MUSIC WORKSTATION
KRONOS
-61/73/88
SERVICE MANUAL

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KORG

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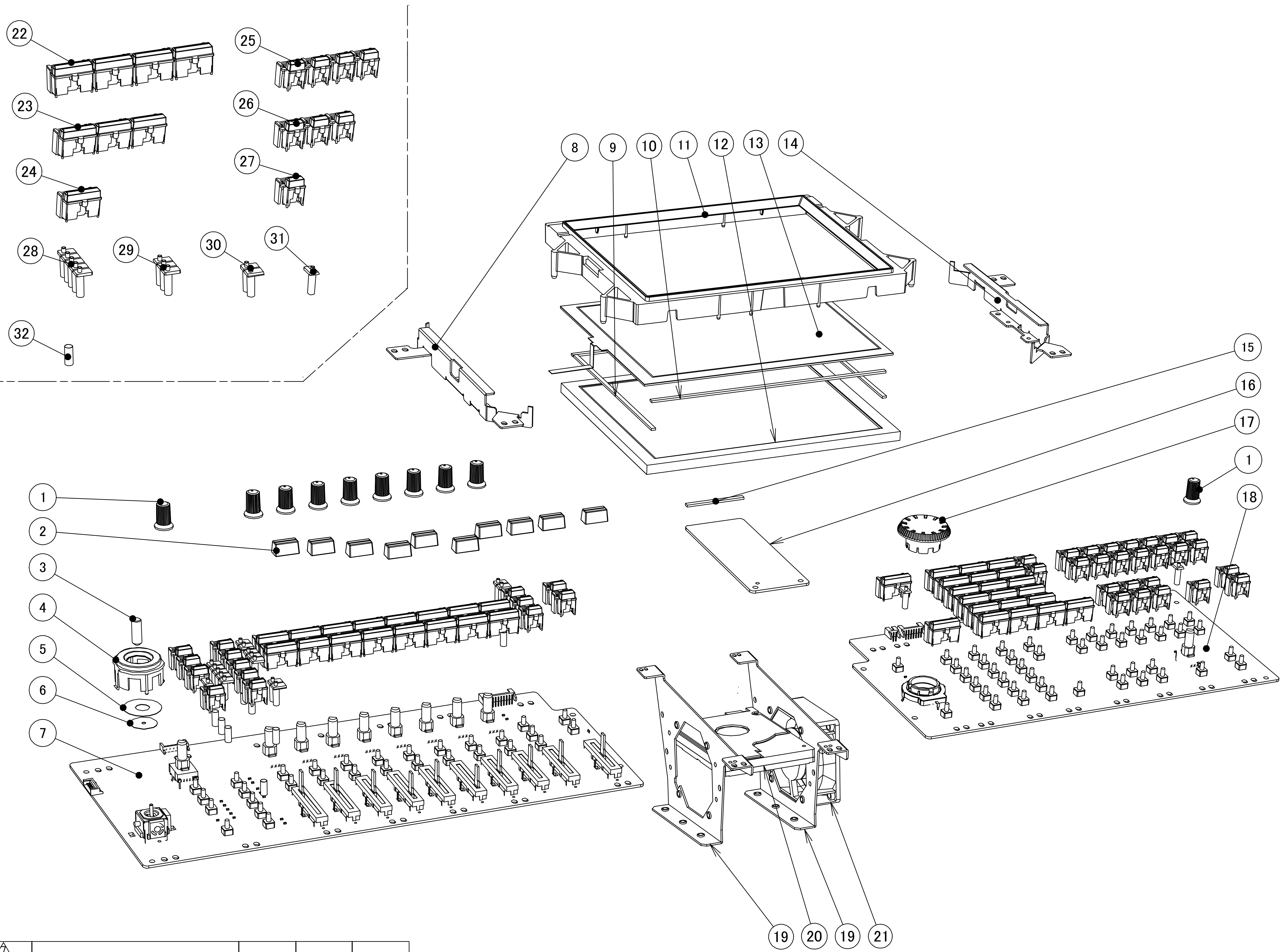
KRONOS-61 (X-09130)
KRONOS-73 (X-09131)
KRONOS-88 (X-09132)



35		
34		
33		
32	IRRAX Tube A-4.0 black L=10mm	8
31	09130 Reflector-1 E40804-1	3
30	09130 Reflector-2 E40804-2	3
29	09130 Reflector-3 E40804-3	1
28	09130 Reflector-5 E40804-5	1
27	09130 Key-S-1 E40802-1	19
26	09130 Key-S-3 E40802-3	4
25	09130 Key-S-4 E40802-4	2
24	09130 Key-L-1 E40803-1	2
23	09130 Key-L-3 E40803-3	4
22	09130 Key-L-4 E40803-4	6
21	Fan	1
20	SSD	1
19	09130 PanelAngle C30850	2
18	KLM-3004 (Panel-R)	1
17	09130 EncoderKnob E40800	1
16	KLM-3007 (LCD I/F)	1
15	TouchPanelTape-L F41638-1	1/4
14	09130 LCDSupport-R C30847-2	1
13	TouchPanel	1
12	LCD	1
11	09130 LCDHood E30575	1
10	TouchPanelTape-L F41638-1	2
9	TouchPanelTape-S F41638-2	2
8	09130 LCDSupport-L C30847-1	1
7	KLM-3003 (Panel_L)	1
6	09130 VJSSheet-S F41628	1
5	09130 VJSSheet-L F41627	1
4	09130 VJSFrame E40801	1
3	09130 VJSKnob C41705	1
2	09130 SVRKnob-B/G E40805-2	10
1	X5870 VRKnob(H) E30459-1	10
No.	Parts Name	Qty.

7				
6				
5				
4				
3				
2				
1				
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WEIGHT: ***(g)	DRAWN morihara 2011/04/22	CHECKED	APPROVED	TITLE Service Manual (01)
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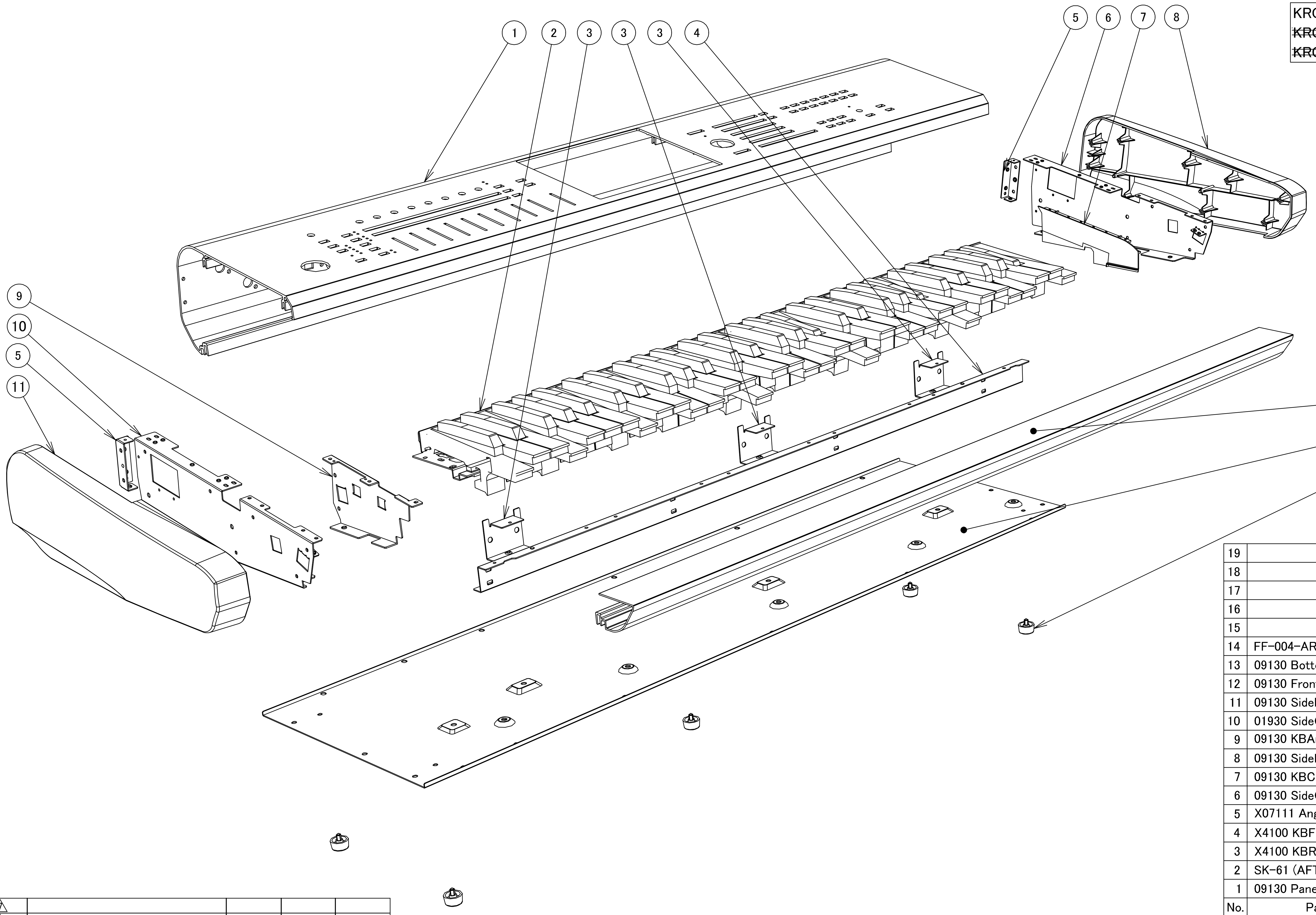
~~KRONOS-73 (X-09131)~~
~~KRONOS-88 (X-09132)~~



No.	Parts Name	Qty.
19		
18		
17		
16		
15		
14	FF-004-AR791	5
13	09130 BottomCover C20467	1
12	09130 FrontBar C41697	1
11	09130 SidePanel-L E30572-1	1
10	01930 SideChassis-L C30849-1	1
9	09130 KBAngle C30846-1	1
8	09130 SidePanel-R E30572-2	1
7	09130 KBCover E30579	1
6	09130 SideChassis-R C30849-2	1
5	X07111 Angle-S C41573	2
4	X4100 KBF Chassis C30735	1
3	X4100 KBR Chassis C41487	3
2	SK-61 (AFT)	1
1	09130 Panel C30843	1

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	morihara 2011/04/22			Service Manual (02)
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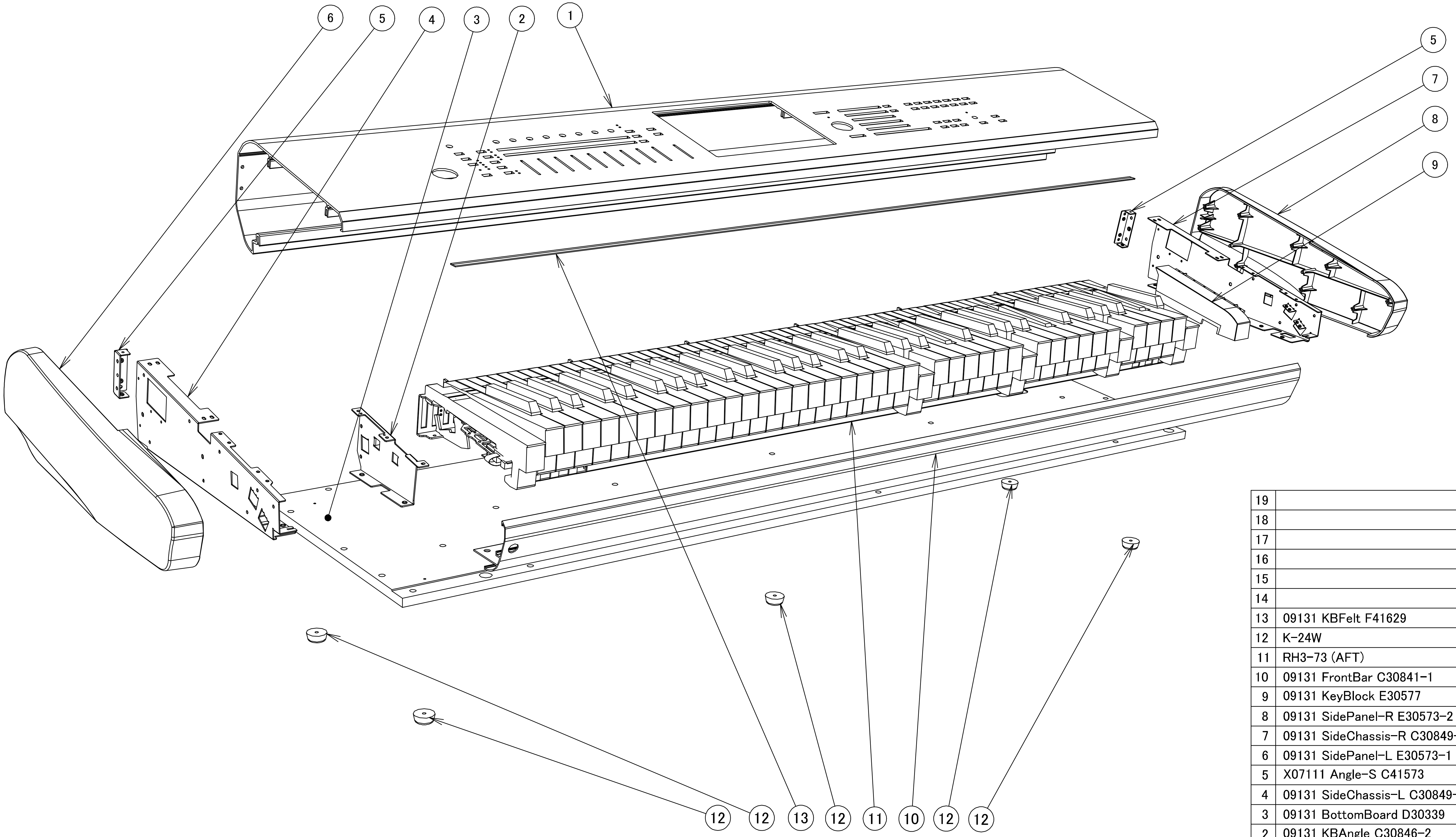
KRONOS-73 (X-09131)
~~KRONOS-88 (X-09132)~~



No.	Parts Name	Qty.
19		
18		
17		
16		
15		
14		
13	09131 KBFelt F41629	1
12	K-24W	5
11	RH3-73 (AFT)	1
10	09131 FrontBar C30841-1	1
9	09131 KeyBlock E30577	1
8	09131 SidePanel-R E30573-2	1
7	09131 SideChassis-R C30849-4	1
6	09131 SidePanel-L E30573-1	1
5	X07111 Angle-S C41573	2
4	09131 SideChassis-L C30849-3	1
3	09131 BottomBoard D30339	1
2	09131 KBAngle C30846-2	1
1	09131 Panel C30844	1

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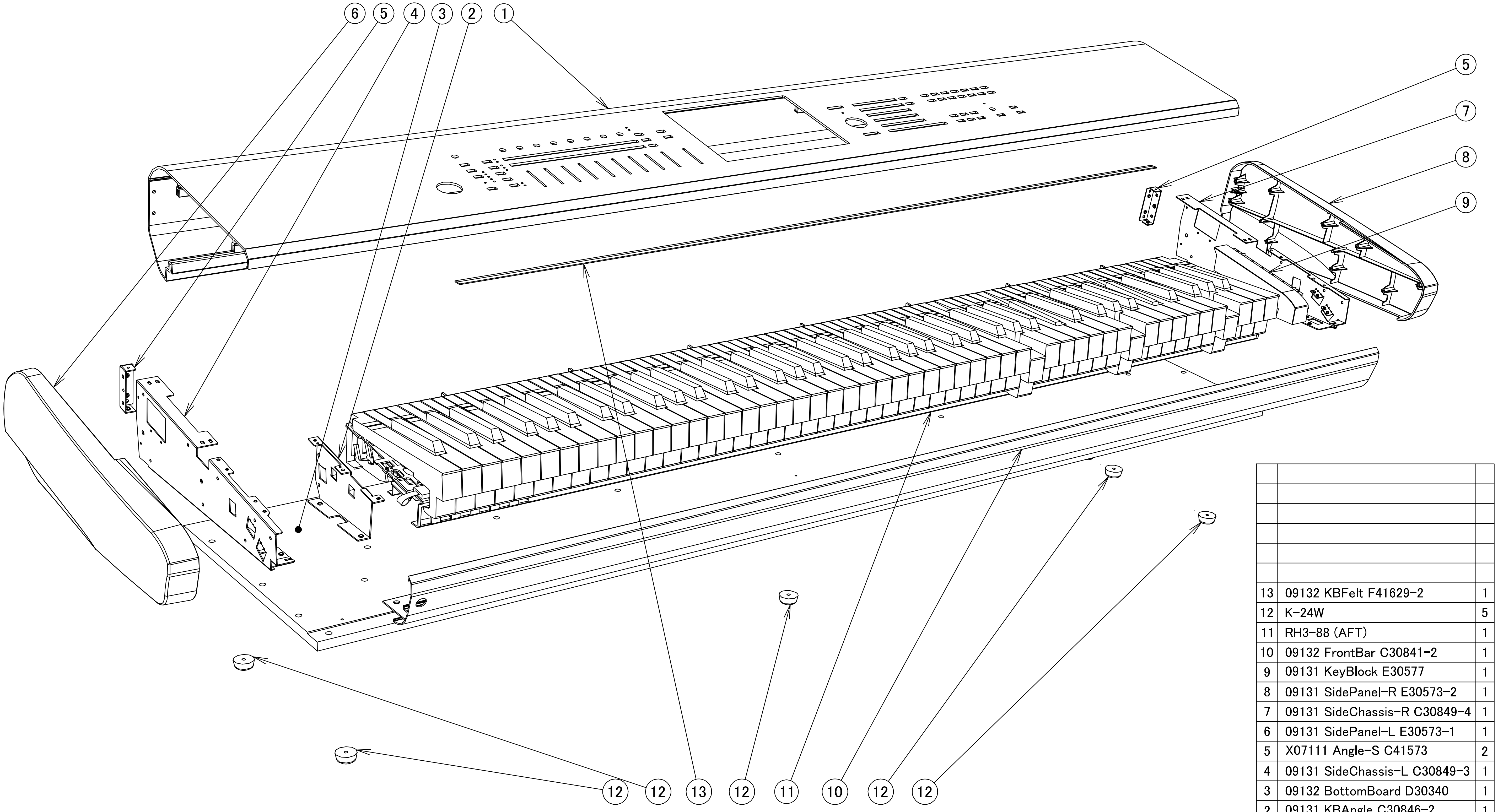
KRONOS-88 (X-09132)



No.	Parts Name	Qty.
13	09132 KBFelt F41629-2	1
12	K-24W	5
11	RH3-88 (AFT)	1
10	09132 FrontBar C30841-2	1
9	09131 KeyBlock E30577	1
8	09131 SidePanel-R E30573-2	1
7	09131 SideChassis-R C30849-4	1
6	09131 SidePanel-L E30573-1	1
5	X07111 Angle-S C41573	2
4	09131 SideChassis-L C30849-3	1
3	09132 BottomBoard D30340	1
2	09131 KBAngle C30846-2	1
1	09132 Panel C30845	1

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	morihara 2011/04/26			Service Manual (04)
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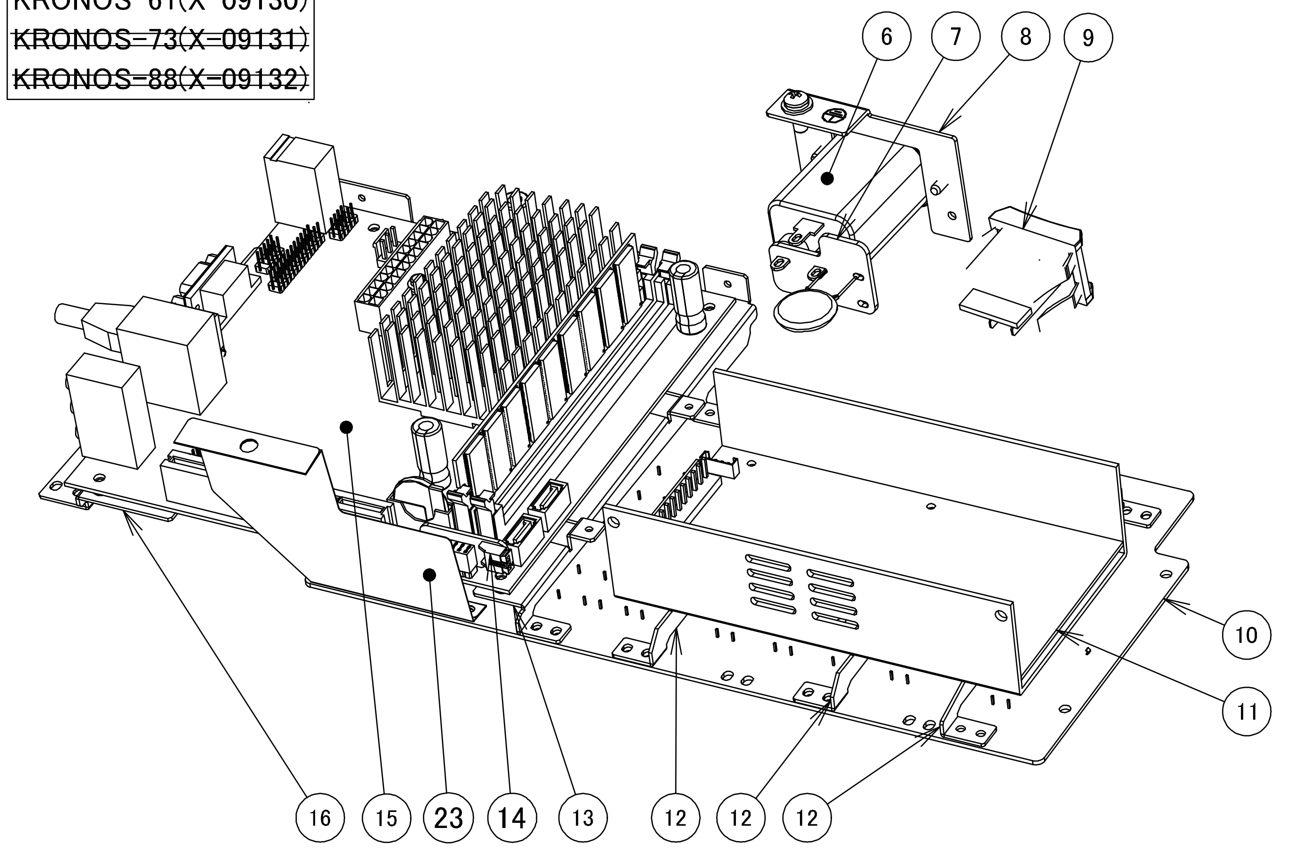
~~KRONOS-88(X-09132)~~



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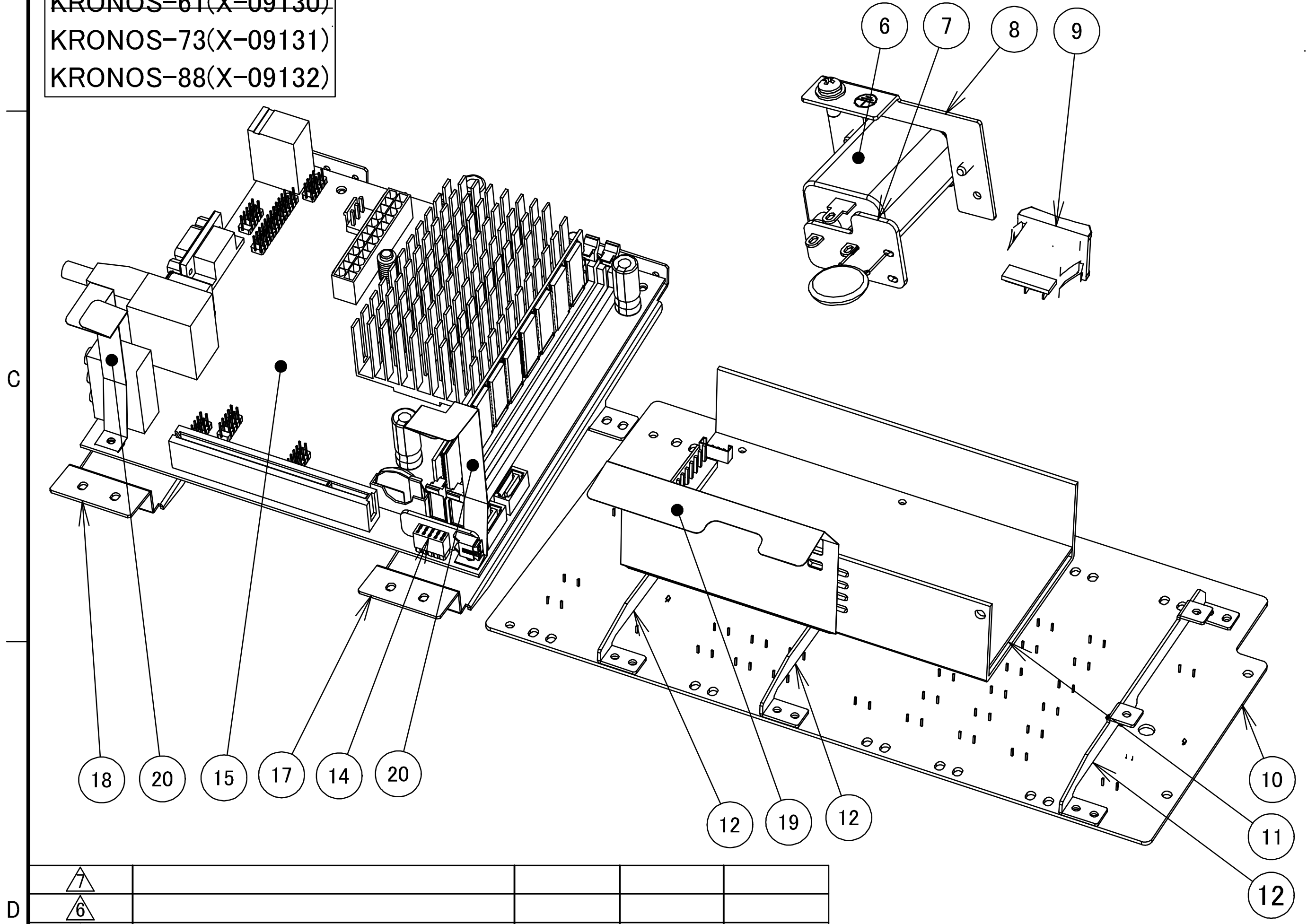
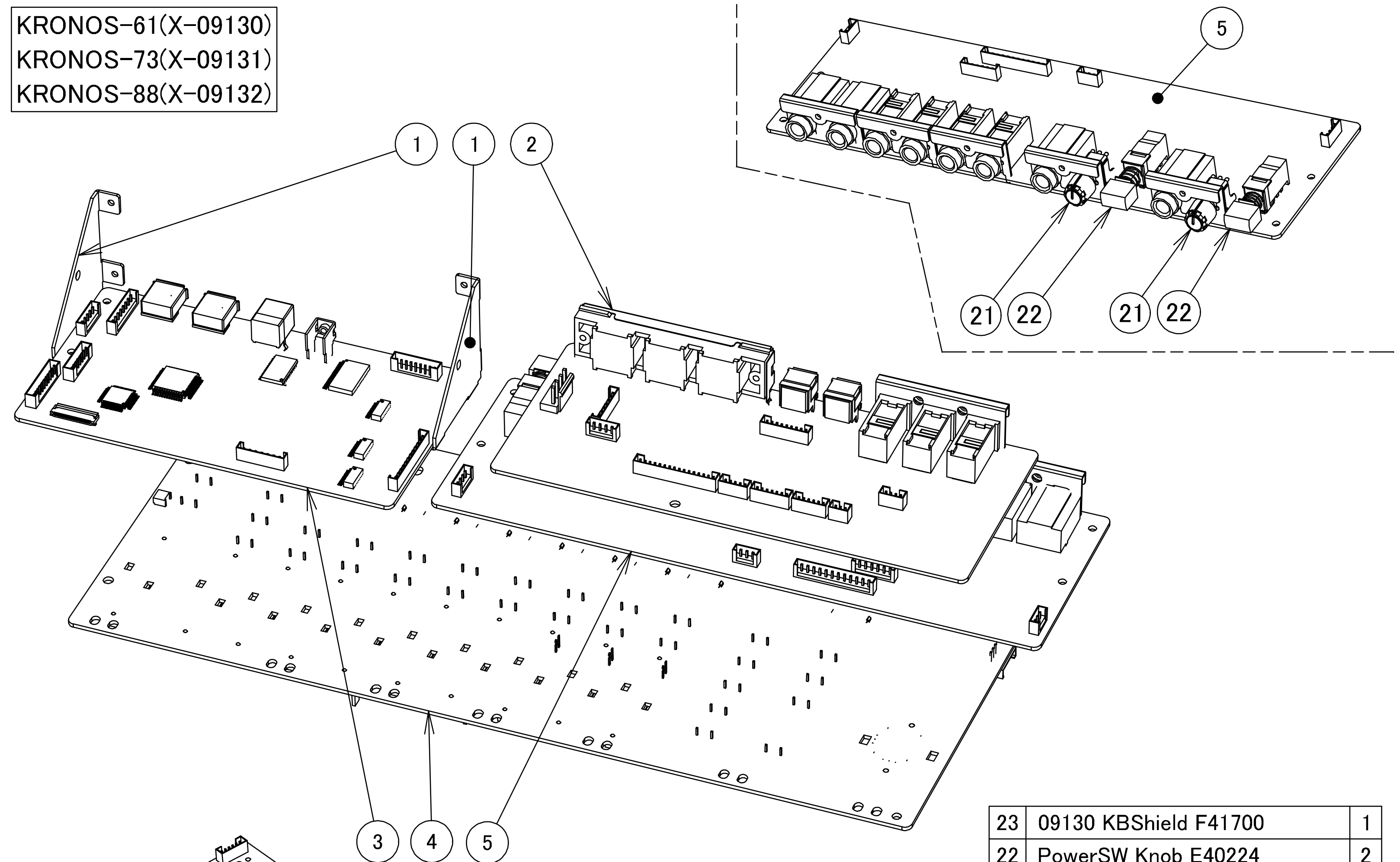
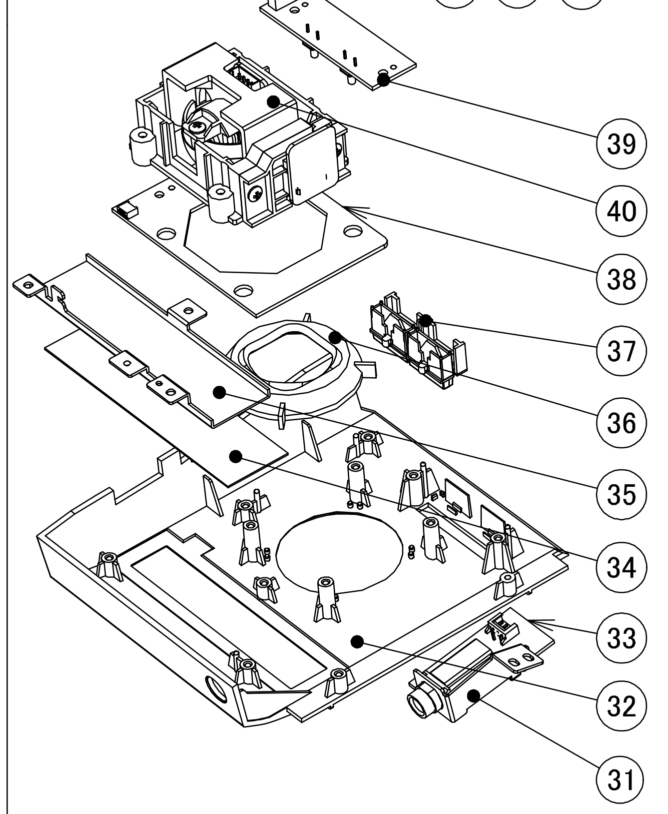
KRONOS-73(X-09131)
KRONOS-88(X-09132)



KRONOS-61(X-09130)
KRONOS-73(X-09131)
KRONOS-88(X-09132)





No.	Parts Name	Qty.
40	KLM-2705 (JSY)	1
40	KLM-2704 (JSX)	1
40	X-0100 JSWasher F40979	2
40	X-0100 WheelSpring C41222	2
40	X4100 JSPlate E40704	1
40	X4100 JSFrame E30456	1
40	X4100 JSWheel Support E30455	1
40	X4100 JSWheel E40703	1
40	X4100 JSCover E40702-2	1
39	KLM-3010 (SW1-2)	1
38	KLM-3011 (JS-LED)	1
37	09130 Key-L-1 E40803-2	2
36	09130 JSReflector E40747-2	1
35	X4100 FSR Angle2 C41489	1
34	KX-2100(Sensor) Black	1
33	KLM-3009 (HP)	1
32	09130 JSPanel E30576	1
31	09130 HPAngle C41706	1

No.	Parts Name	Qty.
23	09130 KBShield F41700	1
22	PowerSW Knob E40224	2
21	Rotary VR Knob E48026-1	2
20	09131 MBShield F41701	2
19	09131 PWRShield F41702	1
18	09131 MBAngle-A C30848-1	1
17	09131 MBAngle-B C30848-2	1
16	09130 MBAngle-A C30851	1
15	MotherBoard	1
14	KLM-3008 (BootSupport)	1
13	09130 MBAngle-B C41709	1
12	09130 PCBAngle C41708	3
11	PowerUnit	1
10	KLM-3004 (Panel-R)	1
9	PowerSW + Barrier	1
8	X4210 PWChassis C41501	1
7	KLM-3102 (Inlet)	1
6	ACInlet (SUP-J3G-E2A)	1
5	KLM-3006 (A-Jack)	1
4	KLM-3003 (Panel-L)	1
3	KLM-3002 (Main)	1
2	KLM-3005 (D-Jack)	1
1	09130 PCBStay C41707	2

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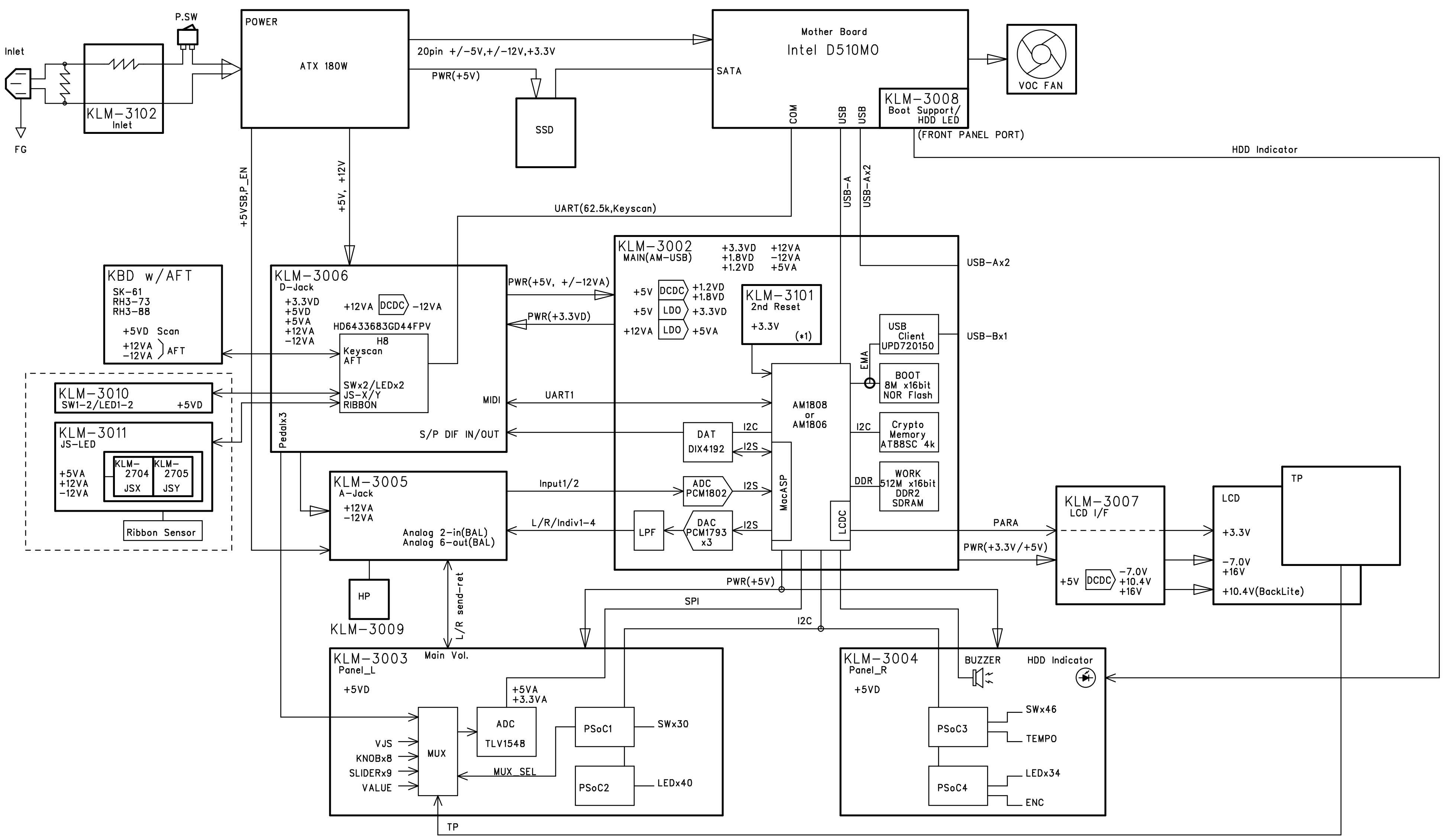
Inlet
FG
P.SW
KLM-3102
Inlet
POWER
ATX 180W
20pin +/-5V,+/-12V,+3.3V
PWR(+5V)
SSD
Mother Board
Intel D510MO
SATA
COM
USB
USB
KLM-3008
Boot Support/
HDD LED
(FRONT PANEL PORT)
VOC FAN
HDD Indicator
+5VSB,P_EN
+5V, +12V
UART(62.5k,Keyscan)
USB-A
USB-Ax2
KBD w/AFT
SK-61
RH3-73
RH3-88
+5VD Scan
+12VA
-12VA
AFT
KLM-3006
D-Jack
+3.3VD
+5VD
+5VA
+12VA
-12VA
+12VA DCDC -12VA
HD6433683GD44FPV
H8
Keyscan
AFT
SWx2/LEDx2
JS-X/Y
RIBBON
MIDI
S/P DIF IN/OUT
Pedalx3
PWR(+5V, +/-12VA)
PWR(+3.3VD)
UART1
KLM-3010
SW1-2/LED1-2
+5VD
KLM-3011
JS-LED
+5VA
+12VA
-12VA
KLM-2704
JSX
KLM-2705
JSY
Ribbon Sensor
KLM-3002
MAIN(AM-USB)
+3.3VD
+1.8VD
+1.2VD
+12VA
-12VA
+5VA
+5V DCDC +1.2VD +1.8VD
+5V LDO +3.3VD
+12VA LDO +5VA
KLM-3101
2nd Reset
+3.3V
(*1)
USB-Ax2
USB Client
UPD720150
USB-Bx1
EMA
BOOT
8M x16bit
NOR Flash
AM1808
or
AM1806
I2C
Crypto
Memory
AT88SC 4k
DDR
WORK
512M x16bit
DDR2
SDRAM
DAT
DIX4192
I2C
I2S
MacASP
ADC
PCM1802
I2S
DAC
PCM1793
x3
I2S
LPF
LCDC
Input1/2
L/R/Indiv1-4
KLM-3005
A-Jack
+12VA
-12VA
Analog 2-in(BAL)
Analog 6-out(BAL)
HP
KLM-3009
L/R send-ret
PARA
PWR(+3.3V/+5V)
KLM-3007
LCD I/F
+5V DCDC -7.0V +10.4V +16V
LCD
TP
+3.3V
-7.0V
+16V
+10.4V(BackLite)
PWR(+5V)
SPI
I2C
KLM-3003
Panel_L
Main Vol.
+5VD
+5VA
+3.3VA
ADC
TLV1548
PSoC1
SWx30
PSoC2
LEDx40
MUX
VJS
KNOBx8
SLIDERx9
VALUE
MUX SEL
TP
KLM-3004
Panel_R
+5VD
BUZZER
HDD Indicator
PSoC3
SWx46
TEMPO
PSoC4
LEDx34
ENC

(*1) KLM-3101は、J-3,4,5 LOTのみ使用する

(*1) KLM-3101 uses only J-3,4,5 LOT.

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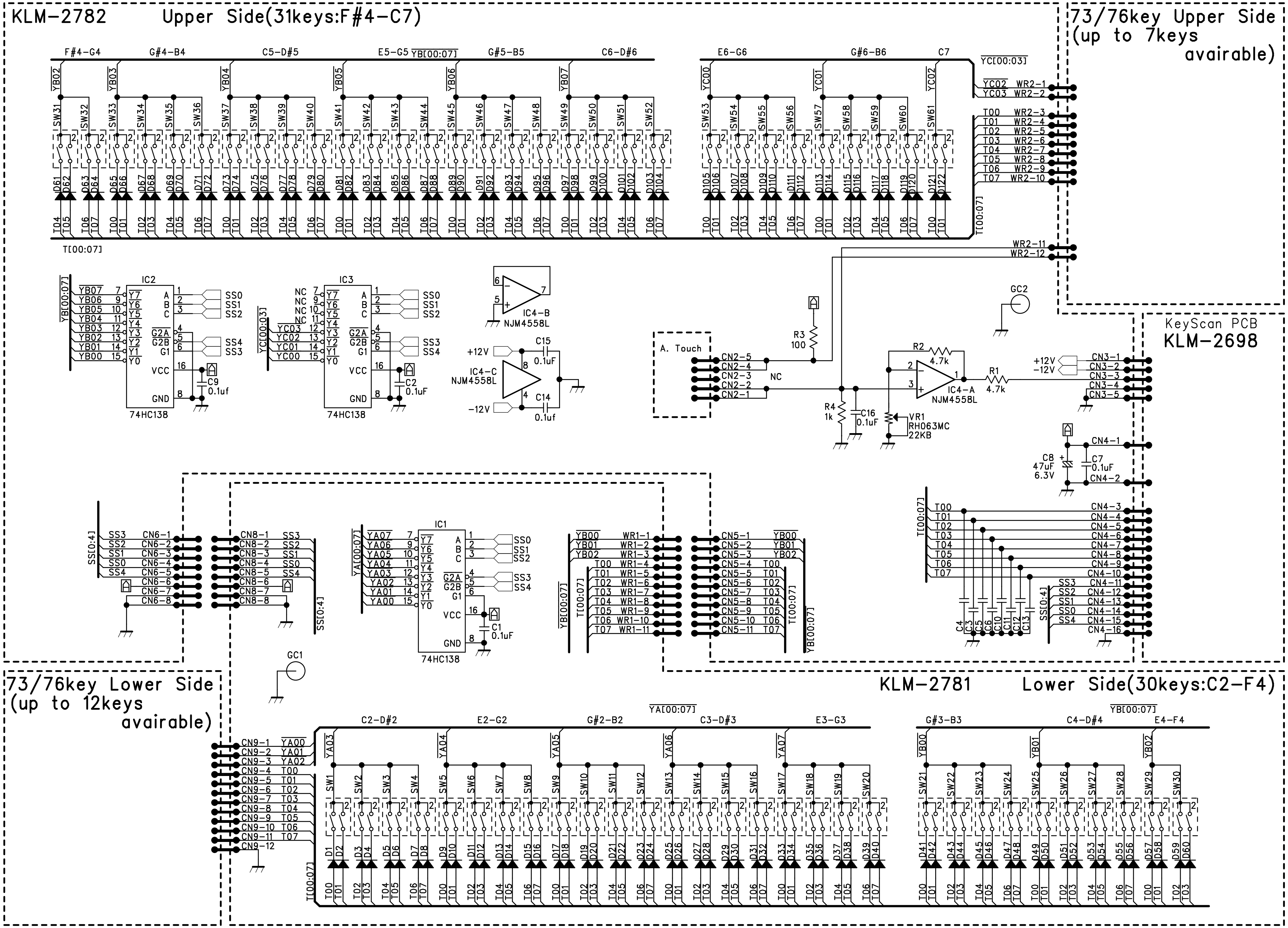
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL X-09130/09131/09132
S.Nomura			TITLE Block Diagram
KORG	DRAWING NO. KOD-B30116		DATE '11.01.26


KLM-2782 Upper Side(31keys:F#4-C7)
73/76key Upper Side (up to 7keys avairable)
F#4-G4
G#4-B4
C5-D#5
E5-G5
G#5-B5
C6-D#6
E6-G6
G#6-B6
C7
YB[00:07]
YC[00:03]
T[00:07]
SW31 – SW61
D61 – D122
WR2-1 – WR2-12
IC2
IC3
74HC138
IC4-B
NJM4558L
IC4-C
IC4-A
+12V
-12V
C15 0.1uF
C14 0.1uF
C9 0.1uf
C2 0.1uF
SS0
SS1
SS2
SS3
SS4
NC
GC2
A. Touch
CN2-1 – CN2-5
R3 100
R2 4.7k
R1 4.7k
R4 1k
C16 0.1uF
VR1 RH063MC 22KB
KeyScan PCB
KLM-2698
CN3-1 – CN3-5
CN4-1 – CN4-16
C8 47uF 6.3V
C7 0.1uF
C3 – C13
SS[0:4]
CN6-1 – CN6-8
CN8-1 – CN8-8
IC1
YA[00:07]
C1 0.1uF
WR1-1 – WR1-11
CN5-1 – CN5-11
GC1
73/76key Lower Side (up to 12keys avairable)
KLM-2781 Lower Side(30keys:C2-F4)
CN9-1 – CN9-12
C2-D#2
E2-G2
G#2-B2
C3-D#3
E3-G3
G#3-B3
C4-D#4
E4-F4
SW1 – SW30
D1 – D60

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1: First Contact Point
2: Second Contact Point

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL Single-61/73/76
S.Nomura	S.Nomura	TAMURA '06.10.23	TITLE Single KBD Share PCB KLM-2781/82 CIRCUIT DIAGRAM

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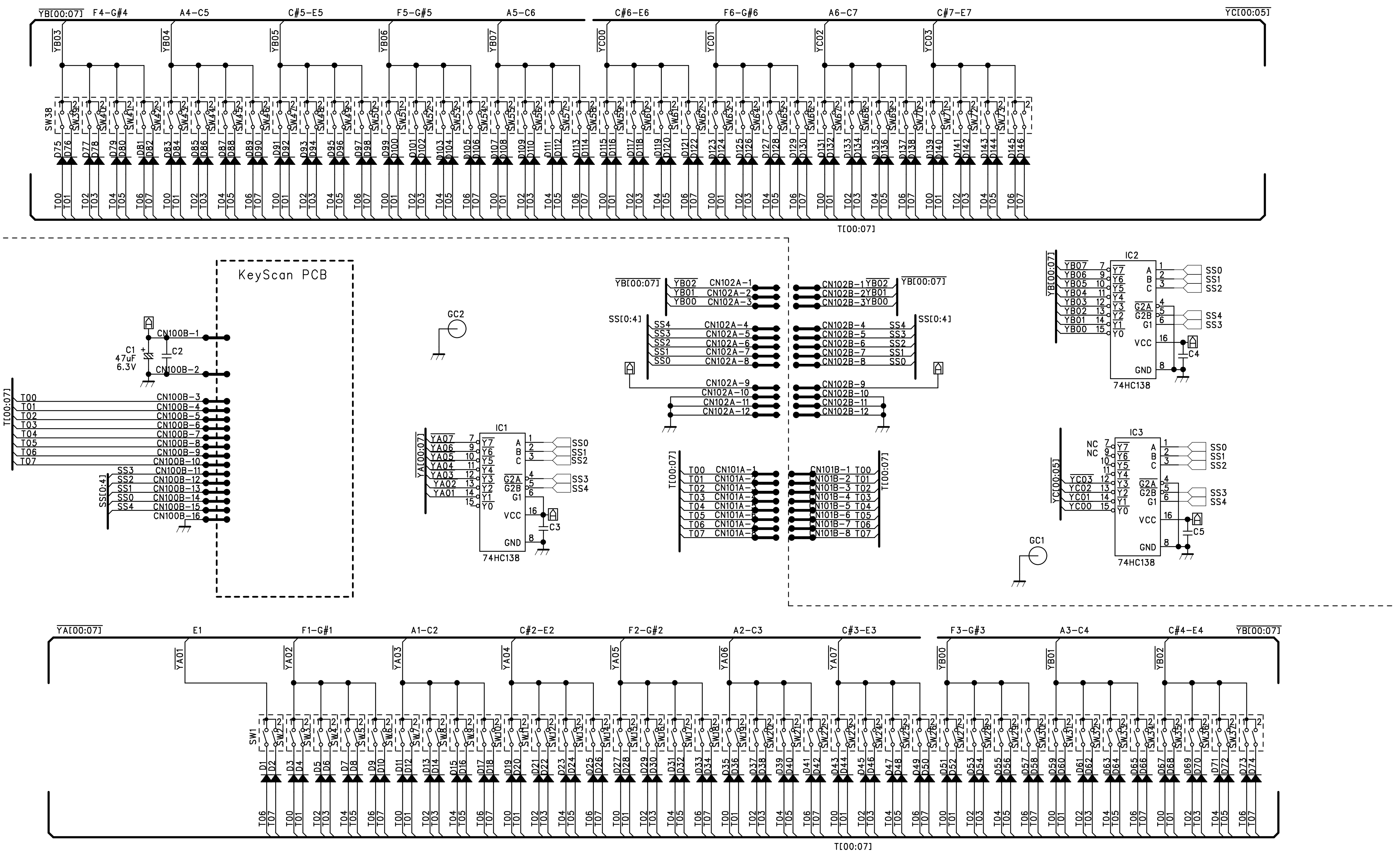
DRAWING NO. KOD-A30722

DATE 060601

KLM-2946 Upper Side(36keys:F4-E7)


YB[00:07]
F4-G#4
A4-C5
C#5-E5
F5-G#5
A5-C6
C#6-E6
F6-G#6
A6-C7
C#7-E7
YC[00:05]
YB03
YB04
YB05
YB06
YB07
YC00
YC01
YC02
YC03
SW38 … SW74
D75 … D146
T00 T01 T02 T03 T04 T05 T06 T07
T[00:07]
KeyScan PCB
C1 47uF 6.3V
C2
CN100B-1 … CN100B-16
SS[0:4]
SS0 SS1 SS2 SS3 SS4
GC2
GC1
IC1
IC2
IC3
74HC138
YA[00:07]
YA07 YA06 YA05 YA04 YA03 YA02 YA01
YB07 YB06 YB05 YB04 YB03 YB02 YB01 YB00
YC03 YC02 YC01 YC00
NC
A B C
G2A G2B G1
VCC
GND
Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0
C3
C4
C5
CN102A-1 … CN102A-12
CN102B-1 … CN102B-12
CN101A-1 … CN101A-8
CN101B-1 … CN101B-8
E1
F1-G#1
A1-C2
C#2-E2
F2-G#2
A2-C3
C#3-E3
F3-G#3
A3-C4
C#4-E4
YA01 YA02 YA03 YA04 YA05 YA06 YA07
YB00 YB01 YB02
SW1 … SW37
D1 … D74

KLM-2945 Lower Side(37keys:E1-E4)

1: First Contact Point
2: Second Contact Point

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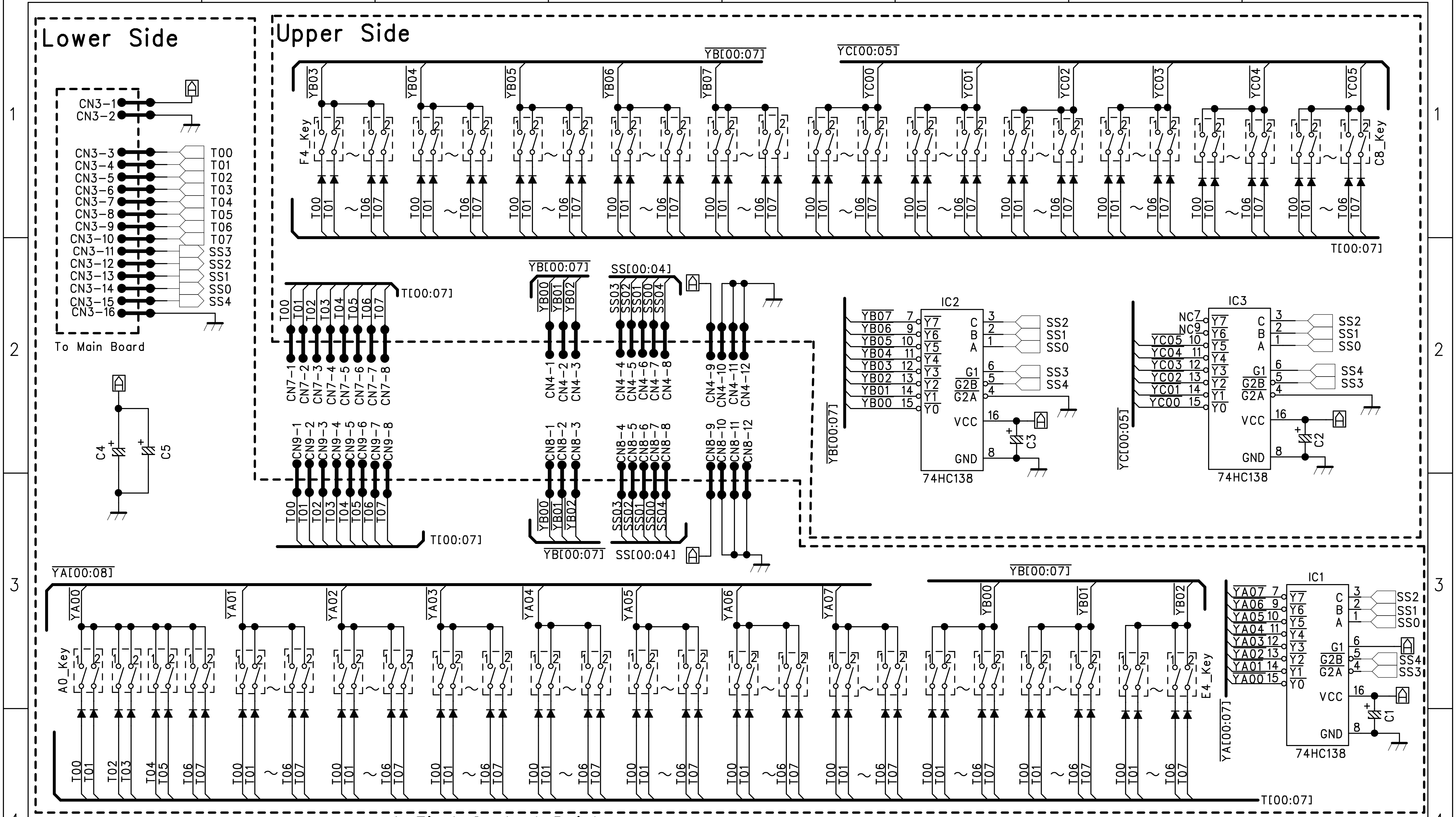
m.Hoshino	Technics		TITLE RH-3-73 KLM-2945/46 CIRCUIT DIAGRAM
KORG	DRAWING NO. KOD-A30814		DATE 080804


Lower Side
Upper Side
CN3-1
CN3-2
CN3-3
CN3-4
CN3-5
CN3-6
CN3-7
CN3-8
CN3-9
CN3-10
CN3-11
CN3-12
CN3-13
CN3-14
CN3-15
CN3-16
T00
T01
T02
T03
T04
T05
T06
T07
SS3
SS2
SS1
SS0
SS4
To Main Board
C4
C5
YB[00:07]
YC[00:05]
F4_Key
C8_Key
T[00:07]
CN7-1
CN7-2
CN7-3
CN7-4
CN7-5
CN7-6
CN7-7
CN7-8
CN9-1
CN9-2
CN9-3
CN9-4
CN9-5
CN9-6
CN9-7
CN9-8
CN4-1
CN4-2
CN4-3
CN4-4
CN4-5
CN4-6
CN4-7
CN4-8
CN4-9
CN4-10
CN4-11
CN4-12
CN8-1
CN8-2
CN8-3
CN8-4
CN8-5
CN8-6
CN8-7
CN8-8
CN8-9
CN8-10
CN8-11
CN8-12
SS[00:04]
IC2
IC3
IC1
74HC138
VCC
GND
G1
G2B
G2A
C
B
A
NC
C1
C2
C3
YA[00:08]
A0_Key
E4_Key

1: First Contact Point
2: Second Contact Point

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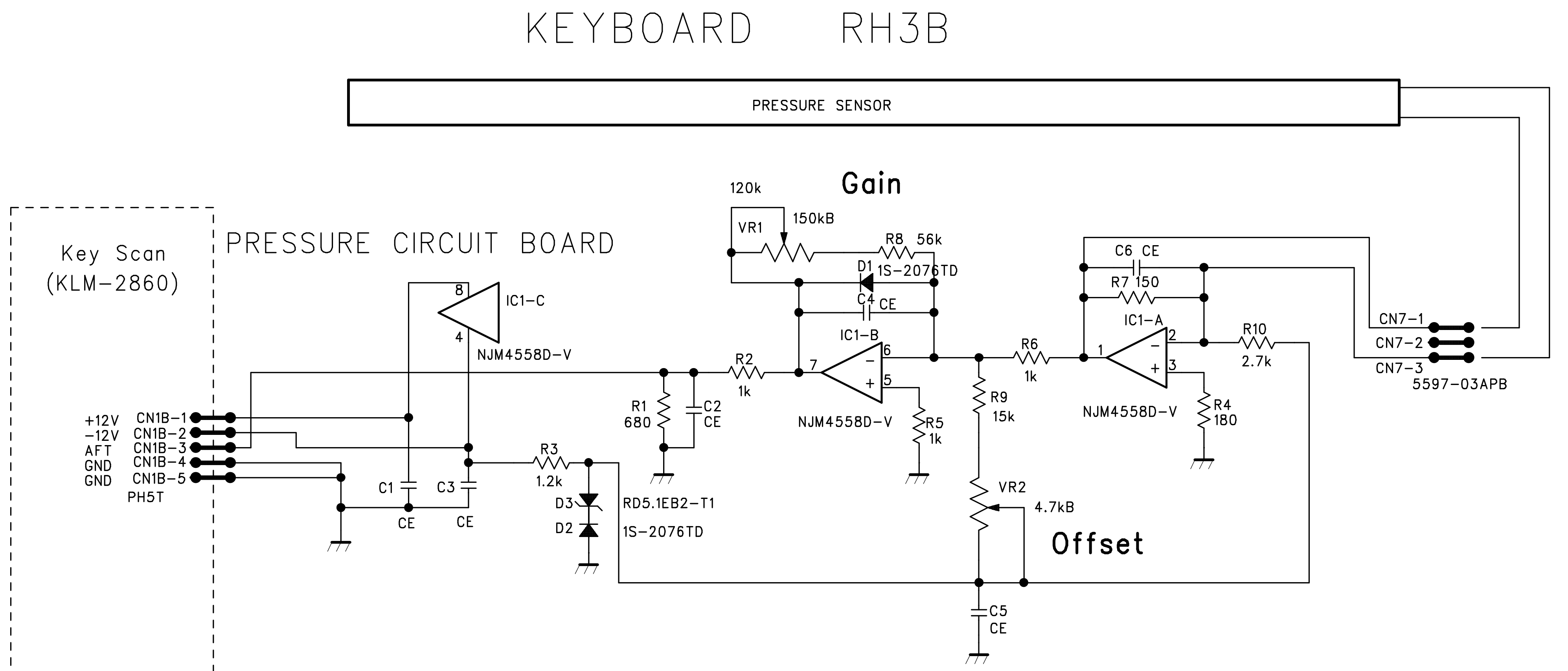
DRAWN BY	DESIGNED BY	CHECKED BY	CHECKED BY	MODEL RH-3
Yomogita	Yomogita			TITLE RH-3 88Key KEYBOARD CIRCUIT DIAGRAM

KORG

DRAWING NO. KOD-A40582

DATE '04.10.12


KEYBOARD RH3B
PRESSURE SENSOR
Key Scan
(KLM-2860)
PRESSURE CIRCUIT BOARD
Gain
120k
VR1
150kB
R8 56k
D1 1S-2076TD
C4 CE
IC1-B
7
6
5
NJM4558D-V
R5
1k
IC1-C
8
4
NJM4558D-V
+12V CN1B-1
-12V CN1B-2
AFT CN1B-3
GND CN1B-4
GND CN1B-5
PH5T
C1
CE
C3
CE
R3
1.2k
D3
D2
RD5.1EB2-T1
1S-2076TD
R2
1k
R1
680
C2
CE
R9
15k
VR2
4.7kB
Offset
C5
CE
R6
1k
C6 CE
R7 150
IC1-A
1
2
3
NJM4558D-V
R4
180
R10
2.7k
CN7-1
CN7-2
CN7-3
5597-03APB

CE: UP050F104Z-A-BZ, 0.1uF

MARK	REVISION REASON	DATE	REVISED BY
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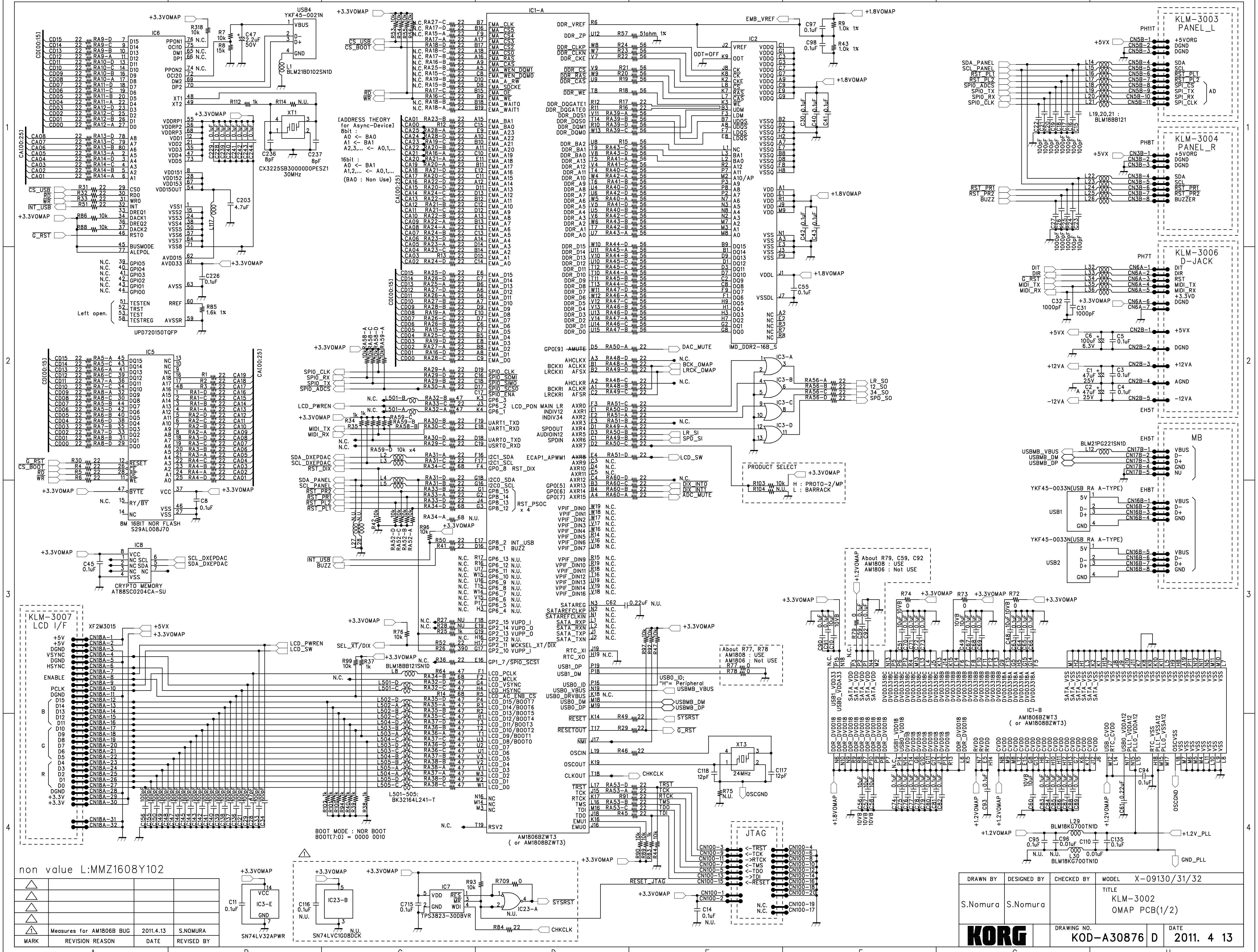
DRAWN BY	DESIGNED BY	CHECKED BY	CHECKED BY	MODEL X-4120
S.Kamachi	S.Kamachi			TITLE RH3B KLM-2702 AFTER PCB CIRCUIT DIAGRAM

KORG	DRAWING NO. KOD-A40644	DATE '07.03.14


IC1-A
AM1806BZWT3
(or AM1808BZWT3)
IC1-B
AM1806BZWT3
(or AM1808BZWT3)
IC2
IMD_DDR2-16B_S
IC6
UPD720150TQFP
IC5
8M 16BIT NOR FLASH
S29AL008J70
IC8
CRYPTO MEMORY
AT88SC0204CA-SU
USB4
YKF45-0021N
L1
BLM21BD102SN1D
XT1
CX3225SB30000D0PESZ1
30MHz
XT3
24MHz
IC3-A
IC3-B
IC3-C
IC3-D
IC3-E
SN74LV32APWR
IC23-A
IC23-B
SN74LVC1G08DCK
IC7
TPS3823-30DBVR
[ADDRESS THEORY
for Async-Device]
8bit :
A0 <- BA0
A1 <- BA1
A2,3,... <- A0,1,...
16bit :
A0 <- BA1
A1,2,... <- A0,1,...
(BA0 : Non Use)
Left open.
KLM-3003
PANEL_L
KLM-3004
PANEL_R
KLM-3006
D-JACK
MB
KLM-3007
LCD I/F
XF2M3015
L19,20,21 :
BLM18BB121
BLM21PG221SN1D
YKF45-0033N(USB RA A-TYPE)
USB1
USB2
PRODUCT SELECT
H : PROTO-2/MP
L : BARRACK
About R79, C59, C92
AM1808 : USE
AM1806 : Not USE
About R77, R78
AM1808 : USE
AM1806 : Not USE
"H"= Peripheral
BOOT MODE : NOR BOOT
BOOT[7:0] = 0000 0010
L501-505:
BK32164L241-T
JTAG
BLM18KG700TN1D
+1.2V_PLL
GND_PLL
+3.3VOMAP
+1.8VOMAP
+1.2VOMAP
+5VX
+12VA
-12VA
SYSRST
CHKCLK
RESET_JTAG

non value L:MMZ1608Y102

MARK	REVISION REASON	DATE	REVISED BY
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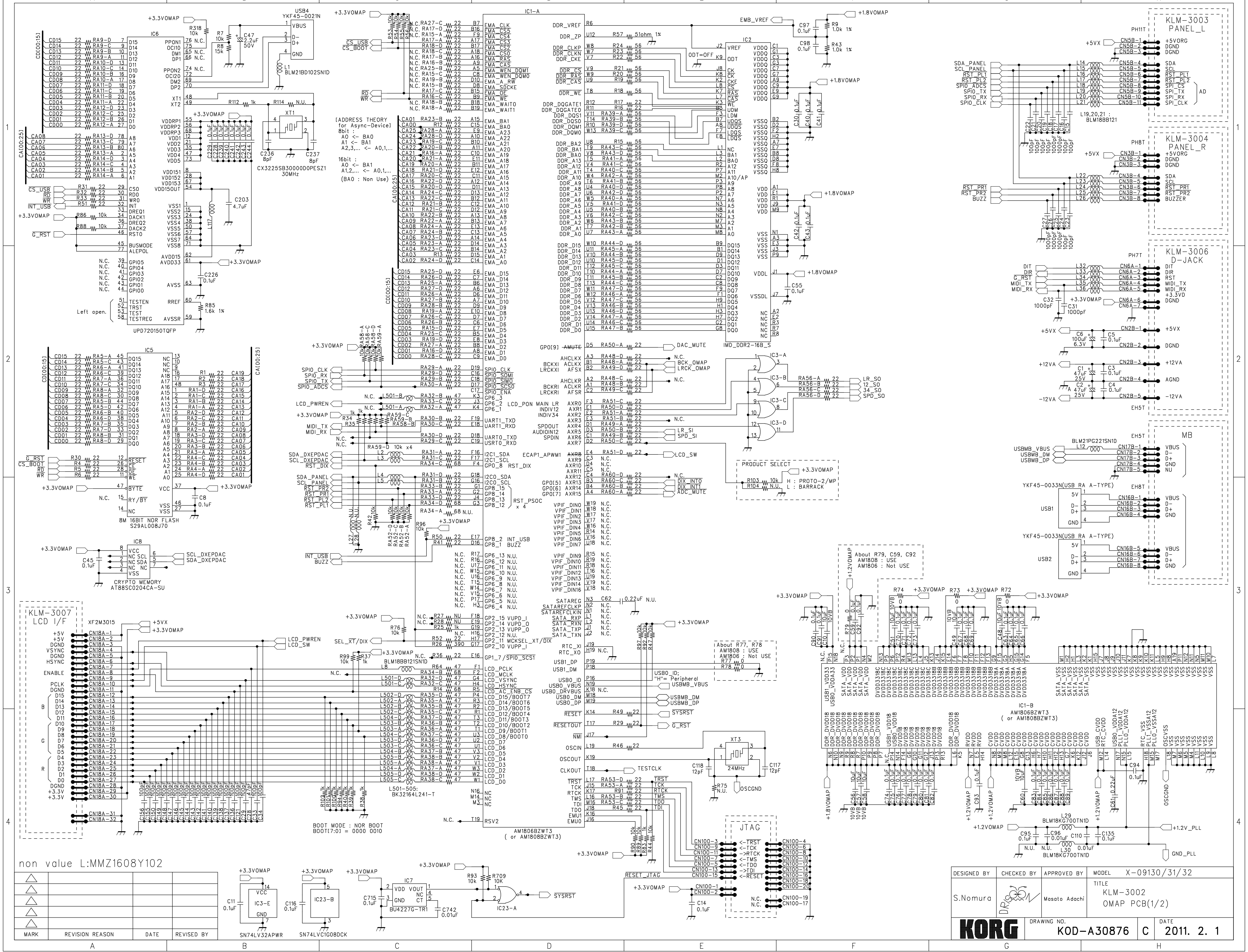
△1	Measures for AM1806B BUG	2011.4.13	S.NOMURA

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL X-09130/31/32
S.Nomura	S.Nomura		TITLE KLM-3002 OMAP PCB(1/2)
KORG		DRAWING NO. KOD-A30876 D	DATE 2011. 4 13


IC1-A
AM1806BZWT3
(or AM1808BZWT3)
IC1-B
AM1806BZWT3
(or AM1808BZWT3)
IC2
IMD_DDR2-16B_S
IC6
UPD720150TQFP
IC5
8M 16BIT NOR FLASH
S29AL008J70
IC8
CRYPTO MEMORY
AT88SC0204CA-SU
USB4
YKF45-0021N
L1
BLM21BD102SN1D
XT1
CX3225SB30000D0PESZ1
30MHz
XT3
24MHz
IC3-A
IC3-B
IC3-C
IC3-D
IC3-E
SN74LV32APWR
IC23-A
IC23-B
SN74LVC1G08DCK
IC7
BU4227G-TR1
[ADDRESS THEORY
for Async-Device]
8bit :
A0 <- BA0
A1 <- BA1
A2,3,... <- A0,1,...
16bit :
A0 <- BA1
A1,2,... <- A0,1,...
(BA0 : Non Use)
Left open.
KLM-3003
PANEL_L
KLM-3004
PANEL_R
KLM-3006
D-JACK
MB
KLM-3007
LCD I/F
XF2M3015
L19,20,21 :
BLM18BB121
BLM21PG221SN1D
YKF45-0033N(USB RA A-TYPE)
USB1
USB2
PRODUCT SELECT
H : PROTO-2/MP
L : BARRACK
About R79, C59, C92
AM1808 : USE
AM1806 : Not USE
About R77, R78
AM1808 : USE
AM1806 : Not USE
USB0_ID;
"H"= Peripheral
BOOT MODE : NOR BOOT
BOOT[7:0] = 0000 0010
L501-505:
BK32164L241-T
BLM18BB121SN1D
L29
BLM18KG700TN1D
L30
BLM18KG700TN1D
JTAG
+3.3VOMAP
+1.8VOMAP
+1.2VOMAP
+5VX
+12VA
-12VA
+1.2V_PLL
GND_PLL
OSCGND
SYSRST
RESET_JTAG
TESTCLK
DAC_MUTE
LCD_SW
LCD_PWREN
SEL_XT/DIX
USBMB_VBUS
USBMB_DM
USBMB_DP
SDA_DXEPDAC
SCL_DXEPDAC
SDA_PANEL
SCL_PANEL
RST_PL1
RST_PL2
RST_PR1
RST_PR2
BUZZ
INT_USB
G_RST
MIDI_TX
MIDI_RX
DIT
DIR
BCK_OMAP
LRCK_OMAP
LR_SO
12_SO
34_SO
SPD_SO
LR_SI
SPD_SI
DIX_INT0
DIX_INT1
ADC_MUTE
SPI0_CLK
SPI0_RX
SPI0_TX
SPI0_ADCS
CN5B
CN3B
CN6A
CN2B
CN17B
CN16B
CN18A
CN100
EH5T
EH8T
PH11T
PH8T
PH7T

non value L:MMZ1608Y102

MARK	REVISION REASON	DATE	REVISED BY
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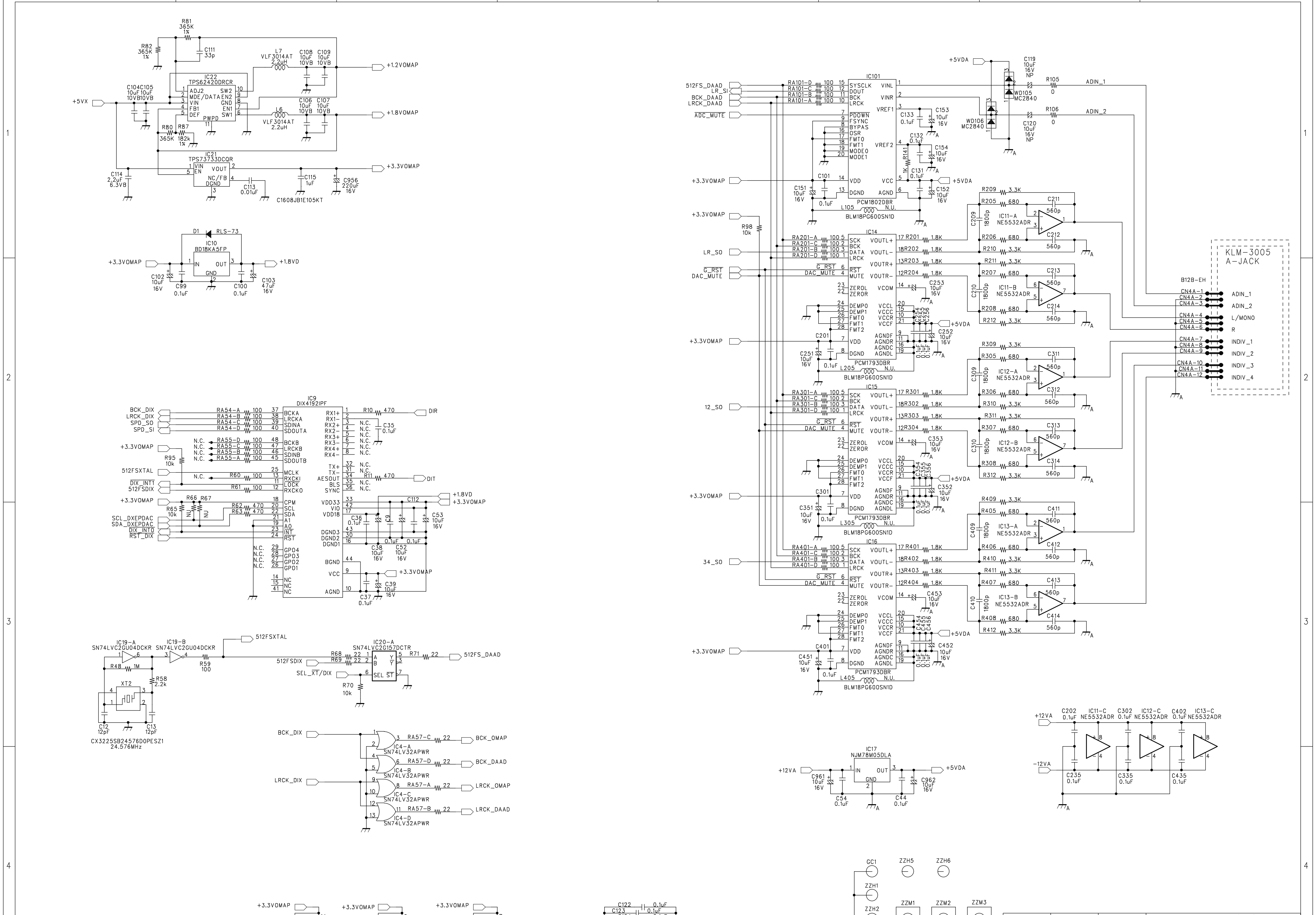
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura		Masato Adachi	TITLE KLM-3002 OMAP PCB(1/2)

KORG

DRAWING NO. KOD-A30876 C

DATE 2011. 2. 1


A
B
C
D
E
F
G
H
1
2
3
4
IC22
TPS62420DRCR
+5VX
+1.2VOMAP
+1.8VOMAP
L7
VLF3014AT
2.2uH
L6
VLF3014AT
2.2uH
R81
365K
1%
R82
365K
1%
C111
33p
C104 C105
10uF 10uF
10VB 10VB
R80
365K
R87
182k
1%
IC21
TPS73733DCQR
+3.3VOMAP
C114
2.2uF
6.3VB
C113
0.01uF
C115
1uF
C956
220uF
16V
C1608JB1E105KT
D1
RLS-73
IC10
BD18KA5FP
+3.3VOMAP
+1.8VD
C102
10uF
16V
C99
0.1uF
C100
0.1uF
C103
47uF
16V
IC9
DIX4192IPF
BCK_DIX
LRCK_DIX
SPD_SO
SPD_SI
512FSXTAL
DIX_INT1
512FSDIX
SCL_DXEPDAC
SDA_DXEPDAC
DIX_INT0
RST_DIX
R10
470
DIR
R11
470
DIT
+1.8VD
+3.3VOMAP
C35
0.1uF
C112
C53
10uF
16V
C36
0.1uF
C38
10uF
16V
C52
10uF
16V
C37
0.1uF
C39
10uF
16V
IC19-A
SN74LVC2GU04DCKR
IC19-B
SN74LVC2GU04DCKR
R48
1M
R58
2.2k
R59
100
XT2
C12
12pF
C13
12pF
CX3225SB24576D0PESZ1
24.576MHz
512FSXTAL
IC20-A
SN74LVC2G157DCTR
512FSDIX
SEL_XT/DIX
R68
22
R69
22
R70
10k
R71
22
512FS_DAAD
BCK_DIX
LRCK_DIX
IC4-A
SN74LV32APWR
IC4-B
SN74LV32APWR
IC4-C
SN74LV32APWR
IC4-D
SN74LV32APWR
RA57-C
RA57-D
RA57-A
RA57-B
BCK_OMAP
BCK_DAAD
LRCK_OMAP
LRCK_DAAD
+3.3VOMAP
IC4-E
SN74LV32APWR
C7
0.1uF
IC19-C
SN74LVC2GU04DCKR
C46
0.1uF
IC20-B
SN74LVC2G157DCTR
C50
0.1uF
C122 0.1uF
C123 0.1uF
C124 0.1uF
C125 0.1uF
C126 0.1uF
C127 0.1uF
C128 0.1uF
C129 0.1uF
C130 0.1uF
C134 0.1uF
IC101
PCM1802DBR
512FS_DAAD
LR_SI
BCK_DAAD
LRCK_DAAD
ADC_MUTE
+5VDA
WD105
MC2840
WD106
MC2840
C119
10uF
16V
NP
C120
10uF
16V
NP
R105
0
R106
0
ADIN_1
ADIN_2
L105
BLM18PG600SN1D
IC14
PCM1793DBR
LR_SO
G_RST
DAC_MUTE
R98
10k
IC11-A
NE5532ADR
IC11-B
NE5532ADR
L205
BLM18PG600SN1D
IC15
PCM1793DBR
12_SO
IC12-A
NE5532ADR
IC12-B
NE5532ADR
L305
BLM18PG600SN1D
IC16
PCM1793DBR
34_SO
IC13-A
NE5532ADR
IC13-B
NE5532ADR
L405
BLM18PG600SN1D
KLM-3005
A-JACK
B12B-EH
CN4A-1 ADIN_1
CN4A-2 ADIN_2
CN4A-3
CN4A-4 L/MONO
CN4A-5 R
CN4A-6
CN4A-7 INDIV_1
CN4A-8 INDIV_2
CN4A-9
CN4A-10 INDIV_3
CN4A-11 INDIV_4
CN4A-12
IC17
NJM78M05DLA
+12VA
+5VDA
C961
10uF
16V
C54
0.1uF
C44
0.1uF
C962
10uF
16V
+12VA
-12VA
C202 0.1uF
IC11-C NE5532ADR
C302 0.1uF
IC12-C NE5532ADR
C402 0.1uF
IC13-C NE5532ADR
C235 0.1uF
C335 0.1uF
C435 0.1uF
GC1
ZZH1
ZZH2
ZZH3
ZZH4
ZZH5
ZZH6
ZZM1
ZZM2
ZZM3
ZZM4
ZZ100
FD_MARK
ZZ101
FD_MARK

MARK	REVISION REASON	DATE	REVISED BY
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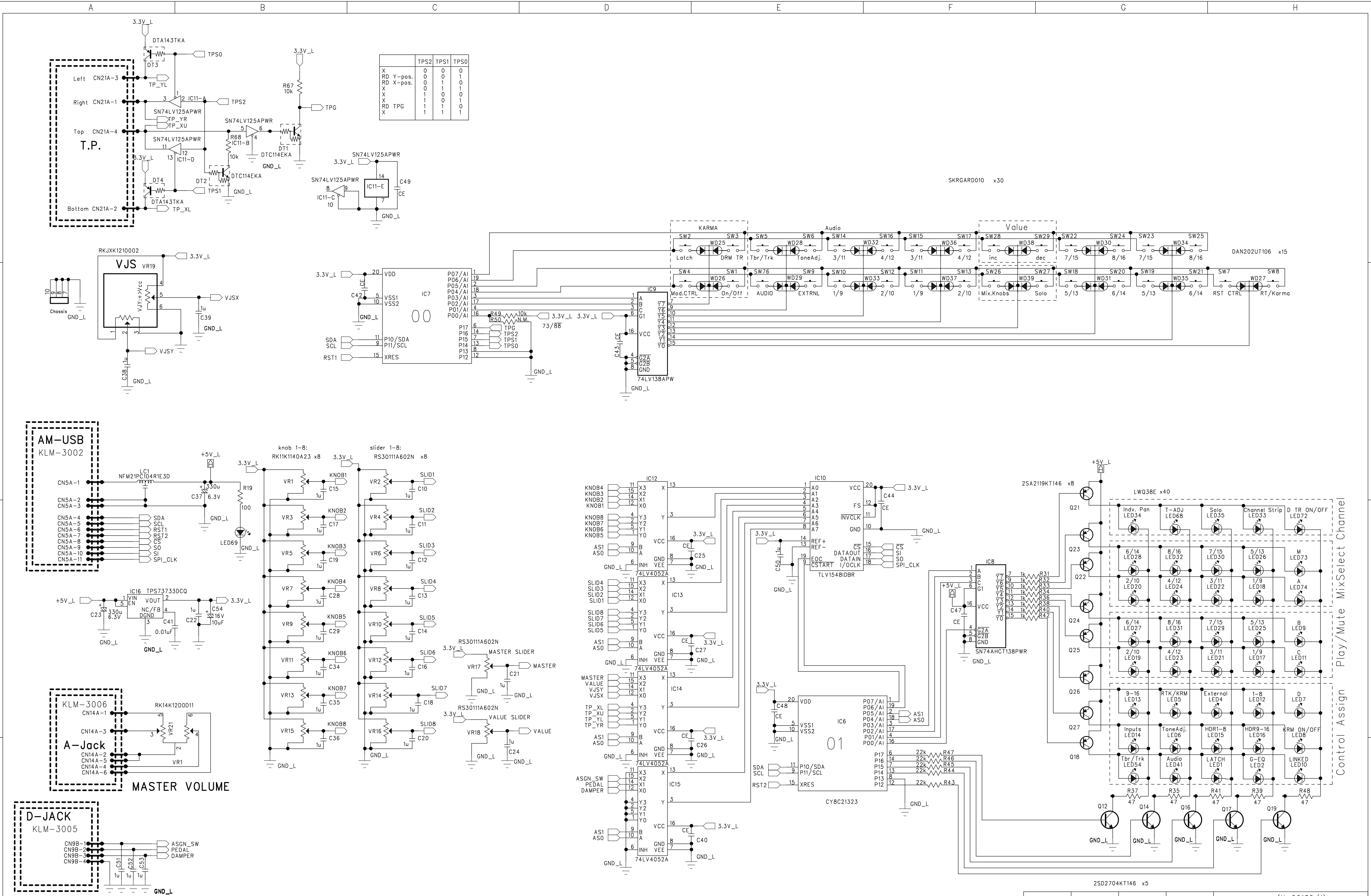
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura		Masato Adachi	TITLE KLM-3002 OMAP PCB(2/2)
KORG	DRAWING NO. KOD-A30882	C	DATE 2010.11.11


T.P.
Left CN21A-3
Right CN21A-1
Top CN21A-4
Bottom CN21A-2
DTA143TKA
DT3
DT4
TPS0
TP_YL
TPS2
TP_YR
TP_XU
TPS1
TP_XL
IC11-A
IC11-B
IC11-C
IC11-D
IC11-E
SN74LV125APWR
DTC114EKA
DT1
DT2
R67 10k
R68 10k
TPG
C49 CE
3.3V_L
GND_L
SKRGARD010 x30
DAN202UT106 x15
KARMA
Audio
Value
SW2 SW3 Latch DRM TR
SW4 SW1 Mod.CTRL On/Off
SW5 SW6 Tbr/Trk ToneAdj.
SW76 SW9 AUDIO EXTRNL
SW14 SW16 3/11 4/12
SW10 SW12 1/9 2/10
SW15 SW17 3/11 4/12
SW11 SW13 1/9 2/10
SW28 SW29 inc dec
SW26 SW27 Mix.Knobs Solo
SW22 SW24 7/15 8/16
SW18 SW20 5/13 6/14
SW23 SW25 7/15 8/16
SW19 SW21 5/13 6/14
SW7 SW8 RST CTRL RT/Karma
WD25 WD26 WD28 WD29 WD32 WD33 WD36 WD37 WD38 WD39 WD30 WD31 WD34 WD35 WD27
IC7 00
VDD VSS1 VSS2
P07/AI P06/AI P05/AI P04/AI P03/AI P02/AI P01/AI P00/AI
P10/SDA P11/SCL XRES
P17 P16 P15 P14 P13 P12
SDA SCL RST1
C42 CE
R49 10k
R50 N.M.
73/88
IC9 74LV138APW
C43 CE
RKJXK1210002
VJS VR19
VJY:+>Vcc
VJSX
VJSY
C39 1u
C38 1u
Chassis
AM-USB KLM-3002
CN5A-1 CN5A-2 CN5A-3 CN5A-4 CN5A-5 CN5A-6 CN5A-7 CN5A-8 CN5A-9 CN5A-10 CN5A-11
SDA SCL RST1 RST2 CS SO SI SPI_CLK
LC1 NFM21PC104R1E3D
+5V_L
C37 330u 6.3V
R19 100
LED69
IC16 TPS73733DCQ
VIN EN VOUT NC/FB DGND
C23 330u 6.3V
C41 0.01uF
C22 1u
C54 16V 10uF
KLM-3006
A-Jack
CN14A-1 CN14A-3 CN14A-2 CN14A-5 CN14A-4 CN14A-6
RK14K12D0D11
VR21 VR1
MASTER VOLUME
D-JACK KLM-3005
CN9B-1 CN9B-2 CN9B-3 CN9B-4
ASGN_SW PEDAL DAMPER
C51 C52 C53 1u
knob 1-8: RK11K1140A23 x8
slider 1-8: RS30111A602N x8
VR1 VR3 VR5 VR7 VR9 VR11 VR13 VR15
KNOB1 KNOB2 KNOB3 KNOB4 KNOB5 KNOB6 KNOB7 KNOB8
VR2 VR4 VR6 VR8 VR10 VR12 VR14 VR16
SLID1 SLID2 SLID3 SLID4 SLID5 SLID6 SLID7 SLID8
C15 C17 C19 C28 C29 C34 C35 C36 C10 C11 C12 C13 C14 C16 C18 C20
RS30111A602N MASTER SLIDER VR17 C21 MASTER
RS30111A602N VALUE SLIDER VR18 C24 VALUE
IC12 IC13 IC14 IC15 74LV4052A
X3 X2 X1 X0 Y3 Y2 Y1 Y0 B A INH VCC GND VEE X Y
KNOB4 KNOB3 KNOB2 KNOB1 KNOB8 KNOB7 KNOB6 KNOB5
SLID4 SLID3 SLID2 SLID1 SLID8 SLID7 SLID6 SLID5
MASTER VALUE VJSY VJSX TP_XL TP_XU TP_YL TP_YR
ASGN_SW PEDAL DAMPER
AS1 AS0
C25 C26 C27 C40
IC10 TLV1548IDBR
A0 A1 A2 A3 A4 A5 A6 A7 REF+ REF- EOC CSTART VCC FS INVCLK GND DATAOUT DATAIN I/OCLK
C44 CE
C50 1u
IC8 SN74AHCT138PWR
R31 R32 R33 R34 R36 R38 R40 R42 1k
C47 CE
IC6 01 CY8C21323
C48 CE
RST2
R47 R46 R45 R44 R43 22k
2SA2119KT146 x8
Q21 Q23 Q22 Q24 Q25 Q26 Q27 Q18
LWQ38E x40
Indv. Pan LED34
T-ADJ LED68
Solo LED35
Channel Strip LED33
D TR ON/OFF LED72
6/14 LED28
8/16 LED32
7/15 LED30
5/13 LED26
M LED73
2/10 LED20
4/12 LED24
3/11 LED22
1/9 LED18
A LED74
6/14 LED27
8/16 LED31
7/15 LED29
5/13 LED25
B LED9
2/10 LED19
4/12 LED23
3/11 LED21
1/9 LED17
C LED11
9-16 LED13
RTK/KRM LED5
External LED4
1-8 LED12
D LED7
Inputs LED14
ToneAdj. LED6
HDR1-8 LED15
HDR9-16 LED16
KRM ON/OFF LED8
Tbr/Trk LED54
Audio LED41
LATCH LED1
G-EQ LED2
LINKED LED10
Play/Mute MixSelect Channel
Control Assign
R37 R35 R41 R39 R48 47
Q12 Q14 Q16 Q17 Q19
2SD2704KT146 x5

	TPS2	TPS1	TPS0
X	0	0	0
RD Y-pos.	0	0	1
RD X-pos.	0	1	0
X	0	1	1
X	1	0	0
X	1	0	1
RD TPG	1	1	0
X	1	1	1

MARK	REVISION REASON	DATE	REVISED	APPROVED
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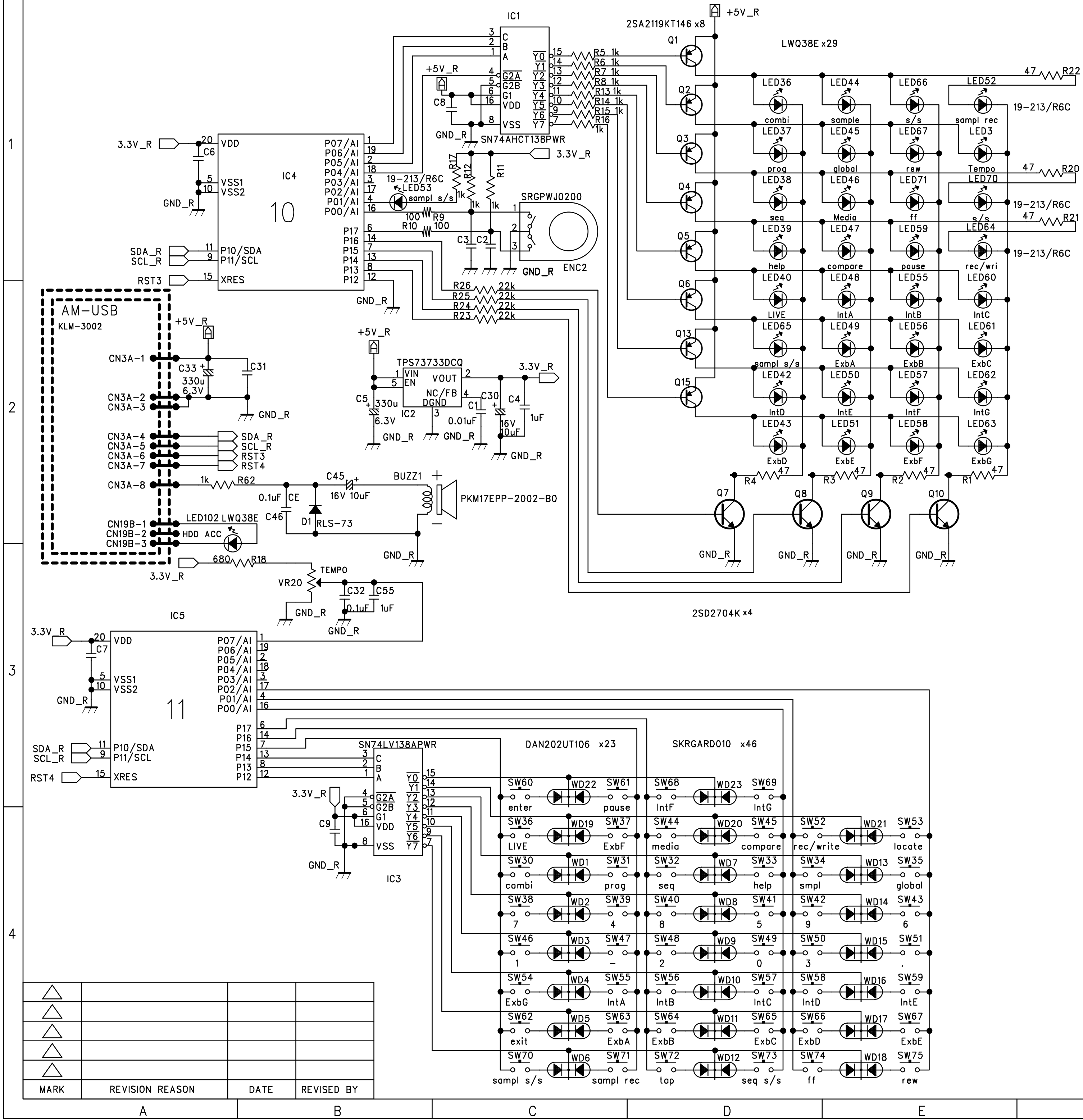
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	MODEL (X-09130/1)
DRISCON	DRISCON	Y.Tomiyama	Masato Adachi	TITLE **KLM-3003 CIRCUIT DIAGRAM**

KORG

DRAWING NO. KOD-A30877

DATE Dec.27'10


IC1
SN74AHCT138PWR
+5V_R
2SA2119KT146 x8
LWQ38E x29
Q1
Q2
Q3
Q4
Q5
Q6
Q13
Q15
R5 1k
R6 1k
R7 1k
R8 1k
R13 1k
R14 1k
R15 1k
R16 1k
C8
GND_R
3.3V_R
IC4
10
VDD
VSS1
VSS2
P10/SDA
P11/SCL
XRES
P07/AI
P06/AI
P05/AI
P04/AI
P03/AI
P02/AI
P01/AI
P00/AI
P17
P16
P15
P14
P13
P12
C6
SDA_R
SCL_R
RST3
19-213/R6C
LED53
sampl s/s
R17 1k
R12 1k
R11 1k
R9 100
R10 100
C3
C2
SRGPWJ0200
ENC2
R26 22k
R25 22k
R24 22k
R23 22k
LED36 combi
LED44 sample
LED66 s/s
LED52 sampl rec
LED37 prog
LED45 global
LED67 rew
LED3 Tempo
LED38 seq
LED46 Media
LED71 ff
LED70 s/s
LED39 help
LED47 compare
LED59 pause
LED64 rec/wri
LED40 LIVE
LED48 IntA
LED55 IntB
LED60 IntC
LED65 sampl s/s
LED49 ExbA
LED56 ExbB
LED61 ExbC
LED42 IntD
LED50 IntE
LED57 IntF
LED62 IntG
LED43 ExbD
LED51 ExbE
LED58 ExbF
LED63 ExbG
R22 47
R20 47
R21 47
19-213/R6C
R4 47
R3 47
R2 47
R1 47
Q7
Q8
Q9
Q10
2SD2704K x4
AM-USB
KLM-3002
CN3A-1
CN3A-2
CN3A-3
CN3A-4
CN3A-5
CN3A-6
CN3A-7
CN3A-8
CN19B-1
CN19B-2
CN19B-3
C33 330u 6.3V
C31
SDA_R
SCL_R
RST3
RST4
TPS73733DCQ
IC2
VIN
EN
VOUT
NC/FB
DGND
C5 330u 6.3V
C1 0.01uF
C30 16V 10uF
C4 1uF
R62 1k
C45 16V 10uF
BUZZ1
PKM17EPP-2002-B0
C46 0.1uF CE
D1 RLS-73
LED102 LWQ38E
HDD ACC
R18 680
TEMPO
VR20
C32 0.1uF
C55 1uF
IC5
11
C7
RST4
SN74LV138APWR
IC3
C9
DAN202UT106 x23
SKRGARD010 x46
SW60 enter
WD22
SW61 pause
SW68 IntF
WD23
SW69 IntG
SW36 LIVE
WD19
SW37 ExbF
SW44 media
WD20
SW45 compare
SW52 rec/write
WD21
SW53 locate
SW30 combi
WD1
SW31 prog
SW32 seq
WD7
SW33 help
SW34 smpl
WD13
SW35 global
SW38 7
WD2
SW39 4
SW40 8
WD8
SW41 5
SW42 9
WD14
SW43 6
SW46 1
WD3
SW47 –
SW48 2
WD9
SW49 0
SW50 3
WD15
SW51 .
SW54 ExbG
WD4
SW55 IntA
SW56 IntB
WD10
SW57 IntC
SW58 IntD
WD16
SW59 IntE
SW62 exit
WD5
SW63 ExbA
SW64 ExbB
WD11
SW65 ExbC
SW66 ExbD
WD17
SW67 ExbE
SW70 sampl s/s
WD6
SW71 sampl rec
SW72 tap
WD12
SW73 seq s/s
SW74 ff
WD18
SW75 rew

MARK	REVISION REASON	DATE	REVISED BY
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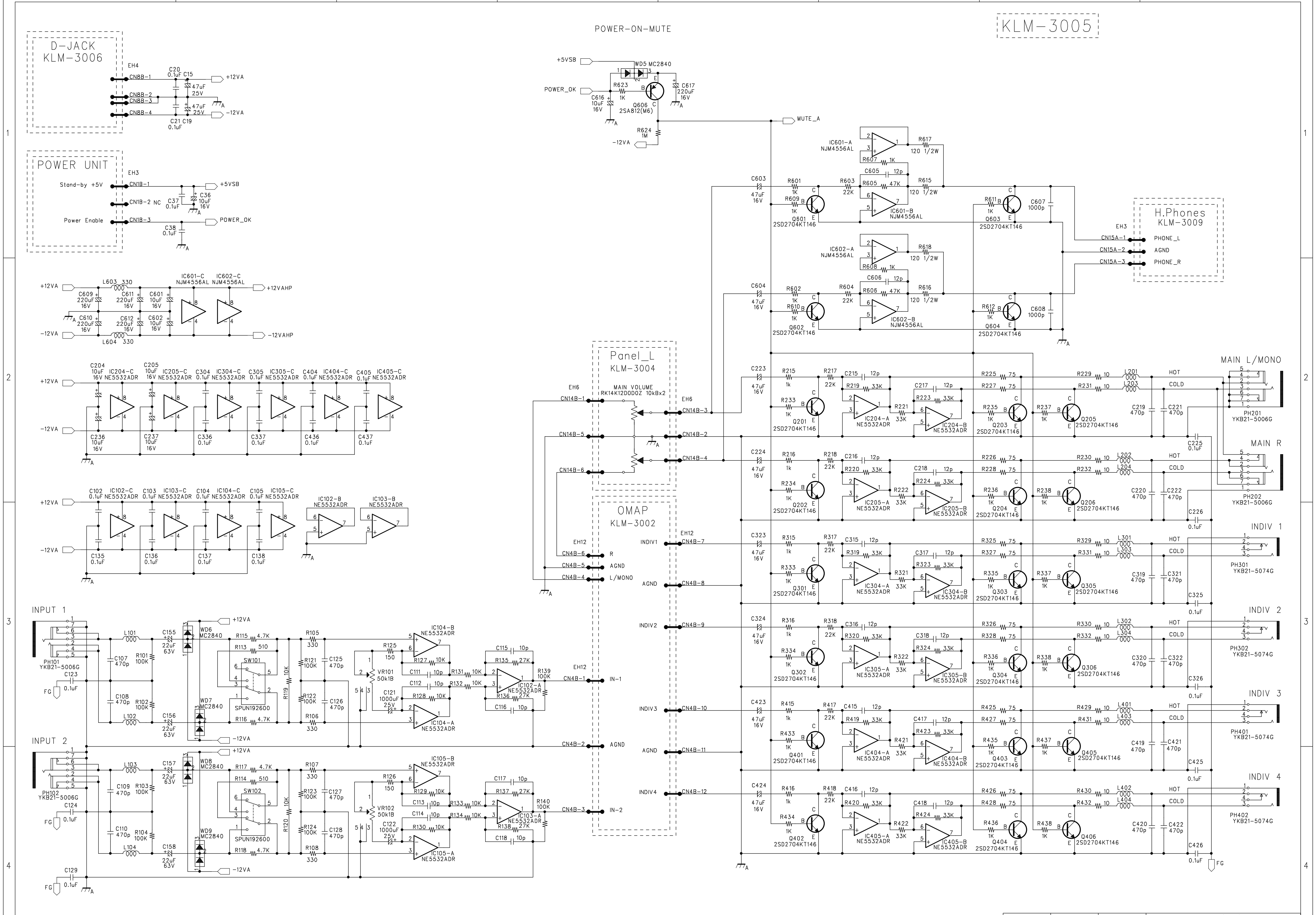
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL	X-09130/1
DRISSON	Y.Tomiyama	Masato Adachi	TITLE	KLM-3004 (PANEL R) Schematic
KORG	DRAWING NO.	KOD-A30878	DATE	Dec.27'10


KLM-3005
POWER-ON-MUTE
D-JACK
KLM-3006
EH4
CN8B-1
CN8B-2
CN8B-3
CN8B-4
C20 0.1uF C15 47uF 25V
C21 C19 0.1uF 47uF 25V
+12VA
-12VA
POWER UNIT
EH3
Stand-by +5V
CN1B-1
CN1B-2 NC
Power Enable
CN1B-3
C37 0.1uF
C36 10uF 16V
C38 0.1uF
+5VSB
POWER_OK
WD5 MC2840
R623 1K
Q606 2SA812(M6)
C616 10uF 16V
C617 220uF 16V
R624 1M
MUTE_A
IC601-A NJM4556AL
IC601-B NJM4556AL
IC602-A NJM4556AL
IC602-B NJM4556AL
R617 120 1/2W
R615 120 1/2W
R618 120 1/2W
R616 120 1/2W
R607 1K
R608 1K
C605 12p
C606 12p
R605 47K
R606 47K
R603 22K
R604 22K
C603 47uF 16V
C604 47uF 16V
R601 1K
R602 1K
R609 1K
R610 1K
Q601 2SD2704KT146
Q602 2SD2704KT146
R611 1K
R612 1K
Q603 2SD2704KT146
Q604 2SD2704KT146
C607 1000p
C608 1000p
H.Phones
KLM-3009
EH3
CN15A-1 PHONE_L
CN15A-2 AGND
CN15A-3 PHONE_R
L603 330
L604 330
C609 220uF 16V
C610 220uF 16V
C611 220uF 16V
C612 220uF 16V
C601 10uF 16V
C602 10uF 16V
IC601-C NJM4556AL
IC602-C NJM4556AL
+12VAHP
-12VAHP
C204 10uF 16V IC204-C NE5532ADR
C205 10uF 16V IC205-C NE5532ADR
C304 0.1uF IC304-C NE5532ADR
C305 0.1uF IC305-C NE5532ADR
C404 0.1uF IC404-C NE5532ADR
C405 0.1uF IC405-C NE5532ADR
C236 10uF 16V
C237 10uF 16V
C336 0.1uF
C337 0.1uF
C436 0.1uF
C437 0.1uF
C102 0.1uF IC102-C NE5532ADR
C103 0.1uF IC103-C NE5532ADR
C104 0.1uF IC104-C NE5532ADR
C105 0.1uF IC105-C NE5532ADR
IC102-B NE5532ADR
IC103-B NE5532ADR
C135 0.1uF
C136 0.1uF
C137 0.1uF
C138 0.1uF
Panel_L
KLM-3004
MAIN VOLUME
RK14K12D000Z 10kBx2
EH6
CN14B-1
CN14B-3
CN14B-2
CN14B-4
CN14B-5
CN14B-6
OMAP
KLM-3002
EH12
CN4B-6 R
CN4B-5 AGND
CN4B-4 L/MONO
INDIV1 CN4B-7
AGND CN4B-8
INDIV2 CN4B-9
INDIV3 CN4B-10
AGND CN4B-11
INDIV4 CN4B-12
CN4B-1 IN-1
CN4B-2 AGND
CN4B-3 IN-2
INPUT 1
PH101 YKB21-5006G
L101
L102
C107 470p
C108 470p
R101 100K
R102 100K
C155 22uF 63V
C156 22uF 63V
WD6 MC2840
WD7 MC2840
R115 4.7K
R113 510
R116 4.7K
SW101
SPUN192600
R119 10K
R105 330
R106 330
R121 100K
R122 100K
C125 470p
C126 470p
VR101 50k1B
R125 150
C121 1000uF 25V
IC104-B NE5532ADR
IC104-A NE5532ADR
R127 10K
C111 10p
C112 10p
R128 10K
R131 10K
R132 10K
C115 10p
R135 27K
R136 27K
C116 10p
IC102-A NE5532ADR
R139 100K
C123 0.1uF
FG
INPUT 2
PH102 YKB21-5006G
L103
L104
C109 470p
C110 470p
R103 100K
R104 100K
C157 22uF 63V
C158 22uF 63V
WD8 MC2840
WD9 MC2840
R117 4.7K
R114 510
R118 4.7K
SW102
SPUN192600
R120 10K
R107 330
R108 330
R123 100K
R124 100K
C127 470p
C128 470p
VR102 50k1B
R126 150
C122 1000uF 25V
IC105-B NE5532ADR
IC105-A NE5532ADR
R129 10K
C113 10p
C114 10p
R130 10K
R133 10K
R134 10K
C117 10p
R137 27K
R138 27K
C118 10p
IC103-A NE5532ADR
R140 100K
C124 0.1uF
C129 0.1uF
C223 47uF 16V
R215 1k
R217 22K
C215 12p
R219 33K
C217 12p
R223 33K
R221 33K
R233 1K
Q201 2SD2704KT146
IC204-A NE5532ADR
IC204-B NE5532ADR
R225 75
R227 75
R235 1K
Q203 2SD2704KT146
R237 1K
Q205 2SD2704KT146
R229 10
R231 10
L201
L203
C219 470p
C221 470p
HOT
COLD
MAIN L/MONO
PH201 YKB21-5006G
C225 0.1uF
MAIN R
PH202 YKB21-5006G
C224 47uF 16V
R216 1k
R218 22K
C216 12p
R220 33K
C218 12p
R224 33K
R222 33K
R234 1K
Q202 2SD2704KT146
IC205-A NE5532ADR
IC205-B NE5532ADR
R226 75
R228 75
R236 1K
Q204 2SD2704KT146
R238 1K
Q206 2SD2704KT146
R230 10
R232 10
L202
L204
C220 470p
C222 470p
C226 0.1uF
INDIV 1
PH301 YKB21-5074G
C323 47uF 16V
R315 1k
R317 22K
C315 12p
R319 33K
C317 12p
R323 33K
R321 33K
R333 1K
Q301 2SD2704KT146
IC304-A NE5532ADR
IC304-B NE5532ADR
R325 75
R327 75
R335 1K
Q303 2SD2704KT146
R337 1K
Q305 2SD2704KT146
R329 10
R331 10
L301
L303
C319 470p
C321 470p
C325 0.1uF
INDIV 2
PH302 YKB21-5074G
C324 47uF 16V
R316 1k
R318 22K
C316 12p
R320 33K
C318 12p
R324 33K
R322 33K
R334 1K
Q302 2SD2704KT146
IC305-A NE5532ADR
IC305-B NE5532ADR
R326 75
R328 75
R336 1K
Q304 2SD2704KT146
R338 1K
Q306 2SD2704KT146
R330 10
R332 10
L302
L304
C320 470p
C322 470p
C326 0.1uF
INDIV 3
PH401 YKB21-5074G
C423 47uF 16V
R415 1k
R417 22K
C415 12p
R419 33K
C417 12p
R423 33K
R421 33K
R433 1K
Q401 2SD2704KT146
IC404-A NE5532ADR
IC404-B NE5532ADR
R425 75
R427 75
R435 1K
Q403 2SD2704KT146
R437 1K
Q405 2SD2704KT146
R429 10
R431 10
L401
L403
C419 470p
C421 470p
C425 0.1uF
INDIV 4
PH402 YKB21-5074G
C424 47uF 16V
R416 1k
R418 22K
C416 12p
R420 33K
C418 12p
R424 33K
R422 33K
R434 1K
Q402 2SD2704KT146
IC405-A NE5532ADR
IC405-B NE5532ADR
R426 75
R428 75
R436 1K
Q404 2SD2704KT146
R438 1K
Q406 2SD2704KT146
R430 10
R432 10
L402
L404
C420 470p
C422 470p
C426 0.1uF
FG
C427 0.1uF
PL1 KOC-C41446
PL2 KOC-C41068-2
PL3 KOC-C41068-2
PL4 KOC-C41068-2
PL5 KOC-C41068-2
ZZH1 ANA3.2NTH_F
ZZH2 ANA3.2NTH_F
ZZH5 ANA4.0_NTH
ZZH3 ANA3.2NTH_F
ZZH4 ANA3.2NTH_F
ZZH6 ANA4.0_NTH
A B C D E F G H
1 2 3 4

MARK	REVISION REASON	DATE	REVISED BY
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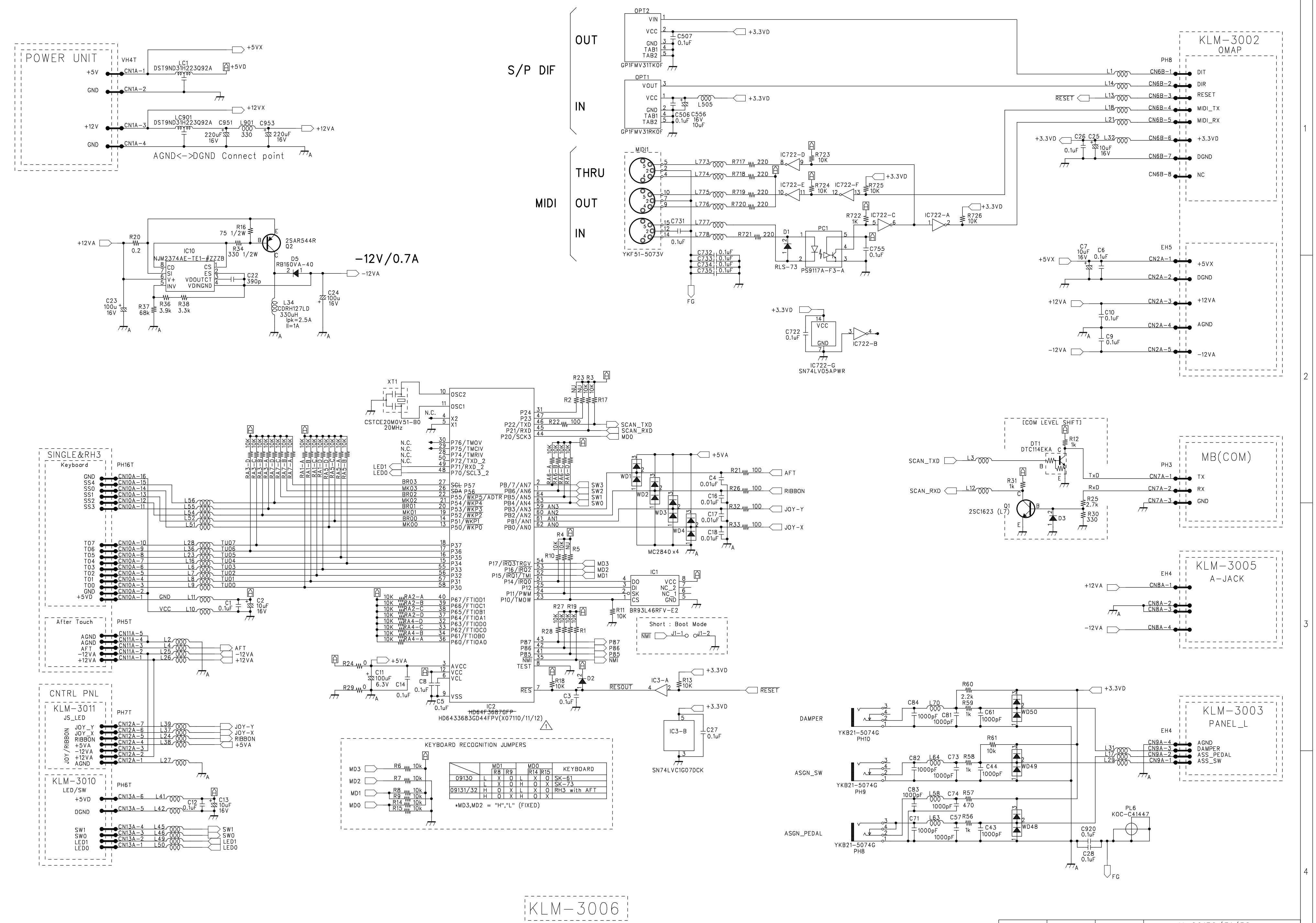
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura		Masato Adachi	TITLE KLM-3005 Audio Jack Schematics
KORG	DRAWING NO. KOD-A30879	C	DATE 2010.11.30


POWER UNIT
+5V
GND
+12V
GND
AGND<->DGND Connect point
+5VX
+5VD
+12VX
+12VA
-12V/0.7A
-12VA
IC10 NJM2374AE-TE1-#ZZZB
Q2 2SAR544R
D5 RB160VA-40
L34 CDRH127LD 330uH Ipk=2.5A Il=1A
S/P DIF
OUT
IN
OPT2 GP1FMV31TK0F
OPT1 GP1FMV31RK0F
MIDI
THRU
OUT
IN
MIDI1 YKF51-5073V
PC1 PS9117A-F3-A
D1 RLS-73
FG
IC722-G SN74LV05APWR
KLM-3002
OMAP
PH8
DIT
DIR
RESET
MIDI_TX
MIDI_RX
+3.3VD
DGND
NC
EH5
+5VX
DGND
+12VX
AGND
-12VA
XT1 CSTCE20M0V51-B0 20MHz
IC2 ~~HD64F3687GFP~~ HD6433683GD44FPV(X07110/11/12)
SINGLE&RH3
Keyboard
After Touch
CNTRL PNL
KLM-3011
JS_LED
JOY/RIBBON
KLM-3010
LED/SW
SCAN_TXD
SCAN_RXD
MD3
MD2
MD1
MD0
+5VA
AFT
RIBBON
JOY-Y
JOY-X
MC2840 x4
IC1 BR93L46RFV-E2
Short : Boot Mode
NMI
IC3-A
IC3-B SN74LVC1G07DCK
RESET
[COM LEVEL SHIFT]
DT1 DTC114EKA
Q1 2SC1623 (L7)
MB(COM)
PH3
TX
RX
GND
KLM-3005
A-JACK
EH4
KLM-3003
PANEL_L
DAMPER
ASS_PEDAL
ASS_SW
ASGN_SW
ASGN_PEDAL
YKB21-5074G
PL6 KOC-C41447
KLM-3006

KEYBOARD RECOGNITION JUMPERS

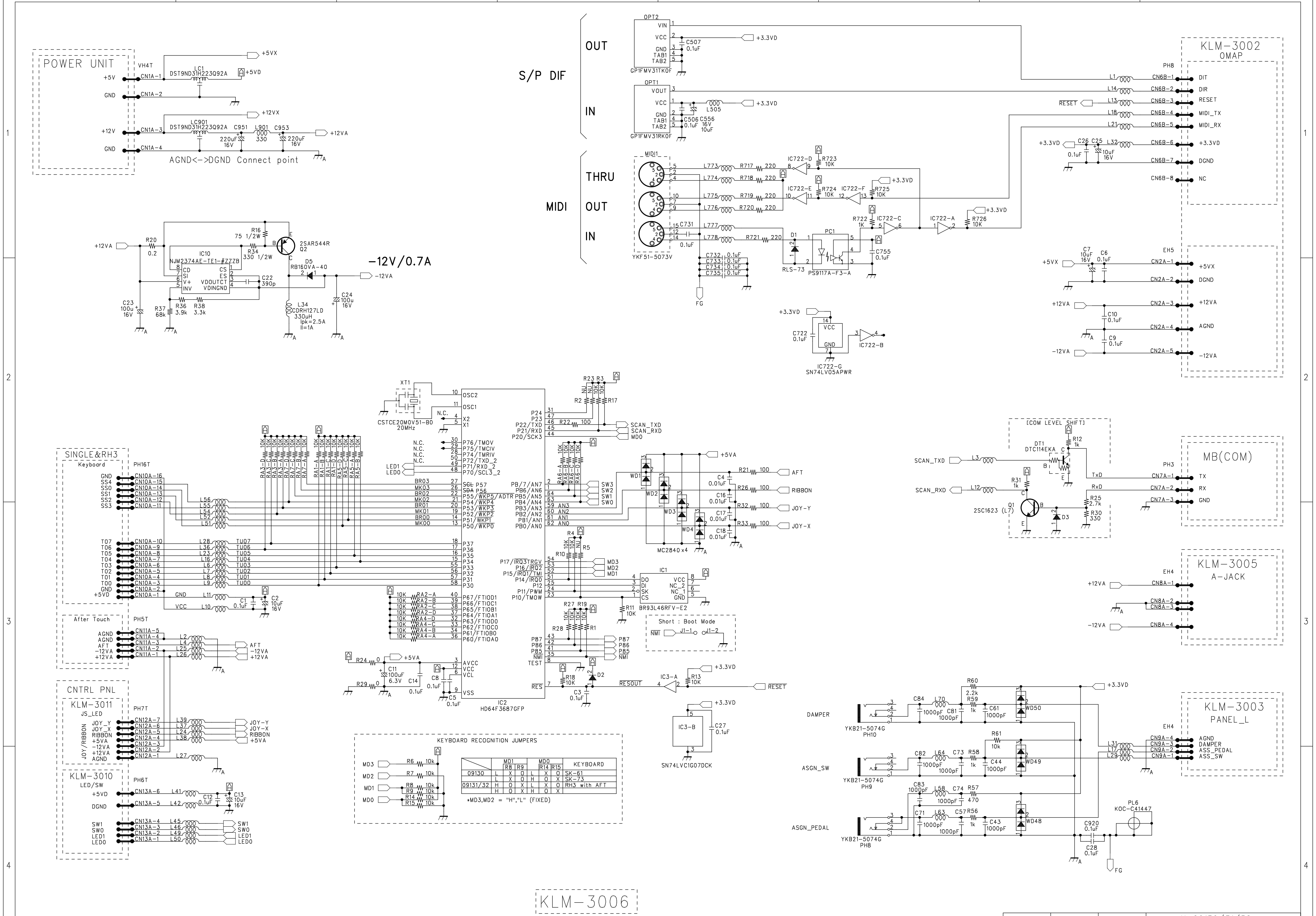
	MD1			MD0			KEYBOARD
		R8	R9		R14	R15	
09130	L	X	O	L	X	O	SK-61
	L	X	O	H	O	X	SK-73
09131/32	H	O	X	L	X	O	RH3 with AFT
	H	O	X	H	O	X	

*MD3,MD2 = "H","L" (FIXED)

MARK	REVISION REASON	DATE	REVISED BY
5			
4			
3			
2			
1	Reviced part name	2011.4.27	S.NOMURA

Non Marked L:MMZ1608Y102BT

DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura	DRISON	Masato Adachi	TITLE KLM-3006 Digital Jack Schematics
KORG	DRAWING NO. KOD-A30880	C	DATE 2011.4.27


POWER UNIT
+5V
GND
+12V
AGND<->DGND Connect point
LC1 DST9ND31H223Q92A
LC901 DST9ND31H223Q92A
+5VX
+5VD
+12VX
+12VA
IC10 NJM2374AE-TE1-#ZZZB
Q2 2SAR544R
D5 RB160VA-40
L34 CDRH127LD 330uH
-12V/0.7A
-12VA
S/P DIF
OUT
IN
OPT2 GP1FMV31TK0F
OPT1 GP1FMV31RK0F
+3.3VD
MIDI
THRU
OUT
IN
MIDI1 YKF51-5073V
PC1 PS9117A-F3-A
D1 RLS-73
IC722-A
IC722-B
IC722-C
IC722-D
IC722-E
IC722-F
IC722-G SN74LV05APWR
FG
KLM-3002
OMAP
DIT
DIR
RESET
MIDI_TX
MIDI_RX
DGND
NC
+5VX
-12VA
XT1 CSTCE20M0V51-B0 20MHz
SINGLE&RH3
Keyboard
After Touch
AFT
RIBBON
JOY-Y
JOY-X
CNTRL PNL
KLM-3011
JS_LED
KLM-3010
LED/SW
SW1
SW0
LED1
LED0
IC2 HD64F3687GFP
IC1 BR93L46RFV-E2
MC2840 x4
SCAN_TXD
SCAN_RXD
MD0
MD1
MD2
MD3
Short : Boot Mode
NMI
IC3-A
IC3-B SN74LVC1G07DCK
RESOUT
[COM LEVEL SHIFT]
DT1 DTC114EKA
Q1 2SC1623 (L7)
MB(COM)
TX
RX
GND
KLM-3005
A-JACK
KLM-3003
PANEL_L
DAMPER
ASGN_SW
ASGN_PEDAL
ASS_PEDAL
ASS_SW
YKB21-5074G
PL6 KOC-C41447
KLM-3006

KEYBOARD RECOGNITION JUMPERS

	MD1			MD0			KEYBOARD
		R8	R9		R14	R15	
09130	L	X	O	L	X	O	SK-61
	L	X	O	H	O	X	SK-73
09131/32	H	O	X	L	X	O	RH3 with AFT
	H	O	X	H	O	X	

*MD3,MD2 = "H","L" (FIXED)

MARK	REVISION REASON	DATE	REVISED BY
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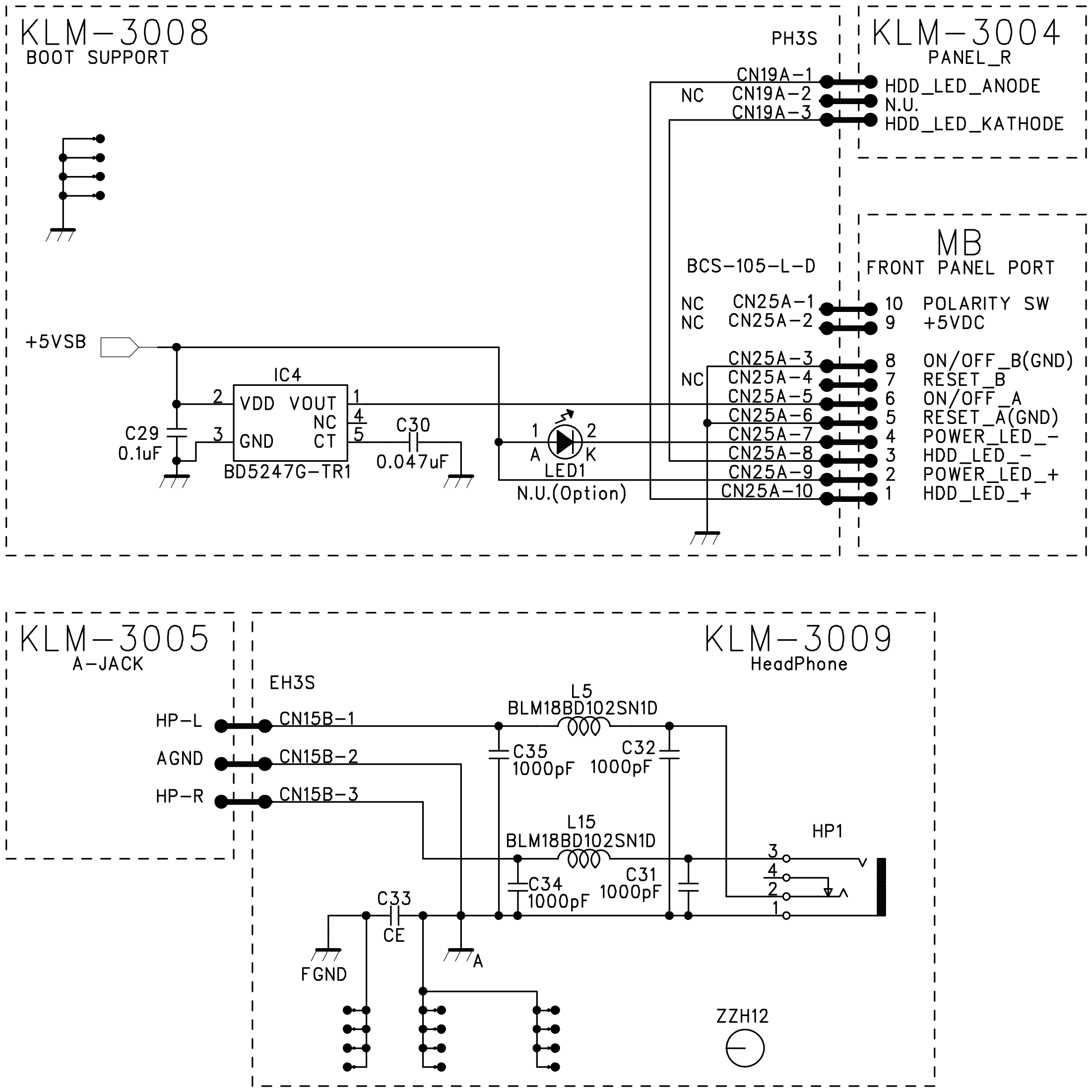
Non Marked L:MMZ1608Y102BT

DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura	DRISOON	Masato Adachi	TITLE KLM-3006 Digital Jack Schematics
KORG	DRAWING NO. KOD-A30880	C	DATE 2010.11.18


KLM-3008
BOOT SUPPORT
PH3S
KLM-3004
PANEL_R
CN19A-1
NC CN19A-2
CN19A-3
HDD_LED_ANODE
N.U.
HDD_LED_KATHODE
MB
FRONT PANEL PORT
BCS-105-L-D
NC CN25A-1
NC CN25A-2
CN25A-3
NC CN25A-4
CN25A-5
CN25A-6
CN25A-7
CN25A-8
CN25A-9
CN25A-10
10 POLARITY SW
9 +5VDC
8 ON/OFF_B(GND)
7 RESET_B
6 ON/OFF_A
5 RESET_A(GND)
4 POWER_LED_-
3 HDD_LED_-
2 POWER_LED_+
1 HDD_LED_+
+5VSB
IC4
VDD VOUT
NC
GND CT
BD5247G-TR1
C29
0.1uF
C30
0.047uF
LED1
N.U.(Option)
A K
KLM-3005
A-JACK
KLM-3009
HeadPhone
EH3S
HP-L
AGND
HP-R
CN15B-1
CN15B-2
CN15B-3
L5
BLM18BD102SN1D
L15
BLM18BD102SN1D
C35
1000pF
C32
1000pF
C34
1000pF
C31
1000pF
C33
CE
FGND
A
HP1
ZZH12

DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura		Masato Adachi	TITLE KLM-3008 BOOT SUPPORT KLM-3009 HEAD PHONES Schematics
KORG	DRAWING NO. KOD-A40719	C	DATE 2010.11.11

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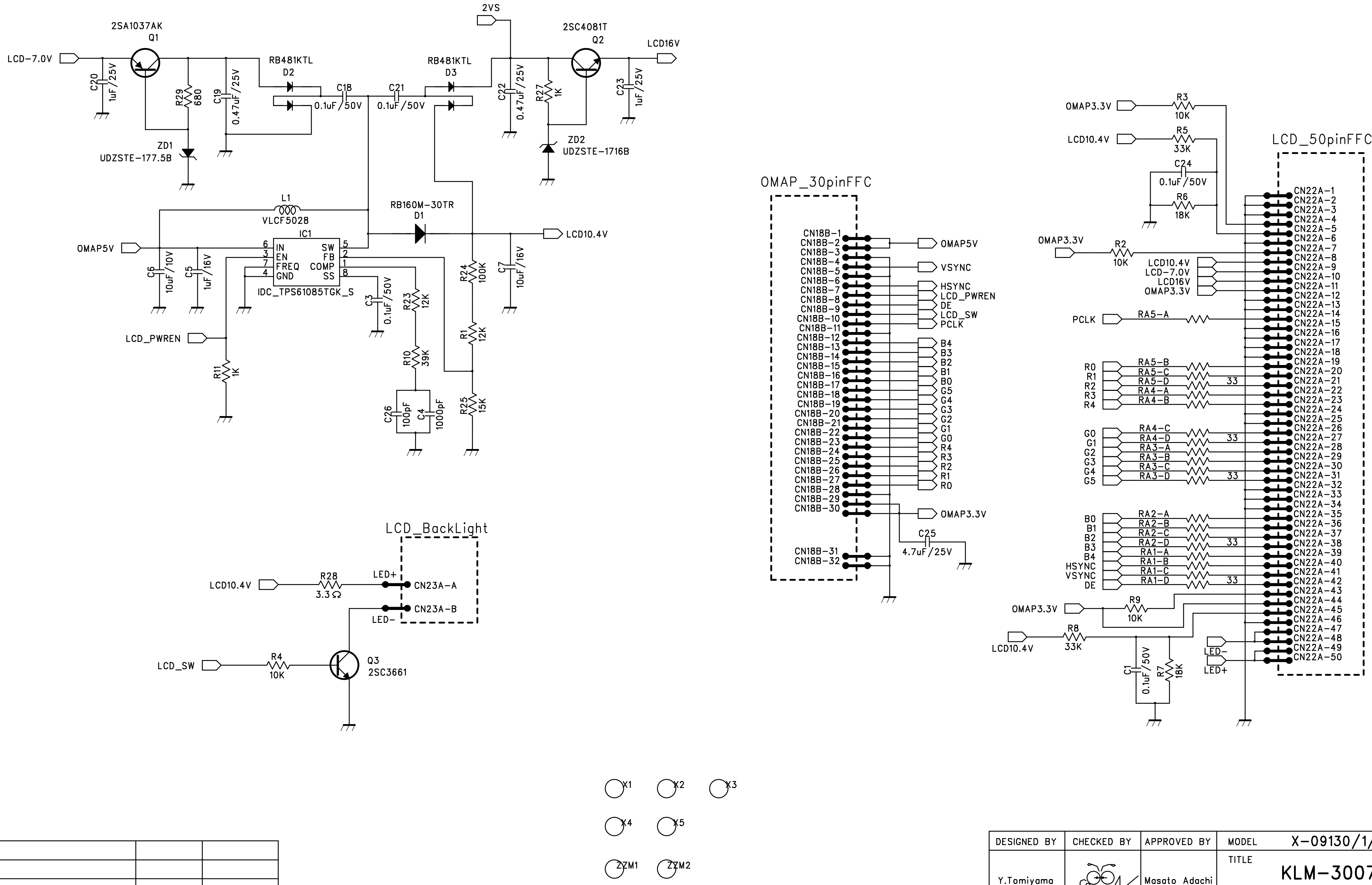
2SA1037AK
Q1
LCD-7.0V
C20
1uF/25V
R29
680
C19
0.47uF/25V
ZD1
UDZSTE-177.5B
RB481KTL
D2
C18
0.1uF/50V
C21
0.1uF/50V
RB481KTL
D3
2VS
C22
0.47uF/25V
R27
1K
2SC4081T
Q2
ZD2
UDZSTE-1716B
LCD16V
C23
1uF/25V
L1
VLCF5028
RB160M-30TR
D1
LCD10.4V
OMAP5V
IC1
6 IN
3 EN
7 FREQ
4 GND
SW 5
FB 2
COMP 1
SS 8
IDC_TPS61085TGK_S
C6
10uF/10V
C5
1uF/16V
C3
0.1uF/50V
R23
12K
R24
100K
C7
10uF/16V
LCD_PWREN
R1
12K
R10
39K
R11
1K
R25
15K
C26
100pF
C4
1000pF
LCD_BackLight
LCD10.4V
R28
3.3Ω
LED+
CN23A-A
CN23A-B
LED-
LCD_SW
R4
10K
Q3
2SC3661
OMAP_30pinFFC
CN18B-1
CN18B-2
CN18B-3
CN18B-4
CN18B-5
CN18B-6
CN18B-7
CN18B-8
CN18B-9
CN18B-10
CN18B-11
CN18B-12
CN18B-13
CN18B-14
CN18B-15
CN18B-16
CN18B-17
CN18B-18
CN18B-19
CN18B-20
CN18B-21
CN18B-22
CN18B-23
CN18B-24
CN18B-25
CN18B-26
CN18B-27
CN18B-28
CN18B-29
CN18B-30
CN18B-31
CN18B-32
OMAP5V
VSYNC
HSYNC
LCD_PWREN
DE
LCD_SW
PCLK
B4
B3
B2
B1
B0
G5
G4
G3
G2
G1
G0
R4
R3
R2
R1
R0
OMAP3.3V
C25
4.7uF/25V
LCD_50pinFFC
OMAP3.3V
R3
10K
LCD10.4V
R5
33K
C24
0.1uF/50V
R6
18K
OMAP3.3V
R2
10K
LCD10.4V
LCD-7.0V
LCD16V
OMAP3.3V
PCLK
RA5-A
R0
R1
R2
R3
R4
RA5-B
RA5-C
RA5-D
RA4-A
RA4-B
33
G0
G1
G2
G3
G4
G5
RA4-C
RA4-D
RA3-A
RA3-B
RA3-C
RA3-D
33
33
B0
B1
B2
B3
B4
HSYNC
VSYNC
DE
RA2-A
RA2-B
RA2-C
RA2-D
RA1-A
RA1-B
RA1-C
RA1-D
33
33
OMAP3.3V
R9
10K
LCD10.4V
R8
33K
C1
0.1uF/50V
R7
18K
LED-
LED+
CN22A-1
CN22A-2
CN22A-3
CN22A-4
CN22A-5
CN22A-6
CN22A-7
CN22A-8
CN22A-9
CN22A-10
CN22A-11
CN22A-12
CN22A-13
CN22A-14
CN22A-15
CN22A-16
CN22A-17
CN22A-18
CN22A-19
CN22A-20
CN22A-21
CN22A-22
CN22A-23
CN22A-24
CN22A-25
CN22A-26
CN22A-27
CN22A-28
CN22A-29
CN22A-30
CN22A-31
CN22A-32
CN22A-33
CN22A-34
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CN22A-37
CN22A-38
CN22A-39
CN22A-40
CN22A-41
CN22A-42
CN22A-43
CN22A-44
CN22A-45
CN22A-46
CN22A-47
CN22A-48
CN22A-49
CN22A-50
X1
X2
X3
X4
X5
ZZM1
ZZM2

MARK	REVISION REASON	DATE	REVISED BY
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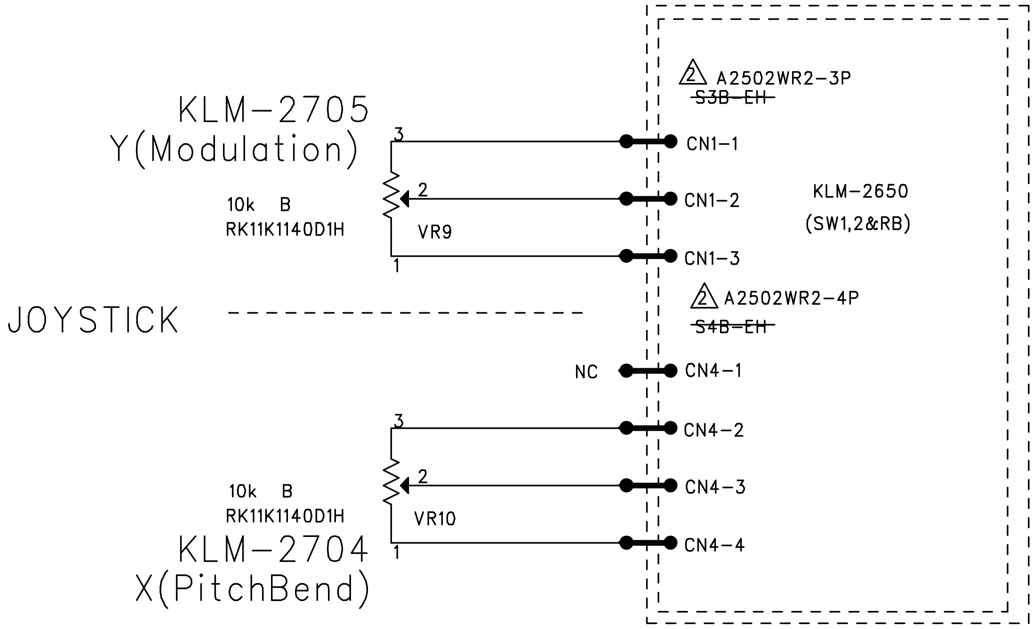
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/1/2
Y.Tomiyama		Masato Adachi	TITLE KLM-3007 LCD I/F Schematics
KORG	DRAWING NO. KOD-A30881		DATE '10.11.16


KLM-2705
Y(Modulation)
10k B
RK11K1140D1H
VR9
3
2
1
JOYSTICK
10k B
RK11K1140D1H
VR10
KLM-2704
X(PitchBend)
3
2
1
△2 A2502WR2-3P
~~S3B-EH~~
CN1-1
CN1-2
CN1-3
KLM-2650
(SW1,2&RB)
△2 A2502WR2-4P
~~S4B-EH~~
NC
CN4-1
CN4-2
CN4-3
CN4-4

△4 X-09130/1/2
△3 X-09100
△1 X-07111

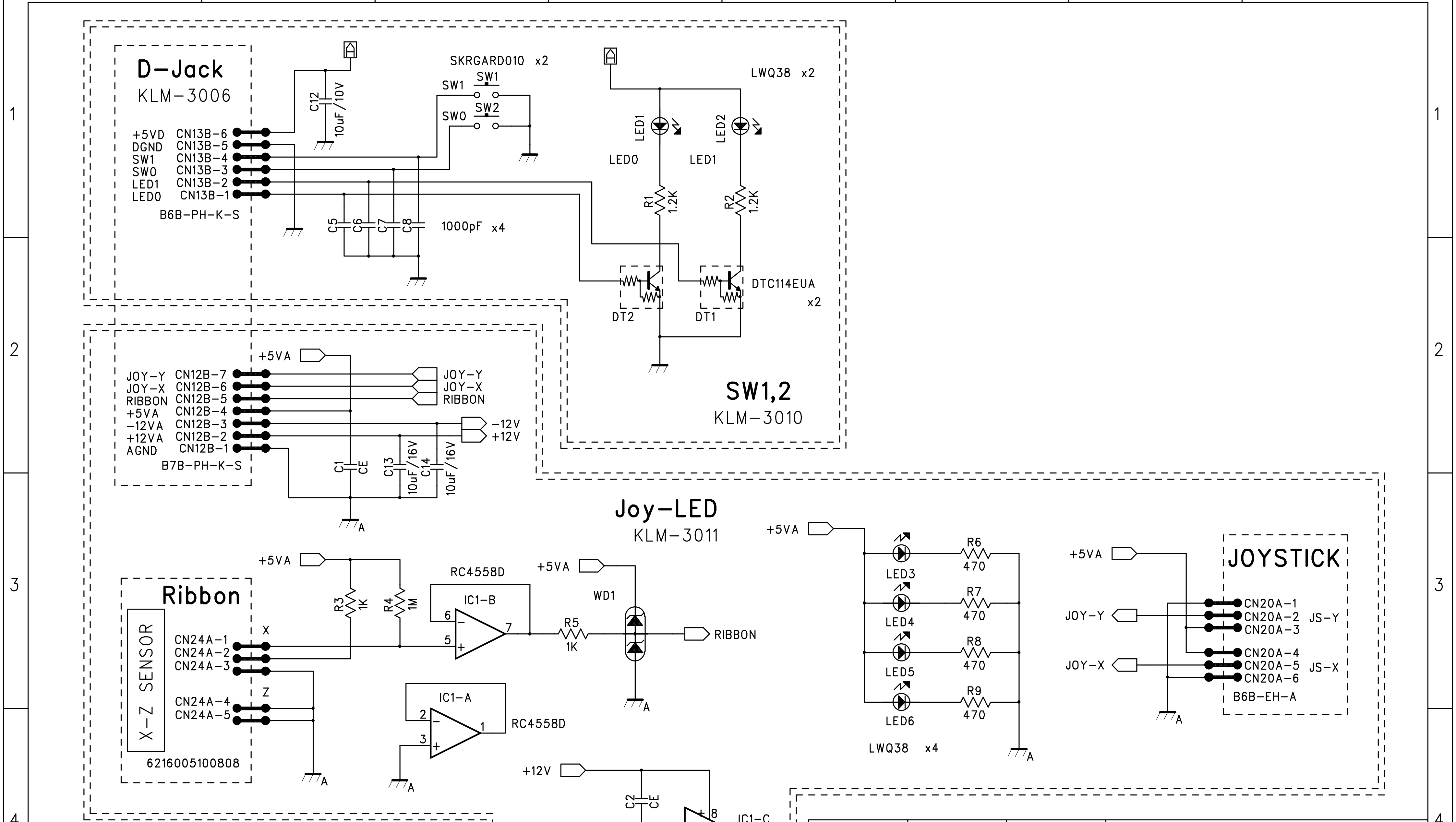
MARK	REVISION REASON	DATE	REVISED BY
△			
△4	機種追加のため	'11.01.13	Y.Tomiyama
△3	機種追加のため	'10.03.08.	S.Kamachi
△2	代替依頼のため (I04から自然切替)	'09.12.25.	S.Kamachi
△1	機種追加のため	'08.07.16	S.Kamachi

DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-4100/10/20
S.Kamachi	S.Nomura	J.Takeda	TITLE KLM-2704/2705 (JoystickX/Y)

KORG

DRAWING NO. KOD-A40642

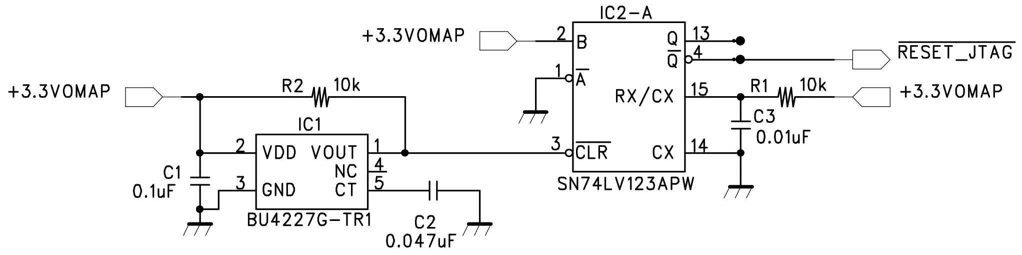
DATE '07.02.20

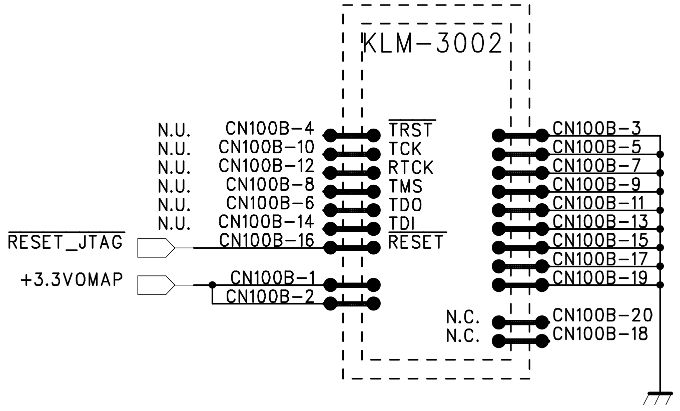

D-Jack
KLM-3006
+5VD CN13B-6
DGND CN13B-5
SW1 CN13B-4
SW0 CN13B-3
LED1 CN13B-2
LED0 CN13B-1
B6B-PH-K-S
C12 10uF/10V
SKRGARD010 x2
SW1
SW1
SW0
SW2
C5 C6 C7 C8
1000pF x4
LWQ38 x2
LED1
LED2
LED0
LED1
R1 1.2K
R2 1.2K
DTC114EUA
x2
DT2
DT1
SW1,2
KLM-3010
JOY-Y CN12B-7
JOY-X CN12B-6
RIBBON CN12B-5
+5VA CN12B-4
-12VA CN12B-3
+12VA CN12B-2
AGND CN12B-1
B7B-PH-K-S
+5VA
JOY-Y
JOY-X
RIBBON
-12V
+12V
C1 CE
C13 10uF/16V
C14 10uF/16V
A
Joy-LED
KLM-3011
+5VA
R3 1K
R4 1M
RC4558D
IC1-B
6
5
7
+5VA
WD1
R5
1K
RIBBON
A
Ribbon
X-Z SENSOR
CN24A-1
CN24A-2
CN24A-3
CN24A-4
CN24A-5
X
Z
6216005100808
A
IC1-A
2
3
1
RC4558D
A
+5VA
LED3
LED4
LED5
LED6
R6 470
R7 470
R8 470
R9 470
LWQ38 x4
A
+5VA
JOYSTICK
JOY-Y
JOY-X
CN20A-1
CN20A-2 JS-Y
CN20A-3
CN20A-4
CN20A-5 JS-X
CN20A-6
B6B-EH-A
A
+12V
-12V
C2 CE
C3 CE
A
8
4
IC1-C
RC4558D
A B C D E F G H
1 2 3 4

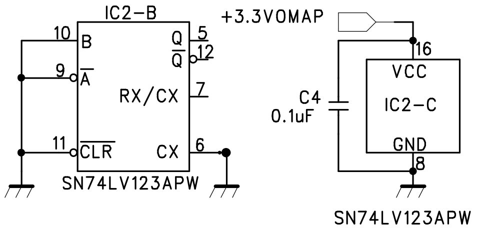
MARK	REVISION REASON	DATE	REVISED BY
△			
△			
△			
△			
△			

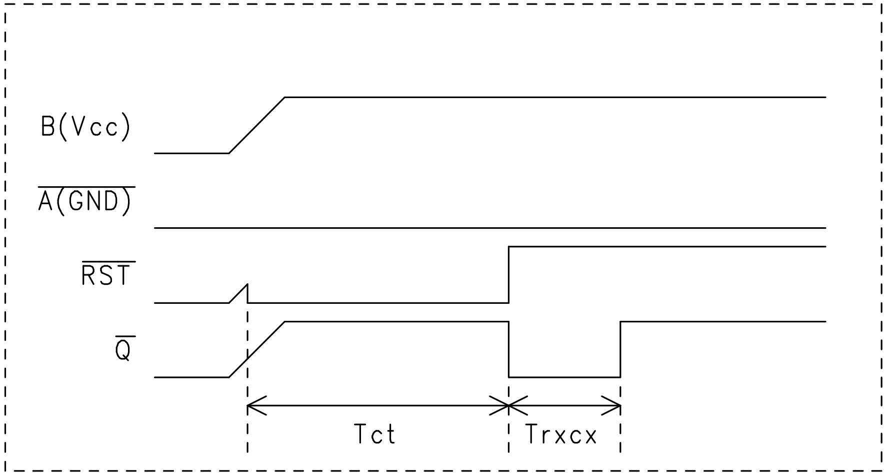
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/1/2
Y.Tomiyama		Masato Adachi	TITLE KLM-3010/11 SW1,2/JoyLED Schematics

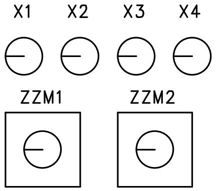
KORG	DRAWING NO. KOD-A40720	DATE '10.11.16


+3.3VOMAP
R2 10k
IC1
C1 0.1uF
VDD VOUT NC CT GND
1 2 3 4 5
BU4227G-TR1
C2 0.047uF
+3.3VOMAP
IC2-A
B A CLR Q Q RX/CX CX
2 1 3 13 4 15 14
SN74LV123APW
RESET_JTAG
R1 10k
C3 0.01uF
+3.3VOMAP


KLM-3002
N.U. CN100B-4 TRST
N.U. CN100B-10 TCK
N.U. CN100B-12 RTCK
N.U. CN100B-8 TMS
N.U. CN100B-6 TDO
N.U. CN100B-14 TDI
RESET_JTAG CN100B-16 RESET
+3.3VOMAP CN100B-1
CN100B-2
CN100B-3
CN100B-5
CN100B-7
CN100B-9
CN100B-11
CN100B-13
CN100B-15
CN100B-17
CN100B-19
N.C. CN100B-20
N.C. CN100B-18


IC2-B
B A CLR Q Q RX/CX CX
10 9 11 5 12 7 6
SN74LV123APW
+3.3VOMAP
C4 0.1uF
16 VCC IC2-C GND 8
SN74LV123APW


B(Vcc)
A(GND)
RST
Q
Tct
Trxcx


X1 X2 X3 X4
ZZM1 ZZM2

MARK	REVISION REASON	DATE	REVISED BY
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△			
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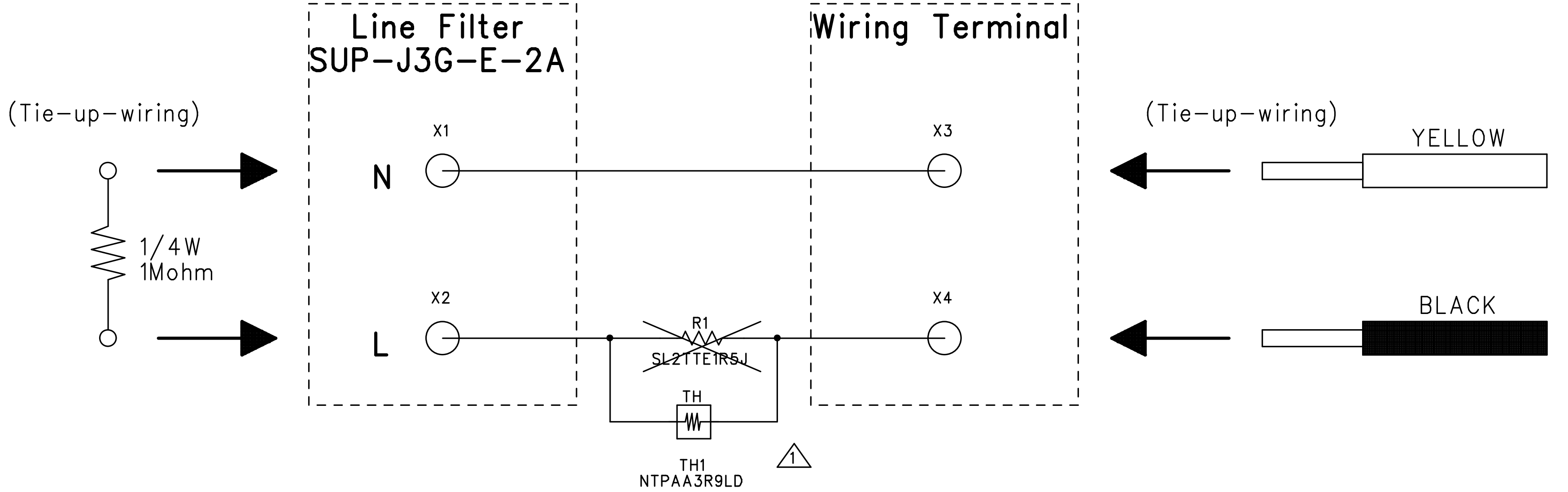
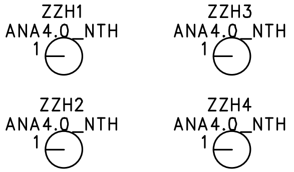
DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130
S.Nomura		Masato Adachi	TITLE KLM-3101 Second reset schematics

KORG

DRAWING NO. KOD-A40721 A

DATE 2011.01.18


Line Filter
SUP-J3G-E-2A
Wiring Terminal
(Tie-up-wiring)
(Tie-up-wiring)
X1
X2
X3
X4
N
L
1/4W
1Mohm
YELLOW
BLACK
~~R1~~
~~SL2TTE1R5J~~
TH
TH1
NTPAA3R9LD
1


ZZH1
ANA4.0_NTH
1
ZZH3
ANA4.0_NTH
1
ZZH2
ANA4.0_NTH
1
ZZH4
ANA4.0_NTH
1

MARK	REVISION REASON	DATE	REVISED BY
△			
△			
△			
△			
△1	To reduce Inrush Current	2011.3.18	S.Nomura

DESIGNED BY	CHECKED BY	APPROVED BY	MODEL X-09130/31/32
S.Nomura		Masato Adachi	TITLE KLM-3102 Inlet Intercept PCB

KORG

DRAWING NO. KOD-A40722

DATE 2011.03.18

KRONOS Test mode

How to enter the TEST MODE

Following table shows each static test mode.

The instruments enters the each test mode when pushing the switch in the SWITCH column of the table below.

SWITCH	TEST MODE
[MIXER KNOBS]+ [RESET CONTROLS]+ [ENTER]+[5]	Full test
[MIXER KNOBS]+ [RESET CONTROLS]+ [ENTER]+[2]	Skipp internal Test

Basic operation

[ENTER]:Proceed to the next check .

△ : The item is advanced.

▽ : The item is returned.

[FF>>]: The step is advanced.

[<<REW]: The step is returned.

1. Appearance check

1) Check that there is no scratch on Case and Knobs.

2) Check that there are no abnormalities or problems on paintings and silk printings.

3) Check that there are no abnormalities or problems of float or ETC on Buttons, Switches, Jacks, Potentiometers and etc.

4) Check that there are about one sheet of paper space between the touch panel and the LCD food.

5) Check there are 0.8mm or more space between the keyboard and the FrontBar.

6) Check that there is neither shaking of the product nor a distortion on the plane.

2. Preperation and LCD flicker Check

(note)Do not insert USB memory before power on.

1) Push [POWER] switch turn on.

Insert USB memory after blinking DISK access LED.

Connect USB A and USB B with one cable.

Connect MIDI IN and OUT with one MIDI cable.

Check that LCD doesn’t flicker when LCD display Set List page.

3. Sound check

Hit the key medium touch from left edge to right edge.

Check that abnormality is not heard in the sound.

Push [COMBI] switch.

Check the sound after select BANK I-A ,I-B and I-C

4 . LCD color check

Push the switch in order of [PROG],[BANK I-A], [0], and [ENTER].

Check that abnormality is not fond the coler of LCD while turning the Rotary Encoder.

Push the switch in order of [I-D],[0], and [ENTER].

Check that abnormality is not fond the coler of LCD while turning the Rotary Encoder.

5. Start TEST MODE

Please push the switch of [MIXER KNOBS], [RESET CONTROLS], [ENTER], and [5] at the same time.

LCD is displayed as shown in a right figure.

```
****************** INTERNAL TEST ******************

1 MIDI: OK

2 Battery: OK

3 USB: OK

4 Temp: OK

5 Keybed: OK


Keybed: *.*

Memory: *Gbyte      **Key        IP:CAN’ T GET!

                                  Version:KRONS ***.**

Date & Time                        OMAP:V** R**   .PSoc: V** R**
```

6. System Version Check

Check that the displayed version is latest.

“Version”,”OMAP”,”PSoC”,”Keybed”

7. Internal inspection check

Check the following inspection is OK

“MIDI”,”Battery”, “USB”, “Keybed”

8. Memory size

Confirm the size of memory which is displayed on the side of “Memory”

9. The number of KEY

Check the number of KEY on the display.

10. Date and Time

Confirm that display time and date is now.

Advance it to the following inspection pushing the [ENTER] switch.

11. Fan Control

LCD displays “Value” and “RPM”

Confirm that “RPM” value is change by VALUE slilder.

(note) If “RPM” value is not change, rotate encoder more than two clicks.

Advance it to the following inspection pushing the [ENTER] switch.

12 All LED check

Check all red LED turn on.

Check that the brightness of LED is uniform.

Wite LED

Top of Joystick	Bottom of Joystick	Left of Joystic	Right of Joystick	
	SW1	SW2	KARMA ON/OFF	LATCH
M	A	B	C	D
LINK ED	DRUM TRACK	TIMBRE/TRACK	TIMBRE/TRACK 1-8	TIMBRE/TRACK 9-16
AUDIO	AUDIO IN	AUDIO 1-8	AUDIO 9-16	EXIT
RT KNOBS/KARMA	TONE ADJ/EQ	TONE ADJ	EQ	MIX PLAY/MUTE(8point)
MIX SELECT(8point)	CHANNEL STRIP	INDIVIDUAL PAN	SOLO	SET LIST
COMBI	PROG	SEQ	HELP	SAMPLING
GLOBAL	DISK	COMPARE	BANK I-A	I-B
I-C	I-D	I-E	I-F	I-G
BANK U-A	U-B	U-C	U-D	U-E
U-F	U-G	PAUSE	<<REW	FF>>

RED LED

REC/WRITE	SEQUENCER START/STOP	SAMPLING REC	SAMPLING START/STO

Advance it to the following inspection pushing the [ENTER] switch.

13. Panel SW & LED check

The confirmation advances in order of the table below.

Push the switch corresponding to lighting LED.

(note) Refer to the table below for the correspondence of the switch and LED.

LED that should be inspected as follows lights when a correct switch is pushed.

LED	SW
SW1	SW1
SW2	SW2
KARMA ON/OFF	KARMA ON/OFF
LATCH	LATCH
M	MODULE CONTROL
A	MODULE CONTROL
B	MODULE CONTROL
C	MODULE CONTROL
D	MODULE CONTROL
DRUM TRACK	DRUM TRACK

LINKED	DRUM TRACK
TIMBRE/TRACK	TIMBRE/TRACK
TIMBRE/TRACK 1-8	TIMBRE/TRACK
TIMBRE/TRACK 9-16	TIMBRE/TRACK
AUDIO	AUDIO
AUDIO IN	AUDIO
AUDIO 1-8	AUDIO
AUDIO 9-16	AUDIO
EXT	EXT
RT KNOBS/KARMA	RT KNOBS/KARMA
TONE ADJ/EQ	TONE ADJ/EQ
TONE ADJ	TONE ADJ/EQ
EQ	TONE ADJ/EQ
MIX PLAY/MUTE 1	MIX PLAY/MUTE 1
MIX PLAY/MUTE 2	MIX PLAY/MUTE 2
MIX PLAY/MUTE 3	MIX PLAY/MUTE 3
MIX PLAY/MUTE 4	MIX PLAY/MUTE 4
MIX PLAY/MUTE 5	MIX PLAY/MUTE 5
MIX PLAY/MUTE 6	MIX PLAY/MUTE 6
MIX PLAY/MUTE 7	MIX PLAY/MUTE 7
MIX PLAY/MUTE 8	MIX PLAY/MUTE 8
MIX SELECT 1	MIX SELECT 1
MIX SELECT 2	MIX SELECT 2
MIX SELECT 3	MIX SELECT 3
MIX SELECT 4	MIX SELECT 4
MIX SELECT 5	MIX SELECT 5
MIX SELECT 6	MIX SELECT 6
MIX SELECT 7	MIX SELECT 7
MIX SELECT 8	MIX SELECT 8
CHANNEL STRIP	MIX KNOBS
INDIVIDUAL PAN	MIX KNOBS
ALL	RESET CONTROLS
SOLO	SOLO
ALL	△
ALL	▽
SET LIST	SET LIST
ALL	EXIT
COMBI	COMBI
PROG	PROG

SEQ	SEQ
HELP	HELP
SAMPLING	SAMPLING
GLOBAL	GLOBAL
DISK	DISK
COMPARE	COMPARE
ALL	7
ALL	8
ALL	9
ALL	4
ALL	5
ALL	6
ALL	1
ALL	2
ALL	3
ALL	-
ALL	0
ALL	.
ALL	ENTER
BANK I-A	BANK I-A
I-B	I-B
I-C	I-C
I-D	I-D
I-E	I-E
I-F	I-F
I-G	I-G
BANK U-A	BANK U-A
U-B	U-B
U-C	U-C
U-D	U-D
U-E	U-E
U-F	U-F
U-G	U-G
PAUSE	PAUSE
<<REW	<<REW
FF>>	FF>>
ALL	LOCATE
REC/WRITE(RED)	REC/WRITE
SEQUENCER　START/STOP	SEQUENCER　START/STOP

SEQUENCER　START/STOP(RED)	SEQUENCER　START/STOP
TEMPO	TAP TEMPO
SAMPLING REC(RED)	SAMPLING REC
SAMPLING　START/STOP	SAMPLING　START/STOP
SAMPLING　START/STOP(RED)	SAMPLING　START/STOP

After pushing SAMPLING　START/STOP, advance it to the following inspection

14. LCD check

14-1 All segments are white

Check all dots are white.

Check that there are no abnormalities in the color.

Check no dust in LCD.

Push [ENTER] and advance it to the following inspection.

14-2 All segments are black

Check all dots are black.

Check no dust in LCD.

Push [ENTER] and advance it to the following inspection.

14-3 Gradation check

The gradation that darkens while going to bottom on the screen is displayed.

Check that there are no abnormalities in the color.

Push [ENTER] and advance it to the following inspection.

14-4 Brightness check

Confirm the brightness changes periodically.

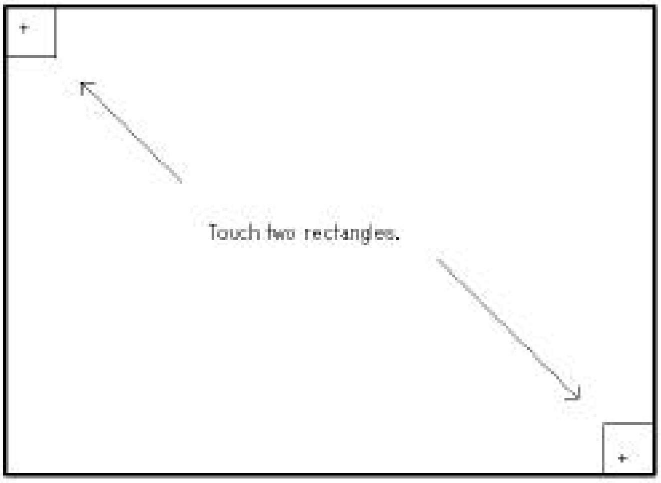
Push [ENTER] and advance it to the following inspection.

14-5 Touch pannel calibration

Touch center of “+” by using stylus pen.

The square around "+" becomes green from red.

After the calibration, push [ENTER] and advance it to the following inspection.



14-6 Touch function check

A blue square is displayed in the center and lower right on the left of LCD.

Confirm the change into green pushing

each square by the finger.

Push [ENTER] and advance it to the following inspection if the confirmation of three places ends.

14-7 Buzzer check

Confirme that the buzzer sound is not extremely small.

Push [ENTER] and advance it to the following inspection

15. A/D converter

(note) When objects other than the inspection object are operated, it displays an error.
Please inspect it again if this error occurs due to the mistake of the operation.

15-1 Ribbon controller check

Push the right edge of ribbon controller.

Confirm “OK” is displayed right side of “MAX” in the LCD.

The finger is moved to the left while pushing the ribbon controller.

Confirm “OK” is displayed right side of “CENTER” while it pushing about center of Ribbon controller.

Keep moving the finger to the left edge.

Confirm “OK” is displayed right side of “MAX” while it pushing left edge of Ribbon controller.

(note) Confirm RAW -value doesn't become 1023 at any position.

Confirm it doesn't have the foreign-body sensation while operating it.

Release finger from Ribbon controller.

Push [ENTER] and advance it to the following inspection

15-2 JOYSTICK It advances to the following inspection -X axis

Confirm “OK” is displayed right side of “RIGHT” when JOYSTIC is moved to the right

Moved JOYSTIC to the left.

Confirm “OK” is displayed right side of “CENTER” while it is moved about center.

Keep moving it to the left.

Confirm “OK” is displayed right side of “LEFT” when it is moved to the left full.

Confirm that movement is smooth moves smoothly while moving JOYSTIC up and down and right and left.

Move JOYSTIC to the right full.

Releases it so that JOYSTICK returns it to the center by the power of the spring.

Don’t toush JOYSTIC and push [ENTER] and advance it to the following inspection

15-3 JOYSTICH Y axis

Confirm “OK” is displayed right side of “MAX” when JOYSTIC is moved up.

Move JOYSTIC downward.

Confirm “OK” is displayed right side of “CENTER” while it move about center.

Keep moving it downward.

Confirm “OK” is displayed right side of “MIN” when it is moved to the downward full.

Move JOYSTIC downward full.

Releases it so that JOYSTICK returns it to the center by the power of the spring.

Don’t toush JOYSTIC and push [ENTER] and advance it to the following inspection

15-4 VECTOR JOYSTIC

Confirm “OK” is displayed side of “CENTER” when VECTOR JOYSTIC is moved to the CENTER.

Confirm “OK” is displayed right side of “RIHGT” when it is moved to the right full.

Confirm “OK” is displayed right side of “LEFT” when it is moved to the left full.

Confirm “OK” is displayed right side of “MAX” when it is moved to the up full.

Confirm “OK” is displayed right side of “MIN” when it is moved to the down full.

Confirm that movement is smooth moves smoothly while moving it up and down and right and left.

Don’t toush VECTOR JOYSTIC and push [ENTER] and advance it to the following inspection.

15-5 Rotary Volume and Slide Volume Check

The result of rotary volume displayed under “Knob1” to “Knob8” in the LCD.

The result of slide volume displayed under “Fader1” - “Fader8”,”Master”, and “Value”.

Check following about Each Rotary Volume

1) Rotate smoothly
2) “OK” is displayed right side of “CENTER” when the knob is rotated 12 o’clock.
3) “OK” is displayed right side of “MAX” when the knob is rotated clockwise full.
4) “OK” is displayed right side of “MIN” when the knob is rotated counterclockwise full.

Check following about Each Slide Volume

1) Slide smoothly.
2) “OK” is displayed right side of “CENTER” when the Slider is rotated 12 o’clock.
5) “OK” is displayed right side of “MAX” when the Slider is moved to right full.
6) “OK” is displayed right side of “MIN” when the Slider is moved to left full.

Push [ENTER] and advance it to the following inspection after the confirmation ends.

15-6 Rotary Encoder Check

Confirm rotate smoothly.

Set the encoder to the position that you easily get one rotation.

Push switch [7] for reset.

Rotate one-rotation encoder clockwise.

Confirm an increase of the value and becoming 32.

Confirm that “OK” is displayed under “32”

Push switch [7] for reset.

Rotate one-rotation encoder counterclockwise.

Confirm an decrease of the value and becoming -32.

Confirm that two “OK” is displayed under “-32”

Push [ENTER] and advance it to the following inspection after the confirmation ends.

15-7 TEMPO Volume Check

Rotate smoothly

“OK” is displayed right side of “CENTER” when the knob is rotated 12 o’clock.

“OK” is displayed right side of “MAX” when the knob is rotated clockwise full.

“OK” is displayed right side of “MIN” when the knob is rotated counterclockwise full.

It advances to the following inspection at the same time.

15-8 Pedal

Push on the opponent of EXP-2.

Push on the near side of EXP-2 slowly.

Confirm three OK is displayed in the next order.

1) “OK” is displayed under “MIN” of “FootPedal”
2) “OK” is displayed under “CENTER” of “FootPedal”
3) “OK” is displayed under “MAX” of “FootPedal”

Push on the opponent of EXP-2.

Push DS-1H slowly.

Confirm three OK is displayed in the next order.

1) “MAX” of “DamperPedal”
2) “CENTER” of “DamperPedal”
3) “MIN” of “DamperPedal”

Release DS-1H

Push PS-2

Confirm that “OK” is didplayed under “MIN” of “FootSwitch!”

Release PS-2

Confirm that “OK” is displayed under “MAX” of “FootSwitch” momentarily.

It advances to the following inspection at the same time.

18. Keyboard check

18-1. Velocity check

Hit the key medium touch from right edge of key to leftedge of key.
When hard touch or soft touch is detected, the error is displayed.
Confirm a mechanical, abnormal noise is not generated while inspecting it.
It advances to the following inspection after left edge key check ends.

(note) How to hit or play keyboard .

Push right edge key and keep pushing it.
Keep pushing right edge key and push 2nd key from the right edge.
Keep pushing 2nd key from the right and release right edge key.
Keep pushing 2nd key from the right and push 3rd key from the right.
In the same way, push the 4th key from the right .
In the same way, check until left edge key sequentially

18-2 After touch check

Push C4Key and C#4Key
Confirm "OK" is displayed side of "MAX" when C4Key and C#4Key is pushed.
Check following after value when right and left edge key is pushed.

61Key model:	Value must be 0
73/88Key:	Value must be equal or lower than 285.

Push the ENTER switch if the inspection ends.
Turn off the Power.
Disconnect cables

Error Code

check item	NG Step Number	Symptom
1 MIDI	S1	Time out Error
	S2	Verify Error
2 Battery	S1	Time setting Error (It is 2009 former.)
3 USB	S1	USB A and B loop is not detected.
	S2	USB memory id note tetected.
4 Temp	S1	CPU temperature is not acquired.
	S2	SYSTEM temperature is not acquired.
	S3	CPU temperature is over 70 degree
	S4	SYSTEM temperature is over 70 degree.
5 KeyBed	S1	Communication Check Error
	S2	Pinmode Error (The numbers of keyboards are not which 61, 73 or 88.)
	S3	Keybed EEPROM Error
	S4	Keybed matrix circuit Error
	S5	Controler use AD Error

KORG KRONOS Parts List

⚠= SAFETY CRITICAL COMPONENT.

Part Number	Category	Part Name	Location	Reference	QTY		
					61	73	88
500324022002	ASSP IC	TPS3823-30DBVR	KLM-3002	IC7	1	1	1
500324007049	LDO IC	BD18KA5FP-E2	KLM-3002	IC10	1	1	1
500324009054	REGULATOR IC	NJM78M05DL1A-TE1	KLM-3002	IC17	1	1	1
500324021149	OPAMP	NE5532ADR	KLM-3002	IC11-13	3	3	3
500324022116	REGULATOR IC	TPS73733DCQR	KLM-3002	IC21	1	1	1
500324022126	DC-DC Converter	TPS62420DRCR	KLM-3002	IC22	1	1	1
500335400450	CRYSTAL	CX3225SB24000D0PESZ1	KLM-3002	XT3	1	1	1
500335400460	CRYSTAL	CX3225SB24576D0PESZ1	KLM-3002	XT2	1	1	1
500335400600	CRYSTAL	CX3225SB30000D0PESZ1	KLM-3002	XT1	1	1	1
500402401300	EMI/EMC PART	VLF3014AT-2R2M1R2	KLM-3002	L6-7	2	2	2
500474039400	CONNECTOR	YKF45-0021N(USB RA B-TYPE)	KLM-3002	USB4	1	1	1
500474045544	CONNECTOR	YKF45-0033N(USB RA A-TYPE)	KLM-3002	USB1-2	2	2	2
200109263002	PCB ASSY	KLM-3002 KRONOS-61/73/88	KLM-3002		1	1	1
500314010690	LED	19-213/R6C-AN2Q1B/3T(ELJ)	KLM-3003/3004	LED64 LED52 LED70 LED53	4	4	4
500314036000	LED	LWQ38E-Q1S2-3K6L-1	KLM-3003/3004	LED1-51 LED54-63 LED65-68 LED71-74 LED102	70	70	70
500324022116	REGULATOR IC	TPS73733DCQR	KLM-3003/3004	IC2 IC16	2	2	2
500362009032	VR	RK11K1140A23	KLM-3003/3004	VR1 VR3 VR5 VR7 VR9 VR11 VR13 VR15 VR20	9	9	9
500362009072	VR	RK14K12D0D11	KLM-3003/3004	VR21	1	1	1
500362009073	VR	RKJXK1210	KLM-3003/3004	VR19	1	1	1
500365011400	VR	RS30111A602N	KLM-3003/3004	VR2 VR4 VR6 VR8 VR10 VR12 VR14 VR16-18	10	10	10
500370006300	ENCODER SWITCHS	SRGPWJ0200	KLM-3003/3004	ENC2	1	1	1
500374001600	SW	SKRGARD010	KLM-3003/3004	SW1-76	76	76	76
200109263003	PCB ASSY	KLM-3003/4 KRONOS-61/73/88	KLM-3003/3004		1	1	1
500184080020	Chip FUSE R	RF732BTTD0R2J	KLM-3005/6/8/9	R20	1	1	1
500304050740	TRANSISTOR	2SAR544RTL	KLM-3005/6/8/9	Q2	1	1	1
500314010740	DIODE	RB160VA-40	KLM-3005/6/8/9	D5	1	1	1
500320009108	OPAMP	NJM4556AL (SIP)	KLM-3005/6/8/9	IC601-602	2	2	2
500324007050	RESET IC	BD5247G-TR	KLM-3005/6/8/9	IC4	1	1	1
500324009086	DC-DC Converter	NJM2374AE-TE1-#ZZZB	KLM-3005/6/8/9	IC10	1	1	1
500324021149	OPAMP	NE5532ADR	KLM-3005/6/8/9	IC102-105 IC204-205 IC304-305 IC404-405	10	10	10
500330003700	PHOTO COUPLER	PS9117A-F3-AX(M)	KLM-3005/6/8/9	PC1	1	1	1
500330004000	OPTO TX/RX MODULE	GP1FMV31TK0F	KLM-3005/6/8/9	OPT2	1	1	1
500330004100	OPTO TX/RX MODULE	GP1FMV31RK0F	KLM-3005/6/8/9	OPT1	1	1	1
500335400151	CERAMIC RESONATOR	CSTCE20M0V51-R0	KLM-3005/6/8/9	XT1	1	1	1
500362009058	VR	RK09K1110 50Kﾄｸ (F1815071M)	KLM-3005/6/8/9	VR101-102	2	2	2
500375014900	SW	SPUN192600	KLM-3005/6/8/9	SW101-102	2	2	2
500402400600	INDUCTOR	PK0810-331K-UL-T/F (TR)	KLM-3005/6/8/9	L603-604 L901	3	3	3
500404001250	Chip INDUCTOR	CDRH127LD	KLM-3005/6/8/9	L34	1	1	1
500450003100	PHONE JACK	LGR4609-7100F	KLM-3005/6/8/9	HP1	1	1	1
500454005600	PHONE JACK	YKB21-5006G	KLM-3005/6/8/9	PH101-102 PH201-202	4	4	4
500454009900	PHONE JACK	YKB21-5074G	KLM-3005/6/8/9	PH8-10 PH301-302 PH401-402	7	7	7
500480010560	DIN JACK	YKF51-5073V	KLM-3005/6/8/9	MIDI1	1	1	1
200109263005	PCB ASSY	KLM-3005/6/8/9 KRONOS-61/73/88	KLM-3005/6/8/9		1	1	1
500304050310	TRANSISTOR	2SA1037AKT146R	KLM-3007(LCD I/F)	Q1	1	1	1
500304050660	TRANSISTOR	2SC4081T106R	KLM-3007(LCD I/F)	Q2	1	1	1
500314037000	SCHOTTKY DIODE	RB160M-30TR	KLM-3007(LCD I/F)	D1	1	1	1
500314037100	SCHOTTKY DIODE	RB481KTL	KLM-3007(LCD I/F)	D2-3	2	2	2
500314037200	ZENER DIODE	UDZSTE-1716B	KLM-3007(LCD I/F)	ZD2	1	1	1
500314037300	ZENER DIODE	UDZSTE-177.5B	KLM-3007(LCD I/F)	ZD1	1	1	1
500324022133	DC-DC Converter	TPS61085DGKR	KLM-3007(LCD I/F)	IC1	1	1	1
500402401500	INDUCTOR	VLCF5028	KLM-3007(LCD I/F)	L1	1	1	1
200109263007	PCB ASSY	KLM-3007 KRONOS-61/73/88	KLM-3007(LCD I/F)		1	1	1
500314036000	LED	LWQ38E-Q1S2-3K6L-1	KLM-3010/11		6	6	6
500324021034	OPAMP	RC4558DR	KLM-3010/11		1	1	1
500374001600	SW	SKRGARD010	KLM-3010/11		2	2	2
200109263010	PCB ASSY	KLM-3010/11 KRONOS-61/73/88	KLM-3010/11		1	1	1
500324007028	ASSP IC	BU4227G-TR	KLM-3101	IC1	1	1	1
200109263101	PCB ASSY	KLM-3101	KLM-3101		0.1	0.1	0.1
500002190400 ⚠	POWER SUPPLY BOARD	ENO-1612-K	Other Electric		1	1	1
500002189800	MOTHER BOARD	BLKD510M0	Other Electric		1	1	1
500002190700	MEMORY MODULE	DIMM SMD-2G88HP-8E	Other Electric		1	1	1
500520001700 ⚠	LITHIUM BATTERY	CR2032-A1//Z	Other Electric		1	1	1
500313007400	LCD	UMSH-8240MD-T	Other Electric		1	1	1
500415005600	TOUCH PANEL	NC01151-T001	Other Electric		1	1	1
500375011100 ⚠	SW	POWER SW JW-M11RKK	Other Electric		1	1	1
500646040900		POWER SWBARRIER AT-217K	Other Electric		1	1	1
500415005000	PRESSURE SENSOR	KX-2100 SENSOR (BLACK)	Other Electric		1	1	1
500420007400	KEYBOARD UNIT	SK61	Other Electric		1		
500420007800	KEYBOARD UNIT	RH-3B 73KEY AFT	Other Electric			1	
500420007600	KEYBOARD UNIT	RH-3B AFT	Other Electric				1
500435006100	SSD	THNSNB030GBSJ	Other Electric		1	1	1
500437000700 ⚠	DC FAN	XRL4106028	Other Electric		1	1	1
500540028938 ⚠	AC INLET	SUP-J3G-E2A	Other Electric		1	1	1
500104016710 ⚠	RESISTOR	CFS1/4CT26A 105 J	Other Electric		1	1	1
500180400020 ⚠	THERMISTOR	NTPAA3R9LD6A0	Other Electric		1	1	1

500565001400	HEATSINK	HS-AA-C-D(SOFT 50X50)	Other Electric	X-09130	1		
500565001500	HEATSINK	HH-AA-A-P(HARD 20X20)	Other Electric		1	1	1
500565001600	HEATSINK	HT-B-A-A(TAPE 20X20)	Other Electric		1	1	1
500540028903 ⚠	POWER PLUG/JACK	CONVERTER SOCKET YL-212-C	ACC	100JP	1	1	1
500600006508 ⚠	AC CABLE	LY100JPVCTFLY35LY37(JP)	ACC	100JP	1	1	1
500600005700 ⚠	AC CABLE	UC-953-J01	ACC	120CN/US			
500600005800 ⚠	AC CABLE	SC-111-J01	ACC	240AU			
500600005400 ⚠	AC CABLE	EC-652-E03	ACC	230GE			
500600006507 ⚠	AC CABLE	LY230BSH05VVFBSLY13(UK)	ACC	230UK			
500475104063	HARNESS	HNS-4063	Harness(61Key)		1		
500475004064	HARNESS	HNS-4064			1		
500475104066	HARNESS	HNS-4066			1		
500475104067	HARNESS	HNS-4067			1		
500475104068	HARNESS	HNS-4068			1		
500475104069	HARNESS	HNS-4069			1		
500475104070	HARNESS	HNS-4070			1		
500475104072	HARNESS	HNS-4072			1		
500475104073	HARNESS	HNS-4073			1		
500475104074	HARNESS	HNS-4074			1		
500475104075	HARNESS	HNS-4075			1		
500475104078	HARNESS	HNS-4078			1		
500475104079	HARNESS	HNS-4079			1		
500475104080	HARNESS	HNS-4080			1		
500475104081	HARNESS	HNS-4081			1		
500475104082	HARNESS	HNS-4082			1		
500475104093	HARNESS	HNS-4093			1		
500475104096	HARNESS	HNS-4096			1		
500475104119	HARNESS	HNS-4119			1		
500475104120	HARNESS	HNS-4120			1		
500475104121	HARNESS	HNS-4121			1		
500475004124	HARNESS	HNS-4124			1		
500475104063	HARNESS	HNS-4063	Harness(73Key)			1	
500475004064	HARNESS	HNS-4064				1	
500475104066	HARNESS	HNS-4066				1	
500475104067	HARNESS	HNS-4067				1	
500475104068	HARNESS	HNS-4068				1	
500475104069	HARNESS	HNS-4069				1	
500475104070	HARNESS	HNS-4070				1	
500475104071	HARNESS	HNS-4071				1	
500475104072	HARNESS	HNS-4072				1	
500475104073	HARNESS	HNS-4073				1	
500475104074	HARNESS	HNS-4074				1	
500475104075	HARNESS	HNS-4075				1	
500475104076	HARNESS	HNS-4076				1	
500475104077	HARNESS	HNS-4077				1	
500475104083	HARNESS	HNS-4083				1	
500475104084	HARNESS	HNS-4084				1	
500475104085	HARNESS	HNS-4085				1	
500475104086	HARNESS	HNS-4086				1	
500475104087	HARNESS	HNS-4087				1	
500475104093	HARNESS	HNS-4093				1	
500475104096	HARNESS	HNS-4096				1	
500475104063	HARNESS	HNS-4063	Harness(88Key)				1
500475004064	HARNESS	HNS-4064					1
500475104066	HARNESS	HNS-4066					1
500475104067	HARNESS	HNS-4067					1
500475104068	HARNESS	HNS-4068					1
500475104069	HARNESS	HNS-4069					1
500475104070	HARNESS	HNS-4070					1
500475104071	HARNESS	HNS-4071					1
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500475104073	HARNESS	HNS-4073					1
500475104074	HARNESS	HNS-4074					1
500475104075	HARNESS	HNS-4075					1
500475104076	HARNESS	HNS-4076					1
500475104077	HARNESS	HNS-4077					1
500475104088	HARNESS	HNS-4088					1
500475104089	HARNESS	HNS-4089					1
500475104090	HARNESS	HNS-4090					1
500475104091	HARNESS	HNS-4091					1
500475104092	HARNESS	HNS-4092					1
500475104093	HARNESS	HNS-4093					1
500475104096	HARNESS	HNS-4096					1
500642000030		X09130 VJS KNOB C41705	Mechanical		1	1	1
500646100789 ⚠		X09130 SIDE PANEL-L E30572-1	Mechanical		1		
500646100790 ⚠		X09130 SIDE PANEL-R E30572-2	Mechanical		1		
500646100771 ⚠		X09131 SIDE PANEL-L E30573-1	Mechanical			1	1
500646100772 ⚠		X09131 SIDE PANEL-R E30573-2	Mechanical			1	1
500646100773		X09130 LCD HOOD E30575	Mechanical		1	1	1
500540028944		X09131 LCD SPACER F41729	Mechanical			1	1
500646100774		X09130 JS PANEL E30576	Mechanical		1	1	1
500646100776		X09130 KB COVER E30579	Mechanical		1		
500646100775		X09131 KEY BLOCK E30577	Mechanical			1	1
500646100777		X09130 VJS FRAME E40801	Mechanical		1	1	1
500646100782		X09130 REFLECTOR-5 E40804-5	Mechanical		1	1	1
500620049729		X09130 KEY-S-4 E40802-4	Mechanical		2	2	2
500620049733		X09130 KEY-L-4 E40803-4	Mechanical		6	6	6
500620049735		X09130 ENCODER KNOB E40800	Mechanical		1	1	1
500620049736		X09130 SVR KNOB-B/G E40805-2	Mechanical		10	10	10
500541000001		X09130 VJS SHEET-L F41627	Mechanical		1	1	1
500541000002		X09130 VJS SHEET-S F41628	Mechanical		1	1	1
500550023530		X09131 KB FELT F41629-1	Mechanical			1	
500550023531		X09132 KB FELT F41629-2	Mechanical				1
500646100764		X5870 VR KNOB(H) E30459-1	Mechanical		10	10	10
500620044800		ROTARY VR KNOB KOC-E48026-1	Mechanical		2	2	2
500620018200		POWER SWKNOB KOC-E40224	Mechanical		2	2	2
500500022500		FF-004-AR791	Mechanical		5		

500500037007		RUBBER FOOT K-24W	Mechanical			5	5
500646100791		X09130 JS REFLECTOR E40747-2	Mechanical		1	1	1

JoyStic unit

Part Number	Category	Part Name	Location	Reference	QTY		
500362009052	VR	RK11K1140D1H	KLM−2704/5	VR9-10	2	2	2
200062462704	PCB ASSY	KLM-2704/2705	KLM−2704/5		0.25	0.25	0.25
500646100703		X4100 JS COVER E40702-2	Mechanical		1	1	1
500646100068		X4100 JS WHEEL E40703	Mechanical		1	1	1
500646100070		X4100 JS WHEEL SUPPORT E30455	Mechanical		1	1	1
500646100071		X4100 JS FRAME E30456	Mechanical		1	1	1
500646100069		X4100 JS PLATE E40704	Mechanical		1	1	1
500644010500		X-0100 WHEEL SPRING KOC-C41222	Mechanical		2	2	2
500540026500		X-0100 JS WASHER KOC-F40979	Mechanical		2	2	2
500773060900		VN 3BBC 9			2	2	2
500791040308		BT B NIC 3X8			3	3	3

APPENDIX

１．PSoC System loading

Do the loading of Psoc system when you exchange PANEL PC BOARD(KLM-3003 or KLM-3004)
(When IC SY8C21323-24PVXIT is exchanged, the loading is similarly done.)
When the first turning on power after it exchanges it, it is automatically loaded.
(note) Lording can be started if set power on with pushing [ENTER] and [<<REW]
Display start up and "Updating the panel scan system..." is displayed in the upper left side of LCD.
"Completed!" is displayed if loading succeeds.
If loading is failed, "Cannot update it."
Set power off after confirm this message.

TITLE

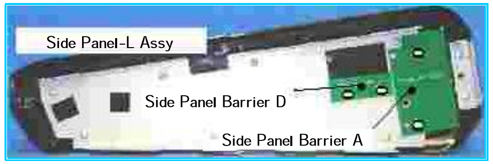
SidePanel **Assy**

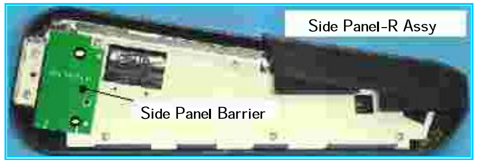
MODEL

KRONOS 61/73/88

1 ▼

○BT B 3BC 3×8 :6本
tightening torque :8Kgf·Cm

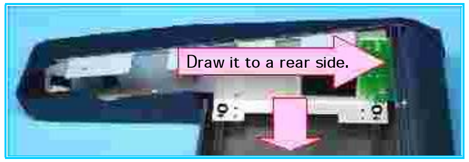

Side Panel-L Assy
Side Panel Barrier D
Side Panel Barrier A

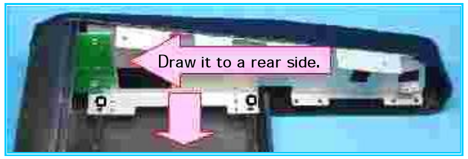

Side Panel-R Assy
Side Panel Barrier

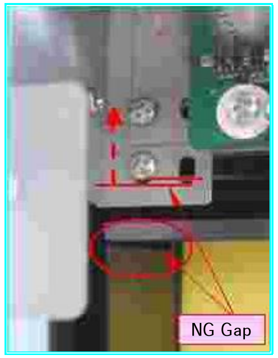
2

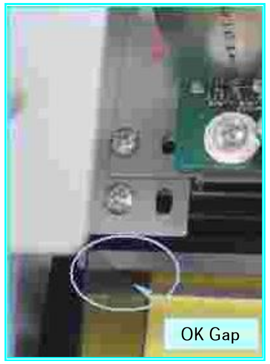
Screw Side Panel-L/R Assy after drawing to Side Panel to a rear side.

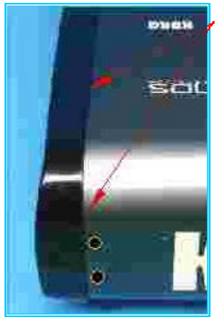
○BT B 3BC 3×8 :4
tightening torque :8Kgf·Cm


Draw it to a rear side.


Draw it to a rear side.

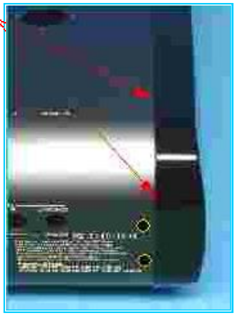






Screw Side Panel-L/R Assy after drawing to Side Panel to a rear side.
Confirm in view of the table side, there is no space of Side Panel and Panel after screw clamp.

●BT B 3BBC 3×8 :4
tightening torque :8Kgf·Cm



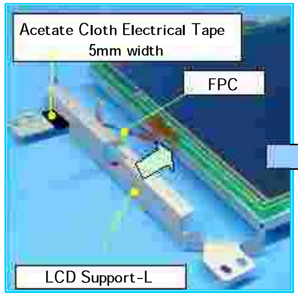
TITLE

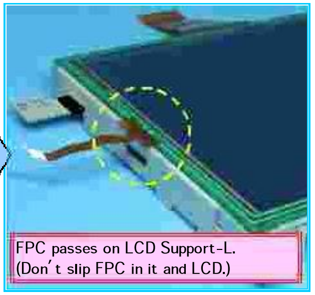
LCD/SSD/FAN **Assy**

MODEL

KRONOS－61/73/88

1 ▼

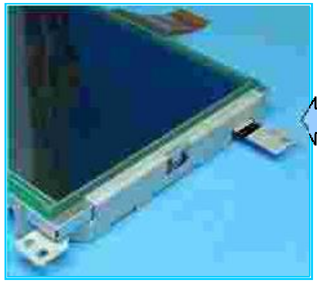

Acetate Cloth Electrical Tape
5mm width
FPC
LCD Support-L

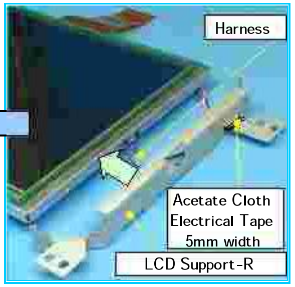


FPC passes on LCD Support-L.
(Don't slip FPC in it and LCD.)

Wrap the Acetate tape(5mm width) around LCD Support-L twice.
Do not make space bend point of

Insert the arrow part of LCD Support-L in the space between LCD and Touch Panel as for.




Harness
Acetate Cloth Electrical Tape
5mm width
LCD Support-R

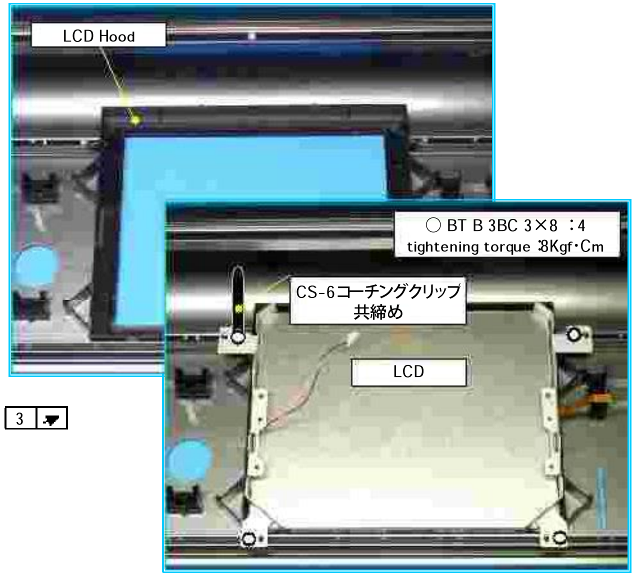
Wrap the Acetate tape(5mm width) around LCD Support-R twice.
Do not make space bend point of

The harness is put out downward through the inside of metal fittings (Do not pass the corner hole of metal fittings).

Insert the arrow part of LCD Support-R in the space between LCD and Touch Panel as for.

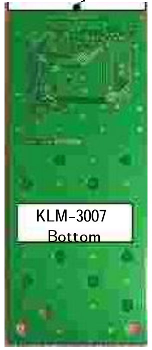
2 ▼

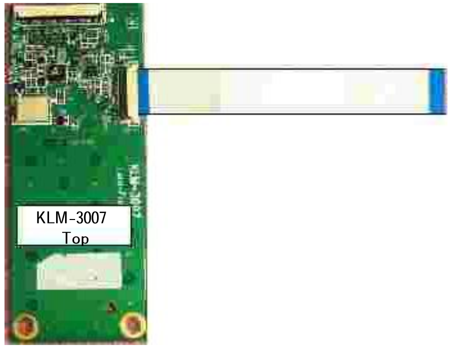
3 ▼


LCD Hood
○ BT B 3BC 3×8 ：4
tightening torque ：8Kgf·Cm
CS-6コーチングクリップ
共締め
LCD

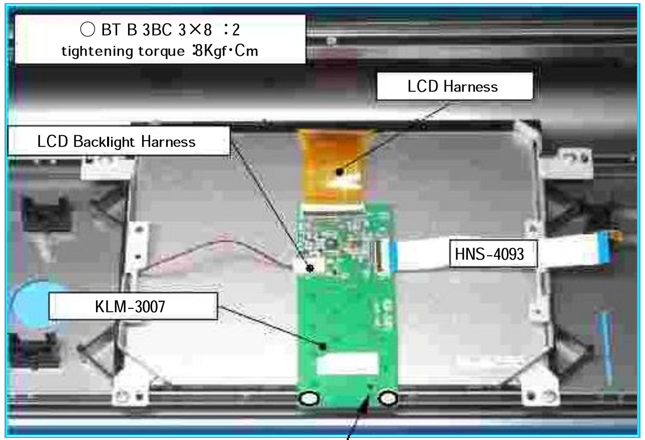
4 ▶

Cut the Touch Panel Tape-L in four capitation and paste.


KLM-3007
Bottom


KLM-3007
Top

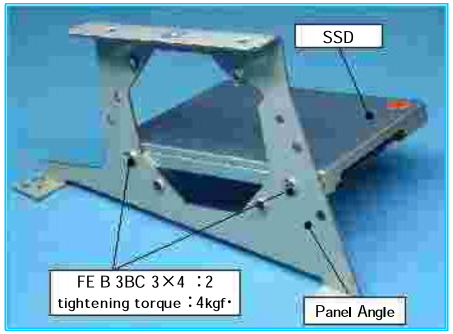
5

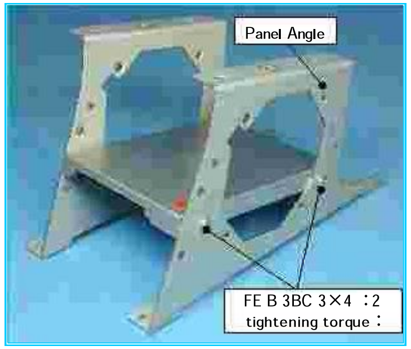

○ BT B 3BC 3×8 ：2
tightening torque ：8Kgf·Cm
LCD Harness
LCD Backlight Harness
HNS-4093
KLM-3007

Fit the hole of PC Board to LCD Hood positioning pin.

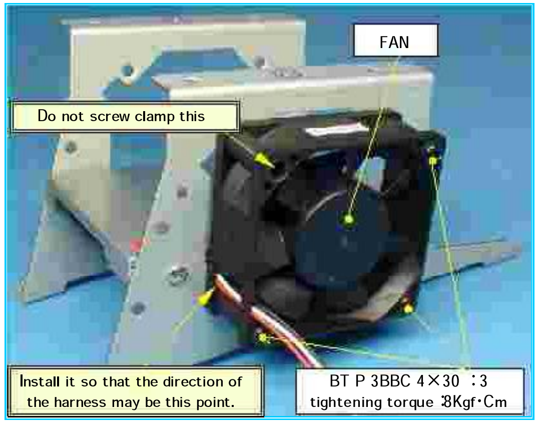
1 ▼

Notice) the screw tightening torque of SSD is lower than other parts.


SSD
FE B 3BC 3×4 ：2
tightening torque：4kgf·
Panel Angle

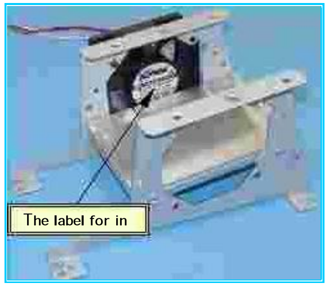

Panel Angle
FE B 3BC 3×4 ：2
tightening torque：

2 ▼


FAN
Do not screw clamp this
BT P 3BBC 4×30 ：3
tightening torque ：8Kgf·Cm

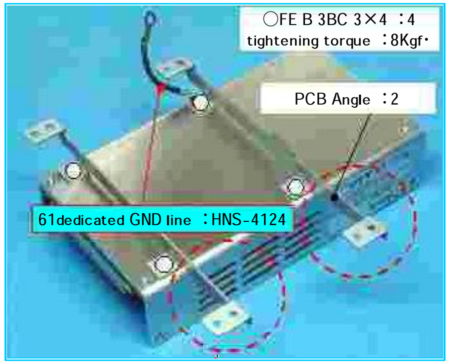
Install it so that the direction of the harness may be this point.

Install FAN so that the label may become direction of the inside.


The label for in

TITLE
Power Unit Assy
MODEL
KRONOS 61／73／88

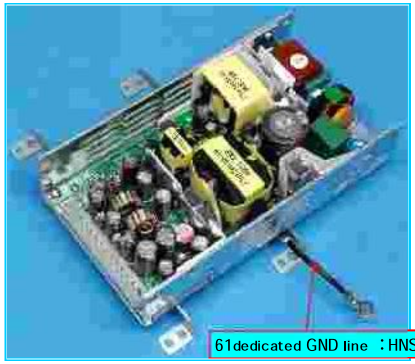
61KEY dedicated POWER Unit Assy



○FE B 3BC 3×4 ：4
tightening torque ：8Kgf·

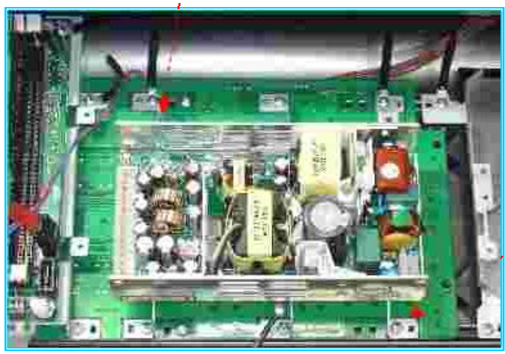
PCB Angle ：2

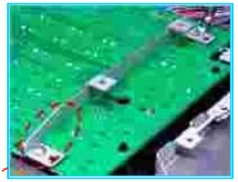
61dedicated GND line ：HNS-4124



61dedicated GND line ：HNS-4124

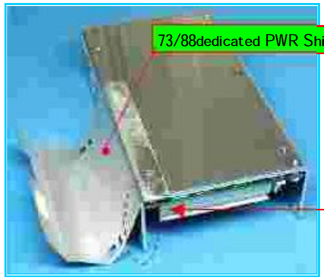
Attention of becoming opposite direction only in case of one of PCB Angle of 61KEY (figure below)
Three both is installed in 73/88KEY for the same.



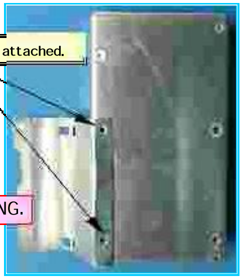


73/88 KEY dedicated POWER Unit Assy

1

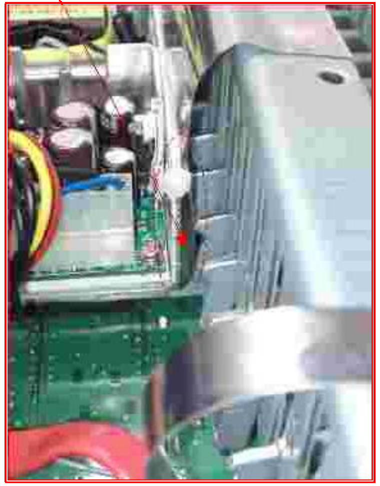


73/88dedicated PWR Shield

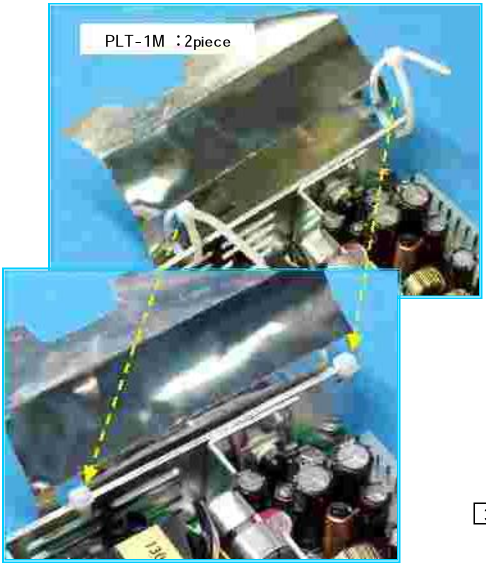


Fit the hole of Power Unit and attached.

The swelling of the shield paper is NG.

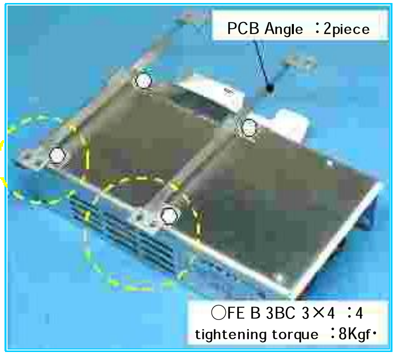


2



PLT-1M ：2piece

3



PCB Angle ：2piece

○FE B 3BC 3×4 ：4
tightening torque ：8Kgf·

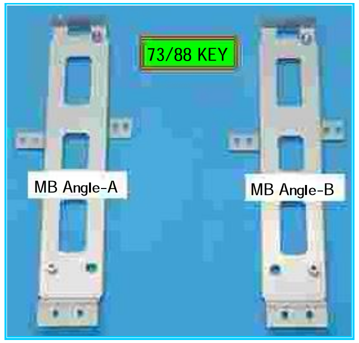
TITLE

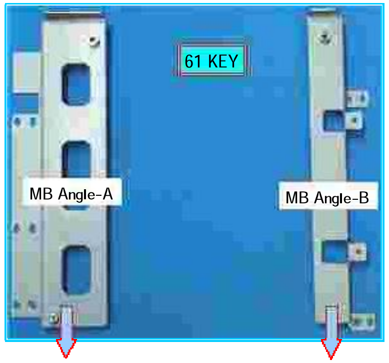
Mother Board Assy

MODEL

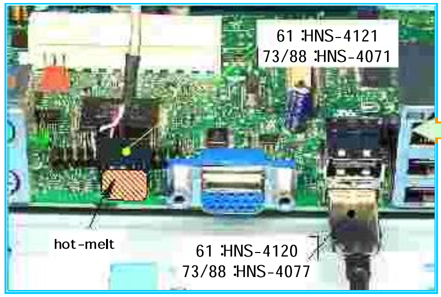
KRONOS 61/73/88

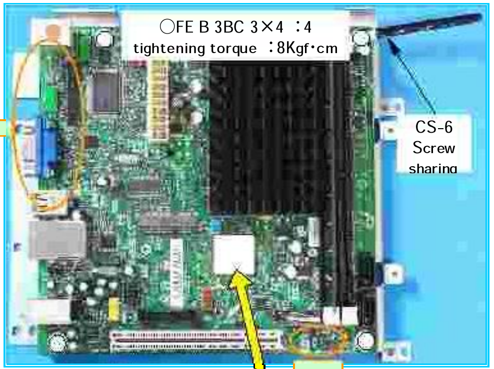
1 ▼

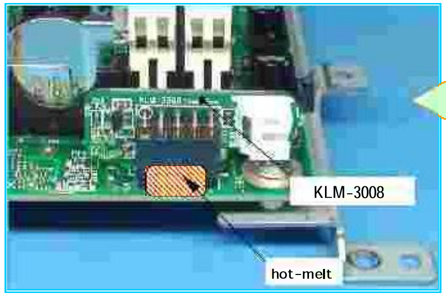

73/88 KEY
MB Angle-A
MB Angle-B


61 KEY
MB Angle-A
MB Angle-B

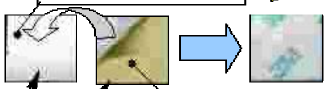
2 ▼


61 :HNS-4121
73/88 :HNS-4071
hot-melt
61 :HNS-4120
73/88 :HNS-4077


○FE B 3BC 3×4 :4
tightening torque :8Kgf·cm
CS-6
Screw
sharing


KLM-3008
hot-melt

3

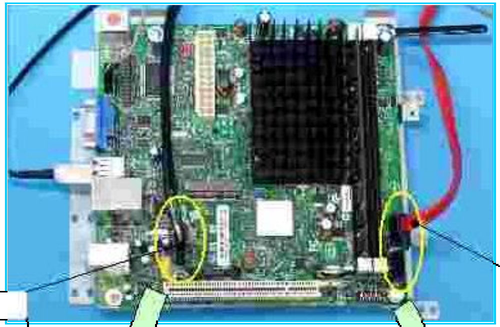

Heat Sink :HH-AA-AP
double-faced tape :HT-B-A-A

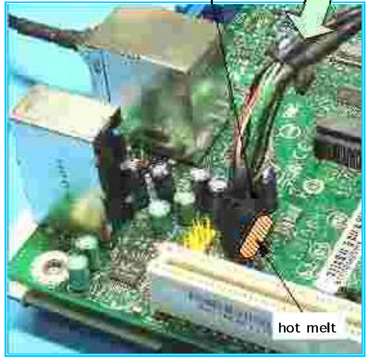
(Note) Don' t forget paste at the MB exchange.

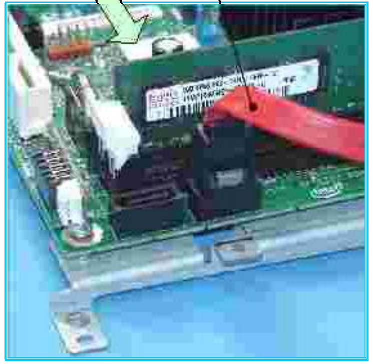
Peel brown released paper of the tape snd paste Heat Sink.

Paste double-faced tape to a metallic side of Heat Sink.

3 ▼

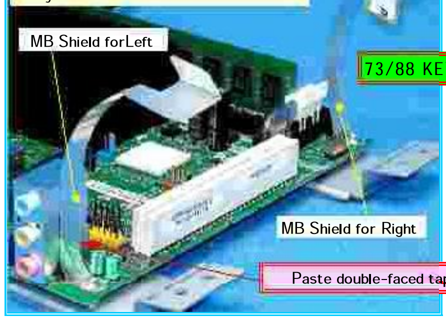

HNS-4119
S-ATA cable

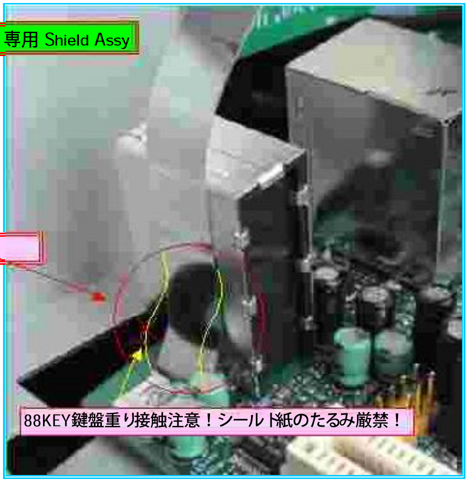




Same MB Shield is used for L and for R. The way of folding is only different in L and R. Note that the installation point is different.

Note MB Shield to damage screw clamp easily sometimes.


MB Shield forLeft
MB Shield for Right
Paste double-faced tape


73/88 KEY 専用 Shield Assy

88KEY鍵盤重り接触注意！シールド紙のたるみ厳禁！

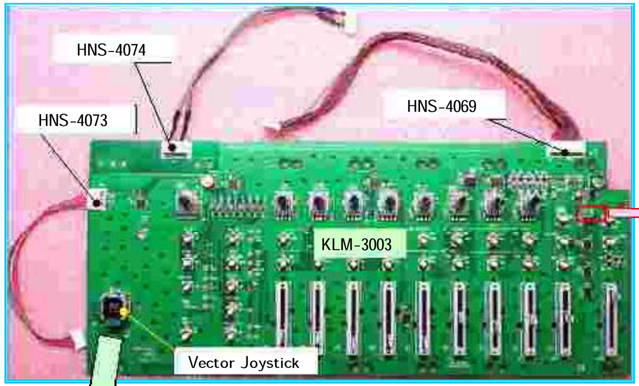
TITLE

PNEL_PCB **Assy**

MODEL

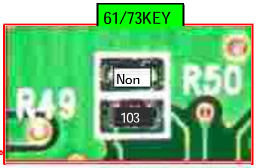
KRONOS 61/73/88

1 →

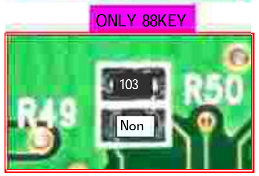

HNS-4074
HNS-4073
HNS-4069
KLM-3003
Vector Joystick

(Note) The mount position of 10K Ω resistance is different for 61/73 keys and for 88 keys in KLM-3003

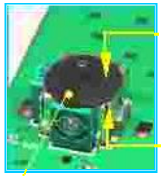
61/73KEY


R49
Non
103
R50

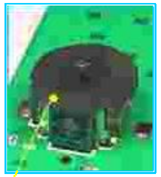
ONLY 88KEY


R49
103
Non
R50

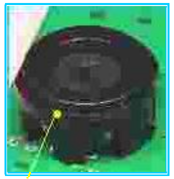
Non ：ﾏｳﾝﾄ無し 103 ：10KΩ



VJS Sheet-S



VJS Sheet-L

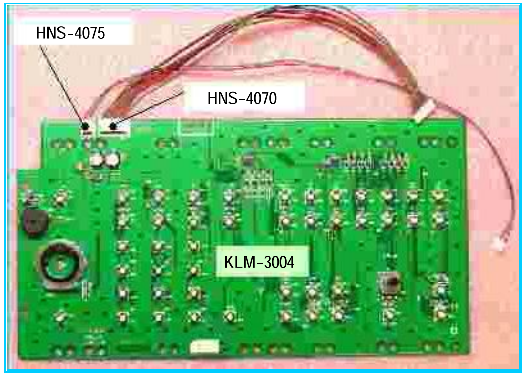


VJS Frame

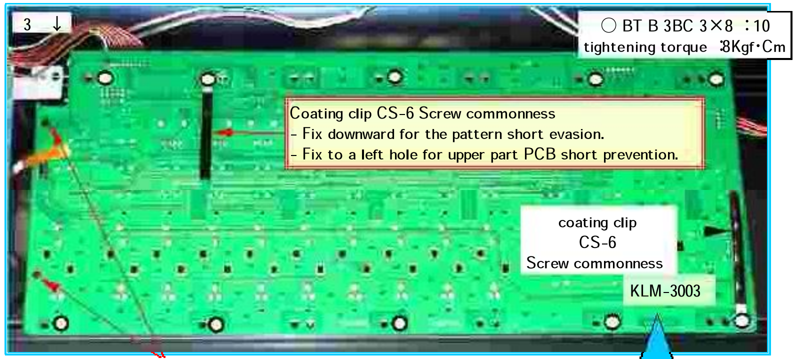
Set up VJS Sheet-S/L bot with the gloss surface turned internally.

Hangs VJS Frame the tab of the stopper to the corner hole of the substrate for fixing.

2 ↓


HNS-4075
HNS-4070
KLM-3004

3 ↓



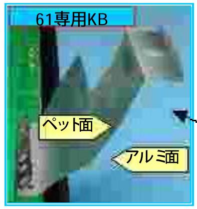
○ BT B 3BC 3×8 ：10
tightening torque ：8Kgf·Cm

Coating clip CS-6 Screw commonness
- Fix downward for the pattern short evasion.
- Fix to a left hole for upper part PCB short prevention.

coating clip
CS-6
Screw commonness

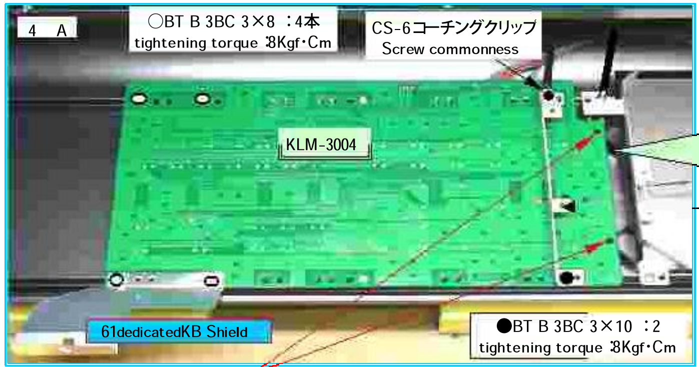
Confirm the positioning pin of the LCD food firmly engages with the positioning hole of PCB.
There is a possibility that some sliders rub when there is a floatage.

KRONOS 61


61専用KB
ペット面
アルミ面

KRONOS 73/88

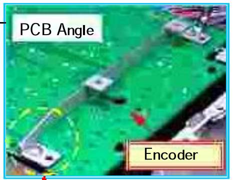
4 A


KLM-3004
61dedicatedKB Shield

○BT B 3BC 3×8 ：4本
tightening torque ：8Kgf·Cm

CS-6コーチングクリップ
Screw commonness

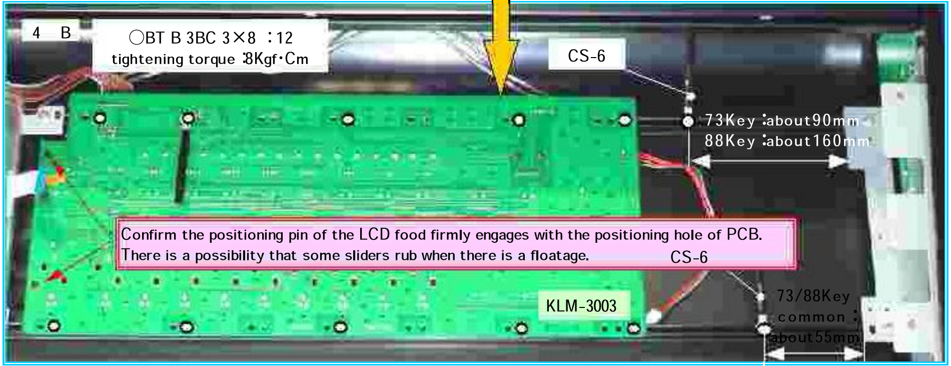
●BT B 3BC 3×10 ：2
tightening torque ：8Kgf·Cm


PCB Angle
Encoder

Fix while suppressing it so that the positioning pin of the LCD food may firmly engage with the positioning hole of PCB so that the encoder part of PCB should not float.
The rotation of the encoder rubs if there is a floatage even a little.

(Note) Install the direction of PCB Angle in the opposite direction of PowerUnit Angle only for 61 keys.

4 B


CS-6
KLM-3003
CS-6

○BT B 3BC 3×8 ：12
tightening torque ：8Kgf·Cm

73Key ：about90mm
88Key ：about160mm

Confirm the positioning pin of the LCD food firmly engages with the positioning hole of PCB.
There is a possibility that some sliders rub when there is a floatage.

73/88Key common ：about55mm

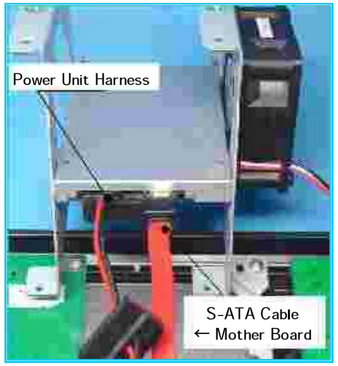
TITLE

FAN/AC_Inlet **Assy**

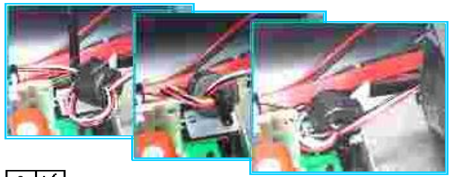
MODEL

KRONOS 61/73/88

1 →

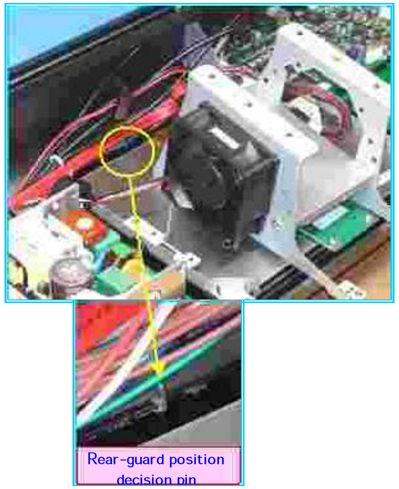

Power Unit Harness
S-ATA Cable
← Mother Board

2 ↓

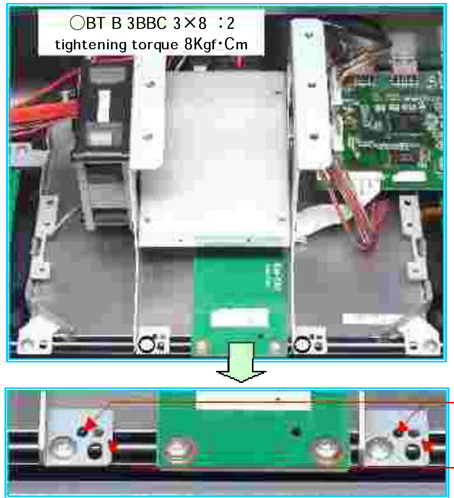


3 ↙

Bring the harness together on a rear side of the panel so as not to place the harness with Panel Angle. Put Panel Angle of SSD Assy in the positioning pin in the back and forth four places.

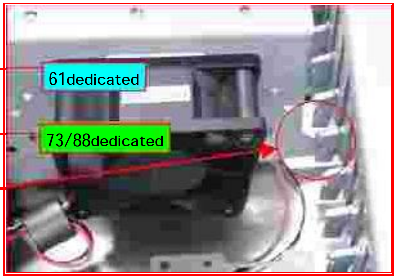

Rear-guard position decision pin

4

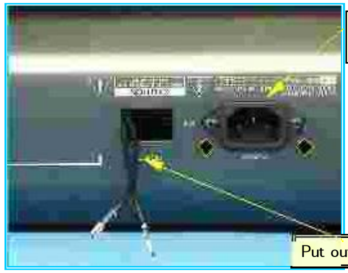


○BT B 3BBC 3×8 :2
tightening torque 8Kgf·Cm

The left side sets for 61Key and the right side to enter the hole of 73key as the position-determining pin faces it.
(There is a possibility of coming in contact with the weight of the RH3 keyboard if making a mistake.)


61dedicated
73/88dedicated

1 ↓



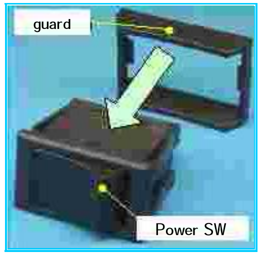
(Note) Install AC Inlet in a correct direction because AC Inlet is installed in either direction.

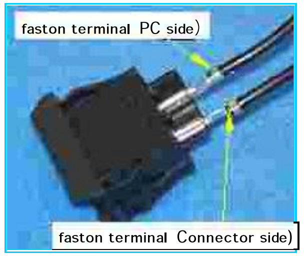
◆ BT B 3BBC 3×8 :2
tightening torque 8Kgf·Cm

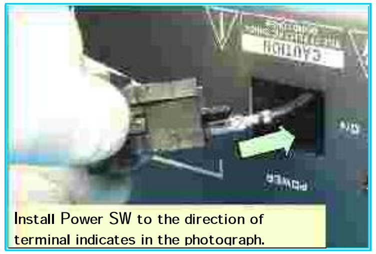
Put out the faston terminal of AC Inlet harness from the switch installation hole.

2 ↓

Confirm the terminal is inserted to the root of the switch

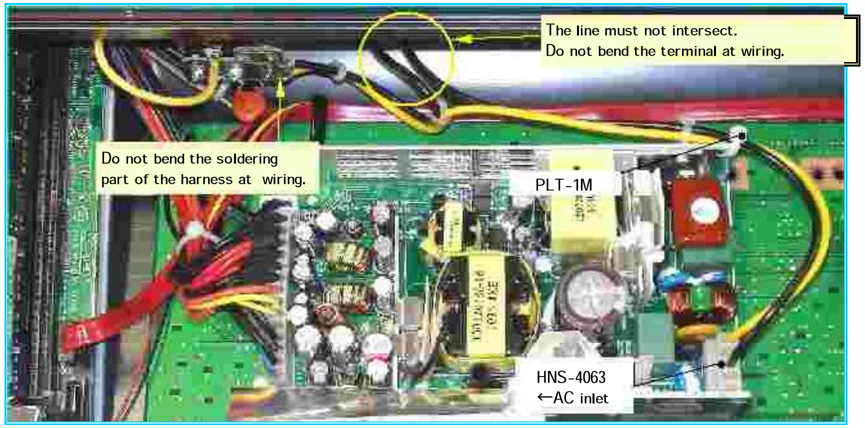

guard
Power SW


faston terminal PC side)
faston terminal Connector side)



Install Power SW to the direction of terminal indicates in the photograph.

3



The line must not intersect.
Do not bend the terminal at wiring.

Do not bend the soldering part of the harness at wiring.

PLT-1M
HNS-4063
←AC inlet

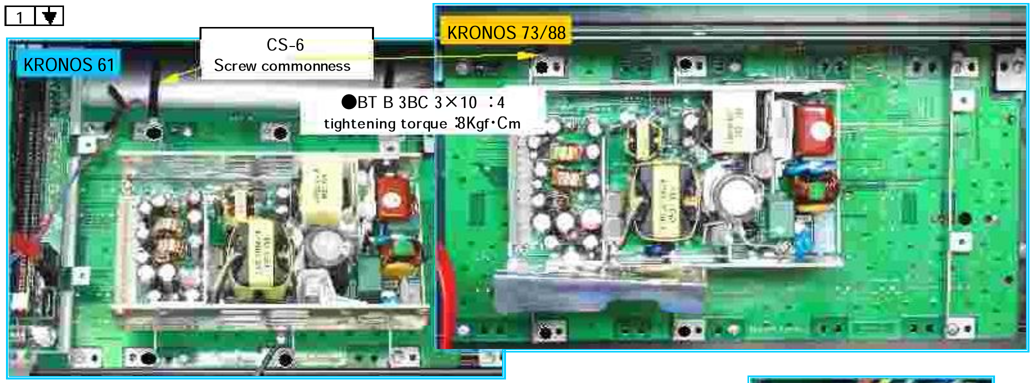
TITLE

Power Cable **Assy**

MODEL

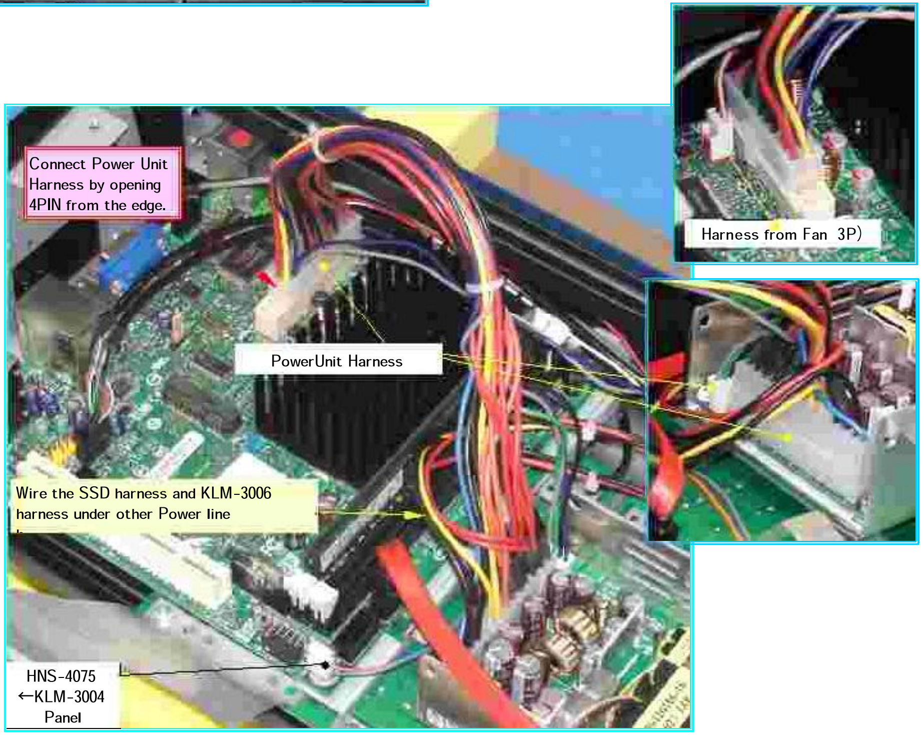
KRONOS 61/73/88

1


KRONOS 61
KRONOS 73/88
CS-6
Screw commonness

●BT B 3BC 3×10 ：4
tightening torque ：8Kgf·Cm

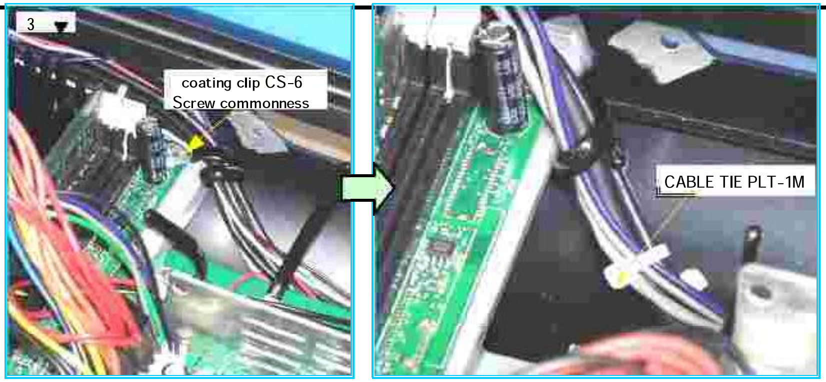
2

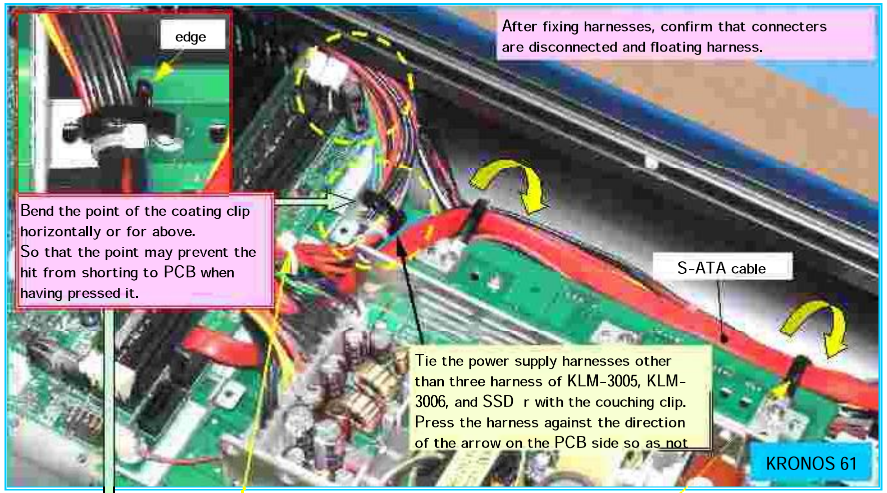

PowerUnit Harness
Harness from Fan 3P)
HNS-4075
←KLM-3004
Panel

Connect Power Unit Harness by opening 4PIN from the edge.

Wire the SSD harness and KLM-3006 harness under other Power line

3

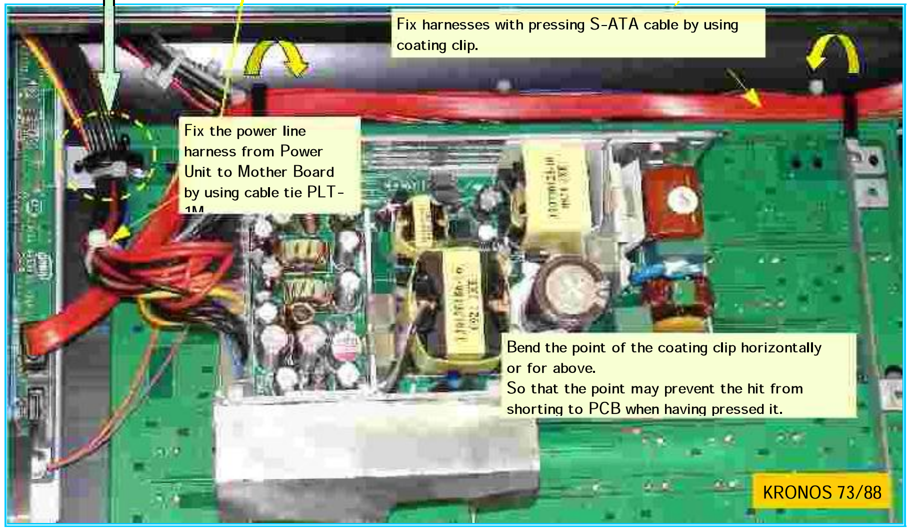

coating clip CS-6
Screw commonness
CABLE TIE PLT-1M


edge
S-ATA cable
KRONOS 61

After fixing harnesses, confirm that connecters are disconnected and floating harness.

Bend the point of the coating clip horizontally or for above.
So that the point may prevent the hit from shorting to PCB when having pressed it.

Tie the power supply harnesses other than three harness of KLM-3005, KLM-3006, and SSD r with the couching clip.
Press the harness against the direction of the arrow on the PCB side so as not


KRONOS 73/88

Fix harnesses with pressing S-ATA cable by using coating clip.

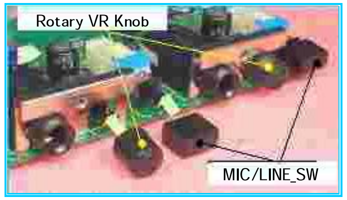
Fix the power line harness from Power Unit to Mother Board by using cable tie PLT-

Bend the point of the coating clip horizontally or for above.
So that the point may prevent the hit from shorting to PCB when having pressed it.

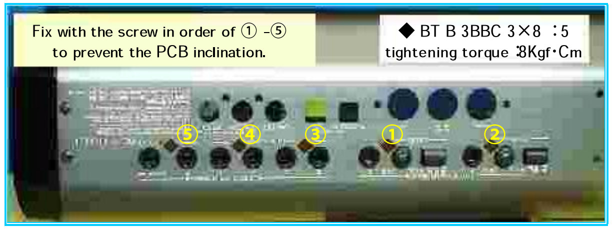
TITLE
JAC_PCB **Assy**
MODEL
KRONOS 61/73/88

1

Install the two Rotary VR Knob and two Power switch knob before fixing PCB.


Rotary VR Knob
MIC/LINE_SW

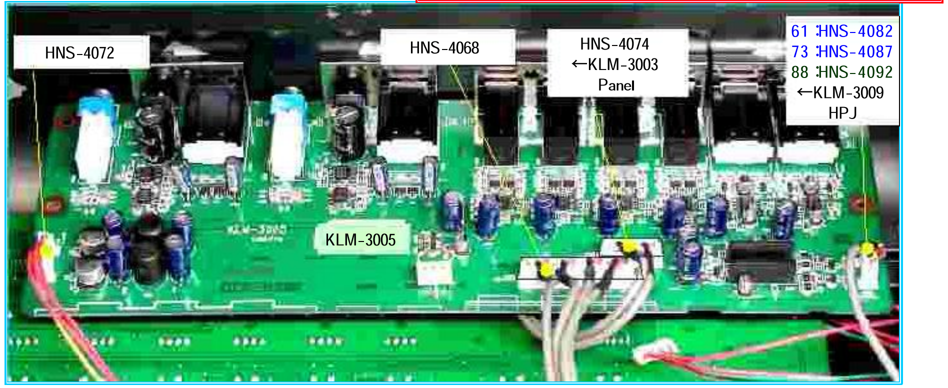
Push Rotary VR Knob until click.
(note) It rubs against the panel if it is insufficient



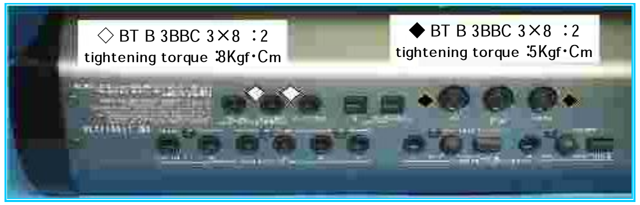
Fix with the screw in order of ① -⑤ to prevent the PCB inclination.

◆ BT B 3BBC 3×8 :5
tightening torque :8Kgf·Cm

Confirm the rubbing of Rotary VR Knob and the panel after the installation.
Pass or fail when there is rubbing
OK; It doesn't resist the rotation.


HNS-4072
HNS-4068
HNS-4074
←KLM-3003
Panel
61 :HNS-4082
73 :HNS-4087
88 :HNS-4092
←KLM-3009
HPJ
KLM-3005

2



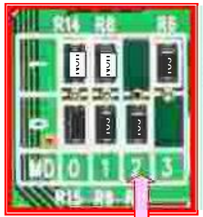
◇ BT B 3BBC 3×8 :2
tightening torque :8Kgf·Cm

◆ BT B 3BBC 3×8 :2
tightening torque :5Kgf·Cm

3

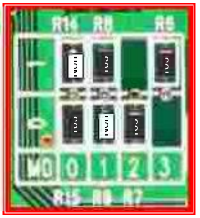
(Note) The mount position of 10KΩ resistance is different for 61 keys and for 73/88 keys in KLM-3006.

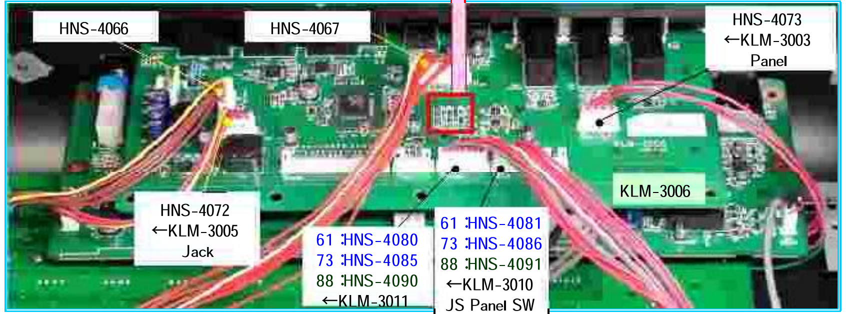
ONLY 61KEY


R14 R8 R6
M0 0 1 2 3
R15 R9

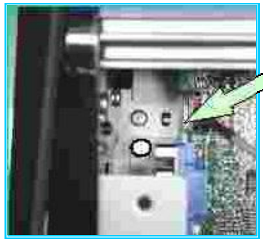
☐ : no
■ : 10KΩ

73/88KEY

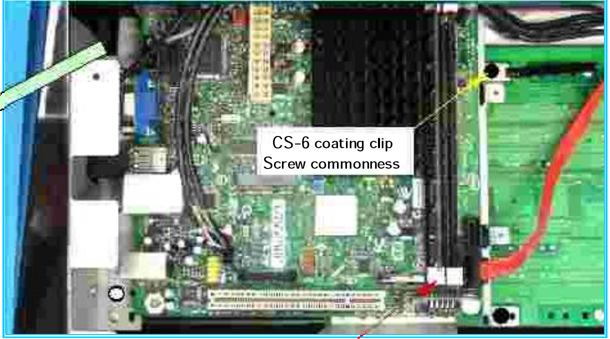

R14 R8 R6
M0 0 1 2 3
R15 R9 R7


HNS-4066
HNS-4067
HNS-4073
←KLM-3003
Panel
KLM-3006
HNS-4072
←KLM-3005
Jack
61 :HNS-4080
73 :HNS-4085
88 :HNS-4090
←KLM-3011
61 :HNS-4081
73 :HNS-4086
88 :HNS-4091
←KLM-3010
JS Panel SW

4



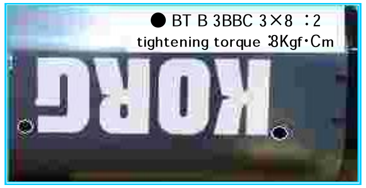
○ BT B 3BC 3×8 :2
tightening torque :8Kgf·Cm


CS-6 coating clip
Screw commonness

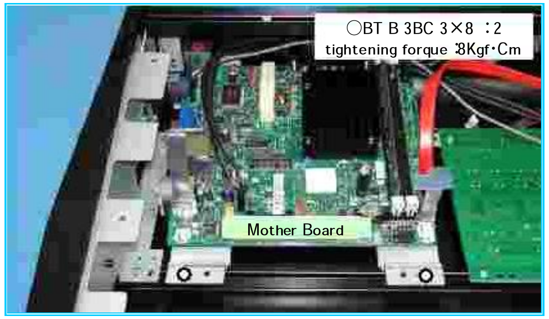
● BT B 3BC 3×10 :2
tightening torque :8Kgf·Cm

Confirm the lock lever of the memory is locked (four places in total).

5



● BT B 3BBC 3×8 :2
tightening torque :8Kgf·Cm


Mother Board

○BT B 3BC 3×8 :2
tightening torque :8Kgf·Cm

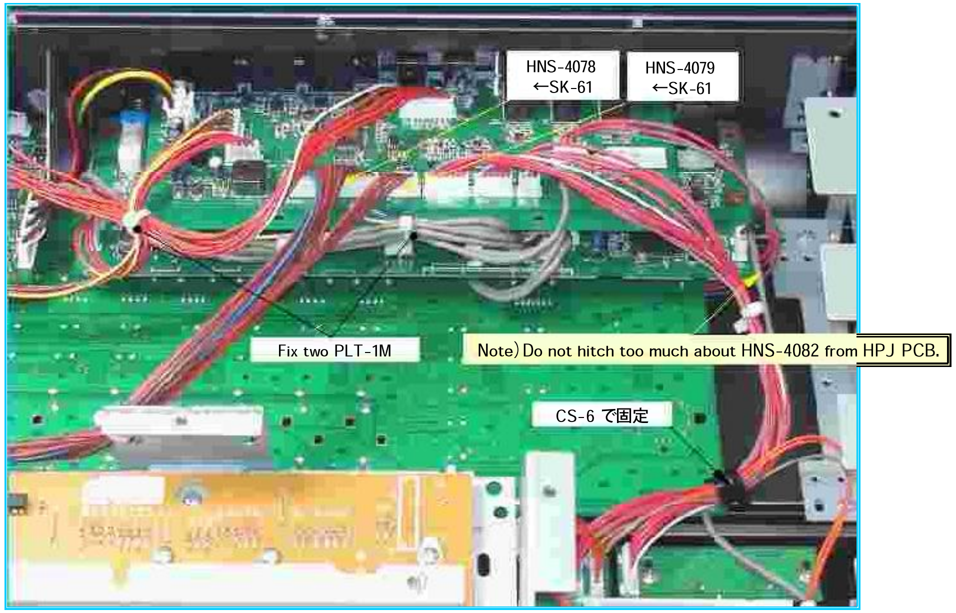
TITLE

Jac Cable Assy

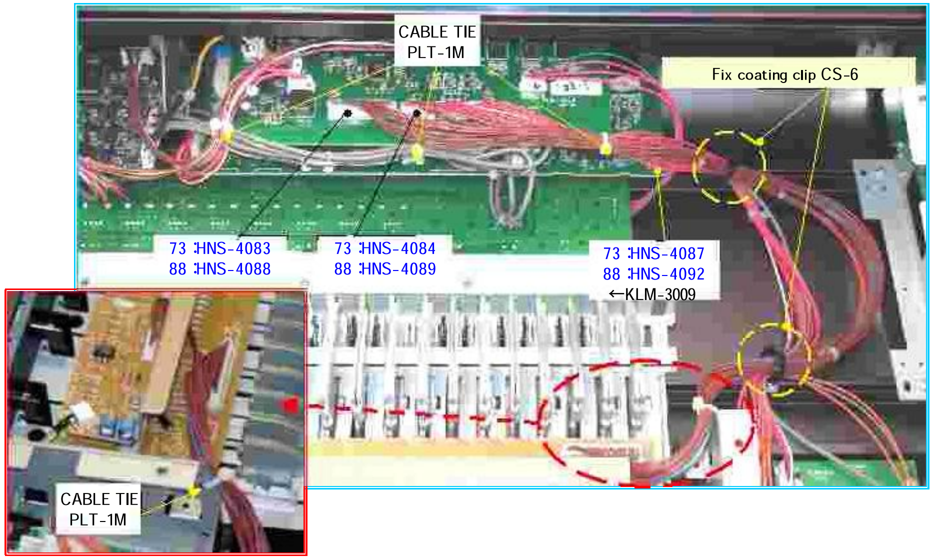
MODEL

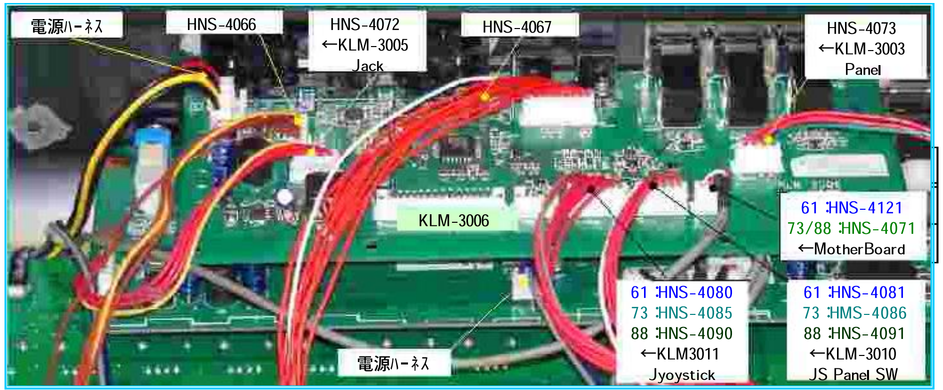
KRONOS 61／73／88

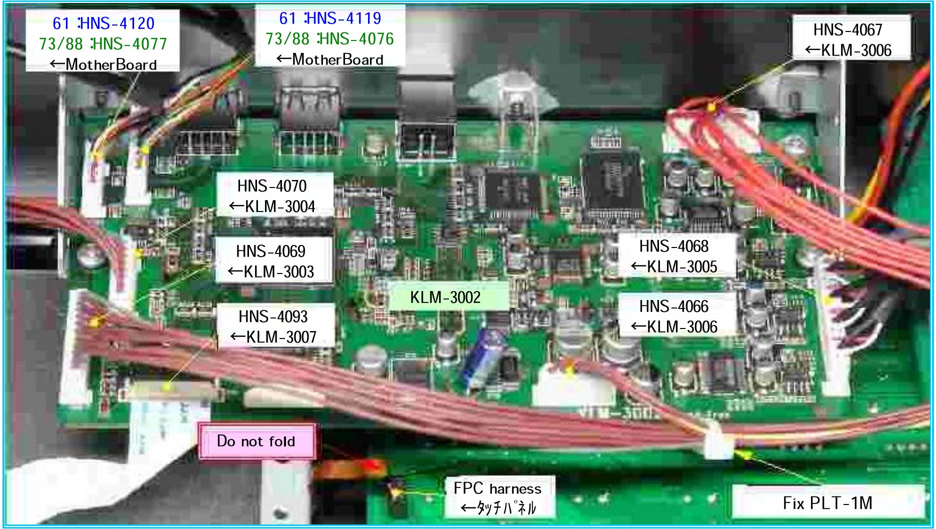
KRONOS-73/88 写真は73)

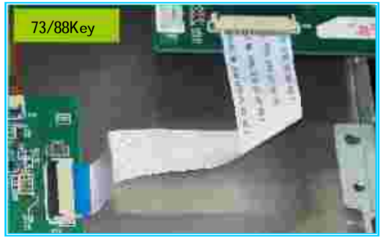

HNS-4078
←SK-61
HNS-4079
←SK-61
Fix two PLT-1M
Note) Do not hitch too much about HNS-4082 from HPJ PCB.
CS-6 で固定

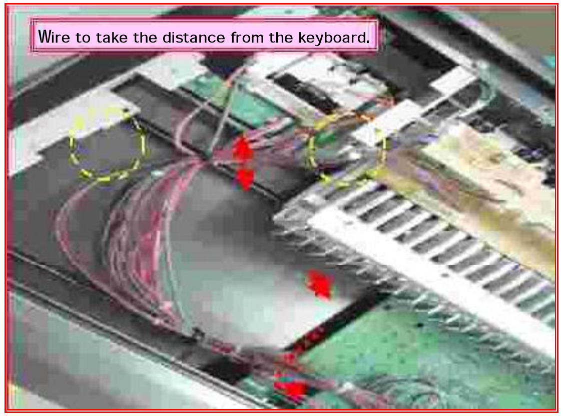
KRONOS-73/88 This photo is 73)

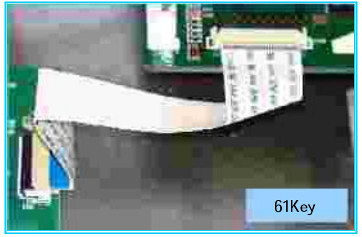

CABLE TIE
PLT-1M
Fix coating clip CS-6
73 :HNS-4083
88 :HNS-4088
73 :HNS-4084
88 :HNS-4089
73 :HNS-4087
88 :HNS-4092
←KLM-3009
CABLE TIE
PLT-1M


電源ハーネス
HNS-4066
HNS-4072
←KLM-3005
Jack
HNS-4067
HNS-4073
←KLM-3003
Panel
KLM-3006
61 :HNS-4121
73/88 :HNS-4071
←MotherBoard
61 :HNS-4080
73 :HNS-4085
88 :HNS-4090
←KLM3011
Jyoystick
61 :HNS-4081
73 :HMS-4086
88 :HNS-4091
←KLM-3010
JS Panel SW
電源ハーネス


61 :HNS-4120
73/88 :HNS-4077
←MotherBoard
61 :HNS-4119
73/88 :HNS-4076
←MotherBoard
HNS-4067
←KLM-3006
HNS-4070
←KLM-3004
HNS-4069
←KLM-3003
HNS-4093
←KLM-3007
KLM-3002
HNS-4068
←KLM-3005
HNS-4066
←KLM-3006
Do not fold
FPC harness
←ﾀｯﾁﾊﾟﾈﾙ
Fix PLT-1M




Wire to take the distance from the keyboard.



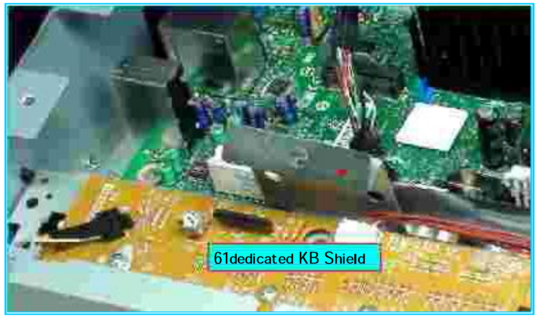
TITLE

KBD/Bottom Cover Assy

MODEL

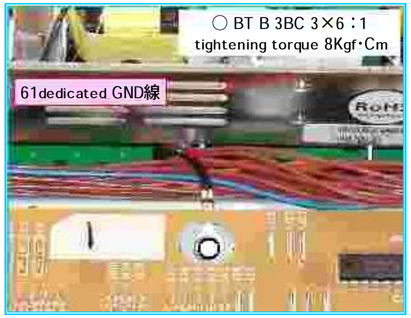
KRONOS 61

1 ➔



Peel off the double-faced tape pasted to KB Shield.
Suit and paste the hole position.

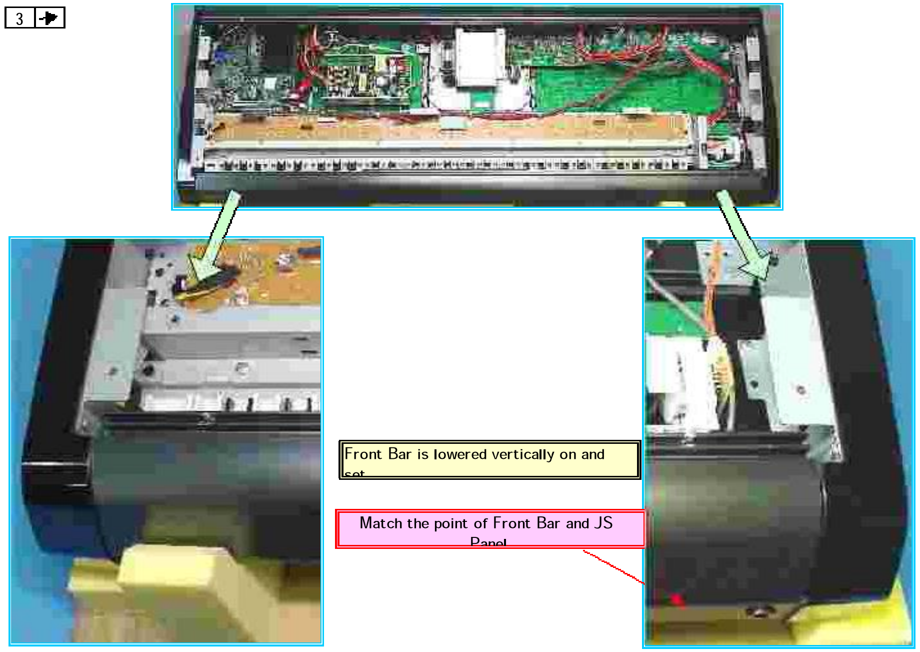
2



○ BT B 3BC 3×6 :1
tightening torque 8Kgf·Cm

Fix the Keyboard harness by using GND cable and screwed.

3 ➔



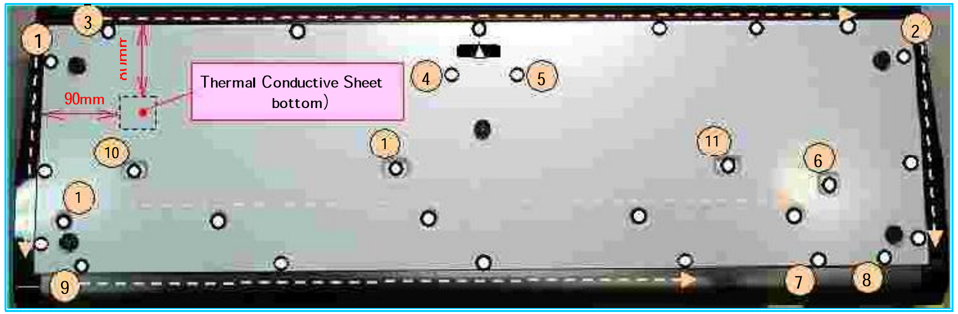
Front Bar is lowered vertically on and set.

Match the point of Front Bar and JS Panel.

4

○ BT B 3BC 4×10 :29
tightening torque 8Kgf·Cm

● FF-004 :5



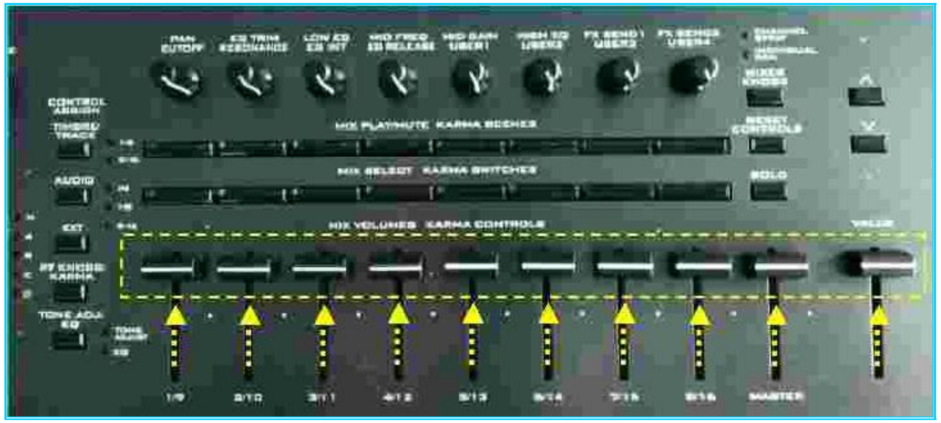
Thermal Conductive Sheet bottom)

Tighten with the screw in order from ① to ⑬.

Do according to the following procedure when you tighten the screw of ⑩.
The keyboard is pushed up by the hand.
The screw hole of the keyboard must match the position of the bottom plate screw hole

※ Do according to the following procedure when you tighten the screw of⑥⑦⑧
Hold the JS panel, the bottom plate, and BAR by the hand so that there is no space.

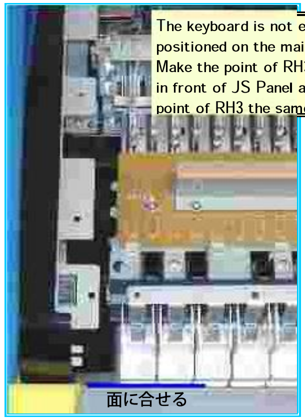
5

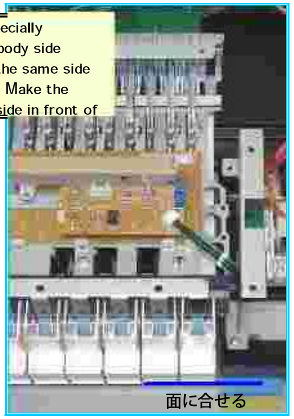


Set SlideVR MAX and insert Sliderknob on the panel side. (To arrange height preventing the difference passing.)

TITLE
73&88 KBD_Bottom Cover Assy
MODEL
KRONOS 73／88

1 ➔

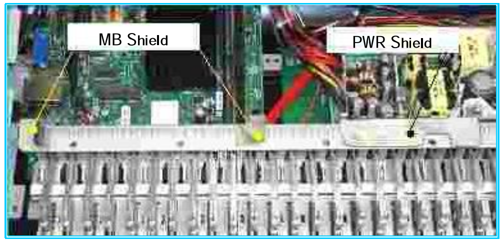


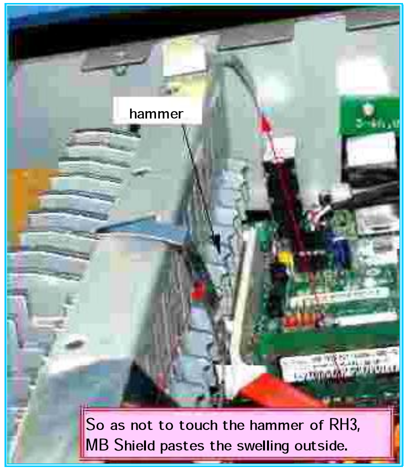


The keyboard is not especially positioned on the main body side Make the point of RH3 the same side in front of JS Panel and Make the point of RH3 the same side in front of

2 ➔

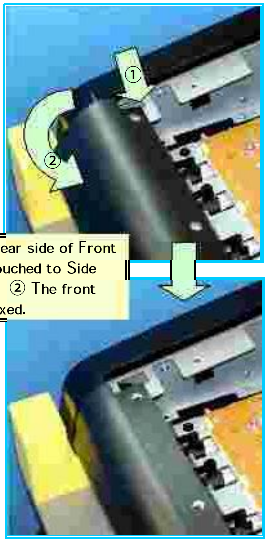
MB Shield and PWR Shield are pasted to the chassis of RH3.


MB Shield
PWR Shield



So as not to touch the hammer of RH3, MB Shield pastes the swelling outside.

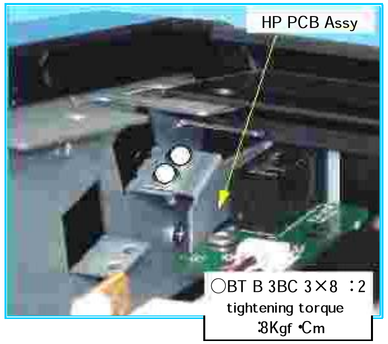
3



① The rear side of Front Bar is touched to Side Chassis. ② The front side is fixed.

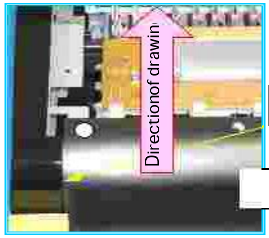
Pass Phone Jack on HP PCB Assy through the hole of Front Bar, and threadably mounted on Side Shassis

4

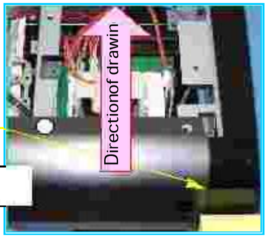


○BT B 3BC 3×8 ：2
tightening torque
：8Kgf・Cm

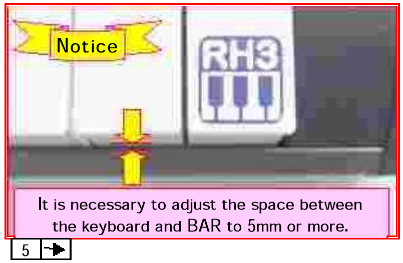
Front Baris stopped in the screw. Make a right and left space the same. Make Front Bar and JS Panel nospace. Make Front Bar and Key Block no space.


Directionof drawin

Make a right and left space the same.


Directionof drawin

○TS B SSE 3BC 4×10 ：2
tightening torque ：8Kgf・Cm



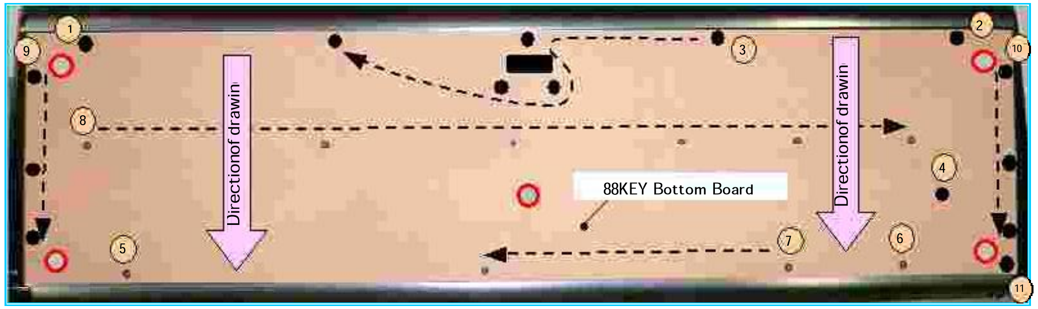
It is necessary to adjust the space between the keyboard and BAR to 5mm or more.

5 ➔

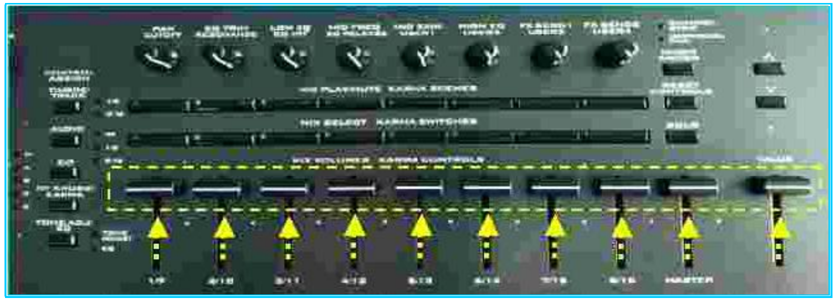
○ ｺﾞﾑｱｼ K-24W ：5
TP1 T 3BBC 3.5×12 ：5
tightening torque ：8Kgf・cm

●BT FEW 3BBC 4×20 ：15
tightening torque ：8Kgf・cm

RH3 Special screw
■FE WSE1 3BBC 5×20 ：8
tightening torque ：15Kgf・cm


1
2
3
4
5
6
7
8
9
10
11
Directionof drawin
Directionof drawin
88KEY Bottom Board

6



※Set SlideVR MAX and insert Sliderknob on the panel side.(To arrange height preventing the difference

TITLE

Add LCD Spacer

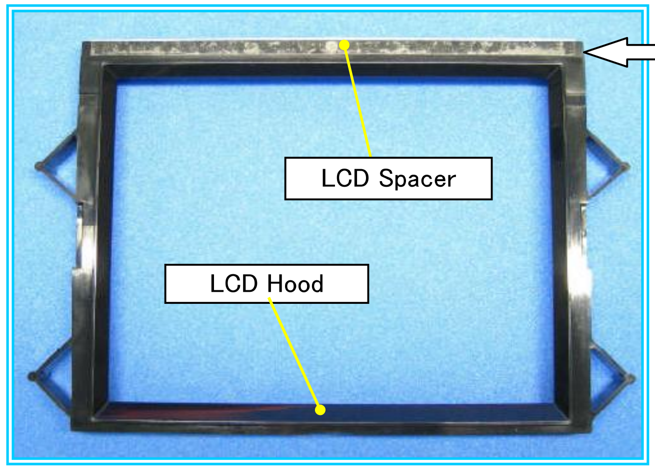
MODEL

KRONOS 73/88

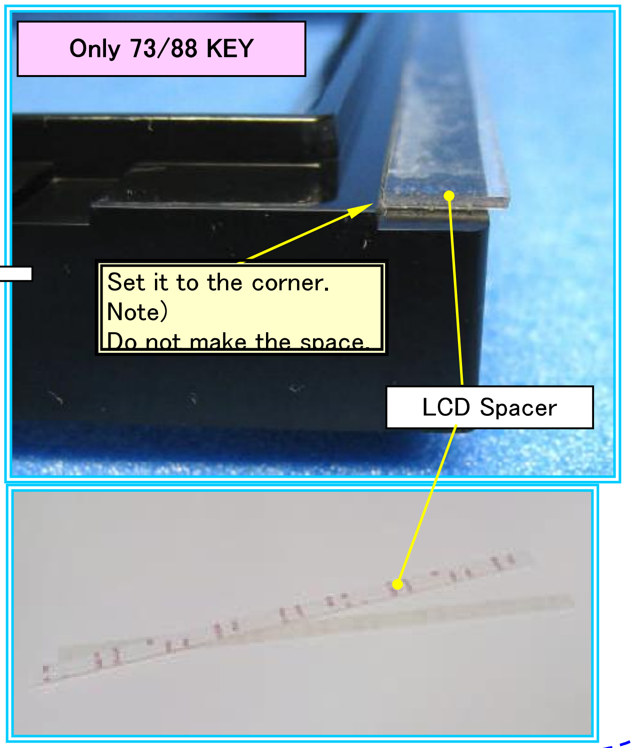
Add LCD Spacer(500540028944 X09131 LCD SPACER F41729) when it is because LCD Hood Top comes in contact with Touch Panel and the trouble that cannot be turned off occurs.
(Note) This solution are unnecessary in 61Key.

Solution

1)Set LCD Spacer to the corner in the part on the LCD HOOD Top side that fell by one step.
2)Open an even space right and left and paste it.


LCD Spacer
LCD Hood

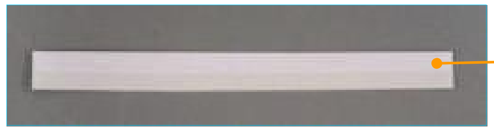
Only 73/88 KEY



Set it to the corner.
Note)
Do not make the space.

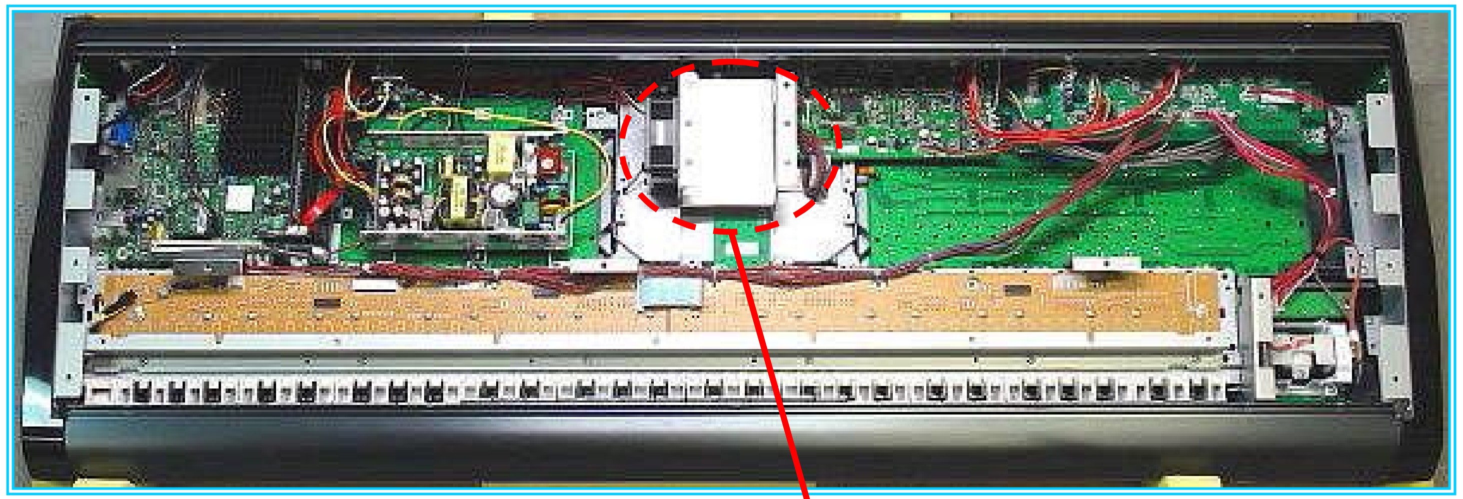
There is a necessity for removing a lot of parts to do the above-mentioned measures.
The method of not removing parts is shown below.

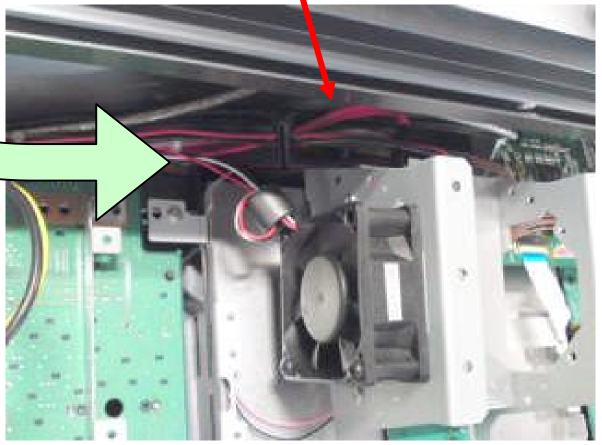
cut out copy paper
LCD Spacer



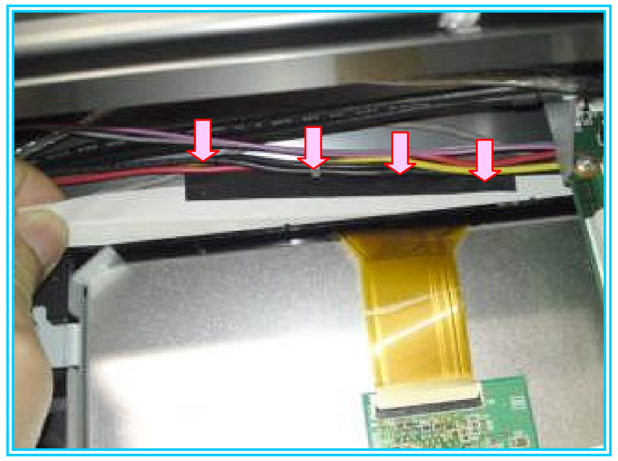
Paste the Spacer on copy paper.

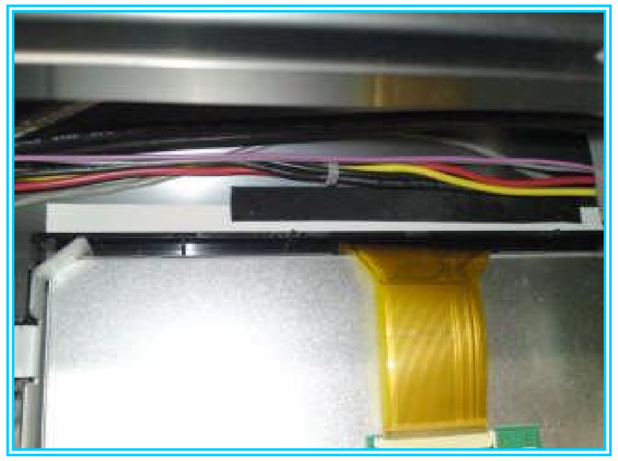
AcetateCross/CottonCrossTape

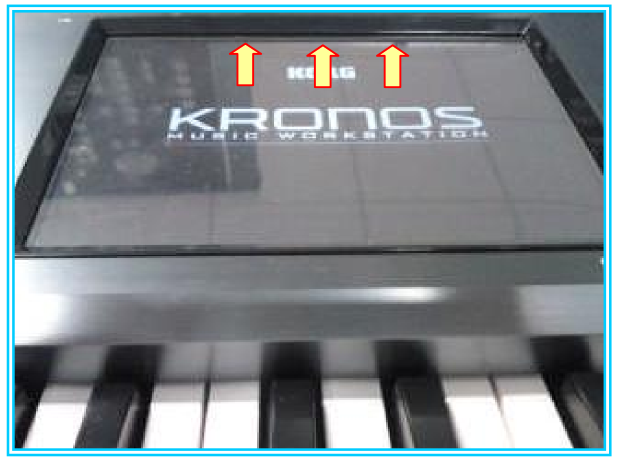


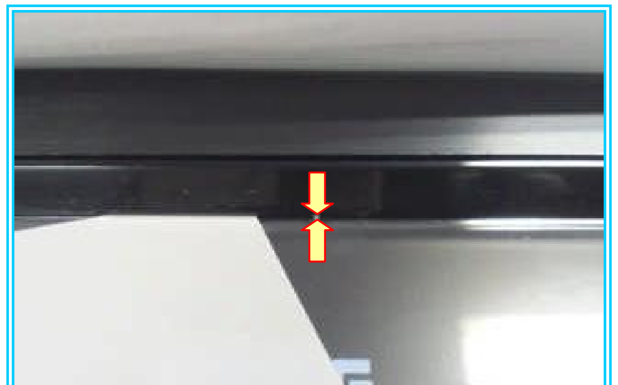


1)Make them slide into under LCD Hood.
2)Fix with the tape.






KORG
KRONOS
MUSIC WORKSTATION



After solution, this space becomes 0.5mm or more.