Load Measurement mode**
While simultaneously holding the F2 and F3 buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
This mode is for judging if the load value for the JOG dial while it is being turned is OK.
For details, see “8.4 JOG DIAL ROTATION LOAD ADJUSTMENT.”

⑥ **Point-of-Sale Demo mode**
Demonstrations with lighting of the LEDs (illumination) are automatically performed at shops even if no PC application is started.
This mode will be established if no reception via MIDI is performed for 1 minute after the controller is turned ON.

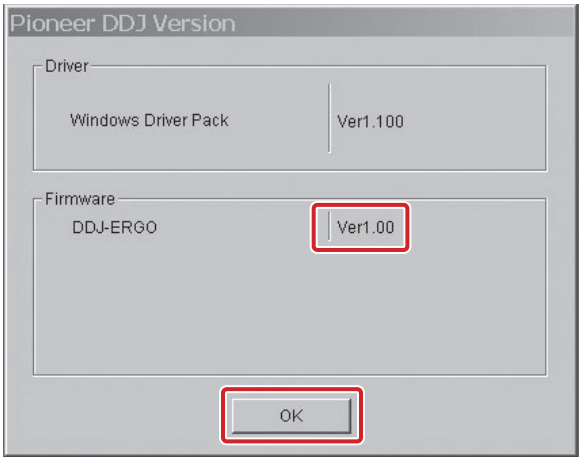
⑦ **Factory Reset (To return the settings to the factory default values)**
While simultaneously holding the DECK C and FX 1 buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
The VINYL mode ON/OFF and Normal/Active mode are reset to the initial settings.
For details, see “6.4 FACTORY RESET MODE.”

6.2 FIRMWARE VERSION CONFIRMATION METHODS

How to Confirm the Firmware Version on the Connected PC

1. Click on Start then select Programs, Pioneer, DDJ, then DDJ Version Display Utility, to start up the utility.
   • This method can be used only with Windows, and with Mac OS the firmware version cannot be confirmed in this way.
   • The firmware version can be confirmed only on a PC on which the dedicated driver for the DDJ-ERGO has been installed.

2. Check the version described in the Firmware section.



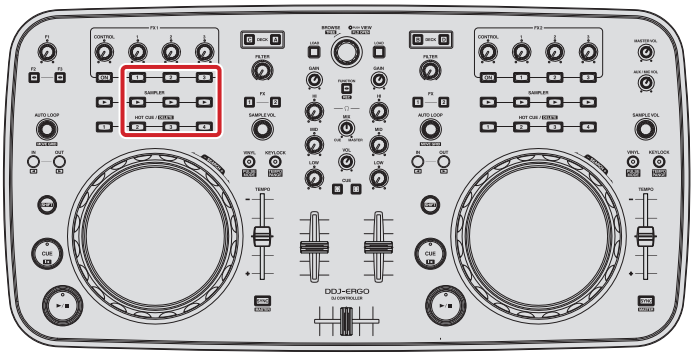
Confirming the Firmware Version (MAIN_UCOM) and Confirming the Mode setting (VINYL mode and jog dials' illumination mode)

To enter this mode, while simultaneously holding the DECK A and KEYLOCK buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
(Hold the two buttons pressed until the opening display terminates.)

The version number of the firmware (MAIN_UCOM) will be indicated with LED-lighting patterns that are switched every 3 seconds in integral part and decimal fraction part.
In the blocks that are indicated with the red frames in the figures, the number of lit LEDs indicates the corresponding number.

① **Integral part of the version number (LEDs on DECK A lit)**

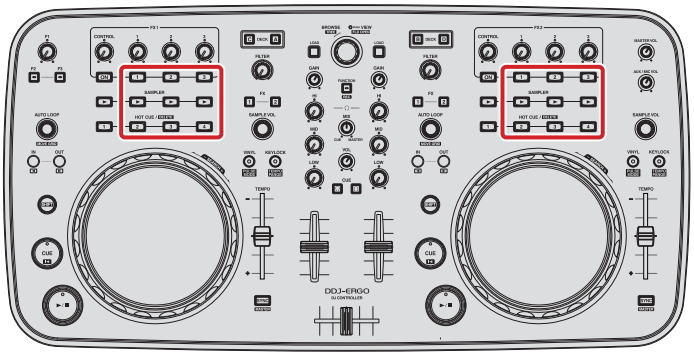
X . XX



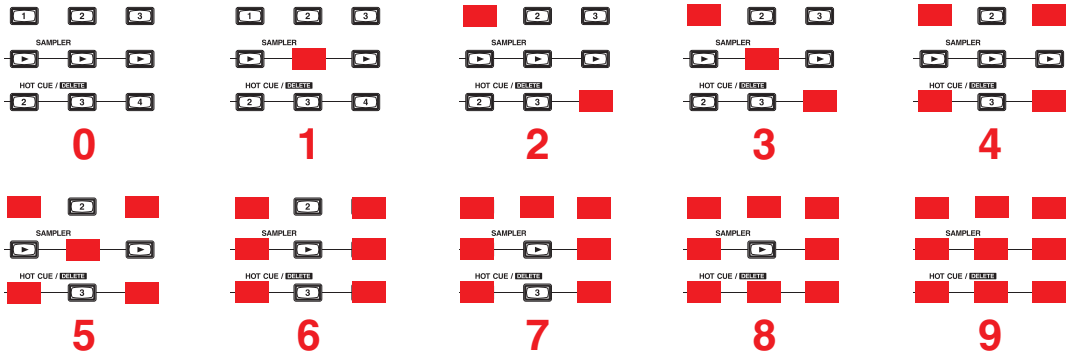
3 sec

② **Decimal fraction part of the version number (LEDs on DECKs A and B lit)**

X . XX



[Numerics expressed with the number of lit LEDs]



In addition to the above-mentioned firmware-version indication, the setting statuses of VINYL mode and Illumination mode for the Jog dial are indicated with other LEDs.

Mode	Point	Mode setting state	LED display
VINYL mode	DECK A/C	ON	VINYL LED on the DECK A/C side lit
		OFF	VINYL LED on the DECK A/C side unlit
	DECK B/D	ON	VINYL LED on the DECK B/D side lit
		OFF	VINYL LED on the DECK B/D side unlit
Illumination mode	JOG dial	Pulse Mode: Active	Blue LEDs on both decks lit
		Pulse Mode: Normal	Blue LEDs on both decks unlit

* For details, see “6.4 FACTORY RESET MODE.”

6.3 SERVICE MODE

Confirmation of Input to Each Element and Display Function

To enter this mode, while holding the LOOP IN and F2 buttons on the Deck A/C side pressed, set the Power switch to ON.
(Hold the two buttons pressed until the opening display terminates.)

In this mode, you can check if pressing each of button or turning of the JOG dial is properly input and indications are also properly displayed.
The indication corresponding to a pressed button is lit only while the button is held pressed.

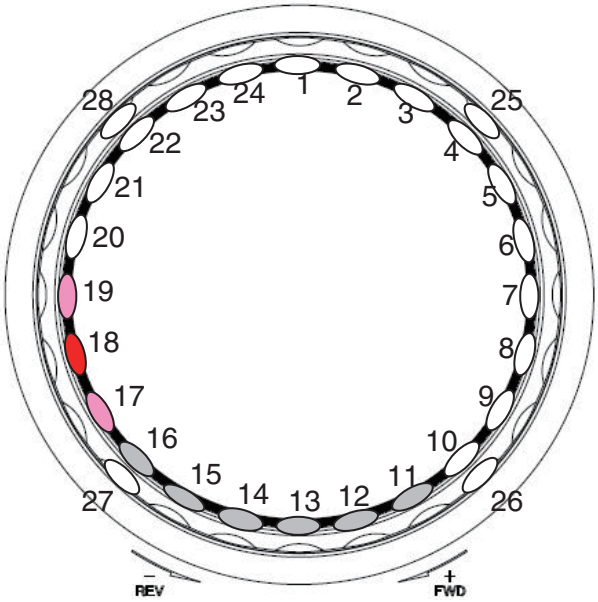
Part	Operator	Device	LED Display	Deck
	DECK A	BUTTON	DECK A	1
	DECK C	BUTTON	DECK C	1
	DECK B	BUTTON	DECK B	2
	DECK D	BUTTON	DECK D	2
FX1	EFFECT ON/OFF	BUTTON	EFFECT ON	1
	EFFECT CONTROL	ROTARY VOLUME	JOG LED ROTATION A	1
	EFFECT PARAMETER 1 ON/OFF	BUTTON	EFFECT PARAMETER 1	1
	EFFECT PARAMETER 2 ON/OFF	BUTTON	EFFECT PARAMETER 2	1
	EFFECT PARAMETER 3 ON/OFF	BUTTON	EFFECT PARAMETER 3	1
	EFFECT PARAMETER 1 CONTROL	ROTARY VOLUME	JOG LED ROTATION A	1
	EFFECT PARAMETER 2 CONTROL	ROTARY VOLUME	JOG LED ROTATION A	1
	EFFECT PARAMETER 3 CONTROL	ROTARY VOLUME	JOG LED ROTATION A	1
FX2	EFFECT ON/OFF	BUTTON	EFFECT ON	2
	EFFECT CONTROL	ROTARY VOLUME	JOG LED ROTATION B	2
	EFFECT PARAMETER 1 ON/OFF	BUTTON	EFFECT PARAMETER 1	2
	EFFECT PARAMETER 2 ON/OFF	BUTTON	EFFECT PARAMETER 2	2
	EFFECT PARAMETER 3 ON/OFF	BUTTON	EFFECT PARAMETER 3	2
	EFFECT PARAMETER 1 CONTROL	ROTARY VOLUME	JOG LED ROTATION B	2
	EFFECT PARAMETER 2 CONTROL	ROTARY VOLUME	JOG LED ROTATION B	2
	EFFECT PARAMETER 3 CONTROL	ROTARY VOLUME	JOG LED ROTATION B	2
DECK A/C	FILTER CONTROL	ROTARY VOLUME	JOG LED ROTATION A	1
	LOOP IN	BUTTON	LOOP IN	1
	LOOP OUT	BUTTON	LOOP OUT	1
	AUTO LOOP	ENCODER	JOG LED ROTATION A	1
	AUTO LOOP PUSH	ENCODER	LOOP IN	1
	VINYL	BUTTON	VINYL	1
	SYNC A/C	BUTTON	SYNC A/C	1
	HOT CUE 1	BUTTON	HOT CUE 1	1
	HOT CUE 2	BUTTON	HOT CUE 2	1
	HOT CUE 3	BUTTON	HOT CUE 3	1
	HOT CUE 4	BUTTON	HOT CUE 4	1
	SAMPLER 1	BUTTON	SAMPLER 1	1
	SAMPLER 2	BUTTON	SAMPLER 2	1
	SAMPLER 3	BUTTON	SAMPLER 3	1
	SAMPLER 4	BUTTON	SAMPLER 4	1
	SAMPLER VOL	ENCODER	JOG LED ROTATION A	1
	SAMPLER VOL PUSH	ENCODER	VINYL	1
	SHIFT	BUTTON	LOOP OUT	1
	KEY LOCK	BUTTON	KEY LOCK	1
	CUE	BUTTON	CUE	1
	PLAY/PAUSE	BUTTON	PLAY/PAUSE	1
	TEMPO	SLIDE VOLUME	JOG LED ROTATION A	1
	JOG ROTATION	DIAL	JOG LED ROTATION A	1
	JOG TOUCH	DIAL	JOG LED ALL ON	1

Part	Operator	Device	LED Display	Deck
DECK B/D	FILTER CONTROL	ROTARY VOLUME	JOG LED ROTATION B	2
	LOOP IN	BUTTON	LOOP IN	2
	LOOP OUT	BUTTON	LOOP OUT	2
	AUTO LOOP	ENCODER	JOG LED ROTATION B	2
	AUTO LOOP PUSH	ENCODER	LOOP IN	2
	VINYL	BUTTON	VINYL	2
	SYNC B/D	BUTTON	SYNC B/D	2
	HOT CUE 1	BUTTON	HOT CUE 1	2
	HOT CUE 2	BUTTON	HOT CUE 2	2
	HOT CUE 3	BUTTON	HOT CUE 3	2
	HOT CUE 4	BUTTON	HOT CUE 4	2
	SAMPLER 1	BUTTON	SAMPLER 1	2
	SAMPLER 2	BUTTON	SAMPLER 2	2
	SAMPLER 3	BUTTON	SAMPLER 3	2
	SAMPLER 4	BUTTON	SAMPLER 4	2
	SAMPLER VOL	ENCODER	JOG LED ROTATION B	2
	SAMPLER VOL PUSH	ENCODER	VINYL	2
	SHIFT	BUTTON	LOOP OUT	2
	KEY LOCK	BUTTON	KEY LOCK	2
	CUE	BUTTON	CUE	2
	PLAY/PAUSE	BUTTON	PLAY/PAUSE	2
	TEMPO	SLIDE VOLUME	JOG LED ROTATION B	2
	JOG ROTATION	DIAL	JOG LED ROTATION B	2
	JOG TOUCH	DIAL	JOG LED ALL ON	2
MIXER	LOAD A/C	BUTTON	FX 1 A/C	1
	LOAD B/D	BUTTON	FX 1 B/D	2
	FUNCTION	BUTTON	FUNCTION	1/2
	BROWSE CONTROL	ENCODER	JOG LED ROTATION A/B	1/2
	BROWSE PUSH	ENCODER	ALL LED BRIGHT → OFF → (Cyclic)	1/2
	GAIN CONTROL A/C	ROTARY VOLUME	JOG LED ROTATION A	1
	GAIN CONTROL B/D	ROTARY VOLUME	JOG LED ROTATION B	2
	EQ HI A/C	ROTARY VOLUME	JOG LED ROTATION A	1
	EQ HI B/D	ROTARY VOLUME	JOG LED ROTATION B	2
	EQ MID A/C	ROTARY VOLUME	JOG LED ROTATION A	1
	EQ MID B/D	ROTARY VOLUME	JOG LED ROTATION B	2
	EQ LOW A/C	ROTARY VOLUME	JOG LED ROTATION A	1
	EQ LOW B/D	ROTARY VOLUME	JOG LED ROTATION B	2
	MASTER VOL	ROTARY VOLUME	JOG LED ROTATION A/B	1/2
	HEADPHONE MIX	ROTARY VOLUME	JOG LED ROTATION A/B	1/2
	HEADPHONE VOL	ROTARY VOLUME	JOG LED ROTATION A/B	1/2
	AUX/MIC VOL	ROTARY VOLUME	JOG LED ROTATION A/B	1/2
	F1	ROTARY VOLUME	JOG LED ROTATION A/B	1/2
	F2	BUTTON	F2	1/2
	F3	BUTTON	F3	1/2
	FX 1 A/C	BUTTON	FX 1 A/C	1
	FX 1 B/D	BUTTON	FX 1 B/D	2
	FX 2 A/C	BUTTON	FX 2 A/C	1
	FX 2 B/D	BUTTON	FX 2 B/D	2
	HEADPHONE CUE A/C	BUTTON	HEADPHONE CUE A/C	1
	HEADPHONE CUE B/D	BUTTON	HEADPHONE CUE B/D	2
	FADER A/C	SLIDE VOLUME	JOG LED ROTATION A	1
	FADER B/D	SLIDE VOLUME	JOG LED ROTATION B	2
	CROSS FADER	SLIDE VOLUME	JOG LED ROTATION A/B	1/2

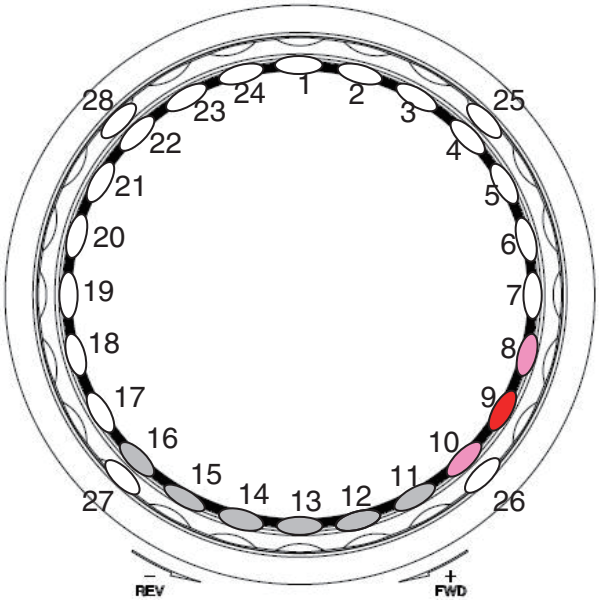
[Indications by the VOL control]

The volume level is indicated in 16 steps from minimum to maximum.
At the minimum volume, LEDs 17, 18, and 19 are lit, with LED 18 brighter than other two. The lighting LEDs shift as the volume is increased, and LEDs 8, 9, and 10 are lit at the maximum volume.

MIN



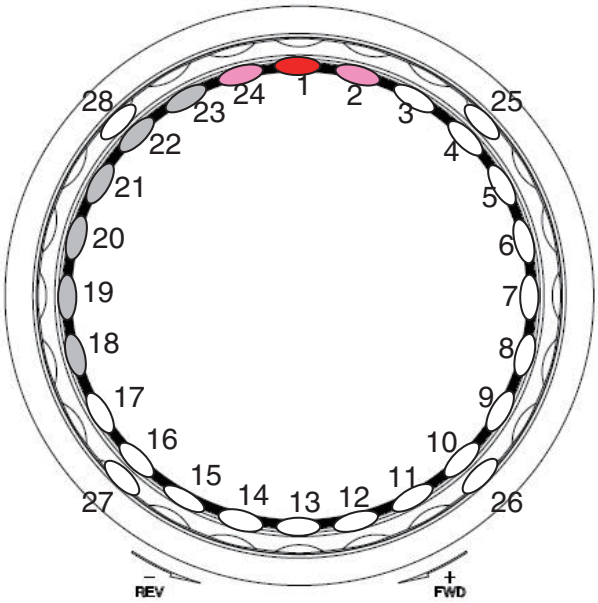
MAX



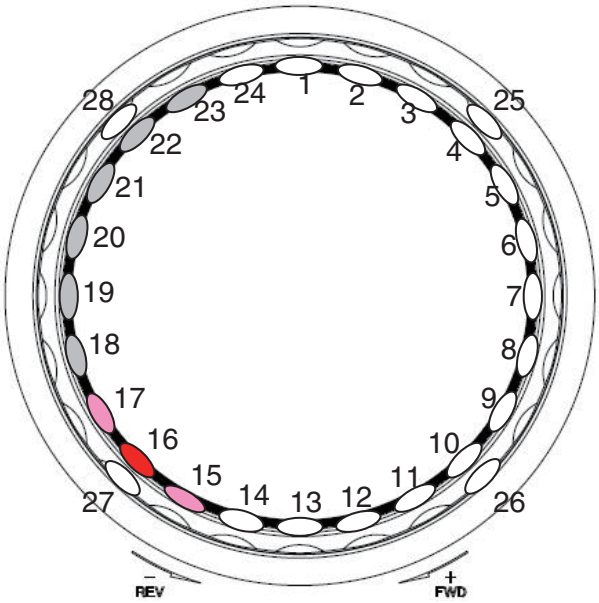
[Indications by the FADER control]

The fader level is indicated in 16 steps from minimum to maximum.
At the minimum level, LEDs 24, 1, and 2 are lit, with LED 1 brighter than other two. The lighting LEDs shift as the level is increased, and LEDs 15, 16, and 17 are lit at the maximum level.

MIN



MAX



6.4 FACTORY RESET MODE

To enter this mode, while simultaneously holding the DECK C and FX 1 buttons on the Deck A/C side pressed, set the Power switch of the unit to ON.
(Hold the two buttons pressed until the opening display terminates.)
During Factory Reset mode, the VINYL LEDs on both sides are lit. When you exit this mode, the LEDs go dark.

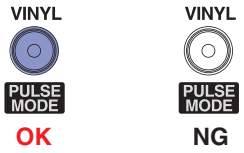
1. Initial Settings

VINYL on the left deck	ON
VINYL on the right deck	ON
Normal / Active mode	Active

2. How to Check If Initial Settings Are Restored

a) Checking Method with an Application on the Connected PC

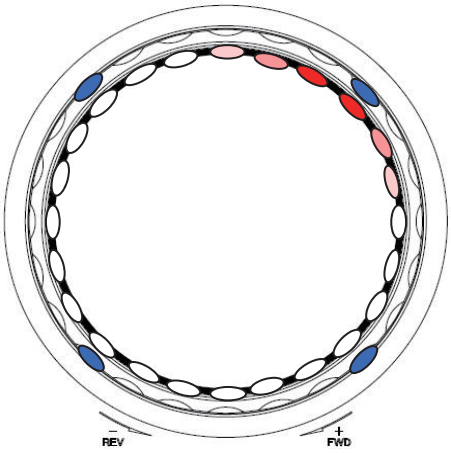
1) Checking VINYL ON/OFF
After the unit is turned on and the opening illumination is finished, if the VINYL LED is lit, it is set to ON (OK).



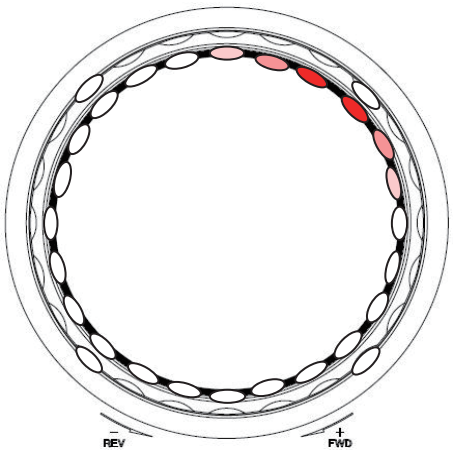
OK NG

2) Checking of Normal/Active Mode
Check the following, after starting the application on the connected PC.
Load a piece of music onto any of the decks (Deck A, B, C, or D).
Check that blue LEDs on the JOG dial are lit (Active mode).

OK



NG



a) Checking Method With the Controller Alone

Establish Version Confirmation mode, by turning the unit ON while simultaneously holding the DECK A and KEYLOCK buttons on the A/C deck side pressed.

1) Checking VINYL ON/OFF
Check the same as described in 1) of a).

2) Checking of Normal/Active Mode
Check that blue LEDs on the JOG dial are lit (Active mode).
(LED indication is the same as described in 2) of a).

6.5 POWER-SAVING MODE

If a drop in voltage for VBUS power is detected, a power-saving mode will be automatically established, limiting the headphones maximum output level.
Two types of power-saving mode are provided, as shown below.

	Mode	State	Note
1	Power-Saving mode 1 (when a voltage drop to 4.2–4.5 V is detected)	Headphones maximum output: To be decreased from the normal level The DECK LED flashes at cycle of 1 sec.	If normal voltage is recovered, the headphones output level and the DECK LED will return to normal states.
2	Power-Saving mode 2 (when a voltage drop further down than in Power-Saving mode 1 [4.2 V or less] is detected)	Headphones maximum output: To be decreased further than in mode 1 The TUSB microcomputer will be reset and restart. The DECK LED flashes at cycle of 0.5 sec.	If the voltage is not restored even after the TUSB microcomputer is reset and restart, DECK LED will flash at cycle of 0.2 sec. All operations will be disabled.

6.6 ERROR DISPLAY

When abnormalities are detected during the time of carrying out power supply ON, or operation, it displays by LED.

	Abnormalities	LED/Display	Note
1	Abnormalities of a power supply	Left deck/CH Fader blinks	When abnormalities are detected by the state of DC power supply and USB bus power supply, it will be in this state. Opening display is not performed, either, when abnormalities are detected at the time of starting.
2	Abnormalities in FLASH-ROM of MAIN_UCOM	Left deck/LOOP-IN Lighting	When update goes wrong and FLASH-ROM is not written correctly, it will be in this state. Even in this case, update can be performed succeedingly. However, "3" is displayed while it can be communicating neither with the case where USB cable is not connected, nor USB controller, correctly also at this time.
3	Aabnormalities of USB controller	Left deck/LOOP-OUT Blinks in a cycle of 1 seconds.	When the time when it cannot communicate with USB controller correctly although USB cable is connected at the time of starting, and controllers are abnormalities, it will be in this state.
4	EEPROM writing error	FUNCTION Blinks in a cycle of 1 seconds.	Become this state at an EEPROM writing error.

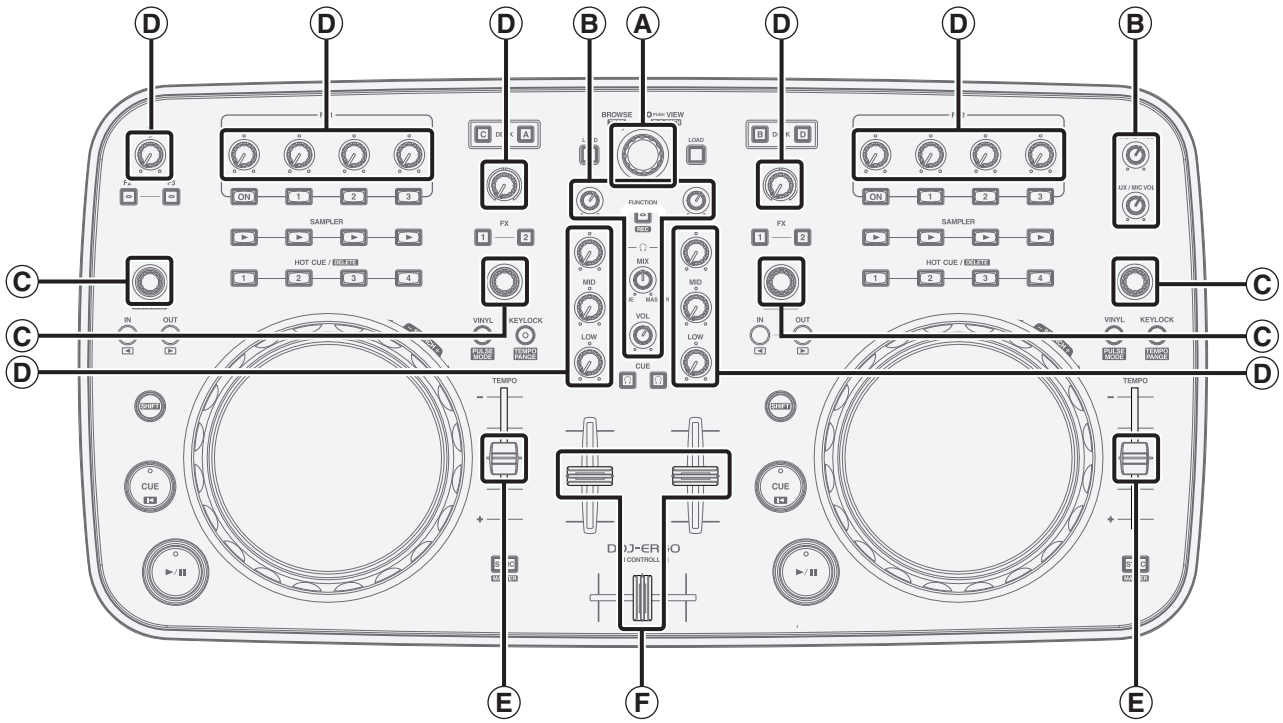
6.7 ABOUT THE DEVICE

Device Name	Function	Part No.	Reference No.	Assy
MAIN UCOM	Main control, all function / LED control	PEQ033A8	IC1002	CDJ1 Assy
USB Controller	USB control, Audio control	TUSB3200A	IC102	IFPW Assy

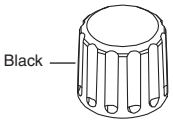
7. DISASSEMBLY

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

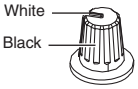
Knobs and Volumes Location



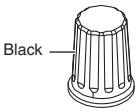
Ⓐ Dial Knob
(DAA1259) ×1



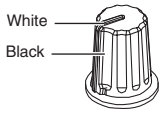
Ⓑ Rotary Knob S (Black)
(DAA1262) ×6



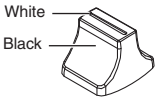
Ⓒ Dial Knob S (B)
(DAA1273) ×4



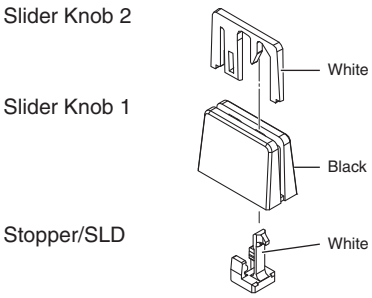
Ⓓ Knob/LBK
(DAA1284) ×17



Ⓔ Knob/SLD
(DNK6008) ×2



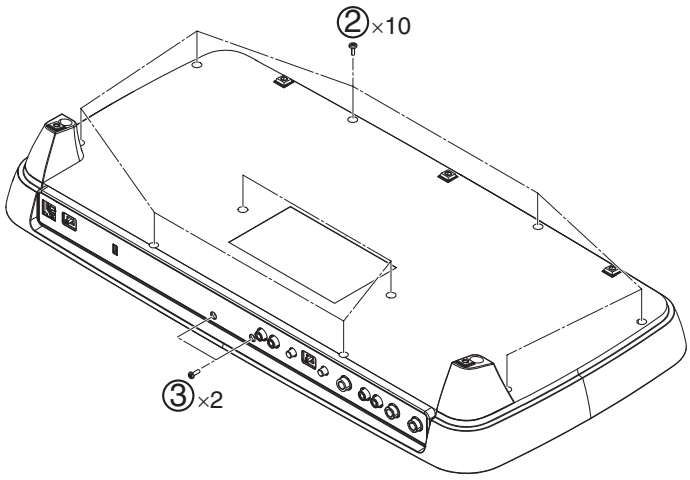
Ⓕ Slider Knob 1 (DAC2684) ×3 + Slider Knob 2 (DAC2685) ×3 + Stopper/SLD (DNK6009) ×3



Disassembly

[1] Chassis Section

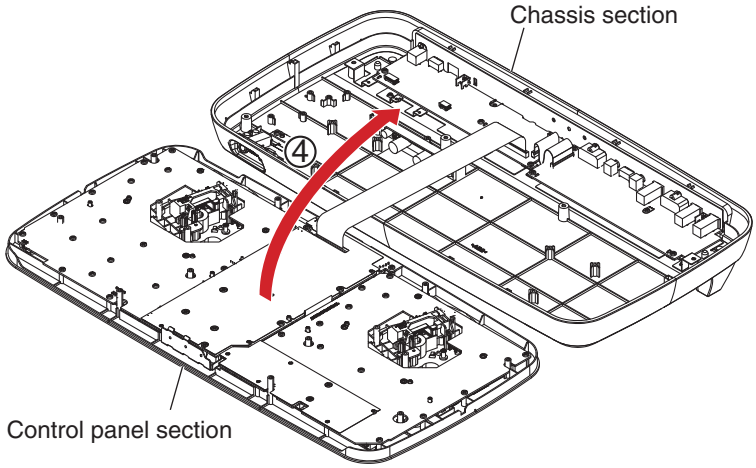
(1) Reverse the product.
(2) Remove the 10 screws. (BPZ30P080FNI)
(3) Remove the two screws. (PBZ30P080FTC)



• Bottom view

(4) Remove the chassis section.

Diagnosis



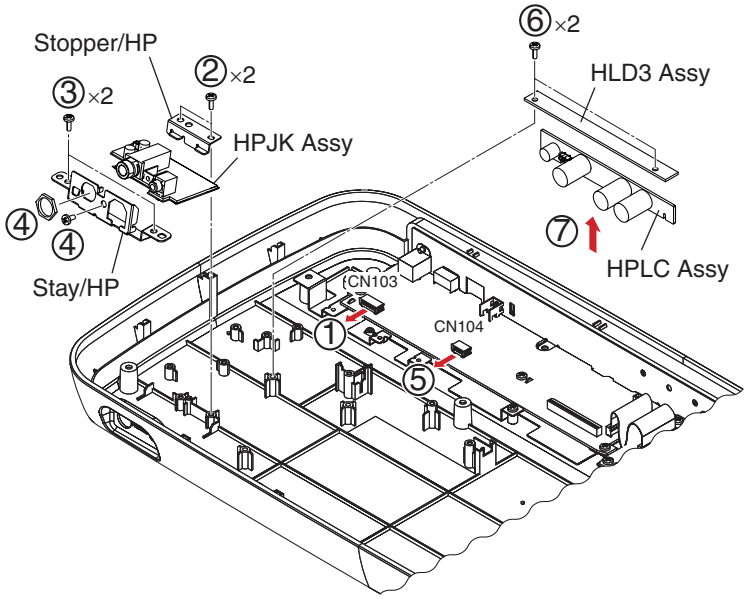
[2] HPJK, HPLC, JACK and IFPW Assemblies

• HPJK Assy

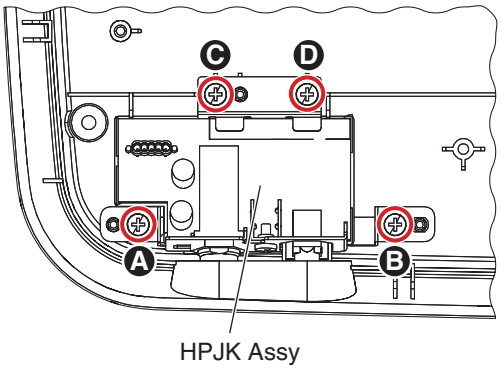
(1) Disconnect the one connector.
(2) Remove the two screws, and remove the stopper/HP. (BPZ30P080FNI)
(3) Remove the two screws, and remove the HPJK Assy with stay/HP. (BPZ30P080FNI)
(4) Remove the one nut, one screw and remove the HPJK Assy. (BBZ30P060FTC)

• HPLC Assy

(5) Disconnect the one connector.
(6) Remove the two screws, and remove the HLD3 Assy. (BPZ30P080FNI)
(7) Remove the HPLC Assy.



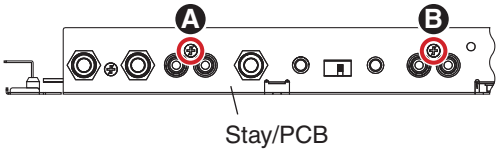
Screw tightening order

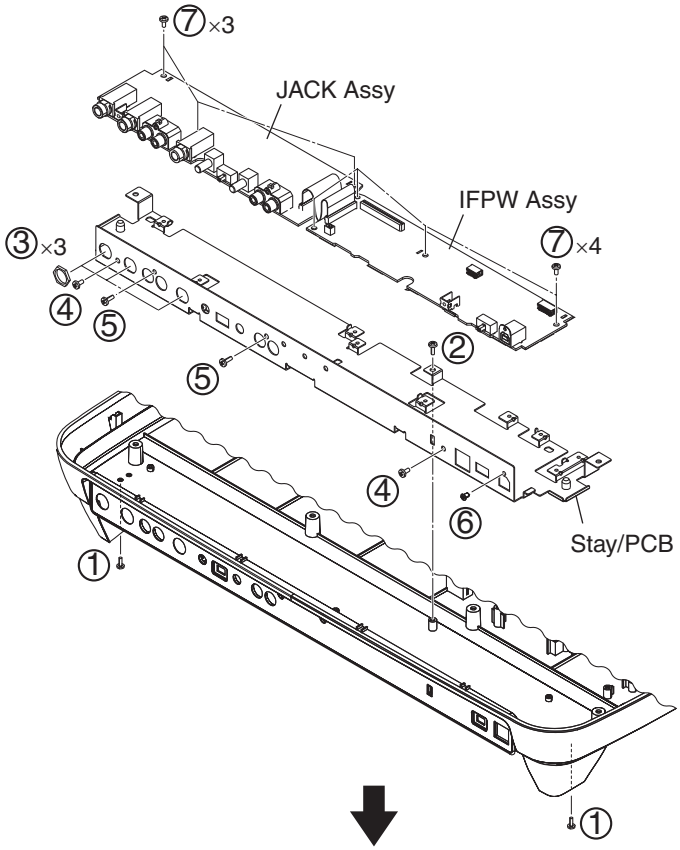


• JACK, IFPW Assy

(1) Remove the two screws. (PMB30P080FTB)
(2) Remove the one screw and remove the stay/PCB with Assy. (BPZ30P080FNI)
(3) Remove the three nuts.
(4) Remove the two screws. (BBZ30P060FTC)
(5) Remove the two screws. (BPZ30P080FNI)
(6) Remove the one screw. (DBA1340)
(7) Remove the seven screws and remove the JACK and IFPW Assemblies. (BBZ30P060FTC)

Screw tightening order





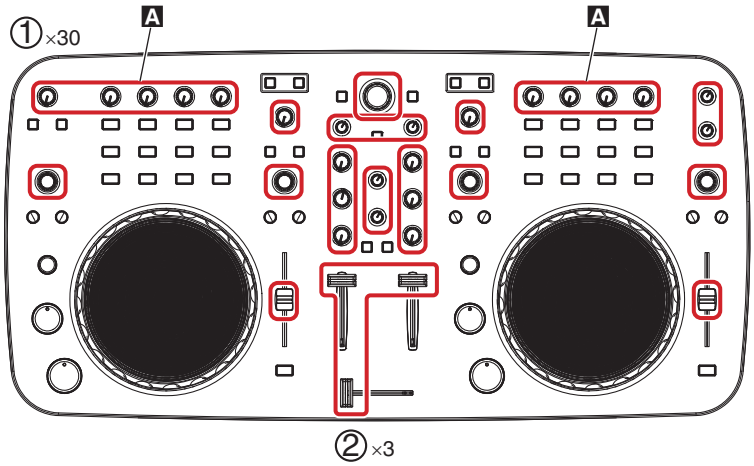
[3] CDJ1, CDJ2, CRFD Assemblies and JOG Section

[3-1] Knobs and VRs

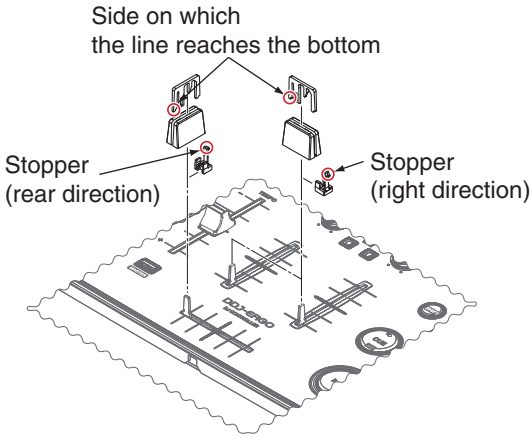
(1) Remove the all knobs.

Note: When you remove the knob of the **A** part, pull it up to a course directly overhead necessarily.

(2) Remove the three silider knobs 2, three slider knobs 1, three stopper/SLD. (See below.)



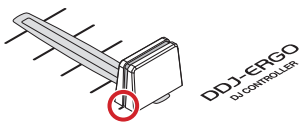
The reference of the direction



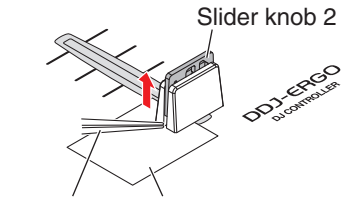
• Disassembly of the slider knob

The new slider knob adopted by this product is designed so that it is not pulled out easily.
Therefore, the method for removing the slider knob is different from the conventional method; it can only be pulled out after slider knob 2 is removed.

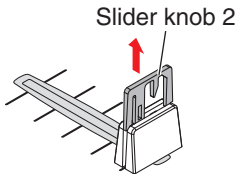
① Find the side on which the line reaches the bottom.



② Insert a pair of tweezers etc. beneath the line then push the slider knob 2 upward. To protect the panel from being scratched, use protective material.

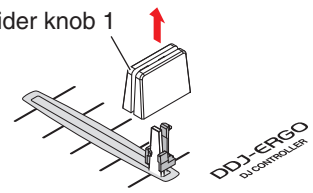


③ Remove the slider knob 2.

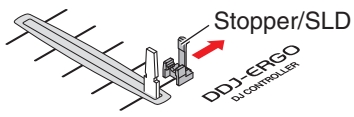


*: During reassembly, fully push down Slider knob 2 until it is dented into Slider knob 1.

④ Remove the slider knob 1.



⑤ Remove the stopper/SLD.

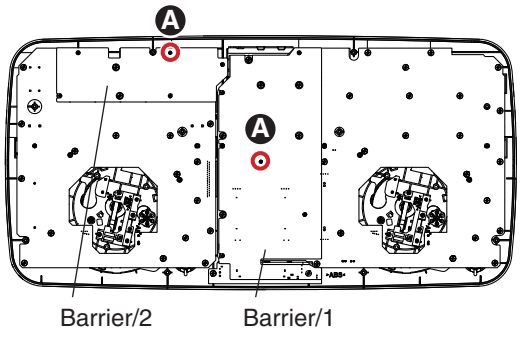


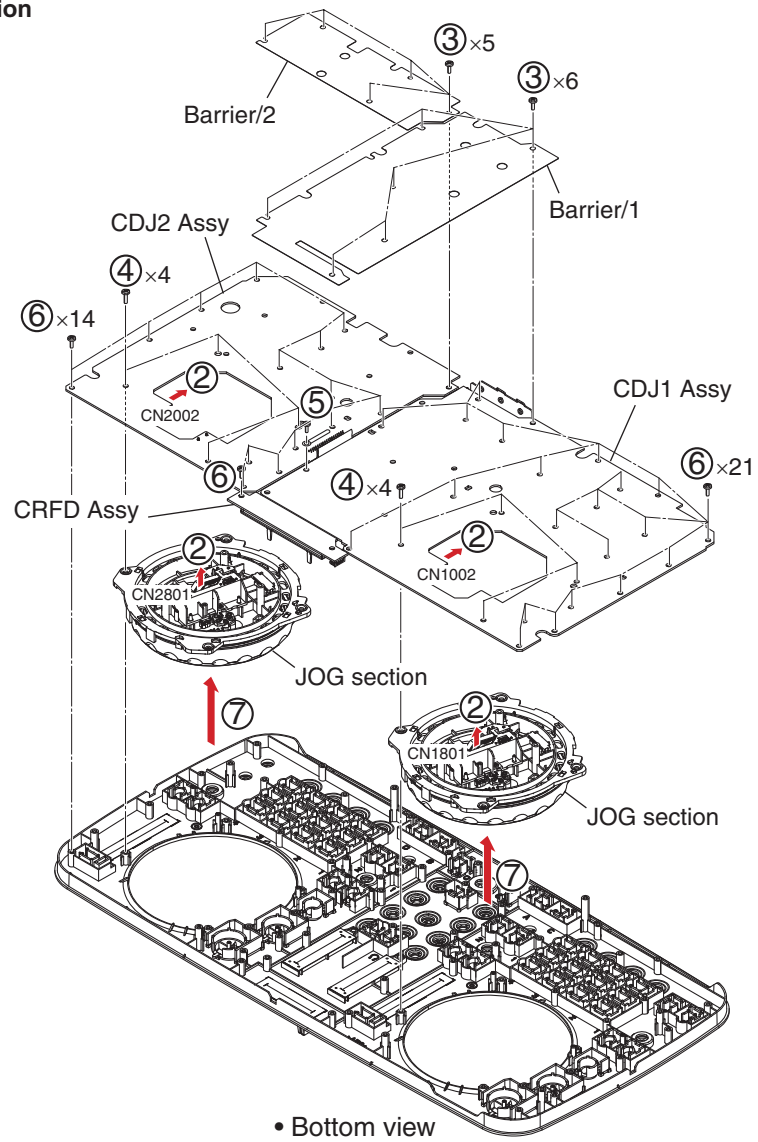
[3-2] CDJ1, CDJ2, CRFD Assemblies and JOG section

(1) Reverse the control panel section.
(2) Disconnect the four connectors.
(3) Remove the 11 screws and remove the barrier 1 and barrier 2. (BPZ30P080FNI)
(4) Remove the eight screws. (BPZ30P100FTB)
(5) Remove the one screw and remove the cord clamper. (BPZ30P080FNI)
(6) Remove the 36 screws and remove the CDJ1, CDJ2 and CRFD Assemblies. (BPZ30P080FNI)
(7) Remove the two JOG section.

Screw tightening order

The other screws are random order.





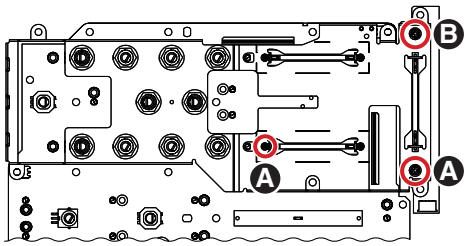
• Bottom view

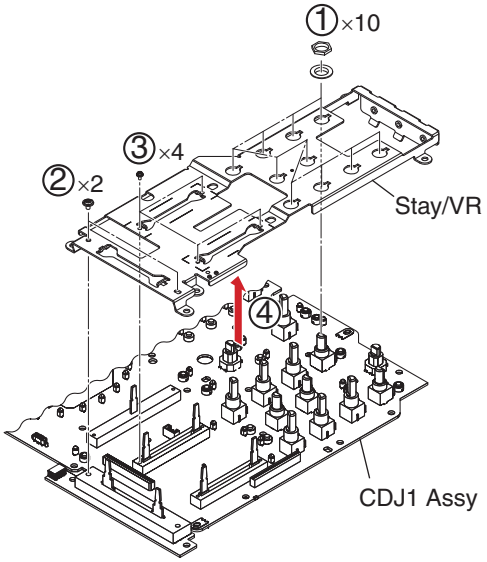
[3-3] Stay/VR

(1) Remove the 10 nuts and 10 washers.
(2) Remove the two screws. (IMZ30P040FTC)
(3) Remove the four screws. (PMH20P040FTC)
(4) Remove the stay/VR.

Screw tightening order

The other screws are random order.





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**.
In addition, be sure to reset the unit to **the default settings**, using Factory Reset mode, before returning the repaired product to the user.

Perform the corresponding task(s) in the described order after any of the following parts is replaced:

• MAIN UCOM (CDJ1 Assy: IC1002)	⇒	• Confirmation of the version of the firmware • Updating to the latest version of the firmware
• EEPROM (IFPW Assy: IC104)	⇒	• Copying the program for the USB controller • Updating to the latest version of the firmware • Copying the program for the USB controller
• Component parts of the JOG dial section	⇒	• JOG dial rotation load adjustment

8.2 HOW TO PROGRAM COPY FOR USB CONTROLLER

1. Check that the controller is OFF.
2. While holding the LOOP OUT 1 and VINYL 1 buttons pressed, set the Power switch of the unit to ON.
   Note: NEVER release the above-mentioned two buttons while the FUNCTION LED is lit.
3. After making sure that the FUNCTION LED is unlit, set the Power switch of the unit to OFF.

LOOP OUT 1 button : S1227
VINYL 1 button : S1208
FUNCTION LED : D1203

Note: If copying fails, the FUNCTION LED will flash at intervals of 0.25 sec.

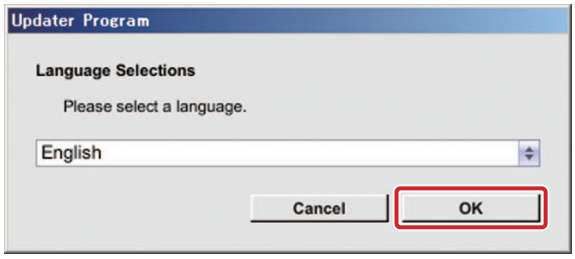
8.3 HOW TO FIRMWARE UPDATE

The device which update a firmware is MAIN UCOM.
USB connection of the controller is made at PC/MAC, and it updates by performing the update program of exclusive use.
Download the zipped updater file for the latest firmware from Niis then execute the unzipped file on the PC.
The filenames for the updater are shown below.

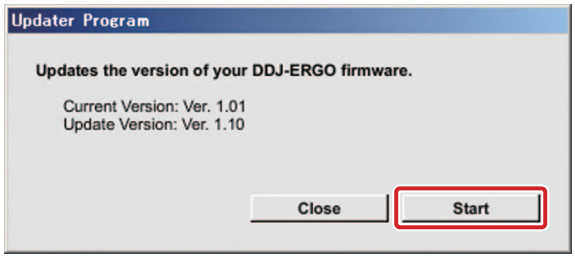
Fielname	**Filename after the thawing**
Windows: DDJ-ERGOvXXX.zip	Windows: DDJ-ERGOUpdater_verXXX.exe
Mac: DDJ-ERGOvXXX.dmg	Mac: DDJ-ERGOUpdater_verXXX.app

Note: xxx is version number. If it is Ver1.00, it is DDJERGOv_100.zip/DDJERGOv_100.dmg.

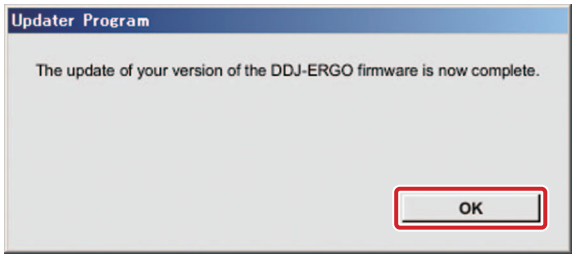
CAUTION: When you update, please terminate all DJ applications, such as VIRTUAL DJ.



Starting/Selection of a language
(English is chosen.)



Check of a version
(Click a [START])



End.
(Click a [OK])
Controller is re-started automatically.

8.4 JOG DIAL ROTATION LOAD ADJUSTMENT

1. How to Enter JOG Load Measurement Mode

To enter this mode, while holding the F2 and F3 buttons on the Deck A/C side pressed, set the Power switch to ON.
During this mode, the KEYLOCK LEDs on both sides are lit.
(Hold the two buttons pressed until the opening display terminates.)
The load (light or heavy) on the JOG dial when it is turned can be objectively judged in this mode.

2. How to Measure

When the JOG dial is rotated swiftly in this mode, the maximum speed and time required for slowdown, as defined below, are measured. When the maximum speed reaches 7 times normal speed or higher, time required for slowdown is calculated then evaluated as to whether or not it is within the specified range, then the result will be indicated by the LEDs.
Either rotation direction, clockwise or counterclockwise, is okay.

Maximum speed: Maximum speed with normal speed defined as when one rotation takes 1.8 sec
Time required for slowdown: Time required for the rotation speed to slow down from 3 times to 1.5 times normal speed

To measure the time required for slowdown, the maximum speed must be 7 times normal speed or higher.
If the maximum speed does not reach 7.0 times normal speed, the JOG LEDs flash three times as a warning.
The number of measurements up to the fourth time is indicated by the LEDs.

First measurement finished: HOT CUE 1 lit
Second measurement finished: HOT CUE 2 lit
Third measurement finished: HOT CUE 3 lit
Fourth measurement finished: HOT CUE 4 lit

3. Judgment

After four measurements of time required for slowdown are finished, the mean value of the four measurement results is calculated and judged as to whether or not it is within the specified range. The result will be indicated with the LEDs.
The specified range is 100 ± 40 msec.

OK: VINYL lit
NG (lighter): LOOP OUT lit
NG (heavier): LOOP IN lit

The 5th time or subsequent measurement can be performed, but the number of times of measurement is not indicated with the LEDs. The mean value of the results of all the measurements is calculated, and its result will be indicated with the LEDs.

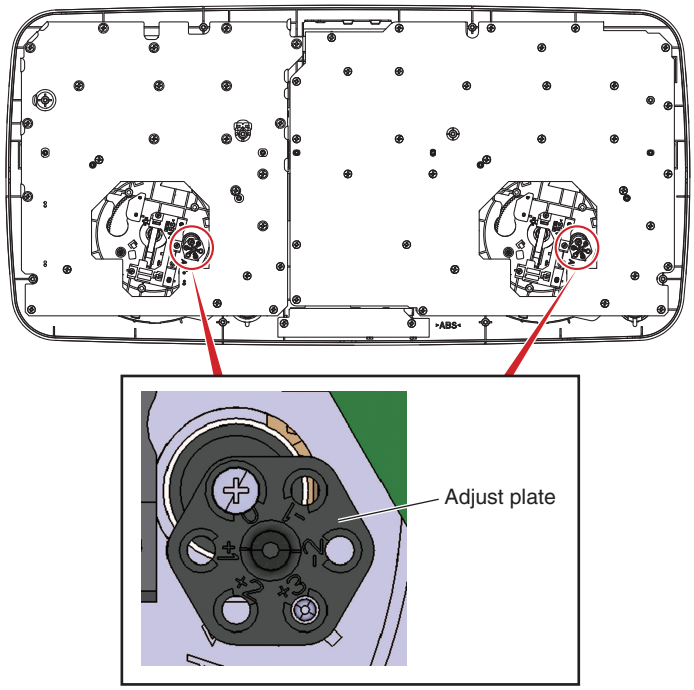
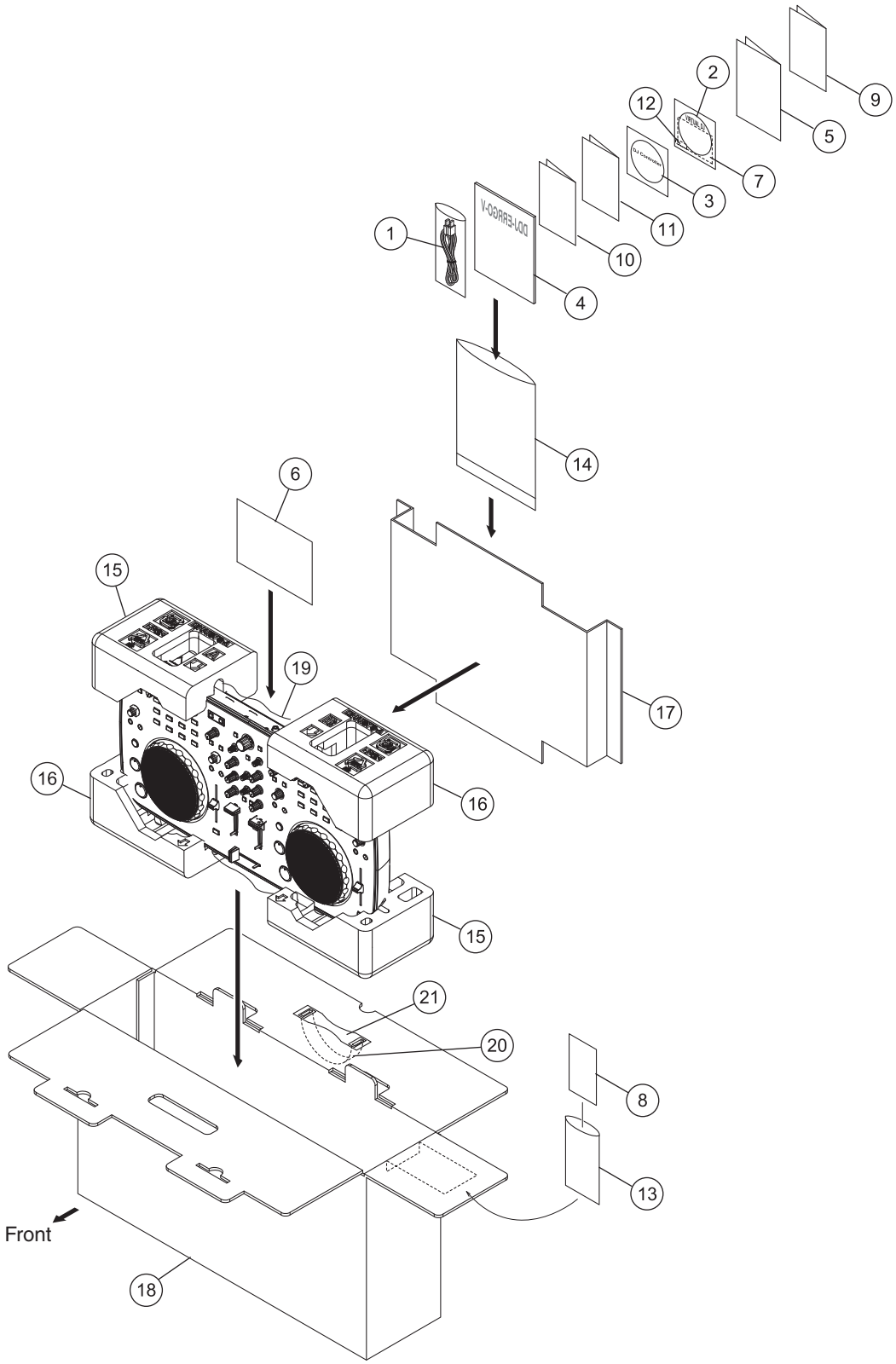


Fig. 1

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.)*

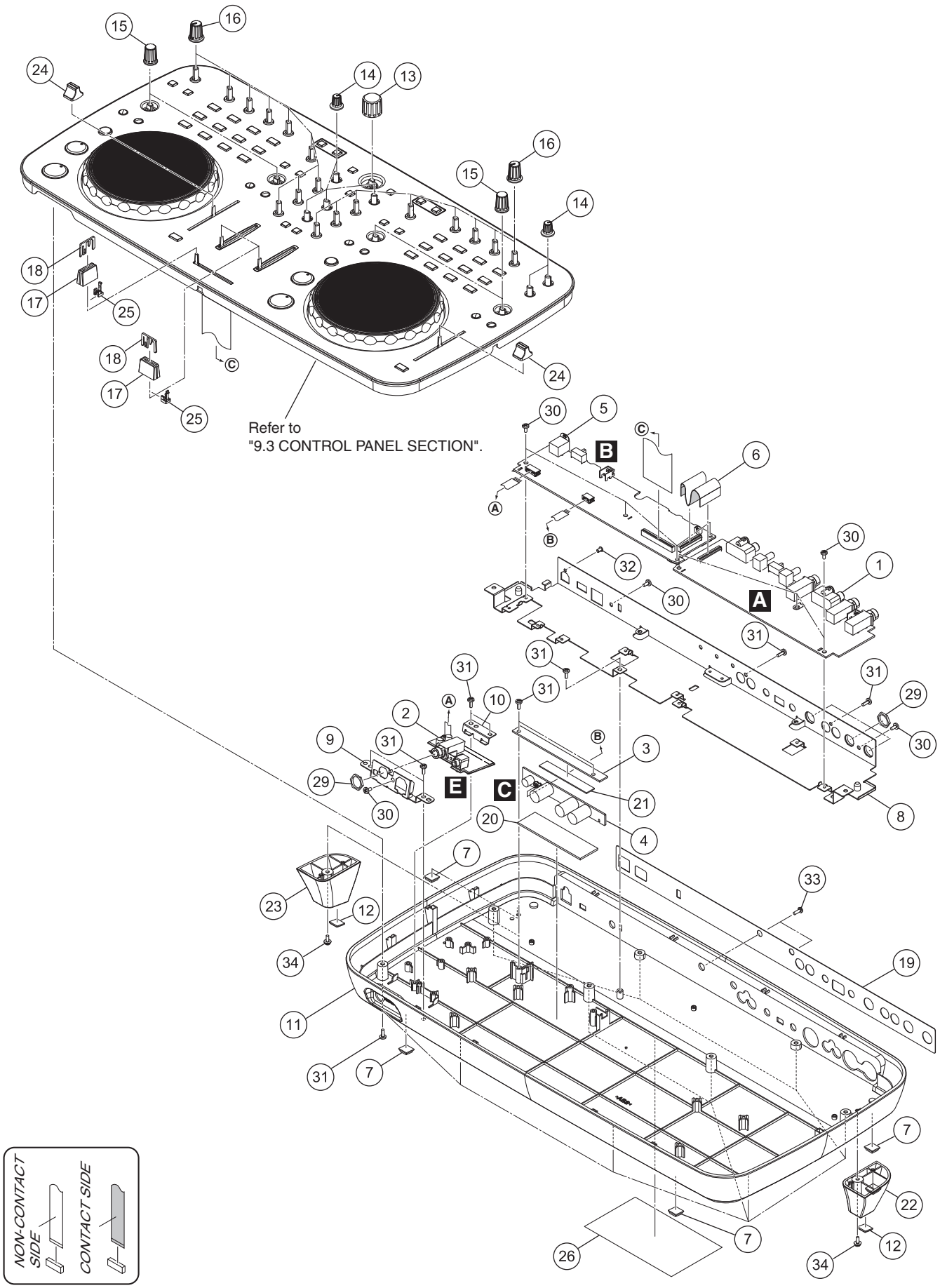
9.1 PACKING SECTION



PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	USB Cable	DDE1128
	2	VIRTUAL DJ LE software CD-ROM	DXX2685
	3	Driver software/ operating instructions CD-ROM	DRU1001
	4	Read Before Use (Important)	DRH1122
	5	Quick Start Guide	DRH1123
	6	Hardware Diagram for Virtual DJ (Table of Supported Functions)	DRH1124
NSP	7	License Key Label Assy	DXA2251
NSP	8	Warranty Card	DRY1259
NSP	9	Warranty Card	ARY7043
NSP	10	Warranty Card	ARY7107
NSP	11	Service network list (for Japanese customers)	ARY1127
NSP	12	Label/L K	DRW2484
NSP	13	Vinyl Bag	AHG7031
NSP	14	Polyethylene Bag	AHG7117
	15	Pad/A	DHA1878
	16	Pad/B	DHA1879
	17	Pad/ACC	DHA1880
	18	Packing Case/V	DHG3079
	19	Sheet	RHX1006
	20	Plastic Handle (PE)	VEC2292
	21	Spacer (PE)	VEC2293

9.2 EXTERIOR SECION

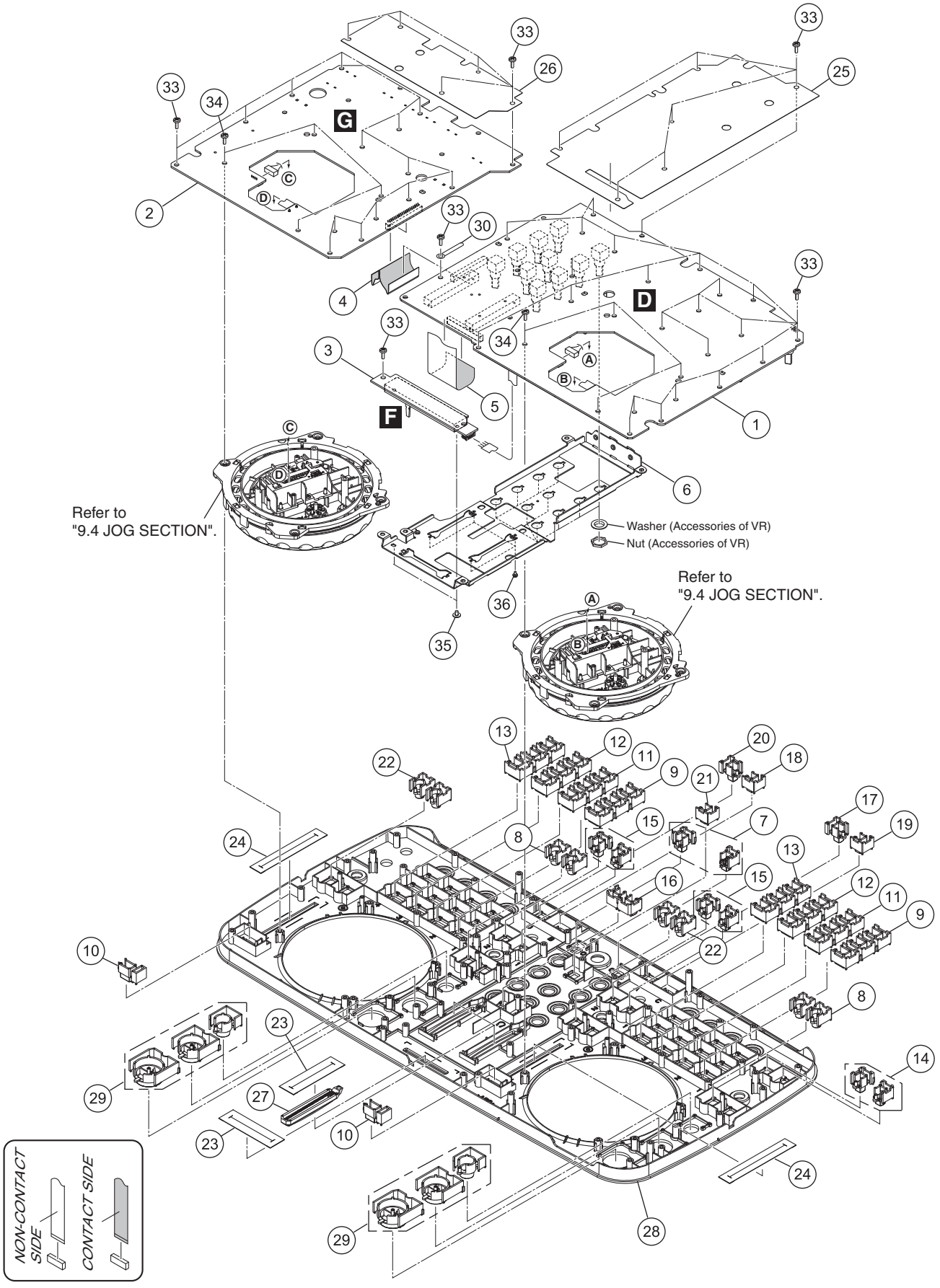


EXTERIOR SECION SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	JACK Assy	DWX3304
	2	HPJK Assy	DWX3306
	3	HLD3 Assy	DWX3311
	4	HPLC Assy	DWX3324
	5	IFPW Assy	DWX3301
	6	FFC/27P	DDD1585
	7	Rubber Foot (H6)	DEB1996
	8	Stay/PCB	DNH3000
	9	Stay/HP	DNH3002
	10	Stopper/HP	DNH3006
	11	Chassis	DNK6005
	12	Rubber Foot	VEB1349
	13	Dial Knob	DAA1259
	14	Rotary Knob S (Black)	DAA1262
	15	Dial Knob S (B)	DAA1273
	16	Knob/LBK	DAA1284
	17	Slider Knob 1	DAC2684
	18	Slider Knob 2	DAC2685
	19	Rear Panel/V	DAH2864
NSP	20	Cushion/A	DEC3402
NSP	21	Cushion/B	DEC3403
	22	Foot/R	DNK6006
	23	Foot/L	DNK6007
	24	Knob/SLD	DNK6008
	25	Stopper/SLD	DNK6009
NSP	26	Label/V	DRW2492
	27	•••••	
	28	•••••	
	29	Nut (M12)	NKX2FNI
	30	Screw	BBZ30P060FTC
	31	Screw	BPZ30P080FNI
	32	Screw (M3x5)	DBA1340
	33	Screw	PBZ30P080FTC
	34	Screw	PMB30P080FTB

9.3 CONTROL PANEL SECTION

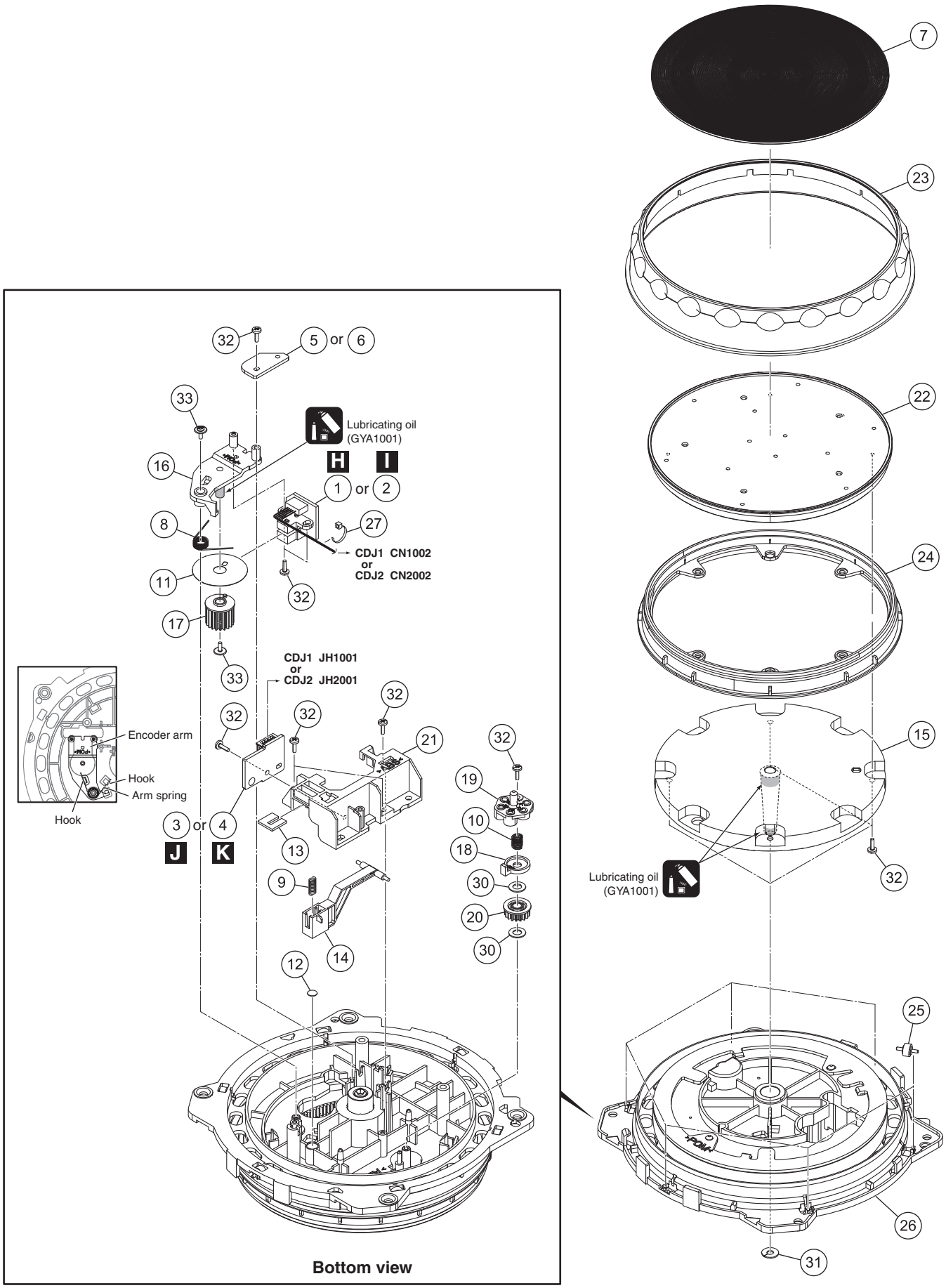
• Bottom view



CONTROL PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	CDJ1 Assy	DWX3302
	2	CDJ2 Assy	DWX3303
	3	CRFD Assy	DWX3305
	4	FFC/39P	DDD1586
	5	FFC/39P	DDD1587
	6	Stay/VR	DNH3005
	7	Button S (Black)	DAC2663
	8	Button/LOP	DAC2783
	9	Button/1	DAC2785
	10	Button/SNC	DAC2791
	11	Button/2	DAC2792
	12	Button/3	DAC2793
	13	Button/4	DAC2794
	14	Button/FNC	DAC2795
	15	Button/FX	DAC2796
	16	Button/CUE	DAC2797
	17	Button/A	DAC2798
	18	Button/B	DAC2799
	19	Button/C	DAC2800
	20	Button/D	DAC2801
	21	Button/PRV	DAC2802
	22	Button/VNL	DAC2806
	23	Fader Packing	DEC3355
	24	Packing/TMP	DEC3392
	25	Barrier/1	DEC3393
	26	Barrier/2	DEC3394
	27	Lens/FDR	DNK5989
	28	Control Panel	DNK6000
	29	Play Button Assy	DXA2252
	30	Cord Clamper (Steel)	RNH-184
	31	•••••	
	32	•••••	
	33	Screw	BPZ30P080FNI
	34	Screw	BPZ30P100FTB
	35	Screw	IMZ30P040FTC
	36	Screw	PMH20P040FTC

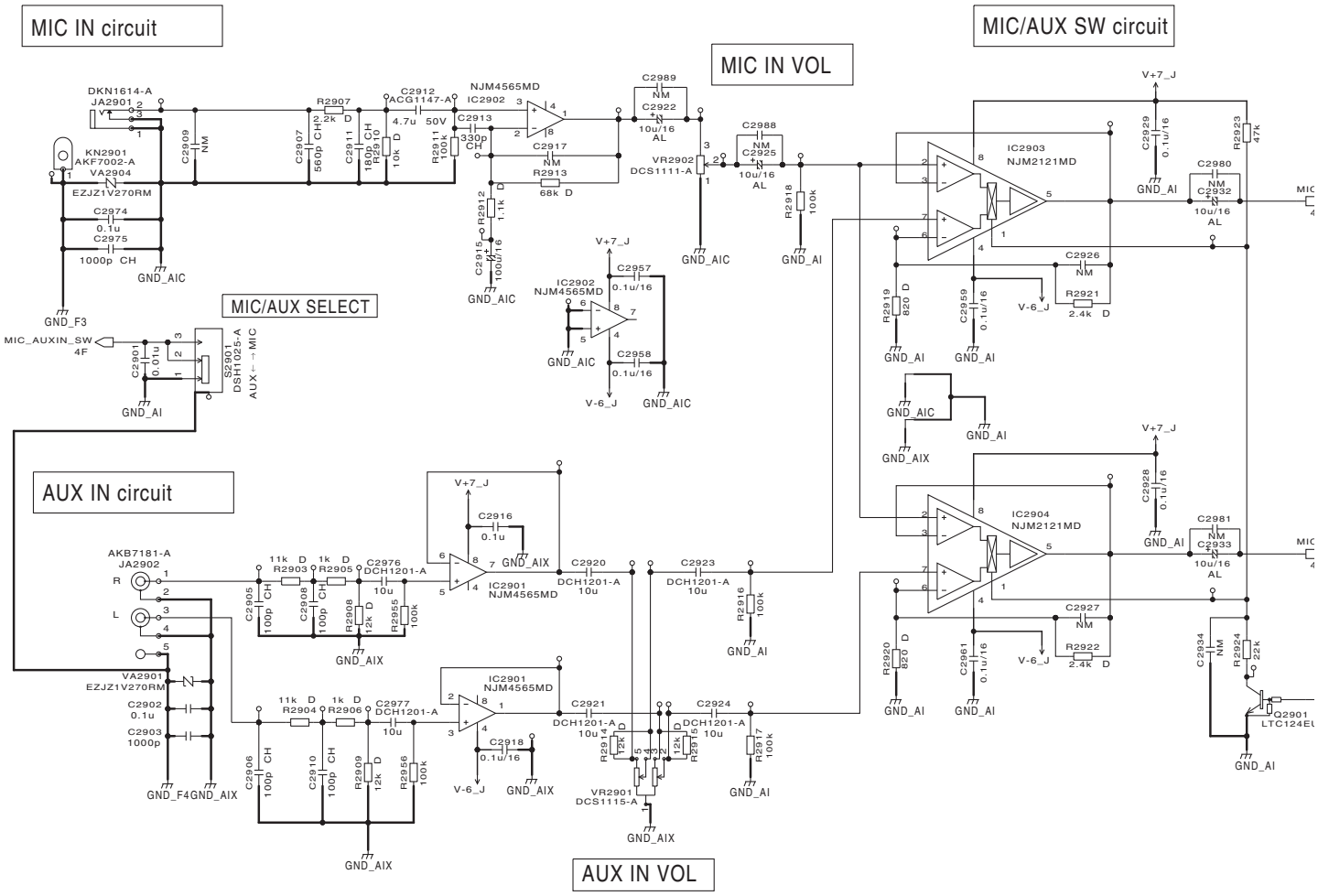
9.4 JOG SECTION

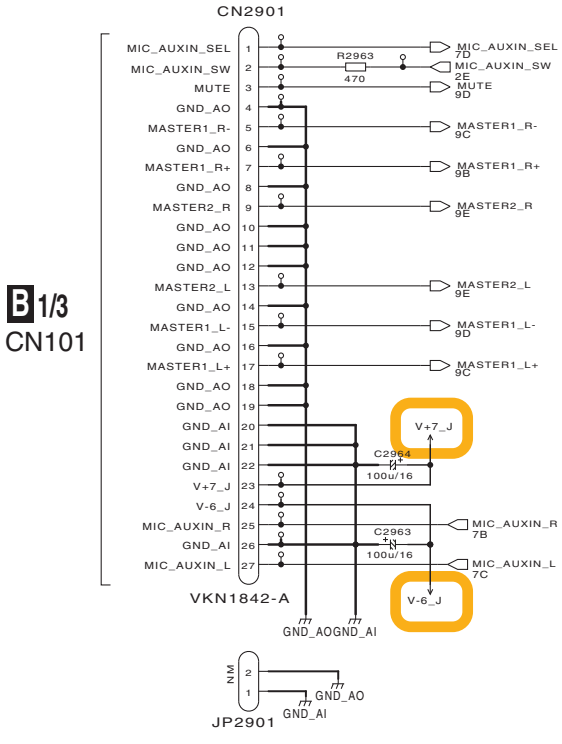


JOG SECTION PARTS LIST

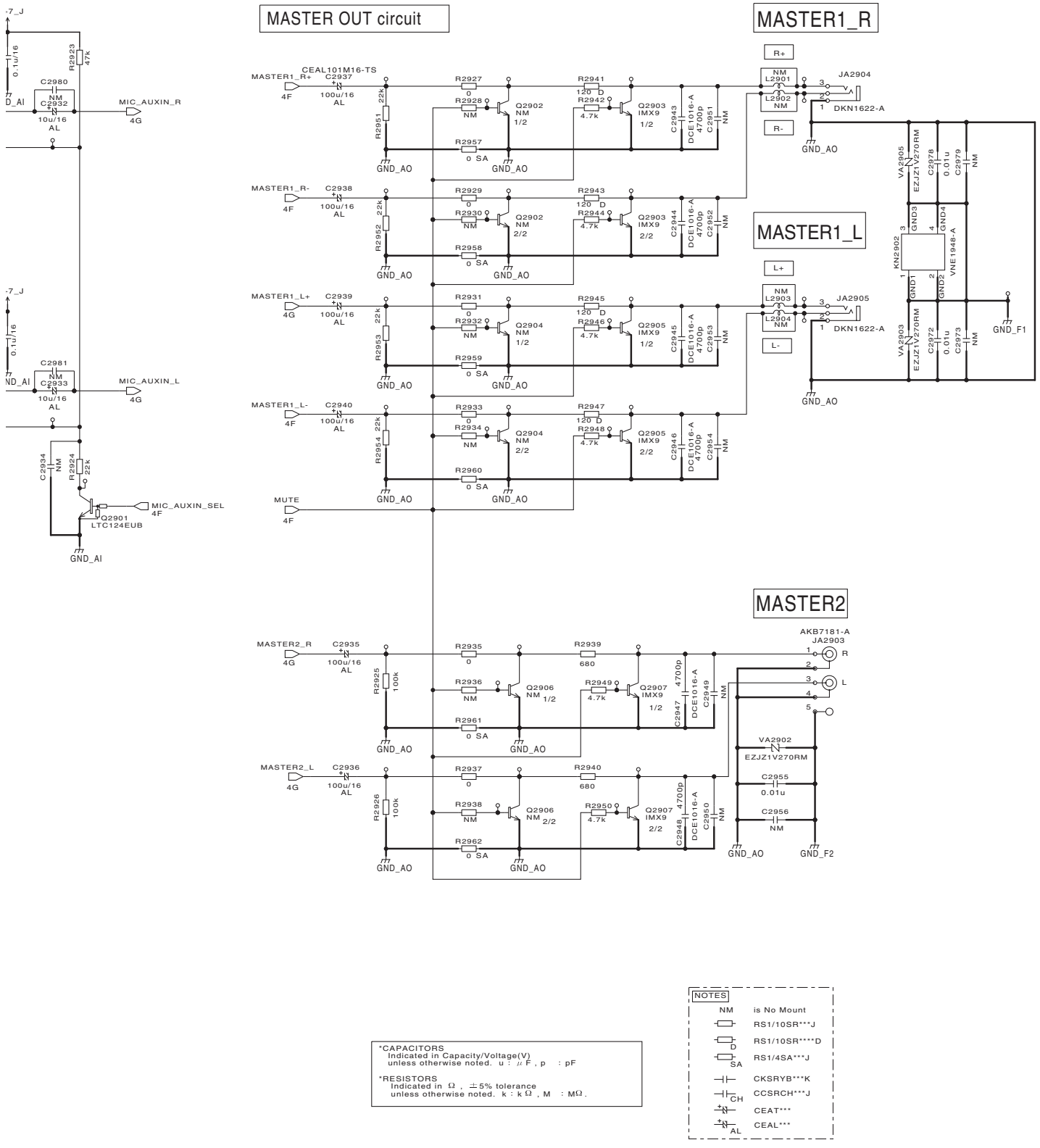
Mark	No.	Description	Part No.
	1	JOG1 Assy	DWS1436
	2	JOG2 Assy	DWS1438
	3	TCH1 Assy	DWS1437
	4	TCH2 Assy	DWS1439
	5	HLD1 Assy	DWX3309
	6	HLD2 Assy	DWX3310
	7	Plate/JOG	DAH2862
	8	Arm Spring	DBH1612
	9	Lever Spring	DBH1626
	10	Load Spring	DBH1676
	11	Encoder Plate	DEC2889
	12	Lever Cushion (A)	DEC3001
	13	Lever Cushion (B)	DEC3002
	14	JOG Lever	DNK4763
	15	JOG Shaft	DNK4934
	16	Encoder Arm	DNK4936
	17	Encoder Gear	DNK4937
	18	Load Smoother	DNK4939
	19	Adjust Plate	DNK4943
	20	Load Gear	DNK5178
	21	Lever Holder	DNK5206
	22	JOG Dial A	DNK5860
	23	Dial/JGB	DNK6013
	24	Ring Lens	DNK5945
	25	Roller B Assy	DXB1877
	26	JOG Holder Assy	DXB2002
	27	Binder	ZCA-SKB90BK
	28	•••••	
	29	•••••	
	30	Washer	WA41D070D025
	31	Washer	WT32D080D050
	32	Screw	BPZ20P060FTC
	33	Screw (FE)	DBA1265

10. SCHEMATIC DIAGRAM
10.1 JACK ASSY





A JACK ASSY (DWX3304)

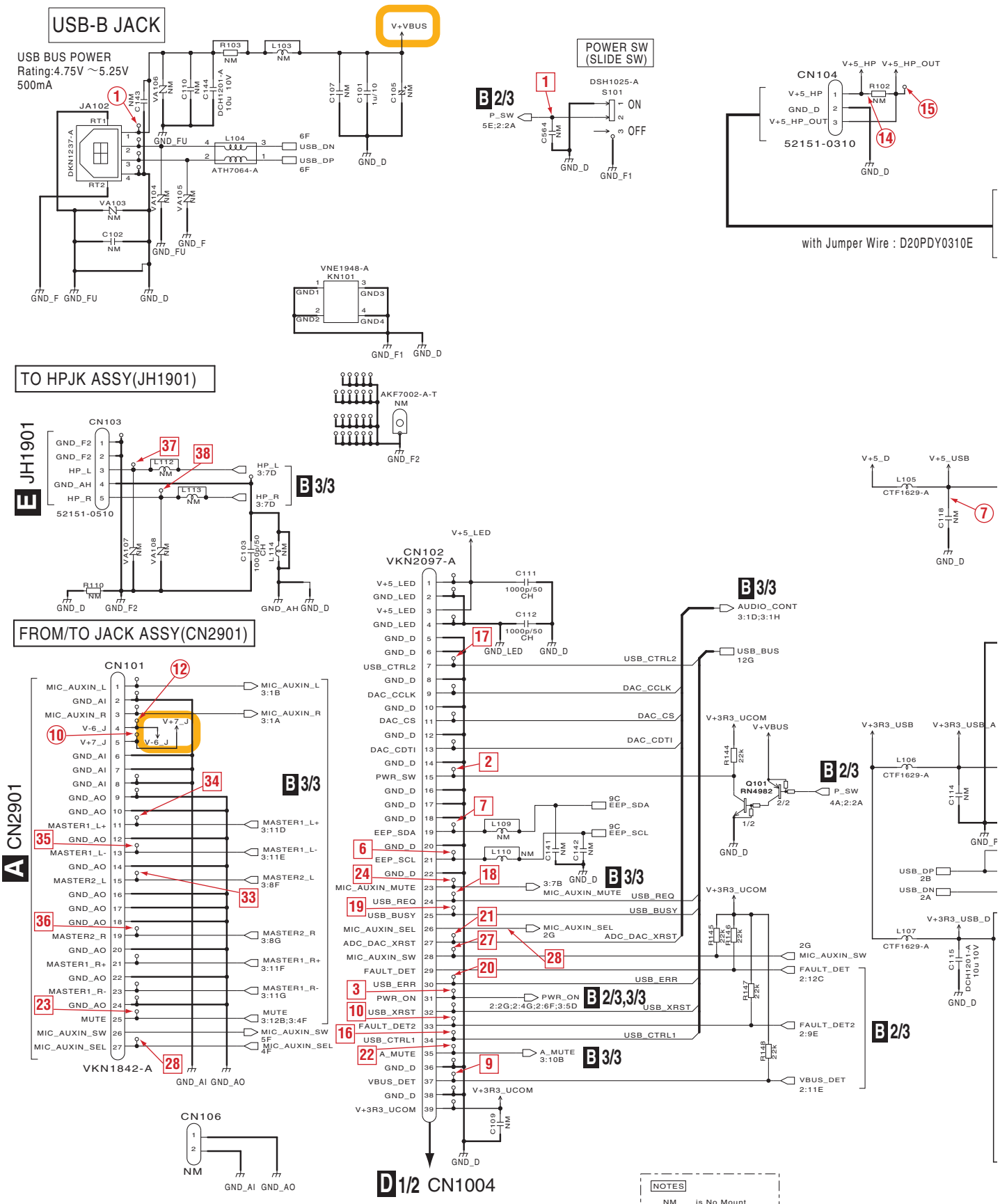


*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μF , p : pF

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

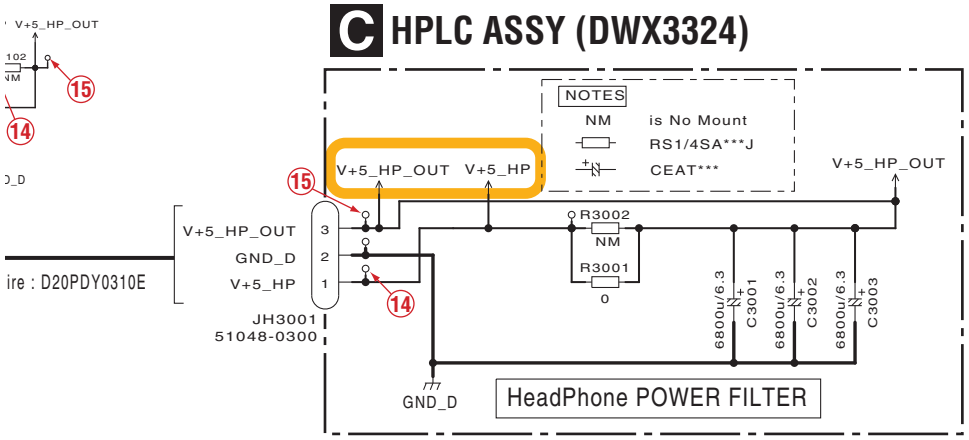
NOTES
NM is No Mount
RS1/10SR***J
RS1/10SR****D
RS1/4SA***J
CKSRYB***K
CCSRCH***J
CEAT***
CEAL***

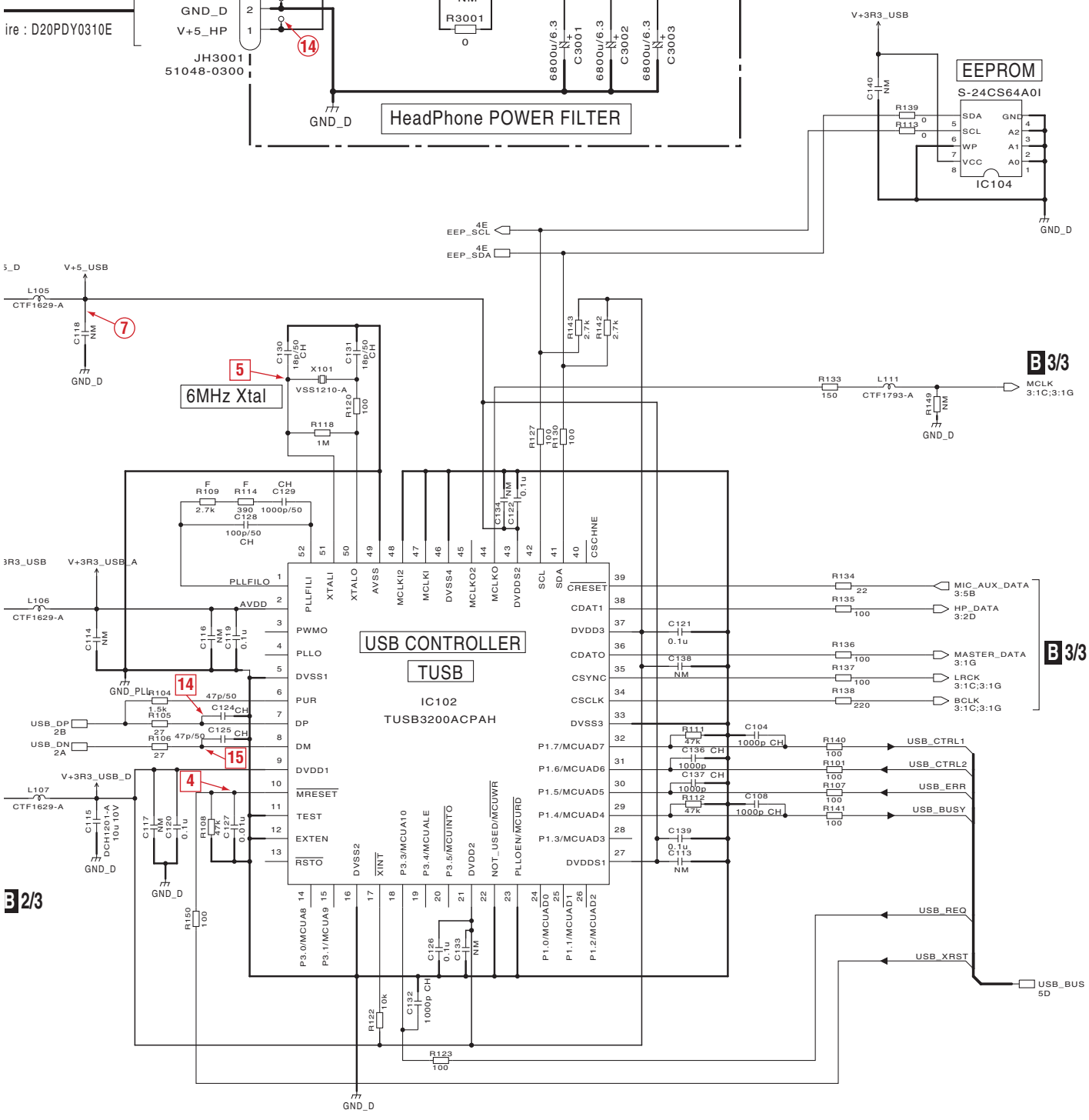
10.2 IFPW ASSY (1/3) and HPLC ASSY



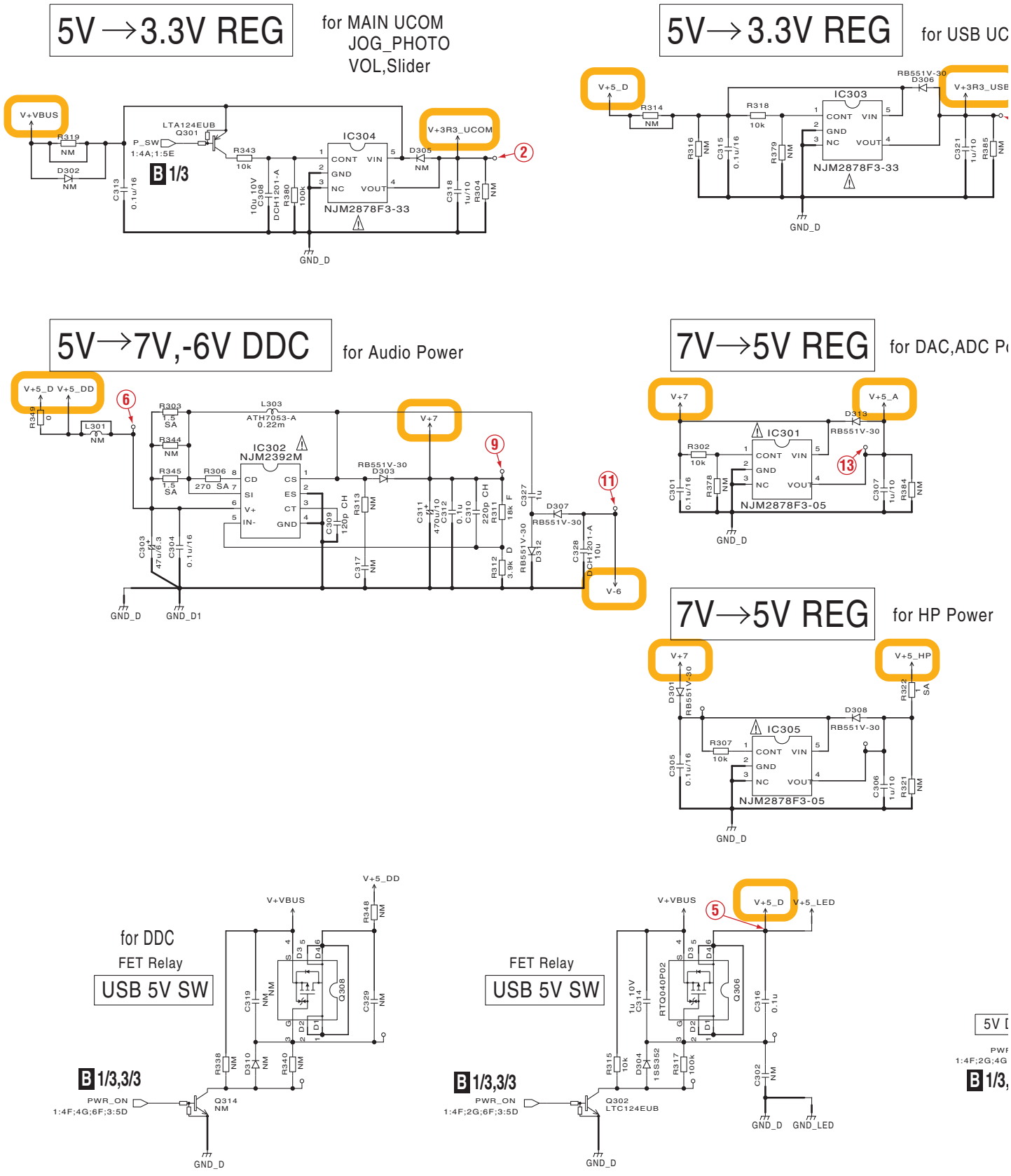
B 1/3 IFPW ASSY (DWX3301)

C HPLC ASSY (DWX3324)

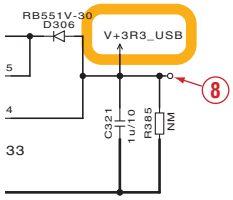




10.3 IFPW ASSY (2/3)

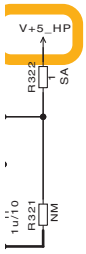


for USB UCOM

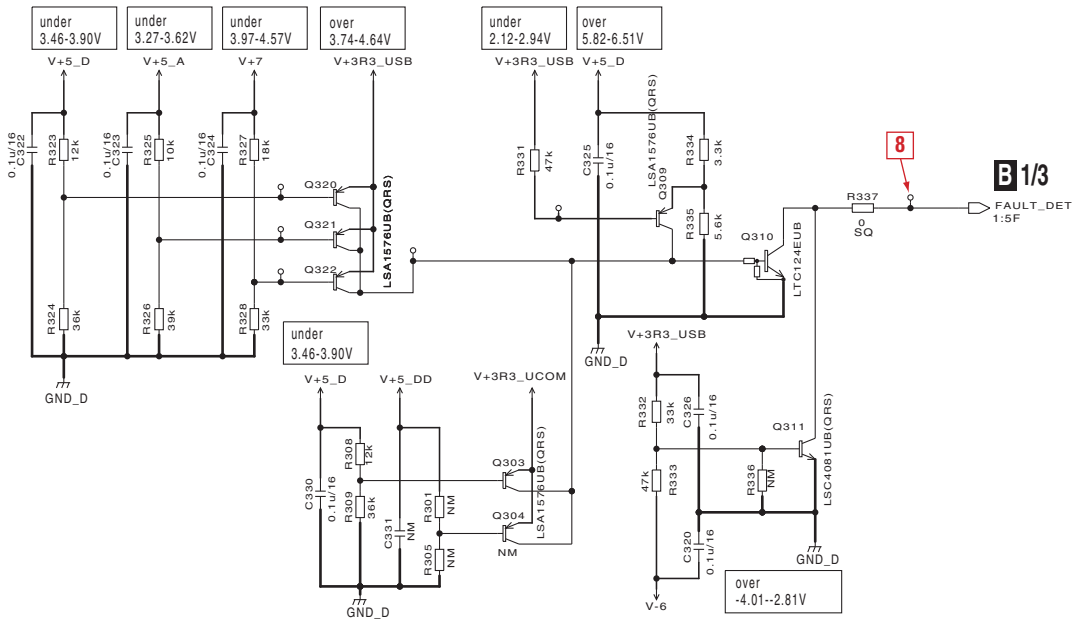


for DAC,ADC Power

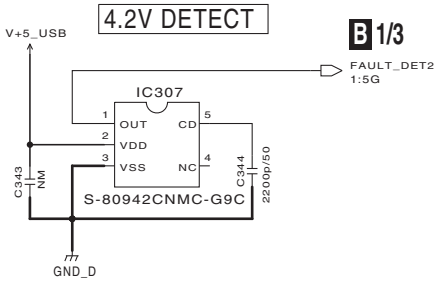
for HP Power



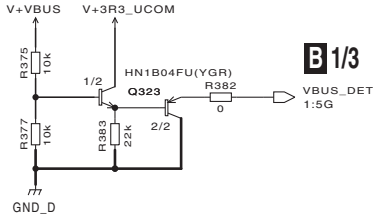
Power Fault Detection

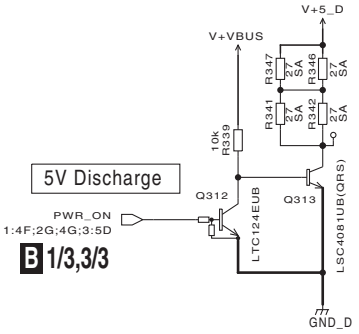


4.2V DETECT



VBUS VOLTAGE DETECT





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

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

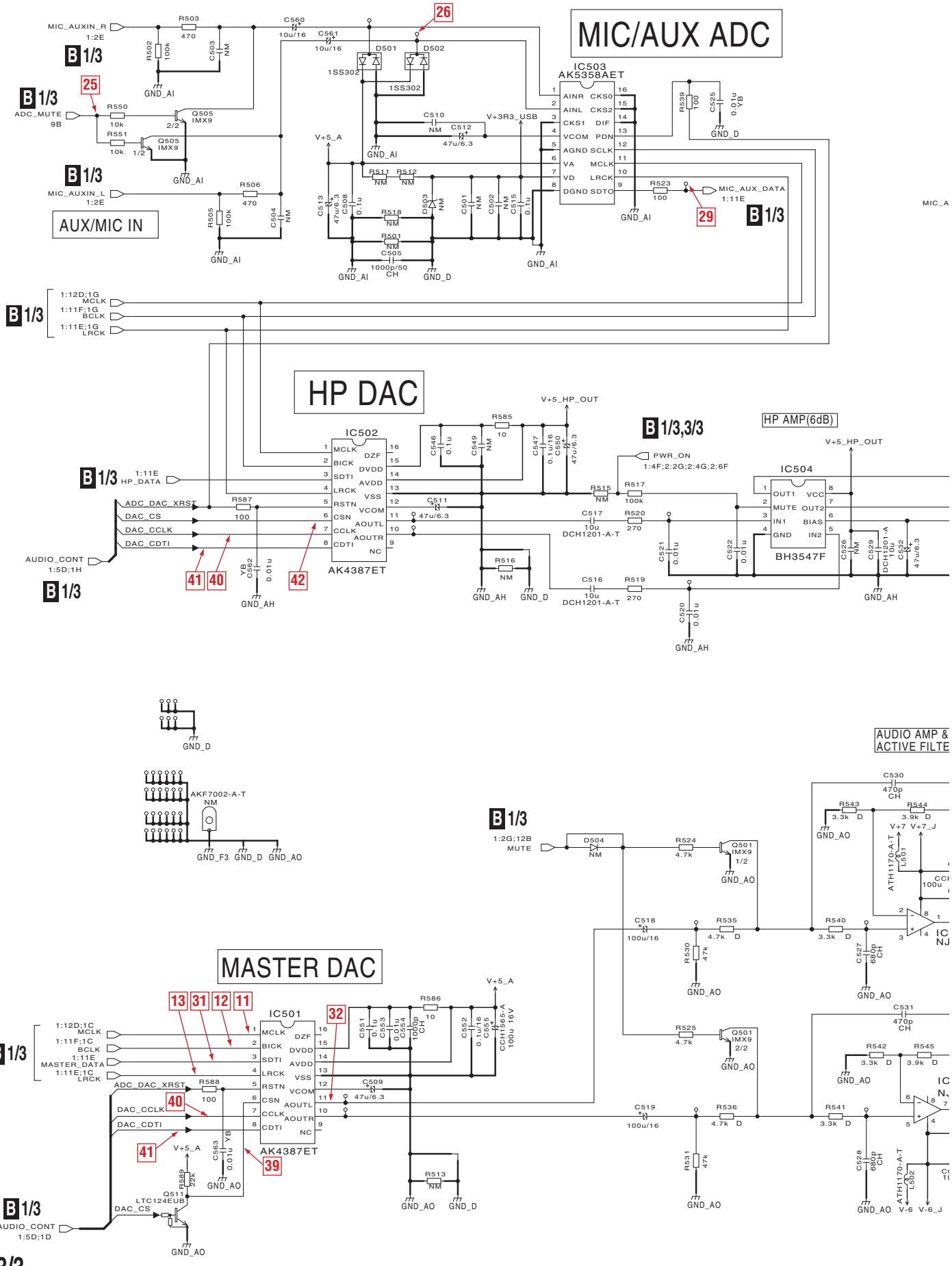
*CAPACITORS
Indicated in capacity/Voltage(V)
unless otherwise noted. u : μF, p : pF

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

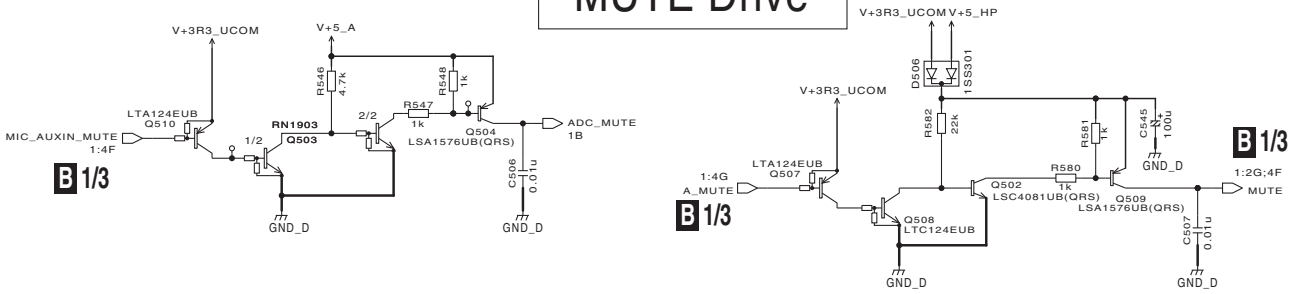
NOTES

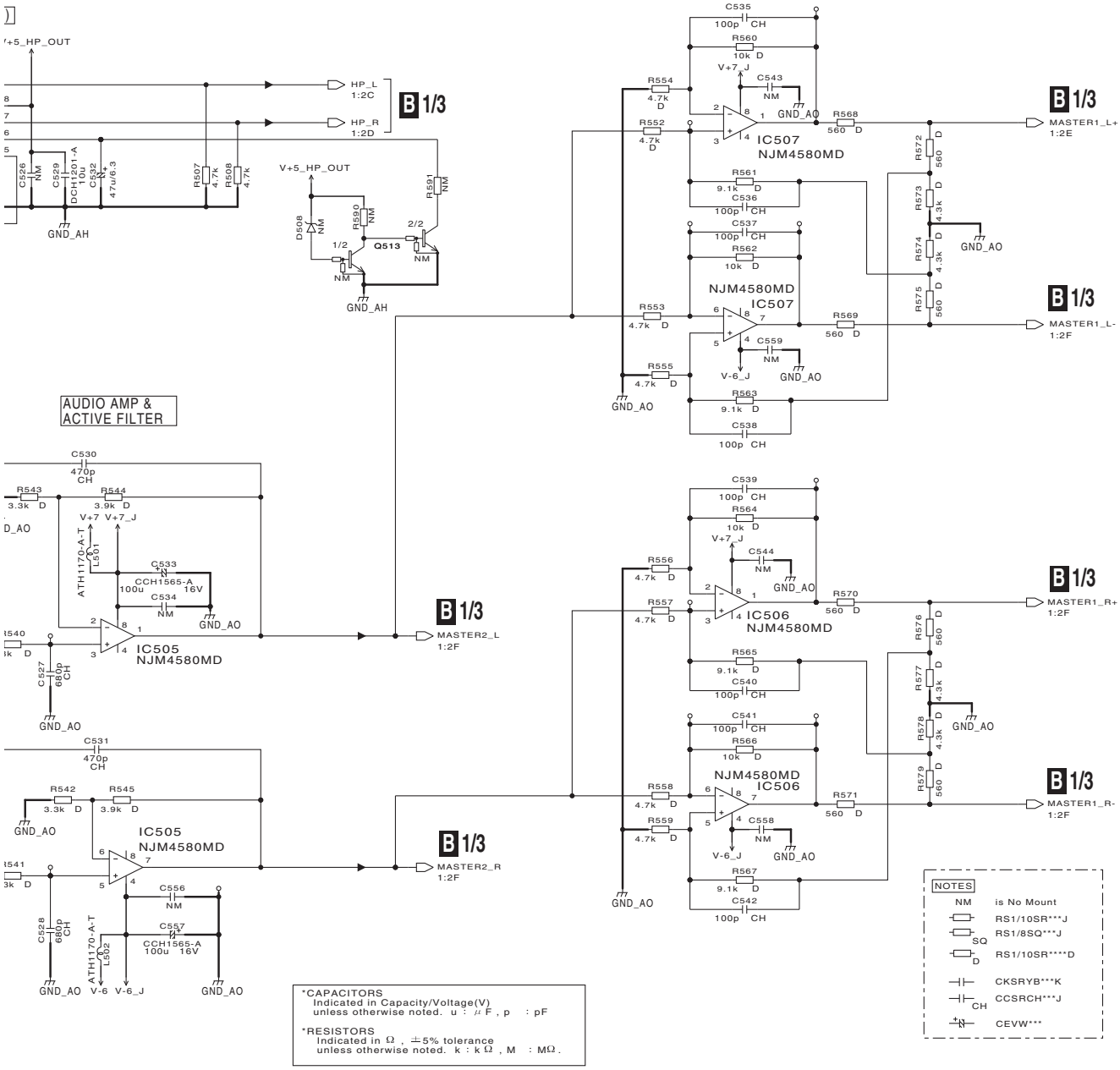
NM	is No Mount
	RS1/10SR***J
SA	RS1/4SA***J
SQ	RS1/8SQ***J
D	RS1/10SR****D
F	RS1/10SR****F
	CKSRYB***K
CH	CCSRCH***J
	CEVW***

10.4 IFPW ASSY (3/3)

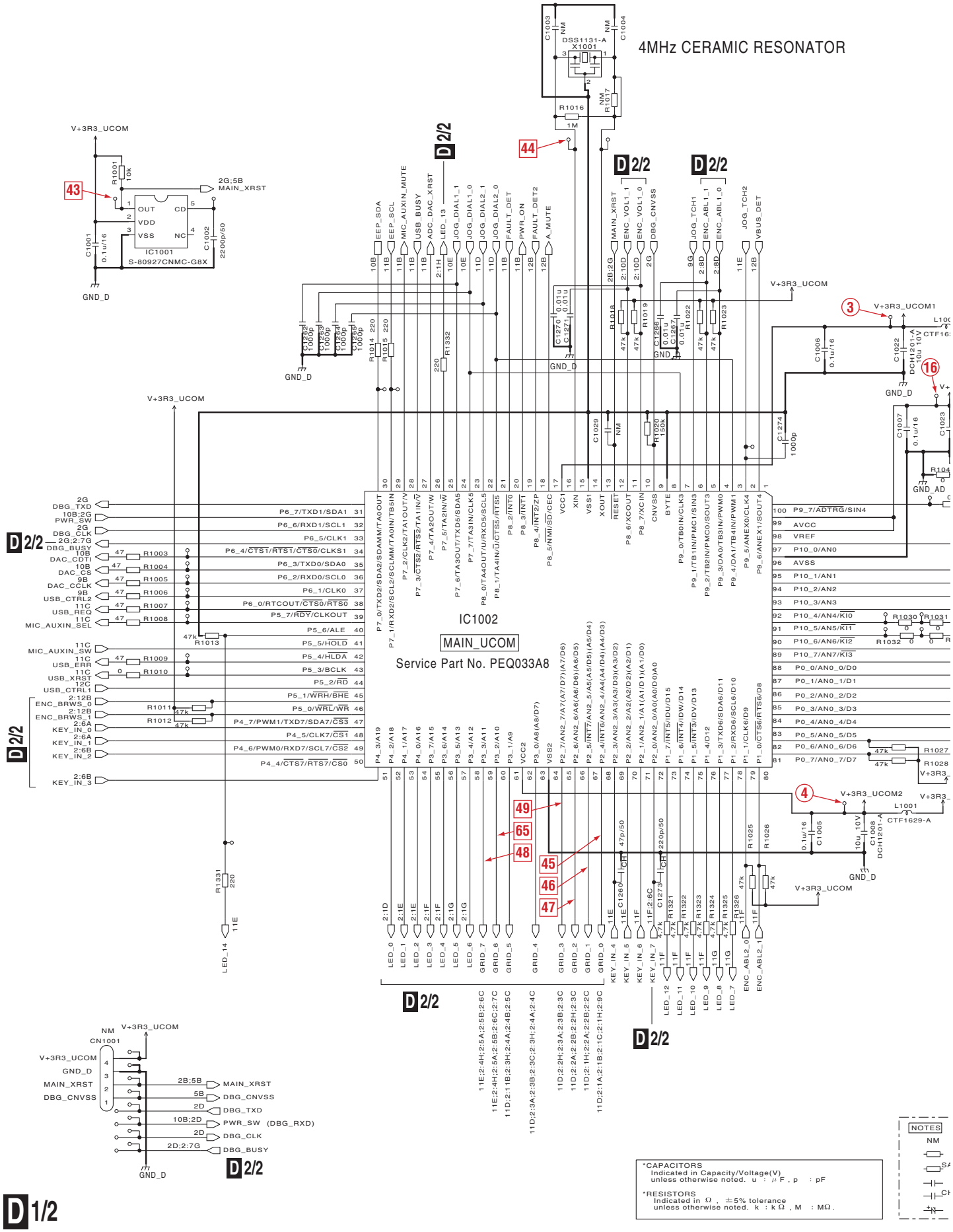


MUTE Drive


V+3R3_UCOM
V+5_A
LTA124EUB
Q510
MIC_AUXIN_MUTE
1:4F
RN1903
Q503
R546 4.7k
R548 1k
R547 1k
Q504
LSA1576UB(QRS)
ADC_MUTE
1B
C506 0.01u
GND_D
B 1/3
V+3R3_UCOM
V+5_HP
D506
1SS301
R582 22k
R581 1k
C545 100u
LTA124EUB
Q507
1:4G
A_MUTE
R580 1k
Q502
LSC4081UB(QRS)
Q509
LSA1576UB(QRS)
Q508
LTC124EUB
C507 0.01u
1:2G;4F
MUTE


V+5_HP_OUT
HP_L
1:2C
HP_R
1:2D
C528 NM
C529 DCH1201-A 10u
C532 47u/6.3
R507 4.7k
R508 4.7k
GND_AH
D508 NM
R590 NM
R591 NM
Q513
AUDIO AMP & ACTIVE FILTER
C530 470p CH
R543 3.3k D
R544 3.9k D
V+7
V+7_J
ATH1170-A-T L501
C533 CCH1565-A 100u 16V
C534 NM
GND_AO
IC505 NJM4580MD
C527 680p CH
C531 470p CH
R542 3.3k D
R545 3.9k D
C556 NM
C557 CCH1565-A 100u 16V
ATH1170-A-T L502
C528 680p CH
V-6
V-6_J
C535 100p CH
R560 10k D
R554 4.7k D
R552 4.7k D
C543 NM
IC507 NJM4580MD
R568 560 D
R561 9.1k D
C536 100p CH
C537 100p CH
R562 10k D
R553 4.7k D
R555 4.7k D
R563 9.1k D
C538 100p CH
C559 NM
R569 560 D
R572 560 D
R573 4.3k D
R574 4.3k D
R575 560 D
MASTER1_L+
1:2E
MASTER1_L-
1:2F
MASTER2_L
1:2F
MASTER2_R
1:2F
C539 100p CH
R564 10k D
R556 4.7k D
R557 4.7k D
C544 NM
IC506 NJM4580MD
R570 560 D
R565 9.1k D
C540 100p CH
C541 100p CH
R566 10k D
R558 4.7k D
R559 4.7k D
C558 NM
R571 560 D
R567 9.1k D
C542 100p CH
R576 560 D
R577 4.3k D
R578 4.3k D
R579 560 D
MASTER1_R+
1:2F
MASTER1_R-
1:2F
NOTES
NM is No Mount
RS1/10SR***J
RS1/8SQ***J
RS1/10SR****D
CKSRYB***K
CCSRCH***J
CEVW***
*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.

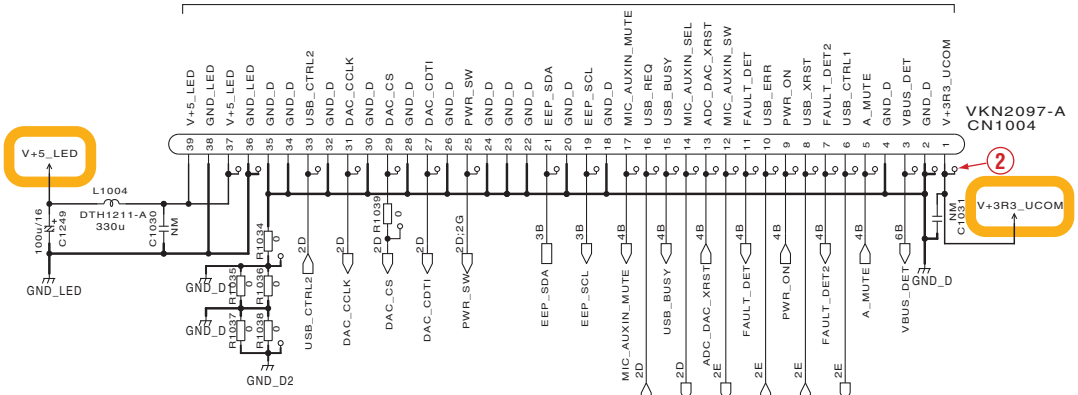
10.5 CDJ1 ASSY (1/2)



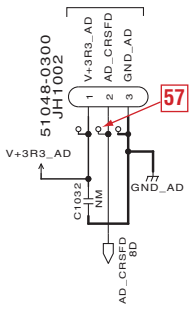
D 1/2 CDJ1 ASSY (DWX3302)

R

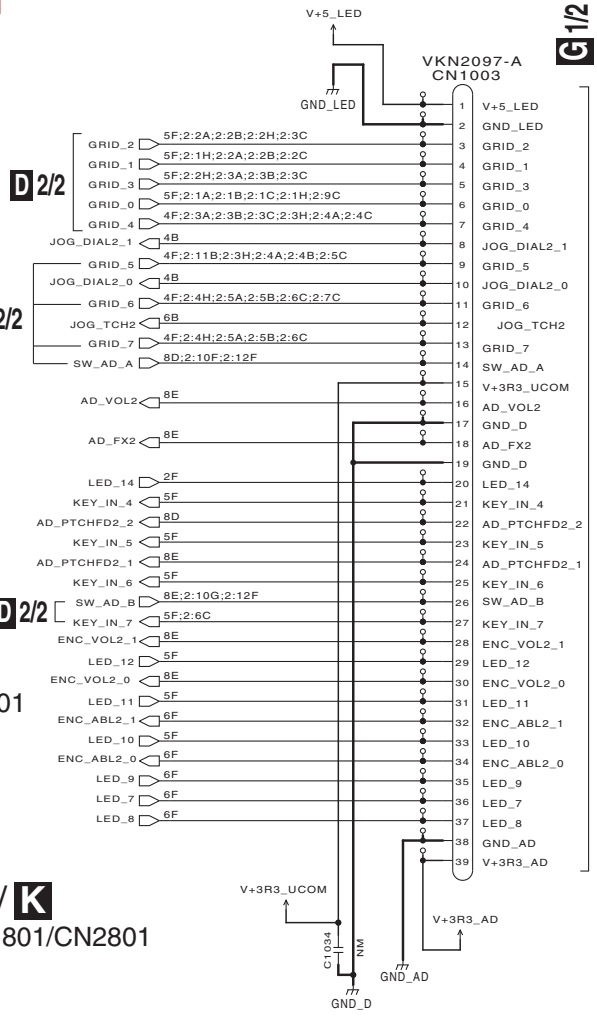
B 1/3 CN102



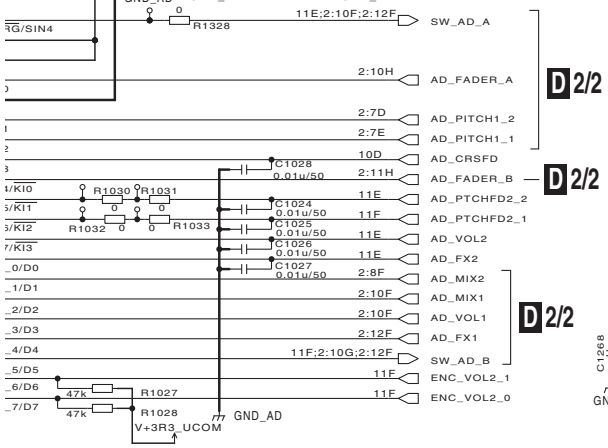
F CN2601



G 1/2 CN2001

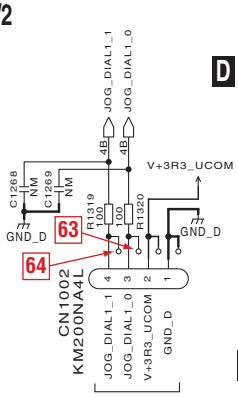


D 2/2



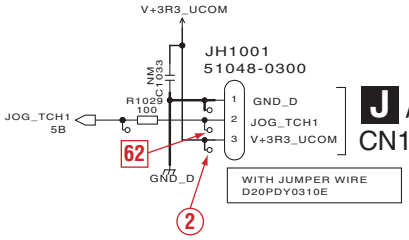
H / I

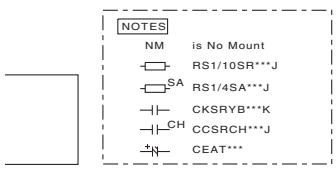
CN1701/CN2701



J / K

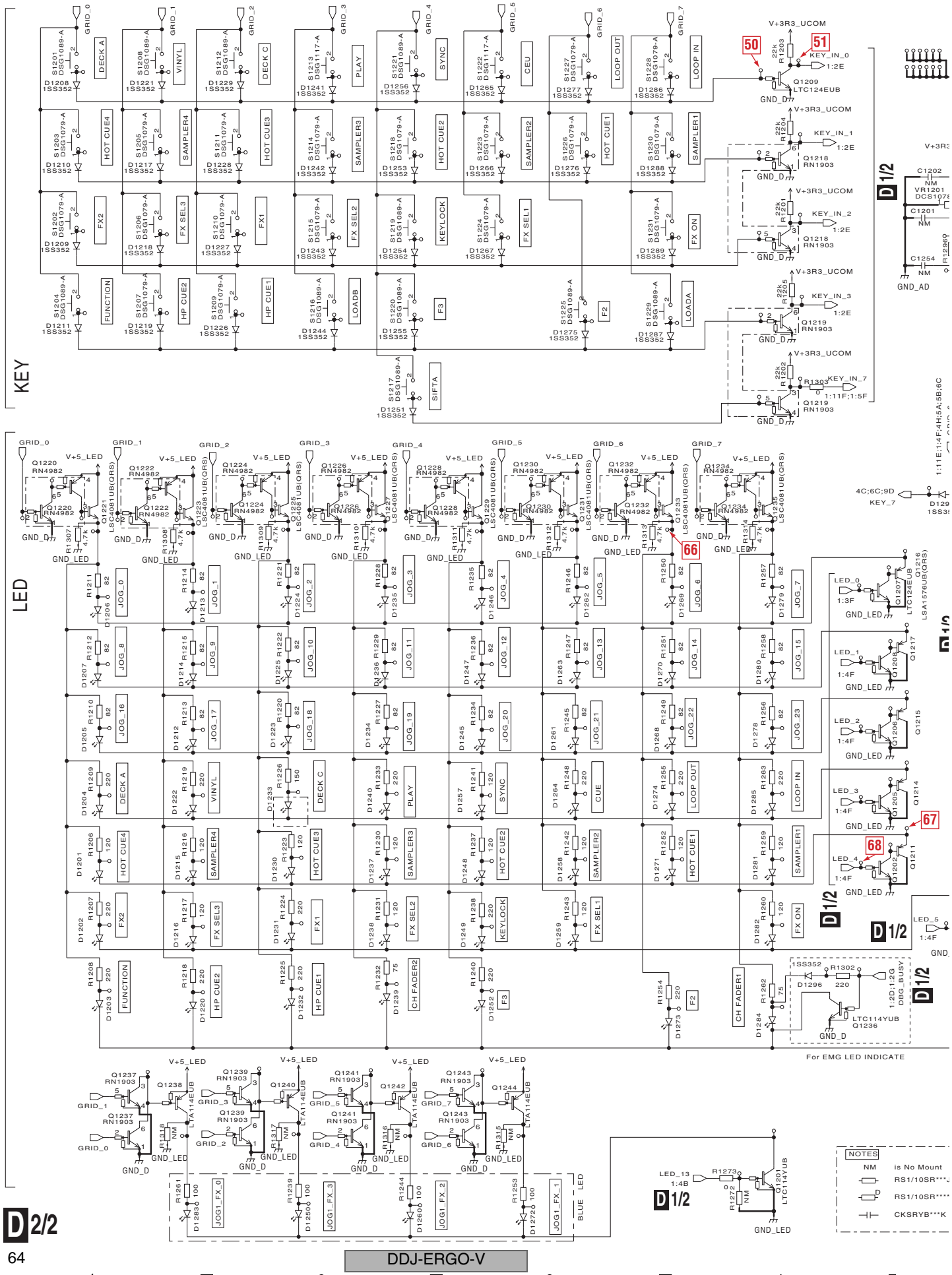
CN1801/CN2801



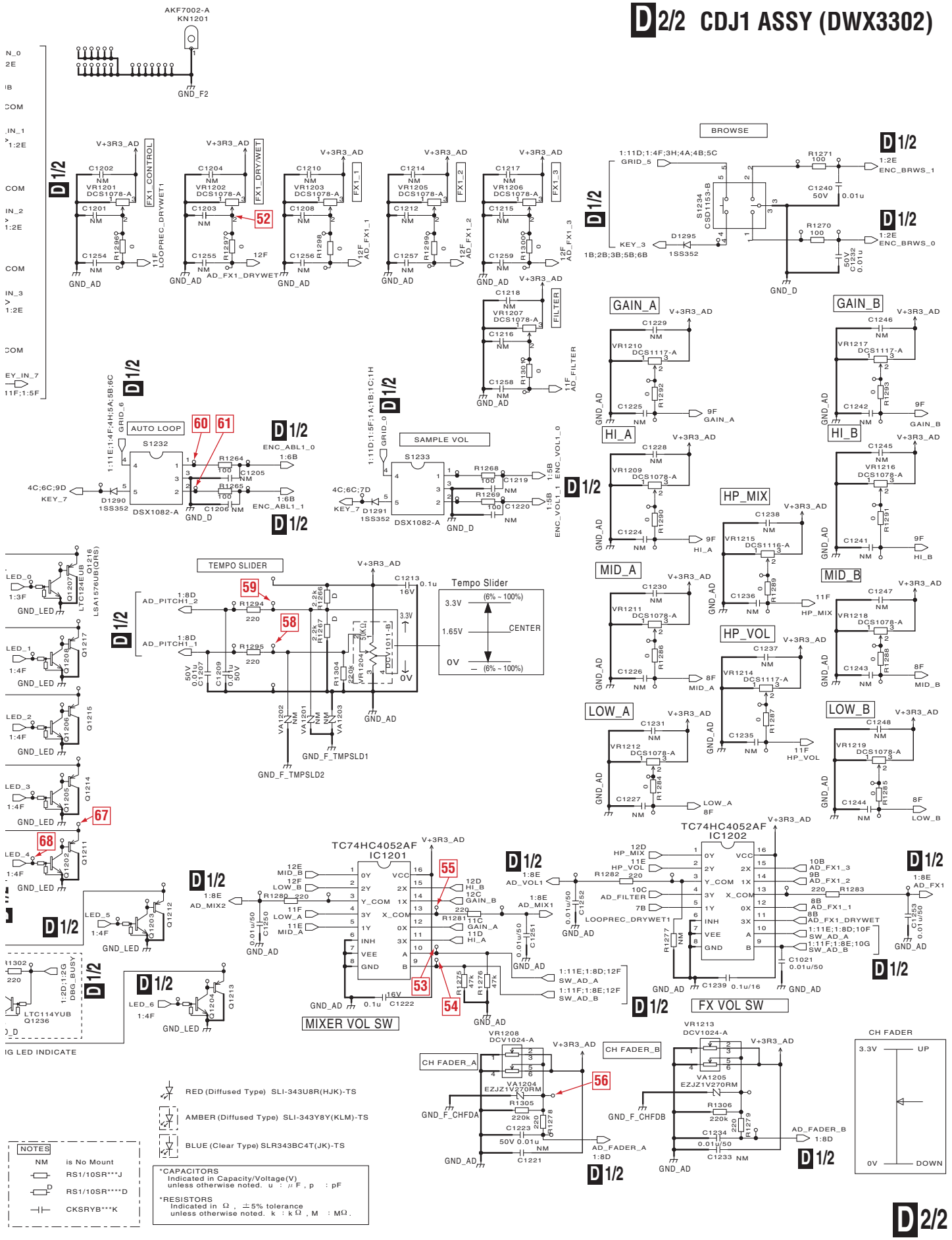


D 1/2

10.6 CDJ1 ASSY (2/2)

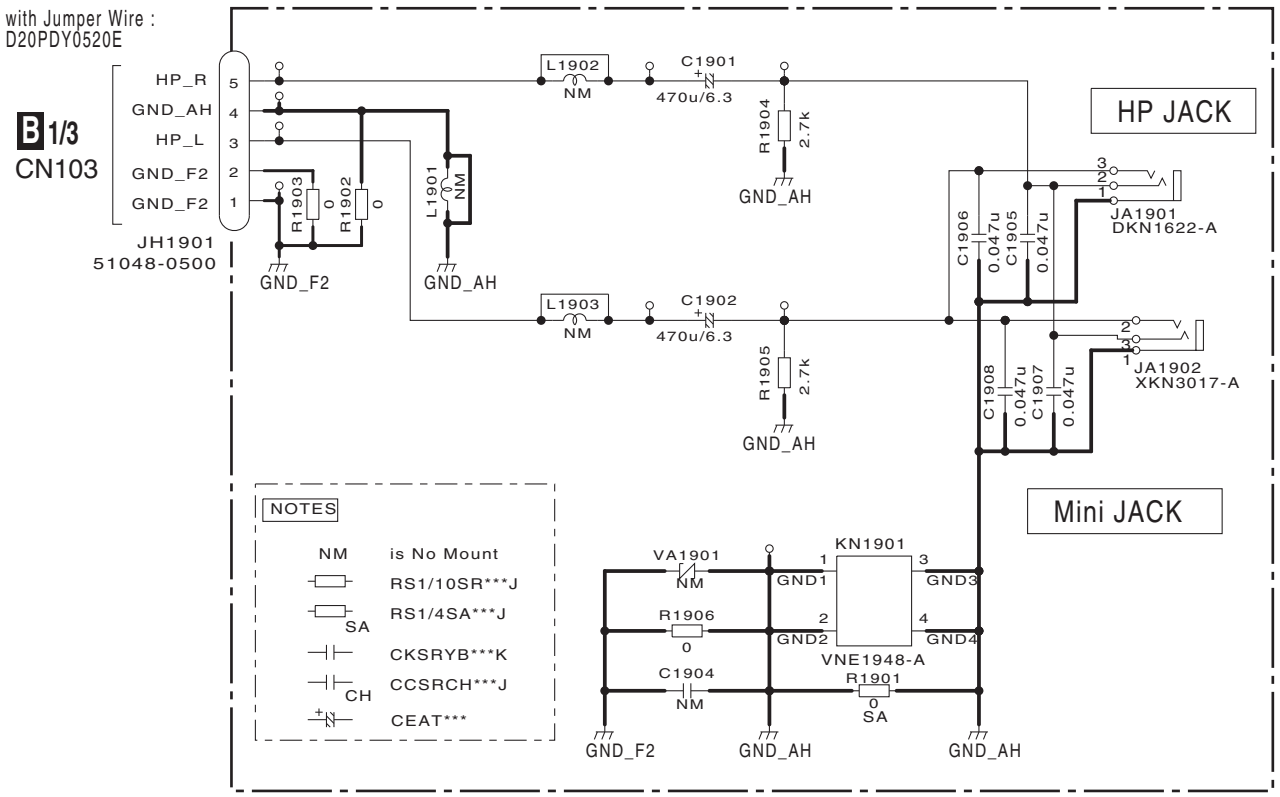


D 2/2 CDJ1 ASSY (DWX3302)



10.7 HPJK and CRFD ASSYS

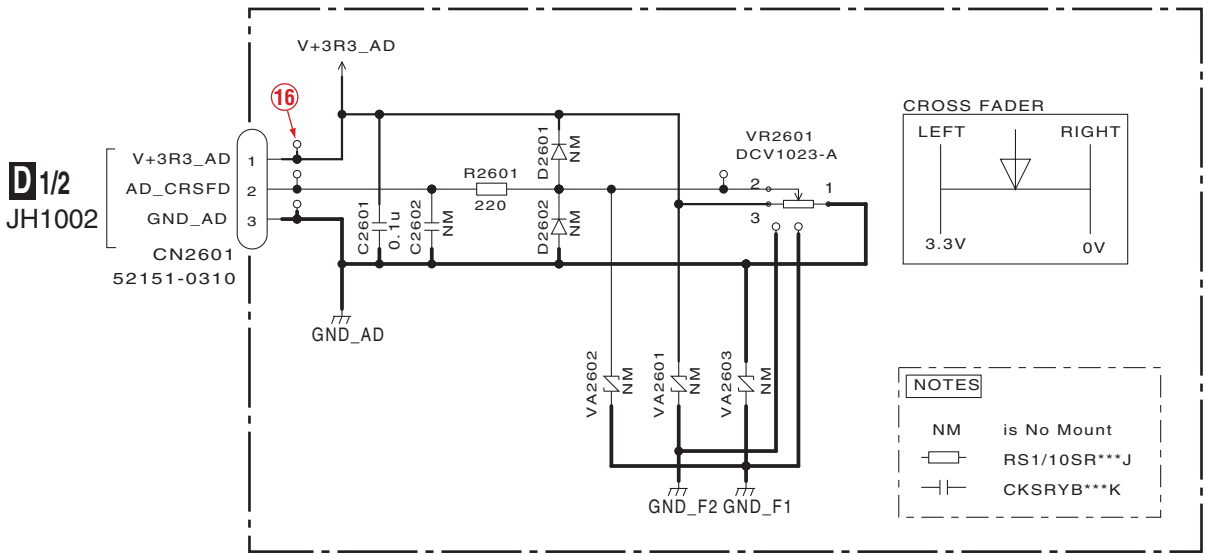
E HPJK ASSY (DWX3306)



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

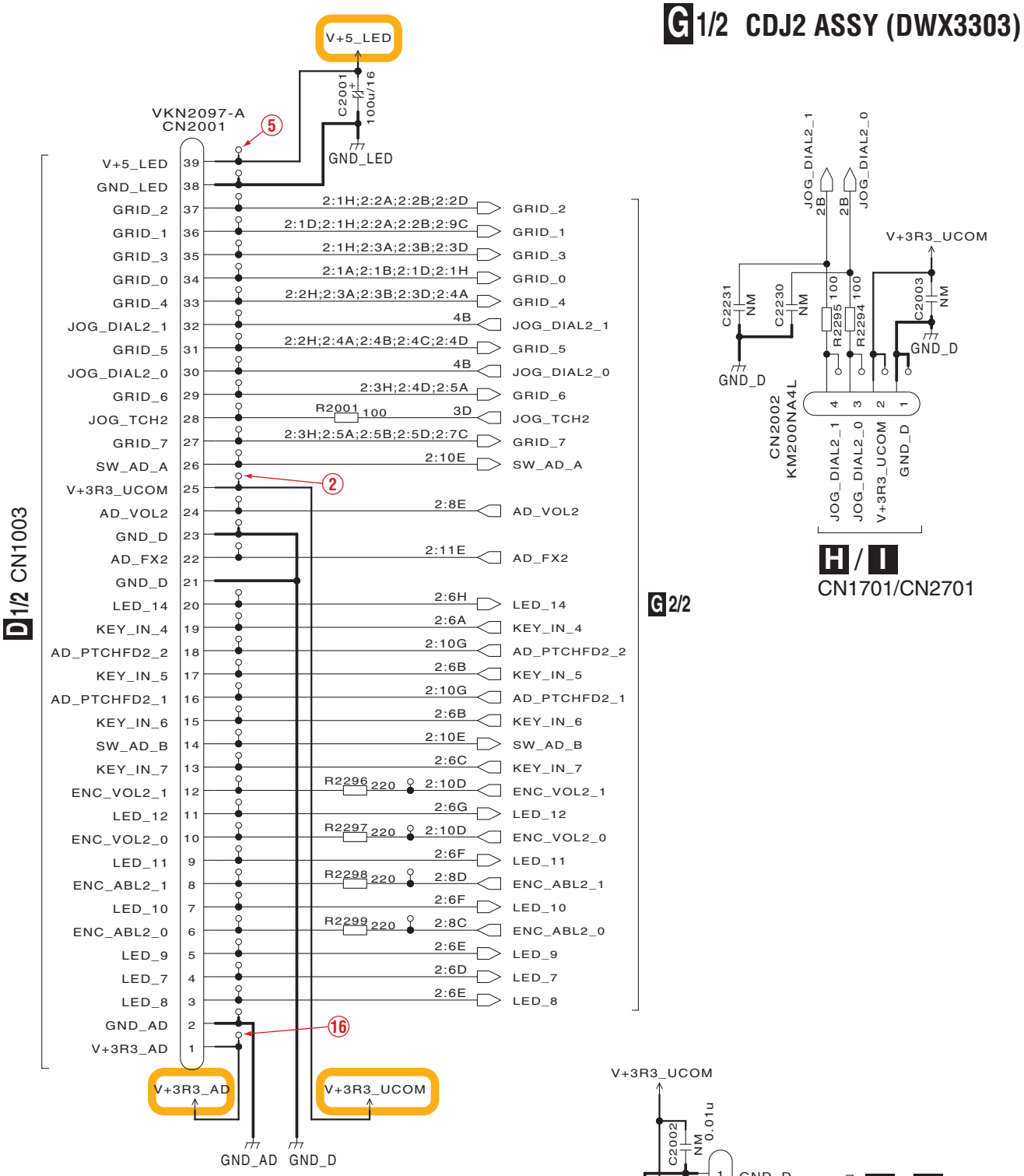
*RESISTORS
Indicated in Ω , ±5% tolerance
unless otherwise noted. k : kΩ , M : MΩ.

F CRFD ASSY (DWX3305)



10.8 CDJ2 ASSY (1/2)

G 1/2 CDJ2 ASSY (DWX3303)



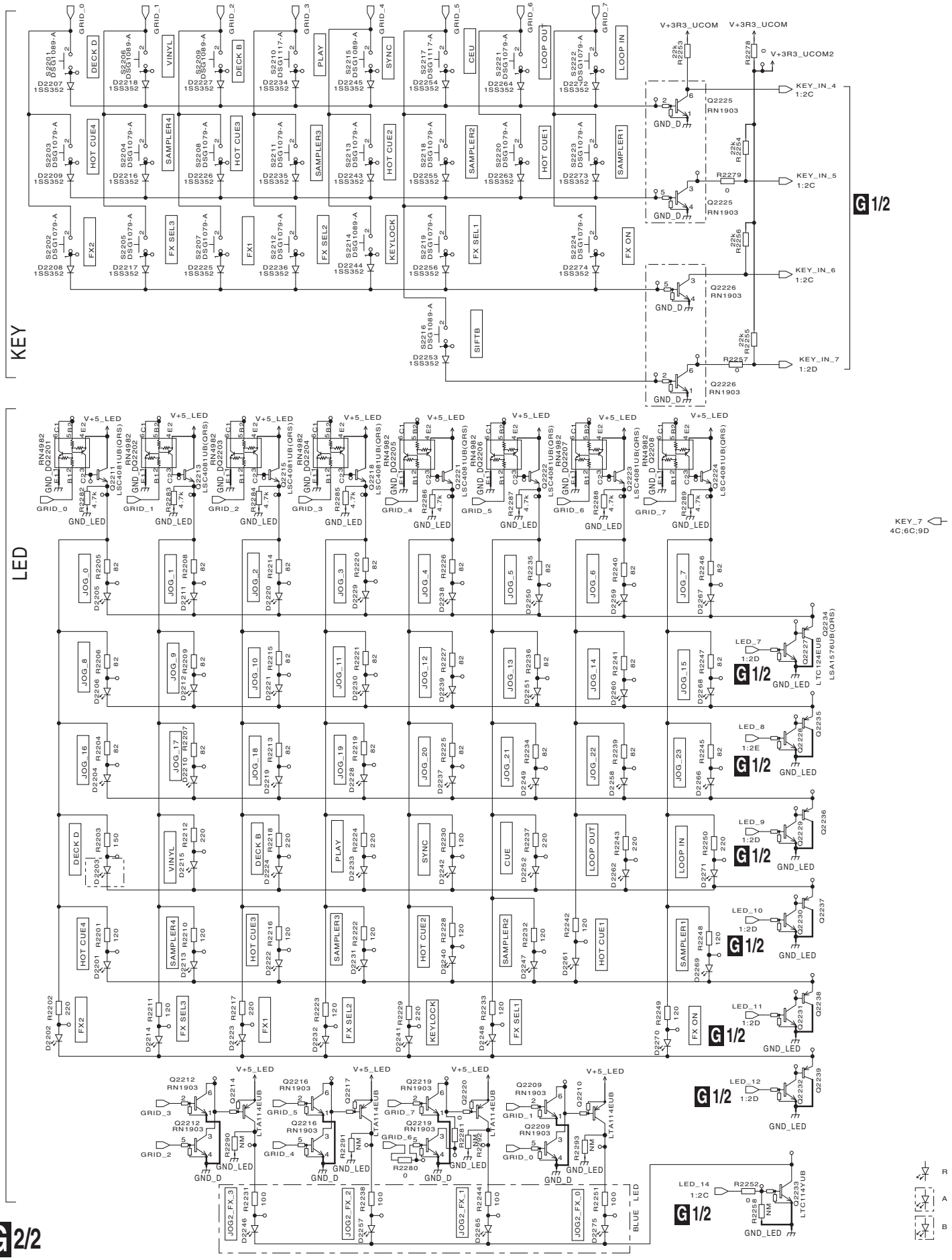
*CAPACITORS
Indicated in Capacity/Voltage(V)
unless otherwise noted. u : μF , p : pF

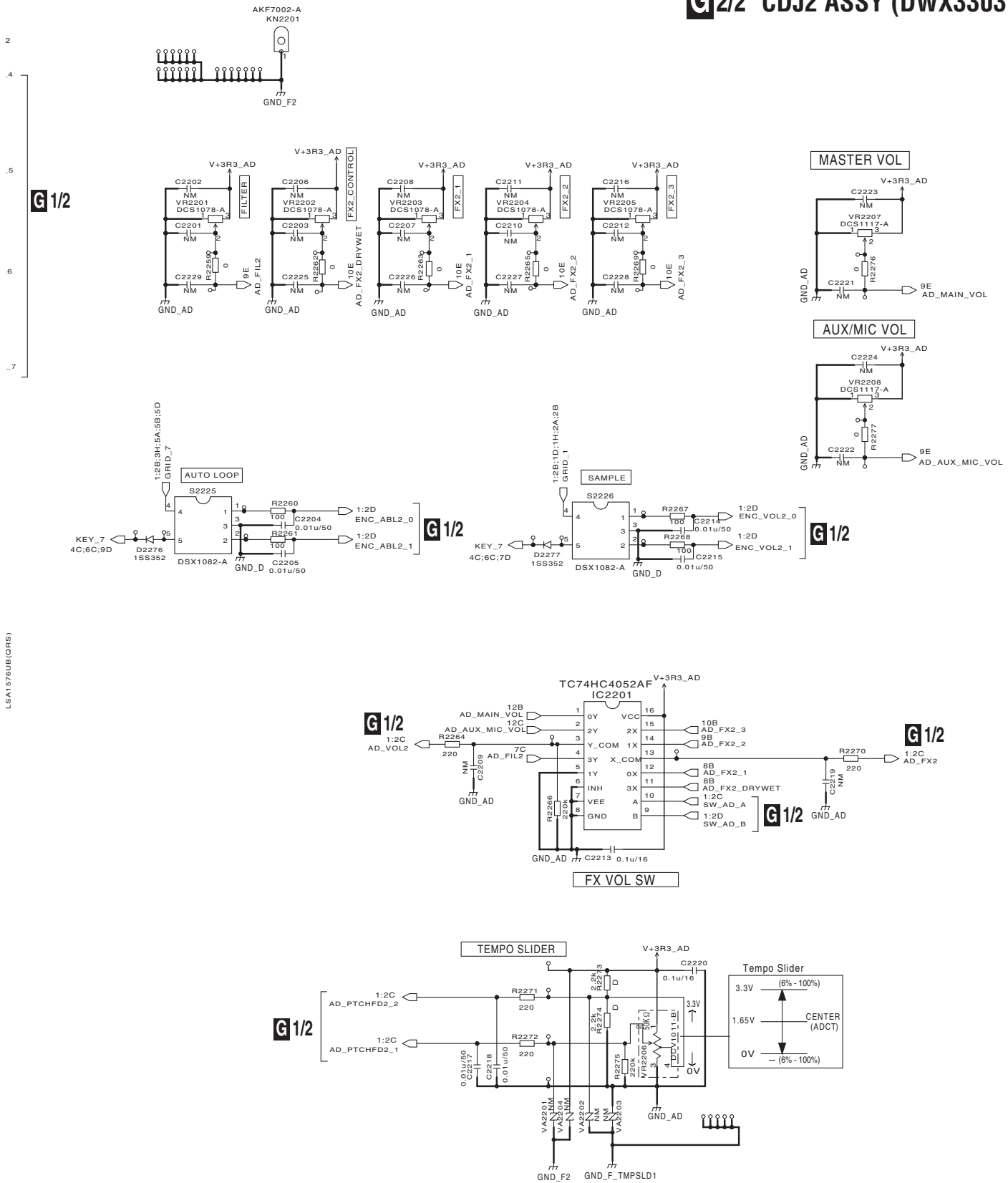
*RESISTORS
Indicated in Ω , ±5% tolerance
unless otherwise noted. k : kΩ , M : MΩ.

NOTES

NM	is No Mount
	RS1/10SR***J
	CKSRYB***K
	CEAT***

10.9 CDJ2 ASSY (2/2)

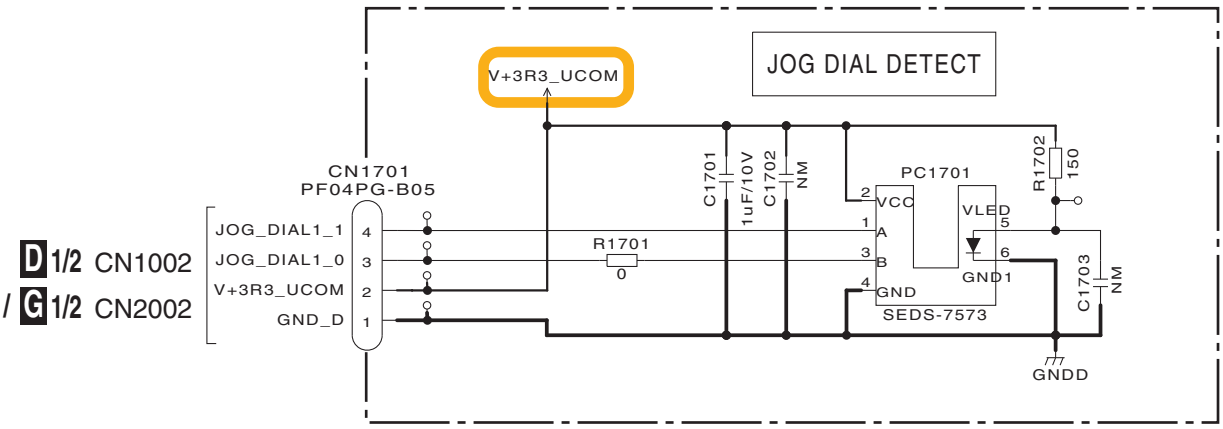



AKF7002-A
KN2201
GND_F2
V+3R3_AD
FILTER
FX2_CONTROL
FX2_1
FX2_2
FX2_3
AD_FIL2
AD_FX2_DRYWET
AD_FX2_1
AD_FX2_2
AD_FX2_3
GND_AD
MASTER VOL
AD_MAIN_VOL
AUX/MIC VOL
AD_AUX_MIC_VOL
AUTO LOOP
S2225
DSX1082-A
ENC_ABL2_0
ENC_ABL2_1
SAMPLE
S2226
ENC_VOL2_0
ENC_VOL2_1
KEY_7
GND_D
TC74HC4052AF
IC2201
FX VOL SW
TEMPO SLIDER
Tempo Slider
3.3V
1.65V
0V
CENTER
(ADCT)
(6% - 100%)
RED (Diffused Type) SLI-343U8R(HJK)-TS
AMBER (Diffused Type) SLI-343Y8Y(KLM)-TS
BLUE (Clear Type) SLR343BC4T(JK)-TS
*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
RS1/10SR****D
CKSRYB***K

10.10 JOG1 and JOG2 ASSYS

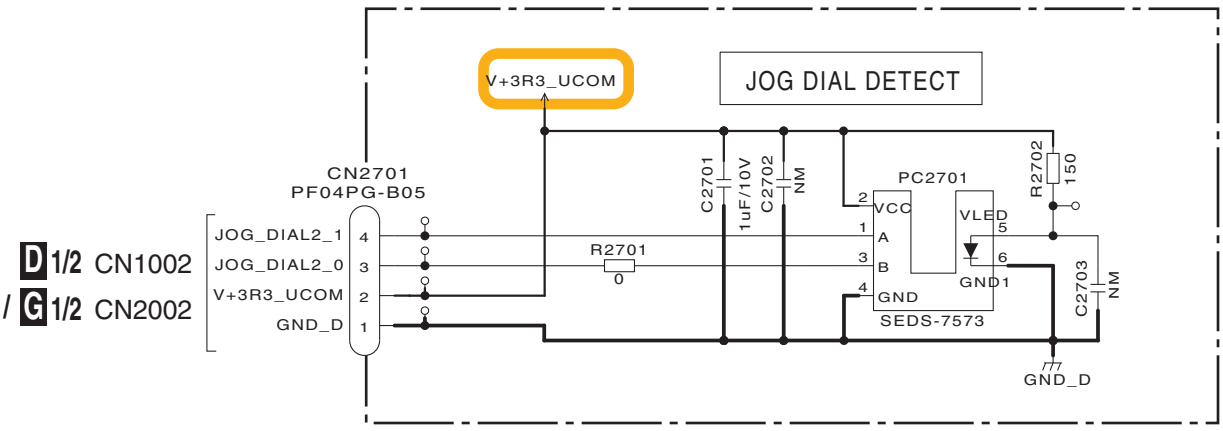
Either the JOG1 Assy or JOG2 Assy is assembled here.
The JOG1 Assy and JOG2 Assy are interchangeably used and handled similarly in their production management.

H JOG1 ASSY (DWS1436)



D 1/2 CN1002
/ G 1/2 CN2002

I JOG2 ASSY (DWS1438)



D 1/2 CN1002
/ G 1/2 CN2002

*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
CKSRYB***K

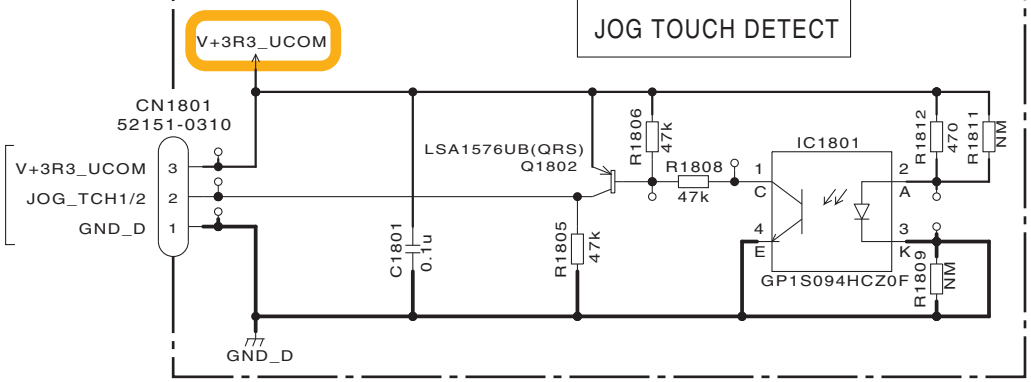
H I

10.11 TCH1 and TCH2 ASSYS

Either the TCH1 Assy or TCH2 Assy is assembled here.
The TCH1 Assy and TCH2 Assy are interchangeably used and handled similarly in their production management.

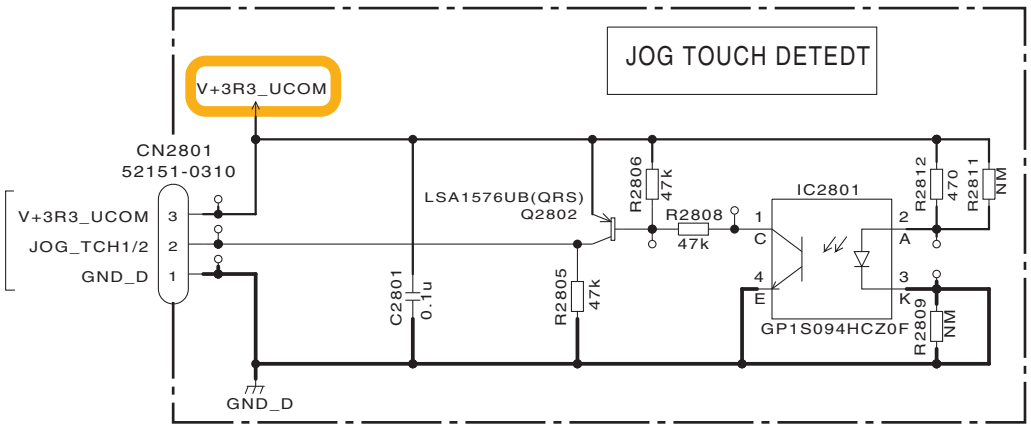
J TCH1 ASSY (DWS1437)

D 1/2 JH1001
/ G 1/2 JH2001



K TCH2 ASSY (DWS1439)

D 1/2 JH1001
/ G 1/2 JH2001



*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
CKSRYB***K

10.12 VOLTAGES

Name	Normal Voltage Level	Assy Concerned	Measurement Point
V+VBUS	4.75 to 5.25 V	IFPW ASSY	①
V+3R3_UCOM	3.2 to 3.4 V	IFPW ASSY CDJ1 ASSY, CDJ2 ASSY JOG1 ASSY, JOG2 ASSY TCH1 ASSY, TCH2 ASSY	②
V+3R3_UCOM1	3.2 to 3.4 V	CDJ1 ASSY	③
V+3R3_UCOM2	3.2 to 3.4 V	CDJ1 ASSY, CDJ2 ASSY	④
V+5_D, V+5_LED	4.5 to 5.2 V	IFPW ASSY, CDJ1 ASSY, CDJ2 ASSY	⑤
V+5_DD	4.5 to 5.2 V	IFPW ASSY	⑥
V+5_USB	4.5 to 5.2 V	IFPW ASSY	⑦
V+3R3_USB, V+3R3_USB_A, V+3R3_USB_D	3.2 to 3.4 V	IFPW ASSY	⑧
V+7	6.4 to 7.4 V	IFPW ASSY	⑨
V+7_J	6.6 to 7.4 V	IFPW ASSY JACK ASSY	⑩
V-6	-6.0 to -6.8 V	IFPW ASSY	⑪
V-6_J	-6.0 to -6.8 V	IFPW ASSY JACK ASSY	⑫
V+5_A	4.9 to 5.1 V	IFPW ASSY	⑬
V+5_HP	4.9 to 5.1 V	IFPW ASSY HPLC ASSY	⑭
V+5_HP_OUT	4.9 to 5.1 V	IFPW ASSY HPLC ASSY	⑮
V+3R3_AD	3.2 to 3.4 V	CDJ1 ASSY, CDJ2 ASSY CRFD ASSY	⑯

Name	Normal Voltage Level	Assy Concerned	Measurement Point
P_SW	POWER ON: 0 V POWER OFF: 4.75 to 5.25 V	IFPW ASSY	1
PWR_SW	POWER ON: 0 V POWER OFF: 3.2 to 3.4 V	IFPW ASSY, CDJ1 ASSY	2
PWR_ON	POWER ON: 3.2 to 3.4 V POWER OFF: 0 V	IFPW ASSY, CDJ1 ASSY	3
VBUS_DET	Normal: 2.3 to 2.6 V Abnormal: < 2.3 V	IFPW ASSY, CDJ1 ASSY	9
FAULT_DET2	Normal: 3.2 to 3.4 V Abnormal: 0 V	IFPW ASSY, CDJ1 ASSY	10
FAULT_DET	Normal: 3.2 to 3.4 V Abnormal: 0 V	IFPW ASSY, CDJ1 ASSY	8
MAIN_XRST	Normal: 3.2 to 3.4V Reset: 0 V	CDJ1 ASSY	43
USB_XRST	Normal: 3.2 to 3.4 V Reset: 0 V	IFPW ASSY, CDJ1 ASSY	4
ADC_DAC_XRST	Normal: 3.2 to 3.4 V Reset: 0 V	IFPW ASSY, CDJ1 ASSY	21
A_MUTE	MUTE ON: 3.2 to 3.4 V MUTE OFF: 0 V	IFPW ASSY, CDJ1 ASSY	22
MUTE	MUTE ON: 4.0 to 4.4 V MUTE OFF: N.A.	IFPW ASSY, JACK ASSY	23
MIC_AUXIN_MUTE	MUTE ON: 3.2 to 3.4 V MUTE OFF: 0 V	IFPW ASSY, CDJ1 ASSY	24
ADC_MUTE	MUTE ON: 4.9 to 5.1 V MUTE OFF: N.A.	IFPW ASSY, JACK ASSY	25
MIC_AUXIN_SW	AUX IN: 3.2 to 3.4 V MIC: 0V	IFPW ASSY, CDJ1 ASSY	27
MIC_AUXIN_SEL	AUX IN: 2.1 to 2.4 V MIC: 6.6 to 7.4 V	JACK ASSY, IFPW ASSY, CDJ1 ASSY	28
JOG_TCH1/2	TOUCH: 3.2 to 3.4 V RELEASE: 0 V	CDJ1 ASSY, CDJ2 ASSY TCH1 ASSY, TCH2 ASSY	62

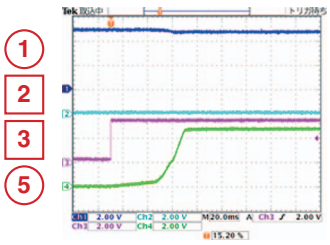
10.13 WAVEFORMS

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 or surrounded with a frame denote numbers for the measurement points indicated in the circuit diagrams and PCB diagrams.

B IFPW ASSY

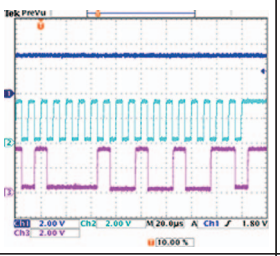
Power control
Mode: POWER ON

1. **TP/IC304 - pin 5 (V+VBUS)**
   V: 2.0 V/div. H: 20 mS/div.
2. **TP/CN102 - pin 15 (PWR_SW)**
   V: 2.0 V/div. H: 20 mS/div.
3. **TP/CN102 - pin 31 (PWR_ON)**
   V: 2.0 V/div. H: 20 mS/div.
5. **TP/Q306 - pin 1, 2, 5, 6 (V+ 5_D)**
   V: 2.0 V/div. H: 20 mS/div.



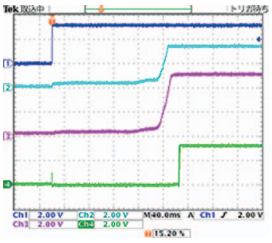
I2C USB UCOM-EEPROM (2)
Mode: POWER ON

4. **IC102 - pin 10 (USB_XRST)**
   V: 2.0 V/div. H: 20 µS/div.
6. **TP/CN102 - pin 21 (EEP_SCL)**
   V: 2.0 V/div. H: 20 µS/div.
7. **TP/CN102 - pin 19 (EEP_SDA)**
   V: 2.0 V/div. H: 20 µS/div.



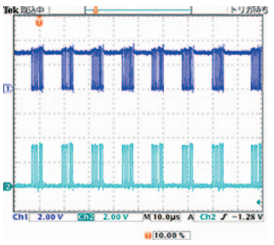
Abnormal voltage detection (1)
Mode: POWER ON

2. **TP/IC304 - pin 4 (V+3R3_UCOM)**
   V: 2.0 V/div. H: 40 mS/div.
8. **TP/IC303 - pin 4 (V+3R3_USB)**
   V: 2.0 V/div. H: 40 mS/div.
5. **TP/Q306 - pin 1, 2, 5, 6 (V+ 5_D)**
   V: 2.0 V/div. H: 40 mS/div.
8. **TP/R337 (FAULT_DET)**
   V: 2.0 V/div. H: 40 mS/div.



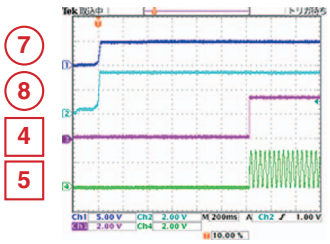
USB DP/DN (1)
Mode: POWER ON

14. **IC102 - pin 7 (USB_DP)**
    V: 2.0 V/div. H: 10 µS/div.
15. **IC102 - pin 8 (USB_DV)**
    V: 2.0 V/div. H: 10 µS/div.



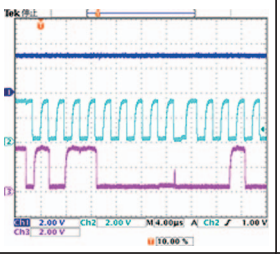
USB UCOM strat up
Mode: POWER ON

7. **IC307 - pin 2 (V+5_USB)**
   V: 5.0 V/div. H: 200 mS/div.
8. **TP/IC303 - pin 4 (V+3R3_USB)**
   V: 2.0 V/div. H: 200 mS/div.
4. **IC102 - pin 10 (USB_XRST)**
   V: 2.0 V/div. H: 200 mS/div.
5. **IC102 - pin 51 (XTALI)**
   V: 2.0 V/div. H: 200 mS/div.



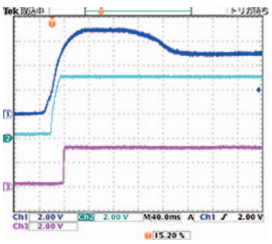
I2C USB UCOM-MAIN UCOM
Mode: POWER ON

4. **IC102 - pin 10 (USB_XRST)**
   V: 2.0 V/div. H: 4.0 µS/div.
6. **TP/CN102 - pin 21 (EEP_SCL)**
   V: 2.0 V/div. H: 4.0 µS/div.
7. **TP/CN102 - pin 19 (EEP_SDA)**
   V: 2.0 V/div. H: 4.0 µS/div.



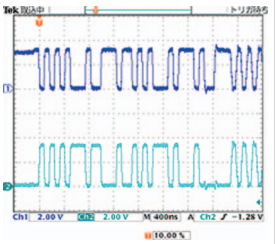
Abnormal voltage detection (2)
Mode: POWER ON

9. **(TP)/IC301 - pin 5 (V+7)**
   V: 2.0 V/div. H: 40 mS/div.
13. **TP/IC301 - pin 4 (V+5_A)**
    V: 2.0 V/div. H: 40 mS/div.
8. **TP/R337 (FAULT_DET)**
   V: 2.0 V/div. H: 40 mS/div.



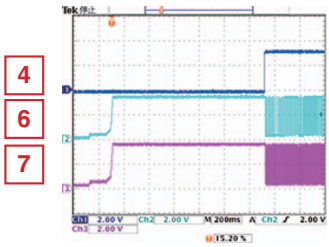
USB DP/DN (2)
Mode: POWER ON

14. **IC102 - pin 7 (USB_DP)**
    V: 2.0 V/div. H: 400 nS/div.
15. **IC102 - pin 8 (USB_DV)**
    V: 2.0 V/div. H: 400 nS/div.



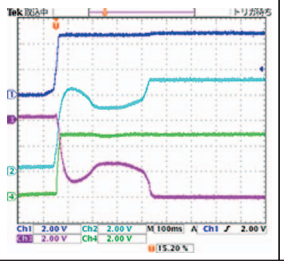
I2C USB UCOM-EEPROM (1)
Mode: POWER ON

4. **IC102 - pin 10 (USB_XRST)**
   V: 2.0 V/div. H: 200 mS/div.
6. **TP/CN102 - pin 21 (EEP_SCL)**
   V: 2.0 V/div. H: 200 mS/div.
7. **TP/CN102 - pin 19 (EEP_SDA)**
   V: 2.0 V/div. H: 200 mS/div.



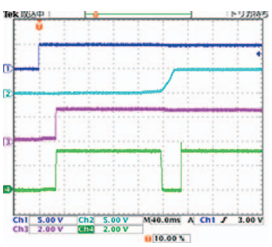
AUDIO power supply
Mode: POWER ON

6. **TP/IC302 - pin 6 (V+5_DD)**
   V: 2.0 V/div. H: 100 mS/div.
10. **TP/CN101 - pin 5 (V+7_J)**
    V: 2.0 V/div. H: 100 mS/div.
12. **TP/CN101 - pin 4 (V-6_J)**
    V: 2.0 V/div. H: 100 mS/div.
13. **TP/IC301 - pin 4 (V+5_A)**
    V: 2.0 V/div. H: 100 mS/div.



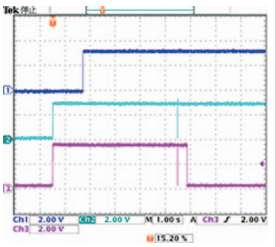
Voltage detection
Mode: POWER ON

1. **IC304 - pin 5 (V+VBUS)**
   V: 5.0 V/div. H: 40 mS/div.
7. **IC307 - pin 2 (V+5_USB)**
   V: 5.0 V/div. H: 40 mS/div.
9. **TP/CN102 - pin 37 (VBUS_DET)**
   V: 5.0 V/div. H: 40 mS/div.
10. **TP/CN102 - pin 33 (FAULT_DET2)**
    V: 5.0 V/div. H: 40 mS/div.



USB control (1)
Mode: POWER ON

4. **IC102 - pin 10 (USB_XRST)**
   V: 2.0 V/div. H: 1.0 S/div.
16. **TP/CN102 - pin 34 (USB_CTRL1)**
    V: 2.0 V/div. H: 1.0 S/div.
17. **TP/CN102 - pin 7 (USB_CTRL2)**
    V: 2.0 V/div. H: 1.0 S/div.



B IFPW ASSY

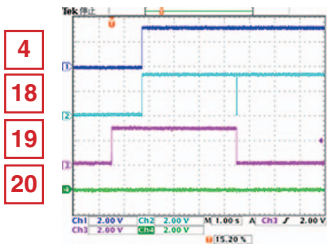
USB control (2)
Mode: POWER ON

4 **IC102 - pin 10 (USB_XRST)**
V: 2.0 V/div. H: 1.0 S/div.

18 **TP/CN102 - pin 24 (USB_REQ)**
V: 2.0 V/div. H: 1.0 S/div.

19 **TP/CN102 - pin 25 (USB_BUSY)**
V: 2.0 V/div. H: 1.0 S/div.

20 **TP/CN102 - pin 30 (USB_ERR)**
V: 2.0 V/div. H: 1.0 S/div.



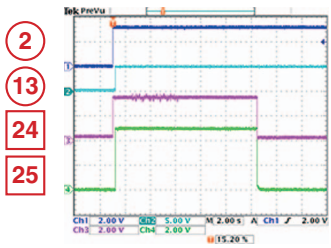
Input MUTE cancel
Mode: POWER ON

2 **TP/IC304 - pin 4 (V+3R3_UCOM)**
V: 2.0 V/div. H: 2.0 S/div.

13 **TP/IC301 - pin 4 (V+5_A)**
V: 5.0 V/div. H: 2.0 S/div.

24 **TP/CN102 - pin 23 (MIC_AUXIN_MUTE)**
V: 2.0 V/div. H: 2.0 S/div.

25 **R550/R551 (ADC_MUTE)**
V: 2.0 V/div. H: 2.0 S/div.

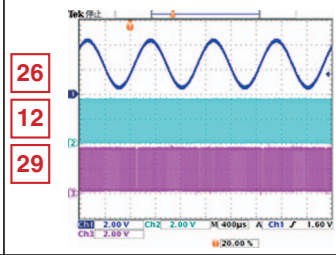


ADC I2S (2)
Mode: AUX 1kHz input, AUX select

26 **IC503 - pin 2 (AINL)**
V: 2.0 V/div. H: 400 µS/div.

12 **IC102 - pin 34 (BCLK)**
V: 2.0 V/div. H: 400 µS/div.

29 **TP/IC503 - pin 9 (MIC_AUX_DATA)**
V: 2.0 V/div. H: 400 µS/div.

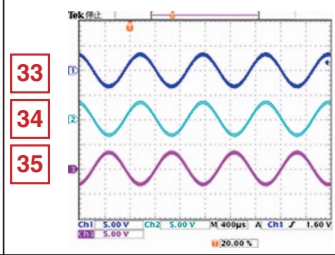


MASTER OUT1
Mode: 1kHz playback, MASTER output VOL MAX

33 **TP/CN101 - pin 15 (MASTER2_L)**
V: 5.0 V/div. H: 400 µS/div.

34 **TP/CN101 - pin 11 (MASTER2_L+)**
V: 5.0 V/div. H: 400 µS/div.

35 **TP/CN101 - pin 13 (MASTER2_L-)**
V: 5.0 V/div. H: 400 µS/div.



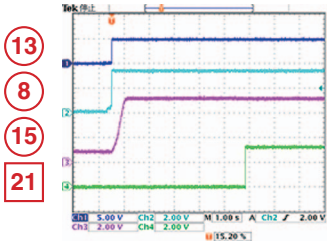
ADC/DAC reset cancel
Mode: POWER ON

13 **IC301 - pin 4 (V+5_A)**
V: 5.0 V/div. H: 1.0 S/div.

8 **TP/IC303 - pin 4 (V+3R3_USB)**
V: 2.0 V/div. H: 1.0 S/div.

15 **TP/CN104 - pin 3 (V+5_HP_OUT)**
V: 2.0 V/div. H: 1.0 S/div.

21 **TP/CN102 - pin 27 (ADC_DAC_XRST)**
V: 2.0 V/div. H: 1.0 S/div.

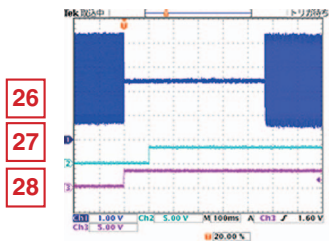


INPUT SWITCH (MIC → AUX)
Mode: MIC2kHz, AUX1kHz input switch

26 **IC503 - pin 2 (AINL)**
V: 1.0 V/div. H: 100 mS/div.

27 **TP (CN102 - pin 28) (MIC_AUXIN_SW)**
V: 5.0 V/div. H: 100 mS/div.

28 **TP (CN101 - pin 27) (MIC_AUXIN_SEL)**
V: 5.0 V/div. H: 100 mS/div.



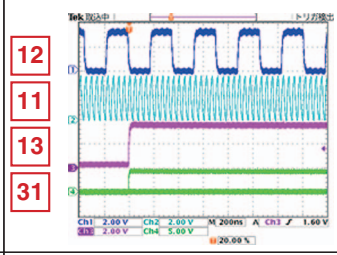
DAC I2S (1)
Mode: 1kHz playback, MASTER output

12 **IC501 - pin 2 (BCLK)**
V: 2.0 V/div. H: 200 nS/div.

11 **IC501 - pin 1 (MCLK)**
V: 2.0 V/div. H: 200 nS/div.

13 **IC501 - pin 4 (LRCK)**
V: 2.0 V/div. H: 200 nS/div.

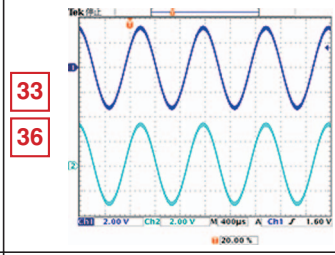
31 **IC501 - pin 3 (MASTER_DATA)**
V: 5.0 V/div. H: 200 nS/div.



MASTER OUT2
Mode: 1kHz playback, MASTER output VOL MAX

33 **TP/CN101 - pin 15 (MASTER2_L)**
V: 2.0 V/div. H: 400 µS/div.

36 **TP/CN101 - pin 19 (MASTER2_R)**
V: 2.0 V/div. H: 400 µS/div.



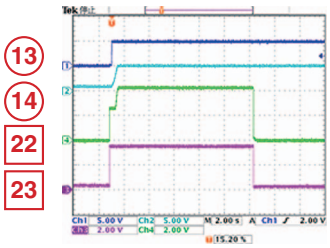
Output MUTE cancel
Mode: POWER ON

13 **TP/IC301 - pin 4 (V+5_A)**
V: 5.0 V/div. H: 2.0 S/div.

14 **CN104 - pin 1 (V+5_HP)**
V: 5.0 V/div. H: 2.0 S/div.

22 **TP/CN102 - pin 35 (A_MUTE)**
V: 2.0 V/div. H: 2.0 S/div.

23 **TP/CN101 - pin 25 (MUTE)**
V: 2.0 V/div. H: 2.0 S/div.



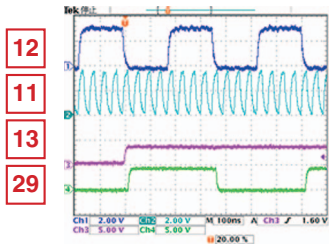
ADC I2S (1)
Mode: AUX 1kHz input playback

12 **IC501 - pin 2 (BCLK)**
V: 2.0 V/div. H: 100 nS/div.

11 **IC501 - pin 1 (MCLK)**
V: 2.0 V/div. H: 100 nS/div.

13 **IC501 - pin 4 (LRCK)**
V: 5.0 V/div. H: 100 nS/div.

29 **TP/IC503 - pin 9 (MIC_AUX_DATA)**
V: 5.0 V/div. H: 100 nS/div.

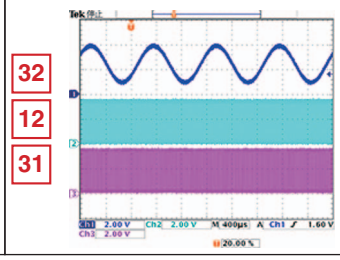


DAC I2S (2)
Mode: 1kHz playback, MASTER output

32 **IC502 - pin 11 (AOUTL)**
V: 2.0 V/div. H: 400 µS/div.

12 **IC102 - pin 34 (BCLK)**
V: 2.0 V/div. H: 400 µS/div.

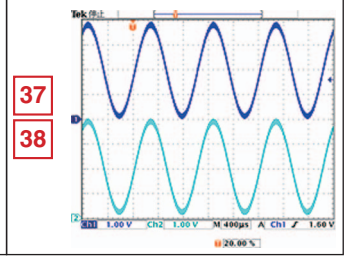
31 **IC501 - pin 3 (MASTER_DATA)**
V: 2.0 V/div. H: 400 µS/div.



HEADPHONE OUT
Mode: 1kHz playback, HEADPHONE output, VOL arround MAX

37 **TP/CN103 - pin 3 (HP_L)**
V: 1.0 V/div. H: 400 µS/div.

38 **TP/CN103 - pin 5 (HP_R)**
V: 1.0 V/div. H: 400 µS/div.



B IFPW ASSY

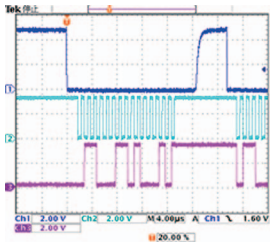
DAC control (1)
Mode: MASTER VOL change

39 **IC501 - pin 6 (DAC_CSN)**
V: 2.0 V/div. H: 4.0 µS/div.

40 **TP/IC501 - pin 7 (DAC_CCLK)**
V: 2.0 V/div. H: 4.0 µS/div.

41 **IC501 - pin 8 (DAC_CDTI)**
V: 2.0 V/div. H: 4.0 µS/div.

39
40
41



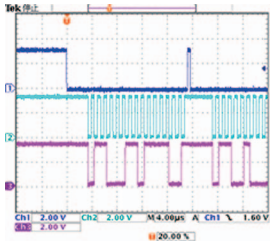
DAC control (2)
Mode: MASTER VOL change

42 **IC502 - pin 6 (DAC_CS)**
V: 2.0 V/div. H: 4.0 µS/div.

40 **TP/IC502 - pin 7 (DAC_CCLK)**
V: 2.0 V/div. H: 4.0 µS/div.

41 **IC502 - pin 8 (DAC_CDTI)**
V: 2.0 V/div. H: 4.0 µS/div.

42
40
41



D CDJ1 ASSY

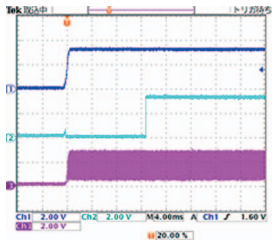
MAIN UCOM start up
Mode: POWER ON

2 **TP/CN1004 - pin 1 (V+3R3_UCOM)**
V: 2.0 V/div. H: 4.0 mS/div.

43 **IC1001 - pin 1 (MAIN_XRST)**
V: 2.0 V/div. H: 4.0 mS/div.

44 **IC1002 - pin 15 (XIN)**
V: 2.0 V/div. H: 4.0 mS/div.

2
43
44

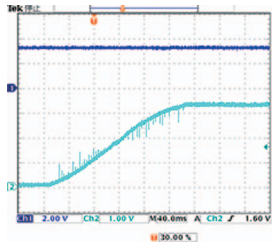


Volume operation 1 (PLAYER1 FX1 CONTROL)
Mode: PLAYER1 VOL (MIN → MAX)

16 **TP/IC1002 - pin 98, 99 (V+3R3_AD)**
V: 2.0 V/div. H: 40 mS/div.

52 **TP/VR1202 - pin 2 (AD_FX1_DRYWET)**
V: 2.0 V/div. H: 40 mS/div.

16
52



GRID control
Mode:

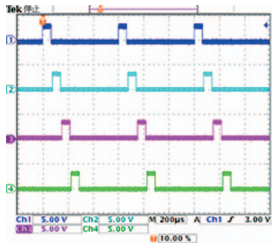
45 **TP/IC1002 - pin 68 (GRID_0)**
V: 5.0 V/div. H: 200 µS/div.

46 **TP/IC1002 - pin 67 (GRID_1)**
V: 5.0 V/div. H: 200 µS/div.

47 **TP/IC1002 - pin 66 (GRID_2)**
V: 5.0 V/div. H: 200 µS/div.

48 **TP/IC1002 - pin 59 (GRID_7)**
V: 5.0 V/div. H: 200 µS/div.

45
46
47
48



Volume operation 2 (MIXER GAIN A)(1)
Mode: MIXER GAIN A VOL change, EQ: center

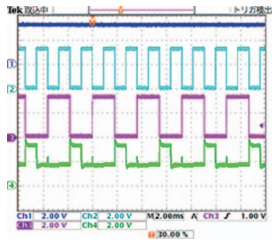
16 **TP/IC1002 - pin 98, 99 (V+3R3_AD)**
V: 2.0 V/div. H: 2.0 mS/div.

53 **TP/IC1201 - pin 10 (SW_AD_A)**
V: 2.0 V/div. H: 2.0 mS/div.

54 **TP/IC1201 - pin 9 (SW_AD_B)**
V: 2.0 V/div. H: 2.0 mS/div.

55 **TP/IC1201 - pin 13 (AD_MIX1)**
V: 2.0 V/div. H: 2.0 mS/div.

16
53
54
55



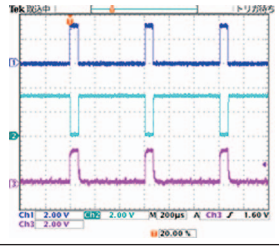
KEY operation (PLAYER1 PLAY)
Mode: PLAY KEY

49 **TP/IC1002 - pin 65 (GRID_3)**
V: 2.0 V/div. H: 200 µS/div.

50 **TP/Q1209 B (KEY_0)**
V: 2.0 V/div. H: 200 µS/div.

51 **TP/Q1209 C (KEY_IN_0)**
V: 2.0 V/div. H: 200 µS/div.

49
50
51



Volume operation 2 (MIXER GAIN A)(1)
Mode: MIXER GAIN A VOL change, EQ: center

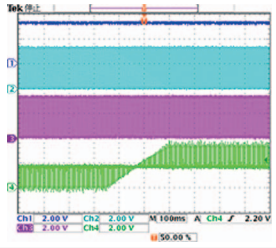
16 **TP/IC1002 - pin 98, 99 (V+3R3_AD)**
V: 2.0 V/div. H: 100 mS/div.

53 **TP/IC1201 - pin 10 (SW_AD_A)**
V: 2.0 V/div. H: 100 mS/div.

54 **TP/IC1201 - pin 9 (SW_AD_B)**
V: 2.0 V/div. H: 100 mS/div.

55 **TP/IC1201 - pin 13 (AD_MIX1)**
V: 2.0 V/div. H: 100 mS/div.

16
53
54
55



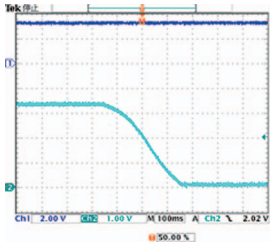
D CDJ1 ASSY

CH FADER operation (CH A)
Mode: MIXER CH A FADER (UP → DOWN)

16 **TP/IC1002 - pin 98, 99 (V+3R3_AD)**
V: 2.0 V/div. H: 100 mS/div.

56 **TP/VR1208 - pin 2, 5 (AD_FADER_A)**
V: 1.0 V/div. H: 100 mS/div.

16
56

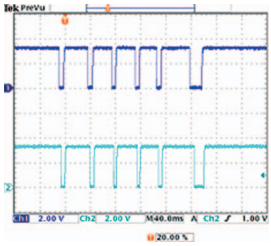


ROTARY SELECTOR operation (PLAYER1)
Mode: PLAYER AUTOLOOP operation

60 **TP/S1232 - pin 1 (ENC_ABL1_0)**
V: 2.0 V/div. H: 40 mS/div.

61 **TP/S1232 - pin 2 (ENC_ABL1_1)**
V: 2.0 V/div. H: 40 mS/div.

60
61



LED drive (1)
Mode: All LED light

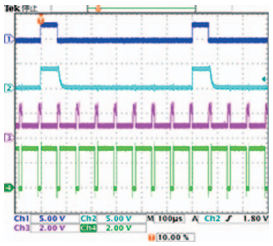
65 **TP/IC1002 - pin 60 (GRID_6)**
V: 5.0 V/div. H: 100 µS/div.

66 **Q1233 E (V+5LED_GRID6)**
V: 5.0 V/div. H: 100 µS/div.

67 **Q1211 E (GND_LED4)**
V: 2.0 V/div. H: 100 µS/div.

68 **TP/Q1202 B (LED_4)**
V: 2.0 V/div. H: 100 µS/div.

65
66
67
68

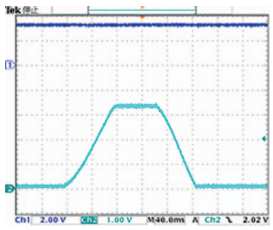


CROSS FADER operation
Mode: MIXER CROSS FADER
(RIGHT → LEFT → RIGHT)

16 **TP/IC1002 - pin 98, 99 (V+3R3_AD)**
V: 2.0 V/div. H: 40 mS/div.

57 **TP/JH1002 - pin 2 (AD_CRSFD)**
V: 1.0 V/div. H: 40 mS/div.

16
57

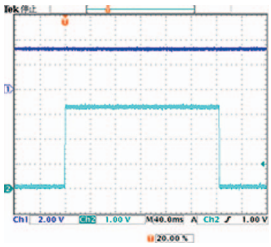


JOG TOUCH operation
Mode: JOG TOUCH operation
(RELEASE → TOUCH → RELEASE)

2 **TP/JH1001 - pin 3 (V+3R3_UCOM)**
V: 2.0 V/div. H: 40 mS/div.

62 **TP/JH1001 - pin 2 (JOG_TCH1)**
V: 1.0 V/div. H: 40 mS/div.

2
62



LED drive (2)
Mode: All LED lit off

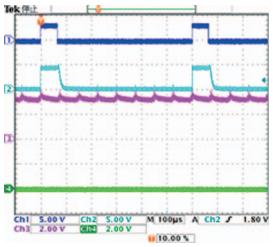
65 **TP/IC1002 - pin 60 (GRID_6)**
V: 5.0 V/div. H: 100 µS/div.

66 **Q1233 E (V+5LED_GRID6)**
V: 5.0 V/div. H: 100 µS/div.

67 **Q1211 E (GND_LED4)**
V: 2.0 V/div. H: 100 µS/div.

68 **TP/Q1202 B (LED_4)**
V: 2.0 V/div. H: 100 µS/div.

65
66
67
68



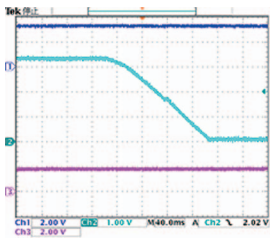
TEMPO SLIDER operation (PLAYER1)
Mode: PLAYER1 TEMP SLIDER
(UP → DOWN)

16 **TP/IC1002 - pin 98, 99 (V+3R3_AD)**
V: 2.0 V/div. H: 40 mS/div.

58 **TP/VR1204 - pin 2 (AD_PITCH1_1)**
V: 1.0 V/div. H: 40 mS/div.

59 **TP/VR1204 - pin 4 (AD_PITCH1_2)**
V: 2.0 V/div. H: 40 mS/div.

16
58
59



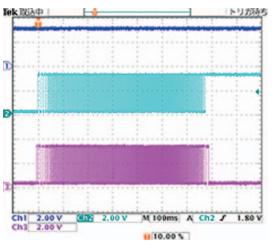
JOG DIAL operation
Mode: STOP → DIAL → STOP

2 **TP/CN1002 - pin 2 (V+3R3_UCOM)**
V: 2.0 V/div. H: 100 mS/div.

63 **TP/CN1002 - pin 3 (JOG_DIAL1_0)**
V: 1.0 V/div. H: 40 mS/div.

64 **TP/CN1002 - pin 4 (JOG_DIAL1_1)**
V: 1.0 V/div. H: 40 mS/div.

2
63
64



LED drive (3)
Mode: one LED only light
(DECK side A/C HOT CUE1)

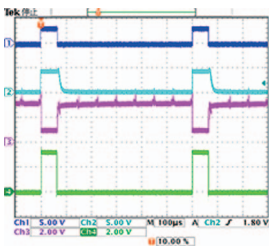
65 **TP/IC1002 - pin 60 (GRID_6)**
V: 5.0 V/div. H: 100 µS/div.

66 **Q1233 E (V+5LED_GRID6)**
V: 5.0 V/div. H: 100 µS/div.

67 **Q1211 E (GND_LED4)**
V: 2.0 V/div. H: 100 µS/div.

68 **TP/Q1202 B (LED_4)**
V: 2.0 V/div. H: 100 µS/div.

65
66
67
68



A

B

C

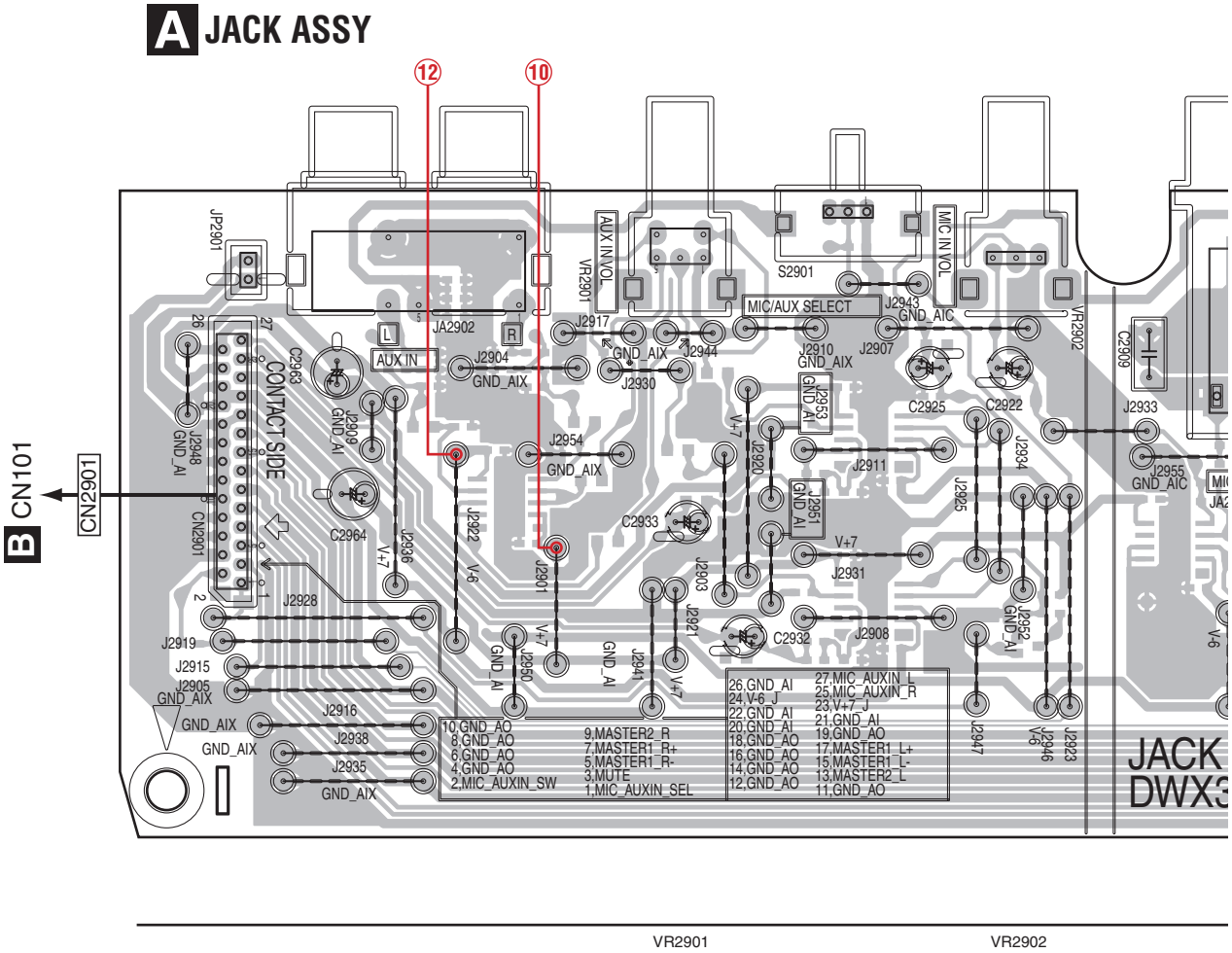
D

E

F

11. PCB CONNECTION DIAGRAM
11.1 JACK ASSY

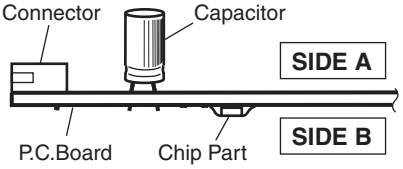
SIDE A



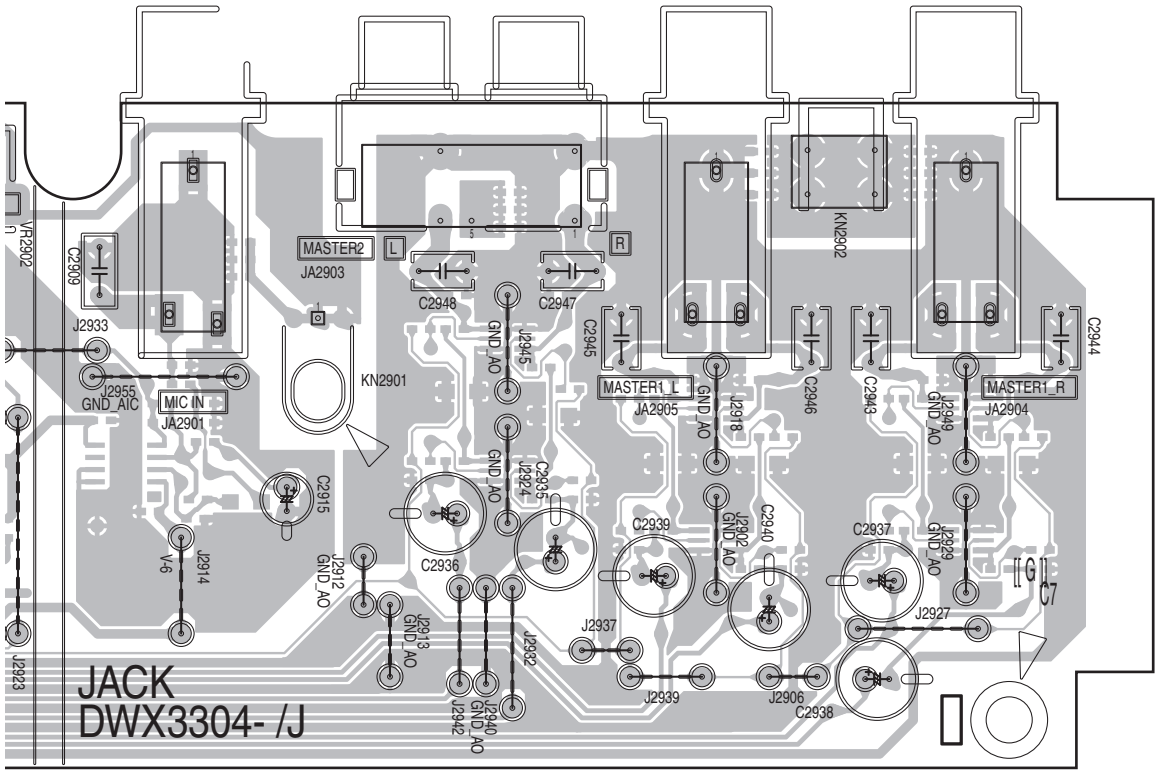
NOTE FOR PCB DIAGRAMS :

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

2. View point of PCB diagrams.



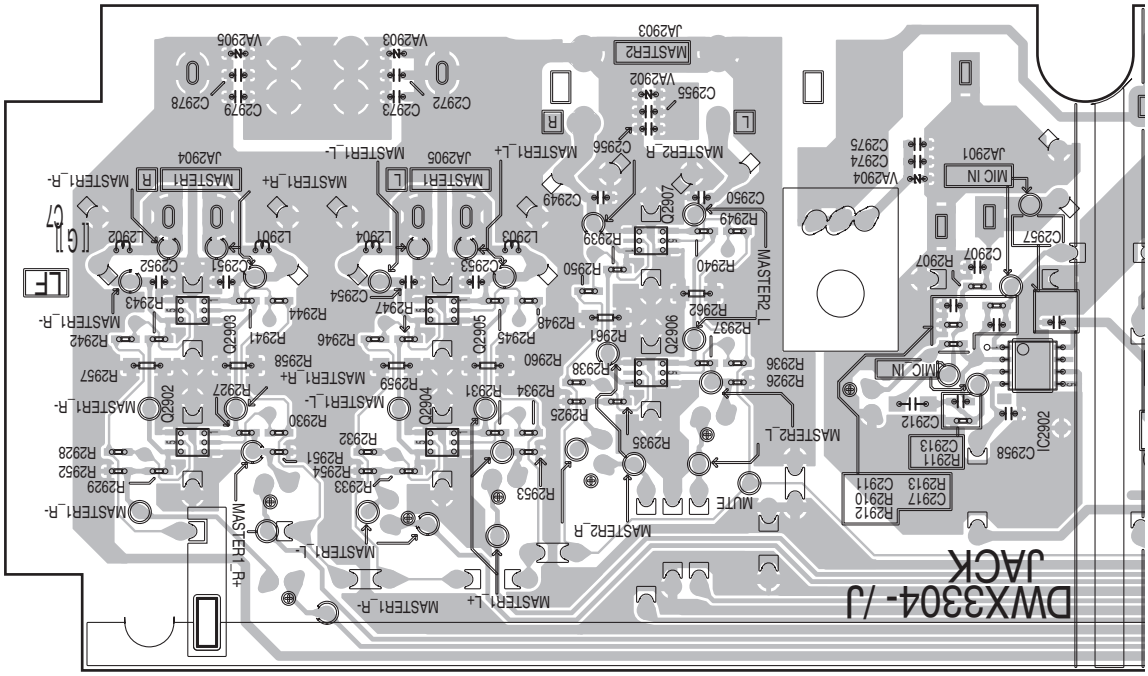
SIDE A



(DNP2659-B)

SIDE B

A JACK ASSY



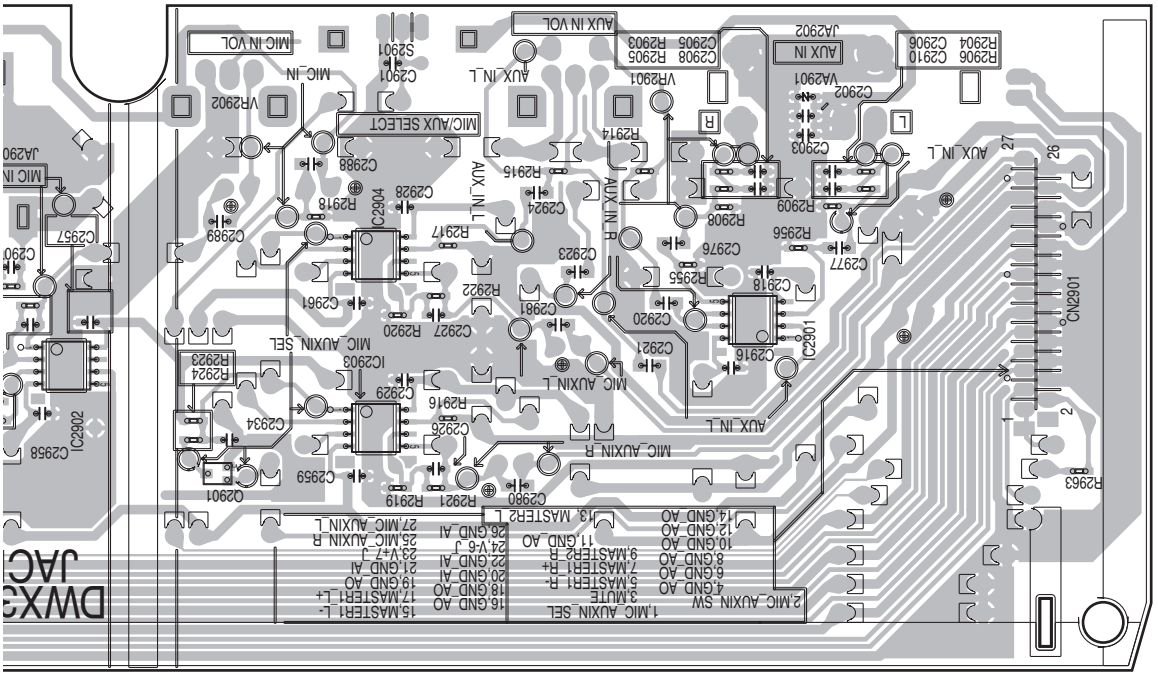
Q2903
Q2902

Q2905
Q2904

Q2907
Q2906

IC2902

SIDE B

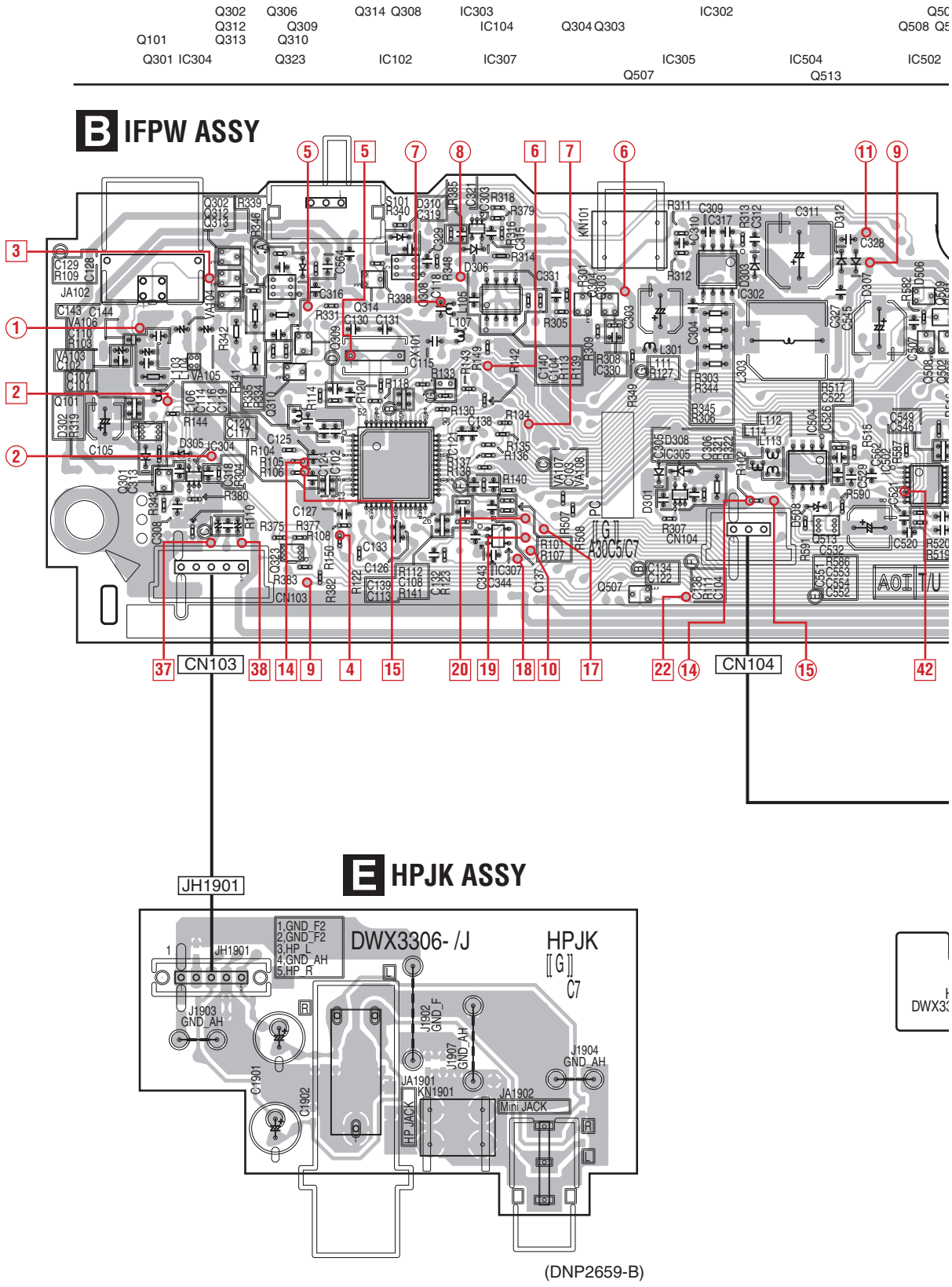


(DNP2659-B)

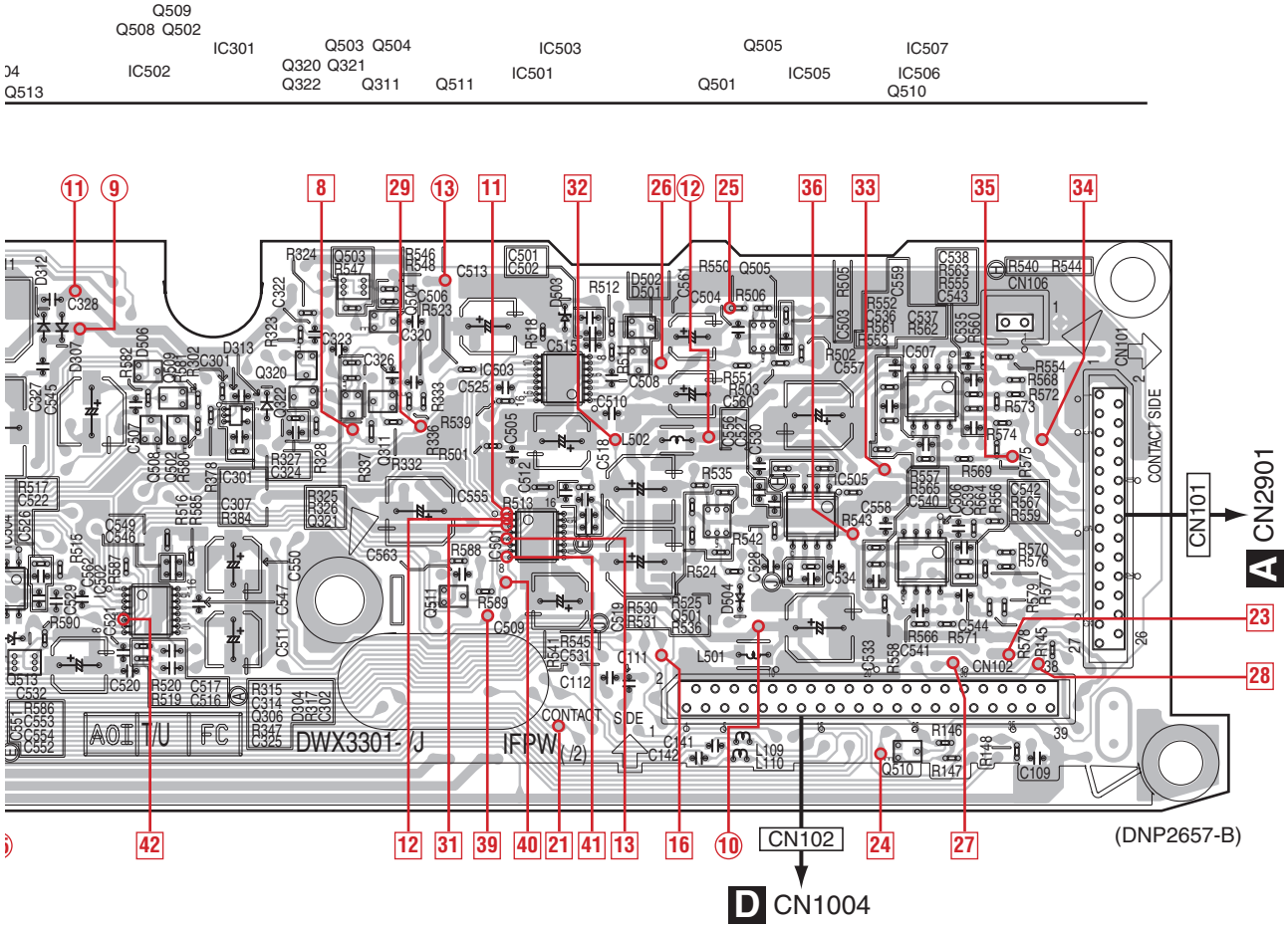
IC2902 Q2901 IC2904 IC2903 IC2901

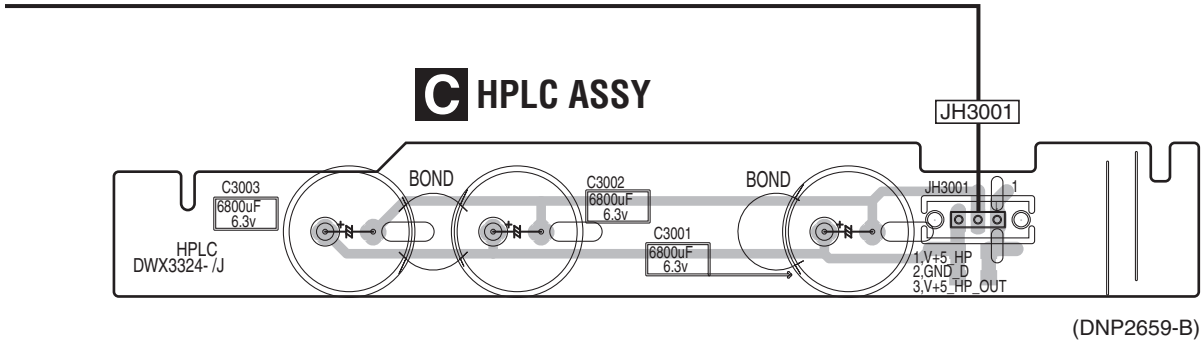
11.2 IFPW, HPLC and HPJK ASSYS

SIDE A



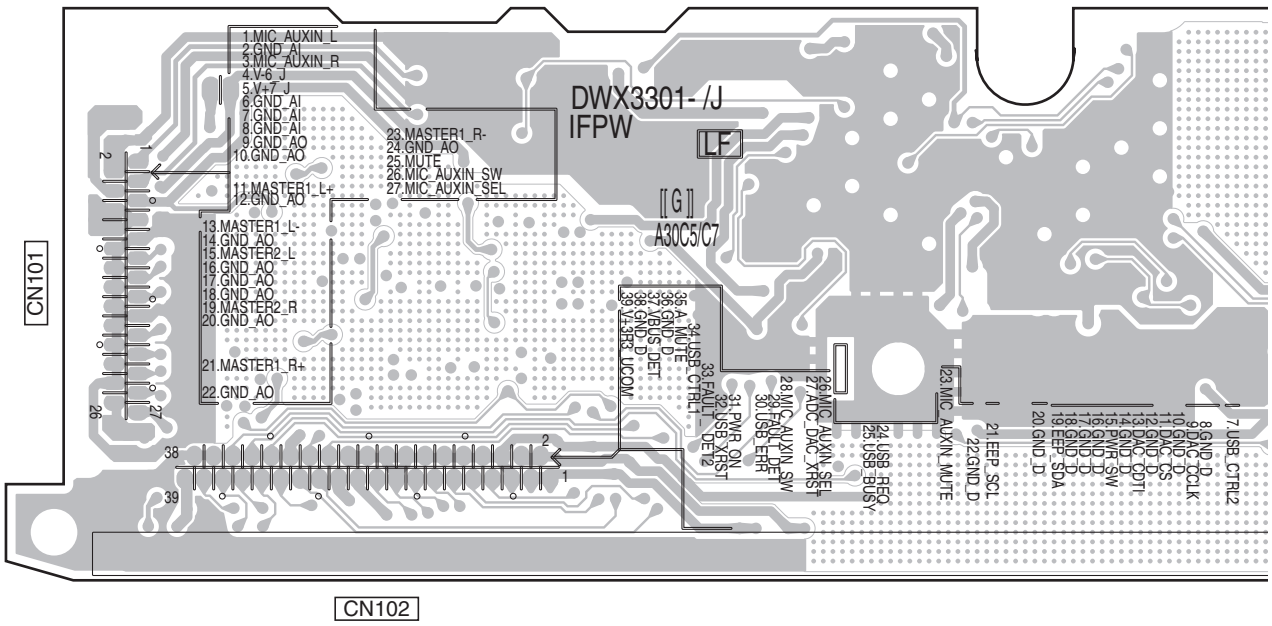
SIDE A


Q509
Q508 Q502
IC301
Q503 Q504
IC503
Q505
IC507
IC502
Q320 Q321
IC501
IC505
IC506
Q322
Q311
Q511
Q501
Q510
Q513
11 9 8 29 13 11 32 26 12 25 36 33 35 34
CN106
CN101
CONTACT SIDE
A CN2901
23
28
DWX3301-/J
IFPW (/2)
CONTACT SIDE
42 12 31 39 40 21 41 13 16 10 CN102 24 27
D CN1004
(DNP2657-B)

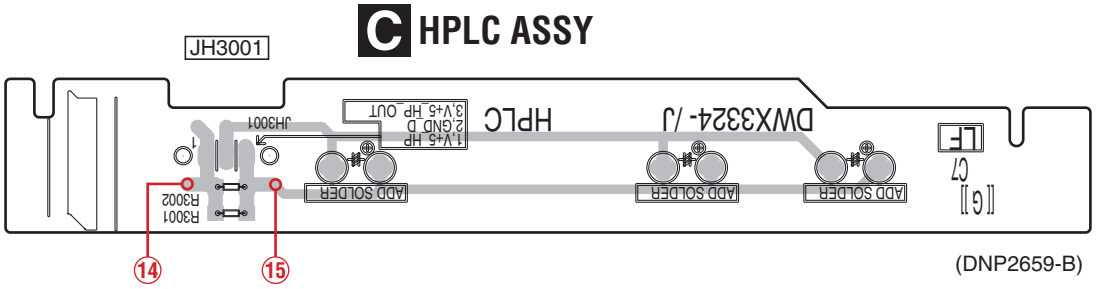

C HPLC ASSY
JH3001
C3003
6800uF
6.3v
BOND
C3002
6800uF
6.3v
BOND
C3001
6800uF
6.3v
HPLC
DWX3324-/J
1.V+5_HP
2.GND_D
3.V+5_HP_OUT
(DNP2659-B)

SIDE B

B IFPW ASSY

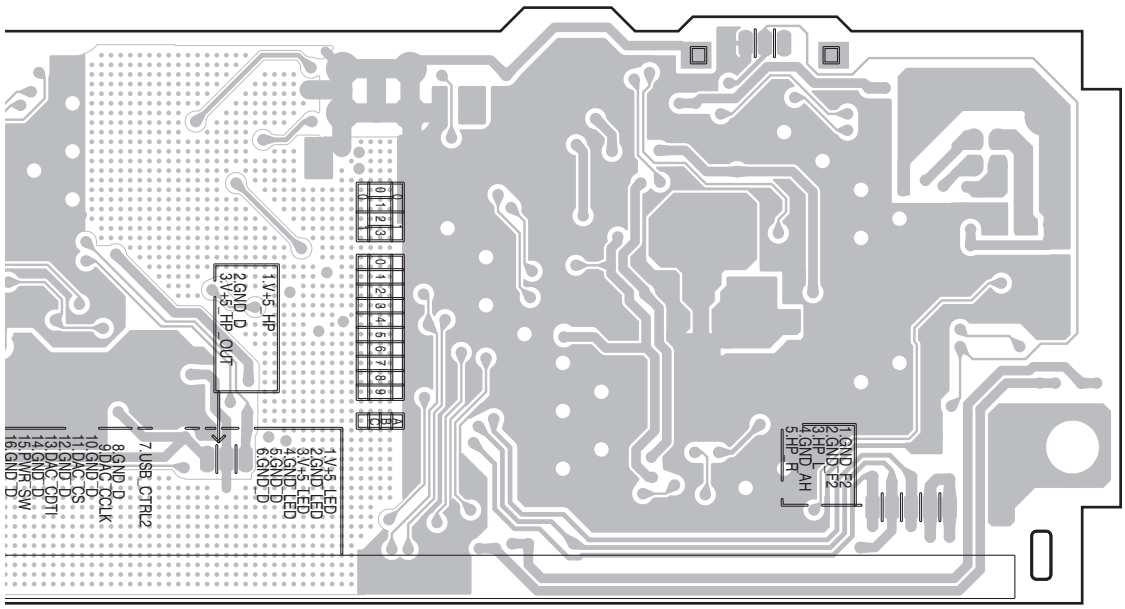


C HPLC ASSY



(DNP2659-B)

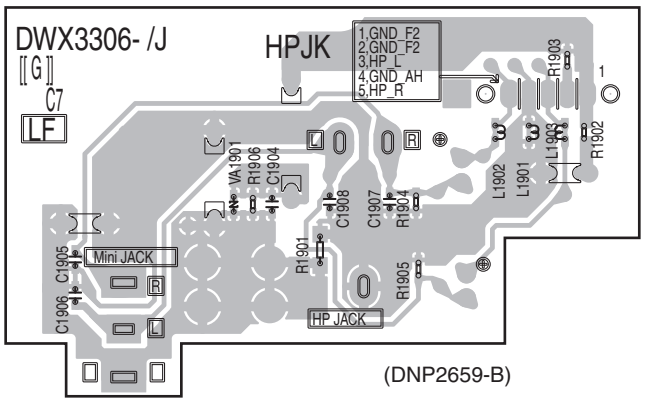
B C



CN104 CN103 (DNP2657-B)

E HPJK ASSY

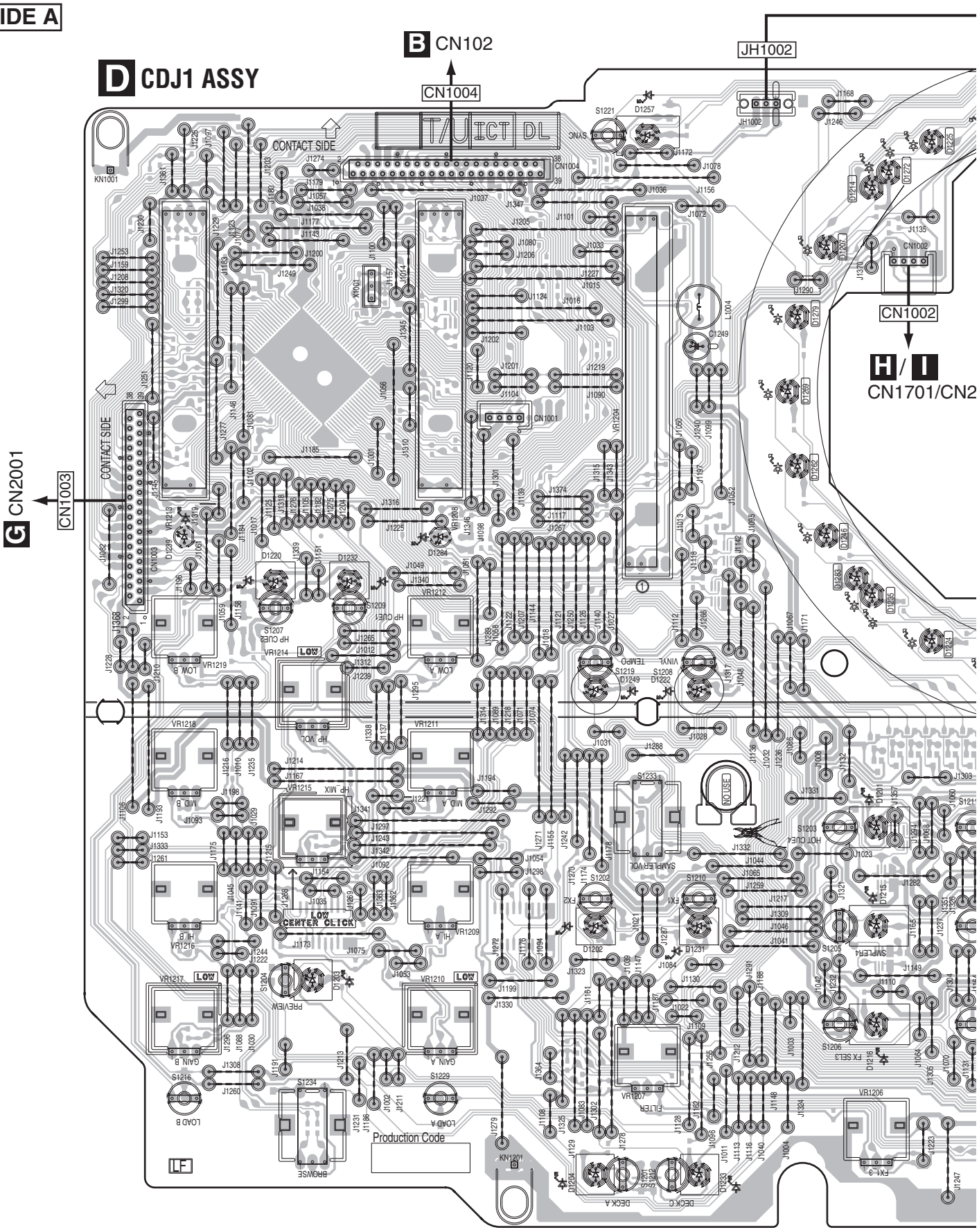
JH1901



(DNP2659-B)

11.3 CDJ1 and CRFD ASSYS

SIDE A



VR1213
VR1219
VR1218
VR1216
VR1217

VR1214
VR1215

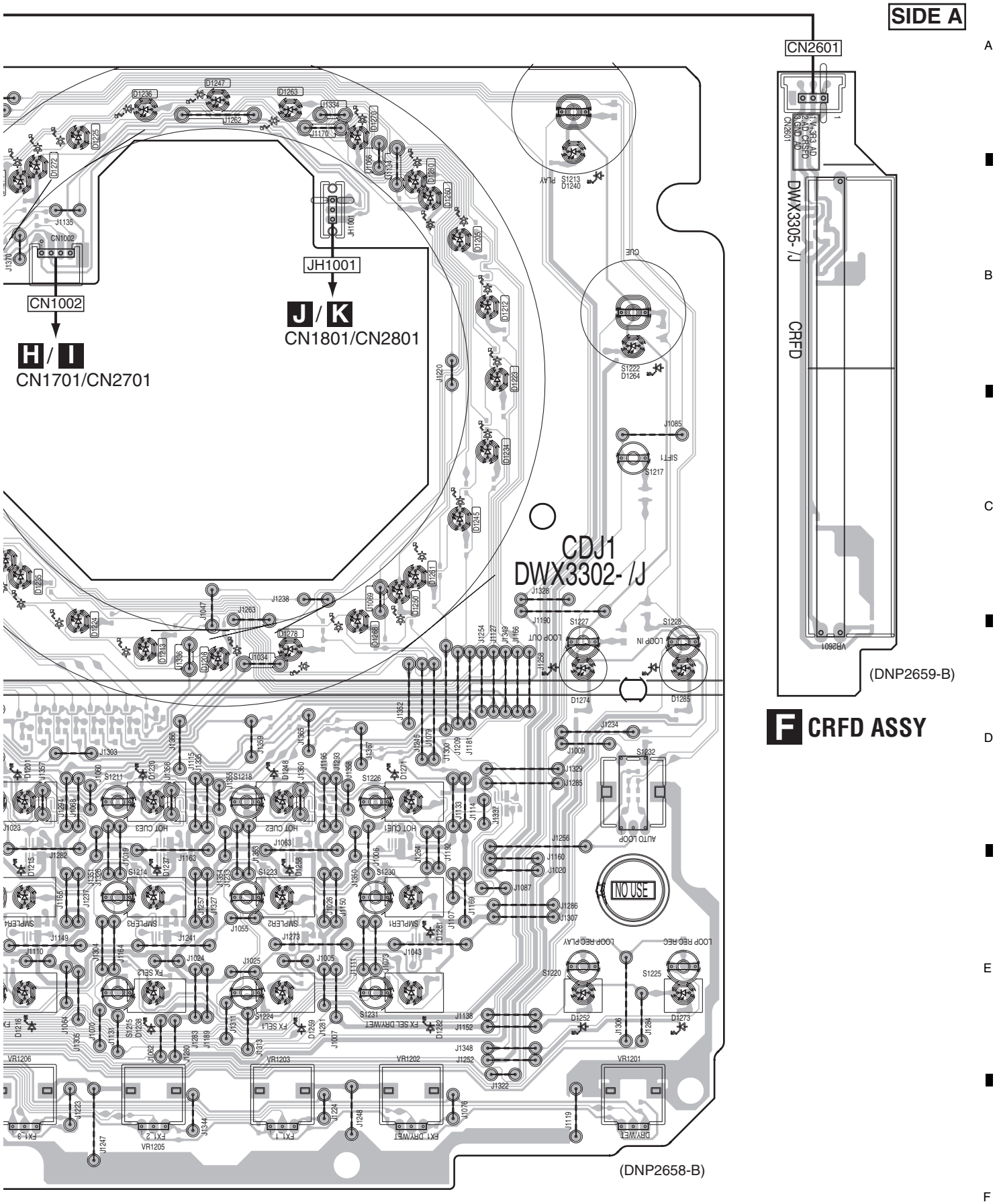
VR1208
VR1212
VR1211
VR1209
VR1210

VR1204

VR1207

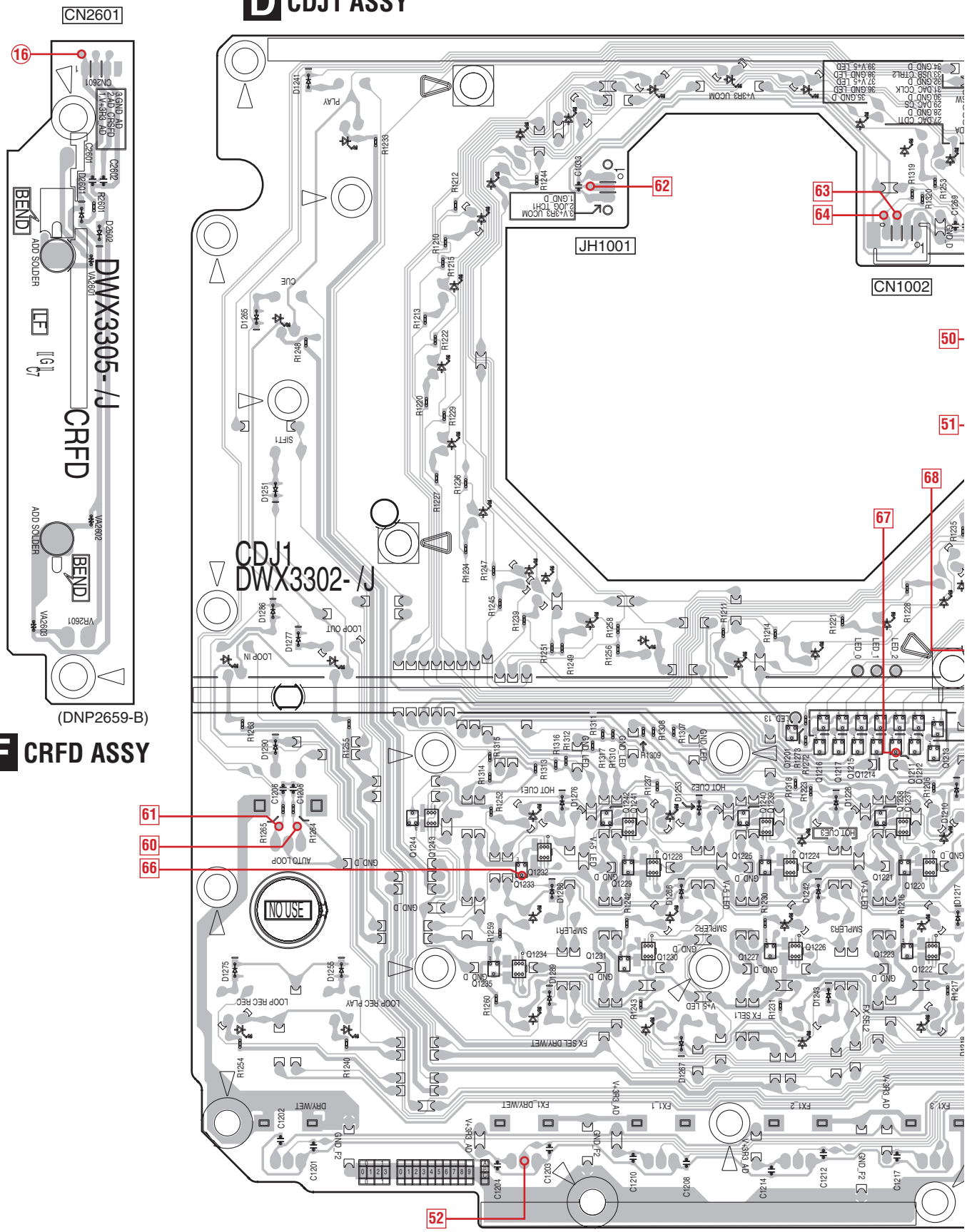
VR1206

SIDE A


CN2601
DWX3305-/J
CRFD
(DNP2659-B)
F CRFD ASSY
CN1002
H / I
CN1701/CN2701
JH1001
J / K
CN1801/CN2801
CDJ1
DWX3302-/J
NO USE
(DNP2658-B)
VR1206
VR1205
VR1203
VR1202
VR1201

SIDE B

D CDJ1 ASSY



Q1244 Q1243
Q1242 Q1241
Q1233 Q1232
Q1229 Q1228
Q1235 Q1234
Q1231 Q1230
Q1201-Q1208, Q1211-Q1217
Q1240 Q1239
Q1238 Q1237
Q1225 Q1224
Q1221 Q1220
Q1227 Q1226
Q1223 Q1222

D F

SIDE B

A

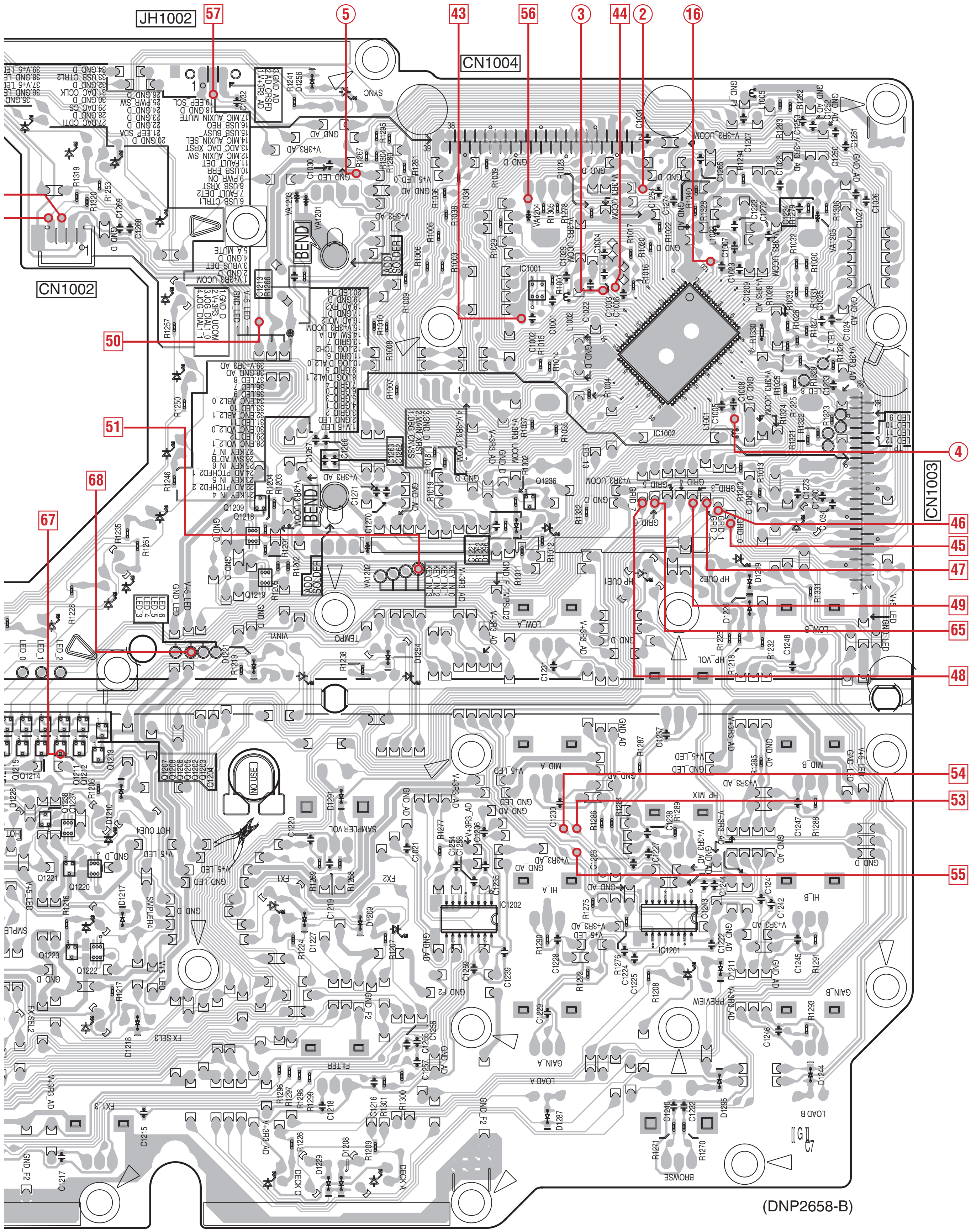
B

C

D

E

F



(DNP2658-B)

208, Q1211-Q1217
Q1238 Q1237
Q1221 Q1220
Q1223 Q1222

Q1209
Q1218 Q1219

IC1001
Q1236

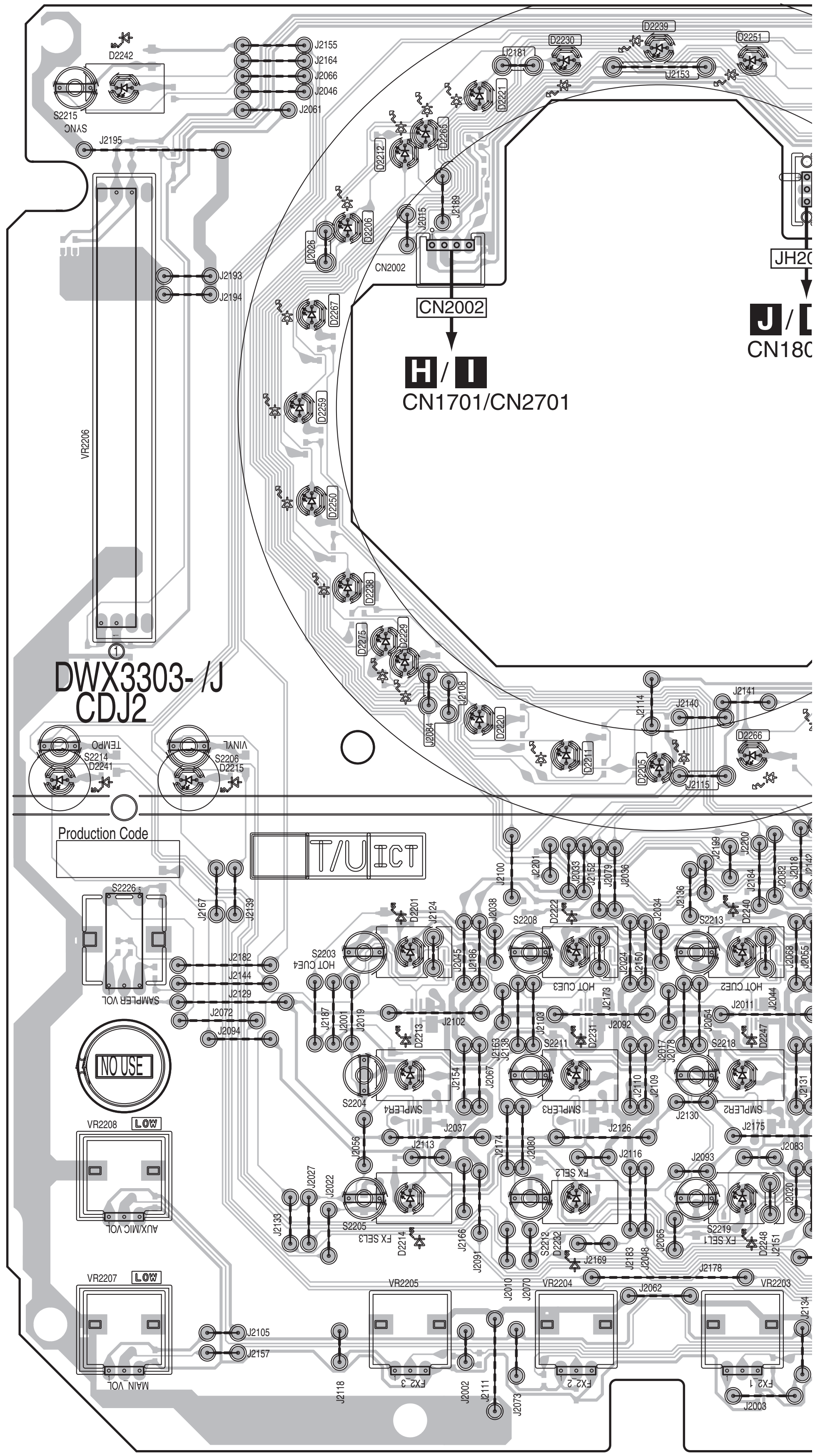
IC1202

IC1002
IC1201

11.4 CDJ2 ASSY

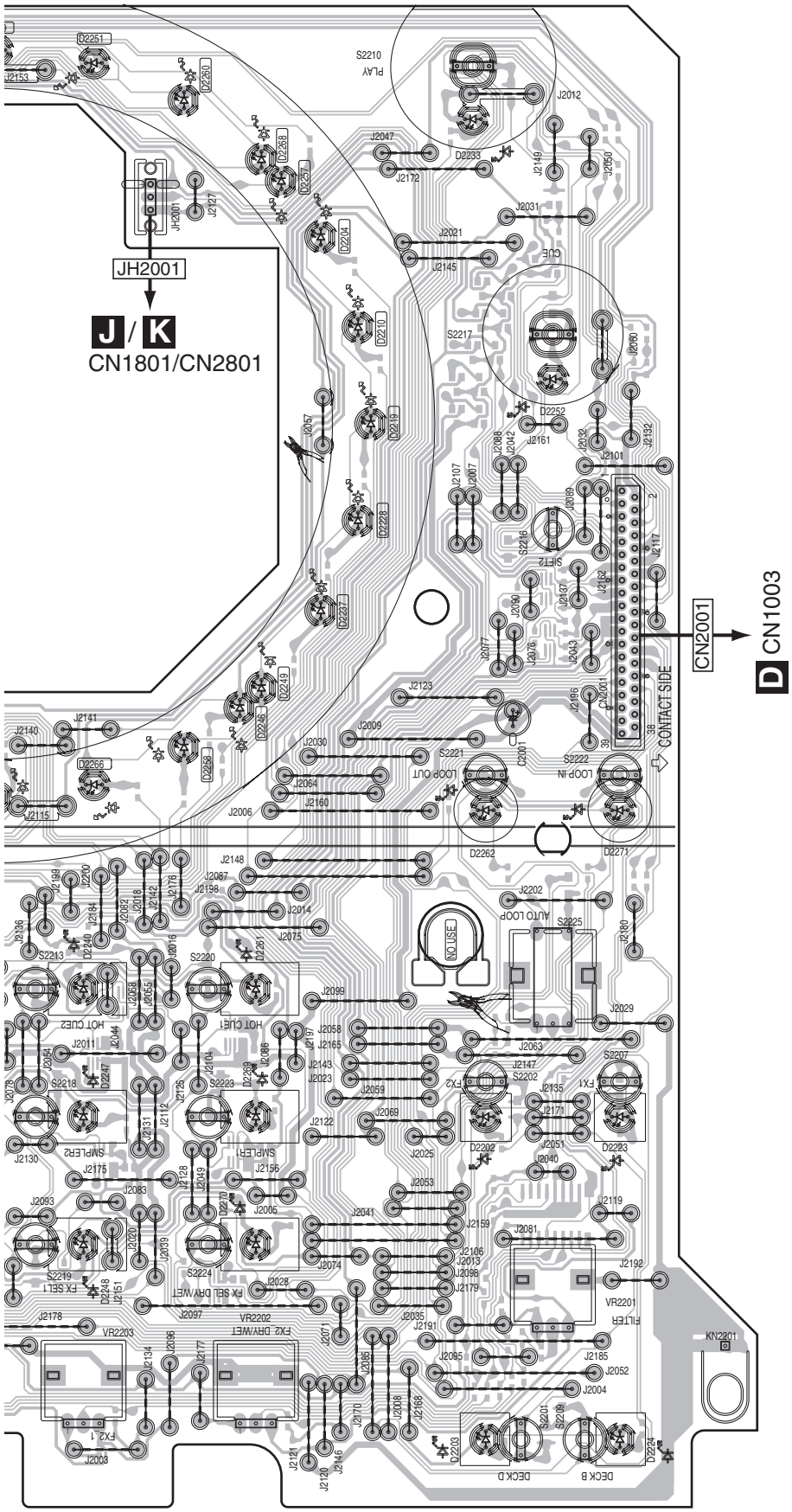
SIDE A

G CDJ2 ASSY



G

SIDE A



(DNP2659-B)

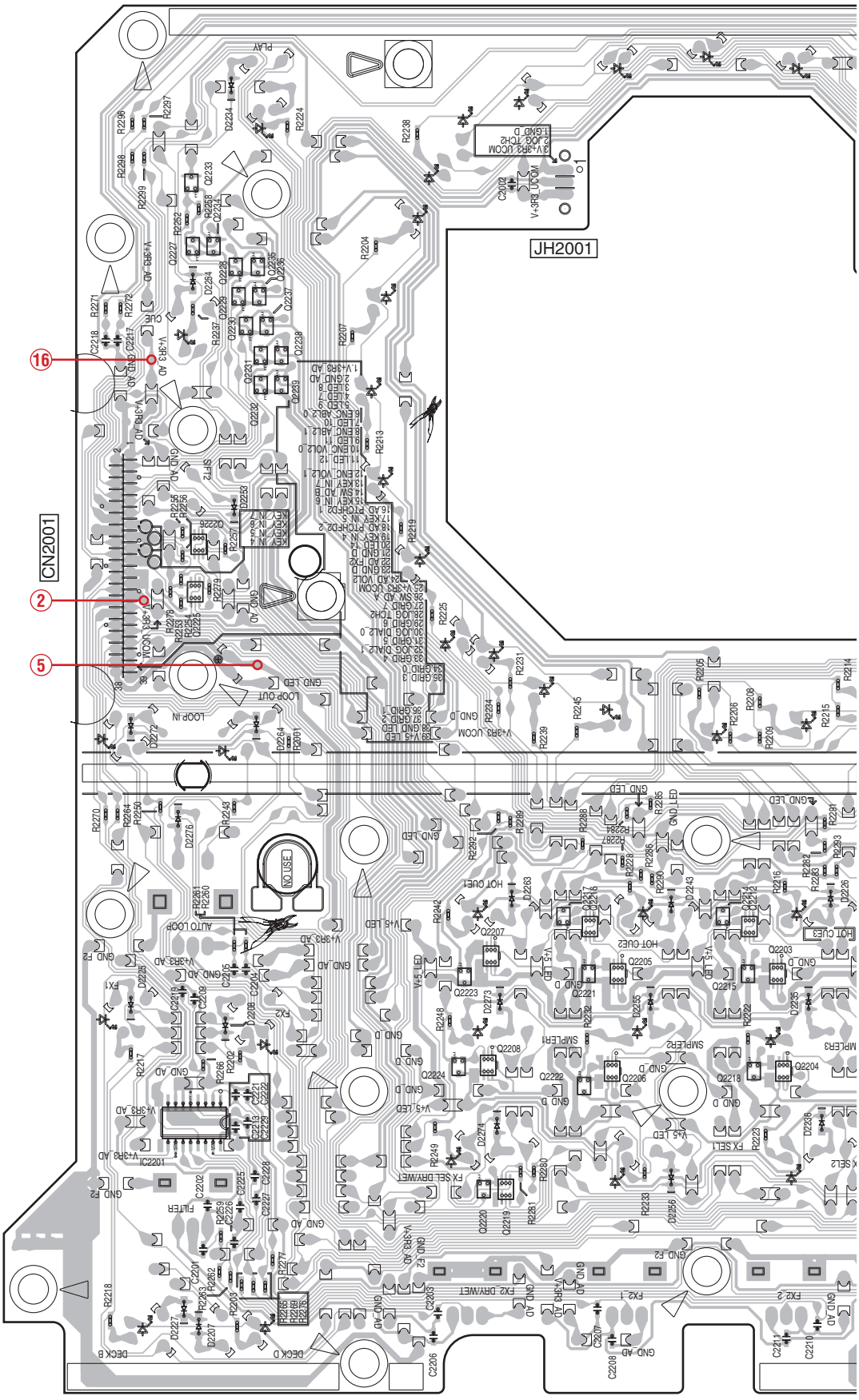
VR2208

VR2201

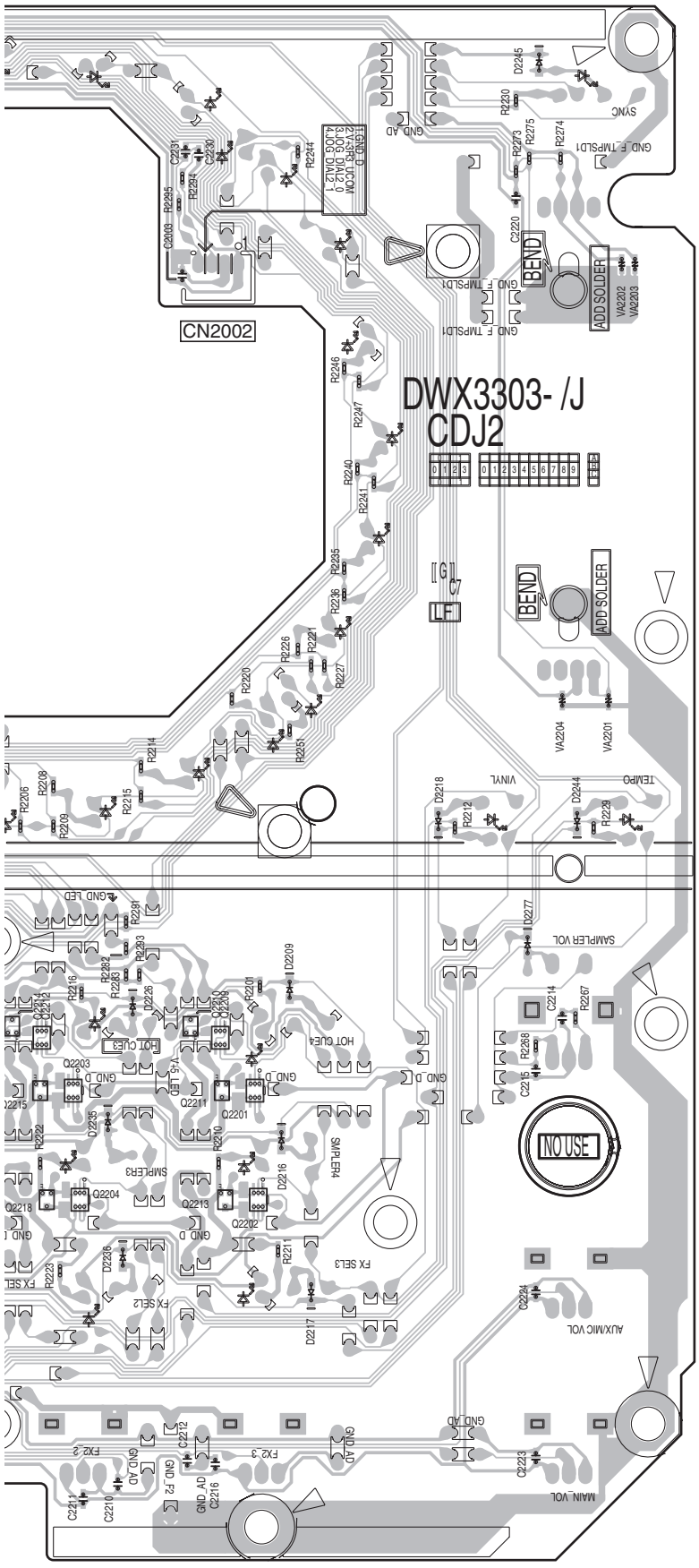
VR2207
VR2205
VR2204
VR2203
VR2202

SIDE B

G CDJ2 ASSY



SIDE B



(DNP2659-B)

Q2233

Q2227 Q2234

Q2228 Q2235

Q2229 Q2236

Q2230 Q2237

Q2231 Q2238

Q2232 Q2239

Q2226

Q2225

Q2217 Q2214 Q2210
Q2216 Q2212 Q2209

Q2207

Q2223 Q2221 Q2215 Q2211
Q2205 Q2203 Q2201

Q2224
Q2208 Q2206 Q2218 Q2213
Q2222 Q2204 Q2202

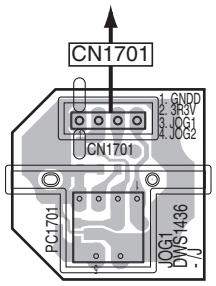
IC2201

Q2220
Q2219

11.5 JOG1, JOG2, TCH1 and TCH2 ASSYS

SIDE A

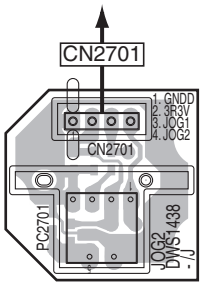
D / G
CN1002/CN2002



(DNP2658-B)

H JOG1 ASSY

D / G
CN1002/CN2002



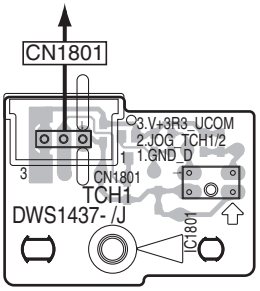
(DNP2658-B)

I JOG2 ASSY

SIDE A

Either the JOG1 Assy or JOG2 Assy is assembled here.
The JOG1 Assy and JOG2 Assy are interchangeably used and handled similarly in their production management.

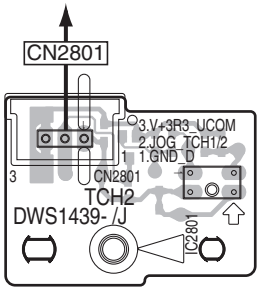
D / G
JH1001/JH2001



(DNP2658-B)

J TCH1 ASSY

D / G
JH1001/JH2001



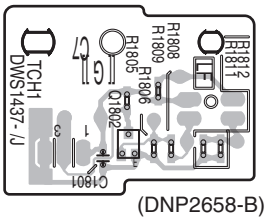
(DNP2658-B)

K TCH2 ASSY

Either the TCH1 Assy or TCH2 Assy is assembled here.
The TCH1 Assy and TCH2 Assy are interchangeably used and handled similarly in their production management.

SIDE B

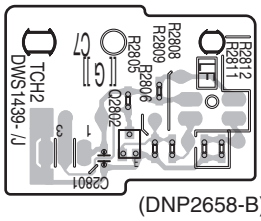
J TCH1 ASSY



(DNP2658-B)

CN1801

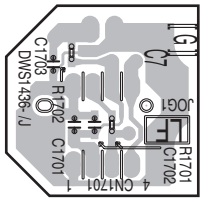
K TCH2 ASSY



(DNP2658-B)

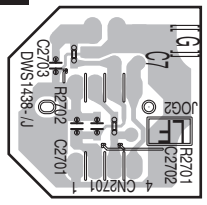
CN2801

H JOG1 ASSY



CN1701 (DNP2658-B)

I JOG2 ASSY



CN2701 (DNP2658-B)

H I J K

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*

● *Meaning of the figures and others in the parentheses in the parts list.*

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
IC 301 (A, 91, 111) IC NJM2068V

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	PLMX ASSY	DWM2450
	2	JOG1 ASSY	DWS1436
	2	TCH1 ASSY	DWS1437
	2	JOG2 ASSY	DWS1438
	2	TCH2 ASSY	DWS1439
	2	CDJ1 ASSY	DWX3302
	2	HLD1 ASSY	DWX3309
	2	HLD2 ASSY	DWX3310
NSP	1	PLJK ASSY	DWM2451
	2	CDJ2 ASSY	DWX3303
	2	JACK ASSY	DWX3304
	2	CRFD ASSY	DWX3305
	2	HPJK ASSY	DWX3306
	2	HLD3 ASSY	DWX3311
	2	HPLC ASSY	DWX3324
	1	IFPW ASSY	DWX3301

PLJK ASSY

MISCELLANEOUS

Mark	No.	Description	Part No.
J	1,3	3P JUMPER WIRE	D20PDY0310E
J	2	JUMPER WIRE	D20PDY0520E
	6	HLD3 ASS'Y	DWX3311

PLMX ASSY

MISCELLANEOUS

Mark	No.	Description	Part No.
J	1	3P JUMPER WIRE	D20PDY0310E
J	2	JUMPER WIRE	D20PDY0305E
	6	HLD1 ASS'Y	DWX3309
	7	HLD2 ASS'Y	DWX3310

A JACK ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	2901,2902		NJM4565MD
IC	2903,2904		NJM2121MD
Q	2901		LTC124EUB
Q	2903,2905,2907		IMX9

MISCELLANEOUS

Mark	No.	Description	Part No.
JA	2901	MIC JACK	DKN1614
JA	2902,2903	PIN JACK (2P)	AKB7181
JA	2904,2905	HEADPHONE JACK	DKN1622
KN	2901	EARTH TERMINAL	AKF7002
KN	2902	SCREW PLATE	VNE1948
VR	2901	POTENTIOMETER	DCS1115
VR	2902	POTENTIOMETER	DCS1111
S	2901	SLIDE SWITCH	DSH1025
CN	2901	27P CONNECTOR	VKN1842
VA	2901-2905	VARISTORS	EZJZ1V270RM

RESISTORS

Mark	No.	Description	Part No.
R	2903,2904		RS1/10SR1102D
R	2905,2906		RS1/10SR1001D
R	2907		RS1/10SR2201D
R	2908,2909,2914,2915		RS1/10SR1202D
R	2910		RS1/10SR1002D
R	2912		RS1/10SR1101D
R	2913		RS1/10SR6802D
R	2919,2920		RS1/10SR8200D
R	2921,2922		RS1/10SR2401D
R	2941,2943,2945,2947		RS1/10SR1200D
R	2957-2962		RS1/4SA0R0J
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
C	2901,2955,2972,2978		CKSRYB103K50
C	2902,2916,2918,2928		CKSRYB104K16
C	2903,2975		CCSRCH102J50
C	2905,2906,2908,2910		CCSRCH101J50
C	2907		CCSRCH561J50
C	2911		CCSRCH181J50
C	2912		ACG1147
C	2913		CCSRCH331J50
C	2915,2963,2964		CEAT101M16
C	2920,2921,2923,2924		DCH1201
C	2922,2925,2932,2933		CEAL100M16
C	2929,2957-2959,2961		CKSRYB104K16
C	2935-2940		CEAL101M16
C	2943-2948		DCE1016
C	2974		CKSRYB104K16

Mark	No.	Description	Part No.
	C	2976,2977	DCH1201

B IFPW ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC	102	TUSB3200ACPAH
	IC	104	S-24CS64A0I
⚠	IC	301,305	NJM2878F3-05
⚠	IC	302	NJM2392M
⚠	IC	303,304	NJM2878F3-33
	IC	307	S-80942CNMC-G9C
	IC	501,502	AK4387ET
	IC	503	AK5358AET
	IC	504	BH3547F
	IC	505-507	NJM4580MD
	Q	101	RN4982
	Q	301,507,510	LTA124EUB
	Q	302,310,312,508	LTC124EUB
	Q	303,309,320-322	LSA1576UB
	Q	306	RTQ040P02
	Q	311,313,502	LSC4081UB
	Q	323	HN1B04FU
	Q	501,505	IMX9
	Q	503	RN1903
	Q	504,509	LSA1576UB
	Q	511	LTC124EUB
	D	301,303,306-308	RB551V-30
	D	304	1SS352
	D	312,313	RB551V-30
	D	501,502	1SS302
	D	506	1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
	L	104 COIL	ATH7064
	L	105-107 INDUCTOR	CTF1629
	L	111 INDUCTOR	CTF1793
	L	303 POWER INDUCTOR	ATH7053
	L	501,502 CHIP COIL	ATH1170
	JA	102 USB CONNECTOR	DKN1237
	KN	101 SCREW PLATE	VNE1948
	S	101 SLIDE SWITCH	DSH1025
	X	101 CRYSTAL RESONATOR (6 MHz)	VSS1210
	CN	101 27P CONNECTOR	VKN1842
	CN	102 39P CONNECTOR	VKN2097
	CN	104 3PJUMPER CONNECTOR	52151-0310

RESISTORS

Mark	No.	Description	Part No.
	R	109	RS1/10SR2701F
	R	114	RS1/10SR3900F
	R	303,345	RS1/4SA1R5J
	R	306	RS1/4SA271J
	R	311	RS1/10SR1802F
	R	312,544,545	RS1/10SR3901D
	R	322	RS1/4SA1R0J
	R	337	RS1/8SQ0R0J
	R	341,342,346,347	RS1/4SA270J
	R	535,536,552-559	RS1/10SR4701D
	R	540-543	RS1/10SR3301D
	R	560,562,564,566	RS1/10SR1002D
	R	561,563,565,567	RS1/10SR9101D
	R	568-572,575,576	RS1/10SR5600D
	R	573,574,577,578	RS1/10SR4301D
	R	579	RS1/10SR5600D
	Other Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C	101,306,307,314	CKSRYB105K10
	C	103,104,108,111	CCSRCH102J50
	C	112,129,132,136	CCSRCH102J50
	C	115,144,308,328	DCH1201
	C	119-122,126,139	CKSRYB104K16
	C	124,125	CCSRCH470J50
	C	127,506,507	CKSRYB103K50
	C	128,535-542	CCSRCH101J50
	C	130,131	CCSRCH180J50
	C	137,505,554	CCSRCH102J50
	C	301,304,305,312	CKSRYB104K16
	C	303,509,511-513	CEVW470M6R3
	C	309	CCSRCH121J50
	C	310	CCSRCH221J50
	C	311	CEVW471M10
	C	313,315,316,320	CKSRYB104K16
	C	318,321,327	CKSRYB105K10
	C	322-326,330,508	CKSRYB104K16
	C	344	CKSRYB222K50
	C	515,546,547,551	CKSRYB104K16
	C	516,517,529	DCH1201
	C	518,519,545	CEVW101M16
	C	520-522,525,553	CKSRYB103K50
	C	527,528	CCSRCH681J50
	C	530,531	CCSRCH471J50
	C	532,550	CEVW470M6R3
	C	533,555,557	CCH1565
	C	552	CKSRYB104K16
	C	560,561	CEVW100M16
	C	562,563	CKSRYB103K50

C HPLC ASSY

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/4SA###J

MISCELLANEOUS

Mark	No.	Description	Part No.
	JH	3001 3P CABLE HOLDER	51048-0300

CAPACITORS

Mark	No.	Description	Part No.
	C	3001-3003	CEAT682M6R3

D CDJ1 ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC	1001	S-80927CNMC-G8X
	IC	1002	PEQ033A8
	IC	1201,1202	TC74HC4052AF
	Q	1201,1236	LTC114YUB
	Q	1202-1209	LTC124EUB
	Q	1211-1217	LSA1576UB
	Q	1218,1219,1237,1239	RN1903
	Q	1220,1222,1224,1226	RN4982
	Q	1221,1223,1225,1227	LSC4081UB
	Q	1228,1230,1232,1234	RN4982
	Q	1229,1231,1233,1235	LSC4081UB

Mark	No.	Description	Part No.
	Q	1238,1240,1242,1244	LTA114EUB
	Q	1241,1243	RN1903
	D	1201-1207,1212-1216	SLI-343U8R(HJK)
	D	1208-1211,1217-1219	1SS352
	D	1220,1222-1225	SLI-343U8R(HJK)
	D	1221,1226-1229	1SS352
	D	1230-1232,1234-1240	SLI-343U8R(HJK)
	D	1233	SLI-343Y8Y(KLM)
	D	1241-1244,1251	1SS352
	D	1245-1249,1252	SLI-343U8R(HJK)
	D	1250,1260,1272,1283	SLR343BC4T(JK)
	D	1253-1256,1265-1267	1SS352
	D	1257-1259,1261-1264	SLI-343U8R(HJK)
	D	1268-1271,1273,1274	SLI-343U8R(HJK)
	D	1275-1277,1286-1291	1SS352
	D	1278-1282,1284,1285	SLI-343U8R(HJK)
	D	1295,1296	1SS352
MISCELLANEOUS			
	L	1001-1003 INDUCTOR	CTF1629
	L	1004 INDUCTOR	DTH1211
	KN	1001,1201 EARTH TERMINAL	AKF7002
	VR	1201-1203,1205-1207 ROTARY VR	DCS1078
	VR	1204 VARIABLE RESISTOR	DCV1011
	VR	1208,1213 VARIABLE RESISTOR	DCV1024
	VR	1209,1211,1212,1216 ROTARY VR	DCS1078
	VR	1210,1214,1217 ROTARY VR	DCS1117
	VR	1215 ROTARY VR	DCS1116
	VR	1218,1219 ROTARY VR	DCS1078
	S	1201,1204,1208,1212 TACT SWITCH	DSG1089
	S	1202,1203,1205-1207 TACT SWITCH	DSG1079
	S	1209-1211,1214,1215 TACT SWITCH	DSG1079
	S	1213,1222 TACT SWITCH	DSG1117
	S	1216,1217,1219-1221 TACT SWITCH	DSG1089
	S	1218,1223,1224 TACT SWITCH	DSG1079
	S	1225,1229 TACT SWITCH	DSG1089
	S	1226-1228,1230,1231 TACT SWITCH	DSG1079
	S	1232,1233 ENCODER	DSX1082
	S	1234 ROTARY SW	CSD1153
	X	1001 CERAMIC RESONATOR (4 MHz)	DSS1131
	CN	1002 L-PLUG (4P)	KM200NA4L
	CN	1003,1004 39P CONNECTOR	VKN2097
	JH	1001,1002 3P CABLE HOLDER	51048-0300
	VA	1201,1202,1204,1205 VARISTORS	EZJZ1V270RM
RESISTORS			
	R	1266,1267	RS1/10SR2201D
	R	1330	RS1/4SA0R0J
	Other Resistors		RS1/10SR###J
CAPACITORS			
	C	1001,1005-1007,1213	CKSRYB104K16
	C	1002	CKSRYB222K50
	C	1008,1022,1023	DCH1201
	C	1021,1024-1028,1207	CKSRYB103K50
	C	1209,1223,1232,1234	CKSRYB103K50
	C	1222,1239	CKSRYB104K16
	C	1240,1250-1253,1266	CKSRYB103K50
	C	1249	CEAT101M16
	C	1260	CCSRCH470J50
	C	1262-1265,1274	CKSRYB102K50
	C	1267,1270,1271	CKSRYB103K50
	C	1273	CCSRCH221J50

E HPJK ASSY

MISCELLANEOUS			
	JA	1901 HEADPHONE JACK	DKN1622
	JA	1902 STEREO MINI JACK	XKN3017
	KN	1901 SCREW PLATE	VNE1948
	JH	1901 5P CABLE HOLDER	51048-0500
RESISTORS			
	R	1901	RS1/4SA0R0J
	Other Resistors		RS1/10SR###J
CAPACITORS			
	C	1901,1902	CEAT471M6R3
	C	1905-1908	CKSRYB473K50

F CRFD ASSY

MISCELLANEOUS			
	VR	2601 VARIABLE RESISTOR	DCV1023
	CN	2601 3PJUMPER CONNECTOR	52151-0310
RESISTORS			
	All Resistors		RS1/10SR###J
CAPACITORS			
	C	2601	CKSRYB104K16

G CDJ2 ASSY

SEMICONDUCTORS			
	IC	2201	TC74HC4052AF
	Q	2201-2208	RN4982
	Q	2209,2212,2216,2219	RN1903
	Q	2210,2214,2217,2220	LTA114EUB
	Q	2211,2213,2215,2218	LSC4081UB
	Q	2221-2224	LSC4081UB
	Q	2225,2226	RN1903
	Q	2227-2232	LTC124EUB
	Q	2233	LTC114YUB
	Q	2234-2239	LSA1576UB
	D	2201,2202,2204-2206	SLI-343U8R(HJK)
	D	2203	SLI-343Y8Y(KLM)
	D	2207-2209,2216-2218	1SS352
	D	2210-2215,2219-2224	SLI-343U8R(HJK)
	D	2225-2227,2234-2236	1SS352
	D	2228-2233,2237-2242	SLI-343U8R(HJK)
	D	2243-2245,2253-2256	1SS352
	D	2246,2257,2265,2275	SLR343BC4T(JK)
	D	2247-2252,2258-2262	SLI-343U8R(HJK)
	D	2263,2264,2272-2274	1SS352
	D	2266-2271	SLI-343U8R(HJK)
	D	2276,2277	1SS352
MISCELLANEOUS			
	KN	2201 EARTH TERMINAL	AKF7002
	VR	2201-2205 ROTARY VR	DCS1078
	VR	2206 VARIABLE RESISTOR	DCV1011
	VR	2207,2208 ROTARY VR	DCS1117
	S	2201,2206,2209 TACT SWITCH	DSG1089

Mark	No.	Description	Part No.
	S	2202-2205,2207,2208 TACT SWITCH	DSG1079
	S	2210,2217 TACT SWITCH	DSG1117
	S	2211-2213,2218-2224 TACT SWITCH	DSG1079
	S	2214-2216 TACT SWITCH	DSG1089
	S	2225,2226 ENCODER	DSX1082
	CN	2001 39P CONNECTOR	VKN2097
	CN	2002 L-PLUG (4P)	KM200NA4L
	JH	2001 3P CABLE HOLDER	51048-0300
	RESISTORS		
	R	2273,2274	RS1/10SR2201D
		Other Resistors	RS1/10SR###J
	CAPACITORS		
	C	2001	CEAT101M16
	C	2204,2205,2214,2215	CKSRYB103K50
	C	2213,2220	CKSRYB104K16
	C	2217,2218	CKSRYB103K50

H JOG1 ASSY

	MISCELLANEOUS		
	CN	1701 CONNECTOR ASS'Y	PF04PG-B05
	RESISTORS		
		All Resistors	RS1/10SR###J
	MISCELLANEOUS		
	PC	1701 PHOTO INTERRUPTER	SEDS-7573
	CAPACITORS		
	C	1701	CKSRYB105K10

I JOG2 ASSY

	MISCELLANEOUS		
	CN	2701 CONNECTOR ASS'Y	PF04PG-B05
	RESISTORS		
		All Resistors	RS1/10SR###J
	MISCELLANEOUS		
	PC	2701 PHOTO INTERRUPTER	SEDS-7573
	CAPACITORS		
	C	2701	CKSRYB105K10

J TCH1 ASSY

	SEMICONDUCTORS		
	IC	1801	GP1S094HCZ0F
	Q	1802	LSA1576UB
	MISCELLANEOUS		
	CN	1801 3PJUMPER CONNECTOR	52151-0310
	RESISTORS		
		All Resistors	RS1/10SR###J
	CAPACITORS		
	C	1801	CKSRYB104K16

K TCH2 ASSY

	SEMICONDUCTORS		
	IC	2801	GP1S094HCZ0F
	Q	2802	LSA1576UB
	MISCELLANEOUS		
	CN	2801 3PJUMPER CONNECTOR	52151-0310
	RESISTORS		
		All Resistors	RS1/10SR###J
	CAPACITORS		
	C	2801	CKSRYB104K16