

CASIO®

SERVICE MANUAL & PARTS LIST

(without price)

AP-620

SEP. 2009



AP-620

ELECTRONIC KEYBOARD

Ver. 3 : Jan. 2010

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SPECIFICATIONS

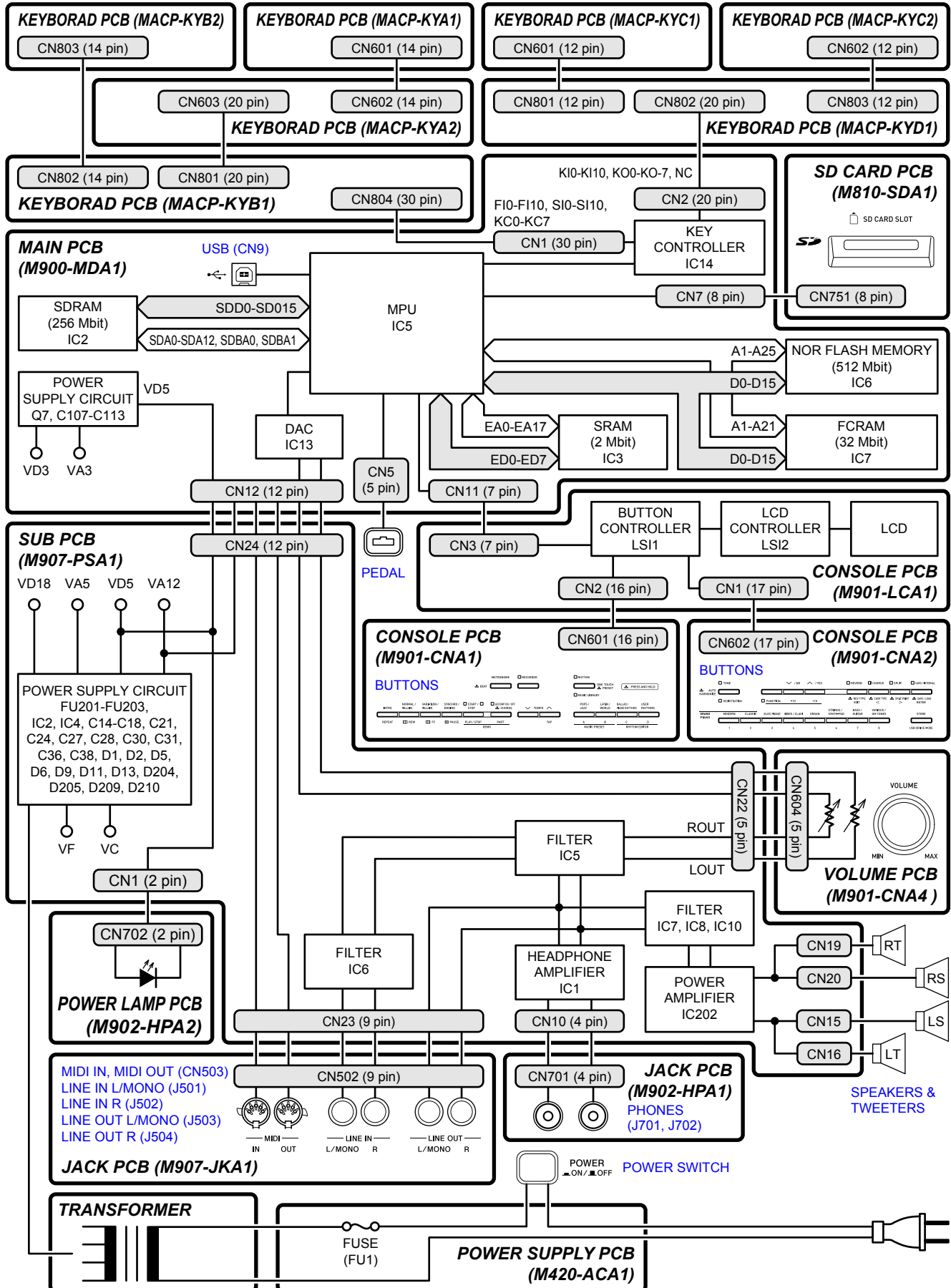
Keyboard	88-key piano keyboard, with Touch Response (3 types)
Maximum Polyphony	128 notes
Tones	250 (with Layer and Split)
Effects	Reverb (4 types), Chorus (4 types), Brilliance (–3 to 0 to 3), Acoustic Resonance
Metronome	Beats per measure: 0, 2, 3, 4, 5, 6 Tempo Range: 20 to 255
Duet	Adjustable tone range: 0 to 3 octaves for the left keyboard; –4 to –1 octaves for the right keyboard
Auto Accompaniment	Built-in Rhythms: 180 User Rhythms: Up to 10 (Approximately 40 KB* maximum per rhythm) One Touch Presets: 180 types Auto Harmonize: 12 types
Demo Songs	68 (8 tone demo songs; 60 Music Library songs)
Music Library	Built-in Songs: 60 User Songs: Up to 10 (320 KB* maximum per song)
Music Presets	Built-in Presets: 300 User Presets: Up to 50 (Approximately 8 KB* maximum per preset)
Registration Recorder	(4 rhythm areas + 8 tone areas) × 8 banks Functions: Real-time recording, playback Number of Songs: 5 Number of Tracks: 17 (System Track + Tracks 01 through 16) Capacity: Approximately 50,000 notes total (Up to approximately 10,000 notes per song) Punch-in recording
Pedals	Damper (with half-pedal operation), Soft, Sostenuto
Other Functions	Transpose: ±1 octave (–12 to 00 to 12) Tuning: A4 = 440.0 Hz ±99 cents Octave Shift: ±2 octaves Temperaments: 17 types Stretch Tune Panel Lock
MIDI	16 multi-timbre received, GM Level 1 standard
SD Memory Card	SD memory card slot Supported SD Memory Cards: Up to 2 GB Functions: SMF playback, file storage, file recall, card format
Inputs/Outputs	PHONES jacks: Stereo standard jacks × 2 MIDI OUT/IN terminals LINE OUT R, L/MONO jacks: Standard jacks × 2 Output impedance: 2.8 KΩ Output voltage: 1.8 V (RMS) MAX LINE IN R, L/MONO jacks: Standard jacks × 2 Input impedance: 9.0 KΩ Input voltage: 200 mV USB port: Type B Pedal connector

Speakers	ϕ 16 cm \times 2 + ϕ 5 cm \times 2 (Output 30 W + 30 W)
Power Requirements	120 V, 220-240 V
Power Consumption	78 W
Dimensions	Digital Piano and Stand: 141.2 (W) \times 49.2 (D) \times 90.0 (H) cm ($55 \frac{5}{8} \times 19 \frac{3}{8} \times 35 \frac{7}{16}$ inch)
Weight	Digital Piano and Stand: Approximately 57.1 kg (125.9 lbs)

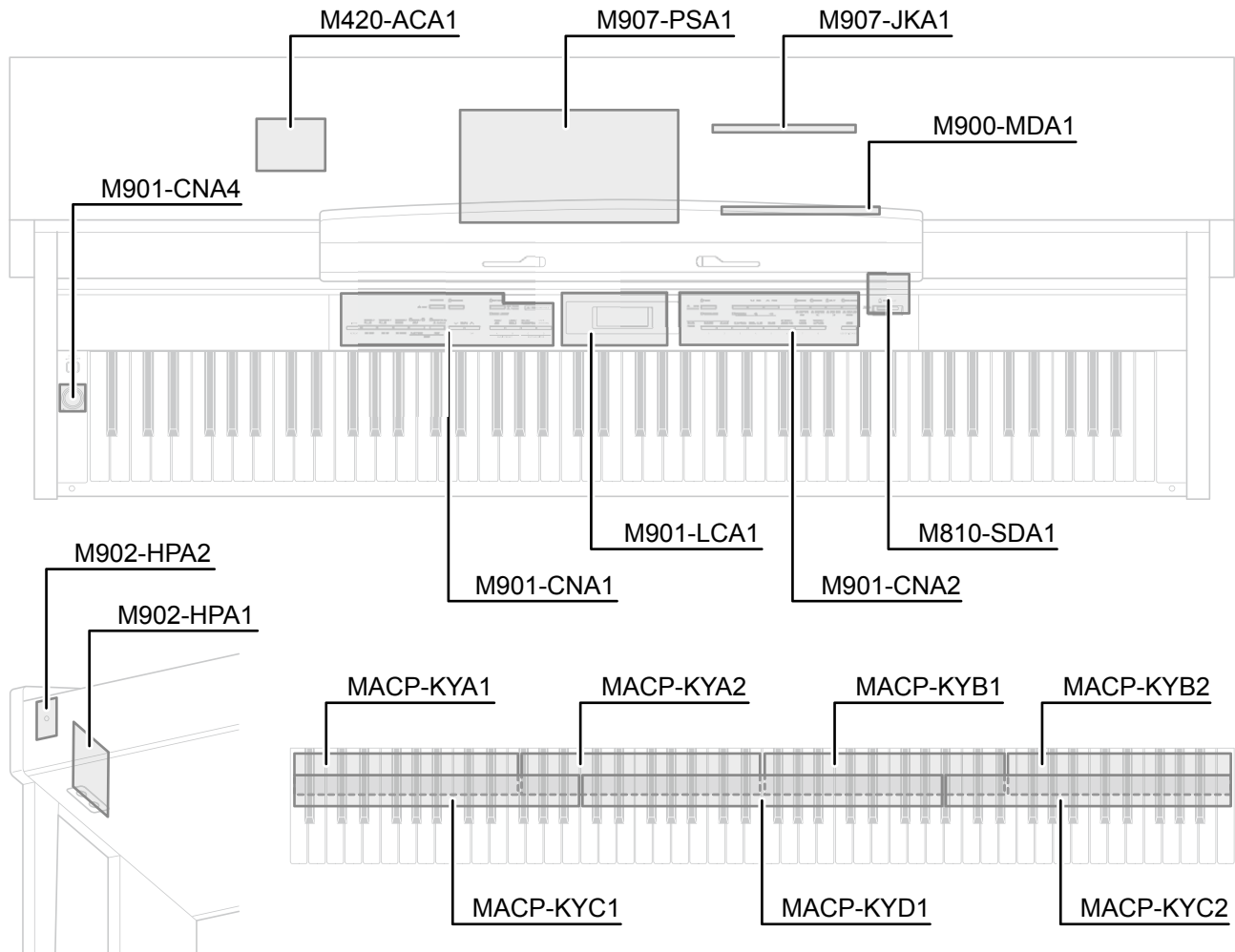
* Based on 1 KB = 1024 bytes, 1 MB = 1024² bytes

* Specifications and designs are subject to change without notice.

BLOCK AND WIRING DIAGRAM



PCB LAYOUT



PCBs		Components	
Main PCB	M900-MDA1	MPU, Reset IC, SDRAM (256 Mbit), SRAM (2 Mbit), Flash Memory (512 Mbit), FCRAM (32 Mbit), Power Supply Circuit, Key Controller, USB Port	
Sub PCB	M907-PSA1	Power Supply Circuit, Filter, Power Amplifier, Headphones Amplifier	
Console PCBs	M901-LCA1	LCD, LCD Controller, Button Controller	
	M901-CNA1	Buttons	
	M901-CNA2	Buttons	
Volume PCB	M901-CNA4	Main Volume	
Jack PCBs	M902-HPA1	Phones Jacks	
	M901-JKA1	MIDI IN/OUT Jacks, LINE IN/OUT Jacks	
SD Card PCB	M810-SDA1	SD Card Slot	
Power Lamp PCB	M902-HPA2	Power Lamp	
Power Supply PCB	M420-ACA1	Power Supply Circuit, Fuse (FU1)	
Keyboard PCBs	MACP-KYA1	MACP-KYC1	Keyboard
	MACP-KYA2	MACP-KYC2	
	MACP-KYB1	MACP-KYD1	
	MACP-KYB2		

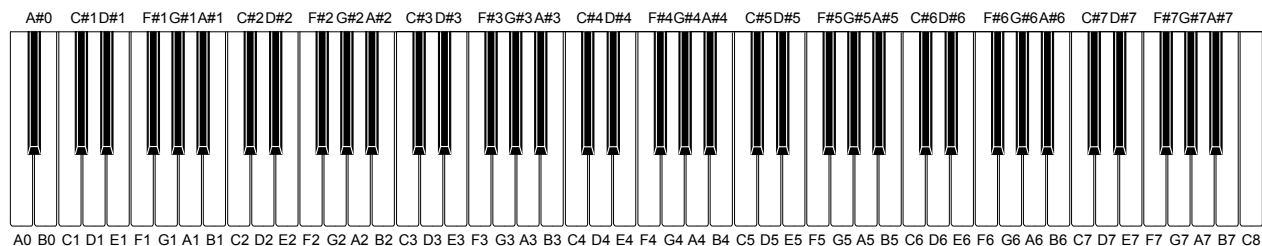
CIRCUIT DESCRIPTION

KEY MATRIX

	KC0	KC1	KC2	KC3	KC4	KC5	KC6	KC7
F10	A0①	A0#①	B0①	C1①	C1#①	D1①	D1#①	E1①
SI0	A0②	A0#②	B0②	C1②	C1#②	D1②	D1#②	E1②
F11	F1①	F1#①	G1①	G1#①	A1①	A1#①	B1①	C2①
SI1	F1②	F1#②	G1②	G1#②	A1②	A1#②	B1②	C2②
F12	C2#①	D2①	D2#①	E2①	F2①	F2#①	G2①	G2#①
SI2	C2#②	D2②	D2#②	E2②	F2②	F2#②	G2②	G2#②
F13	A2①	A2#①	B2①	C3①	C3#①	D3①	D3#①	E3①
SI3	A2②	A2#②	B2②	C3②	C3#②	D3②	D3#②	E3②
F14	F3①	F3#①	G3①	G3#①	A3①	A3#①	B3①	C4①
SI4	F3②	F3#②	G3②	G3#②	A3②	A3#②	B3②	C4②
F15	C4#①	D4①	D4#①	E4①	F4①	F4#①	G4①	G4#①
SI5	C4#②	D4②	D4#②	E4②	F4②	F4#②	G4②	G4#②
F16	A4①	A4#①	B4①	C5①	C5#①	D5①	D5#①	E5①
SI6	A4②	A4#②	B4②	C5②	C5#②	D5②	D5#②	E5②
F17	F5①	F5#①	G5①	G5#①	A5①	A5#①	B5①	C6①
SI7	F5②	F5#②	G5②	G5#②	A5②	A5#②	B5②	C6②
F18	C6#①	D6①	D6#①	E6①	F6①	F6#①	G6①	G6#①
SI8	C6#②	D6②	D6#②	E6②	F6②	F6#②	G6②	G6#②
F19	A6①	A6#①	B6①	C7①	C7#①	D7①	D7#①	E7①
SI9	A6②	A6#②	B6②	C7②	C7#②	D7②	D7#②	E7②
F110	F7①	F7#①	G7①	G7#①	A7①	A7#①	B7①	C8①
SI10	F7②	F7#②	G7②	G7#②	A7②	A7#②	B7②	C8②

	KO0	KO1	KO2	KO3	KO4	KO5	KO6	KO7
KI0	A0③	A0#③	B0③	C1③	C1#③	D1③	D1#③	E1③
KI1	F1③	F1#③	G1③	G1#③	A1③	A1#③	B1③	C2③
KI2	C2#③	D2③	D2#③	E2③	F2③	F2#③	G2③	G2#③
KI3	A2③	A2#③	B2③	C3③	C3#③	D3③	D3#③	E3③
KI4	F3③	F3#③	G3③	G3#③	A3③	A3#③	B3③	C4③
KI5	C4#③	D4③	D4#③	E4③	F4③	F4#③	G4③	G4#③
KI6	A4③	A4#③	B4③	C5③	C5#③	D5③	D5#③	E5③
KI7	F5③	F5#③	G5③	G5#③	A5③	A5#③	B5③	C6③
KI8	C6#③	D6③	D6#③	E6③	F6③	F6#③	G6③	G6#③
KI9	A6③	A6#③	B6③	C7③	C7#③	D7③	D7#③	E7③
KI10	F7③	F7#③	G7③	G7#③	A7③	A7#③	B7③	C8③

NOMENCLATURE OF KEYS



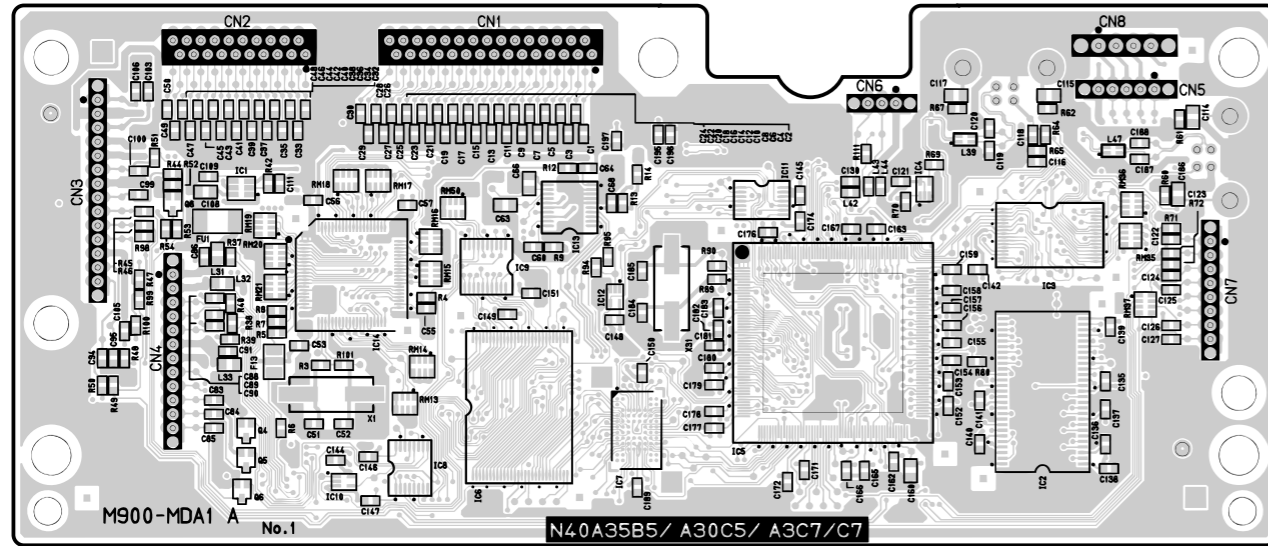
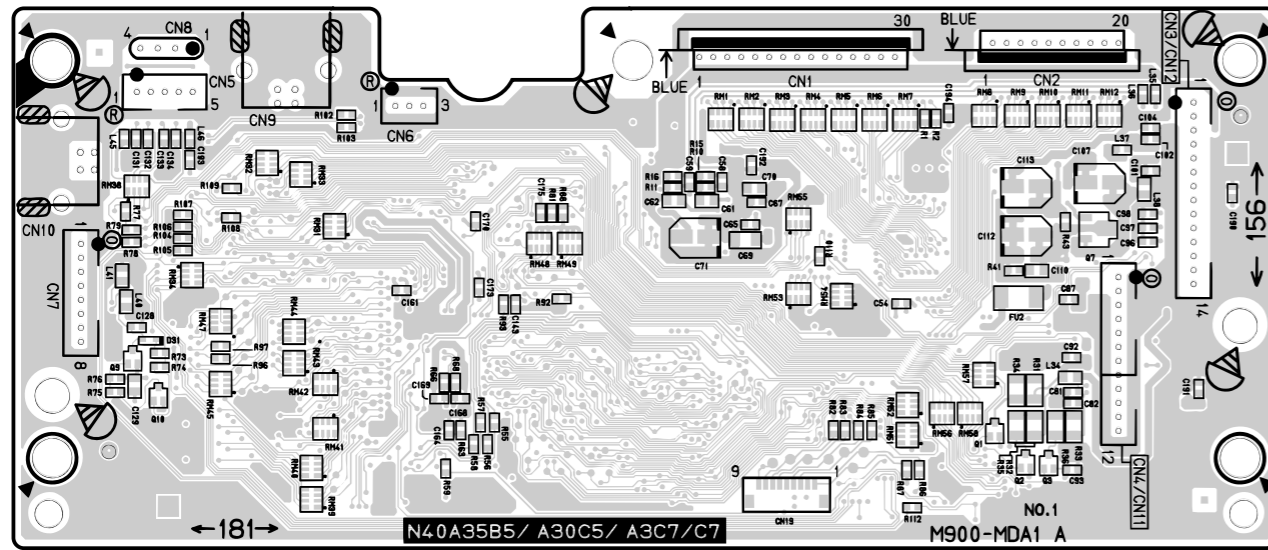
BUTTON MATRIX

	KC0	KC1	KC2	KC3
KI0	INTRO/REPEAT	START/STOP, PLAY/STOP	VARIATION/FILL-IN, ▶▶ FF	TEMPO DOWN
KI1	ACCOMP ON/OFF, PART	NORMAL/FILL-IN, ◀◀ REW	TEMPO UP	SYNCHRO/ENDING, PAUSE
KI2	RECORDER	POPS/JAZZ, MUSIC PRESET	RHYTHM, MUSIC LIBRARY	BALLAD/ PIANO RHYTHMS, RHYTHM EDITOR
KI3	LATIN/WORLD, MUSIC PRESET	METRONOME	USER RHYTHMS, RHYTHM EDITOR	—

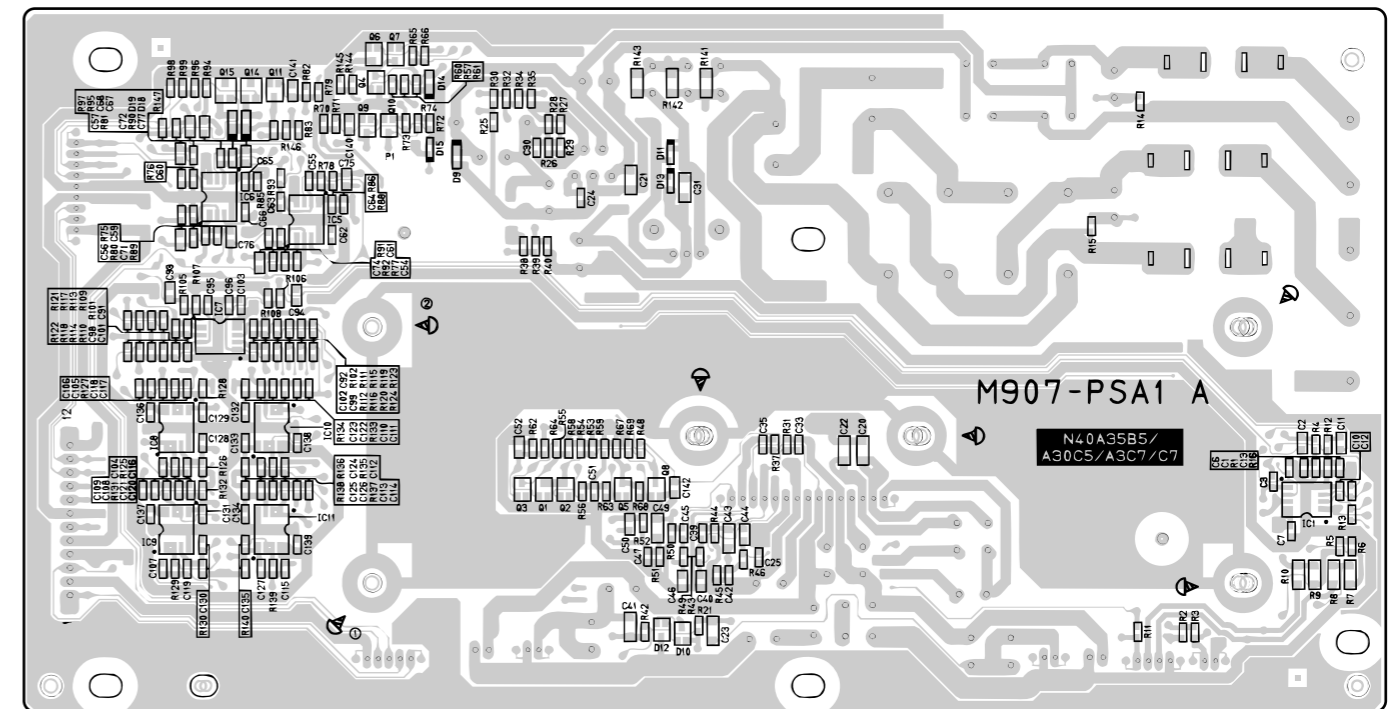
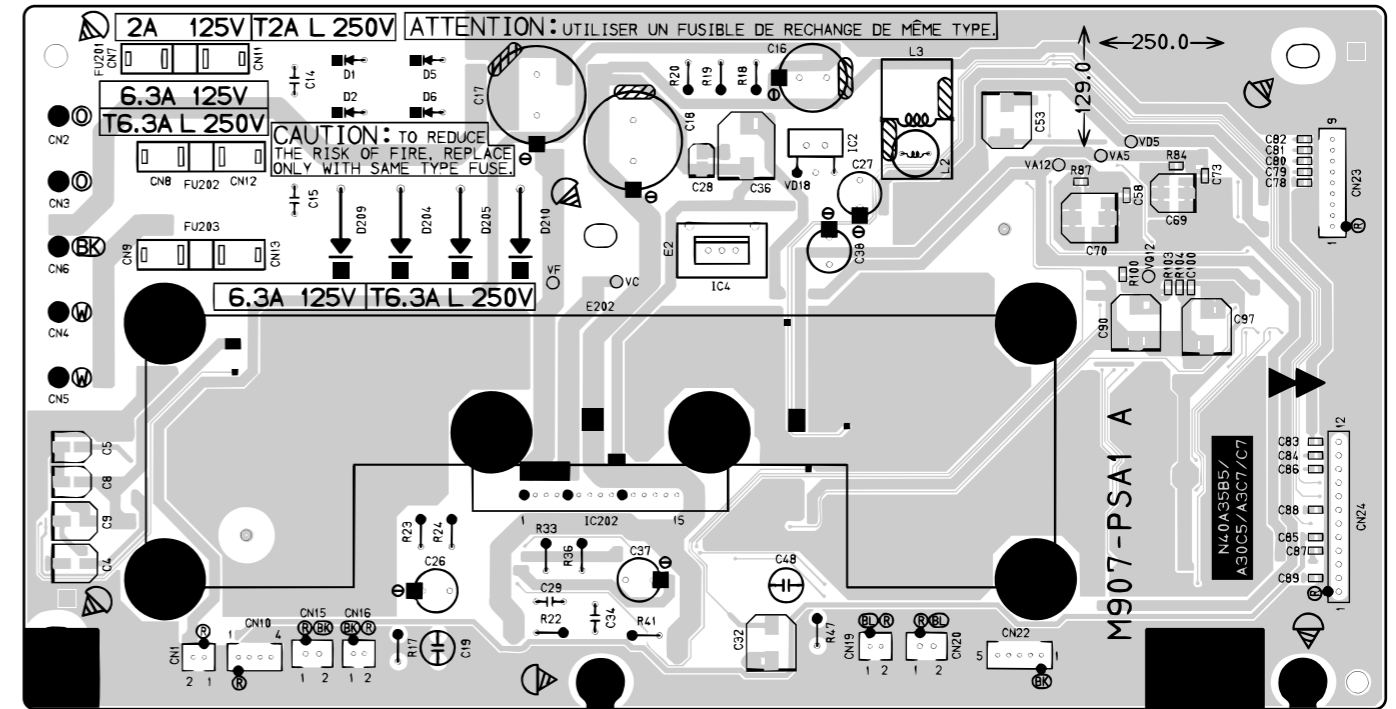
	2KC0	2KC1	2KC2	2KC3	2KC4
2KI4	GRAND PIANO (MODERN)	ORGAN	ELEC PIANO	BASS/GUITAR	STORE, USB DEVICE MODE
2KI5	STRINGS/ SYNTH-PAD	GRAND PIANO (CLASSIC)	VARIOUS/ GM TONES	VIBES/CLAVI	—
2KI6	TONE, REGISTRATION	REVERB, REV TYPE, EXIT	v / NO	SPLIT, SPLIT POINT, >	—
2KI7	CHORUS, CHOR TYPE, <	FUNCTION	CARD/INTERNAL, SAVE/LOAD, ENTER	^ / YES	—

PRINTED CIRCUIT BOARDS

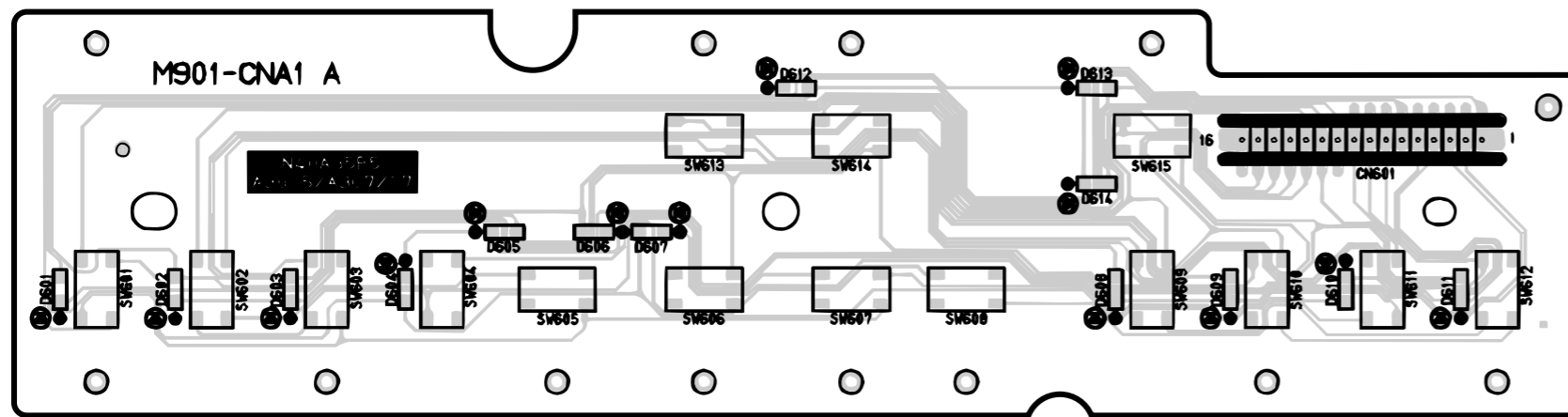
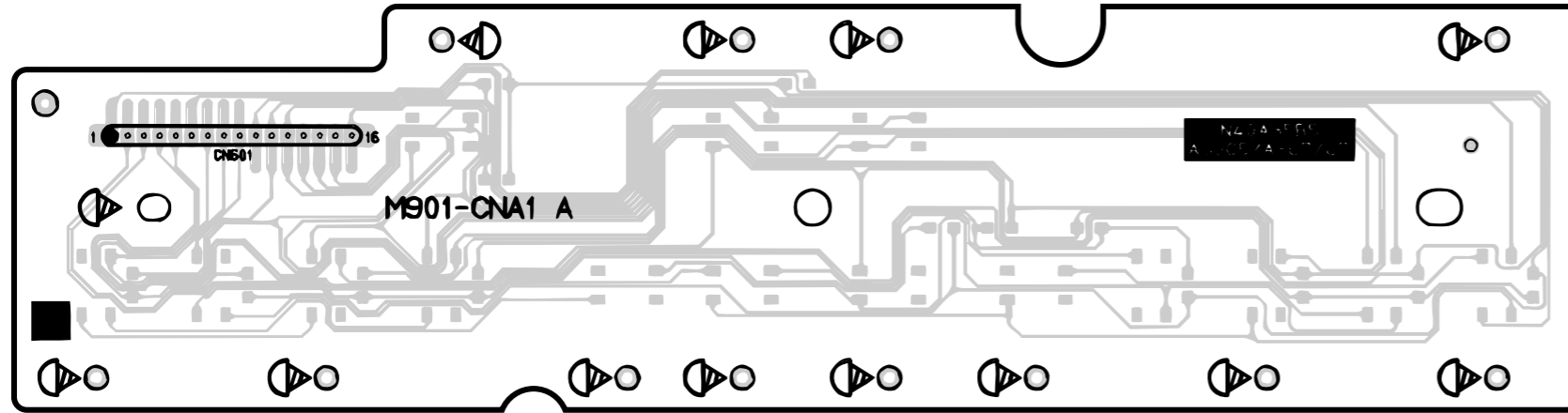
Main PCB M900-MDA1



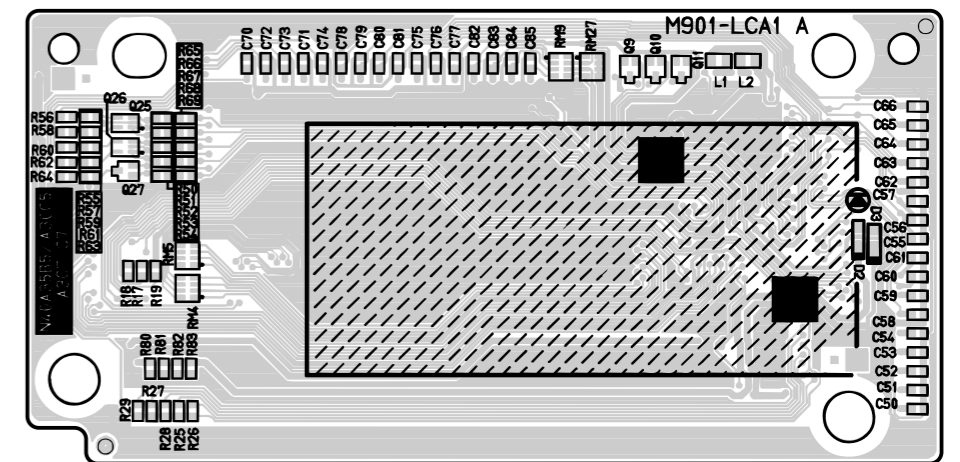
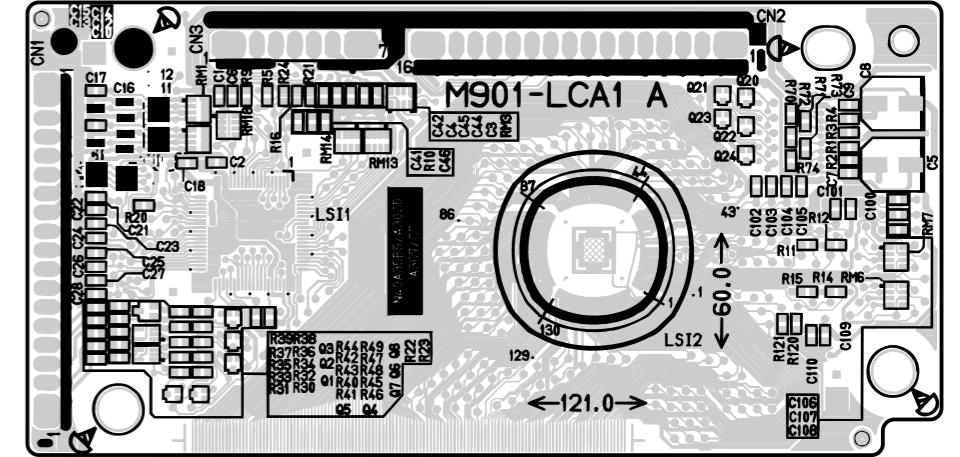
Sub PCB M907-PSA1



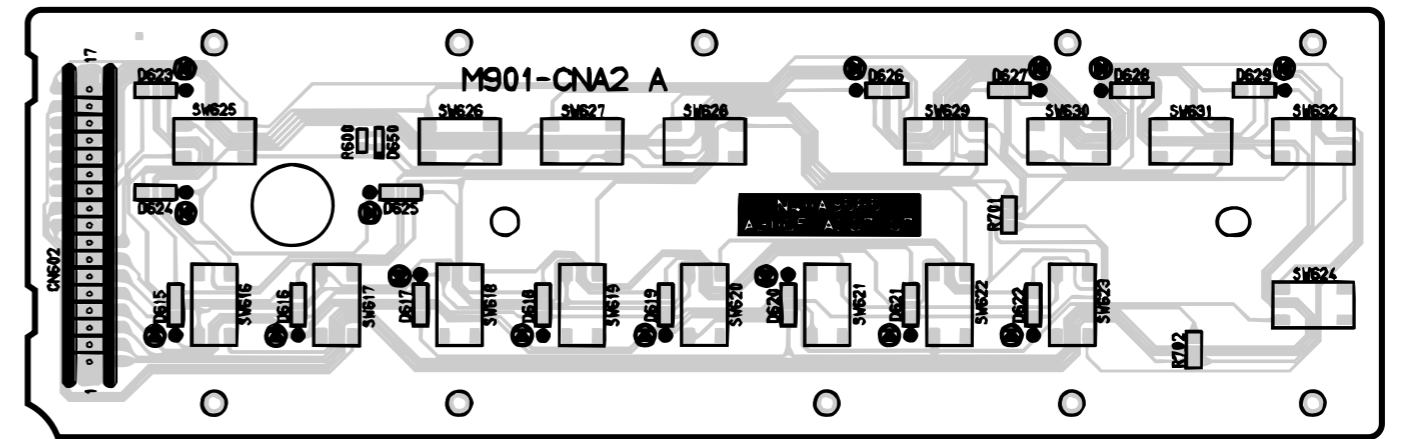
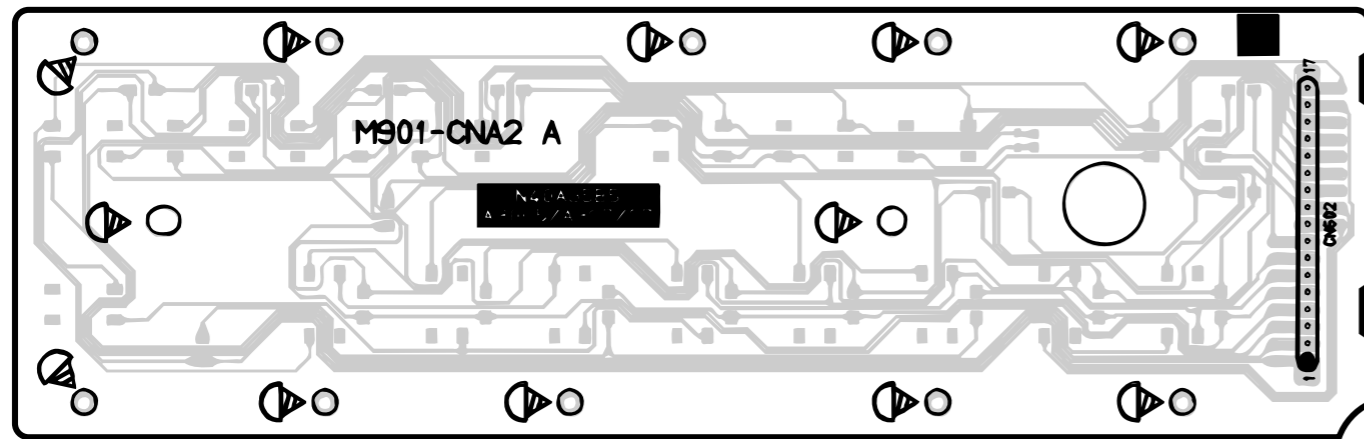
Console PCB M901-CNA1



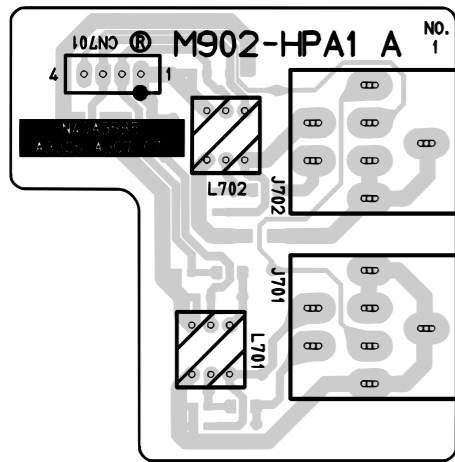
Console PCB M901-LCA1



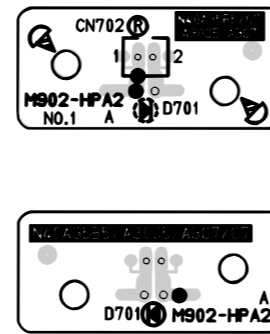
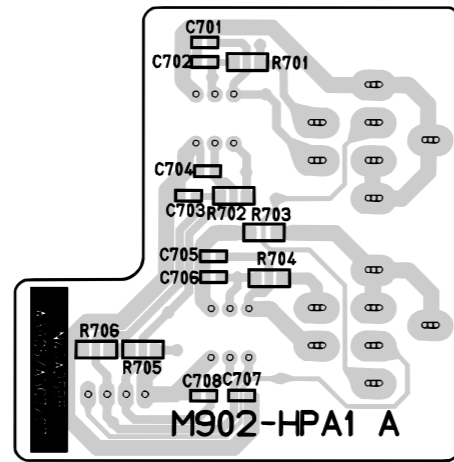
Console PCB M901-CNA2



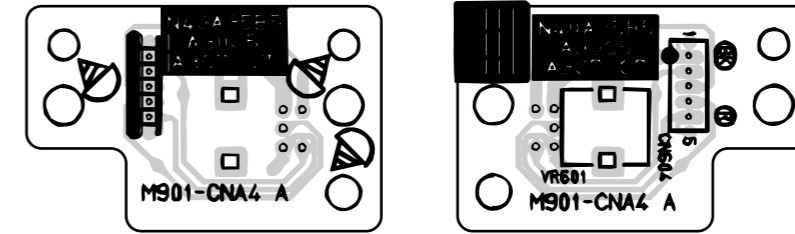
Jack PCB M902-HPA1



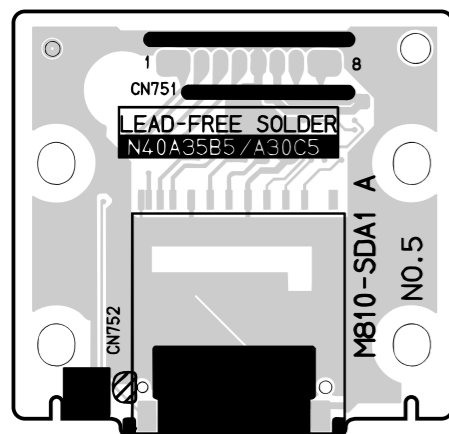
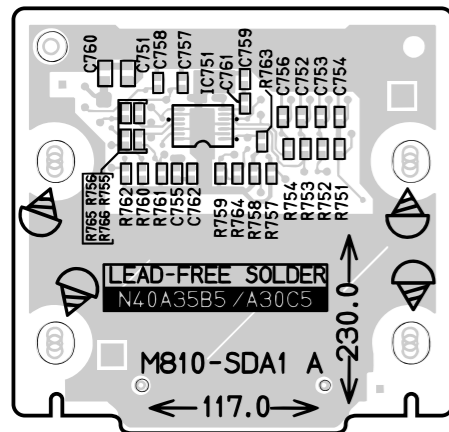
Power Lamp PCB M902-HPA2



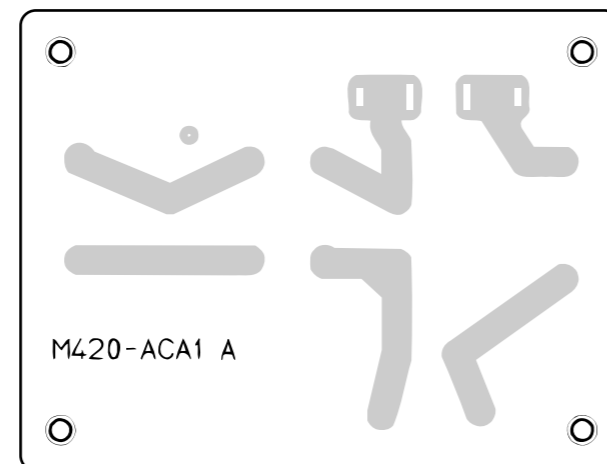
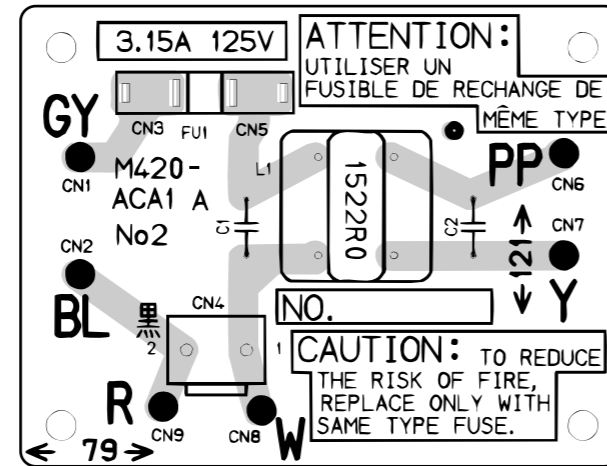
Volume PCB M901-CNA4



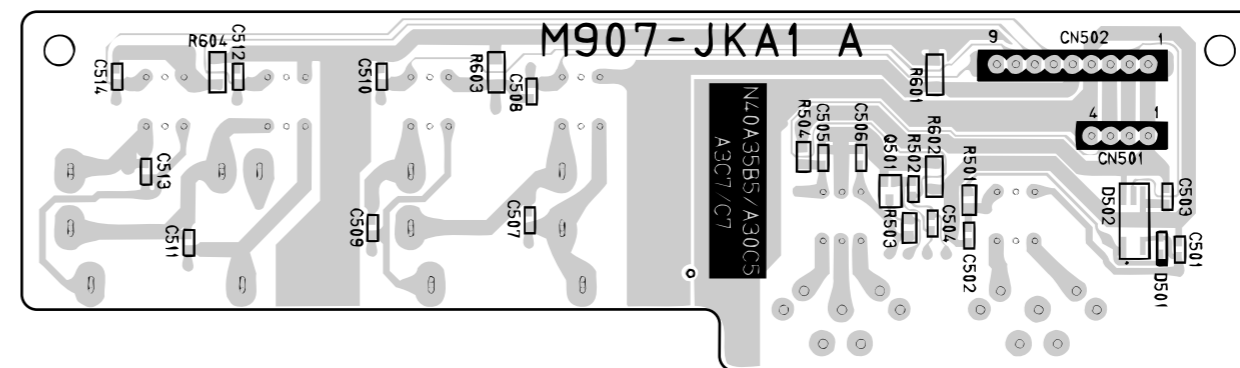
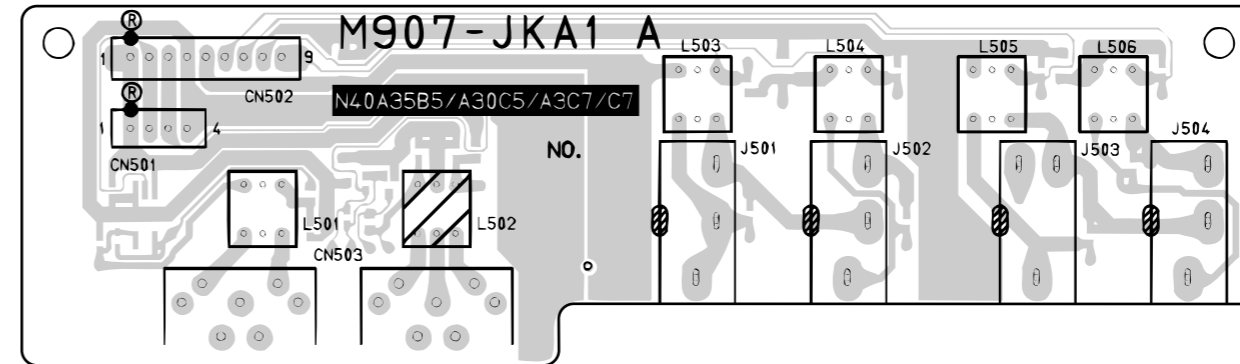
SD Card PCB M810-SDA1



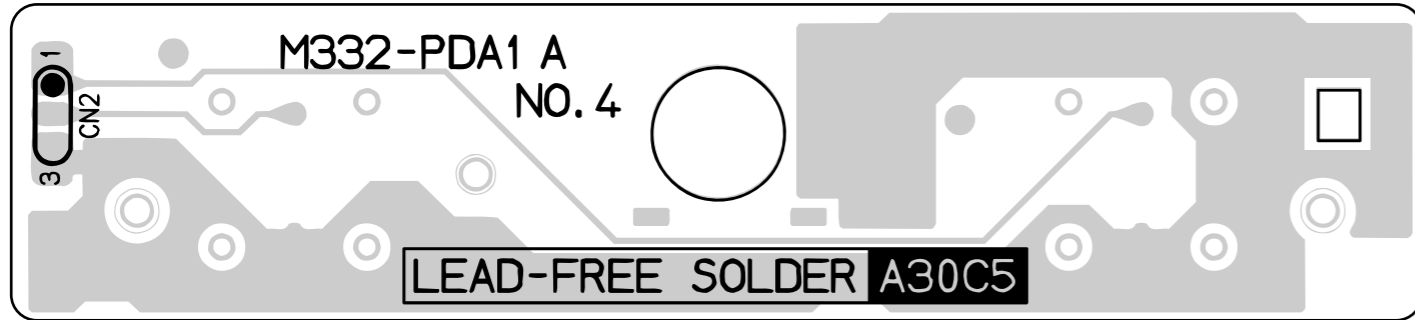
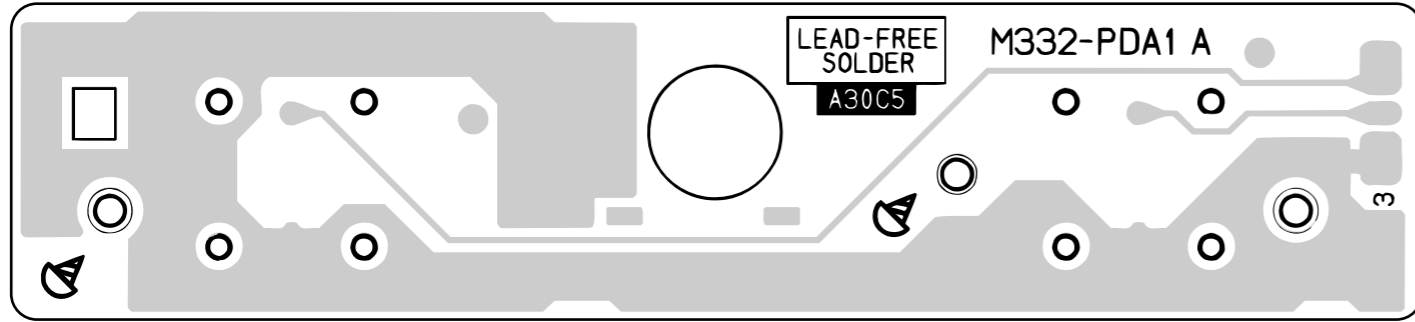
Power Supply PCB M420-ACA1



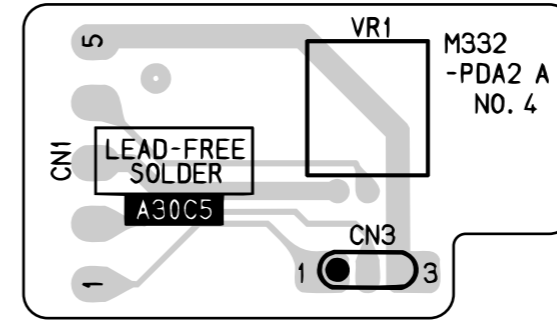
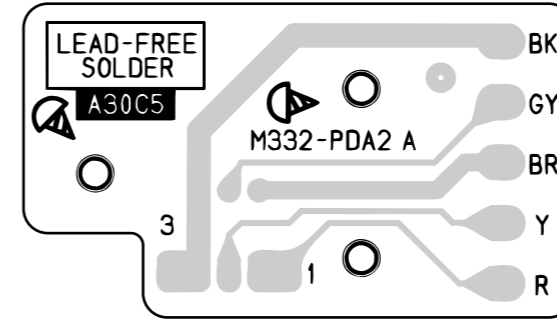
Jack PCB M907-JKA1



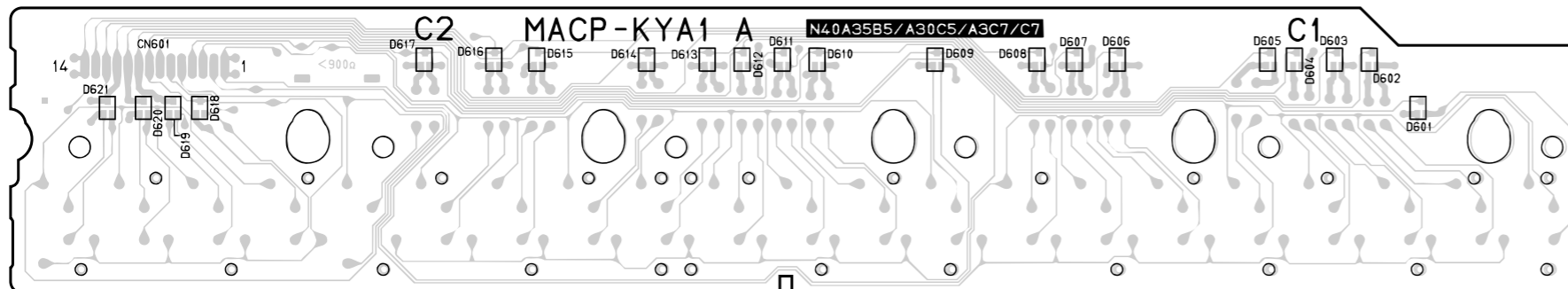
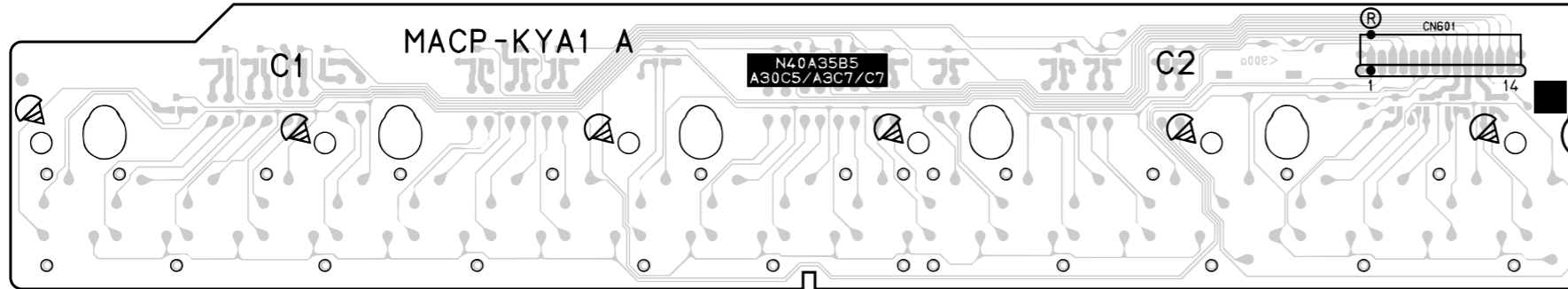
Pedal PCB M332-PDA1



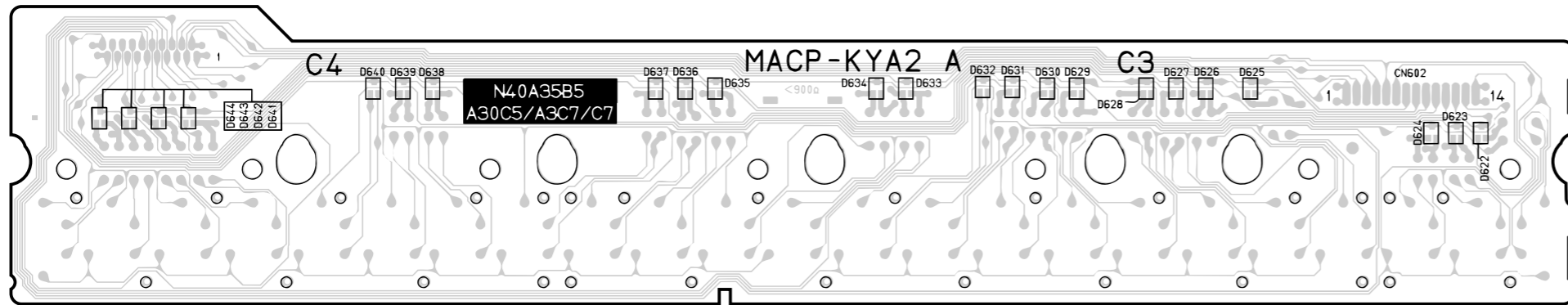
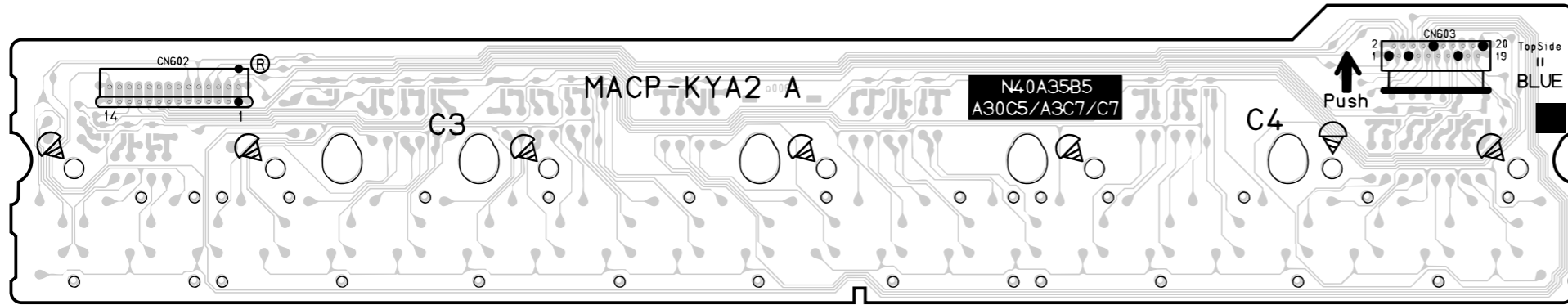
Pedal PCB M332-PDA2



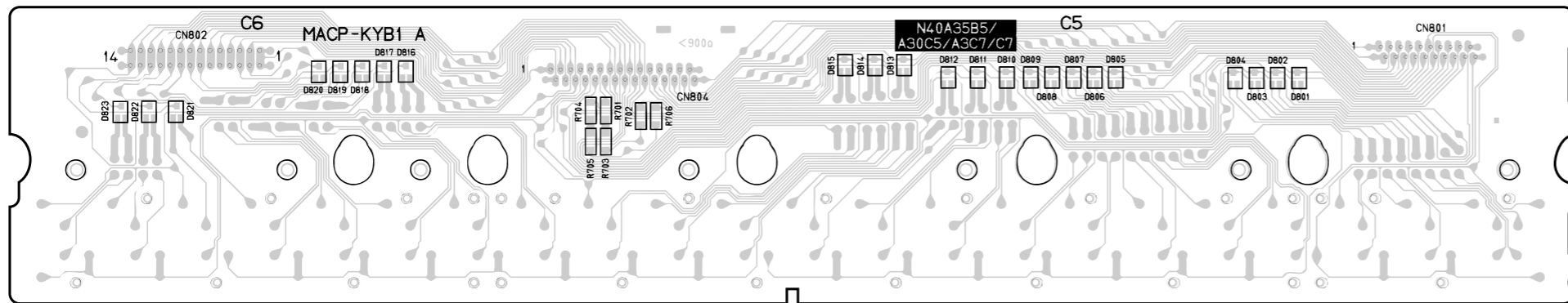
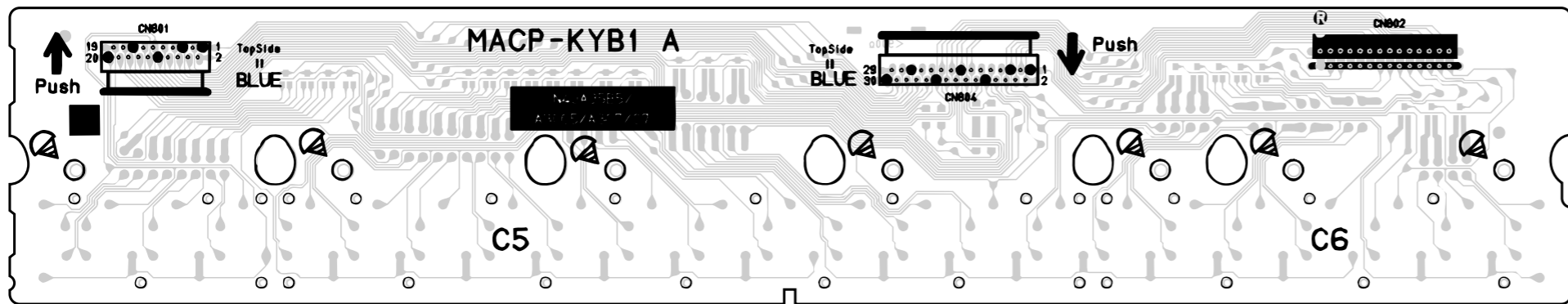
Keyboard PCB MACP-KYA1



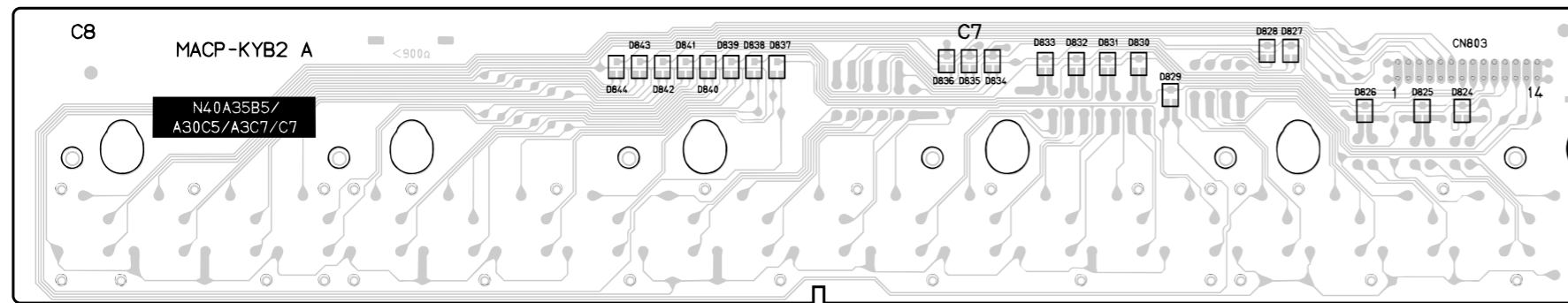
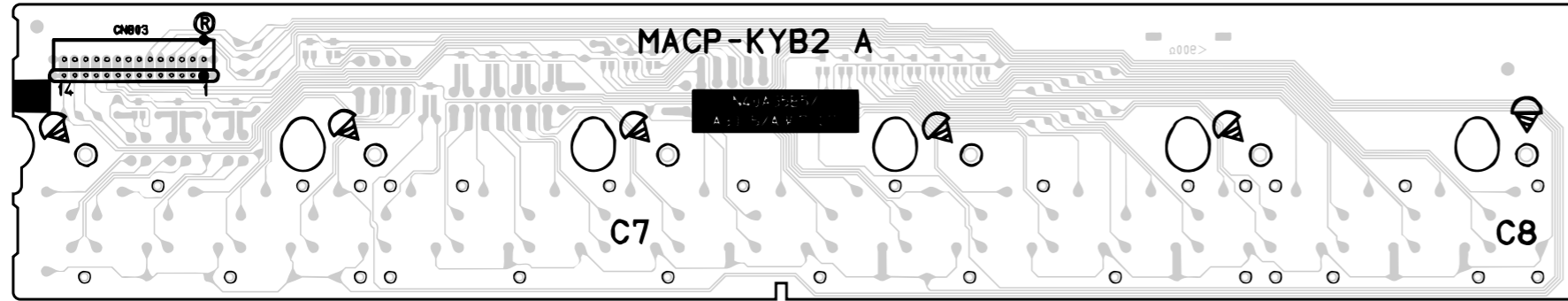
Keyboard PCB MACP-KYA2



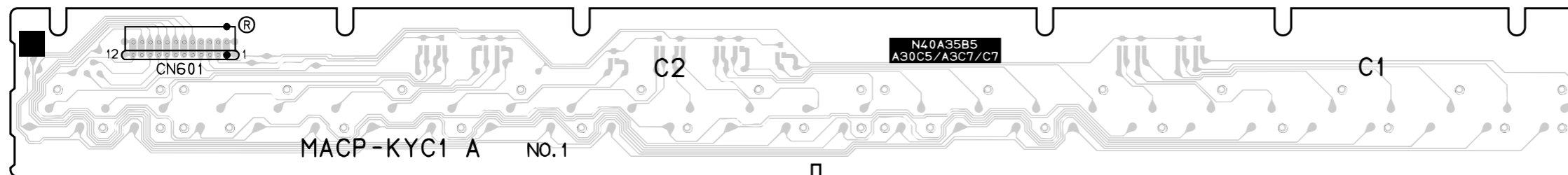
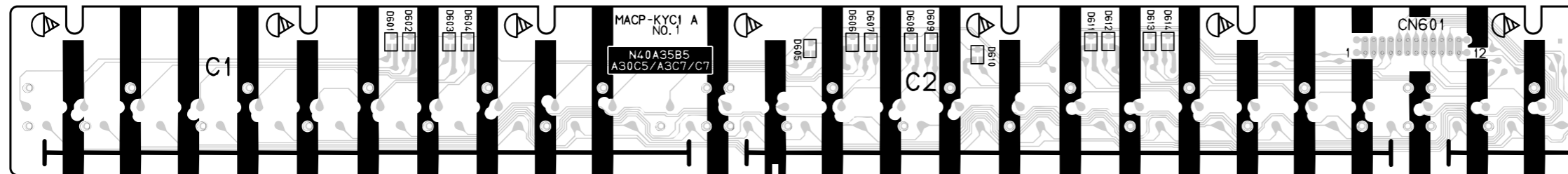
Keyboard PCB MACP-KYB1



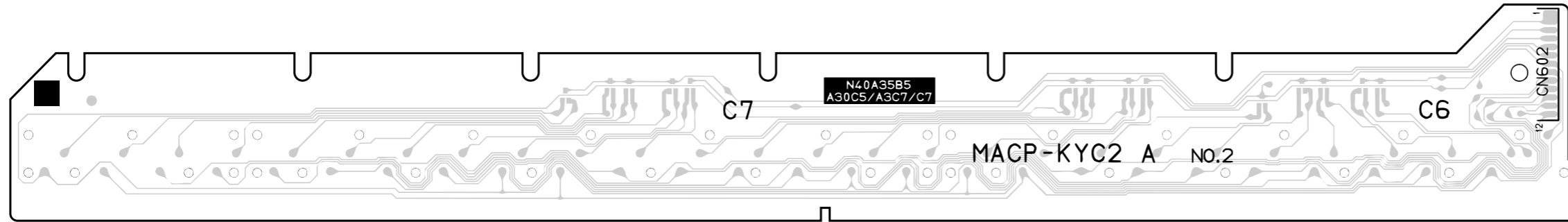
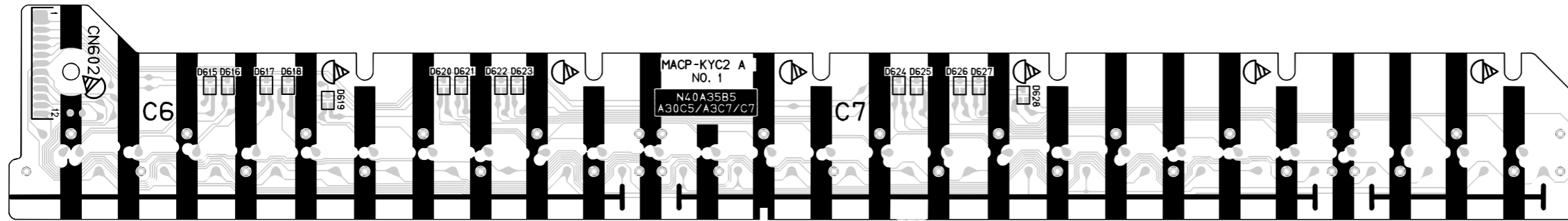
Keyboard PCB MACP-KYB2



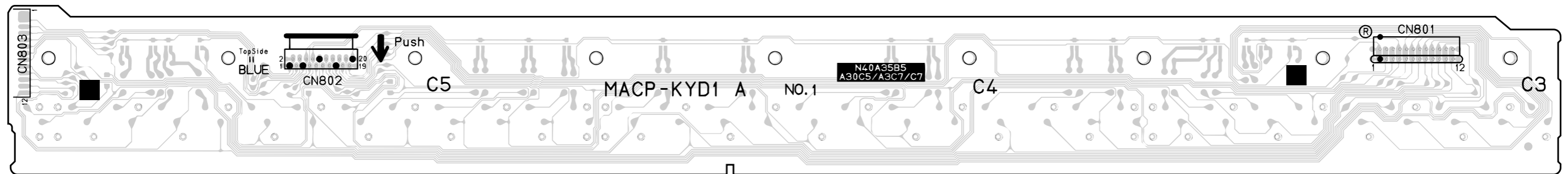
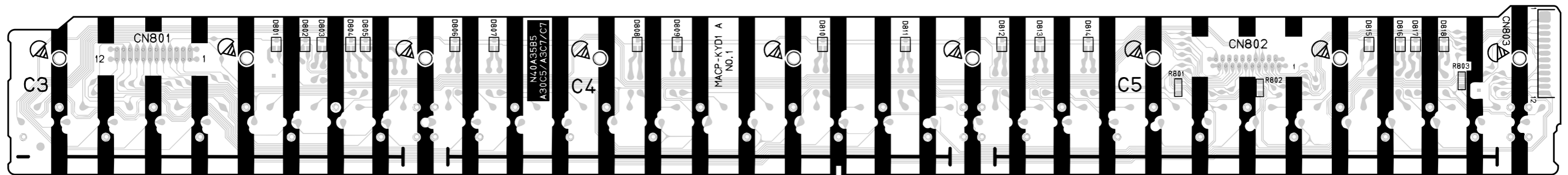
Keyboard PCB MACP-KYC1



Keyboard PCB MACP-KYC2



Keyboard PCB MACP-KYD1



DISASSEMBLY

■ CAUTION

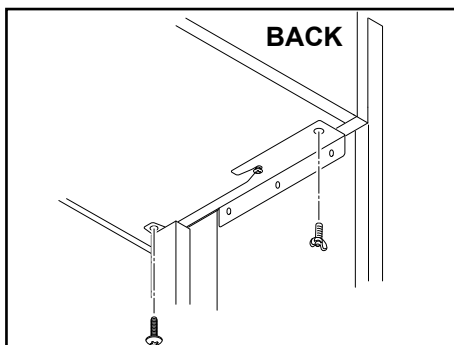
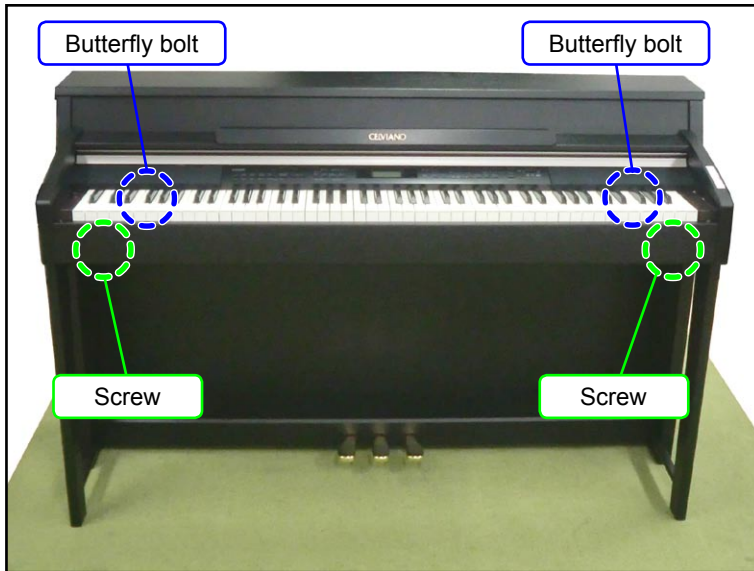
- The photos show a prototype. The appearance of the instrument, such as color, may differ from the actual model.
- To avoid damages to the instrument and the floor, lay the instrument on a mattress or blanket before starting disassembling.
- Some screws are attached with a screw cap.
Be sure to reattach the screw cap when reassembling.

■ Before Starting Repair or Servicing

- Remove the AC adaptor or the AC cord.
- Remove accessories such as the music stand.
- Remove the pedal unit plug from the pedal connector.

■ Removing the main unit

1. Undo two screws and two butterfly bolts on the bottom surface of the unit.

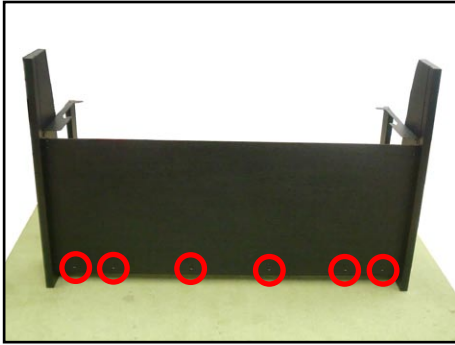


2. Close the key cover.
 3. Dismount the main unit from the stand.
- NOTE: Dismounting or mounting the unit to the stand must be done by two or more people.

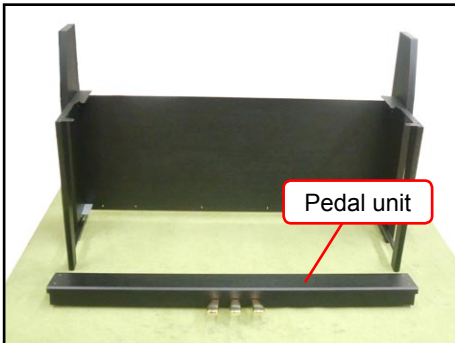
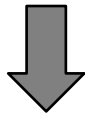
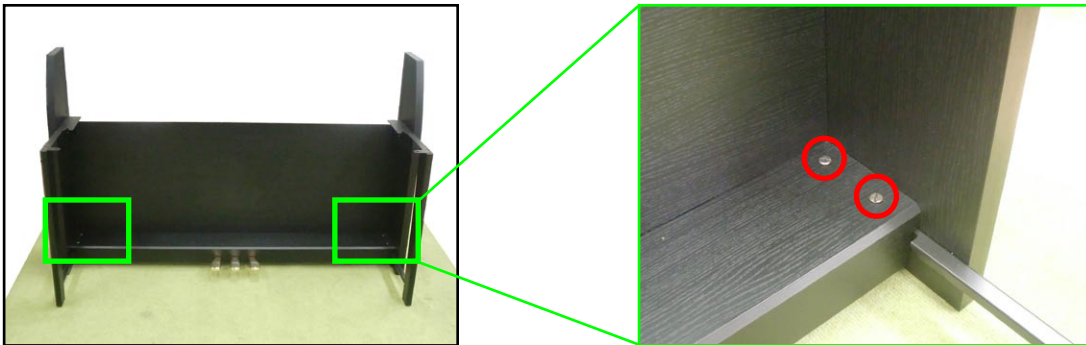


■ Removing the pedal unit

1. Undo six screws on the back surface of the stand.

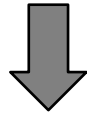
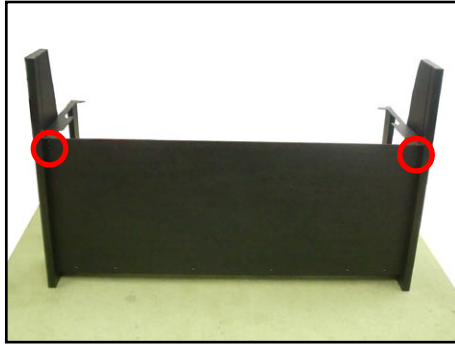


2. Undo four screws and then remove the pedal unit.



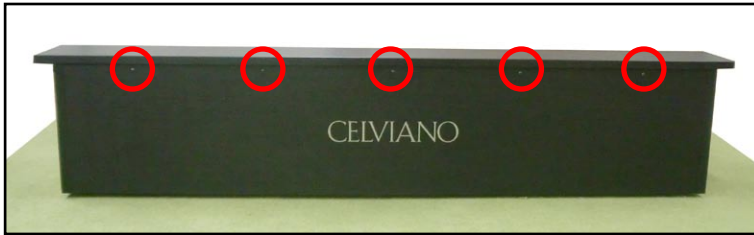
■ Removing the stand

1. Undo two screws on the back surface of the stand and then remove the stand.

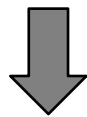


■ Removing the T-BRD-ASSY

1. Undo five screws.



2. Remove the T-BRD-ASSY.

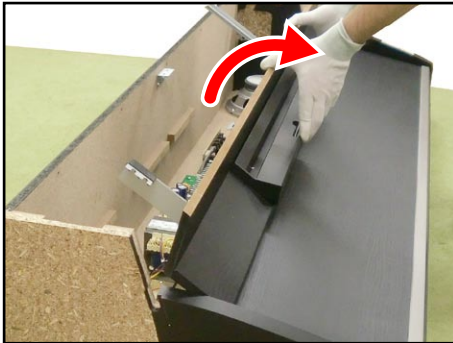


■ Removing the MS-TR-BRD-ASSY2

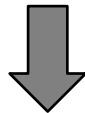
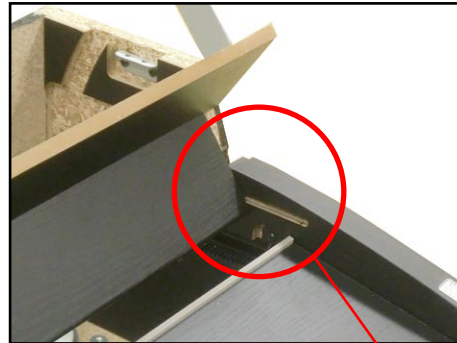
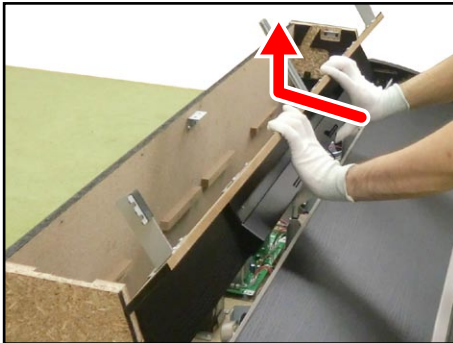
1. Undo five screws.



2. Lift up the MS-TR-BRD-ASSY2.

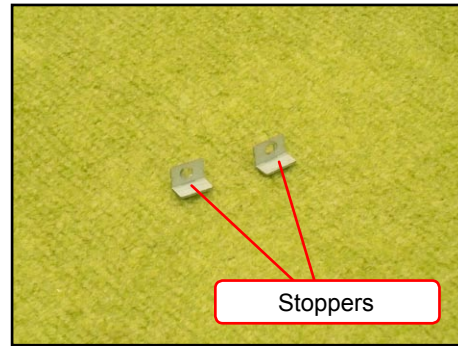
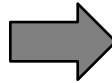
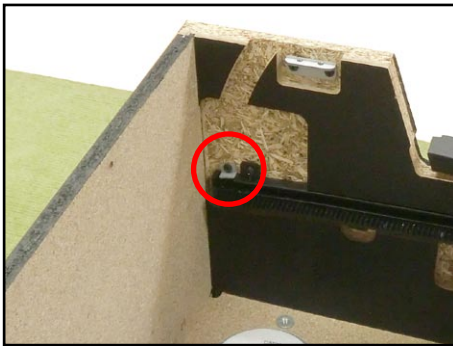


3. Slide in the direction of the arrow and remove the MS-TR-BRD-ASSY2.

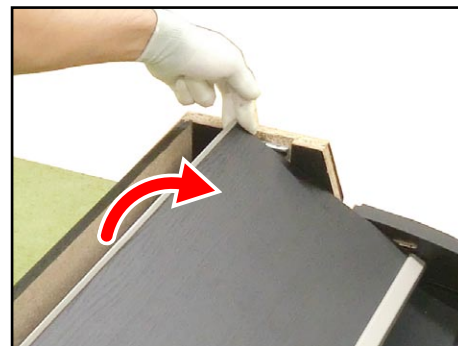
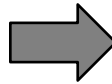


■ Removing the K-COVER-ASSY

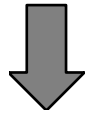
1. Close the key cover.
2. Undo two screws and then remove two stoppers on the left and right ends.



3. Open the key cover.
4. Grip where the stoppers were removed and lift up the gear section of the keyboard cover.



5. Slide the keyboard cover at an angle, disengage one of the slide pins off the railing, and remove the KEY-COVER-ASSY.



■ About Wiring

When replacing components, you may have to remove securing bands, cable ties, and wire clips. If you remove these bands and clips, be sure to secure cables back to the original conditions when reassembling.

<Where to secure cables>

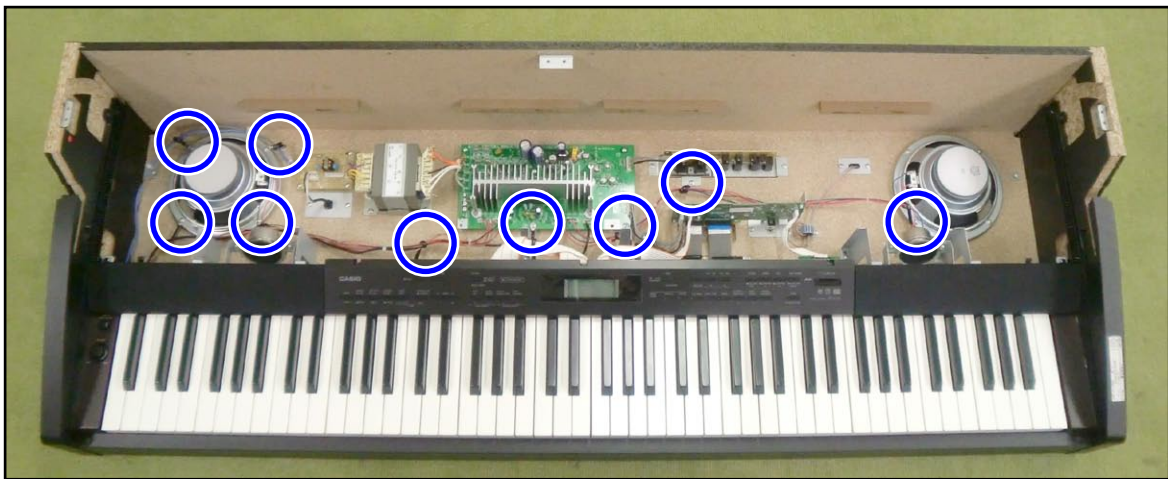
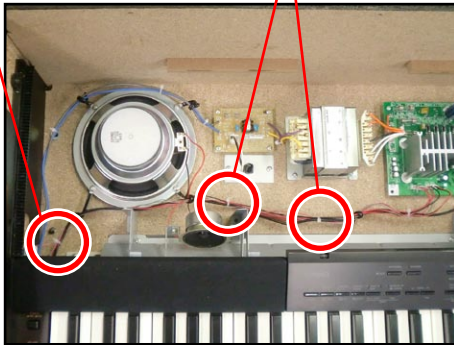
 : Cable tie

 : Wire clip

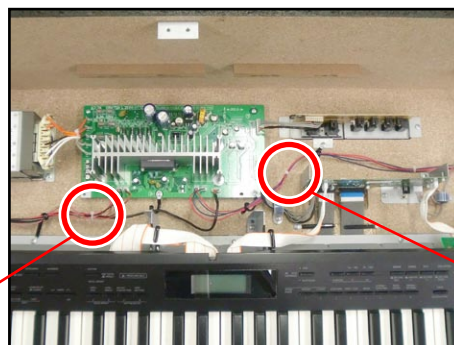
M902-HPA1, M902-HPA2,
M901-CNA4

M902-HPA1, M902-HPA2, M901-CNA4,
Left speaker, Left tweeter

Right speaker,
Right tweeter



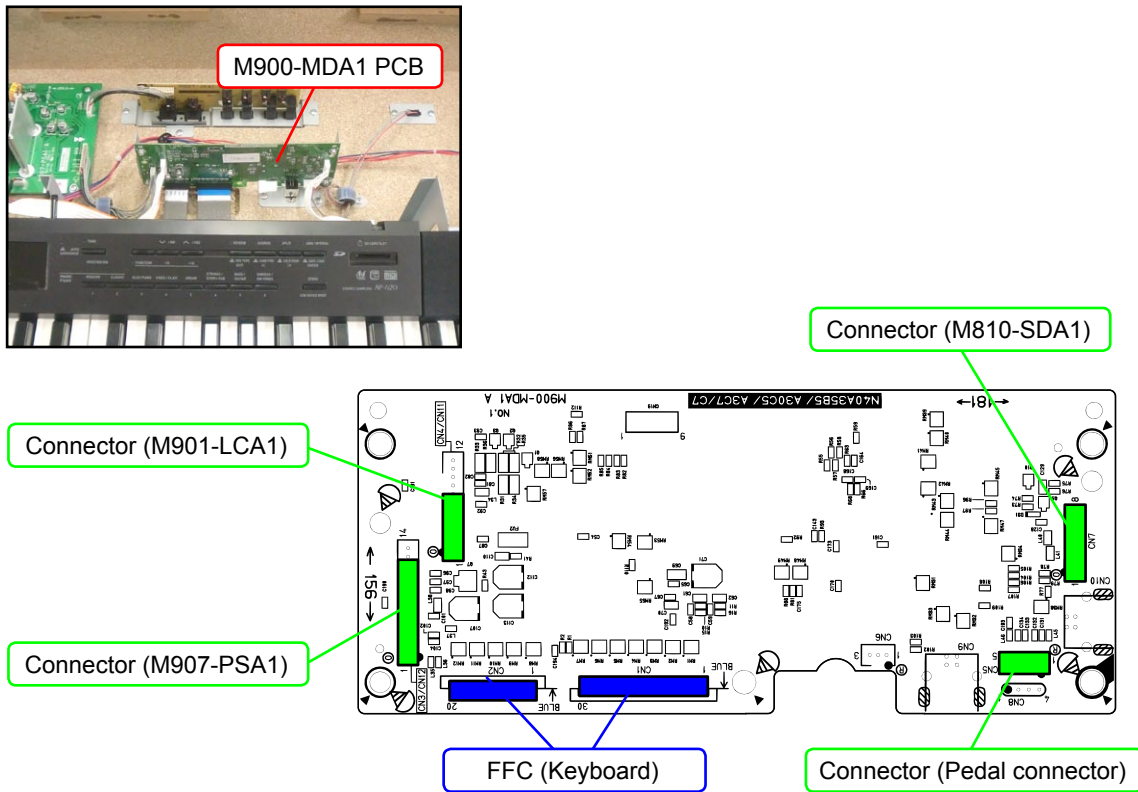
M902-HPA1, M902-HPA2,
M901-CNA4, Left speaker,
Left tweeter



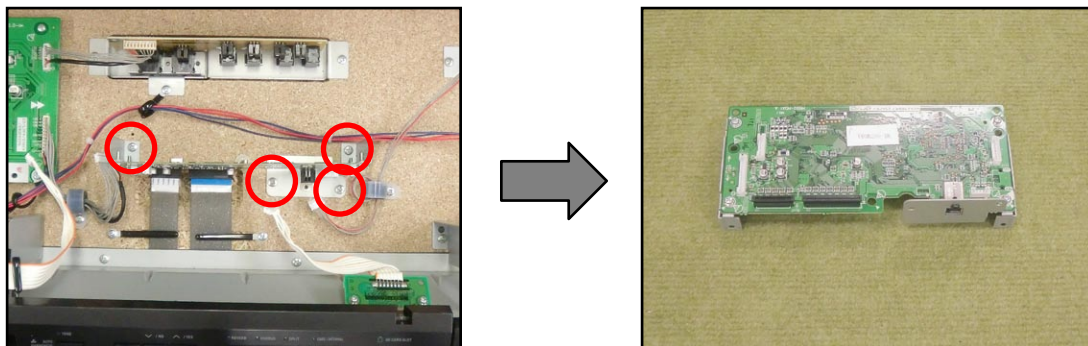
Right speaker, Right tweeter

■ Removing the main PCB (M900-MDA1)

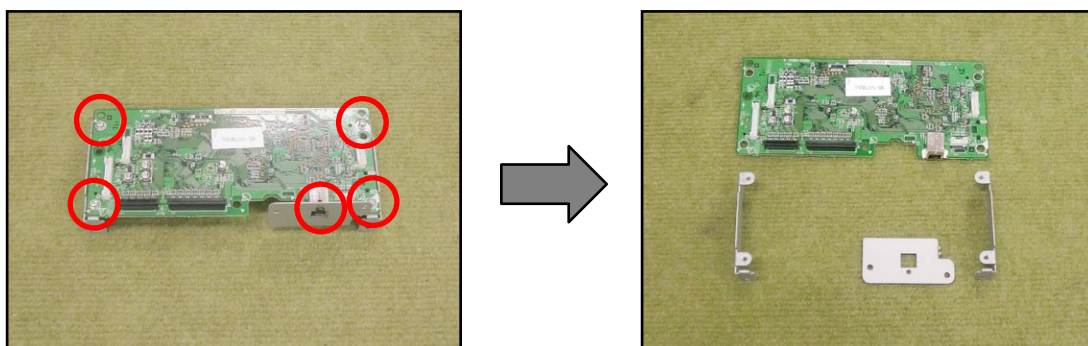
1. Release the locks and remove two FFCs.
2. Remove four connectors.



3. Undo four screws on the M900-MDA1 PCB bracket.

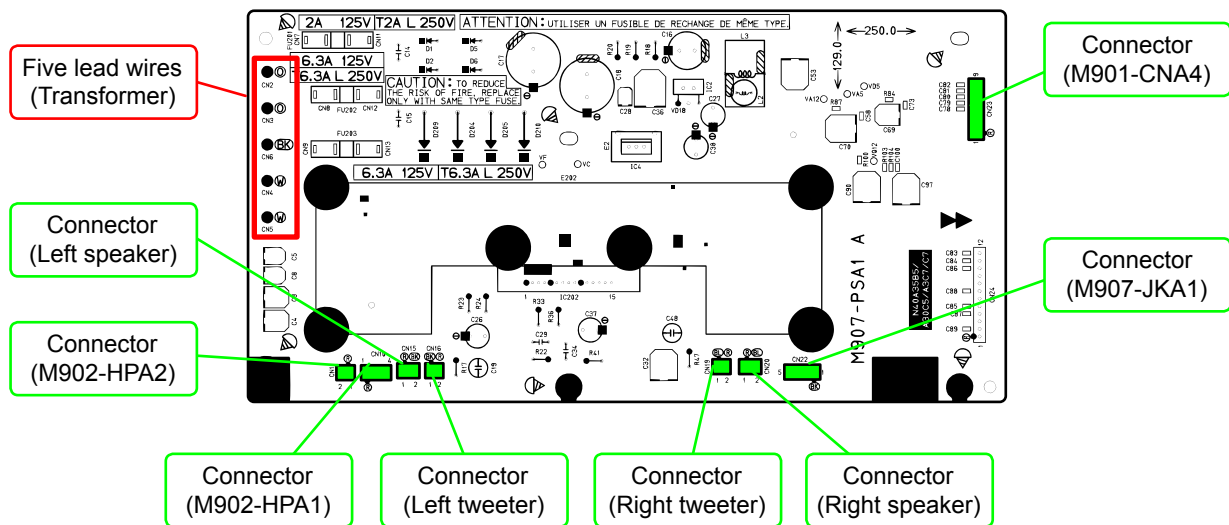
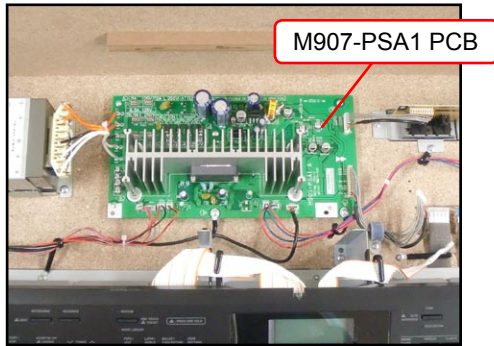


4. Undo five screws and then remove the M900-MDA1 PCB.

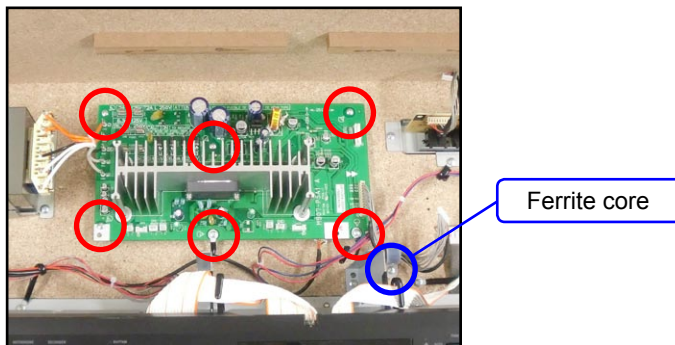


■ Removing the sub PCB (M907-PSA1)

1. Remove eight connectors.
2. Remove five lead wires.

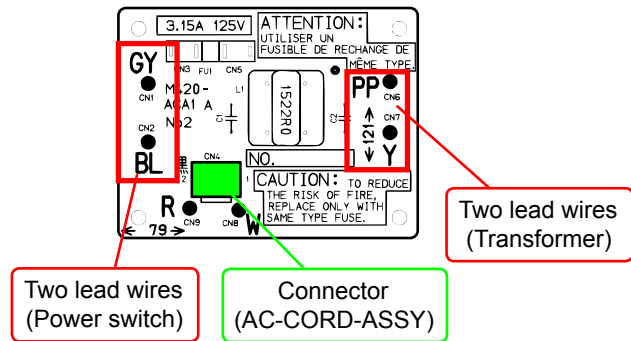
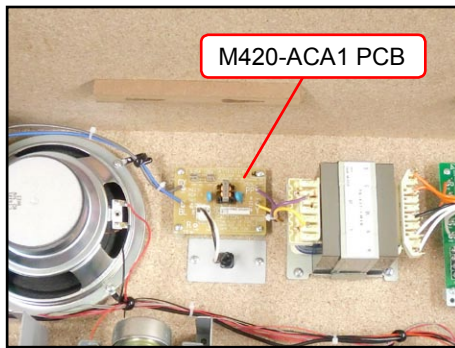


3. Undo the screw fixing the ferrite core.
4. Undo six screws and then remove the M907-PSA1 PCB.

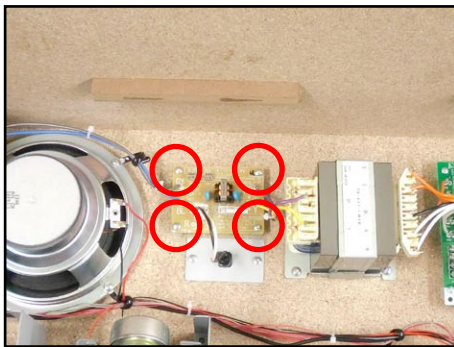


■ Removing the power supply PCB (M420-ACA1)

1. Remove one connector and four lead wires.



2. Undo four screws and then remove the M420-ACA1 PCB.

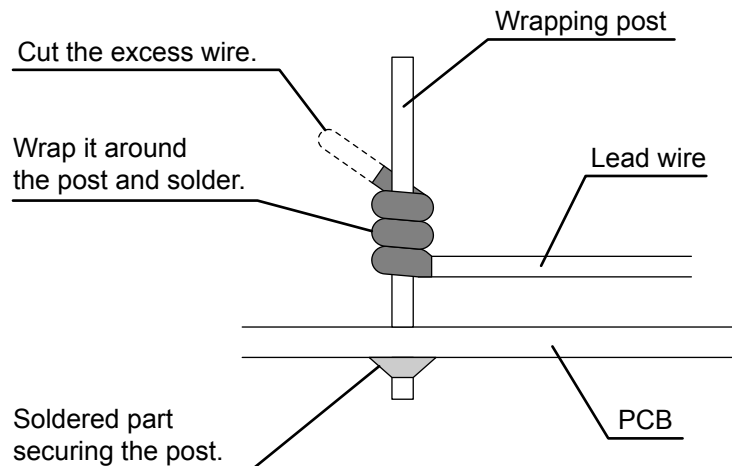


<Cautions for Assembling>

If a wire wrapping tool is unavailable, follow the steps below to set the lead wires.

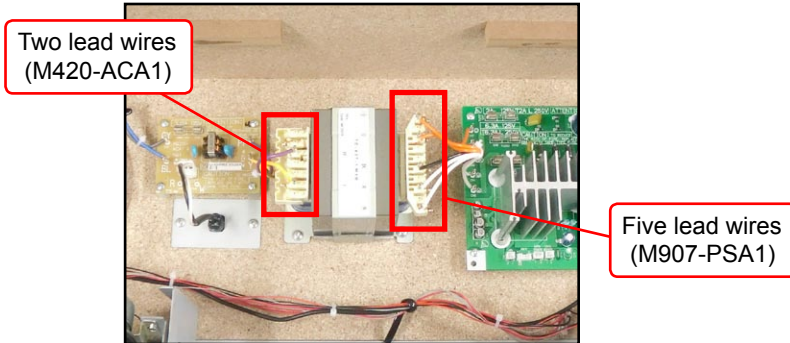
1. Wrap the lead wire around the wrapping post.
2. Solder the lead wire wrapped around the post.

NOTE: Avoid overheating the wrapping post, or it may melt the soldered part that is securing the post in place.

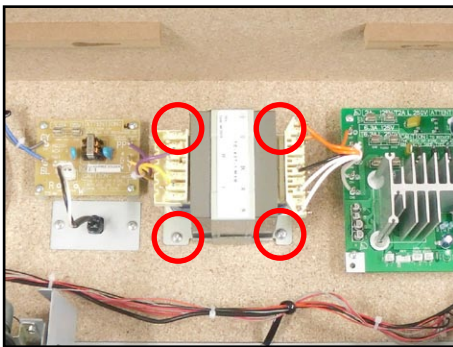


■ Removing the transformer

1. Remove seven lead wires.



2. Undo four screws and then remove the transformer.

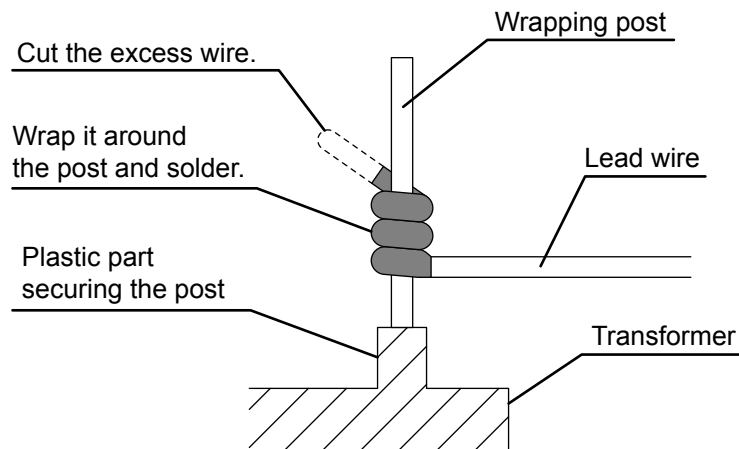


<Cautions for Assembling>

If a wire wrapping tool is unavailable, follow the steps below to set the lead wires.

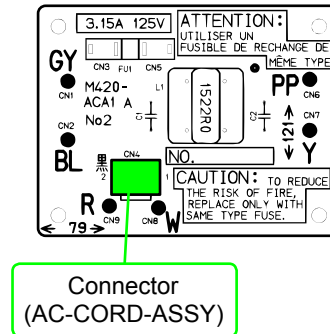
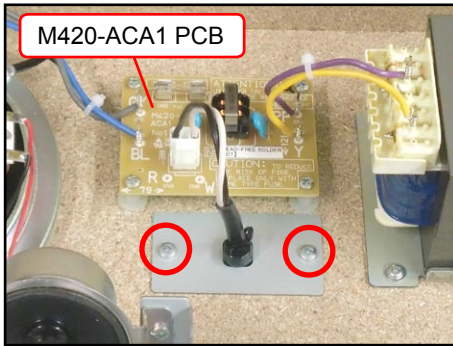
1. Wrap the lead wire around the wrapping post.
2. Solder the lead wire wrapped around the post.

NOTE: Avoid overheating the wrapping post, or it may melt the plastic part that is holding the post in place.



■ **Removing the AC-CORD-ASSY (for 120 V area)**

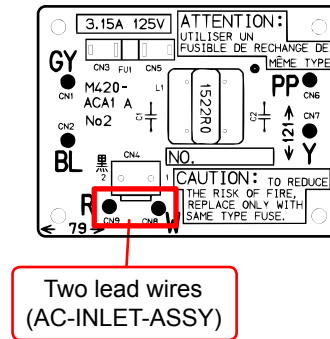
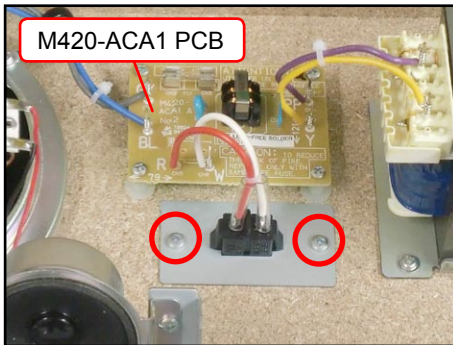
1. Remove the connector connected to the M420-ACA1 PCB.
2. Undo two screws and then remove the AC-CORD-ASSY.



Connector
(AC-CORD-ASSY)

■ **Removing the AC-INLET-ASSY (for 230 V area)**

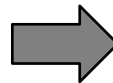
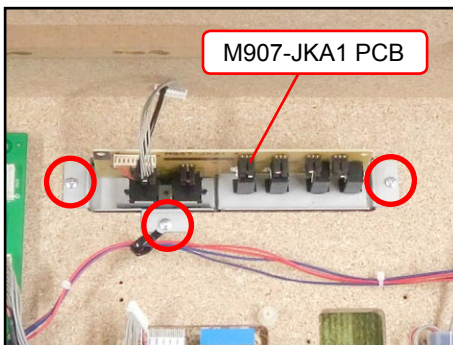
1. Remove the two lead wires connected to the M420-ACA1 PCB.
2. Undo two screws and then remove the AC-INLET-ASSY.



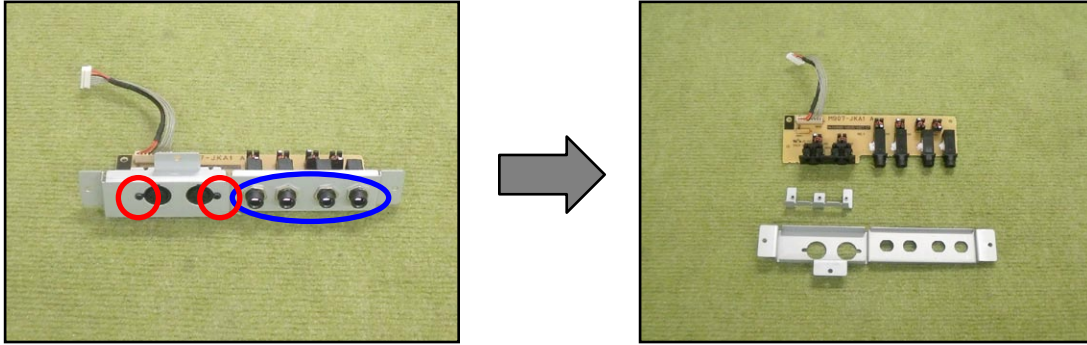
Two lead wires
(AC-INLET-ASSY)

■ **Removing the jack PCB (M907-JKA1)**

1. Undo three screws on the M907-JKA1 PCB bracket.

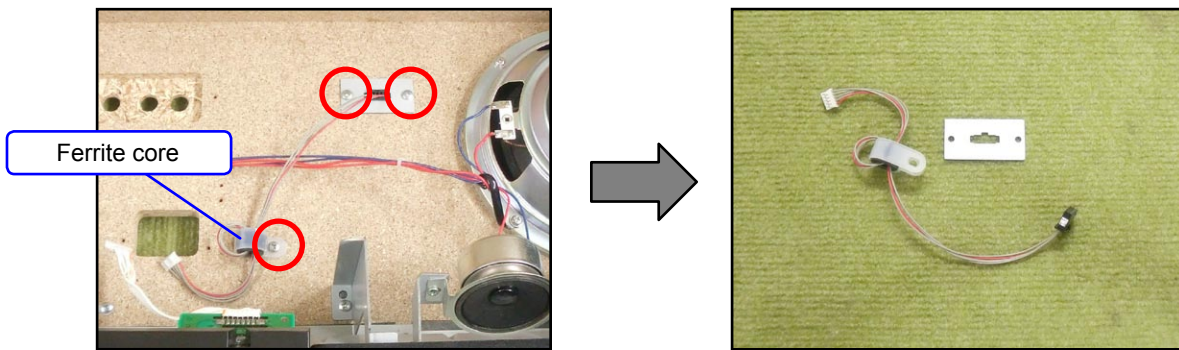


2. Undo two screws and four nuts and then remove the M907-JKA1 PCB.



■ **Removing the peal connector**

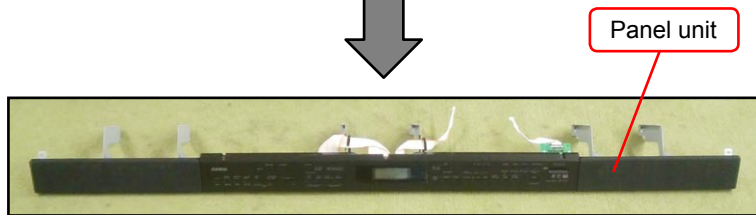
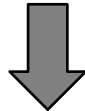
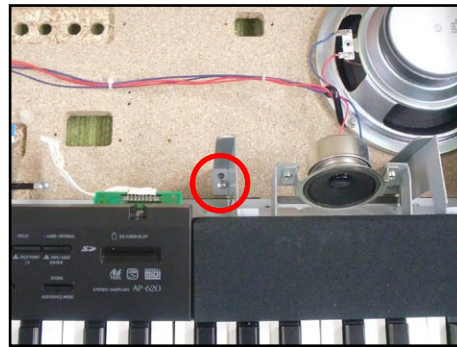
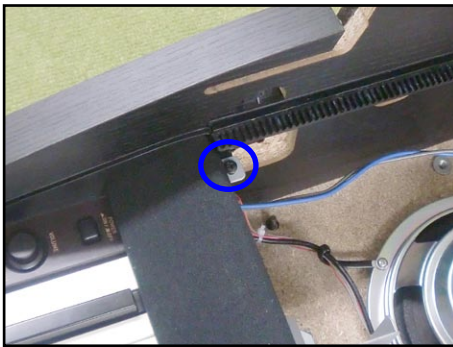
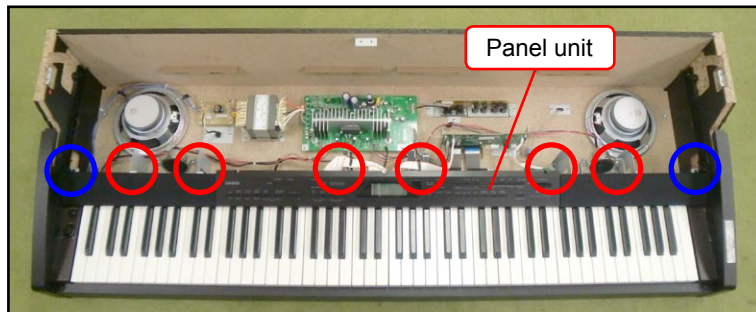
1. Undo three screws.
2. Remove the pedal connector from the bracket.



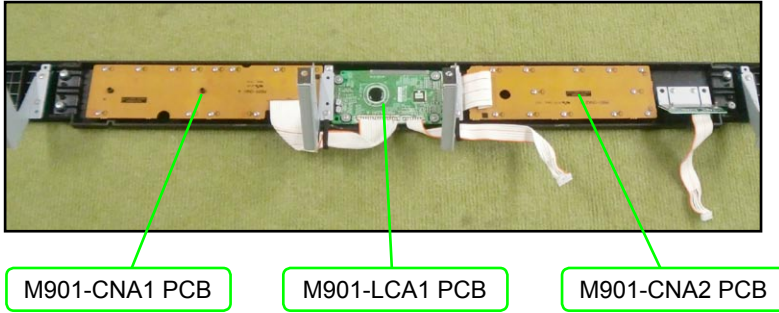
■ Removing the panel unit

1. Undo eight screws and then remove the panel unit.

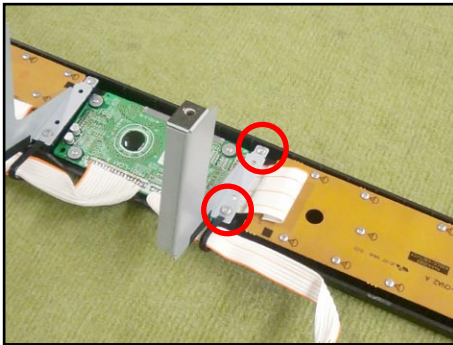
NOTE: There are two types of screws. Be sure to use the correct screw when reassembling.



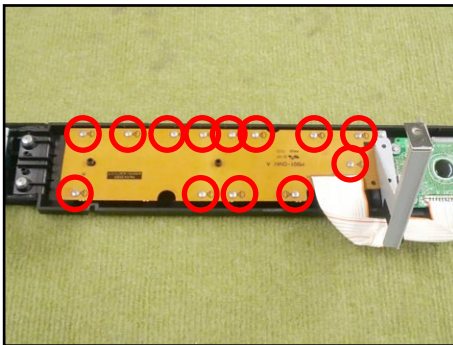
■ Removing the console PCBs (M901-CNA1/CNA2, M901-LCA1)



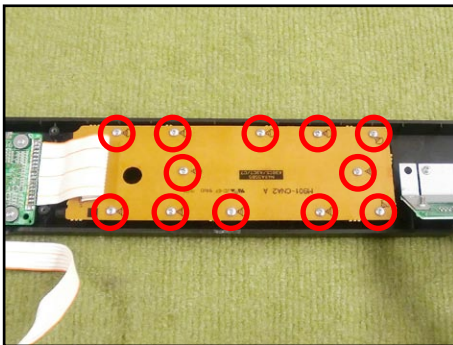
1. Undo two screws on the bracket.



2. Undo 13 screws on the M901-CNA1 PCB.

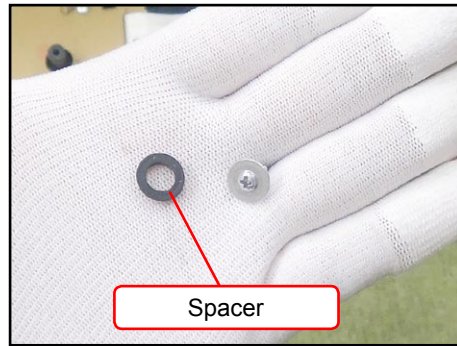
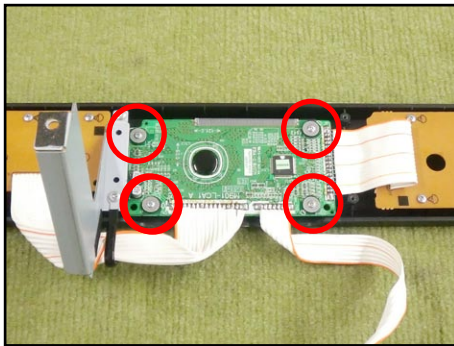


3. Undo 12 screws on the M901-CNA2 PCB.

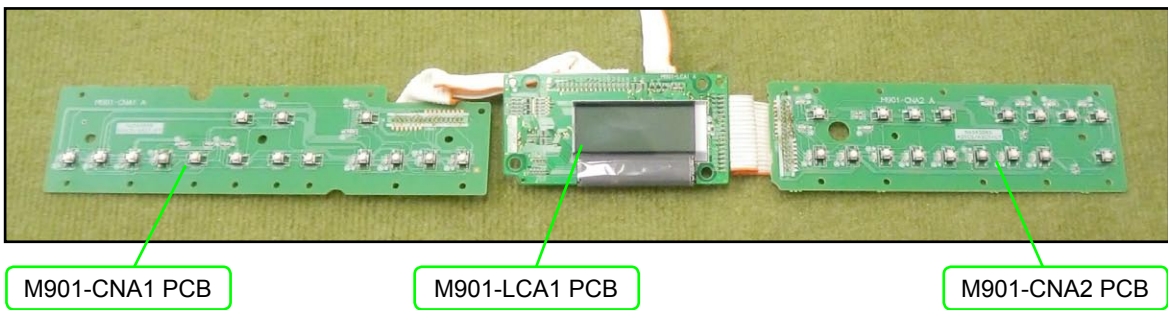


- Undo four screws on the M901-LCA1 PCB.

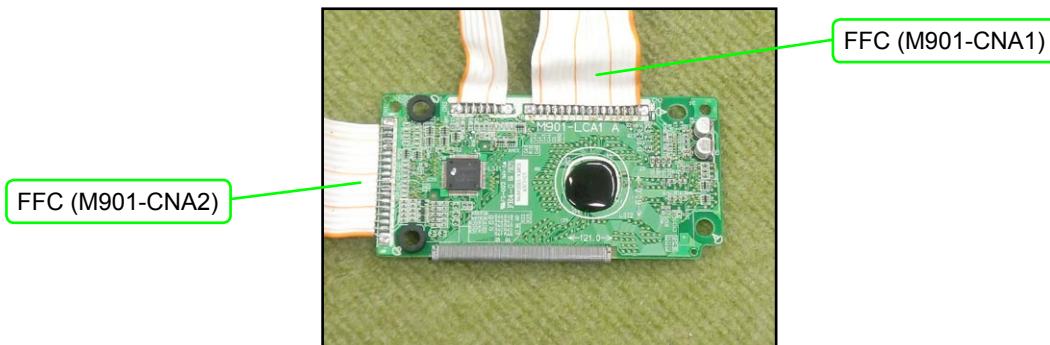
NOTE: The spacer may come loose in this step. Be sure to place the spacer back in place when reassembling.



- Remove the M901-CNA1 PCB, M901-CNA2 PCB and M901-LCA1 PCB.

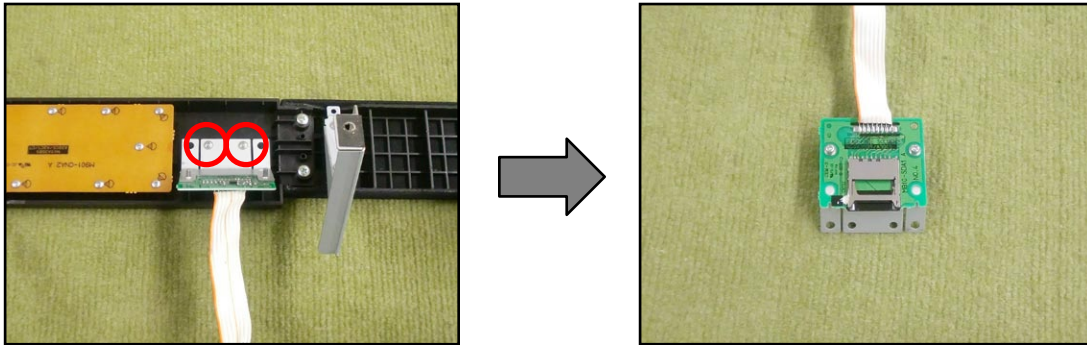


- Unsolder two FFCs connected to the M901-LCA1 PCB, and remove the M901-CNA1 PCB and the M901-CNA2 PCB.

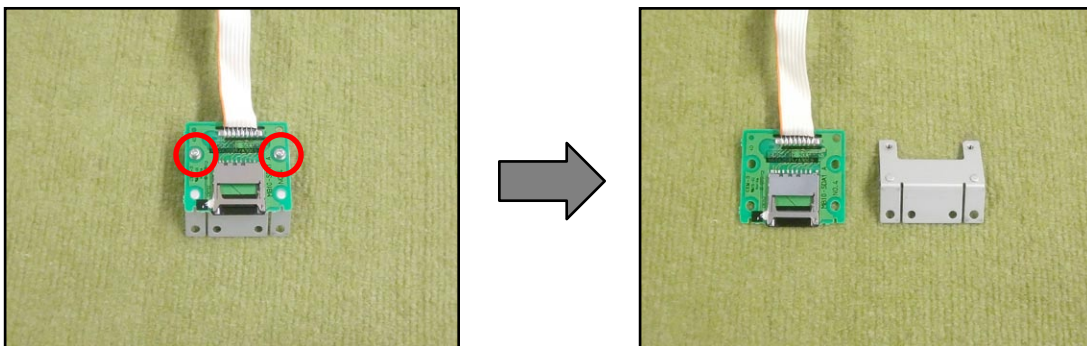


■ Removing the SD card PCB (M810-SDA1)

1. Undo two screws on the M810-SDA1 PCB bracket.

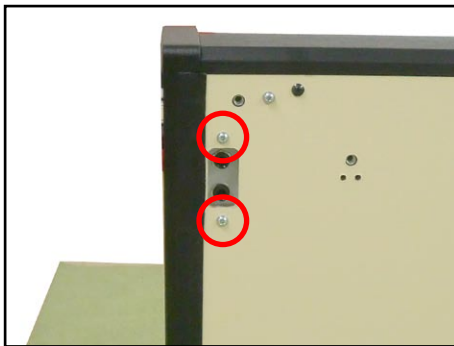


2. Undo two screws and then remove the M810-SDA1 PCB.

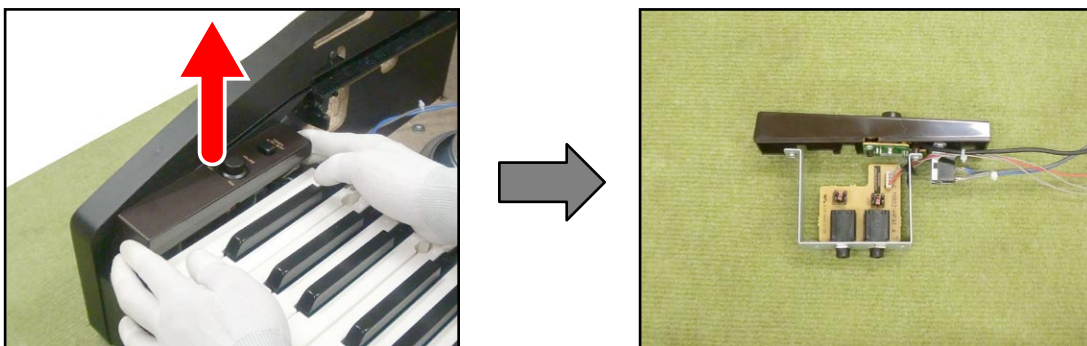


■ Removing the left side unit

1. Undo two screws on the bottom surface of the unit.

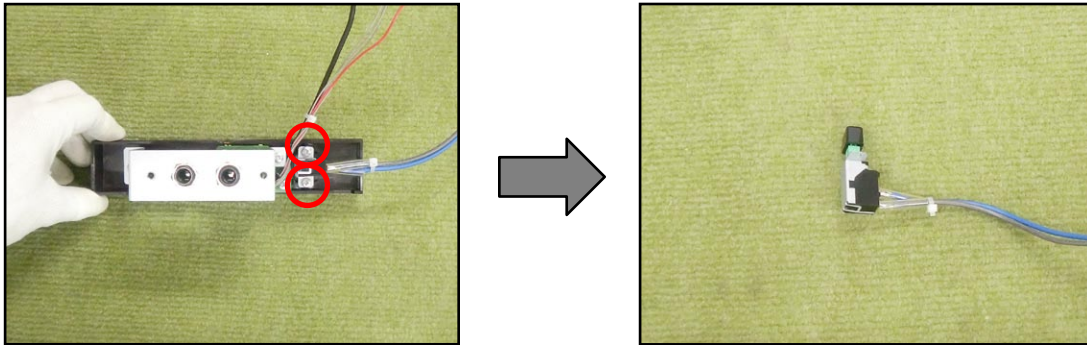


2. Remove the left side unit



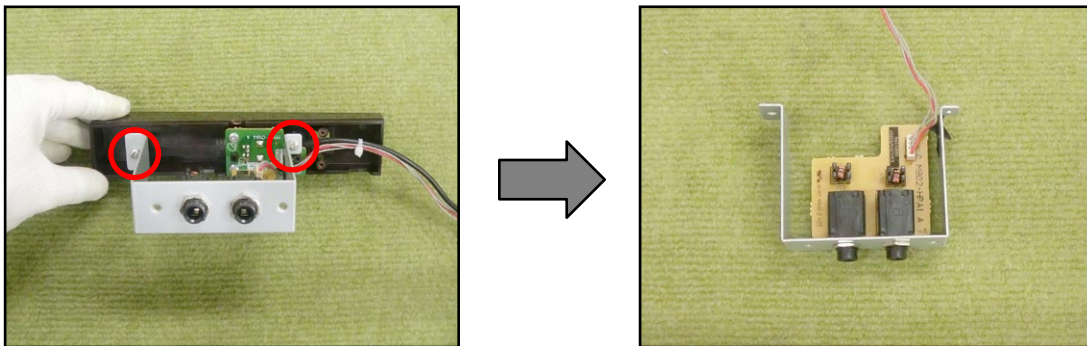
■ Removing the power switch

1. Undo two screws and then remove the power switch.



■ Removing the jack PCB (M902-HPA1)

1. Undo two screws and then remove the M902-HPA1 PCB.

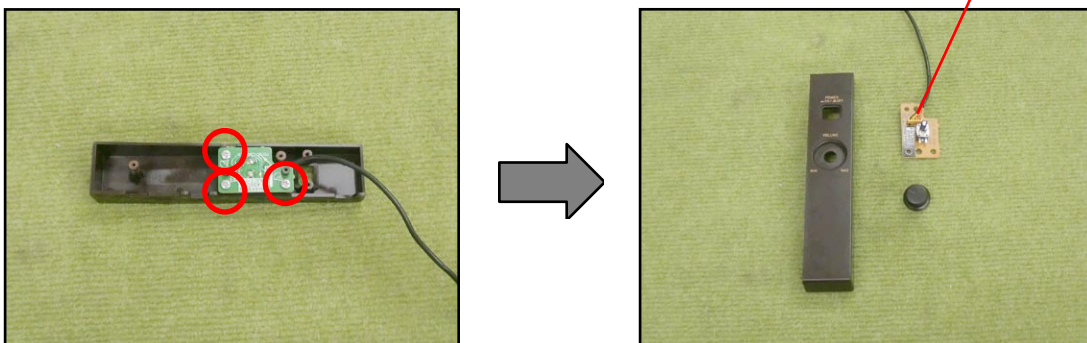


■ Removing the volume PCB (M900-CNA4)

1. Remove the volume knob.

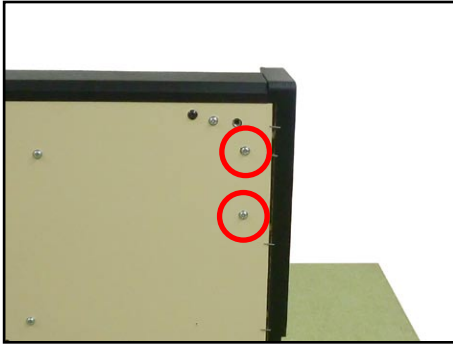


2. Undo three screws and then remove the M901-CNA4 PCB.

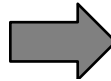


■ Removing the right side unit

1. Undo two screws on the bottom surface of the unit.

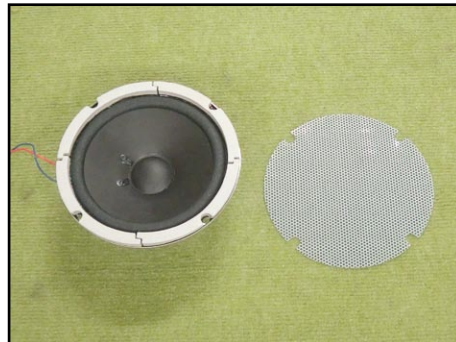
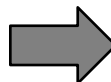
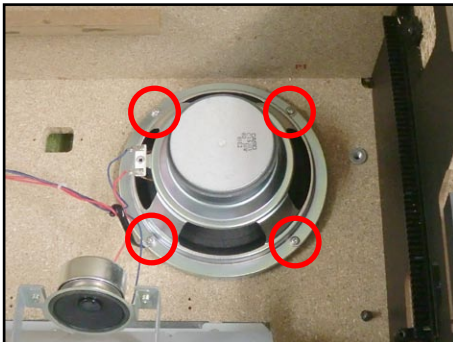


2. remove the right side unit.



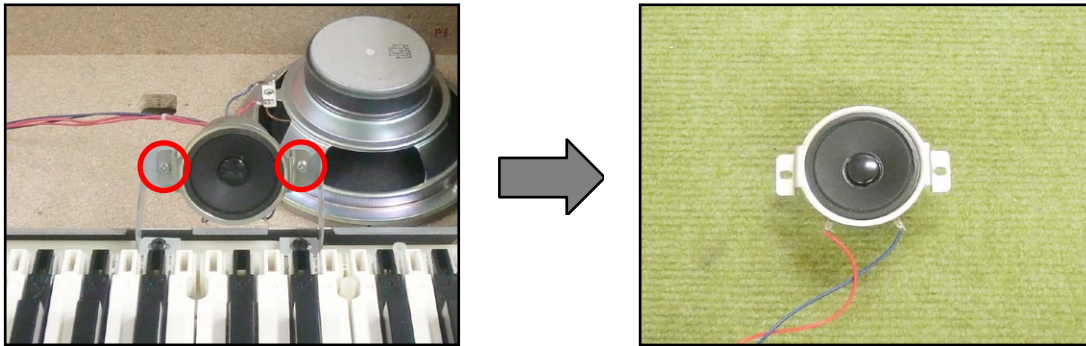
■ Removing the speaker

1. Undo four screws and then remove the speaker.
NOTE: The speaker net also comes off.
2. Similarly remove the other speaker.



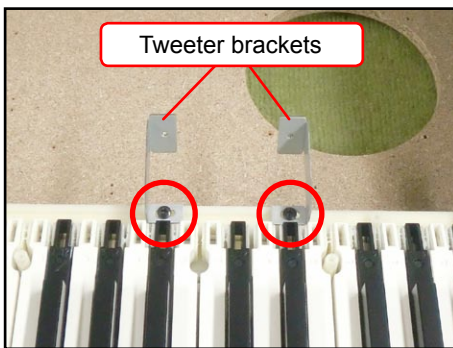
■ Removing the tweeter

1. Undo two screws and then remove the tweeter.
2. Similarly remove the other tweeter.

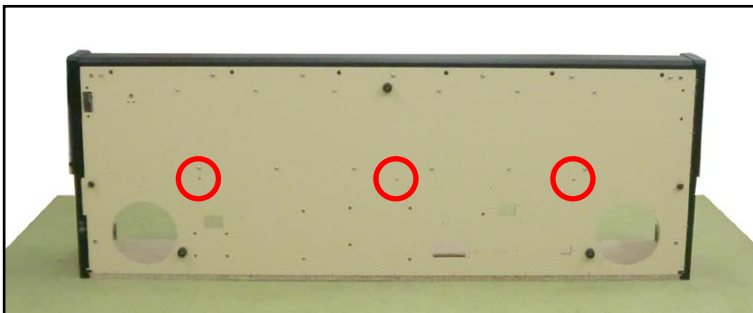


■ Removing the KY-ASSY

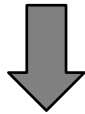
1. Undo four screws and then remove the tweeter brackets.



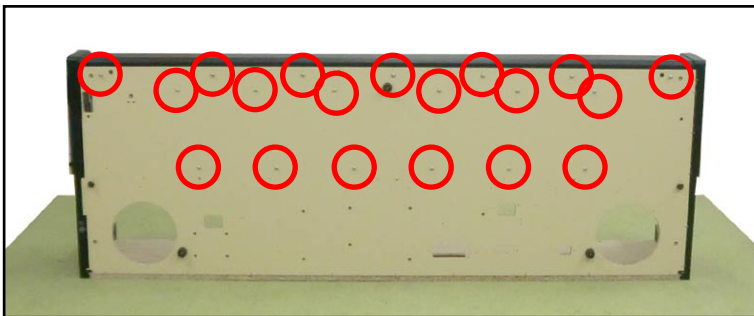
2. Undo three screws.



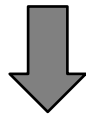
3. Undo seven screws and then remove the bracket.



4. Undo 19 screws.

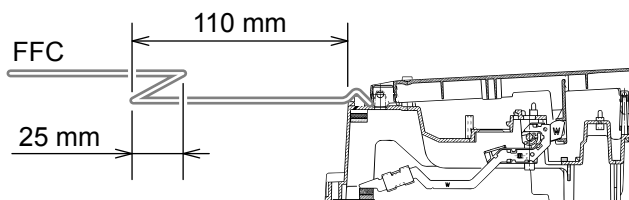


- Undo three screws and then remove the KY-ASSY.

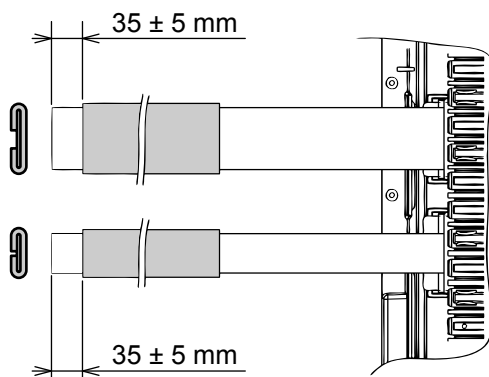


<Caution when replacing with a new part>

- After replacing the FFCs for the keyboard PCBs, fold the FFCs in shape at the length indicated in the illustration below.

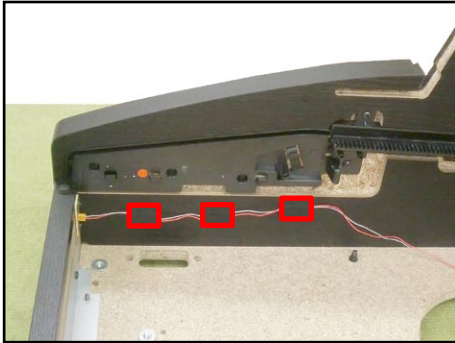


- To attach sponges to the FFCs to the keyboard PCBs, refer to the illustration below for its position.

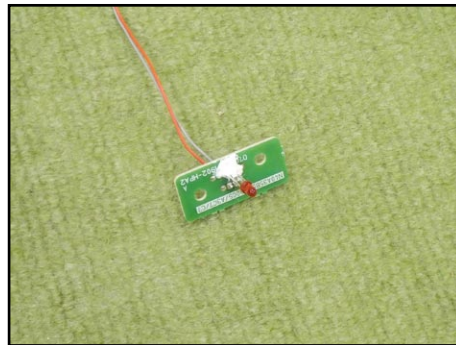
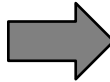
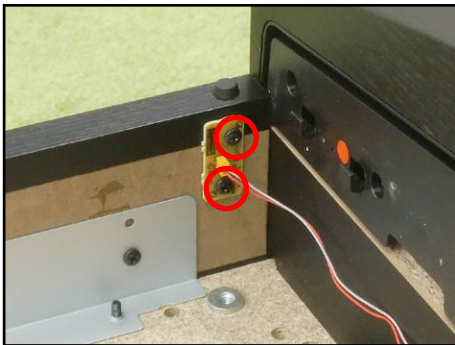


■ Removing the power lamp PCB (M902-HPA2)

1. Remove three tapes.



2. Undo two screws and then remove the M902-HPA2 PCB.



■ Removing the keys

<Removing the keys>

To remove the keys, you will need two of the tools described below.

Before removing a black key, you must first remove both white keys on either side of the black key.

White keys may be removed with the same procedures as removing black keys.

<Tool>

The tool used in the photos in this section was converted from a gardening ID tag. The size and shape of an ID tag accord to the dimensions below.

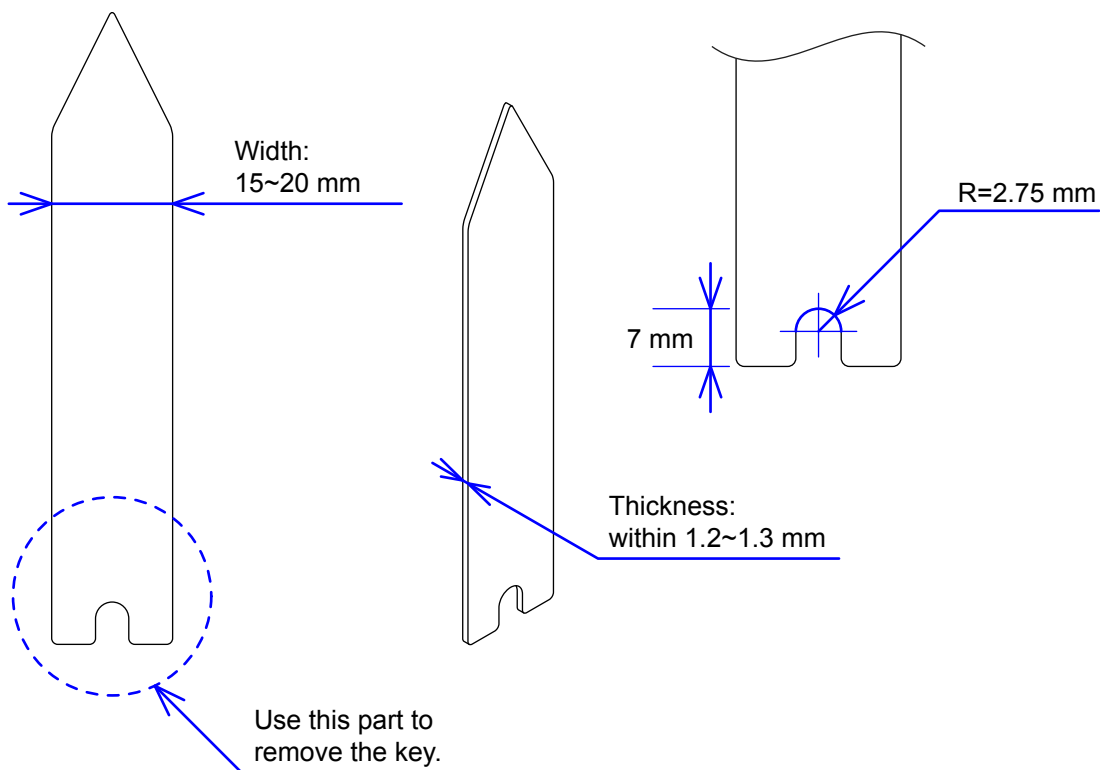
<Note on shaping an ID tag>

The thickness of the tool must be within 1.2~1.3 mm.

If the tool is too thin, removing keys become difficult.

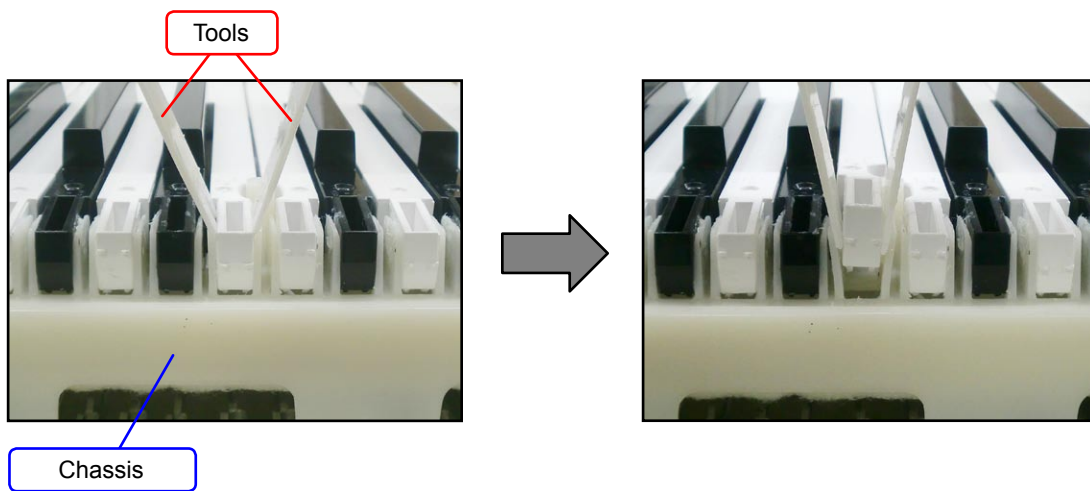
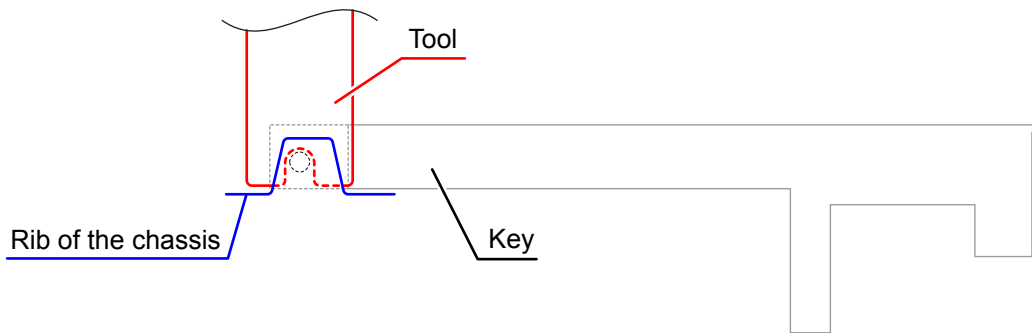
If the tool is too thick, it may damage the rib of the chassis.

<Tool dimensions>



1. Insert the two tools between the rib of the chassis and a key.
2. When the tools are inserted to a certain depth, the key begins to be lifted and can then be removed.

<Cross-section image>

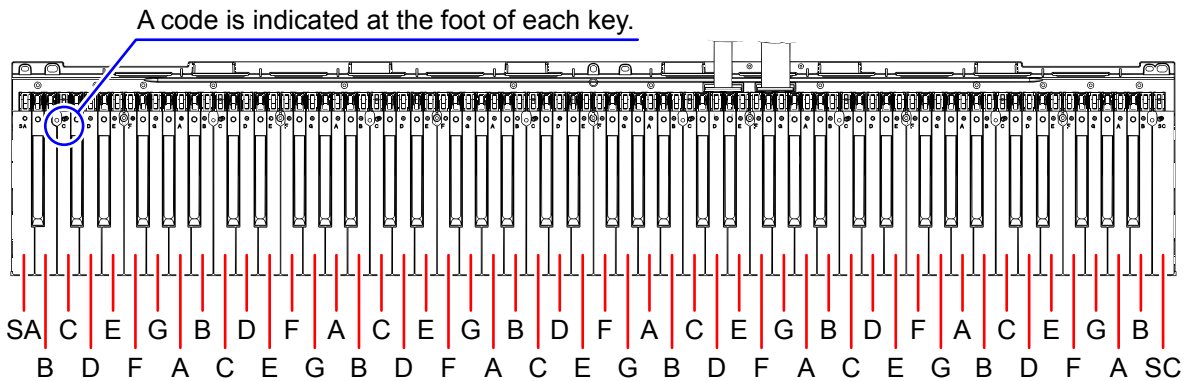


<Installing the keys>

Refer to the illustration below for the location of each white key.

Be sure to install each key at its designated location.

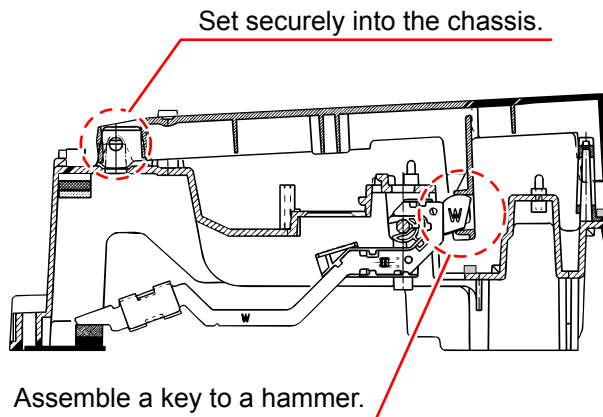
All black keys are the same. A black key may be installed at any correct black-key location.



Install a black key before installing the white keys on either of its sides.

Follow the same procedures below to install a black or white key.

1. Assemble a key to a hammer.
2. Press the protrusion of the chassis firmly into the keyhole.
3. Press the key to see if it moves properly.

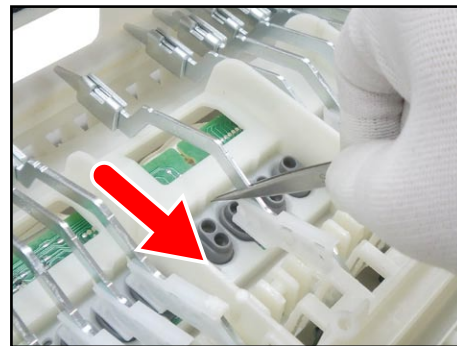
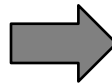
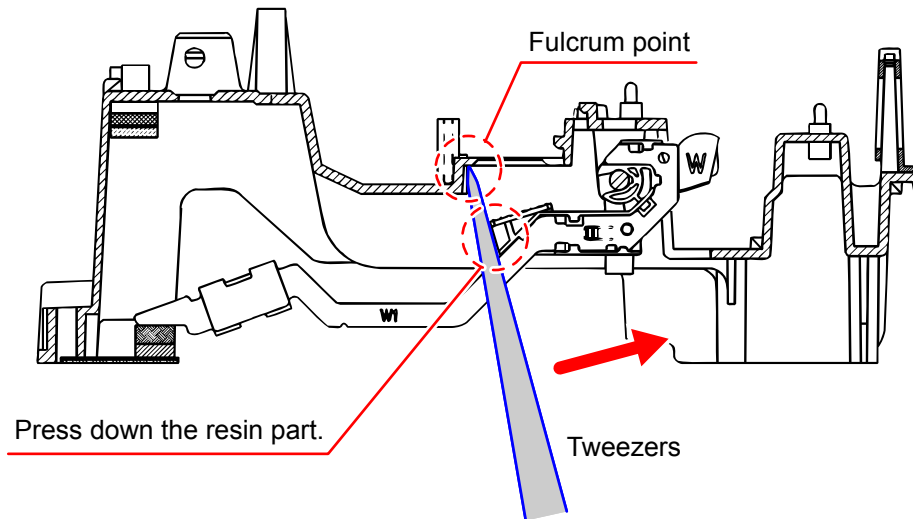


■ Removing the hammers

1. Place the chassis upside down so that the hammers are visible.
2. Press the chassis with the tip of tweezers.
3. While catching a hammer with tweezers, set the tweezers against the resin part of the chassis.
4. Using the chassis-tweezer contact as a fulcrum point, press down against the resin part in the direction of the red arrow in the illustration below, and then disengage the hammer.

NOTE: You must press the resin part of the hammer.

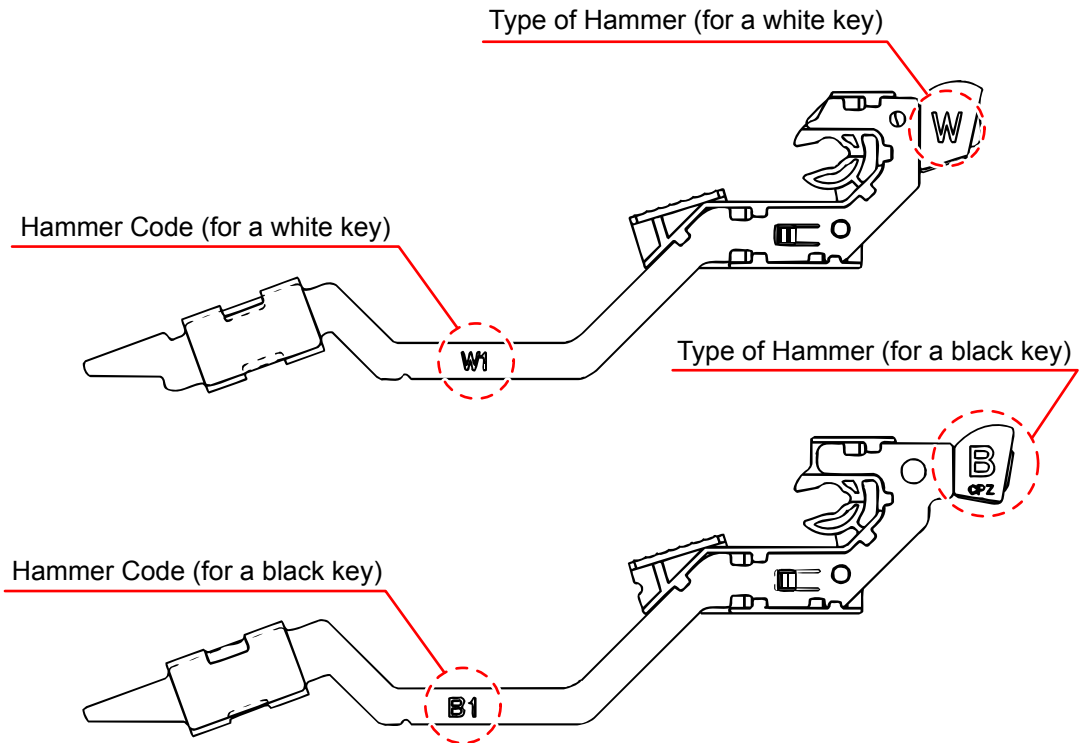
NOTE: Pressing on the metal part of the hammer may damage the area connected to the resin.



<About the hammers>

There are several kinds of hammers.

The type of a hammer may be identified by the code engraved on it.



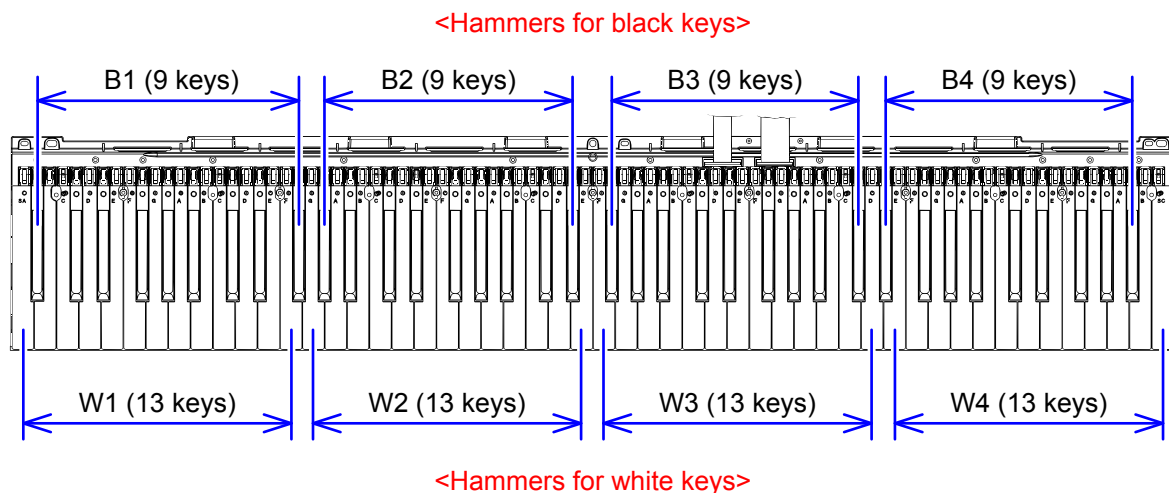
Type of Hammer: "W" for a white key, "B" for a black key.

Hammer Code: The hammers for white keys are coded W1, W2, W3, and W4.
The hammers for black keys are coded B1, B2, B3, and W4.

<Location to install the hammer>

A hammer must be installed at the correct location according to its type.

The combination of hammers and keys are shown below.

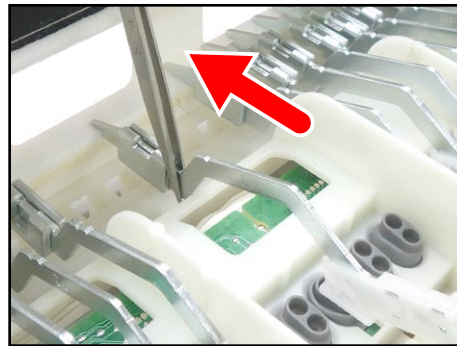
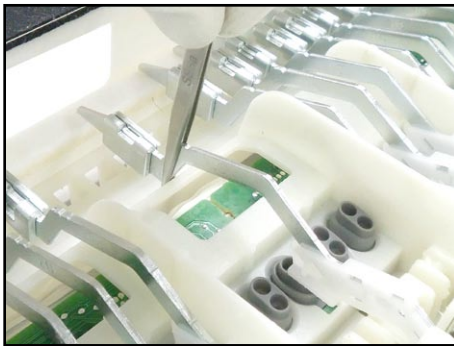
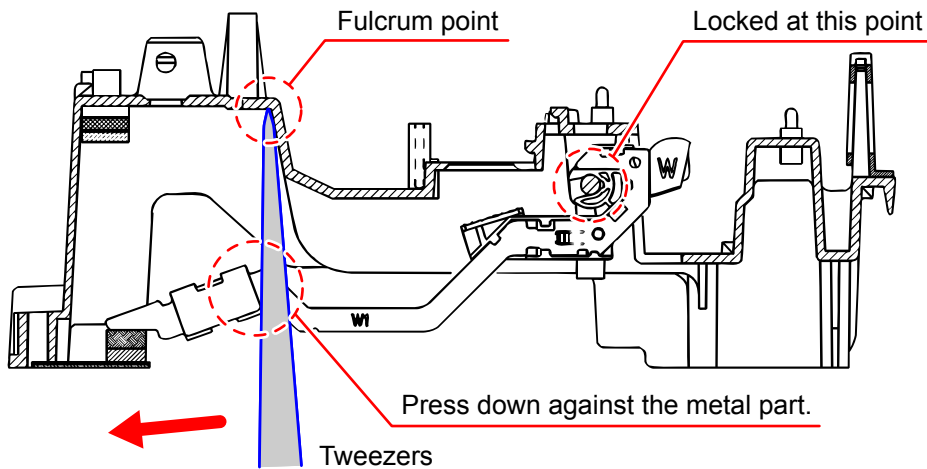


<Installing the hammers>

Be sure to install each hammer at its designated location. If a hammer does not move smoothly, check if it is installed at the correct location.

Follow the same procedures shown below to install a hammer for both black and white keys.

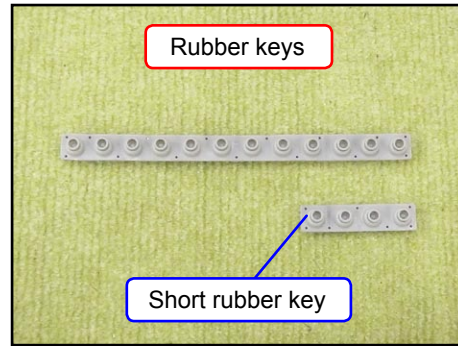
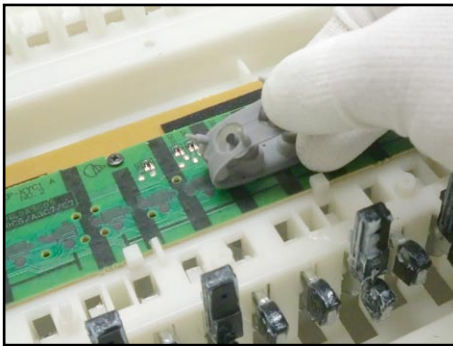
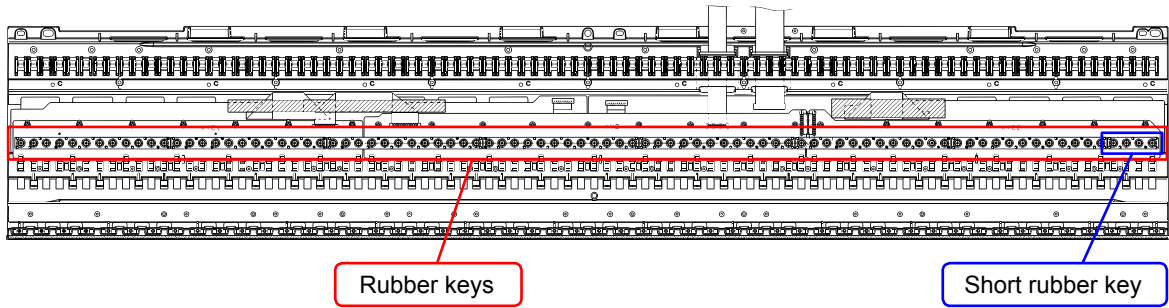
1. Use the tweezers to set a hammer at its correct location.
2. Press the chassis with the tip of tweezers.
3. Using the chassis-tweezers contact as a fulcrum point, press down the metal part of the hammer in the direction of the red arrow in the illustration below, and then install the hammer.



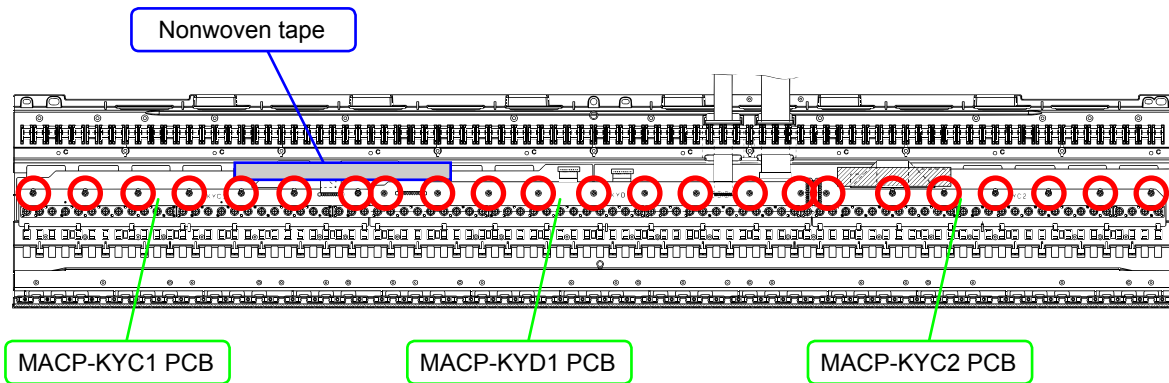
■ Removing the keyboard PCBs (MACP-KYC1/KYC2, KYD1)

1. Remove eight rubber keys.

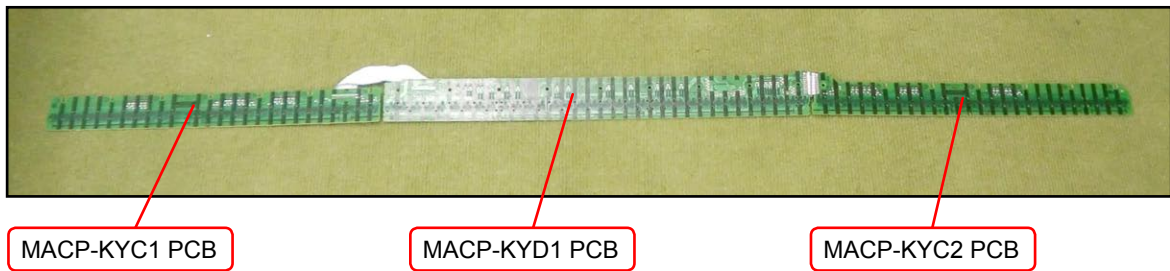
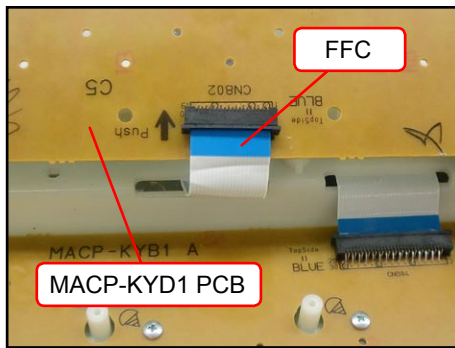
NOTE: One rubber key is shorter than the others.



2. Remove the nonwoven tape.
3. Remove 23 screws.



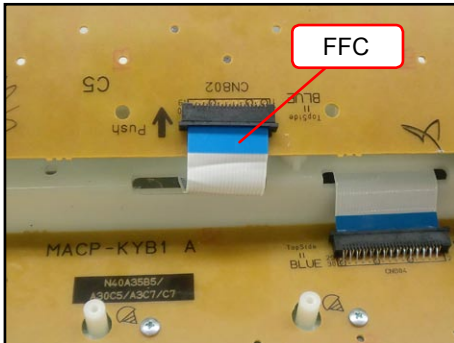
4. Locate the FFC connected on the back of the MACP-KYD1 PCB. Unlock the connector to remove the FFC, and then disengage the MACP-KYC1 PCB, the KYC2 PCB, and the MACP-KYD1 PCB.



<Installing the keyboard PCBs (MACP-KYC1/KYC2, KYD1)>

1. Connect the FFC to the MACP-KYD1 PCB and lock the connector.

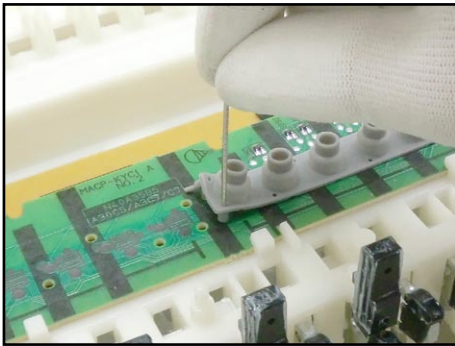
Be sure to connect it securely.



2. Install eight rubber keys.

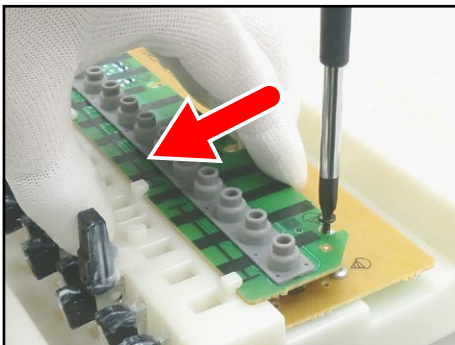
Be sure to install the short rubber key at the correct location.

Lightly insert the tip of a rubber key into the PCB first, and then, press it in using the end of a paper clip. Do not press the rubber key forcefully to avoid damaging the rubber key.



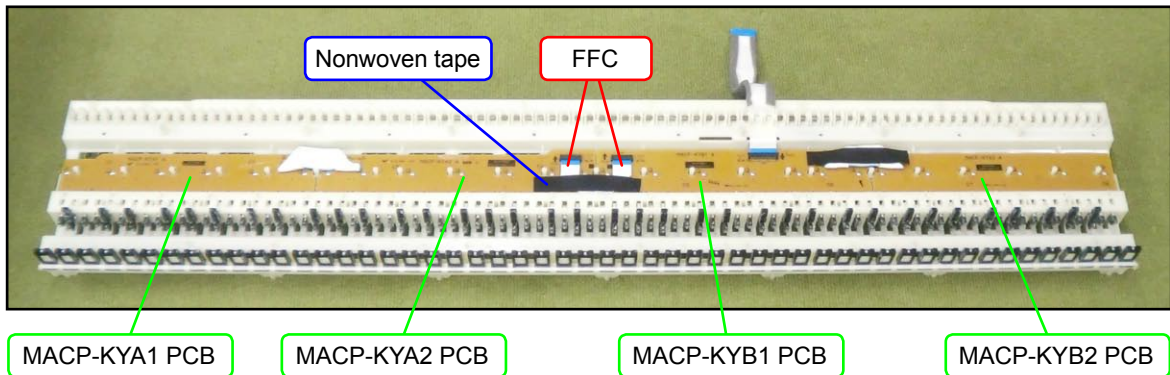
3. Secure the MACP-KYC1 PCB, the KYC2 PCB, and the MACP-KYD1 PCB with 23 screws.

Press the PCBs lightly in the direction of the red arrow in the illustration below while tightening a screw.

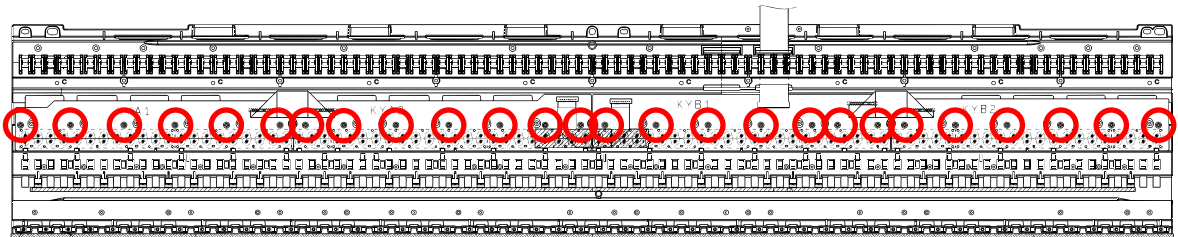


■ Removing the keyboard PCBs (MACP-KYA1/KYA2, KYB1/KYB2)

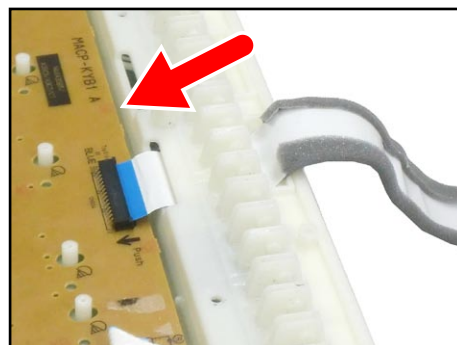
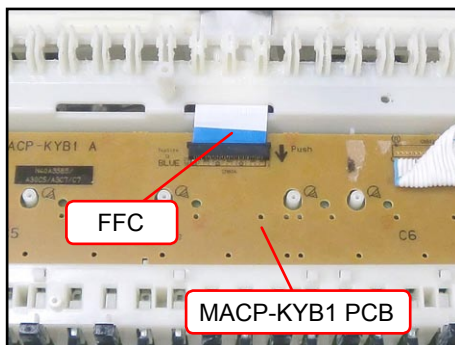
1. Remove the nonwoven tape. Unlock the connector and disengage the FFC connecting the MACP-KYA2 PCB and the MACP-KYB1.



2. Remove 26 screws.

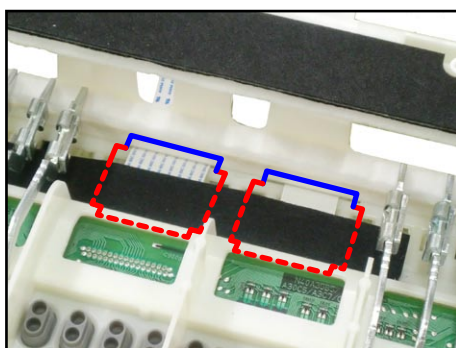


3. Unlock the connector and disengage the FFC connected to the MACP-KYB1 PCB.
NOTE: When removing the FFC, be careful not to pull it too much in the direction of the red arrow in the illustration, or the PLATE on the back may come loose.

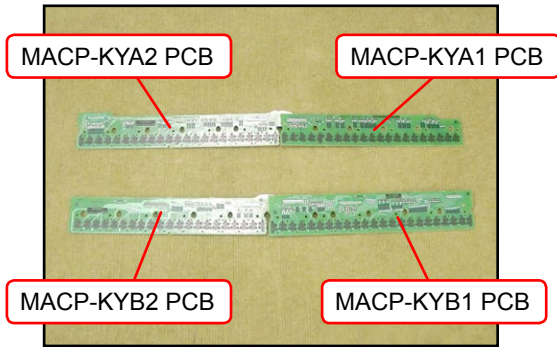


<If the PLATE comes off>

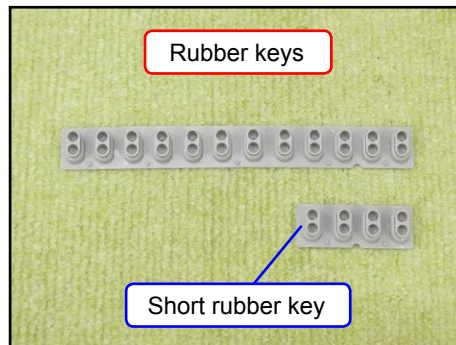
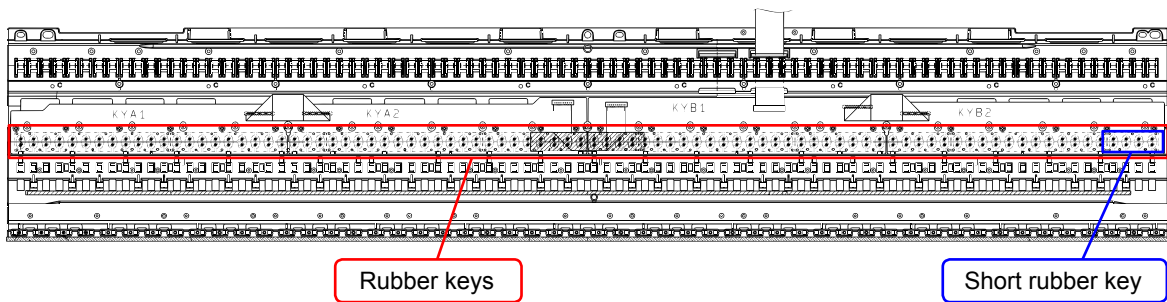
The PLATE is a transparent plastic plate. If the plate comes off, put it on the place where the FFC is, and insert its end into place where the blue line is shown in the image.



- Remove the keyboard PCBs (MACP-KYA1/KYA2, KYB1/KYB2).



- Remove eight rubber keys.
NOTE: One rubber key is shorter than the others.

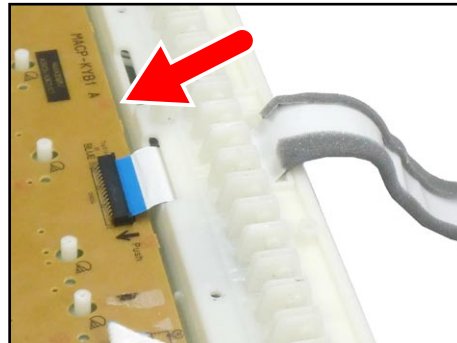
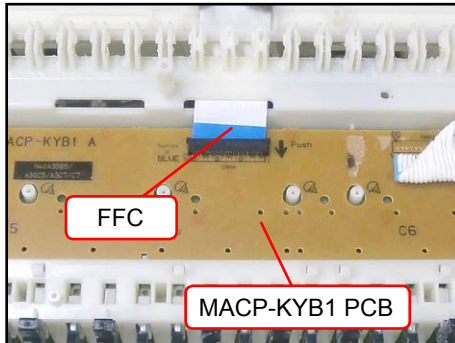


<Installing the keyboard PCBs (MACP-KYA1/KYA2, KYB1/KYB2)>

1. Place eight rubber keys on the chassis.
Be sure to place the short rubber key in the correct location.

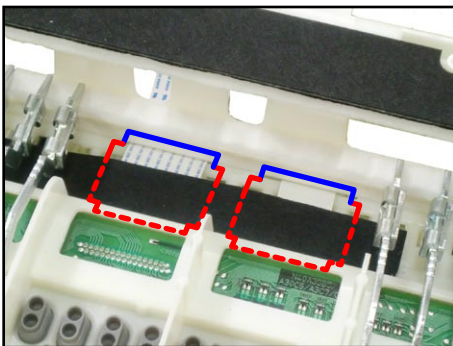


2. Connect the FFC to the MACP-KYB1 PCB and lock the connector.
NOTE: When connecting the FFC, be careful not to pull it too much in the direction of the red arrow in the illustration, or the PLATE on the back may come loose.

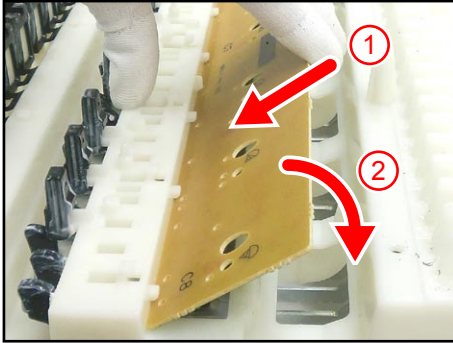


<If the PLATE comes off>

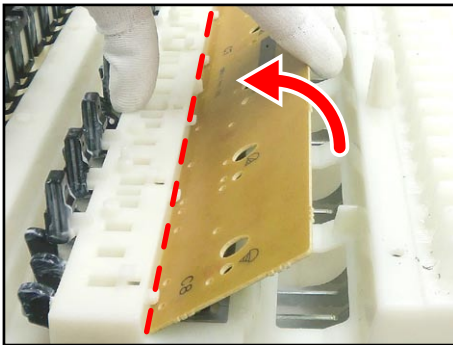
The PLATE is a transparent plastic plate. If the plate comes off, put it on the place where the FFC is, and insert its end into place where the blue line is shown in the image.



3. Insert the MACP-KYA1/KYA2 PCB and MACP-KYB1/KYB2 PCB at an angle against the chassis, and place them while paying attention not to misalign the rubber keys.



4. While placing the PCBs, the contact with the rubber keys may come out of alignment. Align them against the red dotted line in the illustration below, lift the PCB once in the direction of the red arrow, and then place them again.



5. Secure the MACP-KYA1/KYA2 PCBs, and the MACP-KYB1/KYB2 PCBs with 26 screws. Press the PCBs lightly in the direction of the red arrow in the illustration below while tightening a screw.



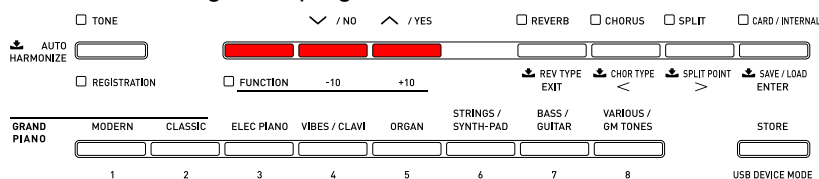
DIAGNOSTIC PROGRAM

Initial Setting

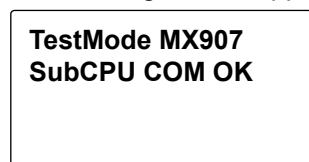
1. Connect the AC cord.
2. Connect the pedal unit.
Even if a pedal unit is unavailable for the test, all the tests except for the pedal check may be performed.
3. "Main" volume: MAX
4. Have a PC and a USB cable ready. (They will be used in the USB check.)
Operating System: Windows® XP (SP2 or later) *1
Windows Vista® *2
Mac OS® X (10.3.9, 10.4.11 or later, 10.5.6 or later)
*1: Windows XP Home Edition/Windows XP Professional (32 bit)
*2: Windows Vista (32 bit)

How to start the diagnostic program

1. Hold down the "FUNCTION", "v / NO", and " ^ / YES" buttons at the same time, to turn the power ON. After the diagnostic program is launched, Sub CPU ROM check will start.



The message below appears on the LCD.



2. Release the "FUNCTION", "v / NO", and " ^ / YES" buttons.

Be sure to turn off the power when the test is finished.

Test Items

After starting the diagnostic program, pushing the test button will enable these items to be tested.

Test Items	Buttons	Note
RAM check	MODERN	
ROM check, Flash Memory check	CLASSIC	Check SUM test, Read/Write test
ROM Version check	ELEC PIANO	
LED check	VIBES/CLAVI	
LCD check	ORGAN	
Button check	STRINGS/SYNTH-PAD	
Pedal check	BASS/GUITAR	Pedal unit
Key check	REPEAT	
Headphones check	POPS/JAZZ	Headphones
MIDI check	LATIN/WORLD	MIDI cable
USB check	BALLAD/PIANO RHYTHM	PC, USB cable
SD Card check	USER RHYTHMS	SD card

Diagnostic program

RAM check

1. Press the "MODERN" button to perform the "RAM check".
The confirmation chord C6 sounds, and "OK" appears on the LCD.

**TestMode MX907
RAM CHECK
RAM:OK**

ROM check and Flash Memory check (Check SUM test, Read/Write test)

1. Press the "CLASSIC" button to perform the "ROM check".
The confirmation chord C6 sounds, and "OK" appears on the LCD.

**TestMode MX907
IROM CHECK
IROM:OK**

2. Press the "STORE" button to perform the "Flash Memory check (Check SUM test)".
The check will be completed in approximately 15 seconds.
The confirmation chord C6 sounds, and "OK" appears on the LCD.

**TestMode MX907
FLASH TEST
FLSH:OK**

3. Press the "RHYTHM" button to perform the "Flash Memory check (Read/write test)".
The confirmation chord C6 sounds, and "OK" appears on the LCD.

**TestMode MX907
FLASH R/W TEST
FLSH:OK**

ROM version check

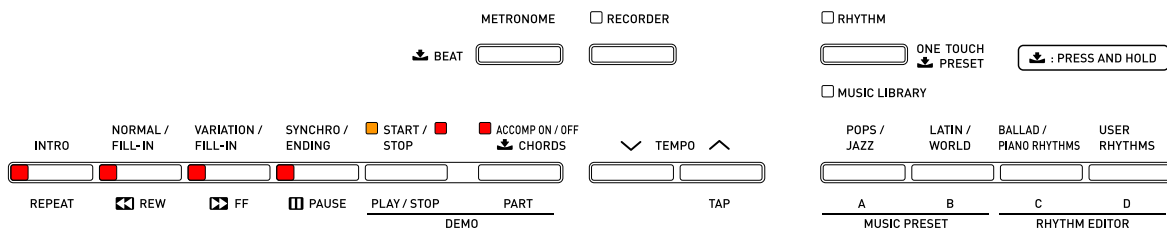
1. Press the "ELEC PIANO" button to perform the "ROM version check".
Check that the ROM version is as shown in the right.

ROM VERSION
IROM:01.00
FLSH:01.00
SUBC:01.00

LED check

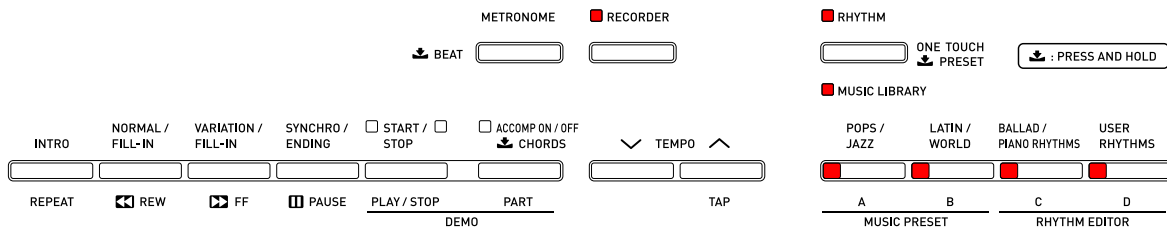
1. Press the "VIBES/CLAVI" button to perform the "LED check".
Check that the following LEDs are lit.
"REPEAT", "REW", "FF", "PAUSE", "PLAY/STOP Left/Right", "ACCOMP"

TestMode MX907
LED CHECK
LEFT BLOCK



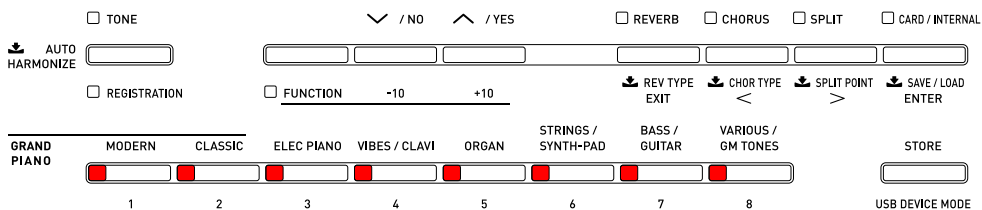
2. Press the "STORE" button.
Check that the following LEDs are lit.
"RECORDER", "RHYTHM", "MUSIC LIBRARY", "POPS/JAZZ",
"LATIN/WORLD", "BALLAD/PIANO RHYTHMS", "USER RHYTHMS"

TestMode MX907
LED CHECK
RHYTHM BLOCK



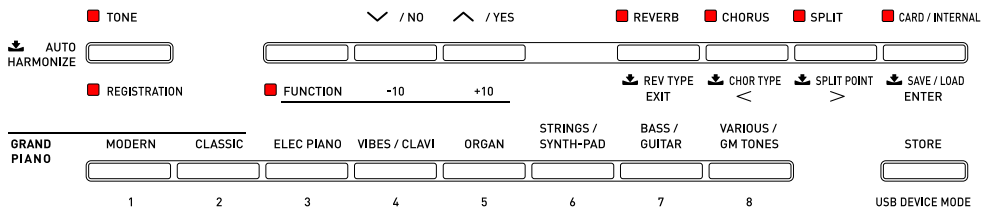
3. Press the "STORE" button.
Check that the following LEDs are lit.
"MODERN", "CLASSIC", "ELEC PIANO", "VIBES/CLAVI", "ORGAN",
"STRINGS/SYNTH-PAD", "BASS/GUITAR", "VARIOUS/GM TONES"

TestMode MX907
LED CHECK
TONE BLOCK



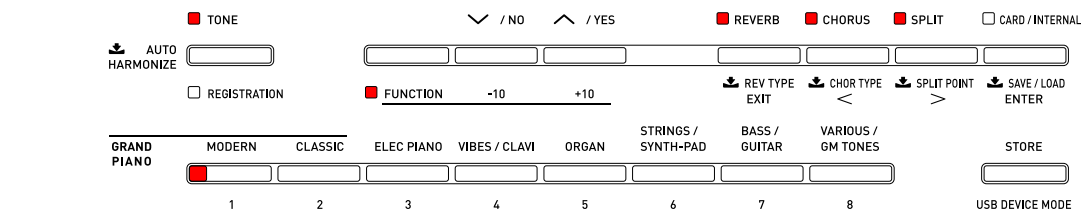
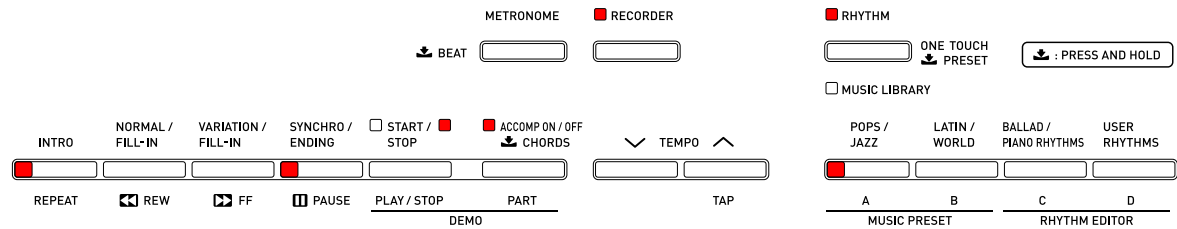
- Press the "STORE" button.
Check that the following LEDs are lit.
"TONE", "REGISTRATION", "FUNCTION", "REVERB", "CHORUS",
"SPLIT", "CARD/INTERNAL"

**TestMode MX907
LED CHECK
RIGHT BLOCK**



- Press the "STORE" button.
Check that the following LEDs are lit.
"REPEAT", "PAUSE", "PLAY/STOP Right", "ACCOMP", "RECORDER",
"RHYTHM", "POPS/JAZZ", "TONE", "FUNCTION", "REVERB",
"CHORUS", "SPLIT", "MODERN"

**TestMode MX907
LED CHECK
SPEC MAX**

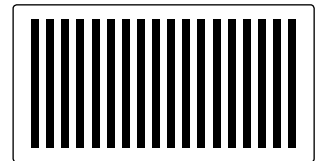


LCD check

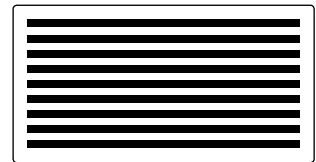
- Press the "ORGAN" button to perform the "LCD check".
Check that all dots are lit.
- Press the "STORE" button.
Check that all dots are turned off.



- Press the "STORE" button.
Check that vertical stripes with 1-dot intervals are shown.



- Press the "STORE" button.
Check that horizontal stripes with 1-dot intervals are shown.



Button check

- Press the "STRINGS/SYNTH-PAD" button to select the "Button check".

**TestMode MX907
SWITCH CHECK**

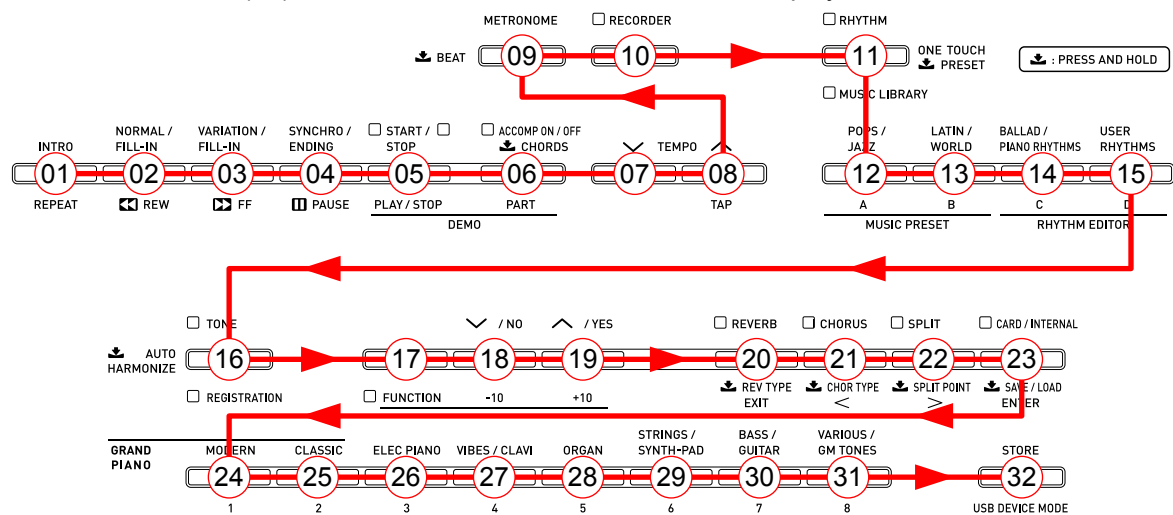
- Press the button in the order indicated in the illustration below.

If the button function is OK:

The confirmation chord C6, sounds, and the button number will be displayed.

If a button function is not operating properly or a button is pressed in a wrong order:

An error tone (F2) sounds, and the button number will be displayed.



- Press the "STORE" button the last.
The confirmation chords C4, E4, G4 sound.

**TestMode MX907
SWITCH CHECK
OK:32**

Pedal check

1. Press the "BASS/GUITAR" button to select the "Pedal check".

**Sf00 St00 Dp00
BenderOK
Note00 Vel00**

2. Press the "DAMPER" pedal (ON HALF).
The confirmation chord C4 sounds.

**Sf00 St00 Dp40
BenderOK
Note00 Vel00**

3. Press the "DAMPER" pedal firmly (ON FULL).
The confirmation chord C4 sounds.

**Sf00 St00 Dp7F
BenderOK
Note00 Vel00**

4. Press the "SOSTENUTO" pedal.
The confirmation chord G4 sounds.

**Sf00 St7F Dp00
BenderOK
Note00 Vel00**

5. Press the "SOFT" pedal.
The confirmation chord E4 sounds.

**Sf7F St00 Dp00
BenderOK
Note00 Vel00**

Key check

Check all white and black keys.

1. Press the "REPEAT" button to select the "Key check".
2. Confirm that a test tone (approx. 500 Hz) sounds from the left speaker while a key is pressed half way.
3. Confirm that a test tone (approx. 500 Hz) sounds from the left speaker and a high-pitched test tone (approx. 2 kHz) sounds from the right speaker while a key is pressed completely.

**TestMode MX907
KEY CHECK 1**

Headphones check

When checking headphones, test both PHONE jacks.

1. Press the "POPS/JAZZ" button to select the "Headphones check".

**TestMode MX907
HEADPHONE CHECK
HP:NG**

2. Connect the headphones to the phones jack.
Check that "OK" appears on the LCD.
3. Press any key.
Check that you can hear the test chord A4 through the headphones.
4. Remove the headphones from the jack.

**TestMode MX907
HEADPHONE CHECK
HP:OK**

MIDI check

1. Connect the MIDI IN jack to the MIDI OUT jack with a MIDI cable.
2. Press the "LATIN/WORLD" button to perform the "MIDI check".
The confirmation chord C6 sounds and the message shown in the right appears.
3. Disconnect the MIDI cable.

**TestMode MX907
MIDI CHECK
MIDI:OK**

USB check

1. Connect AP-620 to the computer with a USB cable.
2. Press the "BALLAD/PIANO RHYTHM" button to perform the "USB check".
The confirmation chord C6 sounds and the message shown in the right appears.
3. Disconnect the USB cable.

**TestMode MX907
USB CHECK
USB:OK**

SD Card check

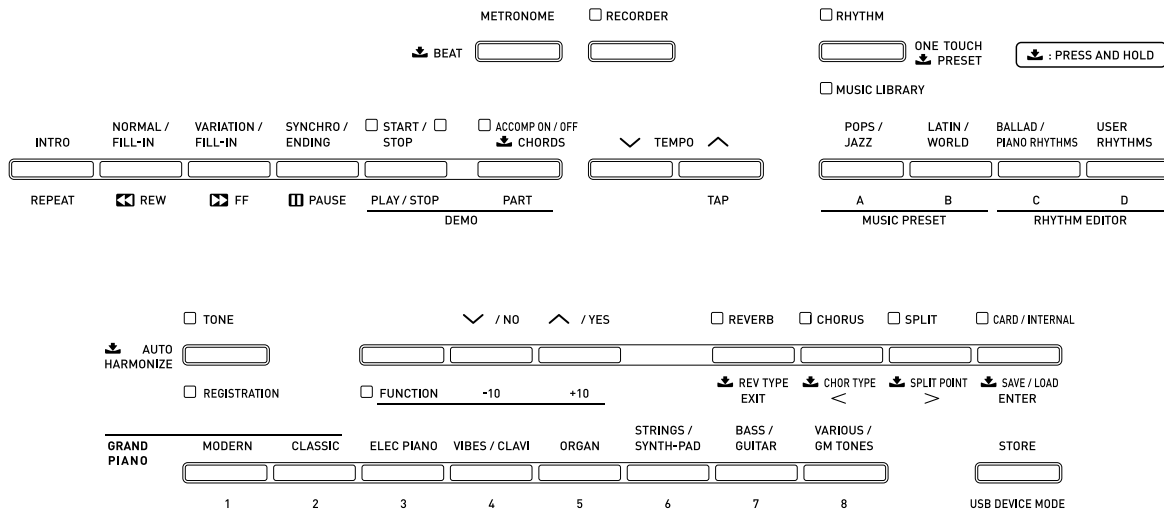
1. Insert an SD card into the SD card slot.
2. Press the "USER RHYTHMS" button to perform the "SD Card check".
The confirmation chord C6 sounds and the message shown in the right appears.
3. Remove the SD card.

**TestMode MX907
SDCARD CHECK
SDCARD:OK**

Operation after replacing the main PCB or the keyboard parts

Make sure to perform the following procedure after replacing the main PCB or the keyboard parts. Applicable parts number on the Parts List: No.1 for the main PCB, No. 71 to 103 for the KY-ASSY or the KY-ASSY component parts

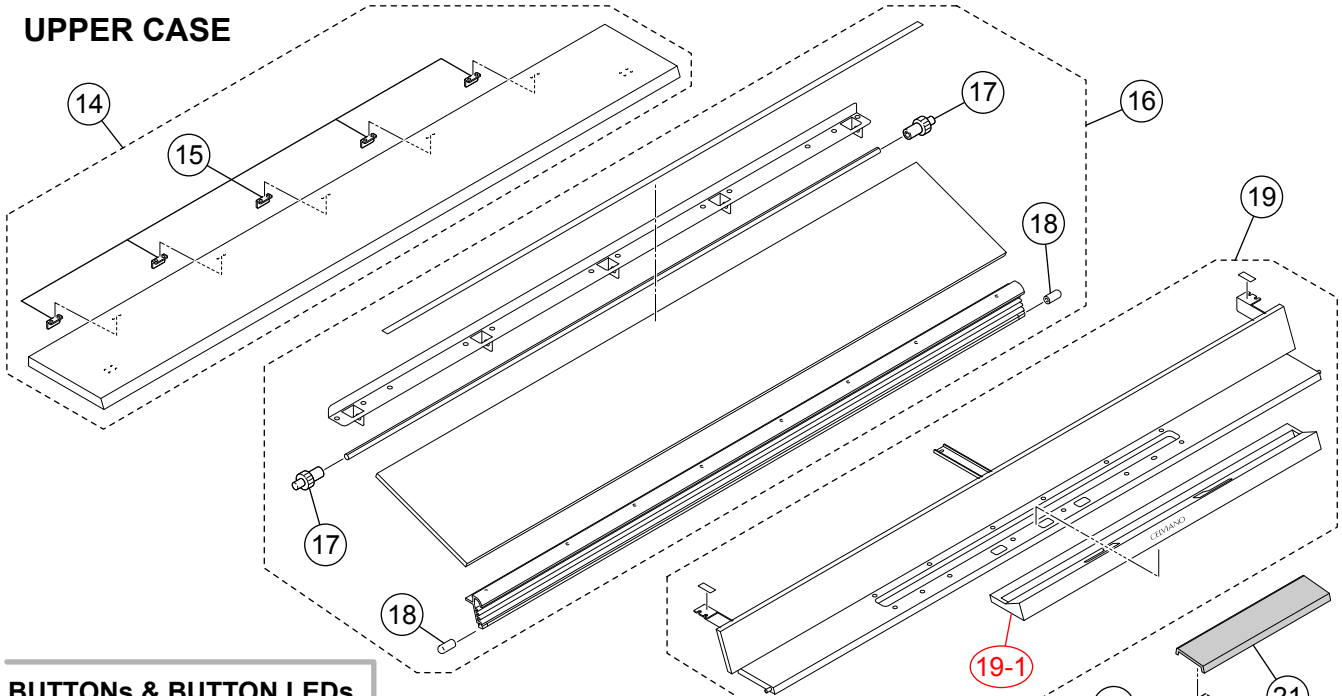
Procedure



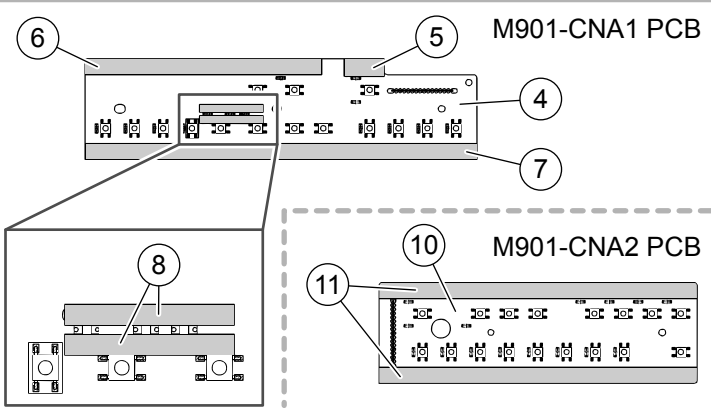
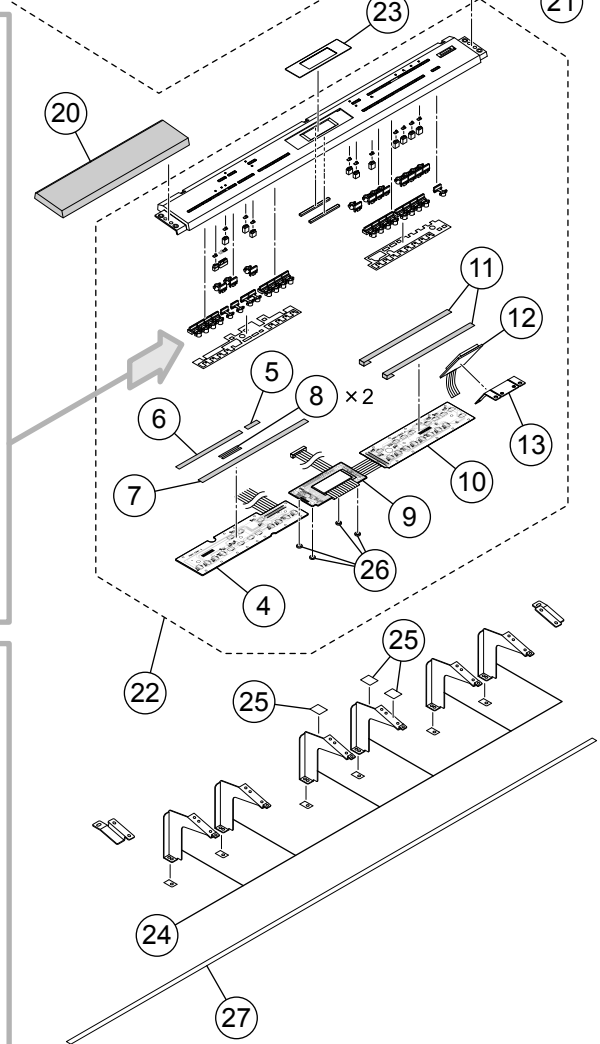
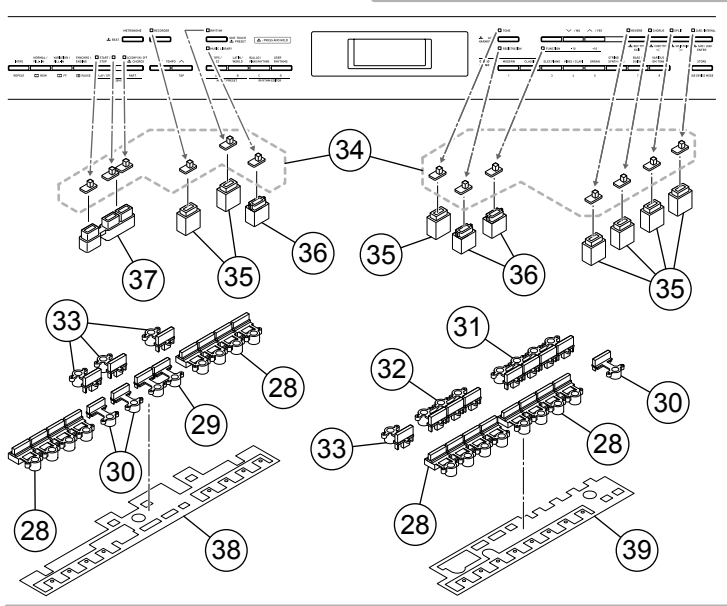
1. Hold down the "v / NO", "^ / YES", and "STORE" buttons at the same time, to turn the power ON.
The following LEDs are lit.
"TONE", "FUNCTION", "REVERB", "CARD/INTERNAL", "MODERN", "CLASSIC", "ELEC PIANO", "STRINGS/SYNTH-PAD", "BASS/GUITAR", "VARIOUS/GM TONES"
2. Release the "v / NO", "^ / YES", and "STORE" buttons.
All the LEDs turn off except "TONE" and "REVERB" LEDs.
3. Press the "REVERB" button.
The "REVERB" and "STRINGS/SYNTH-PAD" LEDs are lit.
4. Press the "STRINGS/SYNTH-PAD" button.
The "REVERB" and "BASS/GUITAR" LEDs are lit.
5. Press the "BASS/GUITAR" button.
The "REVERB" and "VARIOUS/GM TONES" LEDs are lit.
6. Press the "VARIOUS/GM TONES" button.
The following LEDs are lit.
"FUNCTION", "REVERB", "CARD/INTERNAL", "VARIOUS/GM TONES"
7. Press the "STORE" button.
8. Press the "POWER" button to turn off the power.

EXPLODED VIEW

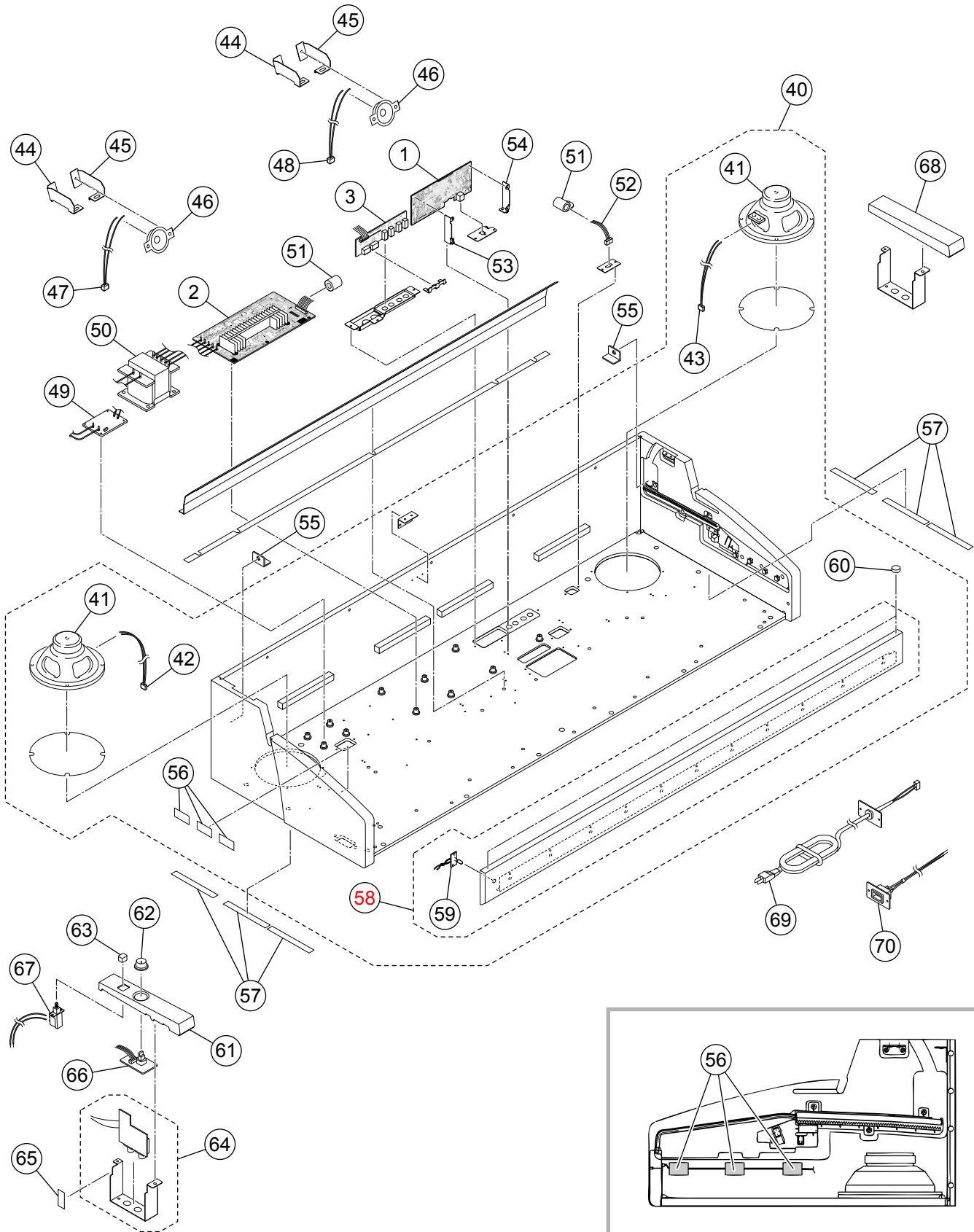
UPPER CASE



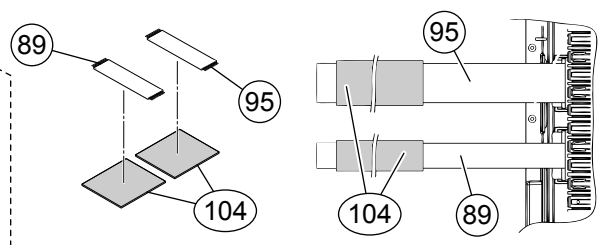
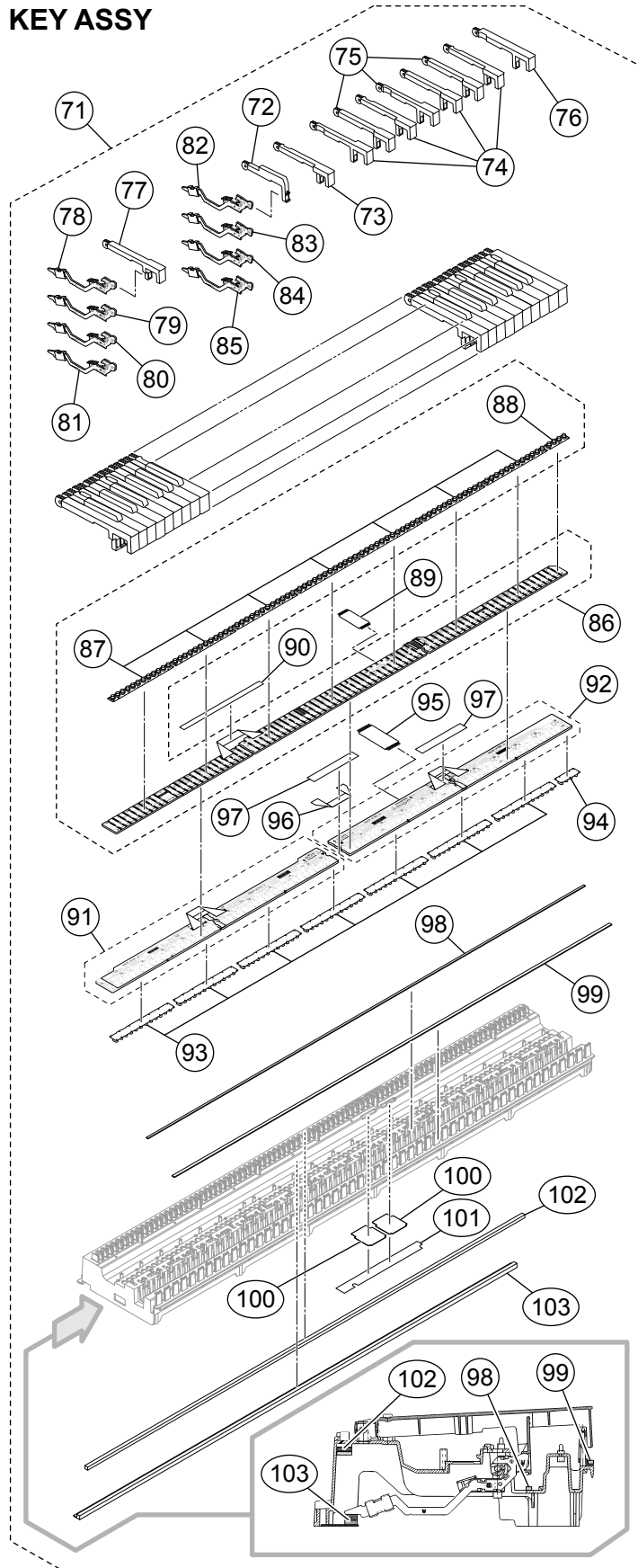
BUTTONS & BUTTON LEDs



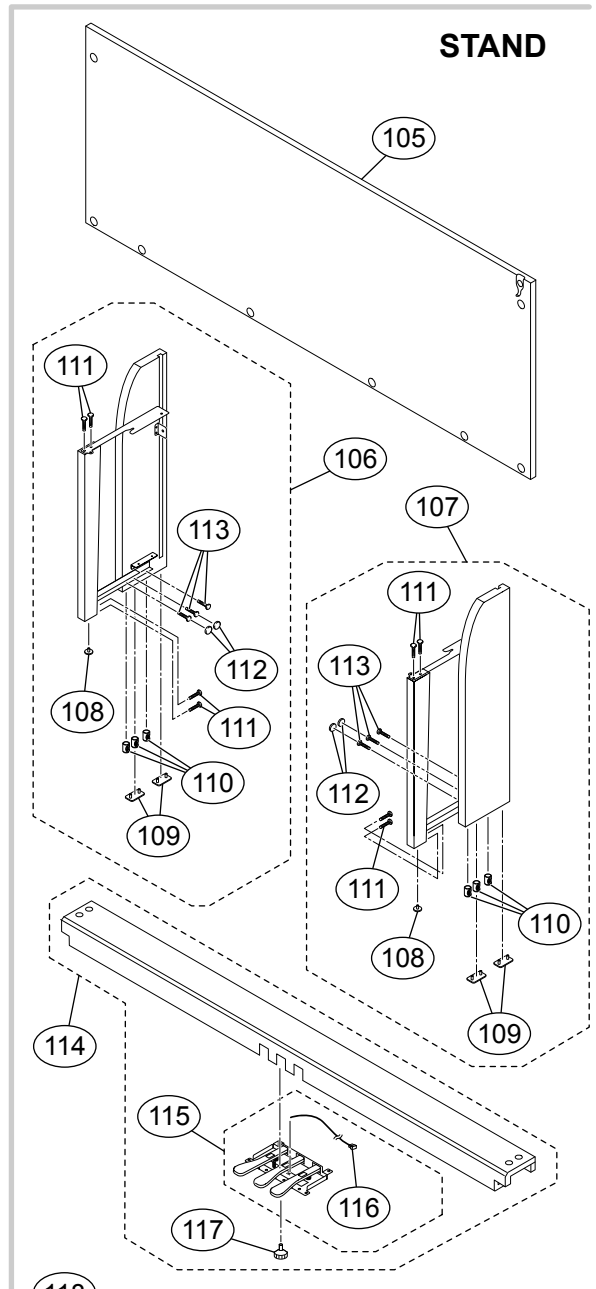
MAIN CASE



KEY ASSY



STAND



	× 4		× 2		× 1
	× 6		× 4		
	× 1		× 2		
	× 2		× 1		

PARTS LIST

AP-620

Notes: This parts list does not include the cosmetic parts, which parts are marked with item No. "R-X" in the exploded view.

Contact our spare parts department if you need these parts for refurbish.

1. Prices and specifications are subject to change without prior notice.
2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare parts Supply", published separately.
3. The numbers in item column correspond to the same numbers in drawing.

- 1: AP-620_BLACK_DI_120V
- 2: AP-620_BLACK_DI_230V
- 3: AP-620_BLACK_EU
- 4: AP-620_BLACK_UK
- 5: AP-620_BLACK_US

N	Item	Parts No.	Parts Name	Specification	QTY					Price Code	R	Remarks
					1	2	3	4	5			
MAIN PCB												
	1	10347177	PCB ASSY / MDA1	TK-RJM510031*001	1	1	1	1	1		B	MDA1 PCB
	D31	10276977	DIODE	L1SS400T1G	1	1	1	1	1	AA	X	
	IC13	10256338	IC	CS4351-CZZR	1	1	1	1	1	AS	X	
	IC1	10241413	IC	R1151N001C-TR-F	1	1	1	1	1	AE	X	
	IC11	10226394	IC	TC74VHC08FT(EL.K)	1	1	1	1	1	AB	X	
	IC8	10123002	IC	TC74VHC174FT(EL)	1	1	1	1	1	AD	X	
	IC9	10258396	IC	TC74VHC541FT(EL.K)	1	1	1	1	1	AE	X	
	IC4	10197554	IC	TC7SZ126FU(TE85L.F)	1	1	1	1	1	AE	X	
	IC10	10206819	IC	TC7SZ32FU(TE85L.F)	1	1	1	1	1	AF	X	
	IC5	10255468	LSI	MB91F036PFF-GE1	1	1	1	1	1	CB	C	
	IC14	10333782	LSI	UPD65943GK-F659EUA	1	1	1	1	1	AV	C	
	IC3	10197390	MEMORY	LP62S2048AX70LLTFQ	1	1	1	1	1	AY	X	
	IC7	10333110	MEMORY	MB82DP02183F65LTBG	1	1	1	1	1	BC	X	
	IC2	10333111	MEMORY	MD56V82160-6TAZ03B	1	1	1	1	1	BJ	X	
	IC6	10335496	MEMORY	S29GL512P10TFCR20D	1	1	1	1	1	BY	X	
	L39	10193074	COIL	DLW21HN181SQ2L	1	1	1	1	1	AC	X	
	Q8,Q9	69409403	TRANSISTOR	2SA1576AT106R	2	2	2	2	2	AA	X	
	Q7	22592764	TRANSISTOR	2SB1188T100Q	1	1	1	1	1	AB	X	
	Q10	69300298	TRANSISTOR	2SC4081T106R	1	1	1	1	1	AA	X	
	X1,X31	10334293	RESONATOR	9C12000163	2	2	2	2	2	AG	X	
	CN9	10257512	CONNECTOR	UBR23-4K5G00	1	1	1	1	1	AT		USB connector
SUB PCB												
	2	10347175	PCB ASSY / PSA1J	TK-RJM510027*001	1				1		C	PSA1 PCB for 120 V
	FU201	10342163	FUSE	51MS020L	1				1		C	
	FU202,FU203	10047400	FUSE	51MS063L	2				2	AC	C	
	2	10347176	PCB ASSY / PSA1E	TK-RJM510029*001		1	1	1			C	PSA1 PCB for 230 V
	FU201	10342162	FUSE	50T020H		1	1	1			C	
	FU202,FU203	10047413	FUSE	50T063H		2	2	2		AC	C	
	D1,D2,D5,D6	10261171	DIODE	1A2-A2	4	4	4	4	4		X	
	D11,D13,D15	10276977	DIODE	L1SS400T1G	3	3	3	3	3	AA	X	
	D9	10210387	DIODE	RSX101VA-30TR	1	1	1	1	1	AA	X	
	IC5-IC8,IC10	10211950	IC	NJM2068M-D(TE1)	5	5	5	5	5	AC	X	
	Q1-Q8,Q11	69300298	TRANSISTOR	2SC4081T106R	9	9	9	9	9	AA	X	
	Q14,Q15	10305853	TRANSISTOR	KTD1304-RTK/P	2	2	2	2	2	AB	X	
	D18,D19	10308381	DIODE	LUDZS7.5BT1G	2	2	2	2	2	AA	X	
	D14	10334296	DIODE	LUDZS8.2BT1G	1	1	1	1	1	AA	X	
	IC1	10343240	IC	BH3544F-E2	1	1	1	1	1	AN	X	
	D204,D205,D209,D210	10328324	DIODE	1N5401-C332	4	4	4	4	4		X	
	IC4	10257492	IC	NJM78M12FA	1	1	1	1	1	AE	X	
	IC2	10201503	IC	PQ1CG21H2FZH	1	1	1	1	1	AO	X	
	IC202	10342181	IC	STK433-060-E	1	1	1	1	1		X	
JACK PCB												
	3	10347191	PCB ASSY / JKA1	TK-RJM510033*001	1	1	1	1	1		C	JKA1 PCB
	D501	10276977	DIODE	L1SS400T1G	1	1	1	1	1	AA		
	D502	10314562	PHOTO COUPLER	QCPL-M614-500E	1	1	1	1	1	AD		
	Q501	69300298	TRANSISTOR	2SC4081T106R	1	1	1	1	1	AA		
	CN503	10207671	CONNECTOR	HDC-052SP-02	1	1	1	1	1	AK		MIDI jack
	J503	10206815	CONNECTOR	JY-6314*01-030	1	1	1	1	1	AC	B	LINE-OUT L/MONO
	J501,J502,J504	10206816	CONNECTOR	JY-6314*01-130	3	3	3	3	3	AA	B	LINE-IN / LINE-OUT R
	L502	10231919	COIL	RB53-856396NP	1	1	1	1	1	AA		
	L501,L503-L506	10231920	COIL	RB53-856397NP	5	5	5	5	5	AA		

- 1: AP-620_BLACK_DI_120V
- 2: AP-620_BLACK_DI_230V
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N	Item	Parts No.	Parts Name	Specification	QTY					Price Code	R	Remarks
					1	2	3	4	5			
CONSOLE PCB												
	4	10346445	PCB ASSY / CNA1	TK-RJM509707*001	1	1	1	1	1		X	CNA1 PCB
	5	10214335	PACKING -12X25	RJM506365-001	1	1	1	1	1		X	
	6	10209204	PACKING -10X148	RJM506160-001	1	1	1	1	1	AA	X	
	7	10214400	PACKING -10X245	RJM506158-001	1	1	1	1	1		X	
	8	10351210	DOUBLE-FACED TAPE -5-40	RJM510233-001	2	2	2	2	2		X	
	D601-D604,D606-D614	10336974	LED	26-21/R1	13	13	13	13	13	AD	X	
	D605	10336975	LED	26-21/Y1	1	1	1	1	1	AF	X	
	SW601-SW615	10337110	SWITCH	TP-1138A-10-100GF	15	15	15	15	15	AC	X	
	9	10346448	BL ASSY	TK-RJM509840*001	1	1	1	1	1		X	BACK LIGHT
	D2	10336988	LED	HSW1142LT-13-TR	1	1	1	1	1	AO	X	
	LSI1	10291684	LSI	D78F1153GK-GAK-AX	1	1	1	1	1	AU	C	
	Q3	69409403	TRANSISTOR	2SA1576AT106R	2	2	2	2	2	AA	X	
	Q1	10178530	TRANSISTOR	2SA1873-GR(TE85L.F	4	4	4	4	4	AC	X	
	Q9	10209027	TRANSISTOR	KTC4076-Y-RTK/P	3	3	3	3	3	AA	X	
	D3	10308381	DIODE	LUDZS7.5BT1G	1	1	1	1	1	AA	X	
	10	10346446	PCB ASSY / CNA2	TK-RJM509709*001	1	1	1	1	1		X	CNA2 PCB
	11	10214574	PACKING -10X223	RJM506391-001	2	2	2	2	2		X	
	D650	10276977	DIODE	L1SS400T1G	1	1	1	1	1	AA	X	
	D615-D629	10336974	LED	26-21/R1	15	15	15	15	15	AD	X	
	SW616-SW632	10337110	SWITCH	TP-1138A-10-100GF	17	17	17	17	17	AC	X	
	12	10310734	PCB ASSY / SDA1	TK-RJM508899*001	1	1	1	1	1	BV	X	SDA1 PCB
	IC751	10226394	IC	TC74VHC08FT(EL.K)	1	1	1	1	1	AB	X	
	13	10342272	BRACKET / SD	RJM509562-001	1	1	1	1	1		X	
TOP CASE and KEY COVER												
	14	10347200	BORAD ASSY / TOP	TK-RJM509351*001	1	1	1	1	1		X	
	15	10218677	BRACKET	RJM505977-001	5	5	5	5	5		X	
	16	10347189	KEY COVER ASSY	TK-RJM509352*001	1	1	1	1	1		C	
	17	10337936	GEAR	RJM509608-001	2	2	2	2	2	AD	C	
	18	10211851	SLIDE CAP	RJM505899-001	2	2	2	2	2	AA	C	
	19	10347190	BORAD ASSY / MS-TR	TK-RJM509699*001	1	1	1	1	1		X	
	19-1	10354378	SCORE-BASE-ASSY	TK-RJM510252*001	1	1	1	1	1			
CONSOLE UNIT												
	20	10347179	SPEAKER COVER / L	TK-RJM509941*001	1	1	1	1	1		X	
	21	10347195	SPEAKER COVER / R	TK-RJM509942*001	1	1	1	1	1		X	
	22	10347178	PANEL ASSY	TK-RJM509362*001	1	1	1	1	1		X	
	23	10342145	PLATE / DISPLAY	RJM509502-001	1	1	1	1	1		X	
	24	10342133	BRACKET	RJM509678-001	6	6	6	6	6		X	
	25	10260138	FABRIC TAPE -30X20	M411136-004	3	3	3	3	3		X	
	26	10337091	SPACER	RJM509862-001	4	4	4	4	4	AA	X	
	27	10337938	KY FELT	RJM509922-001	1	1	1	1	1	AD	X	
	28	10337051	BUTTON / TACT / A	RJM509408-001	4	4	4	4	4	AC	X	
	29	10337029	BUTTON / TACT / B	RJM509396-001	1	1	1	1	1	AC	X	
	30	10337030	BUTTON / TACT / B	RJM509396-002	3	3	3	3	3	AB	X	
	31	10337031	BUTTON / TACT / C	RJM509397-001	1	1	1	1	1	AC	X	
	32	10337032	BUTTON / TACT / C	RJM509397-002	1	1	1	1	1	AB	X	
	33	10337033	BUTTON / TACT / C	RJM509397-003	4	4	4	4	4	AA	X	
	34	10337054	COVER / LED	RJM509410-001	13	13	13	13	13	AA	X	
	35	10337055	SPACER / LED / A	RJM509411-001	7	7	7	7	7	AA	X	
	36	10337056	SPACER / LED / B	RJM509412-001	3	3	3	3	3	AA	X	
	37	10337057	SPACER / LED / C	RJM509413-001	1	1	1	1	1	AA	X	
	38	10346399	FABRIC SHEET / A	RJM509545-001	1	1	1	1	1	AE	X	
	39	10346400	FABRIC SHEET / B	RJM509546-001	1	1	1	1	1	AC	X	

- 1: AP-620_BLACK_DI_120V
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N	Item	Parts No.	Parts Name	Specification	QTY					Price Code	R	Remarks
					1	2	3	4	5			
MEIN CASE UNIT												
	40	10347196	MAIN CASE ASSY	TK-RJM509357*001	1	1	1	1	1		X	
	41	10342284	SPEAKER	C16J01	2	2	2	2	2		X	
	42	10164047	HARNESS / SPEAKER / L	EH-2P-48-M420	1	1	1	1	1	AD	X	
	43	10342167	HARNESS / SPEAKER / R	EF-EH2P067M907	1	1	1	1	1		X	
	44	10342321	BRACKET / TWEETER / L	RJM509679-001	2	2	2	2	2		X	
	45	10342322	BRACKET / TWEETER / R	RJM509680-001	2	2	2	2	2		X	
	46	10285382	TWEETER	C05JT01	2	2	2	2	2	BE	X	
	47	10265690	HARNESS / TWEETER / L	PH-2P-50-M332	1	1	1	1	1	AG	X	
	48	10342168	HARNESS / TWEETER / R	EF-PH2P069M907	1	1	1	1	1		X	
	49	10347193	PCB ASSY / ACA1U	TK-RJM510023*001	1				1		X	ACA1U PCB for 120 V
	FU1	10052230	FUSE	51MS040L	1				1	AC	C	
	49	10347194	PCB ASSY / ACA1E	TK-RJM510025*001		1	1	1			X	ACA1E PCB for 230 V
	FU1	10047508	FUSE	50T025H		1	1	1		AC	C	
	50	10342319	TRANSFORMER	TE-437-1M1B	1				1		X	
	50	10233375	TRANSFORMER	TE-437-2M1A		1	1	1		CO	X	
	51	10204256	FERRITE CORE	TRCN16-13	2	2	2	2	2	AW	X	
	52	10342172	HARNESS / PEDAL	EF-SMP5P028M907	1	1	1	1	1		X	
	53	10337922	BRACKET / MDA1 / L	RJM509526-001	1	1	1	1	1		X	
	54	10337923	BRACKET / MDA1 / R	RJM509527-001	1	1	1	1	1		X	
	55	10184475	STOPPER	RJM505299-001	2	2	2	2	2	AB	X	
	56	10260138	FABRIC TAPE -30X20	M411136-004	3	3	3	3	3		X	
	57	10164446	FABRIC TAPE -20-120	RJM502073-002	6	6	6	6	6	AA	X	
	58	10347197	BOARD ASSY / FRONT	TK-RJM509359*001	1	1	1	1	1		X	
	59	10347198	PCB ASSY / HPA2	TK-RJM509668*003	1	1	1	1	1		X	HPA2 PCB
	D701	10203050	LED	231XHD	1	1	1	1	1	AA	X	
	60	10269833	RUBBER FOOT	RJM507817-001	2	2	2	2	2	AA	X	
	61	10342258	SIDE CASE / L	RJM507140-002	1	1	1	1	1		X	
	62	10193270	KNOB / ROTARY	RJM502503-008	1	1	1	1	1		C	
	63	69245260	BUTTON / POWER	M340318-001	1	1	1	1	1	AA	C	
	64	10347199	PCB ASSY / HPA1	TK-RJM510090*001	1	1	1	1	1		C	HPA1 PCB
	J701,J702	10171449	CONNECTOR	JY-6360*04-070	2	2	2	2	2	AE	C	Headphones jack
	L701,L702	10231919	COIL	RB53-856396NP	2	2	2	2	2	AA	X	
	65	10260138	FABRIC TAPE -30X20	M411136-004	1	1	1	1	1		X	
	66	10347180	PCB ASSY / CNA4	TK-RJM510035*001	1	1	1	1	1		C	CNA4 PCB
	VR601	10122556	VARIABLE RESISTOR	RK09K12C0D1A	1	1	1	1	1	AL	C	Main volume
	67	10347181	SWITCH ASSY / POWER	TK-RJM510020*001	1	1	1	1	1		B	
	68	10342259	SIDE CASE / R	RJM507141-002	1	1	1	1	1		X	
	69	10164278	AC CORD ASSY	TK-RJM503864*002	1				1	AM	X	for US,DI AC120V
	70	10164279	AC INLET ASSY	TK-RJM503865*001		1	1	1		AH	X	for 230V

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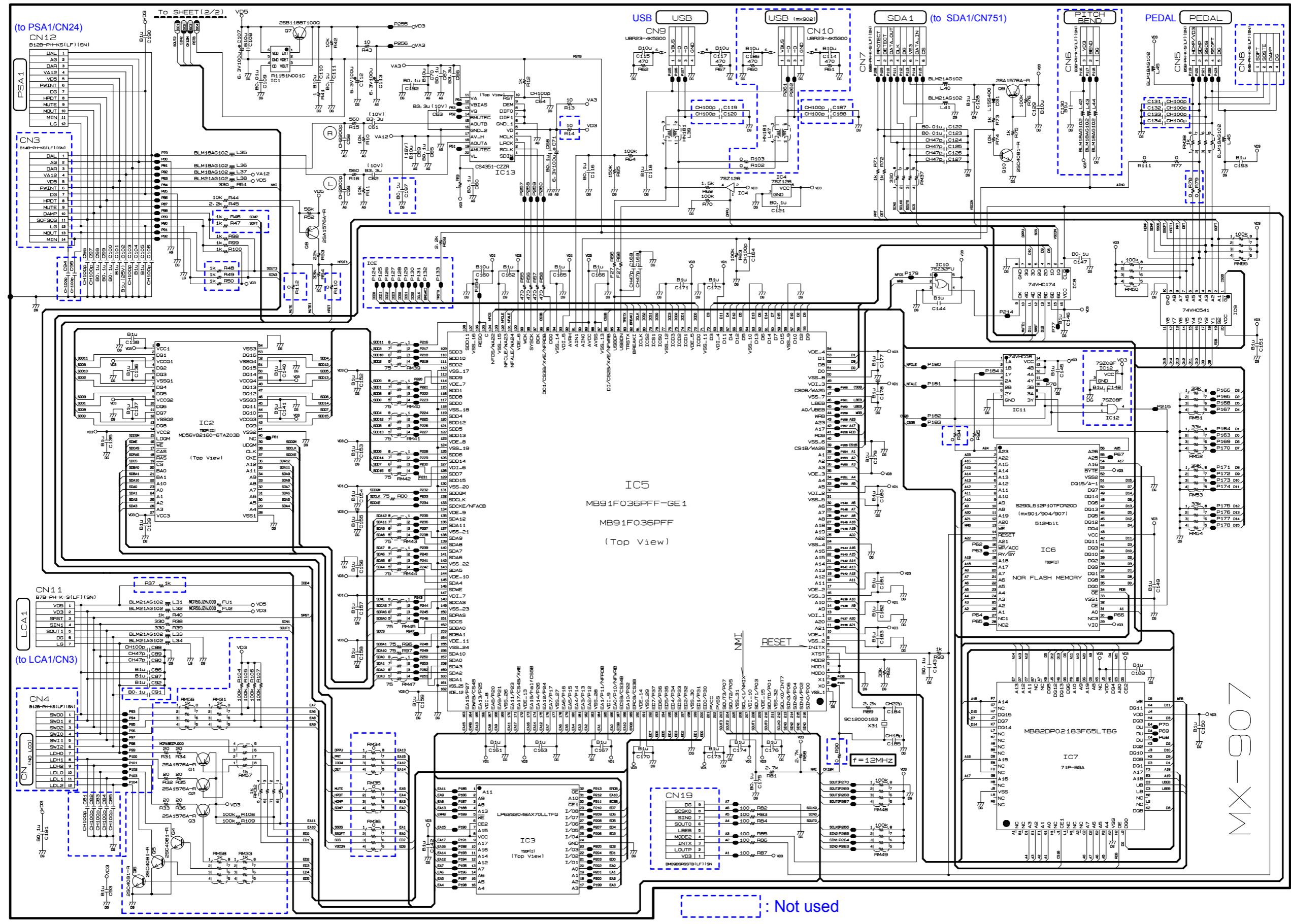
N	Item	Parts No.	Parts Name	Specification	QTY					Price Code	R	Remarks
					1	2	3	4	5			
KEYBOARD UNIT												
	71	10348588	KEYBOARD ASSY	TK-RJM510156*004	1	1	1	1	1		C	
	72	10337877	BLACK KEY	RJM502797-003	36	36	36	36	36	AN	B	
	73	10338011	W-KEY-B-CPK	RJM502794-003	1	1	1	1	1	AV	X	
	74	10338012	W-KEY-CEGB-CPK	RJM502862-003	7	7	7	7	7	BU	B	
	75	10338013	W-KEY-DFA-CPK	RJM502863-003	7	7	7	7	7	BO	B	
	76	10338015	W-KEY-SC-CPK	RJM502796-004	1	1	1	1	1	BC	X	
	77	10338014	W-KEY-SA-CPK	RJM502795-004	1	1	1	1	1	BC	X	
	78	10341062	HAMMER ASSY / W1	TK-RJM509600*001	13	13	13	13	13	BM	C	
	79	10341063	HAMMER ASSY / W2	TK-RJM509601*001	13	13	13	13	13	BM	C	
	80	10341064	HAMMER ASSY / W3	TK-RJM509602*001	13	13	13	13	13	BM	C	
	81	10341065	HAMMER ASSY / W4	TK-RJM509603*001	13	13	13	13	13	BM	C	
	82	10341066	HAMMER ASSY / B1	TK-RJM509604*001	9	9	9	9	9	BJ	C	
	83	10341067	HAMMER ASSY / B2	TK-RJM509605*001	9	9	9	9	9	BJ	C	
	84	10341068	HAMMER ASSY / B3	TK-RJM509606*001	9	9	9	9	9	BJ	C	
	85	10341069	HAMMER ASSY / B4	TK-RJM509607*001	9	9	9	9	9	BJ	C	
	86	10340880	PCB ASSY / KYC KYD	TK-RJM509609*001	1	1	1	1	1		C	KYC, KYD PCB
	D601-D628	10301580	DIODE	LM1MA142WAT1G	28	28	28	28	28	AA	X	
	D801-D818	10301580	DIODE	LM1MA142WAT1G	18	18	18	18	18	AA	X	
	87	10334333	RUBBER CONTACT / AG1	RJM509219-001	7	7	7	7	7	AC	A	
	88	10334334	RUBBER CONTACT / GC1	RJM509220-001	1	1	1	1	1	AA	A	
	89	10336109	CABLE	UL2896-20-280-MACP	1	1	1	1	1	AX	X	
	90	10334298	FABRIC TAPE -15X270	M411937-001	1	1	1	1	1	AD	X	
	91	10341198	PCB ASSY / KYA	TK-RJM509622*001	1	1	1	1	1	BV	C	KYA PCB
	D601-D644	10294400	DIODE	LM1MA142WKT1G	44	44	44	44	44	AA	X	
	92	10341199	PCB ASSY / KYB	TK-RJM509624*001	1	1	1	1	1	BW	C	KYB PCB
	D801-D844	10294400	DIODE	LM1MA142WKT1G	44	44	44	44	44	AA	X	
	93	10334331	RUBBER CONTACT / AG2	RJM509217-001	7	7	7	7	7	AD	A	
	94	10334332	RUBBER CONTACT / GC2	RJM509218-001	1	1	1	1	1	AA	A	
	95	10336108	CABLE	UL2896-30-265-MACP	1	1	1	1	1	AX	X	
	96	10336111	CABLE	UL2896-20-120-MACP	1	1	1	1	1	AO	X	
	97	10164446	FABRIC TAPE -20-120	RJM502073-002	2	2	2	2	2	AA	X	
	98	10340855	FELT / KEY	RJM510067-001	1	1	1	1	1	AV	X	
	99	10138691	FELT / KEY	RJM503562-001	1	1	1	1	1	AF	X	
	100	10306460	PLATE	RJM505864-001	2	2	2	2	2	AA	X	
	101	10343387	FABRIC TAPE	RJM510100-001	1	1	1	1	1	AF	X	
	102	10334393	FELT / HAMMER	RJM509655-001	1	1	1	1	1	BI	X	
	103	10294093	FELT / HAMMER	TK-RJM507910*001	1	1	1	1	1	CG	X	
	104	69264590	SPONGE -50-80	M440564-001	2	2	2	2	2	AA	X	

- 1: AP-620_BLACK_DI_120V
- 2: AP-620_BLACK_DI_230V
- 3: AP-620_BLACK_EU
- 4: AP-620_BLACK_UK
- 5: AP-620_BLACK_US

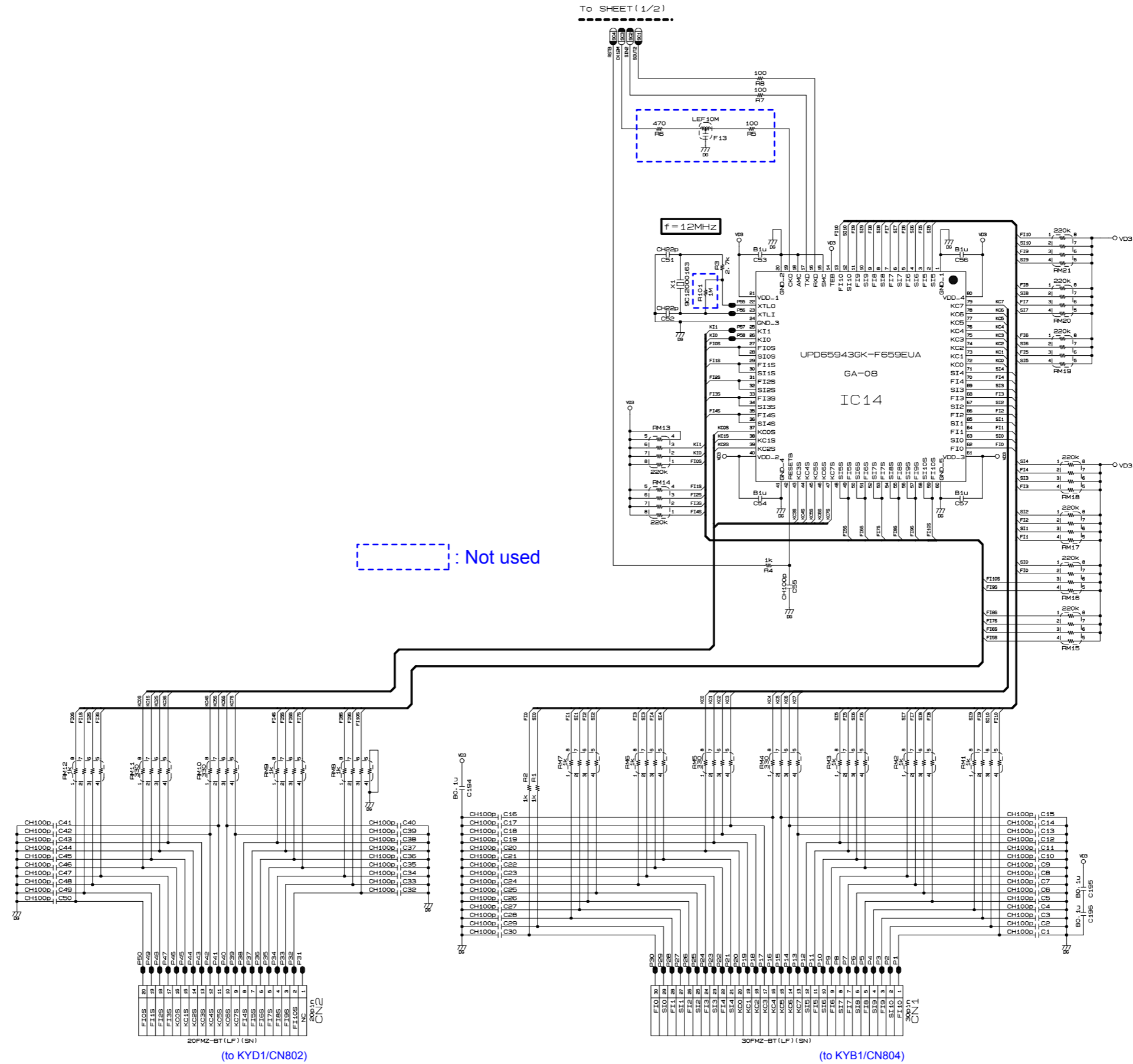
N	Item	Parts No.	Parts Name	Specification	QTY					Price Code	R	Remarks
					1	2	3	4	5			
STAND												
	105	10347187	STAND BOARD ASSY / BACK	TK-RJM509957*001	1	1	1	1	1		X	
	106	10347182	STAND BOARD ASSY / L	TK-RJM509363*001	1	1	1	1	1		X	
	107	10347183	STAND BOARD ASSY / R	TK-RJM509364*001	1	1	1	1	1		X	
	108	10342156	FOOT / A	RJM510004-001	2	2	2	2	2		X	
	109	10342157	FOOT / B	RJM510005-001	4	4	4	4	4		X	
	110	10246604	CROSS NUT	YD-0370163	6	6	6	6	6	AB	X	
	111	10342154	SCREW / FLASH HEAD	RJM509946-001	8	8	8	8	8		X	
	112	10259371	CAP / BOLT	YD-0391006	4	4	4	4	4		X	
	113	10349650	BOLT	RJM510117-001	6	6	6	6	6		X	
	114	10347184	PEDAL BOARD ASSY	TK-RJM509355*001	1	1	1	1	1		C	
	115	10263906	PEDAL ASSY	TK-RJM507377*001	1	1	1	1	1	CL	B	
	116	10339497	HARNESS / PEDAL	EF-SMR5P155MP5	1	1	1	1	1		X	
	VR1	10257246	VARIABLE RESISTOR / PEDAL	XV09411N895Z5K1050	1	1	1	1	1	AY	X	
	117	10260690	ADJUSTER	FL-20-CR3-KE	1	1	1	1	1	AF	X	
	118	10347186	SCREW SET	TK-RJM509378*001	1	1		1	1		X	
	118	10348388	SCREW SET	TK-RJM509378*002			1				X	
ACCESSORIES												
	X-1	10318806	CORD	BC2LT-M001A				1		BP	X	for UK AC230V
	X-2	10318804	CORD	EC2LT-M001A		1	1			BM	X	for EU AC230V
	X-3	10318805	CORD	KC2LT-M001A		1					X	for Korea AC230V
	X-4	10347188	STAND / MUSICAL SCORE	TK-RJM509945*001	1	1	1	1	1		X	
	X-6	10351228	BENCH	MX-CH11D-(D)-A	1	1			1		X	

SCHEMATIC DIAGRAMS

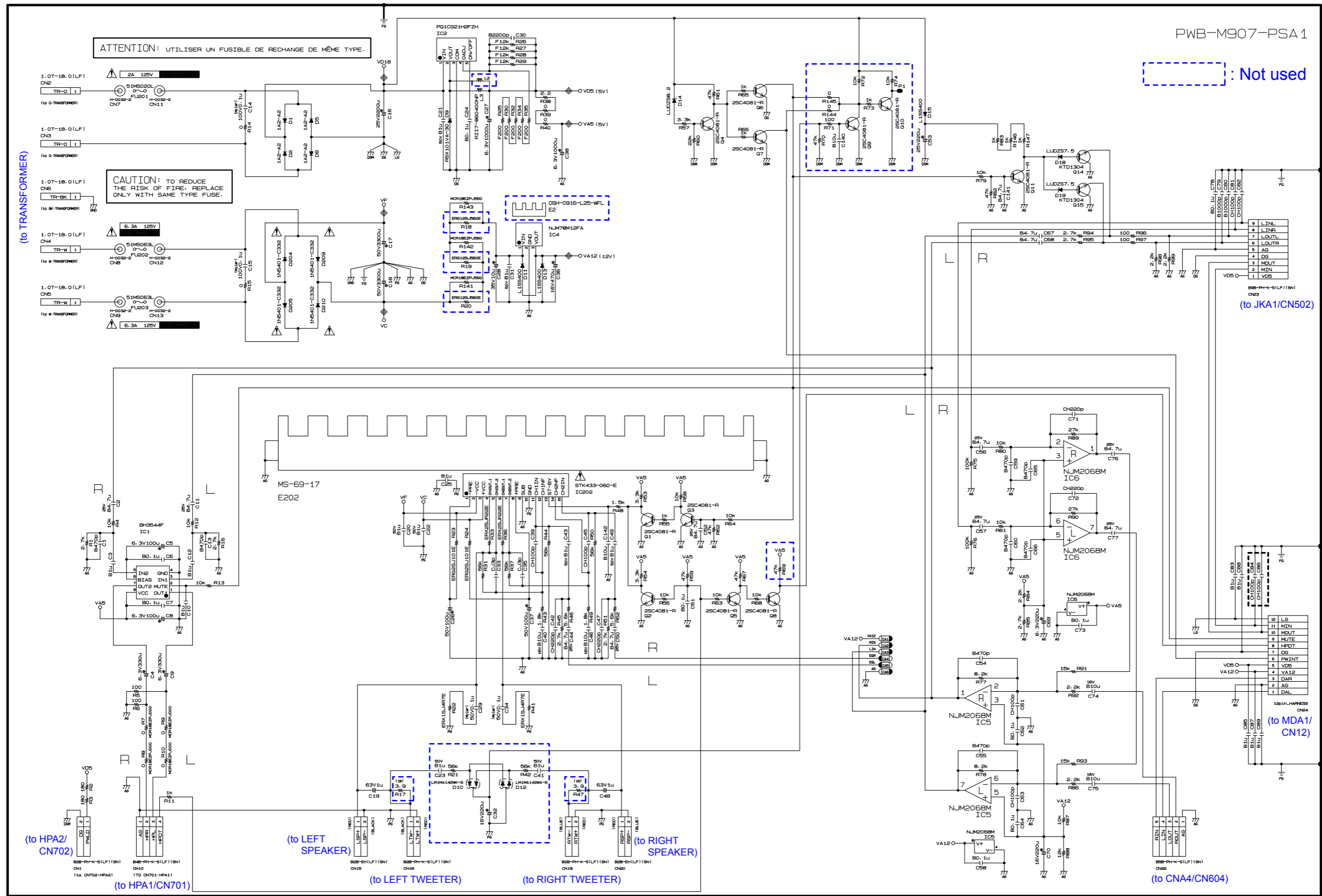
Main PCB M900-MDA1 (1/2)



Main PCB M900-MDA1 (2/2)



Sub PCB M907-PSA1 (For 120 V Area) (1/2)



PWB-M907-PSA1

[] : Not used

(to TRANSFORMER)

(to JKA1/CN502)

(to HPA2/CN702)

(to HPA1/CN701)

(to LEFT SPEAKER)

(to LEFT TWEETER)

(to RIGHT SPEAKER)

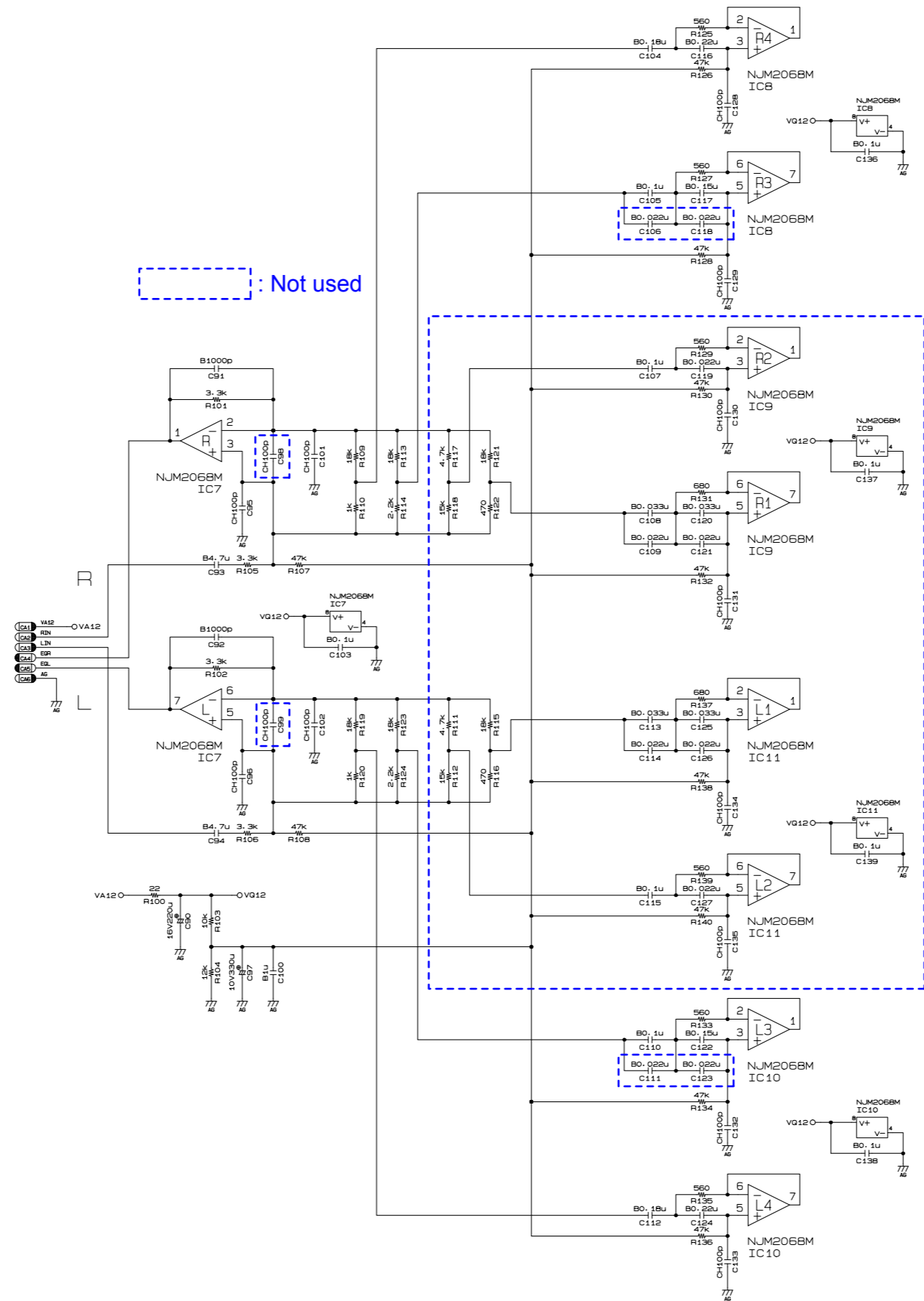
(to RIGHT TWEETER)

(to MDA1/CN12)

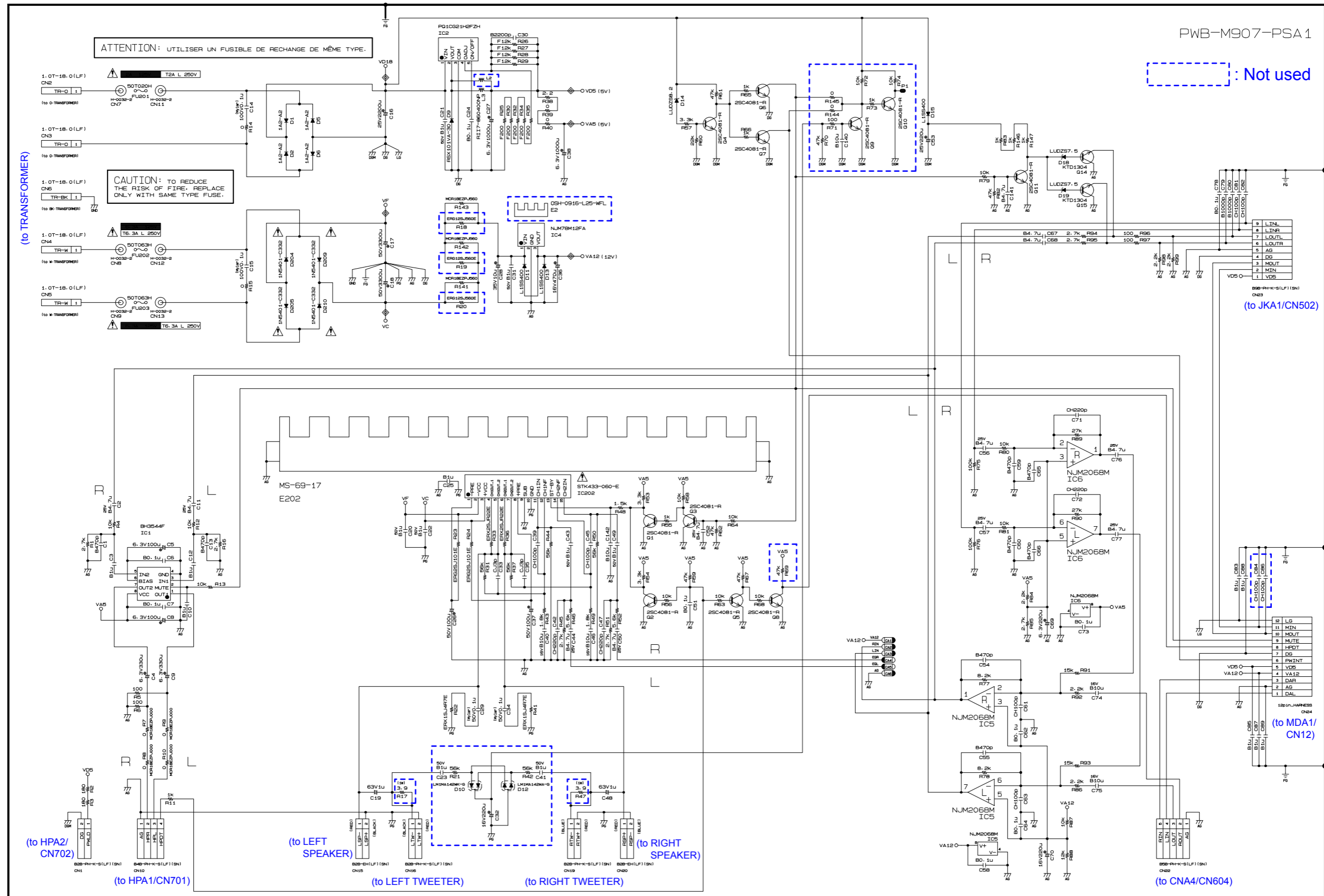
(to CNA4/CN604)



Sub PCB M907-PSA1 (For 120 V Area) (2/2)



Sub PCB M907-PSA1 (For 230 V Area) (1/2)



ATTENTION: UTILISER UN FUSIBLE DE REMPLACE DE MÊME TYPE.

CAUTION: TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE.

: Not used

(to HPA2/CN702)

(to HPA1/CN701)

(to LEFT SPEAKER)

(to LEFT TWEETER)

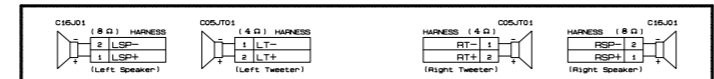
(to RIGHT TWEETER)

(to RIGHT SPEAKER)

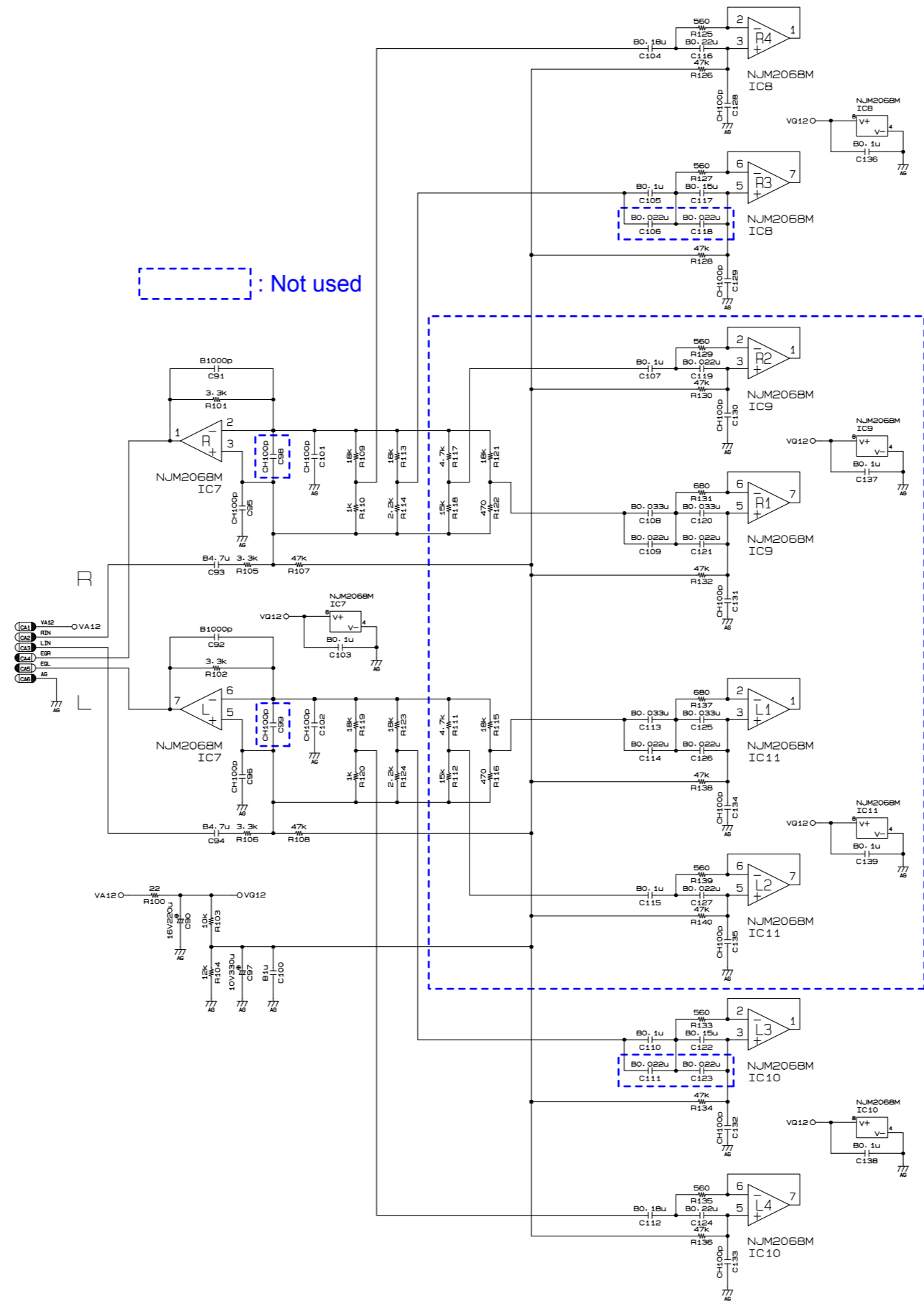
(to CNA4/CN604)

(to JKA1/CN502)

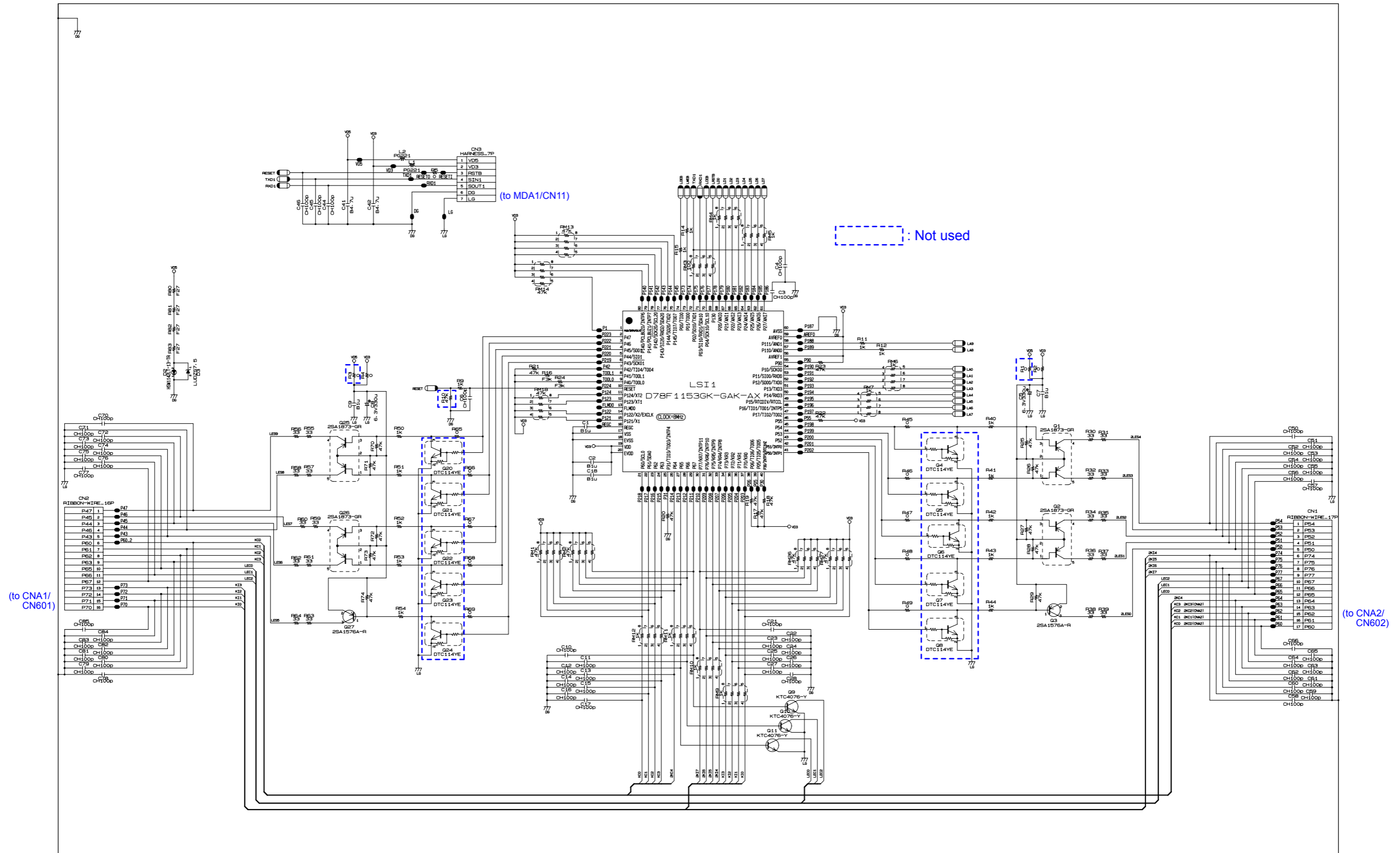
(to MDA1/CN12)



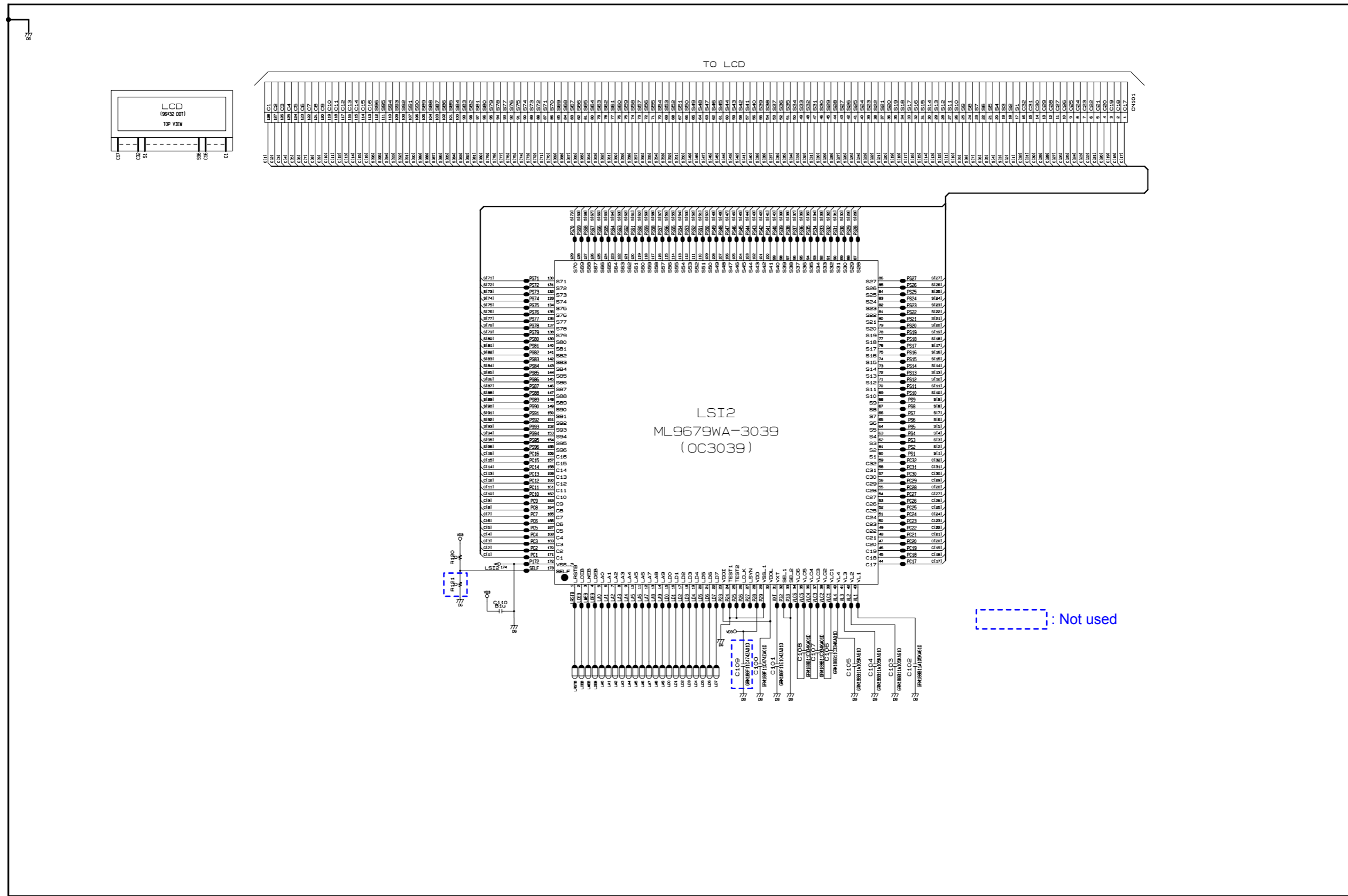
Sub PCB M907-PSA1 (For 230 V Area) (2/2)



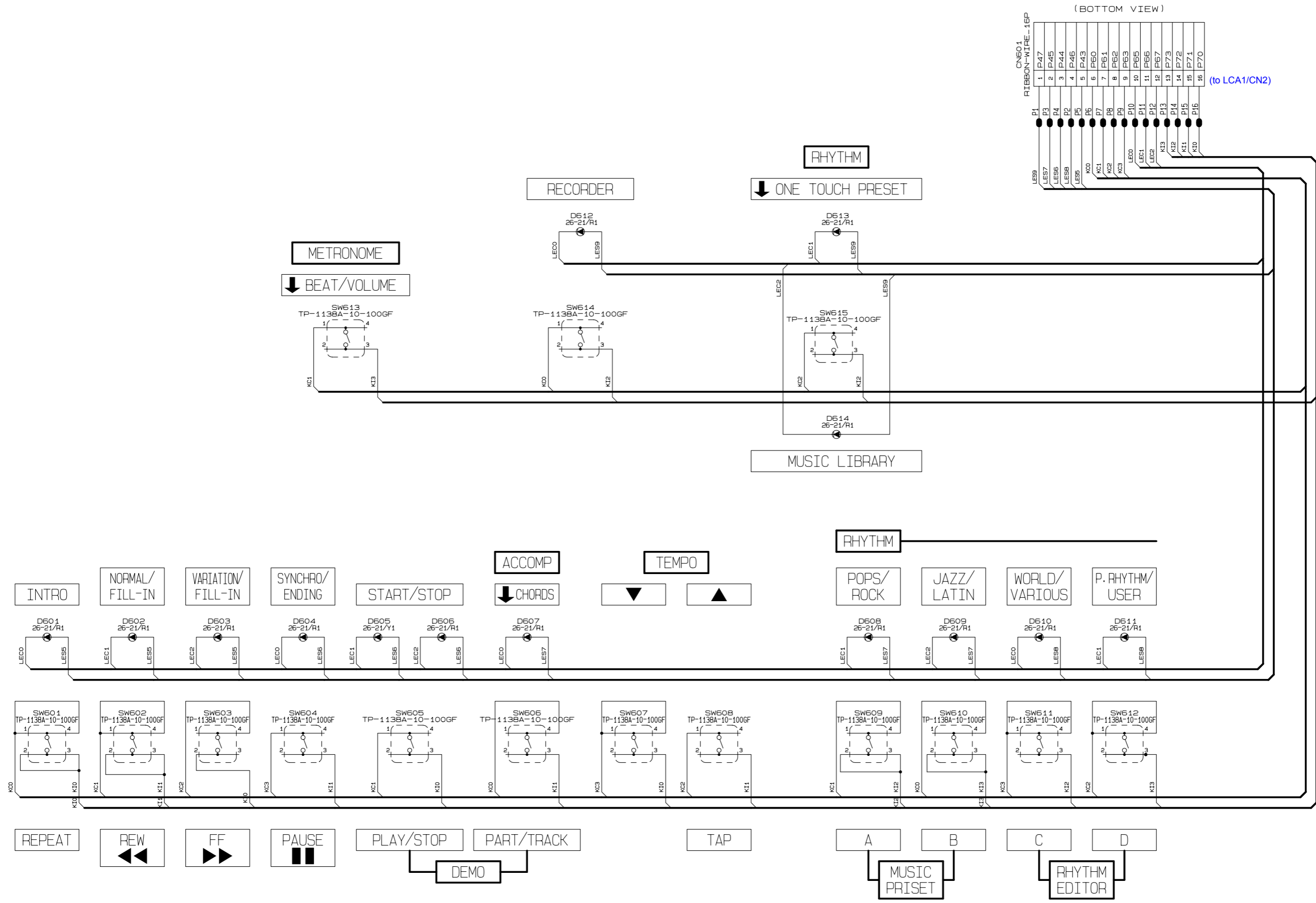
Console PCB M901-LCA1 (1/2)



Console PCB M901-LCA1 (2/2)

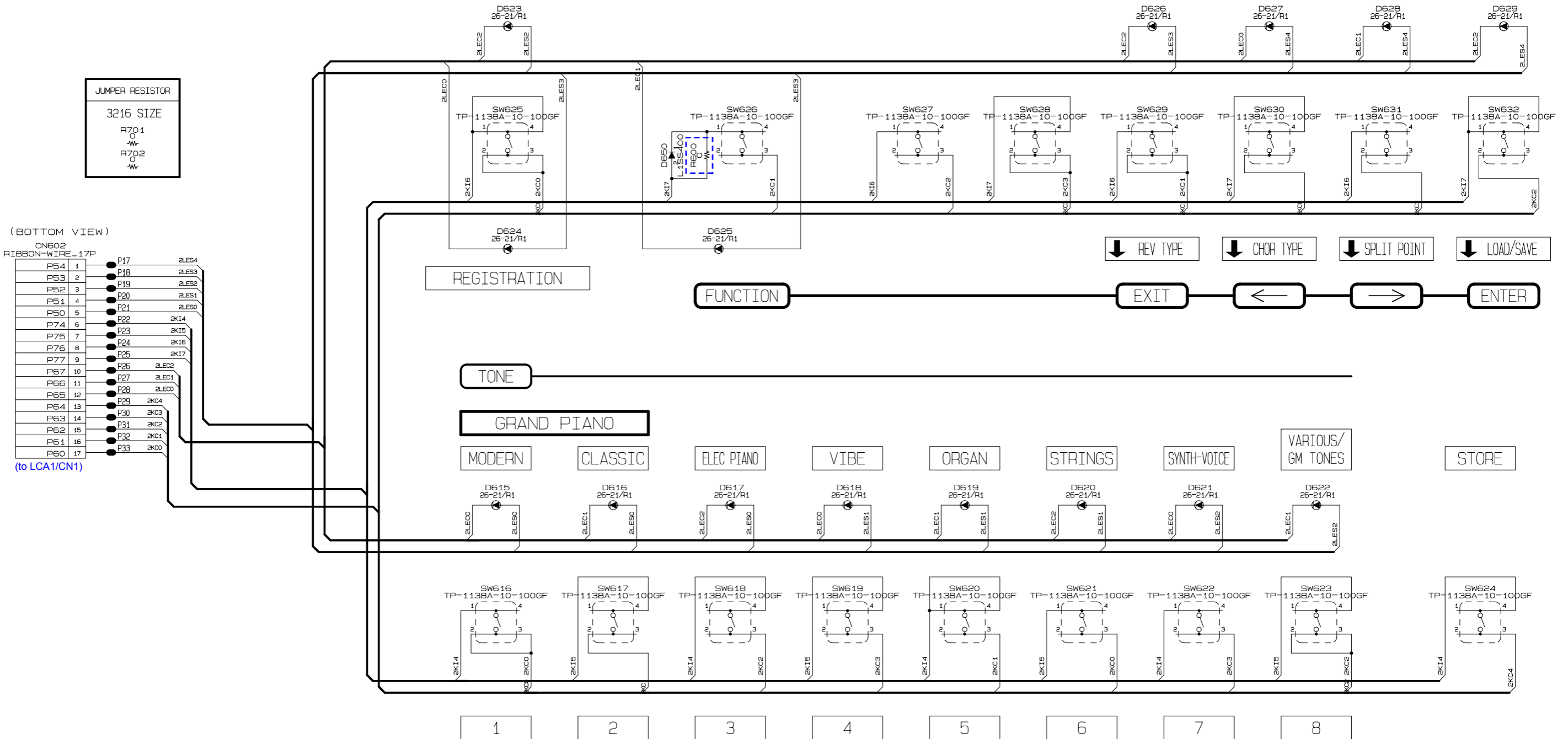


Console PCB M901-CNA1

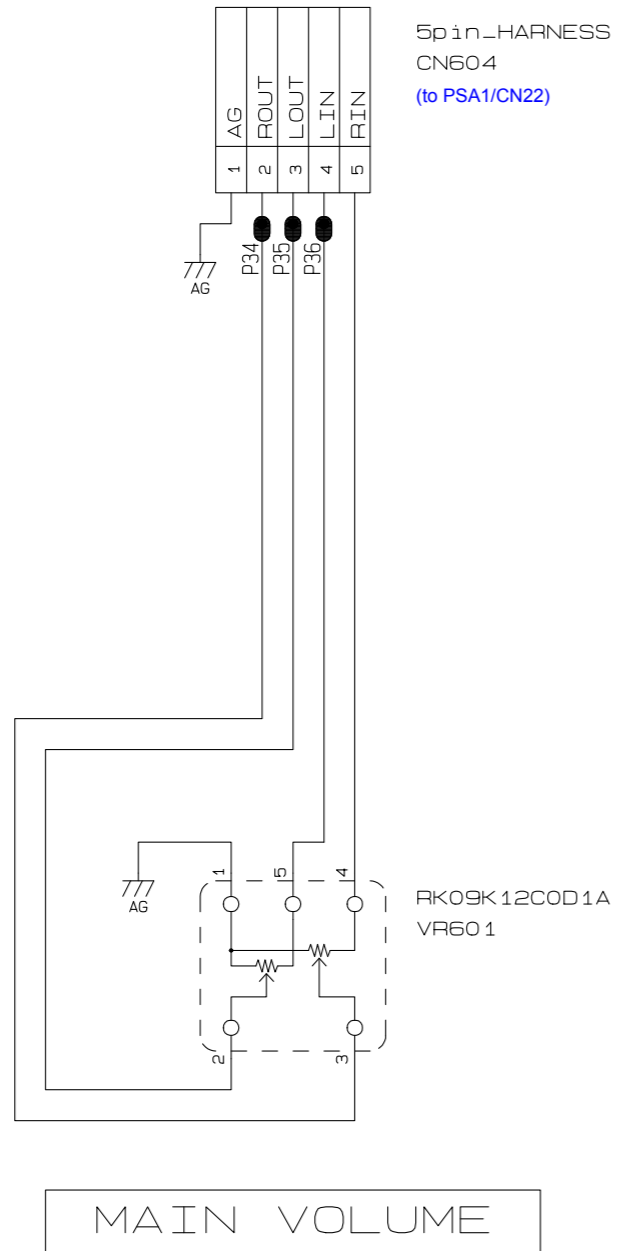


Console PCB M901-CNA2

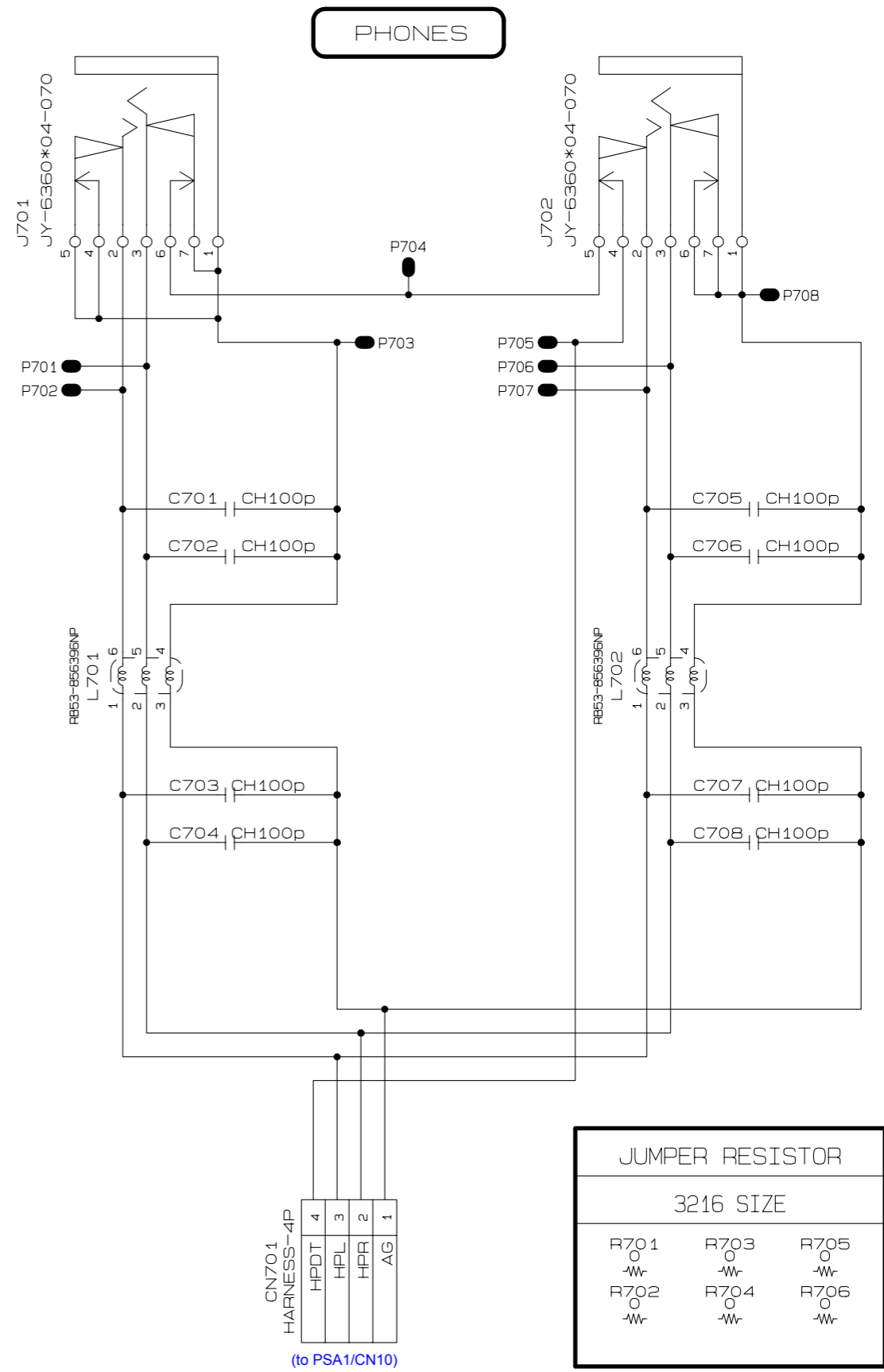
Not used



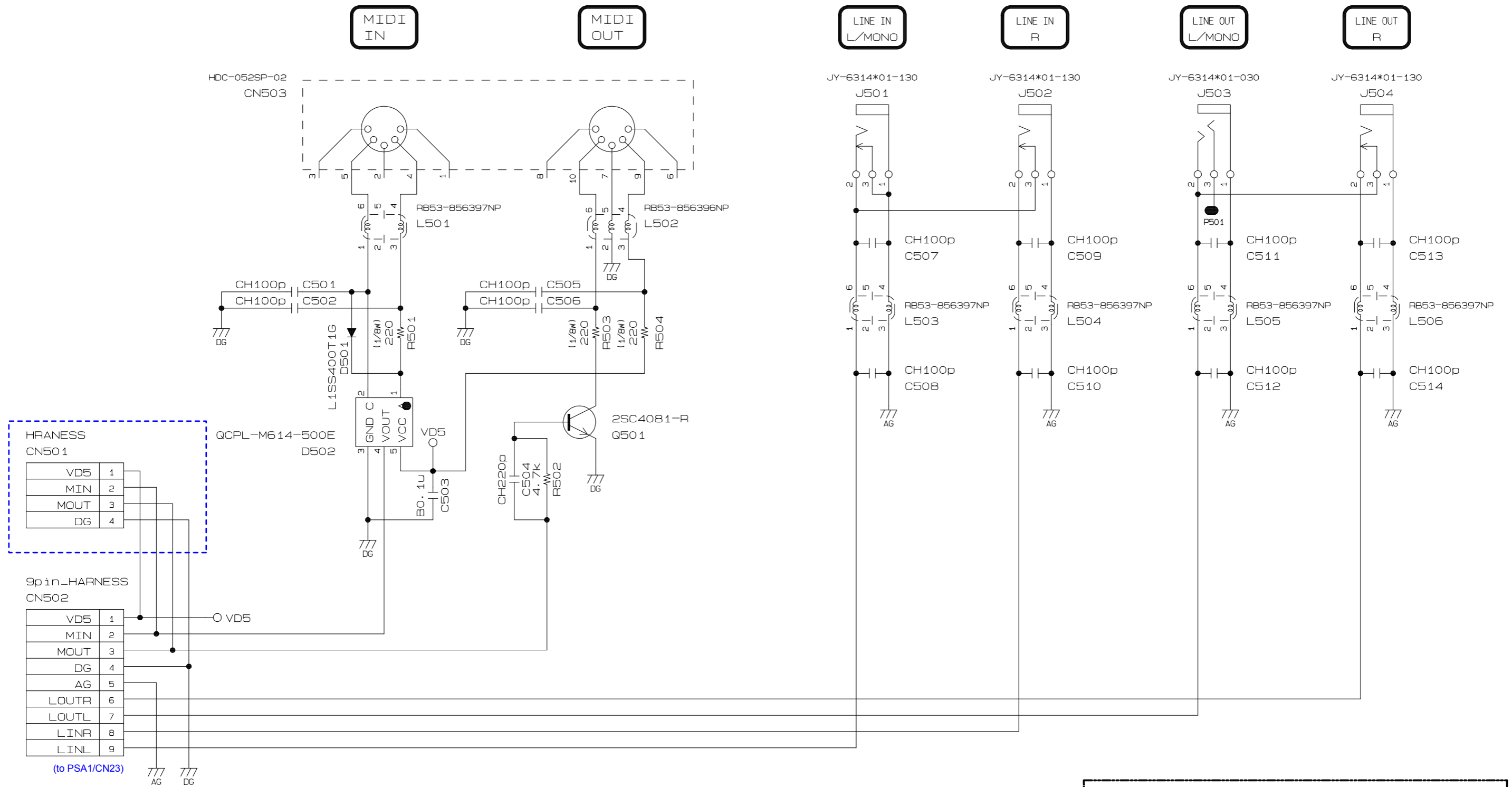
Volume PCB M901-CNA4



Jack PCB M902-HPA1



Jack PCB M907-JKA1

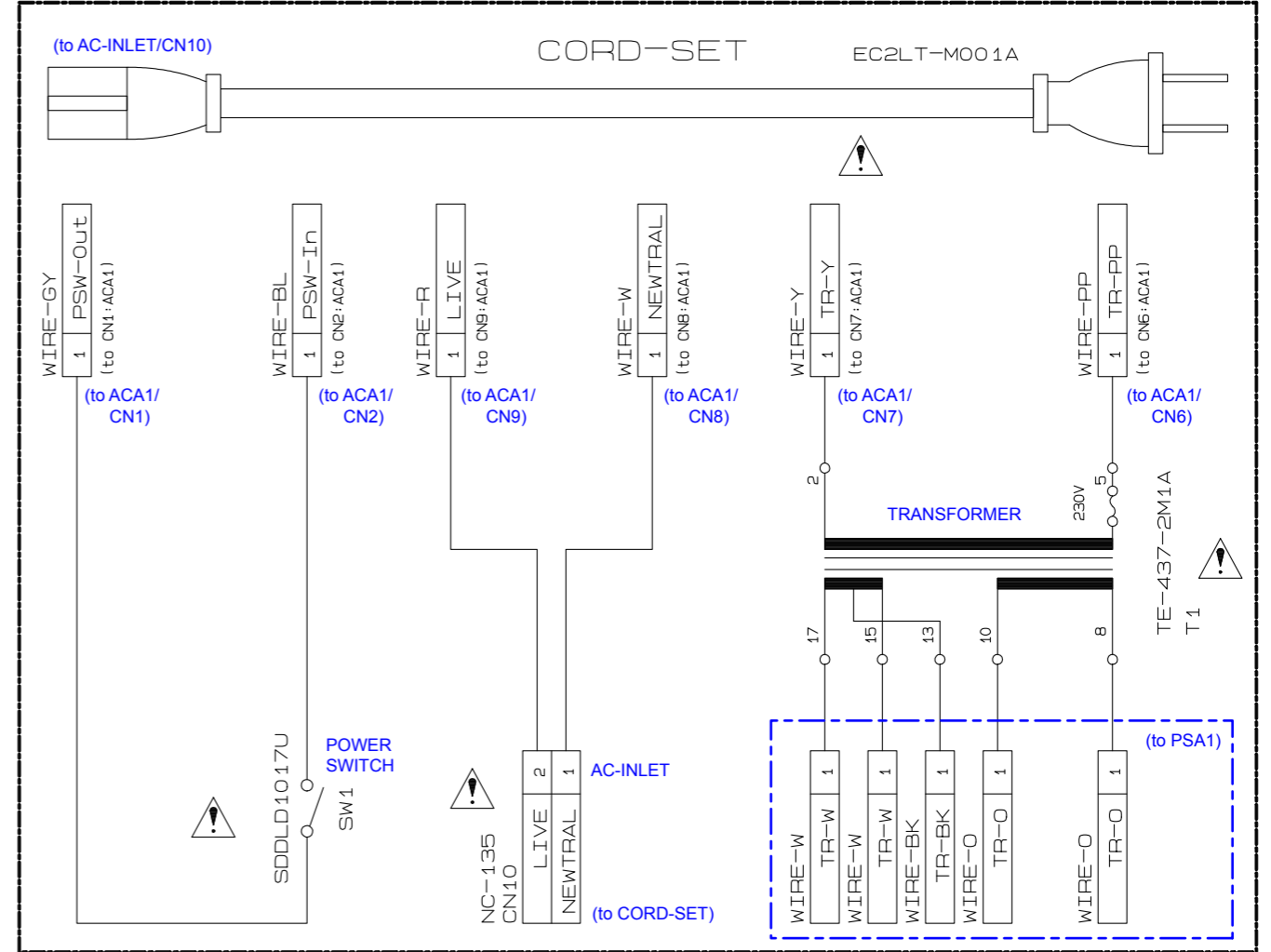
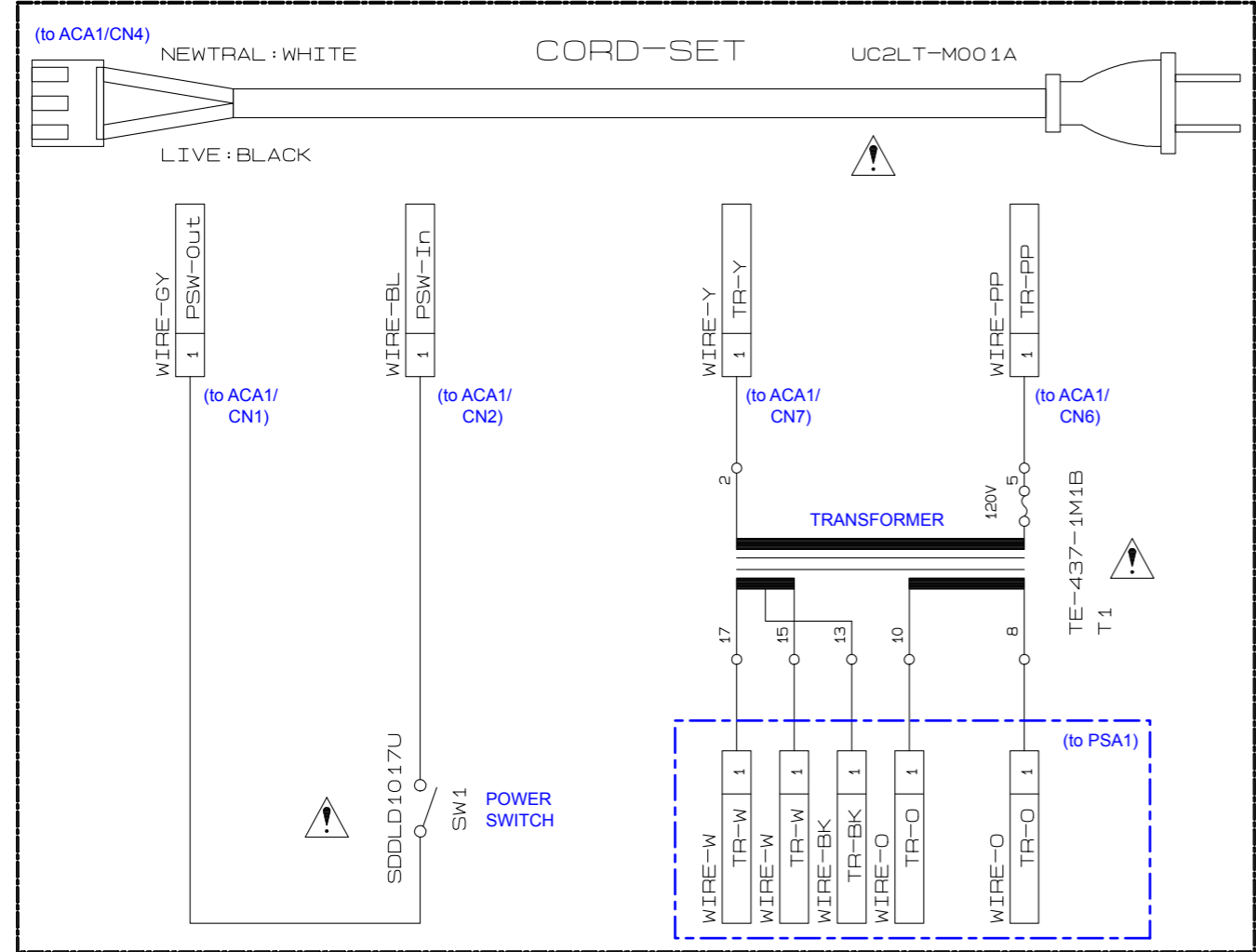
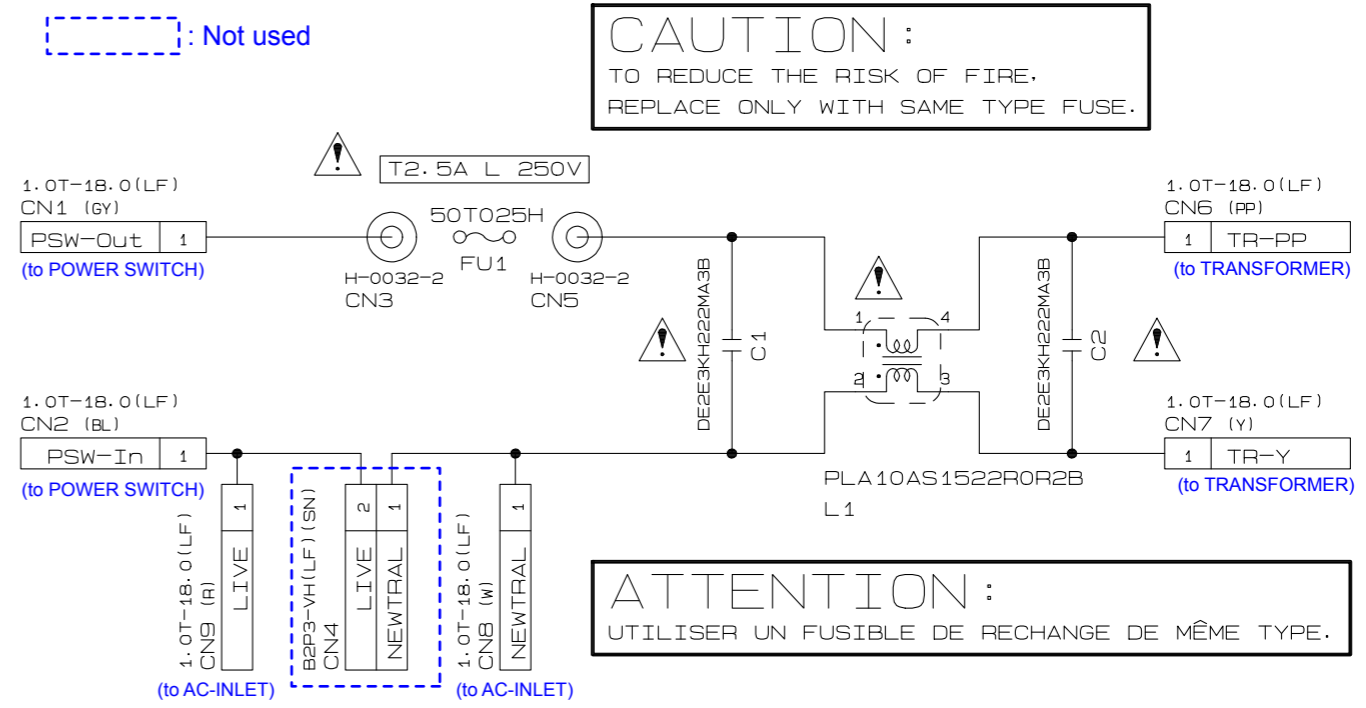
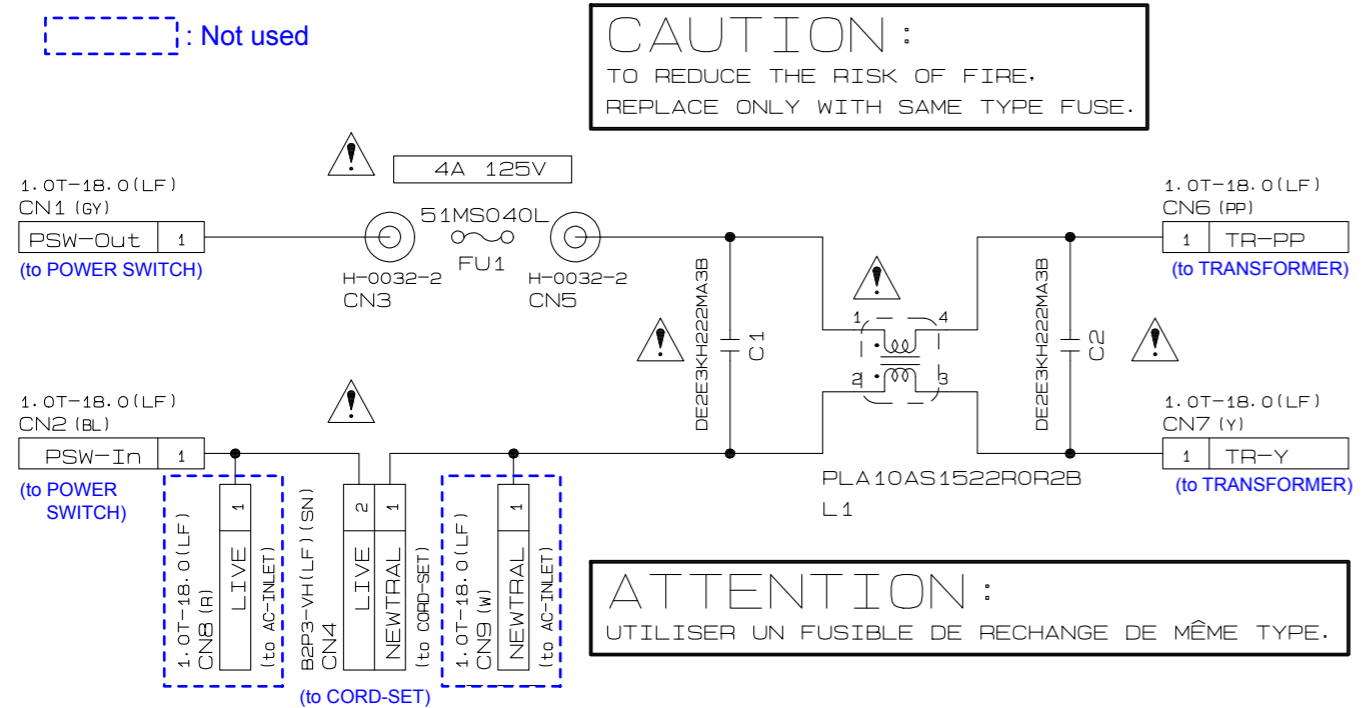


CHIP JUMPER (0 ohm)
3216type

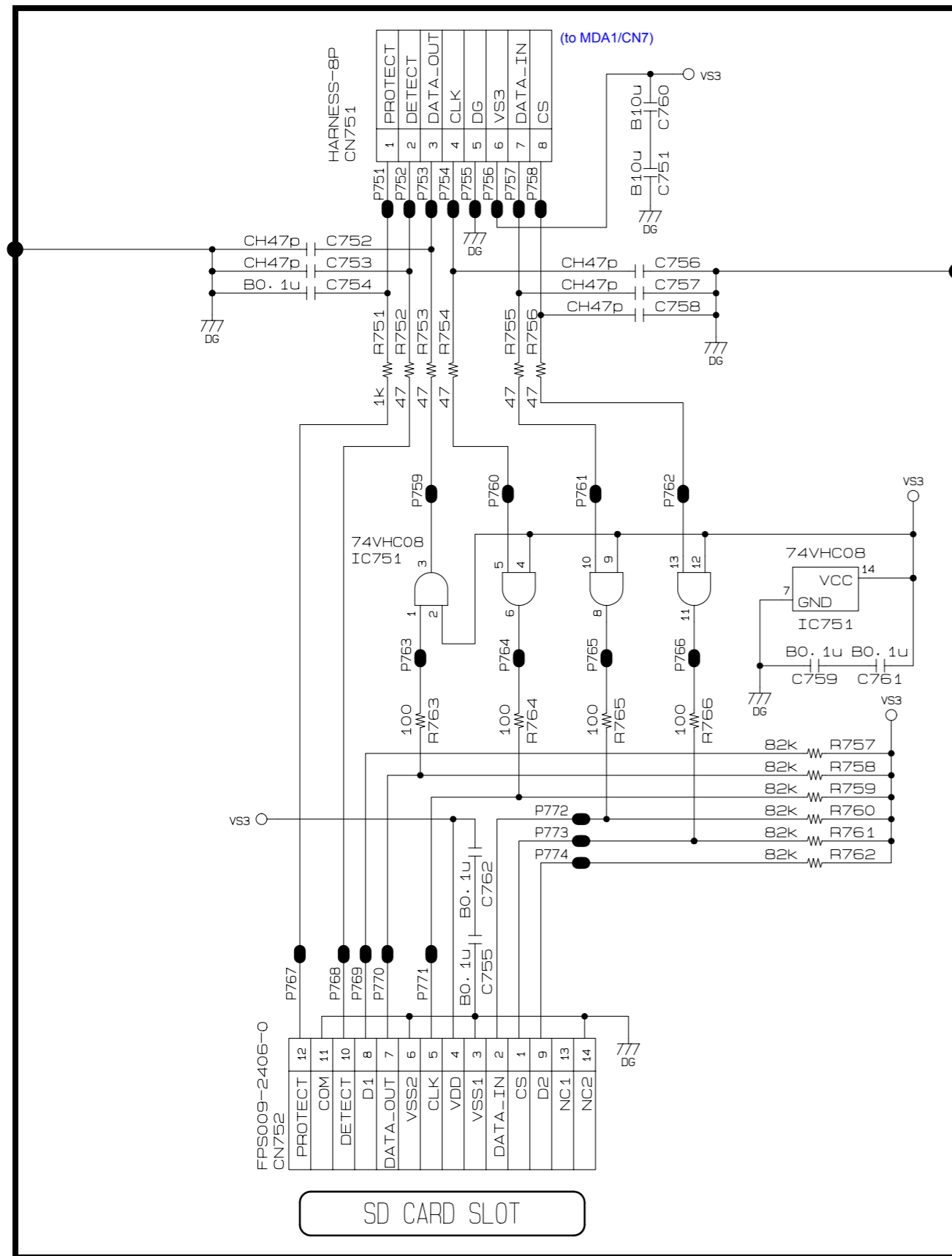
○ R601	○ R602	○ R603	○ R604
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Power Supply PCB M420-ACA1 (For 120 V Area)

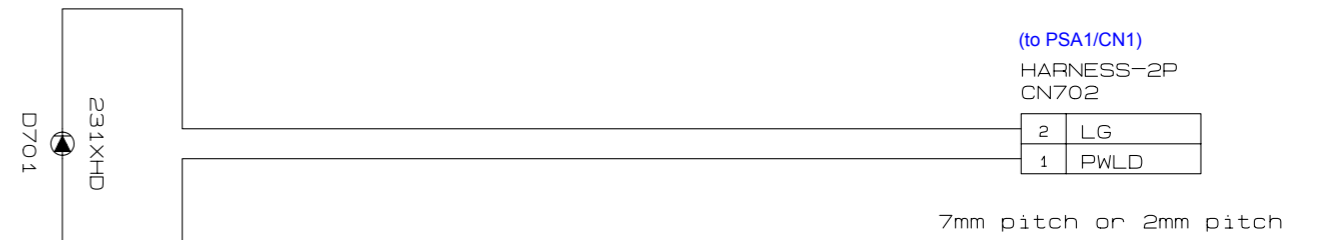
Power Supply PCB M420-ACA1 (For 230 V Area)



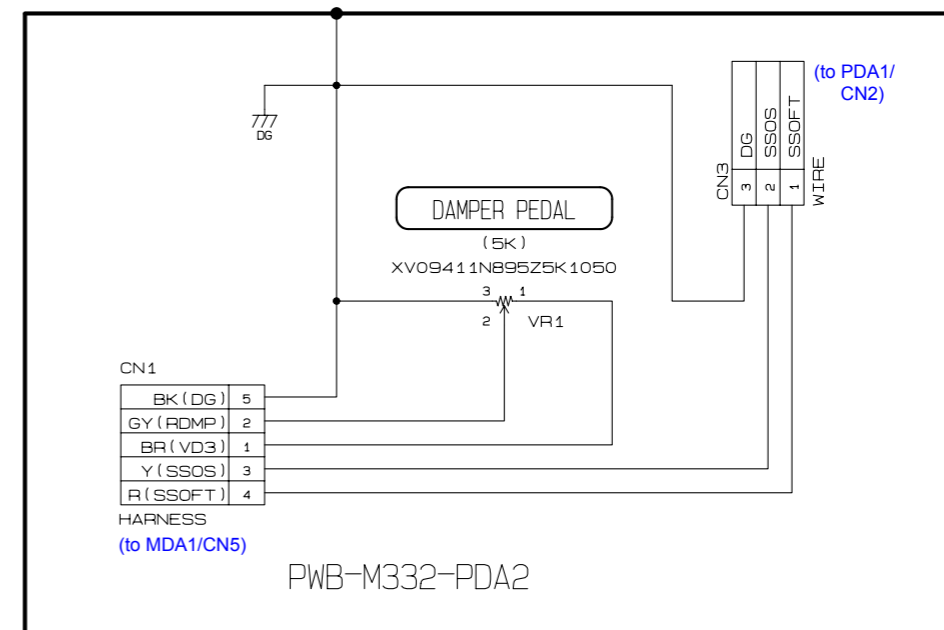
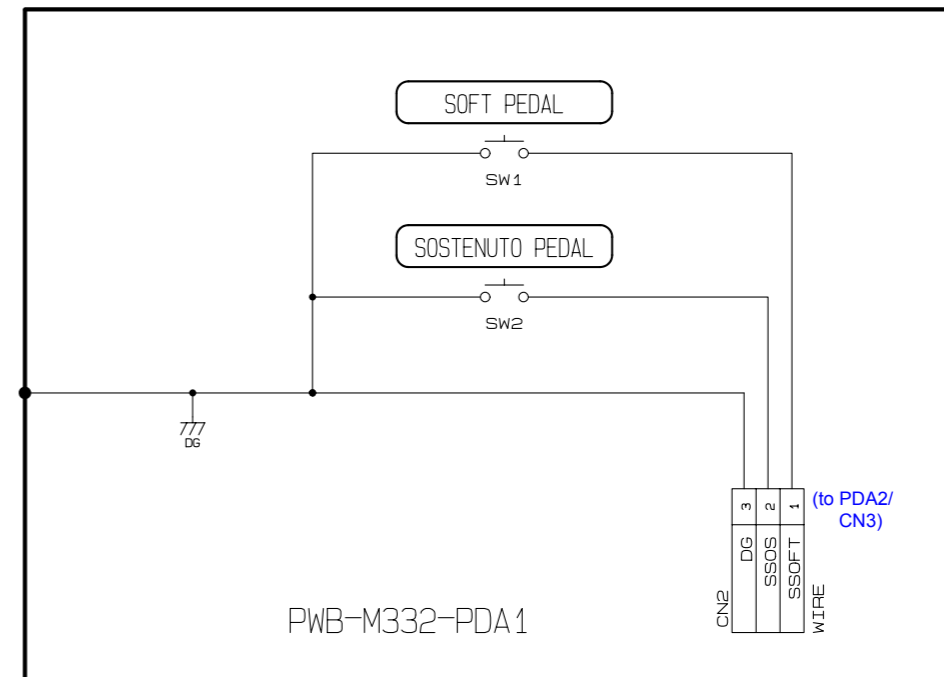
SD Card PCB M810-SDA1



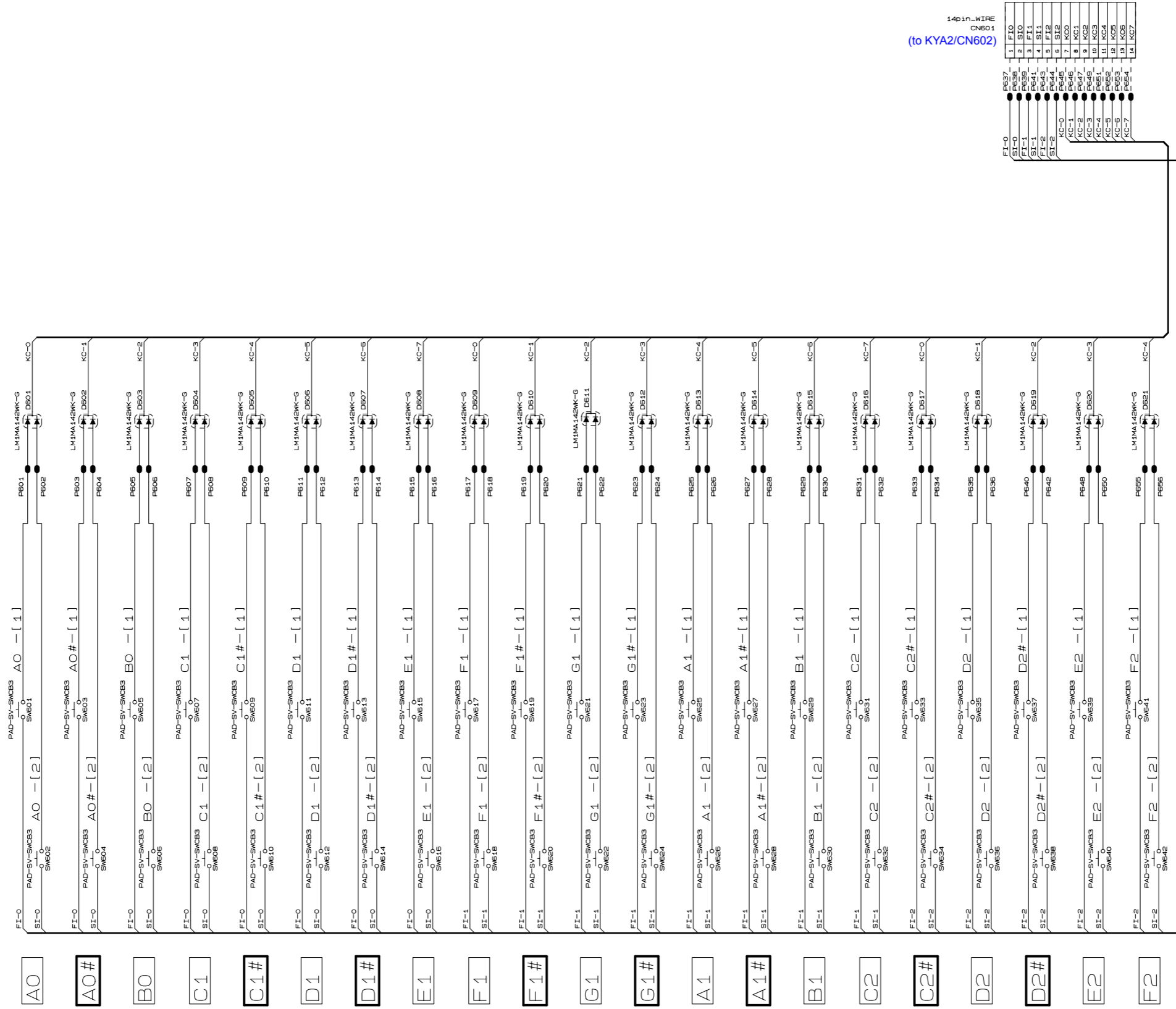
Power Lamp PCB M902-HPA2



Pedal PCB M332-PDA1/M332-PDA2

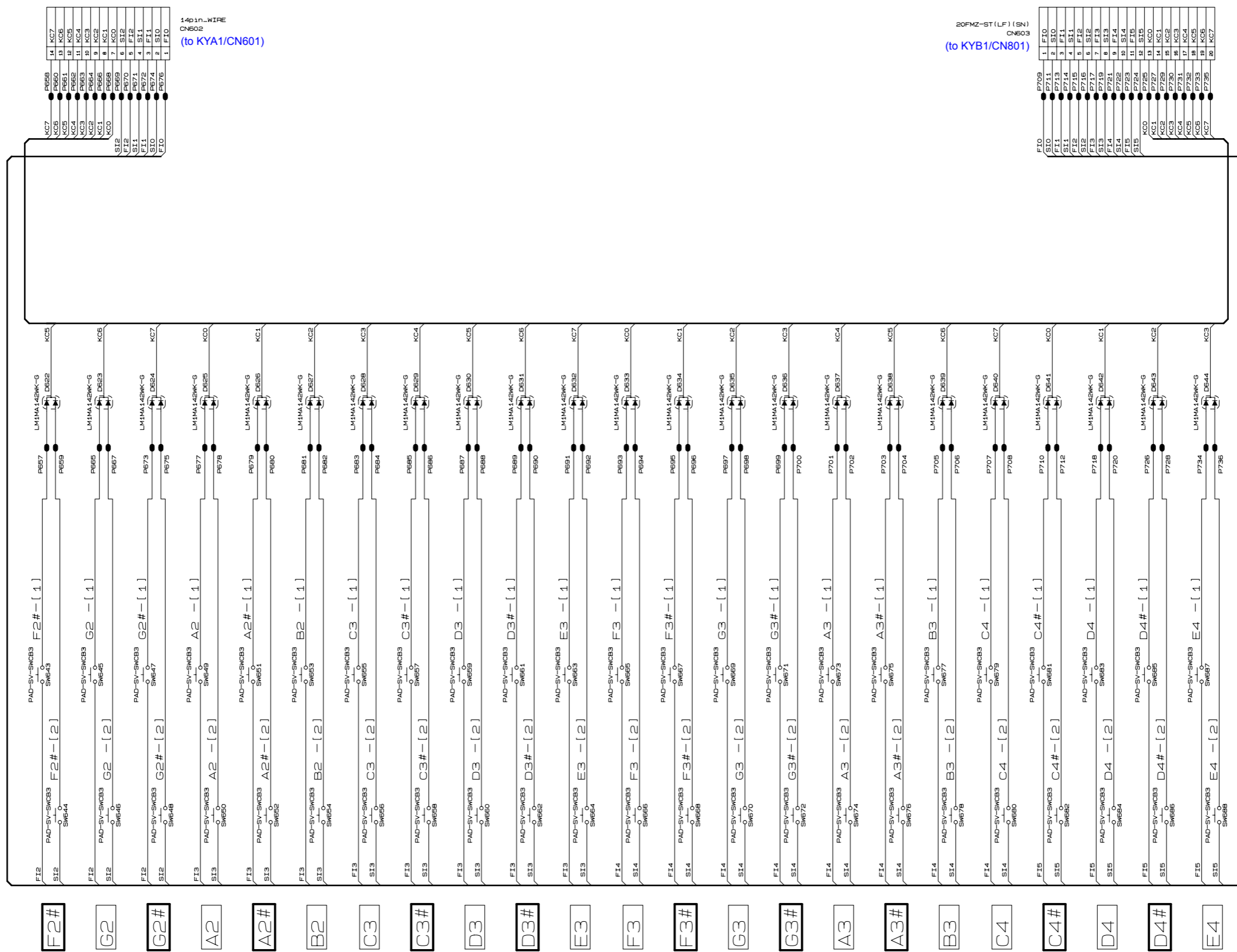


PWB-MACP-KYA1



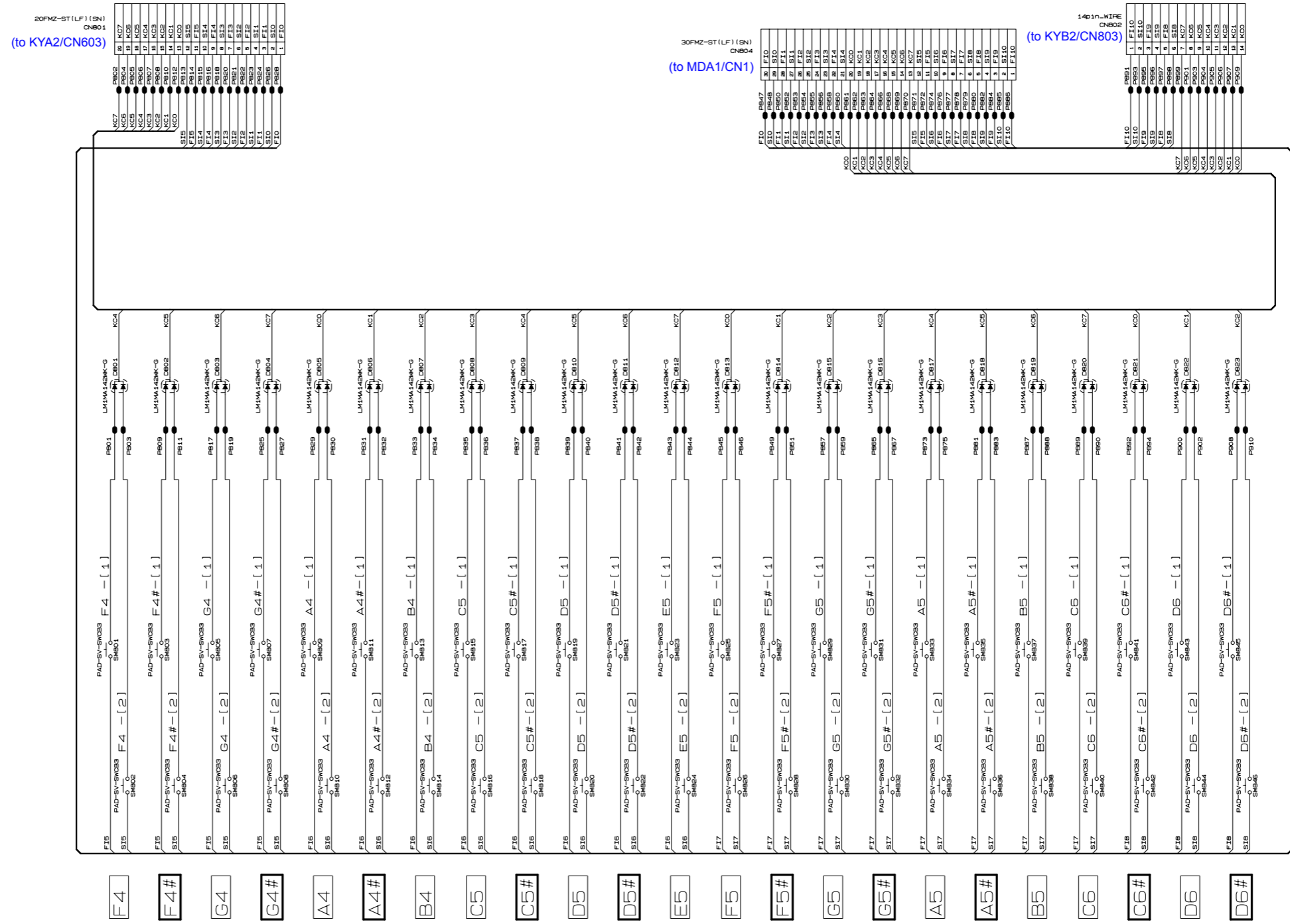
Keyboard PCB MACP-KYA2

PWB-MACP-KYA2



Keyboard PCB MACP-KYB1

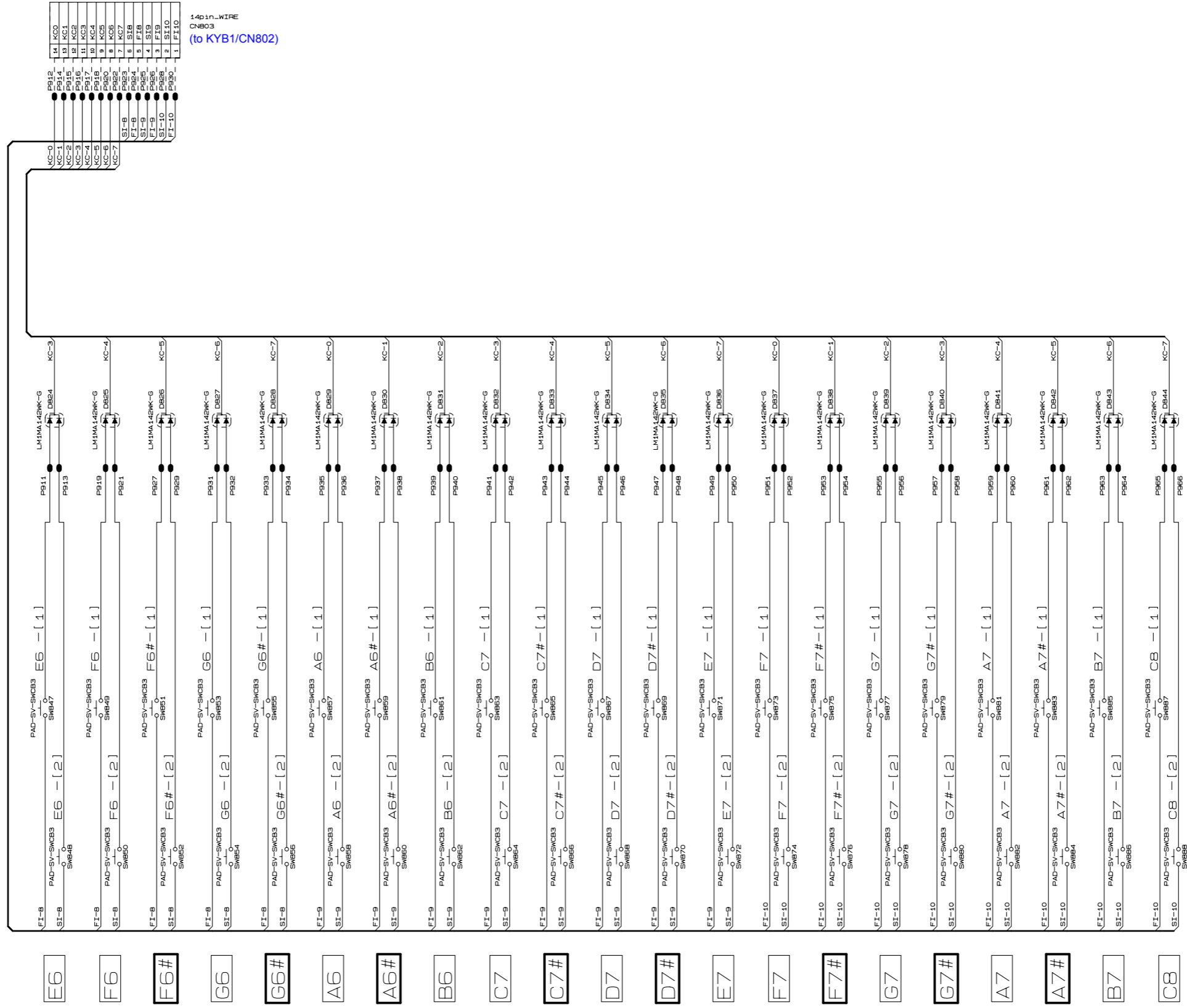
PWB-MACP-KYB1



CHIP JUMPER (0 ohm)
3216type

0	0	0	0	0	0
R701	R702	R703	R704	R705	R706

PWB-MACP-KYB2

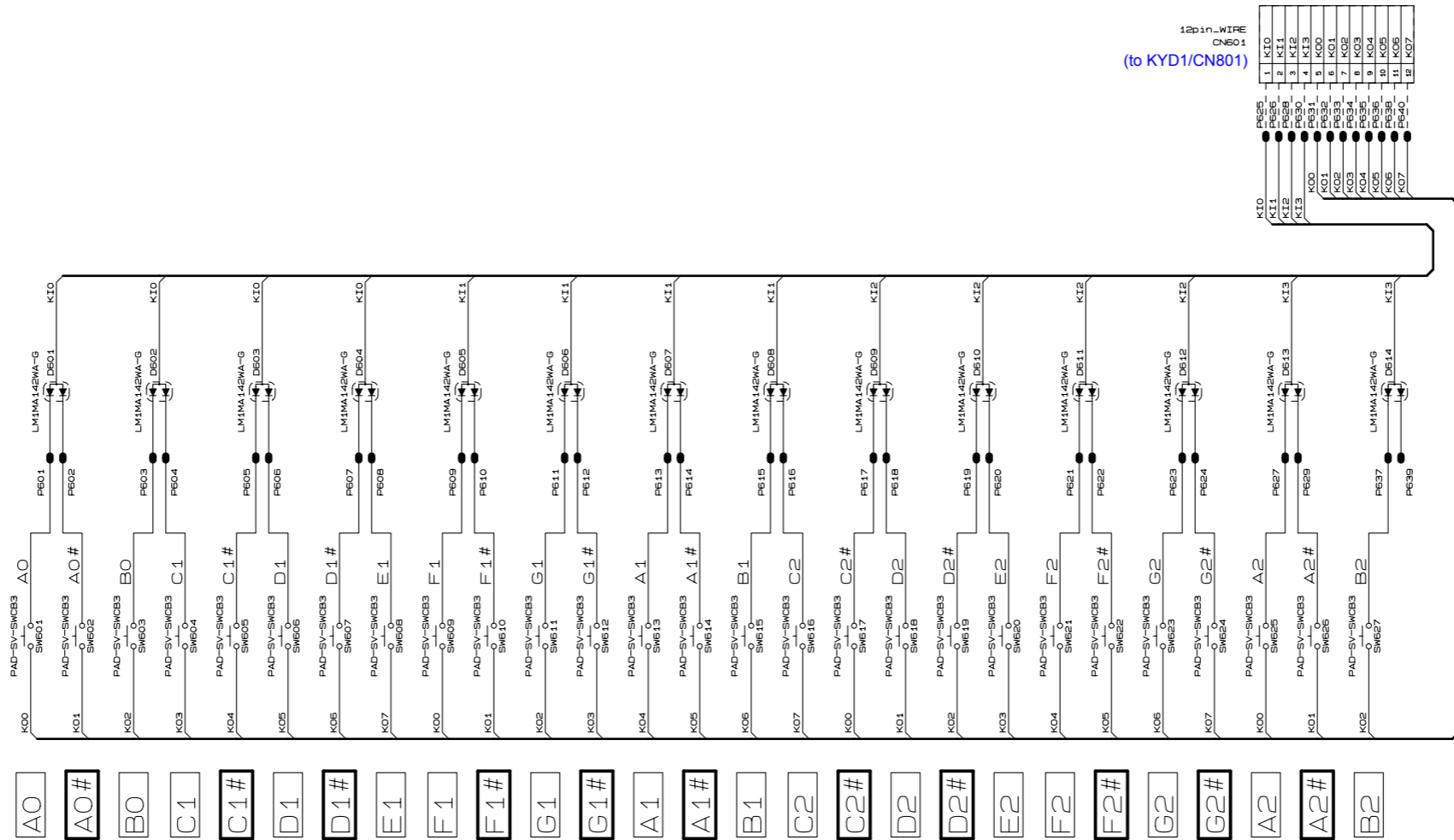


P912	KC-0
P914	KC-1
P915	KC-2
P916	KC-3
P917	KC-4
P918	KC-5
P920	KC-6
P922	KC-7
P923	KC-8
P924	KC-9
P925	KC-10
P926	KC-11
P927	KC-12
P928	KC-13
P929	KC-14

14pin_WIRE
CN803
(to KYB1/CN802)

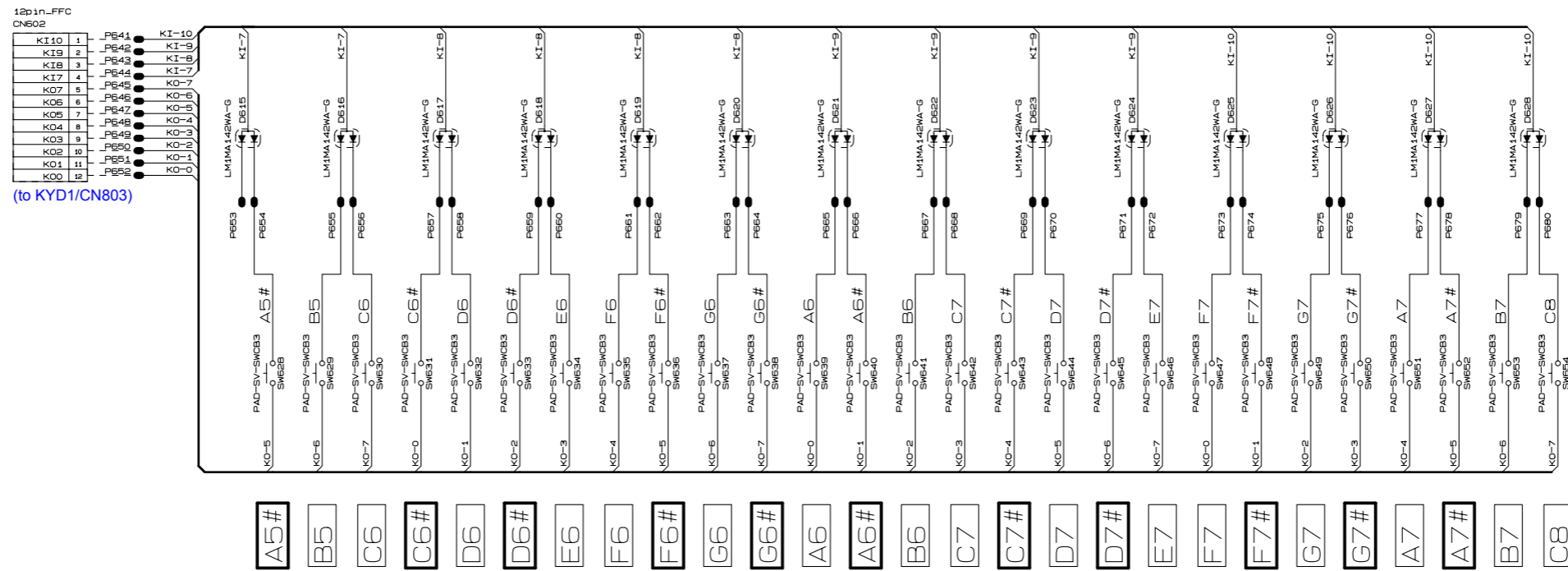
Keyboard PCB MACP-KYC1

PWB-MACP-KYC1



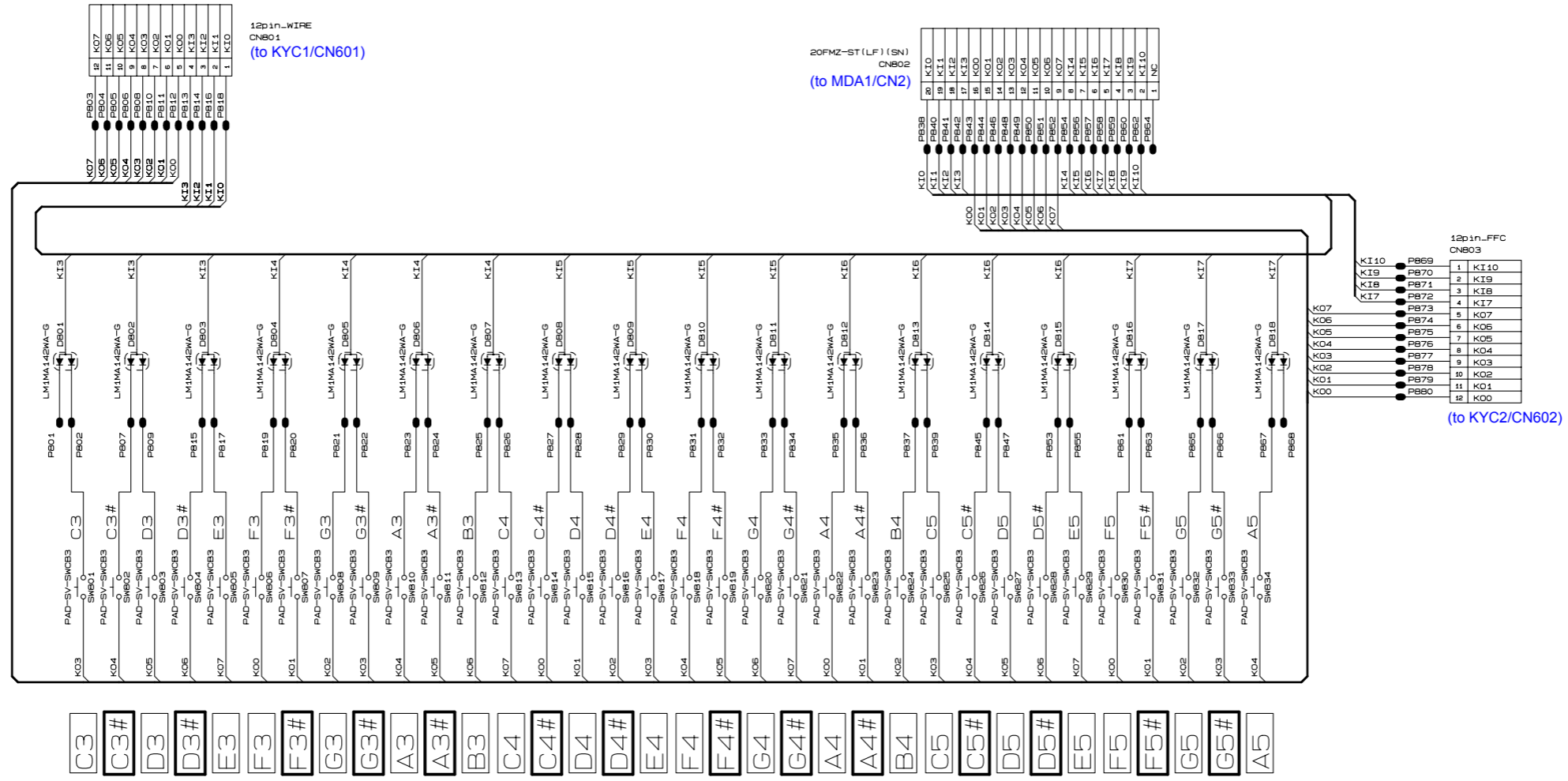
Keyboard PCB MACP-KYC2

PWB-MACP-KYC2






Keyboard PCB MACP-KYD1

PWB-MACP-KYD1



CHIP JUMPER (0 ohm)
3216type

 R801
 R802
 R803

Ver. 1 : Nov. 2009

- Correction of the DISASSEMBLY (P44)

Ver. 2 : Dec. 2009

- Correction of the EXPLODED VIEW (P62)

Ver. 3 : Jan. 2010

- Correction of the EXPLODED VIEW (P61)
- Correction of the PARTS LIST (P66)

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