

SHARP

SERVICE MANUAL

Code : 00ZPC1245S / ME



MODEL PC-1245

CONTENTS

1. SPECIFICATION	1
2. DIFFERENCE BETWEEN THE PC-1245 AND THE PC-1250.....	1
3. CPU PIN NO. AND SIGNAL DESCRIPTION	2
4. CIRCUITDIAGRAM.....	3
5. PARTS & SIGNAL LAYOUT CHART.....	4
6. PARTS LIST	5
7. PARTS GUIDE.....	6

This machine is a sister machine of the PC-1250 and the PC-1251 and is partly different from those models in appearance and specifications.

SHARP CORPORATION

1. SPECIFICATION

Model:	PC-1245	
Calculating Capacity:	10 digits (mantissa) + 2 digits (exponent)	
Calculating System:	Algebraic system (with priority judgement function)	
Programming Language:	BASIC	
CPU:	8 bit CMOS	
System ROM:	24K bytes	
Memory Capacity:	System Area	About 0.5K bytes
	Area dedicated to data	208 bytes
	Program/data area	1486 bytes
Stack:	Sub-routine:	10 stacks
	For-NEXT:	5 stacks
	Function:	16 stacks
	Data:	8 stacks
Operators:	Basic calculations:	Addition, subtraction, multiplication, division
	Function calculations:	Trigonometric and inverse trigonometric functions, logarithmic and exponential functions, angle conversion, square root, integer, absolute, sign operators, π .
Editing Features:	Cursor left and right ($>$, $<$), character insert (INS), character delete (DEL), line up and down (\downarrow , \uparrow)	
Memory Protection:	Battery backup (the contents of programme and its data are retained at power-off.)	
Display:	16-character liquid crystal display with 5 x 7 dot characters	
Operating Temperature:	$0^\circ\text{C} \sim 40^\circ\text{C}$ ($32^\circ\text{F} \sim 104^\circ\text{F}$)	
Power Supply:	6V DC Lithium cells Type: CR-2032	
Operating Time:	Approx. 300 hours	(Display: 55555555, ambient temperature: 20°C (68°F). The operating time slightly varies depending upon the use of battery.)
Power Consumption:	0.03 W	
Dimensions:	135 (W) x 70 (D) x 9.5 (H) mm 5-5/16" (W) x 2-3/4" (D) x 3/8" (H)	
Weight:	115g (0.25 lbs) (with cells)	

2. DIFFERENCE BETWEEN THE PC-1245 AND THE PC-1250

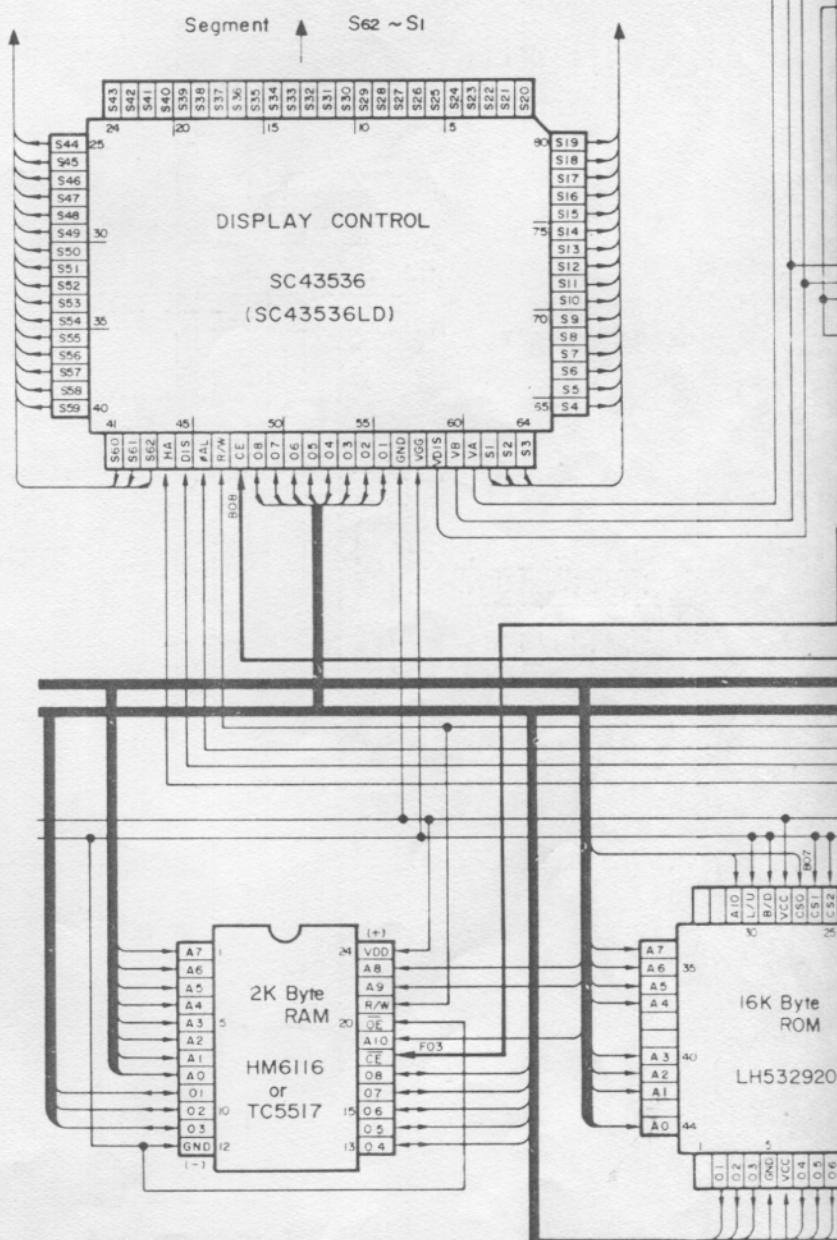
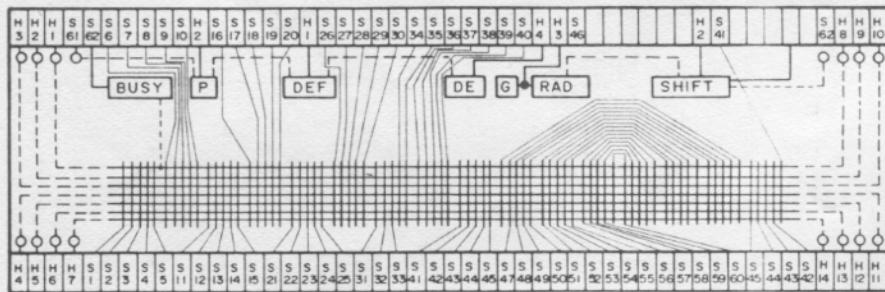
		PC-1245	PC-1250
Display capacity		16 characters (LF8178E)	24 characters
Keyboard entry	Reserve function	Not provided	Provided
	One-touch command entry	Provided (18 kinds)	Assignable with the reserve function
	Definable function	Provided (18 kinds)	Provided (18 kinds)
RAM capacity	Memory dedicated to data	26 memories	26 memories
	Flexible memory	1486 bytes	1438 bytes
LSI	CPU	Same as PC-1250	SC-61860A02
	Display driver	Same as PC-1250	SC-43536
RAM (2K bytes)		Same as PC-1250	HM-6116
ROM (16K bytes)		LH-532920 (Version ROM to meet the change in specification)	LH-532917
PWB		Main PWB only	Main PWB + RAM PWB

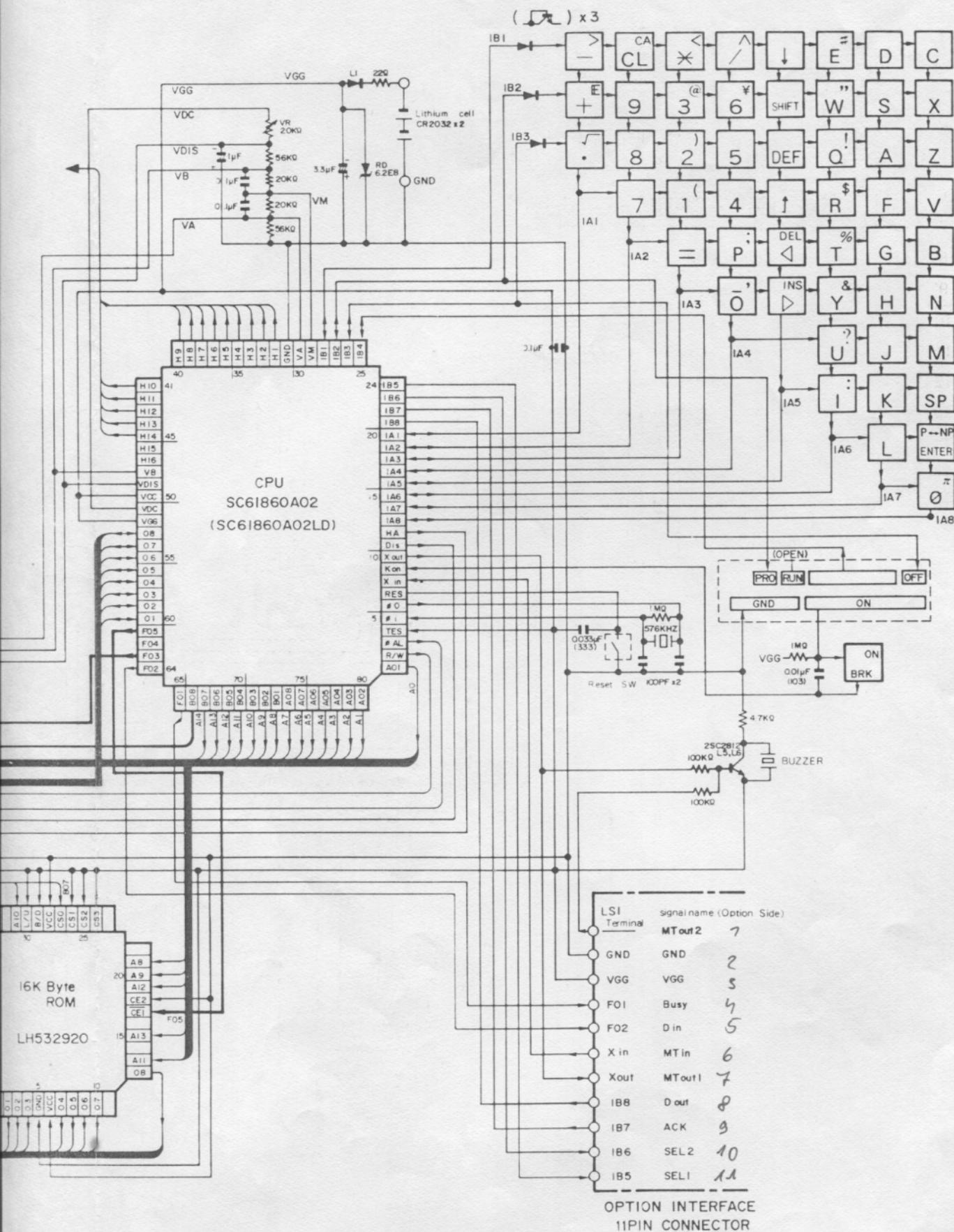
3. CPU PIN NO AND SIGNAL DESCRIPTION

Pin No.	Signal name	IN/OUT	Description (Standby = power off)
1	AO1	OUT	Address bus, high during standby.
2	R/W	OUT	Write clock, normally high.
3	ØAL	OUT	Low order bits address latch, normally high. The clock used to latch low order 8 bits of 16-bit address signal on the data bus line, when a large capacity ROM is used.
4	TES	IN	Test pin, normally low.
5	ØI	IN	Oscillator input.
6	ØO	OUT	Oscillator output.
7	RES	IN	Reset input, active high. Normally, pulled down to low level.
8	Xin	IN	Input (MT in) of microcassette signal from the CE-125 option.
9	ON	IN	ON (BREAK) key input, normally pulled down to low level.
10	Xout	OUT	Output (MT out 1) of microcassette signal to the CE-125 option and the buzzer.
11	Dis	OUT	LCD driver control signal.
12	HA	OUT	LCD driver clock, low during standby and in 2 kHz oscillation during display.
13	iA8	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
14	iA7	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
15	iA6	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
16	iA5	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
17	iA4	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
18	iA3	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
19	iA2	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
20	iA1	IN/OUT	Key input/strobe signal, low during standby and key-in pulse is generated when low.
21	iB8	IN	ACK signal that enables the CPU to read data through I/O port (PCU).
22	iB7	IN	Data in (Din). Serial data input from PCU (bit by bit serial handshake).
23	iB6	OUT	SEL2 output, P-type open drain.
24	iB5	OUT	SEL1 output, P-type open drain.
25	iB4	IN	Slide switch input.
26	iB3	OUT	Key strobe output, low during standby and key-in pulse is generated when low.
27	iB2	OUT	Key strobe output, low during standby and key-in pulse is generated when low.
28	iB1	OUT	Key strobe output, low during standby and key-in pulse is generated when low.
29	VM	IN	LCD power supply.
30	VA	IN	LCD power supply.
31	GND	IN	Power supply.
32	H1	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
33	H2	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
34	H3	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
35	H4	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
36	H5	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
37	H6	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
38	H7	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
39	H8	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.

Pin No.	Signal name	IN/OUT	Description (Standby = power off)
40	H9	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
41	H10	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
42	H11	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
43	H12	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
44	H13	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
45	H14	OUT	LCD backplate signal, high impedance during standby and 4-level pulse during display.
46	H15	--	Not used. (Display of this unit operates in 1/14 duty.)
47	H16	--	Not used. (Display of this unit operates in 1/14 duty.)
48	V _B	IN	LCD power supply, high during standby and low when the high level clock stops.
49	V _{DiS}	IN	LCD power supply, high during standby and low when the high level clock stops.
50	V _{CC}	IN	LCD power supply, normally low.
51	V _{DC}	OUT	LCD power supply, high during standby and low when the high level clock stops.
52	V _{GG}	IN	Power supply normally low.
53	O8	IN/OUT	Data bus, normally high impedance.
54	O7	IN/OUT	Data bus, normally high impedance.
55	O6	IN/OUT	Data bus, normally high impedance.
56	O5	IN/OUT	Data bus, normally high impedance.
57	O4	IN/OUT	Data bus, normally high impedance.
58	O3	IN/OUT	Data bus, normally high impedance.
59	O2	IN/OUT	Data bus, normally high impedance.
60	O1	IN/OUT	Data bus, normally high impedance.
61	Fo5	OUT	External system ROM chip enable (CE1).
62	Fo4	OUT	N.C
63	Fo3	OUT	Basic RAM chip enable (CE3).
64	Fo2	OUT	Data out (Dout), data output port to peripheral.
65	Fo1	OUT	BUSY I/F output port output.
66	Bo8	OUT	LCD driver LSI chip enable (CE4).
67	Bo7	OUT	A14. Address bus, high during standby.
68	Bo6	OUT	A13. Address bus, high during standby.
69	Bo5	OUT	A12. Address bus, high during standby.
70	Bo4	OUT	A11. Address bus, high during standby.
71	Bo3	OUT	A10. Address bus, high during standby.
72	Bo2	OUT	A9. Address bus, high during standby.
73	Bo1	OUT	A8. Address bus, high during standby.
74	Ao8	OUT	A7. Address bus, high during standby.
75	Ao7	OUT	A6. Address bus, high during standby.
76	Ao6	OUT	A5. Address bus, high during standby.
77	Ao5	OUT	A4. Address bus, high during standby.
78	Ao4	OUT	A3. Address bus, high during standby.
79	Ao3	OUT	A2. Address bus, high during standby.
80	Ao2	OUT	A1. Address bus, high during standby.

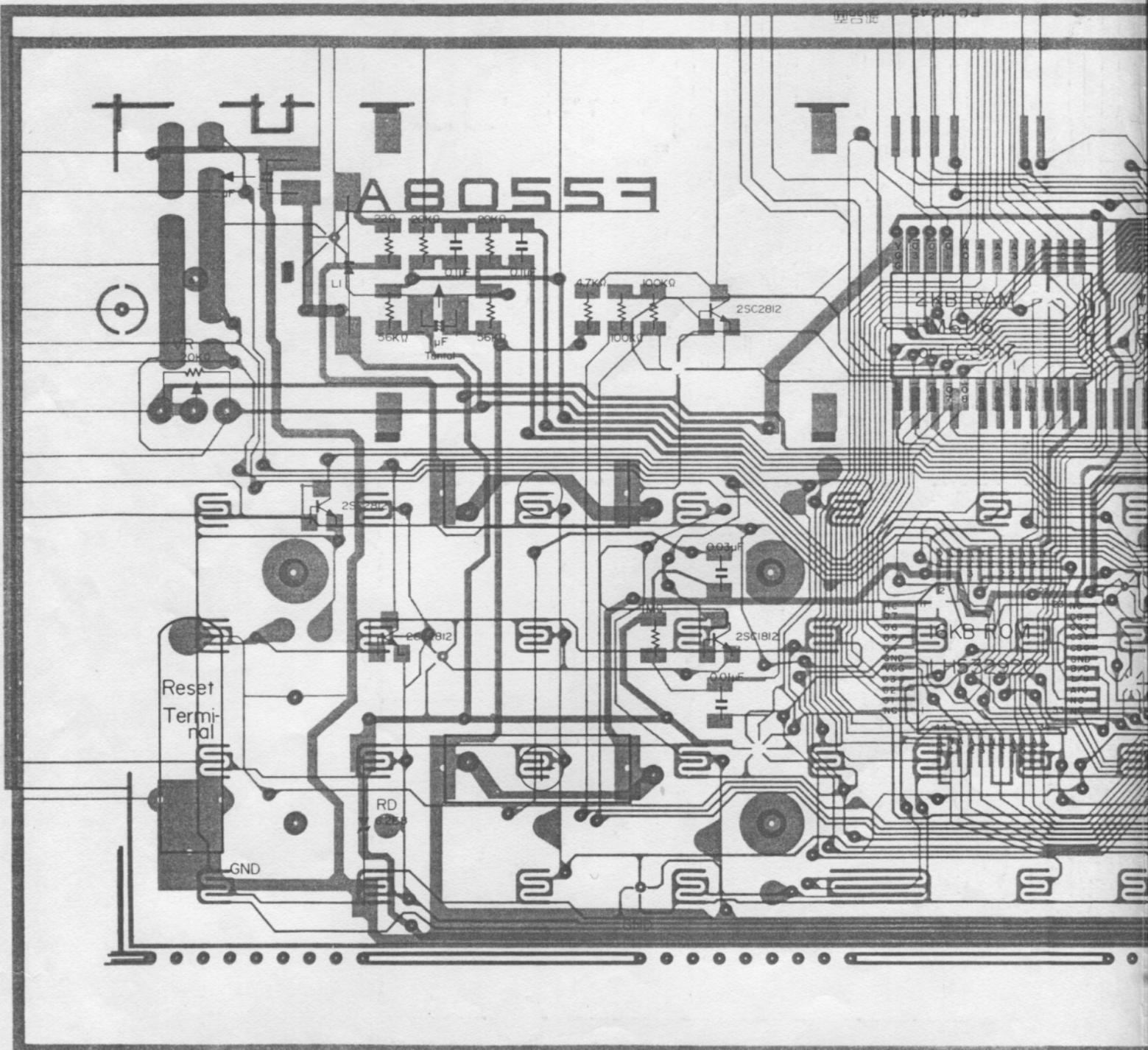
4. CIRCUIT DIAGRAM

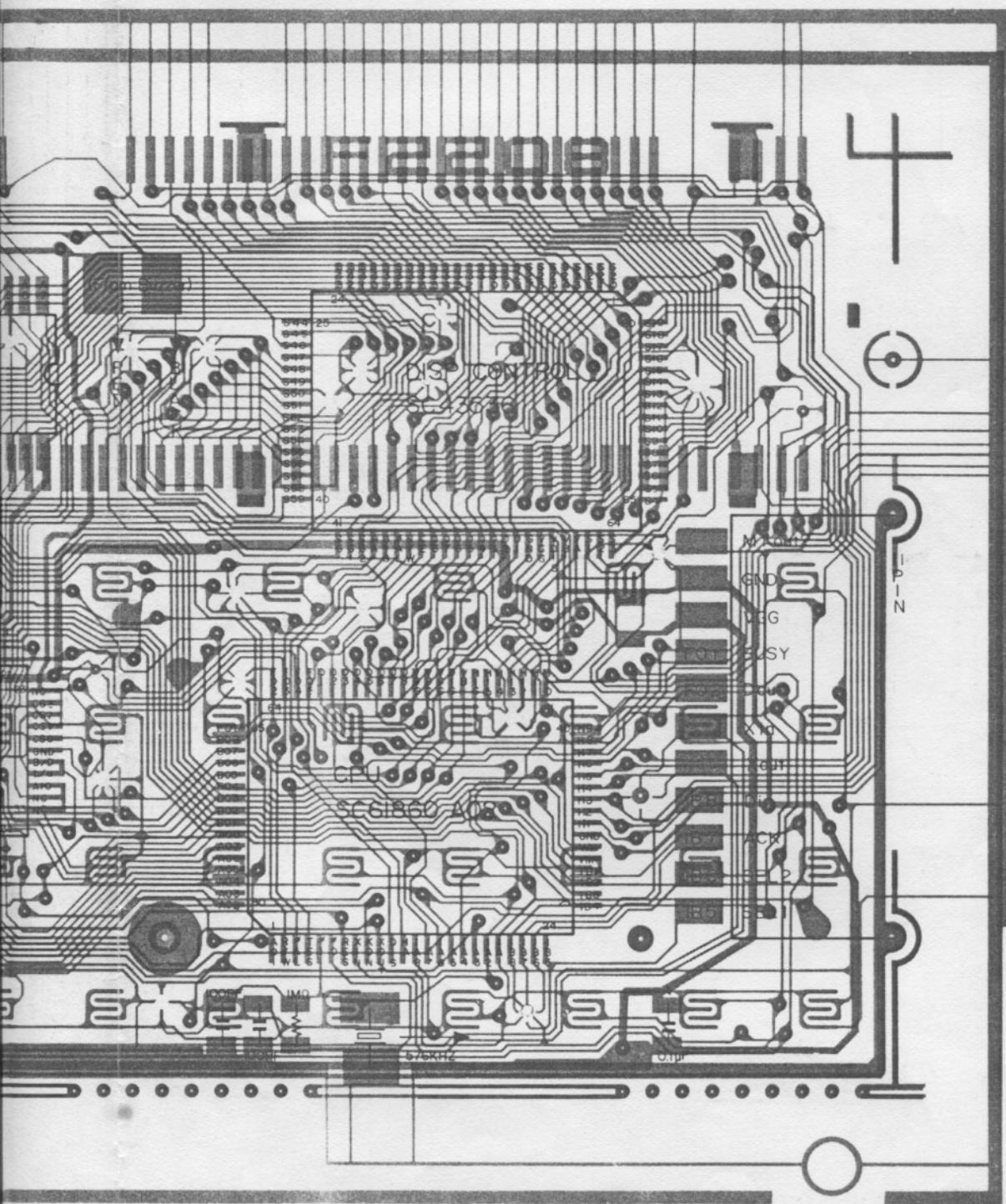




5. PARTS & SIGNAL LAYOUT CHART

未田興 BC-1542





6. PARTS LIST

1

3 AC

2 PWB UNIT

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	RC-CZ1021CCN1	A B		C	Capacitor ($0.1\mu F$)
2	RC-CZ1035CCN1	A B		C	Capacitor (100pF)
3	RC-CZ1037CCN1	A B		C	Capacitor ($0.01\mu F$)
4	RC-CZ1047CCN1	A B		C	Capacitor ($0.033\mu F$)
5	RH-iX1012CCN1	A C		B	Transistor (2SC2812)
6	RR-KZ1050CCN1	A A		C	Resistor (20KΩ)
7	VH1LH532920-1	A Z	N	B	IC
8	VH1SC43536/-1	A X		B	IC
9	VH1SC61860A02	B E		B	IC
10	VRS-TP2BD104J	A A		C	Resistor (1/8W 100KΩ ±5%)
11	VRS-TP2BD105J	A A		C	Resistor (1/8W 1.0MΩ ±5%)
12	VRS-TP2BD220J	A A		C	Resistor (1/8W 22Ω ±5%)
13	VRS-TP2BD472J	A A		C	Resistor (1/8W 4.7KΩ ±5%)
14	VRS-TP2BD563J	A A		C	Resistor (1/8W 56KΩ ±5%)
15	LANGK1497CCZZ	A D	N	C	LCD angle
16	PGUMS1474CCZZ	A C		C	Rubber connector
17	PTPEH1058CCZZ	A A		C	Adhesive tape
18	PZETL1313CCZZ	A A		C	Spacer (Round)
19	PZETL1353CCZZ	A A		C	Spacer (Square)
20	QCNCW1306CC1B	A K		C	Connector (11pin)
21	QCNTM1051CCZZ	A B		C	Reset terminal
22	QTANZ1289CCZZ	A B		C	Battery terminal
23	RC-SZ1007CCZZ	A F		C	Capacitor ($1\mu F$)
24	RC-SZ1021CCZZ	A C		C	Capacitor (10WV 3.3μF)
25	RCRSZ1046CCZZ	A E		C	Crystal (576KHz)
26	RVR-Z2400QCZZ	A F		C	Variable resistor
27	VHDDS1588L2-1	A B		B	Diode (DS1588L2)
28	VHERD6.2E8/-1	A C		B	Zener diode
29	VH1HM6116//C	A Z		B	IC
30	VVLLF8178E/-1	A S		B	LCD
	(Unit)				
901	DUNTK7331CCZZ	B V	N	E	PWB unit

3 ACCESSORY

7. PARTS GUIDE

