

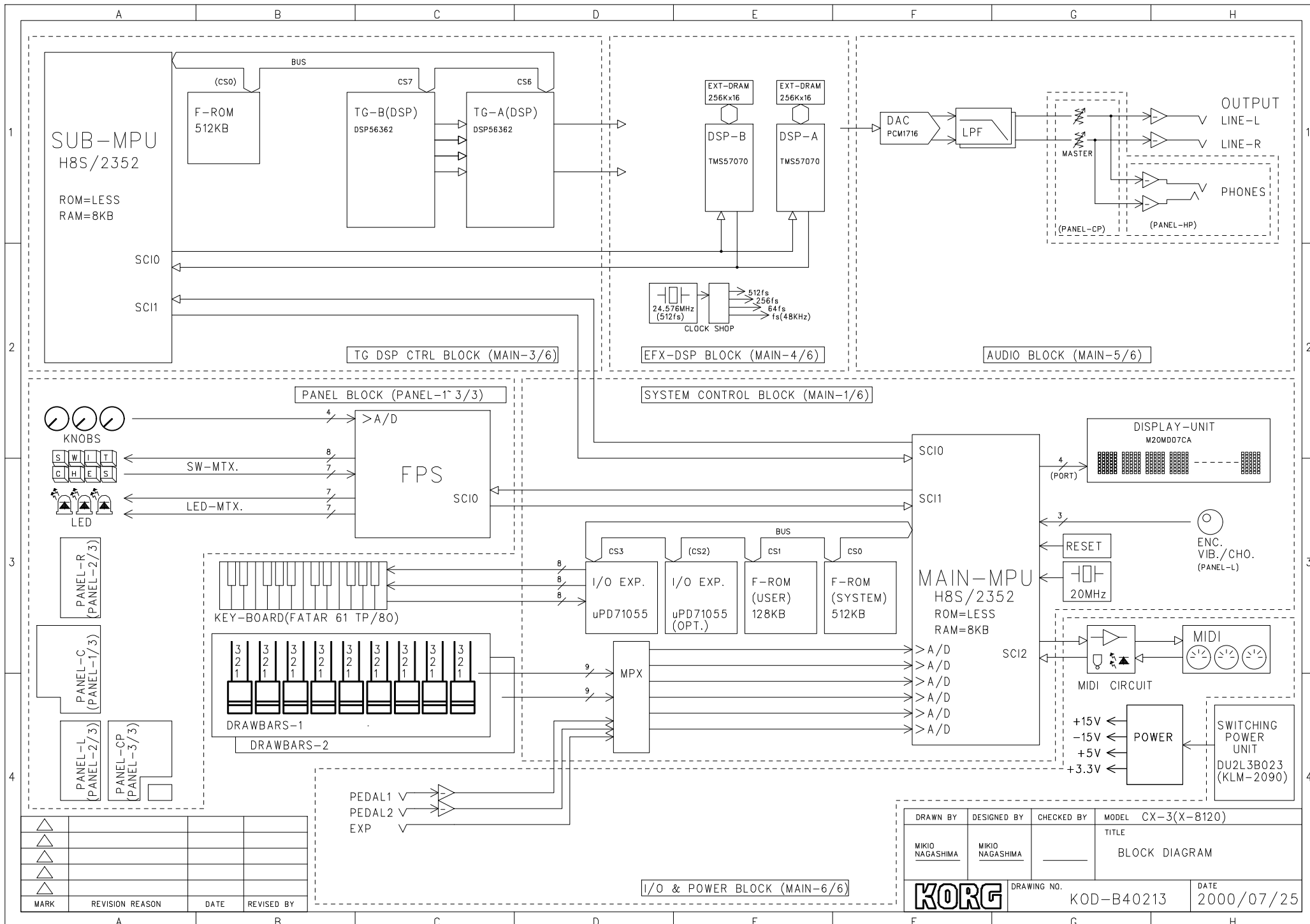
# *Service Manual*

# **BX-3**

## **CONTENTS**

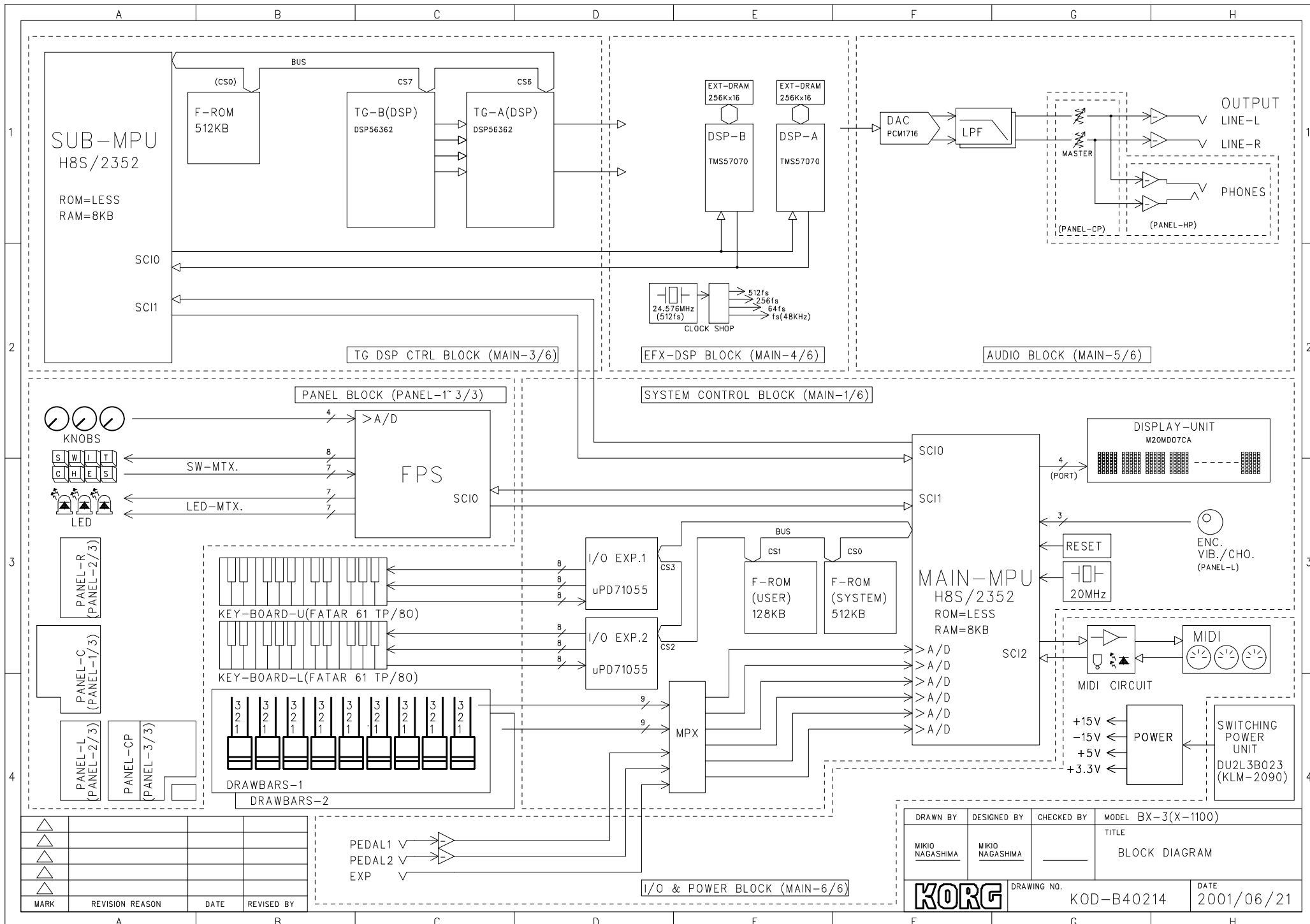
- 1) Circuit Diagram: Page 2-16
- 2) Test Mode: Page 17
- 3) Parts List: Page 18-20

1st Edition  
Issued date: September 2nd, 2002  
Issued by: KORG INC.



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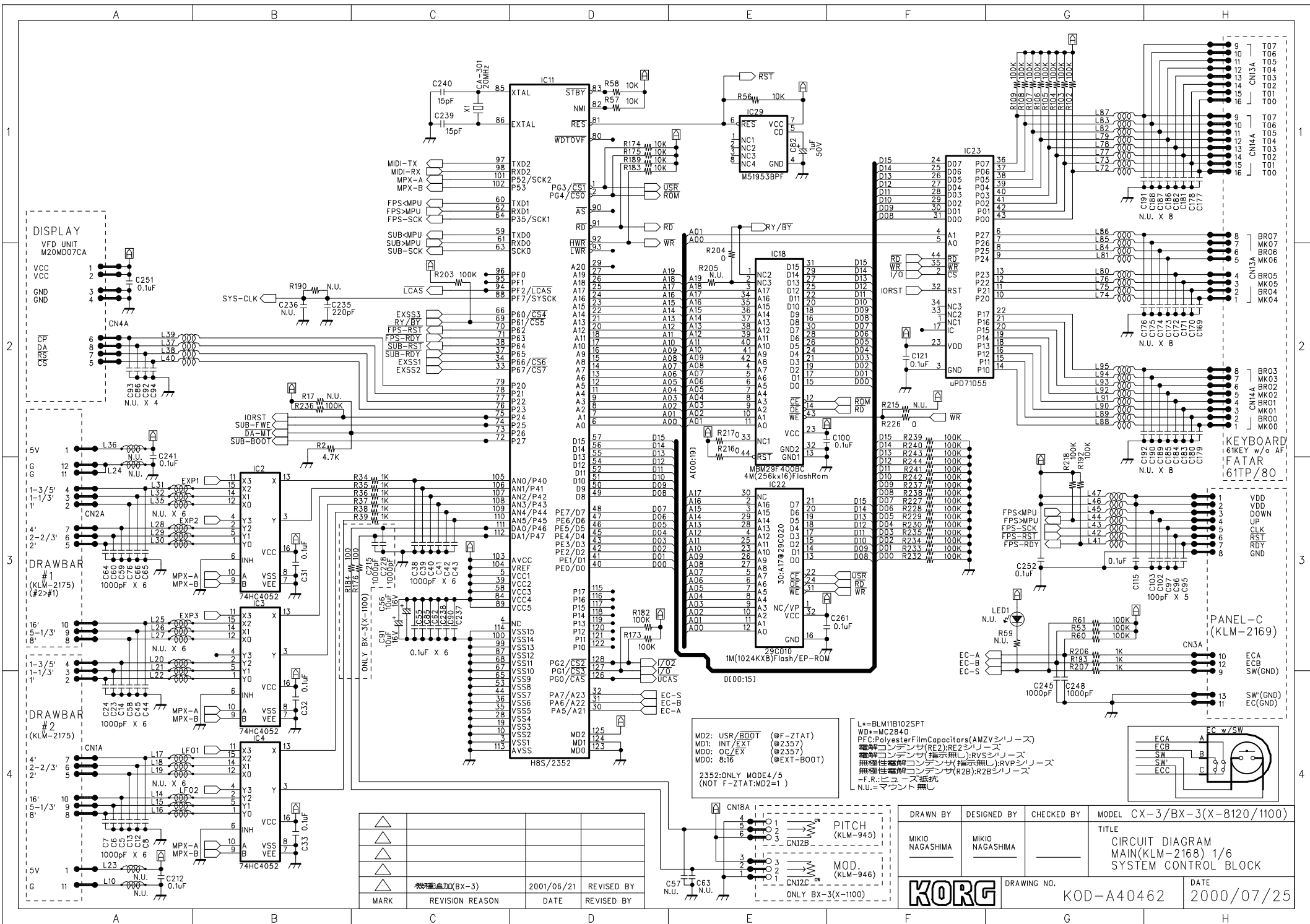
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	CX-3(X-8120)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE	BLOCK DIAGRAM
DRAWING NO.			DATE	
KORG			KOD-B40213	2000/07/25



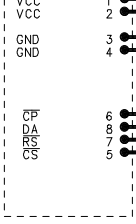
MARK	REVISION REASON	DATE	REVISED BY
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DRAWN BY	DESIGNED BY	CHECKED BY	MODEL BX-3(X-1100)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE
			BLOCK DIAGRAM
DRAWING NO.		DATE	
KOD-B40214		2001/06/21	

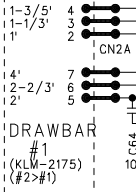




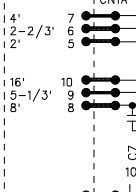
**DISPLAY**  
VFD UNIT  
M20M07CA



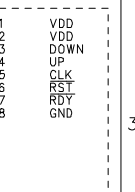
**DRAWBAR #1**  
(KLM-2175) (#2#1)



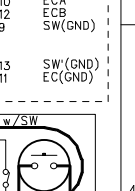
**DRAWBAR #2**  
(KLM-2175) (#2#1)



**KEYBOARD**  
16KEY w/o AF  
FATAR  
161TP/80



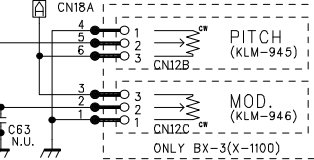
**PANEL-C**  
(KLM-2169)



MARK	REVISION	REASON	DATE	REVISED BY
	1	機壳加工(BX-3)	2001/06/21	

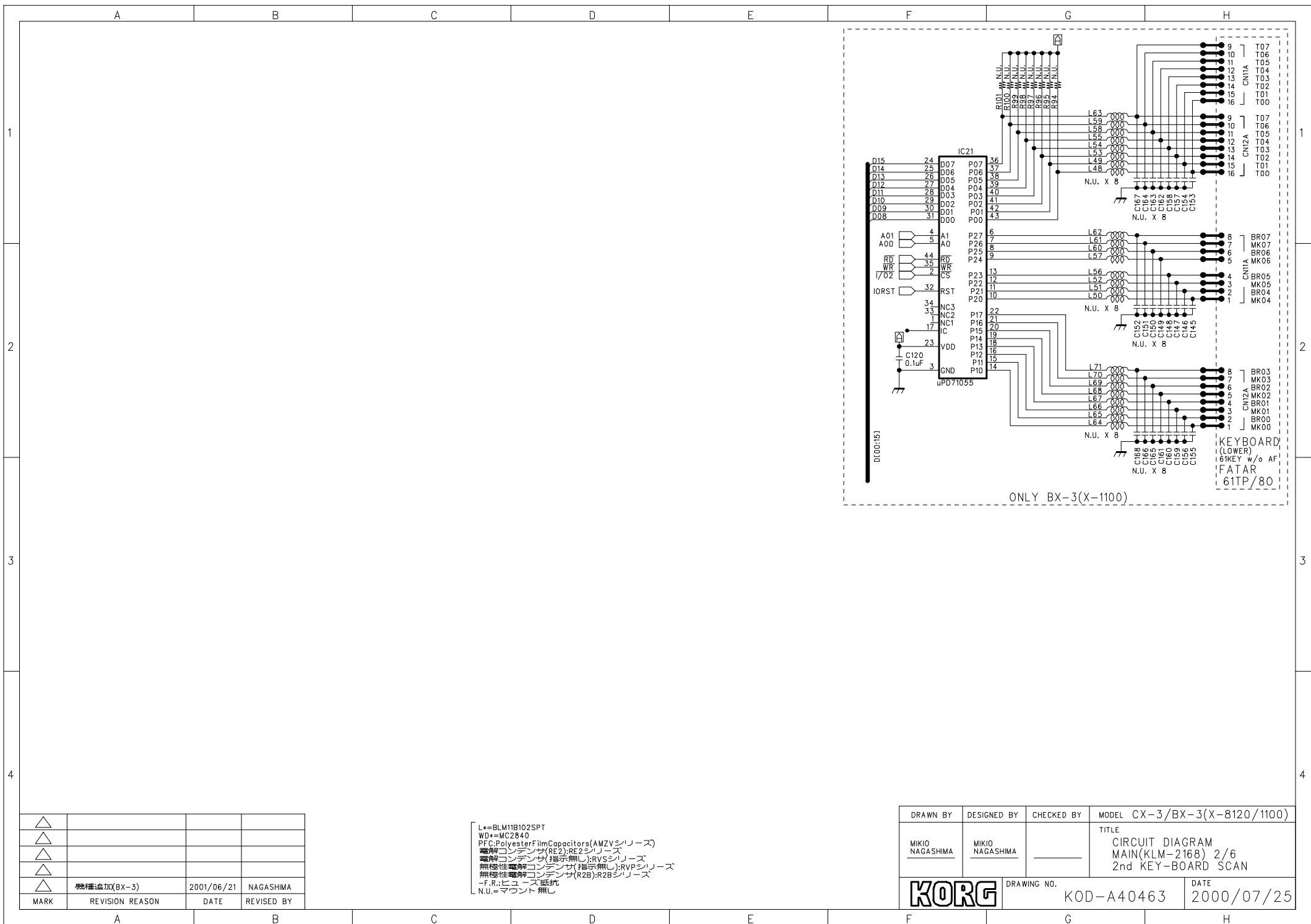
MD2: USR/BOOT (@F-ZTAT)  
MD1: INT/EXT (@2357)  
MD0: OC/EX (@2357)  
MDO: 8:16 (@EXT-BOOT)

L\*=BLM1B102SPT  
WD\*=MC2B40  
PFC=PolyesterFilmCapacitors(AMZVシリ-ズ)  
電解=ElectrolyticCapacitors(RE2);RE2シリ-ズ  
電解コンデンサ(指示無し);RVシリ-ズ  
無極性電解コンデンサ(指示無し);RVPシリ-ズ  
無極性電解コンデンサ(R2B);R2Bシリ-ズ  
P.F.R.=ヒューズ抵抗  
N.U.=マウント無し



DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	CX-3/BX-3(X-8120/1100)	
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE	CIRCUIT DIAGRAM MAIN(KLM-2168) 1/6 SYSTEM CONTROL BLOCK	
DRAWING NO.			KOD-A40462	DATE	2000/07/25



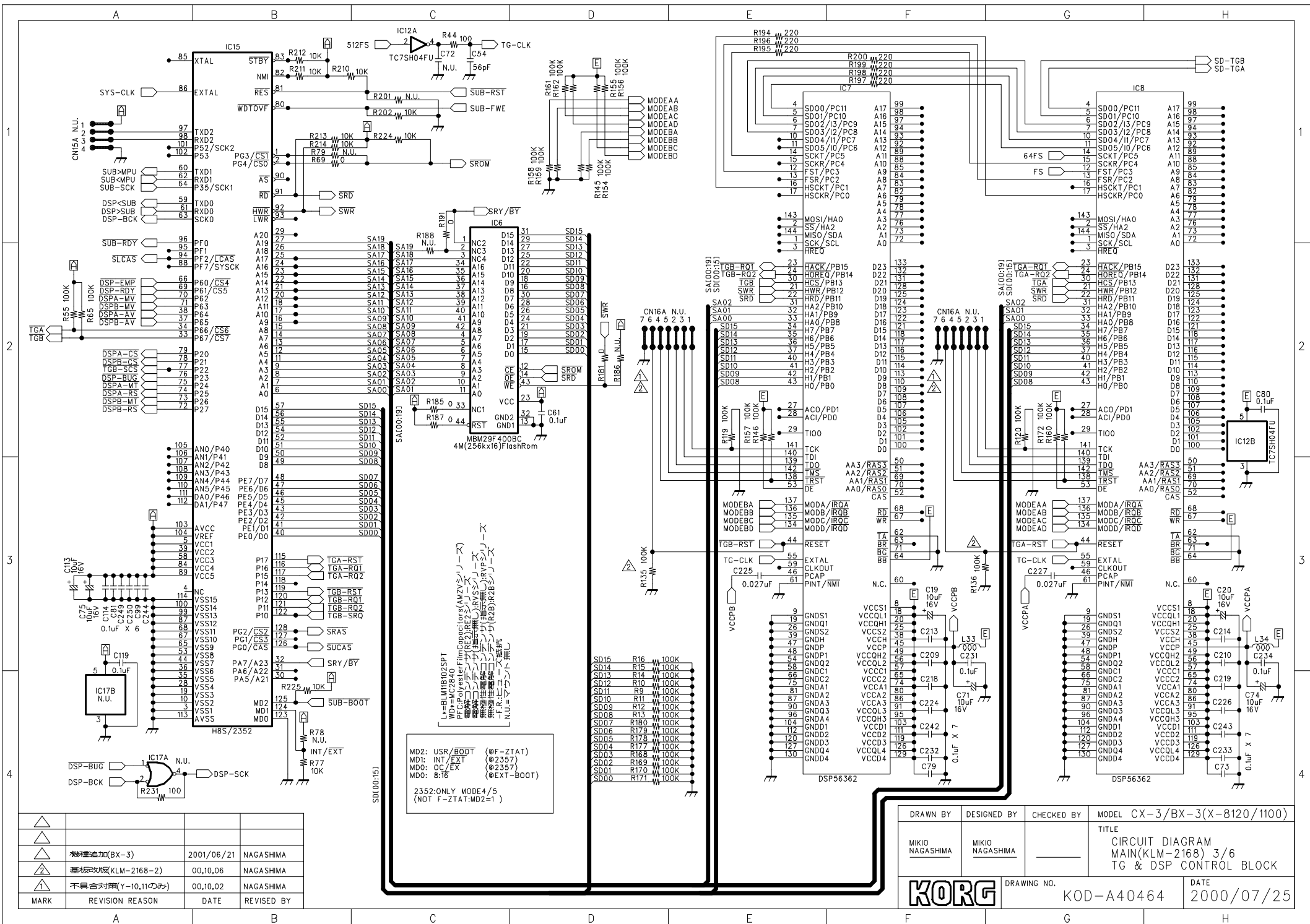


L=BLM11B102SPT  
 WD=MC2840  
 PFC:PolyesterFilmCapacitors(AMZVシリーズ)  
 電角#コンデンサ(RE2):RE2シリーズ  
 電角#コンデンサ(非指示無し):RVSシリーズ  
 無極性電角#コンデンサ(非指示無し):RVPシリーズ  
 無極性電角#コンデンサ(R2B):R2Bシリーズ  
 -F.R.:ヒューズ抵抗  
 N.U.=マウント無し

MARK	REVISION REASON	DATE	REVISED BY
△			
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△			
△	機種追加(BX-3)	2001/06/21	NAGASHIMA

DRAWN BY MIKIO NAGASHIMA	DESIGNED BY MIKIO NAGASHIMA	CHECKED BY	MODEL CX-3/BX-3(X-8120/1100)
TITLE CIRCUIT DIAGRAM MAIN(KLM-2168) 2/6 2nd KEY-BOARD SCAN			
DRAWING NO. KOD-A40463		DATE 2000/07/25	

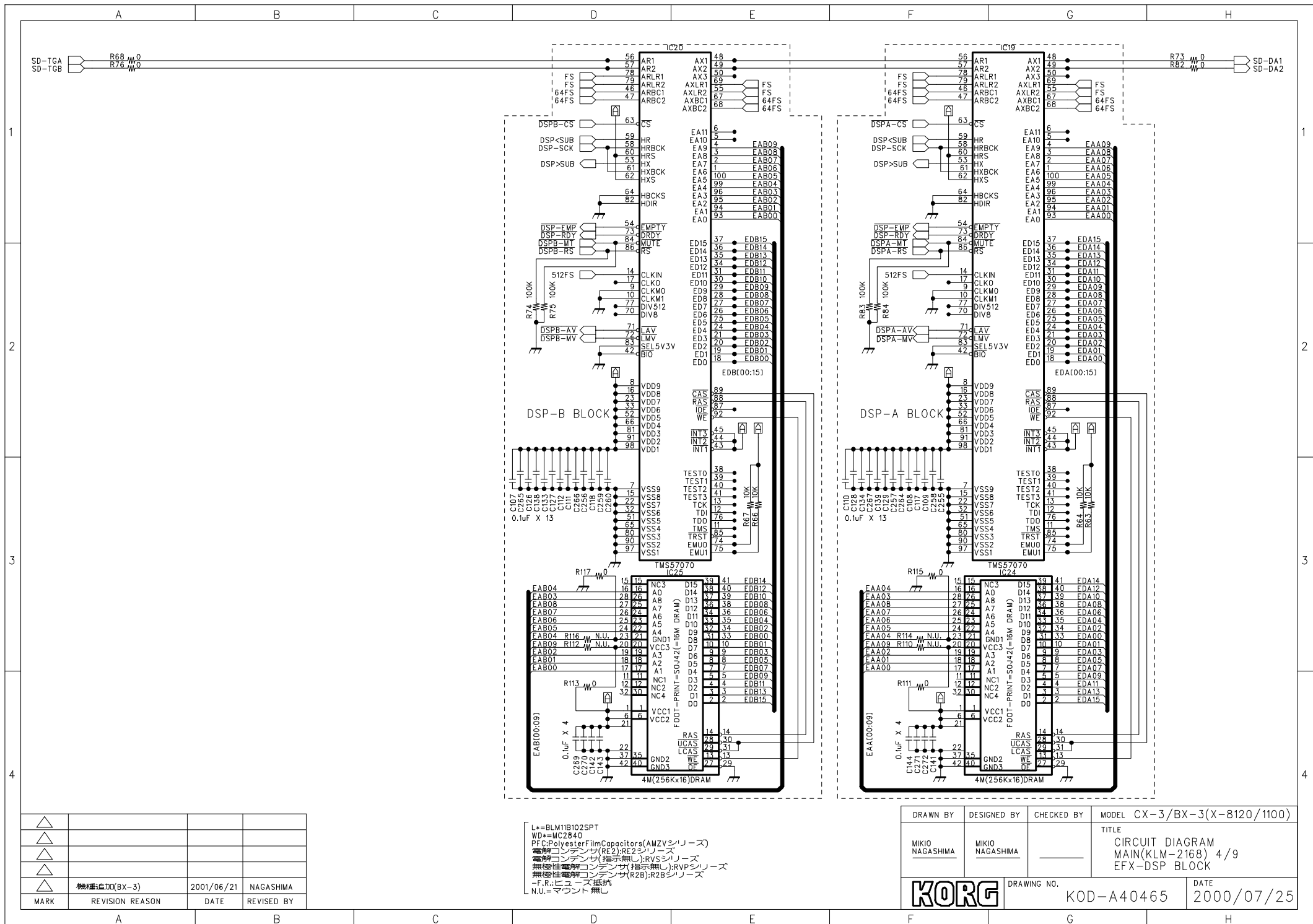




△			
△	機壳重量追加(BX-3)	2001/06/21	NAGASHIMA
△	基板反転改良(KLM-2168-2)	00,10,06	NAGASHIMA
△	不具合対策(Y-10,11のみ)	00,10,02	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	CX-3/BX-3(X-8120/1100)	
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE	CIRCUIT DIAGRAM MAIN(KLM-2168) 3/6 TG & DSP CONTROL BLOCK	
DRAWING NO.			KOD-A40464	DATE	2000/07/25

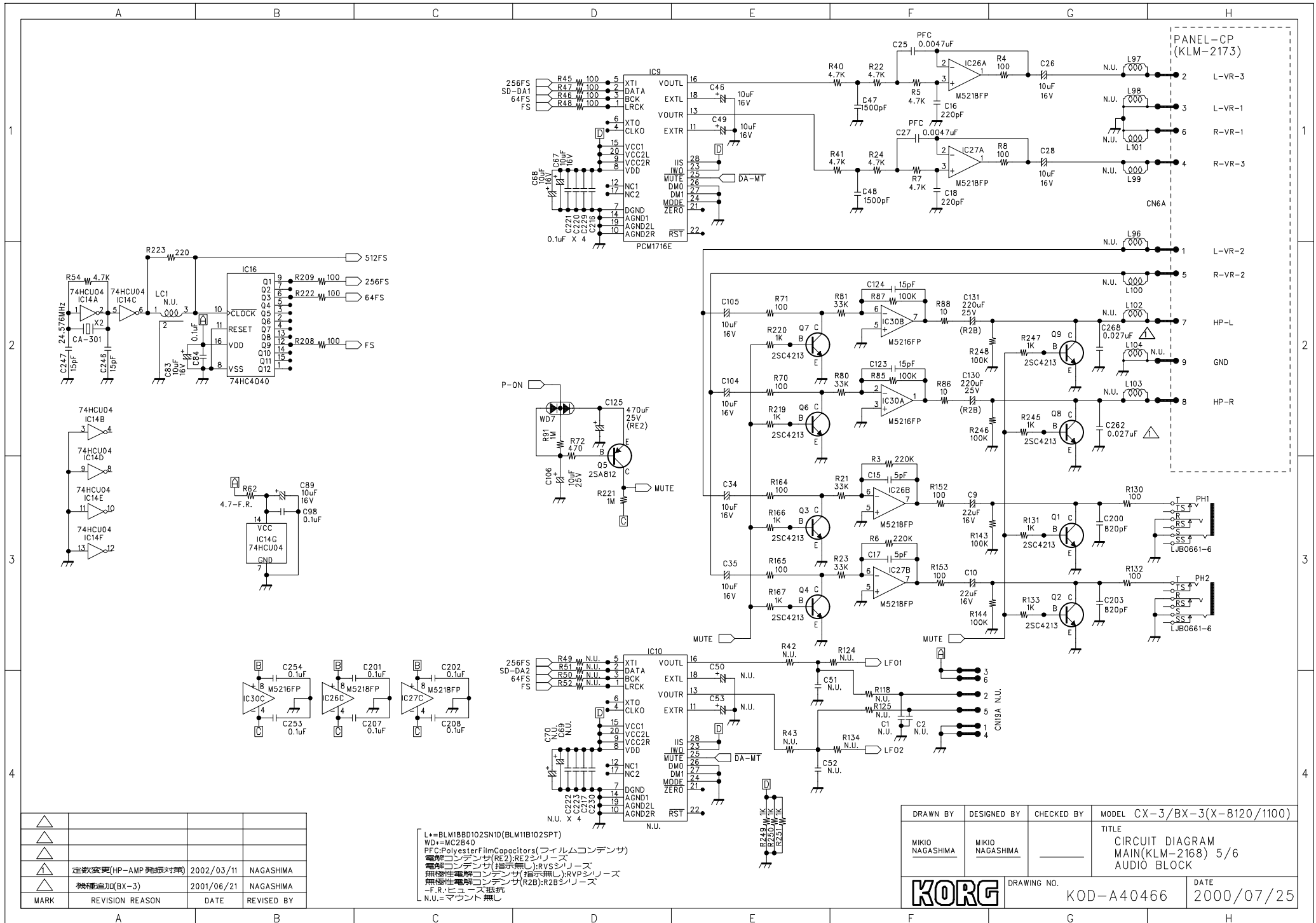




L=BLM1H102SPT  
 WD=MC2840  
 PFC:PolyesterFilmCapacitors(AMZVシリーズ)  
 電解コンデンサ(RE2):RE2シリーズ  
 電解コンデンサ(指示無し):RVSシリーズ  
 無極性電解コンデンサ(指示無し):RVPシリーズ  
 無極性電解コンデンサ(R2B):R2Bシリーズ  
 -F.R.:ヒューズ抵抗  
 -N.U.:マウント無し

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	CX-3/BX-3(X-8120/1100)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE	CIRCUIT DIAGRAM MAIN(KLM-2168) 4/9 EFX-DSP BLOCK
			DRAWING NO.	KOD-A40465
			DATE	2000/07/25

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△	機修理追加(BX-3)	2001/06/21	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY



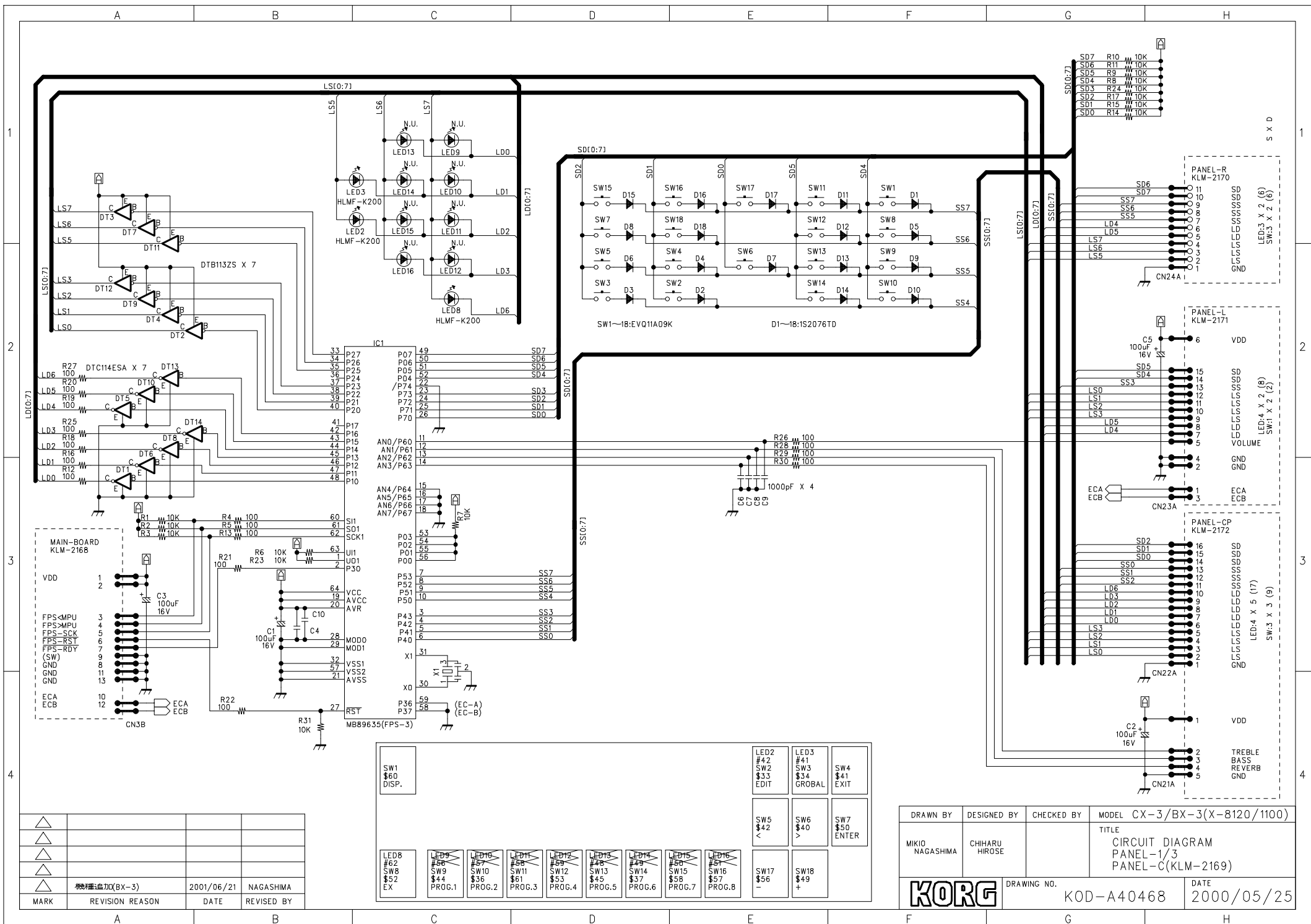
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△	定数変更(HP-AMP発振対策)	2002/03/11	NAGASHIMA
△	機種追加(BX-3)	2001/06/21	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY

L\* = BLM18BD102SNID(BLM11B102SPT)  
 WD = MC2840  
 PFC: Polyester Film Capacitors (フィルムコンデンサ)  
 電解コンデンサ(RE2): RE2シリーズ  
 電解コンデンサ(指示無し): RVシリーズ  
 無極性電解コンデンサ(指示無し): RVPシリーズ  
 無極性電解コンデンサ(R2B): R2Bシリーズ  
 F.R.: ヒューズ抵抗  
 N.U.: マウント無し

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL CX-3/BX-3(X-8120/1100)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE CIRCUIT DIAGRAM MAIN(KLM-2168) 5/6 AUDIO BLOCK
DRAWING NO. <b>KORG</b> KOD-A40466			DATE 2000/07/25





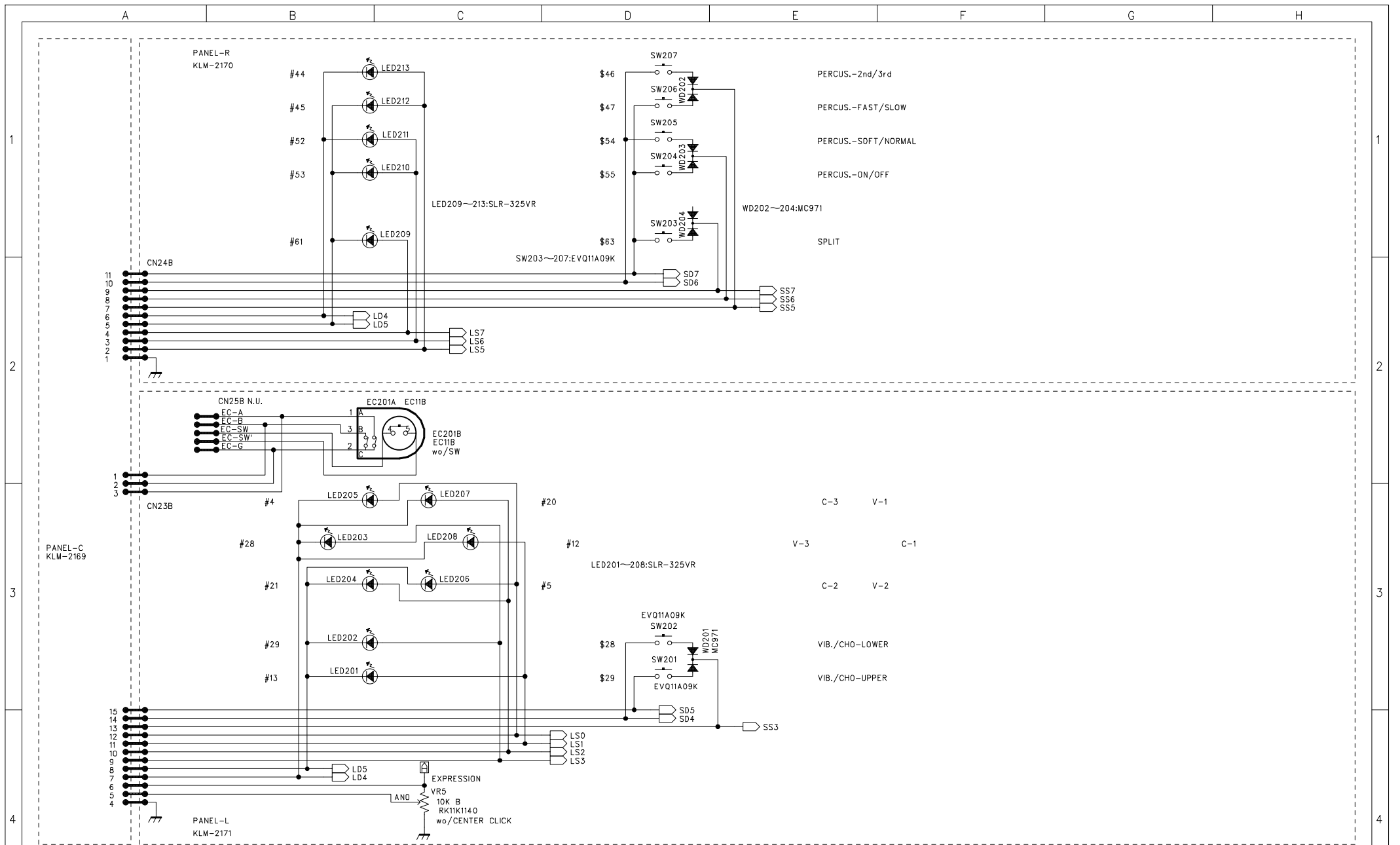


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△	機種追加(BX-3)	2001/06/21	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY

SW1 \$60 DISP.	LED2 #42 SW2 \$33 EDIT	LED3 #41 SW3 \$34 GROBAL	SW4 \$41 EXIT
LED8 #62 SW8 \$52 EX	LED9 #56 SW9 \$44 PROG.1	LED10 #57 SW10 \$36 PROG.2	LED11 #58 SW11 \$61 PROG.3
LED12 #59 SW12 \$53 PROG.4	LED13 #48 SW13 \$45 PROG.5	LED14 #49 SW14 \$37 PROG.6	LED15 #50 SW15 \$58 PROG.7
LED16 #51 SW16 \$57 PROG.8	SW17 \$56 -	SW18 \$49 +	

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL CX-3/BX-3(X-8120/1100)
MIKIO NAGASHIMA	CHI HARU HIROSE		TITLE CIRCUIT DIAGRAM PANEL-1/3 PANEL-C(KLM-2169)
DRAWING NO. KOD-A40468			DATE 2000/05/25

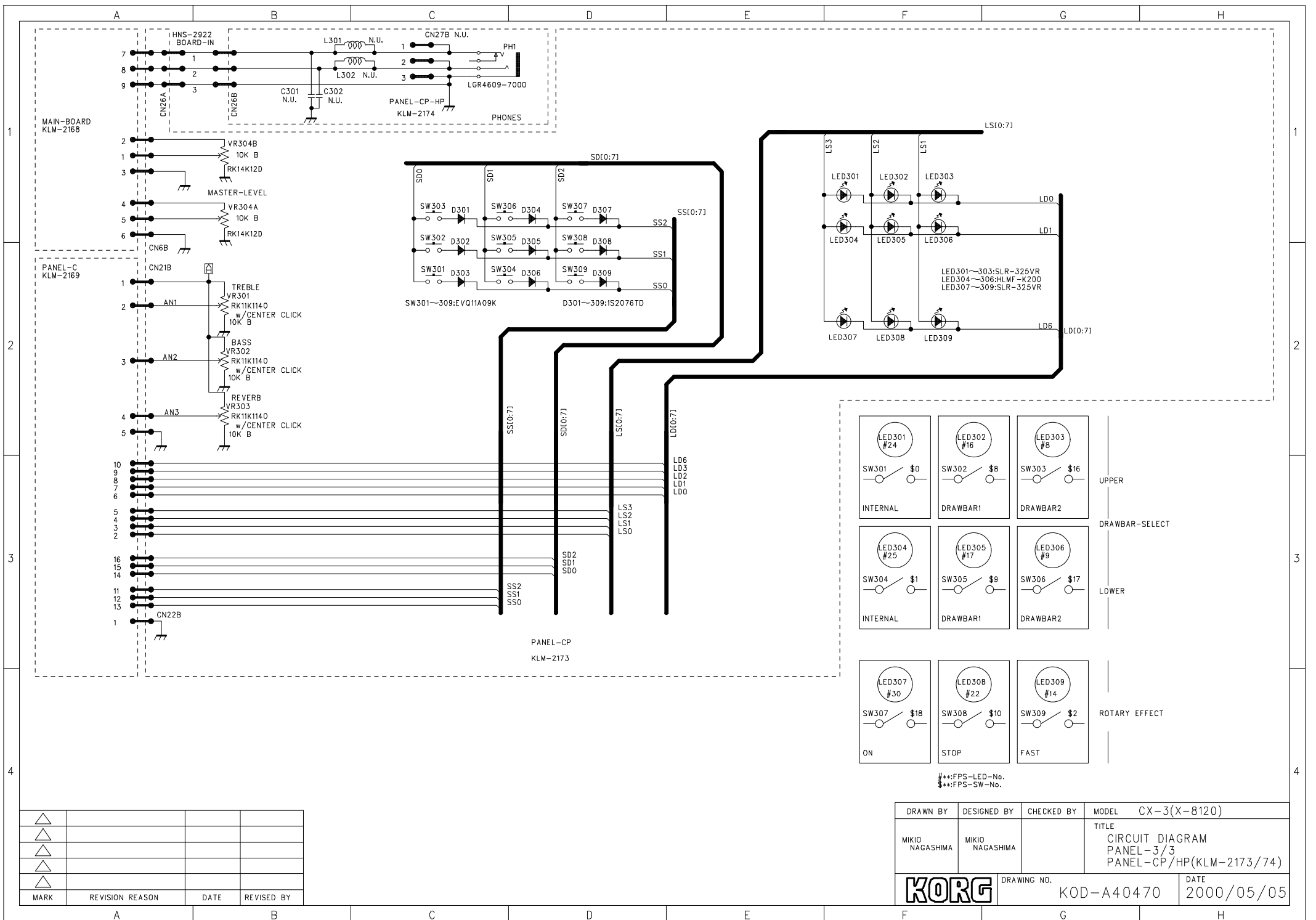




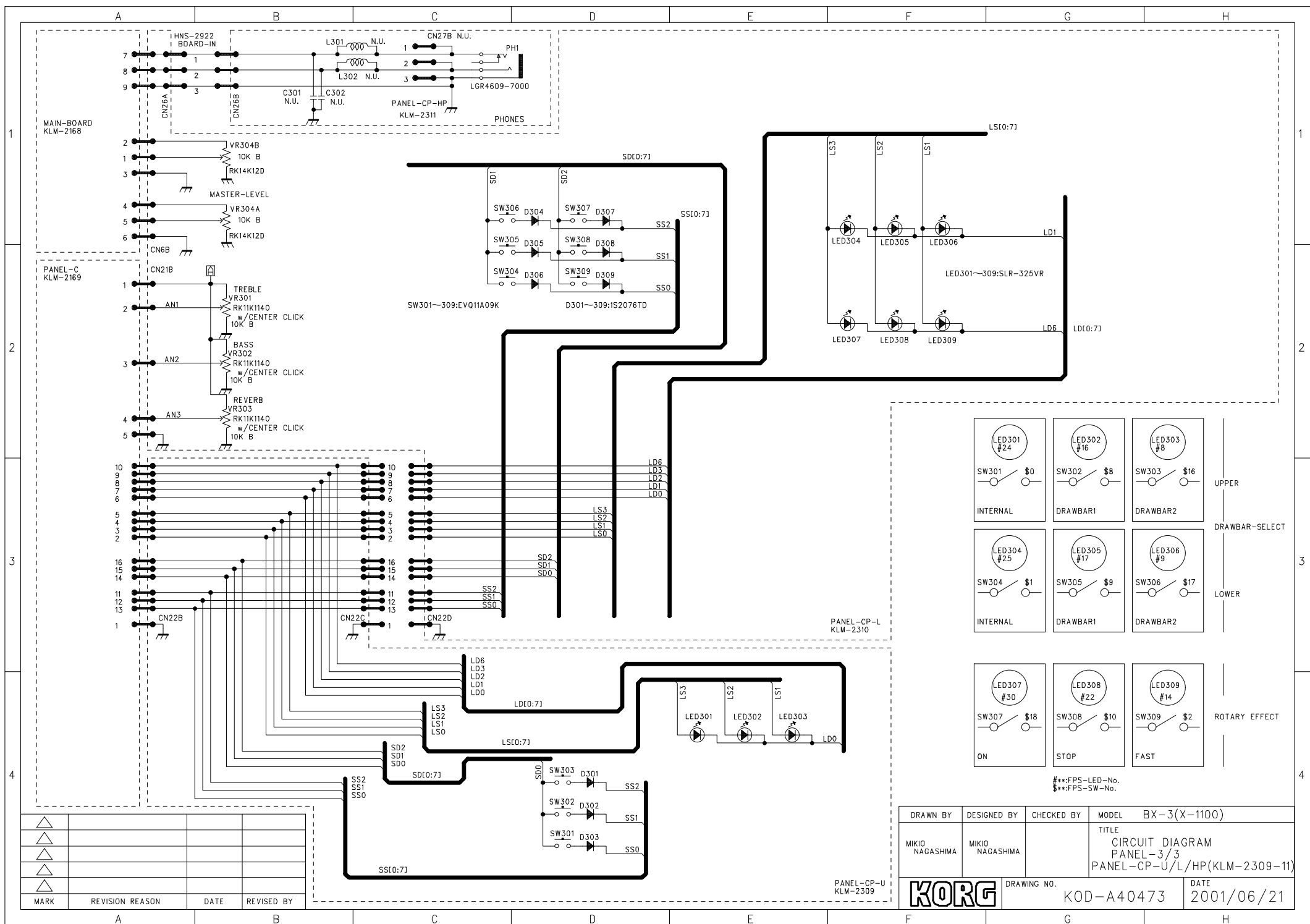
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△	機種追加(BX-3)	2001/06/21	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY

##:PFS-LED-No.  
 \$\$\$:FPS-SW-No.

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL CX-3/BX-3(X-8120/1100)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE CIRCUIT DIAGRAM PANEL-2/3 PANEL-L/R(KLM-2170/71)
DRAWING NO.			DATE
KORG			KOD-A40469 2000/05/25



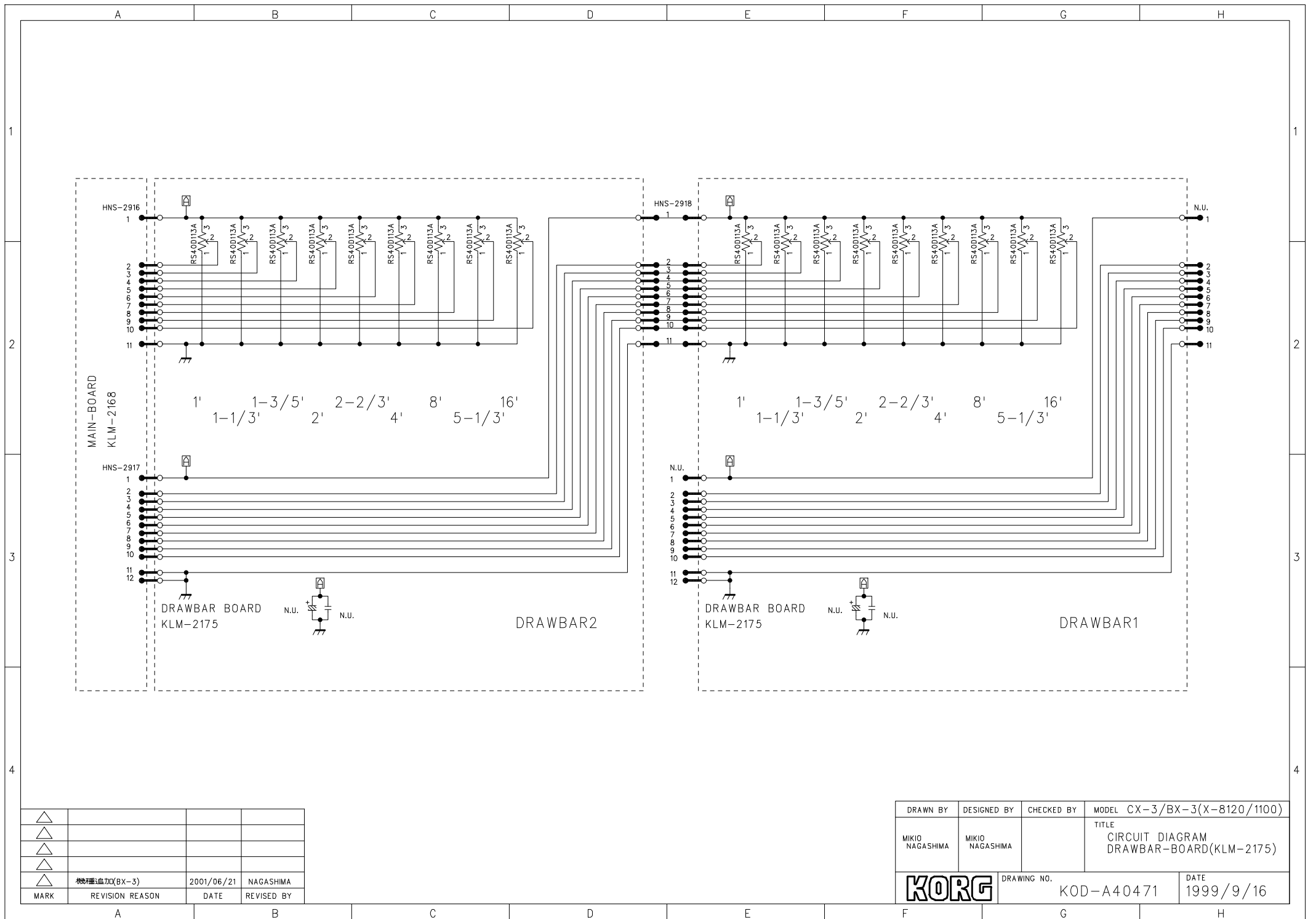
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	CX-3(X-8120)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE	CIRCUIT DIAGRAM PANEL-3/3 PANEL-CP/HP(KLM-2173/74)
<b>KORG</b>			DRAWING NO.	KOD-A40470
			DATE	2000/05/05



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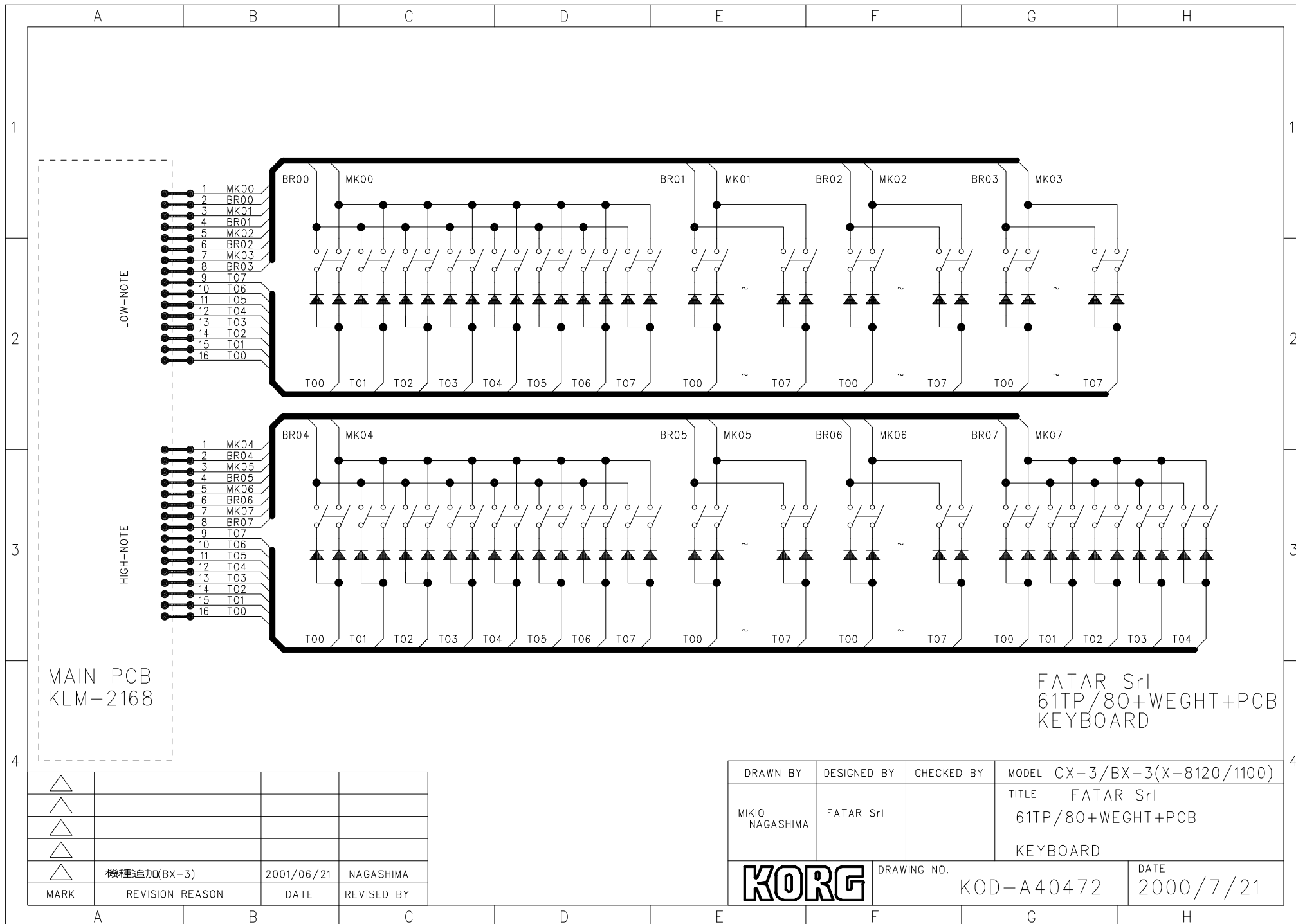
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL	BX-3(X-1100)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE	CIRCUIT DIAGRAM PANEL-3/3 PANEL-CP-U/L/HP(KLM-2309-11)
DRAWING NO.			DATE	
KORG			KOD-A40473	2001/06/21

###:FPS-LED-No.  
###:FPS-SW-No.



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△	機種追加(BX-3)	2001/06/21	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL CX-3/BX-3(X-8120/1100)
MIKIO NAGASHIMA	MIKIO NAGASHIMA		TITLE CIRCUIT DIAGRAM DRAWBAR-BOARD(KLM-2175)
<b>KORG</b>		DRAWING NO.	DATE
		KOD-A40471	1999/9/16



MAIN PCB  
KLM-2168

FATAR Srl  
61TP/80+WEGHT+PCB  
KEYBOARD

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△	機種追加(BX-3)	2001/06/21	NAGASHIMA
MARK	REVISION REASON	DATE	REVISED BY

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL CX-3/BX-3(X-8120/1100)
MIKIO NAGASHIMA	FATAR Srl		TITLE FATAR Srl 61TP/80+WEGHT+PCB KEYBOARD
<b>KORG</b>		DRAWING NO.	DATE
		KOD-A40472	2000/7/21





## BX3

How to start the test mode

[4] + [6] & [POWER ON]

How to operate the test mode

[SOFT]	: Item Up
[ON]	: Item Down
[3rd]	: Step Up
[FAST]	: Step Down
[3rd]	: Internal Test Error Skip

Usually press [3rd] to proceed the test mode.

PART CODE	PART NAME	NOTE	QTY	Description
001216801	PCB ASSY KLM-2168 BX-3	BX-3 M.PART	1	
001216900	PCB ASSY KLM-2169 CX-3/BX-3	BX-3 M.PART	1	
001217000	PCB ASSY KLM-2170/71 CX-3/BX-3	BX-3 M.PART	1	
001230900	PCB ASSY KLM-2309-11 BX-3	BX-3 M.PART	1	
002202091	PCB ASSY KLM-2090 : CEM3	BX-3 M.PART	1	
002217500	DRAWBAR ASSY (X-8120)	BX-3 M.PART	1	
304000070	TR 2SA812-T1B (M5-7) (TS)	KLM-2168 BX-3	1	
304020340	TR 2SC4213-A TE85L (TS)	KLM-2168 BX-3	8	
304050220	DIGITAL TR DTC114ESA TP(TR)	KLM-2169 BX-3	7	
304050270	DIGITAL TR DTB113ZSTP(TR)	KLM-2169 BX-3	7	
313005300	VFD MODULE M202MD07CA	BX-3 M.PART	1	
314001800	DIODE 1SS355 TE-17 (TS)	KLM-2168 BX-3	1	
314010300	DIODE 1S2076TD (TA)	KLM-2169 BX-3	18	
314010300	DIODE 1S2076TD (TA)	KLM-2309/10/11	9	
314010310	LED HLMF-K200#2UM (TR)	KLM-2169 BX-3	3	
314031000	LED SLR-325VRT31(TR)	KLM-2170/71 BX	13	
314031000	LED SLR-325VRT31(TR)	KLM-2309/10/11	9	
315000500	DOUBLE DIODE MC-2840-T12-1(TS)	KLM-2168 BX-3	7	
315000900	DIODE BRIDGE MC971-T11(TR)	KLM-2170/71 BX	4	
320001261	IC UPD71055GB-10-3B4 (S)	KLM-2168 BX-3	2	I/O
320004671	IC HD6412352F20(D12352F20)(S)	KLM-2168 BX-3	2	MPU
320007027	IC BA033T	KLM-2168 BX-3	1	REG
320012222	IC MB89635RP-G-368-SH	KLM-2169 BX-3	1	MPU
320012304	IC MBM29F400BC-70PF X1100A :S	KLM-2168 BX-3	1	FLASH ROM
320012305	IC MBM29F400BC-70PF X1100B :S	KLM-2168 BX-3	1	FLASH ROM
320020206	IC XCB56362PV100 (S)	KLM-2168 BX-3	2	DSP
320021156	IC TMS57070FFT (S)	KLM-2168 BX-3	2	DSP
320049001	IC SST29EE010-90-4C-NH (S)	KLM-2168 BX-3	1	FLASH ROM
324001006	IC UPD74HCU04GS-E2 (TS)	KLM-2168 BX-3	1	LOGIC
324003059	IC TC7SH04FU(TE85L) (TS)	KLM-2168 BX-3	1	LOGIC
324004165	IC HD74HC4040FPEL (TS)	KLM-2168 BX-3	1	LOGIC
324004167	IC HD74HC4052FPEL (TS)	KLM-2168 BX-3	3	LOGIC
324004176	IC HD74HC05FPEL (TS)	KLM-2168 BX-3	1	LOGIC
324009004	IC NJM78L05UA-TE1 (TS)	KLM-2168 BX-3	1	REG
324011002	IC M5223FP-600C (TS)	KLM-2168 BX-3	1	OP AMP
324011004	IC M5216FP-600C (TS)	KLM-2168 BX-3	1	OP AMP
324011012	IC M51953BFP-600C (TS)	KLM-2168 BX-3	1	RESET
324011017	IC M5218AFP-600C (TS)	KLM-2168 BX-3	2	OP AMP
324036008	IC PCM1716E/2K(TS)	KLM-2168 BX-3	1	DAC
324046001	IC T224162B-35J-TR(TS)	KLM-2168 BX-3	2	DRAM
334000600	PHOTO COUPLER PC-410K (TS)	KLM-2168 BX-3	1	
335009500	CERAMIC OSC CSTLA10M0T55-B0	KLM-2169 BX-3	1	
335011000	CRYSTAL OSC CA-301 20.00MHZ	KLM-2168 BX-3	1	
335011200	CRYSTAL OSC CA-301 24.576MHZ	KLM-2168 BX-3	1	
360024100	VR RK1631110TDA	KLM-945/946 BX	2	
360024800	VR RK14K12D0D08 10KBX2	KLM-2309/10/11	1	
362009031	VR RK11K114004L 10KB	KLM-2309/10/11	3	
362009032	VR RK11K1140A23 10KB	KLM-2170/71 BX	1	
370005300	REC EC11B15204AH	KLM-2170/71 BX	1	
374000600	TSW EVQ11A09K (TR)	KLM-2170/71 BX	7	
374000600	TSW EVQ11A09K (TR)	KLM-2309/10/11	9	
374000600	TSW EVQ11A09K (TR)	KLM-2169 BX-3	18	
375012500	PSW SDDFA31500	BX-3 M.PART	1	
404001070	CHIP COIL BLM18BD102SN1D (TS)	KLM-2168 BX-3	71	
420006900	61TP/80+W+PCB(128/129)CEM1	BX-3 M.PART	2	
450003100	PHONE JACK LGR4609-7000	KLM-2309/10/11	1	
450003900	PHONE JACK LJB0661-6	KLM-2168 BX-3	5	
471070801	CONNECTOR TOP B8B-PH-K-S (U)	KLM-2168 BX-3	1	

PART CODE	PART NAME	NOTE	QTY	Description
471101050	CONNECTOR TOP SC25-05WS	KLM-2168 BX-3	1	
471102050	CONNECTOR TOP SJ20-05WX	KLM-2309/10/11	1	
471102050	CONNECTOR TOP SJ20-05WX	KLM-2169 BX-3	1	
471102060	CONNECTOR TOP SJ20-06WX	KLM-2168 BX-3	1	
471102090	CONNECTOR TOP SJ20-09WX	KLM-2168 BX-3	1	
471102090	CONNECTOR TOP SJ20-09WX	KLM-2309/10/11	1	
471102110	CONNECTOR TOP SJ20-11WX	KLM-2170/71 BX	1	
471102110	CONNECTOR TOP SJ20-11WX	KLM-2168 BX-3	1	
471102110	CONNECTOR TOP SJ20-11WX	KLM-2169 BX-3	1	
471102120	CONNECTOR TOP SJ20-12WX	KLM-2168 BX-3	1	
471102130	CONNECTOR TOP SJ20-13WX	KLM-2168 BX-3	1	
471102130	CONNECTOR TOP SJ20-13WX	KLM-2169 BX-3	1	
471102150	CONNECTOR TOP SJ20-15WX	KLM-2170/71 BX	1	
471102150	CONNECTOR TOP SJ20-15WX	KLM-2169 BX-3	1	
471102160	CONNECTOR TOP SJ20-16WX	KLM-2309/10/11	3	
471102160	CONNECTOR TOP SJ20-16WX	KLM-2169 BX-3	1	
474019500	CONNECTOR 1-215079-6 16P (AMP)	KLM-2168 BX-3	4	
475002215	HARNESS HNS-2215	BX-3 M.PART	1	
475002761	HARNESS HNS-2761	BX-3 M.PART	1	
475002825	HARNESS HNS-2825	BX-3 M.PART	1	
475002922	HARNESS HNS-2922 BOARD IN	KLM-2309/10/11	1	
475002925	HARNESS HNS-2925	BX-3 M.PART	1	
475002982	HARNESS HNS-2982	BX-3 M.PART	1	
475002983	HARNESS HNS-2983	BX-3 M.PART	1	
475002985	HARNESS HNS-2985	BX-3 M.PART	1	
475002986	HARNESS HNS-2986	BX-3 M.PART	1	
475003094	HARNESS HNS-3094	BX-3 M.PART	1	
475003095	HARNESS HNS-3095	BX-3 M.PART	1	
475003096	HARNESS HNS-3096	BX-3 M.PART	1	
475003097	HARNESS HNS-3097 BOARD IN	KLM-945/946 BX	1	
475008054	HARNESS HNS-8054	BX-3 M.PART	1	
475103098	HARNESS HNS-3098(F)L=600MM	BX-3 M.PART	1	
475103099	HARNESS HNS-3099(F)L=520MM	BX-3 M.PART	1	
475108028	HARNESS HNS-8025(F) L=33CM	BX-3 M.PART	2	
480010200	DIN SOCKET YKF51-5046	KLM-2168 BX-3	1	
500019500	X-122W PANEL CUSHION 2 F40576	BX-3 M.PART	11	
500023300	X-323 CUSHION C KOC-F40661	BX-3 M.PART	16	
500033800	X-1100 CUSHION PLATE F41000	BX-3 M.PART	1	
500033900	X-1100 MID BOARD MASK F41001	BX-3 M.PART	1	
500034000	X-1100 FRONT BAR FELT F41006	BX-3 M.PART	1	
525001300	FERRITE CORE NFT-25(WITH CASE)	BX-3 M.PART	1	
540020200	INLET SOCKET SS-7B	BX-3 M.PART	1	
580048001	X8120/1100 REAR SHEET F40911-2	BX-3 M.PART	1	
600005300	AC CORD DC-480-J01	BX-3 JP M.PART	1	
600005400	AC CORD EC-652-E03	BX-3 GE M.PART	1	
600005700	AC CORD UC-953-J01	BX-3 CN M.PART	1	
600005700	AC CORD UC-953-J01	BX-3 US M.PART	1	
600007500	AC CORDSET B06-15020002(UK)	BX-3 UK M.PART	1	
620024600	X-925 PSW KNOB KOC-E40304-2	BX-3 M.PART	1	
620032000	4 LINKAGE KNOB E20180/H40130-2	BX-3 M.PART	1	
620032300	4 LINKAGE KNOB E20180/H40131-2	BX-3 M.PART	2	
620032400	4 LINKAGE KNOB E20180/H40131-1	BX-3 M.PART	3	
620037600	X-8110 LED REFLECTOR H40147-1	BX-3 M.PART	22	
620038300	X-8120 SQUARE KNOB (IVORY)	BX-3 M.PART	9	
620039700	X-8120 SQUARE KNOB (GRAY)	BX-3 M.PART	7	
620039800	VR KNOB DRD-130D98(S)	BX-3 M.PART	5	
620039900	X-8120 KNOB L-4-BK H40148-5	BX-3 M.PART	2	

<b>PART CODE</b>	<b>PART NAME</b>	<b>NOTE</b>	<b>QTY</b>	<b>Description</b>
620040000	X-332 ENCODER KNOB E30187-1	BX-3 M.PART	1	
630031500	X-8120 VFD WINDOW KOC-E40502	BX-3 M.PART	1	
630035200	X-1100 SHIELD SHEET KOC-F41002	BX-3 M.PART	1	
641038500	X-181 PP SUPPORT PLATE C40907	BX-3 M.PART	1	
641039700	X-115 PSW METAL FITTING C40914	BX-3 M.PART	1	
641041165	X-410 WHEEL METAL FITTING ASSY	BX-3 M.PART	1	
641041436	GND METAL FITTING M1866-A	KLM-2309/10/11	1	
641041584	X-8120 L TYPE ANGLE C41178-1	BX-3 M.PART	3	
641041598	X-8120 FRONT GRILL KOC-C20362	BX-3 M.PART	1	
641041599	X-8120 PCB CHASSIS ASSY H30203	BX-3 M.PART	1	
641041600	GND PLATE KOC-C41104	KLM-2168 BX-3	5	
641041601	X-8120 ORNAMENT WASHER C41197	BX-3 M.PART	6	
641041612	X-8410 KORG PLATE 4 C41155-4	BX-3 M.PART	1	
641041690	X-1100 DB CHASSIS 2 C20365-2	BX-3 M.PART	1	
641041699	X-1100 DB-U BRACKET KOC-C30578	BX-3 M.PART	3	
641041700	X-1100 MID BRACKET KOC-C30579	BX-3 M.PART	3	
641041701	X-1100 FRONT BAR U KOC-C20376	BX-3 M.PART	1	
641041702	X-1100 FRONT BAR L KOC-C20377	BX-3 M.PART	1	
641041703	X-1100 CONTROL PANEL U C20378	BX-3 M.PART	1	
641041704	X-1100 CONTROL PANEL L C20379	BX-3 M.PART	1	
641041705	X-1100 PANEL KOC-C10233	BX-3 M.PART	1	
644007300	X-410 WHEEL SPRING C40689-2	BX-3 M.PART	1	
645053265	X-1100 BOTTOM CASE ASSY H20036	BX-3 M.PART	1	
645053266	X-1100 STAND KIT STD-BX3	BX-3 M.PART	1	
645053267	X-1100 MID BOARD D30246	BX-3 M.PART	1	
645053268	X-1100 ROOF BOARD D30243	BX-3 M.PART	1	
646026201	X-707 WHEEL (BK) E30094-1	BX-3 M.PART	2	