

CITIZEN

Service Manual

Model : CBM-230/231

Japan CBM Corporation
Information Systems Div.

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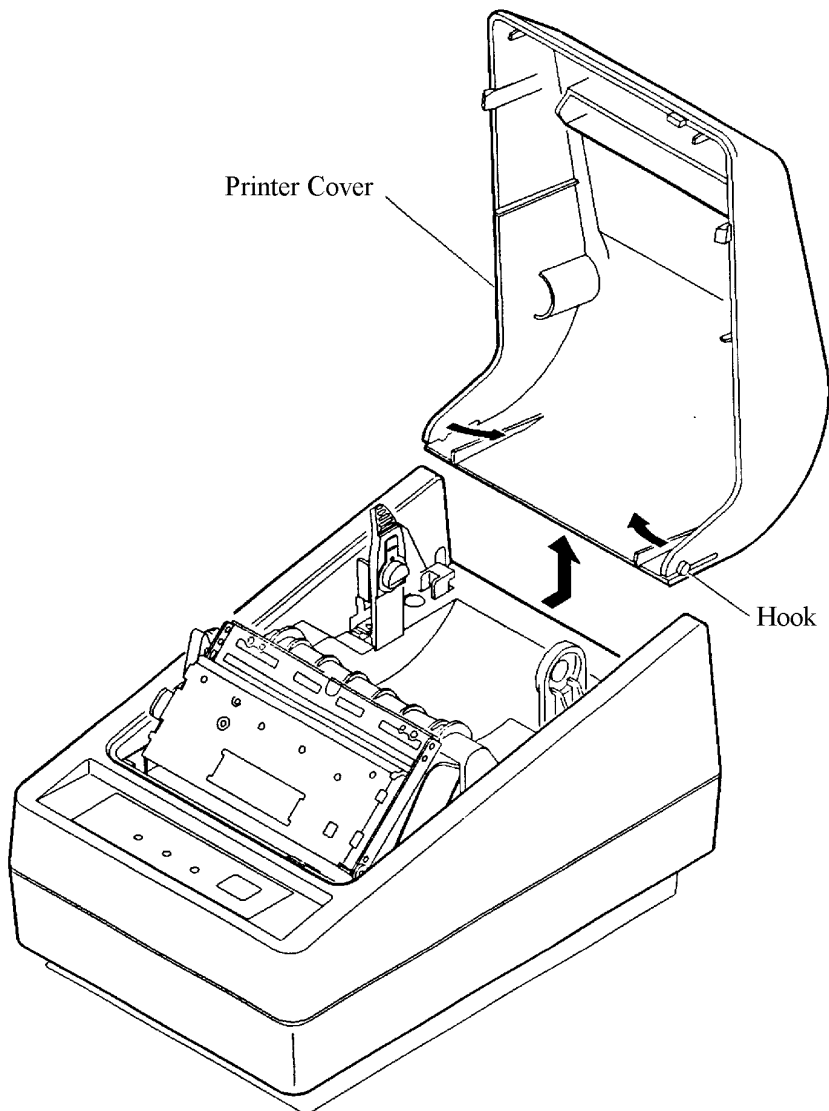
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*For detailed information of LT-380 printer mechanism and AC-130 Auto Paper Cutter unit,
please refer to the separate service manual

1. Assembling / Disassembling procedure

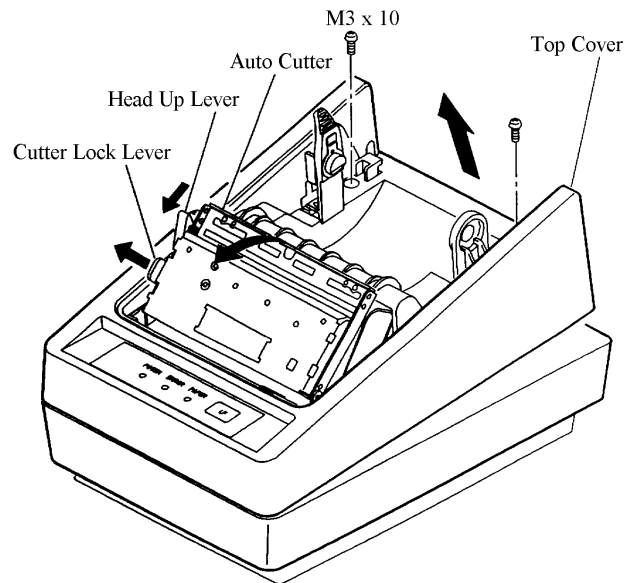
1. How to remove Printer Cover

- (1) Open the Printer cover
- (2) Pulling the Hook into inner side, remove the Printer Cover.



2. How to remove Top Cover

- (1) Set the Printer Mechanism at head up condition by pulling Head up Lever in the direction of the arrow.
- (2) Open the Auto Cutter unit (CBM-231)
Pull the Cutter Lock Lever in the direction of the arrow.
- (3) Unfasten the screws M3x10 (2pcs).
- (4) Pull up the rear side of the Top Cover.
(interface side)
- (5) Disconnect the connectors for Paper End Holder and for Operation Panel Board.



2.1 Remove Paper End Holder from Top Cover

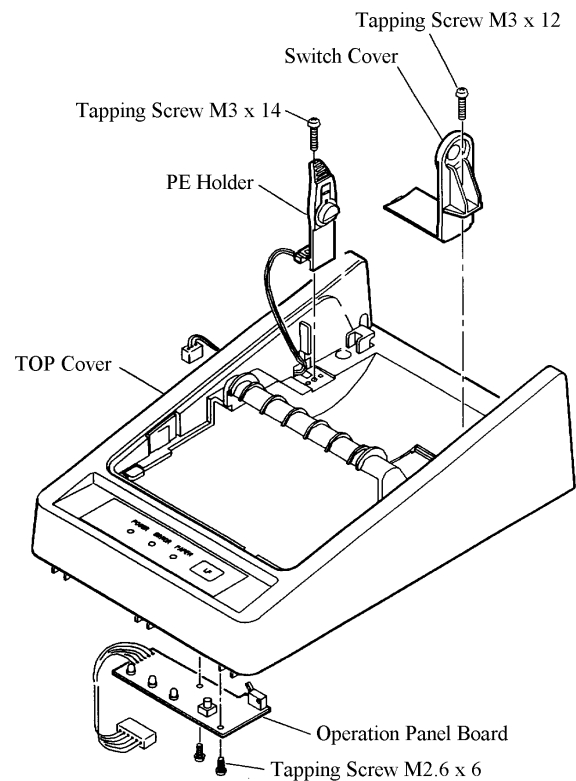
- (1) Unfasten the tapping screw M3 x 14.
- (2) Cut the band binding cord.
- (3) Remove the cord through the Top Cover.

2.2 Remove Switch Cover from Top Cover

- (1) Unfasten the tapping screw M3x12.

2.3 Remove Operation Panel Board from Top Cover

- (1) Unfasten tapping screws M2.6 x 6 (2pcs).



3. Remove Mech. Bracket Unit

- (1) Unfasten the screws M3x7 (2pcs).
- (2) Remove the connectors of Auto Cutter and Printer Mechanism (2pcs).
- (3) Release the Lock of flexible cable and remove the flexible cable.

3.1 Remove Auto Cutter from Mech. Bracket (CBM-231)

- (1) Unfasten only one screw M2x6.
(Mech. Bracket has two M2.3 x 6 screws.)
- (2) Remove the cord through Mech. Bracket

3.2 Remove Printer Mechanism from Mech. Bracket

- (1) Unfasten the screws M2 x 6 (2pcs).
- (2) Pulling Auto Cutter unit aslant into the upside.

3.3 Remove Head Up Lever from Mech. Bracket (CBM-231)

- (1) Moving the Head Up Lever in the direction of the arrow, remove the Head up lever.

3.4 Remove Cutter Lock Lever from Mech. Bracket (CBM-231)

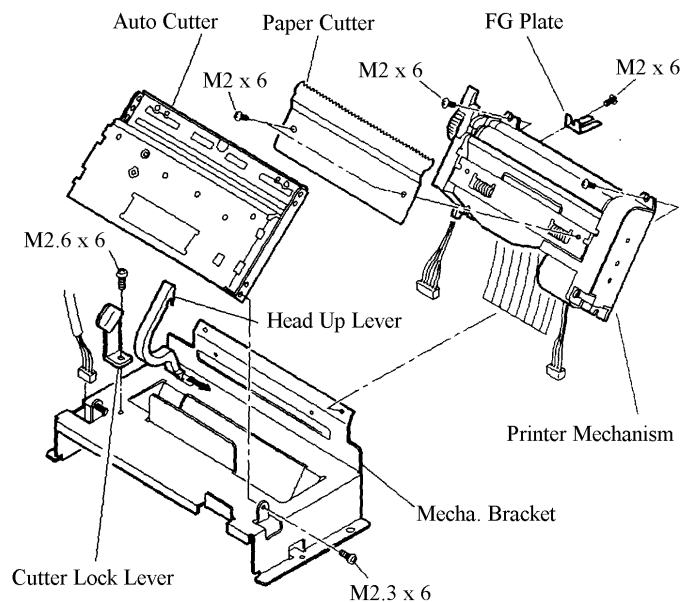
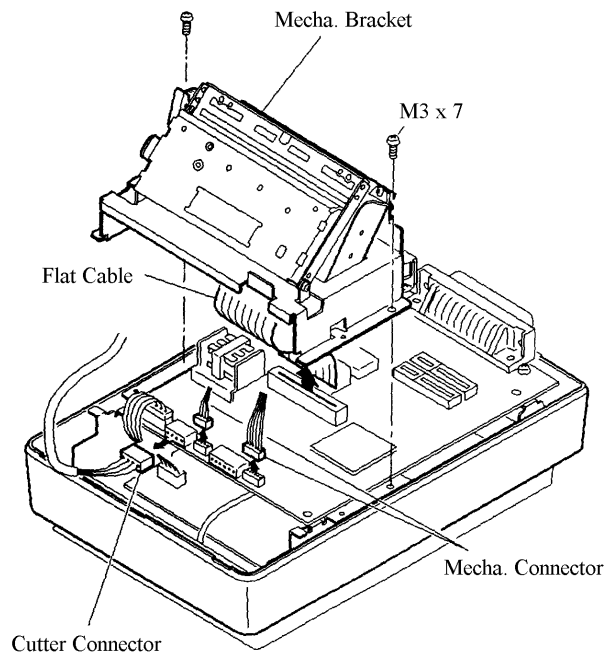
- (1) Unfasten the screw M2.6 x 6.

3.5 Remove Paper Cutter from Printer Mechanism (CBM-230)

- (1) Unfasten the screws M2 x 6 (2pcs).

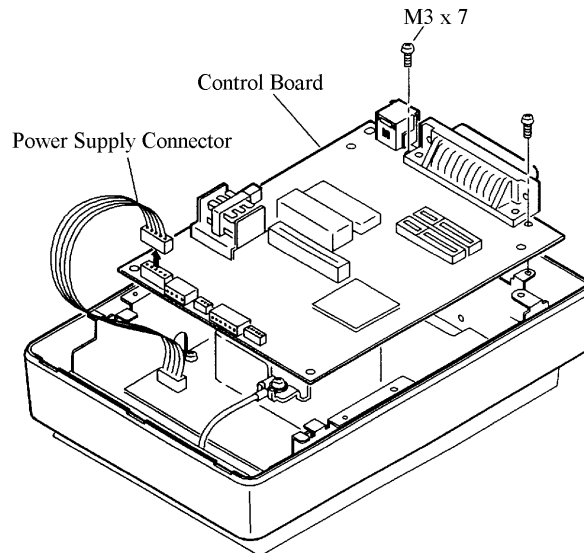
3.6 Remove FG Plate from Printer Mechanism

- (1) Unfasten the screw M2x6.



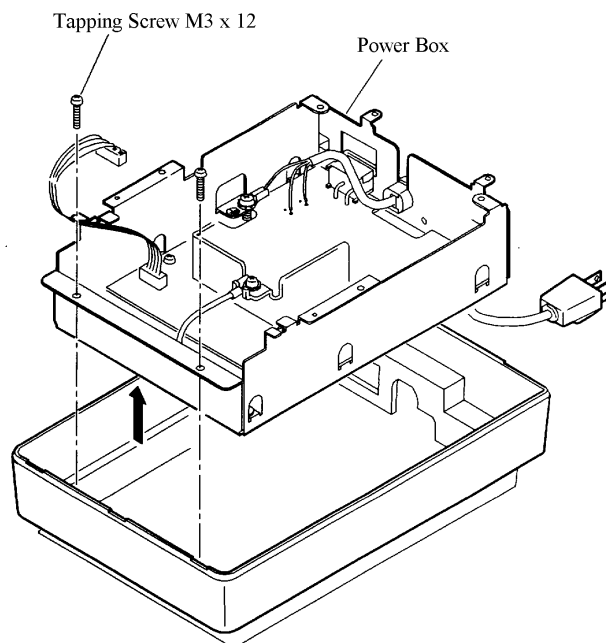
4. Remove Control Board

- (1) Remove the Power Supply Connector.
- (2) Unfasten the screws M3x7(2pcs).



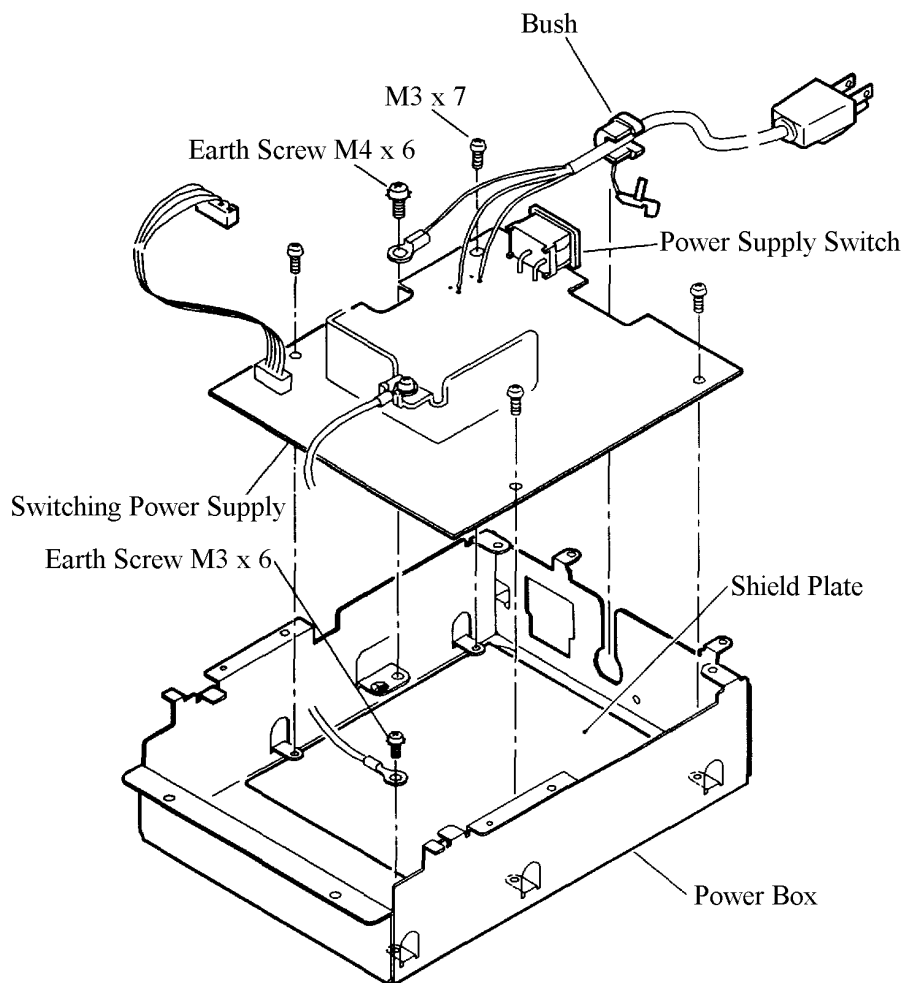
5. Remove Power Box

- (1) Unfasten the tapping screws M3 x 12 (2pcs).
- (2) Pull up the Power Box at the indicated side (An arrow) and remove the Power Box from the Bottom Cover.



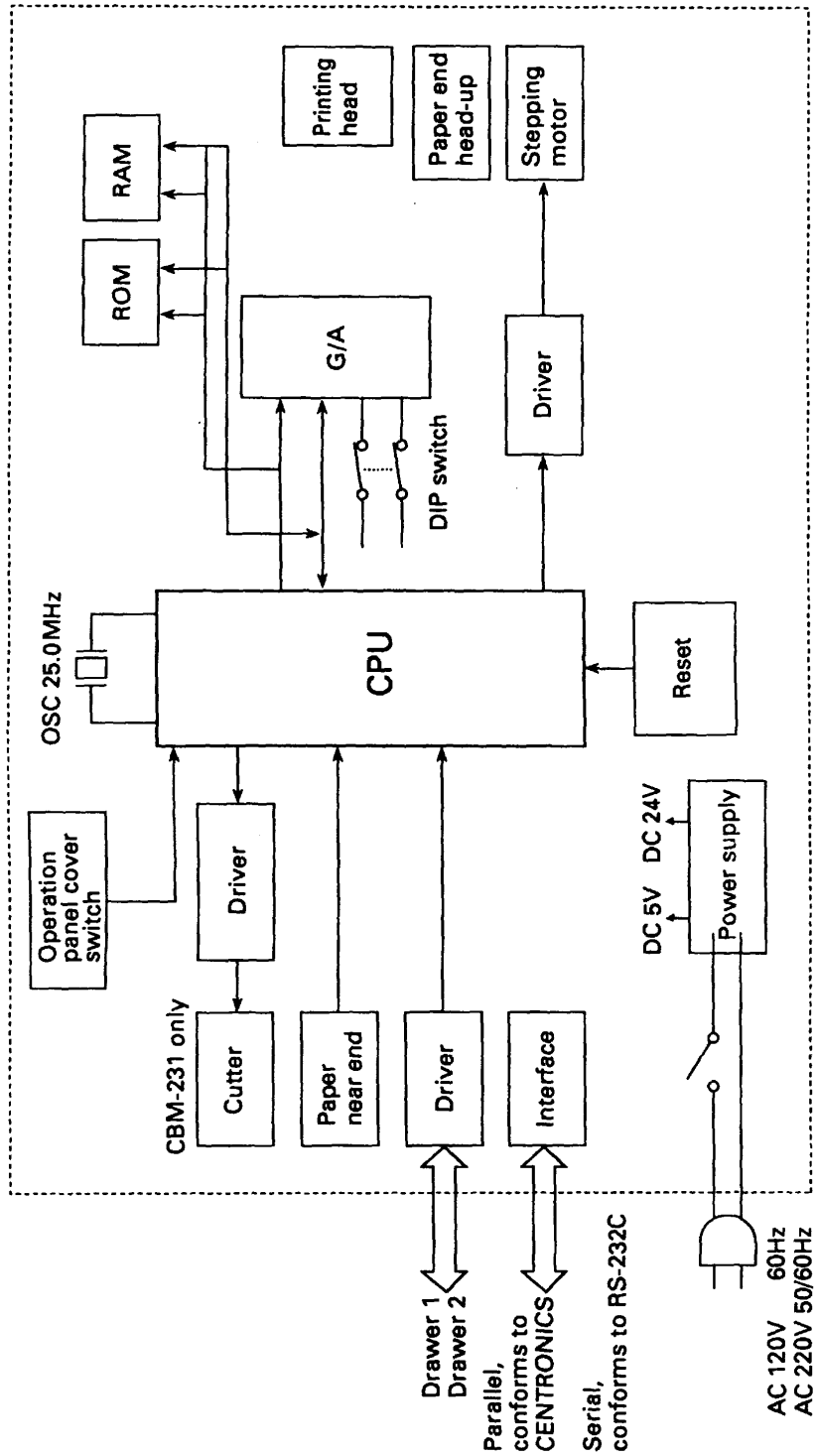
6. Remove Switching Box

- (1) Remove the Bush using a tool.
 - (2) Unfasten the Earth screws M4 x 6 and M 3 x 6, remove the Earth Cord.
 - (3) Unfasten the screws M3 x 7 (4pcs).
 - (4) Pulling up the Power Supply Switch, remove the Switching Power Supply.
 - (5) Pulling the center of Shield plate, remove the Shield Plate.
- (CBM-230 only)

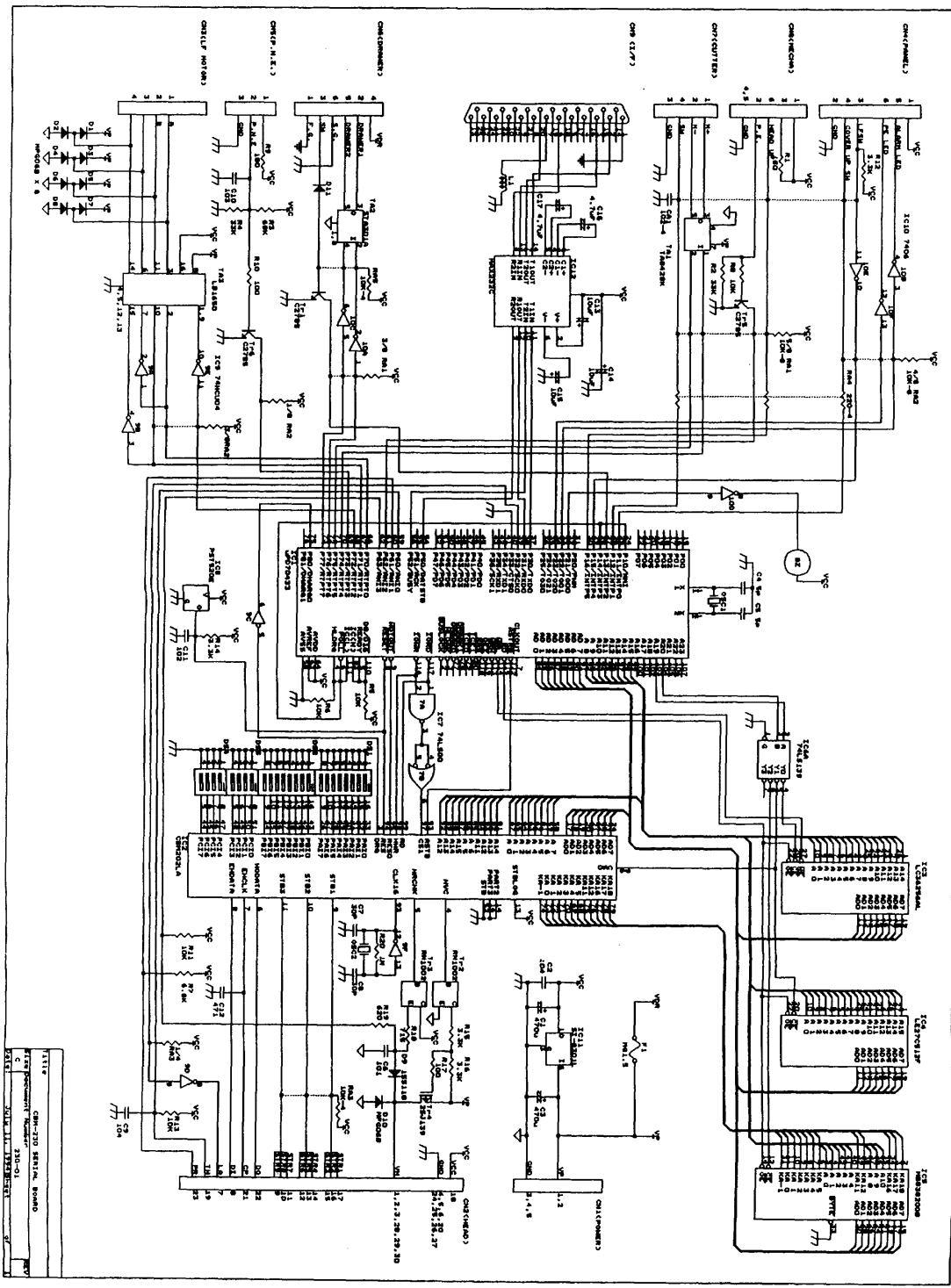


2. Circuit Diagram

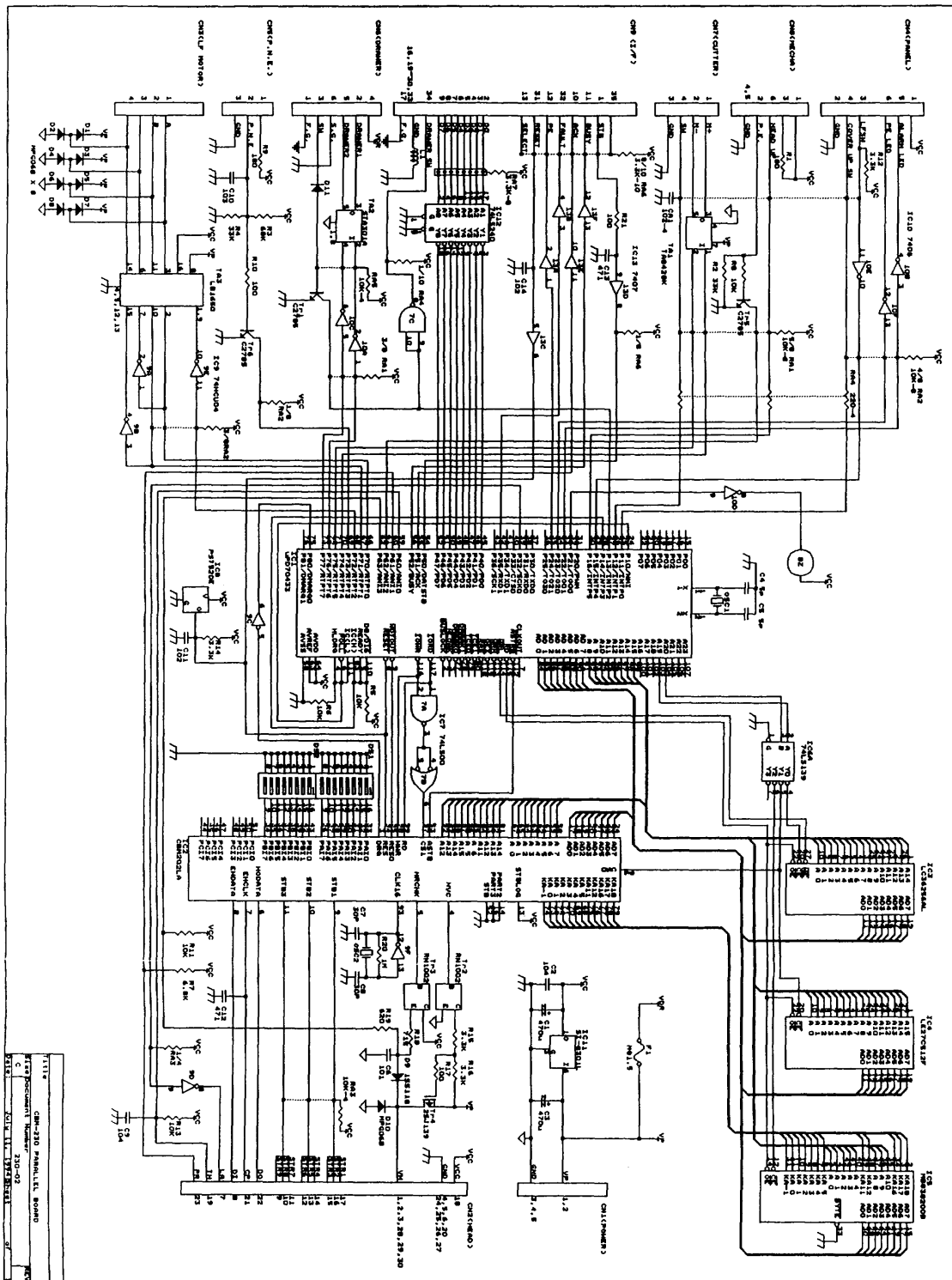
Block Diagram



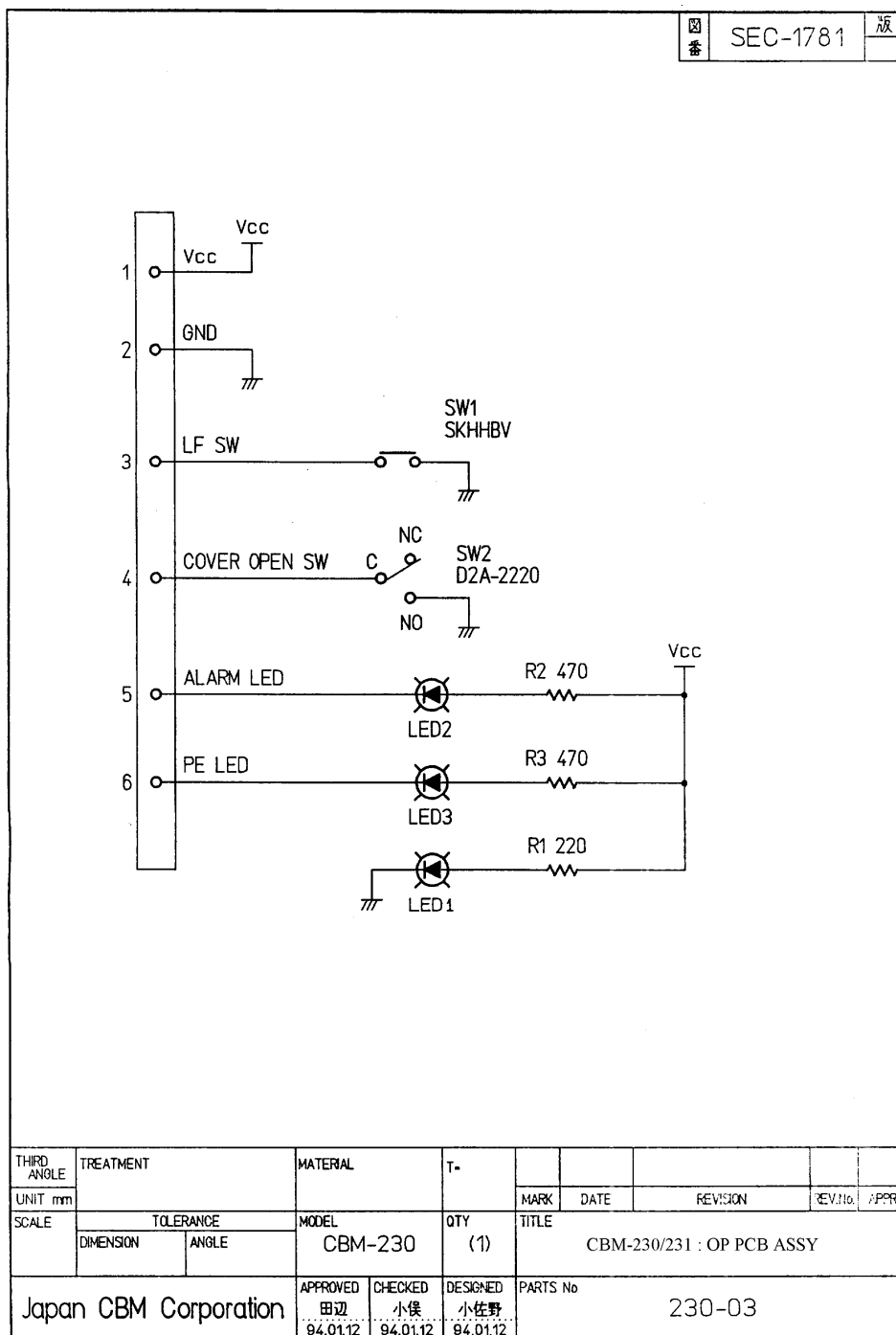
Circuit Diagram : Serial Interface



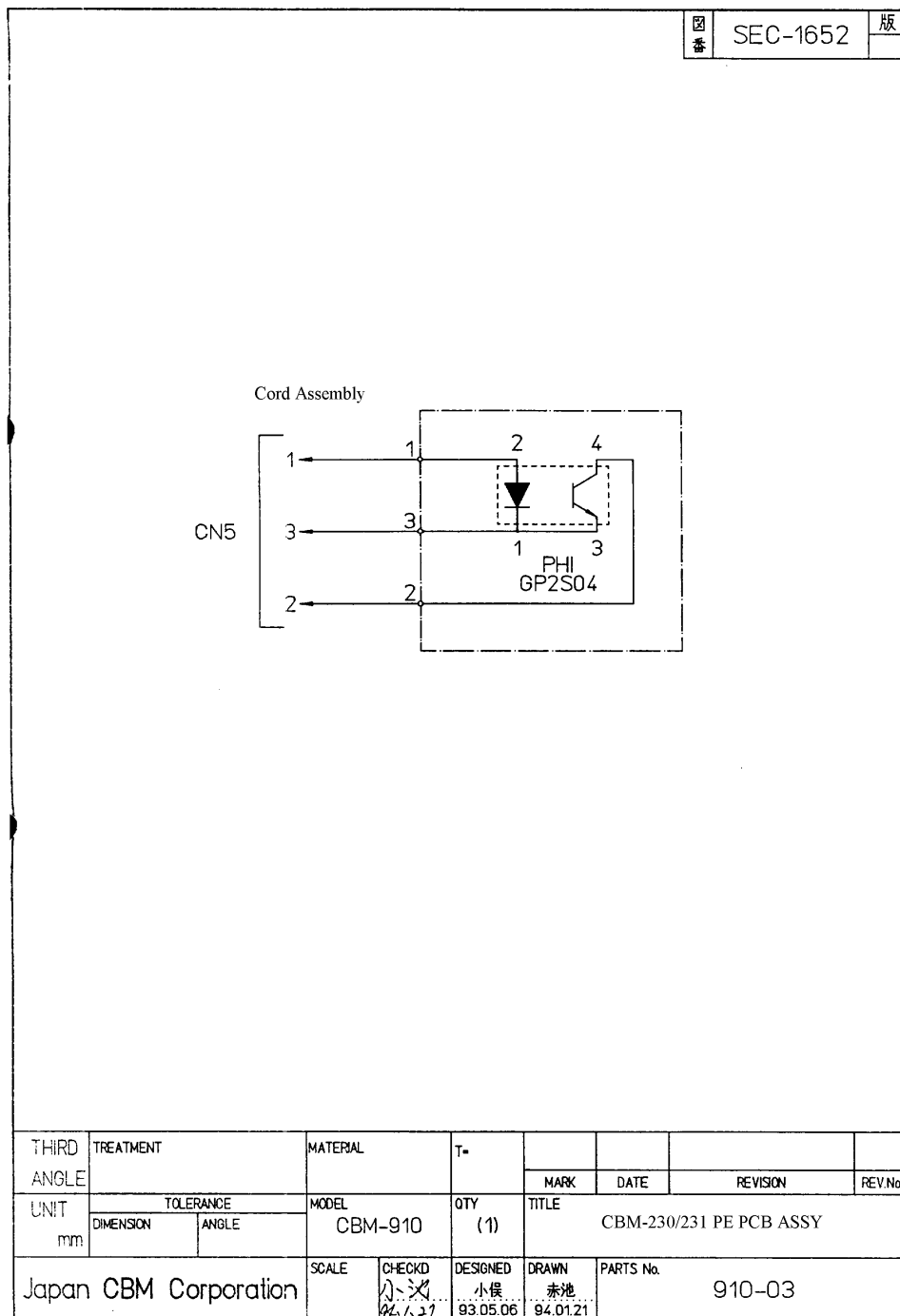
Circuit Diagram : Parallel Interface



Circuit Diagram : OP PCB Assy



Circuit Diagram : PE PCB Assy

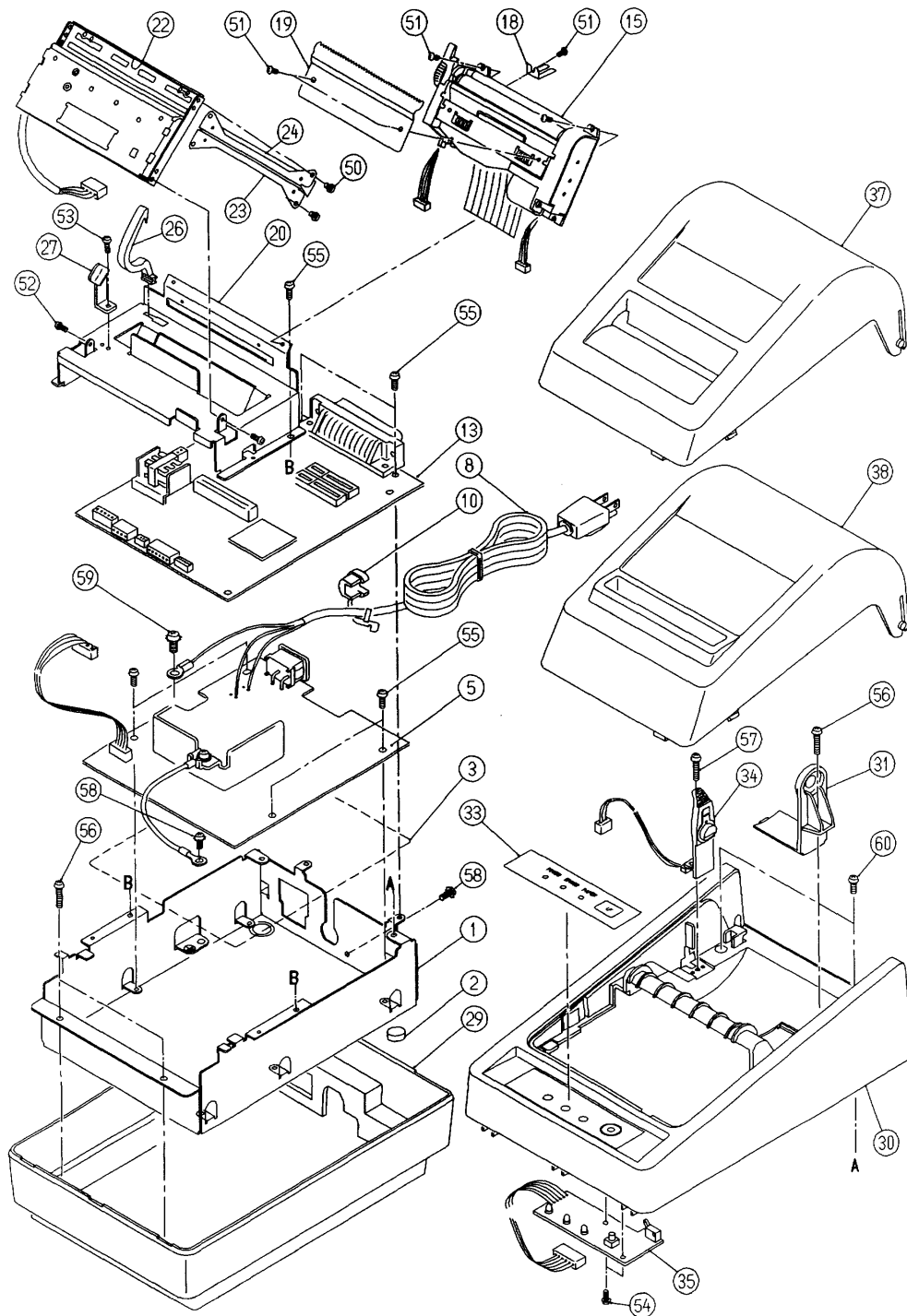


3. Service Parts List

Model CBM-230/231		Service Parts List		
Ref.	Parts No.	Description	CBM-230	CBM-231
1	E 4002-440	Chassis 50-0141	1	1
2	E 6302-340	Foot	4	4
3	E 4035-700	Insulation Sheet	1	1
5	E 4000-940	PS Unit 230-10U 120V	1	1
	E 4000-950	PS Unit 230-10E 220V	1	1
8	E 6100-705	AC Cord 120V 25-0184	1	1
	E 6100-700	AC Cord 220V 25-0298	1	1
10	E 6101-115	Bush SR-4N-4 120V	1	1
	E 6101-120	Bush SR-5N-4 220V	1	1
13	E 70010660	PCB Assy CBM-230-PF	1	
	E 70010670	PCB Assy CBM-230-RF	1	
	E 70010671	PCB Assy CBM-230-RF-UL	1	
	E 70010680	PCB Assy CBM-231-PF		1
	E 70010690	PCB Assy CBM-231-RF		1
	E 70010691	PCB Assy CBM-231-RF-UL		1
15	E 66000170	Printer LT-380	1	1
18	E 4035-710	FG Plate 50-0146	1	1
19	E 6220-530	Paper Cutter	1	1
20	E 6601-290	Printer Bracket 50-0143	1	1
22	E 8000-090	Auto-Cutter AC-131	1	1
23	E 8010-180	Mouth Plate F 50-0144	1	1
24	E 8010-190	Mouth Plate R 50-0143	1	1
26	E 8032-060	Head-Up Lever 60-0167	1	1
27	E 8032-070	Cutter Lock Lever 60-0166	1	1
29	E 62020120	Bottom Case	1	1
30	E 62010660	Top Case	1	1
31	E 6611-490	Paper Holder R 60-0162	1	1
33	E 5200-210	OP Sheet	1	1
34	E 4000-970	PE Holder Assy	1	1
35	E 4000-960	OP PCB Assy	1	1
37	E 62040150	Printer Cover	1	
38	E 62040160	Printer Cover-AC		1

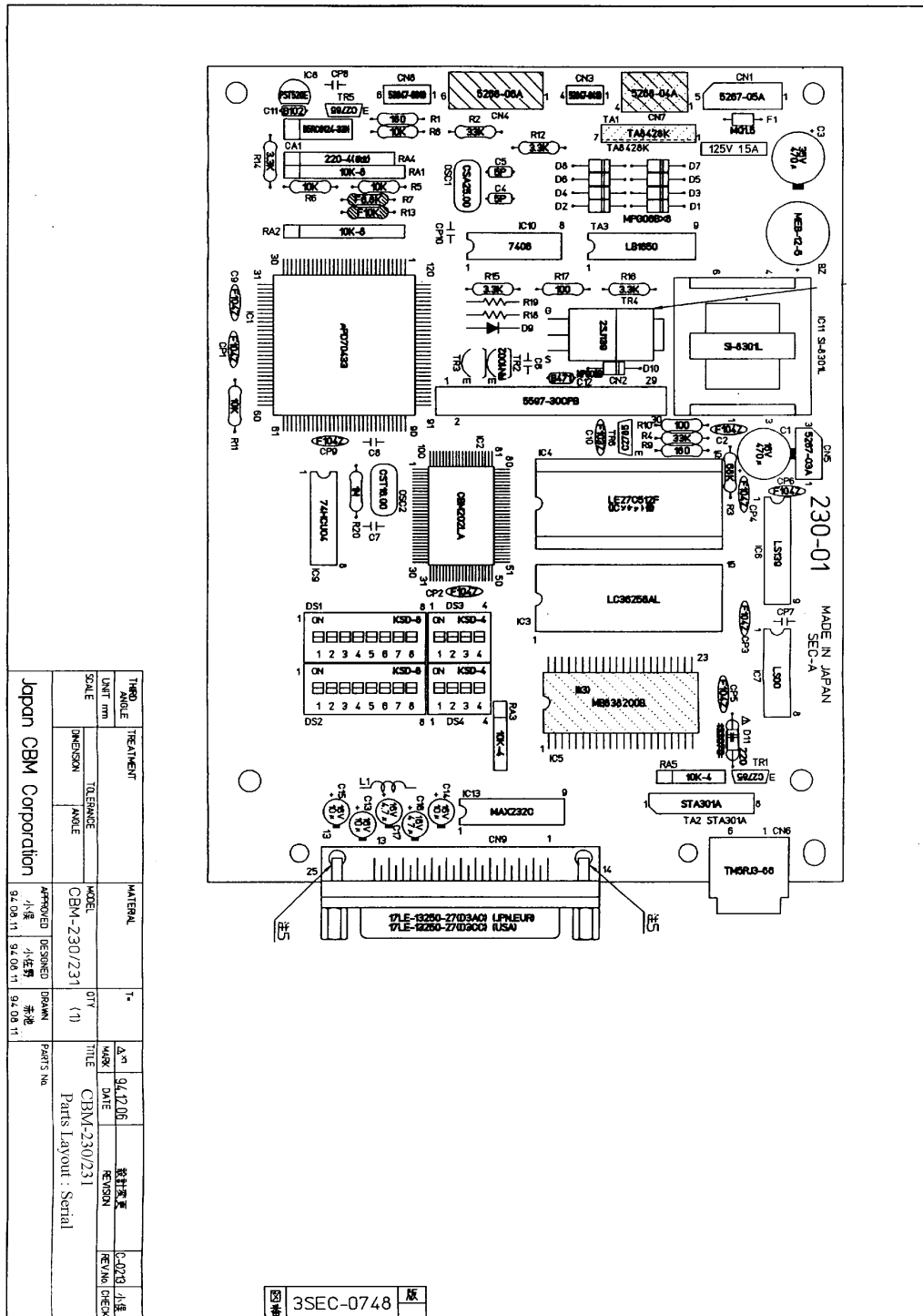
Model CBM-230/231		Service Parts List		
Ref.	Parts No.	Description	CBM-230	CBM-231
50	23G58244	Screw M2X3		4
51	23G57466	Screw M2X6	5	3
52	23G57473	Screw M2.3X5		2
53	23G57481	Screw M2.6X6		1
54	23G23179	Screw M2.6X6	2	2
55	23G53585	Screw M3X7	6	8
56	23G38619	Screw M3X12	3	3
57	23G29560	Screw M3X14	1	1
58	23G42966	Screw M3X6/TW	2	2
59	23G42959	Screw M4X6/TW	1	1
60	23G22530	Screw M3X10	2	2

CBM-230/231 DISASSEMBLING DRAWING



Model CBM-230/231		PCB ASSY <Serial> Service Parts List CBM-230/231-RF(230-01)		
Ref.	Parts No.	Description		QTY'
IC	1	E 107-220	CPU uPD70433GD-5BB	1
	2	E 104-530	Gate Array 202LA-00	1
	3	E 107-230	S-RAM LC36256AL-10	1
	4	E 107-24*	EP-ROM LE27C512F	1
	6	E 201-830	TTL 74LS139	1
	7	E 202-430	TTL 74LS00	1
	8	E 202-860	Reset IC PST520E	1
	9	E 202-880	HCMOS 74HCU04	1
	10	E 2010200	TTL 7406	1
	11	E 4101-710	DC-DC Conv. SI-8301L	1
	13	E 2010040	I/F IC MAX232CPE	1
	1	E 202-830	Tr. Array TA8428K CBM-231 Only	1
	2	E 390-140	Tr. Array STA301A	1
TA	3	E 202-890	Tr. Array LB1650	1
	1.5.6	E 359-278	Transistor 2SC2785HF(2SC1740SR)	3
	2	E 358-040	Transistor RN1002	1
TR	4	E 358-050	Transistor 2SJ139	1
	1-8.10	E 400-580	Diode MPG06B(RLI4002)	9
	11	E 3221-041	Resistor 1/4W 220 J	1
OSC	1	E 501-320	Resonator CSA25.00MX040	1
	2	E 501-330	Resonator CST16.00MXW040	1
R	1.9	E 3181-041	Resistor 1/4W 180 J	2
	2.4	E 3333-041	Resistor 1/4W 33K J	2
	3	E 3683-041	Resistor 1/4W 68K J	1
	5.6.8.11	E 3103-041	Resistor 1/4W 10K J	4
	7	E 3682-043	Resistor 1/4W 6.8K F	1
	10.17	E 3101-041	Resistor 1/4W 100 J	2
	13	E 3103-043	Resistor 1/4W 10K F	1
	12.14.15	E 3332-041	Resistor 1/4W 3.3K J	4
	16			
	20	E 3105-041	Resistor 1/4W 1M J	1

Model CBM-230/231		PCB ASSY Service Parts List CBM-230/231-RF(230-01)		
Ref.	Parts No.	Description		QTY'
RA	1.2 E 3500-040	Re. Array	M9-1-103J	2
	3.5 E 3500-050	Re. Array	M5-1-103J	2
	4 E 3500-060	Re. Array	M8-3-221J	1
C	1 E 2047-780	El. Cap.	16MR-470MF	1
	3 E 2047-725	El. Cap.	35MR-470MF	1
	13-15 E 2010-615	El. Cap.	25MR-10MF	2
	16.17 E 2047-535	El. Cap.	16NR-4.7MF	2
C	2.9 E 2220-080	C. Cap.	DD305-63F104Z12	9
CP	1-6.9			
C	4.5 E 2220-090	C. Cap.	DD104-63CH050C50	2
	10 E 2220-100	C. Cap.	DD106-63F103Z50	1
	11 E 2220-110	C. Cap.	DD104-63B102K50	1
	12 E 2220-120	C. Cap.	DD104-63B471K50	1
CA	1 E 2000-070	Cap. Array	B5RC0124-33N	1
CN	1 E 4800-915	Connector	5267-05A-X	1
	2 E 48000610	Connector	5597-30CPB	1
	3 E 48000615	Connector	53047-0410	1
	4 E 48000620	Connector	5268-06A-X	1
	5 E 4800-950	Connector	5267-03A-X	1
	6 E 48000530	Connector	TM5RJ3-66	1
	7 E 48000630	Connector	5268-04A-X CBM-231 Only	1
	8 E 48000635	Connector	53047-0610	1
	9 E 48000640	Connector	17LE-13250-27(D3AC) * EUR Only(Meter Screw)	1
	E 48000645	Connector	17LE-13250-27(D3CC) * UL Only(Inch Screw)	1
DS	1.2 E 5103-230	Dip Switch	KSD-08	2
	3.4 E 5103-470	Dip Switch	KSD-4	2
F	1 E 4005-770	Fuse	MQ1.5	1
BZ	E 7151-120	Buzzer	MEB-12-5	1



Model CBM-230/231		PCB ASSY <Parallel> Service Parts List		CBM-230/231-PF(230-02)
Ref.	Parts No.	Description		QTY'
IC	1 E 107-220	CPU	uPD70433GD-5BB	1
	2 E 104-530	Gate Array	202LA-00	1
	3 E 107-230	S-RAM	LC36256AL-10	1
	4 E 107-24*	EP-ROM	LE27C512F	1
	6 E 201-830	TTL	74LS139	1
	7 E 202-430	TTL	74LS00	1
	8 E 202-860	Reset IC	PST520E	1
	9 E 202-880	HCMOS	74HCU04	1
	10 E 2010200	TTL	7406	1
	11 E 4101-710	DC-DC Conv.	SI-8301L	1
	12 E 2010220	TTL	74LS240	1
	13 E 202-810	TTL	7407	1
TA	1 E 202-830	Tr. Array	TA8428K CBM-231 Only	1
	2 E 390-140	Tr. Array	STA301A	1
	3 E 202-890	Tr. Array	LB1650	1
TR 1.5.6	E 359-278	Transistor	2SC2785HF(2SC1740SR)	3
	2 E 358-040	Transistor	RN1002	1
	4 E 358-050	Transistor	2SJ139	1
D 1-8.10	E 400-580	Diode	MPG06B(RLI4002)	9
	11 E 3221-041	Resistor	1/4W 220 J	1
OSC	1 E 501-320	Resonator	CSA25.00MX040	1
	2 E 501-330	Resonator	CST16.00MXW040	1
R	1.9 E 3181-041	Resistor	1/4W 180 J	2
	2.4 E 3333-041	Resistor	1/4W 33K J	2
	3 E 3683-041	Resistor	1/4W 68K J	1
5.6.8.11	E 3103-041	Resistor	1/4W 10K J	4
	7 E 3682-043	Resistor	1/4W 6.8K F	1
10.17.21	E 3101-041	Resistor	1/4W 100 J	3
	13 E 3103-043	Resistor	1/4W 10K F	1
12.14.15	E 3332-041	Resistor	1/4W 3.3K J	4
16				
	20 E 3105-041	Resistor	1/4W 1M J	1

Model CBM-230/231		PCB ASSY Service Parts List			CBM-230/231-PF(230-02)
Ref.	Parts No.	Description			QTY'
RA	1.2 E 3500-040	Re. Array	M9-1-103J		2
	3.5 E 3500-050	Re. Array	M5-1-103J		2
	4 E 3500-060	Re. Array	M8-3-221J		1
	6 E 3500-070	Re. Array	M11-1-332J		1
	7 E 3500-080	Re. Array	M9-1-332J		1
C	1 E 2047-780	El. Cap.	16MR-470MF		1
	3 E 2047-725	El. Cap.	35MR-470MF		1
C	2.9 E 2220-080	C. Cap.	DD305-63F104Z12		11
CP 1-6.9	12.13				
C	4.5 E 2220-090	C. Cap.	DD104-63CH050C50		2
	10 E 2220-100	C. Cap.	DD106-63F103Z50		1
	11.14 E 2220-110	C. Cap.	DD104-63B102K50		2
	12.13 E 2220-120	C. Cap.	DD104-63B471K50		2
CA	1 E 2000-070	Cap. Array	B5RC0124-33N		1
CN	1 E 4800-915	Connector	5267-05A-X		1
	2 E 48000610	Connector	5597-30CPB		1
	3 E 48000615	Connector	53047-0410		1
	4 E 48000620	Connector	5268-06A-X		1
	5 E 4800-950	Connector	5267-03A-X		1
	6 E 48000530	Connector	TM5RJ3-66		1
	7 E 48000630	Connector	5268-04A-X CBM-231 Only		1
	8 E 48000635	Connector	53047-0610		1
	9 E 48000625	Connector	57RE-40360-730B(D29A)		1
DS	1.2 E 5103-230	Dip Switch	KSD-08		2
F	1 E 4005-770	Fuse	MQ1.5		1
BZ	1 E 7151-120	Buzzer	MEB-12-5		1

Model CBM-230/231		OP PCB ASSY Service Parts List CBM-230/231 (230-03)	
Ref.	Parts No.	Description	QTY'
LED 1	E 480-290	LED SEL2310E	1
2.3	E 480-330	LED SEK2210S	2
SW 1	E 5102-490	Switch SKHHBV	1
2	E 5102-500	Switch D3C-2220	1
R 1	E 3221-041	Resistor 1/4W 220 J	1
2.3	E 3471-041	Resistor 1/4W 470 J	2
	E 4900-070	Harness 25-0255	1

