

KORG M3-M

SERVICE MANUAL

Blockdiagram and Schematics are in other file.

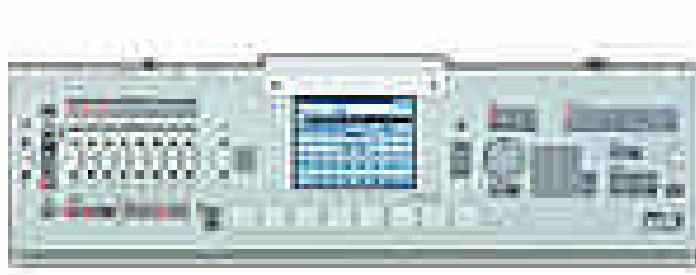


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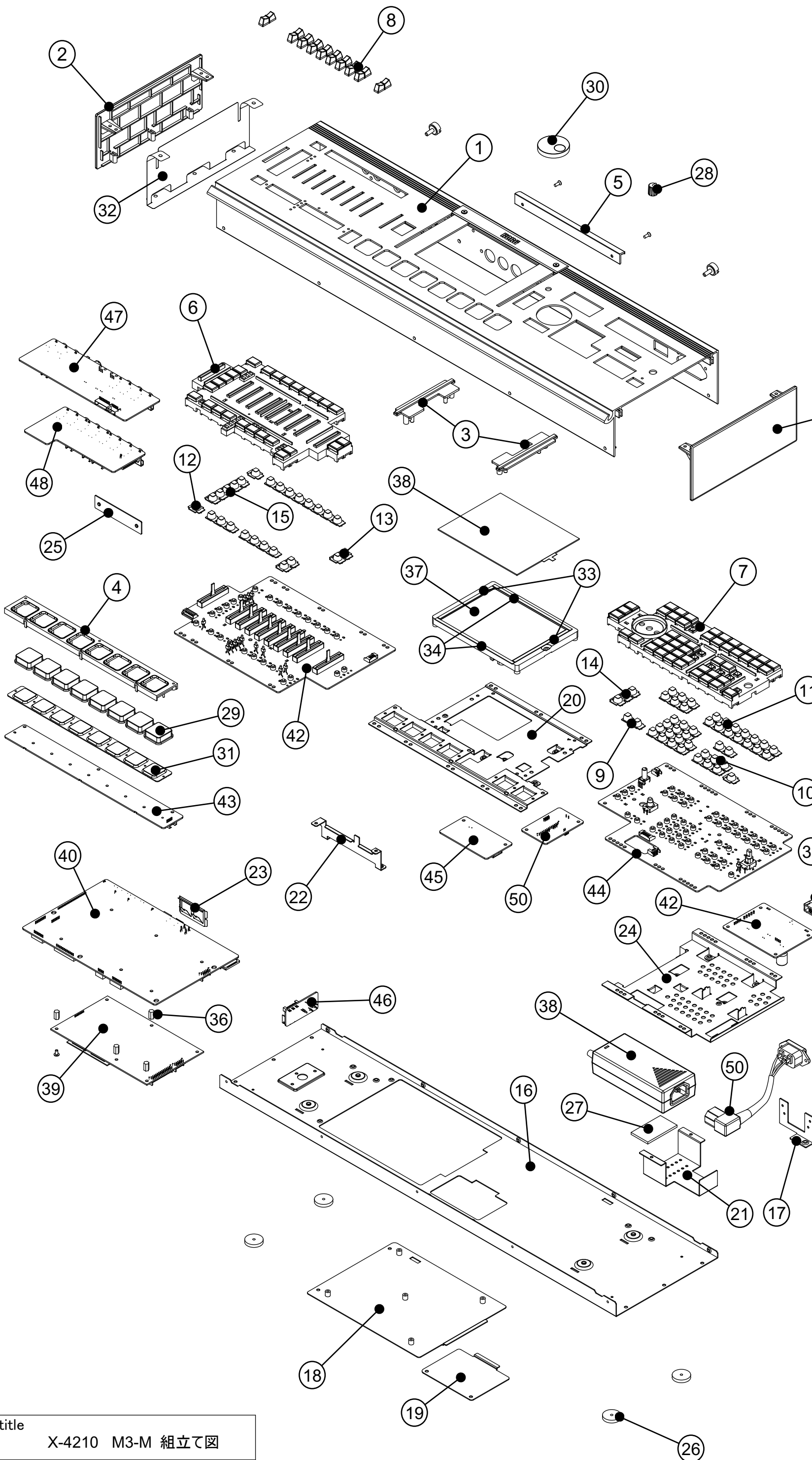
TEST MODE: 3-4

PARTS LIST: 5-8

KORG

Issued Apr.20, 2007

Ver.1



50	AC Cable	1
49	KLM-2666(Joint)	1
48	KLM-2647(Jack B)	1
47	KLM-2644(Jack A)	1
46	KLM-2701(Keyborad IF)	1
45	KLM-2649(Inverter)	1
44	KLM-2648(Panel R)	1
43	KLM-2646(Pad)	1
42	KLM-2645(Panel L)	1
41	KLM-2700(Power)	1
40	KLM-2642(Function)	1
39	KLM-2180(CPU Board)	1
38	AC adapter	1
37	LCD	4
36	Spacer	1
35	パワー-SWツマミ Power SW Button	2
34	Touch Panel Tape L	2
33	Touch Panel Tape S	2
32	4210 Shield Sheet	1
31	Pad Cushion	1
30	4210 エンコーダーツマミ Encoder Knob	1
29	Pad Button	8
28	VR Knob	1
27	4210 AC Sponge	1
26	4210 Case Leg	1
25	4210 OP Plate	1
24	4210 PU Support	1
23	4210 USB Spring	1
22	4210 Fire Wire Support	1
21	4210 AC Chassis	1
20	4210 LCD Chassis	1
19	4210 DIMM OP Cover	1
18	4210 OP Cover	1
17	4210 PW Chassis	1
16	4210 Module Bottom Cover	1
15	4210 Key Cushion Vertical 5	1
14	4210 Key Cushion Vertical 3	1
13	4210 Key Cushion Vertical 2	2
12	4210 Key Cushion Vertical 1	3
11	4210 Key Cushion Horizontal 4	7
10	4210 Key Cushion Horizontal 3	9
9	4210 Key Cushion Horizontal 2	2
8	4210 Slider Knob	10
7	4210 Key Base Block R Assy	1
6	4210 Key Base Block L Assy	1
5	4210 Hook	1
4	4210 Pad Frame	1
3	4210 LCD Plate 2	2
2	4210 Module Side Panel	2
1	4210 Module Panel	1
	Part Name	Qty

title	
X-4210 M3-M 組立て図	
Drawn by	Y.Suzuki
Drawing No.	KOC-B30126

M3 Test mode

How to enter the test mode

-Tset mode to confirm that the keybed is not connected when to use as M3-M

Turn the power on pressing ENTER + 6

-Full inspection mode

Turn the power on pressing ENTER + 5

-Other test mode

ENTER + 0 :Initialize Backup Area
ENTER + 2 :Skip the internal check
ENTER + 7 :Check of connectors of M3-73/88's Sub-OUT
ENTER + 8 :Ext Key Check
ENTER + 9 :Diplay of Version No.
MENU + 1 :Option memory simple check
MENU + 2 : writing check of GUID to Firewireboard
MENU + 3 :On Board + Option memory simple check
MENU + 4 :RADIAS Option Check
MENU + 5 :Test Mode
MENU + 6 :Firewire Option Check
MENU + 7 :Option memory Full Check
MENU + 8 :Load Preload/Demo Data
MENU + 9 :On Board + Option memory Full Check
LOCATE + 0 :USB Storage Mode
LOCATE + 1 :Keybed Update

Operation in the test mode

[ENTER] : Proceed to next check

[^] : Proceed to next item

[∇] : Go back to former item

[FF] : Proceed to next step

[RW] : Go back to former step

Notice

- Connect a USB flash memory (USB2.0) to the USB A connector.
- Connect a personal computer which is working on USB2.0 to the USB B connector.
- When internal check [Please Connect Digital Cable] is displayed, connect the OPTICAL IN and OUT using a OPTICAL cable (loop).
- Confirm that the number of keys which is connected is same as in the display.
When the different number of the keys is displayed, the PCB of the keyboard is different KLM-2860.
- In the operation check, the calibration is needed for RIBBON, JOYSTICK, PAD, AFTERTOUCH..
- When to set the preload data of M3-88 to factory setting, connection of KEYBED is needed.

KORG M3-M Parts List

Part No.	Category	Part Name	Note	QTY
500314001400	DIODE	RLS-73 TE-11	KLM-2810	2
500320012320	IC	MB87M4080PB-GE1	KLM-2810	1
500324026017	IC	MC9328MX1DVM20R2	KLM-2810	1
500320041011	IC	K4S511632D-UC75	KLM-2810	2
500324006012	SDRAM	V54C365164VEI7(TP)	KLM-2810	1
500324006014	SDRAM	V54C3256164VDI7PC(TP)	KLM-2810	4
500324007039	IC	BU2373FV-E2	KLM-2810	1
500324021113	Logic IC	SN74LV4040APWR	KLM-2810	1
500324021121	Logic IC	SN74LV541APWR	KLM-2810	3
500324021158	Logic IC	SN74LVC32APWR	KLM-2810	3
500324021166	Logic IC	SN74LVC1G02DCKR	KLM-2810	1
500324021168	Logic IC	SN74LVC1G04DCKR	KLM-2810	1
500324021215	Logic IC	SN74LVC1G86DCKR	KLM-2810	1
500324021230	Logic IC	SN74LVC2G08DCTR	KLM-2810	1
500324021235	Logic IC	SN74LVC2G157DCTR	KLM-2810	1
500324021246	Logic IC	SN74LVC2G74DCTR	KLM-2810	1
500324021280	Logic IC	SN74AHCU04PWR	KLM-2810	1
500324022000	Logic IC	SN74LV14APWR	KLM-2810	1
500324022100	Logic IC	SN74LVC245APWR	KLM-2810	2
500324026016	LDO IC	SPX2815AT-L/TR	KLM-2810	1
500324053005	RESET IC	MAX811SEUS+T	KLM-2810	2
500324053006	ASSP IC	DS2411R+T&R	KLM-2810	1
500334002100	INDUCTOR	NLC453232T-4R7K-PF	KLM-2810	2
500335400380	CRYSTAL	CX-49G-24.576MHZ	KLM-2810	1
500335400400	CRYSTAL	CM200S 32.768KHZ	KLM-2810	1
500404001100	INDUCTOR	BLM18BB121SN1D	KLM-2810	1
500404001280		BLM18BB470SN1D	KLM-2810	2
500404001150	FERRITE BEAD	MMZ1608Y102BT	KLM-2810	2
500404001160	FERRITE BEAD	MPZ2012S221AT	KLM-2810	5
500474044300	CONNECTOR	8903-060-177MS-B-F	KLM-2810	2
500474044500	CONNECTOR	DM04-144B2-F	KLM-2810	1
500474045200	CONNECTOR	STMM-110-02-G-D-SM-K-TR	KLM-2810	1
500474045400	CONNECTOR	MICS/SMD 10RP	KLM-2810	1
500474045500	CONNECTOR	MICS/SMD 26RP	KLM-2810	1
200060942810	PCB ASS'Y	KLM-2810 M3-SERIES		(1)
500184080020	Chip FUSE R	RF732BTBK0R2J	KLM-2642-2700	1
500219401960	INDUCTOR	SLF12575T-220M4R0-PF	KLM-2642-2700	1
500219402050	EMI/EMC PART	RLF12560T-5R6N9R2	KLM-2642-2700	1
500304050490	FET	CPH6316-TL-E	KLM-2642-2700	1
500304050530	POWER MOS FET	SI4944DY-T1	KLM-2642-2700	1
500314001400	DIODE	RLS-73 TE-11	KLM-2642-2700	2
500314010580	DIODE	1N4148T-77	KLM-2642-2700	1
500314030700	SCHOTTKY DIODE	RB051L-40TE25	KLM-2642-2700	1
500314031100	SCHOTTKY DIODE	RB081L-20	KLM-2642-2700	1
500314032500	SCHOTTKY DIODE	RB751V-40TE17	KLM-2642-2700	2
500315000500	DOUBLE DIODES	MC2840-T112-1	KLM-2642-2700	2
500320012359	MEMORY	S29AL004D70TFI010 (X4210)	KLM-2642-2700	1
500320038008	IC	ISP1761BE,557	KLM-2642-2700	1
500324007038	EEPROM	BR24L04F-WE2	KLM-2642-2700	1
500324009054	REGULATOR IC	NJM78M05DL1A-TE1	KLM-2642-2700	1
500324009086	IC	NJM2374AE-TE1-#ZZZB	KLM-2642-2700	1
500324017026	IC	R2051S01-E2-F	KLM-2642-2700	1
500324018012	ANALOG IC	AK4112BVF-E2	KLM-2642-2700	1
500324021114	Logic IC	SN74LV05APWR	KLM-2642-2700	1
500324021149	IC	NE5532ADR	KLM-2642-2700	3
500324021190	Logic IC	SN74LVC1G19DCKR	KLM-2642-2700	1
500324021225	Logic IC	SN74LVC2G04DCKR	KLM-2642-2700	1
500324021232	Logic IC	SN74LVC2G126DCTR	KLM-2642-2700	1
500324021253	Logic IC	SN74LVC3G07DCTR	KLM-2642-2700	1
500324022101	DC-DC Converter	TPS40071PWPRG4	KLM-2642-2700	1
500324022102	ASSP IC	TPS2042BDRG4	KLM-2642-2700	1

Part No.	Category	Part Name	Note	QTY
500324022105	REGULATOR IC	LP2985-33DBVR	KLM-2642-2700	1
500324023007	IC	S-8520F50MC-B0JT2G	KLM-2642-2700	1
500324036013	ANALOG IC	PCM1793DBR	KLM-2642-2700	3
500324036015	ANALOG IC	PCM1802DBR	KLM-2642-2700	1
500324053004	USB/1394 IC	SC16C2550BIB48,128	KLM-2642-2700	1
500334001900	PHOTO COUPLER	PC410LKNIP0F	KLM-2642-2700	1
500335400350	CRYSTAL	CX-49G-12.000MHZ	KLM-2642-2700	1
500335400360	CRYSTAL	CX-49G-16.000MHZ	KLM-2642-2700	1
500335400370	CRYSTAL	CX-49G-20.000MHZ	KLM-2642-2700	1
500335400400	CRYSTAL	CM200S 32.768KHZ	KLM-2642-2700	1
500375014800	SW	SDKLA10200	KLM-2642-2700	1
500402004600	FERRITE BEAD	2943-666673	KLM-2642-2700	1
500402400700	COMMON MODE FILTER	ACM9070-701-2PL-TL	KLM-2642-2700	1
500402400800	COMMON MODE FILTER	ZJSR5101-223TA-01	KLM-2642-2700	9
500404000500	INDUCTOR	BLM21BD102SN1D	KLM-2642-2700	4
500404001150	FERRITE BEAD	MMZ1608Y102BT	KLM-2642-2700	30
500404001160	FERRITE BEAD	MPZ2012S221AT	KLM-2642-2700	4
500404001250	Chip INDUCTOR	CDRH127LD	KLM-2642-2700	1
500454012732	POWER PLUG/JACK	LGP6531-0800F	KLM-2642-2700	1
500471050502	CONNECTOR	B5P-VH(LF)(SN)	KLM-2642-2700	1
500471060301	CONNECTOR	B3B-EH-A(LF)(SN)	KLM-2642-2700	1
500471060401	CONNECTOR	B4B-EH-A(LF)(SN)	KLM-2642-2700	1
500471060501	CONNECTOR	B5B-EH-A(LF)(SN)	KLM-2642-2700	1
500471060901	CONNECTOR	B9B-EH-A(LF)(SN)	KLM-2642-2700	1
500471070501	CONNECTOR	B5B-PH-K-S(LF)(SN)	KLM-2642-2700	1
500471070801	CONNECTOR	B8B-PH-K-S(LF)(SN)	KLM-2642-2700	2
500471070901	CONNECTOR	B9B-PH-K-S(LF)(SN)	KLM-2642-2700	1
500471071001	CONNECTOR	B10B-PH-K-S(LF)(SN)	KLM-2642-2700	1
500472050501	CONNECTOR	B5PS-VH(LF)(SN)	KLM-2642-2700	1
500474027400	CONNECTOR	A3E-50PA-2DSA(71)	KLM-2642-2700	1
500474039400	CONNECTOR	YKF45-0021N(USB RA B-TYPE)	KLM-2642-2700	1
500474042800	CARD CONNECTOR	AXA263021T	KLM-2642-2700	1
500474044400	CONNECTOR	8913-060-178S-C-F	KLM-2642-2700	2
500474044700	CONNECTOR	UAR64-8W5J00	KLM-2642-2700	1
500474045400	CONNECTOR	MICS/SMD 10RP	KLM-2642-2700	1
500480010560	PHONE JACK	YKF51-5073V	KLM-2642-2700	1
500515400100	FUSE HOLDER	CNT47-0003A	KLM-2642-2700	2
500641041609	GROUND TERMINAL	M1698A	KLM-2642-2700	1
500649007400	BATTERY HOLDER	HL32-A2	KLM-2642-2700	1
200060942642	PCB ASS'Y	KLM-2642/2700 M3-SERIES		(1)
500219401920	EMI/EMC PART	NFM21PC104R1E3D	KLM-2644-47-66	2
500304000110	TRANSISTOR	2SA812-T1B-A (M6)	KLM-2644-47-66	1
500304020230	TRANSISTOR	2SC3661-TB-E	KLM-2644-47-66	14
500314001400	DIODE	RLS-73 TE-11	KLM-2644-47-66	4
500314031600	ZENER DIODE	HZM9.1NB3TL-E	KLM-2644-47-66	1
500315000500	DOUBLE DIODES	MC2840-T112-1	KLM-2644-47-66	4
500315001200	DOUBLE DIODES	DAN217T146	KLM-2644-47-66	1
500320009108	IC	NJM4556AL (SIP)	KLM-2644-47-66	1
500324001015	OPAMP	UPC4570G2-E2-A	KLM-2644-47-66	1
500324021149	IC	NE5532ADR	KLM-2644-47-66	6
500330003400	OPTO TX/RX MODULE	TOTX142L(F)	KLM-2644-47-66	1
500330003500	OPTO TX/RX MODULE	TORX142L(F)	KLM-2644-47-66	1
500334002000	INDUCTOR	NLFC322522T-470K-PF	KLM-2644-47-66	1
500362009030	VR	RK09K12A0D0D	KLM-2644-47-66	1
500373009000	SW	SSSS928400	KLM-2644-47-66	1
500402400600	INDUCTOR	PK0810-331K-UL-T/F (TR)	KLM-2644-47-66	2
500402400800	COMMON MODE FILTER	ZJSR5101-223TA-01	KLM-2644-47-66	1
500404001150	FERRITE BEAD	MMZ1608Y102BT	KLM-2644-47-66	19
500450003100	PHONE JACK	LGR4609-7100F	KLM-2644-47-66	10
500454005600	PHONE JACK	YKB21-5006G	KLM-2644-47-66	2
500471070301	CONNECTOR	B3B-PH-K-S(LF)(SN)	KLM-2644-47-66	1
500472060301	CONNECTOR	S3B-EH(LF)(SN)	KLM-2644-47-66	2
500472060401	CONNECTOR	S4B-EH(LF)(SN)	KLM-2644-47-66	2
500472060501	CONNECTOR	S5B-EH(LF)(SN)	KLM-2644-47-66	1
500472060601	CONNECTOR	S6B-EH(LF)(SN)	KLM-2644-47-66	1
500472070501	CONNECTOR	S5B-PH-K-S(LF)(SN)	KLM-2644-47-66	1

Part No.	Category	Part Name	Note	QTY
500472070901	CONNECTOR	S9B-PH-K-S(LF)(SN)	KLM-2644-47-66	1
500474039700	CONNECTOR	SLW4R-1C7	KLM-2644-47-66	1
500474044600	CONNECTOR	08-6210-020-340-800+	KLM-2644-47-66	1
500474045500	CONNECTOR	MICS/SMD 26RP	KLM-2644-47-66	1
500641041623		X-9100 JACK PLATE 2 C41068-2	KLM-2644-47-66	2
500641042045		X4210 JACK PLATE 1 C41446	KLM-2644-47-66	1
500641042046		X4210 JACK PLATE 2 C41447	KLM-2644-47-66	2
500219402070	INDUCTOR	NLCV32T-221K-PF	KLM-2644-47-66	2
200060942644	PCB ASS'Y	KLM-2644/47/66 M3-SERIES		(1)
500304020150	TRANSISTOR	2SC1623-T1B-A (L7)	KLM-2645/46/48/49/2701	8
500304020370	TRANSISTOR	2SC2655-Y (TPE6 F)	KLM-2645/46/48/49/2701	2
500304020380	DIGITAL TR	FP1L2Q-T1B-A	KLM-2645/46/48/49/2701	18
500304050540	DIGITAL TR	DTD143EKT146	KLM-2645/46/48/49/2701	8
500314001400	DIODE	RLS-73 TE-11	KLM-2645/46/48/49/2701	1
500314010570	LED	KPBD-3224SURKSGC	KLM-2645/46/48/49/2701	2
500314028800	LED	SLZ-190B-09-T2	KLM-2645/46/48/49/2701	14
500315000500	DOUBLE DIODES	MC2840-T112-1	KLM-2645/46/48/49/2701	9
500315000600	DOUBLE DIODES	MC2838-T112-1	KLM-2645/46/48/49/2701	37
500320012335	IC	MB8935BPFV-G-291-BNDE1	KLM-2645/46/48/49/2701	1
500320020215	IC	CY8C24423A-24SXI	KLM-2645/46/48/49/2701	3
500324009019	ANALOG IC	NJM2115M-TE1	KLM-2645/46/48/49/2701	1
500324021108	Logic IC	SN74LV138APWR	KLM-2645/46/48/49/2701	4
500324021119	Logic IC	SN74LV4051APWR	KLM-2645/46/48/49/2701	2
500324052001	IC	HG-106C-FT	KLM-2645/46/48/49/2701	8
500335400138	CERAMIC RESONATOR	CSTCC10M0G53-R0	KLM-2645/46/48/49/2701	1
500360025600	VR	RK09K1130B56	KLM-2645/46/48/49/2701	1
500362009007	VR	RK11K1140A9L	KLM-2645/46/48/49/2701	1
500365011500	VR	EWA NA0C15B14	KLM-2645/46/48/49/2701	1
500365011400	VR	RS30111A602N	KLM-2645/46/48/49/2701	9
500370005000	SW	EC11B15204A5	KLM-2645/46/48/49/2701	1
500374001500	SW	SKRGAED010	KLM-2645/46/48/49/2701	74
500402009300	INDUCTOR	RCH895NP-181K	KLM-2645/46/48/49/2701	1
500402009400	INDUCTOR	EP208B	KLM-2645/46/48/49/2701	1
500404001150	FERRITE BEAD	MMZ1608Y102BT	KLM-2645/46/48/49/2701	15
500415004900	BUZZERS	PKM17EPP-2002-B0	KLM-2645/46/48/49/2701	1
500454012737	DIN PLUG/JACK	DIN JACK MD24-9PSC4EC-000-21	KLM-2645/46/48/49/2701	1
500471071001	CONNECTOR	B10B-PH-K-S(LF)(SN)	KLM-2645/46/48/49/2701	1
500472060401	CONNECTOR	S4B-EH(LF)(SN)	KLM-2645/46/48/49/2701	1
500472060601	CONNECTOR	S6B-EH(LF)(SN)	KLM-2645/46/48/49/2701	1
500472070301	CONNECTOR	S3B-PH-K-S(LF)(SN)	KLM-2645/46/48/49/2701	1
500472070501	CONNECTOR	S5B-PH-K-S(LF)(SN)	KLM-2645/46/48/49/2701	2
500472070801	CONNECTOR	S8B-PH-K-S(LF)(SN)	KLM-2645/46/48/49/2701	2
500641041609	GROUND TERMINAL	M1698A	KLM-2645/46/48/49/2701	2
500314010590	LED	KPTD-3216SURCK	KLM-2645/46/48/49/2701	49
500472084080	CONNECTOR	SM02(8.0)B-BHS-1-TB(LF)(SN)	KLM-2645/46/48/49/2701	1
200060942645	PCB ASS'Y	KLM-2645/46/48/49/2701 M3-SERI		(1)
500475003715	HARNESS	HNS-3715		1
500475003716	HARNESS	HNS-3716		1
500475003717	HARNESS	HNS-3717		1
500475003718	HARNESS	HNS-3718		1
500475003719	HARNESS	HNS-3719		1
500475003720	HARNESS	HNS-3720		1
500475003721	HARNESS	HNS-3721		1
500475003722	HARNESS	HNS-3722		1
500475003723	HARNESS	HNS-3723		1
500475003724	HARNESS	HNS-3724		1
500475003725	HARNESS	HNS-3725		1
500475003726	HARNESS	HNS-3726		1
500475003727	HARNESS	HNS-3727		1
500475003729	HARNESS	HNS-3729		1
500475003730	HARNESS	HNS-3730		1
500545020640	FFC	SML2CD-20X60BDX8(BL)-P0.5-S4+4		1
500600006514	AC CABLE	CORDSET SP0523-2-90 W/INLET		1
500313006700	LCD	KCG057QV1DH-G68		1
500405015500	AC ADAPTER	KA300 (DSA-60W-12 1 12060A)		1
500415004705	TOUCH PANEL	N010-0554-T017		1

Part No.	Category	Part Name	Note	QTY
500464071003	FUSE	FUSE 125V 4A 0233004.MXP		1
500520001700	LITHIUM BATTERY	CR2032-3K//ZWW		1
500525002000		FERITE MAGNET 7X7X2S WHITE		8
500600006508	AC CABLE	LY100JPVCTFLY35LY37(JP)		(1)
500600005400	AC CABLE	EC-652-E03 (230V GE WG FR)		(1)
500600005700	AC CABLE	UC-953-J01 (120V US CN EX)		(1)
500600005800	AC CABLE	SC-111-J01 (AU)		(1)
500600006507	AC CABLE	LY230BSH05VVFBSLY13(UK)		(1)
500540028903	POWER PLUG/JACK	CONVERTER SOCKET YL-212 (JP)		(1)
500641042048		X4210 MODULE PANEL ASSY H40252		1
500641042067		X4210 HOOK C41524		1
500641042055		X4210 MODULE BOTTOM COVER C30730		1
500646099989		X4210 MODULE SIDE PANEL E30453		2
500646099990		X4210 LCD PLATE 2 E40693		2
500646099991		X4210 PAD FRAME E30454		1
500646099993		4210 KEY BASE BLOCK L ASSY H30320		1
500646099994		4210 KEY BASE BLOCK R ASSY H30321		1
500646099992		X4210 SLIDER KNOB E40664		10
500620046910		X4210 ENCODER KNOB E40466-7		1
500646100060		X4210 1-KEY(V) H30323-1 WHITE		3
500646100061		X4210 2-KEYS(V) H30323-2 WHITE		2
500646100062		X4210 3-KEYS(V) H30323-3 WHITE		1
500646100063		X4210 5-KEYS(V) H30323-5 WHITE		1
500646100064		X4210 2-KEYS(H) H30322-2 WHITE		2
500646100065		X4210 3-KEYS(H) H30322-3 WHITE		9
500646100066		X4210 4-KEYS(H) H30322-4 WHITE		7
500641042058		X4210 PW CHASSIS C41501		1
500641042056		X4210 OP COVER C41483		1
500641042057		X4210 DIMM OP COVER C41484		1
500641042066		X4210 OP PLATE C41525		1
500641042049		X4210 LCD CHASSIS C20447		1
500641042051		X4210 AC CHASSIS C41500		1
500641042050		X4210 FIRE WIRE SUPPORT C41496		1
500641042052		X4210 USB SPRING C41521		1
500641042062		X4210 PU SUPPORT C30731		1
500646097600		X-2100 RUBBER KEYPAD E30375		1
500540028912		SPECIAL SCREW KOC-C41190		2
500550020200		X-1450/60 TOUCH PANEL TAPE L F41074		2
500550020300		X-1450/60 TOUCH PANEL TAPE S F41075		2
500620024600		X-952POW SW KNOB NO SILK E40304-2		1
500620044800		ROTARY VR KONB KOC-E48026-1		1
500686006000		BARCODE LABEL KL-11 F40994		1
500620046920		P423-9FG		1
500646097501		X4210 PAD BTN M-WH PU E40623-2		8
500500036903		X4210 CASE LEG F41327		4
500500036902		X4210 AC SPONGE F41326		1
500540028905		METAL SPACER TS-1R		4
500630042524		4210 Shield Sheet F41356		1
500540028913		EMI GASKET E02S080070JST-25		2
500500037004		4100 KB Bar Tape F41371		2