

FAQ regarding M50 startup problem report

Condition of the problems

1. Right after power on (or sometimes for a while later after power on), switches on the front panel start not functioning.
2. After power on, "Updating Right Panel", "Updating Left Panel", "Completed. Please turn the power off" - these messages appears. The system can't get in the normal start up condition.
3. System is frozen during start-up process. (nothing is shown on the display when it's frozen.)

Cause of the problems

1. PsoC(panel scan chip) can't communicate with Host CPU correctly. This is the direct cause of these problems. This would happen when the power regulator's output has large ripple voltage, at 1.8V power regulator on KLM2887. This ripple voltage could be larger because of the parts tolerance of this power regulator circuit.

How to fix the problems

1. System Version Up to V1.0.5 or later.

This system version controls drive power down at CPU ports. It makes total power consumption of CPU down. As the result, these problems should be fixed in most cases according to our tests.

2. However, rarely, when ripple voltage is very large because of range of parts tolerance in this regulator circuit, V1.0.5 or later can't solve the problem. In this case, it requires to replace the capacitor C153, C37(Tantal Capacitor 10v47uF, SY7-1A476M-RB) on KLM2887 to the selected quality(low ESR) parts - Tantal Capacitor 10v47uF, SYL-1A476M-RB. (SYL vs SY7)(Order 2 of part # 47UF10VLESR)

If this is the case, please contact to Korg Inc. Korg Inc will provide replacement parts.

KORG M50-61 SERVICE MANUAL

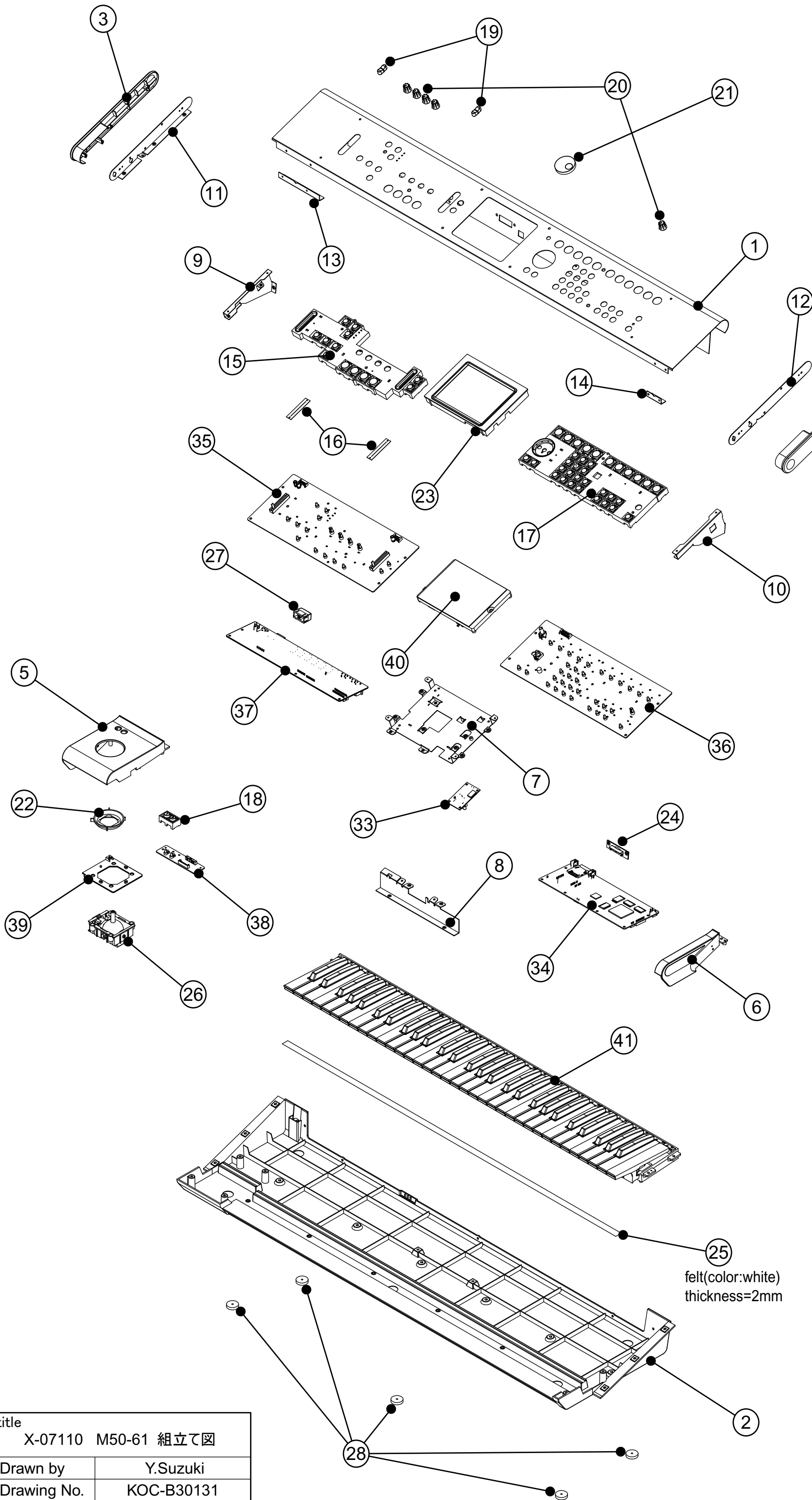


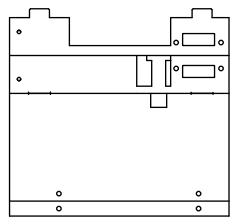
TABLE OF CONTENTS


ASSEMBLY SKETCH (HOOKUP): 2
BLOCK DIAGRAM: 3
SCHEMATIC DIAGRAM: 4-9
TEST MODE: 10-19
PARTS LIST: 20-23


KORG


Issued: Sep. 4, 2008
Ver. 2.0 Changed Parts List
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ALPET(AL:0.03mm + PET:0.1mm)
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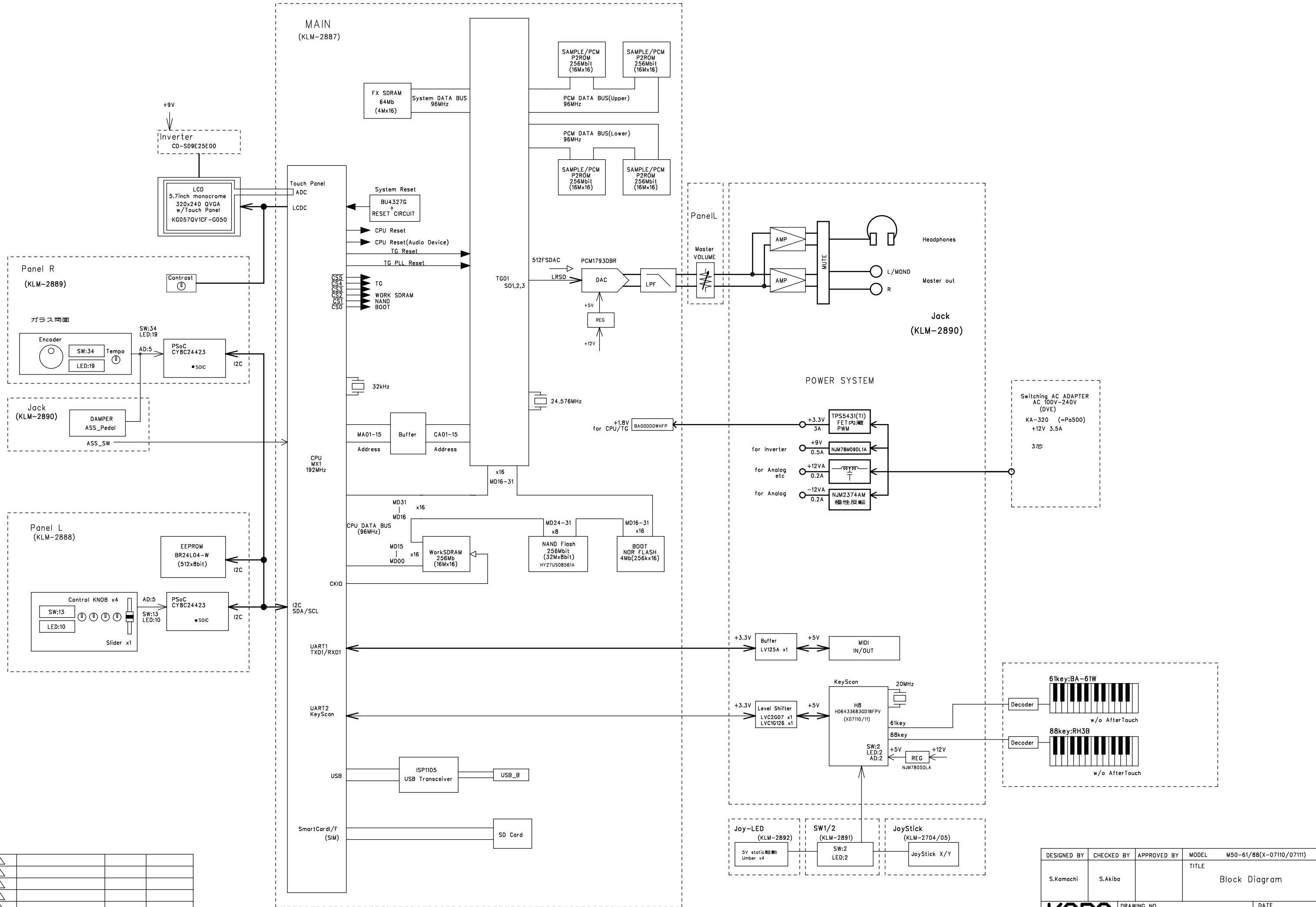
hexagon socket head screw
- 

sponge(color:blue)
- 

PET(color:black)
thickness=0.2mm

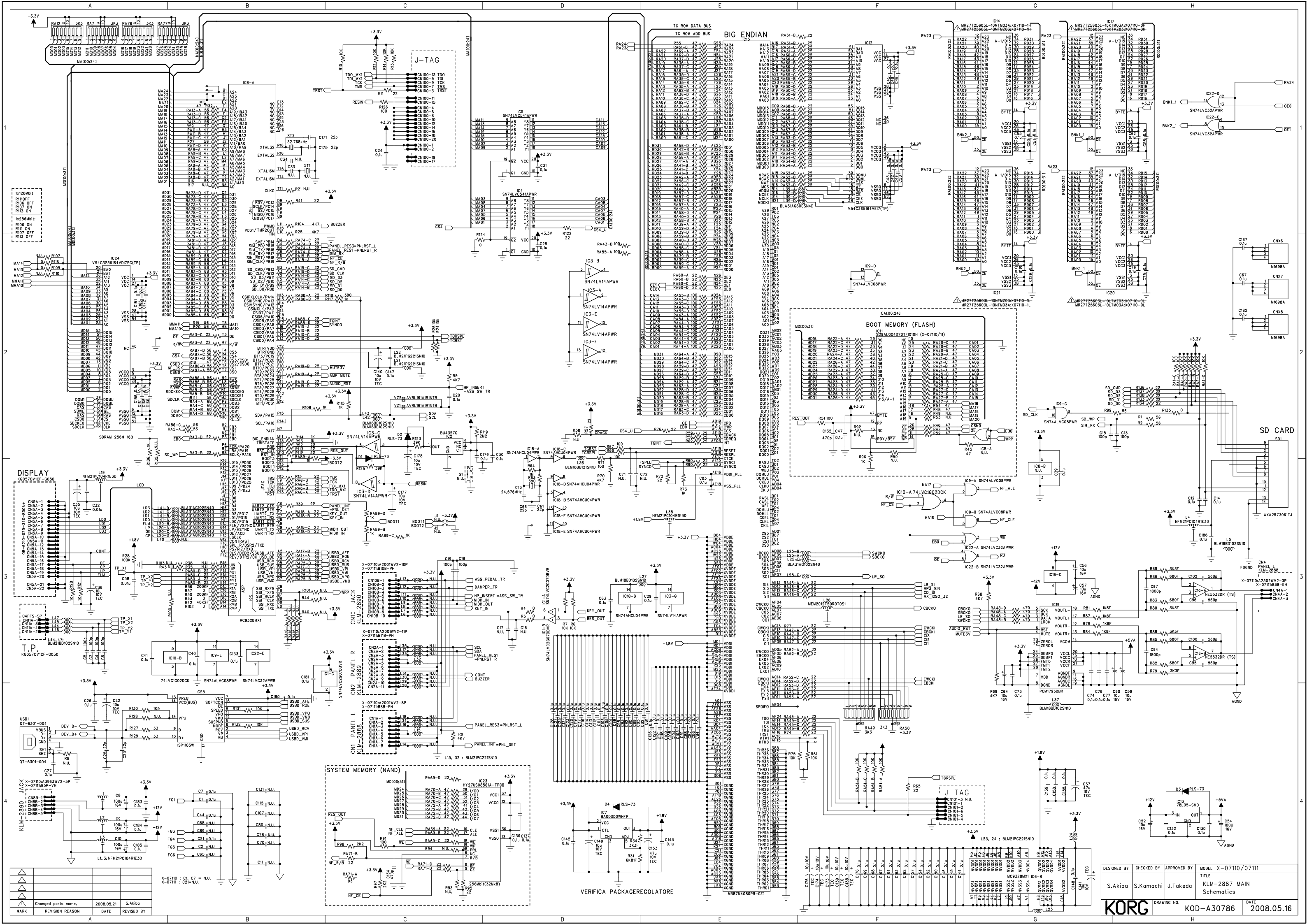
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| 40 | LCD KG057QV1CF-G050 | 1 |
| 39 | KLM-2892 (Joy-LED) | 1 |
| 38 | KLM-2891 (SW1&2) | 1 |
| 37 | KLM-2890 (Jack) | 1 |
| 36 | KLM-2889 (Panel R) | 1 |
| 35 | KLM-2888 (Panel L) | 1 |
| 34 | KLM-2887 (MAIN) | 1 |
| 33 | INVERTER MODULE CD-S09E25E00 | 1 |
| 32 | FE HEX SOCKET BUTTON 3BBC 3X8 | 8 |
| 31 | 07110 Shield Sheet F41487 | 1 |
| 30 | 07110 PCB Spacer F41482 | 2 |
| 29 | X-5400 SHADING SHEET F41260 | 3 |
| 28 | 07110 Case Leg F41481 | 5 |
| 27 | X952 PWS KNOB(CH)E40726 | 1 |
| 26 | JS Unit | 1 |
| 25 | 07110 KB Felt F41457 | 1 |
| 24 | 07110 SD Frame E40745 | 1 |
| 23 | 07110 LCD Hood E30500 | 1 |
| 22 | 07110 JS Reflector E40747 | 1 |
| 21 | X-610 ENCODER KNOB(CH)E40727-2 | 1 |
| 20 | 07110 VRKnob E30504 | 5 |
| 19 | 07110 SliderKnob E30505 | 2 |
| 18 | 07110 ButtonBlockS E40746 | 1 |
| 17 | 07110 ButtonBlockR E20308 | 1 |
| 16 | 07110 SVR Mask F41456 | 2 |
| 15 | 07110 ButtonBlockL E20307 | 1 |
| 14 | 07110 Key Block Joint C41577 | 1 |
| 13 | 07110 JS Panel Joint C41575 | 1 |
| 12 | 07110 SideChassisR C41576-2 | 1 |
| 11 | 07110 SideChassisL C41576-1 | 1 |
| 10 | 07110 Panel SupportR C41571-2 | 1 |
| 9 | 07110 Panel Support L C41571-1 | 1 |
| 8 | 07110 MainChassis C41578 | 1 |
| 7 | 07110 LCDChassis C30778 | 1 |
| 6 | 07110 KeyBlock E40748 | 1 |
| 5 | 07110 JSPanel E30499 | 1 |
| 4 | 07110 SidePanelR E30503-2 | 1 |
| 3 | 07110 SidePanelL E30503-1 | 1 |
| 2 | 07110 Lower Case E20306 | 1 |
| 1 | 07110 Panel C20454 | 1 |
| | Part Name | Qty |

| | |
|---------------------|------------|
| title | |
| X-07110 M50-61 組立て図 | |
| Drawn by | Y.Suzuki |
| Drawing No. | KOC-B30131 |

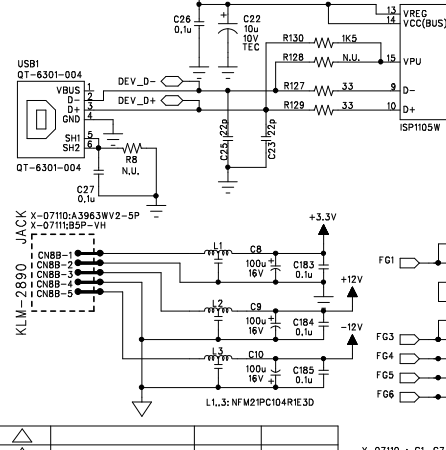
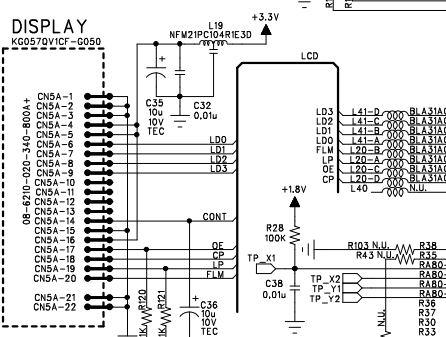


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| MARK | REVISION | REASON | DATE | REVISED BY |

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|-------------|------------|-------------|-------------|--------------------------|
| DESIGNED BY | CHECKED BY | APPROVED BY | MODEL | M50-61/88(X-07110/07111) |
| S.Kamachi | S.Akiba | | TITLE | Block Diagram |
| KORG | | | DRAWING NO. | KOD-B30112 |
| | | | DATE | '08.05.16 |



- 1x128MB1
- R106 ON
- R107 ON
- R113 ON
- 1x256MB1
- R106 ON
- R107 ON
- R113 ON

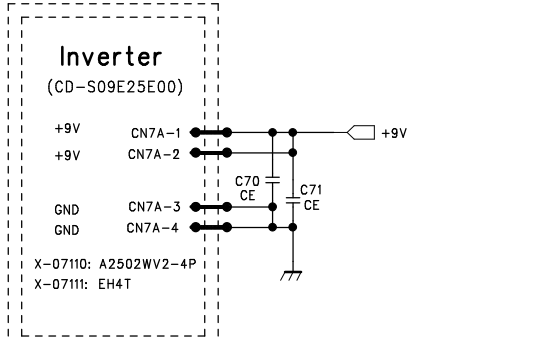
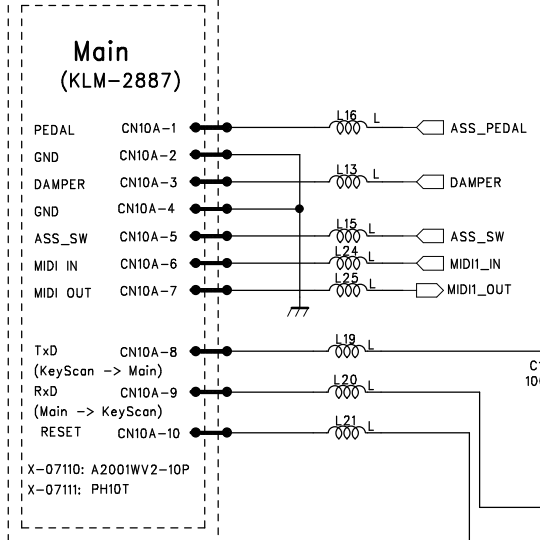
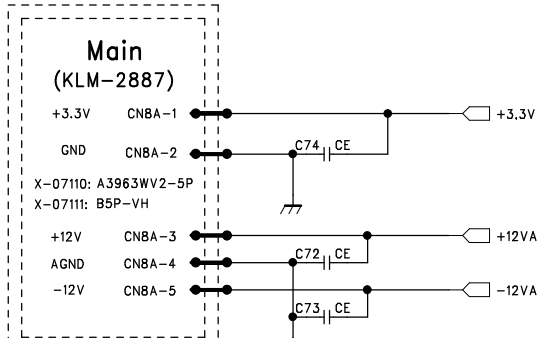


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X-07110 : C1, C7 = N.U.
X-07111 : C21=N.U.

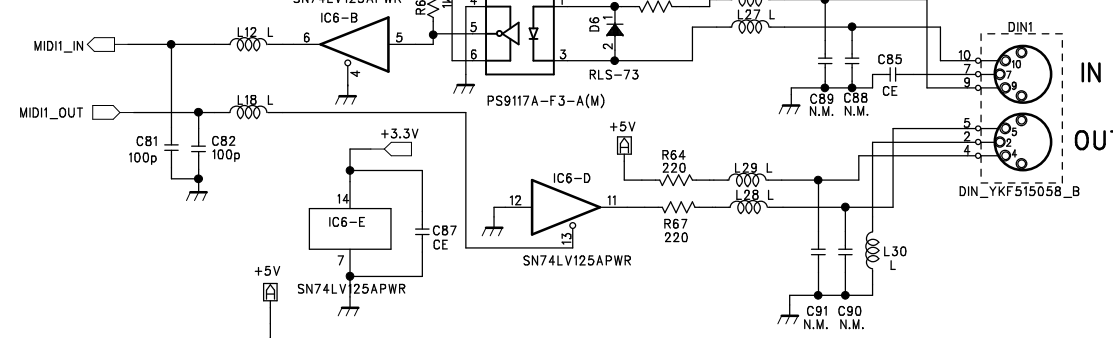
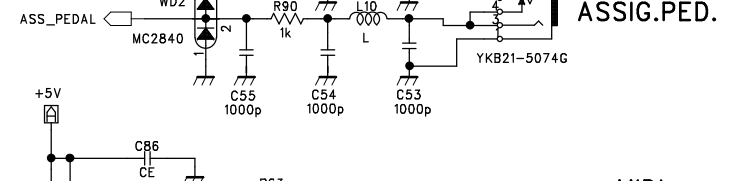
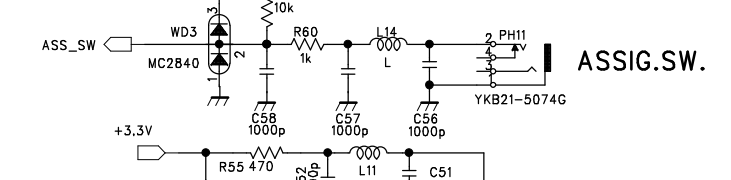
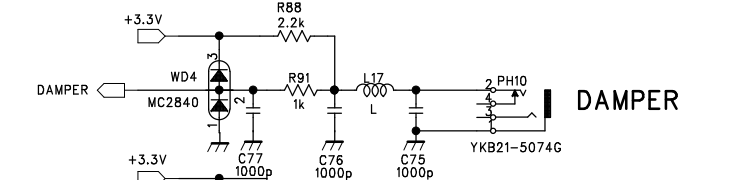
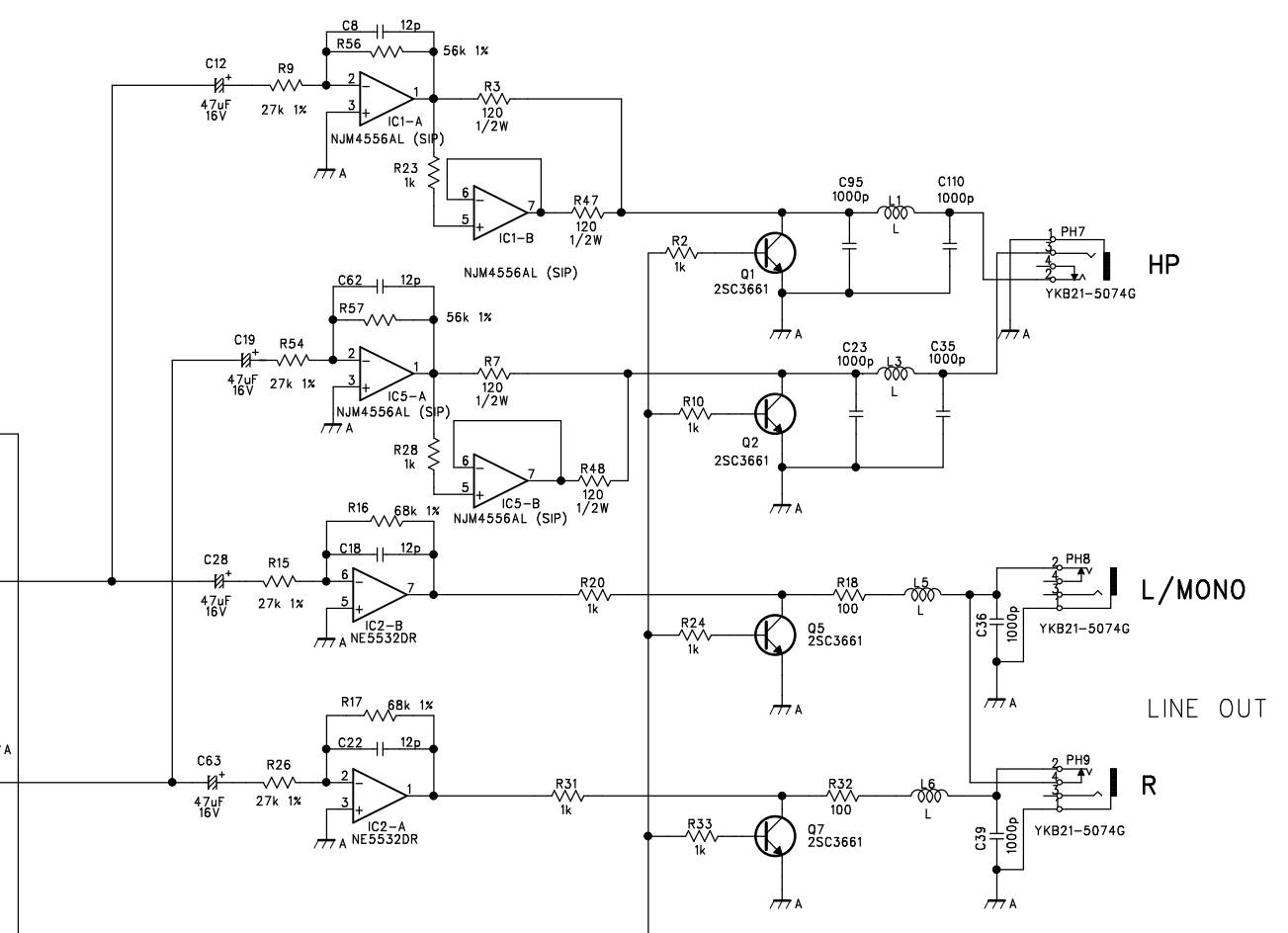
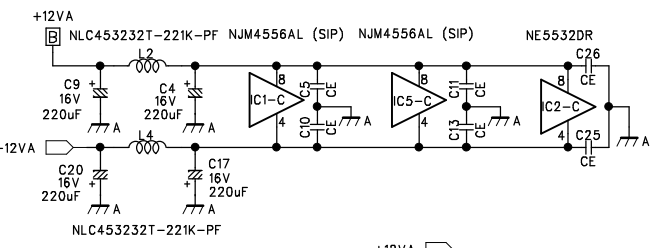
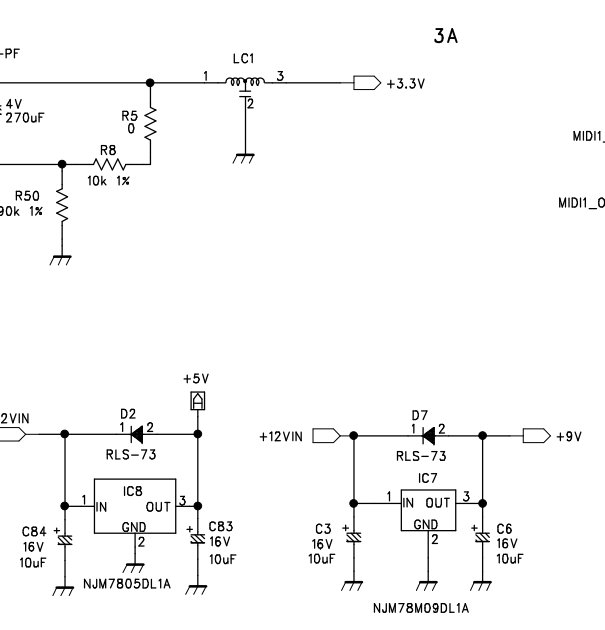
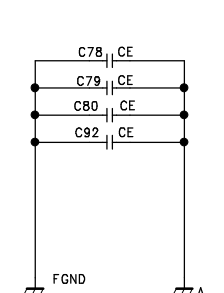
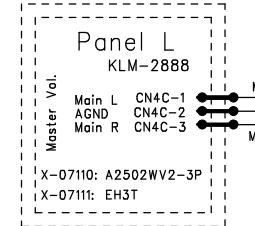
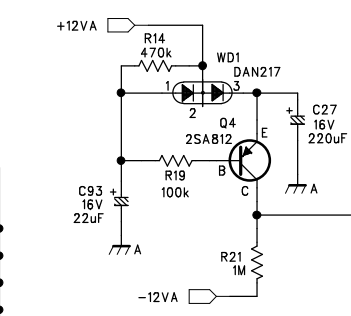
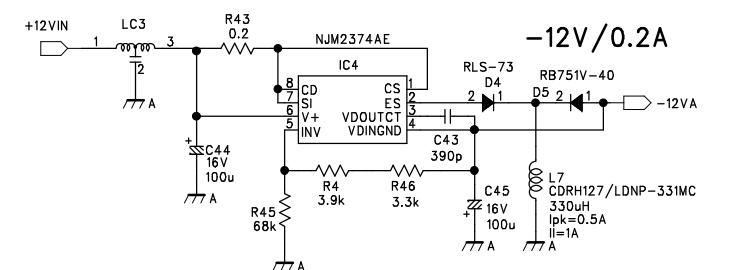
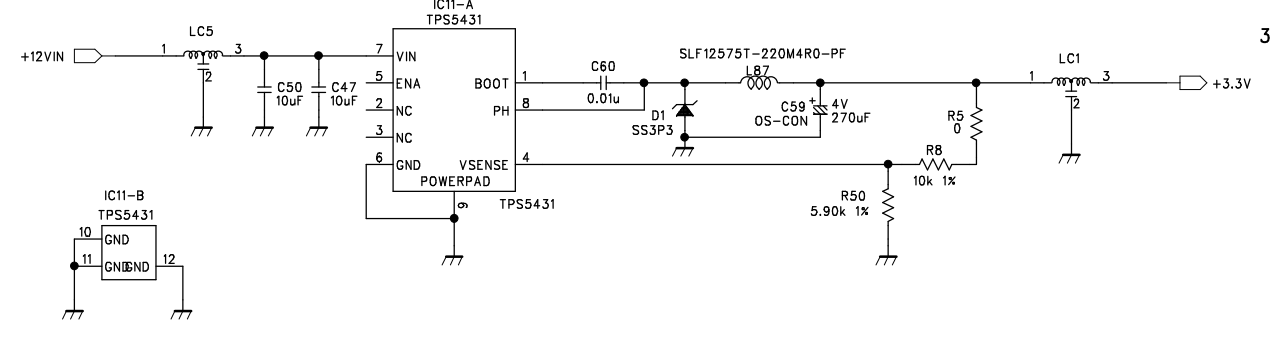
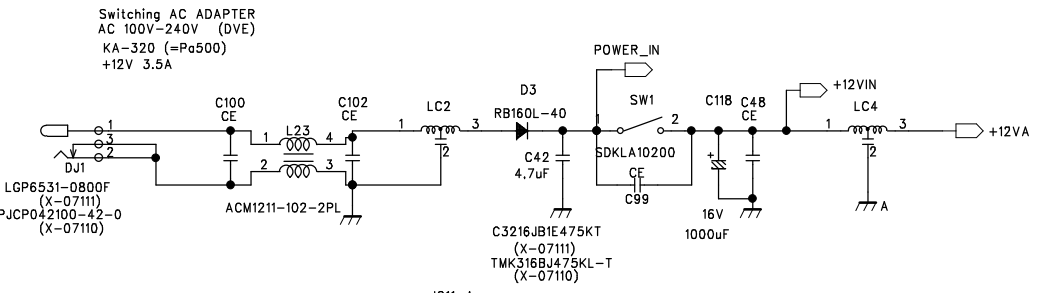
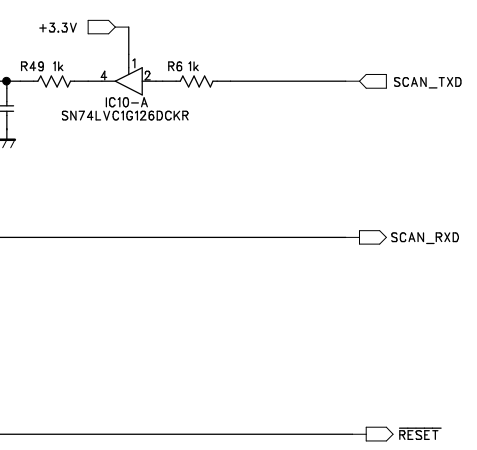
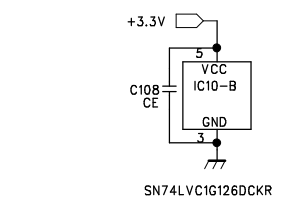
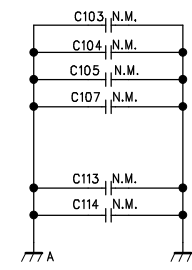
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|-------------|------------|-------------|---------------|---------------|
| S. Akiba | S. Komachi | J. Takeda | X-07110/07111 | KLM-2887 MAIN |

KORG DRAWING NO. KOD-A30786 DATE 2008.05.16

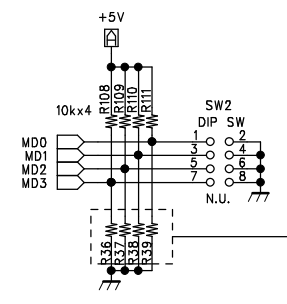
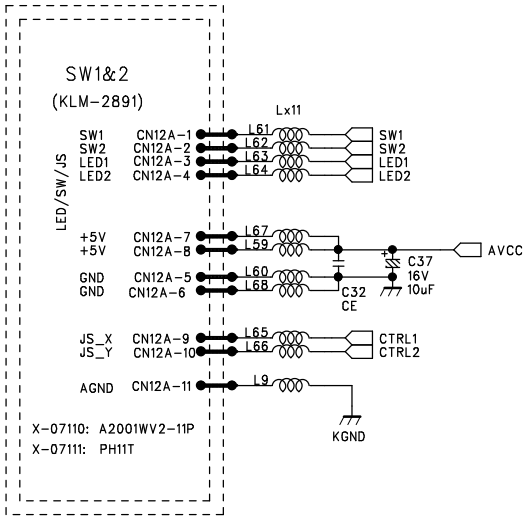
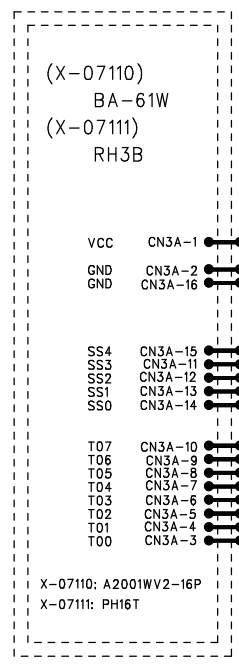
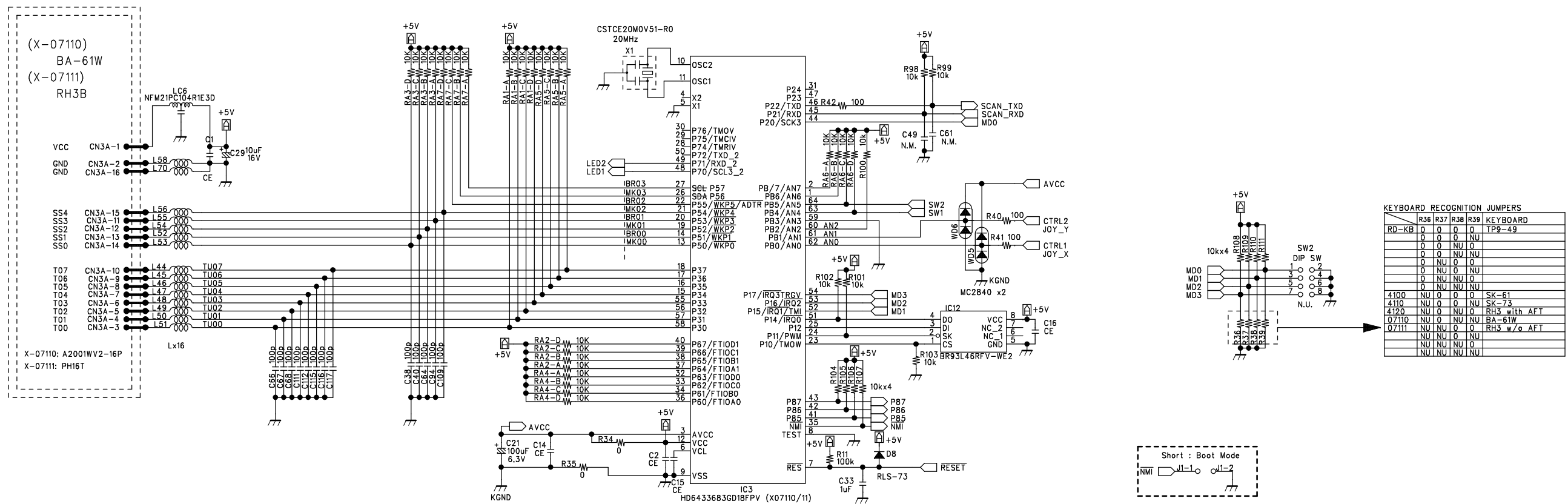


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 L: BLM18BD102SN1D
 LC: DST9ND31H223Q92A
 N.M.: No Mount

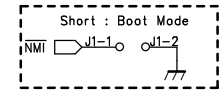
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| DESIGNED BY | CHECKED BY | APPROVED BY | MODEL | M50-61/88 (X-07110/07111) |
| S.Kamachi | | | TITLE | Jack/Power KLM-2890 |
| KORG | | DRAWING NO. | KOD-A30782 | DATE |
| | | | | '08.05.15 |



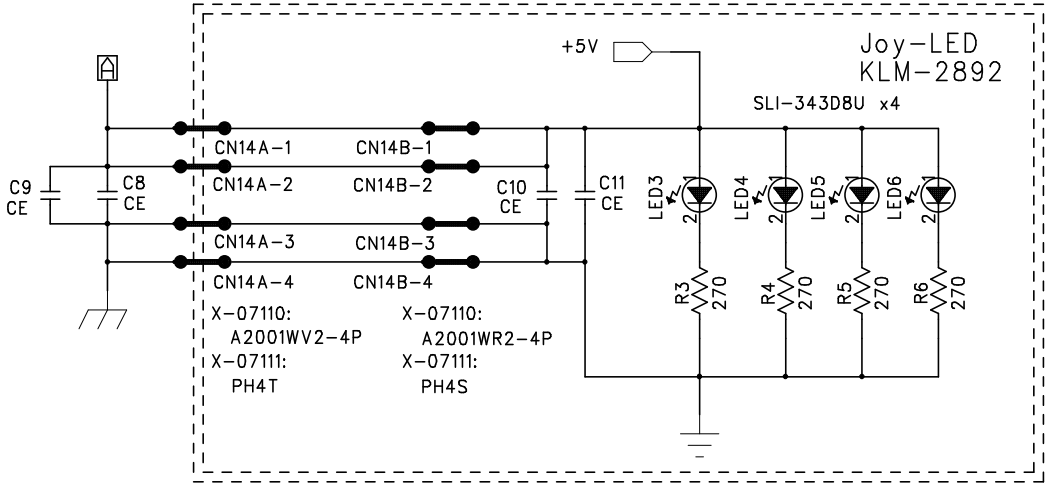
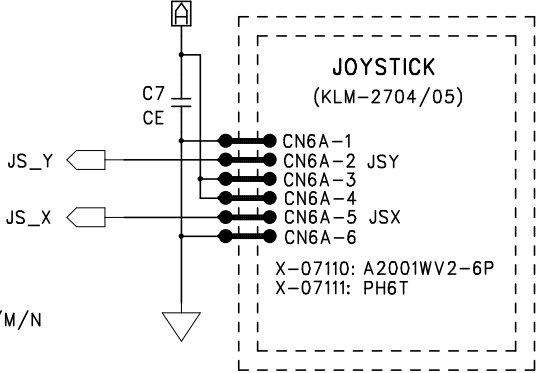
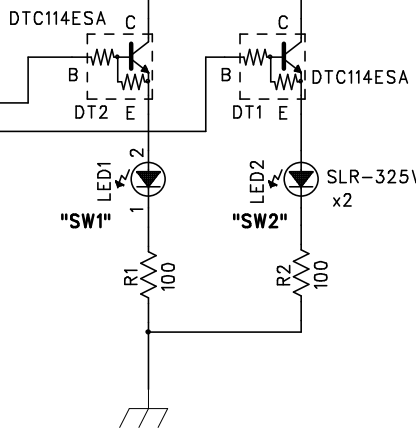
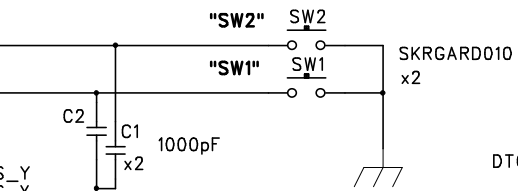
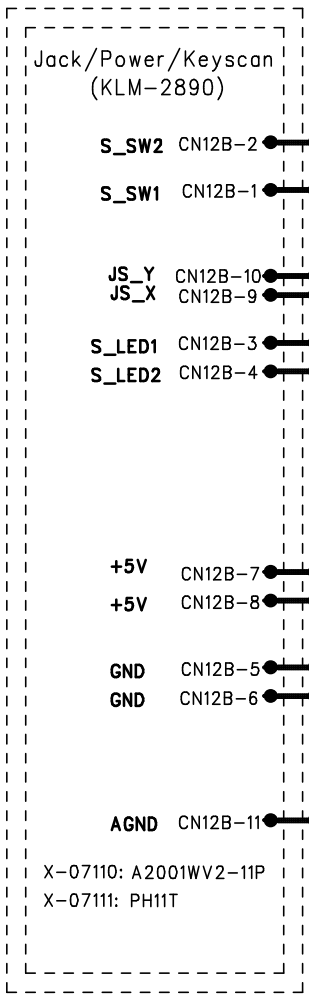
| KEYBOARD RECOGNITION JUMPERS | | | | | |
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| RD-KB | R36 | R37 | R38 | R39 | KEYBOARD |
| 0 | 0 | 0 | 0 | 0 | TP9-49 |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 0 | 0 | 0 | 0 | 0 | NU |
| 4100 | NU | 0 | 0 | 0 | SK-61 |
| 4110 | NU | 0 | 0 | 0 | NU |
| 4120 | NU | 0 | 0 | 0 | RH3 with AFT |
| 07110 | NU | 0 | 0 | 0 | BA-61W |
| 07111 | NU | 0 | 0 | 0 | RH3 w/g AFT |
| NU | NU | 0 | 0 | 0 | NU |
| NU | NU | 0 | 0 | 0 | NU |
| NU | NU | 0 | 0 | 0 | NU |



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CE: 0.1uF
L: BLM18BD102SN1D

| DRAWN BY | DESIGNED BY | CHECKED BY | MODEL | M50-61/88(X-07110/07111) |
|-------------|-------------|-------------|------------|--------------------------|
| S.Kamachi | | | TITLE | KeyScan (KLM-2890) |
| KORG | | DRAWING NO. | KOD-A30783 | DATE '08.05.15 |



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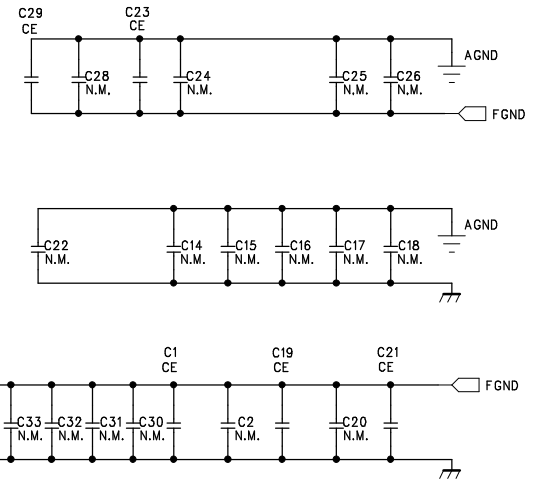
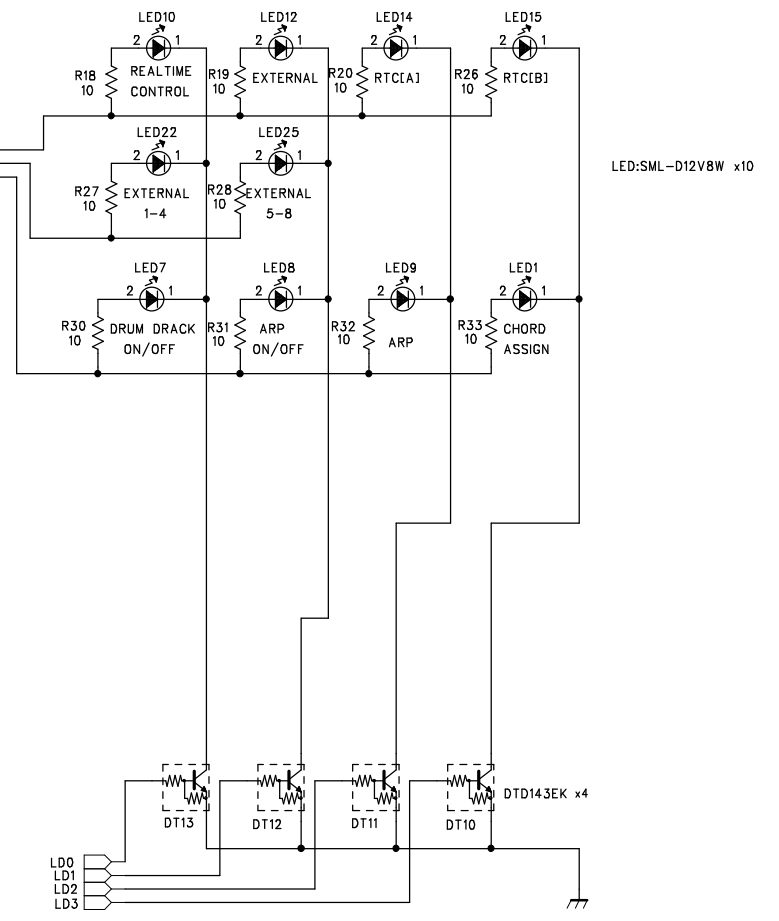
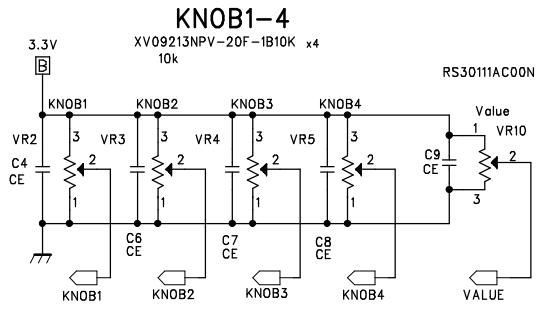
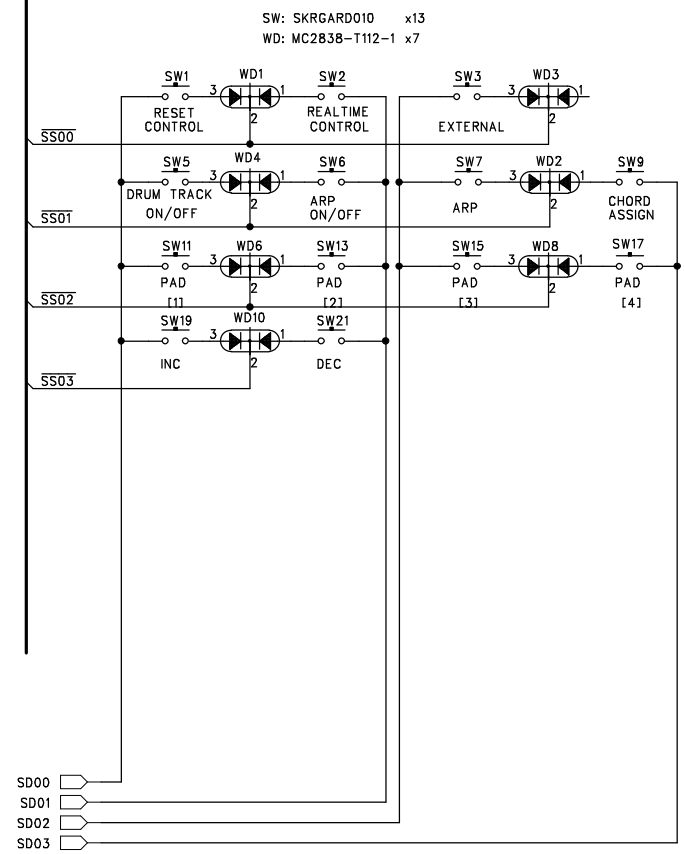
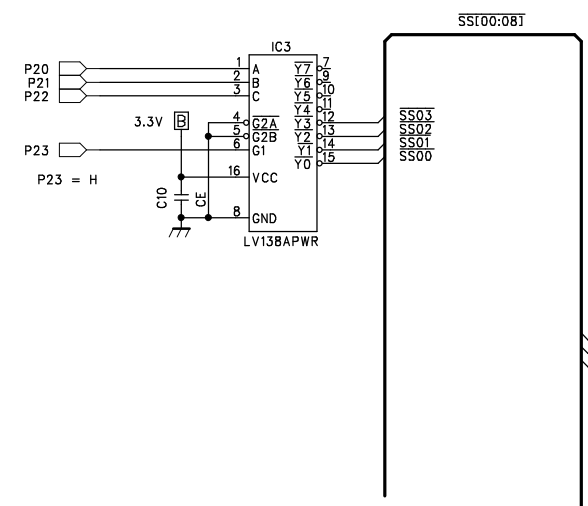
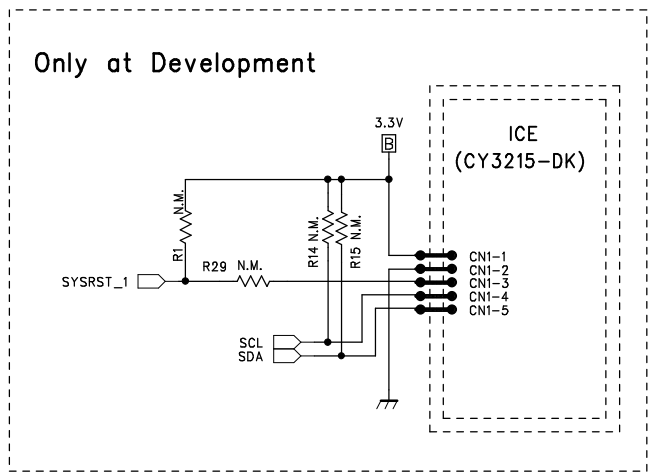
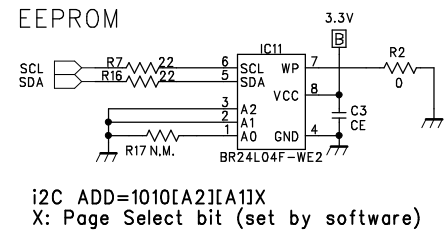
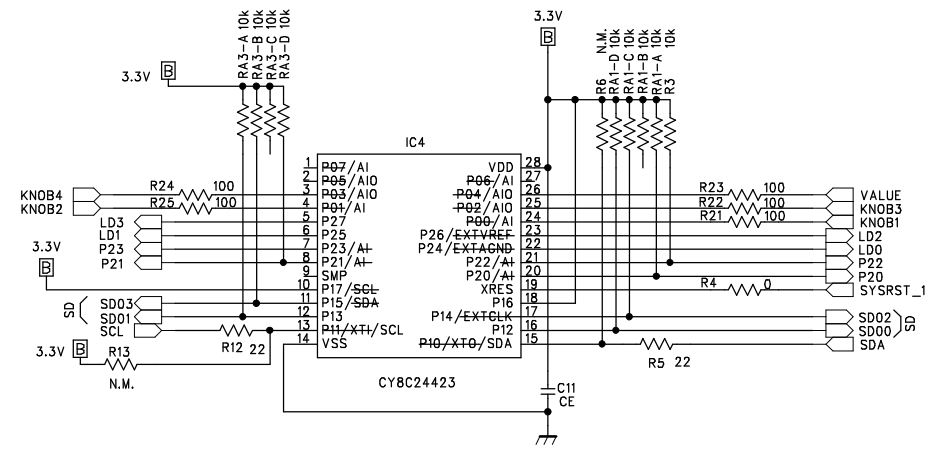
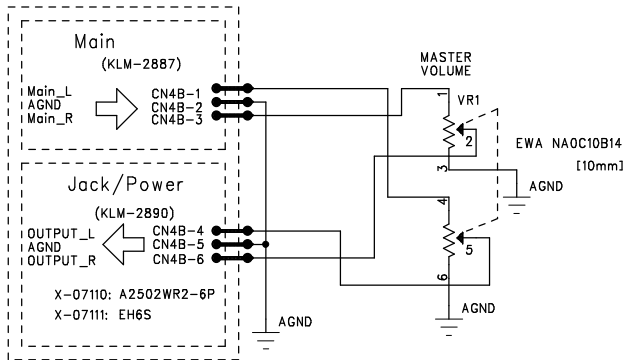
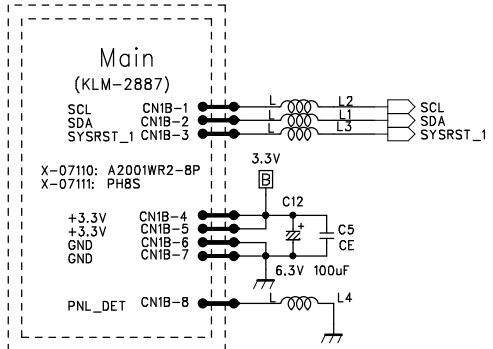
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KOD-A40661

DATE

'08.05.15

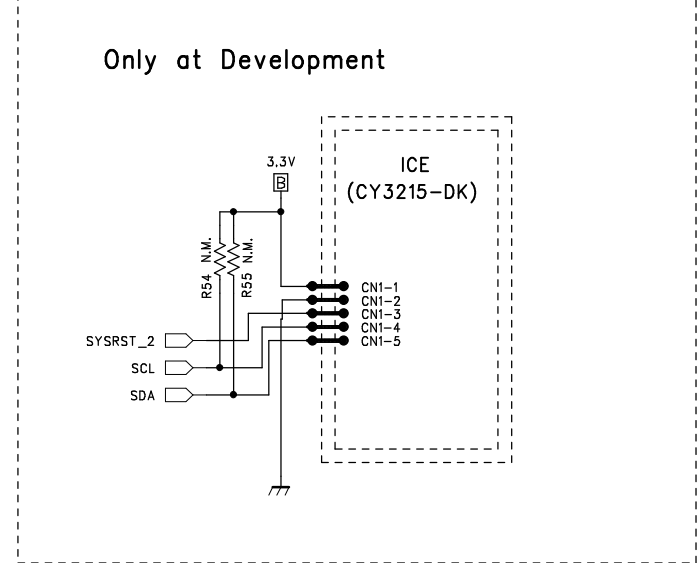
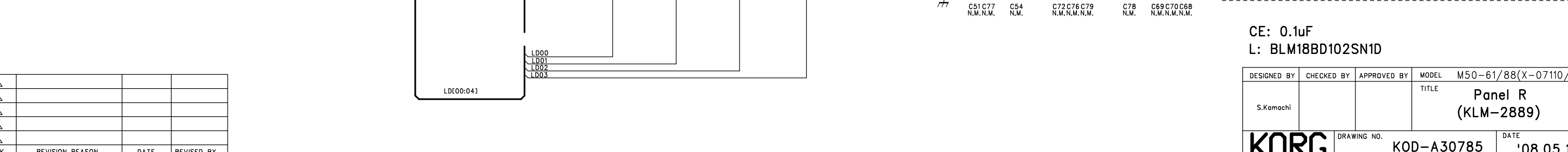
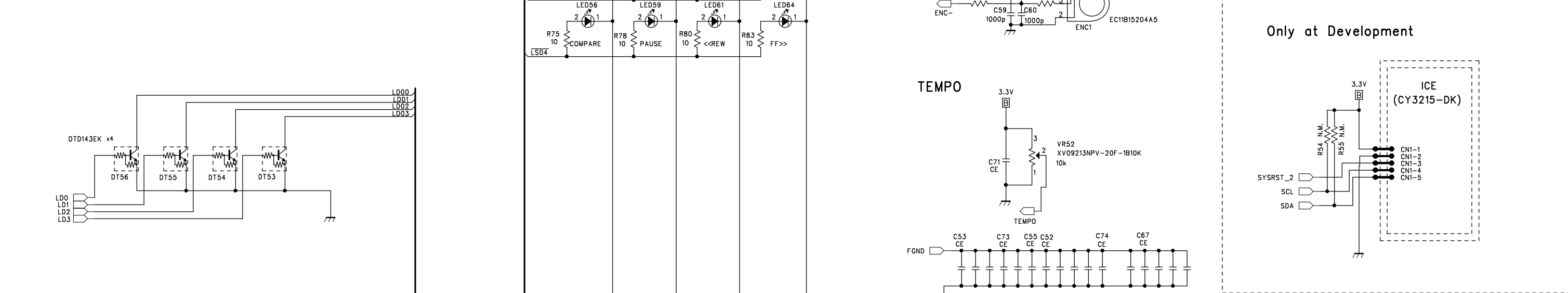
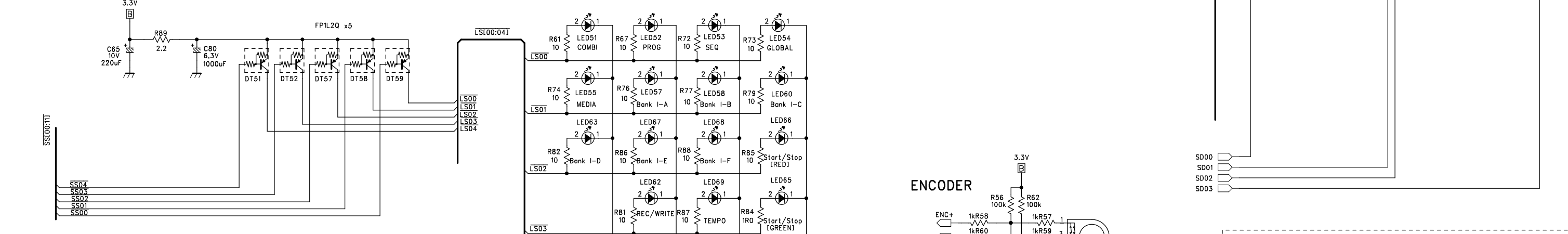
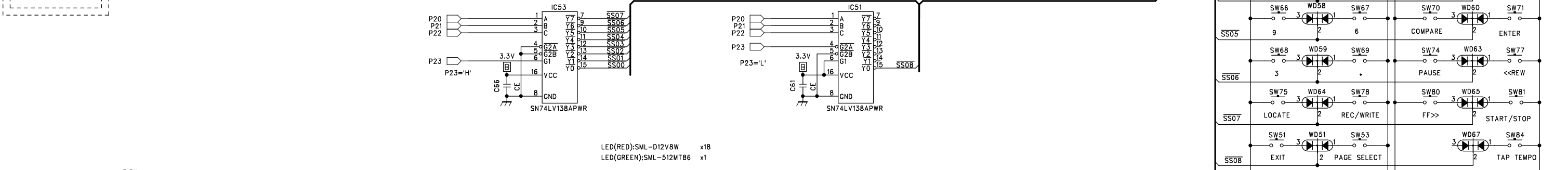
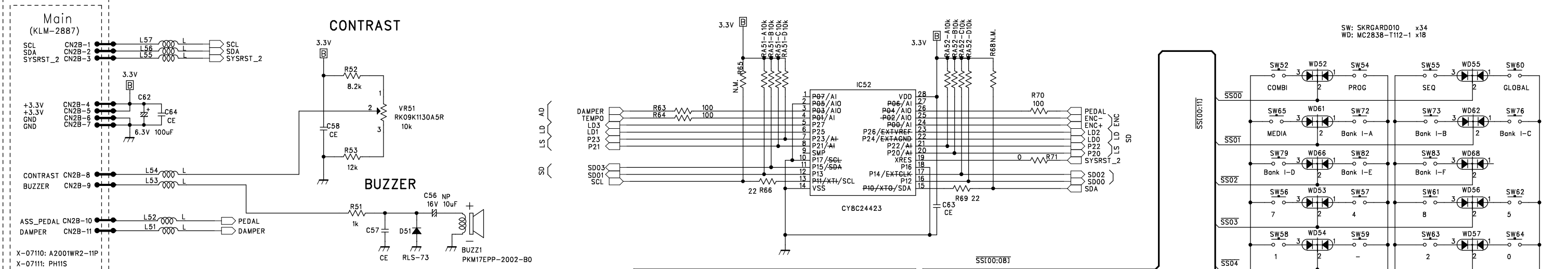
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| DESIGNED BY | CHECKED BY | APPROVED BY | MODEL M50-61/88 (X-07110/07111) |
| S.Kamachi | | | TITLE KLM-2891/2892 |
| | | | SW1,2/Joy-LED |



CE: 0.1uF
L: BLM18BD102SN1D

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| DESIGNED BY | CHECKED BY | APPROVED BY | MODEL | M50-61/88(X-07110/11) |
| S.Kamachi | | | TITLE | PanelL (KLM-2888) |
| KORG | | DRAWING NO. | KOD-A30784 | DATE |
| | | | | '08.05.15 |

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L: BLM18BD102SN1D

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| DESIGNED BY | CHECKED BY | APPROVED BY | MODEL | M50-61/88(X-07110/11) |
| S.Kamachi | | | TITLE | Panel R (KLM-2889) |
| KORG | | DRAWING NO. | KOD-A30785 | DATE '08.05.15 |

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M50 TEST MODE

<<How to enter the TEST MODE>>

5+ENTER: Internal Check, External Check

2+ENTER: External Check

<<Operation in the TEST MODE>>

ENTER : Proceed the Check

△ : Proceed the item

▽ : Go back to the item

FF>> : Proceed the step

<<REW : Go back to the step

*You must do the calibration when in the check of the touch panel and the JOYSTICK.

M50 does not work normally when the calibration was not executed in above checks.

<<Important Notice>>

When power on (including the failure of entering to the TEST MODE)

Following Fig.1 error message is displayed, the factory data is broken, so you must do [FORMAT and the writing of the system].

When you restart the M50, sometime this error is not displayed. But even if you see this error message, you must do [FORMAT and the writing of the system].

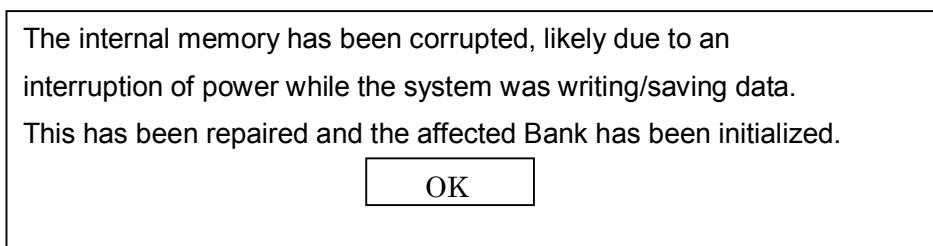


Fig.1

[FORMAT and the writing of the system]

Turn the power on pressing the [EXIT] and [COMBI].

Fotmat internal memory
Push [ENTER] : Exequite format

Above message is displayed, press the {ENTER}.

Fotmat internal memory
Fotmat internal memory
Above message is displayed and the M50 starts FORMAT.

Fotmat internal memory
Fotmat was successful!
USB Storage Mode

Above message is displayed. FORMAT completed. Set the power switch to the STANDBY.

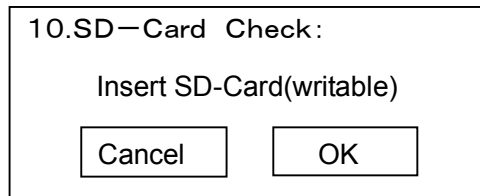
Prepare the system SD CARD and do the writing of the system.

Internal Check

>Connect the MIDI IN and the MIDI OUT using a MIDI cable.

Turn the power on pressing the [5] and the [ENTER].

M50 executes the internal check and it comes to SD CARD check, “Insert SD-Card(writable)” is displayed. Then insert an UNLOCK-status SD card and touch the [OK] in the touch panel. (You need not any data in the SD card.)



The internal check completed, the result is displayed. Then proceed to the next check.

When some error occurred, “Check out description” is displayed in the LCD. Touch the OK position and close the error dialog box and fix the error.

| Internal Check Item | NG Step | Error | Internal Check Item | NG Step | Error |
|---------------------|---------|--------------------------------|---------------------|--------------------------------------|---|
| MIDI | S1 | Time Out Error | Keyscanner | S1 | DITECT terminal does not become LOW |
| | S2 | Verify Error | | S2 | Communication Check Error |
| USB Deveice | S1 | PCConnection Error | | S3 | KeyMmode Error |
| Boot System | S1 | Checksum Error (System) | | S4 | Keybed EEPROM Error |
| | S2 | Checksum Error (Spare) | | S5 | Keybed Hardware Error ScanLine Short or Open |
| Normal System | S1 | Checksum Error (M50APP.BIN) | | S6 | AD Controller Error (Not adapting M50) |
| | S2 | Checksum Error (M50OS.BIN) | S1 | SD CARD is detected befor insertion. | |
| Backup ROM | S1 | No File | SD CARD | S2 | Write Protect ON is detected before the insertion of SD card. |
| | S2 | Could not read | | S3 | Write Protect terminal short check error |
| | S3 | | | S4 | DITECT terminal short check error |
| | S4 | Preload data error | | S5 | SD CARD can not be detected although SD card is inserted. |
| EEPROM | S1 | Erase/Write/Vverify Error | | S6 | SD CARD of Write Protect status is detected. |
| TG | S1 | Initialize Flag Check Error | | S7 | SD CARD can not be mounted. |
| | S2 | Data bus Error | | S8 | SD CARD can not be opened. |
| | S3 | Address bus Error | | S9 | Could not write in the SD CARD |
| | S4 | External RAM Data bus Error | | S10 | SD card can be mounted but can not read. |
| | S5 | External RAM Address bus Error | | S11 | Could not find any files. |
| PCM ROM | S1 | IC8 Data bus Error | | S12 | SD card can be opened but can not read. |
| | S2 | IC8 Address bus Error | | S13 | Can not read. |
| | S3 | IC7 Data bus Error | | S14 | Verify Error |
| | S4 | IC7 Address bus Error | | | |

USB Check does not become OK when PC is not connected.

Check of MODEL and System Version

>At the first line of the LCD,

61Key : M50(61)

88Key : M50(88)

Above information is displayed. Confirm the keyboard.

At the right side of "M50(**), the system version"(B*)" is displayed. Confirm that it is the newest version.

Also at the lower left of the LCD, L-panel PsoC's system version and R-panel PsoC's version.

At the lower left of the LCD, Keyscanner's (MASK CPU) system version displayed..

At the lower left of the LCD, BOOT system version is displayed.

After from here to proceed the check, touch the Item in the touch panel or press the[△] and press the [ENTER].

Audio Measurement

| | | | | | | |
|--------------|----------------------|------------|------------|------|-----------------------|-------------------------|
| Output Level | MAX LEVEL | 80kHz | FAST | OFF | L/MONO, R | 13.4 ~ 17.4dBu |
| | | 80kHz | FAST | OFF | PH L, PH R | 5.18 ~ 8.0dBu |
| | L/R LEVEL difference | 80kHz | FAST | OFF | L/MONO, R, PH L, PH R | ±1.5dBu |
| | | Distortion | 20KHz | FAST | OFF | L/MONO, R PH L, PH R |
| Low/High | 20Hz LEVEL | 80kHz | SLOW | OFF | L/MONO, R | 14.0~18.0dBu |
| | | PH L, PH R | 4.0~8.0dBu | | | |
| | 20kHz LEVEL | 80kHz | FAST | OFF | L/MONO, R | 12.0~16.0dBu |
| | | PH L, PH R | 2.0~6.0dBu | | | |
| D/A Mute | DAC MUTE | 20KHz | FAST | A | L/MONO | less than -88.0dBu |
| Noise Level | NOISE LEVEL | 20KHz | FAST | A | L/MONO, R | less than -88.0dBu |
| | | | | | PH L, PH R | less than -90.0dBu |

Check of SW & LED, Current Measurement

[Check of all LEDs light]

Confirm that all LEDs are lighting. At this time confirm that LEDs under the SW knobs and beside the switches are red, and two-color LEDs are red only. Confirm that LEDs around the JOYSTICK are orange.

Confirm that there is not unevenness of brightness, and there is no dust under the knobs.

[Consumption Current Measurement]

When all LEDs are lighting, measure the consumption current using a digital multi-meter.

Reference current: less than 0.920A

After this measurement, press [ENTER] to proceed to the next check.

[Check of CONTRUST VR]

The layout of switches and the lines of the order to press are displayed in the LCD.
 Confirm that when you rotate the [CONTRUST] VR to the right the contrast becomes deep, when you rotate the [CONTRUST] VR to the left the contrast becomes pale.
 After confirmation, set the CONTRUST VR appropriately for this check.

[SW operation and LED Check]

The switch which is waiting to press is black in the LCD.
 LEDs are assigned like following table.
 Only the assigned LED is lighting, so confirm that other LEDs are not lighting.
 Confirm that feeling of the switches is normal click.
 After the [TAP TEMPO] proceed to the next check.

| SW name | LED | SW name | LED | SW name | LED |
|-------------------|-------------------|-------------|--------|------------|-------------------|
| SW1 | SW1 | ▼ | - | 5 | - |
| SW2 | SW2 | EXIT | - | 6 | - |
| DRUM TRACK ON/OFF | DRUM TRACK ON/OFF | PAGE SELECT | - | 1 | - |
| ARP ON/OFF | ARP ON/OFF | COMBI | COMBI | 2 | - |
| RESET CONTROL | - | PROG | PROG | 3 | - |
| REALTIME CONTROL | REALTIME CONTROL | SEQ | SEQ | COMPARE | COMPARE |
| REALTIME CONTROL | RTC[A] | GLOBAL | GLOBAL | - | - |
| REALTIME CONTROL | RTC[B] | MEDIA | MEDIA | 0 | - |
| EXTERNAL | EXTERNAL | I-A | I-A | . | - |
| EXTERNAL | 1-4 | I-B | I-B | ENTER | - |
| EXTERNAL | 5-8 | I-C | I-C | PAUSE | PAUSE |
| ARP | ARP | I-D | I-D | <<REW | <<REW |
| CHORD ASSIGN | CHORD ASSIGN | I-E | I-E | FF>> | FF>> |
| 1 | - | I-F | I-F | LOCATE | - |
| 2 | - | 7 | - | REC/WRITE | REC/WRITE |
| 3 | - | 8 | - | START/STOP | START/STOP(RED) |
| 4 | - | 9 | - | START/STOP | START/STOP(GREEN) |
| ▲ | - | 4 | - | TAP TEMPO | TEMPO |

Check of LCD, Touch, and Buzzer

[Check of Black Screen]

Confirm that all dots of the LCD are black, there are not a rack of dot, dusts, and scratches.

After this check, press the [ENTER] to proceed to the next check.

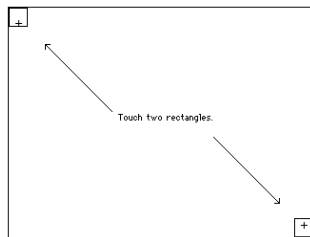
[Check of white screen]

Confirm that all dots of the LCD are white, there is not a rack of dot, dusts, and scratches.

After this check, press the [ENTER] to proceed to the next check.

[Touch View Calibration]

6-3 squares □ appear at the lower right and upper left in the LCD, press the center + point using something like a touch-pen.



When area of OK is pressed the display changes to a black square ■ .

Both squares at the lower right and upper left have become ■, then "TouchDown X:***,Y:***,X:***,Y:***" is displayed at the upper-center position and it is fixed.

Press the [ENTER] to proceed to the next.

6-4 Check of touch view Calibration

Squares □ appear at the lower right, at the center, and upper left in the LCD, press them by your finger.

When area of OK is pressed the display changes to a black square ■ and the buzzer beeps. Then press the black square ■ it turns white square □ and repeats color changing.

When color does not change the calibration is not good, so press [REW] and go back to 6-3. This time "Not Terminated a Check" is displayed then press OK before [REW].

After this check, all squares at the lower right, the center, and upper left are black ■ press the [ENTER] to proceed to the next check.

6-5 Check of Buzzer

The buzzer beeps, confirm sound volume is enough and sound is normal.

Press the [ENTER] to proceed to the next check.

Joystick Check

Joystick X-direction

Confirm that you can move the joystick smoothly for up-down-left-right all directions

In the LCD, “---L-----C-----R---“ is displayed.

When you move the joystick to the left and to the right, the position of the lever is displayed as a black square ■.

When you release the lever, the black square ■ is near “-C-“ .

Move the joystick to the left end, confirm that the black square ■ is left side of the “L” position.

Move the joystick to the right end, confirm that the black square ■ is right side of the “R” position.

Confirm that you can move the joystick smoothly for left and right directions

Finally for the center position's calibration, once move the joystick to the left (or right) end then release the lever to return to the center itself and press the [ENTER].

The result is NG (out of reference value) “Not terminated a check” is displayed.

When it is Ok, the check proceeds to the next.

Caution!

When you move the lever to the center by your finger, correct calibration can not be done.

Joystick Y-direction

In the LCD, “--Min----- C -----maX--“ is displayed.

When you move the joystick to the top and to the bottom, the position of the lever is displayed as a black square ■.

When you release the lever, the black square ■ is near “-C-“ .

Move the joystick to the top, confirm that the black square ■ is right side of the “max” position.

Move the joystick to the bottom, confirm that the black square ■ is left side of the “Min” position.

Confirm that you can move the joystick smoothly for top and bottom directions

Finally for the center position's calibration, once move the joystick to the top (or bottom) then release the lever to return to the center itself and press the [ENTER].

The result is NG (out of reference value) “Not terminated a check” is displayed.

When it is Ok, the check proceeds to the next.

Caution!

When you move the lever to the center by your finger, correct calibration can not be done.

Knob Check

Confirm that when you rotate the KNOB1 to the right and near its right end “OK” is displayed in the “MAX”’s line upper position of the “knob1” in the LCD.

Next confirm that when you rotate the KNOB1 to the left and near its left end “OK” is displayed in the “MIN”’s line upper position of the “knob1” in the LCD.

Confirm either in the left or right rotation check that near the center position, “OK” is displayed in the “CENTER”’s line upper position of the “knob1” in the LCD.

Return the knob to the center position, “→” is displayed at the side of “OK” in the “CENTER”’s line upper position of the “knob1” in the LCD and the check proceeds to the next.

Confirm that you can move the knob smoothly.

When “Not terminated a check” is displayed, it means other A/D controller is moved.

Although you have not touched other controller, “Not terminated a check” is displayed it is NG.

Do the same check for the KNOB1-KONOB4.

After the KNOB4, the check proceeds to the next.

Value Slider Check

Confirm that when you move the VALUE to the top position “OK” is displayed in the line of “MAX” upper position of the “Value” in the LCD.

Confirm that when you move the VALUE to the bottom position “OK” is displayed in the line of “MIN” upper position of the “Value” in the LCD.

Confirm either in the top or bottom check that near the center position, “OK” is displayed in the “CENTER”’s line upper position of the “Value” in the LCD.

Return the Value to the center position, “→” is displayed at the side of “OK” in the “CENTER”’s line upper position of the “Value” in the LCD and the check proceeds to the next.

Confirm that you can move the knob smoothly.

When “Not terminated a check” is displayed, it means other A/D controller is moved.

Although you have not touched other controller, “Not terminated a check” is displayed it is NG.

Rotary Encoder Check

In the LCD "+30" and "-30" are displayed. Set the Encoder knob at some position you can remember.

At this time the value above the +30 has changed, before this check press [COMBI] and reset the value to "000".

Rotate the Encoder to right for one around, confirm that the value becomes "+030".

"OK" is displayed at the side of "+30" and "press [COMBI] to reset" is displayed.

The value is more than +30 or less than +30, it is NG.

Next, press [COMBI] and reset then rotate the Encoder to left for one around, confirm that the value above "-30" becomes "-030".

"OK" is displayed at the side of "-30" and "press [COMBI] to reset" is displayed.

The value is more than -30 or less than -30, it is NG

Confirm that you can move the Encoder smoothly.

When +30 and -30 have become Ok, press [ENTER] to proceed to the next check.

Tempo Check

Rotate the TEMPO to the right and confirm that "OK" is displayed in "MAX"'s line above the "Tempo" in the LCD near the VR'S right end.

Next rotate the TEMPO to the left and confirm that "OK" is displayed in "MIN"'s line above the "Tempo" in the LCD near the VR'S right end.

Either in the right or left rotation check, confirm that "OK" is displayed in "CENTER"'s line above the "Tempo" in the LCD near the VR'S right end.

Return the Tempo to the center position, "→" is displayed at the side of "OK" in the "CENTER"'s line upper position of the "Tempo" in the LCD and the check proceeds to the next.

Confirm that you can move the knob smoothly.

When "Not terminated a check" is displayed, it means other A/D controller is moved.

Although you have not touched other controller, "Not terminated a check" is displayed it is NG.

Pedal Check

Prepare KORG EXP-2, KORG PS-1, KORG DS-1H.

“Ass-pedal”, “Switch”, “Damper” are displayed in the LCD and their operation results are displayed. During these checks “Not terminated a check” is displayed, it means other A/D controller is moved.

Although you have not touched other controller, “Not terminated a check” is displayed it is NG.

Step on the EXP-2 pedal fully and return it, confirm that “OK” is displayed in the “MAX”'s line above “Pedal” in the LCD.

In above check around the center position, confirm that “OK” is displayed in the “CENTER”'s line above “Pedal” in the LCD.

At the completely returned position confirm that “OK” is displayed in the “MINI”'s line above “Pedal” in the LCD.

Step on the EXP-2 pedal fully and proceed to the next PS-1.

Step on the PS-1 and confirm that “OK” is displayed in the “MAX”'s line above “Switch” in the LCD.

Get off your foot from the PS-1 and confirm that “OK” is displayed in the “MINI”'s line above “Switch” in the LCD.

After it proceed to the next DS-1H.

Slowly step on the DS-1H, confirm that “OK” is displayed in the “MAX”'s line above “Damper” in the LCD.

In above check around the center position, confirm that “OK” is displayed in the “CENTER”'s line above “Damper” in the LCD.

At the completely returned position confirm that “OK” is displayed in the “MINI”'s line above “Damper” in the LCD and proceed to the next. (Almost you cannot see “OK”.)

*In this check the order of “OK” are changed sometime but after two OK the check proceed to the next.

Keyboard Check

Play from the highest note key to the lowest note key with medium strength and confirm the velocity is normal. During playing also confirm that all keys dose not touch to the next key and the feeling of playing is normal.

After all keys passed this check “Keyboard Noise Check” is displayed. But this check should be skipped. So proceed to the next Test Mode Completed.

Test Mode Completed

61 Key: Press [ENTER], “Thanks for your operation” is displayed then set the power switch to STANDBY.

88Key: Press [ENTER], 88Key model executes Preload, “Completed” is displayed then press OK. “Thanks for your operation” is displayed then set the power switch to STANDBY.

KORG M50-61 Parts List

| Part No. | Category | Part Name | Location | Reference | QTY |
|--------------|----------------|-------------------------------------|----------------|-------------------------------|-----|
| 500320006090 | IC | MR27T25603L-10KTM03A:X07110-0H | KLM-2887(MAIN) | [TOP] IC17 [BOT] | 1 |
| 500320006091 | IC | MR27T25603L-10LTM03A:X07110-0L | KLM-2887(MAIN) | [TOP] [BOT] IC20 | 1 |
| 500320006092 | IC | MR27T25603L-10MTM03A:X07110-1H | KLM-2887(MAIN) | [TOP] IC14 [BOT] | 1 |
| 500320006093 | IC | MR27T25603L-10NTM03A:X07110-1L | KLM-2887(MAIN) | [TOP][BOT] IC21 | 1 |
| 500320012320 | ASIC | MB87M4080PB-GE1 (TG01) | KLM-2887(MAIN) | [TOP] IC15 [BOT] | 1 |
| 500320052003 | FLASH(NAND) | HY27US08561A-TPCB | KLM-2887(MAIN) | [TOP] [BOT] IC23 | 1 |
| 500324006012 | SDRAM | V54C365164VEI7(TP) | KLM-2887(MAIN) | [TOP] IC12 [BOT] | 1 |
| 500324006014 | SDRAM | V54C3256164VDI7PC(TP) | KLM-2887(MAIN) | [TOP] [BOT] IC24 | 1 |
| 500324026017 | CPU | MC9328MX1DVM20R2 | KLM-2887(MAIN) | [TOP] IC6 [BOT] | 1 |
| 510219401920 | EMI/EMC PART | NFM21PC104R1E3D | KLM-2887(MAIN) | [TOP] L1-4 L19 [BOT] L38 | 6 |
| 510310511507 | DIODE | RLS-73 TE-11 (S) | KLM-2887(MAIN) | [TOP] D1-2 [BOT] D3-4 | 4 |
| 510320511009 | REGULATOR IC | NJM78L05UA-TE2 (TS)(S) | KLM-2887(MAIN) | [TOP] IC13 [BOT] | 1 |
| 510320514038 | REGULATOR IC | BA00DD0WHFP-TR | KLM-2887(MAIN) | [TOP] IC7 [BOT] | 1 |
| 510320514039 | RESET IC | BU4327G-TR | KLM-2887(MAIN) | [TOP] IC2 [BOT] | 1 |
| 510320516025 | Logic IC | SN74LV14APWR HD74LV14A(S) | KLM-2887(MAIN) | [TOP] IC3 [BOT] | 1 |
| 510320516083 | Logic IC | SN74LVC541APWR | KLM-2887(MAIN) | [TOP] IC4-5 [BOT] | 2 |
| 510320516093 | Logic IC | SN74ALVC08PWR | KLM-2887(MAIN) | [TOP] IC9 [BOT] | 1 |
| 510320516094 | Logic IC | SN74LVC1G02DCKR | KLM-2887(MAIN) | [TOP] IC10 [BOT] | 1 |
| 510320516095 | Logic IC | SN74AHCU04PWR | KLM-2887(MAIN) | [TOP] IC18 [BOT] | 1 |
| 510320516096 | Logic IC | SN74LVC32APWR | KLM-2887(MAIN) | [TOP] [BOT] IC22 | 1 |
| 510320523501 | DRIVER IC | ISP1105W.115 | KLM-2887(MAIN) | [TOP] [BOT] IC25 | 1 |
| 510324021160 | OPAMP | NE5532DR (TS) | KLM-2887(MAIN) | [TOP] IC16 [BOT] | 1 |
| 510335510008 | CRYSTAL | HC-49US 24.576MHZ SMD (SS) | KLM-2887(MAIN) | [TOP] XT3 [BOT] | 1 |
| 510345520501 | CRYSTAL | MC-306 32.768KHZ 15PF 50PPM | KLM-2887(MAIN) | [TOP] XT2 [BOT] | 1 |
| 510402511003 | EMI/EMC PART | BLM18BD102SN1D (S) | KLM-2887(MAIN) | [TOP] L5 L27 [BOT] L37 L42-43 | 5 |
| 510402511005 | EMI/EMC PART | BLM21BD102SN1D (S) | KLM-2887(MAIN) | [TOP] [BOT] L44-47 | 4 |
| 510402511006 | Chip INDUCTOR | BLM21PG221SN1D (S) | KLM-2887(MAIN) | [TOP] L15 L21-24 L32 [BOT] | 6 |
| 510402511008 | Chip INDUCTOR | BLM18BB121SN1D | KLM-2887(MAIN) | [TOP] [BOT] L36 | 1 |
| 510402511012 | Chip INDUCTOR | BLA31AG102SN4D | KLM-2887(MAIN) | [TOP] L20 L25 [BOT] L41 | 3 |
| 510402511014 | Chip INDUCTOR | BLA31AG600SN4D | KLM-2887(MAIN) | [TOP][BOT] L39 | 1 |
| 500219402090 | EMI/EMC PART | MEM2012T50ROT0S1 | KLM-2887(MAIN) | [TOP] L26 [BOT] | 1 |
| 510200515515 | VARISTOR | AVRL161A1R1NTB | KLM-2887(MAIN) | [BOT] VZ1-2 | 2 |
| 510474527001 | FFC CONNECTOR | 04FFS-SP-TF(LF)(SN) | KLM-2887(MAIN) | [TOP] [BOT] CN11A | 1 |
| 510474527501 | USB CONNECTOR | QT-6301-004 (B TYPE) | KLM-2887(MAIN) | [TOP] [BOT] USB1 | 1 |
| 510474528007 | CONNECTOR | A2001WV2-8P | KLM-2887(MAIN) | [TOP] [BOT] CN1A | 1 |
| 510474528009 | CONNECTOR | A2001WV2-10P | KLM-2887(MAIN) | [TOP] [BOT] CN10B | 1 |
| 510474528010 | CONNECTOR | A2001WV2-11P | KLM-2887(MAIN) | [TOP] [BOT] CN2A | 1 |
| 510474528032 | CONNECTOR | A2502WV2-3P | KLM-2887(MAIN) | [TOP] [BOT] CN4A | 1 |
| 510474528062 | CONNECTOR | A3963WV2-5P | KLM-2887(MAIN) | [TOP] [BOT] CN8B | 1 |
| 510640501502 | | X-1500 TERMINAL KOC-C41254 | KLM-2887(MAIN) | [TOP] [BOT] | 3 |
| 510474528501 | FFC CONNECTOR | 08-6210-020-340-800A+ | KLM-2887(MAIN) | [TOP] [BOT] CN5A | 1 |
| 500320012364 | FLASH(NOR) | S29AL004D70TFI010 :X07110/7111 (4M) | KLM-2887(MAIN) | [TOP] IC11 [BOT] | 1 |
| 510320516098 | D/A Converter | PCM1793DBR | KLM-2887(MAIN) | [TOP] IC19 [BOT] | 1 |
| 510320516099 | Logic IC | SN74LVC2G07DBVR | KLM-2887(MAIN) | [TOP] IC1 [BOT] | 1 |
| 500474045505 | CARD CONNECTOR | AXA2R73061TJ | KLM-2887(MAIN) | [TOP] SD1 [BOT] | 1 |
| 510C60112887 | PCB ASS'Y | KLM-2887 ASS'Y | KLM-2887(MAIN) | | (1) |
| 500330003700 | PHOTO COUPLER | PS9117A-F3-A(M) | KLM-2890(Jack) | IC13 | 1 |
| 510300510503 | TRANSISTOR | 2SA812-T1B-A M5-7 M6 RANK(S) | KLM-2890(Jack) | Q4 | 1 |

| Part No. | Category | Part Name | Location | Reference | QTY |
|--------------|-------------------|------------------------------|----------------|---|-------|
| 510300511504 | TRANSISTOR | 2SC3661-TB-E (S) | KLM-2890(Jack) | Q1-2 Q5 Q7 | 4 |
| 510310510502 | DOUBLE DIODES | MC2840-T112-1 (S) | KLM-2890(Jack) | WD2-6 | 5 |
| 510310511507 | DIODE | RLS-73 TE-11 (S) | KLM-2890(Jack) | D2 D4 D6-8 | 5 |
| 510310511513 | DOUBLE DIODES | DAN217 T146 | KLM-2890(Jack) | WD1 | 1 |
| 510310511518 | SCHOTTKY DIODE | RB160L-40TE25 | KLM-2890(Jack) | D3 | 1 |
| 510320511026 | OPAMP | NJM4556AL-#ZZZB (SIP8) | KLM-2890(Jack) | IC1 IC5 | 2 |
| 510320514027 | EEPROM | BR93L46RFV-WE2 | KLM-2890(Jack) | IC12 | 1 |
| 510320516029 | Logic IC | SN74LV125APWR (S) | KLM-2890(Jack) | IC6 | 1 |
| 510320516092 | Logic IC | SN74LVC1G126DCKR | KLM-2890(Jack) | IC10 | 1 |
| 510320520510 | REGULATOR IC | NJM7805DLA/1A-TE1-#ZZZB (TS) | KLM-2890(Jack) | IC8 | 1 |
| 510324021160 | OPAMP | NE5532DR (TS) | KLM-2890(Jack) | IC2 | 1 |
| 510374520007 | POWER SW | PSW SDKLA10200 (D) | KLM-2890(Jack) | SW1 | 1 |
| 510402511003 | EMI/EMC PART | BLM18BD102SN1D (S) | KLM-2890(Jack) | L1 L3 L5-6 L9-21 L24-30 L44-56 L58-68 L70 | 49 |
| 510219401920 | EMI/EMC PART | NFM21PC104R1E3D | KLM-2890(Jack) | LC6 | 1 |
| 510450521503 | PHONE JACK | YKB21-5074G (PHONE JACK) (D) | KLM-2890(Jack) | PH7-12 | 6 |
| 510450522504 | DC JACK | PJCP042100-42-0 (D) | KLM-2890(Jack) | DJ1 | 1 |
| 510474528009 | CONNECTOR | A2001WV2-10P | KLM-2890(Jack) | CN10A | 1 |
| 510474528010 | CONNECTOR | A2001WV2-11P | KLM-2890(Jack) | CN12A | 1 |
| 510474528015 | CONNECTOR | A2001WV2-16P | KLM-2890(Jack) | CN3A | 1 |
| 510474528032 | CONNECTOR | A2502WV2-3P | KLM-2890(Jack) | CN4C | 1 |
| 510474528033 | CONNECTOR | A2502WV2-4P | KLM-2890(Jack) | CN7A | 1 |
| 510474528062 | CONNECTOR | A3963WV2-5P | KLM-2890(Jack) | CN8A | 1 |
| 510640501502 | | X-1500 TERMINAL KOC-C41254 | KLM-2890(Jack) | U2 | 1 |
| 510640506506 | | X-5260 JACK PLATE KOC-C41456 | KLM-2890(Jack) | X5-7 | 3 |
| 510335520504 | CERAMIC RESONATOR | CSTCE20MOV51-R0 | KLM-2890(Jack) | X1 | 1 |
| 510100521006 | FUSE R | RF732BTTD0R2JF25 | KLM-2890(Jack) | R43 | 1 |
| 510402513004 | Chip INDUCTOR | CDRH127/LDNP-331MC | KLM-2890(Jack) | L7 | 1 |
| 510402520502 | LCR EMI FILTER | DST9ND31H223Q92A (TR) (S) | KLM-2890(Jack) | LC1-5 | 5 |
| 500402400900 | EMI/EMC FILTER | ACM1211-102-2PL-TL01 | KLM-2890(Jack) | L23 | 1 |
| 500320004734 | CPU | HD6433683GD18FPV (X07110/11) | KLM-2890(Jack) | IC3 | 1 |
| 510320511033 | DC-DC Converter | NJM2374AE-TE1-#ZZZB | KLM-2890(Jack) | IC4 | 1 |
| 510320516100 | DC-DC Converter | TPS5431DDAR | KLM-2890(Jack) | IC11 | 1 |
| 510450521507 | DIN JACK | YKF51-5074V | KLM-2890(Jack) | DIN1 | 1 |
| 510402523006 | INDUCTOR | NLC453232T-221K-PF | KLM-2890(Jack) | L2 L4 | 2 |
| 510402523007 | INDUCTOR | SLF12575T-220M4R0-PF | KLM-2890(Jack) | L87 | 1 |
| 510320511034 | REGULATOR IC | NJM78M09DL1A-TE1-#ZZZB | KLM-2890(Jack) | IC7 | 1 |
| 510310523001 | SCHOTTKY DIODE | SS3P3-E3/84A | KLM-2890(Jack) | D1 | 1 |
| 510310511519 | SCHOTTKY DIODE | RB751V-40TE-17 | KLM-2890(Jack) | D5 | 1 |
| 510C60112890 | PCB ASS'Y | KLM-2890 ASS'Y | KLM-2890(Jack) | | (1/2) |
| 510300511021 | DIGITAL TR | DTC114ESA TP (S) | KLM-2891/92 | DT1-2 | 2 |
| 510312512008 | LED | SLR-325VR-T31-K/L/M/N (TR) | KLM-2891/92 | LED1-2 | 2 |
| 510474528003 | CONNECTOR | A2001WV2-4P | KLM-2891/92 | CN14A | 1 |
| 510474528005 | CONNECTOR | A2001WV2-6P | KLM-2891/92 | CN6A | 1 |
| 510474528010 | CONNECTOR | A2001WV2-11P | KLM-2891/92 | CN12B | 1 |
| 510474528018 | CONNECTOR | A2001WR2-4P | KLM-2891/92 | CN14B | 1 |
| 510312512015 | LED | SLI-343D8U3F | KLM-2891/92 | LED3-6 | 4 |
| 510374520027 | TACT SW | SKRGARD010 | KLM-2891/92 | SW1-2 | 2 |
| 510C60112891 | PCB ASS'Y | KLM-2891/92 ASS'Y | KLM-2891/92 | | (1) |
| 500324026020 | CPU | CY8C24423A-24SXIT | KLM-2888/89 | IC4 IC52 | 2 |

| Part No. | Category | Part Name | Location | Reference | QTY |
|--------------|-------------------|----------------------------------|-------------|---|-----|
| 510300510505 | DIGITAL TR | FP1L2Q-T2B-A (TS) (S) | KLM-2888/89 | DT7-9 DT51-52 DT57-59 | 8 |
| 510310510501 | DOUBLE DIODES | MC2838-T112-1 (S) | KLM-2888/89 | WD1-4 WD6 WD8 WD10 WD51-68 | 25 |
| 510310511507 | DIODE | RLS-73 TE-11 (S) | KLM-2888/89 | D51 | 1 |
| 510320516008 | Logic IC | SN74LV138APWR | KLM-2888/89 | IC3 IC51 IC53 | 3 |
| 510360523001 | SLIDE VR | EWA NA0C10B14 | KLM-2888/89 | VR1 | 1 |
| 510370520002 | ENCODER | EC11B15204A5(F2779745M) | KLM-2888/89 | ENC1 | 1 |
| 510402511003 | EMI/EMC PART | BLM18BD102SN1D (S) | KLM-2888/89 | L1-4 L51-57 | 11 |
| 510474528022 | CONNECTOR | A2001WR2-8P | KLM-2888/89 | CN1B | 1 |
| 510474528025 | CONNECTOR | A2001WR2-11P | KLM-2888/89 | CN2B | 1 |
| 510474528049 | CONNECTOR | A2502WR2-6P | KLM-2888/89 | CN4B | 1 |
| 510410521002 | BUZZERS | PKM17EPP-2002-B0 | KLM-2888/89 | BUZZ1 | 1 |
| 510312512013 | Chip LED | SML-512MWT86 | KLM-2888/89 | LED65 | 1 |
| 510312512014 | Chip LED | SML-D12V8WT86 | KLM-2888/89 | LED1 LED7-10 LED12 LED14-15 LED22 LED25 LED51-64 LED66-69 | 28 |
| 510100510713 | Chip RESISTOR | RC0603JR-07 1R0 | KLM-2888/89 | R84 | 1 |
| 510300511026 | DIGITAL TR | DTD143EKT146 | KLM-2888/89 | DT10-13 DT53-56 | 8 |
| 510320514040 | EEPROM | BR24L04F-WE2 (SOP-J8 4K BIT IIC) | KLM-2888/89 | IC11 | 1 |
| 510360520028 | SLIDE VR | RS30111AC00N | KLM-2888/89 | VR10 | 1 |
| 510360525001 | SLIDE VR | XV09213NPV 20F 1B10K | KLM-2888/89 | VR2-5 VR52 | 5 |
| 510374520027 | TACT SW | SKRGARD010 | KLM-2888/89 | SW1-3 SW5-7 SW9 SW11 SW13 SW15 SW17 SW19 SW21 SW51-84 | 47 |
| 510360520030 | ROTARY VR | RK09K1130A5R | KLM-2888/89 | VR51 | 1 |
| 510C60112888 | PCB ASS'Y | KLM-2888/89 ASS'Y | KLM-2888/89 | | (1) |
| 510470524001 | HARNESS | HNS-3867 | | | 1 |
| 510470524002 | HARNESS | HNS-3868 | | | 1 |
| 510470524003 | HARNESS | HNS-3869 | | | 1 |
| 510470524004 | HARNESS | HNS-3870 | | | 1 |
| 510470524005 | HARNESS | HNS-3871 | | | 1 |
| 510470524006 | HARNESS | HNS-3872 | | | 1 |
| 510470524007 | HARNESS | HNS-3873 | | | 1 |
| 500475003876 | HARNESS | HNS-3876 | | | 1 |
| 510470524009 | HARNESS | HNS-3875 | | | 1 |
| 510470524010 | HARNESS | HNS-3877 | | | 1 |
| 510470524011 | FFC HARNESS | HNS-3874 | | | 1 |
| 500313006800 | LCD | KG057QV1CF-G050 | | | 1 |
| 510405540503 | SWITCHING ADAPTER | KA-320 DSA-0421S-12 1 42 | | | 1 |
| 510405541501 | POWER SUPPLY UNIT | CD-S09E25E00(INVERTER MODULE) | | | 1 |
| 510C6011 | KEYBOARD UNIT | BA-61W | | | 1 |
| 510525520006 | FERRITE CORE | K1 T 25.0X12.0X15.0 | | | 1 |
| 510525520003 | FERRITE CORE | K3 T 16X14X10 | | | 1 |
| 510640508035 | MECHANICAL | 07110 Panel C20454 | | | 1 |
| 510646502144 | MECHANICAL | 07110 Lower Case E20306 | | | 1 |
| 510646502145 | MECHANICAL | 07110 SidePanelL E30503-1 | | | 1 |
| 510646502146 | MECHANICAL | 07110 SidePanelR E30503-2 | | | 1 |
| 510646502147 | MECHANICAL | 07110 JSPanel E30499 | | | 1 |
| 510646502148 | MECHANICAL | 07110 KeyBlock E40748 | | | 1 |
| 510640508036 | MECHANICAL | 07110 LCDChassis C30778 | | | 1 |
| 510640508037 | MECHANICAL | 07110 MainChassis C41578 | | | 1 |
| 510640508038 | MECHANICAL | 07110 Panel Support L C41571-1 | | | 1 |
| 510640508039 | MECHANICAL | 07110 Panel SupportR C41571-2 | | | 1 |
| 510640508040 | MECHANICAL | 07110 SideChassisL C41576-1 | | | 1 |

| Part No. | Category | Part Name | Location | Reference | QTY |
|--------------|------------|--------------------------------|-------------|-------------|-------|
| 510640508041 | MECHANICAL | 07110 SideChassisR C41576-2 | | | 1 |
| 510640508042 | MECHANICAL | 07110 JS Panel Joint C41575 | | | 1 |
| 510640508043 | MECHANICAL | 07110 Key Block Joint C41577 | | | 1 |
| 510646502149 | MECHANICAL | 07110 ButtonBlockL E20307 | | | 1 |
| 510802500547 | MECHANICAL | 07110 SVR Mask F41456 | | | 2 |
| 510646502150 | MECHANICAL | 07110 ButtonBlockR E20308 | | | 1 |
| 510646502151 | MECHANICAL | 07110 ButtonBlockS E40746 | | | 1 |
| 510646502152 | MECHANICAL | 07110 SliderKnob E30505 | | | 2 |
| 510646502153 | MECHANICAL | 07110 VRKnob E30504 | | | 5 |
| 510646502154 | MECHANICAL | X-610 ENCODER KNOB(CH)E40727-2 | | | 1 |
| 510646502155 | MECHANICAL | 07110 JSReflector E40747 | | | 1 |
| 510646502156 | MECHANICAL | 07110 LCDHood E30500 | | | 1 |
| 510646502157 | MECHANICAL | 07110 SDFrame E40745 | | | 1 |
| 510802500548 | MECHANICAL | 07110 KB Felt F41457 | | | 1 |
| 500472060301 | CONNECTOR | S3B-EH(LF)(SN) | KLM-2704/05 | | 1 |
| 500472060401 | CONNECTOR | S4B-EH(LF)(SN) | KLM-2704/05 | | 1 |
| 500362009052 | VR | RK11K1140D1H | KLM-2704/05 | | 2 |
| 200062462704 | PCB ASS'Y | KLM-2704/2705 | | | (1/4) |
| 500646100703 | MECHANICAL | X4100 JS COVER E40702-2 | | | 1 |
| 500646100068 | MECHANICAL | X4100 JS WHEEL E40703 | | | 1 |
| 500646100070 | MECHANICAL | X4100 JS WHEEL SUPPORT E30455 | | | 1 |
| 500646100071 | MECHANICAL | X4100 JS FRAME E30456 | | | 1 |
| 500646100069 | MECHANICAL | X4100 JS PLATE E40704 | | | 1 |
| 500644010500 | MECHANICAL | X-0100 WHEEL SPRING KOC-C41222 | | | 2 |
| 500540026500 | MECHANICAL | X-0100 JS WASHER KOC-F40979 | | | 2 |
| 510646502122 | MECHANICAL | X952 PWS KNOB(CH)KOC-E40726 | | | 1 |
| 510802500549 | MECHANICAL | 07110 Case Leg F41481 | | | 5 |
| 510646506503 | MECHANICAL | X-5400 SHADING SHEET F41260 | | | 3 |
| 510500505529 | MECHANICAL | 07110 PCB Spacer F41482 | | | 2 |
| 510630500008 | MECHANICAL | 07110 Shield Sheet F41487 | | | 1 |
| 510600540006 | AC CABLE | EC-652-E03(VDE) W/PE-BAG | ALLOCATION | 230GE,WG,FR | (1) |
| 510600540502 | AC CABLE | UC-953-J01 W CSA LABEL | ALLOCATION | 120US,CN,EX | (1) |
| 510600540501 | AC CABLE | LY230BSH05VVFBSLY13 B #UK | ALLOCATION | 230UK | (1) |
| 510600540003 | AC CABLE | SC-111-J01 (POWER SUPPLY CORD) | ALLOCATION | 240AU | (1) |
| 510600006508 | AC CABLE | LY100JPVCTFLY35LY37(JP) | ALLOCATION | 100JP | (1) |
| 510540501001 | AC PLUG | CONVERTER SOCKET YL-212 | ALLOCATION | 100JP | (1) |