

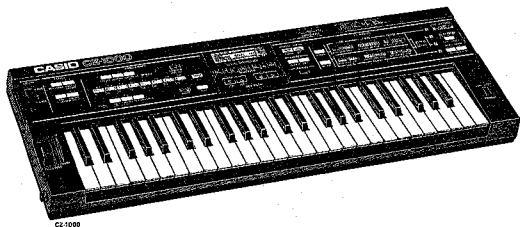
CIRCUIT DIAGRAM & PARTS LIST

(without price)

DIGITAL SYNTHESIZER

CZ-1000

FEB. 1985



Note: For the circuit explanations and schematic diagrams of the PCBs MA1M, MA2M, MA3M, KY1M, and KY3M, refer to the CZ-101 Service Manual.

CASIO®

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PARTS LIST

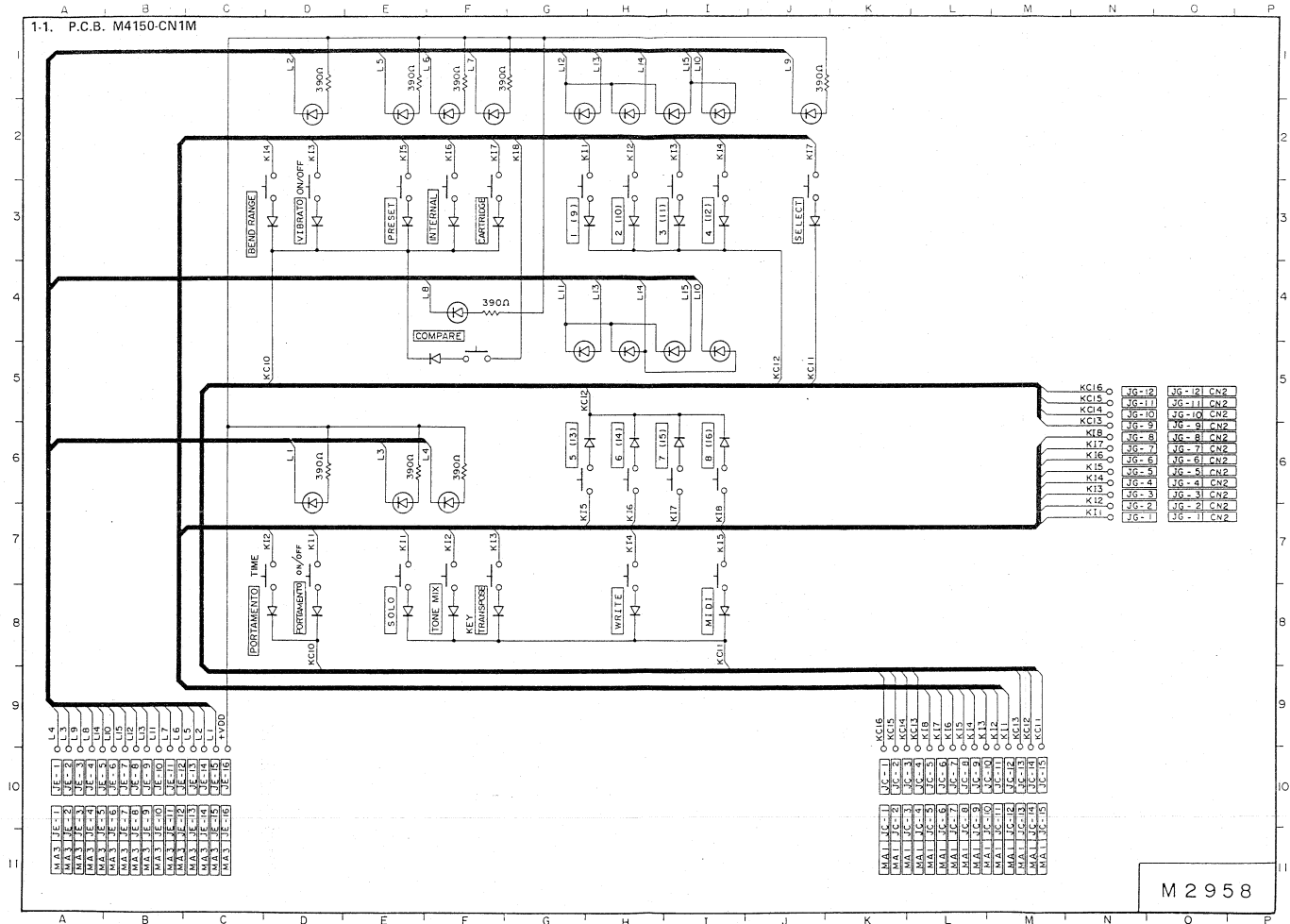
CZ-1000

(MX-150)

MPL-036

- Note:**
1. Prices and specifications are subject to change without notice.
 2. For spare parts order/supply procedures, see the "GUIDEBOOK for Spare Parts Supply", a separate publication.

1.1. P.C.B. M4150-CN1M

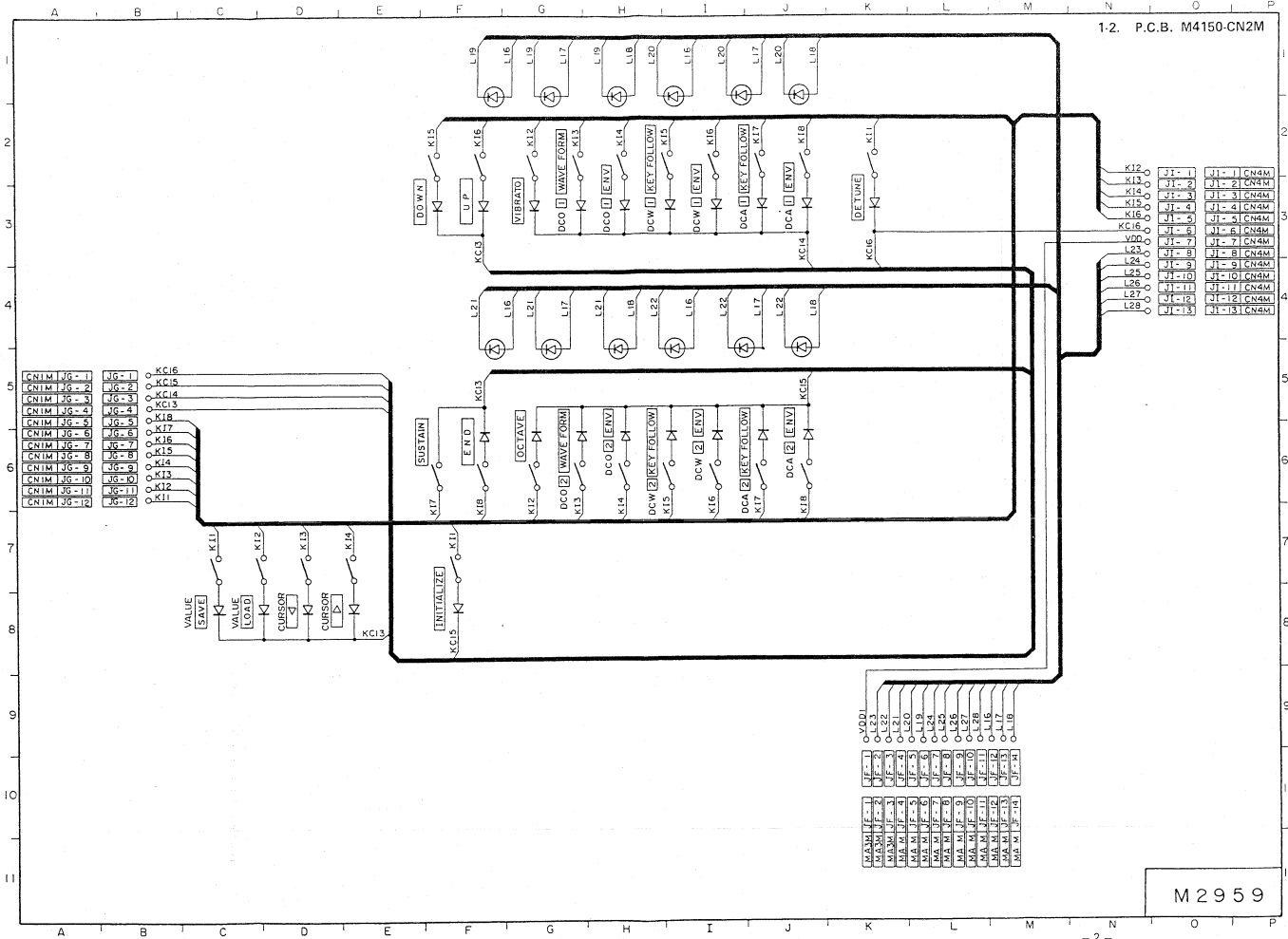


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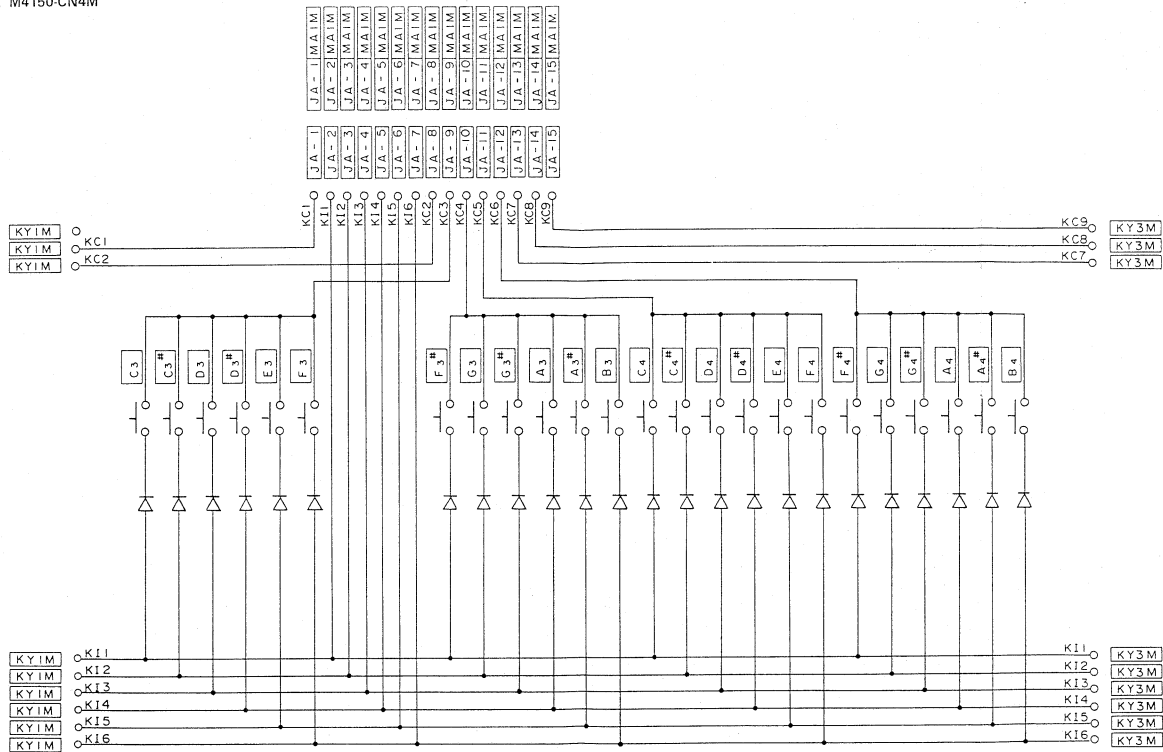
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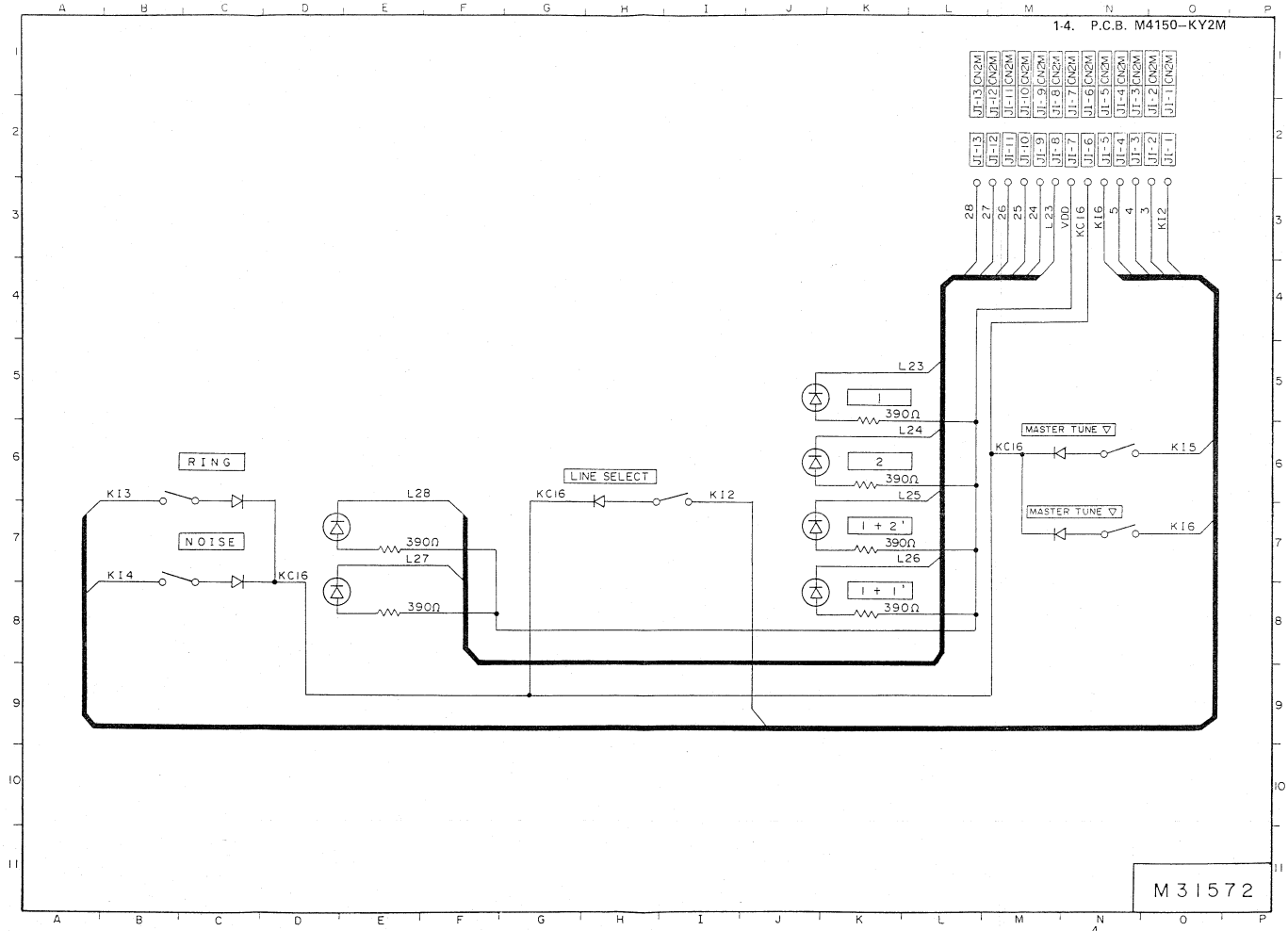
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1-3. P.C.B. M4150-CN4M



M 31632



M31572

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
	1. MA1N-P.C.B. ASS'Y						
	A) MA1N-P.C.B. ASS'Y						
	2001 4776	LSI	HM6117LP-3	2			A
	2001 7481	"	HM613256P-N26	1			A
	2002 0903	"	μPD7811G-120	1			A
	2002 0971	"	μPD933D	1			A
	2100 3255	MOS IC	TC4049BP	3			A
	2100 3549	"	TC4066BP	1			A
	2100 4029	C MOS IC	TC4051 BP	1			A
	2100 4472	"	TC74HCU04P	1			A
☆	2100 7749	"	MN74HC00	1			A
	2111 2101	Bipolar IC	SN74LS00N	1			A
	2111 2178	"	SN74LS74AN	1			A
	2111 2615	"	SN74LS05N	2			A
	2111 5428	"	SN74LS373N	1			A
	2120 8906	Monolithic IC	NJM2058D	1			A
	2184 1014	Bipolar IC	HD74LS154P	1			A
	2220 9043	Transistor	2SC1740S	1	10		A
	2220 9141	"	2SC1740-R (S)	1	10		A
	2400 5062	Photo - coupler	PC900	1			A
	2301 0097	Diode	1S2473	1	10		C
	2310 3362	Zener diode	RD3.6EB2	1	10		B
	2520 1442	Ceramic oscillator	CSA10.0MT	1			A
	2520 1485	"	CSA2.00MK	1			A
	2520 3194	Crystal oscillator	HC-18/U-8960KHZ	1			A
	2600 7313	Carbon film resistor	R-25-10K-J	2	10		C
	2500 9715	"	R-25-100K-J	1	10		C
	2601 0918	"	R-25-330K-J	1	10		C
	2600 2516	"	R-25-100-J	3	10		C
	2600 3717	"	R-25-330-J	8	10		C
	2600 4918	"	R-25-1K-J	5	10		C
	2601 2112	"	R-25-1M-J	5	10		C
	2600 8115	"	R-25-22K-J	6	10		C
	2601 0519	"	R-25-220K-J	1	10		C
	2600 3318	"	R-25-220-J	4	10		C
	2600 6112	"	R-25-3.3K-J	2	10		C
	2600 8913	"	R-25-47K-J	2	10		C
	2600 7518	"	R-25-12K-J	3	10		C

Note: ☆ - New parts
Q'ty - Quantity per unit
* - Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
	2600 3512	Carbon film resistor	R-25-270-J	1	10		C
	2600 6511	"	R-25-4.7K-J	5	10		C
	2600 4110	"	R-25-470-J	1	10		C
	2600 9511	"	R-25-82K-J	2	10		C
	2601 6231	""	R-25-25K-J	5	10		C
	2601 5111	"	R-25-50K-J	5	10		C
	2601 2911	"	R-25-10-J	1	10		C
	2614 0749	"	R-25-5.1K-J-T24-T	1	10		C
☆	2700 7333	Metal film resistor	CRB25FW3K	2	10		C
☆	2700 7350	"	CRB25FW12K	1	10		C
☆	2700 7368	"	CRB25FW24K	1	10		C
☆	2700 7341	"	CRB25FX6.04K	1	10		C
	2720 3604	Module resistor	MS1048F	1	10		C
	2720 3663	"	MS2235-F	2	10		C
	2720 3671	"	MS2236-F	2	10		C
	2720 3680	"	MS2238-F	1	10		C
	2720 3698	"	MS22310-F	1	10		C
	2720 3701	"	MS4728-F	1	10		C
	2760 2169	Trimmer VR	V8K4-11B50K	1	10		B
	2760 2177	"	V8K4-11B10K	2	10		B
	2760 2185	"	V8K4-11B500	1	10		B
	2804 5026	Electrolytic capacitor	50RE3R3	1	10		C
	2804 4925	"	50RE1	1	10		C
	2804 9374	"	6.3RE100	1	10		C
	2804 9358	"	6.3RE47	4	10		C
	2804 5581	"	6.3RE330	1	10		C
	2804 5620	"	6.3RE470	2	10		C
	2804 5662	"	6.3RE1000	2	10		C
	2818 0110	Ceramic capacitor	HE50SJYB102K	2	10		C
	2818 0055	"	HE40SJYB221K	5	10		C
	2818 0195	"	HE40SJYB391K	1	10		C
	2818 2040	"	HE70SJYF103Z	12	10		C
	2818 3054	"	HE80SJCH101J	2	10		C
	2818 3097	"	HE40SJCH220J	2	10		C
☆	2819 0662	"	HE50SJCH300J	2	10		C
	2819 0255	"	HE40SJSJL100F	1	10		C
☆	7103 2558	"	DSKC85SJYE104Z	13	10		C
☆	2830 3271	Mylar capacitor	50F2D222J-T	1	10		C

Note: ☆ - New parts
Q'ty - Quantity per unit
* - Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
	2830 5885	Mylar capacitor	50F2D104K-T	1	10		C
☆	2830 5982	"	50F2D103J-T	1	10		C
	3020 2147	Ferrite beads	BL02RN2-R62	4			C
	3060 6035	Ladder network	EXK-S19Z2052R	1			A
1	3420 2338	Slide switch	SSY322	1			B
2	3500 7491	P.C.B. connector	IL-G-14P-S3T2-E	1			X
3	3512 4381	Din connector	YKE31-0037	2			X
4	3730 7254	Parallel cable M152A	2468-4-110	1			X
5	3730 7262	" M152B	2468-4-185	1			X
6	3730 7271	" M152C	2468-6-40	1	10		X
7	3730 7289	" M152D	2468-5-60	1	10		X
8	3730 7297	" M152E	2468-8-135	1	10		X
☆	3841 0661	Low pass filter	LPF-M152-17K	1			B
9	6324 1260	P button spring G164	A32598A-1	1	10		C
10	6328 1500	Insulation seal G49	A44686-1	1	10		X
11	6911 5350	Earth terminal	M41990-1	1	10		X
☆12	4307 2871	Blank P.C.B. (M4152-MA1M)	M1623A-1	1			X
B) MA2M-P.C.B. ASS'Y							
	2100 3298	MOS IC	TC4011BP	1			A
	2100 3549	"	TC4066BP	1			A
	2100 3786	C MOS IC	TC40H004P	1			A
	2100 3867	"	TC40H002P	1			A
	2100 3875	MOS IC	TC40H000P	1			A
	2100 7587	C MOS IC	MN74HC04	1			A
	2120 8329	Linear IC	LA4138	1			A
	2121 0013	OP amp	NJM4558DD	1			A
	2200 8145	Transistor	2SA1012Y	1	10		A
	2210 5299	"	2SB808F	1	10		A
	2230 3856	"	2SD313F	1	10		A
	2220 9043	"	2SC1740S	7	10		A
	2240 5110	FET	2SK30ATMGR	1	10		A
	2301 0097	Diode	1S2473	5	10		C
	2310 4628	Zener diode	RD6.2EB3	1	10		C
	2301 3029	Diode	DS135D	2	10		C
	2520 3186	EMI filter	DSS710D223S12-22	1			C
	2600 7313	Carbon film resistor	R-25-10K-J	9	10		C
	2600 9715	"	R-25-100K-J	4	10		C

Note: ☆ - New parts
Q'ty - Quantity per unit
* - Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
	2600 7712	Carbon film resistor	R-25-15K-J	1	10		C
	2600 7917	"	R-25-18K-J	2	10		C
	2600 2516	"	R-25-100-J	8	10		C
	2600 3717	"	R-25-330-J	2	10		C
	2600 4918	"	R-25-1K-J	7	10		C
	2600 5710	"	R-25-2.2K-J	2	10		C
	2600 8913	"	R-25-47K-J	4	10		C
	2600 7119	"	R-25-8.2K-J	1	10		C
	2600 7518	"	R-25-12K-J	1	10		C
	2601 0110	"	R-25-150K-J	2	10		C
	2601 1515	"	R-25-560K-J	2	10		C
	2600 6511	"	R-25-4.7K-J	5	10		C
	2600 5914	"	R-25-2.7K-J	1	10		C
	2600 4519	"	R-25-680-J	2	10		C
	2601 6541	"	R-25-62K-J	1	10		C
	2620 1918	"	R-50X-56-J	2	10		C
	2620 3911	"	R-50X-390-J	1	10		C
	2760 2134	Trimmer VR	V8K4-11B500K	1	10		B
	2801 6522	Super capacitor	FZ0H473Z	1	10		C
	2804 7363	Electrolytic capacitor	10RB (LL) 22-T2-T	1	10		C
	2804 7371	"	50RB (LL) 3R3-T2-T	1	10		C
	2804 5026	"	50RE3R3	2	10		C
	2804 4925	"	50RE1	1	10		C
	2804 5051	"	16RE10	1	10		C
	2804 4933	"	16RE100	2	10		C
	2804 9374	"	6.3RE100	1	10		C
	2808 0105	"	16RE47	2	10		C
	2807 0918	"	50RNBBPR22-T2-T	1	10		C
	2804 4801	"	16RE2200	1	10		C
	2804 5824	"	6.3RE2-1000	2	10		C
	2805 6435	"	SMC16VB-330 (M)	1	10		C
	2818 0080	Ceramic capacitor	HE40SJYB471K	1	10		C
	2818 0195	"	HE40SJYB391K	2	10		C
	2818 2040	"	HE70SJYF103Z	4	10		C
	2819 0107	"	HE70SJSLS221K	1	10		C
	2819 0280	"	HE60SJSLS151K	2	10		C
	2818 6035	"	HE50SJSLS101K	7	10		C
☆	7103 2558	"	DSKC85SJYE104Z	5	10		C

Note: ☆ - New parts
Q'ty - Quantity per unit
• - Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
	2830 5885	Mylar capacitor	50F2D104K-T	2	10		C
	2830 5974	"	50F2D154K	1	10		C
	3020 2147	Ferrite beads	BL02RN2-R62	1			C
	3120 1152	Relay	G2E-187P-H-B	1			B
13	3420 2338	Slide switch	SSY322	1			B
14	3512 3245	Power jack	HEC0470-01-270	1			B
15	3612 0584	Jack	YKB21-5012	1			B
16	3612 0592	"	YKB21-5002	1			B
☆17	3721 0236	PC joiner M150H	PCJ-JPSS-19-120	1			B
	3841 0628	Main duct	ELEMH100KA	1	10		C
18	6230 2348	PC joiner holder E71	E41620A-1	1	10		X
19	6911 5360	Heat sink	M31486-1	1			X
☆20	4307 2861	Blank P.C.B. (M4152-MA2M)	M1622A-1	1			X
C) MA3M-P.C.B. ASS'Y							
☆	2100 7765	C MOS IC	MN74HC374	4			A
	2120 6083	Monolithic IC	LB1272	4			A
	2200 9028	Transistor	2SA933-S	6	10		A
	2600 7313	Carbon film resistor	R-25-10K-J	6	10		C
	2600 3911	"	R-25-390-J	6			C
	2600 4918	"	R-25-1K-J	13	10		C
	2600 8913	"	R-25-47K-J	6	10		C
	2804 5051	Electrolytic capacitor	16RE10	1	10		C
	2818 2040	Ceramic capacitor	HE70SJYF103Z	5	10		C
	2818 6053	"	HE50SJSL101K	6	10		C
☆21	3721 0172	PC joiner M150B	PCJ-JPSS-7-140	1			B
☆21	3721 0210	" M150F	PCJ-JPSS-14-140	1			B
☆23	3721 0252	" M150J	PCJ-JPSS-11-150	1			B
24	4307 2800	Blank P.C.B. (M4152-MA3M)	M2914-1	1			X
2. UPPER CASE UNIT							
A) CN1M-P.C.B. ASS'Y							
	2301 0097	Diode	1S2473	22	10		C
☆	2320 9811	LED	LN266RPT	16	10		B
☆	2320 9802	"	LN366GPT-(TA)	1	10		B
	2600 3911	Carbon film resistor	R-25-390-J	9	10		C
25	3410 1701	Push switch	KHC10901	22			B

Note: ☆ — New parts
Q'ty — Quantity per unit
* — Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
☆26	3721 0181	PC joiner M150C	PCJ-JPSS-15-120	1			B
☆27	3721 0202	" M150E	PCJ-JPSS-16-100	1			B
28	6910 8670	Sponge 83	M41593-1	2	10		X
☆29	4307 2900	Blank P.C.B. (M4150-CN1M)	M1646-1	1			X
B) CN2M-P.C.B. ASS'Y							
	2301 0097	Diode	1S2473	24	10		C
☆	2320 9811	LED	LN266RPT	12	10		B
30	3410 1701	Push switch	KHC10901	24			B
31	3721 0024	PC joiner M85C	PCJ-JPSS-12-30	1			B
☆32	4307 2910	Blank P.C.B. (M4150-CN2M)	M1646-2	1			X
C) CN3M-P.C.B. ASS'Y							
	2600 2516	Carbon film resistor	R-25-100-J	1	10		C
33	2770 6746	SLIDE VR	S3018P605M-10KB	1			B
☆34	6904 2880	Shield wire sub ass'y	M31575*2	1			X
☆35	6904 2890	"	M31575*3	1			X
☆36	4307 2920	Blank P.C.B. (M4150-CN3M)	M1646-3	1			X
D) CN4M-P.C.B. ASS'Y							
	2301 0097	Diode	1S2473	5	10		C
☆	2320 9811	LED	LN266RPT	6	10		B
	2600 3911	Carbon film resistor	R-25-390-J	6	10		C
37	3410 1701	Push switch	KHC10901	5			B
☆38	3721 0244	PC joiner M150I	PCJ-JPSS-13-30	1	10		B
☆39	4307 2930	Blank P.C.B. (M4150-CN4M)	4M1646-4	1			X
E) CN5M-P.C.B. ASS'Y							
☆	2320 9811	LED	LN266RPT	1	10		B
	2600 3911	Carbon film resistor	R-25-390-J	1	10		C
40	3480 5431	Push switch	SUZ12-M415201	1			B
☆41	6904 3040	Parallel wire M150A	M42069-1	1			X
☆42	4307 2940	Blank P.C.B. (M4150-CN5M)	M1646-5	1			X

Note: ☆ - New parts
Q'ty - Quantity per unit
* - Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB. JAPAN)	R A N K
F) IF-P.C.B. ASS'Y							
43	3510 6481	P.C.B. connector	PS30PE-S4LT1-PN1	1			X
☆44	3721 0199	PC joiner M150D	JPSS-HPT-26-110	1			B
45	6002 0248	PC joiner holder G525	P4260-1	1	10		B
☆46	4307 2960	Blank P.C.B. (M4150-IF)	M31576-1	1			X
G) BENDER ASS'Y							
47	2770 6843	SLIDE VR	VN10W520A-50KB	1			B
48	6900 5770	Felting seal D	M4382-1	1	10		X
☆49	6904 2870	Shield wire sub ass'y	M31575*1	1			X
50	6911 5240	Bender chassis A	M31487-1	1			X
51	6911 5250	" B	M41946-1	1	10		X
52	6911 5260	Bender spring	M41949-1	1	10		X
53	6911 5270	Bender dial	M31488-1	1			C
54	6911 5390	Felting seal	M42037-1	1	10		X
H) LCD UNIT							
☆96	3330 7544	LCD ass'y	LM550L	1			A
☆97	3500 7903	14P connector 152	IL-14P25-M152	1			X
☆98	6911 5370	LCD holder	M31485-1	1			B
I) KY1M/KY2M/KY3M-P.C.B. ASS'Y							
	2301 0097	Diode	1S2473	49	10		C
55	3720 9309	PC joiner M35H	PCJ-JPSS-3-22	2	10		B
56	3720 9317	" M35J	PCJ-JPSS-6-22	2	10		B
☆57	3721 0164	" M150A	PCJ-JPSS-15-250M	1			B
☆	6276 7910	Jumper wire R	A3732B-11	2	50		X
☆58	6903 9310	Shield plate 98 KY1	M31447-1	1			X
59	6903 9320	"	M31448-1	1			X
60	4307 0146	Blank P.C.B. (M425-KY1M)	M3461C-1	1			X
61	4307 0143	" (M425-KY3M)	M3462C-1	1			X
☆62	4307 2970	" (M4150-KY2M)	M2962-1	1			X
J) KEYBOARD ASS'Y							
63	6900 9121	Key stopper 49	M4421A-1	1			X
64	6900 9290	Key A	M3404-1	4			C

Note: ☆ - New parts
Q'ty - Quantity per unit
* - Minimum supply quantity

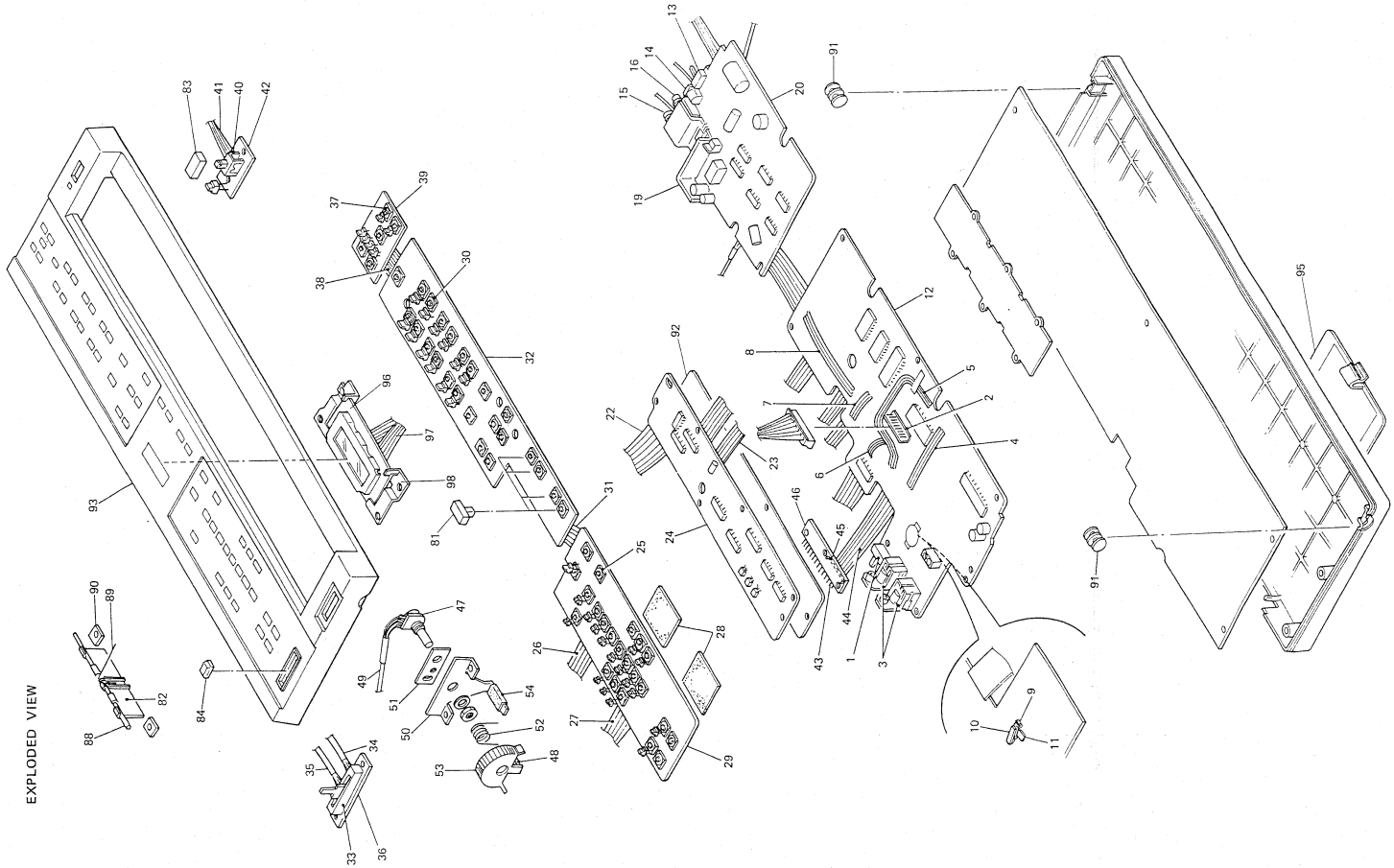
Rank: A Essential
B Stock recommended
C Others
X No stock recommended

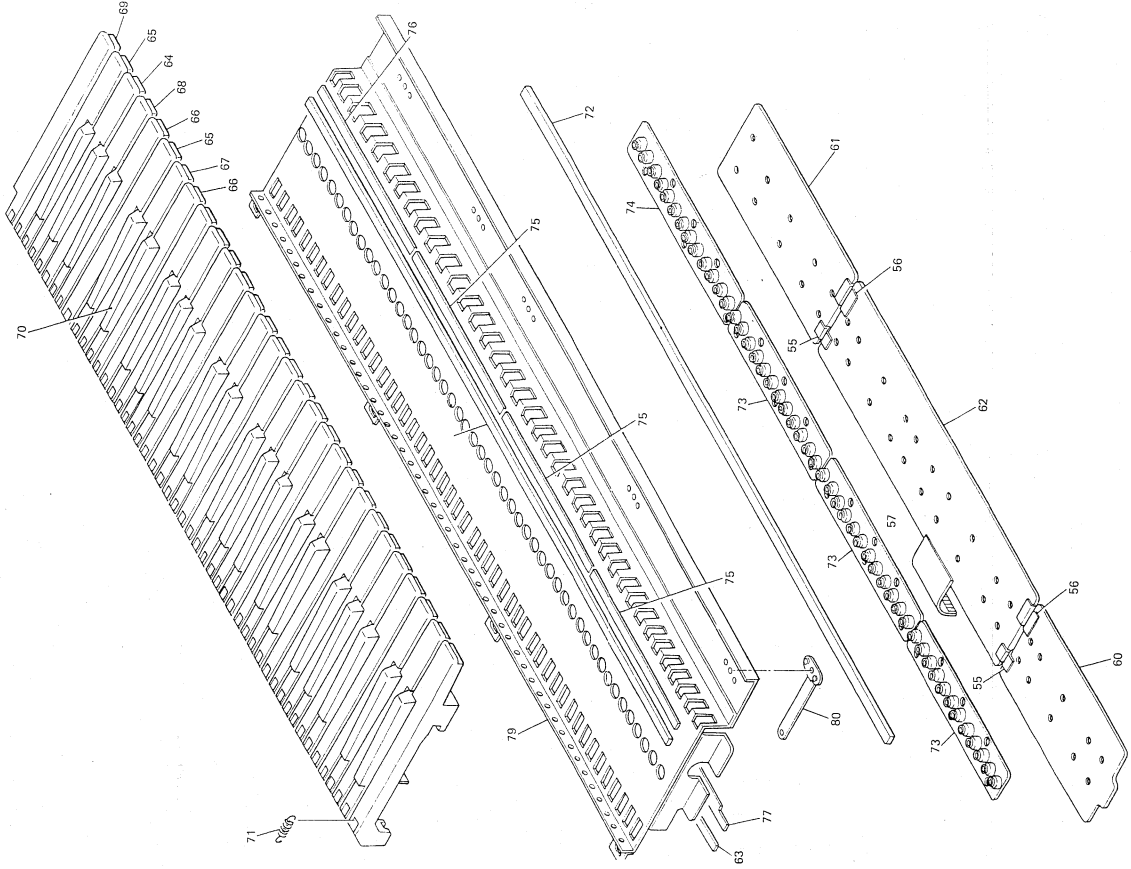
Item	Code No.	Part Name	Specification	Q'ty	*	Unit Price J.F. Yen (¥) (FOB: JAPAN)	R A N K
65	6900 9300	Key B, E	M3405-1	8			C
66	6900 9310	" C, F	M3406-1	8			C
67	6900 9320	" D	M3407-1	4			C
68	6900 9330	" G	M3408-1	4			C
69	6900 9340	" S	M3409-1	1			C
70	6900 9350	Black key 63005290	M3410-1	20			C
71	6900 9360	KB spring	M4419-1	49	50		C
72	6900 8730	Felting seal P	M4599-1	1	10		X
73	6900 9130	Key contact rubber C	M3412-1	3			B
74	6900 9140	" D	M3413-1	1			B
75	6900 9162	Guide felt A	M3428B-1	3			X
76	6900 9172	" B	M3429B-1	1			X
77	6900 9180	Stopper felt 49	M3425-1	1			X
78	6901 6151	S felt 49C	M4844A-1	1			X
*79	0002 8251	KB chassis 49-150	M1626-1	1			X
K) UPPER CASE ASS'Y							
*80	6904 2930	P.C.B. fixing plate	M42024-1	5	10		X
*81	6904 3060	Key top 150	M42023-1	4			C
*82	6904 3070	RAM pack cover	M32489-2	1			C
*83	6904 1271	Key top 98	M41821A-13	1			C
*84	6911 4971	VR knob 87	M31443A-2	1	10		C
*86	6904 3330	Shield plate A	M42119-1	1	10		X
*87	6904 3340	" B	M42120-1	1			X
*88	6911 5320	Pack cover shaft	M4194B-1	1	10		X
*89	6911 5330	Spring	M41947-1	1	10		C
*90	6911 5340	Washer	M41951-1	2	10		X
91	6911 5401	Strap holder	M41942A-1	2			X
92	6911 5460	Shield plate C	M31537-1	1	10		X
*93	6904 2771	Upper case sub ass'y	M2964A*1	1			C
3) LOWER CASE ASS'Y							
*94	6904 2701	Lower case sub ass'y	M2963A*1	1			C
4) BATTERY COVER							
*95	6911 4740	Battery cover sub ass'y	M31520*1	1			C

Note: ☆ - New parts
Q'ty - Quantity per unit
* - Minimum supply quantity

Rank: A Essential
B Stock recommended
C Others
X No stock recommended

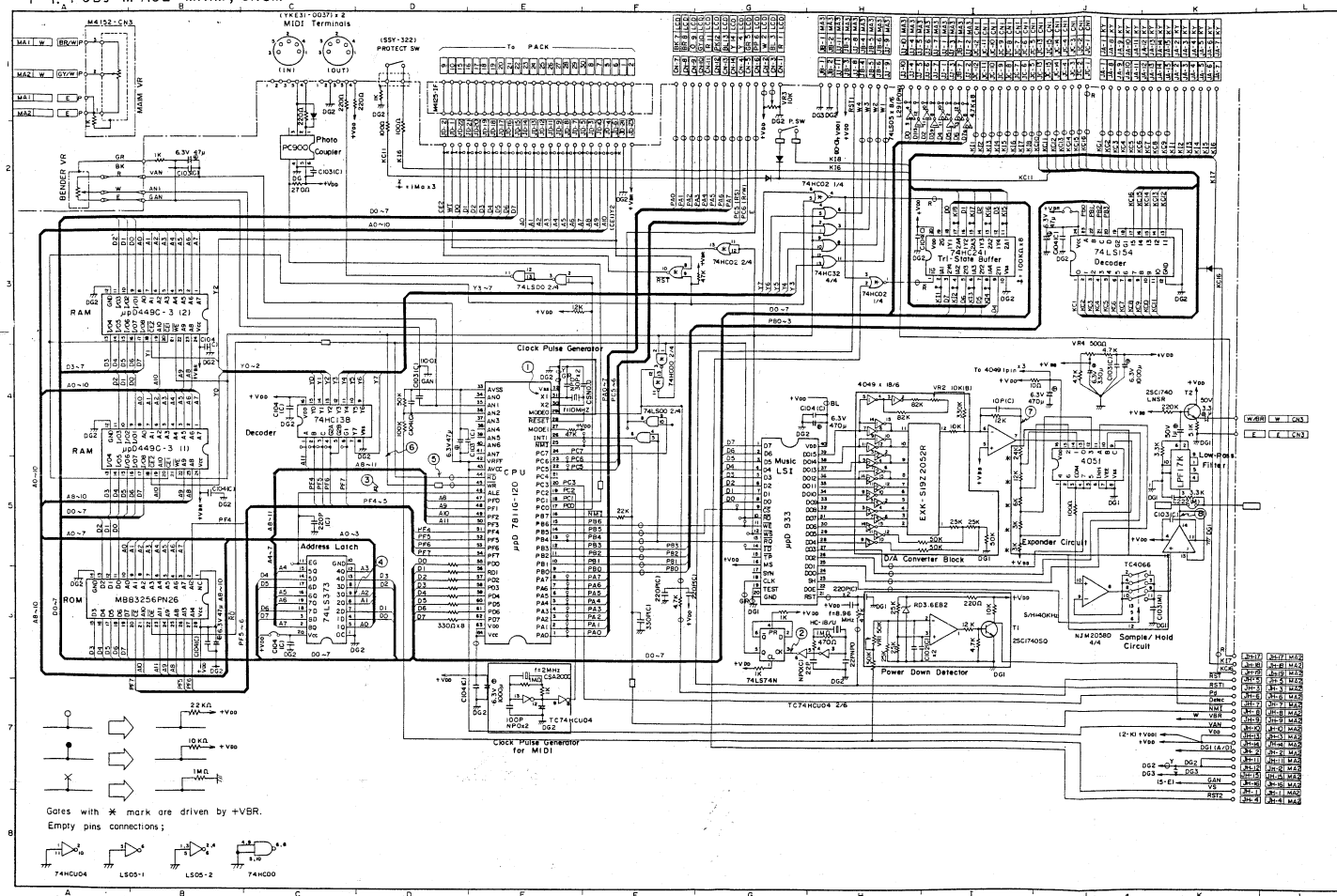
EXPLODED VIEW





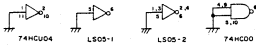
1. SCHEMATIC DIAGRAM

1-1. PCBs M4152-MA1M, CN3M



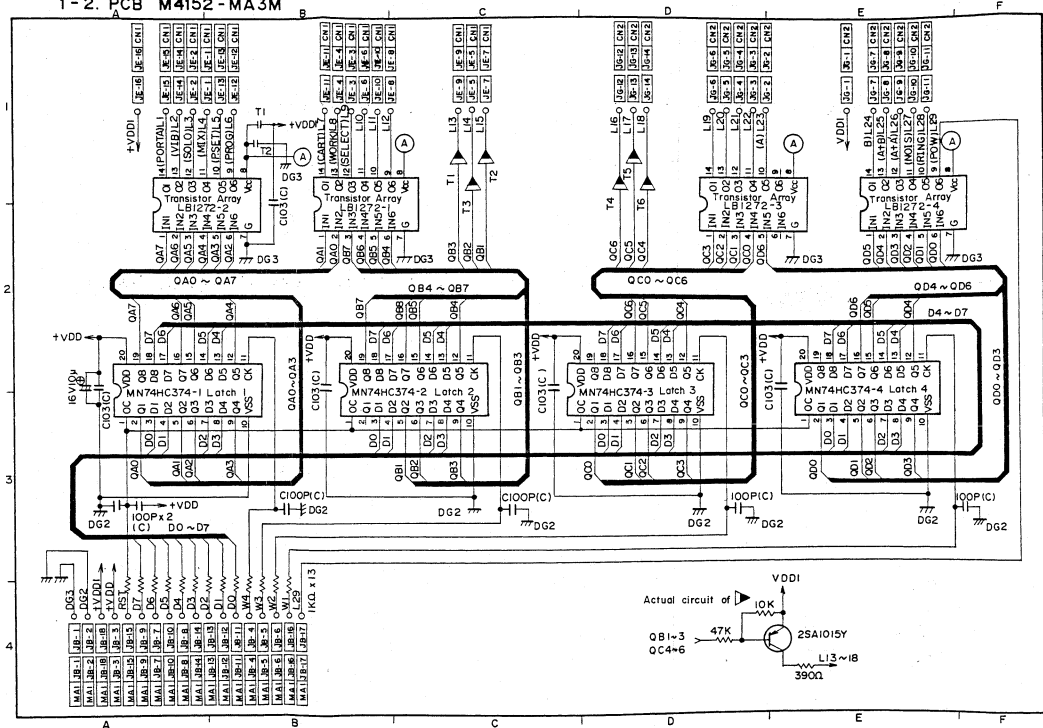
Gates with * mark are driven by +VBR.

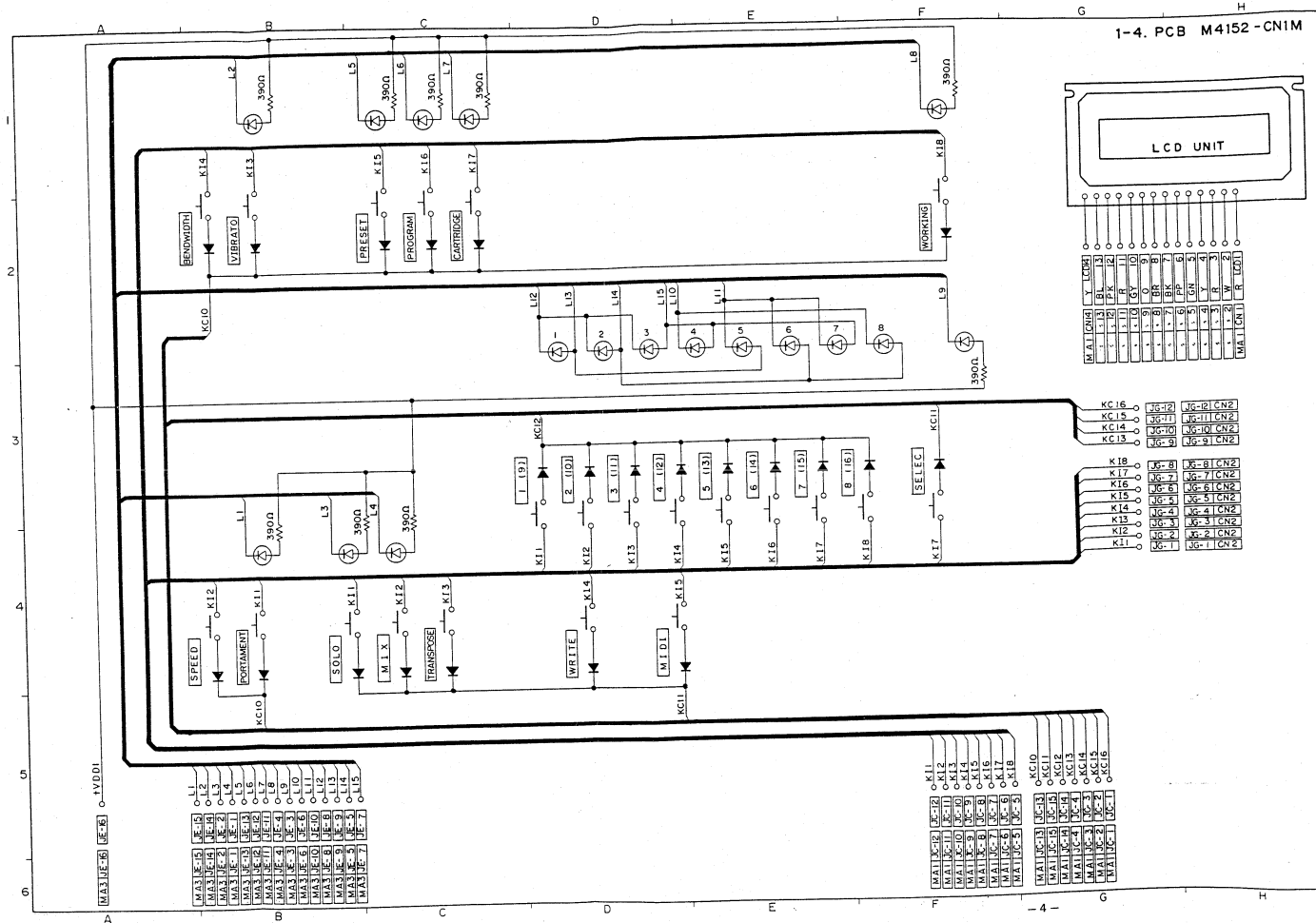
Empty pins connections;



CLOCK PULSE GENERATOR for MIDI

1-2. PCB M4152-MA3M





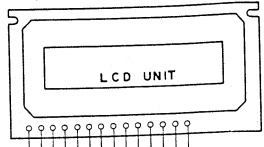
- MA31E-6
- MA31E-7
- MA31E-8
- MA31E-9
- MA31E-10
- MA31E-11
- MA31E-12
- MA31E-13
- MA31E-14
- MA31E-15
- MA31E-16
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- MA31E-28
- MA31E-29
- MA31E-30
- MA31E-31
- MA31E-32

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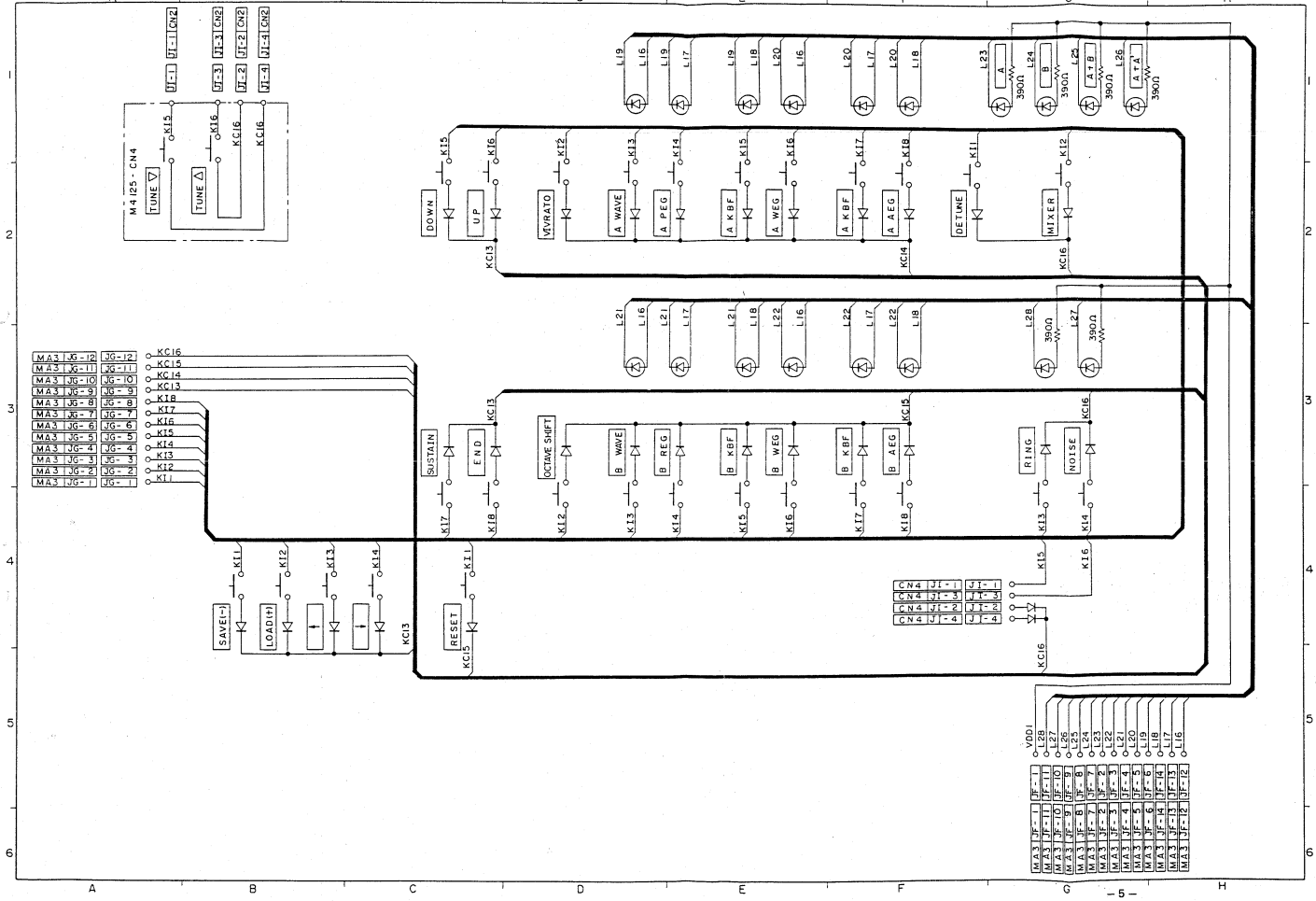
- K11
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- K19
- K10
- K17
- KCU

- MA1(CN1)
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- MA3(CN1)
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- KC16
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- K3
- K2
- K1
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- CG6
- CG5
- CG4
- CG3
- CG2
- CG1



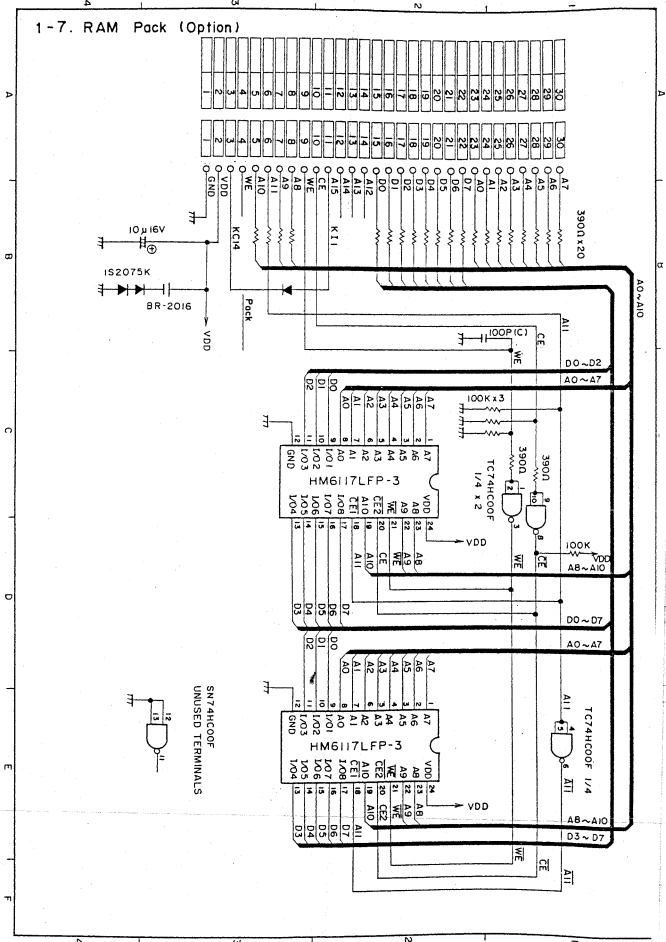
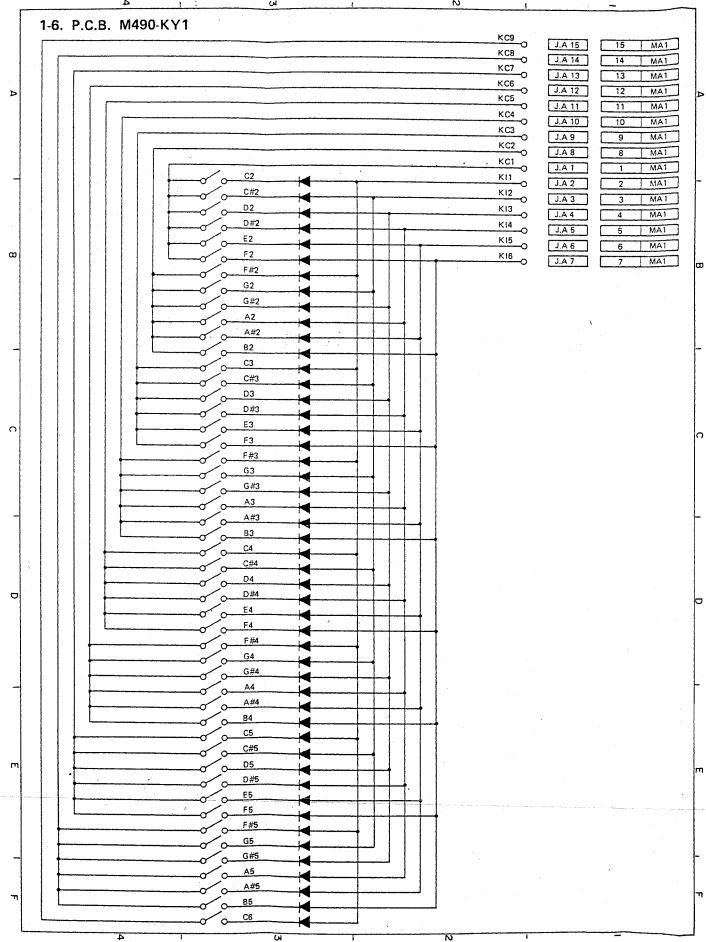
1-5. PCB M4152-CN2



MA3 JF-12	36-12	○	KC16
MA3 JF-11	36-11	○	KC15
MA3 JF-10	36-10	○	KC13
MA3 JF-9	36-9	○	KC17
MA3 JF-8	36-8	○	KC18
MA3 JF-7	36-7	○	KC15
MA3 JF-6	36-6	○	KC14
MA3 JF-5	36-5	○	KC13
MA3 JF-4	36-4	○	KC12
MA3 JF-3	36-3	○	KC11
MA3 JF-2	36-2	○	KC10
MA3 JF-1	36-1	○	KC9

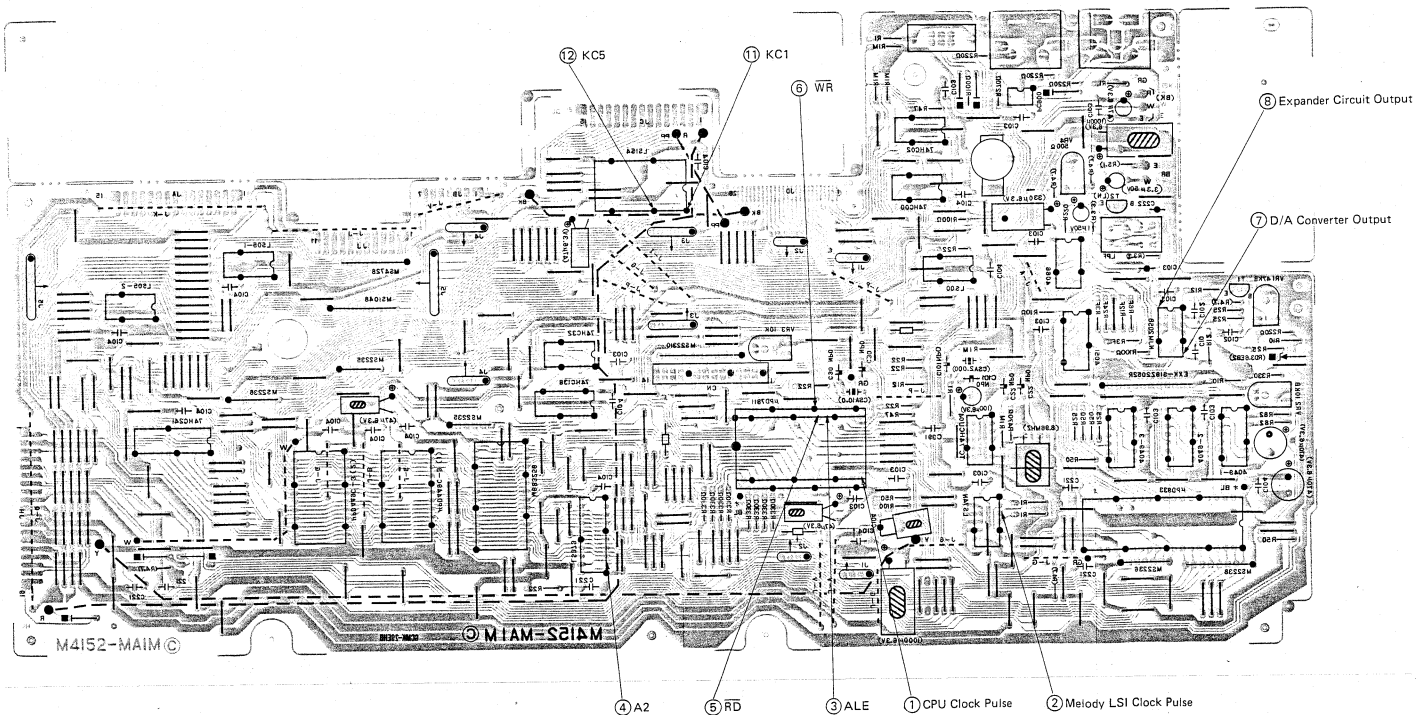
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N4	N5	N6	N7	N8	N9	N10	N11	N12	N13	N14	N15	N16	N17	N18	N19	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N30

VDD1	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V27	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V26	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V25	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V24	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V23	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V22	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V21	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V19	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V18	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V17	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V16	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V15	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V14	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V13	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V12	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V11	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V10	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V9	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V8	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V7	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V6	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V5	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V4	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V3	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V2	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12
V1	JF-1	JF-2	JF-3	JF-4	JF-5	JF-6	JF-7	JF-8	JF-9	JF-10	JF-11	JF-12



P.C.B. VIEW & MAJOR CHECKPOINTS

P.C.B. M4152-MA1M



2-2. P.C.B. M4152-MA2M

