

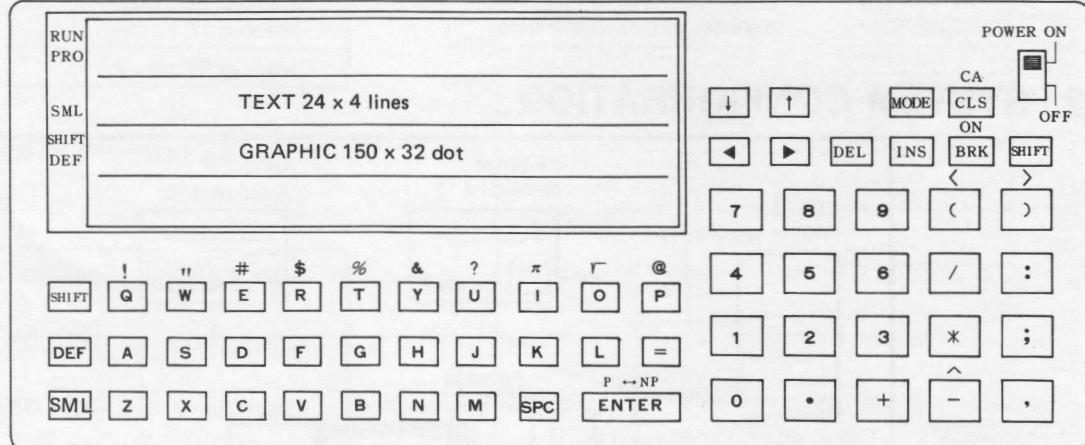
SHARP SERVICE MANUAL

CODE : 00ZPC1350SM/E

**CE-516L****CE-202M****CE-201M****MODEL PC-1350**

1. SPECIFICATIONS

- Keyboard layout



- Model PC-1350
- Arithmetic capacity: 10 digits (mantissa) + 2 digits (exponent)
- Arithmetic method: In order of mathematical expression (with priority determination function)
- Programming language: BASIC
- Microprocessor: CMOS 8-bit CPU
- System ROM: 40 Kilobytes
- Memory capacity: System area: Approx. 1.6 kilobytes
Data area: 208 bytes
Program/data area: ... 3070 bytes
Reserve area: 144 bytes
Subroutine: 10 stages
FOR-NEXT: 5 stages
Function: 16 stages
Data: 8 stages
- Stack registers: Fundamental:
Four math rules
Functions:
Trigonometric, reverse trigonometric, logarithm, exponential, angular transformation, power rising, square root, integer, absolute value, signum function, circular constant
- Basic calculator functions: Horizontal cursor control (►, ◄)
Insertion (INS)
Deletion (DEL)
Line up and down (↓, ↑)
- Editing functions: Horizontal cursor control (►, ◄)
Insertion (INS)
Deletion (DEL)
Line up and down (↓, ↑)

- Serial i/o function:

Communication method:
Asynchronous (half-duplex only)
Baud rate: 300, 600, 1200
Parity bit: Even, odd, free
Word length: 7 or 8 bits
Stop bit: 1 or 2 bits
Connector: 15-pin, for connection with external unit

- Output signal level:
CMOS level (4-6 volts)
- Interfacing signals:
Input: RD, CS, CD
Output: SD, RS, RR, ER
Others: SG, FG, VC
- Memory protection: Program, data, reserve areas are backed up by battery during power off.

- Display:

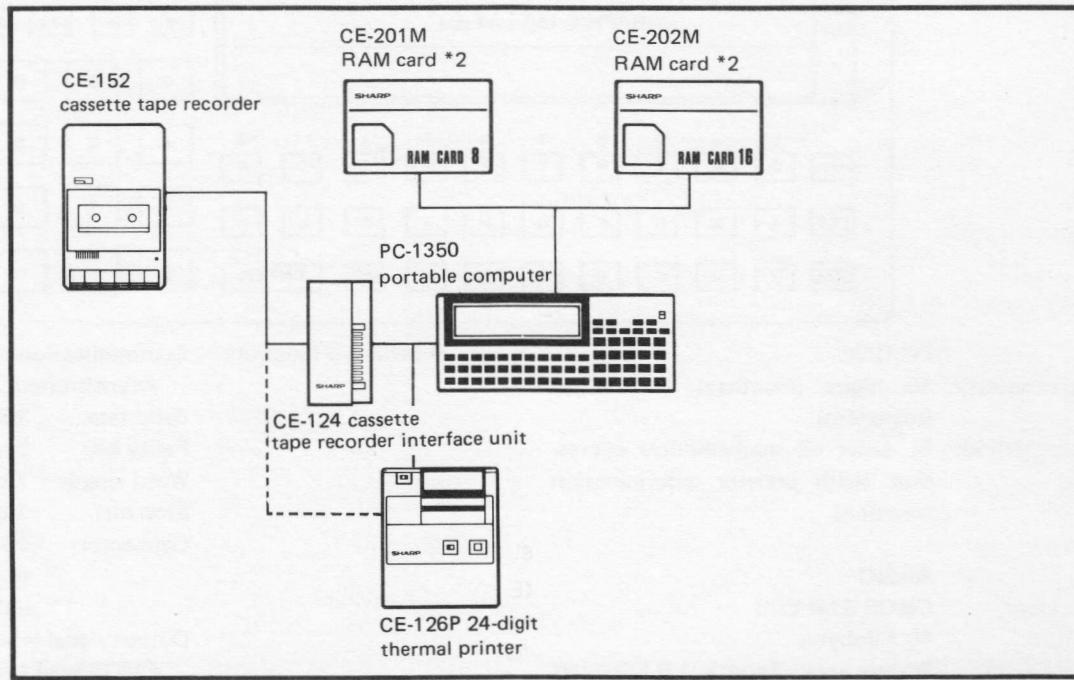
LCD display
(1) Text display
5 x 7 dot matrix (24 x 4 lines)
(2) Graphic display
150 x 32 full dot display
Character size:
4.01(H) x 2.85(W) mm
Character pitch:
3.48 (1 dot space) mm
Dot size:

 A technical diagram showing a 4x4 grid of dots. The vertical distance between the centers of the dots in a column is labeled "0.05 mm". The horizontal distance between the centers of the dots in a row is labeled "0.05 mm". The overall width of four dots is labeled "0.32 mm".

- Auto-power-off: About 11 minutes
- Operating temperature: 0 to 40°C
- Power supply: 6 VDC
(CR2032 lithium battery x 2)
- Battery life: About 250 hours (when *5* displayed continuously over 48 digits under 20°C. But, it may vary depending on the kind of battery used and usage.)
- If operated one hour per day, it will last for 2.5 months, provided that 10 minutes are used for arithmetical operation or program execution with 50 minutes of displaying data.

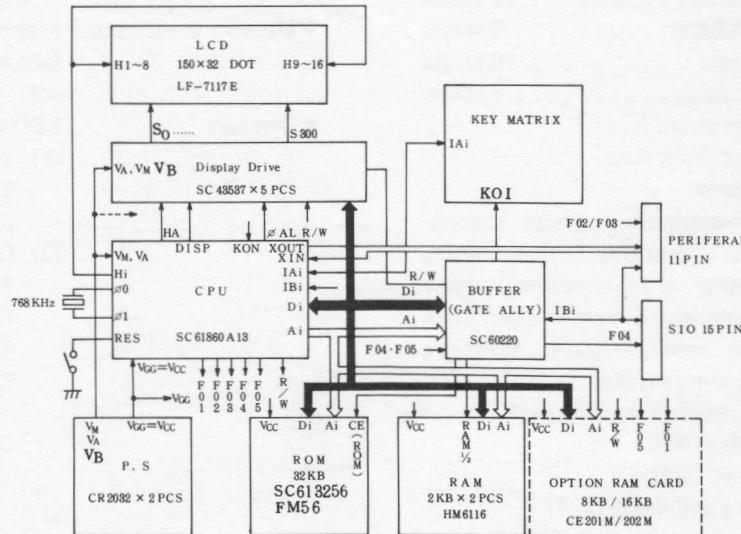
- Power consumption: 0.03 watts
- Physical dimensions: 182(W) x 72(D) x 16(H) mm
- Weight: 190 grams, including batteries
- Accessories: Hard cover, 2 templates, 2 lithium batteries contained in the unit, instruction manual, name label (Example)
CE-124 Cassette Interface (CE-152)
CE-126P Printer/Cassette Interface
CE-201M 8 KB RAM card
CE-202M 16 KB RAM card
- Options

2. SYSTEM CONFIGURATION



*2: Memory retention period of the CE-201M is about 34 months and CE-202M about 18 months.

3. PC-1350 BLOCK DIAGRAM



4. BATTERY LIFE AND POWER CONSUMPTION

PC-1350 power supply	Lithium battery, type CR-2032 x 2 pcs	Capacity: 200 mAh	Terminal voltage: About 6.0 V
CE-201M/202M	Lithium battery, type CR-2025 x 1 pc	Capacity: 120 mAh	Terminal voltage: About 3.0 V

☆ Battery life

Condition	Date retention time
PC-1350 under power off	About 7 months
PC-1350 + CE202M	About 6 months
CE-201M	About 34 months
CE-202M	About 18 months

☆ See the Instruction Manual for the battery life.

☆ Power consumption

Power consumed for the PC-1350 under power off	20 μ A, max.
Power consumed for the PC-1350 during displaying	500 μ A, max.
Power consumed for the PC-1350 during arithmetical operation	5 mA, max.
Power consumed for the CE-202M	About 8.4 μ A, max.

As the above values are observed under the room temperature of 20°C, it may vary depending on environment.

☆ How to judge the life of the battery

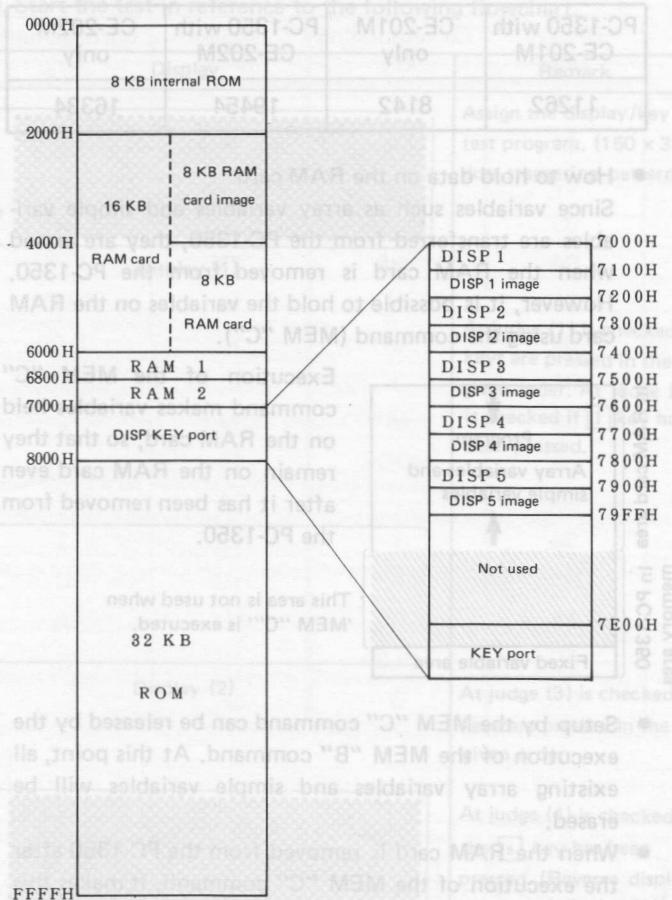
PC-1350: Needs replacement when the terminal voltage drops below 5.2 volts (2.6 volts per battery cell).

CE-201M/202M: Needs replacement when the terminal voltage drops below 2.5 volts.

NOTE: To replace the battery for the RAM card

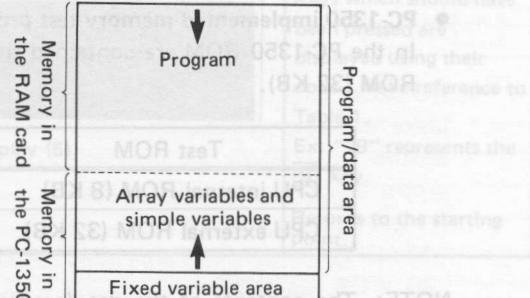
If the RAM card is replaced while it is installed in the PC-1350, replacement can be done without destroying the program data.

5. RAM map



6. CAUTIONS IN USING THE RAM CARD OPTION

- The PC-1350 will not operate unless the RAM card lock switch is turned to the LOCK side.
- When the data-free RAM card is installed to the PC-1350, it makes the PC-1350 memory area linked with the RAM card memory area so that the program/data area is united. And, the program is written from the RAM card, and the array variables and simple variables are secured by the PC-1350.



Since the program contained in the RAM card is retained in the card after removal of the card from the PC-1350, it enables to use the program again when the RAM card is mounted in the PC-1350 afterward.

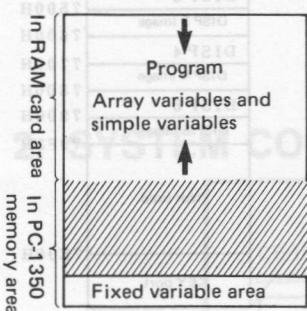
- Because the reserve area is in the PC-1350, it is not possible to reserve it in the RAM card.

- Capacity (bytes) of the program/data area

PC-1350 with CE-201M	CE-201M only	PC-1350 with CE-202M	CE-202M only
11262	8142	19454	16334

- How to hold data on the RAM card

Since variables such as array variables and simple variables are transferred from the PC-1350, they are erased when the RAM card is removed from the PC-1350. However, it is possible to hold the variables on the RAM card using the command (MEM "C").



Execution of the MEM "C" command makes variables held on the RAM card, so that they remain on the RAM card even after it has been removed from the PC-1350.

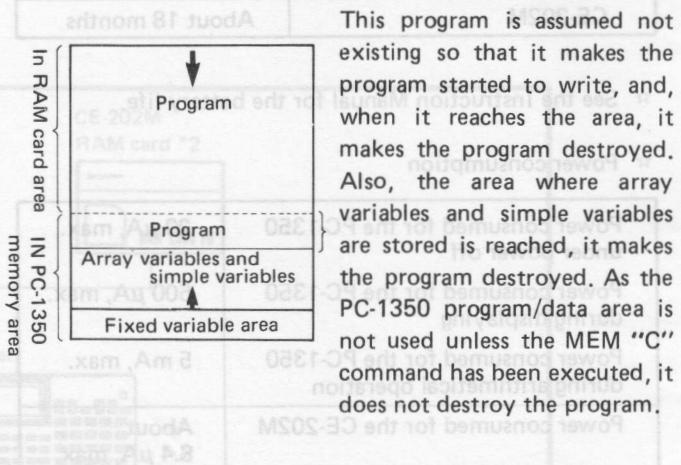
This area is not used when 'MEM "C"' is executed.

- Setup by the MEM "C" command can be released by the execution of the MEM "B" command. At this point, all existing array variables and simple variables will be erased.
- When the RAM card is removed from the PC-1350 after the execution of the MEM "C" command, it makes this setup invalid to the PC-1350. However, mounting of the RAM card to the PC-1350 again will validate this setup.

- When program is executed by the RUN command, it makes array variables and simple variables erased. To make the RAM card data left on the card, define the program using a definable key, then start the program with that definable key. Do not use the RUN command.

- If a program is contained in the PC-1350 upon mounting of the RAM card, it makes the existing program ignored. Therefore, it becomes impossible to execute the program contained in the PC-1350. Neither, it can be recalled. In case a large sized program exceeding the RAM card capacity has been contained, it makes the program in the PC-1350 destroyed. Further, storing of array variables and simple variables in the PC-1350 may also make the program destroyed, depending on the case.

(If the program has not been destroyed, it enables you to execute the program after removing the RAM card.)



This program is assumed not existing so that it makes the program started to write, and, when it reaches the area, it makes the program destroyed. Also, the area where array variables and simple variables are stored is reached, it makes the program destroyed. As the PC-1350 program/data area is not used unless the MEM "C" command has been executed, it does not destroy the program.

7. USE OF TEST PROGRAM

Tools required 8 KB test program RAM card (UKOGC1010CSZZ)

I/O circuit test connector cable (UKOGG0089CSZZ)

- PC-1350 implemented memory test program

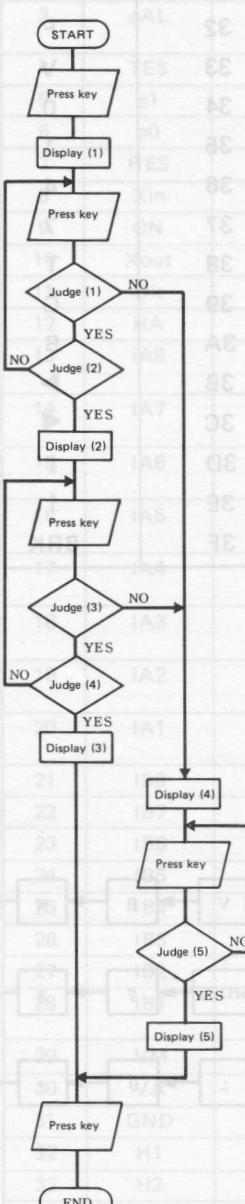
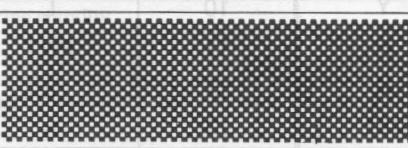
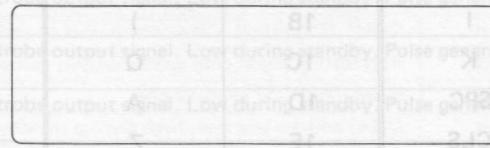
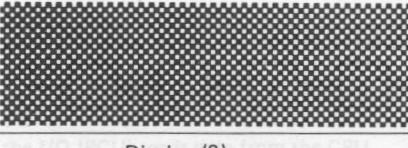
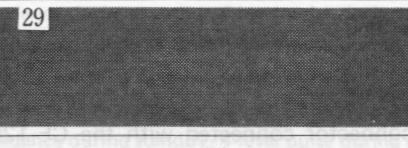
In the PC-1350 ROM are contained the checksum test programs to test the CPU internal ROM (8 KB) and the external ROM (32 KB).

Test ROM	Key operation (RUN mode)	Successful test display (V.1)
CPU internal ROM (8 KB)	CALL & 802D ENTER	31887
CPU external ROM (32 KB)	CALL & 802A ENTER	21946

NOTE: The contents of the data/program area of the RAM is not guaranteed after the execution of the test program. It needs to push the ALL RESET switch upon the completion of the test.

● Display and key input tests

Set the test RAM card (UKOGC1010CSZZ) in the PC-1350. Start the test in reference to the following flowchart.

	Key operation	Display	Remark
	CALL & 5000 ENTER 9→5→1→■→N→J→I	 Display (1)	Assign the display/key test program. (150 x 32 dots staggering pattern)
	SHIFT → Q →	 Display (2)	At judge (1) is checked if keys are pressed in the given order. At judge (2) is checked if I key has been pressed.
 (See Table-2) → ■ → 9	 Display (3)	At judge (3) is checked if keys are pressed in the given order.
	ENTER	 Display (4)	At judge (4) is checked if the Q key has been pressed. (Reverse display pattern of display (1))
	ENTER	 Display (5)	At judge (5) is checked if ENTER key has been pressed.
			Keys which should have been pressed are displayed using their code. Make reference to Table-1. Ex: "29" represents the 9 key.
			Returns to the starting point.

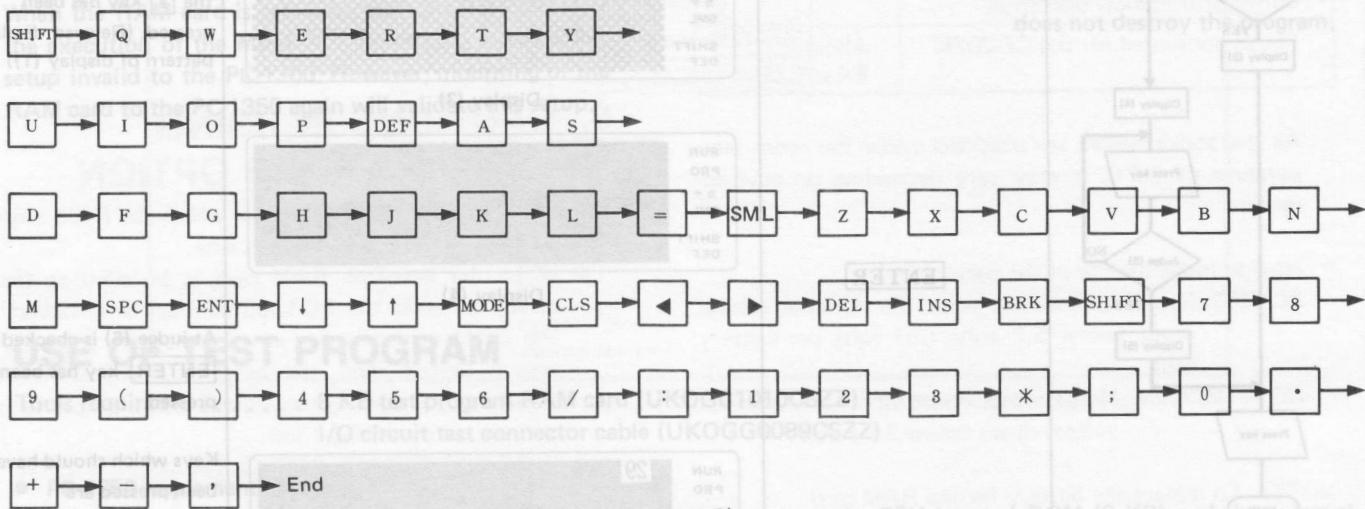
With this scope test program check to see that the SI0 circuit is functioning properly with the same display addressed on port 0.

(Key code chart)

Display code	Corresponding key						
00	Y	10	L	20	*	30	8
01	H	11	ENT	21	/	31	R
02	N	12	P	22	(32	F
03	DEL	13	=	23	W	33	V
04	INS	14	SHIFT	24	S	34	0
05		15	DEF	25	X	35	1
06	U	16	SML	26	+	36	4
07	J	17	,	27	6	37	7
08	M	18	MODE	28	9	38	T
09		19	:	29	E	39	G
0A		1A	I	2A	D	3A	B
0B		1B)	2B	C	3B	►
0C	K	1C	Q	2C	•	3C	◀
0D	SPC	1D	A	2D	2	3D	↓
0E	CLS	1E	Z	2E	5	3E	↑
0F	O	1F	-	2F	3F		BRK

(Table-1)

(Key entry sequence)



(Table-2)

● I/O circuit tests

Make the 11-pin connector connected with the CE-126P and the 15-pin connector of the SIO circuit connected with another PC-1350 via the interfacing cable (UKOGG0089CCZZ). Perform communication with the other end to check proper functioning of the PC-1350.

(Program on the tested unit)

```

10 : OPEN
20 : FOR I=3TO255
30 : B$=CHR$ I
40 : INPUT #1A$
50 : PRINT #1B$
60 : WAIT0:PRINT A$;
70 : NEXT I
80 : CLS
90 : CLOSE:GOTO10
100 : END

```

With the above test program check to see that the SIO circuit is functioning properly with the same display appearing on both sides.

(Program on the testing unit)

```

10 : OPEN
20 : FOR I=3TO255
30 : A$=CHR$ I
40 : PRINT #1A$
50 : INPUT #1B$
60 : WAIT0:PRINT B$;
70 : NEXT I
80 : CLS
90 : CLOSE: GOTO10
100 : END

```

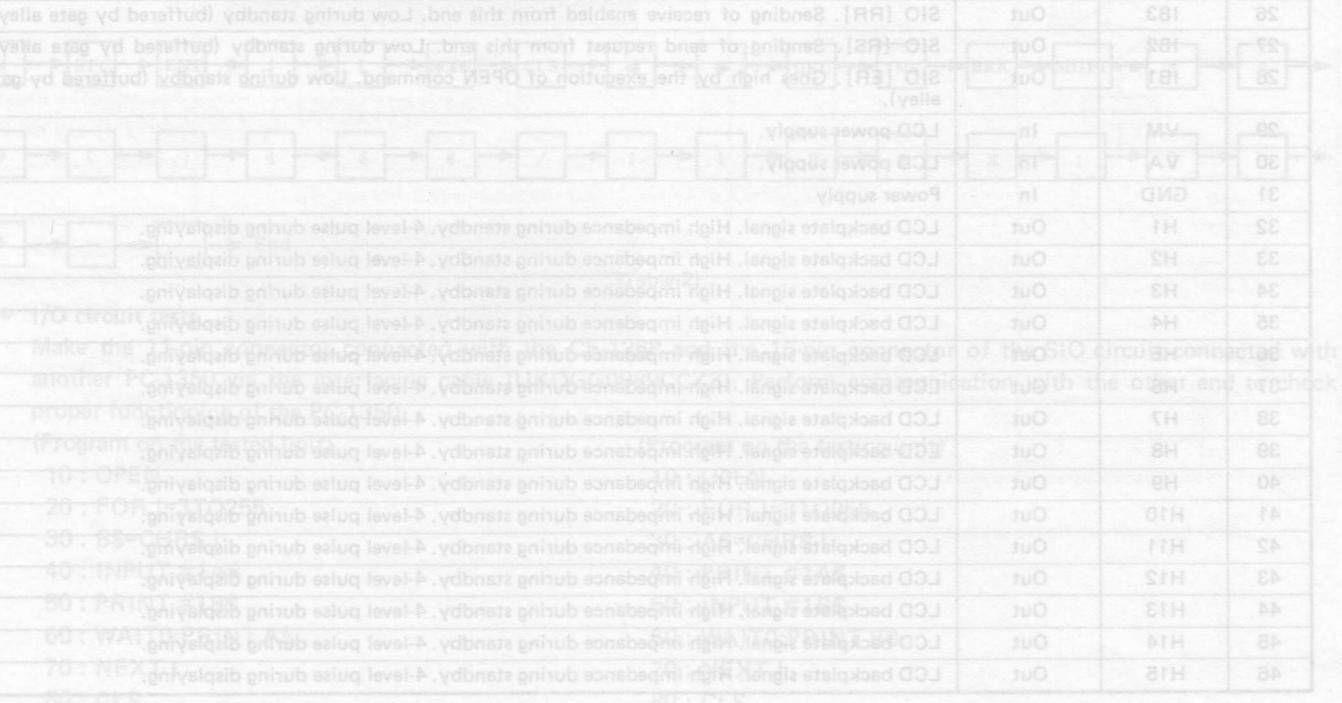
8. LSI DESCRIPTIONS

SC61860A 13 microprocessor signal description

Pin No.	Signal name	In/Out	Description	Standby = power off	Pin No.	Signal name	In/Out	Description	Standby = power off
1	AO1	Out	(AO) Address bus line. High during standby.		48	A12	In		
2	R/W	Out	Write clock. Normally high.		47	H16	Out	LCD power supply	
3	φAL	Out	Low order bit address latch. Normally high. Clock used to latch the low order 8 bits sent on the data bus line which is used in sending 16 bits address signal when using a large capacity ROM.		46	V8	In	LCD power supply	
4	TES	In	Test pin. Normally low.		45	ADC	In		
5	φ1	In	Oscillator input.		44	ADC	Out		
6	φ0	Out	Oscillator output.		43	ADC	Out		
7	RES	In	Reset input. Reset when high. Normally pulled down to low level.		42	ADC	Out		
8	Xin	In	CE-124 microcassette tape recorder option signal input (MTin).		41	ADC	Out		
9	ON	In	ON [BREAK] key input. Normally pulled down to low level. [BRK]		40	ADC	Out		
10	Xout	Out	CE-124 microcassette tape recorder option and buzzer signal output (MTout1).		39	ADC	Out		
11	Dis	Out	LCD driver control signal.		38	ROM	In		
12	HA	Out	LCD driver clock. Low during standby. 2 KHz pulse generated during displaying.		37	ROM	In		
13	IA8	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		36	ROM	In		
14	IA7	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		35	ROM	In		
15	IA6	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		34	ROM	In		
16	IA5	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		33	ROM	In		
17	IA4	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		32	ROM	In		
18	IA3	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		31	ROM	In		
19	IA2	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		30	ROM	In		
20	IA1	In/Out	Key signal input/key strobe output signal. Low during standby. Pulse generated when key is pressed in the low level.		29	ROM	In		
21	IB8	In	ACK signal. Enable signal when the I/O (PCU) reads data from the CPU.		28	ROM	In		
22	IB7	In	Data In (Din) signal. Serial data input signal from the PCU (bit term serial handshaking).		27	ROM	In		
23	IB6	In	SIO [CD]. Detection of a send request from the other end.		26	ROM	In		
24	IB5	In	SIO [CS]. Detection of send enabled from the other end.		25	ROM	In		
25	IB4	In	SIO [RD]. Receive data.		24	ROM	In		
26	IB3	Out	SIO [RR]. Sending of receive enabled from this end. Low during standby (buffered by gate alley).		23	ROM	In		
27	IB2	Out	SIO [RS]. Sending of send request from this end. Low during standby (buffered by gate alley).		22	ROM	In		
28	IB1	Out	SIO [ER]. Goes high by the execution of OPEN command. Low during standby (buffered by gate alley).		21	ROM	In		
29	VM	In	LCD power supply.		20	ROM	In		
30	VA	In	LCD power supply.		19	ROM	In		
31	GND	In	Power supply		18	ROM	In		
32	H1	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		17	ROM	In		
33	H2	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		16	ROM	In		
34	H3	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		15	ROM	In		
35	H4	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		14	ROM	In		
36	H5	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		13	ROM	In		
37	H6	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		12	ROM	In		
38	H7	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		11	ROM	In		
39	H8	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		10	ROM	In		
40	H9	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		9	ROM	In		
41	H10	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		8	ROM	In		
42	H11	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		7	ROM	In		
43	H12	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		6	ROM	In		
44	H13	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		5	ROM	In		
45	H14	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		4	ROM	In		
46	H15	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.		3	ROM	In		

NOTE: Voltage when VDIS=7.0 volts

Pin No.	Signal name	In/Out	Description	Standby = power off
47	H16	Out	LCD backplate signal. High impedance during standby. 4-level pulse during displaying.	
48	V _B	In	LCD power supply. High during standby. Clock stop level in V _B state.	
49	V _{DIS}	In	LCD power supply. High during standby. Clock stop level in low state.	
50	V _{CC}	In	LCD power supply. Low at all times.	
51	V _{DC}	Out	LCD power supply. High during standby. Clock stop level in low state.	
52	V _{GG}	In	Power supply. Low at all times.	
53	O8	In/Out	Data bus line. Normally high impedance.	
54	O7	In/Out	Data bus line. Normally high impedance.	
55	O6	In/Out	Data bus line. Normally high impedance.	
56	O5	In/Out	Data bus line. Normally high impedance.	
57	O4	In/Out	Data bus line. Normally high impedance.	
58	O3	In/Out	Data bus line. Normally high impedance.	
59	O2	In/Out	Data bus line. Normally high impedance.	
60	O1	In/Out	Data bus line. Normally high impedance.	
61	F05	Out	32 K ROM chip enable.	
62	F04	Out	SIO [SD]. Transmit data. Low during standby (buffered by gate alley).	
63	F03	Out	BUSY signal. Interface output port.	
64	F02	Out	DOUT (Data Out). Data output port to peripheral.	
65	F01	Out	Application ROM chip enable output (provided on the RAM card connector).	
66	B08	Out	RAM, DISP-LSI enable signal.	
67	B07	Out	(A14) address bus line. High during standby.	
68	B06	Out	(A13) address bus line. High during standby.	
69	B05	Out	(A12) address bus line. High during standby.	
70	B04	Out	(A11) address bus line. High during standby.	
71	B03	Out	(A10) address bus line. High during standby.	
72	B02	Out	(A9) address bus line. High during standby.	
73	B01	Out	(A8) address bus line. High during standby.	
74	A08	Out	(A7) address bus line. High during standby.	
75	A07	Out	(A6) address bus line. High during standby.	
76	A06	Out	(A5) address bus line. High during standby.	
77	A05	Out	(A4) address bus line. High during standby.	
78	A04	Out	(A3) address bus line. High during standby.	
79	A03	Out	(A2) address bus line. High during standby.	
80	A02	Out	(A1) address bus line. High during standby.	

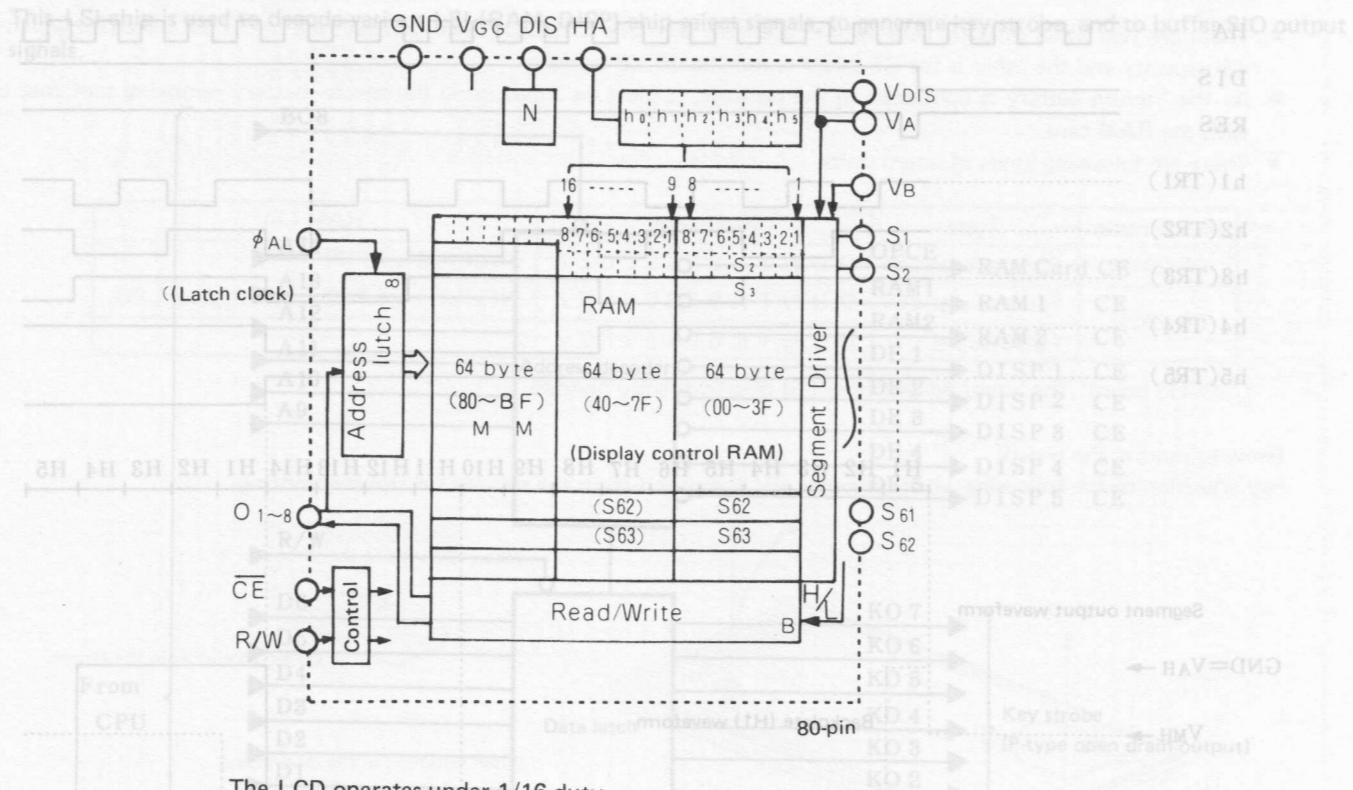


90 : CLOSE:GOTO19

100 : END

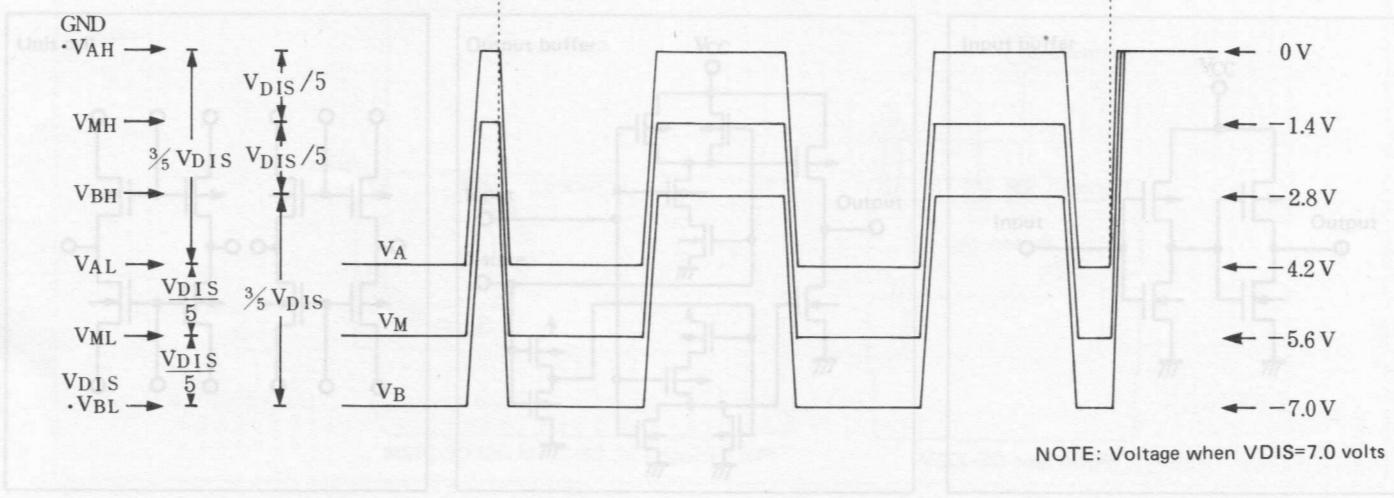
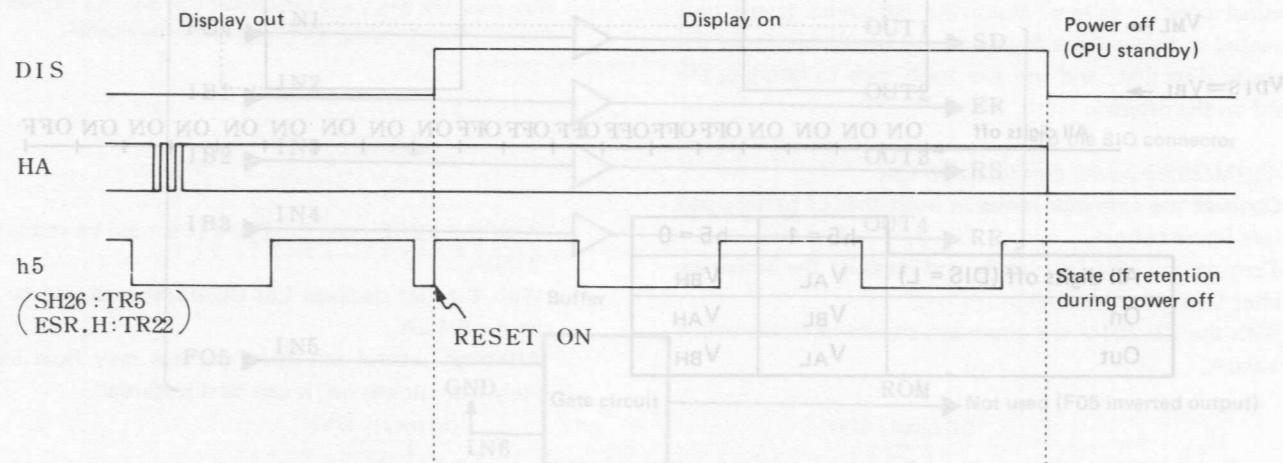
With the above test program check to see that the SIO circuit is functioning properly with the same display appearing on both sides.

Description of the SC43537 Display LSI

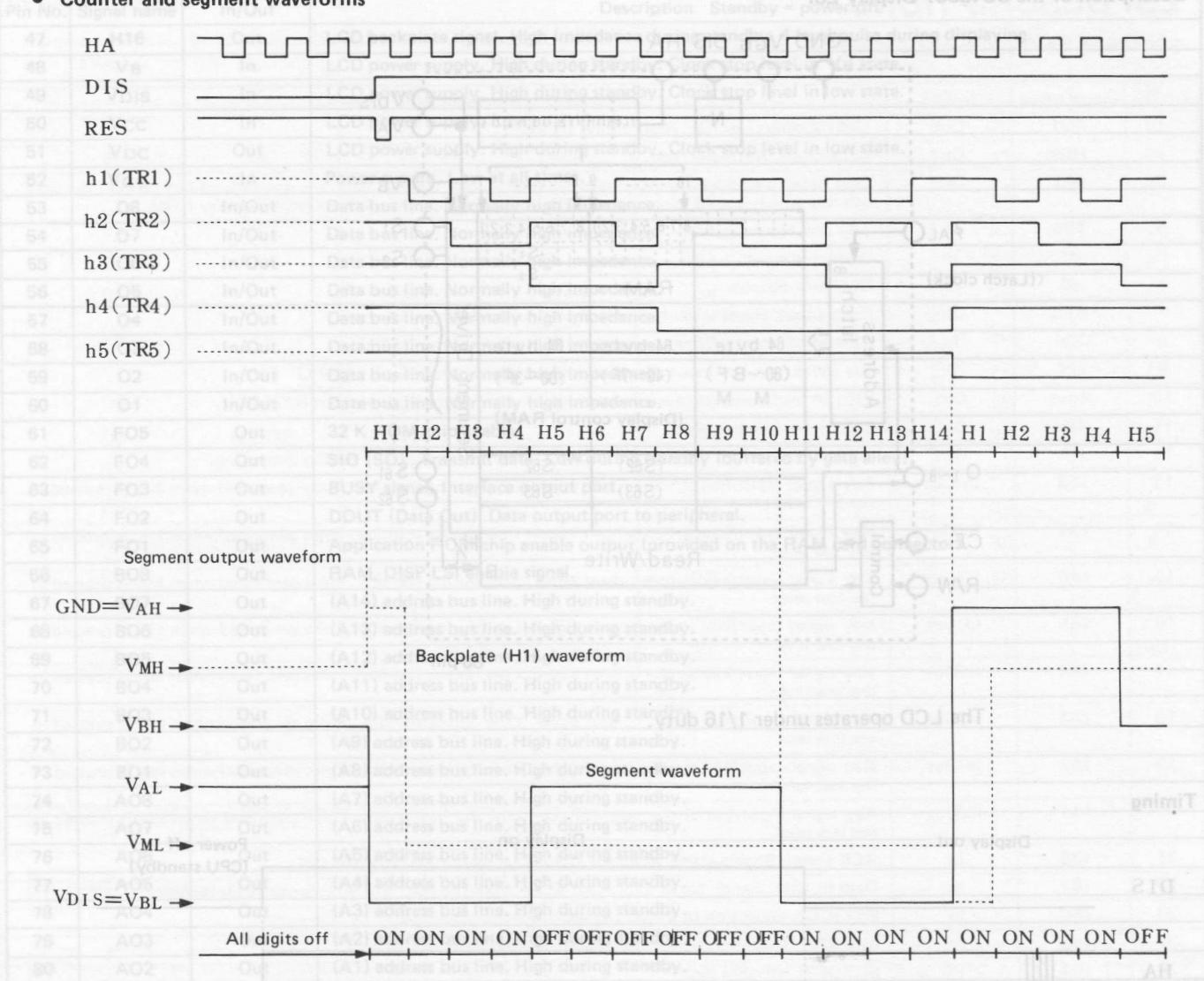


The LCD operates under 1/16 duty.

Timing



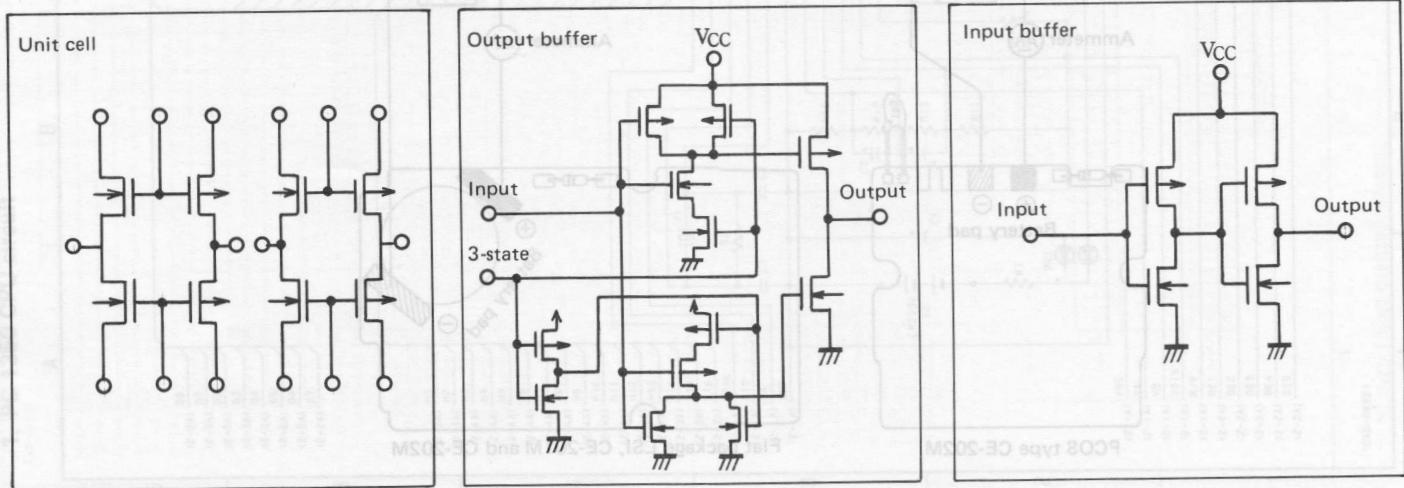
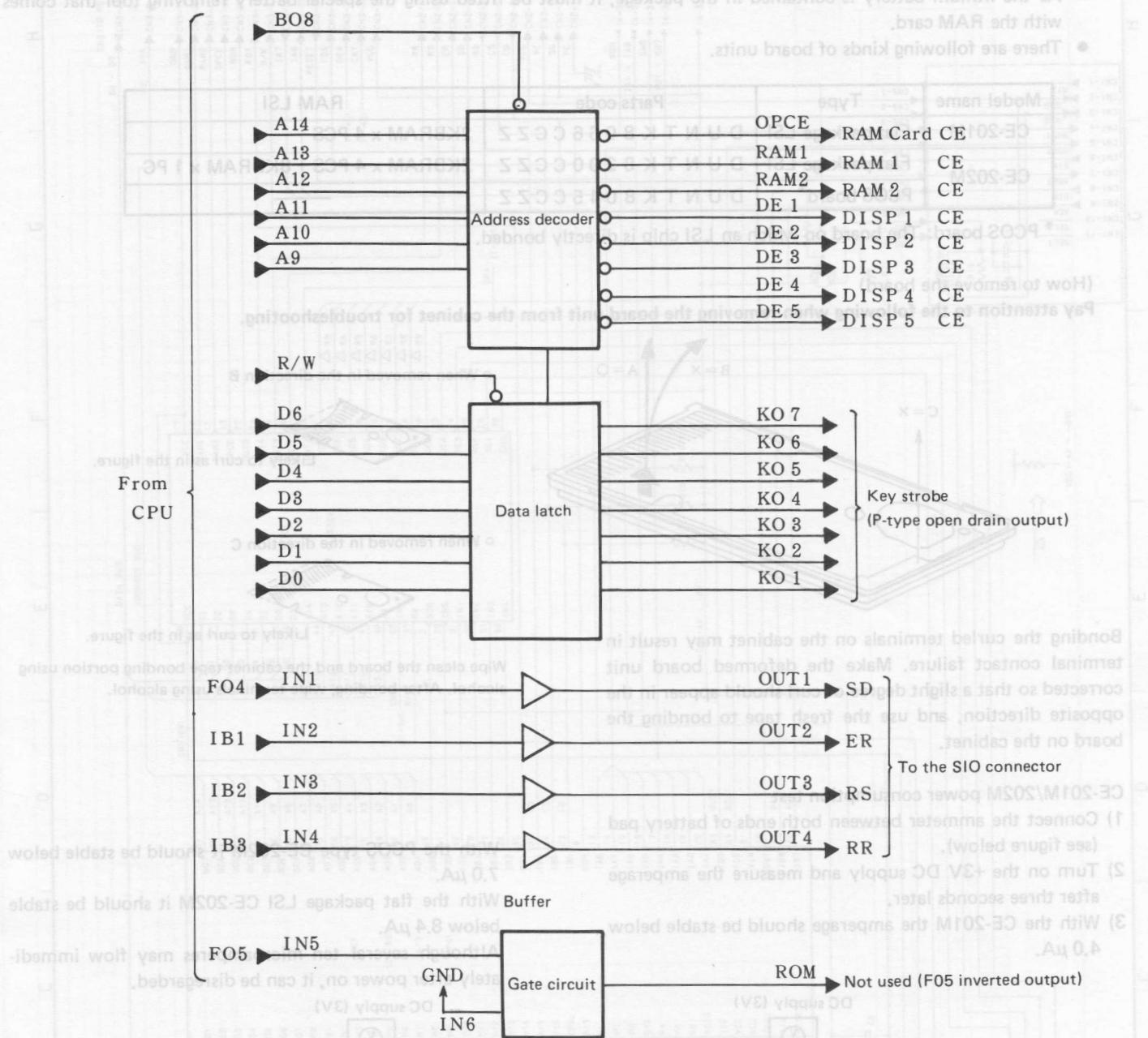
- Counter and segment waveforms



	$h_5 = 1$	$h_5 = 0$
All digits off (DIS = L)	V_{AL}	V_{BH}
On	V_{BL}	V_{AH}
Out	V_{AL}	V_{BH}

10. SC60220 Gate Alley

This LSI chip is used to decode various LSI (RAM, DISP) chip select signals, to generate key strobe, and to buffer SIO output signals.



9. RAM CARD

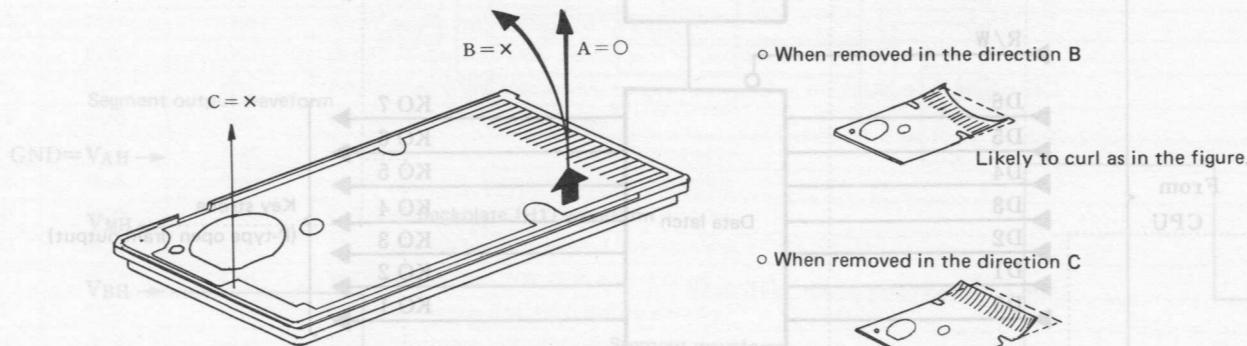
- There are two kinds of RAM card options available with one CR2025 lithium battery; the one is the CE-201M which has 8 KB capacity and the other is the CE-202M which has 16 KB capacity.
- As the lithium battery is contained in the package, it must be fitted using the special battery removing tool that comes with the RAM card.
- There are following kinds of board units.

Model name	Type	Parts code	RAM LSI
CE-201M	Flat package LSI	D U N T K 8 0 6 6 C C Z Z	2KBRAM x 4 PCS
CE-202M	Flat package LSI PCOS board*	D U N T K 8 2 0 0 C C Z Z D U N T K 8 0 4 5 C C Z Z	2KBRAM x 4 PCS + 8KBRAM x 1 PC

* PCOS board: The board on which an LSI chip is directly bonded.

(How to remove the board)

Pay attention to the following when removing the board unit from the cabinet for troubleshooting.



Bonding the curled terminals on the cabinet may result in terminal contact failure. Make the deformed board unit corrected so that a slight degree of curl should appear in the opposite direction, and use the fresh tape to bonding the board on the cabinet.

When removed in the direction B



Likely to curl as in the figure.

When removed in the direction C



Likely to curl as in the figure.

Wipe clean the board and the cabinet tape bonding portion using alcohol. After bonding, wipe terminals using alcohol.

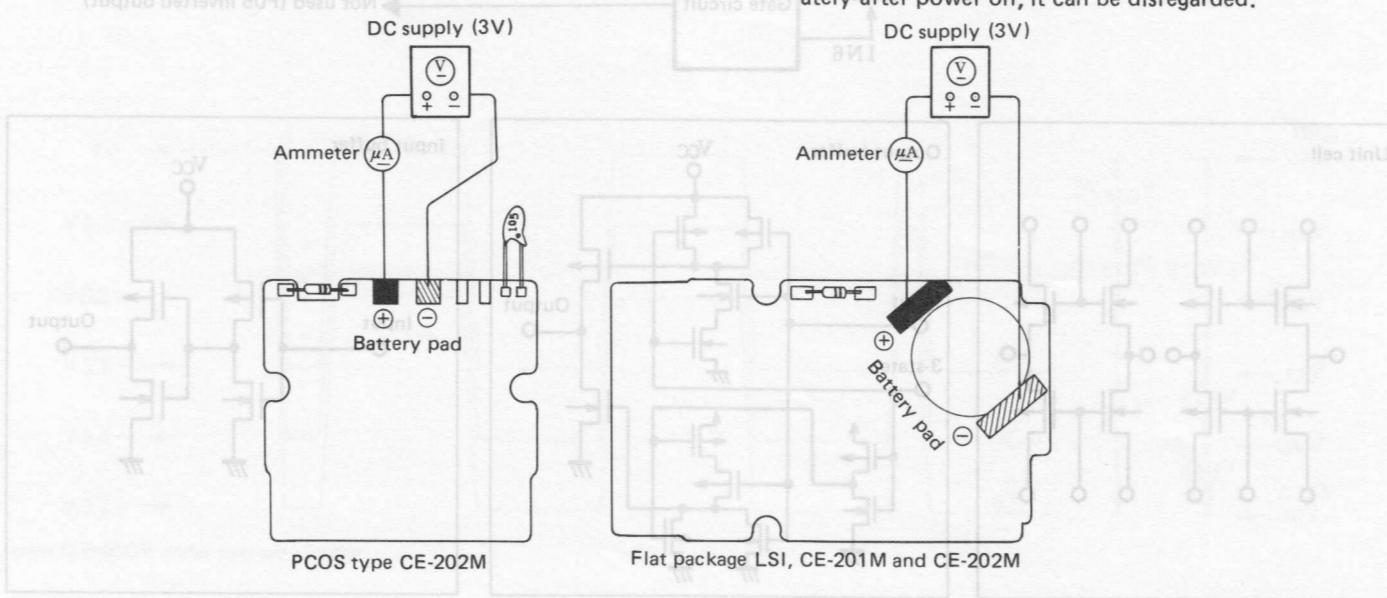
CE-201M/202M power consumption test

- Connect the ammeter between both ends of battery pad (see figure below).
- Turn on the +3V DC supply and measure the amperage after three seconds later.
- With the CE-201M the amperage should be stable below 4.0 μ A.

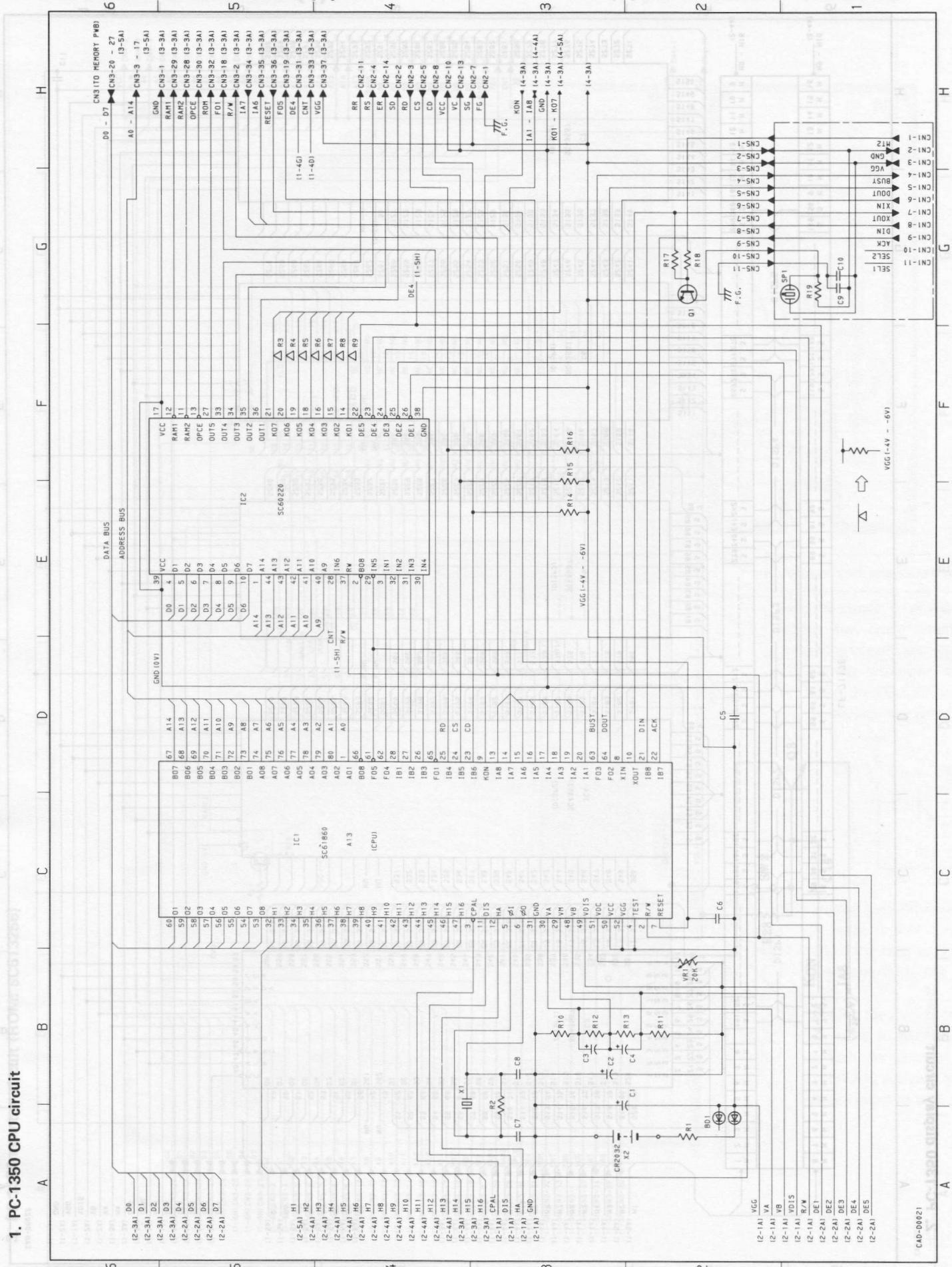
With the PCOS type CE-202M it should be stable below 7.0 μ A.

With the flat package LSI CE-202M it should be stable below 8.4 μ A.

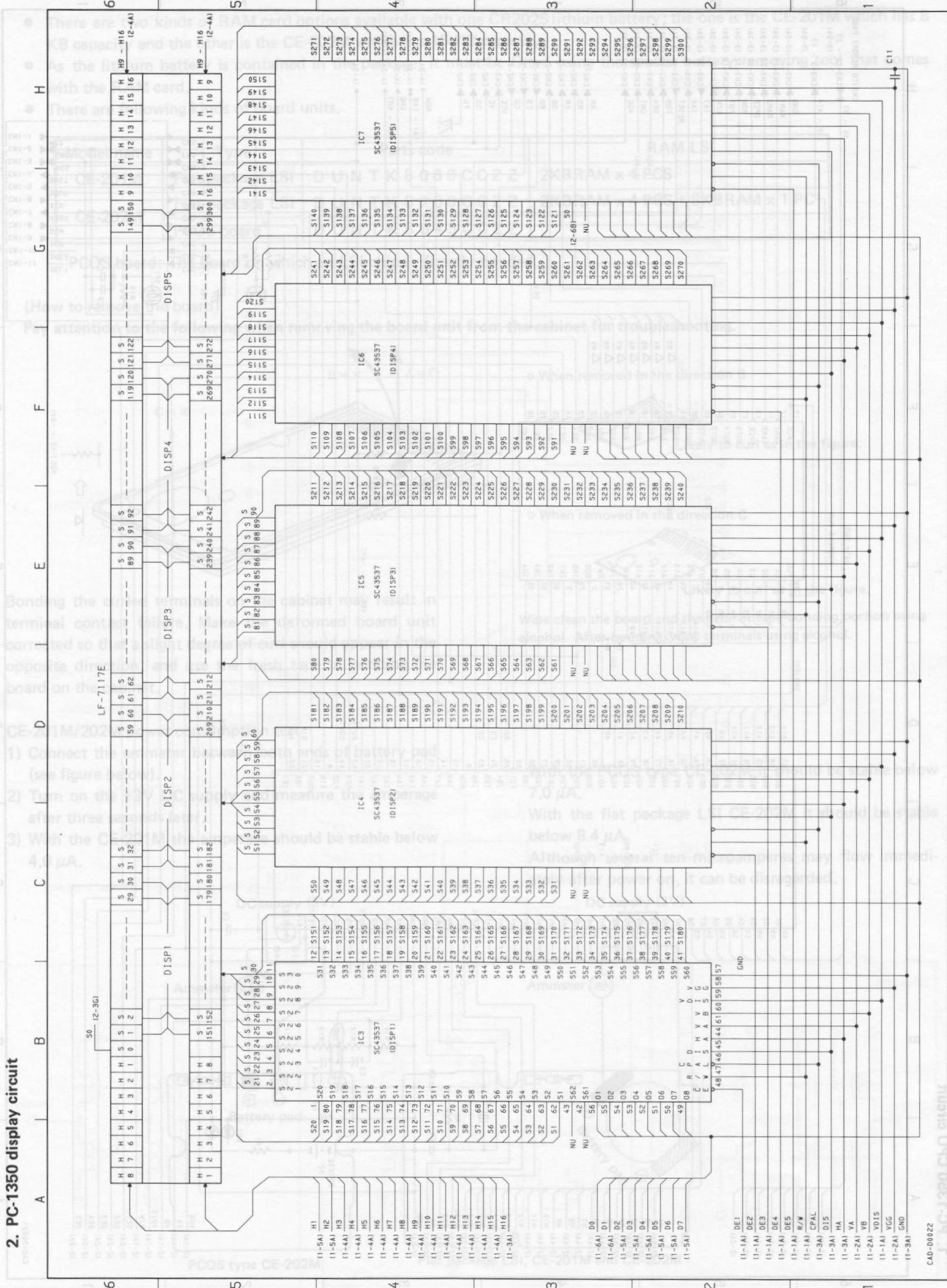
Although several ten microamperes may flow immediately after power on, it can be disregarded.



10. CIRCUIT DIAGRAM (1)

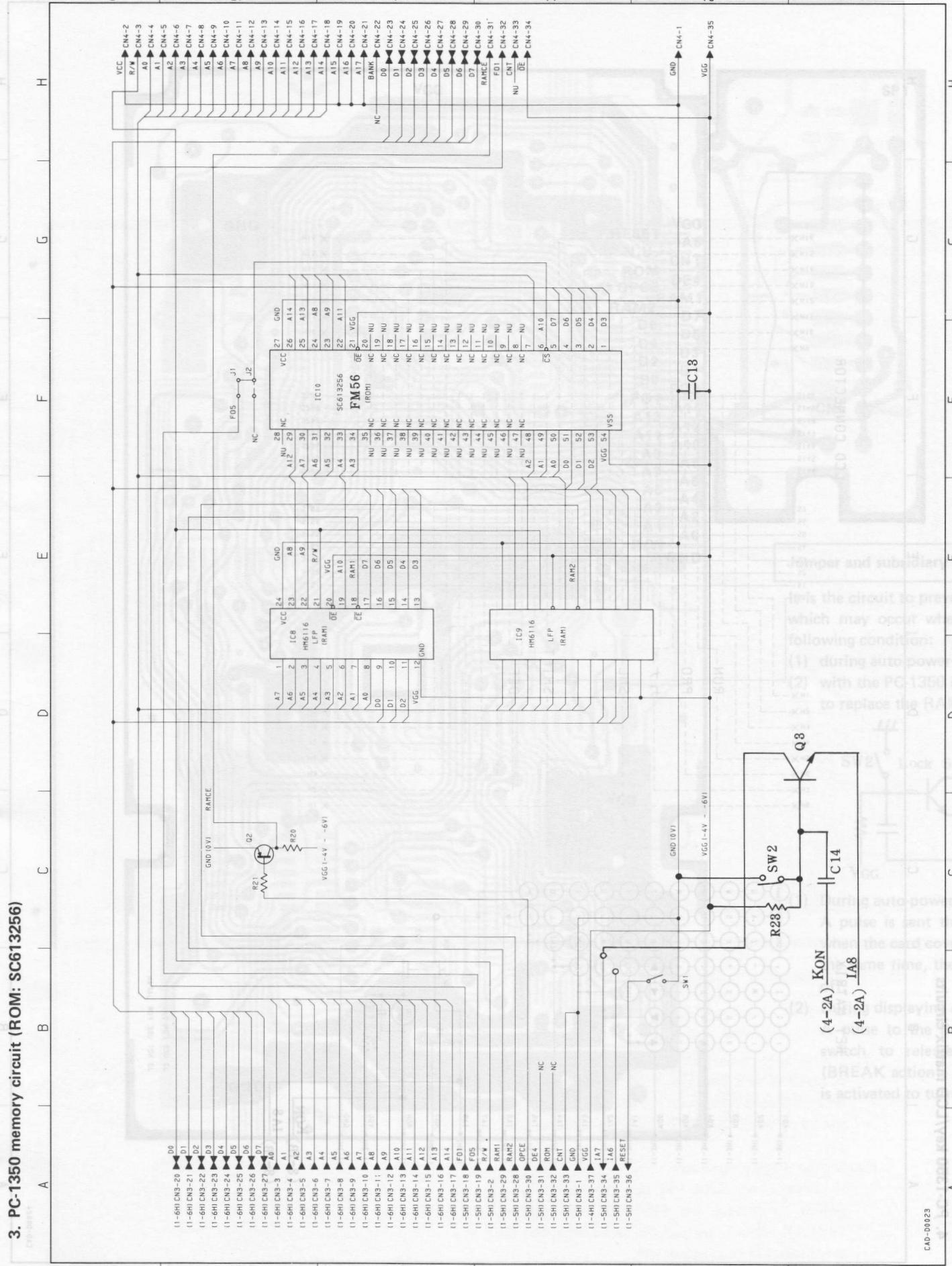


CIRCUIT DEAGRAM (2)

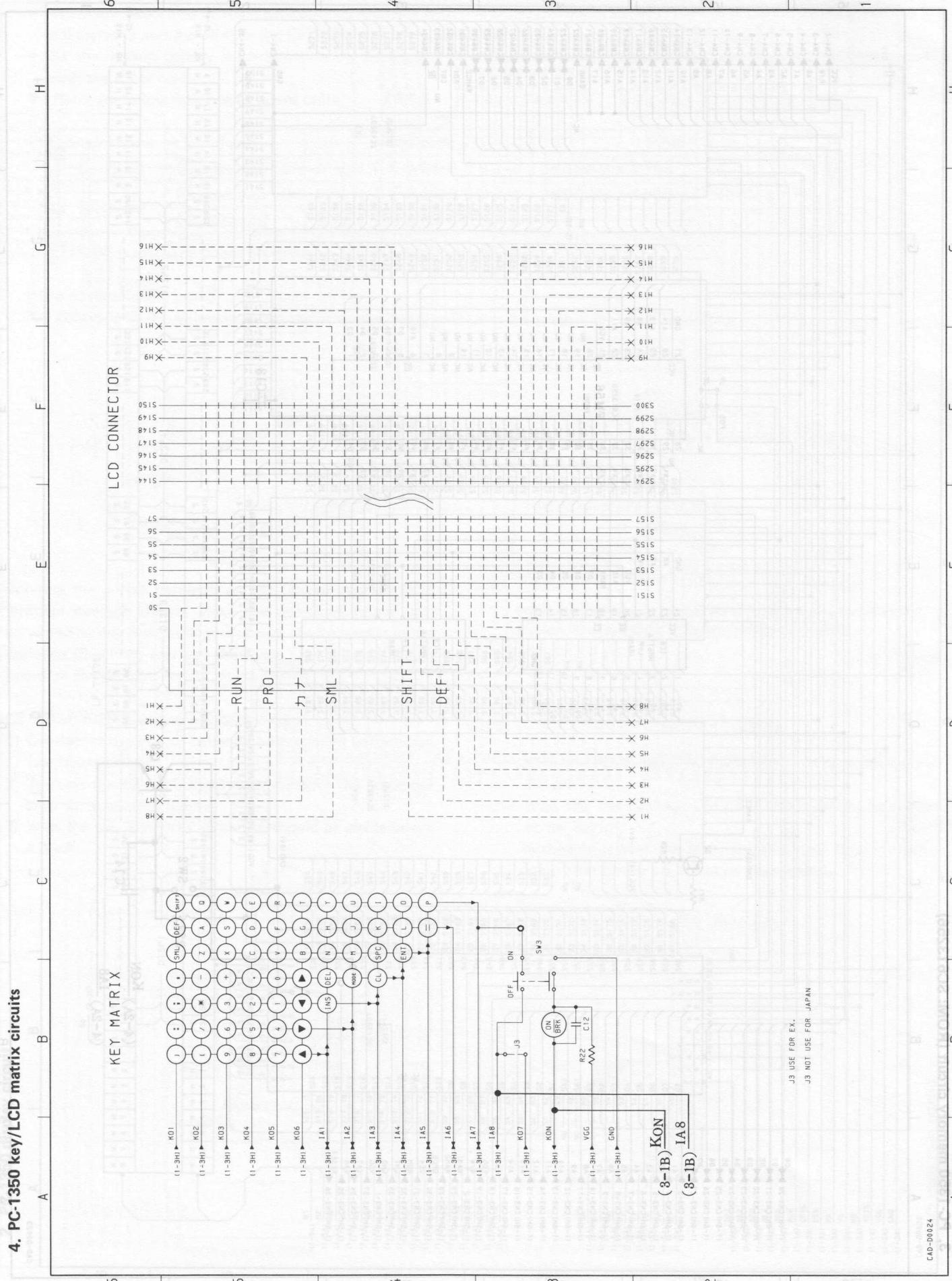


CIRCUIT DIAGRAM (3)

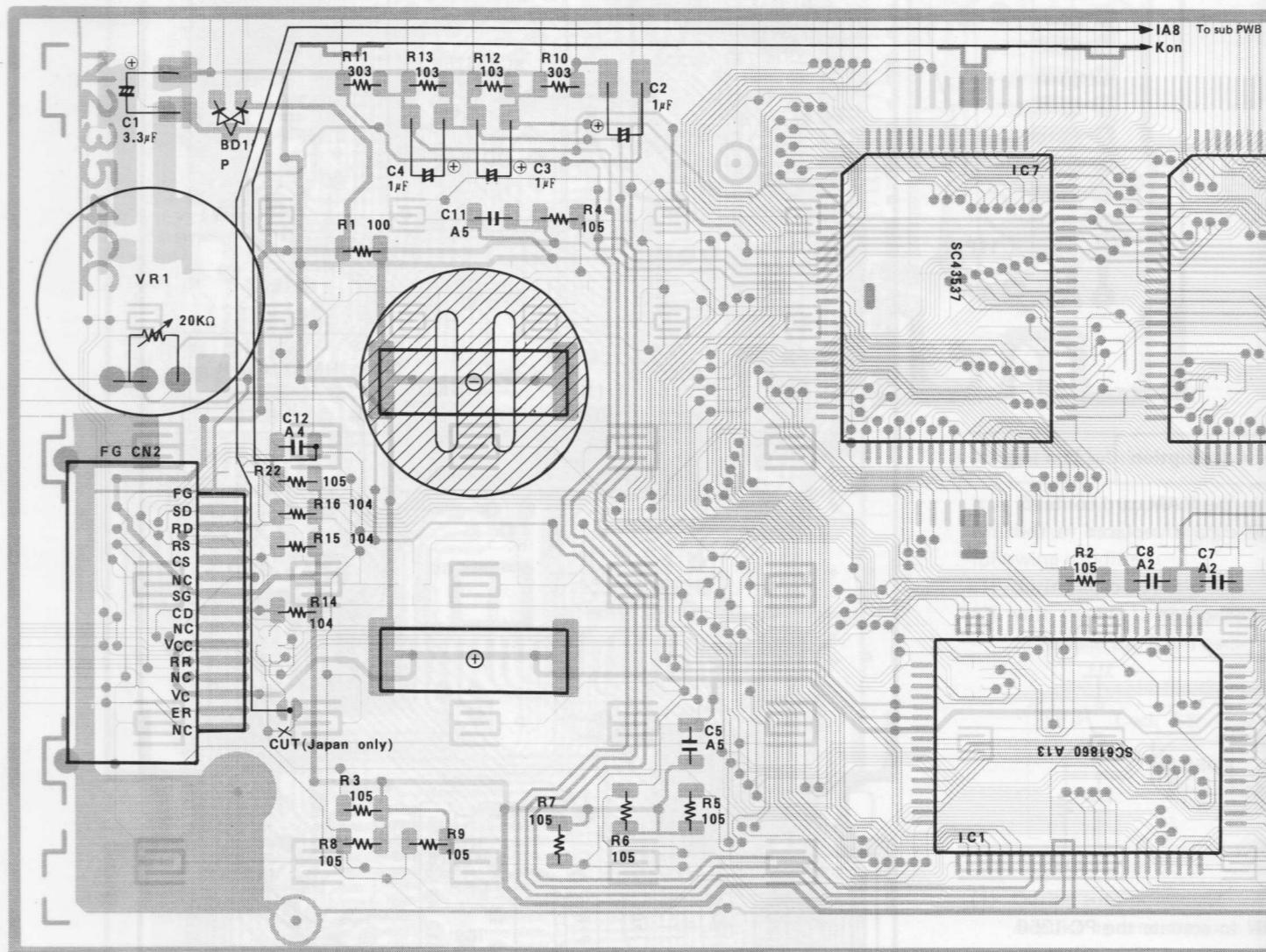
CIRCUIT DIAGRAM (4)



CIRCUIT DIAGRAM (4)



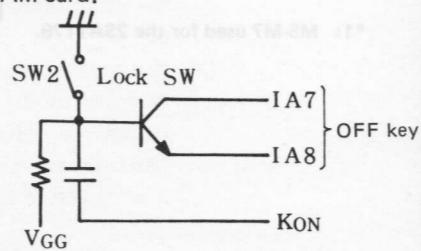
11. PARTS AND SIGNAL LAYOUT CHART (MAIN PWB)

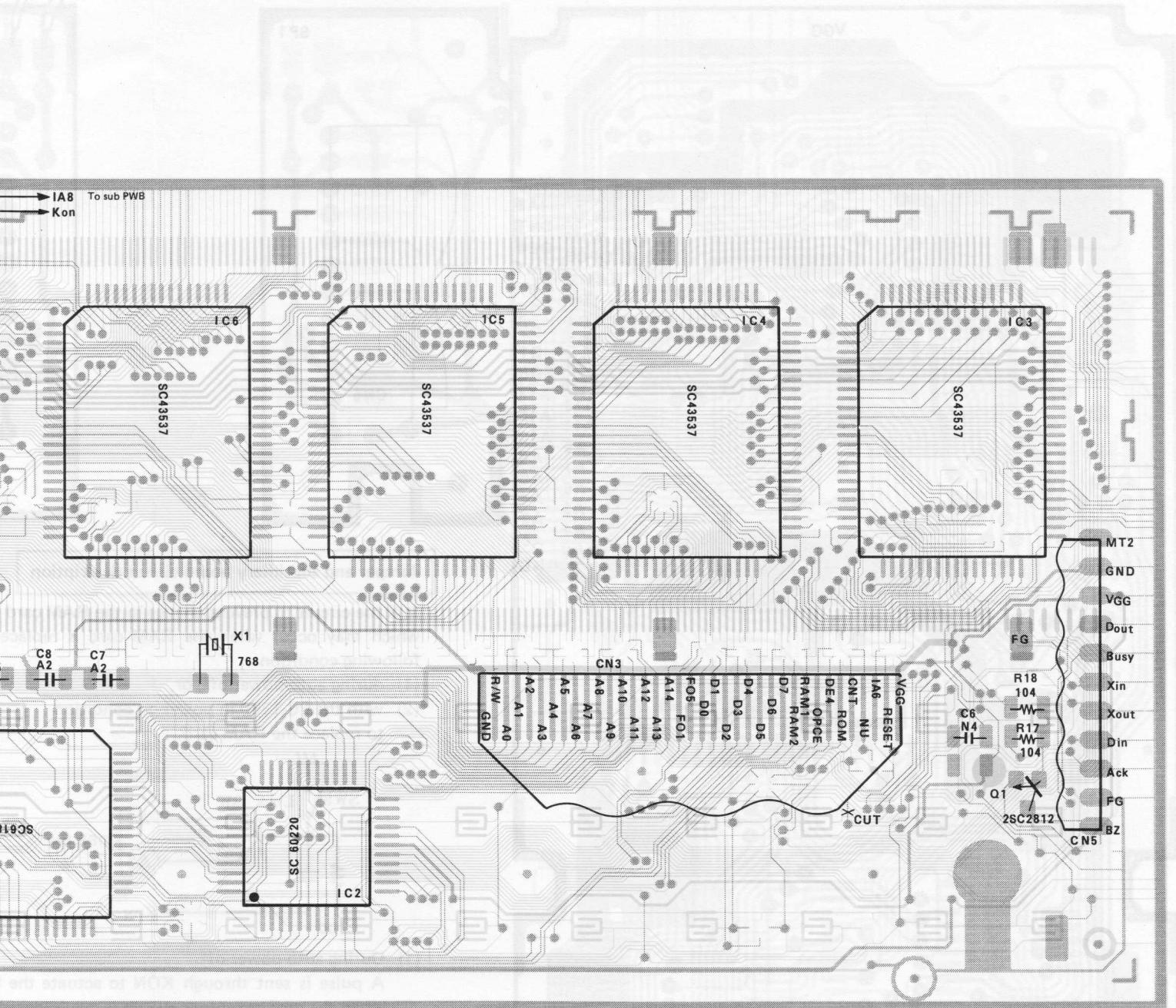


Jumper and subsidiary board circuit description

It is the circuit to prevent change in the RAM card contents which may occur when the RAM card is replaced in the following condition:

- (1) during auto-power-off, or,
- (2) with the PC-1350 in power on condition to replace the RAM card.



**option**

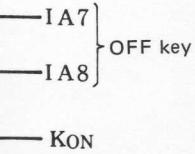
AM card contents
is replaced in the

(1) During auto-power-off

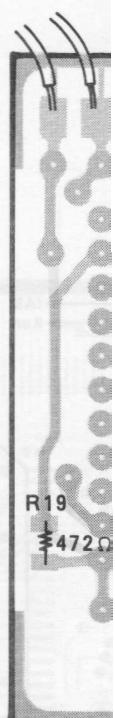
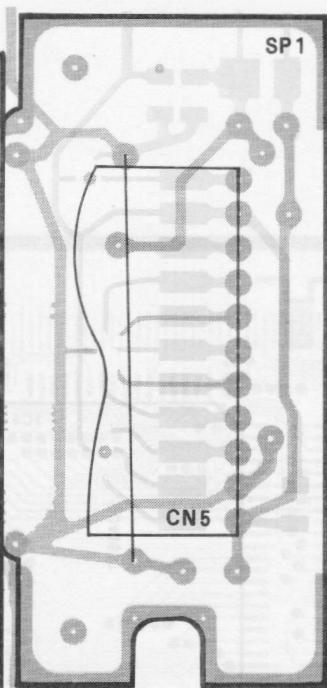
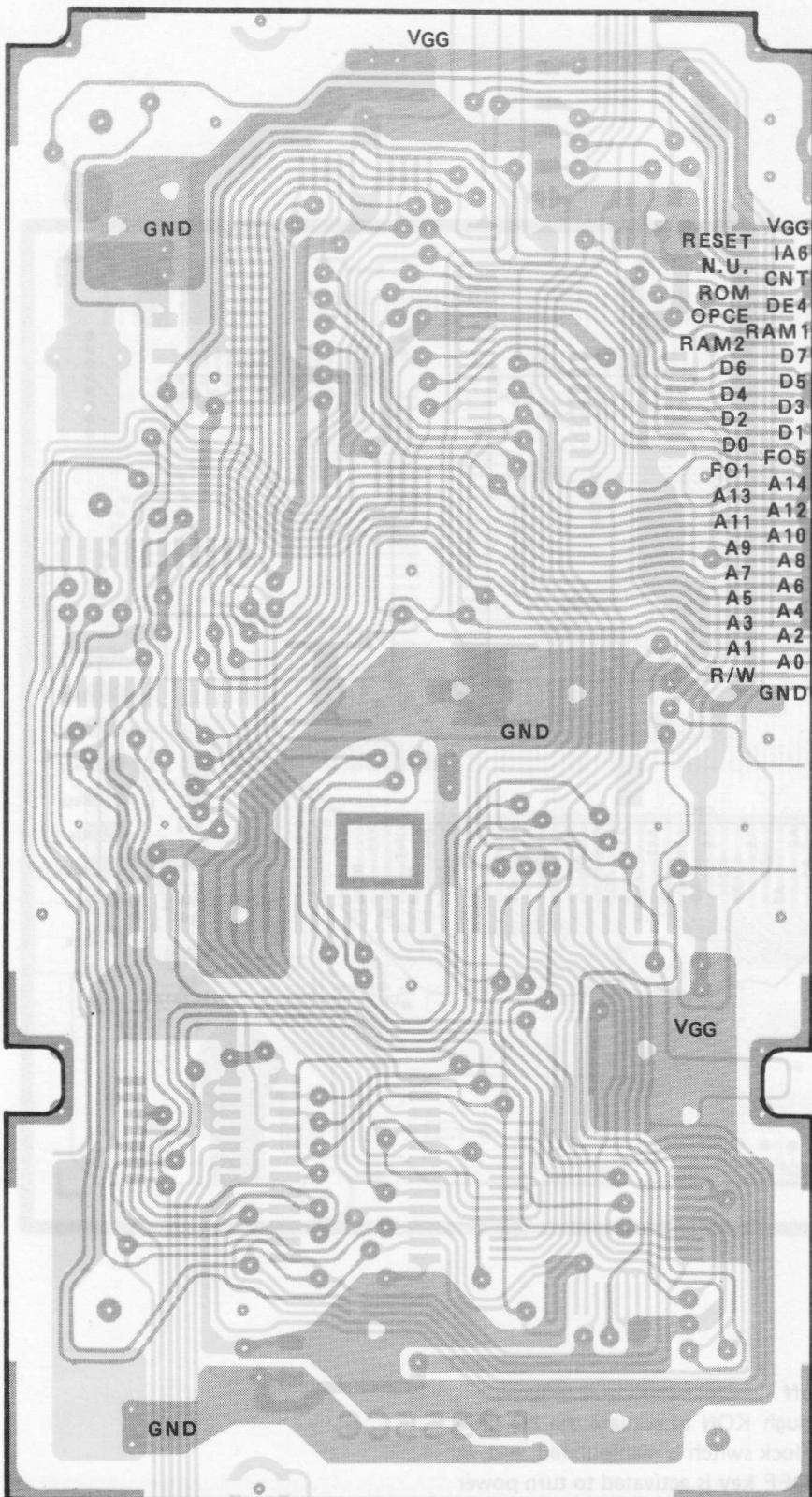
A pulse is sent through KON to actuate the PC-1350 when the card cover lock switch is manipulated, and, at the same time, the OFF key is activated to turn power off.

(2) During displaying or run

A pulse to the BRK key line (to KON) by the lock switch to release the PC-1350 from running state (BREAK action), and, at the same time, the OFF key is activated to turn power off.



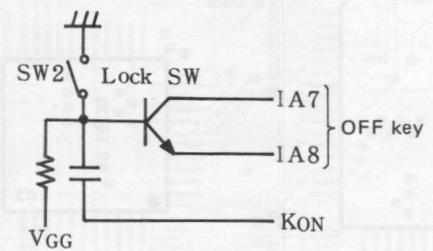
Parts and signal layout chart (memory PWB)



Jumper and subsidiary board circuit description

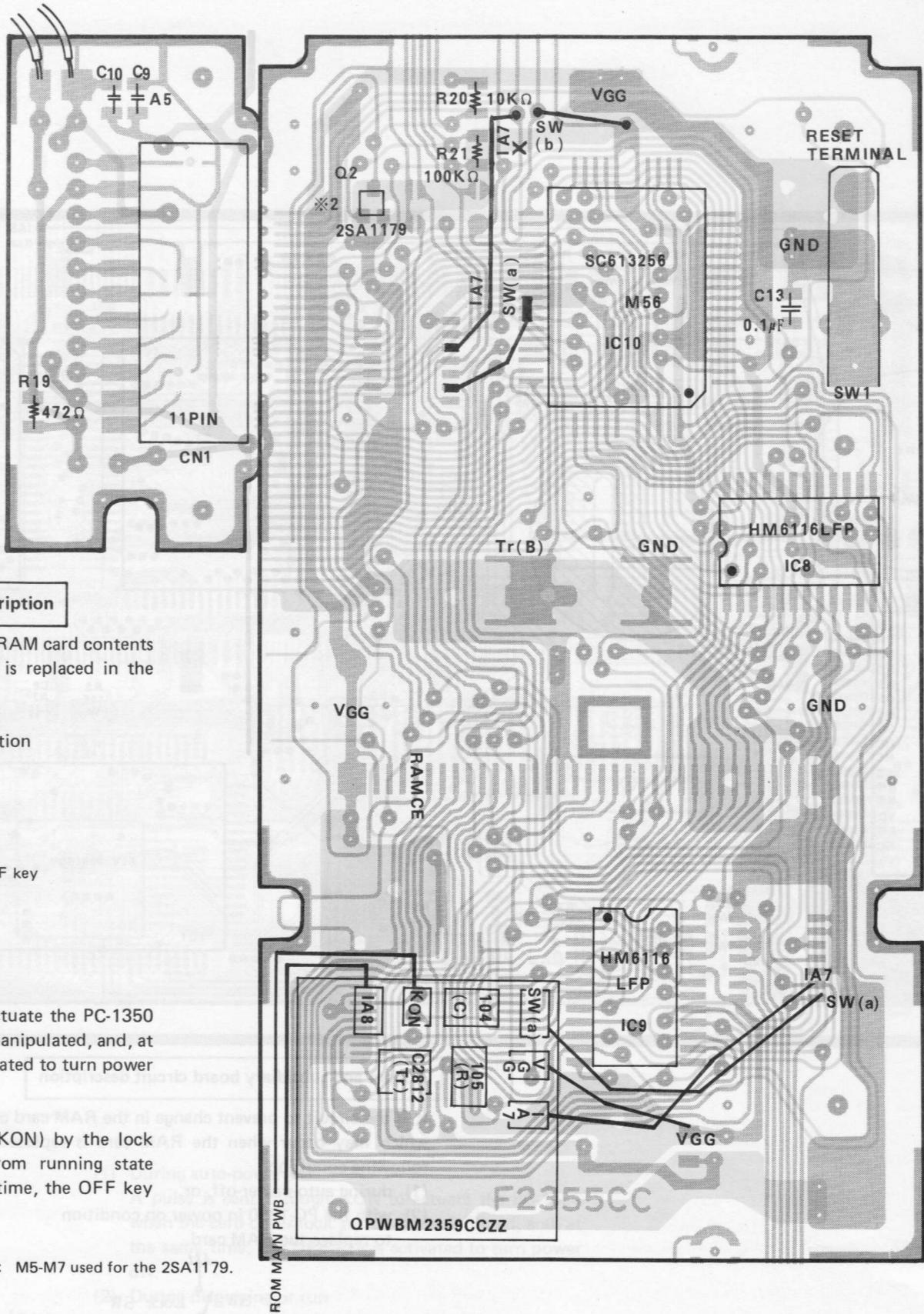
It is the circuit to prevent change in the RAM card which may occur when the RAM card is replaced following condition:

- (1) during auto-power-off, or,
 - (2) with the PC-1350 in power on condition to replace the RAM card.



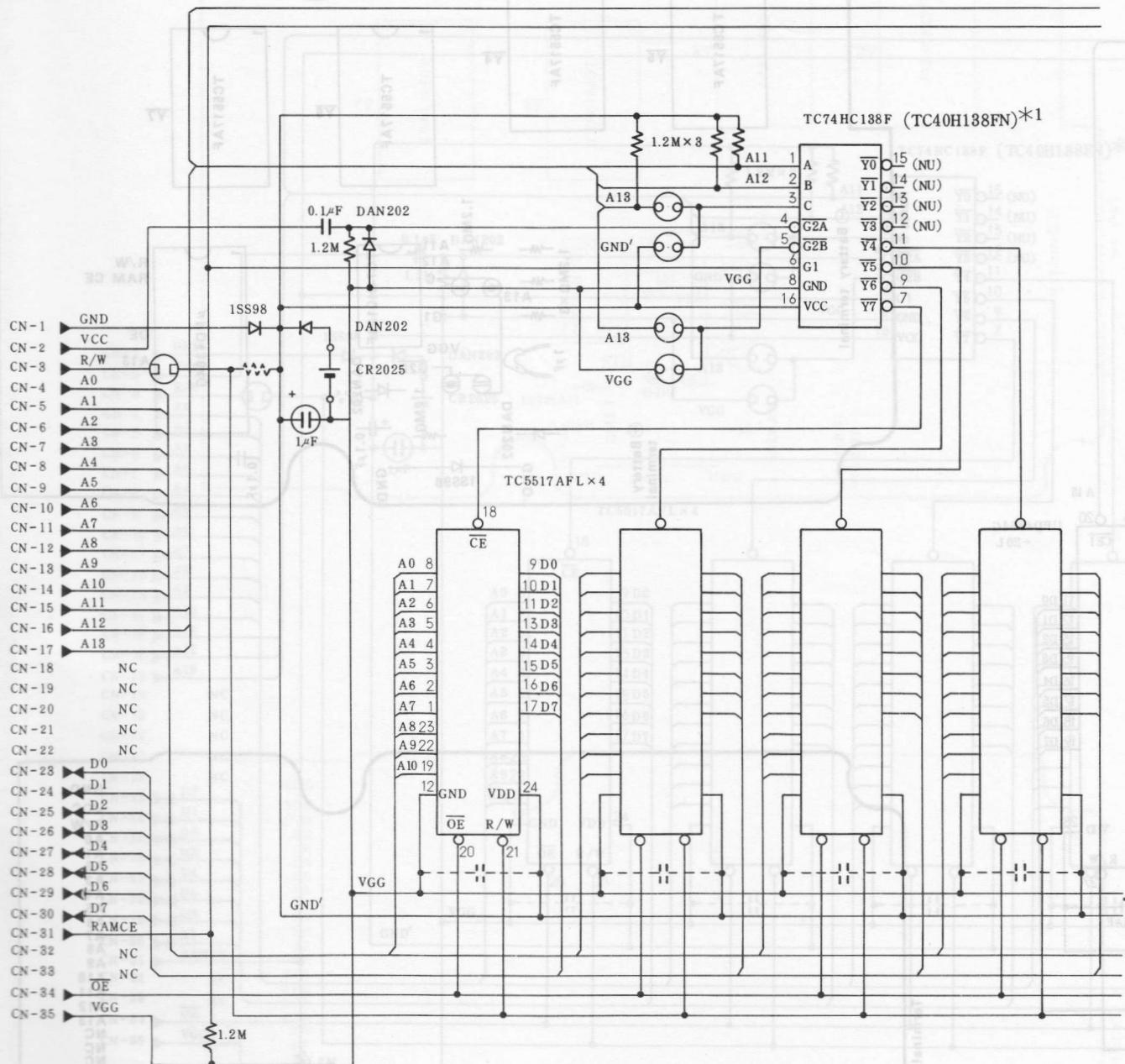
- (1) During auto-power-off
A pulse is sent through KON to actuate the
when the card cover lock switch is manipulated
the same time, the OFF key is activated to turn
off.
 - (2) During displaying or run
A pulse to the BRK key line (to KON) by
switch to release the PC-1350 from running
(BREAK action), and, at the same time, the C
is activated to turn power off.

*1: M5-M7 us

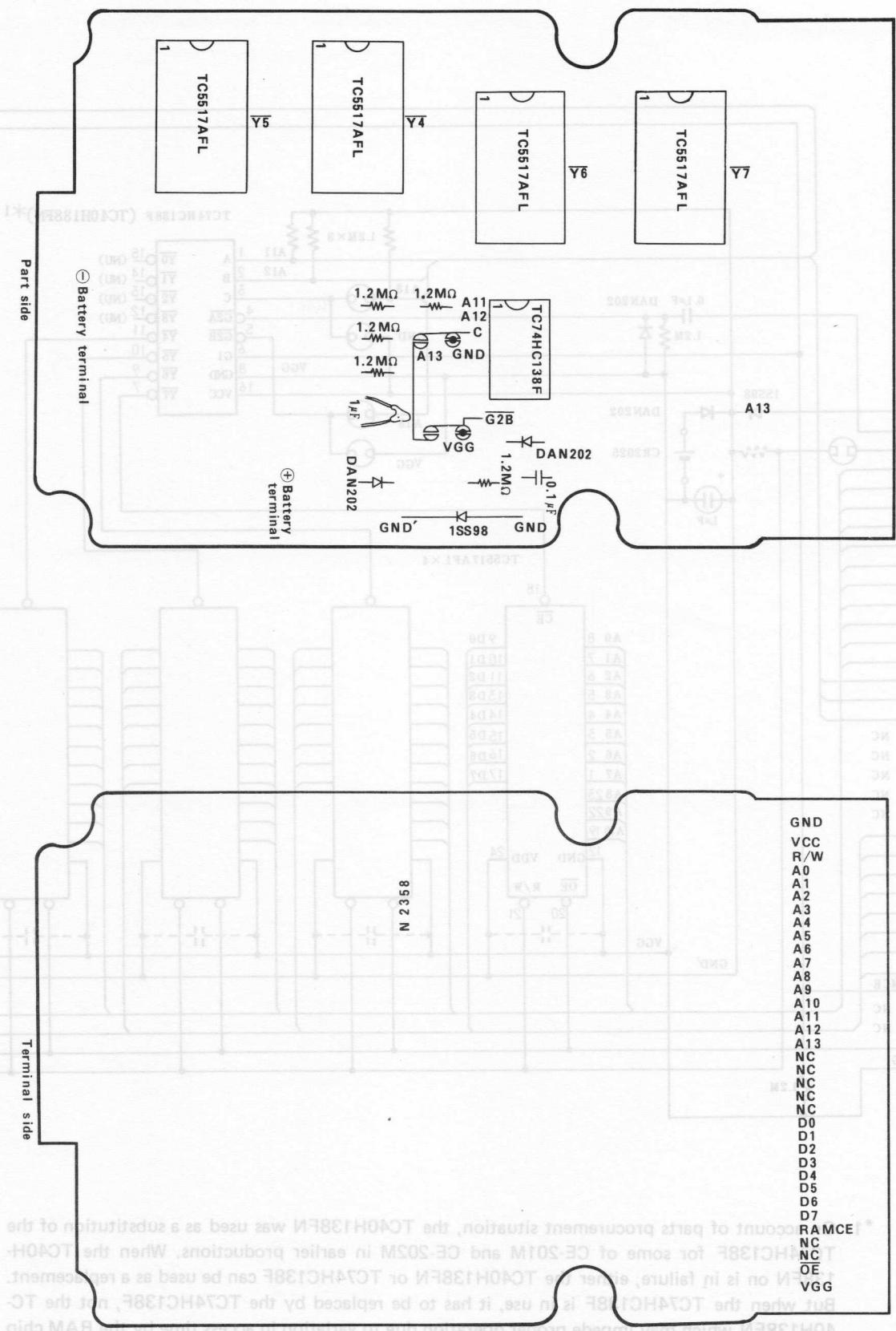


*1: M5-M7 used for the 2SA1179.

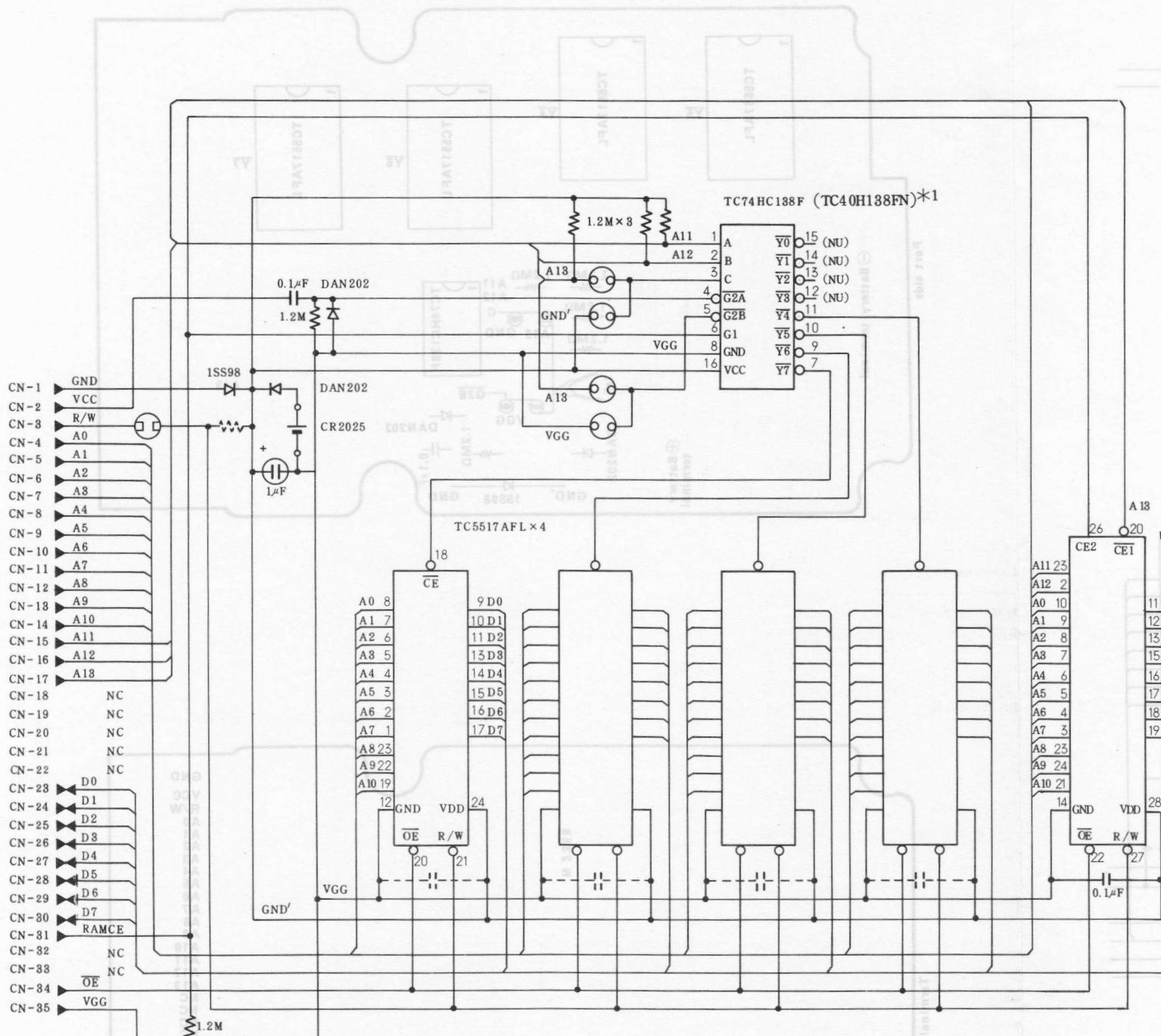
PC-1950
**12. CE-201M CIRCUIT DIAGRAM/PARTS LAYOUT CHART
 (FLAT PACKAGE LSI)**



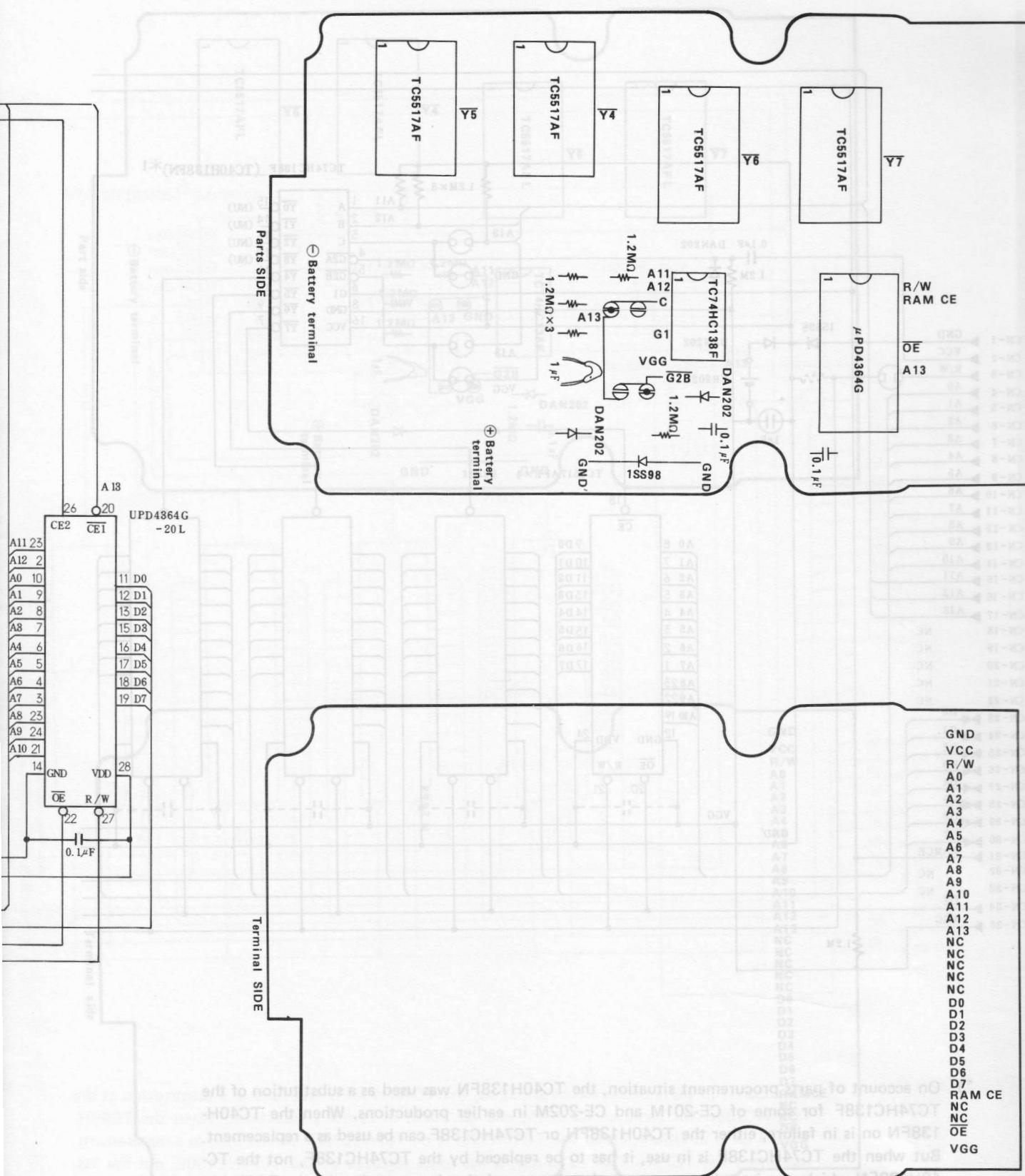
*1: On account of parts procurement situation, the TC40H138FN was used as a substitution of the TC74HC138F for some of CE-201M and CE-202M in earlier productions. When the TC40H-138FN is in failure, either the TC40H138FN or TC74HC138F can be used as a replacement. But when the TC74HC138F is in use, it has to be replaced by the TC74HC138F, not the TC-40H138FN which may impede proper operation due to variation in access time by the RAM chip used.



13. CE-202M CIRCUIT DIAGRAM/PARTS LAYOUT CHART (FLAT PACKAGE LSI)

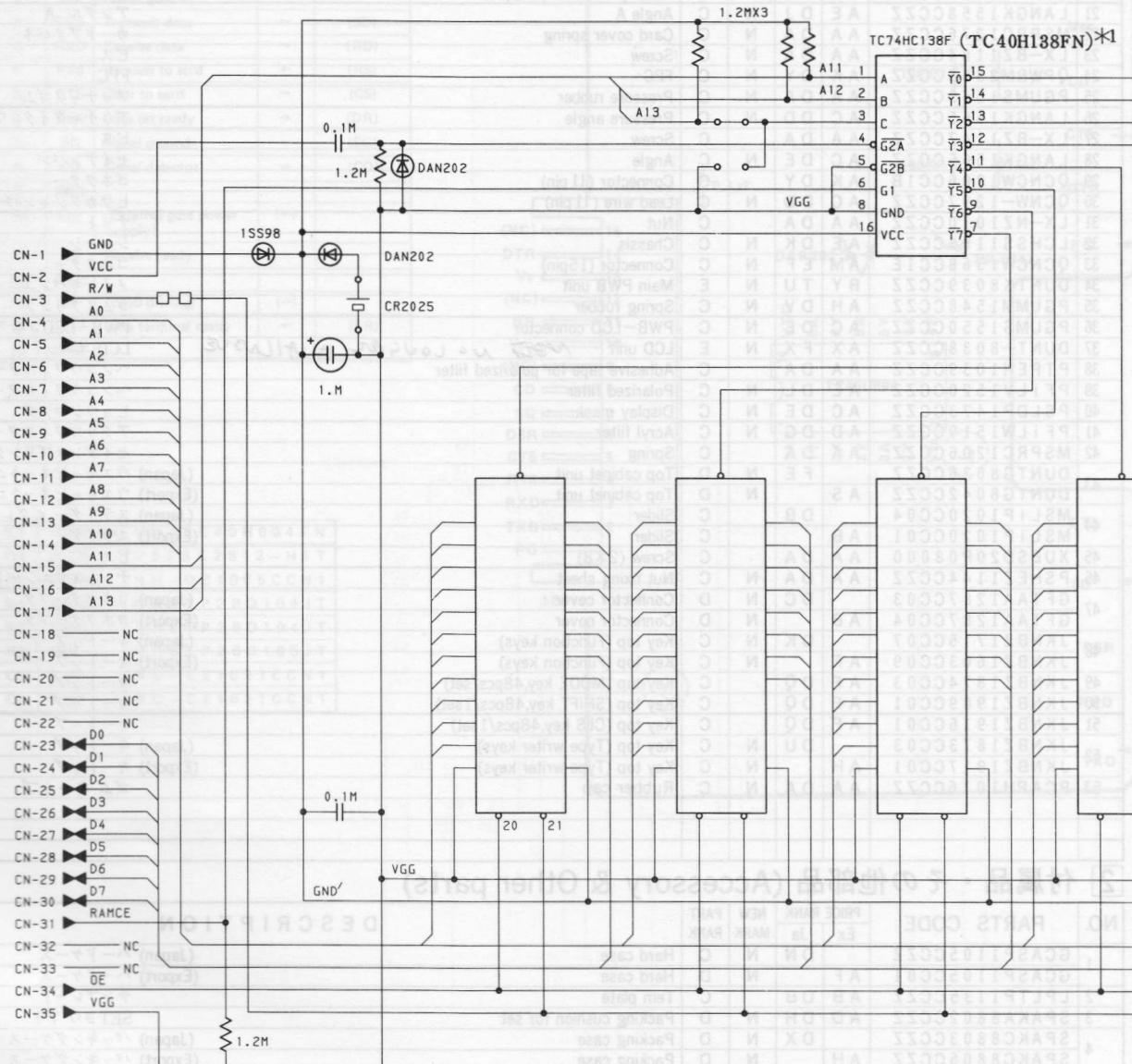


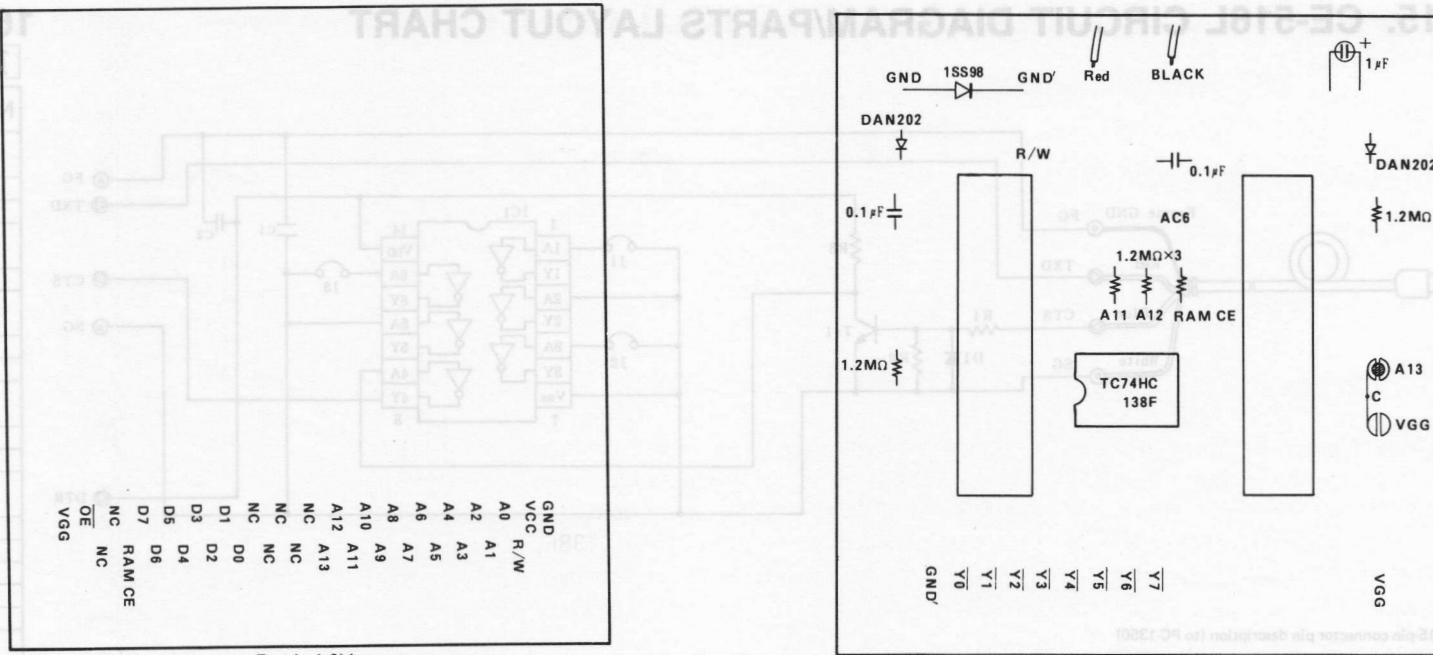
*1: On account of parts procurement situation, the TC40H138FN was used as a substitution of the TC74HC138F for some of CE-201M and CE-202M in earlier productions. When the TC40H-138FN is in failure, either the TC40H138FN or TC74HC138F can be used as a replacement. But when the TC74HC138F is in use, it has to be replaced by the TC74HC138F, not the TC-40H138FN which may impede proper operation due to variation in access time by the RAM chip used.



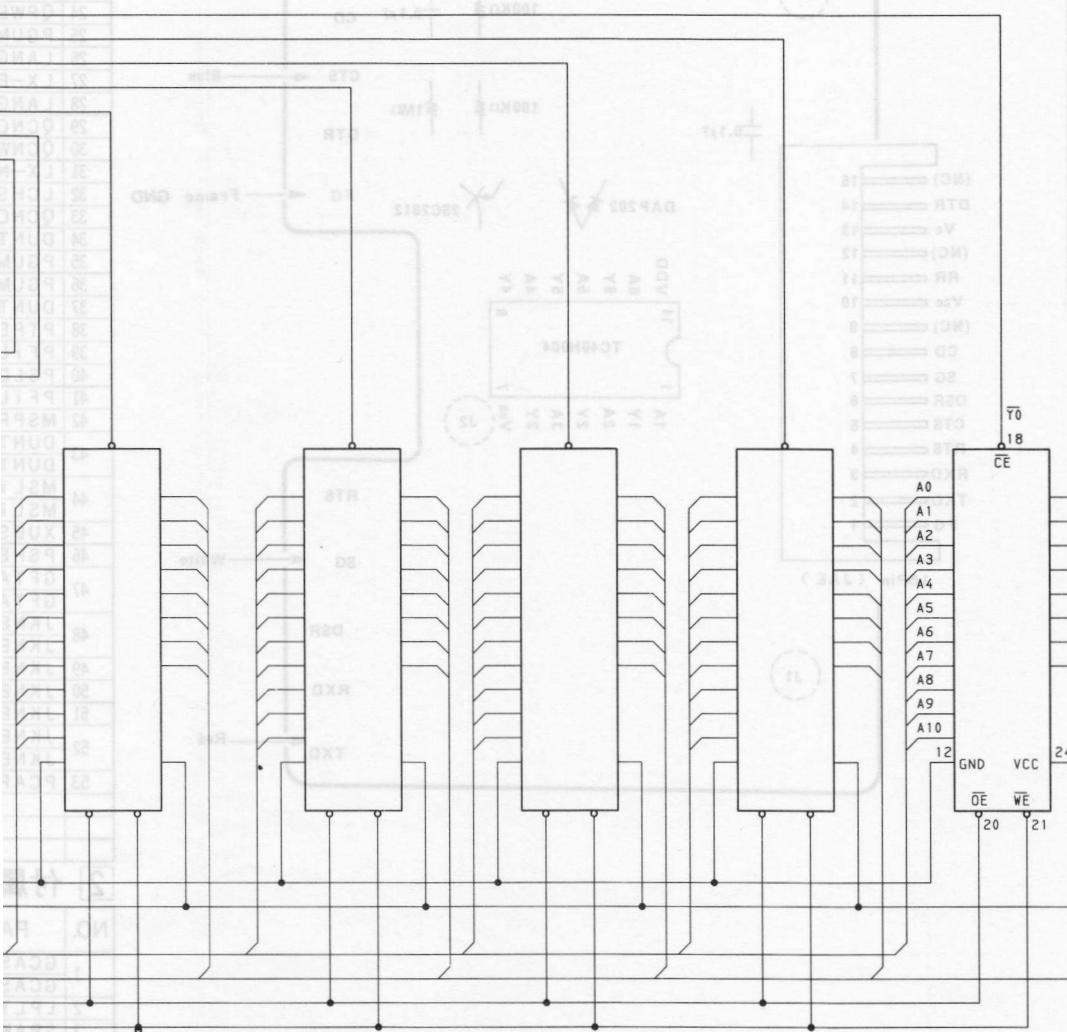
14. CE-202M CIRCUIT DIAGRAM/PARTS LAYOUT CHART (PCOS TYPE)

*1: On account of parts procurement situation, the TC40H138FN was used as a substitution of the TC74HC138F for some of CE-201M and CE-202M in earlier productions. When the TC40H-138FN is in failure, either the TC40H138FN or TC74HC138F can be used as a replacement. But when the TC74HC138F is in use, it has to be replaced by the TC74HC138F, not the TC-40H138FN which may impede proper operation due to variation in access time by the RAM chip used.

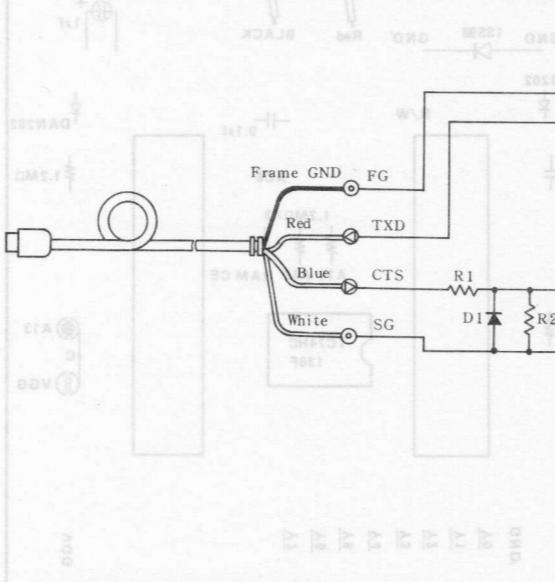




H138FN)*1



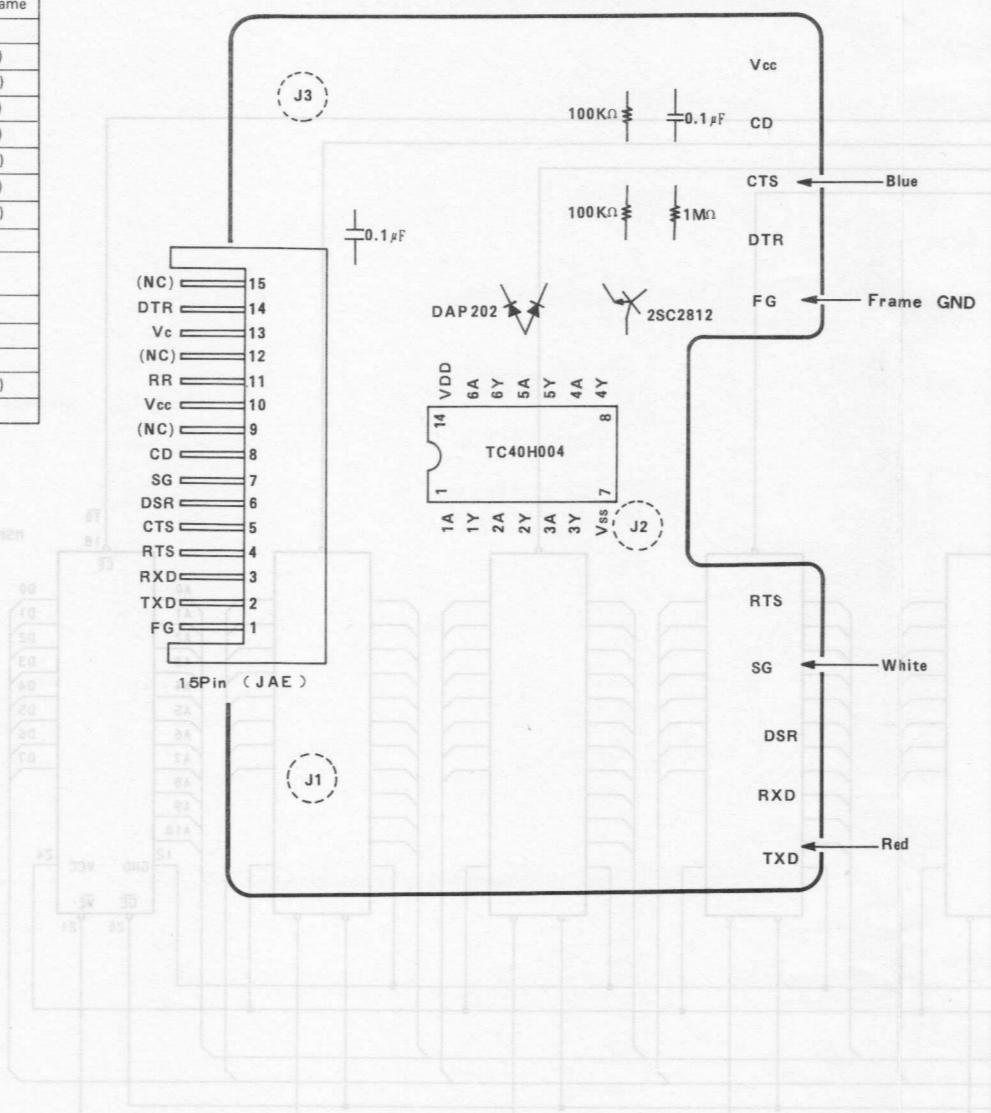
15. CE-516L CIRCUIT DIAGRAM/PARTS LAYOUT CHART



15-pin connector pin description (to PC-1350)

Pin No.	Signal name	Signal flow	PC-1350 side signal name
1	FG	Frame ground	
2	TXD	Transmit data	(SD)
3	RXD	Receive data	(RD)
4	RTS	Request to serd	(RS)
5	CTS	Clear to serd	(CS)
6	DSR	Data set ready	(DR)
7	SG	Signal ground	(SG)
8	CD	Signal detecto	(CD)
9	(NC)		
10	Vcc	(External gate power supply)	(-)
11	RR	Receive ready	(-)
12	(NC)		
13	Vc	(1350 driving)	(-)
14	DTR	Data terminal ready	(ER)
15	(NC)		

IC1	TC40H004	V H I T C 4 0 H 0 0 4 F N
Tr1	2SC2812	V S 2 S C 2 8 1 2 - H 1 T
D1	DAP202	R H - D Z 1 0 0 5 C C N 1
R1	100KΩ	V R S T P 2 B D 1 0 4 J T
R2	100KΩ	V R S T P 2 B D 1 0 4 J T
R3	1MΩ	V R S T P 2 B D 1 0 5 J T
C1	0.1μF	R C - C Z 1 0 2 1 C C N 1
C2	0.1μF	R C - C Z 1 0 2 1 C C N 1



16. PA

1 外觀

NO.	PA
1	GFTA
2	GFTA
3	HPNI
4	PTPE
5	LFI X
6	DUNT
7	DUNT
8	GLEN
9	QTAN
10	LHLD
11	LHLD
12	PGUN
13	MSL
14	MSL
15	PTPE
16	RALN
17	LX-1
18	DUNT
19	LX-E
20	QTAN
21	LANG
22	MSPF
23	LX-E
24	QPWE
25	PGUN
26	LANG
27	LX-E
28	LANG
29	QCNC
30	QCNV
31	LX-M
32	LCHS
33	QCNC
34	DUNT
35	PGUN
36	PGUN
37	DUNT
38	PTPE
39	PFIL
40	PSLE
41	PFIL
42	MSPF
43	DUNT
44	MSL
45	MSL
46	XUBS
47	GFTA
48	JKNE
49	JKNE
50	JKNE
51	JKNE
52	JKNE
53	PCA

2 付屬

NO.	PA
1	GCAS
2	GCAS
3	LPLT
4	SPA
5	SPA
6	TINS

16. PARTS LIST AND GUIDE

1 外観部品 (Exteriors)

NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	DESCRIPTION
		Ex	Ja			
1	GFTAU1309CCZZ	D L	N	D	C	Card cover (Japan) カードフタ (Export) カードフタ
	GFTAU1309CC01	A E	N	D	C	Card cover カードソウサチュウイパネル
2	HPNLC1044CCZZ	A B	D C	N	C	Operation caution panel パネルコティテープ
3	PTPEH1090CCZZ	A A	D A		C	Adhesive tape for panel (Japan) カードオサエイタ (Export) カードオサエイタ
4	LFI X-1190CCZZ		D D	N	C	Card fixing plate (Japan) カードオサエイタ (Export) カードオサエイタ
	LFI X-1190CC01	A C		N	C	Card fixing plate ビス
5	XBBSF20P08000	A A	D A		C	Screw (2×8) (Japan) ソコキャビネットユニット (Export) ソコキャビネットユニット
6	DUNTG8035CCZZ	E A	N	D	C	Bottom cabinet unit ゴムアン
	DUNTG8041CCZZ	A K		N	D	Bottom cabinet unit (Japan) デンゲンタンシ
7	GLEGG1031CCZZ	A A	D A	N	C	Rubber foot (Japan) コネクター・ホルダー (Export) コネクター・ホルダー
8	QTANZ1478CCZZ	A B	D B	N	C	Power terminal PWBカードコネクター
9	LHLDZ1215CCZZ		D D	N	C	Connector holder (Japan) スライド・スイッチ・ツマミ (Export) スライド・スイッチ・ツマミ
	LHLDZ1215CC01	A C		N	C	Connector holder ハツオンタイコティテープ
10	PGUMS1549CCZZ	A E	D K	N	C	PWB card connector ブザー
11	QCNTM1064CCZZ	A A	D A	N	C	Slide switch terminal ビス
12	MSL i P1031CCZZ		D C	N	C	Slide switch knob (Japan) ハツオンタイ (Export) ハツオンタイ
	MSL i P1031CC01	A C		N	C	Slide switch knob アッチャクイタ オサエ
13	PTPEH1213CCZZ	A B	D B		C	Tape アッチャクイタ オサエ
14	RALMB1030CCZZ	A D	D F	B		Buzzer アッチャクイタ オサエ
15	LX-BZ1116CCN1	A A	D A	N	C	Screw (2×4,5) ビス
16	LANGK1564CCZZ	A C	D D	N	C	Pressure angle アッチャクイタ オサエ
17	PSPAP1269CCZZ	A A	D A	N	C	Pressure spacer アッチャクイタ オサエ
18	DUNTK8040CCZZ	B S	N J	N	E	Memory PWB unit (ROM : LH535624) メモリーキバンユニット
	DUNTK8176CCZZ	B S	N J	N	E	Memory PWB unit (ROM : SC613256FG76) メモリーキバンユニット
19	LX-BZ1120CCZZ	A A	D A		C	Screw ビス
20	QTANZ1406CCZZ	A B	D C		C	Battery terminal (④) デンチタンシ
21	LANGK1558CCZZ	A E	D J	N	C	Angle A アングル A
22	MSPRC1276CCZZ	A A	D A	N	C	Card cover spring カーボタバネ
23	LX-BZ1184CCZZ	A A	D A	N	C	Screw ビス
24	QPWBM2359CCZZ	A K	D Y	N	C	FPC FPC
25	PGUMS1563CCZZ	A A	D A	N	C	Pressure rubber アッチャクゴム
26	LANGK1565CCZZ	A C	D D	N	C	Pressure angle アッチャクゴム
27	LX-BZ1147CCZZ	A A	D A		C	Screw ビス
28	LANGK1566CCZZ	A C	D E	N	C	Angle セイデンパン
29	QCNCW1306CC1B	A K	D Y		C	Connector (11pin) コネクター
30	QCNW-1297CCZZ	A C	D D	N	C	Lead wire (11pin) ヒラカラクションバー
31	LX-NZ1010CCZZ	A A	D A		C	Nut ナット
32	LCHSS1163CCZZ	A E	D K	N	C	Chassis シャーシ
33	QCNCW1368CC1E	A M	E F	N	C	Connector (15pin) コネクター
34	DUNTK8039CCZZ	B Y	T U	N	E	Main PWB unit メインキバンユニット
35	PGUMM1548CCZZ	A H	D V	N	C	Spring rubber ゴムスプリング
36	PGUMS1550CCZZ	A C	D E	N	C	PWB-LCD connector PWB-LCDコネクター
37	DUNT-8038CCZZ	A X	F X	N	E	LCD unit LCDユニット
38	PTPEH1039CCZZ	A A	D A		C	Adhesive tape for polarized filter ヘンコウフィルターコティテープ
39	P F i LW1520CCZZ	A E	D L	N	C	Polarized filter ヘンコウフィルター
40	PSLDP1473CCZZ	A C	D E	N	C	Display mask ヒョウジマスク
41	P F i LW1519CCZZ	A D	D G	N	C	Acryl filter アクリルフィルター
42	MSPRC1206CCZZ	A A	D A		C	Spring セイデンスプリング
43	DUNTG8036CCZZ		F E	N	D	Top cabinet unit (Japan) ウエキヤビネットユニット
	DUNTG8042CCZZ	A S		N	D	Top cabinet unit (Export) ウエキヤビネットユニット
44	MSL i P1020CC04		D B	N	C	Slider (Japan) スライダー <グレイ> (Export) スライダー
	MSL i P1020CC01	A B		N	C	Slider (Japan) キートップ
45	XUBSD20P08000	A A	D A		C	Screw (2×8) ビス
46	PSHEZ1144CCZZ	A A	D A	N	C	Nut fixing sheet ナットオサエシート
47	GFTAA1287CC03		D C	N	D	Connector cover (Japan) コネクター・フタ (Export) コネクター・フタ
	GFTAA1287CC04	A B		N	D	Connector cover (Japan) キートップ
48	JKNBZ1715CC07		D K	N	C	Key top (Function keys) (Japan) キートップ
	JKNBZ1603CC09	A F		N	C	Key top (Function keys) (Export) キートップ
49	JKNBZ1874CC03	A F	D Q		C	Key top (MODE key,48pcs/set) キートップ
50	JKNBZ1909CC01	A F	D Q		C	Key top (SHIFT key,48pcs/1set) キートップ
51	JKNBZ1916CC01	A F	D Q		C	Key top (CLS key,48pcs/1set) キートップ
52	JKNBZ1873CC03		D U	N	C	Key top (Type writer keys) (Japan) キートップ
	JKNBZ1917CC01	A H		N	C	Key top (Type writer keys) (Export) キートップ
53	PCAPH1016CCZZ	A A	D A	N	C	Rubber cap ゴムキャップ

2 付属品・その他部品 (Accessory & Other parts)

NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	DESCRIPTION
		Ex	Ja			
1	GCASP1105CCZZ		D N	N	C	Hard case (Japan) ハードケース (Export) ハードケース
	GCASP1105CC01	A F		N	D	Hard case テンプレート
2	LPLTP1135CCZZ	A B	D B		C	Tem plate SETヨウアド
3	SPAКА8802CCZZ	A D	D H	N	D	Packing cushion for set (Japan) パッキングケース
4	SPAΚC8803CCZZ		D X	N	D	Packing case (Export) パッキングケース
	SPAΚC8805CCZZ	A H		N	D	Packing case (Japan) トリアツカイセツメイショ
5	TiNSJ4217CCZZ		F Q	N	D	Instruction book (Export) トリアツカイセツメイショ
	TiNSE4219CCZZ	A V	F P	N	D	Instruction book (Japan) ソウサラベル
6	TLABH2027CCZZ		D C	N	C	Operation label (Japan) ソウサラベル

2 付属品・その他部品 (Accessory & Other parts)

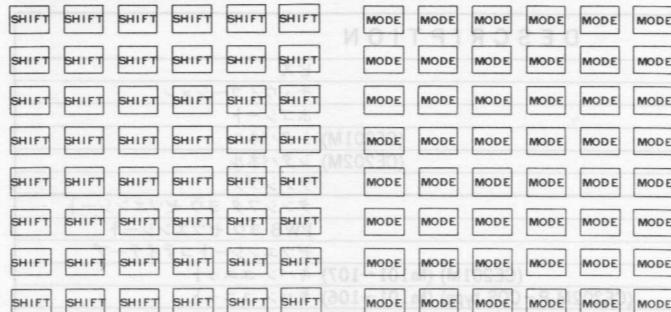
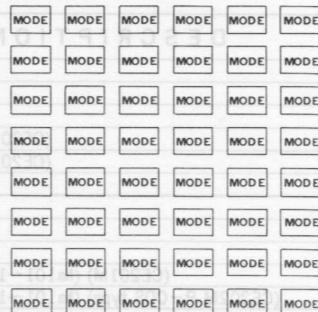
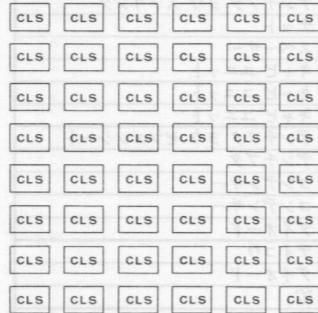
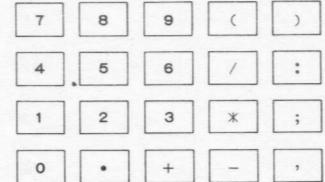
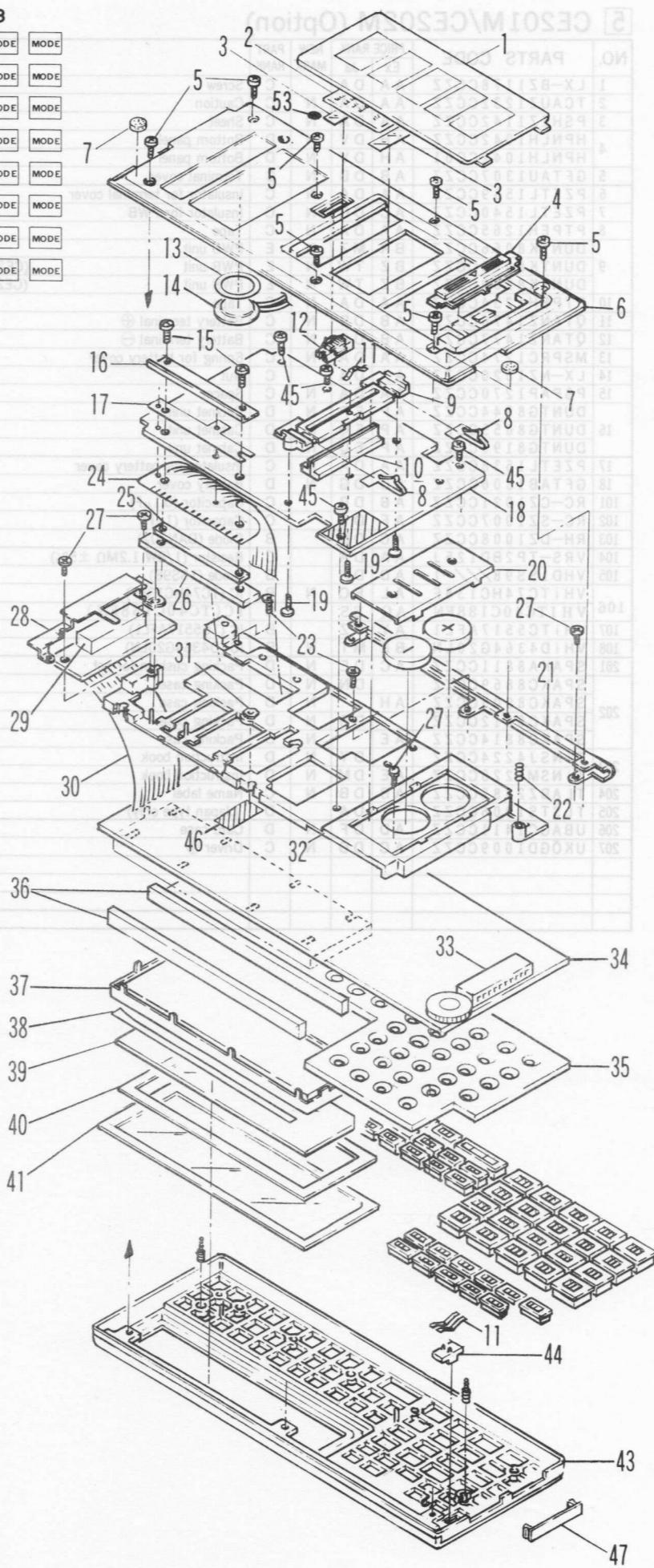
NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	DESCRIPTION	
		Ex	Ja				
6	TLABH2028CCZZ	A C		N	C	Operation label	(Export) ソウサラベル
7	TLABJ1083CCZZ	A A D A			C	Label (U.K. only) (Made in Japan)	ゲンサンチラベル
8	TLABZ1295CCZZ	A A D A			C	Name label	ネーム ラベル
9	TLSTS1006CCZZ		D A		D	(Japan type only)	サービスリスト
10	TCADZ1689CCZZ		D D		D	Card (Japan type only)	ハンソクカード

3 メイン基板ユニット (Main PWB unit)

NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	DESCRIPTION	
		Ex	Ja				
1	DUNT-8038CCZZ	A X F X		N	E	LCD unit	LCD ユニット
2	MSPRC1277CCZZ	A A D A		N	C	Connector spring	コネクターパネ
3	PGUMS1550CCZZ	A C D E		N	C	PWB-LCD Connector	PWB-LCDコネクタ
4	PZETL1313CCZZ	A A D A			C	Spacer (Round)	スペーサー
5	QCNCW1368CC1E	A M E F		N	C	Connector (15pin)	コネクター
6	QPWBM2359CCZZ	A K D Y		N	C	FPC	FPC
7	QTANZ1289CCZZ	A B D B			C	Battery terminal	バッテリータンシ
8	RC-CZ1021CCZZ	A B D B			C	Capacitor ($0.1\mu F$)	コンデンサー
9	RC-CZ1035CCZZ	A C D D			C	Capacitor (100pF)	コンデンサー
10	RC-CZ1037CCZZ	A B D B			C	Capacitor ($0.01\mu F$)	コンデンサー
11	RC-CZ1047CCZZ	A B D B			C	Capacitor ($0.033\mu F$)	コンデンサー
12	RC-SZ1007CCZZ	A F D L			C	Capacitor ($1\mu F$)	コンデンサー
13	RC-SZ1021CCZZ	A C D E			C	Capacitor (10WV 3.3 μF)	コンデンサー
14	RCRSZ1063CCZZ	A F D M			B	Crystal (768KHz)	クリスタル
15	RH-DZ1005CCZZ	A C D C			B	Diode (DAP202)	ダイオード
16	RVR-Z2400QCZZ	A F D N			B	Variable resistor	ポリウム
17	VH-SC43537LDN	A W F S			B	IC (SC43537LDN)	IC
18	VH-SC60220/-1	A W F T			B	IC (SC60220)	IC
19	VH-SC61860A13	B B G L			B	IC (SC61860A13)	IC
20	VRS-TP2BD100J	A A D A			C	Resistor (1/8W 10Ω ±5%)	ティコウ
21	VRS-TP2BD103J	A A D A			C	Resistor (1/8W 10KΩ ±5%)	ティコウ
22	VRS-TP2BD104J	A A D A			C	Resistor (1/8W 100KΩ ±5%)	ティコウ
23	VRS-TP2BD105J	A A D A			C	Resistor (1/8W 1.0MΩ ±5%)	ティコウ
24	VRS-TP2BD303J	A A D A			C	Resistor (1/8W 30KΩ ±5%)	ティコウ
25	VS2SC2812-H-1	A B D C			B	Transistor	トランジスター
ユニット (Unit)							
901	DUNTK8039CCZZ	B Y T U		N	E	Main PWB unit	メインキバンユニット

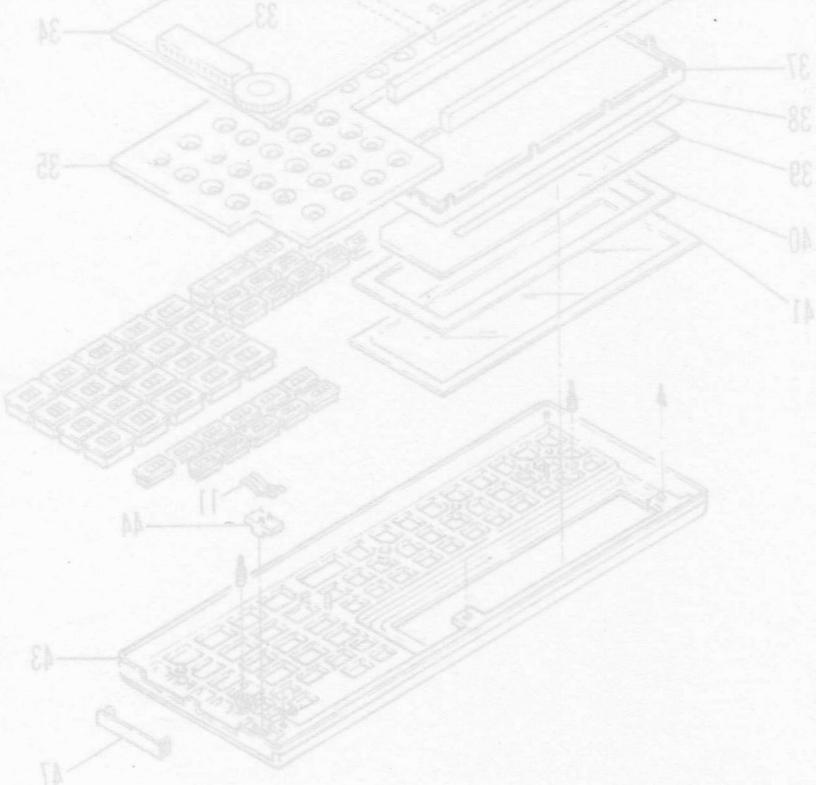
4 メモリー基板ユニット (Memory PWB unit)

NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	DESCRIPTION	
		Ex	Ja				
1	QCNCW1306CC1B	A K D Y			C	Connector (11pin)	コネクター
2	QCNTM1051CCZZ	A B D B			C	Reset terminal	リセット タンシ
3	QCNW-1297CCZZ	A C D D		N	C	Lead wire (12pin)	ヒラカクジャンパー
4	QTANZ1478CCZZ	A B D B		N	C	Power terminal	デンゲンタンシ
5	RC-CZ1021CCZZ	A B D B			C	Capacitor ($0.1\mu F$)	コンデンサー
6	RH-TX1017CCN1	A B D B			B	Transistor	トランジスター
7	VCTYPU1NX104M	A B D B			C	Capacitor (12WV 0.10 μF)	コンデンサー
8	VH-IM6116//C	A Z G G			B	IC (HM6116)	IC
9	VH-LH535624-1	B K H V		N	B	IC (LH535624)	IC
10	VH-613256FM56	B K H V		N	B	IC (613256FM56)	IC
11	VRD-ST2BY472J	A A D A			C	Resistor (1/8W 4.7KΩ ±5%)	ティコウ
12	VRS-TP2BD103J	A A D A			C	Resistor (1/8W 10KΩ ±5%)	ティコウ
13	VRS-TP2BD104J	A A D A			C	Resistor (1/8W 100KΩ ±5%)	ティコウ
14	VRS-TP2BD472J	A A D A			C	Resistor (1/8W 4.7KΩ ±5%)	ティコウ
ユニット (Unit)							
901	DUNTK8040CCZZ	B S N J		N	E	Memory PWB unit (ROM : LH535624)	メモリーキバンユニット
	DUNTK8176CCZZ	B S N J		N	E	Memory PWB unit (ROM : SC613256FG76)	メモリーキバンユニット
902	DUNTK8295CCZZ	A G D S		N	E	Sub PWB unit	カメリキバン ユニット

JKNBZ1909CC01**JKNBZ1874CC03****JKNBZ1916CC01****(Japan) JKNBZ1715CC07****(Japan) JKNBZ1873CC03****(EX.) JKNBZ1603CC09****(EX.) JKNBZ1917CC01**

5 CE201M/CE202M (Option)

NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	DESCRIPTION
		Ex	Ja			
1	LX-BZ1178CCZZ	A A	D A	C	C	Screw ピス
2	TCAUZ1232CCZZ	A A	D A	N	C	Caution チュウイコーション
3	PSHEZ1142CCZZ	A A	D A	N	C	Sheet ホゴシート
4	HPNLH1042CCZZ	A H	D V	N	D	Bottom panel (CE201M) シタパネル
	HPNLH1042CC01	A H	D V	N	D	Bottom panel (CE202M) シタパネル
5	GFTAU1307CCZZ	A B	D B	N	C	Terminal cover タンシブタ
6	PZETL1539CCZZ	A A	D A	N	C	Insulator for terminal cover タンシフタヨウゼツエンシート
7	PZETL1540CCZZ	A C	D C	N	C	Insulator for PWB PWBヨウゼツエンシート
8	PTPEH1265CCZZ	A A	D A	N	C	Tape ゼツエンシートコティテープ
	DUNTK8066CCZZ	B R	M Z	N	E	PWB unit (CE201M) (No.101~107) キバンユニット
9	DUNTK8045CCZZ	B Z	T W	N	E	PWB unit (CE202M P-COS type) (No.101~106) キバンユニット
	DUNTK8200CCZZ	B Z	T W	N	E	PWB unit (CE202M Flat LSI type) (No.101~108) キバンユニット
10	PTPEH1254CCZZ	A A	D A	N	C	Tape (CE201M・CE202M Flat LSI type) キバンハリツケテープ
11	QTANZ1476CCZZ	A B	D B	N	C	Battery terminal + デンチタンシ
12	QTANZ1477CCZZ	A B	D C	N	C	Battery terminal - デンチタンシ
13	MSPRC1274CCZZ	A A	D A	N	C	Spring for battery cover デンチブタヨウスプリング
14	LX-NZ1020CCZZ	A A	D A		C	Nut ナット
15	PSPAP1270CCZZ	A A	D A	N	C	Spacer (CE201M・CE202M Flat LSI type) スペーサー
	DUNTG8044CCZZ	A P	E P	N	D	Cabinet unit (CE201M) キャビユニット
16	DUNTG8055CCZZ	A P	E Q	N	D	Cabinet unit (CE202M P-COS type) キャビユニット
	DUNTG8199CCZZ	A P	E Q	N	D	Cabinet unit (CE202M Flat LSI type) キャビユニット
17	PZETL1538CCZZ	A A	D A	N	C	Insulator for battery cover デンチフタヨウゼツエンシート
18	GFTAB1306CCZZ	A D	D G	N	D	Battery cover デンチブタ
101	RC-CZ1021CCZZ	A B	D B		C	Capacitor (0.1μF) コンデンサー
102	RC-SZ1007CCZZ	A F	D L		C	Capacitor (1μF) コンデンサー
103	RH-DZ1008CCZZ	A C	D D		B	Diode (DAN202) ダイオード
104	VRS-TP2BD125J	A A	D A		C	Resistor (1/8W 1.2MΩ ±5%) テイコウ
105	VHD1SS98///-1	A D	D H		B	Diode (1SS98) ダイオード
	VH1TC74HC138F	A L	E C	N	B	IC (TC74HC138F) IC
106	VH1TC40C138FN	A Q	E S		B	IC (TC40C138FN) IC
107	VH1TC5517AFL1	A Y	F Z		B	IC (TC5517AFL1) (CE201M・CE202M Flat LSI type) IC
108	VH1D4364G20LN	B R	M T	N	B	IC (D4364G20LN) (CE202M Flat LSI type) IC
201	SPAKA8811CCZZ	A C	D E	N	D	Packing cushion for set SETヨウアド
	SPAKC8869CCZZ		D N	N	D	Packing case (CE201M)(Japan) パッキングケース
	SPAKC8905CCZZ	A H		N	D	Packing case (CE201M)(Export) パッキングケース
	SPAKC8812CCZZ		D S	N	D	Packing case (CE202M)(Japan) パッキングケース
	SPAKC8814CCZZ	A E		N	D	Packing case (CE202M)(Export) パッキングケース
203	TINSJ4224CCZZ		D Y	N	D	Instruction book (Japan) トリアツカイセツメイショ
	TINSM4225CCZZ	A E	D M	N	D	Instruction book (Export) トリアツカイセツメイショ
204	TLABZ2082CCZZ	A B	D B	N	C	Name label ネームラベル
205	TLSTS1006CCZZ		D A		D	(Japan type only) サービスリスト
206	UBAGC1411CCZZ	A D	D F	N	D	Card case カードケース
207	UKOGD1009CCZZ	A C	D D	N	C	Driver + ドライバー

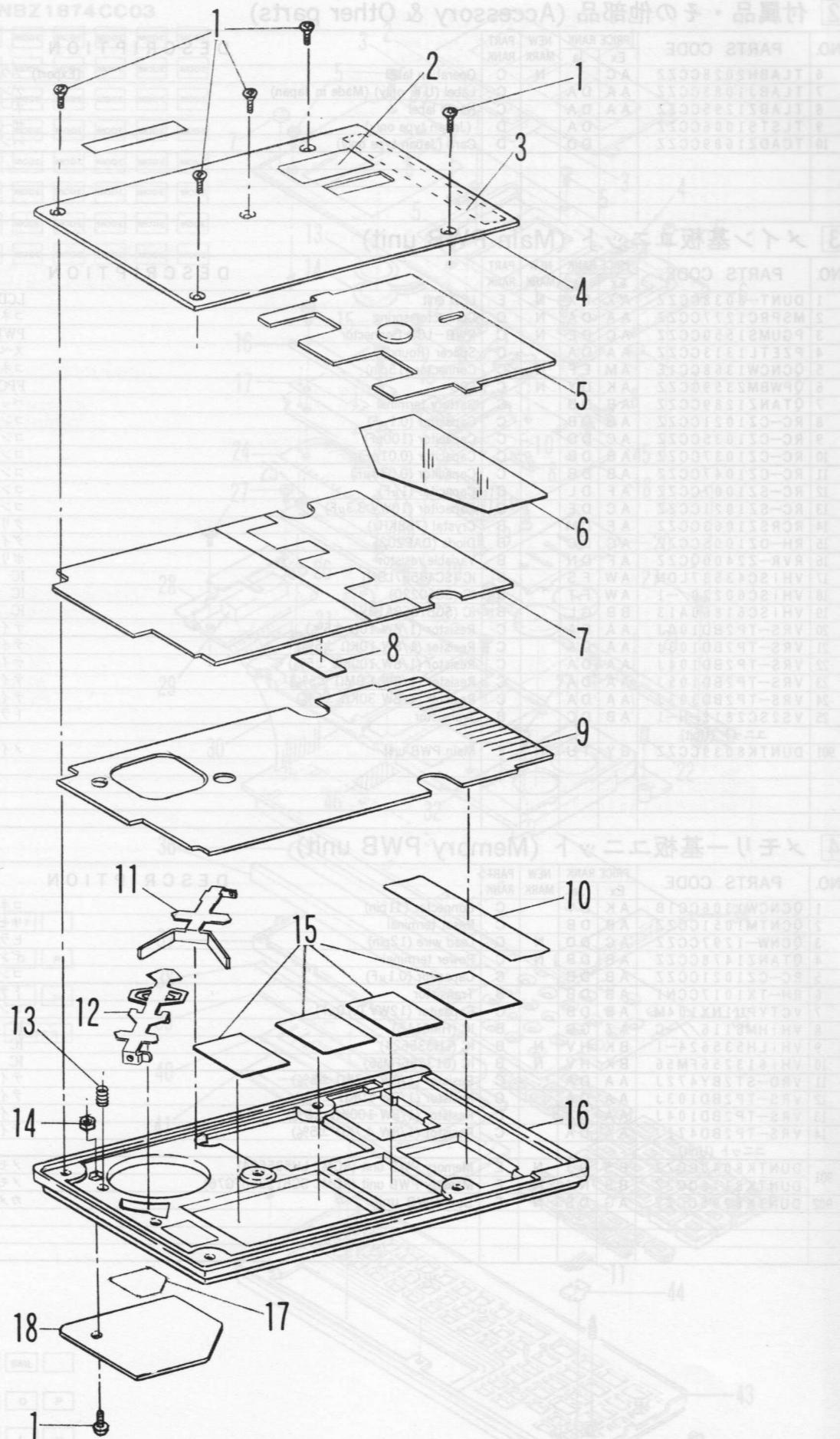


CE201/CE202 TKNBZ1803CC03



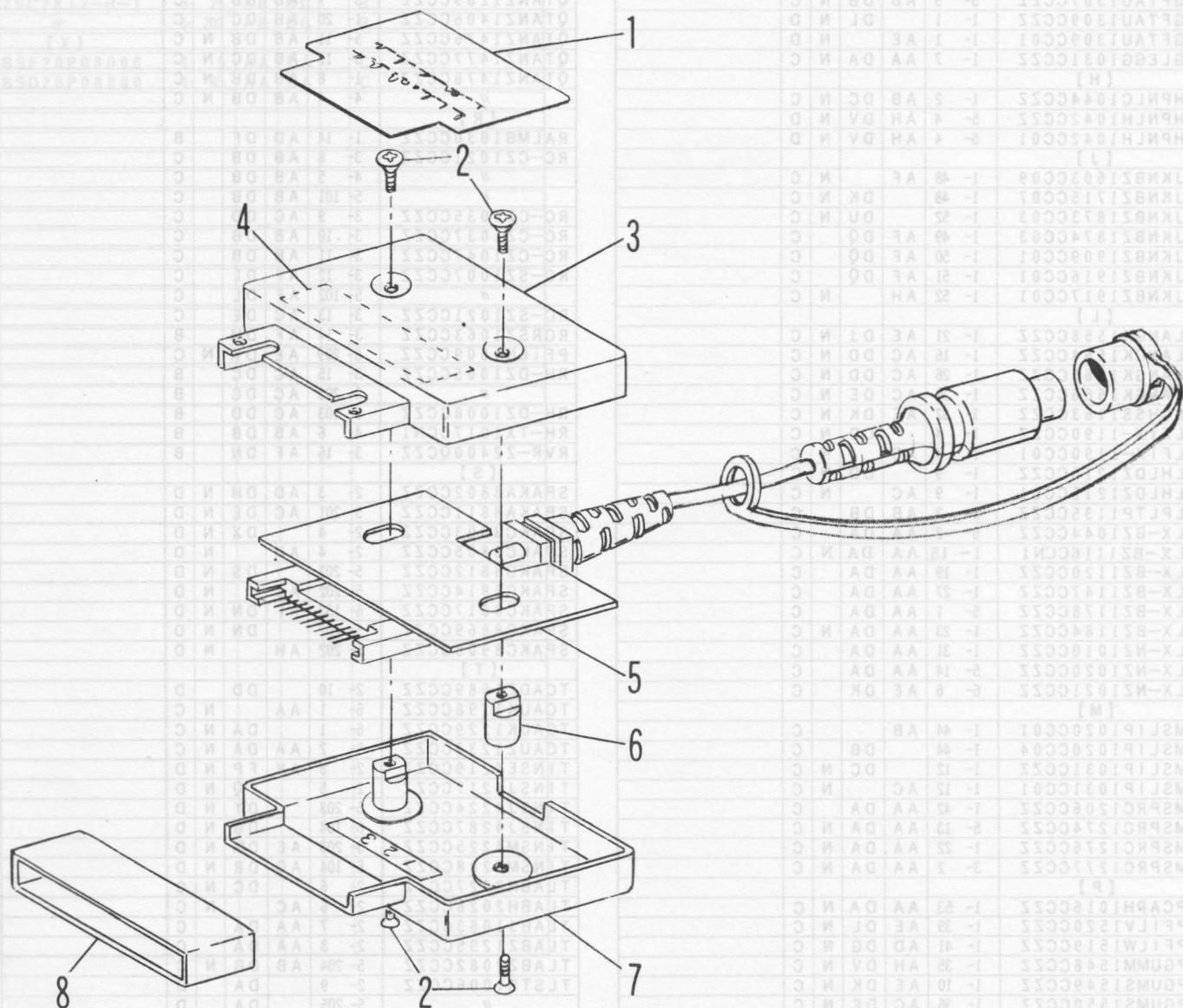
CE201/CE202 TKNBZ1803CC04





6 CE516L (Option)

NO.	PARTS CODE	PRICE RANK		NEW MARK	PART RANK	PARTS CODE	DESCRIPTION
		Ex	Ja				
1	TCAUK1229CCZZ	D	A	N	C	Caution card	(Japan) チュウイカード (Export) チュウイカード
	TCAUK1198CCZZ	A	A	N	C	Caution card	
2	LX-BZ1044CCZZ	A	A	D	A	Screw	ビス
3	GCABB2811CCZZ	A	H	DW	N	Top cabinet	ウエキャビネット
4	PZETL1551CCZZ	A	A	D	A	Insulator	ゼツエンシート
5	DUNTK8057CCZZ	A	Y	FZ	N	PWB unit	キバンユニット
6	LX-NZ1021CCZZ	A	E	DK	C	Nut	ナット
7	GCABA2810CCZZ	A	H	DW	N	Bottom cabinet	ソコキャビネット
8	PHÖG-1093CCZZ	A	B	DC	C	Rubber cap for 11pin connector cable	11pin コネクター ケーブルヨウ ゴムキャップ
101	QCNCM1367CC1E	A	K	E	A	Connector (15pin)	コネクター
102	QCNW-1298CCZZ	A	R	F	A	Lead wire	リードワイヤー
103	SPAKC8817CCZZ	A	F	D	N	Packing case	パッキングケース
104	TiNSJ4287CCZZ		DG	N	D	Instruction book	(Japan) トリアツカイセツメイショ (Export) トリアツカイセツメイショ
TiNSM4288CCZZ	A	G	DR	N	D	Instruction book	
105	UBNDA1008CCZZ	A	A	D	A	Cord band	コードバンド
201	VH-TC40H004FN	A	F	DP	B	IC (TC40H004FN)	[IC1] IC
202	VS2SC2812-H-1	A	B	DC	B	Transistor (2SC2812)	[TR1] ランジスター
203	RH-DZ1005CCZZ	A	C	DC	B	Diode (DAP202)	[D1] ダイオード
204	VRS-TP2BD104J	A	A	DA	C	Resistor (1/8W 100KΩ ±5%)	[R1] テイコウ
205	VRS-TP2BD104J	A	A	DA	C	Resistor (1/8W 100KΩ ±5%)	[R2] テイコウ
206	VRS-TP2BD105J	A	A	DA	C	Resistor (1/8W 1.0MΩ ±5%)	[R3] テイコウ
207	RC-CZ1021CCN1	A	A	DA	C	Capacitor 0.1μF	[C1] コンデンサー
208	RC-CZ1021CCN1	A	A	DA	C	Capacitor 0.1μF	[C2] コンデンサー
209	PFILN1009CCZZ	A	E	DK	N	Coil	コイル



■索引 (Index)

PARTS CODE	NO.	PRICE R. Ex. Ja.	NEW P/R	
【 D 】				
DUNT-8038CCZZ	1- 37	A X F X N E		
//	3- 1	A X F X N E		
DUNTG8035CCZZ	1- 6	E A N D		
DUNTG8036CCZZ	1- 43	F E N D		
DUNTG8041CCZZ	1- 6	A K N D		
DUNTG8042CCZZ	1- 43	A S N D		
DUNTG8044CCZZ	5- 16	A P E P N D		
DUNTG8055CCZZ	5- 16	A P E Q N D		
DUNTG8199CCZZ	5- 16	A P E Q N D		
DUNTK8039CCZZ	1- 34	B Y T U N E		
//	3- 901	B Y T U N E		
DUNTK8040CCZZ	1- 18	B S N J N E		
//	4- 901	B S N J N E		
DUNTK8045CCZZ	5- 9	B Z T W N E		
DUNTK8057CCZZ	6- 5	A Y F Z N E		
DUNTK8066CCZZ	5- 9	B R M Z N E		
DUNTK8176CCZZ	1- 18	B S N J N E		
//	4- 901	B S N J N E		
DUNTK8200CCZZ	5- 9	B Z T W N E		
DUNTK8295CCZZ	4- 902	A G D S N E		
【 G 】				
GCABA2810CCZZ	6- 7	A H D W N D		
GCABB2811CCZZ	6- 3	A H D W N D		
GCASP1105CCZZ	2- 1	D N N C		
GCASP1105CC01	2- 1	A F N D		
GFTAA1287CC03	1- 47	D C N D		
GFTAA1287CC04	1- 47	A B N D		
GFTAB1306CCZZ	5- 18	A D D G N D		
GFTAU1307CCZZ	5- 5	A B D B N C		
GFTAU1309CCZZ	1- 1	D L N D		
GFTAU1309CC01	1- 1	A E N D		
GLEGG1031CCZZ	1- 7	A A D A N C		
【 H 】				
HPNLC1044CCZZ	1- 2	A B D C N C		
HPNLH1042CCZZ	5- 4	A H D V N D		
HPNLH1042CC01	5- 4	A H D V N D		
【 J 】				
JKNBZ1603CC09	1- 48	A F N C		
JKNBZ1715CC07	1- 48	D K N C		
JKNBZ1873CC03	1- 52	D U N C		
JKNBZ1874CC03	1- 49	A F D Q C		
JKNBZ1909CC01	1- 50	A F D Q C		
JKNBZ1916CC01	1- 51	A F D Q C		
JKNBZ1917CC01	1- 52	A H N C		
【 L 】				
LANGK1558CCZZ	1- 21	A E D J N C		
LANGK1564CCZZ	1- 16	A C D D N C		
LANGK1565CCZZ	1- 26	A C D D N C		
LANGK1566CCZZ	1- 28	A C D E N C		
LCHSS1163CCZZ	1- 32	A E D K N C		
L FIX-1190CCZZ	1- 4	D D N C		
L FIX-1190CC01	1- 4	A C N C		
LHLDZ1215CCZZ	1- 9	D D N C		
LHLDZ1215CC01	1- 9	A C N C		
LPLTP1135CCZZ	2- 2	A B D B C		
LX-BZ1044CCZZ	6- 2	A A D A C		
LX-BZ1116CCN1	1- 15	A A D A N C		
LX-BZ1120CCZZ	1- 19	A A D A C		
LX-BZ1147CCZZ	1- 27	A A D A C		
LX-BZ1178CCZZ	5- 1	A A D A C		
LX-BZ1184CCZZ	1- 23	A A D A N C		
LX-NZ1010CCZZ	1- 31	A A D A C		
LX-NZ1020CCZZ	5- 14	A A D A C		
LX-NZ1021CCZZ	6- 6	A E D K C		
【 M 】				
MSLIP1020CC01	1- 44	A B C		
MSLIP1020CC04	1- 44	D B C		
MSLIP1031CCZZ	1- 12	D C N C		
MSLIP1031CC01	1- 12	A C N C		
MSPRC1206CCZZ	1- 42	A A D A C		
MSPRC1274CCZZ	5- 13	A A D A N C		
MSPRC1276CCZZ	1- 22	A A D A N C		
MSPRC1277CCZZ	3- 2	A A D A N C		
【 P 】				
PCAPH1016CCZZ	1- 53	A A D A N C		
PFILV1520CCZZ	1- 39	A E D L N C		
PFILW1519CCZZ	1- 41	A D D G N C		
PGUMM1548CCZZ	1- 35	A H D V N C		
PGUMS1549CCZZ	1- 10	A E D K N C		
PGUMS1550CCZZ	1- 36	A C D E N C		
//	3- 3	A C D E N C		
PGUMS1563CCZZ	1- 25	A A D A N C		

PARTS CODE	NO.	PRICE R. Ex. Ja.	NEW P/R	
【 T 】				
TCADZ1689CCZZ	2- 10	D D D		
TCAUK1198CCZZ	6- 1	A A N C		
TCAUK1229CCZZ	6- 1	D A N C		
TCAUZ1232CCZZ	5- 2	A A D A N C		
TINSE4219CCZZ	2- 5	A V F P N D		
TINSJ4217CCZZ	2- 5	F Q N D		
TINSJ4224CCZZ	5- 203	D Y N D		
TINSJ4287CCZZ	6- 104	D G N D		
TINSM4225CCZZ	5- 203	A E D M N D		
TINSM4288CCZZ	6- 104	A G D R N D		
TLABH2027CCZZ	2- 6	D C N C		
TLABH2028CCZZ	2- 6	A C N C		
TLABJ1083CCZZ	2- 7	A A D A C		
TLABZ1295CCZZ	2- 8	A A D A C		
TLABZ2082CCZZ	5- 204	A B D B N C		
TLSTS1006CCZZ	2- 9	D A D D		
//	5- 205	D A D D		

SHARP

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SUPPLEMENT & CORRECTION

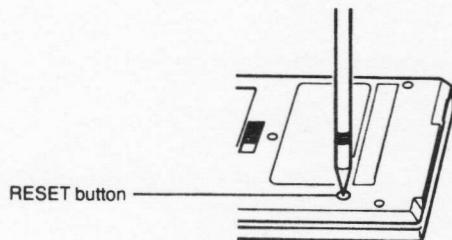
Supplement

Checking the operation when replacing the battery cells

After replacing the cells, perform the following operations.

Be sure to remove the RAM card before initialization.

- ① Turn on the computer by setting the power slide switch to the ON position and press the RESET button to clear the computer.



- ② Enter the following:

CALL &EF88 [ENTER]

POKE &6EAF, 0 [ENTER]

and check that the following is displayed:

```
RUN RUN MODE
CALL &EF88
POKE &6EAF, 0
>
```

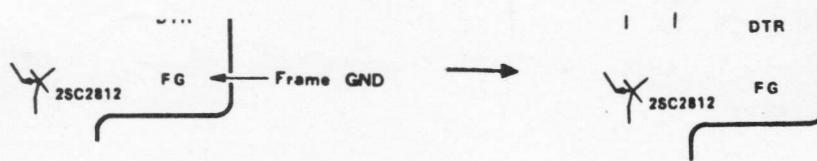
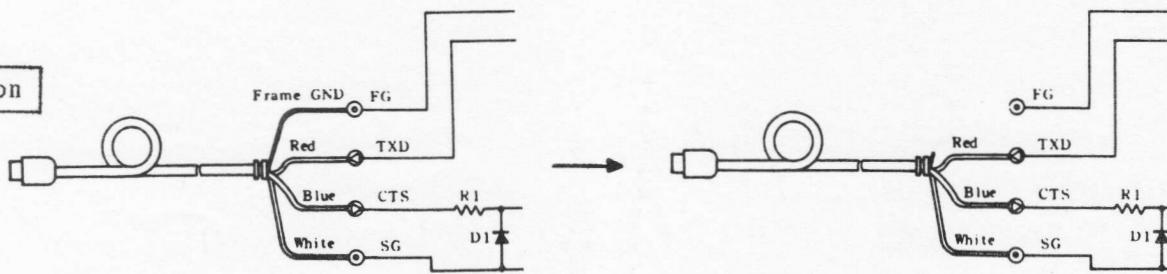
- ③ If the display above cannot be obtained, perform steps ① and ② again.

CALL &EF88 initializes the serial I/O function. POKE &6EAF, 0 initializes the display function. If these initializations are not performed meaningless displays may appear or the equipment connected to the serial I/O terminal may not operate properly.

If a program and data have been stored on the RAM card, remount it after performing the initialization.

If the PC-1350 is initialized while the RAM card is mounted, the RAM card will also be initialized (program and data cleared).

Correction



CE-516L Circuit diagram