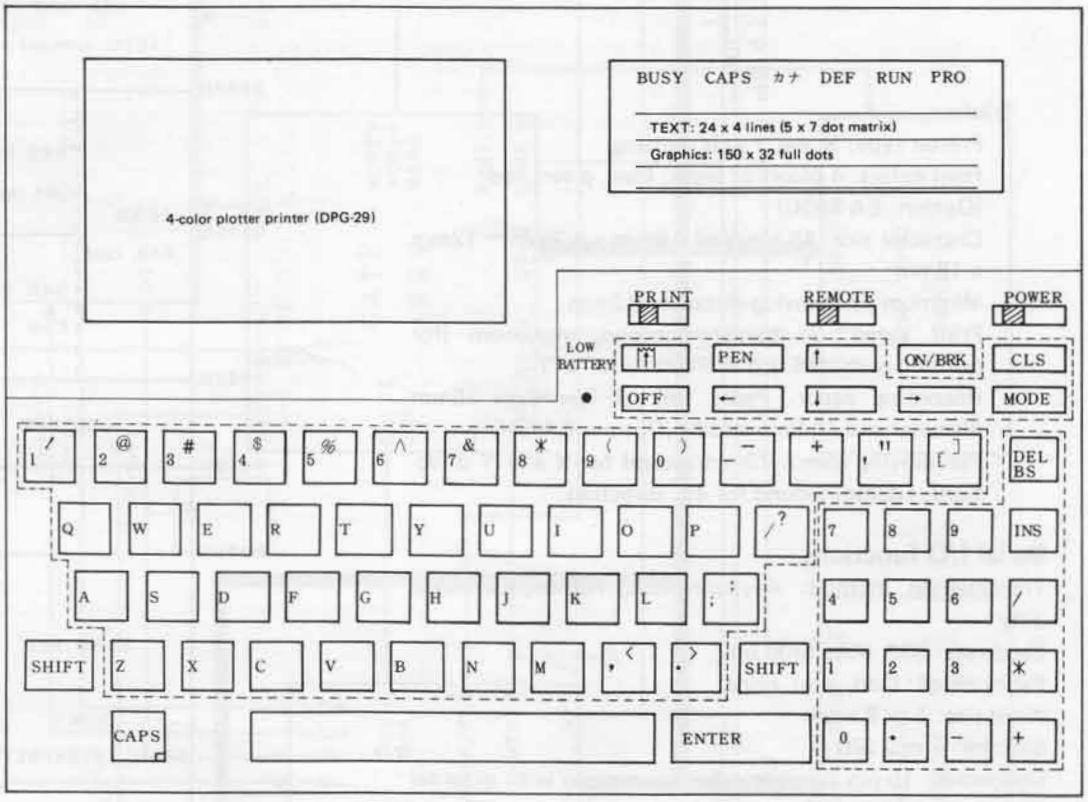
SHARP SERVICE MANUAL

CODE : 00ZPC2500S/ME

MODEL PC-2500

1. SPECIFICATION

○ Keyboard layout



○ Model: PC-2500
○ Calculation range: 10 digits (mantessa part) + 2 digits (exponential part)
○ Calculating method: Formula oriented (with priority function)
○ Programming language: BASIC
○ CPU: Cmos 8-bit microprocessor
○ System ROM: 72KB
○ Memory capacity:
System area: About 1740 bytes
Data only area: 208 bytes
Program/data area: 3102 bytes
Reserve area: 79 bytes
○ Stacks:
Subroutine stack: 10 stages
FOR-NEXT stack: 5 stages
Functional stack: 16 stages
Data stack: 8 stages
○ Fundamental calculator functions:
Calculations:
Four math rules

Scientific functions:
Trigonometric functions, inverse trigonometric functions, logarithmic functions, exponential functions, angle conversions, power rising, roots, integer, absolute value, sign functions, and pi.

Editing functions:
Vertical cursor control (→, ←)
Insertion
Deletion
Backspace
Line scroll (↑, ↓)

Software:
○ Sharp business software
○ Table calculation
○ Graph creation: Bar graph, broken line graph, band graph, circular graph
○ Telephone book

Memory protection:
Battery backup
(The contents of program, data, and reserve areas are retained during power off.)

Display:

Liquid crystal display

1. Text display

   5 x 7 dot matrix display (24 positions x 4 rows)
   Character size: 3.35(W) x 4.71(H) mm
   Character pitch: 4.08(W) x 5.44(H) mm (single dot space)

2. Graphic display

   150 x 32 full dots display
   Dot size: 0.63 square meters
   Dot pitch: 0.68mm (for both directions)
   Dot size:

Printer:

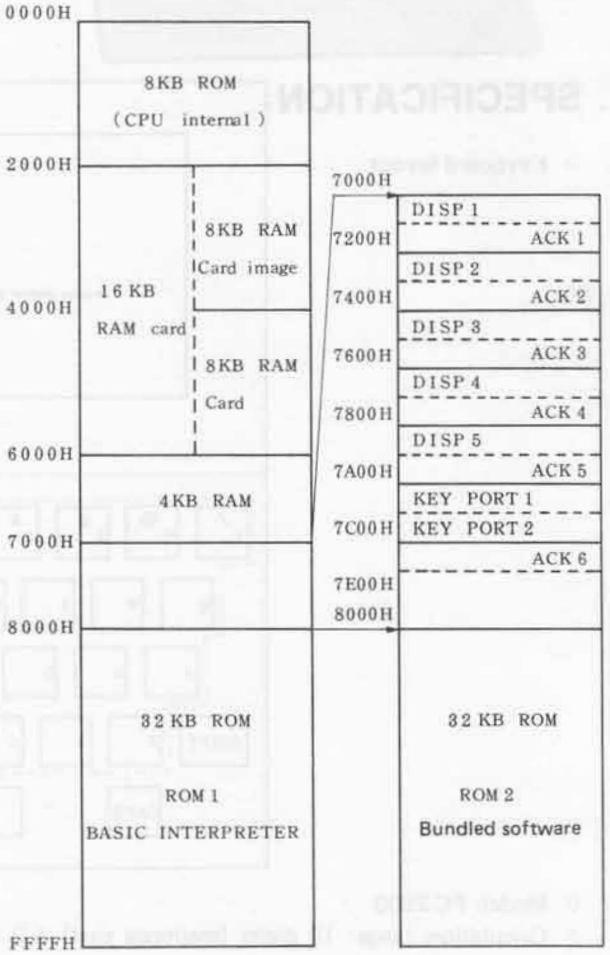
Printer type: X and Y axis plotting
Print colors: 4 colors of black, blue, green, red (Option: EA-850C)
Character size: 15 kinds of 0.8mm x 1.2mm ~ 12mm x 18mm
Minimum pen moving distance: 0.2mm
Print speed: 7 characters/second, maximum (for printing with standard character size "b")
Recording paper. Paper roll of less than 25mm diameter and 114mm width. (Option: EA-515P)
Pen moving speed: 73mm/second for X and Y directions, 103mm/second for 45° direction

Serial I/O functions

Transmission method: Asynchronous, half-duplex mode only
Baud rate: 300, 600, 1200 bps
Parity check: Odd, even, none
Word size: 7 or 8 bits
Stop bit: 1 or 2 bits
Connector: 15-pin connector for connection with external device
Output signal level: CMOS level (4 ~ 6 volts)
Interfacing signals:
Input ..... RD, CS, CD
Output ..... SD, RS, RR, ER
Others ..... SG, FG, VC

- Auto power off: About 14.5 minutes
- Power consumption: 6V ..... (DC), 6W
- Power supply: Internal rechargeable battery (charge source: 100VAC, 50.60Hz, with the AC adaptor EA-150 in use)
- Rechargeable battery operating time: About 100 hours
- ○ Continuous displaying: Displaying "5" on 48 display positions (2 rows) under the temperature of 20°C.
- ○ Intermittent operation: The refreshed battery will last for about 1.5 months, when operated one hour per day, provided that calculator operation or programmed operation is done 10 minutes out of one hour with the rest of the time (50 minutes) operated to display, without operating the printer.
- ○ Printer in operation: About 450 digits, provided that 20 digits of "5" are printed continuously under the temperature of 20°C with the character size "b".
- ○ Graph printing: About 11 times, when the graph described in Page 304 is printed continuously.
- ○ Operating temperature: 5 to 40°C
- ○ Physical dimensions: 297(W) x 210(D) x 18 (depth in front) and 45.5 (depth in rear) mm
- ○ Weight. About 1.3kg
- ○ Accessories: Tape recorder interfacing cable, AC adaptor (EA-150), write pen (one each of black, blue, green, and red), paper roll (one roll), instruction manual.

RAM map



2. TEST PROGRAM

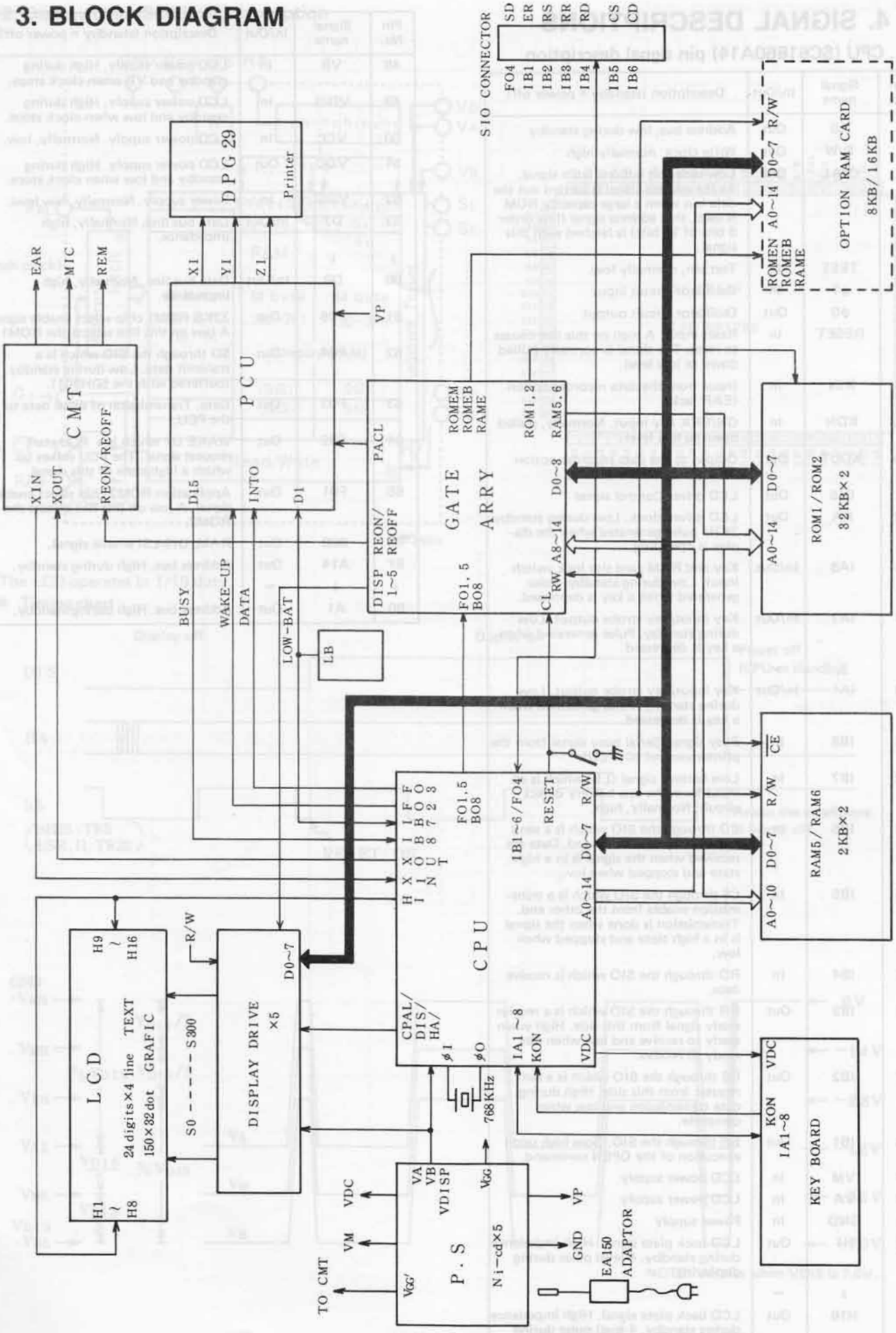
Internally implemented memory test program

The checksum test program ROM is contained internally to test the 8KB CPU internal ROM and 32KB x 2 external ROMs.

ROM to be tested	Key operation (RUM mode)	OK status
CPU internal ROM (8KB)	CALL&802A ENTER	11147
CPU enternal ROM1 (32KB)	CALL&8027 ENTER	10127
CPU external ROM2 (32KB)	CALL&84F9 ENTER	38524

The ALL RESET switch has to be depressed after the execution of the test program because the data and program in each ROM are not assured of its contents after the test.

3. BLOCK DIAGRAM

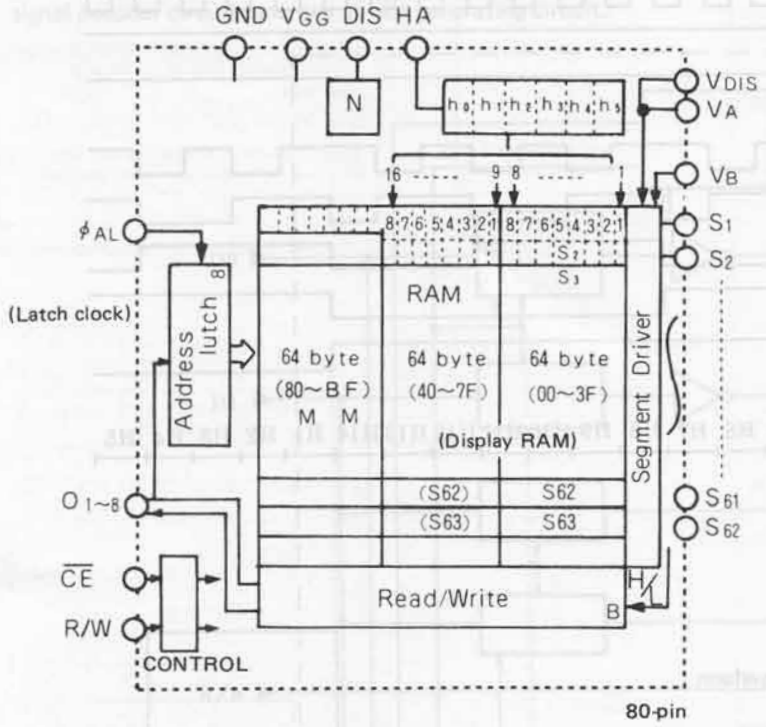


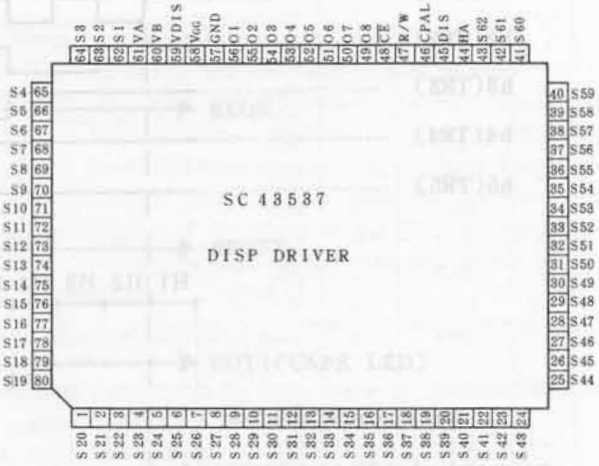
4. SIGNAL DESCRIPTIONS

4-1. CPU (SC61860A14) pin signal description

Pin No.	Signal name	In/Out	Description (standby = power off)
1	A0	Out	Address bus, low during standby
2	R/W	Out	Write clock, normally high
3	CPAL	Out	Low order bit address latch signal. As the address signal is carried out the data bus when a large capacity ROM is used, that address signal (low order 8 bits of 16 bits) is latched with this signal.
4	TEST	In	Test pin, normally low.
5	ϕ1	In	Oscillator circuit input
6	ϕ0	Out	Oscillator circuit output
7	RESET	In	Reset input. A high on this line causes to reset. The signal is normally pulled down to low level.
8	XIN	In	Input from the data recorder option (EAR jack)
9	KON	In	ON/BRK key input. Normally, pulled down to low level.
10	XOUT	Out	Output to the data recorder option (MIC jack) and the buzzer.
11	DIS	Out	LCD driver Control signal
12	HA	Out	LCD driver clock. Low during standby. 2KHz pulse generated when the display is operating.
13	IA8	In/Out	Key and RAM card slot lock switch input. Low during standby. Pulse generated when a key is depressed.
14	IA7	In/Out	Key input/key strobe output. Low during standby. Pulse generated when a key is depressed.
↓	↓	~	
20	IA1	In/Out	Key input/key strobe output. Low during standby. Pulse generated when a key is depressed.
21	IB8	In	Busy signal. Serial busy signal from the printer control IC (PCU).
22	IB7	In	Low battery signal ($\overline{LB}$) which is an input from the low battery detect circuit. Normally, high.
23	IB6	In	CD through the SIO which is a send request from the other end. Data are received when the signal is in a high state and stopped when low.
24	IB5	In	CS through the SIO which is a transmission enable from the other end. Transmission is done when the signal is in a high state and stopped when low.
25	IB4	In	RD through the SIO which is receive data.
26	IB3	Out	RR through the SIO which is a receive ready signal from this side. High when ready to receive and low when not ready to receive.
27	IB2	Out	RS through the SIO which is a sent request from this side. High during data transmission and low when complete.
28	IB1	Out	ER through the SIO. Goes high upon execution of the OPEN command.
29	VM	In	LCD power supply
30	VA	In	LCD power supply
31	GND	In	Power supply
32	H1	Out	LCD back plate signal. High impedance during standby. 4-level pulse during displaying.
↓	↓	~	
47	H16	Out	LCD back plate signal. High impedance during standby. 4-level pulse during displaying.
48	VB	In	LCD power supply. High during standby and VB when clock stops.
49	VDIS	In	LCD power supply. High during standby and low when clock stops.
50	VCC	In	LCD power supply. Normally, low.
51	VDC	Out	LCD power supply. High during standby and low when clock stops.
52	VGG	In	Power supply. Normally, low level.
53	D7	In/Out	Data bus line. Normally, high impedance.
↓	↓	~	
60	D0	In/Out	Data bus line. Normally, high impedance.
61	F05	Out	32KB ROM1 chip select enable signal. A low on this line selects the ROM1.
62	F04	Out	SD through the SIO which is a transmit data. Low during standby (buffered with the 50H001).
63	F03	Out	Data. Transmission of serial data to the PCU.
64	F02	Out	WAKE UP which is a PCU start request signal. The PCU wakes up which a high state of this signal.
65	F01	Out	Application ROM2 chip select enable signal. A low on this line selects the ROM2.
66	B08	Out	RAM, DIS-LSI enable signal.
67	A14	Out	Address bus. High during standby.
↓	↓	~	
80	A1	Out	Address bus. High during standby.

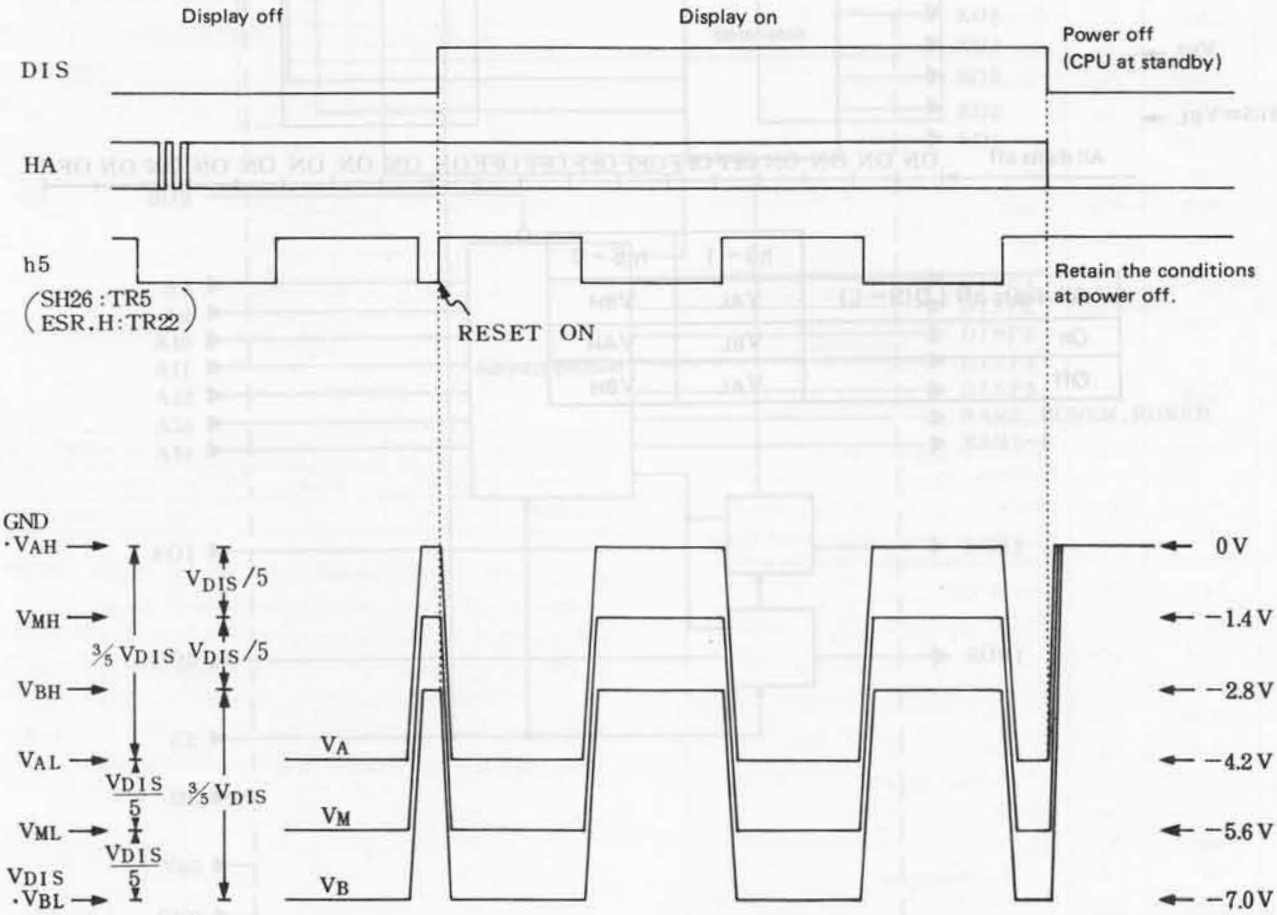
4-2. Display chip (SC43537) description





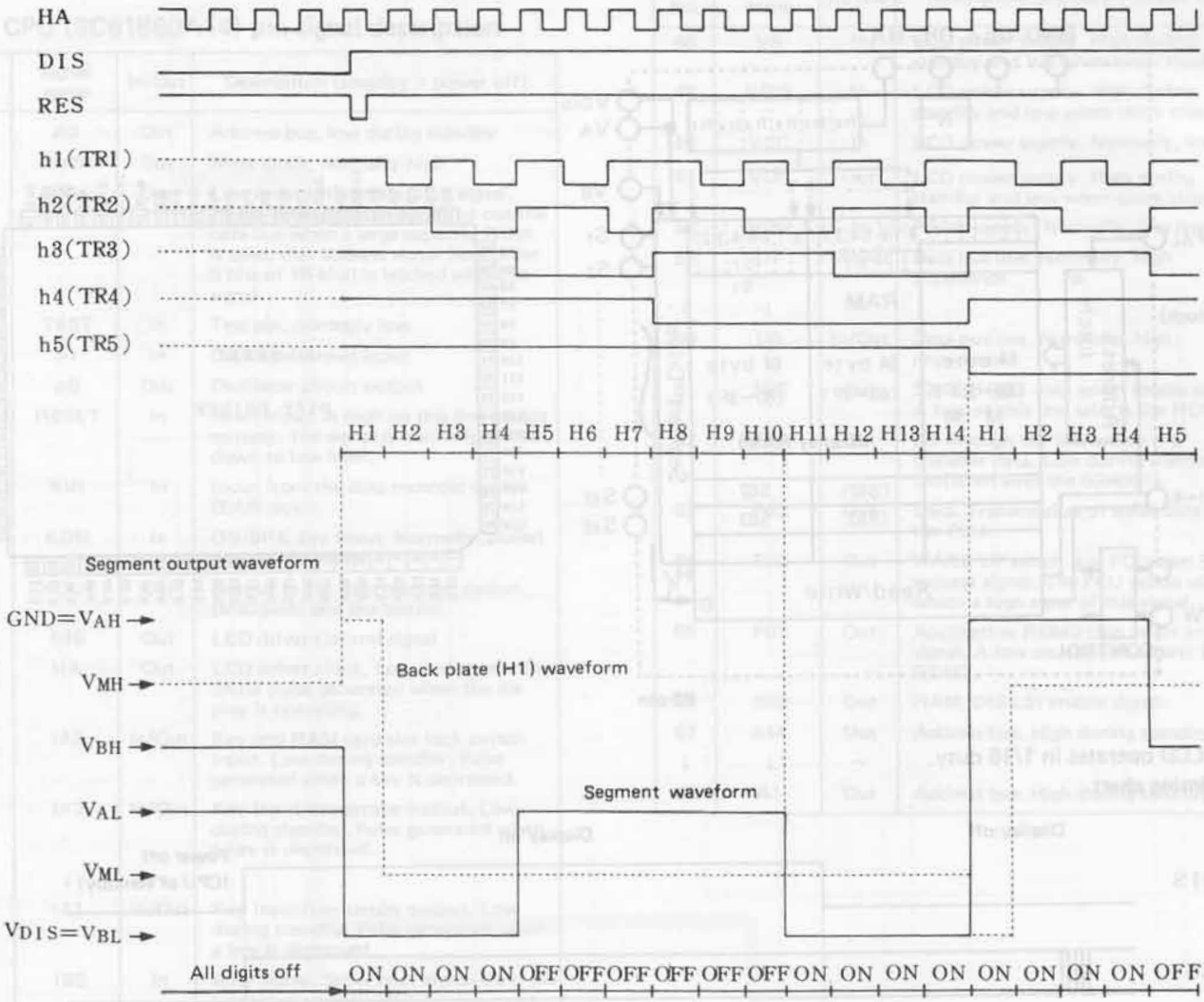
The LCD operates in 1/16 duty.

- **Timing chart**



NOTE: Voltage when VDIS is 7.0V.

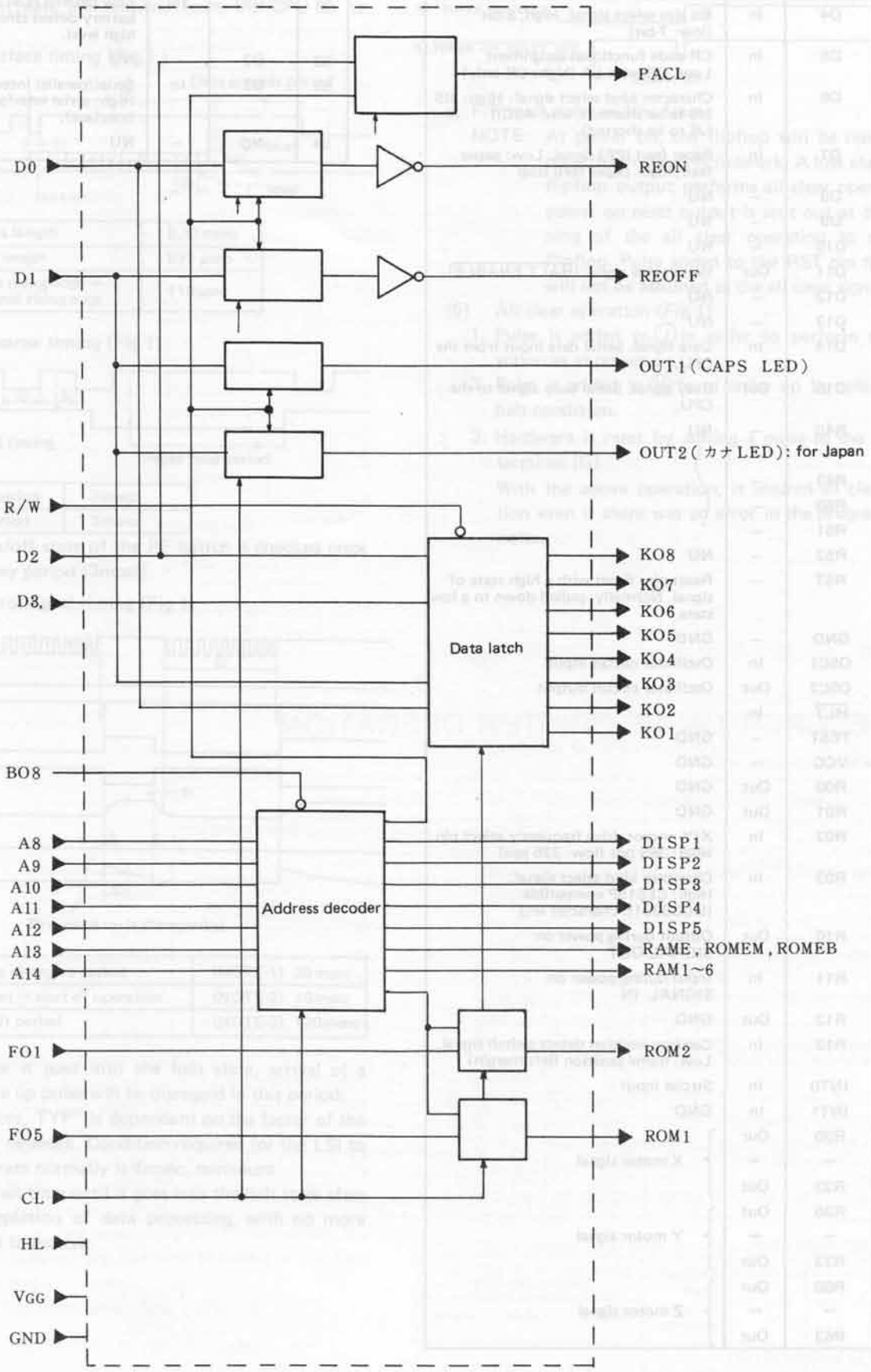
- **Counter unit and segment waveforms**



	h5 = 1	h 5 = 0
All digits off (DIS = L)	V_{AL}	V_{BH}
On	V_{BL}	V_{AH}
Off	V_{AL}	V_{BH}

4-3. Gate array (SC61J216F)

This LSI contains the RAM, ROM, and DISP chip select signal decoder circuits and key strobe generating circuit.



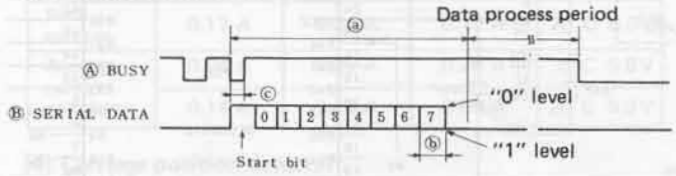
4-4. PCU (DLG3001E) pin signal description

Pin No.	Signal name	In/Out	Description
1	D4	In	Bit size select signal. High; 8-bit (low: 7-bit)
2	D5	In	CR code functional assignment. Low: CR with LF (high: CR only)
3	D6	In	Character kind select signal: High: JIS (J5 to be shorted), low: ASCII (J6 to be shorted)
4	D7	In	Paper feed (PF) signal. Low: paper feed, high: paper feed stop
5	D8	–	NU
6	D9	–	NU
7	D10	–	NU
8	D11	Out	Halt enable signal ($\overline{\text{HALT ENABLE}}$)
9	D12	–	NU
10	D13	–	NU
11	D14	In	Data signal. Serial data input from the CPU.
12	D15	Out	Busy signal. Serial busy signal to the CPU.
13	R40	–	NU
)	~	–	)
)	R43	–	)
)	R50	–	)
)	R51	–	)
20	R52	–	NU
21	RST	–	Reset pin. Reset with a high state of signal. Normally, pulled down to a low state.
22	GND	–	GND
23	OSC1	In	Oscillator circuit input
24	OSC2	Out	Oscillator circuit output
25	$\overline{\text{HLT}}$	In	
26	TEST	–	GND
27	VCC	–	GND
28	R00	Out	GND
29	R01	Out	GND
30	R02	In	X/Y motor drive frequency select pin. High: 365 pps (low: 325 pps)
31	R03	In	Character kind select signal. High: CE515P compatible (DLG3301E character set)
32	R10	Out	Output during power on SIGNAL OUT
33	R11	In	Input during power on SIGNAL IN
34	R12	Out	GND
35	R13	In	Carriage position detect switch signal. Low: home position (left margin)
36	INT0	In	Strobe input
37	INT1	In	GND
38	R20	Out	)
~	~	~	) X motor signal
41	R23	Out	)
42	R30	Out	)
~	~	~	) Y motor signal
45	R33	Out	)
46	R60	Out	)
~	~	~	) Z motor signal
49	R63	Out	)
50	D0	–	NU
51	D1	In	Low battery ($\overline{\text{LB}}$) input from the low battery detect circuit. Normally, high level.
52	D2	–	NU
53	D3	In	Serial/parallel interface select signal. High: serial interface (low: parallel interface).
54	NC	–	NU

5. DESCRIPTION OF THE PRINTER CONTROL CIRCUIT

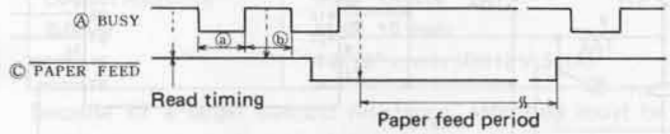
8-bit serial print data are received from the CPU to be printed.

(1) Serial interface timing (Fig.1.)



ⓐ	One data length	8.33msec
ⓑ	One bit length	833 μsec
ⓒ	Start bit rising edge → busy signal rising edge	110μsec

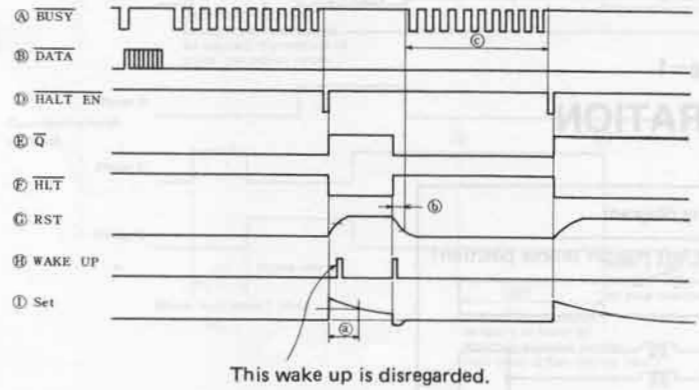
(2) PF switch sense timing (Fig.1)



ⓐ	Ready period	3msec
ⓑ	Busy period	3msec

NOTE: The on/off state of the PF switch is checked once in a busy period (3msec).

(3) Halt control signal timing (Fig.1)



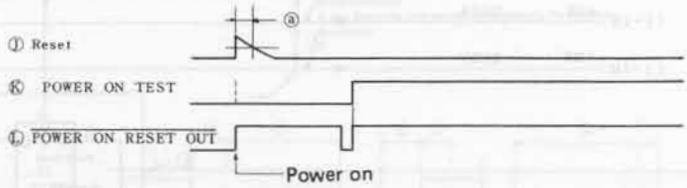
ⓐ	Wake up disregard period	(NOTE-1) 20msec
ⓑ	Halt reset → start of operation	(NOTE-2) 10msec
ⓒ	Halt wait period	(NOTE-3) 120msec

NOTE-1: Once it goes into the halt state, arrival of a wake up pulse will be disregard in this period.

NOTE-2: "10ms, TYP" is dependent on the factor of the C-R network. Condition required for the LSI to operate normally is 4msec, minimum.

NOTE-3: A wait time until it goes into the halt state after completion of data processing, with no more data to receive.

(4) Power on reset timing (Fig.1)



a. F/F reset pulse width: 1msec

NOTE: At power on, the flipflop will be reset with a pulse from the C-R network. A low state of the flipflop output performs all clear operation. A power on reset output is sent out at the beginning of the all clear operation to reset the flipflop. Pulse added to the RST pin thereafter will not be assumed as the all clear signal.

(5) All clear operation (Fig.1)

1. Pulse is added to Ⓙ in order to perform the same action as at power on.
2. Pulse is added to Ⓗ for a wake up by releasing the halt condition.
3. Hardware is reset by adding a pulse to the RST terminal (G).

With the above operation, it insured all clear operation even if there was an error in the program due to noise.

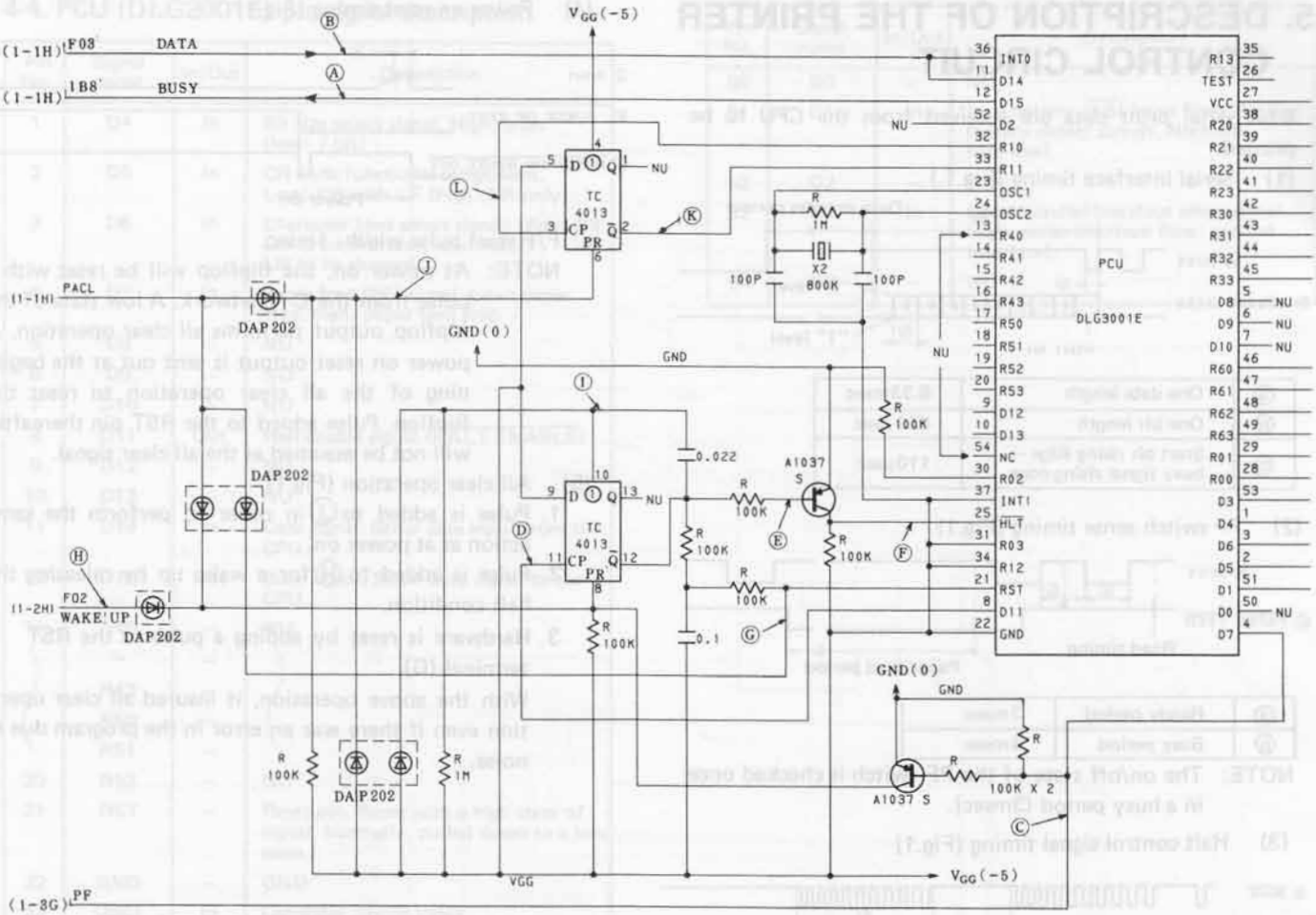


Fig-1

6. DESCRIPTION OF PRINTER OPERATION

(1) Printer connector wiring

Item	Phase	Color		Wiring diagram
				Turns active at the left margin (home position)
Carriage position detector	B	Gray	1	CS
	A	Yellow	2	VGG
X-axis drive motor (carriage moving direction)	D	Red	3	XD
	C	White	4	XC
	B	Blue	5	XB
	A	Yellow	6	XA
Y-axis drive motor (paper feeding direction)	COM	Black	7	GND
	D	Red	8	YD
	C	While	9	YC
	B	Blue	10	YB
	A	Yellow	11	YA
Z-axis drive motor (pen up/down and color change)	D	Red	12	ZD
	C	White	13	ZC
	B	Blue	14	ZB
	A	Yellow	15	ZA

(2) Drive pulse train

Step No.	A	B	C	D	Motor shaft rotating direction	Moving direction		
						X-axis	Y-axis	Z-axis
1	ON	OFF	OFF	ON	Counter-clock-wise	+	+	+
2	OFF	ON	OFF	ON				
3	OFF	ON	ON	OFF		Clock-wise	Reverse direction	Pen up
4	ON	OFF	ON	OFF				

(3) Stepping motor electrical characteristics

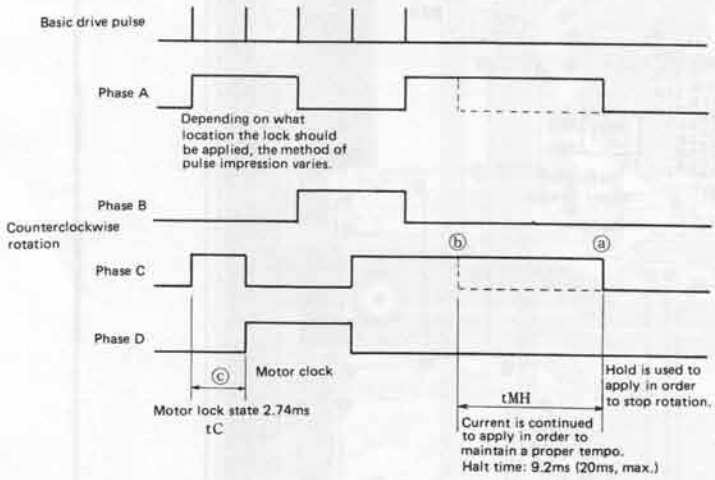
Item	X-axis	Y-axis	Z-axis	Condition
Voltage	5.3 ± 0.5V		5.3±0.5V	0 ~ 50°C
Type	4-phase stepping motor (2-phase excitation)			
DC resistance	30Ω±10%	25Ω±10%	50Ω±10%	20°C (per phase)
Peak current	0.17 A	0.21 A	0.12 A	20°C 5.3V
Average current per phase	0.24 A	0.29 A	0.26 A	0°C 5.8V
	0.14 A	0.16 A	0.09 A	20°C 5.3V

(4) Carriage position detector

Type	Elastic contact switch (Type: KEG 10012)
Maximum rated voltage	DC 12V
Maximum rated current	20 mA
Moving distance	0.8 mm
Contact resistance	MAX 1KΩ
Bounce	MAX 10 msec
Life	1 x 10^5 cycles (DC12V 5mA)

Because of a larger contact resistance, attention must be paid to input impedance and threshold level.

(5) X-axis, Y-axis stepping motor drive signals

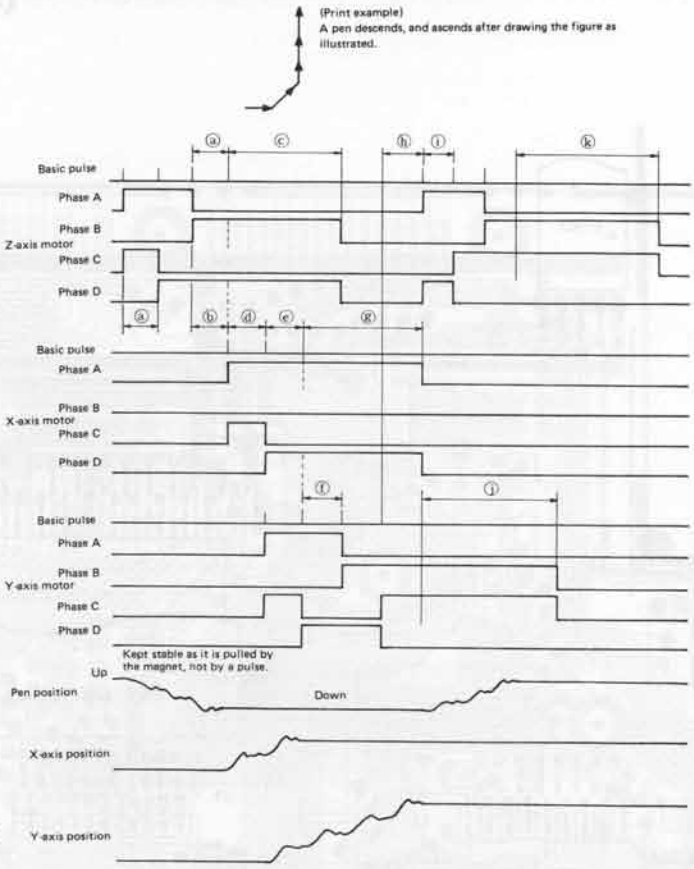


a. To shut off the respective current when the X-axis or Y-axis stepping motor is at halt serves to reduce power consumption. However, if the current is shut off with a normal pulse width b, it may cause a disturbance because mechanical vibration still continues. In order to prevent it, there is a need of applying the current for a period of the hold time (tMH) which shall be three times the motor clock. Since "tc" is 2.74, "tMH" shall be more than 8.22ms. The upper limit of "tMH" must be 20ms to prevent performance deterioration due to motor heat.

b. In case there is a need of running the motor within the hold time, it is permitted to rotate to a next step within a period of b and a.

c. Motor clock "tc" shall be 2.74ms +10%, –0.

(6) Z-axis stepping motor drive signal



a. Pen descending pulse must be 300 pps –10%, +0% (3.33s, - 0%, +10%).

b. The X or Y axis motor must be started to run in more than 3.33ms after a pen down pulse. Also, the X or Y axis motor must be started to run in more than 3.33ms after a pen up pulse.

c. The Z motor hold time during pen down must be more than 8.22ms.
when the hold time is to be observed on the oscilloscope, it must be measured in terms of "c + a" with reduction of "a".

d. The X motor pulse must be 365 pps +0, –10% (2.74ms +10%, –0).

e. When both the X and Y motors are to be operated at the same time, the same clock must be used for both motors with a current on time difference being less than 0.1ms.

f. The Y motor pulse must be 365 pps +0, –10% (2.74ms +1-%, –0).

g. The X motor hold time must be more than 8.22ms.

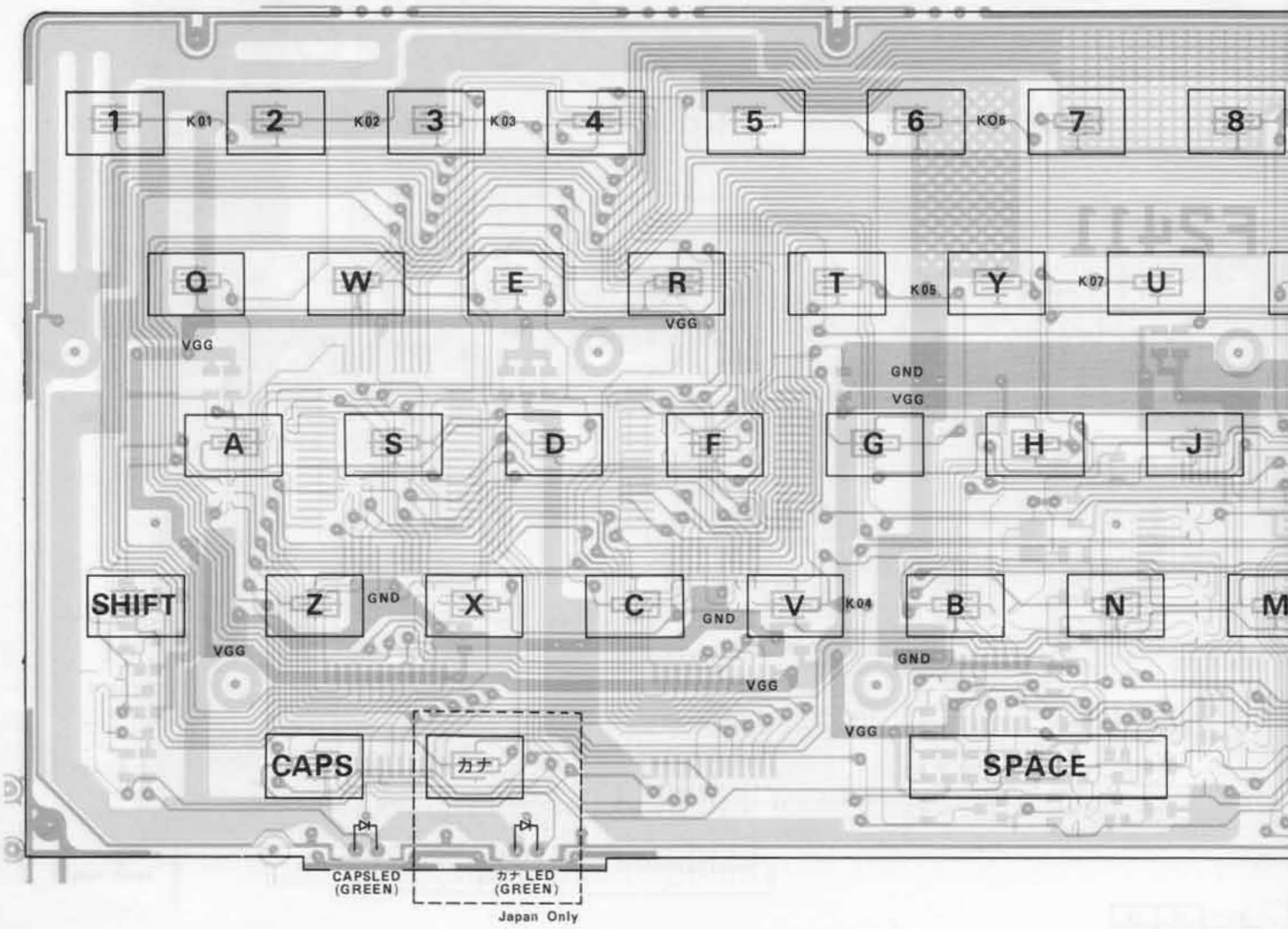
h. Pen up and down currents must be started to apply in 2.74ms after the currents have been applied to the X and Y motors.

i. The pen up pulse must be 300 pps +0, –10% (3.33ms +1-%, –0%).

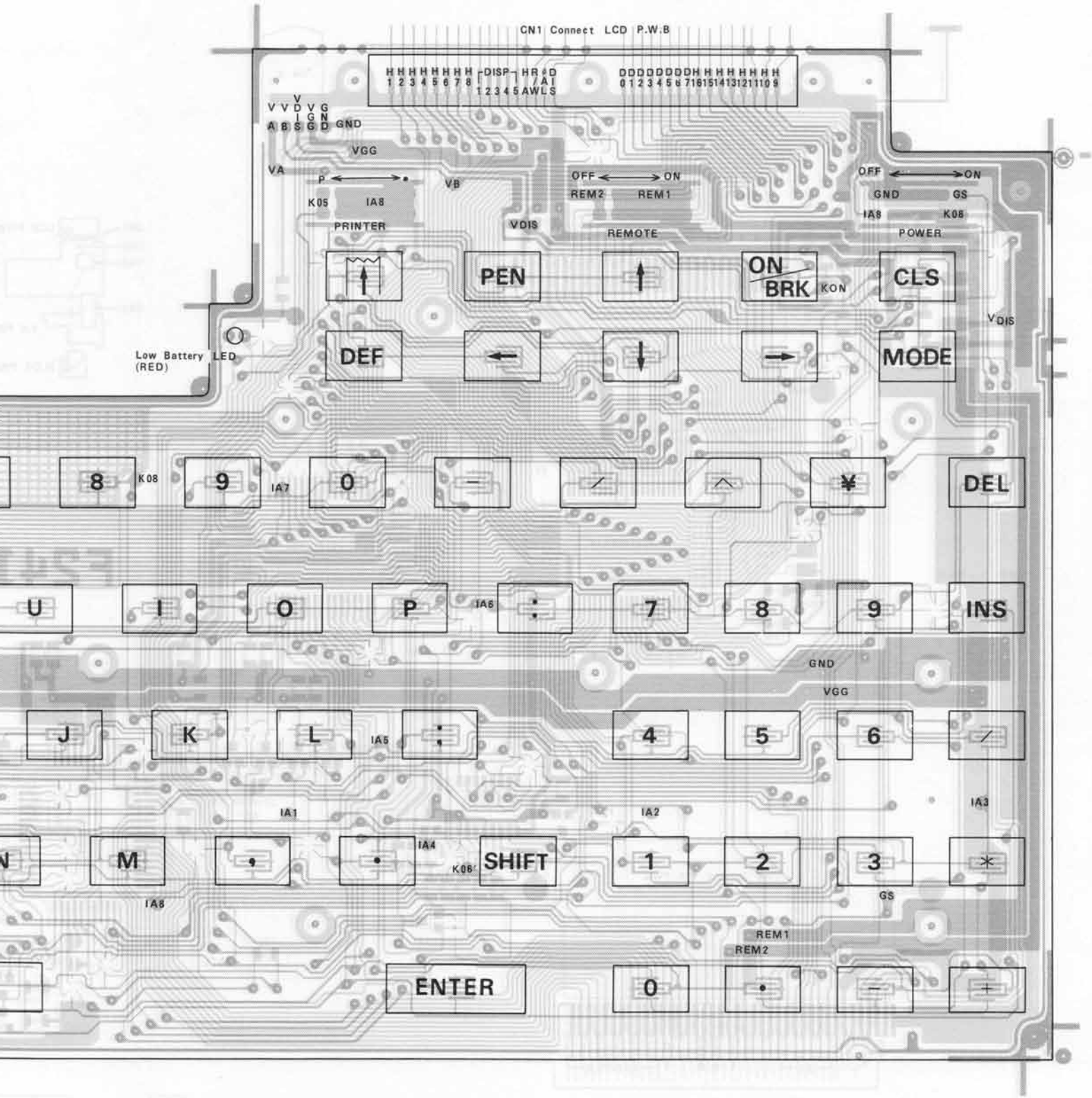
j. The Y motor hold time must be more than 8.22ms.

k. The Z motor hold time during pen ascending must be more than 8.22ms.

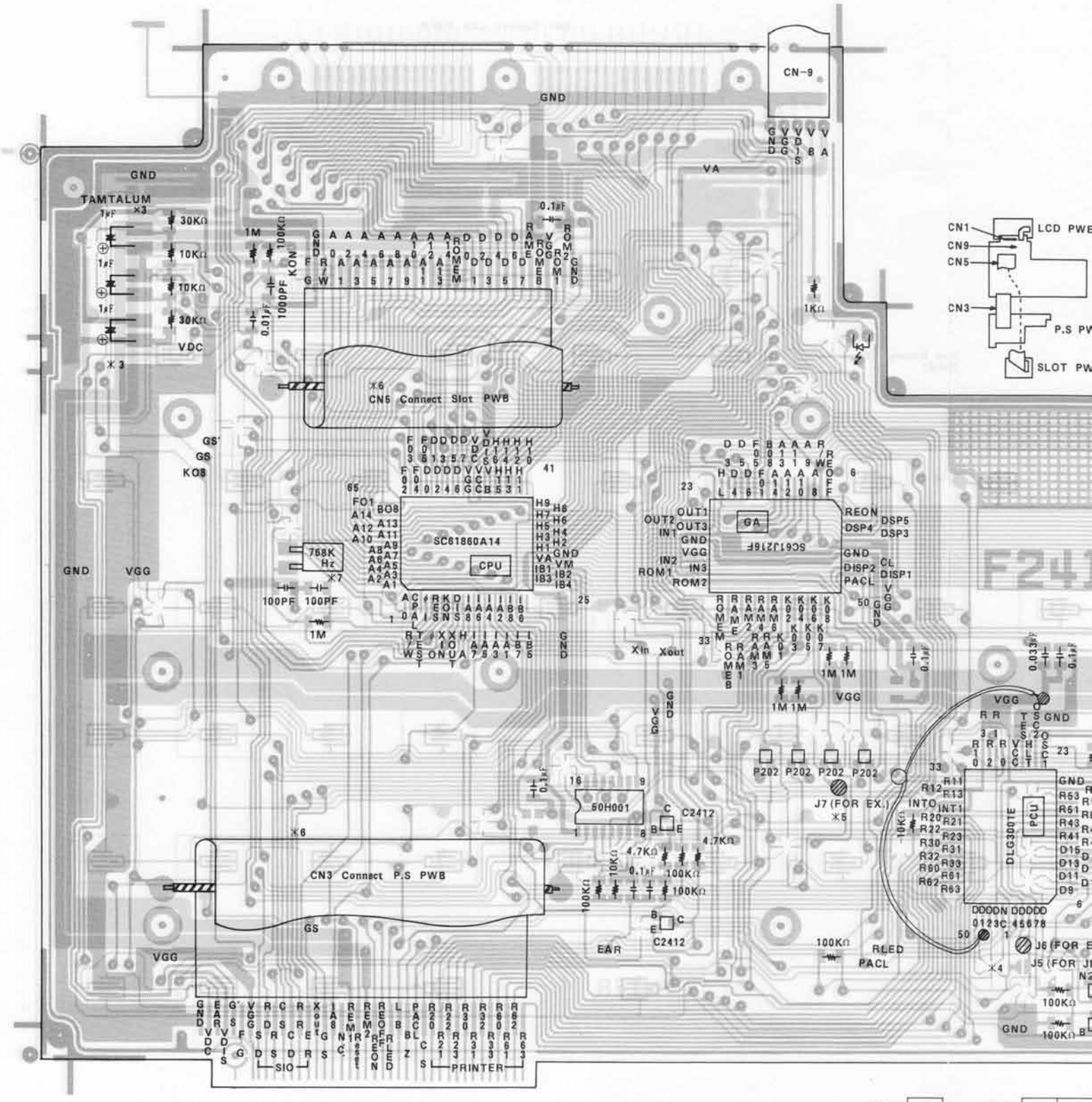
7. PARTS & SIGNALS POSITION DIAGRAM KEY P.W.B. (KEY TOP SIDE)



P SIDE)

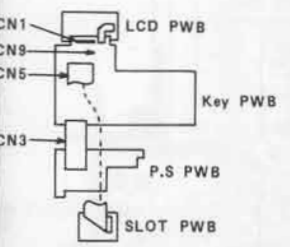

CN1 Connect LCD P.W.B
VA
VB
VGG
GND
VDIS
PRINTER
REMOTE
POWER
OFF ON
REM2 REM1
GND GS
K05 IA8
IA8 K08
PEN
ON BRK KON
CLS
DEF
MODE
Low Battery LED (RED)
8 K08
9 IA7
0
DEL
U
I
O
P
IA6
7
8
9
INS
J
K
L
IA5
4
5
6
IA1
IA2
IA3
M
IA4
K06
SHIFT
1
2
3
IA8
GS
REM1
REM2
ENTER
0

8. KEY P.S. P.W.B. (LSI SIDE)



※5 :	J7
JAPAN	Open
EX.	Short

※4 :	J5	J6
JAPAN	Short	Open
EX.	Open	Short



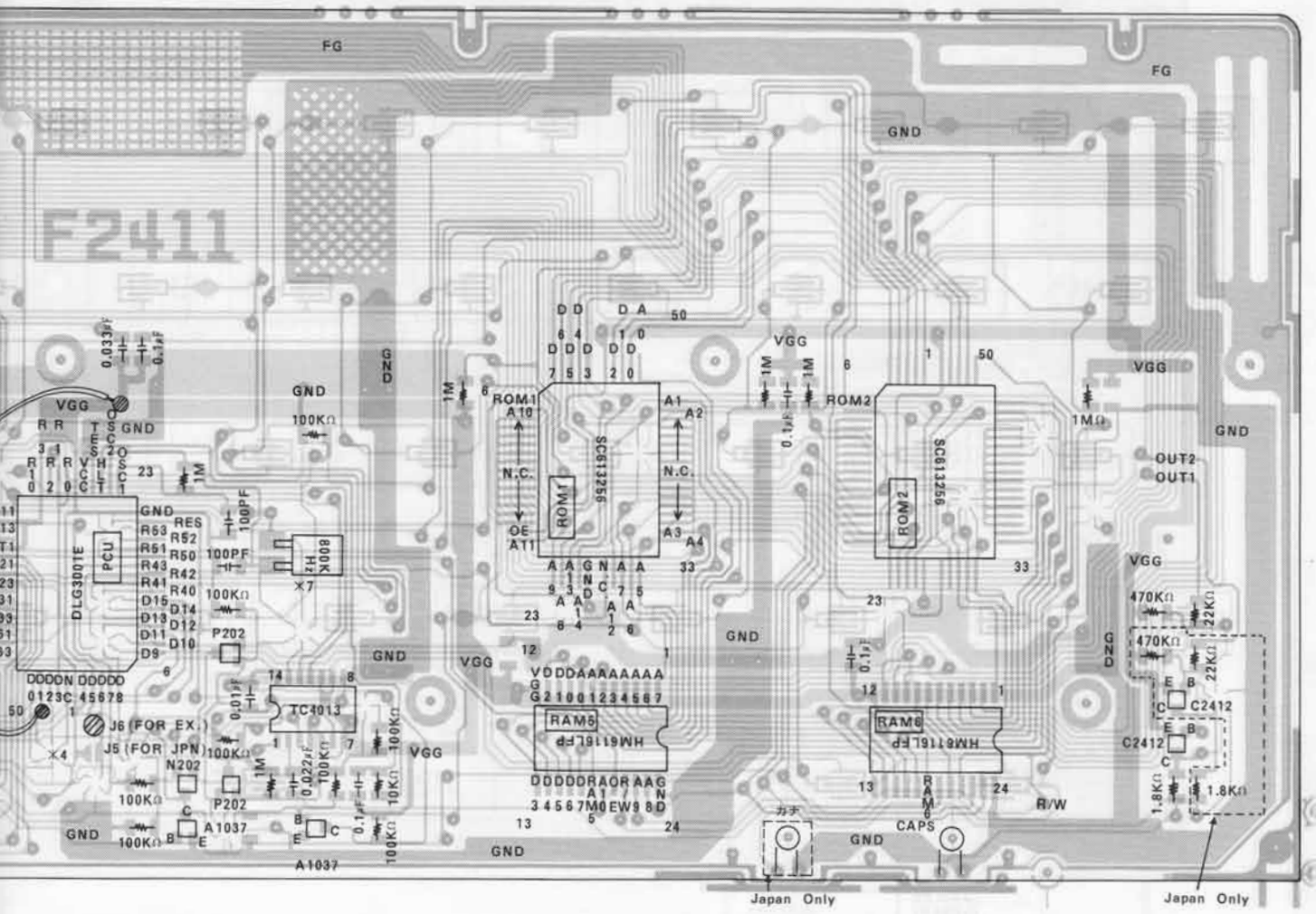
Chip Tr, Di

- C2412 — 2SC2412S
- A1037 — 2SA1037S
- P202 — DAP202
- N202 — DAN202

Chip Capacitor

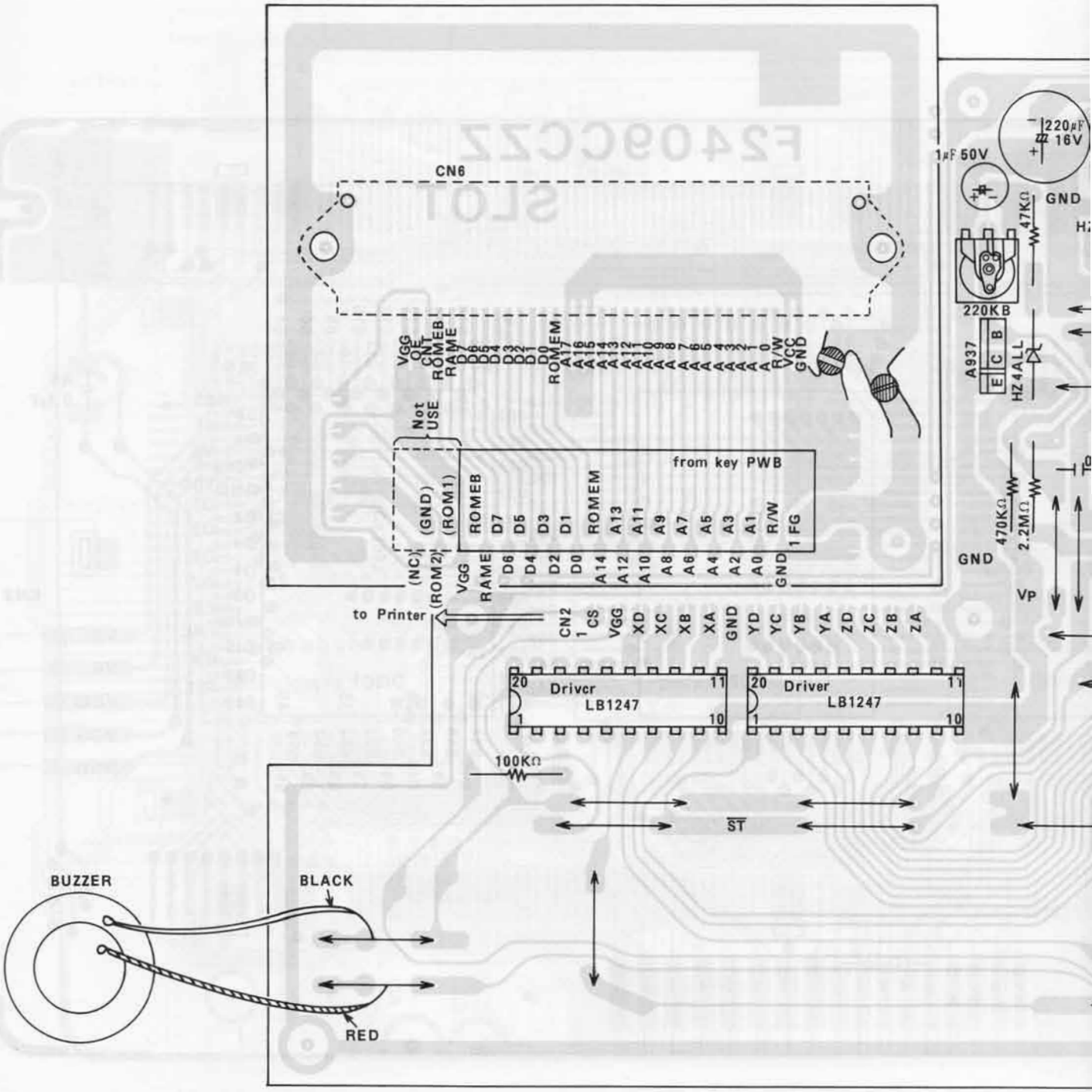
- 100PF — A2
- 1000PF — A3
- 0.01 μF — A4
- 0.1 μF — A5
- 0.033 μF — N4
- 0.022 μF — J4

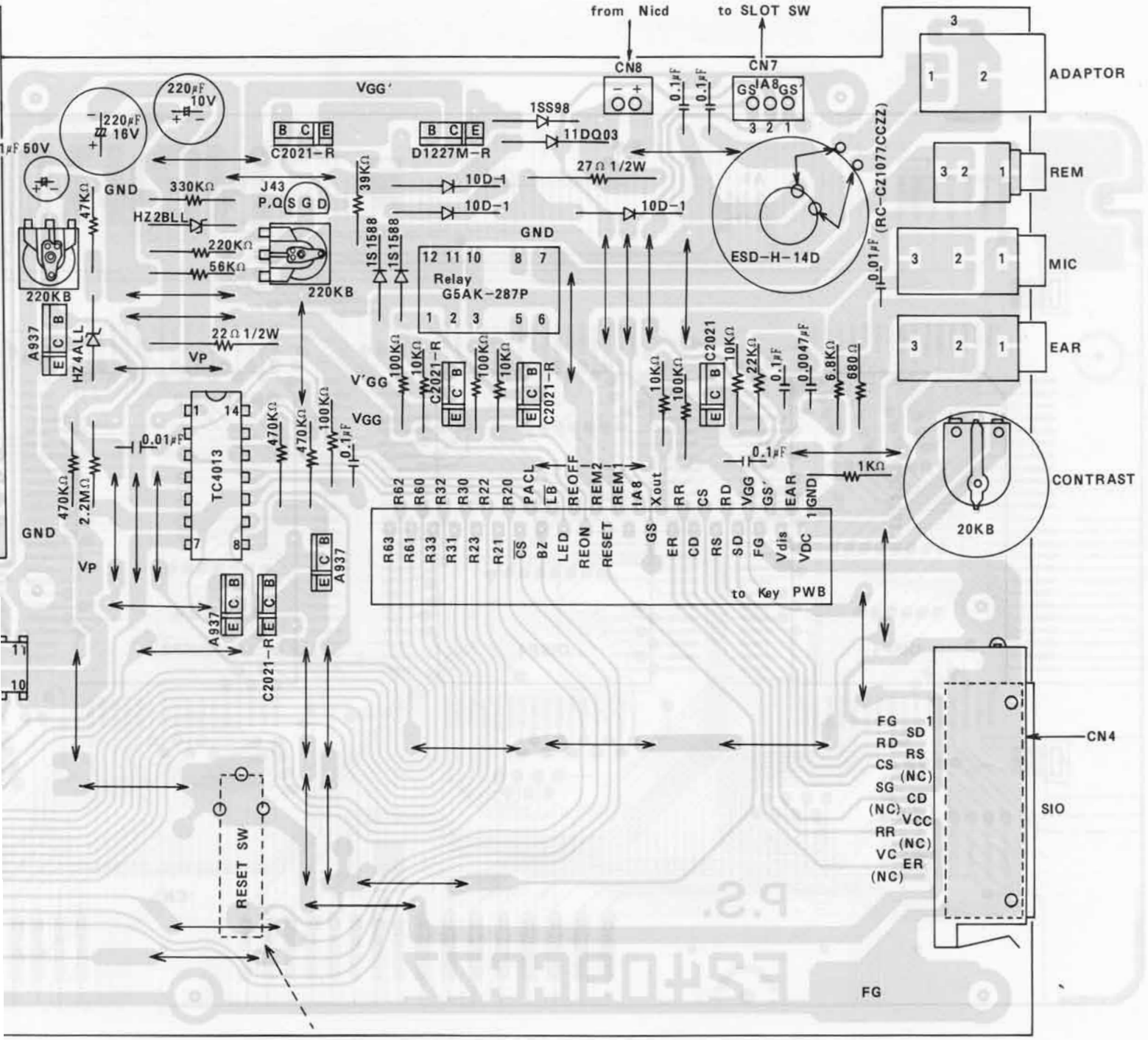
ROM	ROM1	ROM2
Japan	SC613256FS43	SC613256FS44
EX.	SC613256FS43	SC613256FS45



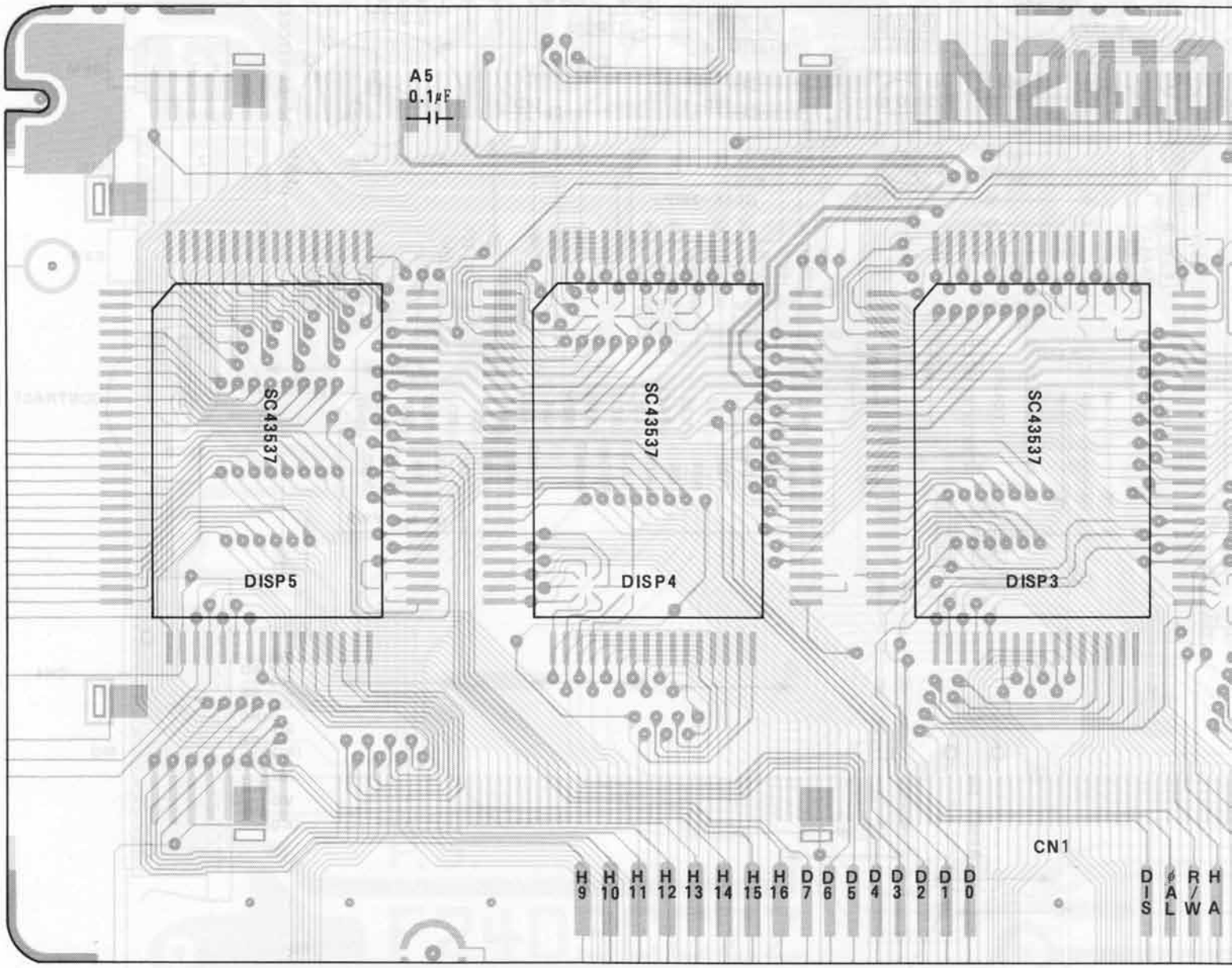
※4 :	J5	J6
JAPAN	Short	Open
EX.	Open	Short

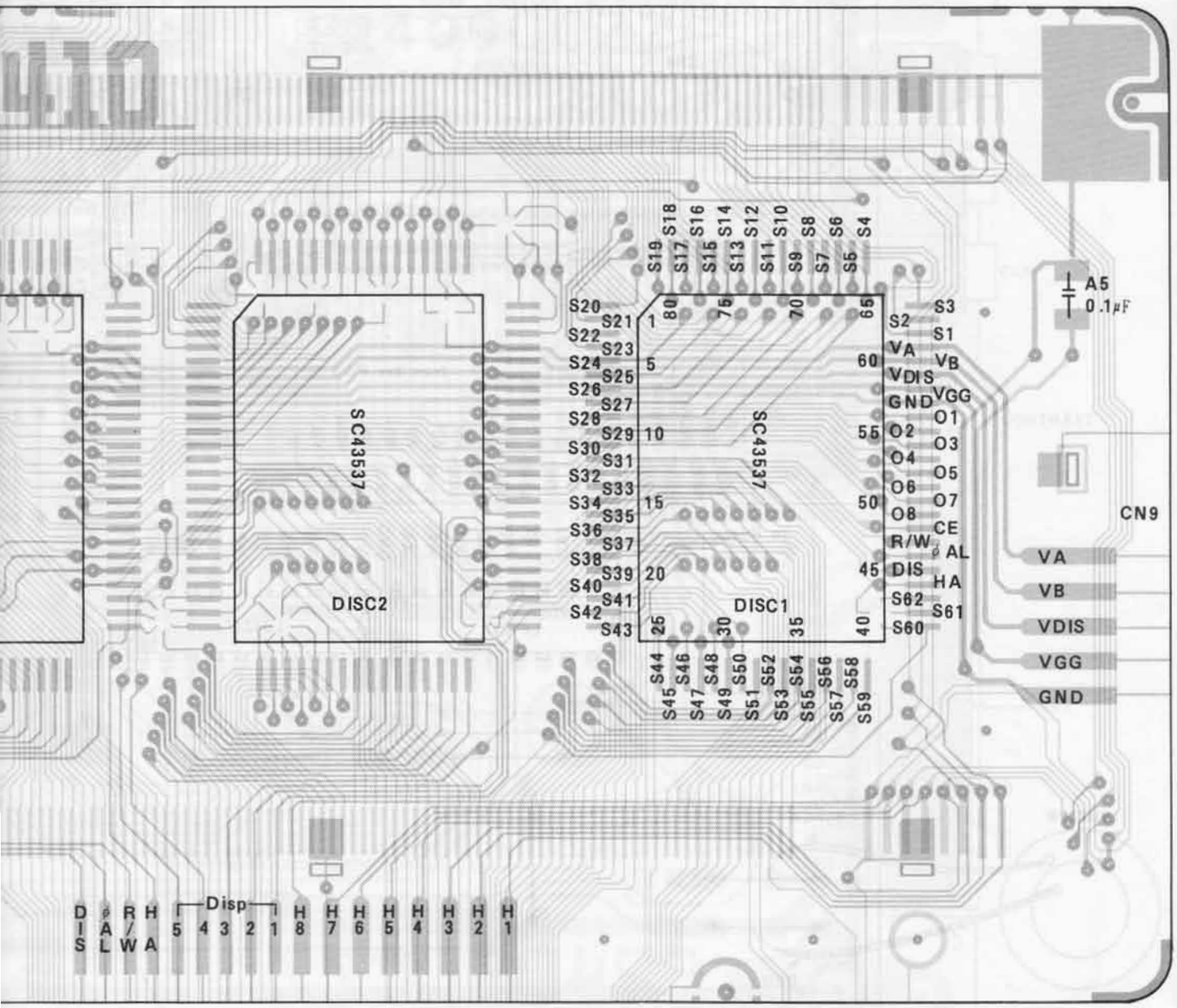
9. SLOT & P.S. P.W.B


CN6
VGG
OE
CNT
ROMEB
RAME
D7
D6
D5
D4
D3
D2
D1
D0
ROMEM
A17
A16
A15
A14
A13
A12
A11
A10
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
R/W
VCC
GND
Not USE
from key PWB
(NC)
(GND)
(ROM1)
(ROM2)
ROMEB
D7
D5
D3
D1
ROMEM
A13
A11
A9
A7
A5
A3
A1
R/W
1 FG
VGG
RAME
D6
D4
D2
D0
A14
A12
A10
A8
A6
A4
A2
A0
GND
to Printer
CN2
1 CS
VGG
XD
XC
XB
XA
GND
YD
YC
YB
YA
ZD
ZC
ZB
ZA
Drivcr
LB1247
Driver
LB1247
20
11
1
10
100KΩ
ST
BUZZER
BLACK
RED
1μF 50V
220μF 16V
GND
47KΩ
220KB
A937
E
C
B
HZ4ALL
470KΩ
2.2MΩ
GND
Vp

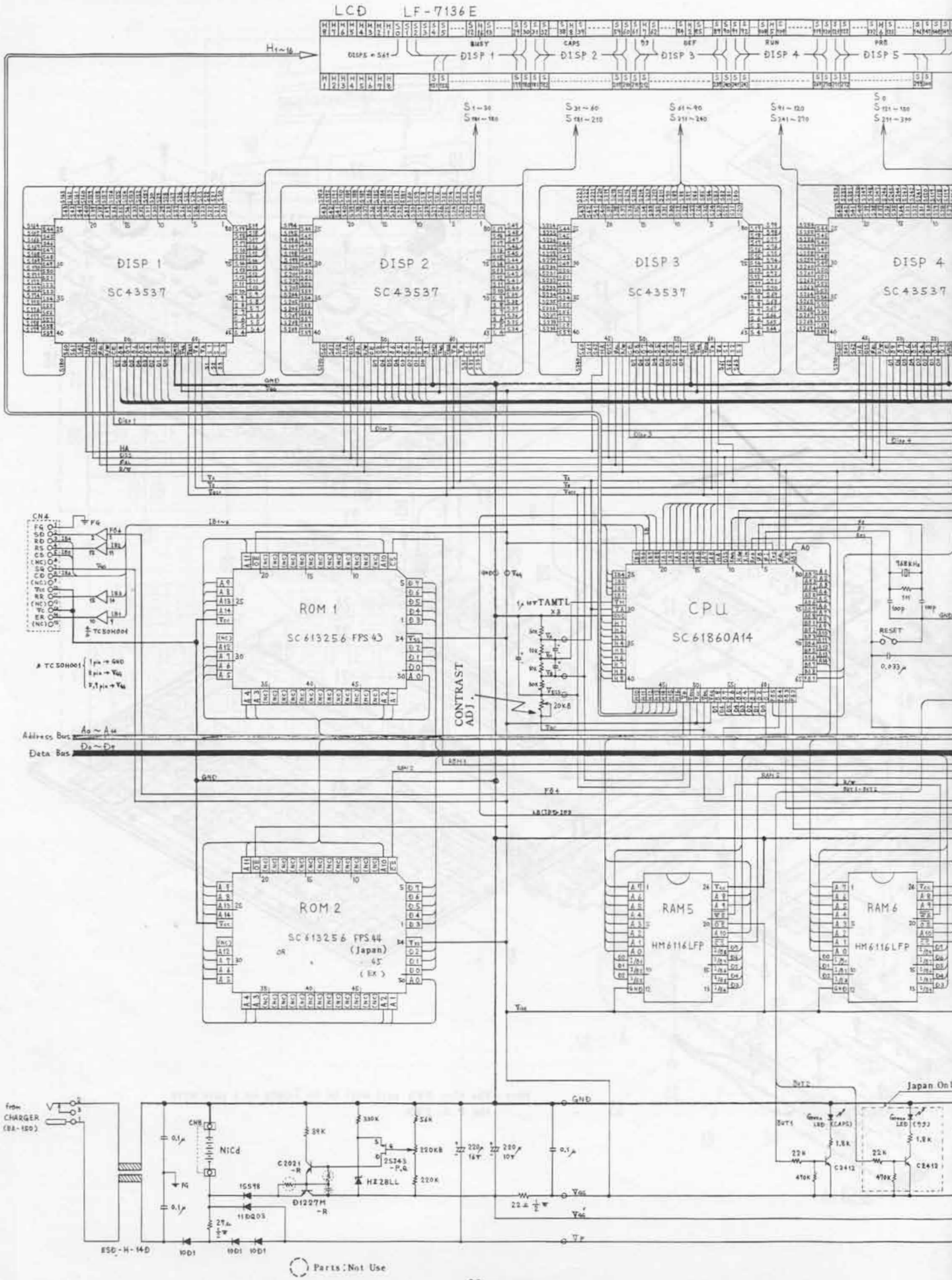

from Nicd
to SLOT SW
CN8
CN7
ADAPTOR
REM
MIC
EAR
CONTRAST
20KB
ESD-H-14D
(RC-C21077CCZZ)
Relay
G5AK-287P
TC4013
VGG'
V'GG
VGG
GND
Vp
RESET SW
to Key PWB
CN4
SIO
FG

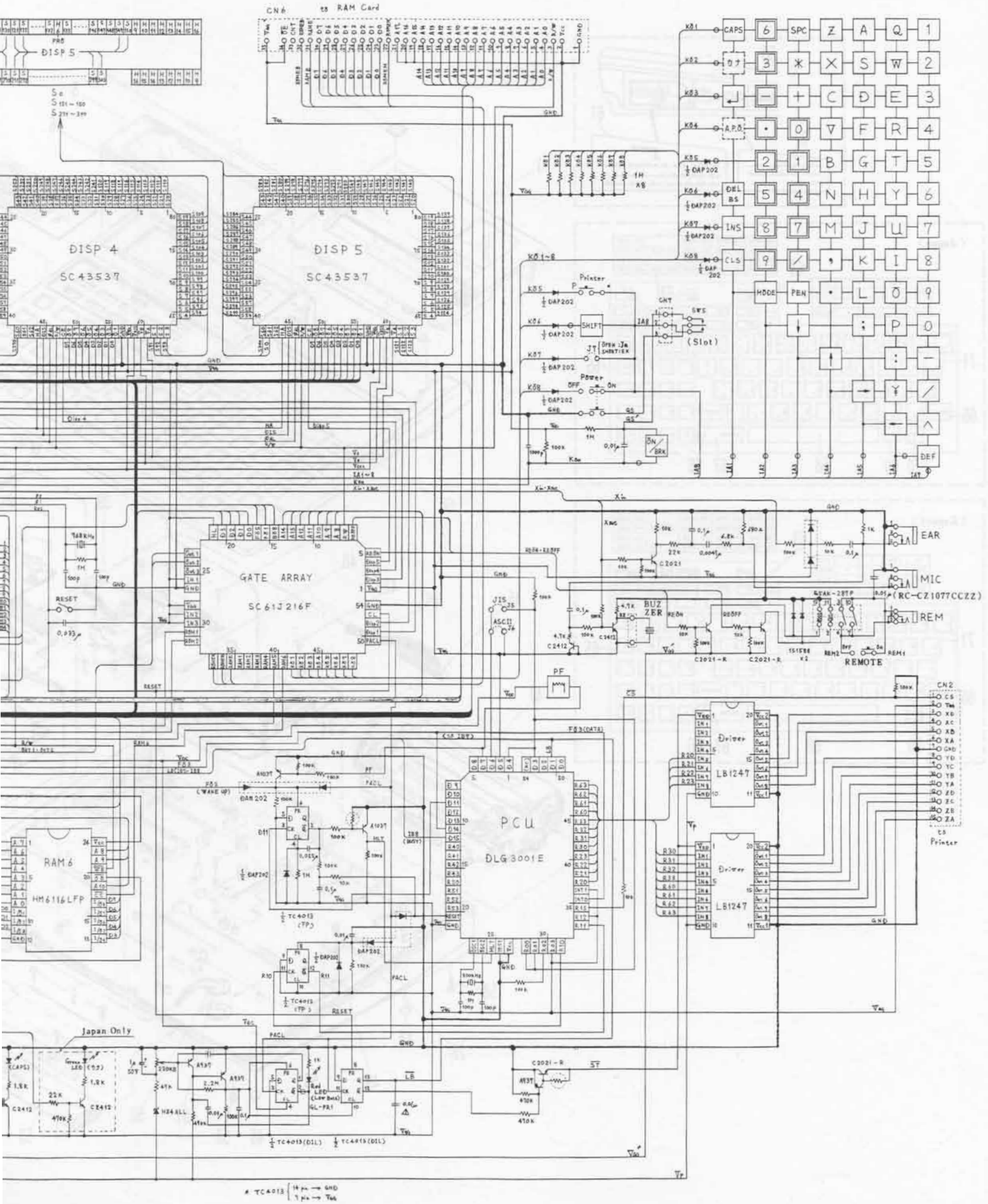
10. LCD P.W.B.


A5
0.1μF
SC43537
DISP5
SC43537
DISP4
SC43537
DISP3
CN1
H9
H10
H11
H12
H13
H14
H15
H16
D7
D6
D5
D4
D3
D2
D1
D0
DIS
φAL
R/W
HA

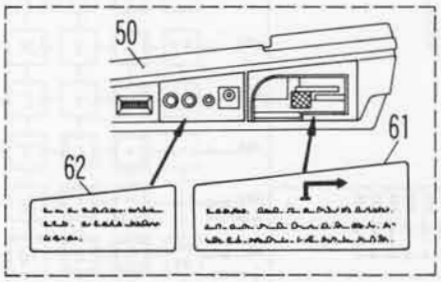

SC43537
DISC2
SC43537
DISC1
S19 S18 S17 S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4
S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42 S43
S44 S46 S48 S50 S52 S54 S56 S58
S45 S47 S49 S51 S53 S55 S57 S59
1 80 75 70 65 5 10 15 20 25 30 35 40
S2 S3 S1
VA VB
VDIS VGG
GND O1
O2 O3
O4 O5
O6 O7
O8 CE
R/W AL
DIS HA
S62 S61
S60
60 55 50 45
A5
0.1μF
CN9
VA
VB
VDIS
VGG
GND
DIS
AL
R/W
HA
Disp
5 4 3 2 1
H8 H7 H6 H5 H4 H3 H2 H1

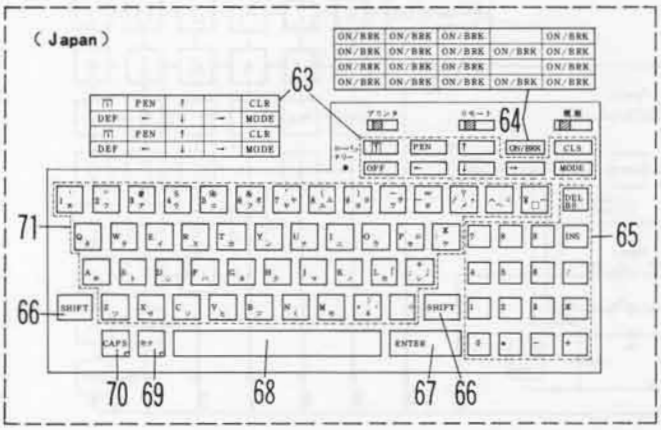
11. CIRCUIT DIAGRAM

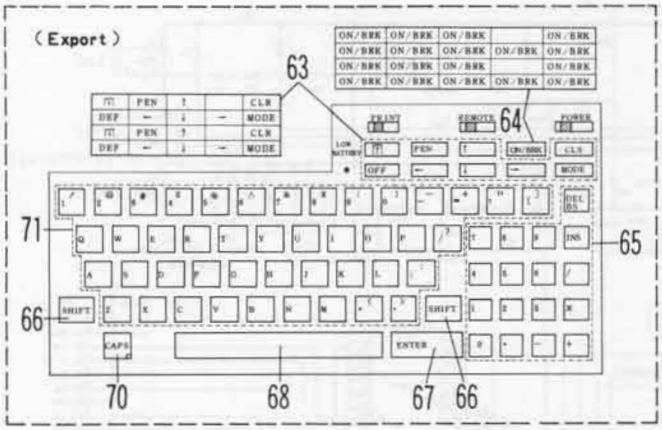


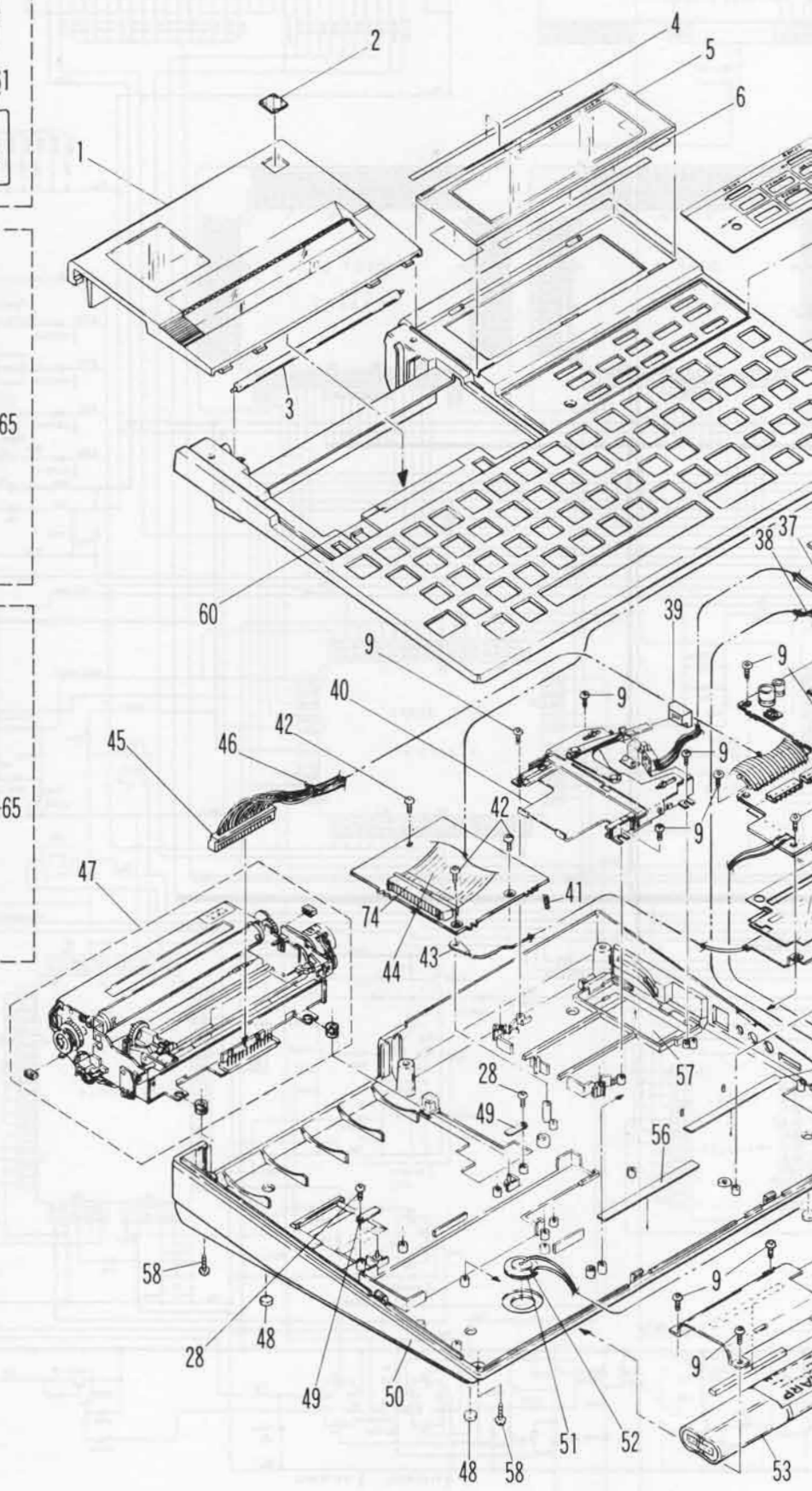

CN6
to RAM Card
DISP 5
DISP 4
SC43537
DISP 5
SC43537
GATE ARRAY
SC61J216F
RESET
RAM 6
HM6116LFP
PCU
DLG3001E
LB1247
LB1247
Driver
Driver
CN2
to Printer
CAPS
SPC
CLS
DEL
BS
INS
HOME
PEN
DEF
Printer
SHIFT
Power
OFF
ON
(Slot)
BUZZER
EAR
MIC
REM
REMOTE
(RC-CZ1077CCZZ)
Japan Only
TC4013 (DIL)
TC4013 (TP)

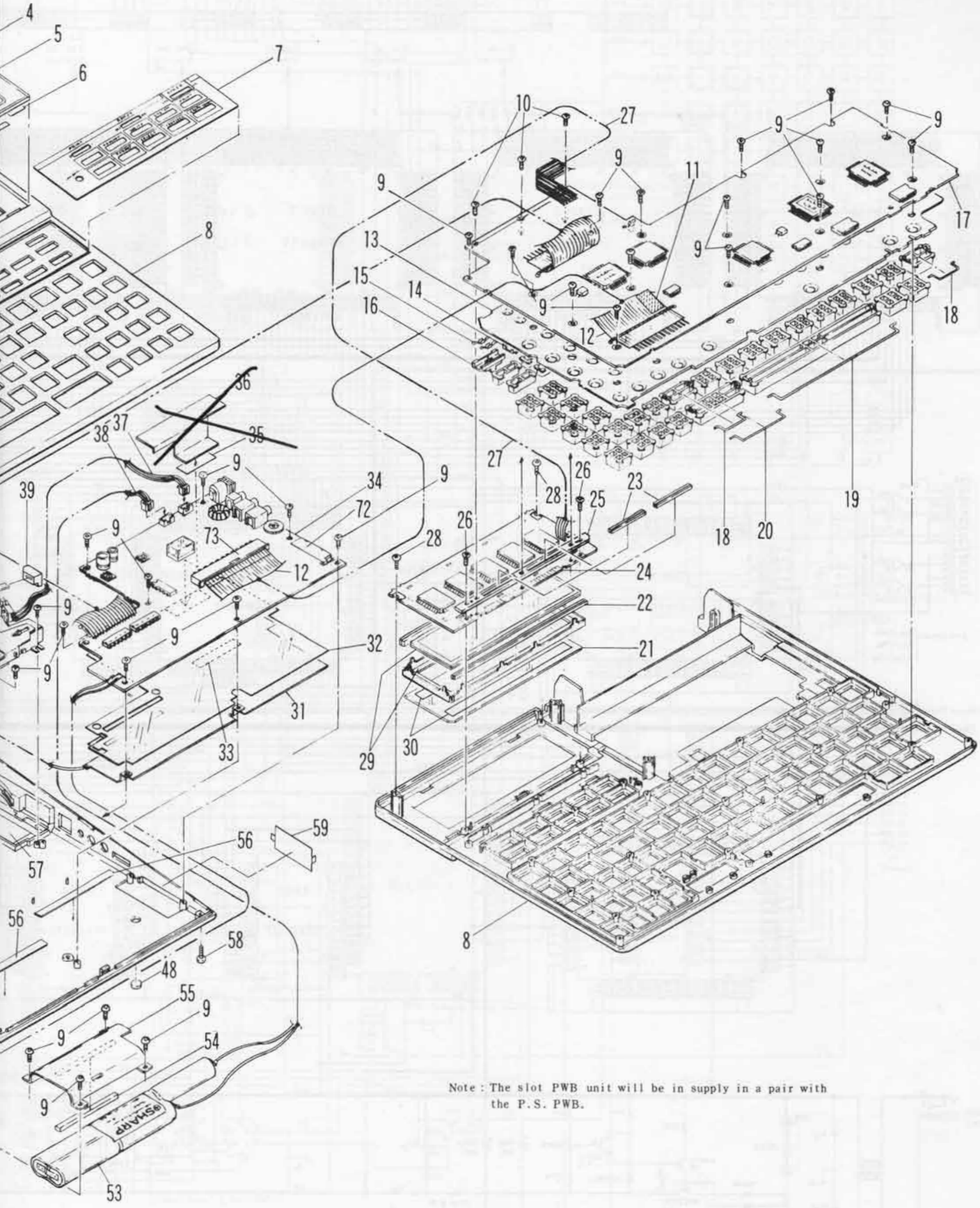
12. PARTS GUIDE











Note : The slot PWB unit will be in supply in a pair with the P.S. PWB.

13. PARTS LIST

1 機構部品(Mechanism parts)

NO.	PARTS CODE	PRICE RANK Ex	PRICE RANK Ja	NEW MARK	PART RANK	DESCRIPTION	
1	CCOVA1414CC02	AQ	ET	N	D	Paper cover unit (Japan)	ペーパーカバー ユニット
	CCOVA1414CC01	AG	DR	N	D	Paper cover unit (Export)	ペーパーカバーユニット
2	HBDGD1376CCZZ	AC	DC	N	C	Model badge	モデルバッヂ
3	NSFTZ1078CCZZ	AG	DU	N	C	Roll shaft	ロールシャフト
4	PTPEH1195CCZZ	AA	DA		C	Tape	テープ
5	PFiLW1528CCZZ	AU	FK	N	C	Acryl filter	アクリルフィルター
6	PTPEH1280CCZZ	AA	DA	N	C	Tape	リョウメンテープ
7	HDECA2176CCZZ	AF	DM	N	C	Dec. panel (Japan)	デコパネル
	HDECA2176CC01	AF	DP	N	D	Dec. panel (Export)	デコパネル
8	GCABB2829CC02	AP	EN	N	D	Top cabinet (Japan)	ウエ キャビネット
	GCABB2829CC03	AP	EN	N	D	Top cabinet (Export)	ウエ キャビネット
9	XUPSD26P05000	AA	DA		C	Screw (2.6×5)	ビス
10	XUPSD26P10000	AA	DA		C	Screw (2.6×10)	ビス
11	PZETL1220CCZZ	AA	DA		C	Insulator sheet	キー FPCヨウ マイラーシート
12	QCNW−1319CCZZ	AK	DZ	N	C	FPC (40pin)	FPC
13	PGUMM1568CC01	AS	FC	N	C	Key rubber	キーゴム
14	MSLiP1034CCZZ	AB	DB	N	C	Slide switch knob	スライドスイッチ ツマミ
15	QCNTM1042CCZZ	AA	DA		C	Slide switch terminal	スライドスイッチコンタクト
16	MSLiP1034CC01	AA	DA	N	C	Slide switch knob	スライドスイッチ ツマミ
17	DUNTK8467CCZZ	BX	TR	N	E	Key PWB unit (Japan)	キーキバン ユニット
	DUNTK8473CCZZ	BX	TR	N	E	Key PWB unit (Export)	キーキバン ユニット
18	PGiDW1043CCZZ	AA	DA	N	C	Guide pin (Shift)	ガイドピン
19	PGiDW1045CCZZ	AB	DB	N	C	Guide pin (Space･bar)	ガイドピン スペース
20	PGiDW1044CCZZ	AA	DA	N	C	Guide pin (Enter)	ガイドピン エンター
21	PFiLV1003ECZZ	AF	DQ	N	C	Polaized filter	ヘンコウフィルター
22	PGUMS1567CCZZ	AC	DE	N	C	Rubber connector	ゴム コネクター
23	PGUMS1583CCZZ	AA	DA	N	C	Rubber connector	ゴムコネクター
24	DUNTK8466CCZZ	BT	NP	N	E	LCD PWB unit	LCD キバン ユニット
25	LHLDZ1223CCZZ	AB	DB	N	C	Rubber connector holder	ゴムコネクター ホジョワク
26	XUPSD20P08000	AA	DA		C	Screw (2×8)	ビス
27	QCNW−1317CCZZ	AB	DC	N	C	FPC (5pin)	FPC
28	XUPSD20P05000	AA	DA		C	Screw (2×5)	ビス
29	DUNT−8254CCZZ	BC	GQ	N	E	LCD unit	LCD ユニット
30	PTPEH1039CCZZ	AA	DA		C	LCD fixing tape	LCDコテイテープ
31	PSLDP1487CCZZ	AE	DL	N	C	Shield plate	シールドバン
32	PZETL1552CCZZ	AC	DD	N	C	Insulator sheet	ゼツエンシート
33	PTPEH1280CCZZ	AA	DA		C	Tape	リョウメンテープ
34	DUNTK8465CCZZ	BP	MC	N	E	Power supply PWB unit	デンゲン キバン ユニット
37	QCNCW1327CC03	AC	DC		B	Connector (3pin with wire)	コネクター
38	QCNCW1376CC01	AC	DC		B	Connector (2pin with wire)	コネクター
39	JKNBZ1962CCZZ	AA	DA	N	C	RAM card knob	RAMカードヨウ ノブ
40	DUNT−8323CCZZ	AN	EH	N	E	Slider unit	スライダーユニット
41	MSPRC1299CCZZ	AA	DA	N	C	Spring	スプリング
42	XUBSD26P12000	AA	DA		C	Screw (2.6×12)	ビス
43	QLUGE1004CCZZ	AA	DA		C	Terminal	ラグタンシ
44	QCNW−1318CCZZ	AL	EB	N	C	FPC (30pin)	FPC
45	QCNCW1373CC01	AL	EC		C	Connector (15pin with wires)	コネクター
46	LHLDW1201CCZZ	AA	DA		C	Wire holder	ワイヤホルダー
47	Ki−OB1018CCZZ	BV	RR	N	E	Printer (DPG29)	プリンター
48	GLEGP1009CCZZ	AA	DA		C	Rubber foot	ゴム アシ
49	LANGT1346CCZZ	AA	DA		C	Printer fitting angle	プリンタートリツケアングル
50	GCABA2828CC02	AP	EN	N	D	Bottom cabinet (Japan)	ソコ キャビネット
	GCABA2828CC01	AP	EN	N	D	Bottom cabinet (Export)	ソコ キャビネット
51	PTPEH1213CCZZ	AB	DB		C	Tape	ハツオンタイ コテイテープ
52	RALMB1030CCZZ	AD	DF		B	Buzzer	ブザー
53	UBATN2135CCZZ	AZ	GG		A	Battery	バッテリー
54	PCUSS1113CCZZ	AA	DA		C	Battery cushion	バッテリーヨウ クッション
55	LANGK1573CCZZ	AC	DE	N	C	Battery pressor angle	バッテリーオサエアングル
56	PTPEH1222CCZZ	AA	DA		C	Tape for dec. panel	デコパネルヨウテープ
57	GFTAB1313CCZZ	AB	DB	N	D	Battery cover	デンチブタ
58	XUBSD26P06000	AA	DA		C	Screw (2.6×6)	ビス
59	GFTAA1287CC05	AB	DC	N	D	Connector cover	コネクターブタ
60	TLABZ2189CCZZ	AB	DB	N	C	Caution label (Export)	チュウイラベル
61	TLABH2187CCZZ	AC	DD	N	C	Instruction label A (Export)	セツメイ ラベル A
62	TLABH2188CCZZ	AC	DD	N	C	Instruction label B (Export)	セツメイ ラベル B
63	JKNBZ1952CC01	AB	DB	N	C	Key top (Half key)	キートップ
64	JKNBZ1955CC01	AB	DB	N	C	Key top (ON/BRK key)	キートップ
65	JKNBZ1949CC01	AB	DB	N	C	Key top (17Keys)	キートップ
66	JKNBZ1950CC03	AB	DB	N	C	Key top (Shift key)	キートップ
67	JKNBZ1950CC02	AB	DB	N	C	Key top (Enter key)	キートップ
68	JKNBZ1951CC01	AB	DB	N	C	Key top (Space･bar key)	キートップ
69	JKNBZ1953CC01		DB	N	C	Key top (カナ key)(Japan)	キートップ
70	JKNBZ1954CC01	AB	DB	N	C	Key top (Caps key)	キートップ
71	JKNBZ1948CC01	AB	DB	N	C	Key top (Alphabet key)(Japan)	キートップ
	JKNBZ1948CC02	AW	FR	N	C	Key top (Alphabet key)(Export)	キートップ
72	LANGT1582CCZZ	AB	DB	N	C	Angle for S10' connector	S10 コネクターヨウアングル
73	QCNCW1377CC40	AP	EN	N	C	Comector (40pin)	コネクター
74	QCNCW1382CC30	AL	EB	N	C	Comector (30pin)	コネクター

2 電源基板ユニット(Power supply PWB unit)

NO.	PARTS CODE	PRICE RANK Ex	PRICE RANK Ja	NEW MARK	PART RANK	DESCRIPTION	
1	LANGT1582CCZZ	AB	DB	N	C	Angle for S10 connector	S10コネクタヨウ アングル
2	QCNCM1338CC0B	AA	DA		B	Connector (2pin)	コネクター
3	QCNCM1338CC0C	AA	DA		B	Connector (3pin)	コネクター
4	QCNCW1368CC1E	AM	EF		C	Connector (15pin)	コネクター
5	QCNCW1373CC01	AL	EC		C	Connector (15pin with wire)	コネクター
6	QCNCW1377CC40	AP	EN	N	C	Connector (40pin)	コネクター
7	QCNCW1382CC30	AL	EB	N	C	Connector (30pin)	コネクター
8	QCNTM1051CCZZ	AB	DB		C	Reset terminal	リセット タンシ
9	QCNTF1065CCZZ	AV	FL		C	Connector (35pin)	コネクター
10	QJAKC1003CCZZ	AD	DH		B	Jack for AC adaptor	AC アダプターヨウ ジャック
11	QJAKC1013CCZZ	AC	DD		B	Jack for MIC	マイクロホン ジャック
12	QJAKC1016CCZZ	AC	DH		C	Jack socket (for Remote)	ジャック ソケット
13	VCTYPU1NX104M	AB	DB		C	Capacitor (12WV 0.10μF)	コンデンサー
14	RC-CZ1077CCZZ	AC	DE		C	Capacitor (16WV 10000pF)	コンデンサー
15	RC-EZ105CCC1H	AB	DC		C	Capacitor (50WV 1μF)	コンデンサー
16	RC-EZ227BCC1A	AC	DC		C	Capacitor (10WV 220μF)	コンデンサー
17	RC-EZ227DCC1C	AC	DC	N	C	Capacitor (16WV 220μF)	コンデンサー
18	RFiLN1008CCZZ	AH	DX		C	Filter (ESD-H-14B)	フィルター
19	RRLYZ2400QCZZ	AP	EN		B	Relay	リレー
20	RVR-MB512QCZZ	AD	DF		B	Variable resistor	ボリウム
21	RVR-Z2400QCZZ	AF	DN		B	Variable resistor (20KΩ)	ボリウム
22	VCTYPU1EX103M	AB	DB		C	Capacitor (25WV 0.01μF)	コンデンサー
23	VCTYPU1EX472M	AA	DB		C	Capacitor (25WV 4700pF)	コンデンサー
24	VHDDS1588L2-1	AB	DB		B	Diode (DS1588L2)	ダイオード
25	VHD1SS98///-1	AD	DH		B	Diode (1SS98)	ダイオード
26	VHD10D1////-1	AD	DD		B	Diode (10D1)	ダイオード
27	VHD11DQ03//-1	AE	DH		B	Diode (11DQ03)	ダイオード
28	VHEHZ2BLL//-1	AC	DD		B	Zener diode (HZ2BLL)	ツェナーダイオード
29	VHEHZ4ALL//-1	AD	DH		B	Zener diode (HZ4ALL)	ツェナーダイオード
30	VHiLB1247//-1	AM	EE	N	B	IC (LB1247)	IC
31	VHiTC4013BP-1	AK	EC		B	IC (TC4013BP-1)	IC
32	VRD-ST2EY102J	AA	DB		C	Resistor (1/4W 1KΩ ±5%)	テイコウ
33	VRD-ST2EY103J	AA	DA		C	Resistor (1/4W 10KΩ ±5%)	テイコウ
34	VRD-ST2EY104J	AA	DA		C	Resistor (1/4W 100KΩ ±5%)	テイコウ
35	VRD-ST2EY223J	AA	DA		C	Resistor (1/4W 22KΩ ±5%)	テイコウ
36	VRD-ST2EY224J	AA	DA		C	Resistor (1/4W 220KΩ ±5%)	テイコウ
37	VRD-ST2EY225J	AA	DA		C	Resistor (1/4W 2.2MΩ ±5%)	テイコウ
38	VRD-ST2EY334J	AA	DA		C	Resistor (1/4W 330KΩ ±5%)	テイコウ
39	VRD-ST2EY393J	AA	DA		C	Resistor (1/4W 39KΩ ±5%)	テイコウ
40	VRD-ST2EY473J	AA	DA		C	Resistor (1/4W 47KΩ ±5%)	テイコウ
41	VRD-ST2EY474J	AA	DA		C	Resistor (1/4W 470KΩ ±5%)	テイコウ
42	VRD-ST2EY563J	AA	DA		C	Resistor (1/4W 56KΩ ±5%)	テイコウ
43	VRD-ST2EY681J	AA	DA		C	Resistor (1/4W 680Ω ±5%)	テイコウ
44	VRD-ST2EY682J	AA	DB		C	Resistor (1/4W 6.8KΩ ±5%)	テイコウ
45	VRD-ST2HY220J	AB	DB		C	Resistor (1/2W 22Ω ±5%)	テイコウ
46	VRD-ST2HY270J	AB	DB		C	Resistor (1/2W 27Ω ±5%)	テイコウ
47	VS2SA937-//-1	AB	DB		B	Transistor (2SA937)	トランジスター
48	VS2SC2021-RSC	AF	DQ		B	Transistor (2SC2021-RS)	トランジスター
49	VS2SD1227MR-1	AD	DF	N	B	Transistor (2SD1227MR)	トランジスター
50	VS2SJ43-P/Q-C	AE	DH		B	Transistor (2SJ43-P/Q-C)	トランジスター
	ユニット (Unit)						
901	DUNTK8465CCZZ	BP	MC	N	E	Power supply PWB unit	デンゲン キバン ユニット

3 LCD基板ユニット(LCD PWB unit)

NO.	PARTS CODE	PRICE RANK Ex	PRICE RANK Ja	NEW MARK	PART RANK	DESCRIPTION	
1	DUNT-8254CCZZ	BC	GQ	N	E	LCD unit	LCD ユニット
2	PGUMS1567CCZZ	AC	DE	N	C	Rubber connector	ゴム コネクター
3	RC-CZ1021CCZZ	AB	DB		C	Capacitor (0.1μF)	コンデンサー
4	VHiSC43537LDN	AW	FS		B	IC (SC43537LDN)	IC
	ユニット (Unit)						
901	DUNTK8466CCZZ	BT	NP	N	E	LCD PWB unit	LCD キバン ユニット

4 キー基板ユニット(Key PWB unit)

NO.	PARTS CODE	PRICE RANK Ex	PRICE RANK Ja	NEW MARK	PART RANK	DESCRIPTION	
1	QCNW-1318CCZZ	AL	EB	N	C	FPC (30pin)	FPC
2	QCNW-1319CCZZ	AK	DZ	N	C	FPC (40pin)	FPC
3	RC-CZ1021CCZZ	AB	DB		C	Capacitor (0.1μF)	コンデンサー
4	RC-CZ1031CCZZ	AB	DB		C	Capacitor (1000pF)	コンデンサー
5	RC-CZ1035CCZZ	AC	DD		C	Capacitor (100pF)	コンデンサー
6	RC-CZ1037CCZZ	AB	DB		C	Capacitor (0.01μF)	コンデンサー

4 キー基板ユニット(Key PWB unit)

NO.	PARTS CODE	PRICE RANK Ex	PRICE RANK Ja	NEW MARK	PART RANK	DESCRIPTION	
7	RC-CZ1047CCZZ	AB	DB		C	Capacitor (0.033μF)	コンデンサー
8	RC-CZ1048CCZZ	AB	DC		C	Capacitor (0.022μF)	コンデンサー
9	RC-SZ1007CCZZ	AF	DL		C	Capacitor (1μF)	コンデンサー
10	RCRM-1002CCZZ	AF	DM	N	B	Crystal (800KHz)	クリスタル
11	RCRSZ1063CCZZ	AF	DM		B	Crystal (768KHz)	クリスタル
12	RH-DZ1005CCZZ	AC	DC		B	Diode (DAP202)	ダイオード
13	RH-DZ1008CCZZ	AC	DD		B	Diode (DAN202)	ダイオード
15	VHiDLG3002E-1	BA	GJ		B	IC (DLG3001E)	IC
16	VHiHM6116//-C	AZ	GG		B	IC (HM6116)	IC
17	VHiSC61J216FN	AX	FU		B	IC (SC61J216FN)	IC
18	VHiSC61860A14	BA	GJ		B	IC (SC61860A14)	IC
19	VHiTC4013BF//	AG	DT		B	IC (TC4013BF)	IC
20	VHiTC50H001FN	AH	DY		B	IC (TC50H001FN)	IC
21	VHi613256FS43	BA	GK	N	B	IC (613256FS43)	IC
22	VHi613256FS44	BA	GK	N	B	IC (613256FS44)(Japan)	IC
	VHi613256FS45	BA	GK	N	B	IC (613256FS45)(Export)	IC
23	VHPGL3NG1//-1	AB	DC		B	Photo transistor (GL3NG1)	フォトトランジスター
24	VHPGL3AR2///1	AD	DH		B	LED (GL-3AR2)	LED
25	VRS-TP2BD102J	AA	DA		C	Resistor (1/8W 1KΩ ±5%)	テイコウ
26	VRS-TP2BD103J	AA	DA		C	Resistor (1/8W 10KΩ ±5%)	テイコウ
27	VRS-TP2BD104J	AA	DA		C	Resistor (1/8W 100KΩ ±5%)	テイコウ
28	VRS-TP2BD105J	AA	DA		C	Resistor (1/8W 1.0MΩ ±5%)	テイコウ
29	VRS-TP2BD182J	AA	DA		C	Resistor (1/8W 1.8KΩ ±5%)	テイコウ
30	VRS-TP2BD223J	AA	DA		C	Resistor (1/8W 22KΩ ±5%)	テイコウ
31	VRS-TP2BD303J	AA	DA		C	Resistor (1/8W 30KΩ ±5%)	テイコウ
32	VRS-TP2BD472J	AA	DA		C	Resistor (1/8W 4.7KΩ ±5%)	テイコウ
33	VRS-TP2BD474J	AA	DA		C	Resistor (1/8W 470KΩ ±5%)	テイコウ
34	VS2SA1037-/-1	AB	DB		B	Transistor (2SA1037)	トランジスター
35	VS2SC2412-/-1	AC	DD		B	Transistor (2SC2412)	トランジスター
	ユニット (Unit)						
901	DUNTK8467CCZZ	BX	TR	N	E	Key PWB unit (Japan)	キー キバン ユニット
	DUNTK8473CCZZ	BX	TR	N	E	Key PWB unit (Export)	キー キバン ユニット

5 梱包材・付属部品(Packing material and Accessories)

NO.	PARTS CODE	PRICE RANK Ex	PRICE RANK Ja	NEW MARK	PART RANK	DESCRIPTION		
1	DUNT-6451CC03	BD	ZZ		C	AC adapter (EA150)(SA)	Japan	ACアダプター
	DUNT-6452CC03	BE	HB		C	AC adapter (EA150)(USA,CANADA,SD)	USA, Canada	ACアダプター
	DUNT-6453CC03	BF	HD		C	AC adapter (EA150)(MA)		ACアダプター
	DUNT-6454CC03	BF	HD		C	AC adapter (EA150)(MB)		ACアダプター
	DUNT-6455CC03	BD	GU		C	AC adapter (EA150)(MV)		ACアダプター
	QPLGA1012CCZZ	AF	DP		C	Plug conversion adaptor (SB,SC)		アダプター ヘンカン プラグ
	DUNT-6457CC03	BF	HF		C	AC adapter (EA150)(SB,SC)		ACアダプター
	DUNT-6461CC03	BF	HF		C	AC adapter (EA150)(SH)		ACアダプター
	DUNT-6462CC03	BF	HF		C	AC adapter (EA150)(SK)		ACアダプター
	DUNT-6553CC03	BF	HF		C	AC adapter (EA150)(SN)		ACアダプター
	CADPA1013CC01	BG	HJ		C	AC adapter (EA150)(SM)		ACアダプター
2	TCADZ1696CCZZ		DD	N	D	Card (Japan)		ハンソクカードオビ
3	TiNSJ4425CCZZ	BA	GH	N	D	Instruction book (Japan)		トリアツカイセツメイショ
	TiNSE4345CCZZ	BA	GH	N	D	Instruction book (English)		トリアツカイセツメイショ
	TiNSG4348CCZZ	BA	GK	N	D	Instruction book (Germany)		トリアツカイセツメイショ
4	TCAUK1237CCZZ		DA	N	C	Caution label (Japan)		コンポウ チュウイ ラベル
	TCAUK1240CCZZ	AA	DA	N	C	Caution label (Export)		コンポウ チュウイ ラベル
5	TLSTS1006CCZZ		DA		D	Service list (Japan type only)		サービスリスト
6	TCAUK1191CCZZ	AA	DA		D	Caution card		ジュウデンセツメイカード
7	TCADH1703CCZZ	AA	DA	N	C	Instruction card (Export)		セツメイカード
8	QPLGJ1022CCZZ	AQ	ET	N	C	Cassette cable		カセットケーブル
9	TPAPR1041CCZZ		ZZ		S	Roll paper (EA515P)(3pcs/pack)		ロールペーパー
11	SPAKA062ACCZZ	AG	DS	N	D	Packing cushion for set		セットヨウ パッキングアド
12	SPAKA063ACCZZ	AE	DK	N	D	Packing cushion for accessories		フゾク ヨウ パッキングアド
13	SPAKC288ACCZZ	AN	EH	N	D	Packing case (Japan)		パッキングケース
	SPAKC070ACCZZ	AN	EH	N	D	Packing case (Export)		パッキングケース
14	SPAKA146ACCZZ	AB	DC	N	D	Packing cushion		コゾウ ヨウ トッテ
15	SPAKA158ACCZZ	AB	DC	N	D	Packing cushion		プリンタアド
16	SPAKA159ACCZZ	AF	DK	N	D	Packing cushion		SETホゴアド
17	SPAKA194ACCZZ	AA	DA	N	D	Packing cushion		レバーホゴアド
18	SSAKA0002FCZZ	AA	DA		D	Vinyl bag (300×420mm)		ポリブクロ
19	SSAKH3015CCZZ	AA	DA		D	Vinyl bag (260×360mm)		ポリブクロ

■索 引

■索 引 (Index)

PARTS CODE	NO.	PRICE R. Ex.	PRICE R. Ja.	NEW	P/R
【C】					
CADPA1013CC01	5- 1	BG	HJ		C
CCOVA1414CC01	1- 1	AG	DR	N	D
CCOVA1414CC02	1- 1	AQ	ET	N	D
【D】					
DUNT-6451CC03	5- 1	BD	ZZ		C
DUNT-6452CC03	5- 1	BE	HB		C
DUNT-6453CC03	5- 1	BF	HD		C
DUNT-6454CC03	5- 1	BF	HD		C
DUNT-6455CC03	5- 1	BD	GU		C
DUNT-6457CC03	5- 1	BF	HF		C
DUNT-6461CC03	5- 1	BF	HF		C
DUNT-6462CC03	5- 1	BF	HF		C
DUNT-6553CC03	5- 1	BF	HF		C
DUNT-8254CCZZ	1- 29	BC	GQ	N	E
//	3- 1	BC	GQ	N	E
DUNT-8323CCZZ	1- 40	AN	EH	N	E
DUNTK8465CCZZ	1- 34	BP	MC	N	E
//	2- 901	BP	MC	N	E
DUNTK8466CCZZ	1- 24	BT	NP	N	E
//	3- 901	BT	NP	N	E
DUNTK8467CCZZ	1- 17	BX	TR	N	E
//	4- 901	BX	TR	N	E
DUNTK8473CCZZ	1- 17	BX	TR	N	E
//	4- 901	BX	TR	N	E
【G】					
GCABA2828CC01	1- 50	AP	EN	N	D
GCABA2828CC02	1- 50	AP	EN	N	D
GCABB2829CC02	1- 8	AP	EN	N	D
GCABB2829CC03	1- 8	AP	EN	N	D
GFTAA1287CC05	1- 59	AB	DC	N	D
GFTAB1313CCZZ	1- 57	AB	DB	N	D
GLEGP1009CCZZ	1- 48	AA	DA		C
【H】					
HBDGD1376CCZZ	1- 2	AC	DC	N	C
HDECA2176CCZZ	1- 7	AF	DM	N	C
HDECA2176CC01	1- 7	AF	DP	N	D
【J】					
JKNBZ1948CC01	1- 71	AB	DB	N	C
JKNBZ1948CC02	1- 71	AW	FR	N	C
JKNBZ1949CC01	1- 65	AB	DB	N	C
JKNBZ1950CC02	1- 67	AB	DB	N	C
JKNBZ1950CC03	1- 66	AB	DB	N	C
JKNBZ1951CC01	1- 68	AB	DB	N	C
JKNBZ1952CC01	1- 63	AB	DB	N	C
JKNBZ1953CC01	1- 69		DB	N	C
JKNBZ1954CC01	1- 70	AB	DB	N	C
JKNBZ1955CC01	1- 64	AB	DB	N	C
JKNBZ1962CCZZ	1- 39	AA	DA	N	C
【K】					
KI-OB1018CCZZ	1- 47	BV	RR	N	E
【L】					
LANGK1573CCZZ	1- 55	AC	DE	N	C
LANGT1346CCZZ	1- 49	AA	DA		C
LANGT1582CCZZ	2- 1	AB	DB	N	C
LHLDW1201CCZZ	1- 46	AA	DA		C
LHLDZ1223CCZZ	1- 25	AB	DB	N	C
【M】					
MSLIP1034CCZZ	1- 14	AB	DB	N	C
MSLIP1034CC01	1- 16	AA	DA	N	C
MSPRC1299CCZZ	1- 41	AA	DA	N	C
【N】					
NSFTZ1078CCZZ	1- 3	AG	DU	N	C
【P】					
PCUSS1113CCZZ	1- 54	AA	DA		C
PFILV1003ECZZ	1- 21	AF	DQ	N	C
PFILW1528CCZZ	1- 5	AU	FK	N	C
PGIDW1043CCZZ	1- 18	AA	DA	N	C
PGIDW1044CCZZ	1- 20	AA	DA	N	C
PGIDW1045CCZZ	1- 19	AB	DB	N	C
PGUMM1568CC01	1- 13	AS	FC	N	C
PGUMS1567CCZZ	1- 22	AC	DE	N	C
//	3- 2	AC	DE	N	C
PGUMS1583CCZZ	1- 23	AA	DA	N	C
PSLDP1487CCZZ	1- 31	AE	DL	N	C
PTPEH1039CCZZ	1- 30	AA	DA		C
PTPEH1195CCZZ	1- 4	AA	DA		C
PTPEH1213CCZZ	1- 51	AB	DB		C
PTPEH1222CCZZ	1- 56	AA	DA		C

PARTS CODE	NO.	PRICE R. Ex.	PRICE R. Ja.	NEW	P/R
PTPEH1280CCZZ	1- 6	AA	DA	N	C
//	1- 33	AA	DA	N	C
PZETL1220CCZZ	1- 11	AA	DA		C
PZETL1552CCZZ	1- 32	AC	DD	N	C
【Q】					
QCNCM1338CC0B	2- 2	AA	DA		B
QCNCM1338CC0C	2- 3	AA	DA		B
QCNCW1327CC03	1- 37	AC	DC		B
QCNCW1368CC1E	2- 4	AM	EF		C
QCNCW1373CC01	1- 45	AL	EC		C
//	2- 5	AL	EC		C
QCNCW1376CC01	1- 38	AC	DC		B
QCNCW1377CC40	2- 6	AP	EN	N	C
QCNCW1382CC30	2- 7	AL	EB	N	C
QCNTF1065CCZZ	2- 9	AV	FL		C
QCNTM1042CCZZ	1- 15	AA	DA		C
QCNTM1051CCZZ	2- 8	AB	DB		C
QCNW-1317CCZZ	1- 27	AB	DC	N	C
QCNW-1318CCZZ	1- 44	AL	EB	N	C
//	4- 1	AL	EB	N	C
QCNW-1319CCZZ	1- 12	AK	DZ	N	C
//	4- 2	AK	DZ	N	C
QJAKC1003CCZZ	2- 10	AD	DH		B
QJAKC1013CCZZ	2- 11	AC	DD		B
QJAKC1016CCZZ	2- 12	AC	DH		C
QLUGE1004CCZZ	1- 43	AA	DA		C
QPLGA1012CCZZ	5- 1	AF	DP		C
QPLGJ1022CCZZ	5- 8	AQ	ET	N	C
【R】					
RALMB1030CCZZ	1- 52	AD	DF		B
RC-CZ1021CCZZ	3- 3	AB	DB		C
//	4- 3	AB	DB		C
RC-CZ1031CCZZ	4- 4	AB	DB		C
RC-CZ1035CCZZ	4- 5	AC	DD		C
RC-CZ1037CCZZ	4- 6	AB	DB		C
RC-CZ1047CCZZ	4- 7	AB	DB		C
RC-CZ1048CCZZ	4- 8	AB	DC		C
RC-CZ1077CCZZ	2- 14	AC	DE		C
RC-EZ105CCC1H	2- 15	AB	DC		C
RC-EZ227BCC1A	2- 16	AC	DC		C
RC-EZ227DCC1C	2- 17	AC	DC	N	C
RC-SZ1007CCZZ	4- 9	AF	DL		C
RCRM-1002CCZZ	4- 10	AF	DM	N	B
RCRSZ1063CCZZ	4- 11	AF	DM		B
RFILN1008CCZZ	2- 18	AH	DX		C
RH-DZ1005CCZZ	4- 12	AC	DC		B
RH-DZ1008CCZZ	4- 13	AC	DD		B
RRLYZ2400QCZZ	2- 19	AP	EN		B
RVR-MB512QCZZ	2- 20	AD	DF		B
RVR-Z2400QCZZ	2- 21	AF	DN		B
【S】					
SPAKA062ACCZZ	5- 11	AG	DS	N	D
SPAKA063ACCZZ	5- 12	AE	DK	N	D
SPAKA146ACCZZ	5- 14	AB	DC	N	D
SPAKA158ACCZZ	5- 15	AB	DC	N	D
SPAKA159ACCZZ	5- 16	AF	DK	N	D
SPAKA194ACCZZ	5- 17	AA	DA	N	D
SPAKC070ACCZZ	5- 13	AN	EH	N	D
SPAKC288ACCZZ	5- 13	AN	EH	N	D
SSAKA0002FCZZ	5- 18	AA	DA		D
SSAKH3015CCZZ	5- 19	AA	DA		D
【T】					
TCADH1703CCZZ	5- 7	AA	DA	N	C
TCADZ1696CCZZ	5- 2		DD	N	D
TCAUK1191CCZZ	5- 6	AA	DA		D
TCAUK1237CCZZ	5- 4		DA	N	C
TCAUK1240CCZZ	5- 4	AA	DA	N	C
TINSE4345CCZZ	5- 3	BA	GH	N	D
TINSG4348CCZZ	5- 3	BA	GK	N	D
TINSJ4425CCZZ	5- 3	BA	GH	N	D
TLABH2135CCZZ	1- 61	AC	DE	N	C
TLABH2136CCZZ	1- 62	AC	DE	N	C
TLABH2187CCZZ	1- 61	AC	DD	N	C
TLABH2188CCZZ	1- 62	AC	DD	N	C
TLABZ2133CCZZ	1- 60	AB	DC	N	C
TLABZ2189CCZZ	1- 60	AB	DB	N	C
TLSTS1006CCZZ	5- 5		DA		D
TPAPR1041CCZZ	5- 9		ZZ		S

PARTS CODE	NO.	PRICE R. Ex.	PRICE R. Ja.	NEW	P/R	
〔U〕						
UBATN2135CCZZ	1- 53	AZ	GG		A	
〔V〕						
VCTYPU1EX103M	2- 22	AB	DB		C	
VCTYPU1EX472M	2- 23	AA	DB		C	
VCTYPU1NX104M	2- 13	AB	DB		C	
VHDDS1588L2-1	2- 24	AB	DB		B	
VHD1SS98///-1	2- 25	AD	DH		B	
VHD10D1////-1	2- 26	AD	DD		B	
VHD11DQ03//-1	2- 27	AE	DH		B	
VHEHZ2BLL//-1	2- 28	AC	DD		B	
VHEHZ4ALL//-1	2- 29	AD	DH		B	
VHIDLG3002E-1	4- 15	BA	GJ		B	
VHIHM6116//-C	4- 16	AZ	GG		B	
VHILB1247//-1	2- 30	AM	EE	N	B	
VHISC43537LDN	3- 4	AW	FS		B	
VHISC61J216FN	4- 17	AX	FU		B	
VHISC61860A14	4- 18	BA	GJ		B	
VHITC4013BF//	4- 19	AG	DT		B	
VHITC4013BP-1	2- 31	AK	EC		B	
VHITC50H001FN	4- 20	AH	DY		B	
VHI613256FS43	4- 21	BA	GK	N	B	
VHI613256FS44	4- 22	BA	GK	N	B	
VHI613256FS45	4- 22	BA	GK	N	B	
VHPGL3AR2///1	4- 24	AD	DH		B	
VHPGL3NG1//-1	4- 23	AB	DC		B	
VRD-ST2EY102J	2- 32	AA	DB		C	
VRD-ST2EY103J	2- 33	AA	DA		C	
VRD-ST2EY104J	2- 34	AA	DA		C	
VRD-ST2EY223J	2- 35	AA	DA		C	
VRD-ST2EY224J	2- 36	AA	DA		C	

PARTS CODE	NO.	PRICE R. Ex.	PRICE R. Ja.	NEW	P/R	
VRD-ST2EY225J	2- 37	AA	DA		C	
VRD-ST2EY334J	2- 38	AA	DA		C	
VRD-ST2EY393J	2- 39	AA	DA		C	
VRD-ST2EY473J	2- 40	AA	DA		C	
VRD-ST2EY474J	2- 41	AA	DA		C	
VRD-ST2EY563J	2- 42	AA	DA		C	
VRD-ST2EY681J	2- 43	AA	DA		C	
VRD-ST2EY682J	2- 44	AA	DB		C	
VRD-ST2HY220J	2- 45	AB	DB		C	
VRD-ST2HY270J	2- 46	AB	DB		C	
VRS-TP2BD102J	4- 25	AA	DA		C	
VRS-TP2BD103J	4- 26	AA	DA		C	
VRS-TP2BD104J	4- 27	AA	DA		C	
VRS-TP2BD105J	4- 28	AA	DA		C	
VRS-TP2BD182J	4- 29	AA	DA		C	
VRS-TP2BD223J	4- 30	AA	DA		C	
VRS-TP2BD303J	4- 31	AA	DA		C	
VRS-TP2BD472J	4- 32	AA	DA		C	
VRS-TP2BD474J	4- 33	AA	DA		C	
VS2SA1037-/-1	4- 34	AB	DB		B	
VS2SA937-//-1	2- 47	AB	DB		B	
VS2SC2021-RSC	2- 48	AF	DQ		B	
VS2SC2412-/-1	4- 35	AC	DD		B	
VS2SD1227MR-1	2- 49	AD	DF	N	B	
VS2SJ43-P/Q-C	2- 50	AE	DH		B	
〔X〕						
XUBSD26P06000	1- 58	AA	DA		C	
XUBSD26P12000	1- 42	AA	DA		C	
XUPSD20P05000	1- 28	AA	DA		C	
XUPSD20P08000	1- 26	AA	DA		C	
XUPSD26P05000	1- 9	AA	DA		C	
XUPSD26P10000	1- 10	AA	DA		C	

4 AC adaptor

	Voltage (V)	Type of plug	Country
MA	240	Square (NSW) 3-pin	Australia, New Zealand, Fiji
MB	240	BS 3-pin	England
MV	220	Round (SEV) 2-pin	Germany, Finland, Sweden, Norway, Denmark, Switzerland(SEV)
SA	100	Flat 2-P	Japan, Korea
SB	110/220	Round 2-p	Rumania, Spain, Turkey, U.S.S.R, Yugoslavia, Argentina, (Bolivia), (Brazil), Austria, Belgium, Bulgaria, Czechoslovakia, France, Chile, Paraguay, Peru, Uruguay, French Guiana, Guadeloupe, Greece, Netherlands, Hungary, Iceland, Italy, Poland, Portugal, Afghanistan, Thailand, Burme, India, Indonesia, Iran, Iraq, Jordan, (Lebanon), Nepal, Pakistan, Qatar, Algeria, Dahomey, Ethiopia, Ghana, Republic of the Ivory Coast, (Cameroun), Kenya, Malawi, Mali, Rwanda, (Sengal), Sudan, Togo, Tunisia, Yemen, Canary Island, Bangladesh, Mozambique, Libya, Congo, Angola, The United Arab Emirates, S.R. of Viet Nam. Cyprus, Gibralter, Malta, Nigeria, Mauritius, Sierra Leone
SC	110/220	Flat 2-p	Taiwan, Jamaica, Liberia, (Guam), Philippines, Honduras
SD	120	Flat 2-p	Republic of Panama, El Salvador, Trinidad and Tobago, Colombia, Nicaragua, Venezela, Mexico, Bermuda, Costa-Rica, Dominica, Ecuador, Guyana, Guatemala, Barbados.
SE	200	Round 3-p	Hong Kong
SH	220	Round 2-P	Republic of South Africa
SK	240	Round 2-p	Kuwait, Tanzania, Zambia, Uganda, Syria
SM	240	Square 3-p	Singapore, Malaysia
SN	127/220	Round 2-p	Saudi Arabia
U.S.A	120	Flat 2-p	U.S.A
CANADA	120	Flat 2-p	CANADA

SHARP

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1985 August Printed in Japan Ⓢ