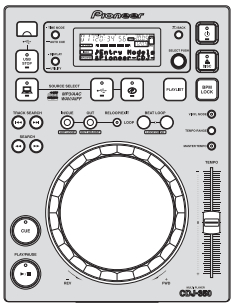
Pioneer

Service Manual



CDJ-350

ORDER NO.
RRV4069

MULTI PLAYER

CDJ-350

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

Model	Type	Power Requirement	Remarks
CDJ-350	SYXJ8	AC 220 to 240 V	
CDJ-350	CUXJ	AC 120 V	
CDJ-350	FLXJ	AC 110 V to 240 V	
CDJ-350	KXJ5	AC 220 V	
CDJ-350	AXJ5	AC 220 to 240 VV	

For details, refer to "Important Check Points for good servicing".

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SAFETY INFORMATION

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

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

CAUTION

This product is a class 1 laser product classified under the Safety of laser products, IEC 60825-1:2007.

CLASS 1 LASER PRODUCT

D58-5-2-2a_A1_En

IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

Laser Pickup specifications and Laser characteristics

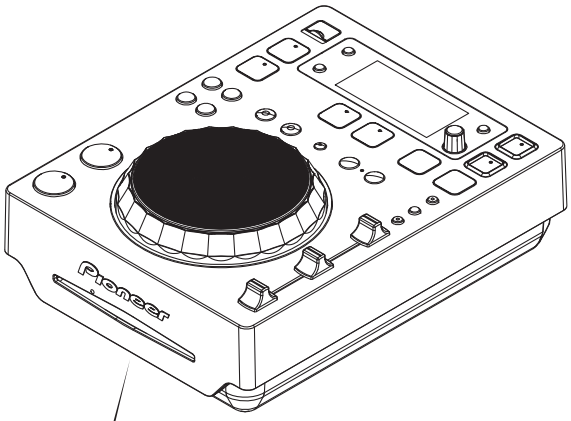
For CD	Wave length (typ)	: 790 nm
	Operation output	: 4 mW CW, Class 1
	Maximum output	: Class 1 (Under fault condition)

Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S752) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch is not in LPS1 terminal side (when the mechanism is not clamped and LPS1 signal is high level.)
   Thus, the interlock will no longer function if the switch is deliberately set to LPS1 terminal side.
   (if LPS1 signal is low level).
   In the test mode * the interlock mechanism will not function.
   Laser diode oscillation will continue, if pin 41 of TC94A15FG (IC201) on the MAIN Assy is connected to GND, or else the terminals of Q201 are shorted to each other (fault condition).

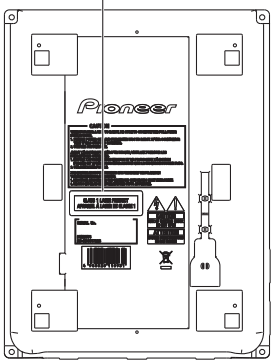
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

LABEL CHECK



(Printed on the chassis)

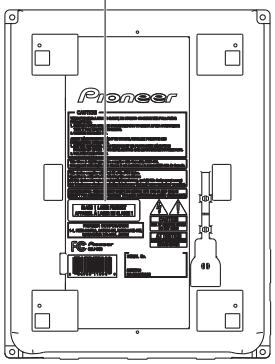
CLASS 1 LASER PRODUCT
APPAREIL Á LASER DE CLASSE 1



SYXJ8

(Printed on the chassis)

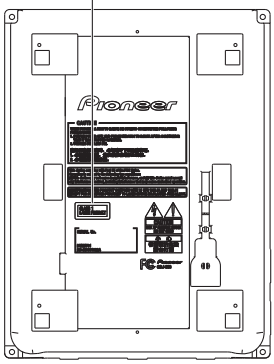
CLASS 1 LASER PRODUCT
APPAREIL Á LASER DE CLASSE 1



CUXJ

(Printed on the chassis)

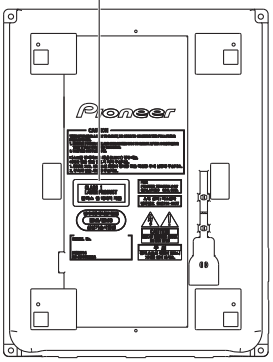
CLASS 1
LASER PRODUCT



FLXJ

(Printed on the chassis)

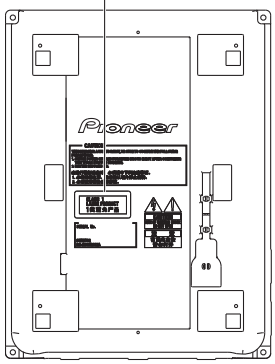
CLASS 1
LASER PRODUCT
클라스 원 레이저 제품



KXJ5

(Printed on the chassis)

CLASS 1
LASER PRODUCT
1类激光产品



AXJ5

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

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

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

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

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

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

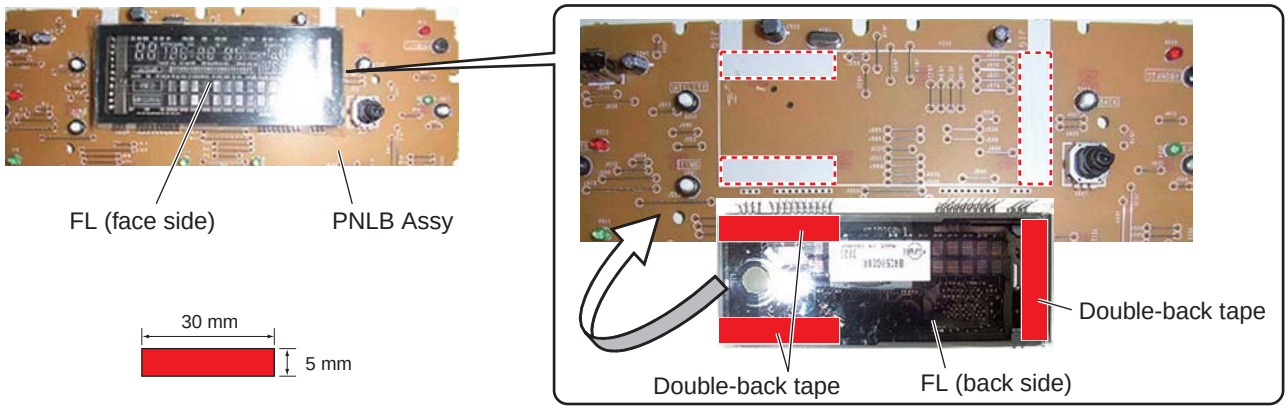
1.2 ABOUT VOLTAGE MONITORING

This unit always monitors for power failure and will shut itself off immediately after an error is detected. If an error is generated, the STANDBY LED will flash after the unit shuts itself off. After the unit shuts itself off because of an error, unplug the AC power cord and wait 1 minute before turning the unit ON by pressing the STANDBY/ON key.
Repair the unit, according to “5.5 ABOUT VOLTAGE MONITORING.”

1.3 NOTE ON REPLACEMENT OF THE FL DISPLAY IN THE PNLB ASSY

The fluorescent (FL) display on the control panel is attached to the board, using double-back tape. When replacing the FL display, new double-back tape is required. This part is not supplied as a service part, but we recommend using double-back tape (part No. GYH1033) as a general-purpose part for service.
You can also use the double-back tape specified below, if available:
Manufacturer: 3M, Tape width: 5 mm, Model No.: Y-4300K-08 and Y-4609
Or, tape that uses acrylic foam as a base material, with tape thickness of 0.8 mm, and with the peel force in 90° orientation (glass) of 20 N/cm or greater

Three pieces of double-back tape with the size of 5 mm × 30 mm are required. First attach the pieces of tape to the places on the back of the FL display, as shown in the figure below, then attach it to the board.
Be careful when working with double-back tape, because its adhesion strength is very high.



2. SPECIFICATIONS

2.1 SPECIFICATIONS

Power requirements..... AC 220 V to 240 V, 50 Hz/ 60 Hz (SYXJ8)
AC 120 V, 60 Hz (CUXJ)
AC 110 V to 240 V, 50 Hz/ 60 Hz (FLXJ)
AC 220 V, 60 Hz (KXJ5)
AC 220 V to 240 V, 50 Hz/ 60 Hz (AXJ5)
Power consumption..... 16 W
Power consumption (standby)..... 0.3 W
Main unit weight..... 2.3 kg
Max. dimensions..... 220 mm (W) × 107 mm (H) × 288.5 mm (D)
Tolerable operating temperature..... +5 °C to +35 °C
Tolerable operating humidity.....5 % to 85 % (no condensation)

Analog audio output (AUDIO OUT L/ R)
Output terminal.....RCA terminal
Output Level..... 2.0 Vrms (1 kHz)
Frequency response..... 4 Hz to 20 kHz
S/ N ratio.....115 dB
Total harmonic distortion.....0.006 %

USB downstream section (USB)
Port.....Type A
Power supply.....5 V/ 500 mA or less

USB upstream section (USB)
Port.....Type B

Control output (CONTROL)
Port..... Mini-jack

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

2.2 USABLE DISCS AND USB DEVICES

About discs

This unit can play the discs shown below.

Type	Mark [1]	Compatible formats
CD		• Music CD (CD-DA)
CD-R		• Music CD (CD-DA) • MP3 • AAC • WAV • AIFF
CD-RW		
CD-TEXT [2]		Music CD (CD-DA)

[1] Discs on which the marks on this table are indicated on the disc label, package or jacket can be played.
[2] Titles, album names and artist names recorded in the CD-Text data are displayed. When multiple text data are recorded on the disc, the information for the first text data is displayed.

❖ Discs that cannot be played

- DTS-CD
- Photo CDs
- Video CDs
- CD Graphics (CD-G) discs
- Unfinalized CDs
- DVD

❖ About CD-R/-RW discs

Music files (MP3/AAC/WAV/AIFF) recorded on CD-R/-RW discs can be played.

Folder layers	Max. 8 levels (files in folders beyond the 8th level cannot be played)
Max. number of folders	1 000 folders
Max. number of files	1 000 files

When there are many folders or files, some time may be required for loading.

❖ About discs created on computers

Depending on the application settings and the computer's environmental settings, it may not be possible to play certain discs. Record the disc in a format supported on this unit. For details, contact your application's retailer.
If the recording quality is poor due to the disc's properties, scratches or dirt on the disc or dirt on the recording lens, it may not be possible to play the disc.

❖ Creating backup discs

When CD-R/-RW discs are paused or left in the pause mode at cue points for long periods of time, it may become difficult to play the disc at that point, due to the properties of the disc. Also, when a specific point is looped repeatedly an extremely large number of times, it may become difficult to play that point.
When playing valuable discs, we recommend making backup discs.

❖ About Copy Control CDs and DualDiscs

This unit is designed to CD standards. Operation and performance of discs with standards other than CD standards is not guaranteed.

❖ About 8 cm single CDs

8 cm single CDs cannot be played on the CDJ-350. Do not mount 8 cm adapters on CDs and play them on the CDJ-350. The adapter could fall off as the disc spins, damaging the disc or the player.

About USB devices

This unit supports USB mass storage class USB devices (external hard disks, portable flash memory devices, digital audio players, etc.).

Folder layers	Max. 8 layers
Max. number of folders	1 000 folders
Max. number of files	10 000 files (1 000 files for files not managed by rekordbox)
Supported file systems	FAT16, FAT32 and HFS+ (NTFS is not supported.)

When there are many folders or files, some time may be required for loading. Folders and files exceeding the limits cannot be displayed.

❖ USB devices that cannot be used

- Optical disk type devices such as external DVD/CD drives, etc., are not supported.
- USB hubs cannot be used.

❖ Cautions on using USB devices

- Some USB devices may not operate properly. Please note that Pioneer will accept no responsibility whatsoever for loss of data recorded on USB devices.
- It may happen that, when a current above the allowable level is detected in this unit's USB port, the [**USB STOP**] indicator flashes, the power supply to the USB device is cut off and communications with the USB device are interrupted. To restore normal operation, disconnect the USB device from this unit. Avoid reusing USB devices for which an excess current has been detected. If normal operation is not restored (if communications cannot be established) after the above procedure is performed, try turning off this unit's power then turning it back on.
- If multiple partitions are set for the USB device, the device may not be recognized.
- USB devices equipped with flash card readers may not operate.
- Depending on the USB device you are using, the desired performance may not be achieved.

Playable music file formats

This unit supports music files in the formats shown below.

Type	File extension	Compatible formats	Bit depth	Bit rate	Sampling frequency	Encoding method
MP3	.mp3	MPEG-1	16 bit	32 kbps to 320 kbps	32 kHz, 44.1 kHz, 48 kHz	CBR, VBR
AAC	.m4a, .aac and .mp4	MPEG-4 AAC LC	16 bit	16 kbps to 320 kbps	32 kHz, 44.1 kHz, 48 kHz	CBR, VBR
WAV	.wav	WAV	16 bit, 24 bit	–	44.1 kHz, 48 kHz	Uncompressed PCM
AIFF	.aif, .aiff	AIFF	16 bit, 24 bit	–	44.1 kHz, 48 kHz	Uncompressed PCM

About MP3 files

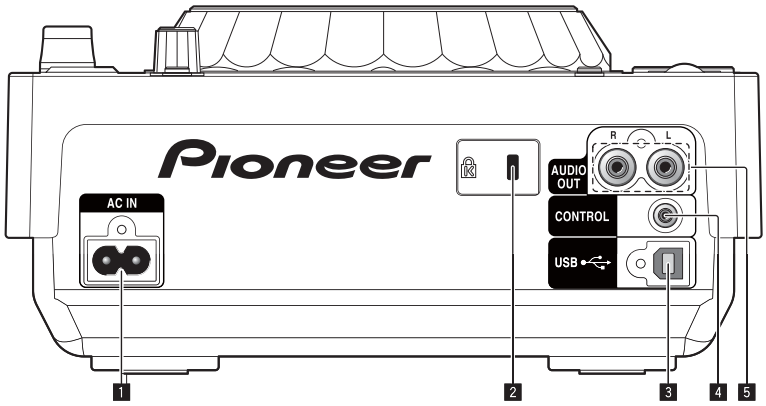
MP3 files can have a constant bit rate (CBR) or a variable bit rate (VBR). Both types of files can be played on the CDJ-350, but the search and super fast search functions are slower with VBR files. If your priority is operability, we recommend recording MP3 files in CBR.

About AAC files

- AAC is the abbreviation of "Advanced Audio Coding", a basic format of audio compression technology used for MPEG-2 and MPEG-4.
- The file format and extension of AAC data depends on the application used to create the data.
- In addition to AAC files with the extension ".m4a" encoded with iTunes®, files with the extensions ".aac" and ".mp4" can also be played. Note, however, that copyright-protected AAC files purchased for example at the iTunes Music Store cannot be played. Also, some files may not be playable, depending on the version of iTunes used for encoding.

2.3 PANEL FACILITIES

Rear panel



1 AC IN
Connect this to a power outlet.
Connect the power cord after all the connections between devices have been completed.
Be sure to use the included power cord.

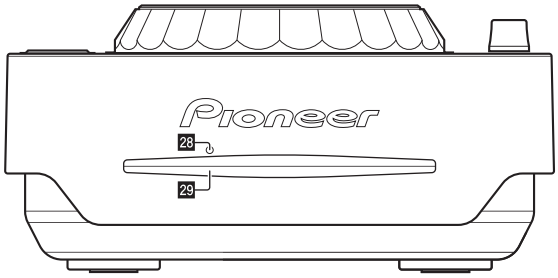
2 Kensington security slot

3 USB
Connect to a computer.

4 CONTROL
Connect the control cord (included) here.

5 AUDIO OUT L/R
Connect the audio cables (included) here.

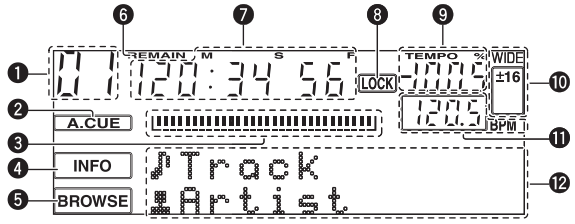
Front panel



28 Disc force eject pin insertion hole

29 Disc insertion slot

Main unit display



1 Track number
This displays the track number.
It is not possible to display more than 100 tracks.

2 A. CUE
This lights when auto cue is set.

3 Playing address display
The track is displayed as a bar graph.
Turns off from the left side when the remaining time is displayed. The entire graph flashes slowly when the remaining track time is under 30 seconds, then flashes quickly when the remaining track time is under 15 seconds.

4 INFO

5 BROWSE

6 REMAIN
This lights when the time display is set to the remaining time.

7 M, S, F (time display)
"M" indicates minutes, "S" seconds, "F" frames.
There are 75 frames to a second.

8 LOCK
This lights when the BPM is locked.

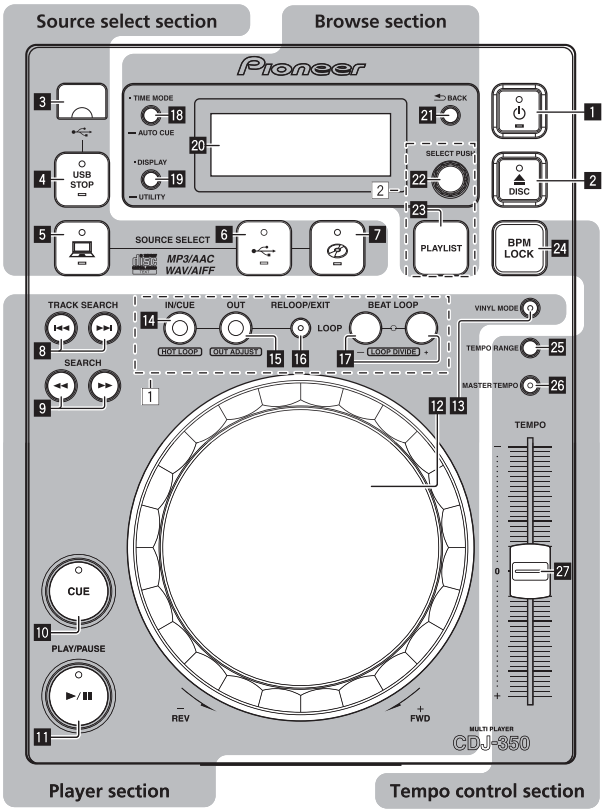
9 TEMPO %
This indicates the percentage by which the playing speed is changed.

10 WIDE, ±16, ±10, ±6
This indicates the range by which the playing speed can be adjusted.

11 BPM
Displays BPM (Beats Per Minute) of the track currently being played.

12 Information display section
Up to 13 characters can be displayed for each. The characters that can be displayed are letters A to Z, numbers 0 to 9 and certain symbols. "?" is displayed for other characters.

Control panel



1 ⏻ **(Power switch)**

2 ⏏**DISC**

Source select section

Select the source to be played with this unit here.

3 **USB device insertion slot**

4 **USB STOP**

5 **(COMPUTER)**

6 **(USB)**

7 **(DISC)**

Player section

These controls can be used for such basic DJ player operations as playing discs, setting cue/loop points and operating the jog dial.

8 **TRACK SEARCH I◄◄, ►►I**

9 **SEARCH ◄◄, ►►**

10 **CUE**

11 **PLAY/PAUSE ►/II**

12 **Jog dial**

13 **VINYL MODE**

❖ 1 **Loop and beat loop part**

14 **LOOP IN/CUE (HOT LOOP)**

15 **LOOP OUT (OUT ADJUST)**

16 **RELOOP/EXIT**

17 **BEAT LOOP (LOOP DIVIDE)**

Browse section

Information on the device loaded on this unit, loaded tracks, etc., is displayed here.

18 **TIME MODE (AUTO CUE)**

19 **DISPLAY (UTILITY)**

20 **Main unit display**

21 **BACK**

❖ 2 **Playlist part**

22 **SELECT PUSH (rotary selector)**

23 **PLAYLIST**

Tempo control section

Adjust the track playing speed here.
When [**BPM LOCK**] is used, the playing speeds of two tracks can be matched easily.

24 **BPM LOCK**

25 **TEMPO RANGE**

26 **MASTER TEMPO**

27 **TEMPO**

3. BASIC ITEMS FOR SERVICE
3.1 CHECK POINTS AFTER SERVICING

Items to be checked after servicing / CDJ

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

No.	Procedures	Check points
1	Confirm whether the customer complain has been solved. If the customer complain occurs with the specific disc, use it for the operation check.	The customer complain must not be reappeared. Audio and operations must be normal.
2	Check output analog audio.	Audio and operations must be normal.
3	Play back a CD. (track search)	Audio, Search and operations must be normal.
4	Check the connection of each interface.	
	Play back data contained in the device connected to USB A.	Audio, Search and operations must be normal.
	USB B	The device must be recognized by the PC.
5	Check output signals while the JOG dial or TEMPO slider is being operated.	Audio and operations must be normal.
6	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding video and 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
CD test disc	STD-905	CD playback diagnosis

Lubricants and Glues List

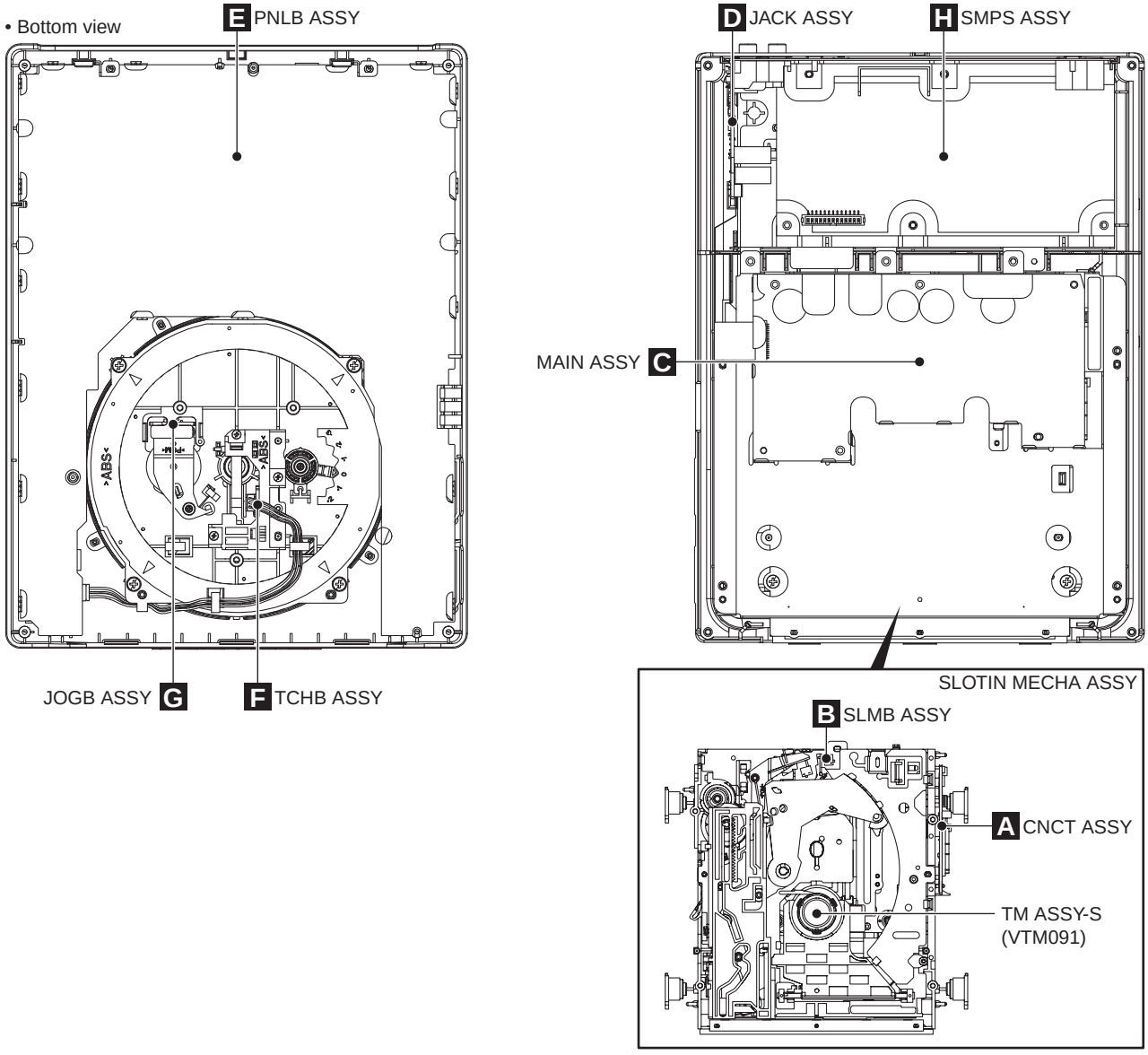
Name	Part No.	Remarks
Lubricating oil	GYA1001	Refer to “9.3 CONTROL PANEL SECTION”, “9.4 SLOTIN MECHA SECTION”.
Dyfree	GEM1036	Refer to “9.4 SLOTIN MECHA SECTION”.

Cleaning

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools.

Position to be cleaned	Name	Part No.	Remarks
Pickup lenses	Cleaning liquied	GEM1004	Refer to "9.4 SLOTIN MECHA SECTION".
	Cleaning paper	GED-008	

3.3 PCB LOCATIONS

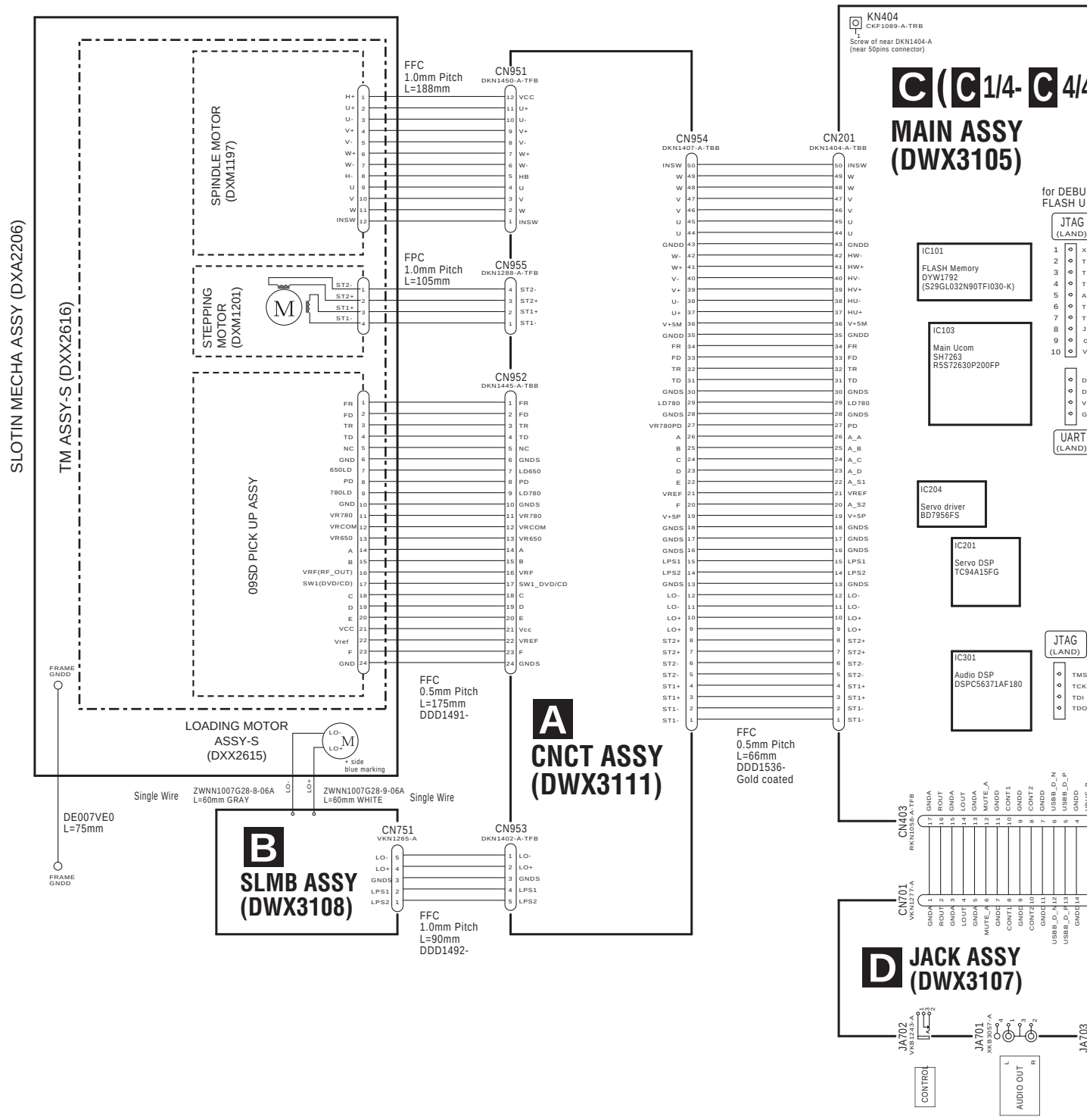


NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

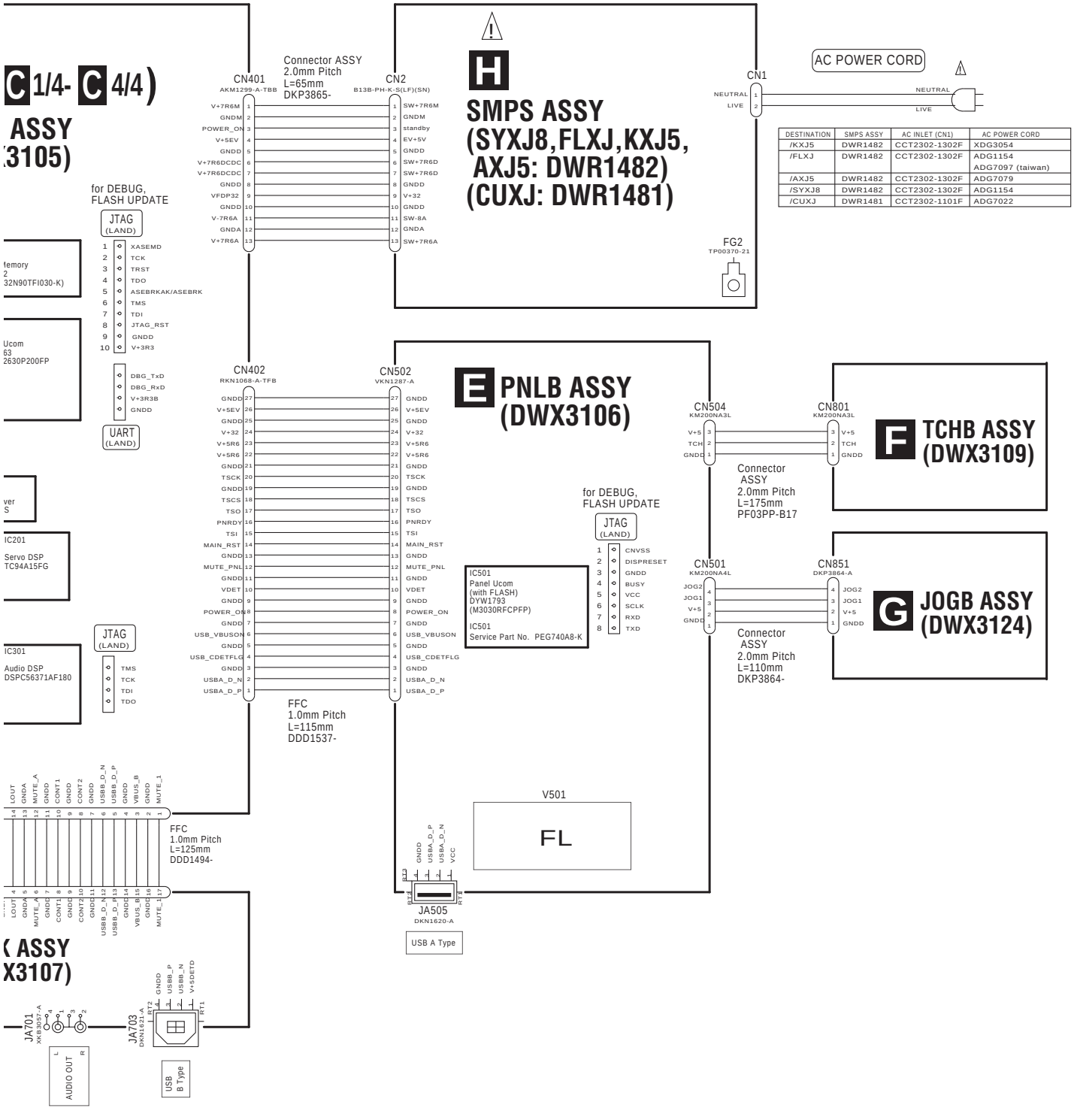
LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	..PANL ASSY	DWM2380
	2	..PNLB ASSY	DWX3106
	2	..JACK ASSY	DWX3107
	2	..SLMB ASSY	DWX3108
	2	..TCHB ASSY	DWX3109
	2	..JOGB ASSY	DWX3124
NSP		MACN ASSY	DWM2391
	2	..MAIN ASSY	DWX3105
	2	..CNCT ASSY	DWX3111
⚠		SMPS ASSY (SYXJ8, FLXJ, KXJ5, AXJ5)	DWR1482
⚠		SMPS ASSY (CUXJ)	DWR1481
NSP	1	..SLOTIN MECHA ASSY	DXA2206
	1	..TM ASSY-S (VTM091)	DXX2616

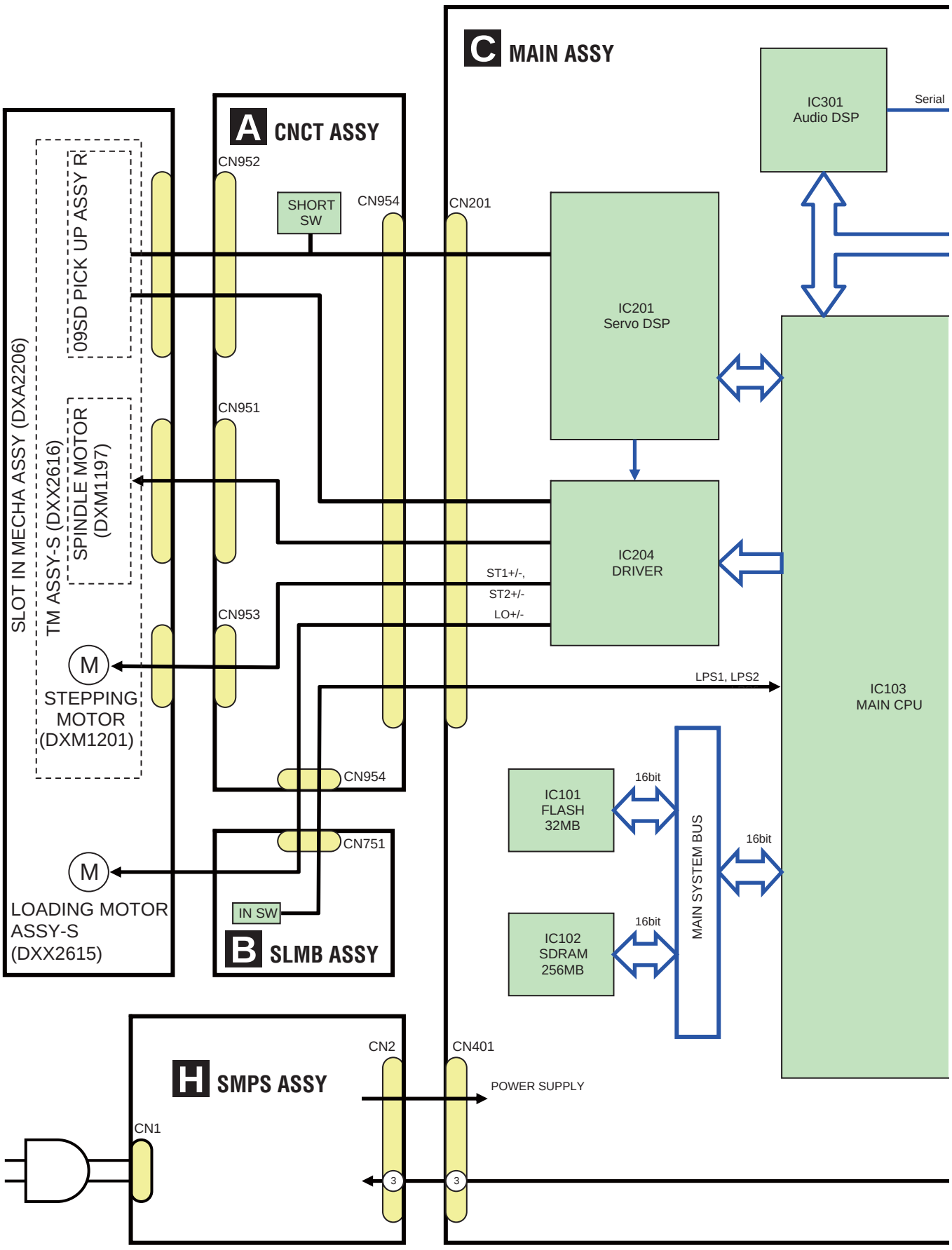
4. BLOCK DIAGRAM
4.1 OVERALL WIRING DIAGRAM

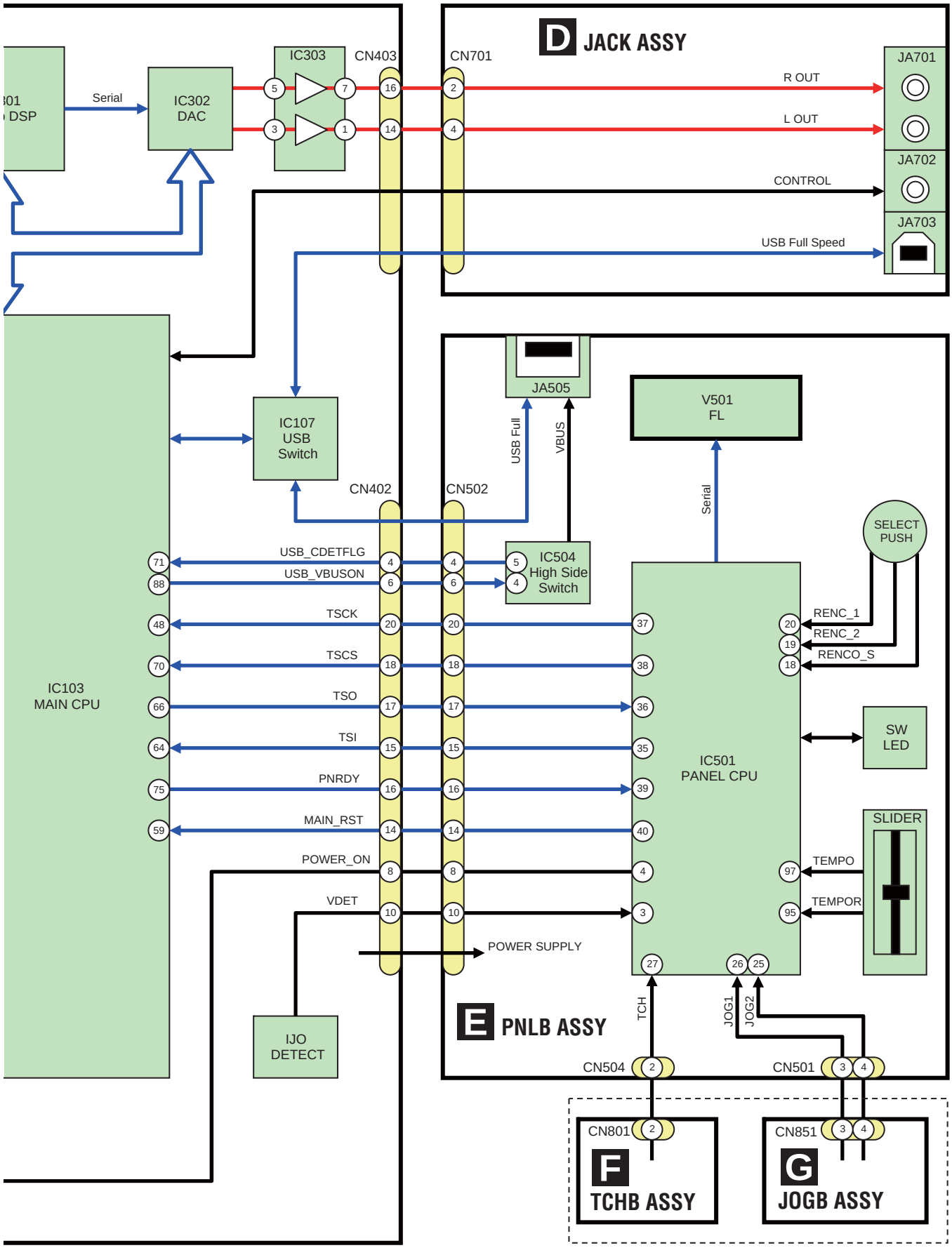


- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- : The power supply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

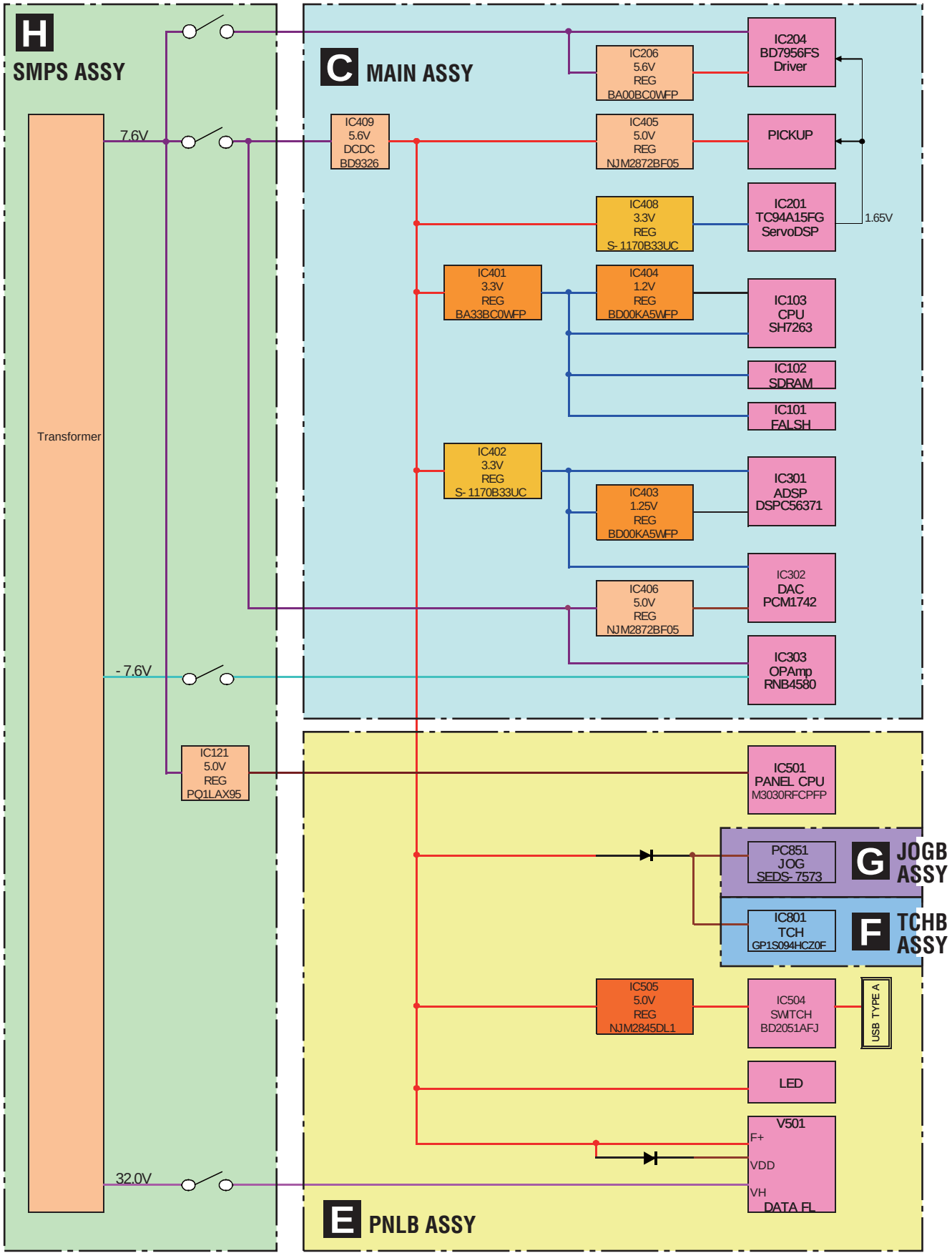


4.2 OVERALL BLOCK DIAGRAM

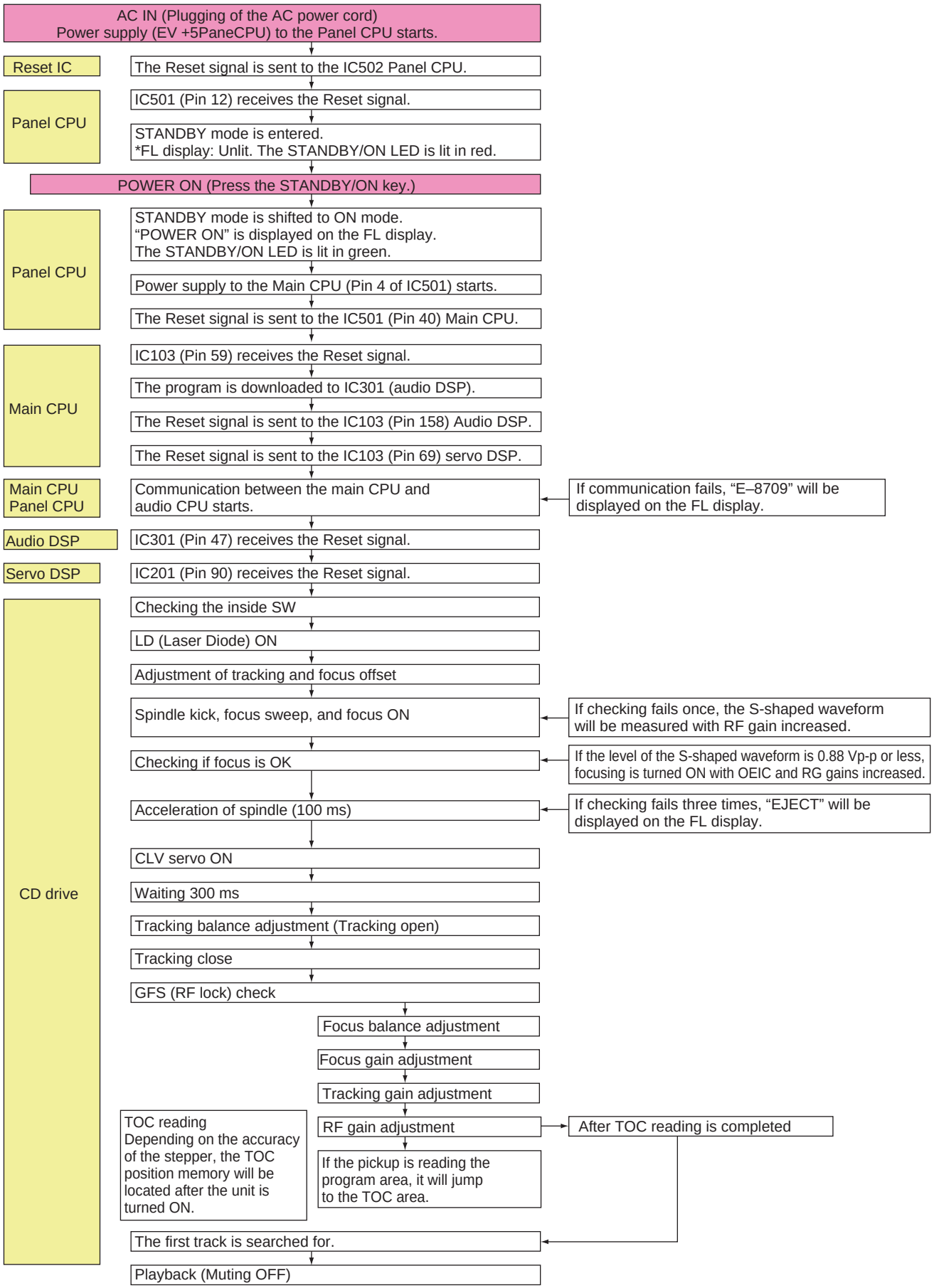



D JACK ASSY
JA701
JA702
JA703
R OUT
L OUT
CONTROL
USB Full Speed
CN701
IC303
CN403
IC302
DAC
Serial
DSP
IC107
USB
Switch
JA505
USB Full
VBUS
V501
FL
Serial
CN402
CN502
IC504
High Side
Switch
SELECT
PUSH
USB_CDETFLG
USB_VBUSON
TSCK
TSCS
TSO
TSI
PNRDY
MAIN_RST
POWER_ON
VDET
IC103
MAIN CPU
IC501
PANEL CPU
RENC_1
RENC_2
RENCO_S
SW
LED
SLIDER
TEMPO
TEMPOR
POWER SUPPLY
IJO
DETECT
E PNLB ASSY
TCH
JOG1
JOG2
CN504
CN501
CN801
F
TCHB ASSY
CN851
G
JOGB ASSY

4.3 POWER BLOCK DIAGRAM



5. DIAGNOSIS
5.1 POWER ON SEQUENCE



5.2 TROUBLESHOOTING

In this section, causes of failure, diagnostics points, and corrective measures can be searched for according to symptoms. Before disassembling this unit, it is recommended to infer a failure point by referring to the error code.

For the relationship of each power-supply and signal system, see “4.3 POWER SUPPLY BLOCK DIAGRAM.”
If software of the product is updated before performing diagnostics, check that software updating has been performed properly before proceeding to diagnostics.
If software updating has not been performed properly, update the software, following the instructions in “8.4 UPDATING OF THE FIRMWARE.”

Contents

The waveform numbers described in this section correspond to the “10.11 WAVEFORMS.”

[0] Prior Confirmation

[0-1] Checking in Service Mode

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	—	Service mode	Check the failure points.	See the section describing locations of defects in this manual.	6.SERVICE MODE

[0-2] Checking Cables

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Disconnection, breakage, or loose connection of cables	Cables	Check that all the cables are securely connected. Check that there is no breakage in the cables.	Securely connect the cables. If a cable is broken, replace it.	4.1 OVERALL CONNECTION DIAGRAM

[1] Failure in Startup

[1-1] No power

Even after the unit is turned on, a STANDBY/ON button is not lit with red.					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Power failure	SMPS Assy PNLB Assy	Check V+5EV.	If the V+5EV voltage is not output, the SMPS Assy may be defective. If the V+5EV voltage is output, the PNLB Assy may be defective.	4.3 POWER SUPPLY BLOCK DIAGRAM 10.10 VOLTAGES Diagnostic methods by Assy

[1-2] Mode shift error in Standby mode

STANDBY mode cannot be entered.					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Poor connection /Defective SW	PNLB Assy	Check if there is loose connection on the signal line from the PANEL CPU (IC501) to the SW(S525).	If the connection up to the SW is properly made and if the signal is not set to "L" when the SW is pressed, the SW may be defective.	—
2	Signal errors	PNLB Assy	Check the TSCS, TSCK, and TSI waveforms.	If the signal is not output, PANEL CPU (IC501) may be defective.	10.11 WAVEFORMS MAIN ⑦,⑧,⑨
3	Defective signals /SMPS Assy	PNLB Assy	Check the level of POWER_ON signal (IC501-4 pin).	If the level is "H", PANEL CPU(IC501) may be defective. If the level is "L", SMPS Assy may be defective.	10.10 VOLTAGES [9] Basic operation check of CPU/DSP

Shifting from the STANDBY mode to another mode cannot be performed.					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Poor connection /Defective SW	PNLB Assy	Check if there is loose connection on the signal line from the PANEL CPU (IC501) to the SW(S525).	If the connection up to the SW is properly made and if the signal is not set to "L" when the SW is pressed, the SW may be defective.	—
2	Signal errors	PNLB Assy	Check the TSCS, TSCK, and TSI waveforms.	If the signal is not output, PANEL CPU (IC501) may be defective.	10.11 WAVEFORMS MAIN ⑦,⑧,⑨
3	Defective signals /SMPS Assy	PNLB Assy	Check the level of POWER_ON signal (IC501-4 pin).	If the level is "L", PANEL CPU(IC501) may be defective. If the level is "H", SMPS Assy may be defective.	10.10 VOLTAGES [9] Basic operation check of CPU/DSP

[1-3] "E-8709" is displayed on the FL display after startup.

Communication between the Main CPU and Panel CPU has not been established.					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Signal errors	PNLB Assy	Check the TSCS, TSCK, and TSI waveforms.	If the signal is not output, PANEL CPU (IC501) may be defective.	10.10 VOLTAGES [9] Basic operation check of CPU/DSP
2	Power failure	MAIN Assy	Check the V+3R3/V+1R2 power voltages.	If power is not output, a part of the power supply section may be defective.	10.10 VOLTAGES
3	Signal errors	MAIN Assy	Check the level of the PNRDY signal and the waveform of the TSO signal.	If the PNRDY signal level is "L" or the TSO signal waveform is not output (fixed at either L or H), the Main CPU (IC103) may be defective.	10.10 VOLTAGES [9] Basic operation check of CPU/DSP

[1-4] The Power switch flashes in red.

No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	A voltage error was generated.	—	Check the level of the VDET signal.	If the signal level is "L", a voltage error was generated.	—

■ Possible causes when the POWER switch flashes in red (IJO DETECT)

Signal Name	**Detection Mode**	**Possible Failure Point**
V+5IJO	Voltage drop	Q414 PANEL CPU/SMPS Assy
V+7R6M	Voltage drop	IC205(REG) SMPS Assy
VFDP32	Voltage drop	Q502 SMPS Assy
V+1R2	Voltage rise	IC404(REG) IC103(MAIN CPU)
V+1R25	Voltage rise	IC403(REG) IC301(AUDIO DSP)

Signal Name	**Detection Mode**	**Possible Failure Point**
V+1R2	Voltage drop	IC404(REG) IC103(MAIN CPU)
V+1R25	Voltage drop	IC403(REG) IC301(AUDIO DSP)
V+3R3S	Voltage drop	IC201(SERVO DSP)
V-7R6A	Voltage rise	IC303 (OP amp) Q302,Q301(MUTE) SMPS Assy

Note: See "10.10 VOLTAGES" about possible failure point.

[2] Display (FL/LED)

[2-1] The FL does not light.

No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Power failure	PNLB Assy	Check the power-supply voltages (V+5R6, V+32) of the FL.	If the presence of power is not confirmed, check the mounting statuses of the regulator IC and its peripheral parts for each power supply. If they are properly mounted, then the parts may be defective.	4.3 POWER SUPPLY BLOCK DIAGRAM 10.10 VOLTAGES
2	Signal errors	PNLB Assy	Check the waveforms and connection of communication line of FL in the PNLB Assy. • FLSCLK • FLBK • FLLAT • FLSO	If no signal is output, the PANEL CPU (IC501) may be defective. If output signal is no problem, FL (V501) may be defective.	10.11 waveforms PNLB ①,②,③,④ [9] Basic operation check of CPU/DSP

[2-2] The LED does not light.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Signal errors	PNLB Assy	Check that the control signal for the LED is output from the PANEL CPU (IC501).	If no signal is output, check a mounting state of PANEL CPU(IC501). If the mounting is OK, the IC501 may be defective.	[9] Basic operation check of CPU/DSP
2	Defective parts of LED	PNLB Assy	Check that the forward voltage (2.2 - 2.7 V) is present at both ends of the LED.	If the forward voltage is not present, then the LED itself is defective.	—
3	Defective parts of transistor	PNLB Assy	If the symptom persists after the above corrections,	The transistor may be defective.	—

[3] Operations (Keys/variable controls/JOG)

As operations of all keys, variable controls, and JOG dial can be checked in Service mode.

[3-1] No key functions

STANDBY, USB STOP, PLAY, CUE, LOOP IN/OUT, RELOOP, LOOP DIVIDE+, or LOOP DIVIDE- key does not function.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connection /Defective SW	Related point	Check if there is loose connection on the signal line from the PANEL CPU (IC501) up to the SW.	If there is no loose connection and if the signal does not become "L" when the SW is pressed, that SW is defective.	—
2	Defective PANEL CPU (IC501)	PNLB Assy	If the symptom persists after the above corrections,	Check a mounting state of PANEL CPU(IC501). If the mounting is OK, the PANEL CPU may be defective.	[9] Basic operation check of CPU/DSP

The signals from other keys are analog and connected to multiple switches.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connection /Defective SW	Related point	Check if there is loose connection on the signal line from the PANEL CPU (IC501) up to the SW.	If the SWs connected to the signal line function properly and if the connections are properly made, the SWs may be defective.	—
2	Defective PANEL CPU (IC501)	PNLB Assy	If the symptom persists after the above corrections,	Check a mounting state of PANEL CPU(IC501). If the mounting is OK, the PANEL CPU may be defective.	[9] Basic operation check of CPU/DSP

[3-2] Rotary selector not controllable

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Defective rotary selector	PNLB Assy	Check if the signals from the RENC_1, RENC _2, and RENC_SW signal lines are normal when the rotary selector is turned or pressed.	If the signals are not normal, check the connections of the signal lines. If the connections are properly made, the encoder (S527) may be defective. Replace it.	—
2	Defective PANEL CPU (IC501)	PNLB Assy	If the symptom persists after the above corrections,	Check a mounting state of PANEL CPU(IC501). If the mounting is OK, the PANEL CPU may be defective.	[9] Basic operation check of CPU/DSP

[3-3] Variable controls not controllable

Tempo slider not controllable

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connection	PNLB Assy	Check if there is loose connection on the signal line from the PANEL CPU (IC501) to the tempo slider (VR501).	If the connections of signal line are improper, resolder it.	—
2	Defective tempo slider	PNLB Assy	Check the TEMPO signal level.	If the voltage of the TEMPO signal line (IC501-pin 97) does not change between 5.0 V and 0 V, the tempo slider may be defective.	—
3	Defective PANEL CPU (IC501)	PNLB Assy	If the symptom persists after the above corrections,	Check a mounting state of PANEL CPU(IC501). If the mounting is OK, the IC501 may be damaged.	[9] Basic operation check of CPU/DSP

[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 "8.2 JOG DIAL ROTATION LOAD ADJUSTMENT".)

Turning of the JOG dial is not detected

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Defective part	PNLB Assy JOGB Assy	Check the waveforms of signal lines. JOG1_C(IC501-pin 26) JOG2_C(IC501-pin 25)	If no waveform can be confirmed, the part (PC851) on the JOGB Assy may be defective.	10.11 WAVEFORMS PNLB ⑤,⑥
2	Defective PANEL CPU (IC501)	PNLB Assy	If the symptom persists after the above corrections,	Check a mounting state of PANEL CPU (IC501). If the mounting is OK, the IC501 may be defective.	[9] Basic operation check of CPU/DSP

Pressing on the JOG dial cannot be detected.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Defective part	PNLB Assy TCHB Assy	Check the level of TCH_C signal (IC501-pin 27) when the JOG dial is pressed.	If the TCH_C signal (IC501-pin 27) is not set to "L" when the JOG dial is pressed and it is not set to "H" when the JOG dial is not pressed, the parts (IC801 and Q801) on the TCHB Assy may be defective.	—
2	Defective PANEL CPU (IC501)	PNLB Assy	If the symptom persists after the above corrections,	Check a mounting state of PANEL CPU(IC501). If the mounting is OK, the IC501 may be defective.	—

Noise is heard when the JOG dial is turned.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Defective gear or JOG DIAL B	JOG Assy	There may be any scratches on the gear or some foreign object between the gears.	If there are any scratches, replace the scratched gear with a new one. If there is any foreign object, remove it then replace the gears with new ones. Gears to be replaced: Load gear, Encoder gear, JOG shaft	—
			There may be any scratches on the JOG DIAL B or some foreign object.	If sliding surfaces of the sliding sheet are scratched, replace it 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.)

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Improper adjustment or assembly of the JOG dial	JOG Assy	Check that the load value for the JOG dial is within the specified range, referring to “Measuring method” in “8.2 JOG Dial Rotation Load Adjustment.”	If it is outside the specified range, adjust the position of the Cam Plate to change the load value for the JOG dial, referring to “Load adjustment method” in “8.2 JOG Dial Rotation Load Adjustment.”	8.2 JOG Dial Rotation Load Adjustment.
				During the above adjustment, if the upper-limit adjustment position of the Cam Plate is reached, oil may have been spattered on the Cam Plate. Replace the washer, load gear, and cam plate with new ones, then reassemble.	8.2 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.)

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Improper adjustment of the JOG dial or defective washer, gear, or cam plate	JOG Assy	Check that the load value for the JOG dial is within the specified range, referring to “Measuring method” in “8.2 JOG Dial Rotation Load Adjustment.”	If it is outside the specified range, adjust the position of the Cam Plate to change the load value for the JOG dial, referring to “Load adjustment method” in “8.2 JOG Dial Rotation Load Adjustment.”	8.2 JOG Dial Rotation Load Adjustment.
				During the above adjustment, if the lower-limit adjustment position of the Cam 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.	8.2 JOG Dial Rotation Load Adjustment.

[4] USB (Type A/Type B)

[4-1] No communication via the USB connector (Type A)

Check the following, with a USB device connected to the USB A connector.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connections	PNLB Assy MAIN Assy	Check the connection of the USB communication line.	If connection is improper, resolder it.	—
2	V+5USB is defective.	PNLB Assy	Check the voltage level.	If JA505-pin 1 (V+5USB) cannot be confirmed and the IC504-pin 2 can be confirmed, then go to [3]. If V+5USB can be confirmed, go to [4].	10.10 VOLTAGES
3	Defective part	PNLB Assy	Check the signal level of IC504-5 pin (USB_CODETFLG) and IC504-4 pin (USB_VBUSON).	• If the IC504-pin 5 (USB_CODETFLG) and IC504-pin 4 (USB_VBUSON) are "H", IC504 may be defective. • In the USB device no connection state, If the IC504-pin 5 (USB_ CODETFLG) is "H" and IC504-pin 4 (USB_VBUSON) is "L", IC103 may be defective.	—
4	Defective MAIN CPU	MAIN Assy	If the symptom persists after the above corrections,	The MAIN CPU (IC101) may be defective.	[9] Basic operation check of CPU/DSP

[4-2] No communication via the USB connector (Type B)

Check the following, with a USB device connected to the USB B connector.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Loose connections	—	Check the connection of the signal lines (USB_D+/USB_D-).	If connection is improper, resolder it.	—
2	Defective MAIN CPU	—	If the symptom persists after the above corrections,	The MAIN CPU (IC103) may be defective.	[9] Basic operation check of CPU/DSP

[5] AUDIO OUT

[5-1] No sound

The analog audio signal is not output.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Power failure	MAIN Assy	Check the voltages for audio (V+7R6A, V-7R6, V+5A, V+3R3A).	• If the V+7R6A/V-7R6 voltage level is abnormal, the SMPS Assy unit may be defective. • If the V+5A voltage level is abnormal, IC406 may be defective. • If the V+3R3A voltage level is abnormal, the IC402 may be defective.	10.10 VOLTAGES
2	Loose connections	MAIN Assy JACK Assy	Check the connection of the audio signal lines (ROUT/LOUT).	If connection is improper, resolder it.	—
3	Signal errors	MAIN Assy	Check the AUDIO DSP (IC301).	If the AUDIO DSP (IC301) is OK, the DAC (IC302) may be defective.	[9] Basic operation check of CPU/DSP

[6] DRIVE ASSY

[6-1] Improper operation of the loading mechanism

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Improper soldering	Cables	Check that the wires between the loading motor and the SLMB Assy are securely soldered. Check also the wires are not broken.	If soldering is improper, resolder it. If the wires are broken, replace them.	—
2	Power failure	MAIN Assy	Check the power voltages. (V+7R6M, V+5R6M, VREF1R65, V+3R3B, V+3R3, V+1R2A)	For any power-supply section that does not output the voltage, check the mounting statuses of the regulator IC and its peripheral parts. If they are properly mounted, then the parts may be defective.	4.3 POWER SUPPLY BLOCK DIAGRAM
3	Signal errors	MAIN Assy	Check the waveforms of the LPS1 and LPS2 signal lines. (The LPS1 and LPS2 signals becomes "L" when the SW is set to ON.)	If the signal waveform is not proper, the loading detection SWs (S751/S752) may be improperly soldered or defective. If soldering is improper, resolder them. If the symptom persists, replace the defective parts.	—

No loading (There is an abnormal noise.)					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Improper assembling	SLOTIN MECHA Assy	Check if the SW lever has shifted on the SWs on the SMLB Assy.	If the SW lever has shifted on the loading detection SWs (S751/S752), correct the position of the SW lever. If the soldered SWs are lifted off the board, resolder them.	—
2	Signal errors	MAIN Assy	Check the waveforms on the LPS1 and LPS2 signal lines.	If the signal waveform is not proper, the loading detection SWs (S751 and S752) may be improperly soldered or defective. Resolder them, if necessary. If the symptom persists, replace them.	—

[6-2] The stepper does not work.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Power failure	MAIN Assy	Check the power voltages. (V+7R6M, V+5R6M, VREF1R65, V+3R3B, V+3R3, V+1R2A)	Check the connection of the parts at the periphery of the regulator IC that does not output the voltage. If the symptom persists after a corrective action, the power supply block is defective. Replace it.	4.3 POWER SUPPLY BLOCK DIAGRAM
2	Signal errors	MAIN Assy	Check the INSIDE signal. (The INSIDE SW becomes "L" when the INSIDE SW is set to ON.)	If the signal is not proper, check the connections. If connections are properly made, replace the traverse mechanism.	—

[6-3] No CD playback

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Any foreign matter attached	CD drive Assy	Check if the objective lens is dirty.	Remove any dirt or dust from the lens.	—
2	Defective pickup	MAIN Assy	Check the LD current value. Measure the actuator resistance value.	Refer to the “5.3 Diagnosis of the Pickup Assy.”	5.3 Diagnosis of the Pickup Assy
3	—	Service mode	If the symptom persists after the above corrections, check operations of the CD drive in Service mode.	Check operations of the CD drive, referring to the procedures described in “6. SERVICE MODE.” If the CD drive functions improperly, see “[7] SERVICE MODE” in this section.	6. Service mode

[7] SERVICE MODE

[7-1] The measured error rate is outside the specified range in Player Operation mode.

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	Scratches or dirt on the disc	DISC	First, whether the cause is attributable to the disc or to the player must be distinguished. Check if the recording surface of the disc is dirty.	If it is clearly dirty, replace it with a CD of good condition.	—
2	Scratches or dirt on the disc	DISC	Measure the error rate, using the same disc that produced the bad error rate but using the addresses in a different area. If the error rate measured in a different area is OK, the CD is defective.	If the error rate measured in a different area is OK, the CD is defective. Replace the CD with one in good condition. If no error rate measured in various areas throughout the entire surface of the CD is OK, go to [3].	—
3	Any foreign matter attached	Traverse mechanism	Check if any foreign matter, such as shavings, dirt, or dust, is attached to the lens of the Pickup Assy.	Clean the lens.	—
4	Improper assembly	Traverse mechanism	Check that the traverse mechanism has been securely installed.	If it has not, reinstall it properly.	—
5	Improper assembly	Traverse mechanism	Check that the loading mechanism Assy has been securely installed.	If it has not, reinstall it properly.	—
6	Any foreign matter attached	Traverse mechanism	Check for any foreign matter on the spindle table.	Remove any foreign matter.	—
7	Any foreign matter attached	Traverse mechanism	Check if any foreign matter is attached to the magnet portion of the Pickup Assy.	Remove any foreign matter.	—
8	Signal errors	MAIN Assy	Check that the waveforms of the RFO and AGCRF signals form clear eye patterns.	If their waveforms are not of the same quality, check the mounting status of the Servo IC (IC201). If it is correctly mounted, then it may be defective. Replace it.	10.11 WAVEFORMS MAIN ⑬, ⑭
9	Defective pickup	Traverse mechanism	If the symptom persists after the above corrections,	See “5.3 Diagnosisi of the Pickup Assy” for details.	5.3 Diagnosis of the Pickup Assy

[7-2] The drive does not work during Test Operation mode.

The LD does not emit light.					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Defective pickup	—	Check the LD current and measure the resistance value of the actuator.	See “5.3 Diagnosis of the Pickup Assy” for details.	5.3 Diagnosis of the Pickup Assy
The spindle motor does not rotate.					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Signal errors	MAIN Assy	Check that the DRVMUTE1 signal becomes H after loading is completed.	If the signal is not normal, check the mounting statuses of the DRIVER IC (IC204) and MAIN CPU (IC103) terminals. If they are properly mounted, then the IC103 may be defective.	—
2	Signal errors	MAIN Assy	Check a SPIN signal. (1.65 V at the center. The voltage in the start-up acceleration is around 3 V.)	If the signal is not normal, check the mounting statuses of the DRIVER IC (IC204) and Servo CPU (IC201) terminals. If they are properly mounted, then the IC204 and IC201 may be defective.	—
3	Power failure	MAIN Assy	Check the power voltages. (V+7R6M, V+5R6M, VREF1R65, V+3R3S)	Check the mounting statuses of the regulator IC of the power-supply section that produces that voltage and its peripheral parts. If they are properly mounted, then the parts may be defective. VREF1R65 is produced at the Servo IC (IC201). If this voltage is not output, check the mounting status of the IC201. If it is properly mounted, then the part may be defective.	4.3 POWER SUPPLY BLOCK DIAGRAM
4	Defective parts	—	If the symptom persists after the above corrections,	DRIVER IC(IC204) may be defective.	—
In-focus not possible					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Defective pickup	MAIN Assy	Check the LD current and measure the resistance value of the actuator.	Refer to the “5.3 Diagnosis of the Pickup Assy.”	5.3 Diagnosis of the Pickup Assy
2	Power failure	MAIN Assy	Check the power voltages. (V+7R6M, V+5R6M, VREF1R65, V+3R3S)	For any power-supply section that does not output the voltage, check the mounting statuses of the regulator IC and its peripheral parts. If they are properly mounted, then the parts may be defective.	4.3 POWER SUPPLY BLOCK DIAGRAM
No tracking close					
No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Defective pickup	MAIN Assy	Check the LD current and measure the resistance value of the actuator.	Refer to the “5.3 Diagnosis of the Pickup Assy.”	5.3 Diagnosis of the Pickup Assy
2	Power failure	MAIN Assy	Check the power voltages. (V+7R6M, V+5R6M, VREF1R65, V+3R3S)	For any power-supply section that does not output the voltage, check the mounting statuses of the regulator IC and its peripheral parts. If they are properly mounted, then the parts may be defective.	4.3 POWER SUPPLY BLOCK DIAGRAM
3	—	Traverse mechanism	Check that focusing is in. (If focusing is out, tracking close is not possible.)	See “In-focus not possible” above.	—

[8] Error Codes

How to respond when an error code is displayed on the FL DISPLAY is described below.

E-6002: COMMUNICATION ERROR
• The program cannot be written in the DSP.

No.	**Cause**	**Diagnostics Point**	**Item to be Checked**	**Corrective Action**	**Reference**
1	Power failure	MAIN Assy	Check the power voltages. (V+3R3A, V+1R25)	If the voltage level is abnormal, IC402 or IC403 may be defective.	10.10 VOLTAGES
2	Defective part	MAIN Assy	Check if the AUDIO DSP (IC301) is operating.	If the AUDIO DSP (IC301) is not operating, it may be defective. If the AUDIO DSP (IC301) is operating, the MAIN CPU (IC103) may be defective.	[9] Basic operation check of CPU/DSP

[9] Confirmation of basic operations of the CPU/DSP

First, check if the voltage at each section is OK.

[9-1] Periphery of the MAIN CPU: IC103

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	—	MAIN Assy IC103	Check the waveforms and levels of the following signals: • Reset: MAIN_RST must be "H." • Clock: Check the waveform of CLK66M. • Status: Check the waveform of SH_STATUS.	If the SH_STATUS signal is fixed at "L" or "H," the Main CPU is not operating. If both the Reset and Clock signals are OK, IC103 (MAIN CPU), IC101 (FLASH ROM) or IC102 (SDRAM) may be defective.	10.11 WAVEFORMS MAIN ①,④

[9-2] SERVO DSP: IC201

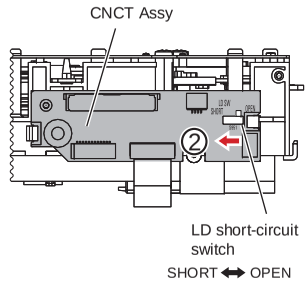
No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	—	MAIN Assy IC201	Check the waveforms and levels of the following signals (in CD PLAY mode): • Reset: SRVRST must be "H." • Clock: Check the waveform of CLK_S_16M. • Servo clock: Check the waveform of SRVSCLK.	If both the Reset and Clock signals are OK, but the SRVSCLK signal is not output, the SERVO DSP (IC201) may be defective.	10.11 WAVEFORMS MAIN ③,⑥

[9-3] AUDIO DSP: IC301

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	—	MAIN Assy IC301	Check the waveforms and levels of the following signals (in PLAY mode): • Data request: DSPDREQ • Reset: DSPRST must be "H." • Clock: Check the waveform of CLK_A_16M.	If both the Reset and Clock signals are OK, but the DSPDREQ signal is not output, the AUDIO DSP (IC301) may be defective.	10.11 WAVEFORMS MAIN ⑤,②

[9-4] PANEL CPU: IC501

No.	Cause	Diagnostics Point	Item to be Checked	Corrective Action	Reference
1	—	MAIN Assy IC501	Check the waveforms and levels of the following signals: • Reset: RESET (IC501, Pin 12) must be "H." • MAIN communication clock: Check the waveform of TSCK (IC501, Pin 37).	If the Reset signal is OK, but the TSCK signal is not output, the PANEL CPU (IC501) may be defective.	10.11 WAVEFORMS MAIN ⑧

Item	Specifications	Measurement Procedures	Failure Judgment	Remarks
Laser Diode (LD) current	Typ. 65 mA Max. 75 mA	① Make sure that no CD is loaded. ② Enter Service mode. ③ Connect a tester between the test lands LD3S and LDCHK on the MAIN Assy to check the voltage difference between them. ④ During Test Operation mode, press the TEMPO button to turn the LD on. ⑤ Measure the voltage difference (DC value) between the test lands LD3S and LDCHK on the MAIN Assy. ⑥ Press the TEMPO button to turn the LD off. Confirm that the voltage difference between test lands LD3S and LDCHK becomes 0 then disconnect the tester.	The LD can be judged to have degraded if the LD current, which is calculated by dividing the measured voltage difference (DC value) by 22, is 75 mA or higher. **Note:** Check the mounting status of R227, R228, R232 and R233 (22 ohms).	
Focus coil resistance	3.7 ± 0.55 Ω	① Make sure that no CD is loaded. ② Remove the bottom plate and set the LD short-circuit switch (S951) to Short side. (see right figure.) ③ Disconnect the FFC cable that connects the CNCT Assy and the MAIN Assy from the CN201 connector. ④ Measure the conductor resistance of the terminal assembly between Pins 33 and 34 of the FFC cable.	If the measurement result is beyond the specified value, the pickup is in failure.	
Tracking coil resistance	4.3 ± 0.65 Ω	① Make sure that no CD is loaded. ② Remove the bottom plate and set the LD short-circuit switch (S951) to Short side. (see right figure.) ③ Disconnect the FFC cable that connects the CNCT Assy and the MAIN Assy from the CN201 connector. ④ Measure the conductor resistance of the terminal assembly between Pins 31 and 32 of the FFC cable.	If the measurement result is beyond the specified value, the pickup is in failure.	
S-shaped level Usually use a pressed CD, as the measurement result depends on the disc type.	Reference: 1.7 Vp-p	① Enter Service mode. ② Load a pressed CD. (Standby) ③ Connect and set a digital oscilloscope so that the p-p level at the test land (FE) can be measured. ④ During Test Operation mode, press the TIME, then A CUE buttons to send a command. ⑤ Measure the p-p level (S-shaped level) at the FF.	If the measurement result is twice or more, or 50 % or less of the reference value, the pickup or the MAIN Assy is defective.	
Tracking Error (TE) level Usually use a pressed CD, as the measurement result depends on the disc type.	Reference: 1.0 Vp-p	① Enter Service mode. ② Load a pressed CD. (Standby) ③ Connect and set a digital oscilloscope so that the p-p level at the test land (TE) can be measured. ④ During Test Operation mode, press the buttons in the following order to send a command: TIME, TEMPO, RELOOP, then LOOP IN twice. ⑤ Measure the p-p level of waveform at the TE.	If the measurement result is twice or more, or 50 % or less of the reference value, the pickup or the MAIN Assy is defective.	
RFO level Usually use a pressed CD, as the measurement result depends on the disc type.	Reference: 1.1 Vp-p	① Play back a pressed CD. ② Measure the p-p level of RF waveform at the RFO test land on the MAIN Assy.	If the measurement result is twice or more, or 50 % or less of the reference value, the pickup or the MAIN Assy is defective.	You may disconnect the measuring equipment during measurement, if you wish.
Auto Gain Control (AGC) RF level The measurement result does not depend on the disc type.	1.2 Vp-p ± 10 %	① Play back a CD. ② During playback, measure the p-p level of RF waveform at the AGCRF test land on the MAIN Assy.	If the RFO level value is twice or less, or 50 % or less of the reference value, and the AGC RF level is out of the range stipulated in the specifications, the MAIN Assy is defective.	You may disconnect the measuring equipment during measurement, if you wish.

5.4 CONNECTION CHECK WITH THE PC

[1. USB B connector]

Whether communication between the PC connected via the USB B connector and this unit is properly performed or not can be confirmed on the PC.
Note: Installation of the driver software is not necessary.

■ CONTROL MODE Setting

When you check the connection, please set this unit to CONTROL MODE.

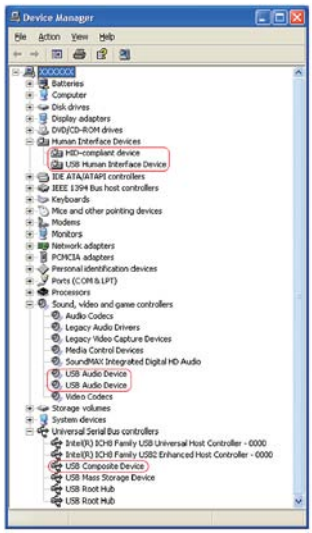
● How to Enter
Press the [💻] key more than one second.

■ Use Device Manager for checking.

If the PC and this unit are properly connected, the components of this unit are added in Device Manager (under Hardware) as devices.
If all components are properly displayed, the PC and this unit are properly communicating via the USB connector.

In a case of Windows XP:
Start, Control Panel, System, Hardware, then Device Manager
Devices to be added:
Universal Serial Bus controllers
USB Composite Device
Under “Sound, video and game controllers”
USB Audio Device
Human Interface Devices
HID-compliant device
USB Human Interface Device

A communication check may be easily performed if connection is made with Device Manager displayed on the PC screen.



5.5 ABOUT VOLTAGE MONITORING

■ Specifications of Voltage Monitoring

The Panel microcomputer of this unit always monitors for power failure of the unit and will shut the unit off immediately after an error is detected.
The specifications of the terminal of the microcomputer for monitoring are as shown below.

Name of the terminal of the microcomputer: VDET (Pin 3 of IC501)

- Content to be detected
  Power failure generated inside the MAIN and SMPS Assys
- Terminal voltage
  Normal: 5 V
  Abnormal: 0 V
- Timing of monitoring start
  0.1 sec after the unit is turned ON
- Timing for failure judgment
  0.5 sec after an error is detected

If an error is generated, the STANDBY LED will flash after the unit shuts itself off.
After the unit shuts itself off because of an error, unplug the AC power cord and wait 1 minute before turning the unit ON by pressing the STANDBY/ON key.

Diagnostic procedure

① Unplug the AC power cord.
② Replace R599 on the PNLB Assy with R569.
③ Plug the AC power cord.
④ Turn the unit ON and check each voltage.
*Unplug the AC power cord after several seconds, 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.)
⑤ If the voltage at any power IC is abnormal, the circuit that is connected to the power IC or the power IC itself may be defective.
⑥ Repair the detective part.
⑦ Replace R569 on the PNLB Assy with R599 (return R599 to its original position).

6. SERVICE MODE

6.1 TEST MODE

The following service modes are prepared for this unit.

① Confirmation of the button input and an indication function.
It is the mode which checks each input and display function of a button, a JOG dial, the slider volume, and a encoder.

② Check mode of the load of JOG dial.
It is the mode which measures the load when rotating JOG dial.

③ Indication of various information
It is a mode displaying information such as a version and an error history, a device normal / abnormality judgment.

④ Error display list
An error code and the contents are shown.

⑤ Confirmation of movement of the drive unit
It is the mode which checks operation of a mechanism and servo of drive unit.

⑥ Updating firmware
Mode for firmware updating. Two modes (one for updating using a USB memory device and one for updating using a CD-ROM) are provided.
Refer to the “8.4 UPDATING OF THE FIRMWARE.”

6.2 ABOUT THE DEVICE OF CDJ-350

Device Name	Function	Part No.	Ref No.	Assy
MAIN CPU	System control	R5S72630P200FP	IC103	MAIN Assy
FLASH	Memory for MAIN CPU (Firmware)	DYW1792	IC101	MAIN Assy
SDRAM	Memory for MAIN CPU (Work)	K4S561632J-UC75	IC102	MAIN Assy
DSP	Audio DSP	DSPC56371AF180	IC301	MAIN Assy
DSP	Servo DSP	TC94A15FG	IC201	MAIN Assy
Servo Driver	Disc drive control	BD7956FS	IC204	MAIN Assy
Panel microcomputer	Button input, LED & FL control	PEG740A8-K	IC501	PNLB Assy

6.3 DETAILS ON SERVICE MODE

[1] Display of various information

How to Enter Service Modes

1) Version/error history
   The Version Display mode is entered after the RELOOP key is held pressed for at least 10 sec.
   (This does not apply when the TEMPO slider is set to the end "–" (uppermost) position or "+" (lowermost) position.
   Each time the BPM LOCK key is pressed in Version Display mode, the versions for the MAIN, DISPLAY, and DSP programs are displayed, in that order.

   To change screens between Version Display and Error History, press the VINYL MODE key while the Version Display screen is displayed.
   The error log screens will be changed if you press the DIVIDE (LEFT) or DIVIDE (RIGHT) key while the error history is displayed.

2) Service mode (Panel diagnosis/JOG load measurement)
   To enter Service mode, set the POWER switch to ON while holding the BACK and TEMPO RANGE keys pressed.
   To enter JOG Load Measurement mode, set the TEMPO slider to the + (MAX) position during Service mode.
   For details on how to operate, see “[2] Confirmation of the button input and an indication function.”
   Set the POWER switch to OFF to quit this mode.

3) CD drive diagnosis mode
   To enter CD Drive Diagnosis mode, set the POWER switch to ON while pressing the TIME and CD SELECT keys pressed.
   Set the POWER switch to OFF to quit this mode.

4) Firmware Updating (USB media)
   To enter this mode, set the POWER switch to ON while pressing the SOURCE SELECT USB and RELOOP keys pressed.
   After updating is completed, set the POWER switch to OFF to quit this mode.

5) Firmware Updating (CDROM media)
   To enter this mode, set the POWER switch to ON while pressing the SOURCE SELECT DISC and RELOOP keys pressed.
   After updating is completed, set the POWER switch to OFF to quit this mode.

6) Factory reset
   To enter this mode, set the POWER switch to ON while holding the SOURCE SELECT USB and BACK keys pressed.
   For details on items to be factory-reset, see “8.3 USER SETTABLE ITEMS.”

[2] Confirmation of the button input and an indication function

When it spends a power supply while prssing a TEMPO RANGE button and a BACK button simultaneously, It is displayed in the FL, "SERVICE MODE", and enters into this mode.
In this mode, the input of each button, JOG, volume, etc. is normal, and it can check that a display can also be performed normally. In addition, indication turns on while pressing a button.

Caution: In this status display, if a TEMPO SLIDER is shifted to the + direction (lower side), it will shift to "the load measurement mode of JOG."

Button, Switch	Light up LED	Status display of FL (BUTTON)	Other Displays
PLAY/PAUSE	PLAY/PAUSE	PLAY	
CUE	CUE	CUE	
IN/CUE/HOT LOOP	IN/CUE/HOT LOOP	IN	
OUT/OUT ADJUST	OUT/OUT ADJUST	OUT	
RELOOP/EXIT	RELOOP/EXIT	RELOOP	
TRACK REV (I◄◄)		TRACK |<<	
TRACK FWD (►►I)		TRACK >>|	
SEARCH REV (◄◄)		REV <<	
SEARCH FWD (►►)		FWD >>	
JOG MODE	VINYL	JOG MODE	
TEMPO		TEMPO	
MASTER TEMPO	MASTER TEMPO	MASTER TEMPO	
TIME MODE/AUTO CUE		TIME/ACUE	
DISPLAY/UTILITY		DISPLAY	
BACK	All LED lights up	All FL lights up	
EJECT	EJECT	EJECT	
BEAT LOOP/LOOP DIVIDE(LEFT)	BEAT LOOP/LOOP DIVIDE	DIVIDE <-	
BEAT LOOP/LOOP DIVIDE(RIGHT)	BEAT LOOP/LOOP DIVIDE	DIVIDE ->	
JOG TOUCH		JOG TOUCH SW	
TEMPO SLIDER			■ MARK of PLAYING ADDRESS
JOG (FWD)		JOG >	
JOG (REV)		JOG <	
USB_STOP	USB_STOP	USB STOP	
USB	USB	USB	The upper part of the left of FL lights up.
CD	CD	CD	The upper part of the right of FL lights up.
PC	PC	PC	The lower part of the left of FL lights up.
ROTARY SELECTOR (SW)		PUSH	
ROTARY SELECTOR (FWD ROTATE*1)		The number of upper of FL is increased.	
ROTARY SELECTOR (REV ROTATE*2)		The number of upper of FL is decreased.	
PLAYLIST		ADD PLAYLIST	
BPM LOCK		BPM ADJUST	

*1: Turn to the right.
*2: Turn to the left.

[3] Check mode of the load of JOG dial

Refer to the "8.2 JOG DIAL ROTATION LOAD ADJUSTMENT."

[4] The list of error display

Time display shows "E-XXXX: DISC DRIVE ERROR".

Main	Sub	Error Type	Medium	Error Content
E-6002	—	DSP PROGRAM	—	The program cannot be written in the DSP.
E-7024	—	Updating error	—	Updating failed.
E-7201	26	TOC READ ERROR	CD	TOC data cannot be read.
E-8301	22	PLAYER ERROR	CD	Focus servo cannot be closed.
	91		CD	The pickup cannot be returned to the inner track of the disc.
E-8302	12	PLAYER ERROR (Playback error)	CD	The desired address could not be searched for.
	15		CD	The address could not be read.
E-8303	99	Buffer write error	CD	Writing of music data in the buffer failed.
E-8304	—	Decoding error	CD	Although compressed music data files (MP3/AAC) are supported by this unit, a data or decoding (decompression) error was generated.
E-8305	—	Format error	CD	Although the filename extension of the music file (MP3/AAC/WAV/AIFF) is proper, the format of descriptions in the file is not supported.
E-8306	—	No music file	USB	Although the piece of music had once been registered in the library (database) or a playlist, etc., that piece had been erased from the USB storage device as of time of playback.
E-8307	—	USB writing error	USB	Writing to the USB storage device failed.
E-8709	—	COMMUNICATION ERROR	—	Communication between the panel microcomputer and the main microcomputer failed.
E-9101	90	LOADING TIMEOUT	CD	A mechanical error (timeout) was generated during loading/unloading of a disc.

[5] Confirmation of movement of the drive unit

This mode consists of "player operation mode" and "test operation mode."

<Player operation mode>
Basic operation of Servo, such as setup, play, pause, and track search, is carried out.
Moreover, measurement of an error rate can also be performed.

<Test operation mode>
Servo operation is finely controllable gradually.

* It becomes player operation mode and shifts to test operation mode by the key input in the beginning.
* The command treated here is for mainly testing a mechanism and a servo system, and is not for DJ functions, such as scan and tempo.

Function	Main unit button
<Player operation mode>	
Servo All Off (Stop)	TIME
Play(Trace) / Pause	PLAY/PAUSE
Track Search Fwd/Rev	TRACK SEARCH FWD/REV
Error Rate Count	CUE
Eiect	EJECT
Mode Change (-> Test operation mode)	MASTER TEMPO
<Test operation mode>	
Servo All Off (Stop)	TIME
LD On/Off TEMPO	TEMPO
Focus On/Off RELOOP	RELOOP
Spindle Kick, Tracking On	IN/CUE (HOT LOOP)
Tracking Off	OUT (OUT ADJUST)
Slide FWD	SEARCH FWD
Slide REV	SEARCH REV
Pickup Up/Down	DISPLAY/UTILITY
Mode Change (->Player operation mode)	MASTER TEMPO

■ Player operation mode command

Play(Trace) / Pause
If it is in a stop state, it will set up and play. Moreover, if it is in a play state, whenever it will push a button, a pause and a play are carried out by turns.
Display a playing address in FL at present.
Note: In this mode, even if it inserts a disc, an automatic setup is not carried out.
Moreover, a play is not carrying out audio reproduction, but is tracing the signal side of a disc.
Trace a disc by a turn of four times speed in the play. The sound is not output.

Track Search F/R
Search a track displayed by a FWD / REV direction and do pause.

Error Rate Count
I measure an error rate from a present position doing a play/pause for about 10 seconds and display a measurement result in FL. Usually, a track to measure is made to search and this button is inputted from a pause state.
For example, it is displayed as "3.56E-4 O.K." etc.
If an error rate is less than 3.00E-3, it will be displayed as OK. If an error rate is larger than 3.00E-3, it will be displayed as NG.
Measurement with the managed disc at the time of factory shipments is a premise.
The product does not judge whether they are inferior goods at the time of service.

Eject
A disc is ejected.

Mode Change
If the MASTER TEMPO button is pushed into player operation mode, MASTER TEMPO LED will light up, and it will shift to the below-mentioned "test operation mode."

■ Test operation mode command

Servo operation is finely controllable gradually.
Keep in mind a test operation mode command that it may give a damage to a player as mistaking the usage.

Servo All Off
When servo is ON, all servo will be turned off if the TIME button is pushed.
“ALL OFF” will be displayed.

LD On/Off
The LD can be turned on or off by pressing the TEMPO key. “LD ON” or “LD OFF” will be displayed.

Focus On
If the RELOOP key is pressed in Stop mode, the LD is turned ON and auto focusing will be performed.
“FCS ON” will be displayed.

Spindle Kick, Tracking On/Off
If the IN/REALTIME CUE (LOOP IN) key is pressed while the tracking servo is OFF, spindle kick then automatic adjustment will be performed, after which the tracking servo will be turned ON.
If the key is pressed while the tracking servo is ON, it will be turned OFF. “TRK ON” or “TRK OFF” will be displayed.

Tracking Off
If the OUT (LOOP OUT) key is pressed while the tracking servo is ON, it will be turned OFF.
“TRK ON” will be displayed.

Slide FWD
If the SEARCH n (FWD) key is pressed while the tracking servo is ON, it will be turned OFF and the slider will be shifted by about 2 mm in the FWD direction. “SLD FWD” will be displayed.

Slide REV
If the SEARCH m (REV) key is pressed while the tracking servo is ON, it will be turned OFF and the slider will be shifted by about 2 mm in the REV direction. “SLD REV” will be displayed.

Pickup Up/Down
f the DISPLAY/UTILITY key is pressed during Stop mode, the LD will be turned ON then the pickup will be moved up and down. Focusing will not be closed. “PU UP/DN” will be displayed.

Mode Change
If the MASTER TEMPO key is pressed in Test Operation mode, the MASTER TEMPO LED will go dark then above-mentioned Player Operation mode will be entered.
*To start up the unit in Test mode in steps, input the commands in the following order: "Servo All Off," "Focus On," then “Spindle Kick, Tracking On."

[6] Updating of the firmware

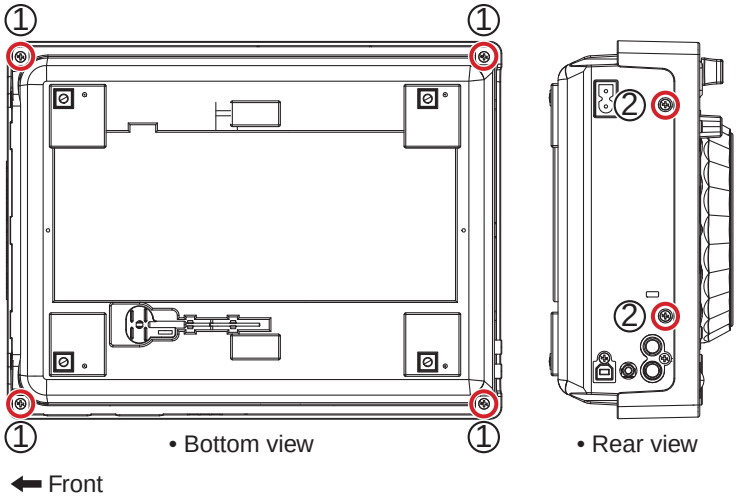
Refer to the "8.4 UPDATING OF THE FIRMWARE."

7. DISASSEMBLY

Note:
(1) Do NOT look directly into the pickup lens. The laser beam may cause eye injury.
(2) Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

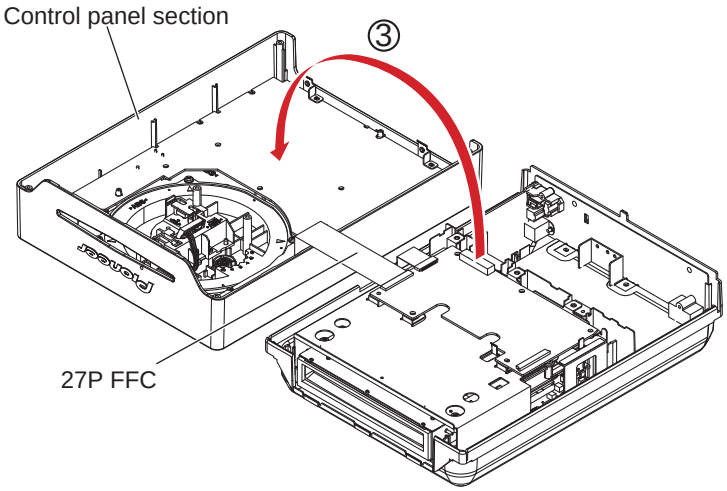
Diagnosis of MAIN Assy

(1) Remove the four screws. (BPZ30P080FTB)
(2) Remove the two screws. (BBZ30P060FTB)



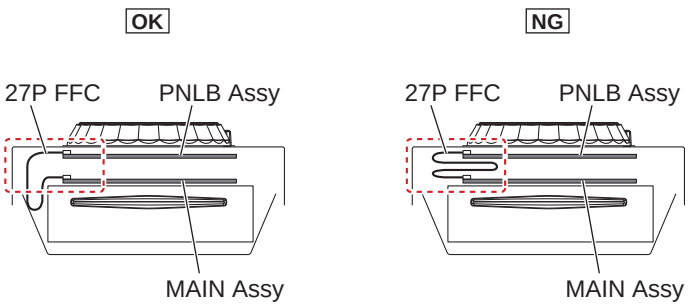
(3) Remove the control panel section.

Diagnosis



• Note on Reassembly

Make styling so that 27P FFC does not insert it inward (top of MAIN Assy).

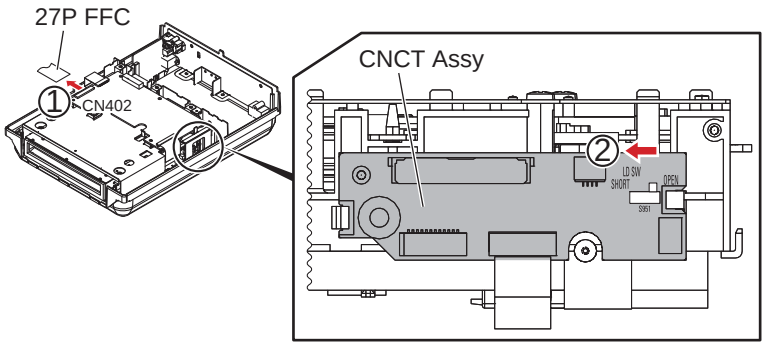


SLOTIN MECHA Section

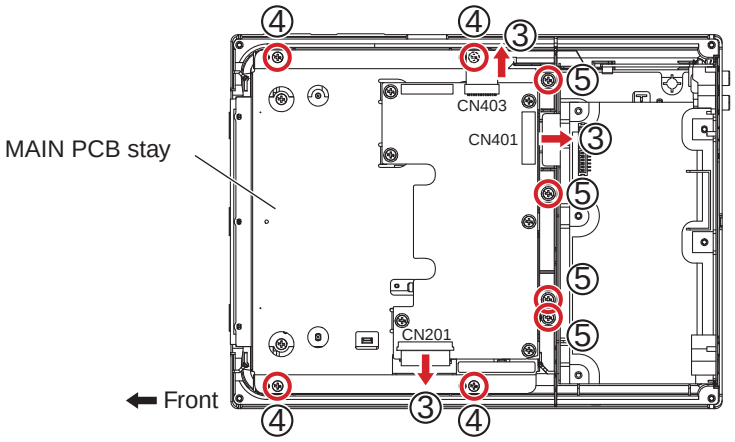
[1] MAIN PCB stay

(1) Disconnect the 27P FFC from control panel section.
(2) Change the position of the LD SW (S951) on the CNCT Assy to "SHORT".

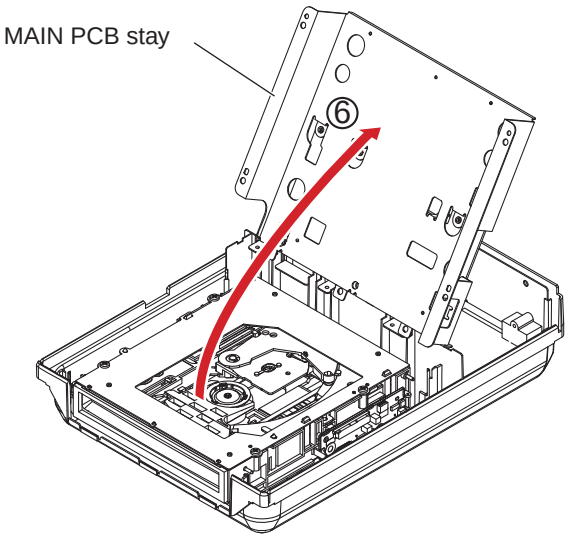
Note:
After work, connect the flexible cable on step (3), then change the position to "OPEN".



(3) Disconnect the two flexible cables and one connector.
(4) Remove the four screws. (BPZ30P080FTB)
(5) Remove the four screws. (ABZ30P060FTC)

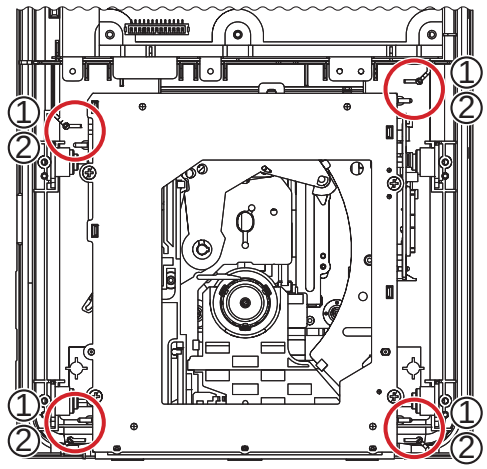


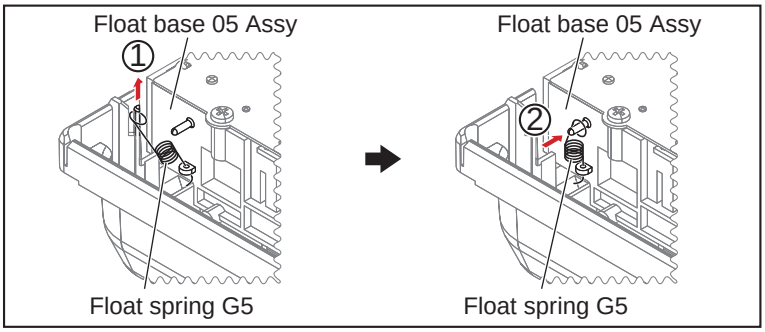
(6) Remove the MAIN PCB stay.



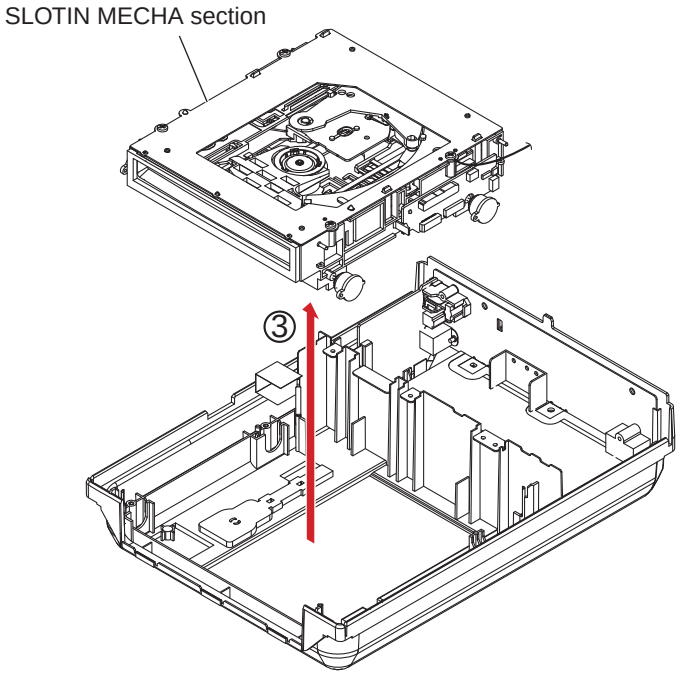
[2] SLOTIN MECHA Section

(1) Remove the four float springs G5.
(2) Hook the four float springs G5 to the four hooks of the float base 05 Assy.

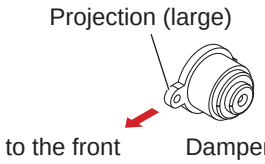




(3) Remove the SLOTIN MECHA section.



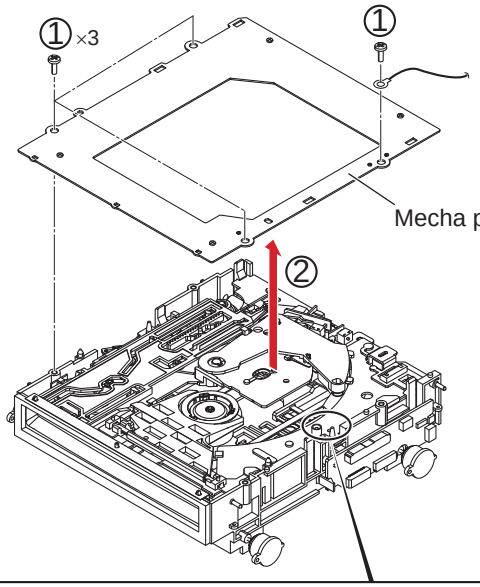
Direction of the dampers when attaching them
When attaching the dampers, place them so that their projections (large) face front.



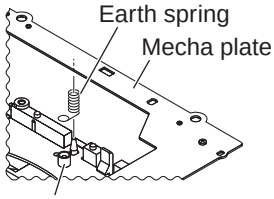
TM Assy-S (VTM091)

[1] Mecha Plate

(1) Remove the four screws. (BPZ30P080FTB)
(2) Remove the mecha plate.

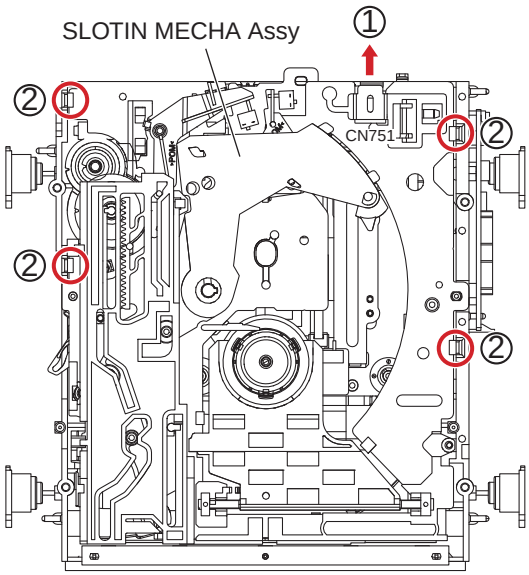


Note of earth spring
- Be sure not to lose it.
- Be careful to the installation places.
- Confirm it by viewing.

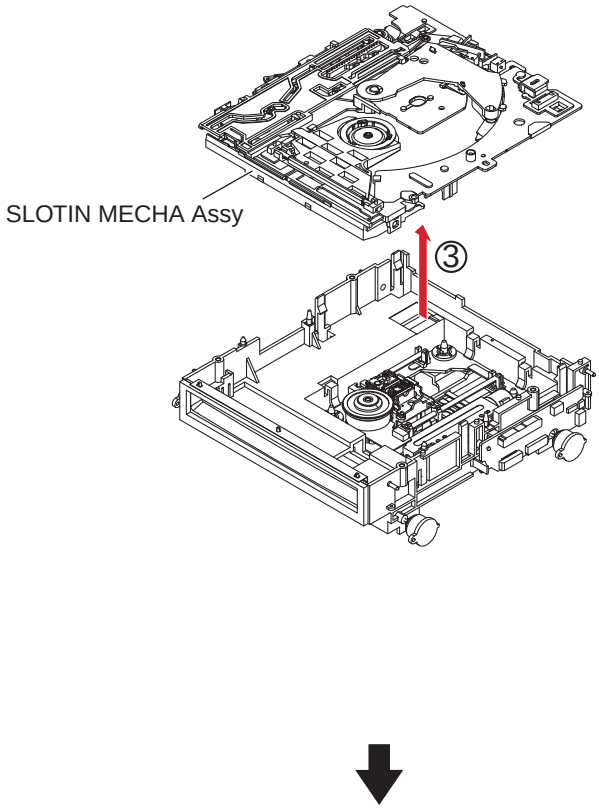


[2] SLOTIN MECHA Assy

(1) Disconnect the flexible cable.
(2) Unhook the four hooks.

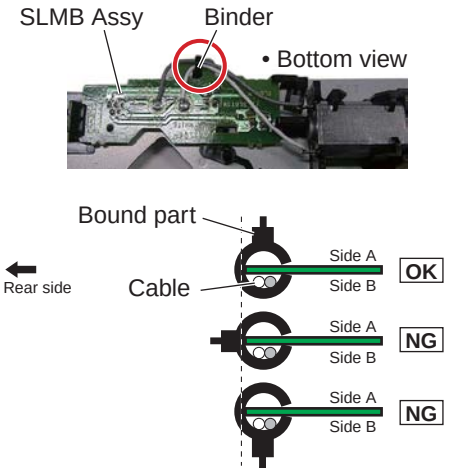


(3) Remove the SLOTIN MECHA Assy.



• Note on Reassembly

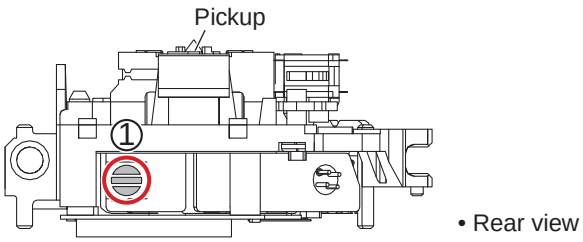
When binding the cables from the SLMB Assy, be careful that the bound part will not protrude from the edge of the board toward the rear. Bind them so that the bound part will come to the upper side of Side A.



[3] TM Assy-S (VTM091)

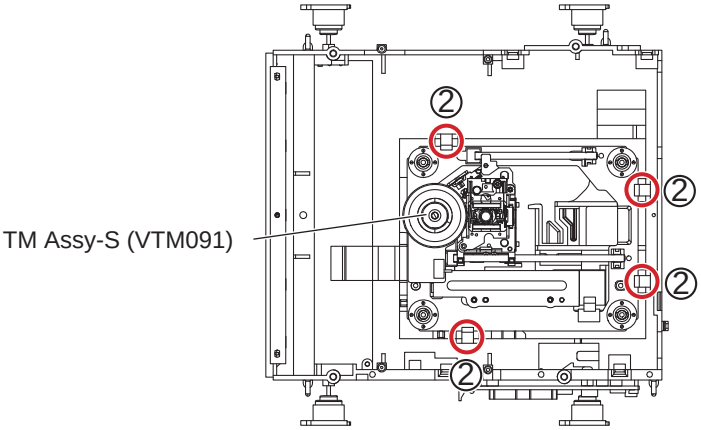
(1) Short-circuit two positions of figure solodering.
(short)

Note:
After working, connect the flexible cable,
then remove the soldered joint (open).

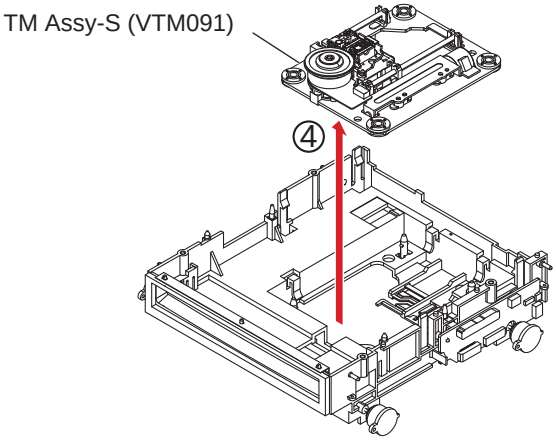


• Rear view

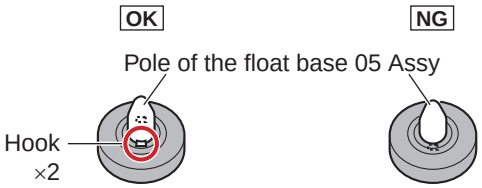
(2) Unhook the four hooks.



(3) Release the flexible cables, as required.
(4) Remove the TM Assy-S (VTM091).



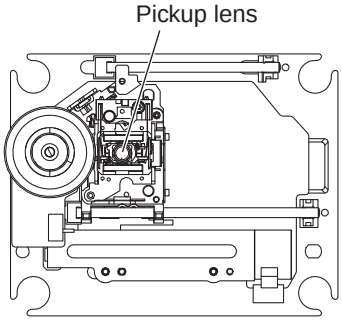
Note on the float rubber installation



Cleaning the pickup lens

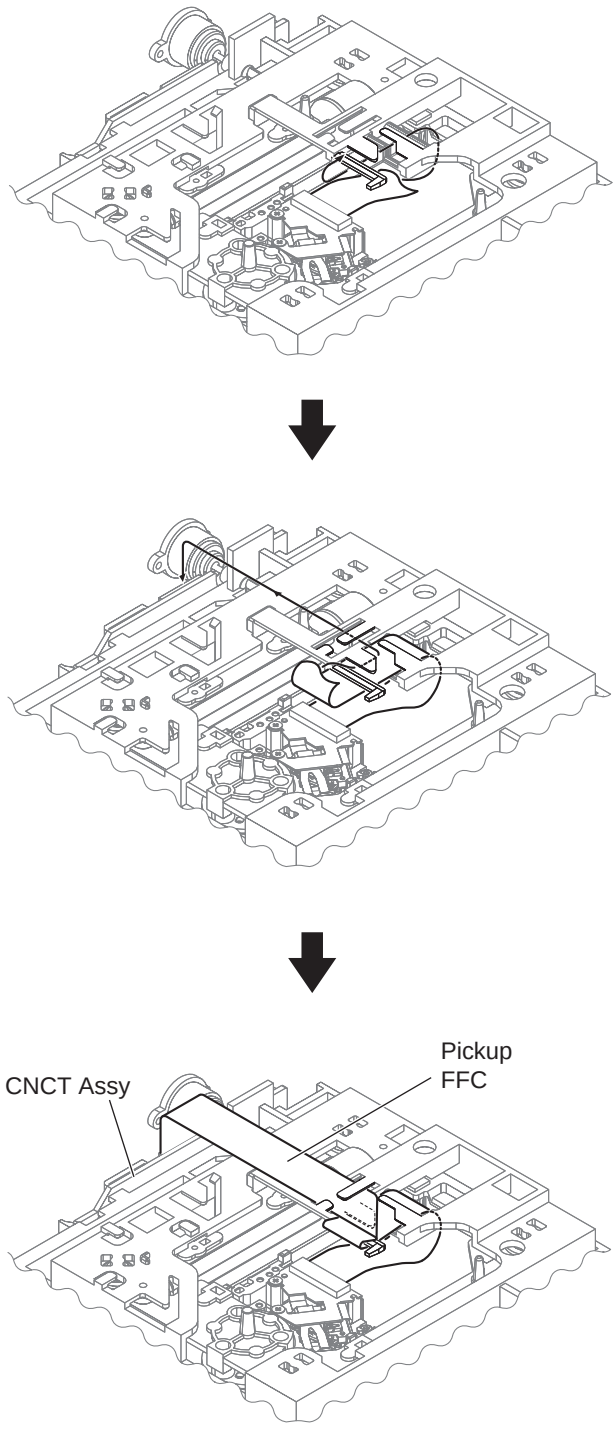
Before shipment, be sure to clean the pickup lens,
using the following cleaning materials:

Cleaning liquid : GEM1004
Cleaning paper: GED-008

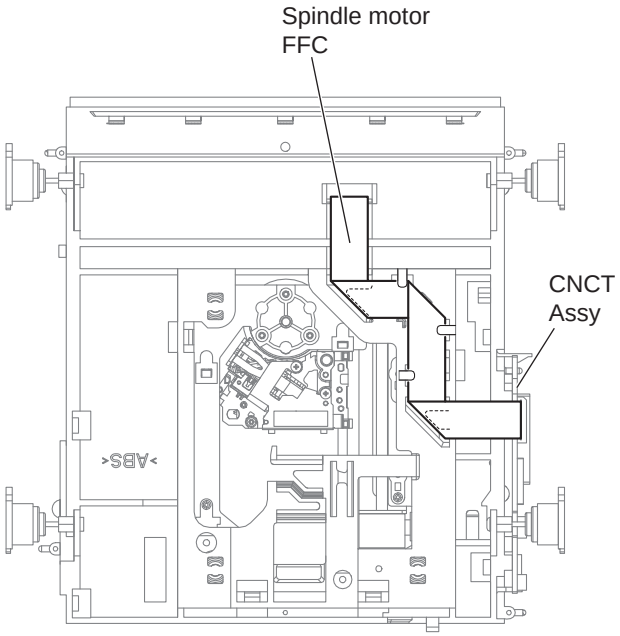


Arrangement of the FFC

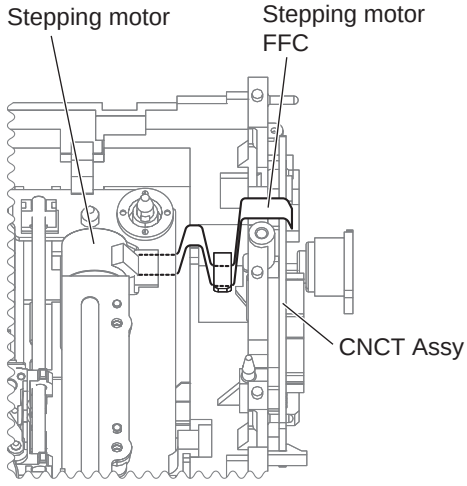
• Pickup FFC



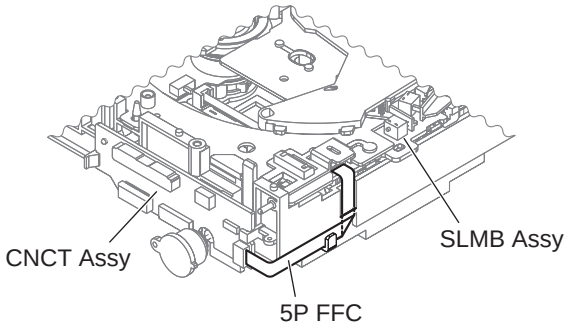
• Spindle motor FFC



• Stepping motor FFC

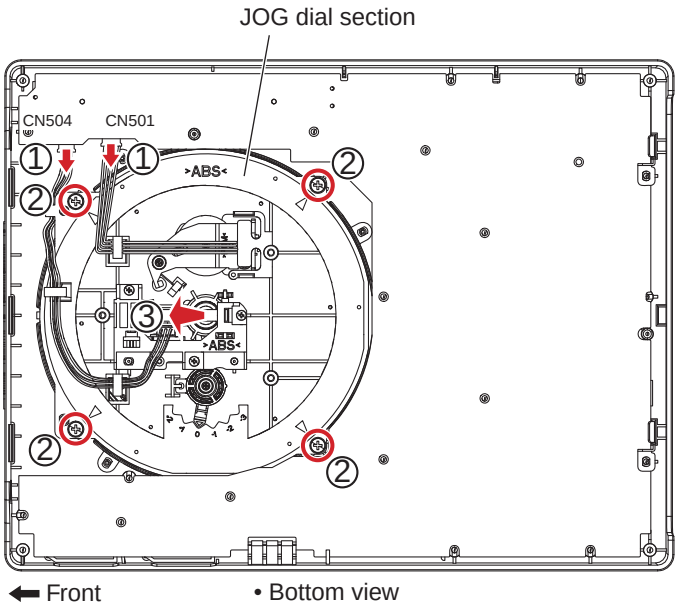


• 5P FFC



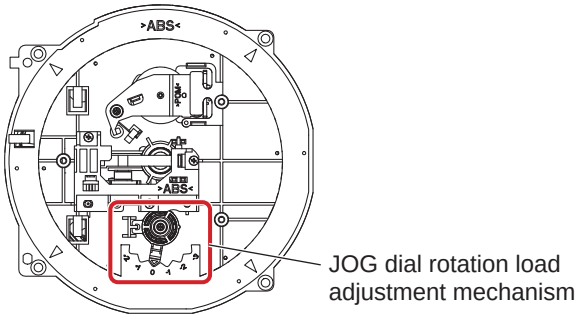
JOG Dial Section

(1) Disconnect the two connectors.
(2) Remove the four screws. (BPZ30P080FTB)
(3) Remove it while pulling JOG dial section to front side.



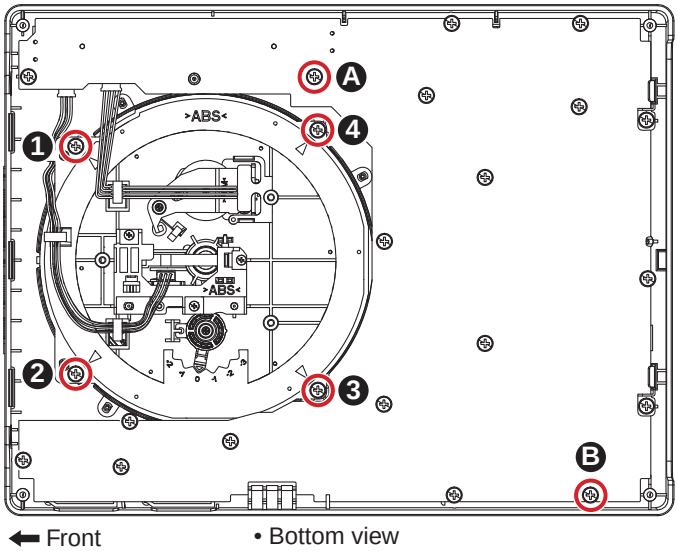
JOG Dial Rotation Load Adjustment Mechanism

About details of Adjustment etc., refer to the "8.2 JOG DIAL ROTATION LOAD ADJUSTMENT".



Screw tightening order

The other screws are random order.



8. EACH SETTING AND ADJUSTMENT

8.1 NECESSARY ITEMS TO BE NOTED

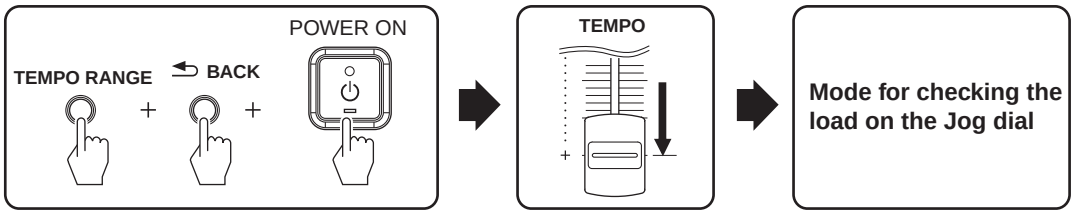
Before repairing, be sure to check the version of the firmware, and if it is not the latest one, update to the latest version.
Perform the each item when the following parts are replaced.

• MAIN Assy (Flash ROM)	⇒	• Confirmation of the version of the firmware (MAIN, DSP) • Updating to the latest version of the firmware
• Part of JOG dial section	⇒	• JOG dial rotation load adjustment

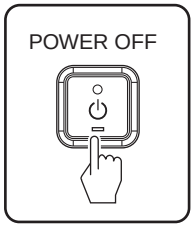
8.2 JOG DIAL ROTATION LOAD ADJUSTMENT

JOG Check Mode : ON

• It is the mode which judges the load (light/heavy) numerically when rotating the JOG dial.



JOG Check Mode : CANCEL



[Measuring method]

1. The adjustment value of the Cam plate should be adjusted to "0" (Refer to Fig. 1).
2. First, rotate the Jog dial 5 times or more. The value at this time should not be inluded in measurement.
   The actual measurement should be done after this rotation.
3. Enters the the Jog load confirmation mode.
4. Rotate the Jog dial quickly, and the direction of the rotation should be clockwise.
5. The rotational speed, time and the judgement are displayed in the FL display (Refer to Fig. 2).
   The decreasing time of the rotation speed from ×3 to ×1.5 ("the rotation decreasing time") is displayed only when the maximum speed is ×7 or more.
   Confirm that the average of 4 times of "the rotation decreasing time" is in the spec.
   Spec: 80 ± 10 msec.

   Note: This spec (80 ± 10 msec) applied to only the process to fulfill the spec of the final product (80 ± 25 msec).
5. If "the rotation decreasing time" is not in the spec, change the adjustment value of the Cam plate and do the above inspection from No. 3 to No. 4 again.

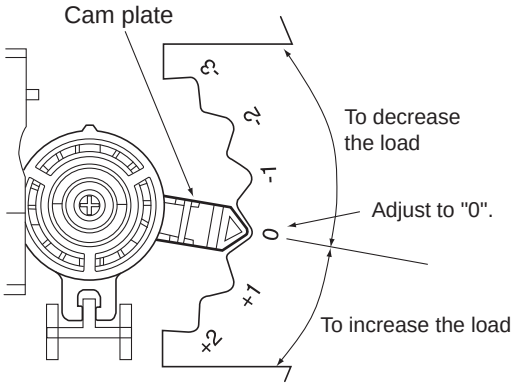


Fig. 1 Cam plate

Fig. 2 Example of displaying FL

[Load adjustment method]

If it is outside the specified range (-1, -2, -3, +1, +2) , adjust the position of the Cam plate.
-1, -2, -3 : To decrease the load
+1, +2 : To increase the load

8.3 USER SETABLE ITEMS

The following data have been set in each IC.

Item for Which User's Setting is Available	Setting Value (The factory default settings are indicated in bold.)	Part No.	Part Name	Ref No.	Assy	Content to be Stored
A. CUE LEVEL	-36 dB/-42 dB/-48 dB/ -54 dB/**-60 dB**/-66 dB/ -72 dB/-78 dB	DYW1792	Flash ROM	IC101	MAIN	UTILITY setting
MIDI CHANNEL	**1** to 16					
AUTO STANDBY	OFF/**20 min**/40 min/60 min					
LIBRARY CREATOR	**LIBRARY**/FOLDER					
VERSION No.	—					
TIME MODE	TIME/**REMAIN**	DYW1792	Flash ROM	IC101	MAIN	Statuses of keys
AUTO CUE	ON/**OFF**					
JOG MODE	CDJ/**VINYL**					
TEMPO RANGE	± 6 % / **±10 %** / ±16 % / WIDE					
MASTER TEMPO	ON/**OFF**					

8.4 UPDATING OF THE FIRMWARE

The device and updater file name for update is the following.

	Device	File Name
MAIN	MAIN CPU	C350MAIN.UPD

A version is not contained in a file name.

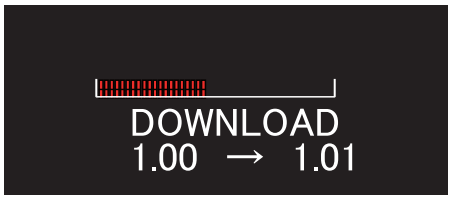
■ When USB memory is used

Please use USB memory formatted by FAT32. It does not correspond to HFS+.

① A file to update is copied to USB memory.

② Please turn on a power supply, pushing both the buttons of SOURCE SELECT/USB and RELOOP.
(Please continue pushing until "DOWNLOAD" screen appears.)

③ The FL is displayed the following screen during update.
In the display example, show it is updating to 1.01 from Ver. 1.00.



④ Since the message of "COMPLETE" will be displayed if update is completed,
please return on a power supply.

■ When CD-R/RW is used

① A file to update is copied to CD-R/RW.

② Please turn on a power supply, pushing both the buttons of SOURCE SELECT/DISC and RELOOP.
(Please continue pushing until "DOWNLOAD" screen appears.)

③ The rest is the same as that of the case where USB memory is used.

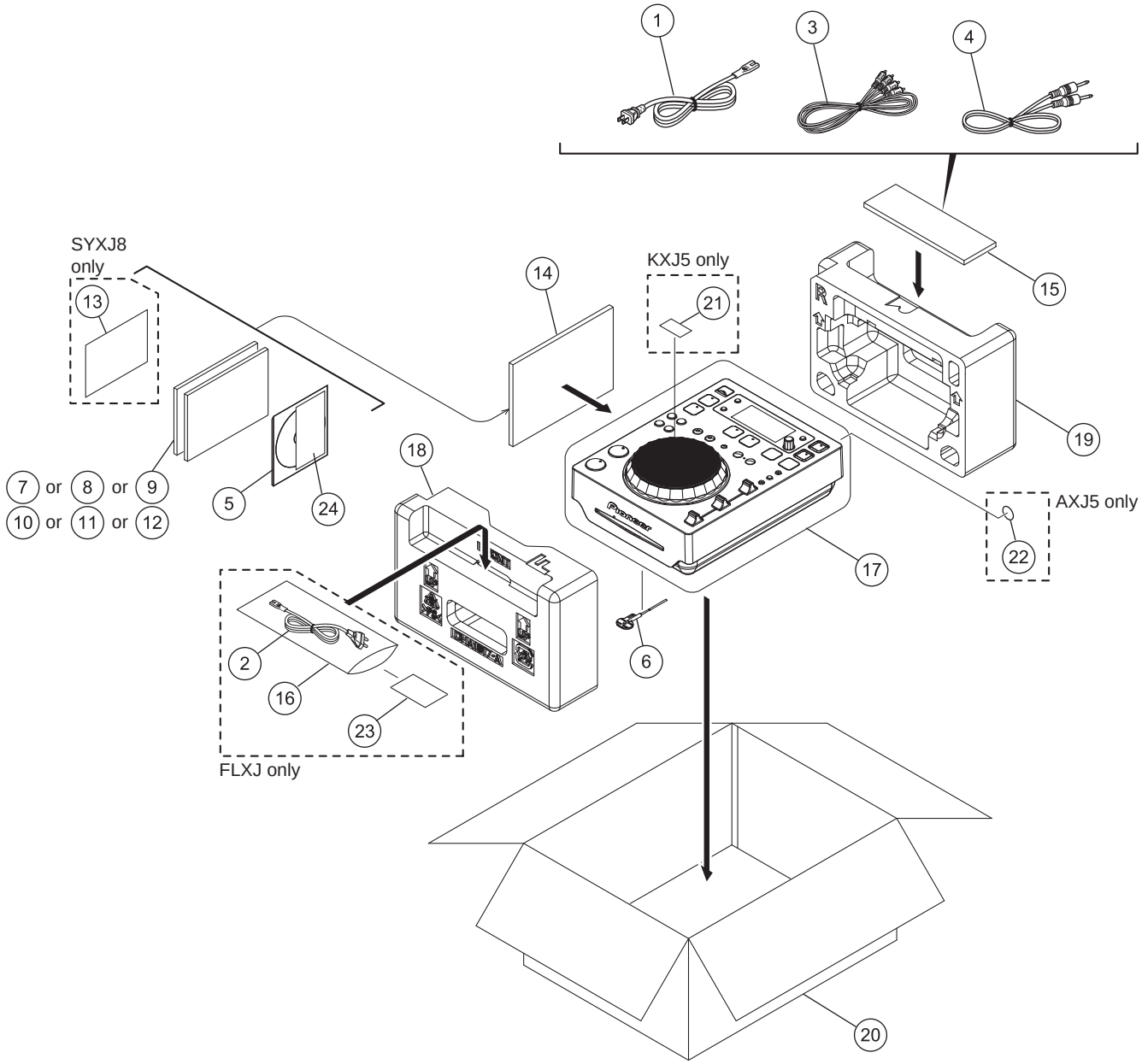
■ Recovery when failing

When the power supply has been turned off on the way, subsequent normal operation becomes impossible.
When the error code of "E-7024" is displayed, the recovery mode operates when performing the update procedure mentioned above again, and update is performed.
In this case, please carry out by USB memory in recovery. CD-ROM cannot be used.

9. EXPLODED VIEWS AND PARTS LIST

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

9.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

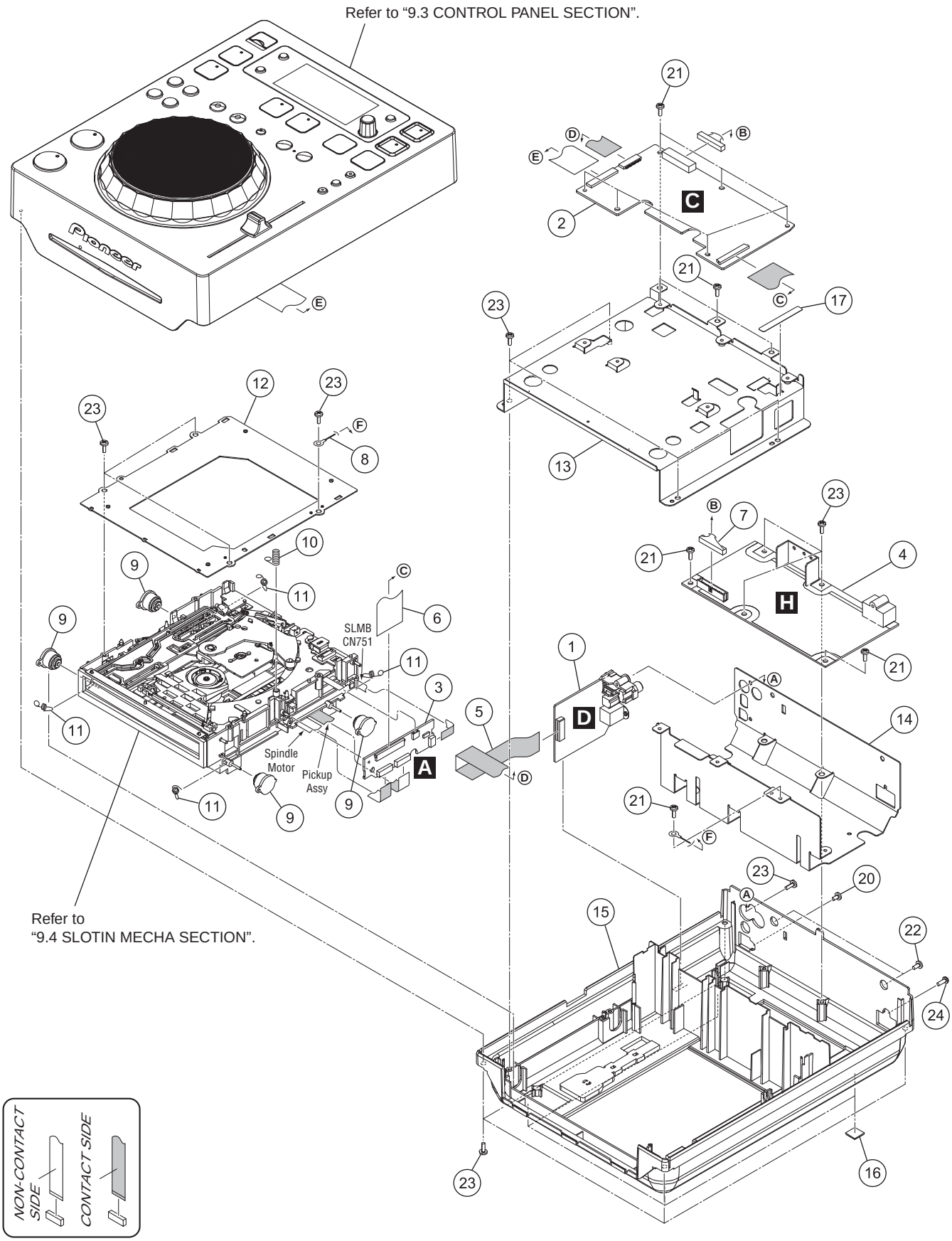
Mark	No.	Description	Part No.
⚠	1	Power Cable	See Contrast table (2)
⚠	2	Power Cord (Taiwan)	See Contrast table (2)
	3	Audio Cable	XDE3045
	4	Control Cord	XDE3063
	5	CD-ROM (rekordbox license key attached)	DXX2653
	6	Disc Force Eeject Pin (mounted on bottom of product)	DEX1008
	7	Operating Instructions	See Contrast table (2)
	8	Operating Instructions	See Contrast table (2)
	9	Operating Instructions	See Contrast table (2)
	10	Operating Instructions)	See Contrast table (2)
	11	Operating Instructions	See Contrast table (2)
	12	Operating Instructions	See Contrast table (2)
NSP	13	Warranty Card	See Contrast table (2)
NSP	14	Polyethylene Bag	AHG7117
	15	Vinyl Bag	Z21-013
	16	Vinyl Bag	See Contrast table (2)
	17	Packing Sheet	AHG7015
	18	Pad F	See Contrast table (2)
	19	Pad R	See Contrast table (2)
	20	Packing Case	See Contrast table (2)
	21	Recycle Label (M)	See Contrast table (2)
NSP	22	CCC S & E Label	See Contrast table (2)
	23	Caution Card SB	See Contrast table (2)
NSP	24	License Key Label Assy	DXA2190

(2) CONTRAST TABLE

CDJ-350/SYXJ8, CUXJ, FLXJ, KXJ5 and AXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	CDJ-350 /SYXJ8	CDJ-350 /CUXJ	CDJ-350 /FLXJ	CDJ-350 /KXJ5	CDJ-350 /AXJ5
⚠	1	Power Cable	ADG1154	ADG7022	ADG1154	XDG3054	ADG7079
⚠	2	Power Cord (Taiwan)	Not used	Not used	ADG7097	Not used	Not used
	7	Operating Instructions (En, Fr, De)	DRB1508	Not used	Not used	Not used	Not used
	8	Operating Instructions (It, Nl, Es, Ru)	DRB1534	Not used	Not used	Not used	Not used
	9	Operating Instructions (En, Fr)	Not used	DRB1507	Not used	Not used	Not used
	10	Operating Instructions (En, Es, Zhtw)	Not used	Not used	DRB1509	Not used	Not used
	11	Operating Instructions (Ko)	Not used	Not used	Not used	DRB1511	Not used
	12	Operating Instructions (Zhcn, En)	Not used	Not used	Not used	Not used	DRB1510
NSP	13	Warranty Card	ARY7107	Not used	Not used	Not used	Not used
	16	Vinyl Bag	Not used	Not used	Z21-013	Not used	Not used
	18	Pad F	DHA1817	DHA1817	DHA1817	DHA1819	DHA1817
	19	Pad R	DHA1818	DHA1818	DHA1818	DHA1820	DHA1818
	20	Packing Case	DHG2957	DHG2958	DHG2960	DHG2962	DHG2961
	21	Recycle Label (M)	Not used	Not used	Not used	DRW2307	Not used
NSP	22	CCC S & E Label	Not used	Not used	Not used	Not used	DRW2310
	23	Caution Card SB	Not used	Not used	ARM7064	Not used	Not used

9.2 EXTERIOR SECION



(1) EXTERIOR SECTION PARTS LIST

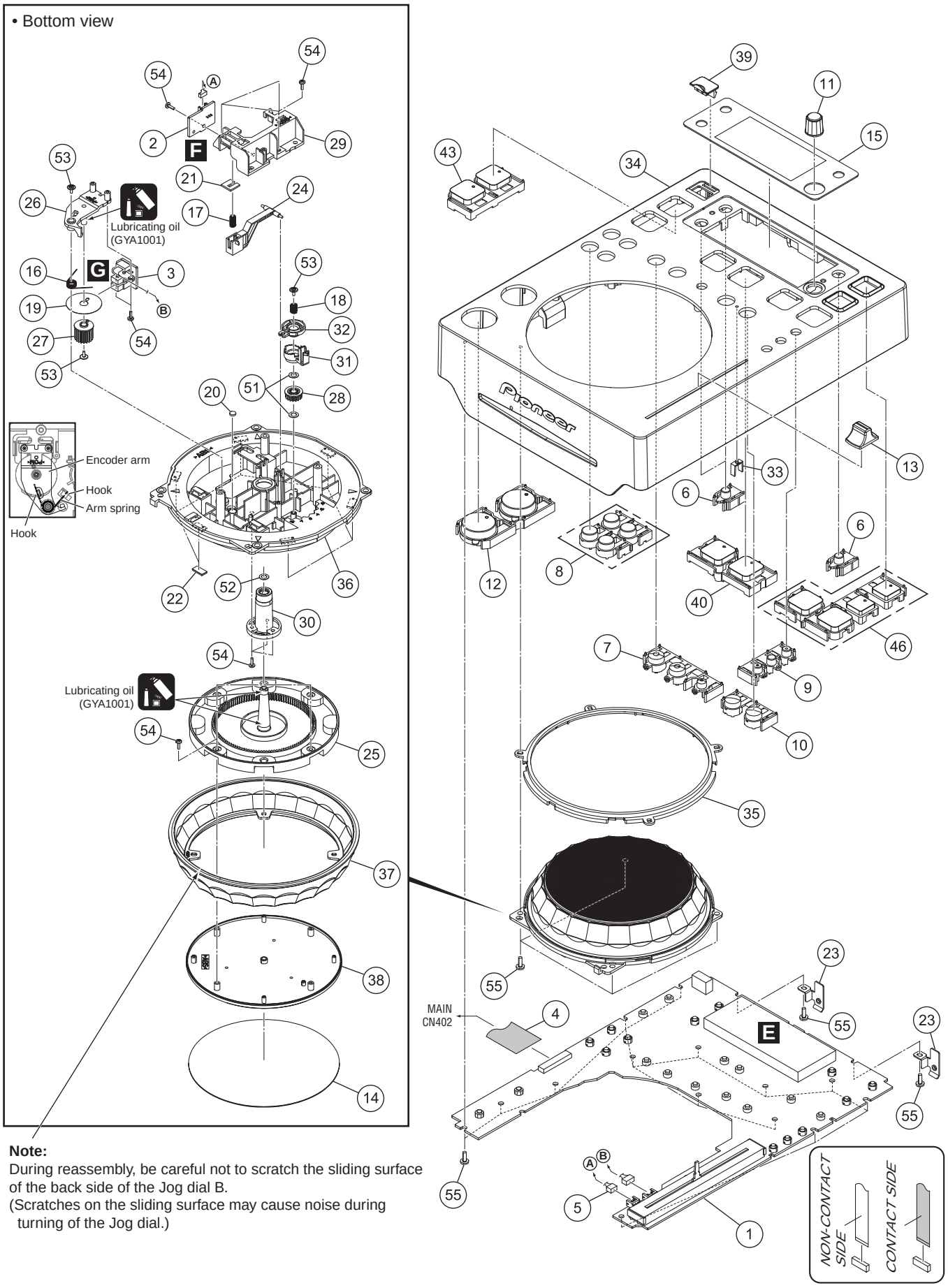
Mark	No.	Description	Part No.
	1	JACK Assy	DWX3107
	2	MAIN Assy	DWX3105
	3	CNCT Assy	DWX3111
⚠	4	SMPS Assy	See Contrast table (2)
	5	17P FFC	DDD1494
	6	50P FFC	DDD1536
	7	Connector Assy 13P	DKP3865
	8	Earth Lead wire	DE007VE0
	9	Damper	CNV6011
	10	Earth Spring	DBH1398
	11	Float Spring (G5)	DBH1494
	12	Mecha Plate	DNH2642
	13	Main PCB Stay	DNH2914
	14	Rear Chassis	DNH2915
⚠NSP	15	Chassis	See Contrast table (2)
	16	Rubber Foot	VEB1349
NSP	17	P. U. Caution Label	DRW2448
	18	• • • • •	
	19	• • • • •	
	20	Screw (M3 x 5)	DBA1340
	21	Screw	ABZ30P060FTC
	22	Screw	BBZ30P060FTB
	23	Screw	BPZ30P080FTB
	24	Screw	PPZ30P080FTB

(2) CONTRAST TABLE

CDJ-350/SYXJ8, CUXJ, FLXJ, KXJ5 and AXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	CDJ-350 /SYXJ8	CDJ-350 /CUXJ	CDJ-350 /FLXJ	CDJ-350 /KXJ5	CDJ-350 /AXJ5
⚠	4	SMPS Assy	DWR1482	DWR1481	DWR1482	DWR1482	DWR1482
⚠ NSP	15	Chassis	DNK5576	DNK5780	DNK5781	DNK5784	DNK5782

9.3 CONTROL PANEL SECTION

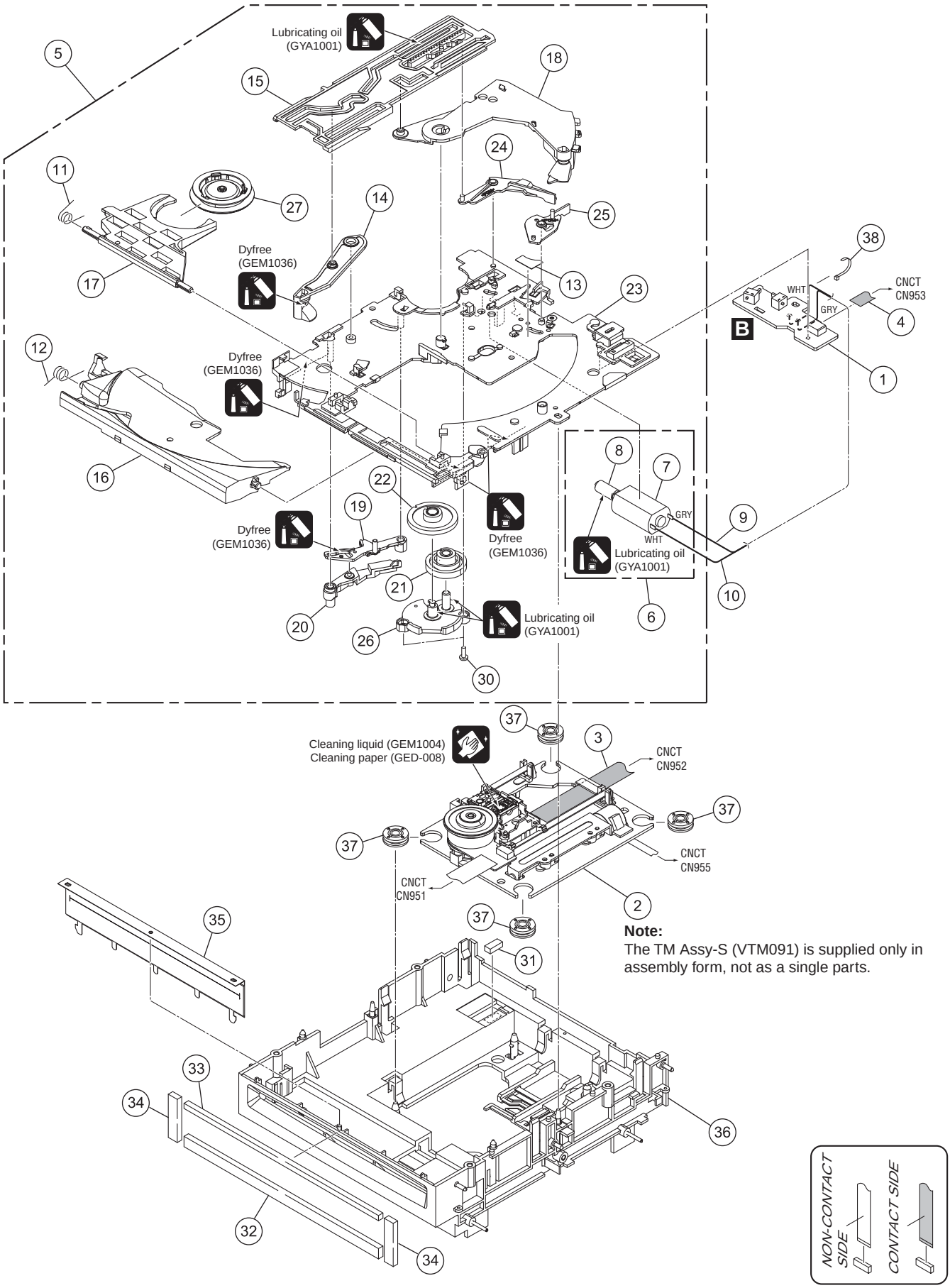


Note:
During reassembly, be careful not to scratch the sliding surface of the back side of the Jog dial B.
(Scratches on the sliding surface may cause noise during turning of the Jog dial.)

CONTROL PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	PNLB Assy	DWX3106
	2	TCHB Assy	DWX3109
	3	JOGB Assy	DWX3124
	4	27P FFC	DDD1537
	5	Connector Assy	PF03PP-B17
	6	Display Button	DAC2574
	7	Loop Button	DAC2575
	8	Search Button	DAC2576
	9	Vinyl Tempo Button	DAC2577
	10	Beat Loop Button	DAC2578
	11	Dial Knob	DAC2579
	12	Play Button	DAC2580
	13	Slide Knob	DAC2594
	14	Jog Plate	DAH2775
	15	Display Panel	DAH2789
	16	Arm Spring	DBH1612
	17	Lever Spring	DBH1726
	18	Load Spring	DBH1727
	19	Encorder Plate	DEC2889
	20	Lever Cushion (A)	DEC3001
	21	Lever Cushion (B)	DEC3002
	22	Slide Sheet	DEC3227
	23	Ground Holder	DNH2917
	24	Jog Lever	DNK4763
	25	Jog Shaft	DNK4934
	26	Encorder Arm	DNK4936
	27	Encorder Gear	DNK4937
	28	Load Gear	DNK5178
	29	Lever Holder	DNK5206
	30	Shaft Holder	DNK5514
	31	Cam Plate	DNK5546
	32	Push Plate	DNK5547
	33	Beat Loop Lens	DNK5548
⚠	34	Control Panel	DNK5549
	35	Color Ring A	DNK5550
	36	Jog Holder	DNK5552
	37	Jog Dial B	DNK5571
	38	Jog Dial A	DNK5574
	39	USB Cover	DNK5657
	40	Sourse Select B Assy	DXB2063
	41	• • • • •	
	42	• • • • •	
	43	USB Stop Button Assy	DXB2064
	44	• • • • •	
	45	• • • • •	
	46	Standby Button Assy	DXB2065
	47	• • • • •	
	48	• • • • •	
	49	• • • • •	
	50	• • • • •	
	51	Washer	WA41D070D025
	52	Washer	WT32D080D050
	53	Screw (FE)	DBA1265
	54	Screw	BPZ20P060FTC
	55	Screw	BPZ30P080FTB

9.4 SLOTIN MECHA SECTION

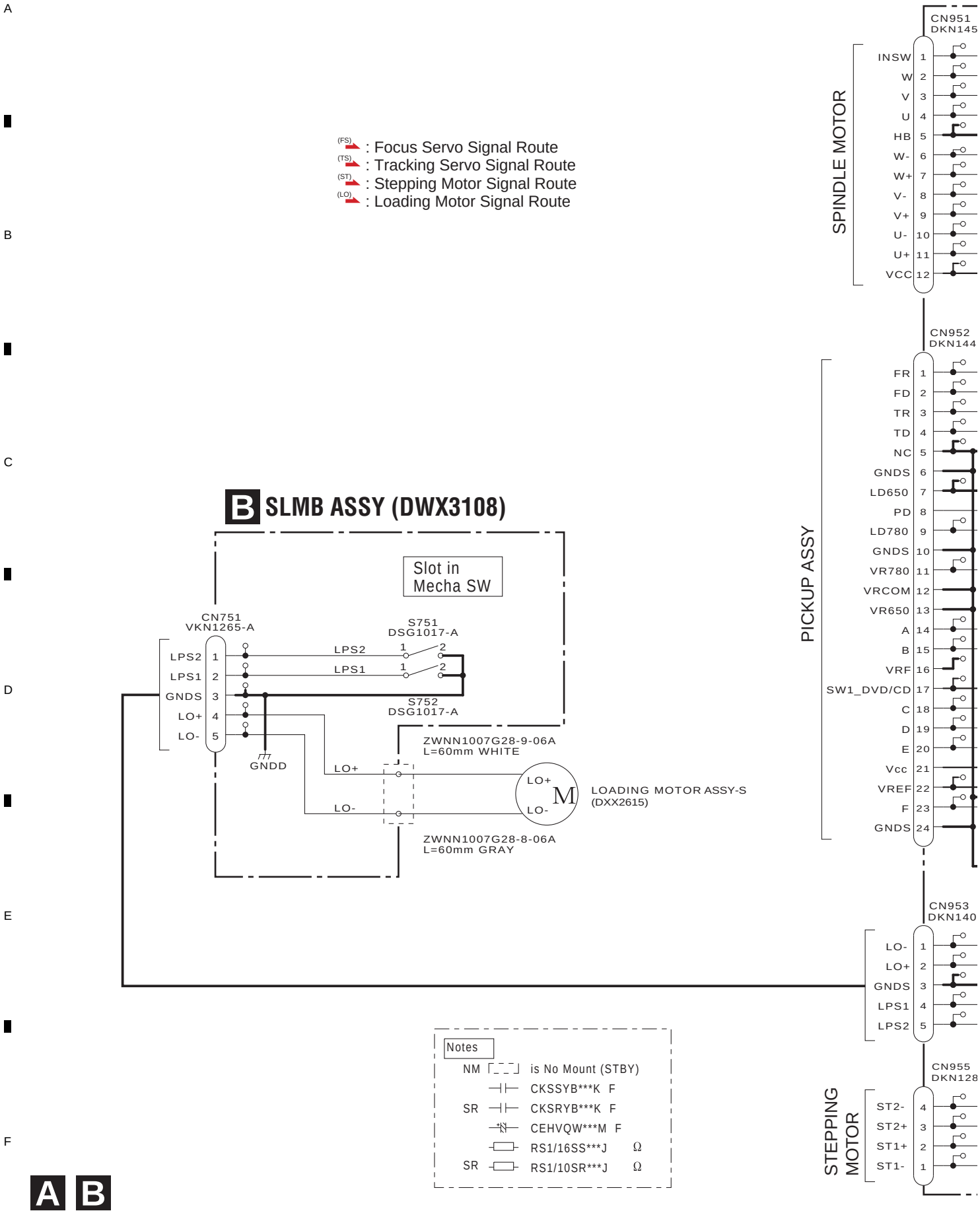


Note:
The TM Assy-S (VTM091) is supplied only in assembly form, not as a single parts.

SLOTIN MECHA SECTION PARTS LIST

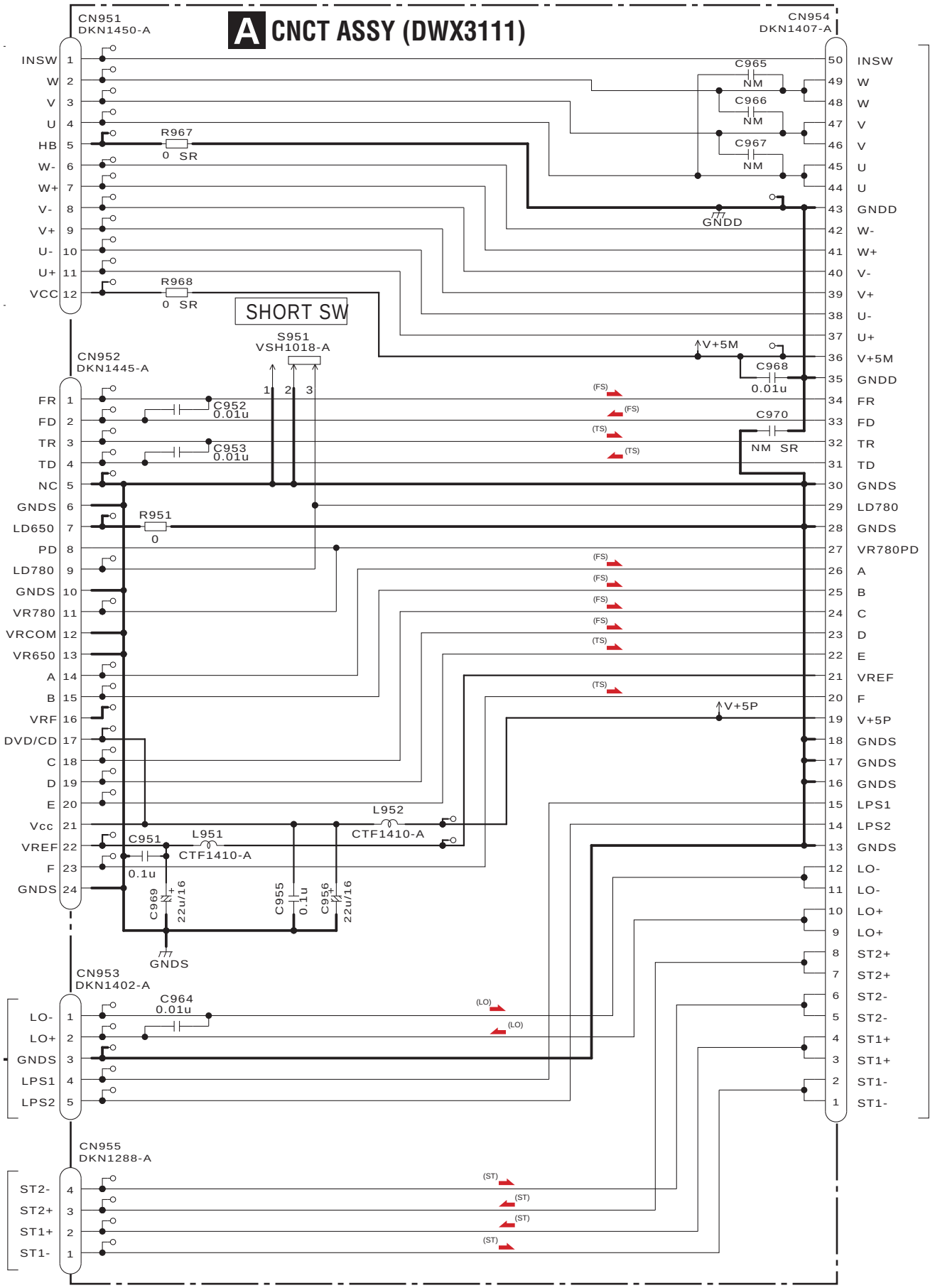
Mark	No.	Description	Part No.
	1	SLMB Assy	DWX3108
	2	TM Assy-S (VTM091)	DXX2616
	3	24P FFC	DDD1491
	4	5P FFC	DDD1492
NSP	5	SLOTIN MECHA Assy	DXA2206
	6	Loading Motor Assy-S	DXX2615
NSP	7	DC Motor	DXM1384
NSP	8	Worm Gear	DNK3910
	9	Lead Wire	ZWNN1007G28-8-06A
	10	Lead Wire	ZWNN1007G28-9-06A
	11	Clamp Spring	DBH1374
	12	Guide Spring	DBH1375
	13	SW. Lever Spacer SV	DEC2831
	14	Loading Lever	DNK3406
	15	Main Cam	DNK3407
	16	Disc Guide	DNK3478
	17	Clamp Arm	DNK3576
	18	Eject Lever	DNK3684
	19	Lever AP	DNK3835
	20	Lever BP	DNK3836
	21	Loading Gear	DNK3911
	22	Drive Gear	DNK3912
	23	Loading Base SV	DNK4369
	24	SW Lever SV1	DNK4370
	25	SW Lever SV2	DNK4371
	26	Gear Holder SV	DNK4372
	27	Clamper Assy-S	DXX2661
	28	• • • • •	
	29	• • • • •	
	30	Screw	BPZ20P060FTC
	31	Spacer POR (T3)	DEB1566
	32	Vessel Cushion A	DEC2852
	33	Vessel Cushion B	DEC2853
	34	Vessel Cushion C	DEC2854
	35	Front Sheet	DED1132
	36	Float Base 05 Assy	DXB2068
	37	Floating Rubber (SI)	VEB1351
	38	Binder	ZCA-SKB90BK

10. SCHEMATIC DIAGRAM
10.1 CNCT and SLMB ASSYS



A B

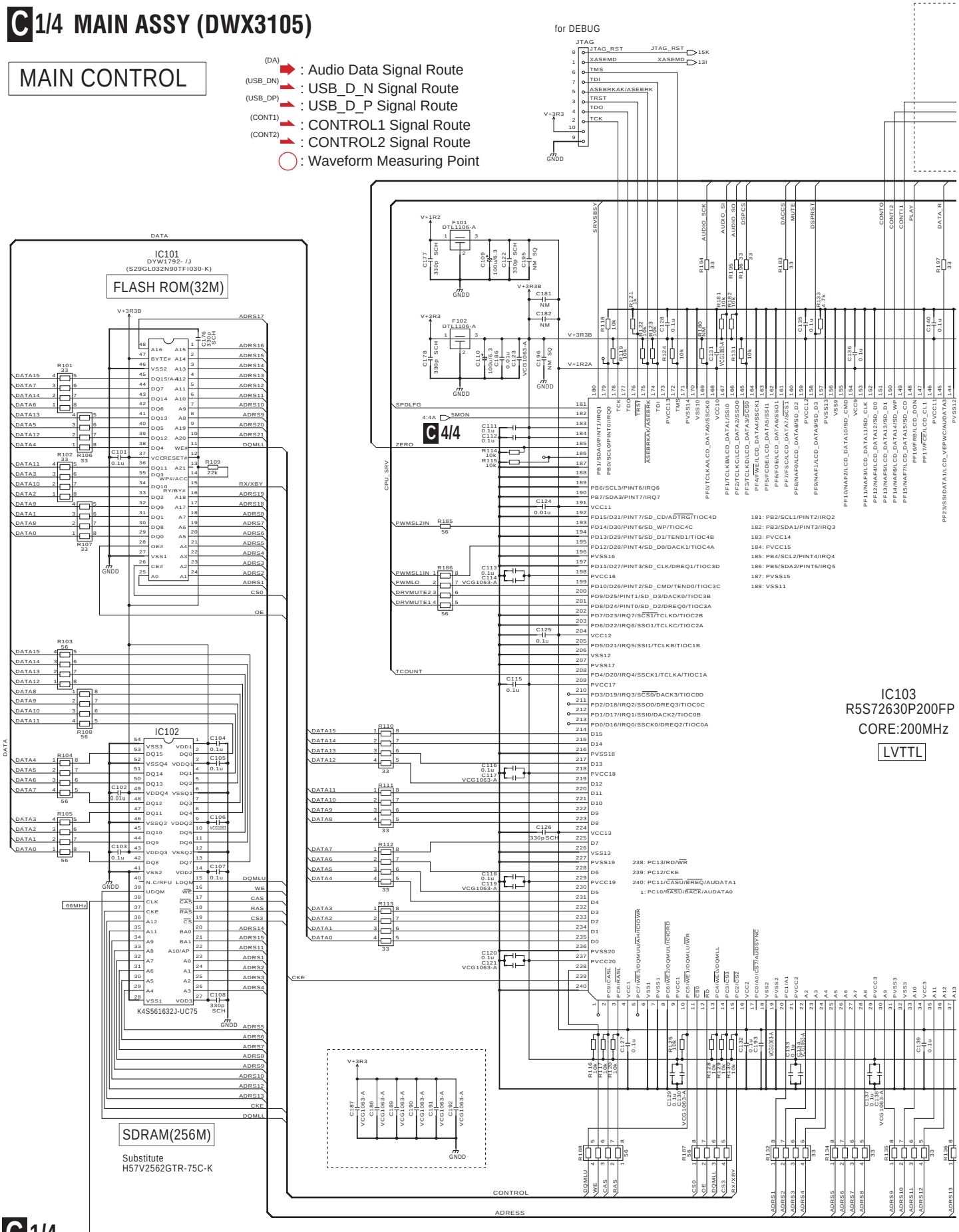
A CNCT ASSY (DWX3111)

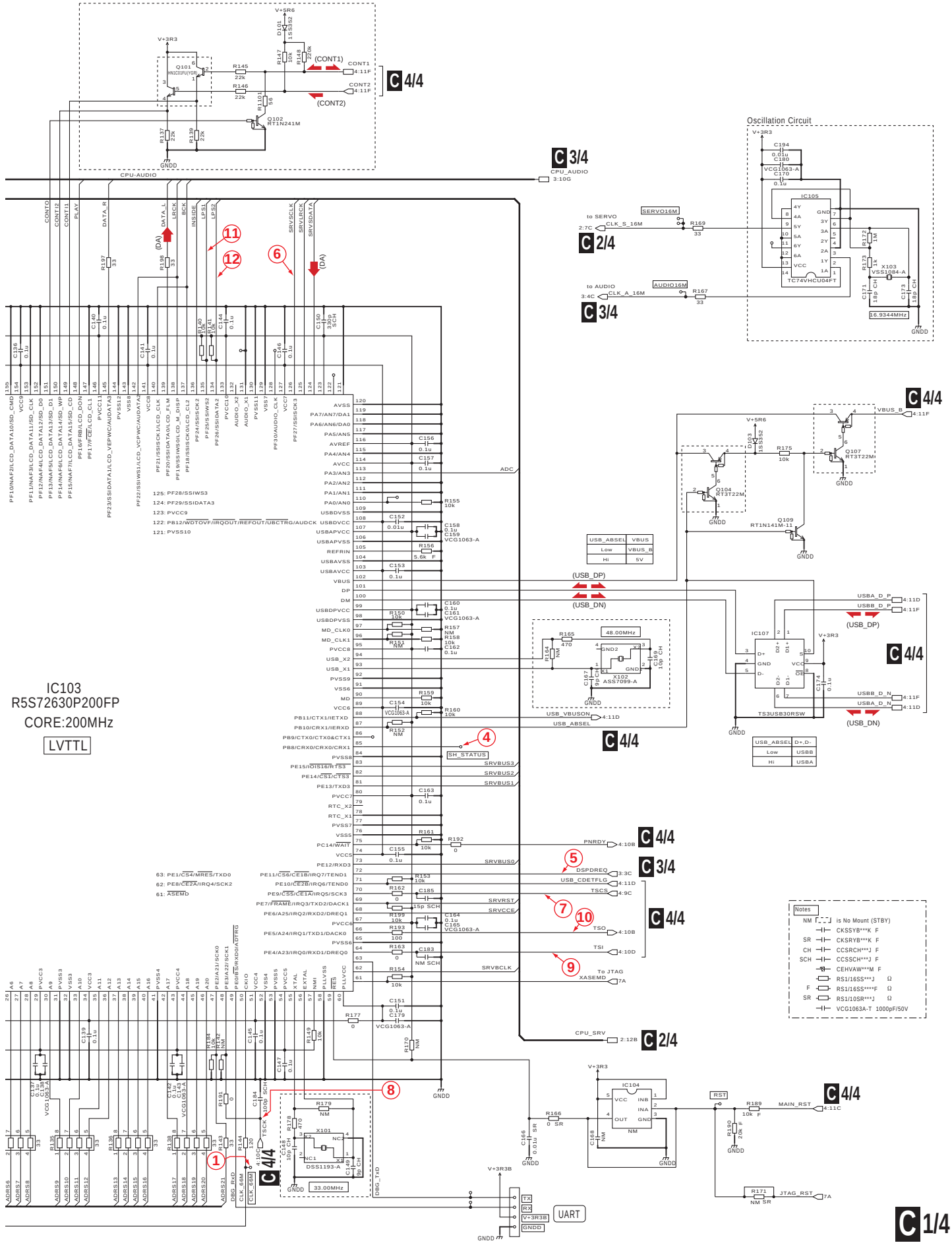


C 1/4 MAIN ASSY (DWX3105)

MAIN CONTROL

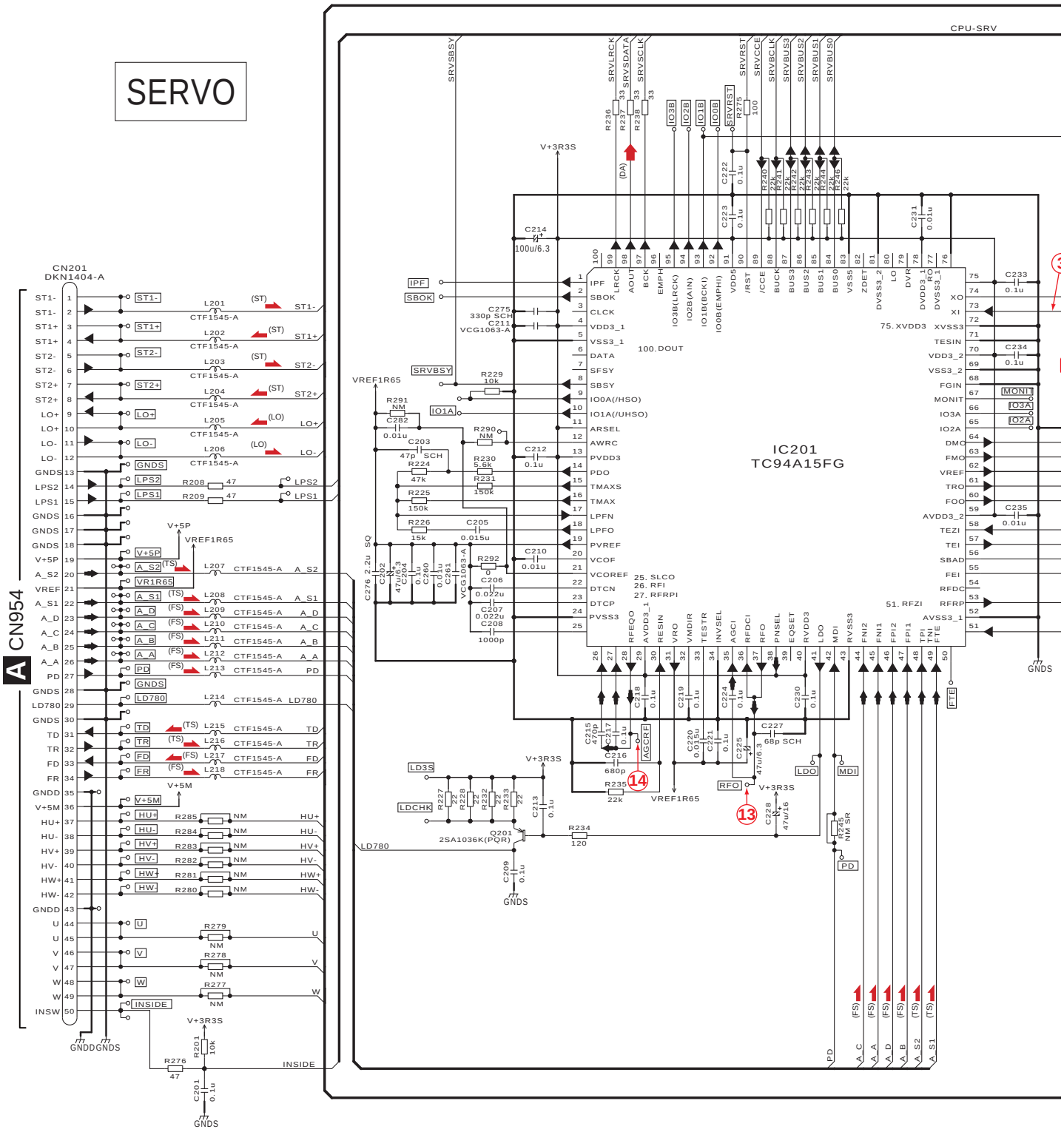
(DA) : Audio Data Signal Route
(USB_DN) : USB_D_N Signal Route
(USB_DP) : USB_D_P Signal Route
(CONT1) : CONTROL1 Signal Route
(CONT2) : CONTROL2 Signal Route
: Waveform Measuring Point




IC103
R5S72630P200FP
CORE:200MHz
LVTTL
CPU-AUDIO
Oscillation Circuit
16.9344MHz
33.00MHz
48.00MHz
SH_STATUS
UART
CDJ-350
59

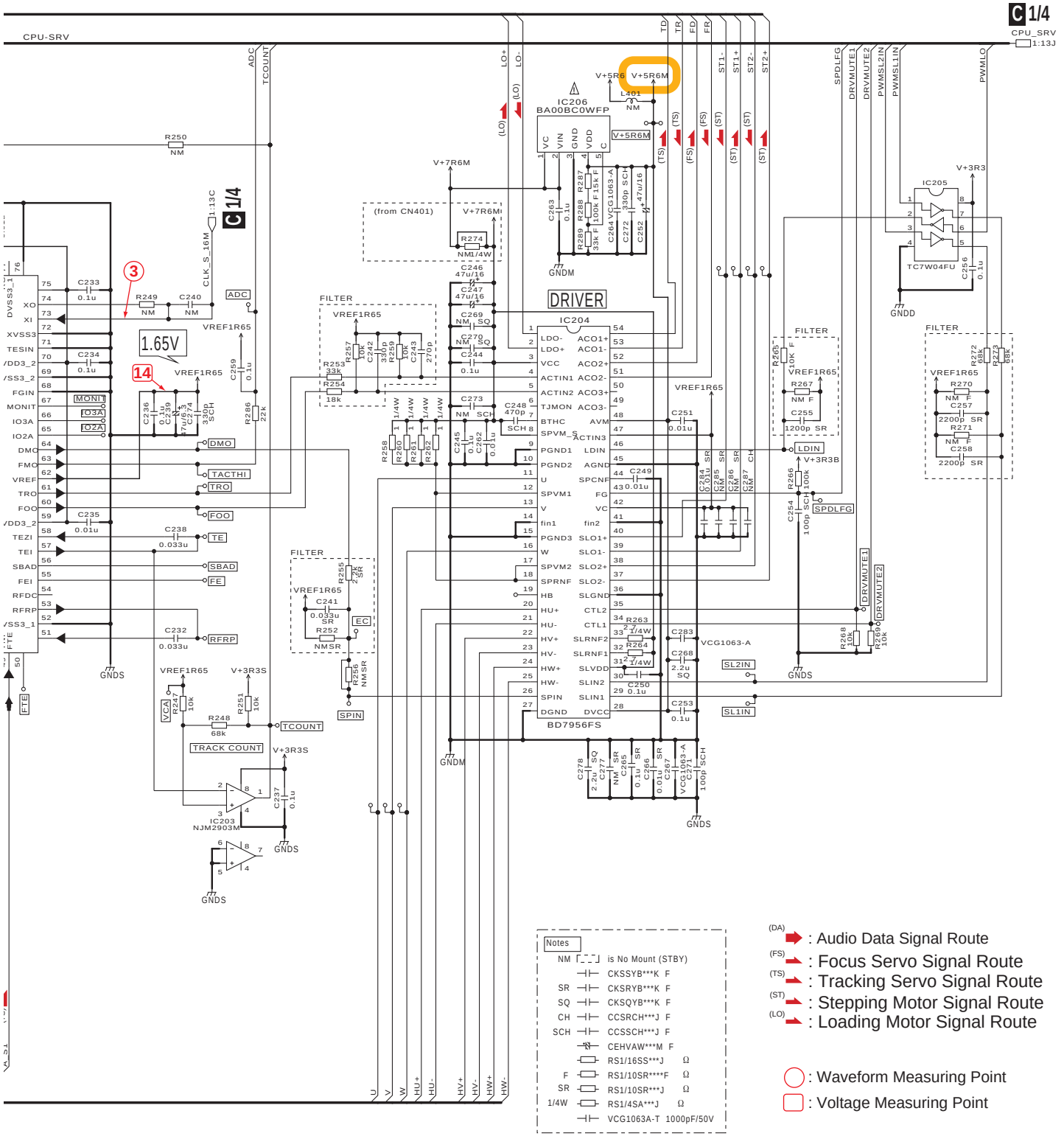
10.3 MAIN ASSY (2/4)

SERVO



C 2/4

C 2/4 MAIN ASSY (DWX3105)



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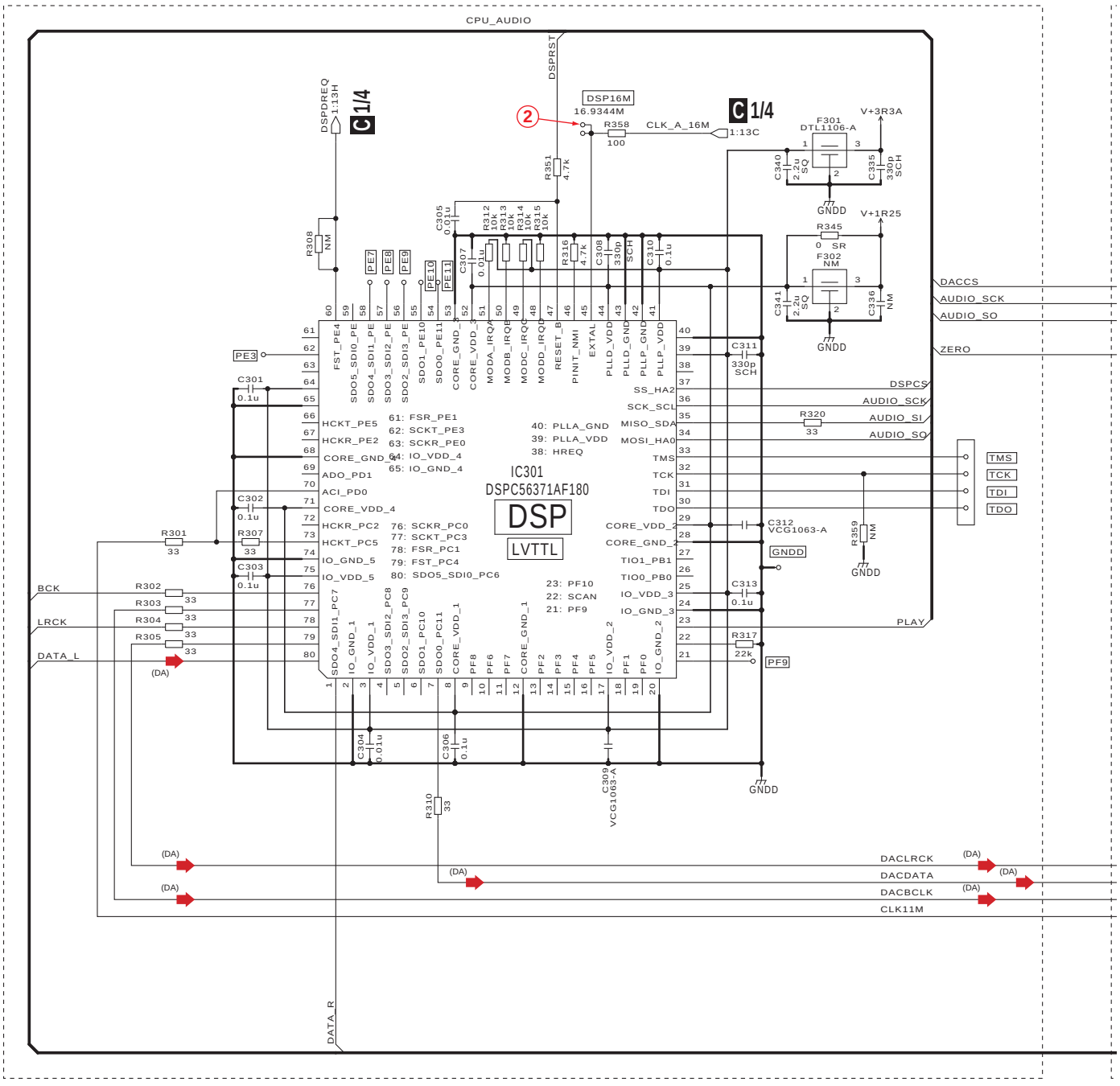
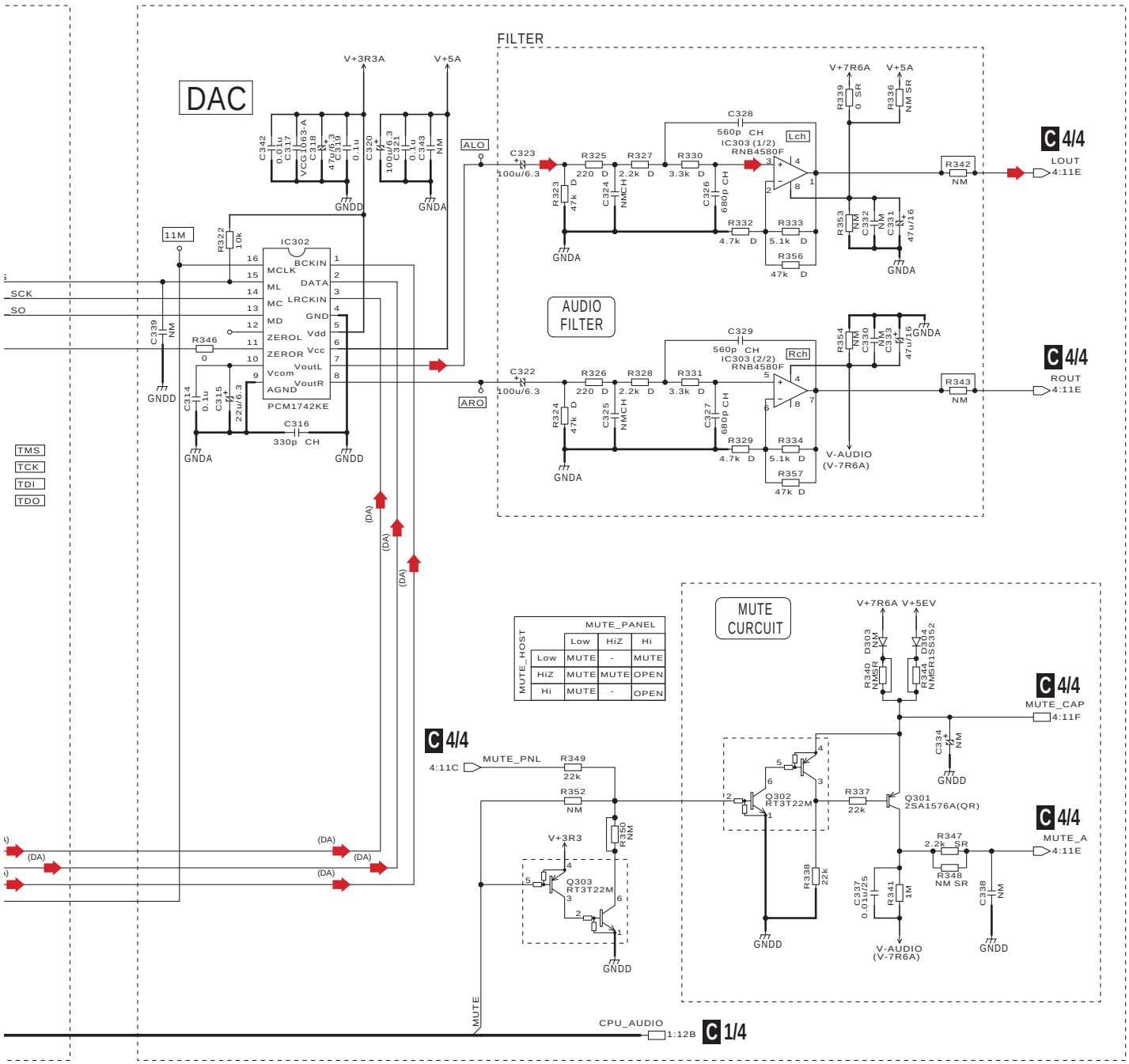
10.4 MAIN ASSY (3/4)



Notes

NM is No Mount (STBY)
CKSSYB***K F
SR CKSRYB***K F
CH CCSRCH***J F
CEHVAW***M F
RS1/16SS***J Ω
D RS1/16SS****D Ω
SR RS1/10SR***J Ω
VCG1063A-T 1000pF/50V

ANALOG OUTPUT



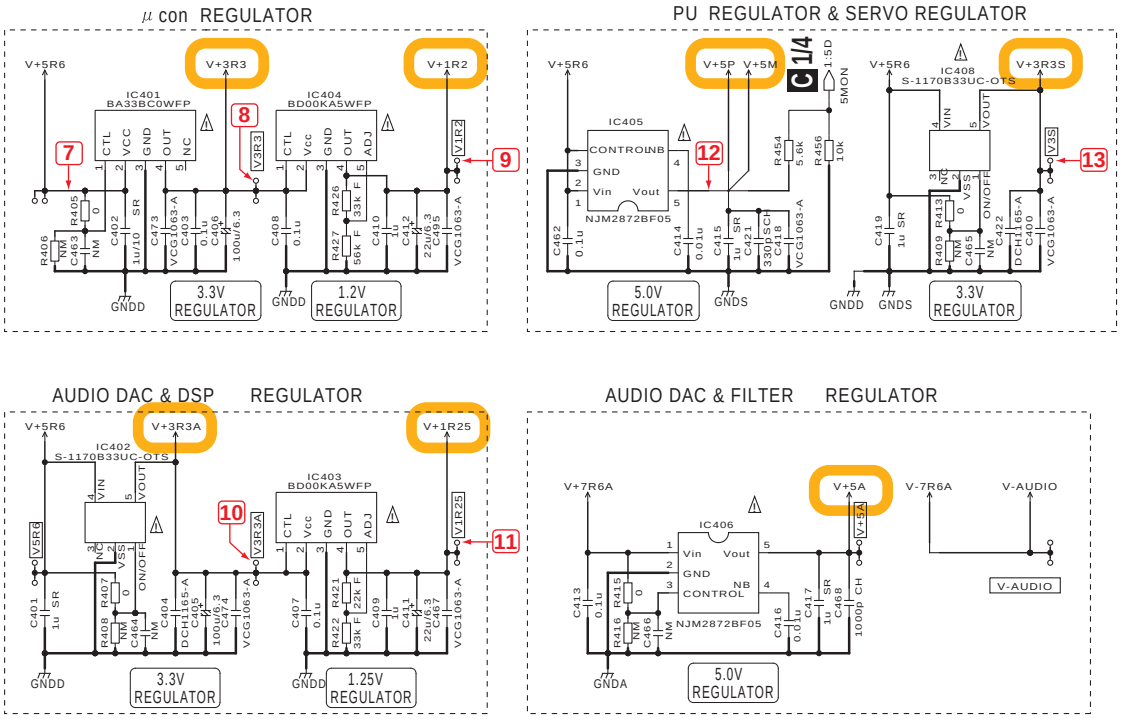
: Analog Audio Signal Route

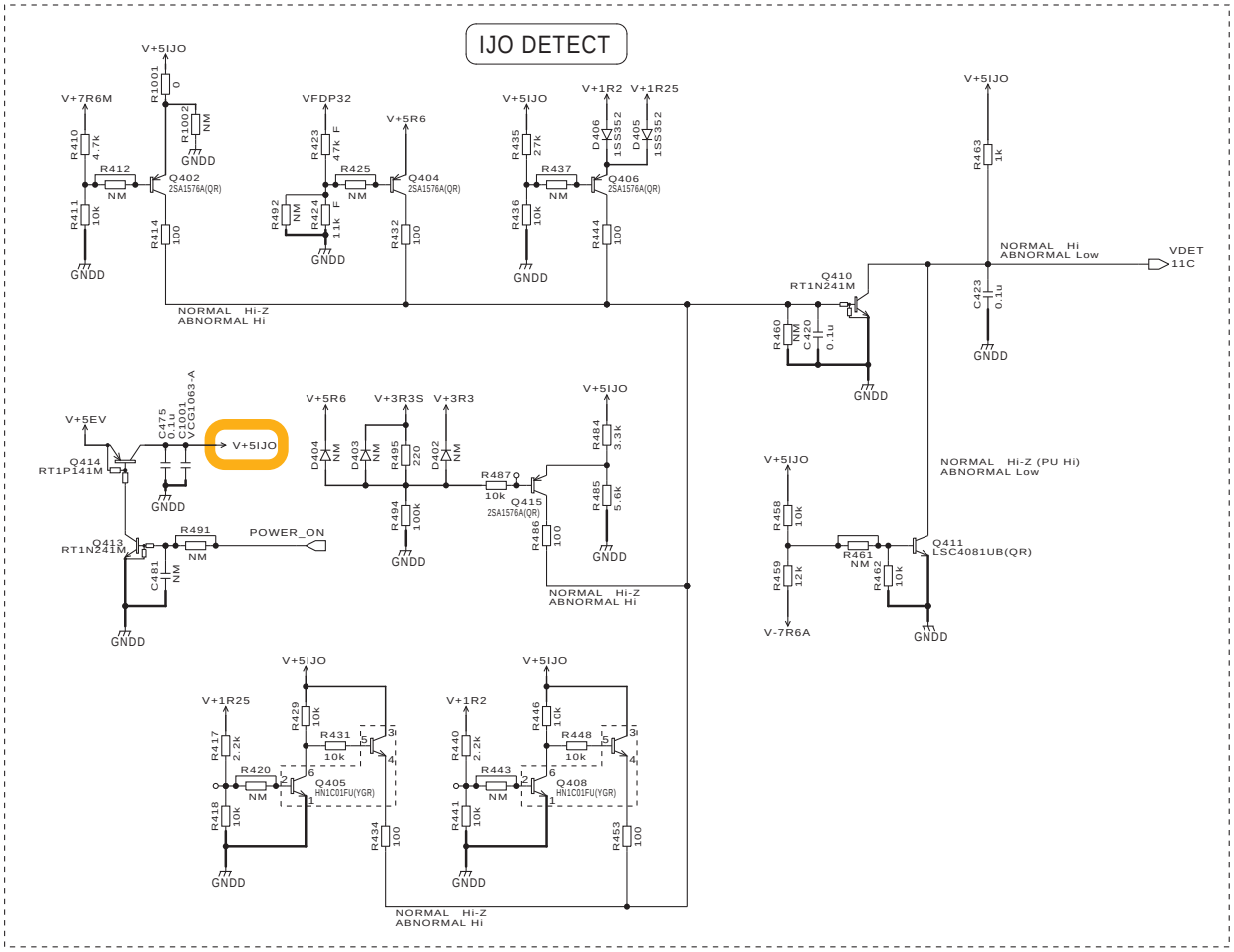
(DA) : Audio Data Signal Route

: Waveform Measuring Point

10.5 MAIN ASSY (4/4)

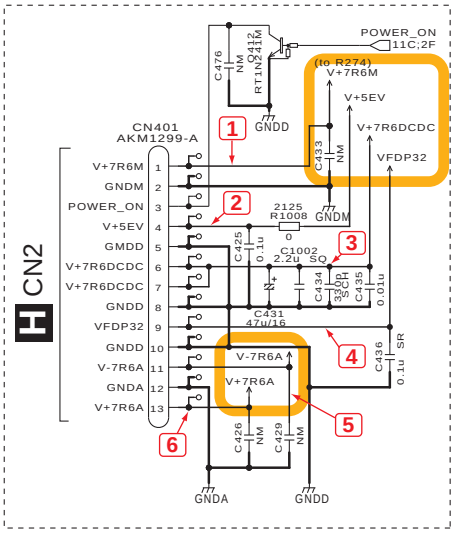
POWER SUPPLY BE & CONNECTOR

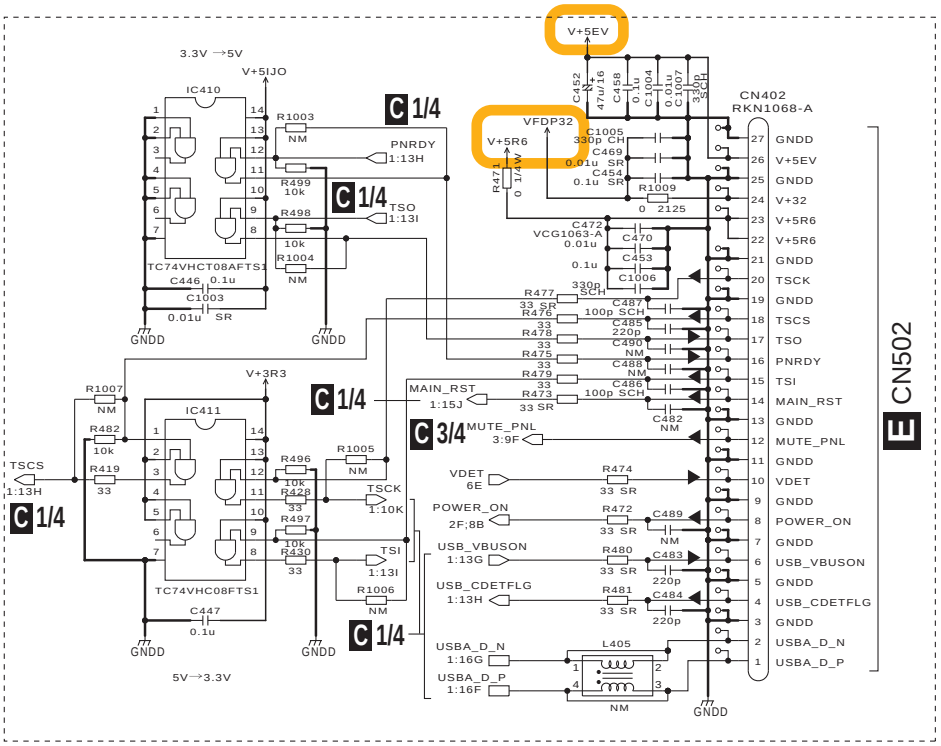


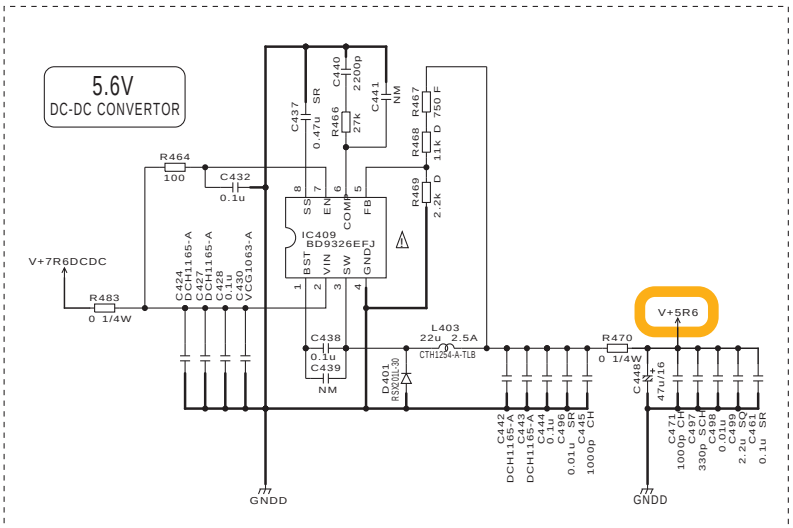


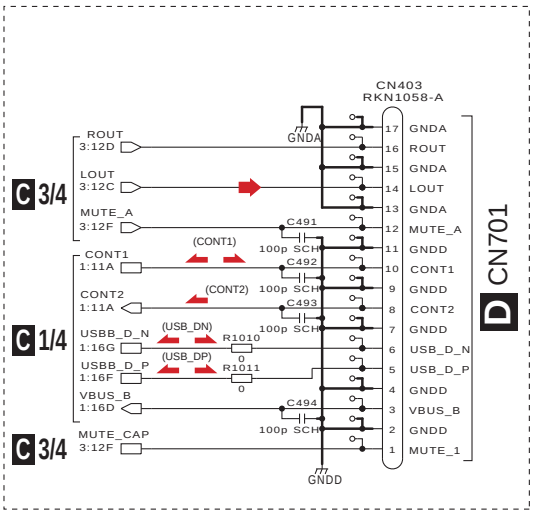
: Analog Audio Signal Route
(USB_DN) : USB_D_N Signal Route
(USB_DP) : USB_D_P Signal Route
(CONT1) : CONTROL1 Signal Route
(CONT2) : CONTROL2 Signal Route
: Voltage Measuring Point

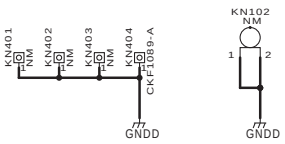
C 4/4 MAIN ASSY (DWX3105)

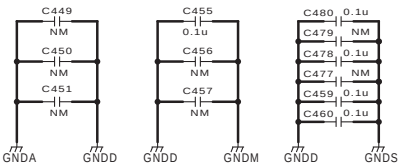












Notes

NM		is No Mount (STBY)
		CKSSYB***K F
SR		CKSRYB***K F
SQ		CKSQYB***K F
CH		CCSRCH***J F
SCH		CCSSCH***J F
		CEHVAW***M F
		RS1/16SS***J Ω
F		RS1/10SR****F Ω
SR		RS1/10SR***J Ω
1/4W		RS1/4SA***J Ω
		VCG1063A-T 1000pF/50V

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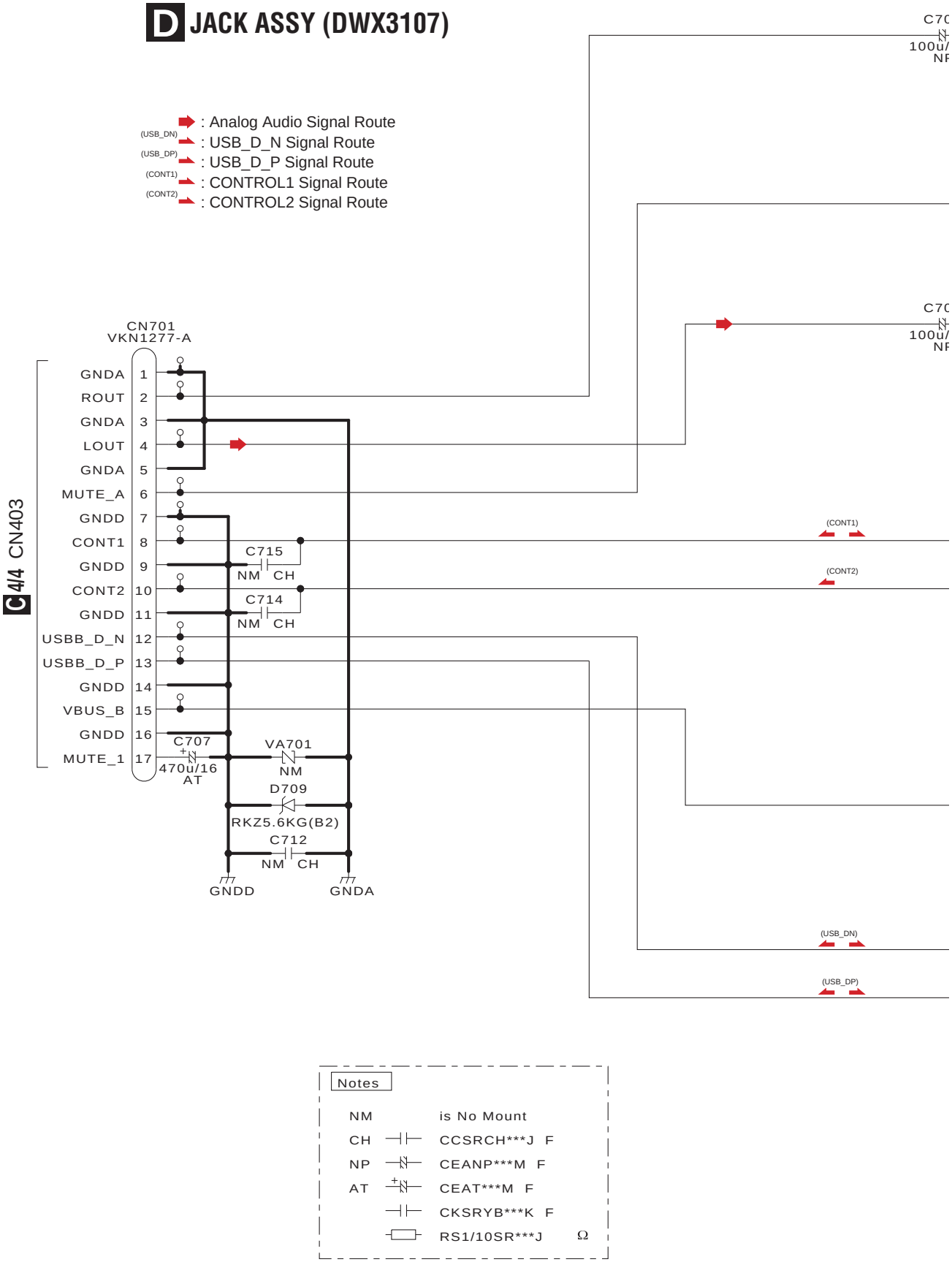
C 4/4

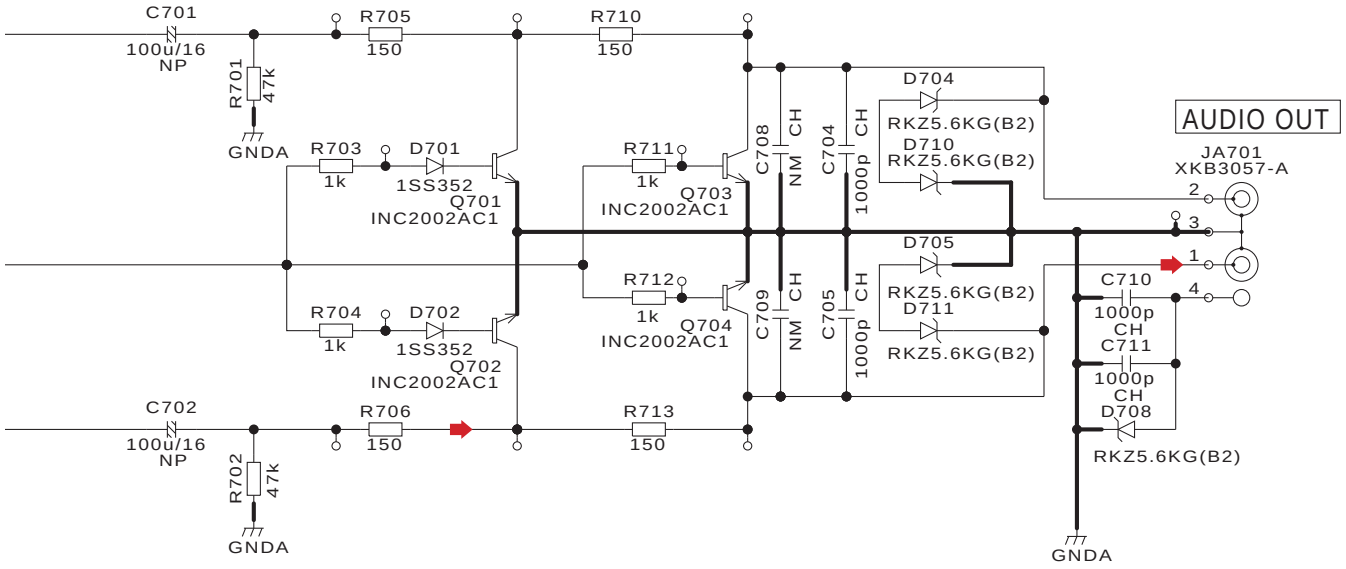
10.6 JACK ASSY

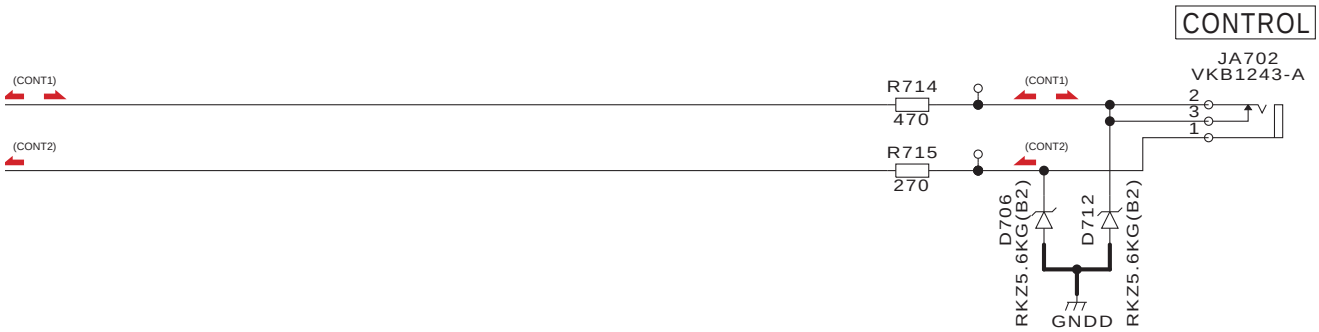
D JACK ASSY (DWX3107)

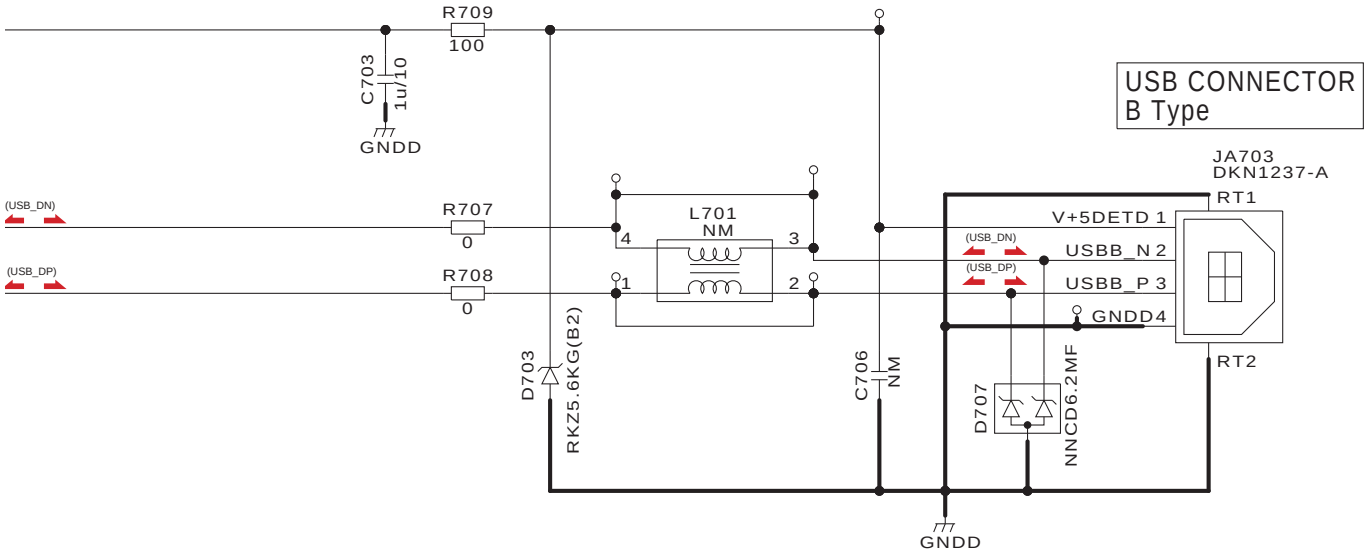


Notes

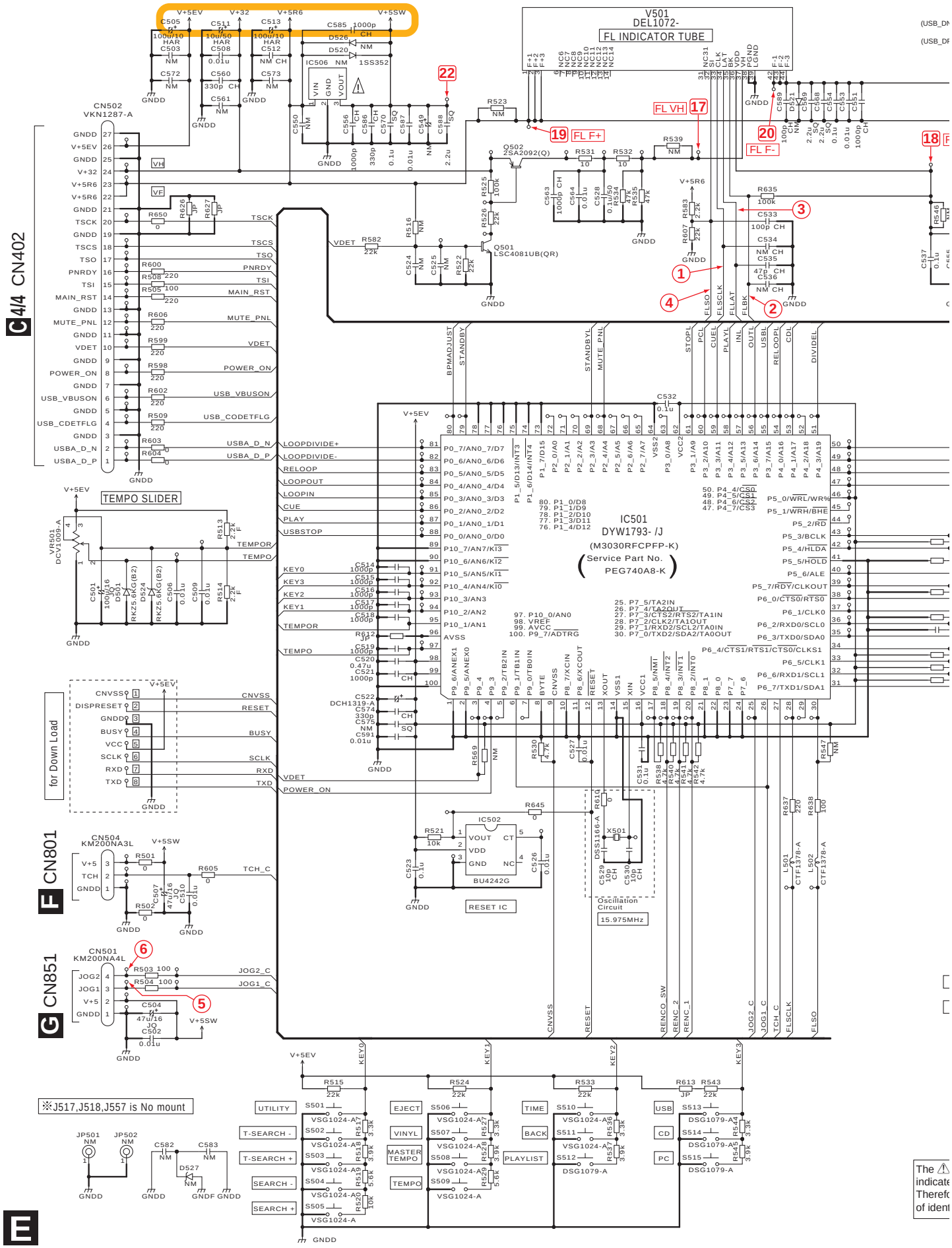
NM		is No Mount
CH	⊣⊢	CCSRCH***J F
NP	⊣⊢	CEANP***M F
AT	⊣⊢	CEAT***M F
	⊣⊢	CKSRYB***K F
	▭	RS1/10SR***J Ω


AUDIO OUT
JA701
XKB3057-A
C701
100u/16
NP
R701
47k
GNDA
R705
150
R710
150
R703
1k
D701
1SS352
Q701
INC2002AC1
R711
1k
Q703
INC2002AC1
C708
NM
CH
C704
1000p
CH
D704
RKZ5.6KG(B2)
D710
RKZ5.6KG(B2)
D705
RKZ5.6KG(B2)
D711
RKZ5.6KG(B2)
R712
1k
Q704
INC2002AC1
C709
NM
CH
C705
1000p
CH
R704
1k
D702
1SS352
Q702
INC2002AC1
C702
100u/16
NP
R702
47k
GNDA
R706
150
R713
150
C710
1000p
CH
C711
1000p
CH
D708
RKZ5.6KG(B2)
GNDA


CONTROL
JA702
VKB1243-A
(CONT1)
(CONT2)
R714
470
R715
270
D706
RKZ5.6KG(B2)
D712
RKZ5.6KG(B2)
GNDD

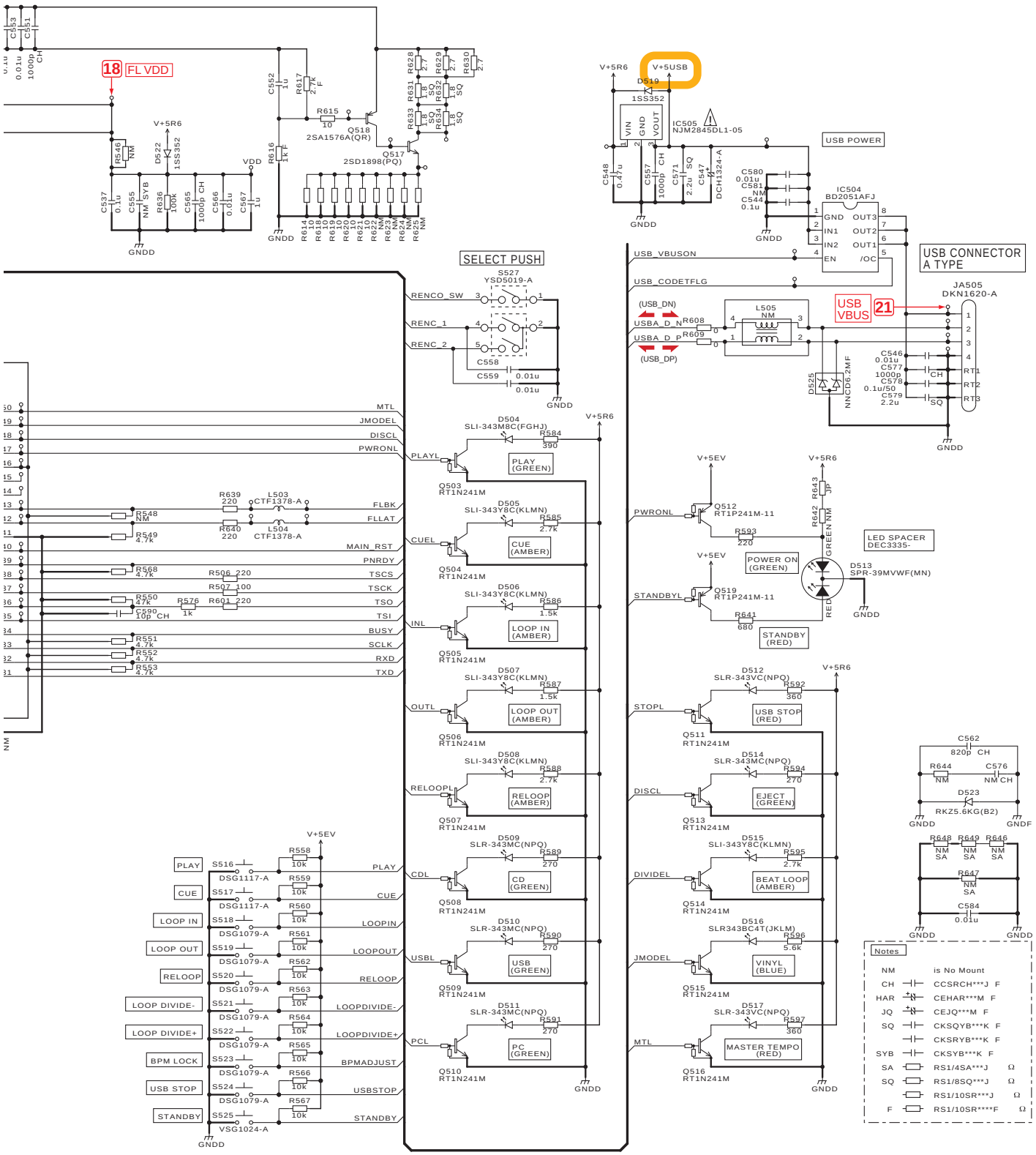

USB CONNECTOR
B Type
JA703
DKN1237-A
R709
100
C703
1u/10
GNDD
(USB_DN)
(USB_DP)
R707
0
R708
0
L701
NM
D703
RKZ5.6KG(B2)
C706
NM
D707
NNCD6.2MF
V+5DETD 1
USBB_N 2
USBB_P 3
GNDD4
RT1
RT2
GNDD

10.7 PNLB ASSY



(USB_DN) : USB_D_N Signal Route
(USB_DP) : USB_D_P Signal Route
: Waveform Measuring Point
: Voltage Measuring Point

PNLB ASSY (DWX3106)



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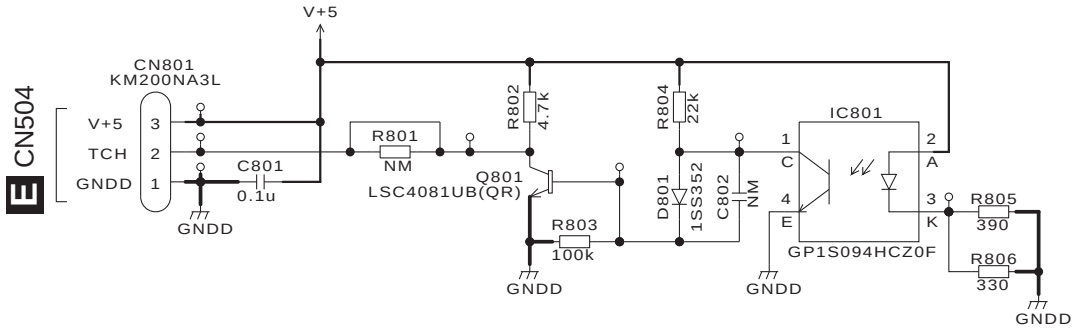
10.8 TCHB and JOGB ASSYS

F TCHB ASSY (DWX3109)



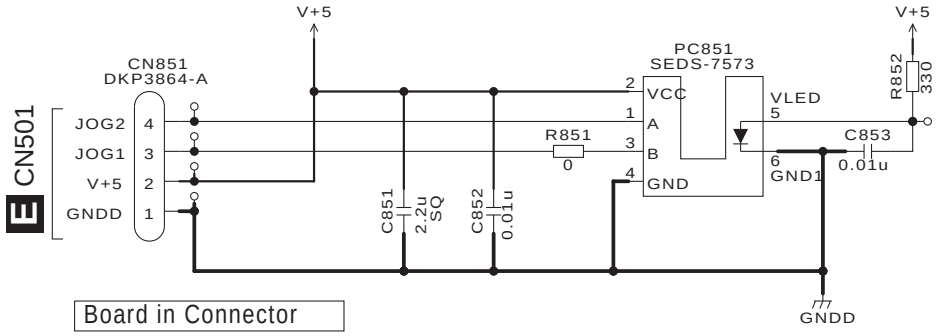
NOTES

NM is No Mount

RS1/10SR***J Ω

CKSRYB***K F

G JOGB ASSY (DWX3124)



NOTES

RS1/10SR***J Ω

CKSRYB***K F

SQ CKSQYB***K F

A

B

C

D

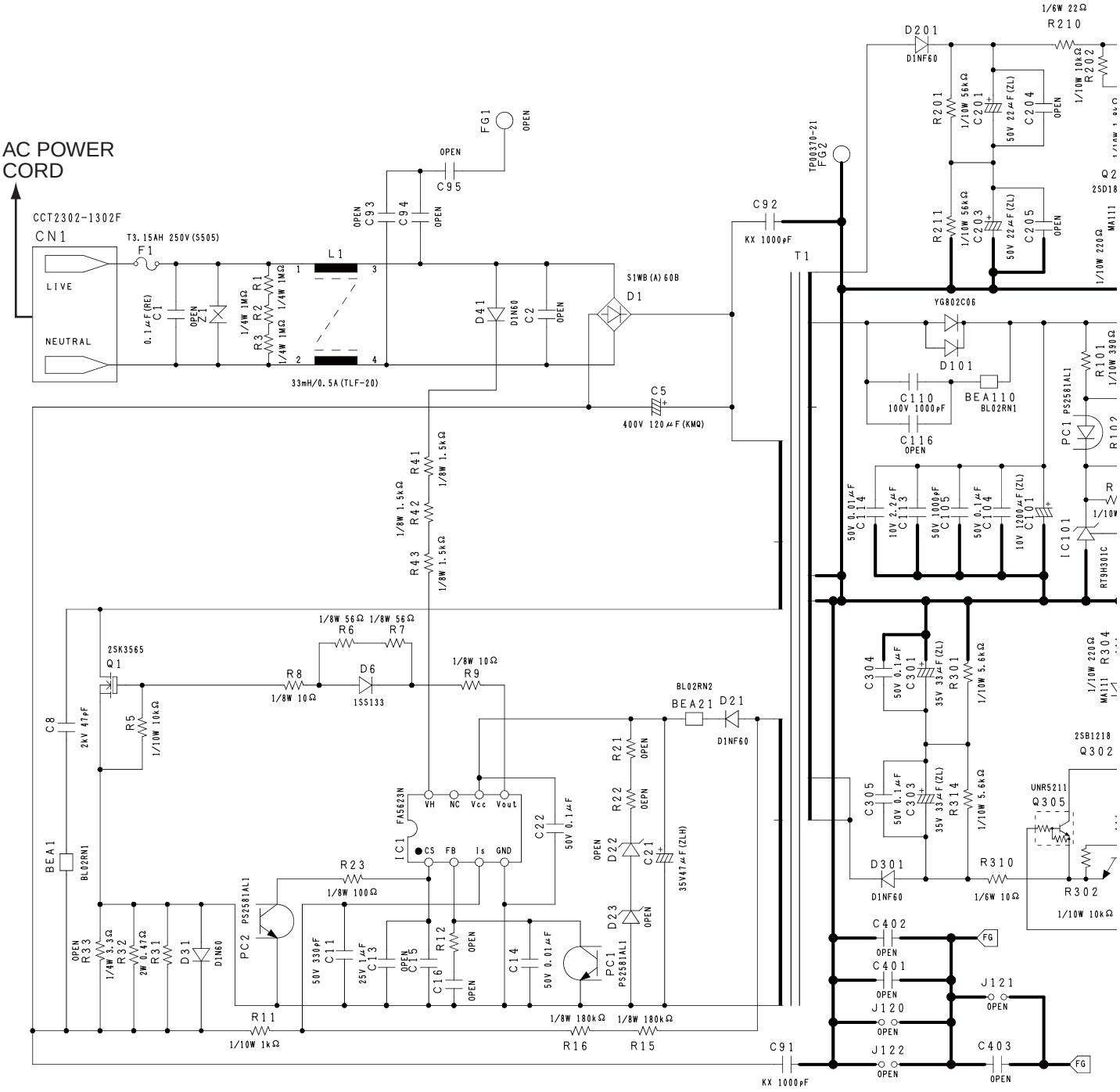
E

F

10.9 SMPS ASSY

● FOR SYXJ8, FLXJ, KXJ5 and AXJ5

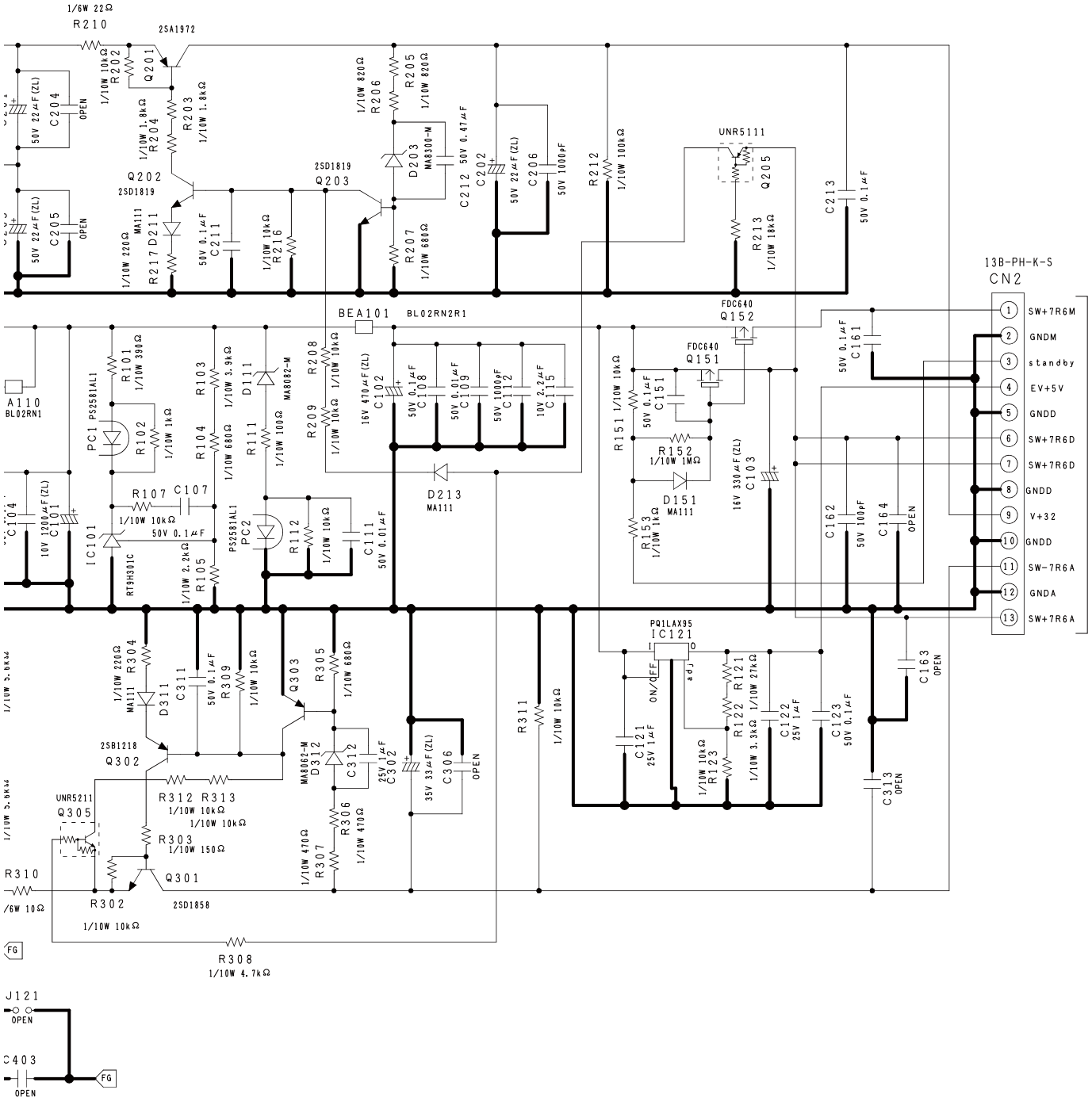
H SMPS ASSY (DWR1482)



• NOTE FOR FUSE REPLACEMENT

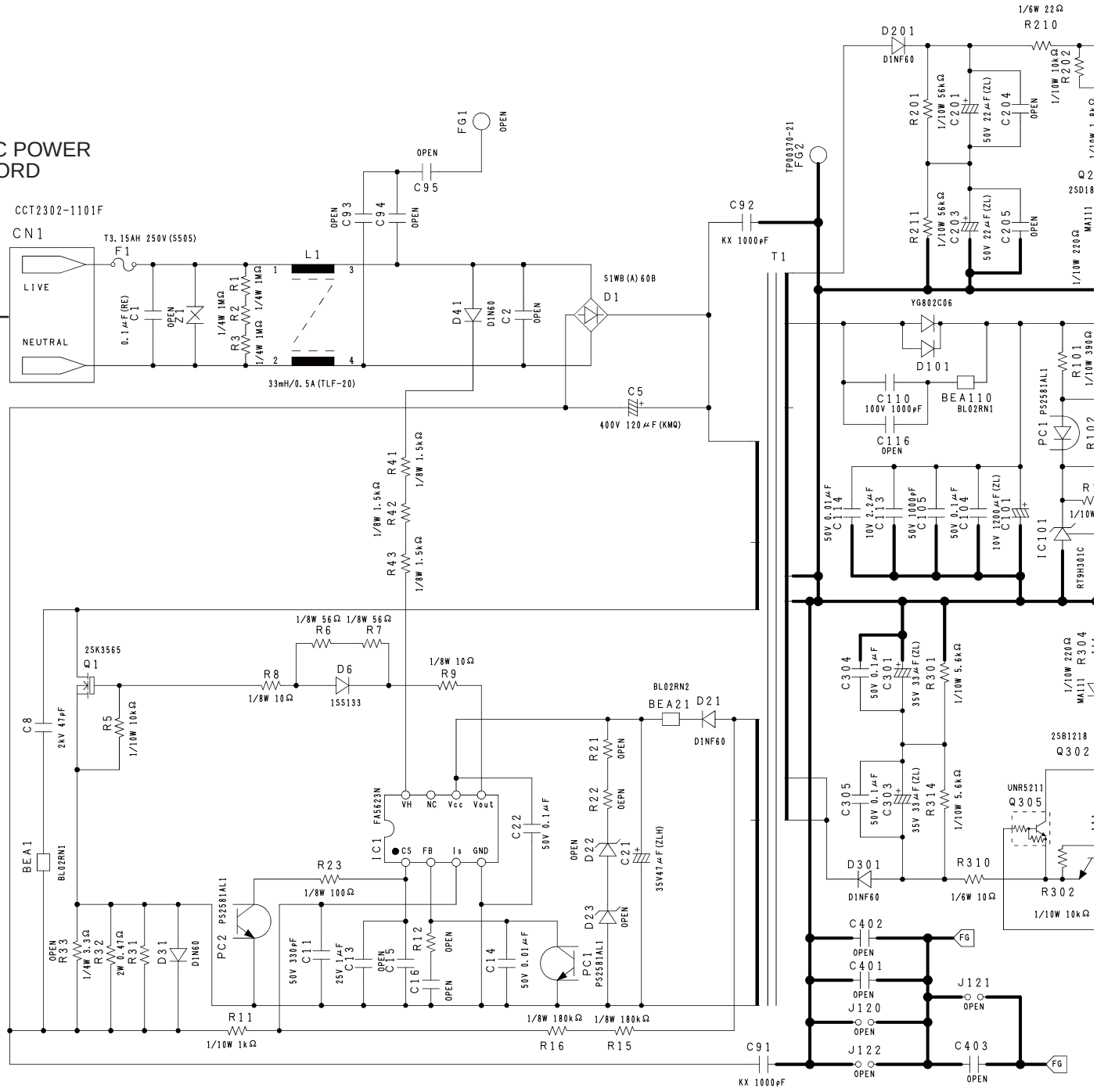
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

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.


13B-PH-K-S
CN2
1 SW+7R6M
2 GNDM
3 standby
4 EV+5V
5 GNDD
6 SW+7R6D
7 SW+7R6D
8 GNDD
9 V+32
10 GNDD
11 SW-7R6A
12 GNDA
13 SW+7R6A
C4/4 CN401
BEA101 BL02RN2R1
A110 BL02RN1
IC101 RT9H301C
IC121 PQ1LAX95
Q151 FDC640
Q152 FDC640
Q202 2SD1819
Q203 2SD1819
Q201 2SA1972
Q302 2SB1218
Q301 2SD1858
Q303
Q305 UNR5211
UNR5111
D203 MA8300-M
D213 MA111
D151 MA111
D111 MA8082-M
D311 MA111
D217 MA111
D312 MA8062-M
PC1 PS2581AL1
PC2 PS2581AL1
J121 OPEN
C403 OPEN
FG
R210 1/6W 22Ω
R308 1/10W 4.7kΩ
R310 /6W 10Ω
R312 R313 1/10W 10kΩ
R303 1/10W 150Ω
R302 1/10W 10kΩ

● FOR CUXJ

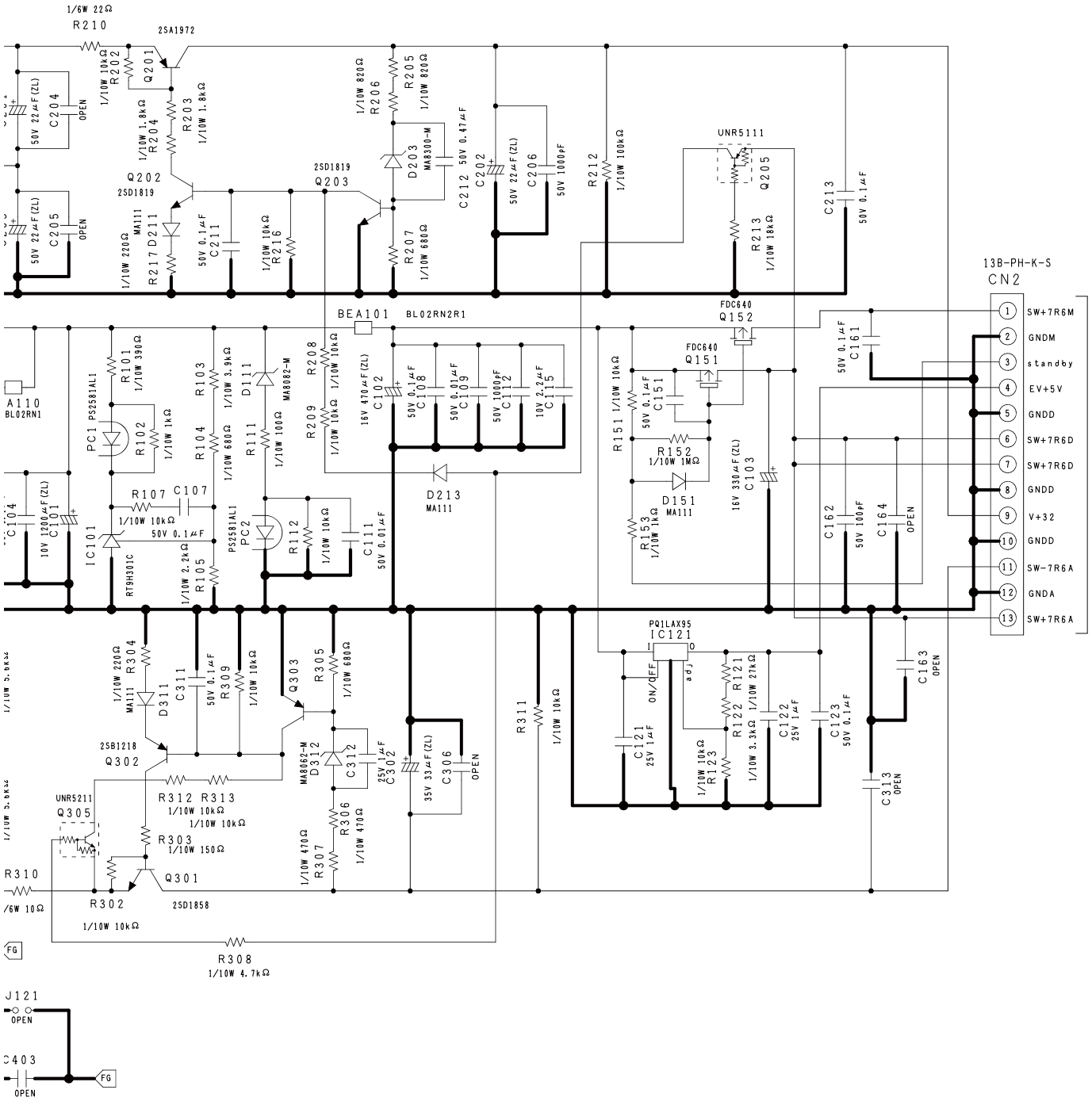
H SMPS ASSY (DWR1481)



• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

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.


1/6W 22Ω
R210
2SA1972
Q201
R202
R203
R204
C204
C205
Q202
2SD1819
Q203
D203
MA8300-M
R206
R205
C202
C206
R212
UNR5111
Q205
R213
C213
D211
MA111
R217
C211
R216
R207
C212
BEA101
BL02RN2R1
A110
BL02RN1
PC1
PS2581AL1
R101
R102
R103
R104
D111
MA8082-M
R111
R208
R209
C102
C108
C109
C112
C115
R107
C107
C104
C101
IC101
RT9H301C
R105
PC2
R112
C111
D213
MA111
FDC640
Q152
Q151
C161
R151
C151
R152
R153
D151
C103
C162
C164
13B-PH-K-S
CN2
SW+7R6M
GNDM
standby
EV+5V
GNDD
SW+7R6D
SW+7R6D
GNDD
V+32
GNDD
SW-7R6A
GNDA
SW+7R6A
C4/4 CN401
PQ1LAX95
IC121
C121
C122
C123
R121
R122
R123
C163
C313
R311
R304
D311
C311
R309
Q303
R305
2SB1218
Q302
MA8062-M
D312
C312
C302
C306
R312
R313
R303
Q305
UNR5211
R310
R302
Q301
2SD1858
R306
R307
R308
FG
J121
OPEN
C403
OPEN

10.10 VOLTAGES

H SMPS ASSY output level check

Name	Point to be checked	Normal voltage level	Possible defective point when a voltage error is generated	STANDBY mode (while ⏻ is lit in red)
V+7R6M	1	7.22 to 7.98 V	• SMPS Assy • MAIN Assy SERVO • DRIVE Assy	OFF
V+5EV	2	4.75 to 5.25 V	• SMPS Assy • PNLB Assy PANEL CPU(IC501) SW	ON
V+7R6DCDC	3	7.22 to 7.98 V	• SMPS Assy • MAIN Assy MAIN CPU(IC103) SERVO DSP(IC201) AUDIO DSP(IC301) • PNLB Assy FL V501 JOG LED USB-A	OFF
VFDP32	4	29.12 to 34.88 V	• SMPS Assy • PNLB Assy FL	OFF
V-7R6A	5	-7.22 to -7.98 V	• SMPS Assy • MAIN Assy AUDIO/MUTE	OFF
V+7R6A	6	7.22 to 7.98 V	• SMPS Assy • MAIN Assy AUDIO/MUTE	OFF

Checking the voltage levels inside the various Assys

C MAIN ASSY

*It is assumed that the SMPS Assy output level is normal.

Name	Point to be checked	Normal voltage level	Possible defective part
V+5R6	7	5.53 to 5.87 V	IC409
V+3R3	8	3.2 to 3.4 V	IC401
V+1R2	9	1.19 to 1.21 V	IC404 R426, R427
V+3R3A	10	3.27 to 3.33 V	IC402
V+1R25	11	1.24 to 1.26 V	IC403 R421, R422
V+5R6M	12	5.54 to 5.66 V	IC206
V+3R3S	13	3.27 to 3.33 V	IC408
VREF1R65	14	1.57 to 1.73 V	IC201, IC408
V+5A	15	4.95 to 5.05 V	IC406
V-AUDIO	16	7.22 to 7.98 V	SMPS Assy

E PNLB ASSY

*It is assumed that the SMPS Assy output level is normal.

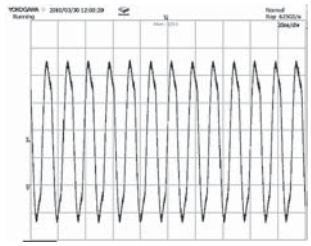
Name	Point to be checked	Normal voltage level	Possible defective part
FL VH	17	28.8 to 35.2 V	Q502
FL VDD	18	4.5 to 5.5 V	D522
FL F+	19	5.54 to 5.66 V	V+5R6 power supply circuit (periphery of IC409)
FL F-	20	1.98 to 2.42 V	Q518, Q517
USB VBUS	21	4.75 to 5.25 V	IC505, IC504
V+5SW	22	4.65 to 5.35 V	D520

10.11 WAVEFORMS

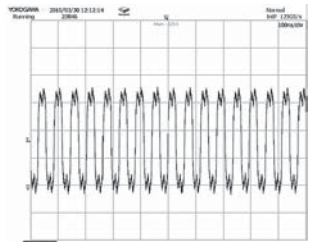
C MAIN ASSY

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram and PCB diagram.

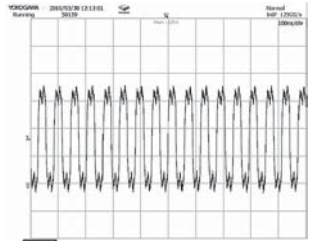
(1) IC103 - pin 50 (CLK66M)
V: 1.0 V/div. H: 20 nS/div.



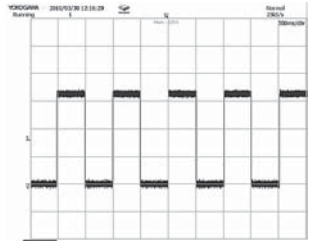
(2) DSP16M_TP (CLKA_16M)
V: 1.0 V/div. H: 100 nS/div.



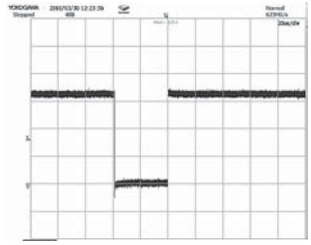
(3) IC201 - pin 73 (CLK_S_16M)
V: 1.0 V/div. H: 100 nS/div.



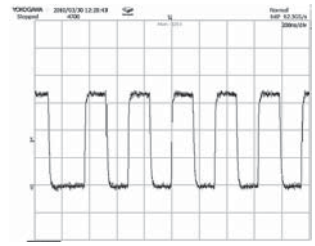
(4) IC103 - pin 85 (SH_STATUS_TP)
V: 1.0 V/div. H: 500 mS/div.



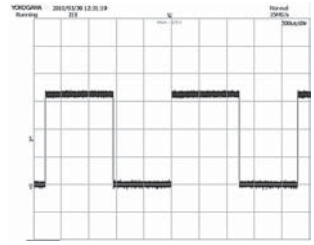
(5) IC103 - pin 72 (DSPDREQ)
V: 1.0 V/div. H: 20 µS/div. PLAY



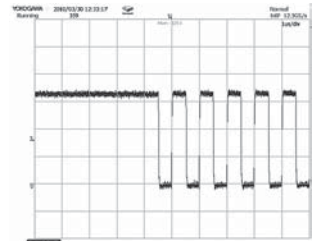
(6) IC103 - pin 126 (SRVSCLK)
V: 1.0 V/div. H: 200 nS/div.



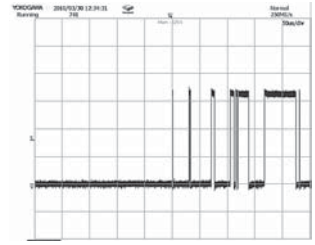
(7) Foot of R162 (TSCS)
V: 1.0 V/div. H: 500 µS/div.



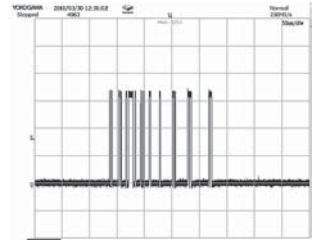
(8) Foot of R191 (TSCK)
V: 1.0 V/div. H: 1 µS/div.



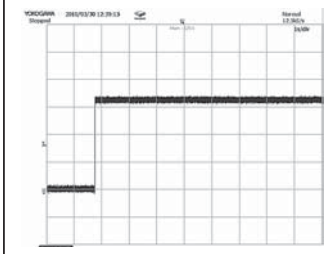
(9) Foot of R163 (TSI)
V: 1.0 V/div. H: 50 µS/div.



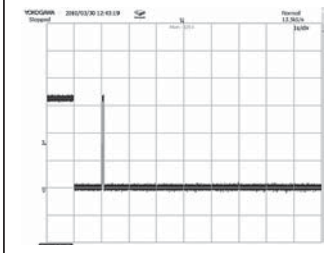
(10) Foot of R193 (TSO)
V: 1.0 V/div. H: 50 µS/div.



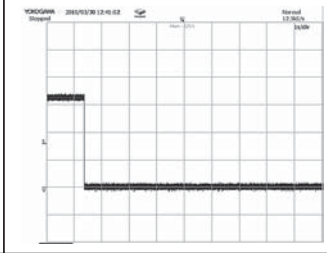
(11) -1 IC103 - pin 135 (LPS1)
V: 1.0 V/div. H: 1 S/div. DISC IN



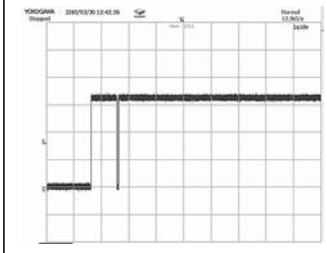
(11) -2 IC103 - pin 135 (LPS1)
V: 1.0 V/div. H: 1 S/div. DISC EJECT



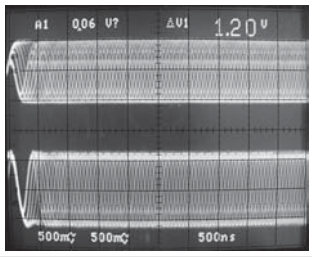
(12) -1 IC103 - pin 134 (LPS2)
V: 1.0 V/div. H: 1 S/div. DISC IN



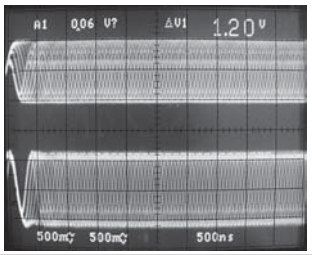
(12) -2 IC103 - pin 134 (LPS2)
V: 1.0 V/div. H: 1 S/div. DISC EJECT



(13) IC201 - pin 37 (RFO_TP) : upper
V: 500 mV/div. H: 500 nS/div.



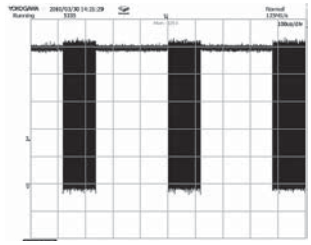
(14) IC201 - pin 28 (AGCRF_TP) : lower
V: 500 mV/div. H: 500 nS/div.



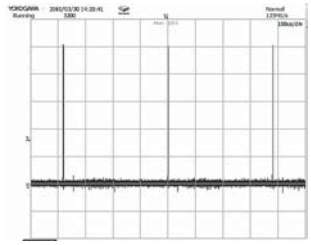
E PNLB ASSY

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram and PCB diagram.

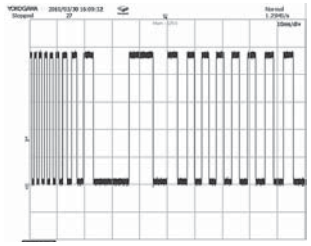
1 **V501 - pin 33 (FLSCLK)**
V: 1.0 V/div. H: 100 µS/div.



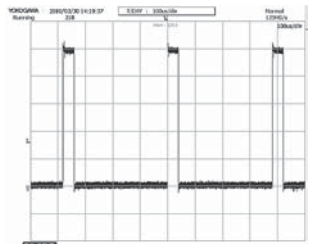
3 **V501 - pin 34 (FLLAT)**
V: 1.0 V/div. H: 100 µS/div.



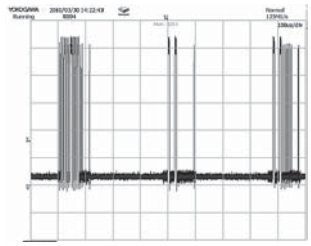
5 **CN501 - pin 3 (JOG1_C)**
V: 1.0 V/div. H: 10 mS/div. JOG scratch



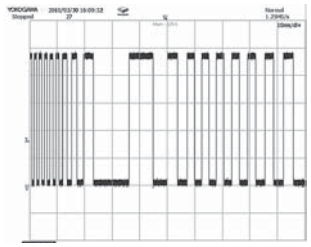
2 **V501 - pin 35 (FLBK)**
V: 1.0 V/div. H: 100 µS/div.



4 **V501 - pin 32 (FLSO)**
V: 1.0 V/div. H: 100 µS/div.



6 **CN501 - pin 4 (JOG2_C)**
V: 1.0 V/div. H: 10 mS/div. JOG scratch



A

B

C

D

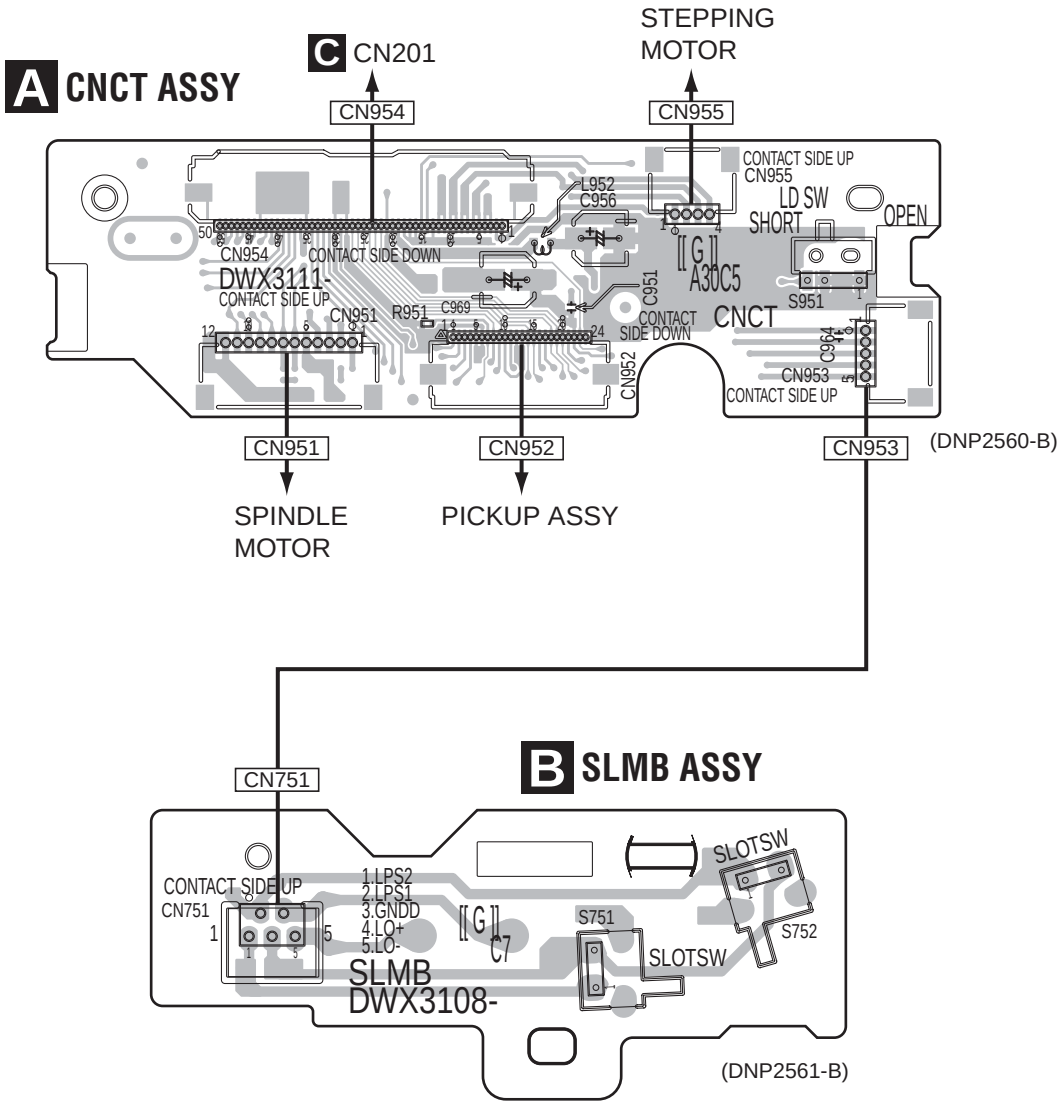
E

F

11. PCB CONNECTION DIAGRAM
11.1 CNCT and SLMB ASSYS

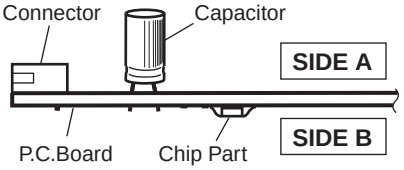
SIDE A

SIDE A



NOTE FOR PCB DIAGRAMS :

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

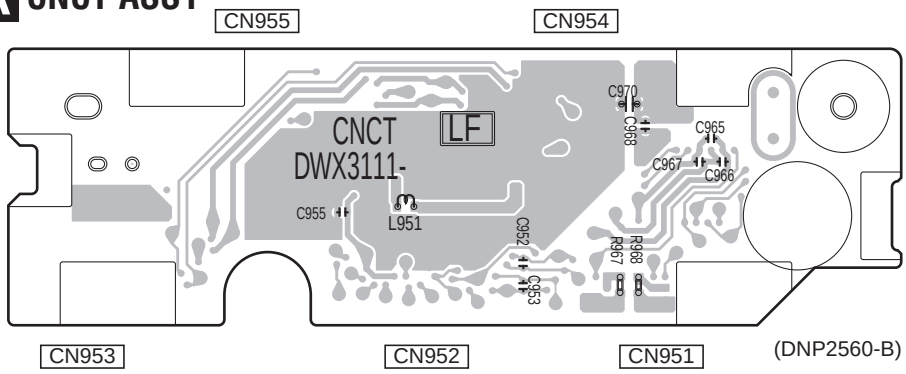


A B

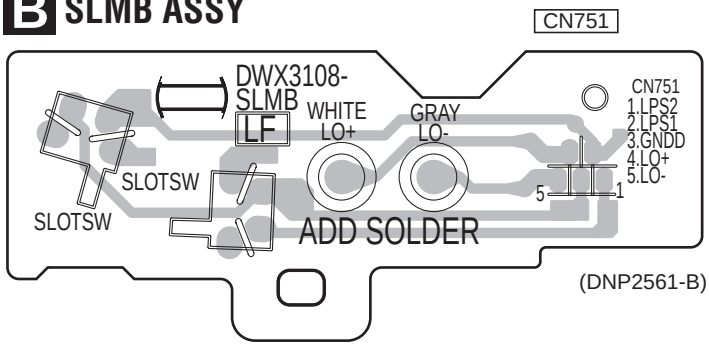
SIDE B

SIDE B

A CNCT ASSY

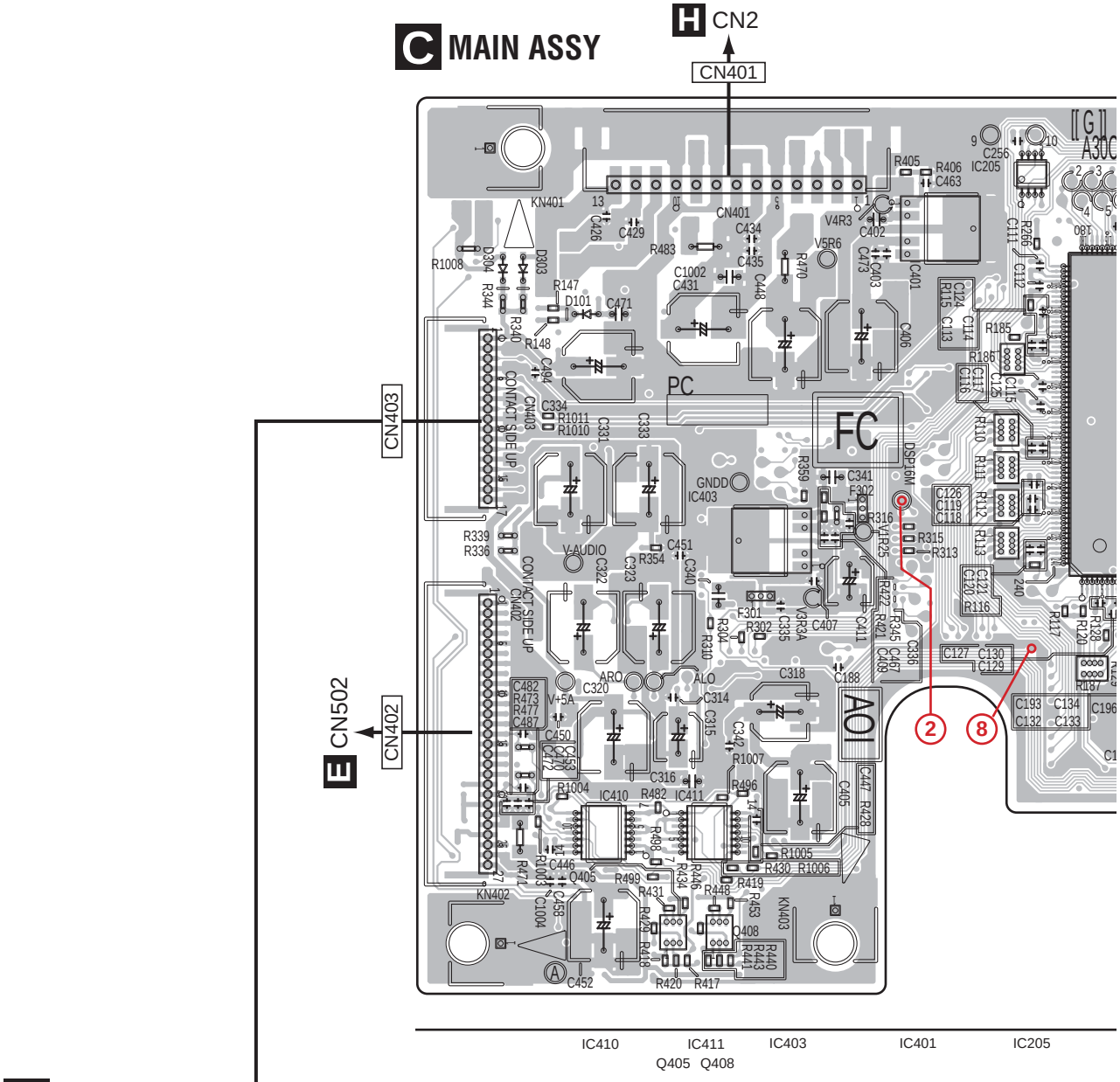


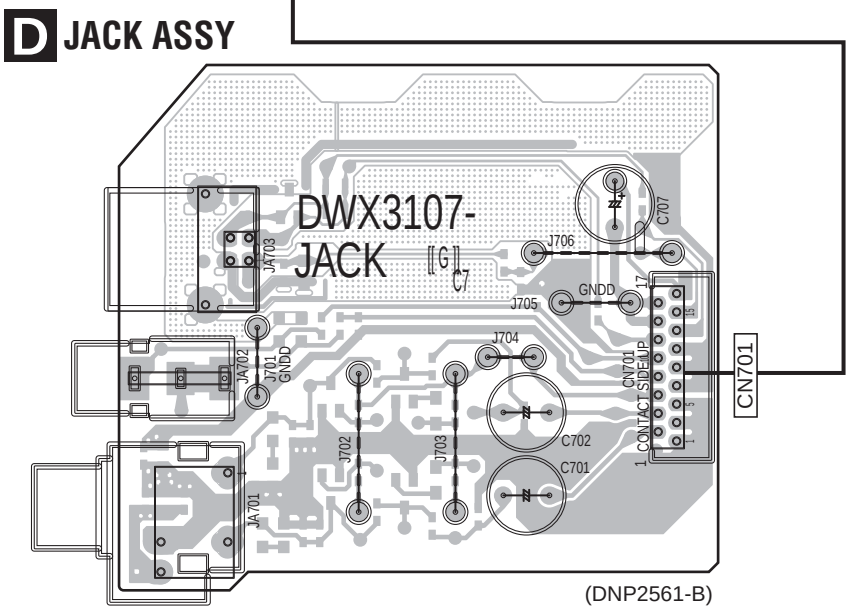
B SLMB ASSY



11.2 MAIN and JACK ASSYS

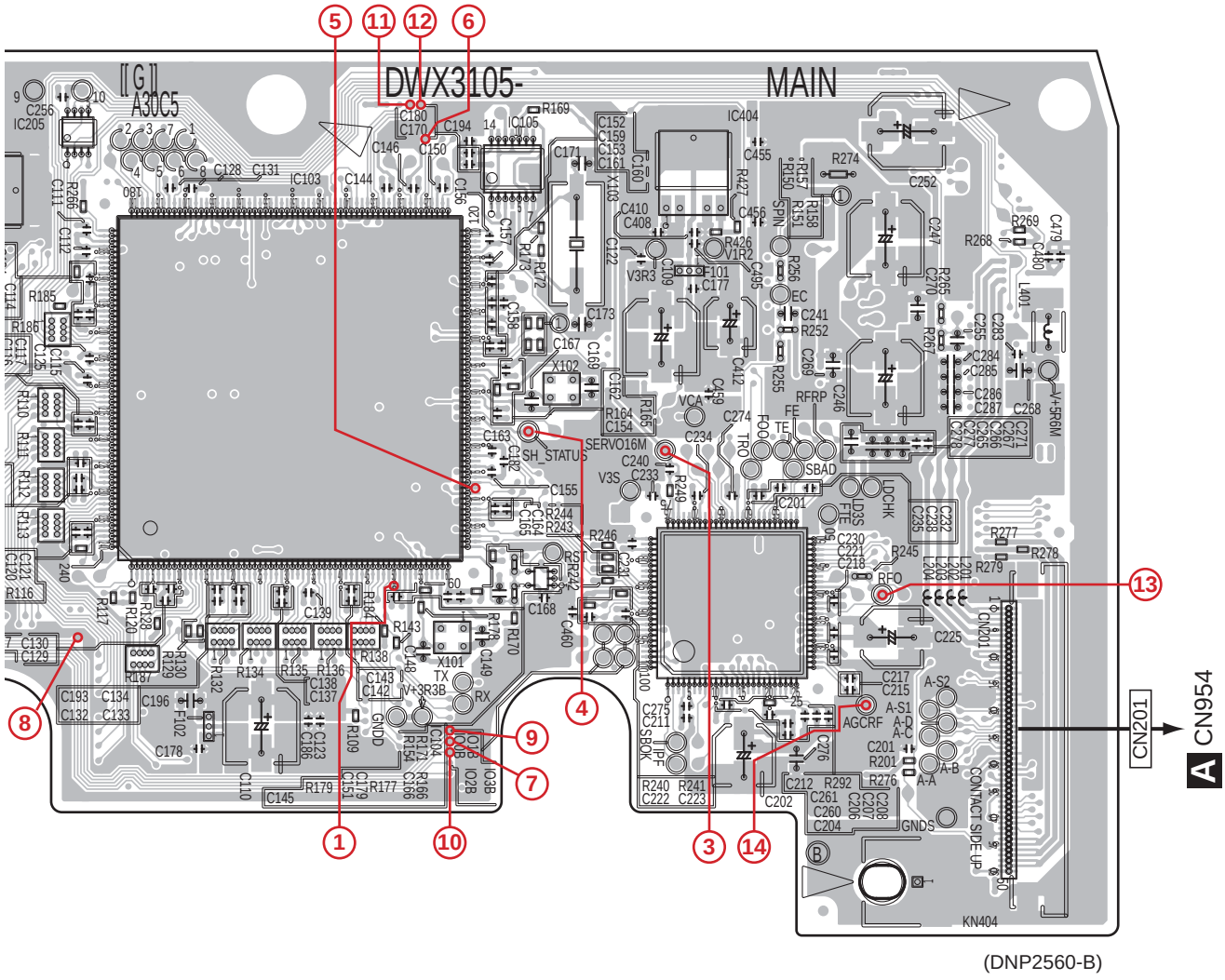
SIDE A





NOTE: The encircled numbers denote measuring point.

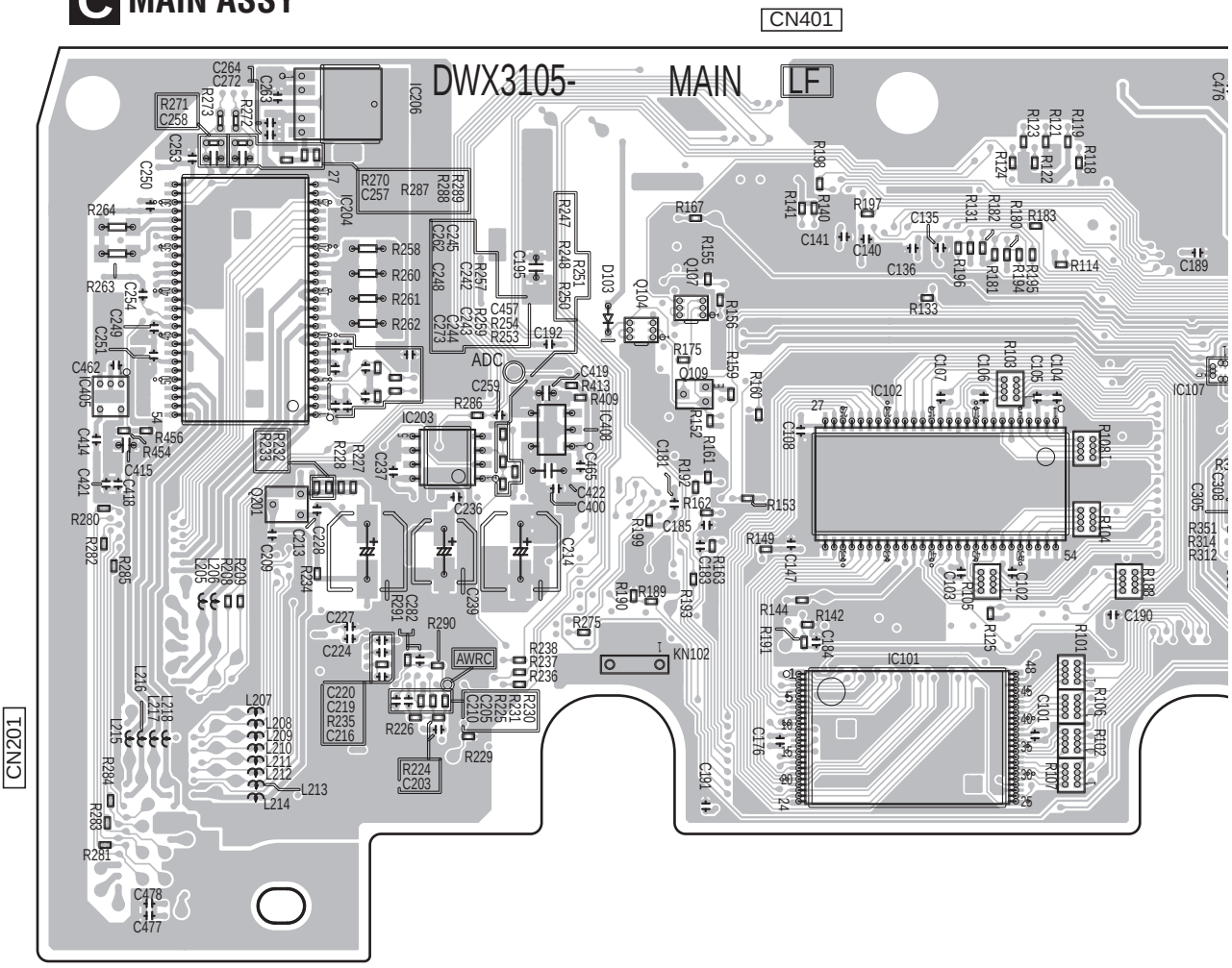
SIDE A



IC205 IC103 IC105 IC404
IC104 IC201

SIDE B

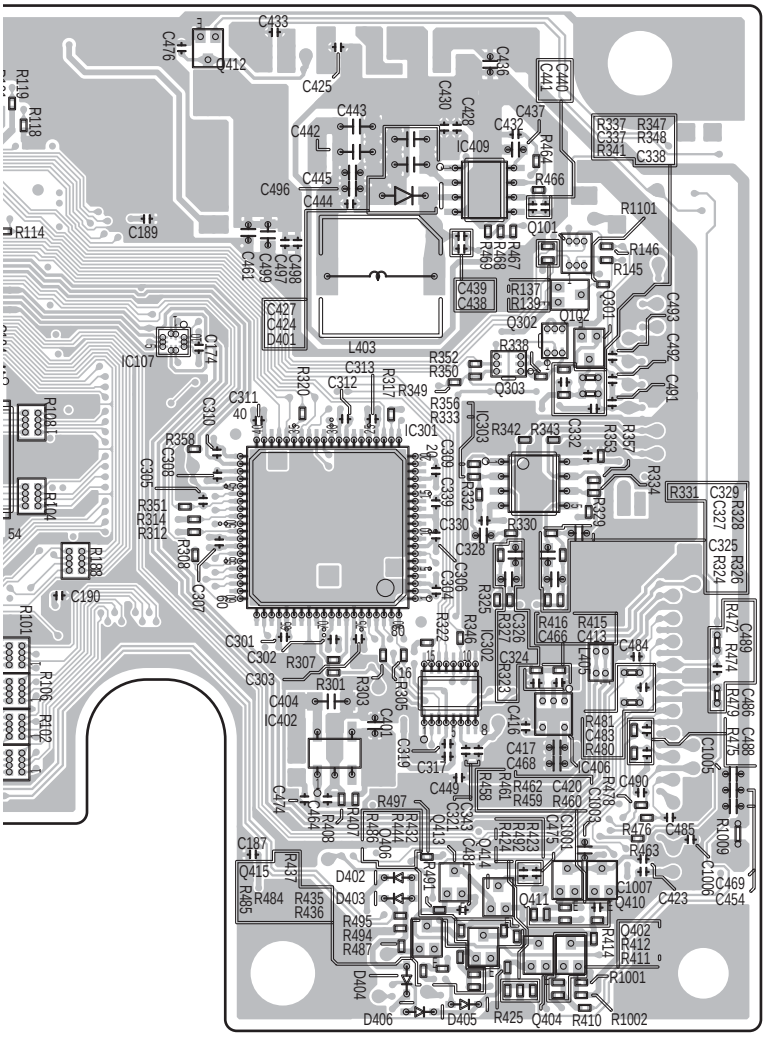
C MAIN ASSY



(DNP2560-B)

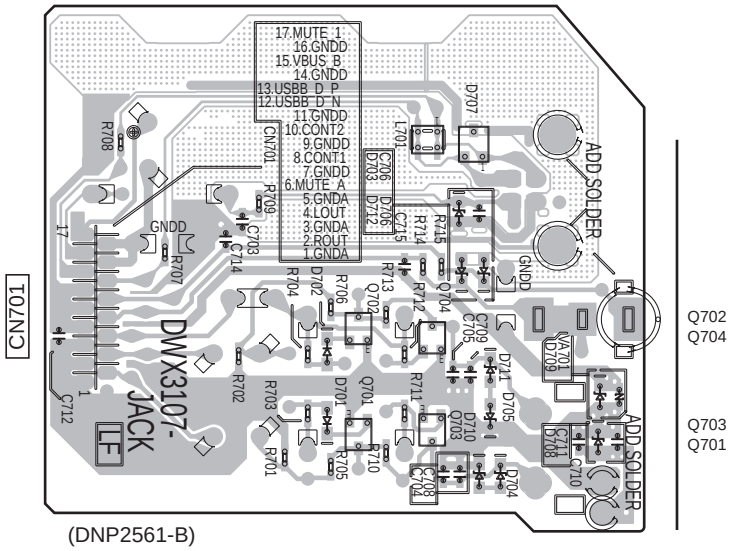
IC405 IC204 IC206 Q104 Q107 IC102
Q201 IC203 IC408 Q109 IC101 IC1

SIDE B



Q412
IC107
IC409 Q102 Q101
Q303 Q302 Q301
IC301 IC302 IC303
IC402 Q410-Q413 IC406
Q415 Q406 Q404 Q402

D JACK ASSY

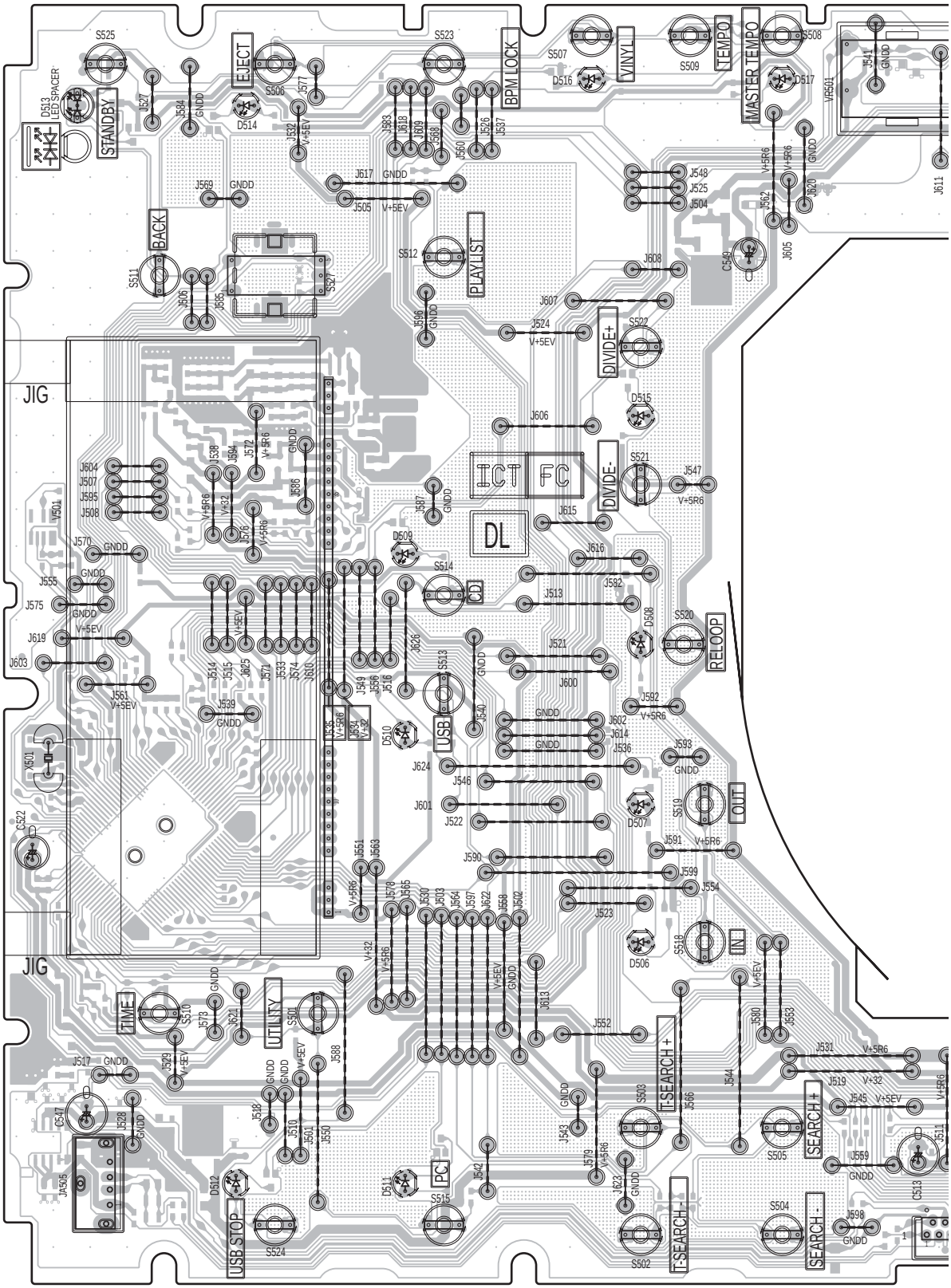


(DNP2561-B)

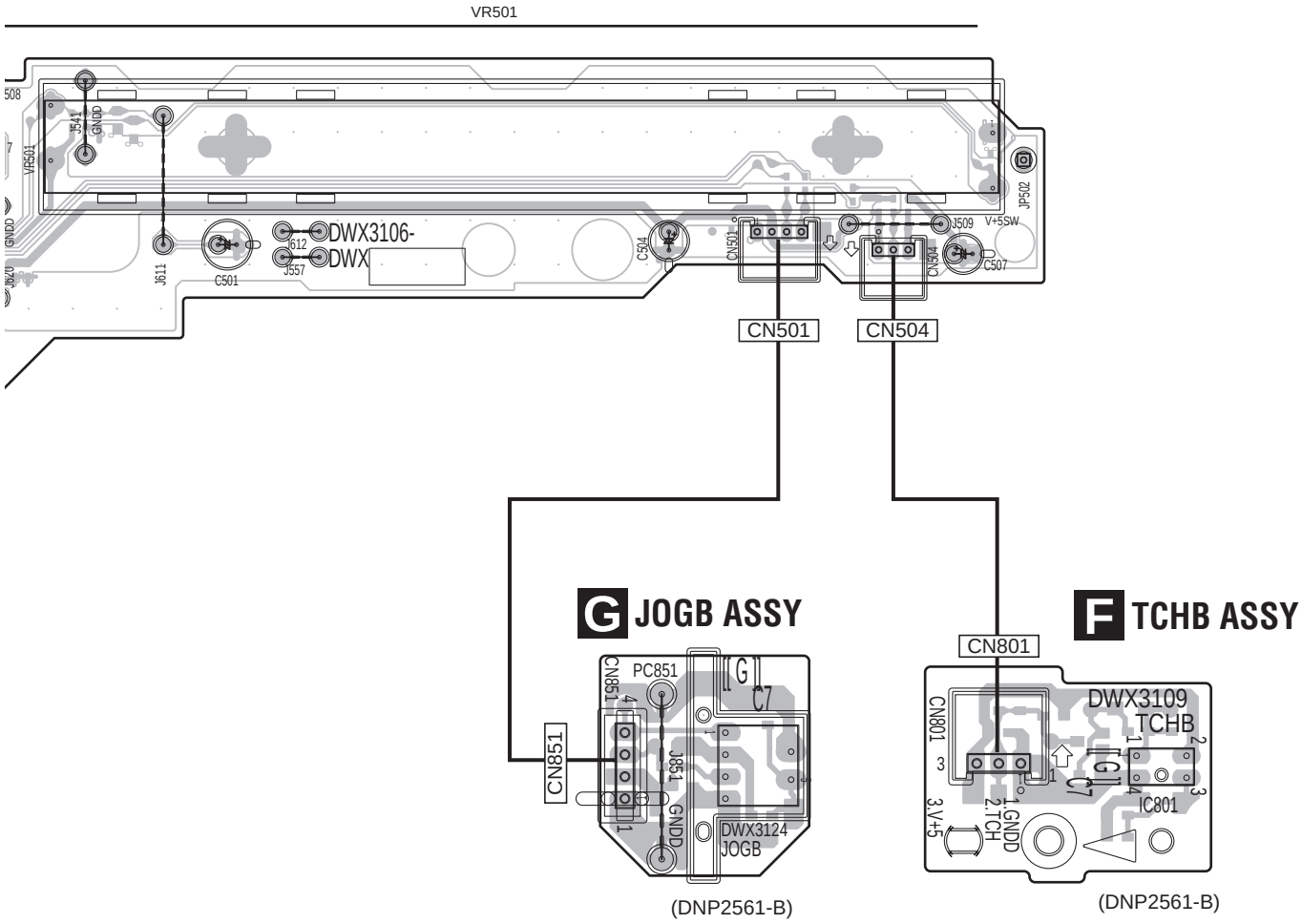
11.3 PNLB, TCHB and JOGB ASSYS

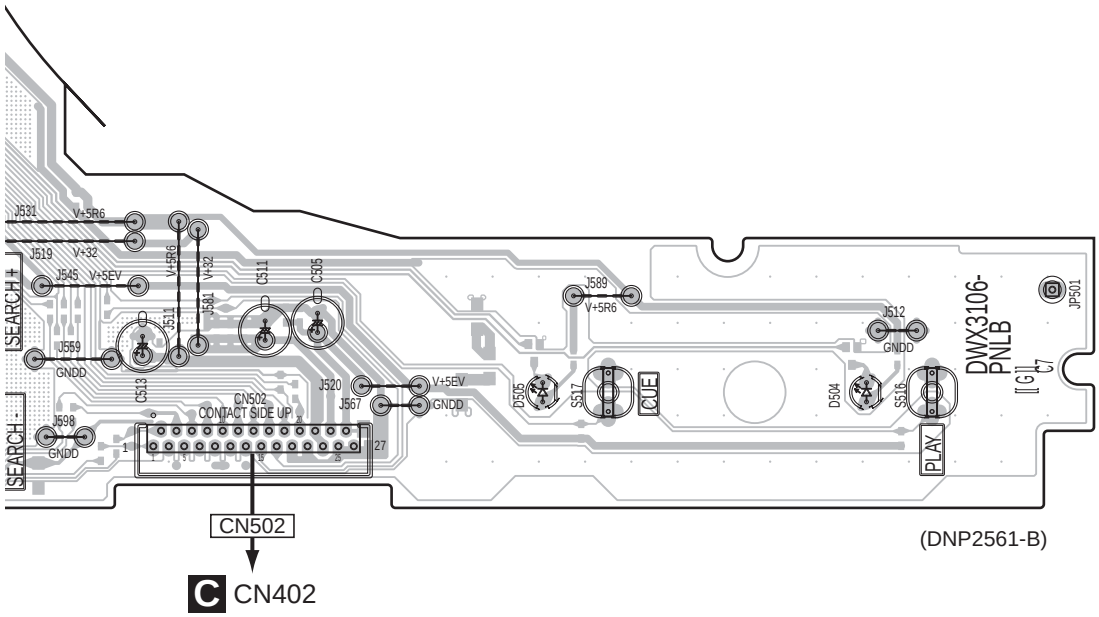
SIDE A

E PNLB ASSY



SIDE A

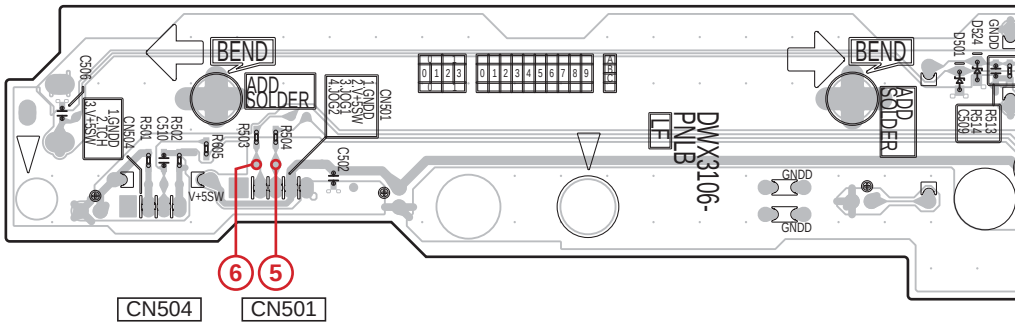




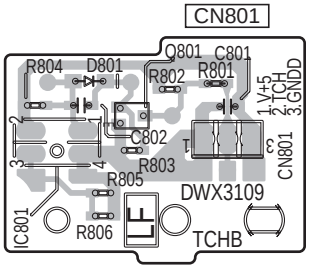
C CN402

SIDE B

E PNLB ASSY

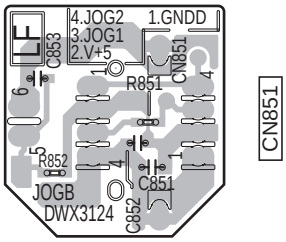


F TCHB ASSY

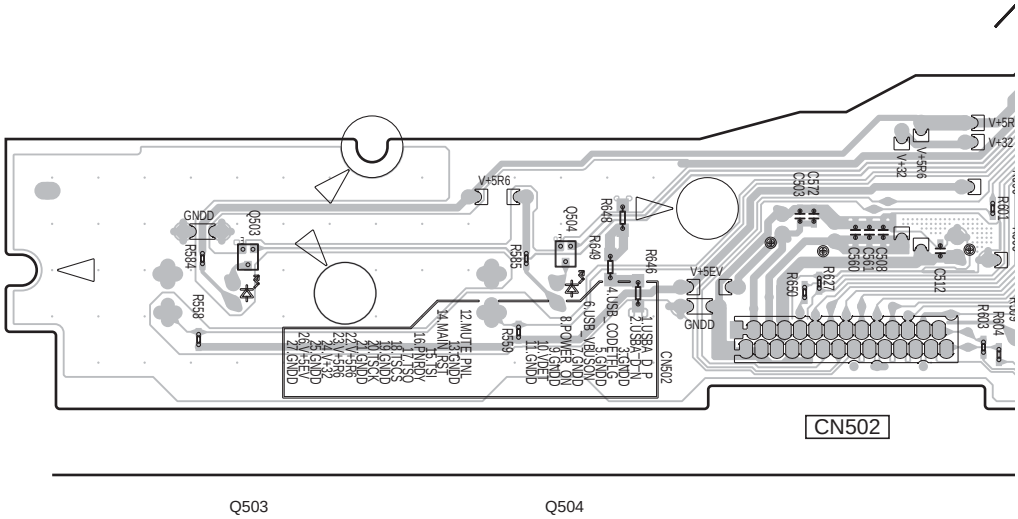


(DNP2561-B)

G JOGB ASSY



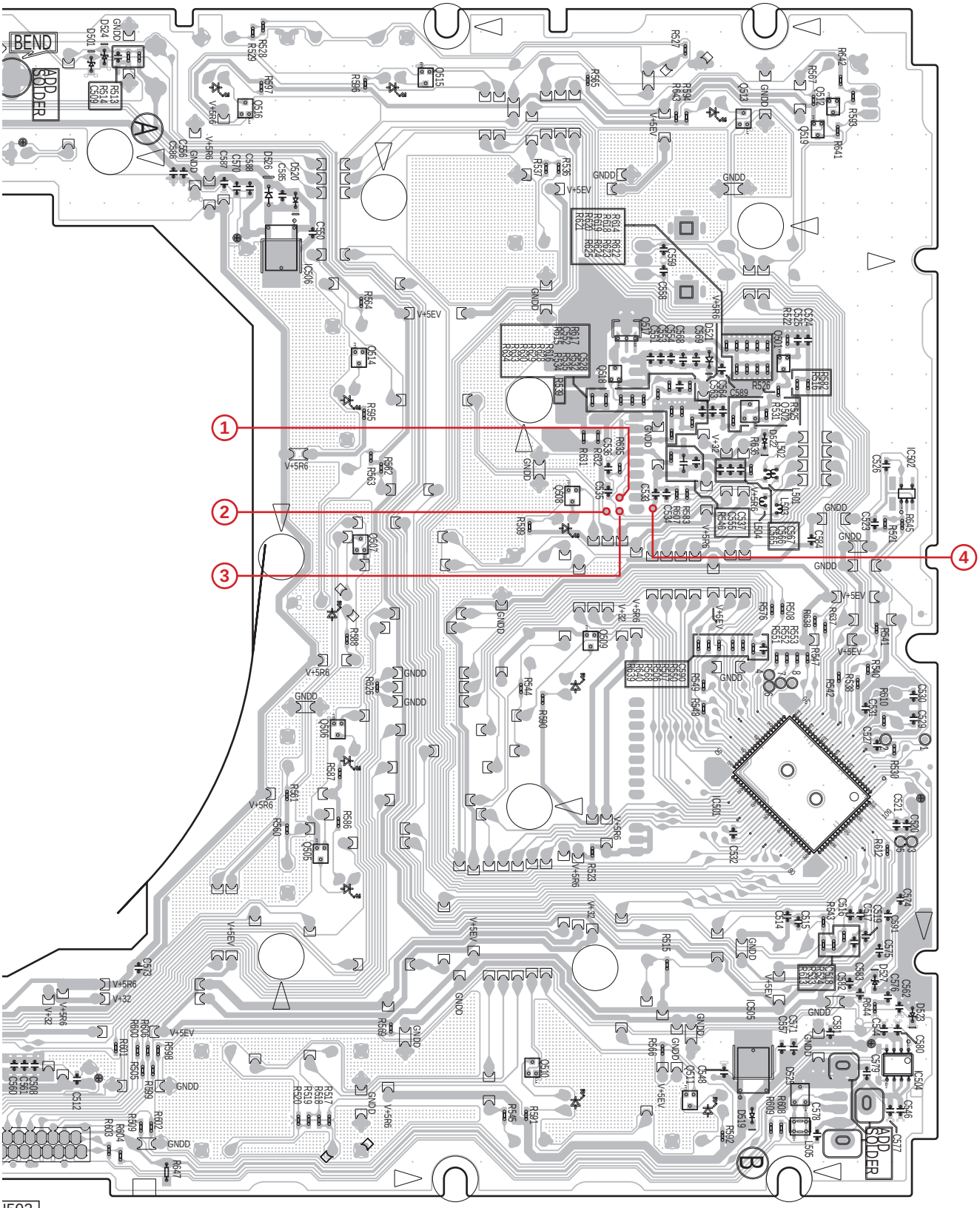
(DNP2561-B)



Q503 Q504

SIDE B

NOTE: The encircled numbers denote measuring point.



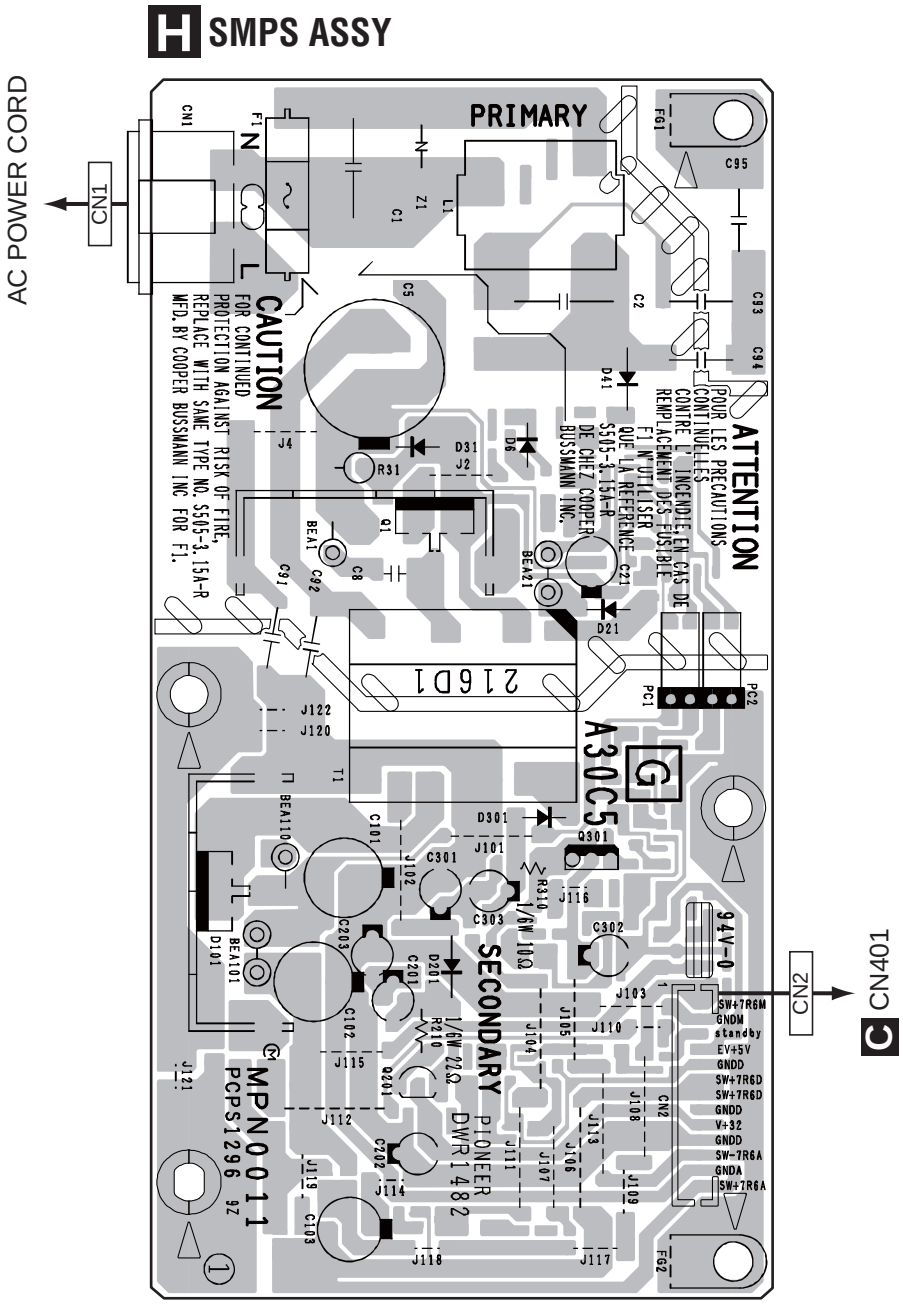
Q516 IC506 Q514 Q507 Q505 Q506 Q515 Q517 Q508 Q518 Q510 Q509 Q511 Q513 Q519 Q512 Q502 Q501 IC505 IC501 IC502 IC504

11.4 SMPS ASSY

SIDE A

SIDE A

● **FOR SYXJ8, FLXJ, KXJ5 and AXJ5**

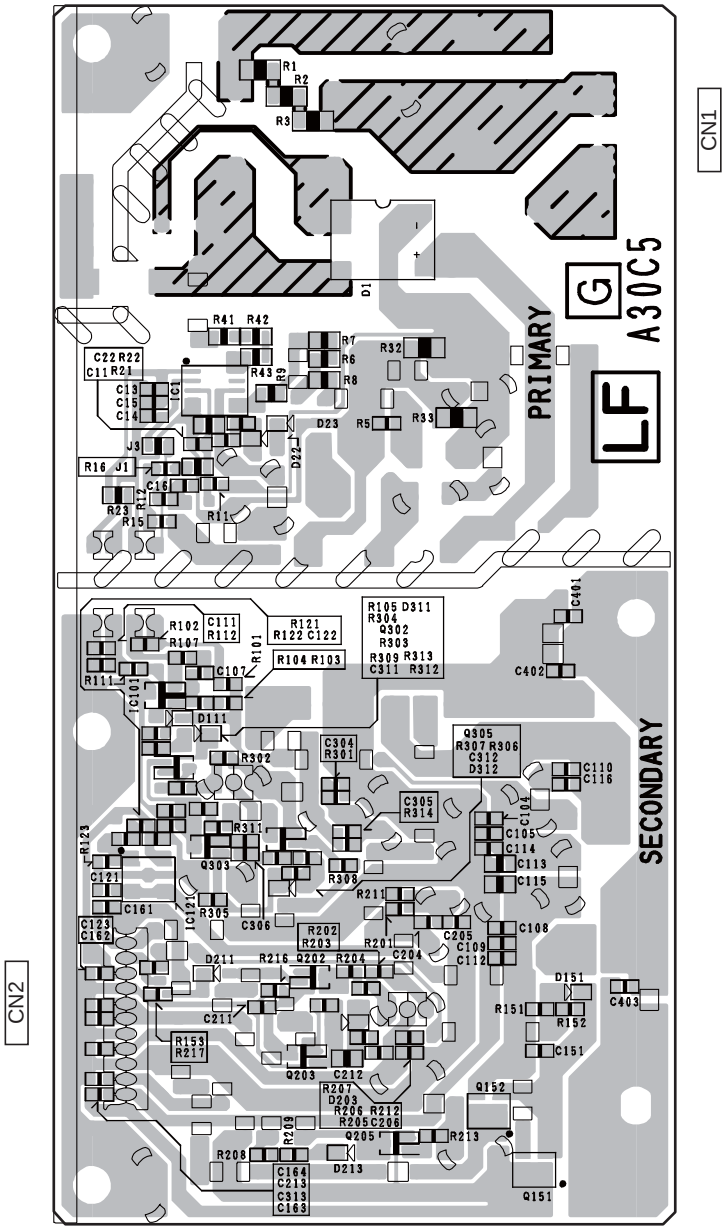


SIDE B

SIDE B

● FOR SYXJ8, FLXJ, KXJ5 and AXJ5

H SMPS ASSY

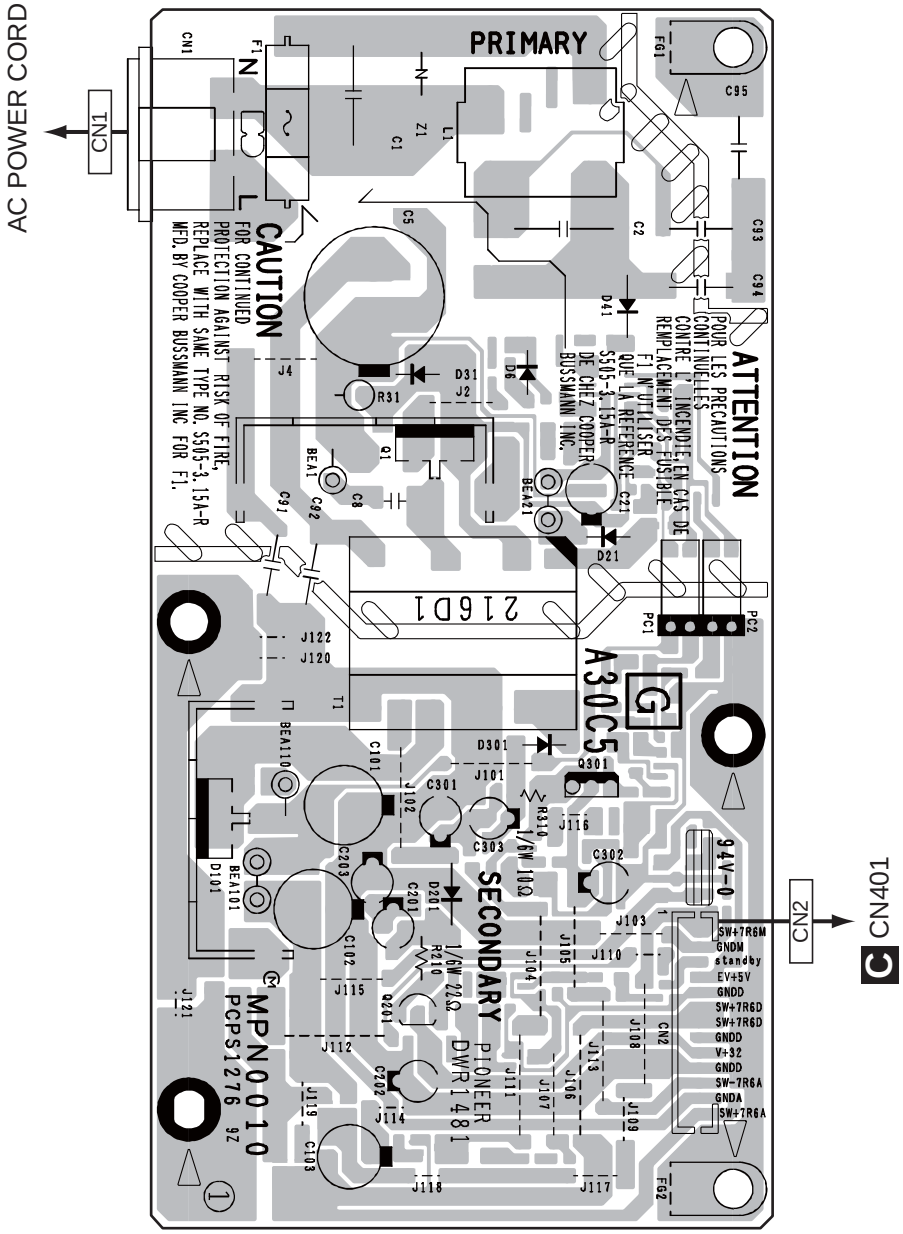


SIDE A

SIDE A

● FOR CUXJ

H SMPS ASSY

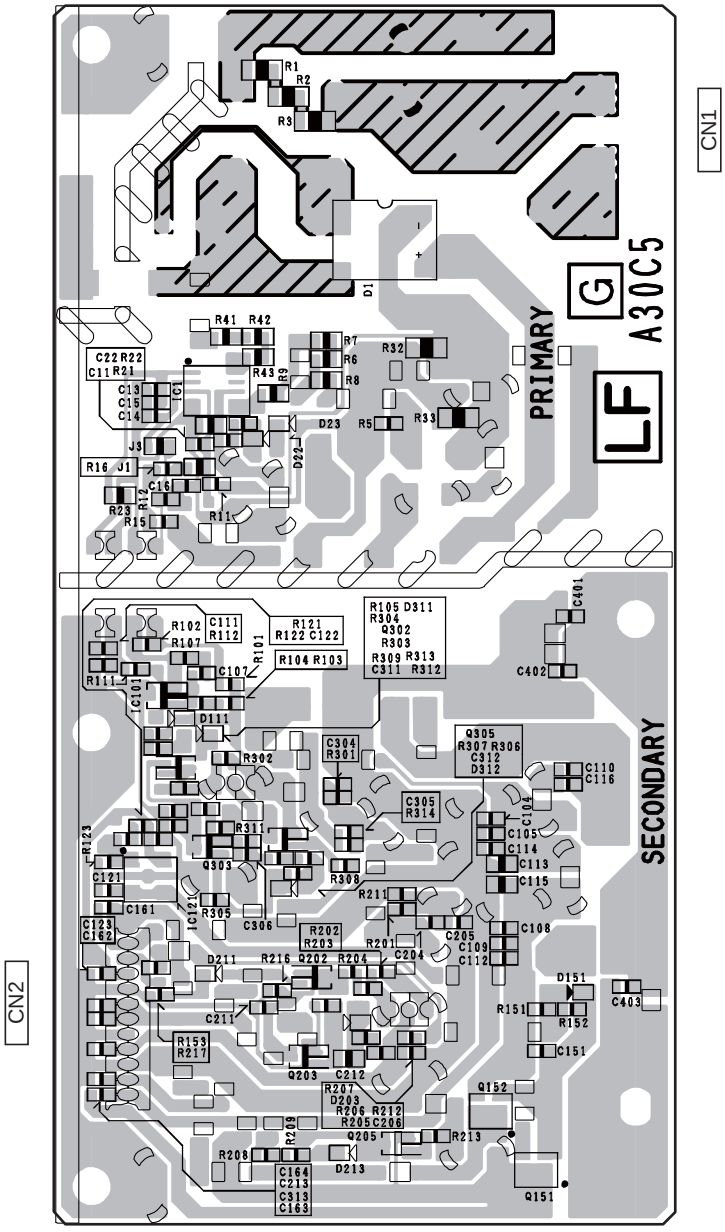


SIDE B

SIDE B

● **FOR CUXJ**

H SMPS ASSY



12. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

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

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

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

5.62 k	*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	..PANL ASSY	DWM2380
	2	..PNLB ASSY	DWX3106
	2	..JACK ASSY	DWX3107
	2	..SLMB ASSY	DWX3108
	2	..TCHB ASSY	DWX3109
	2	..JOGB ASSY	DWX3124
NSP	1	..MACN ASSY	DWM2391
	2	..MAIN ASSY	DWX3105
	2	..CNCT ASSY	DWX3111
⚠	1	..SMPS ASSY (SYXJ8,FLXJ,KXJ5,AXJ5)	DWR1482
⚠	1	..SMPS ASSY (CUXJ)	DWR1481

A CNCT ASSY

MISCELLANEOUS

L	951,952	INDUCTOR	CTF1410
S	951	SLIDE SWITCH	VSH1018
CN	951	12P FFC CONNECTOR	DKN1450
CN	952	24P FFC CONNECTOR	DKN1445
CN	953	5P CONNECTOR	DKN1402
CN	954	CONNECTOR	DKN1407
CN	955	4P CONNECTOR	DKN1288

RESISTORS

R	967,968	RS1/10SR0R0J
	Other Resistors	RS1/16SS###J

CAPACITORS

C	951,955	CKSSYB104K16
C	952,953,964,968	CKSSYB103K16
C	956,969	CEVQW220M16

B SLMB ASSY

MISCELLANEOUS

S	751,752	PUSH SWITCH	DSG1017
CN	751	5P CONNECTOR	VKN1265

C MAIN ASSY

SEMICONDUCTORS

Mark			Part No.
	IC	101	DYW1792
	IC	102	K4S561632J-UC75
	IC	103	R5S72630P200FP
	IC	105	TC74VHCU04FT
	IC	107	TS3USB30RSW
	IC	201	TC94A15FG
	IC	203	NJM2903M
	IC	204	BD7956FS
	IC	205	TC7W04FU
⚠	IC	206	BA00BC0WFP
	IC	301	DSPC56371AF180
	IC	302	PCM1742KE
	IC	303	RNB4580F
⚠	IC	401	BA33BC0WFP
⚠	IC	402,408	S-1170B33UC-OTS
⚠	IC	403,404	BD00KA5WFP
⚠	IC	405,406	NJM2872BF05
⚠	IC	409	BD9326EFJ
	IC	410	TC74VHCT08AFTS1
	IC	411	TC74VHC08FTS1
	Q	101,405,408	HN1C01FU
	Q	102,410,412,413	RT1N241M
	Q	104,107,302,303	RT3T22M
	Q	109	RT1N141M-11
	Q	201	2SA1036K
	Q	301,402,404,406	2SA1576A
	Q	411	LSC4081UB
	Q	414	RT1P141M
	Q	415	2SA1576A
	D	101,103,304,405	1SS352
	D	401	RSX201L-30
	D	406	1SS352

MISCELLANEOUS

L	201-218	INDUCTOR	CTF1545
L	403	INDUCTOR	CTH1254
F	101,102,301	EMI FILTER	DTL1106
KN	404	WRAPPING TERMINAL	CKF1089
X	101	CRYSTAL(33 MHz)	DSS1193
X	102	CRYSTAL (48 MHz)	ASS7099

Mark	No.	Description	Part No.
X	103	CRYSTAL RESONATOR (16.9344 MHz)	VSS1084
CN	201	CONNECTOR	DKN1404
CN	401	CONNECTOR	AKM1299
CN	402	27P CONNECTOR	RKN1068
CN	403	17P CONNECTOR	RKN1058

RESISTORS

R	101,102,106,107		RAB4CQ330J
R	103-105,108		RAB4CQ560J
R	110-113,132		RAB4CQ330J
R	134-136,138		RAB4CQ330J
R	156		RS1/16SS5601F
R	166,339,345		RS1/10SR0R0J
R	186-188		RAB4CQ560J
R	189		RS1/16SS1002F
R	190		RS1/16SS2002F
R	255,347		RS1/10SR222J
R	258,260-262		RS1/4SA1R0J
R	263,264		RS1/4SA2R7J
R	265		RS1/10SR1002F
R	272,273		RS1/10SR683J
R	287		RS1/16SS1502F
R	288		RS1/16SS1003F
R	289,422,426		RS1/16SS3302F
R	323,324,356,357		RS1/16SS4702D
R	325,326		RS1/16SS2200D
R	327,328,469		RS1/16SS2201D
R	329,332		RS1/16SS4701D
R	330,331		RS1/16SS3301D
R	333,334		RS1/16SS5101D
R	421		RS1/16SS2202F
R	423		RS1/16SS4702F
R	424		RS1/16SS1102F
R	427		RS1/16SS5602F
R	467		RS1/16SS7500F
R	468		RS1/16SS1102D
R	470,471,483		RS1/4SA0R0J
R	472-474,477,480		RS1/10SR330J
R	481		RS1/10SR330J
R	1008,1009		RS1/8SQ0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

C	101,103-105,107		CKSSYB104K10
C	102,124,152,186		CKSSYB103K16
C	106,114,117,119		VCG1063
C	108,122,126,150		CCSSCH331J50
C	109,110,214,320		CEHVAW101M6R3
C	111-113,115,116		CKSSYB104K10
C	118,120,125		CKSSYB104K10
C	121,123,130,131		VCG1063
C	127-129,132,133		CKSSYB104K10
C	134,138,143,154		VCG1063
C	135-137,139-142		CKSSYB104K10
C	144-147,151,153		CKSSYB104K10
C	148,169		CCSRCH100D50
C	149,167		CCSRCH9R0D50
C	155-158,160		CKSSYB104K10
C	159,161,165,179		VCG1063
C	162-164,170,174		CKSSYB104K10
C	166,266,284,469		CKSRYB103K50
C	171,173		CCSRCH180J50
C	176-178,272,274		CCSSCH331J50
C	180,187-193,211		VCG1063
C	184,254,271,486		CCSSCH101J50
C	185		CCSSCH150J50
C	194,210,231,235		CKSSYB103K16
C	201,204,209,212		CKSSYB104K10
C	202,225,239,318		CEHVAW470M6R3
C	203		CCSSCH470J50
C	205,220		CKSSYB153K16
C	206,207		CKSSYB223K16
C	208		CKSSYB102K50
C	213,217-219		CKSSYB104K10
C	215		CKSSYB471K50
C	216		CKSSYB681K50
C	221-224,230,233		CKSSYB104K10
C	227		CCSSCH680J50
C	228,246,247,252		CEHVAW470M16
C	232,238		CKSSYB333K10
C	234,236,237,253		CKSSYB104K10
C	241		CKSRYB333K25
C	242		CKSSYB331K50
C	243		CKSSYB271K50
C	244,245,250,263		CKSSYB104K16
C	248		CCSSCH471J50
C	249,251,260,262		CKSSYB103K16
C	255		CKSRYB122K50
C	256,259,301-303		CKSSYB104K10
C	257,258		CKSRYB222K50
C	261,264,267,283		VCG1063
C	265,436,454		CKSRYB104K50
C	268,276,278,340		CKSQYB225K10
C	275,308,311,335		CCSSCH331J50
C	401,402,415		CKSRYB105K10
C	445,468,471		CCSRCH102J50
C	304,305,307,342		CKSSYB103K16
C	306,310,313,314		CKSSYB104K10
C	309,312,317,400		VCG1063
C	315,411,412		CEHVAW220M6R3
C	316,1005		CCSRCH331J50
C	319,321,403,407		CKSSYB104K10
C	322,323,405,406		CEHVAW101M6R3
C	326,327		CCSRCH681J50
C	328,329		CCSRCH561J50
C	331,333,431,448		CEHVAW470M16
C	337		CKSSYB103K25
C	341,499,1002		CKSQYB225K10
C	404,422,424,427		DCH1165
C	408,420,423,425		CKSSYB104K10
C	409,410		CKSSYB105K6R3
C	413,428,432		CKSSYB104K16
C	414,416,435,470		CKSSYB103K16
C	417,419		CKSRYB105K10
C	418,430,467		VCG1063
C	421,434,497,1006		CCSSCH331J50
C	437		CKSRYB474K10
C	438,444,446,447		CKSSYB104K10
C	440		CKSSYB222K50
C	442,443		DCH1165

Mark	No.	Description	Part No.
	C	452	CEHVAW470M16
	C	453,455,458-460	CKSSYB104K10
	C	461	CKSRYB104K16
	C	462,475,478,480	CKSSYB104K10
	C	472-474,495,1001	VCG1063
	C	483-485	CKSSYB221K50
	C	487,491-494	CCSSCH101J50
	C	496,1003	CKSRYB103K50
	C	498,1004	CKSSYB103K16
	C	1007	CCSSCH331J50

D JACK ASSY

SEMICONDUCTORS

	Q	701-704	INC2002AC1
	D	701,702	1SS352
	D	703-706,708-712	RKZ5.6KG(B2)
	D	707	NNCD6.2MF

MISCELLANEOUS

	JA	701 RCA 2 PIN JACK	XKB3057
	JA	702 JACK	VKB1243
	JA	703 USB-B CONNECTOR	DKN1237
	CN	701 17P CONNECTOR	VKN1277

RESISTORS

	All Resistors		RS1/10SR###J

CAPACITORS

	C	701,702	CEANP101M16
	C	703	CKSRYB105K10
	C	704,705,710,711	CCSRCH102J50
	C	707	CEAT471M16

E PNLB ASSY

SEMICONDUCTORS

	IC	501	PEG740A8-K
	IC	502	BU4242G
	IC	504	BD2051AFJ
⚠	IC	505	NJM2845DL1-05
	Q	501	LSC4081UB
	Q	502	2SA2092
	Q	503-511,513-516	RT1N241M
	Q	512,519	RT1P241M-11
	Q	517	2SD1898
	Q	518	2SA1576A
	D	501,523,524	RKZ5.6KG(B2)
	D	504	SLI-343M8C(FGHJ)
	D	505-508,515	SLI-343Y8C(KLMN)
	D	509-511,514	SLR-343MC(NPQ)
	D	512,517	SLR-343VC(NPQ)
	D	513	SPR-39MVWF(MN)
	D	516	SLR343BC4T(JKLM)
	D	519,520,522	1SS352
	D	525	NNCD6.2MF

MISCELLANEOUS

	L	501-504 INDUCTOR	CTF1378
	JA	505 USB-A CONNECTOR	DKN1620
	V	501 VFD	DEL1072
	VR	501 VR	DCV1009
	S	501-511,525 SWITCH	VSG1024
	S	512-515,518-524 TACT SWITCH	DSG1079
	S	516,517 TACT SWITCH	DSG1117
	S	527 ROTARY SW	YSD5019
	X	501 CRYSTAL RESONATOR (15.975 MHz)	DSS1166
	CN	501 L-PLUG(4P)	KM200NA4L
	CN	502 27P CONNECTOR	VKN1287
	CN	504 L-PLUG(3P)	KM200NA3L
	0	LED SPACER	DEC3335

RESISTORS

	R	513,514	RS1/10SR2201F
	R	616	RS1/10SR1001F
	R	617	RS1/10SR2701F
	R	631-634	RS1/8SQ1R8J
	Other Resistors		RS1/10SR###J

CAPACITORS

	C	501	CEJQ101M16
	C	502,506,508-510	CKSRYB103K50
	C	504,507	CEJQ470M16
	C	505,513	CEHAR101M10
	C	511	CEHAR100M50
	C	514-519	CKSRYB102K50
	C	520,548	CKSRYB474K10
	C	521,551,556,557	CCSRCH102J50
	C	522	DCH1319
	C	523,531,532,537	CKSRYB104K16
	C	526,527,546,553	CKSRYB103K50
	C	528,578	CKSRYB104K50
	C	529,530,590	CCSRCH100D50
	C	533,589	CCSRCH101J50
	C	535	CCSRCH470J50
	C	544,554	CKSRYB104K16
	C	547	DCH1324
	C	552,567	CKSRYB105K10
	C	558,559,564,566	CKSRYB103K50
	C	560,574,586	CCSRCH331J50
	C	562	CCSRCH821J50
	C	563,565,577,585	CCSRCH102J50
	C	568,569,571,579	CKSQYB225K10
	C	570	CKSQYB104K25
	C	580,584,587,591	CKSRYB103K50
	C	588	CKSQYB225K10

F TCHB ASSY

SEMICONDUCTORS

	IC	801	GP1S094HCZ0F
	Q	801	LSC4081UB
	D	801	1SS352

MISCELLANEOUS

	CN	801 L-PLUG(3P)	KM200NA3L

RESISTORS

	All Resistors		RS1/10SR###J

CAPACITORS

	C	801	CKSRYB104K16

Mark	No.	Description	Part No.

G JOGB ASSY

MISCELLANEOUS

CN 851	CONNECTOR ASSY 4P	DKP3864

RESISTORS

All Resistors		RS1/10SR###J

MISCELLANEOUS

PC 851	PHOTO INTERRUPTER	SEDS-7573

CAPACITORS

C 851	CKSQYB225K10
C 852,853	CKSRYB103K50

H SMPS ASSY

There is no service parts.