

SHARP

Interface for PC-1500/PC-1501

Model CE-162E

operating instructions

Warranty card
(end) (WITH WARRANTY CARD)

Thank you for purchasing the Sharp PC-1500/
PC-1501 interface <CE-162E>.

This unit has two functions: a parallel interface for connecting the
PC-1500/PC-1501 to a printer, etc., and a cassette interface for connecting
the PC-1500/PC-1501 to a cassette tape recorder, etc. interface.

By connecting the PC-1500/PC-1501 to a printer, you can write programs
and execution results.

Also, if you connect a tape recorder, etc., you can record programs
and data, and load them.

Furthermore, since this machine has katakana data inside, PC-1500/PC-1501
Once connected, katakana characters will be available.

Please read this instruction manual carefully to ensure proper use of
this unit. Be sure to save this instruction manual together with the "List of Sharp
Service Customer Inquiries". If you have any questions during use, it will surely
be useful.

Spider Lottery>

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please

- Since this unit is made up of precision parts, do not place it in places subject to direct sunlight (especially inside a car, where the temperature can be extremely high) or near heating appliances. please don't
Also, avoid sudden temperature changes, low temperatures, humidity, dust, bending, twisting, strong shocks, etc.
please.

Doing so may cause malfunction, etc.

- Do not touch the pins of the connection terminal (connector) of this unit.

Internal elements may be damaged by static electricity.

- When cleaning, use a soft, dry cloth, and do not use benzene, thinner, or other volatile liquids, or wet wipes.

Do not use Volatile liquids and wet cloths may damage the unit. ● Do not disassemble the device. In the unlikely event of a malfunction, please bring this manual with you to the store where you purchased the product or to one of the service companies listed in the "List of Sharp Service/Customer Consultation Counters".

When creating a program using the instructions of this machine, use this machine and a computer (PC-1500/PC-1501) must be connected. It is

not possible to create a program without a connection.

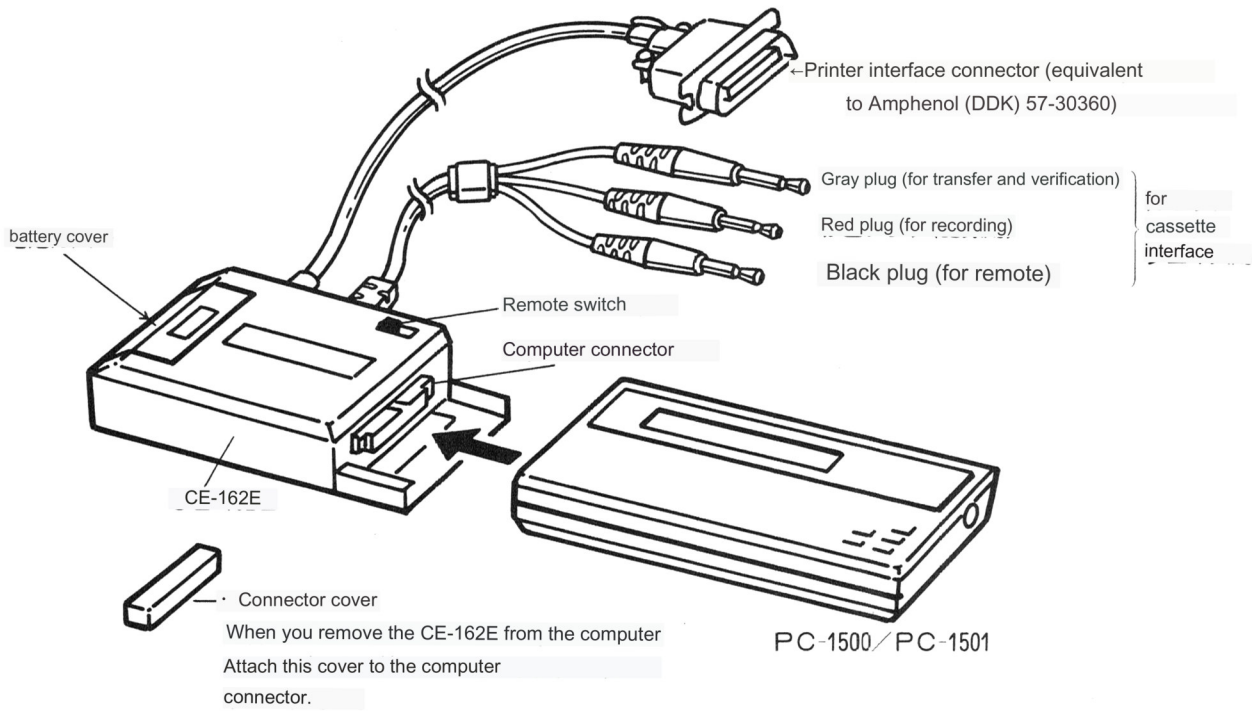
Also, after creating a program by connecting this unit and a computer, when you remove the computer and look at the program, instructions that the computer does not have are converted to ~ marks and displayed.

However, if you connect it to the unit again, it will return to the original command.

(Note/Please)

- The contents of this instruction manual are subject to change without notice for improvement.
- This product is a product with extremely complicated functions and combinations, and we have made thorough checks including the instruction manual before shipping. If you have any problems, please contact Sharp Service Customer Support. Please note that we cannot be held responsible for any impacts that may occur as a result of operation.

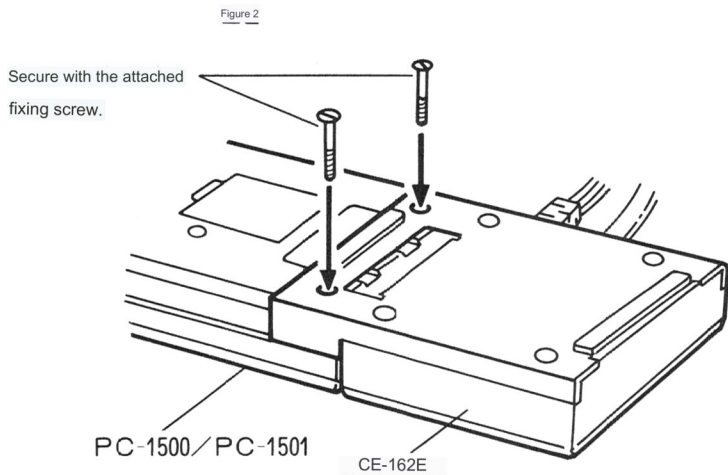
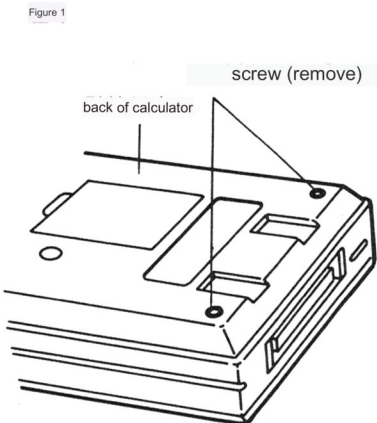
How to connect CE-162E and PC-1500/PC-1501



- When connecting the CE-162E to a calculator (PC-1500/PC-1501), press the calculator's OFF key to turn off the power, and then connect the calculator to the connector as shown by the arrow in the figure.

When screwing the CE-162E and calculator

When screwing the CE-162E to the calculator, first remove the two screws on the calculator shown in Figure 1 below. (Keep the removed screws in a safe place as they will be used again when the CE-162E is removed. Then,) connect the CE-162E to the calculator and fasten them with the included fixing screws.

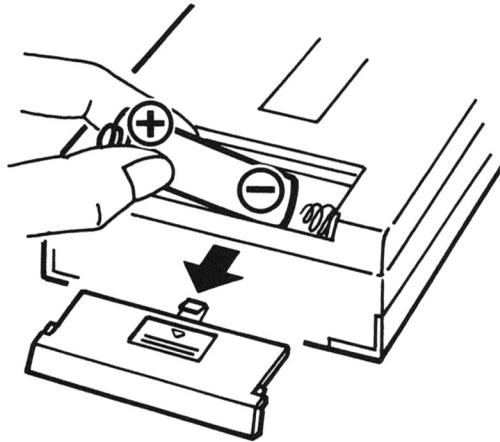


Inserting remote batteries

This unit uses a single AA battery as the power source for starting and stopping the tape recorder. •Insert

It has a remote function and its function

the batteries correctly as shown in the following figure.



=Battery replacement time=:

When the battery for the remote is exhausted, remote control of the tape recorder will not be performed. Therefore, if the remote stops working while recording or transferring data, replace the batteries.

Even new batteries may leak if used for more than two years, so replace them with new ones every two years.

<Caution>

- ◆Leaving a depleted battery as it is may cause battery fluid to leak and damage the calculator.
- Do not throw batteries into fire. It may explode if thrown into fire.
- ◆ Use the following types of batteries.

1 AA type battery

<Precautions when handling dry batteries>

Incorrect use of batteries may cause them to leak or break, so please pay particular attention to the following points.

- (1) Insert the batteries with the positive and negative polarities correct as indicated on the unit.
- (2) Remove the batteries from the unit when they are no longer usable or when the unit will not be used for a
- (3) long period of time. Batteries can be rechargeable or non-rechargeable. Carefully read the precautions on the battery before use.

1. Description of each instruction

(1) CONSOLE

Format CONSOLE expression₁
 CONSOLE expression₁, expression₂
 CONSOLE expression₁, expression₂, expression₃

The expression specifies the number of print columns per line when printing.

Expression value = $\begin{cases} \emptyset & \text{: Unlimited number of digits} \\ 1\sim 15 & \text{: error} \\ 16\sim 225 & \text{: The value will be the number of digits per line.} \end{cases}$


The end code is set by expression 2 and expression 3.

(Note) The end code differs depending on the connected printer, so select the code that matches the connected printer.

formula 2	formula 3	exit	
omission	omission	before	set end code
\emptyset	omission	CR	(\emptyset DH)
1	omission	LF	(\emptyset A _H)
\emptyset	\emptyset	CR+CR	(\emptyset DH, \emptyset DH)
\emptyset	1	CR+LF	(\emptyset DH, \emptyset A _H)
1	\emptyset	LF+CR	(\emptyset A _H , \emptyset DH)
1	1	LF+LF	(\emptyset A _H , \emptyset A _H)

■ The exit code is the code equivalent to the ENTER key.

(Example) LPRINT "ABC" CONSOLE specification and sending code example when operating with ENTER

<u><CONSOLE specification></u>	<u><sending code></u>
CONSOLE 8 \emptyset , \emptyset	ABC CR
CONSOLE 8 \emptyset , \emptyset , 1	ABC CR LF
	 It is actually sent in ASCII code.

■ CONSOLE 80, \emptyset is set in the initial state.

(Note) In general, printers automatically feed a line after printing one line. Therefore, even if one line of data specified by the CONSOLE I won't put it out.
 command is sent, the printer will not send the end code. If there is no line feed, please specify to send the end code automatically by the method described on page 14.

(2) ERL

format ERL

This function gets the line number where the error occurred.

Execution of this instruction yields the following values:

- ∅ : No errors in program execution.
- 1~65279 : An error occurred in the obtained value line.

(3) ERN

format ERN

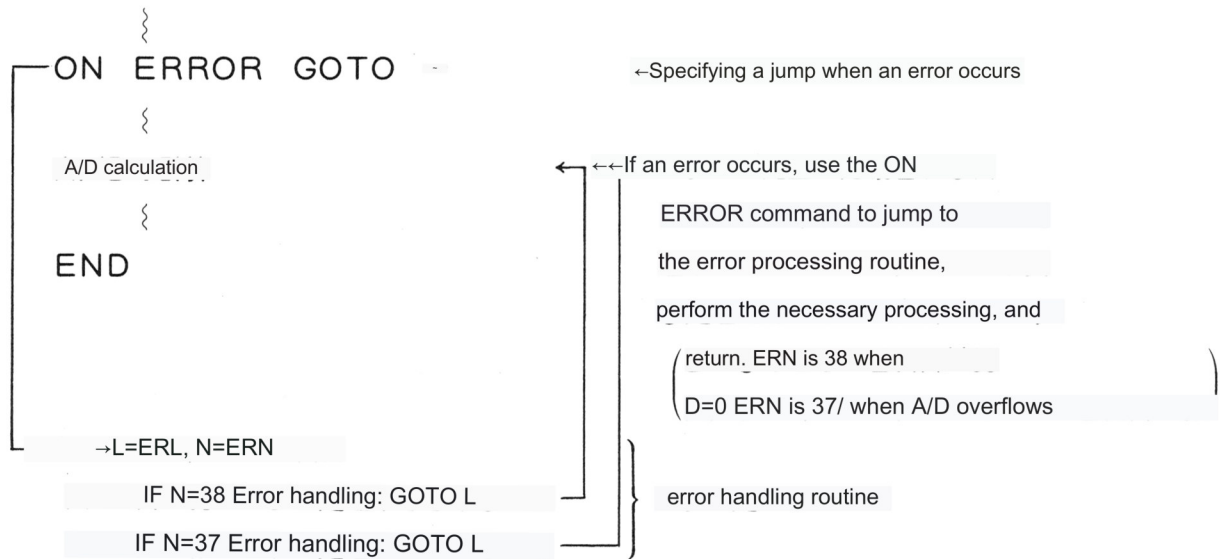
A function that gets the error code after an error occurs.

Executing this instruction gives the following error codes:

0~255

- ERN The ERL instruction is normally used for error handling.

(151)



(4) FEED

format FEED formula

Outputs the number of exit codes indicated by the value of the expression (1 to 65535, only the integer part is valid).

Therefore, the printer feeds the paper by that number of lines.

Note that the expression can be omitted, in which case it is the same as specifying FEED 1.

(5) LPRINT

Form ② LPRINT 式

Sends the specified data in ASCII (JIS) code. Format 2 LPRINT

expression; expression ;

LPRINT expression;expression:;expression:

If the expressions are separated by a ; (semicolon), then each piece of data will be sent out.

If the end ends with ;, no exit code is emitted.

Format ③ LPRINT expression, expression, expression

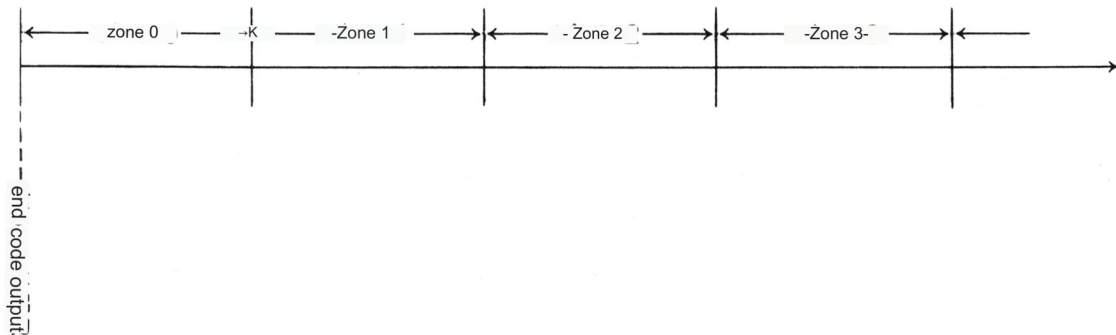
When the expression is separated by , (comma), the specified data is printed for each zone.

will be

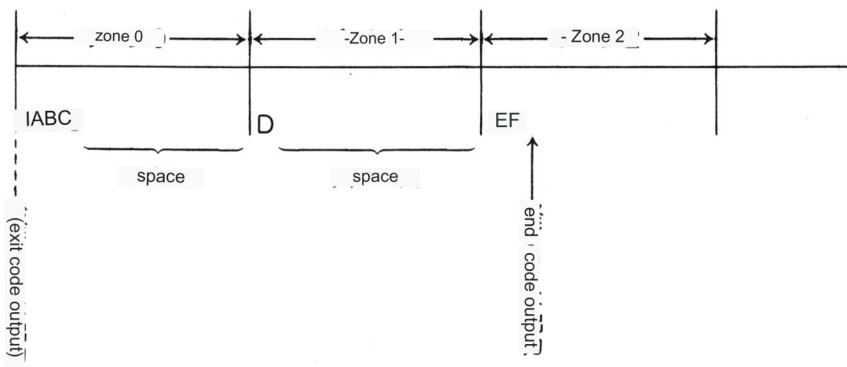
Therefore, after sending the first data, set the space code so that the next data is at the beginning of the next zone.

send out.

The number of digits in the zone can be specified with the ZONE instruction. (In the initial state, 1 zone is set to 13 digits.)



(Example) LPRINT "ABC", "D", "EF"



■ If the data is longer than the number of digits in one zone, it spans the next zone.

● Forms ② and ③ can be used in combination.

(Example) LPRINT 10;20,30

Format ④ LPRINT

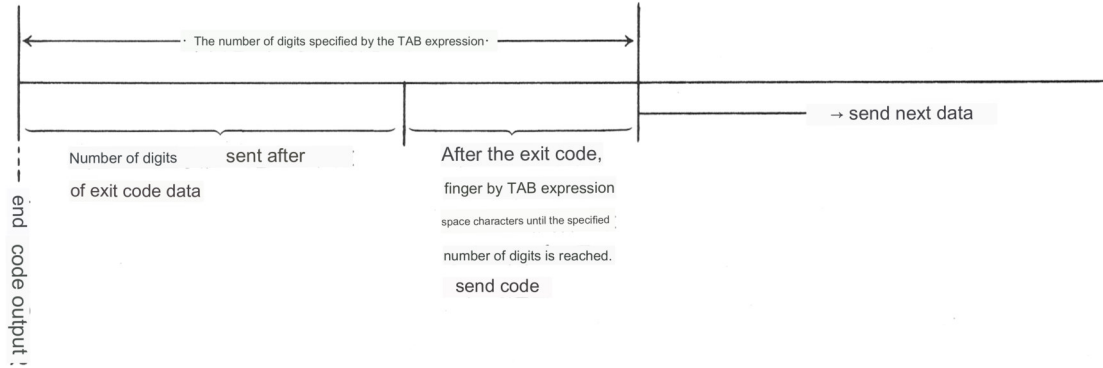
Only emit an exit code.

However, immediately after the exit code is dispatched, it is ignored.

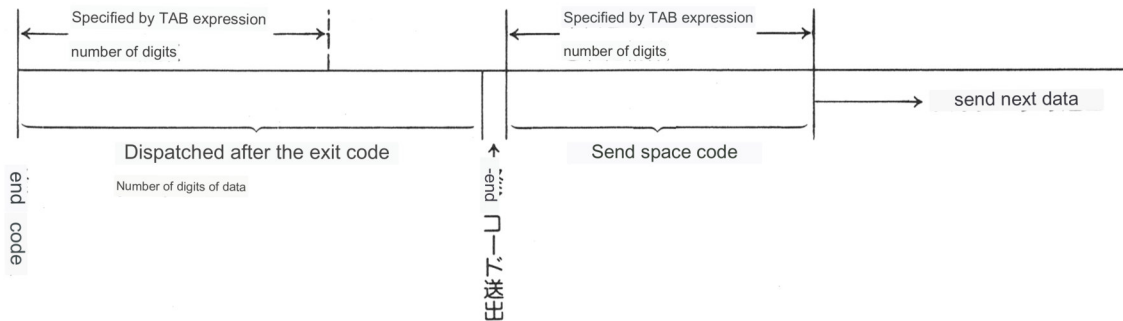
Format ⑤ LPRINT TAB expression;

LPRINT TAB expression

In this form, the space code is sent up to the position indicated by the value of the specified expression as shown below.



If the number of digits of data sent after the exit code is greater than the number of digits specified by the TAB expression, end first end code followed by the number of spaces specified in the TAB expression.



(Note) The value of the TAB expression must be smaller than the number of columns in one line specified by the CONSOLE command. Note that when CONSOLE 0 is specified, the value of the expression must be 255 or less.

Format (6) LPRINT USING Format specification;

USING command Can be placed inside an LPRINT statement.

(Program example)

It is assumed that the printer has 80 columns per line, automatically carriage returns when 80 pieces of data are received, and carriage returns by CR codes.

```

10 CONSOLE 0, 0
20 ZONE 16
30 LPRINT "0"
40 LPRINT "1" ; "2" ;
50 LPRINT
60 LPRINT USING "###. #" ; 1.234,
    USING ; -5, "ABCDEFGH IJKLMNOPQRS ", "Z"
70 LPRINT "0", "1", "2", "3", "4", "5", "6", "7", "8",
    "9", "A", "B", "C", "D", "E", "F"
80 LPRINT TAB(10) ; "PRINTER"
90 END
    
```

Start execution with RUNENTER.

(explanation)

10 Lines: Cancels specification of number of digits per line.

Exit code is CR code (see CONSOL statement).

20 lines: Specify 16 digits for 1 block length when the LPRINT data delimiter is (colon).

(Specifies 1 zone as 16 digits. See ZONE statement)

Line 30: Send "0" to send CR code.

40 lines: send "1", "2". No exit code is sent.

50th line : Send end code.

60 lines: Send data according to USING format.

Line 70: Transmits code from "0" to "F" block by block.

This is because the printer's line of 80 columns is divisible by the number of digits in one zone of 16 columns.

Line 80 : Transmits "PRINTER" code string from the 11th from the left end.

0 3 6 9 12 15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60 63 66 69 72 75 78

```

0
12
(12 CCCCCCCCCC5ABCDEFGHIJKLMNQPQRSCCCCCCCCCCN
0.....1.....2.....3.....4.....
5          6          7          8          9
A.          B.          C.          D.          E.
F.
.....PRINTER

```

(Note 1) Use LPRINT CHR\$(0) to send a NUL code (= 00H). Ignored if you specify LPRINT A\$ (where A\$=CHR\$(0)).

(6) LLIST

Send the program in ASCII (JIS) code.

The line number consists of 5 digits of data, and if the line number is 4 digits or less, add spaces for the missing number.

After sending the score, send the line number.

Then, after sending the line number, send the space code, and then send the contents of one line of text.

(Example) Transmission format of the following program

```
10 REM ***PRINTER***
65279 END
```

space	space	space	1	0	space	R.	E.	M.	space	*	*
*	P.	R.	I	N.	T.	E.	R.	*	*	*	CR *
6	5	2	7	9	space	E.	N.	D.	space	CR *	

*When the end code is specified as CR code.

Form ① LLIST

Send the whole program.

Format ② LLIST expression

Sends the program line with the specified line number or label.

Format (3) LLIST expression 1, expression 2

Sends the program line from expression to expression2.

Note that you can omit expression or expression2.

LLIST, expression 2

Sends the program from the beginning of the program to the line of expression 2.

LLIST expression 1,

Sends the program from the expression line to the last line.

(Note) ">" is displayed when there is no program.

(Program example)

```

10 "A" REM ***DISPLAY***
20 CLS :WAIT 0
30 IF INKEY$ GOTO 30
40 A$=INKEY$
50 IF A$<CHR$ 32THEN 40
60 PRINT A$;
70 GOTO 30
80 END

-----
10 "B" REM ***PRINTER***
20 FEED
30 IF INKEY$ GOTO 30
40 B$=INKEY$
50 IF B$<CHR$ 32THEN 40
60 LPRINT B$::GOTO 30
70 END

```

Program ①

Program ②

This example program is Program (2) is read by the MERGE instruction. In the program, when an alphabetic or numeric key is pressed, that character (letter or symbol) is displayed, and in program 2, when a key is pressed, that character code is sent to the printer. content.

key — operation	Content sent to the printer
LLIST ENTER	Full program
LLIST 20 ENTER	20 CLS : WAIT 0 only
LLIST "B" , 30 ENTER	10 "B" REM ***PRINTER*** 20 FEED 30 IF INKEY\$ GOTO 30
LLIST, 20 ENTER	10 "A" REM ***DISPLAY*** 20 CLS :WAIT 0
LLIST "B" , ENTER	10 "B" REM ***PRINTER*** 20 FEED 30 IF INKEY\$ GOTO 30 40 B\$=INKEY\$ 50 IF B\$<CHR\$ 32THEN 40 60 LPRINT B\$::GOTO 30 70 END

(7) PRINT#-9,

works the same as the LPRINT instruction.

(8) SPACE\$

Format SPACE\$ expression

Specifies the number of spaces indicated by the value of the expression (0 to 31, only the integer part is valid). (Example)LPRINT "ABC"; SPACE\$ 10; "DEF"

ABC~~~~~DEF send out

(9) ZONE

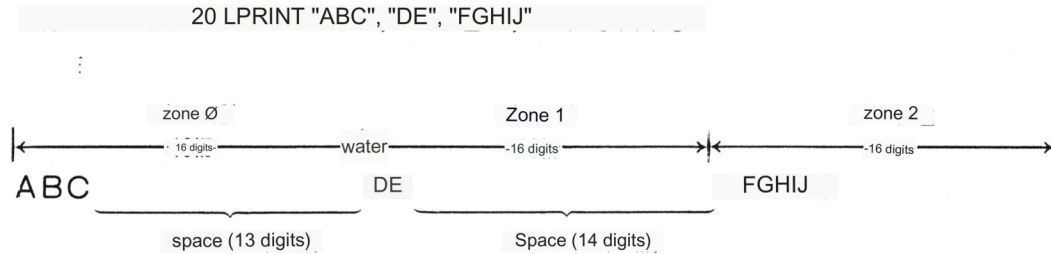
format ZONE expression

The number of digits indicated by the value of the expression (1 to 31) is set as the number of digits for the zone when printing data. (Initial condition state is the same as ZONE 13.)

- In the LPRINT statement, if you specify the data delimiter with , (comma), the number of digits set in the ZONE instruction will be changed to 1.

It is divided into two zones (blocks) and sent so that each data is printed for each zone.

(Example) 10 ZONE 16



In this example each zone is set to 16 digits. Then, after sending the first data ABC, send a space code so that it comes to the beginning of the next data DE. Zone 1, then send DE. Similarly, send a space code so that it comes to the beginning of data FGHIJ. Zone 2.

2. Error code

There are three types of errors related to this machine.

Error code	内
32	In the LPRINT and PRINT #9 statements, the USING specification (format Matte specification) cannot be printed. Incorrect
53	TAB specification in LPRINT statement. (For example, the specified value exceeds the number of columns per line specified in the CONSOLE command)
69	(1) The BUSY signal remains "high" for about 10 seconds or more when trying to send data. For such a situation, <ul style="list-style-type: none"> • The printer is not connected. • The printer is not turned on. • The printer is busy • The printer is paper empty (there is no paper) • Printer error Such will be considered. If the printer is operating normally and becomes BUSY for about 10 seconds or more, please check the software. Please adjust the time or use the ON ERROR and ERL statements to handle it. Sai. ② Approximately 10 seconds after sending data when handshake is performed by ACKNLG signal ACKNLG signal does not go "low" either.

3. Choices and Notes for Printer Connections

① About the exit code

The end code (or print start code) differs depending on the connected printer. The following types can be selected for this machine, so select the code that matches the printer to be connected.

CR (ØDH)
LF (ØA_H)
CR+LF (ØD_H, ØA_H)

(Refer to the explanation of the CONSOLE command on page 5 for how to select.)

② About the ACKNLG signal (ACKNLG: ACKNOWLEDGE)

This machine normally performs handshake using the BUSY signal, but if the connected printer can send the ACKNLG signal, it can be used for handshake. Using the ACKNLG signal enables data to be sent at a higher speed than using the BUSY signal

alone.

(See page 14 for how to select.)

③ About automatic output of exit code

In general, printers automatically feed a line after printing one line. Therefore, the printer normally sends one line of data specified by the CONSOLE command to the printer.

does not emit an exit code.

Therefore, if the connected printer does not automatically feed lines, or if the number of digits for one line specified by the CONSOLE command is smaller than the number of digits for one line of the printer, etc., after sending one line of data, , should be specified to automatically raise an exit code.

(Refer to page 14 for how to specify.)

④ When this unit is connected to the PC-1500/PC-1501, the characters (letters, numbers, symbols, etc.) shown on page 18 can be displayed (used), but the Depending on the connected printer, the character code of the printer and the character code of this machine may not match.

I will.

Also, each player may have characters that the other does not have.

For this reason, the characters displayed on the PC-1500/PC-1501 cannot be printed, or the characters are printed incorrectly.

There are also cases such as printing characters.

Therefore, when printing by specifying a code with the CHR\$ command, The character Ko check the printer code and specify that code to print.

⑤ Generally, printers do not have the √ of PC-1500/PC-1501 as a print code.

Therefore, if you list a program that uses √, √ is printed as SQR and is printed as P. Ma

vinegar.

⑥ Others (Regarding the format when listing programs)

Normally, when the printer is connected to the machine and the program is printed, one line of the program becomes two or more lines.

When this happens, printing starts from the 7th column from the left end on the 2nd and subsequent lines.

However, it is possible to set the second and subsequent lines to be printed from the leftmost column.

(Refer to page 14 for the setting method.)

4. Use of ACKNLG signal

Automatic transmission of end code Format of print list

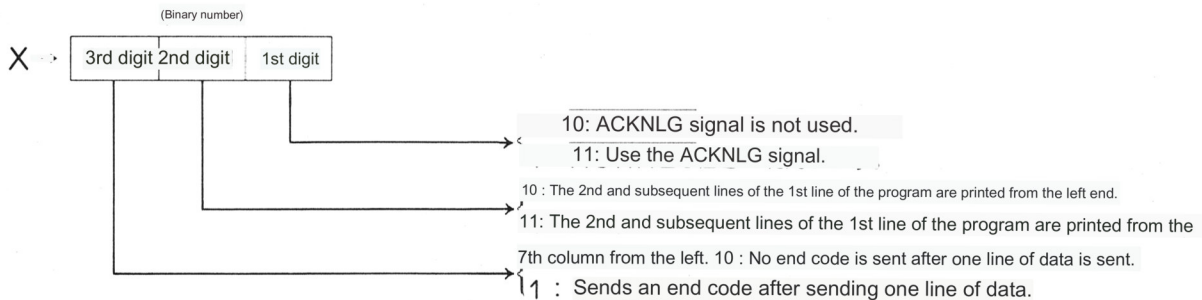
How to select

The following commands can be used to select whether to use the ACKNLG signal, whether to send an end code when one line of data is sent, and to select the format for program listing.

POKE & 7850, X (where X is an integer value

between 0~7) The above selection is made depending on the value of X in this

command. In other words, the selection is made depending on whether each digit of the X value converted to binary is 1 or 0. Masu.



(Example 1) POKE & 7850,5

5 is 101 in binary. So the selection in this case is:

will be

- Sends an end code after sending data for one row
- From the 2nd line on the first line of the program, print from the left edge
- Use ACKNLG signal

(Example 2) POKE & 7850,2

2 is 010 in binary. So the selection in this case is:

will be

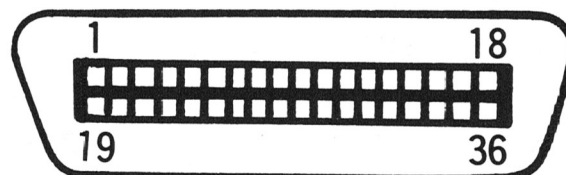
- Do not send an end code after sending data for one row.
- Print from the 7th column from the left on the 2nd and subsequent lines of the 1st line of the program.
- The ACKNLG signal is not used.

These selections are retained even when the power is turned off.

When the unit is connected to the PC-1500/PC-1501 for the first time, and when "NEWØ? : CHEC K" is displayed on the computer, it is the same as when X is set to 2 (same as example 2). will be

5. Interface specifications

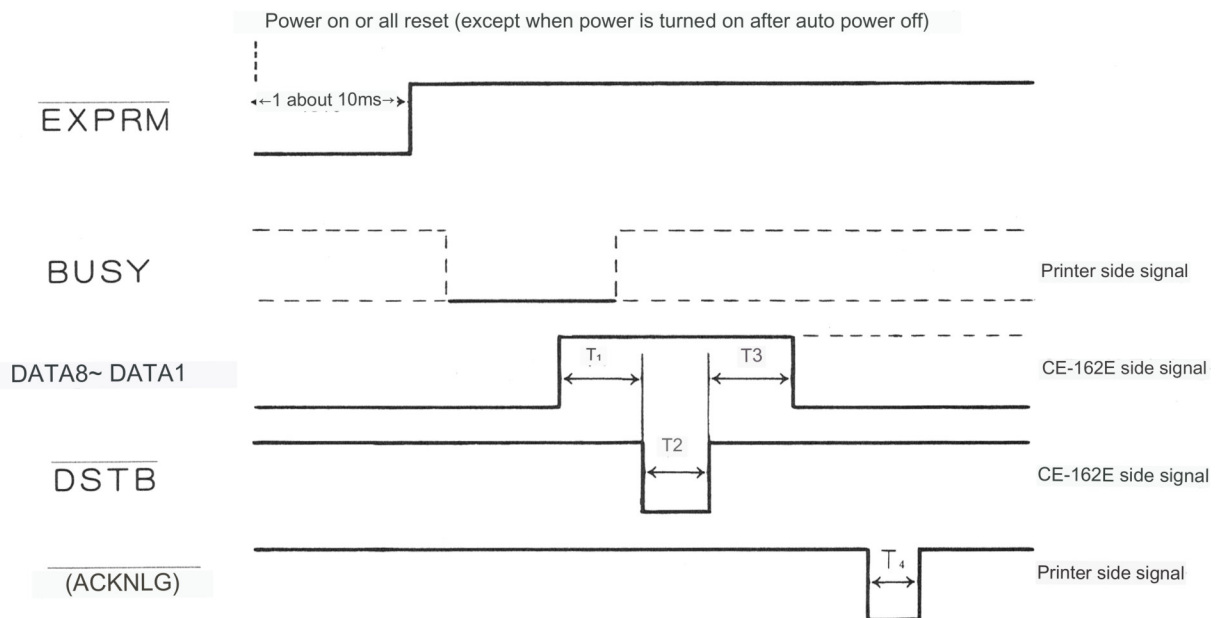
(1) Connectors and connector signals



Connector pinout

Pin No.	name	direction	theory
1	DSTB	Output	<ul style="list-style-type: none"> Strobe pulse for outputting data "High" in steady state and "Low" when data is output.
2 5 9	DATA 1 DATA 8	output	An 8-bit data signal that goes "high" when the data is 1.
10	ACKNLG	Input	Response signal for DSTB <ul style="list-style-type: none"> It is "high" in steady state, and when it becomes "low", data indicates the end.
11	BUSY	input	<ul style="list-style-type: none"> Indicates the printer status. "Low" indicates that the printer is ready to receive data.
16	SIGNAL GND	—	signal ground
17	(F.G.)	—	(frame ground)
31	EXPRM	output	<ul style="list-style-type: none"> Signal to initialize the printer A "low" pulse is output when the power of the PC-1500/PC-1501 is turned on from off, or when all resets are performed. (Except when the power is turned on after auto power off.)
12~15 18~30 32~36	NC	—	Non-Connection (not used)

(2) Timing chart



•T~Time of T

	When ACKNLG signal is not seen	When ACKNLG signal is seen	thought
T ₁	1.5ms or more	about 45 μs	
T ₂	15 μs~50 μs	15 μs~50 μs	
T ₃	1.5ms or more	250 μs or more	Both are held until the next data output becomes possible (until the BUS Y signal goes "low").
T _a		4 μs~30 μs	

You can choose to see or not see the ACKNLG signal using the method on page 14.

(3)

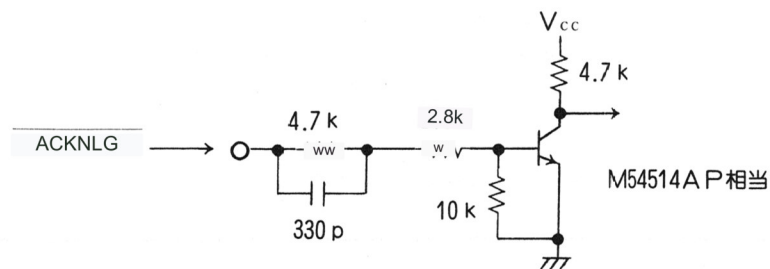
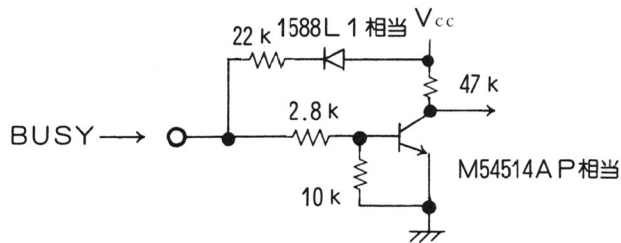
① Signal level

入力信号：TTLレベル

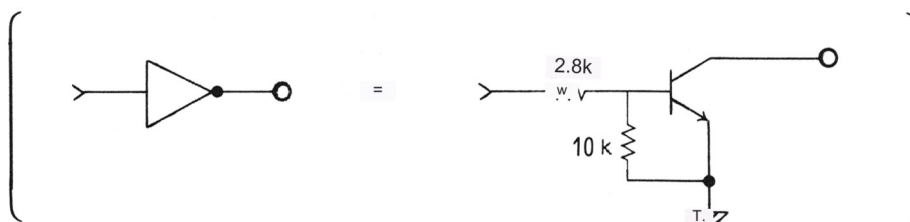
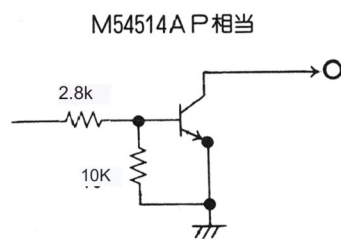
出力信号：TTLレベル (TTL IC 1個のみドライブ可能)

② Input/output conditions

● 入力信号



◀ Output signal



2.8k 10k 2) 1223

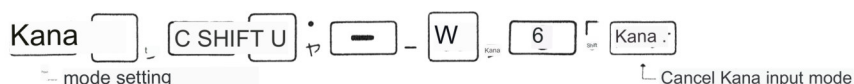
JIUPuys (Pull up) 2

Using Katakana

This machine has katakana data inside and can be used with PC-1500/PC-1501. After connecting the calculator to the calculator, press the kana key on the calculator to display kana symbols on the display and enter kana input mode. At this time, you can enter the katakana written next to each key. Note that characters and symbols written next to keys that are written in light brown can be entered by pressing the SHIFT key. It is a force. In

addition, characters with a light brown mark above them, such as Aiueo, should be pressed after pressing the SHIFT key. lowercase letters are entered.

(Example) Entering "sharp"



(Note) Even if the Kana module CE-157 is installed in the calculator, it does not affect the use of Katakana, and 4 kilobytes of RAM can also be used.

cassette interface

The specifications for the cassette interface of this machine are those of the printer/cassette interface, except as noted below. It is the same as the cassette interface of the CE-150.

Therefore, please refer to the sections such as "Tape Recorder Instructions" and "How to Operate the Calculator and Tape Recorder" in the PC-1500/PC-1501 User's Manual.

1. Differences in cassette interface specifications between the CE-150 and this unit

- ① The CE-150 has two remote terminals (REMO and REM1), but this unit only has a remote plug (black plug) that corresponds to the CE-150's REMO terminal. Therefore, commands such as CSAVE-1 and CLOAD-1 that control the start/stop of the tape recorder connected to the REM1 connector cannot control the tape recorder connected to this unit. (Controlled by instructions without "-1" such as CSAVE and CLOAD.)
- ② The RMT ON instruction to set the remote function and the RMT OFF instruction to release the remote function are also works for the remote function of this unit.

This machine also has a remote switch.

Therefore, the remote function works when the remote switch is in the ON position and the RMT is in the ON state, and the remote function does not work when the remote switch is in the OFF position or in the RMT OFF

state.

specification

shape 機 Remote power supply Operating temperature External dimensions Weighted 属 item	CE-162E Printer interface (parallel interface) cassette interface 1.5V= (DC) : 1 AA battery 0°C to 40°C Width 145mm (body part 115mm) x Depth 90mm x Height 27mm 370g (including batteries) 1 AA type battery, 2 fixing screws, Sharp service customer service desk List, instruction manual
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<Character code table>

		upper 4 bits →																
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
4 bits ↓	0			SP A CE	0	@	P		p	Upper day	印	—	Tami Akira					
	1			11	1AQ	a	q		Osamu Shimotsuki									
	2			2	B	R	b	r	left fire	「		Its	positive					
	3			#3	C	S	c	s		right water	」		Utemo Akira					
	4			\$	4	D	T	d	t	entrance	、	⊗	Etoya sum					
	5			%	Five		EU	e	u		withdrawal	.	oh	ナ	コ	カ		
	6			&	6		F	V	f	v	earth		wokaniyo					
	7			□		7	GW	g	w	l			Akinura					
	8			(8	H	xh	x	middle aged				Ikuneri					
	9)	9	I	y	one hundred				Daikenol	Eco	Hare	Rouleiowa			
	A			.		:J	Z	z										
	B			+		·	K	√K			{Manna Osahi							
	C			,	<	L	¥	l	■		genuine chassis	、						
	D			—	=M				-m}			ス	henoma	ン				
	E			·	>	N	^	n	~									
	F			/	?0		o	■	seconds	Mr.	ソ							

■ When the PC-1500/PC-1501 and this unit are connected, the above characters are displayed on the PC-1500/PC-1501.
 can be (used)

About after-sales service

◆ When requesting repair

For repairs, please contact the store where you purchased the unit and explain in detail the product name (interface), model name (CE-162E), and failure status. If you are unable to request repairs at the store where you purchased the product because you have moved or received the product as a gift, please contact the nearest Sharp Customer Service Desk.

◆ Product warranty

- ① This interface comes with a warranty at the end of the instruction manual. The store will fill out the required information on the warranty card, so please read it carefully and keep it in a safe place.
- ② The warranty period is the period stated in the warranty. Repairs will be carried out by the store where you purchased the product or our service company according to the contents of the warranty. Please see the warranty for details.
- ③ If you have any questions about after-sales service such as repairs during the warranty period, please contact the store where you purchased the product or the nearest Sharp Customer Service.
- (4) For repairs after the warranty period has expired, please consult your dealer. If the function can be maintained by repair, We will repair it for a fee at the request of the customer.

◆ Contact us

If you have any comments or questions about this product, please contact the Customer Support Desk (Technical Center). As shown in the attached "List of Sharp Service/Customer Contact Points", we have customer contact points (Technical Centers) nationwide. 1) is provided.

guarantee book (guarantee provision)

This document promises that we will repair the product free of charge according to the contents described in this document.

If a failure occurs during the warranty period, please bring the product and this manual and present it to the store where you purchased the product.

Sai.

If the date of purchase, store name, etc. are not filled in, it will be invalid. Please be sure to check and do not fill in

In such cases, please contact the store where you purchased the product.

If you cannot request repairs from the store where you purchased the product because you have moved or received the product as a gift, please refer to the "List of Sharp Service/Customer Service Counters" enclosed with the product and contact the nearest service company. Please bring it to

This document will not be reissued. Please keep it in a safe place.

<Free repair policy>

1. Instruction Manual If the product breaks down during the warranty period under normal usage conditions following the precautions on the caution label on the main unit, the store where you purchased the product or our service company will repair it free of charge.

2. Even within the warranty period, repair will be charged in the following cases.

(b) When this document is not presented.

If the date of purchase, customer's name, or dealer's name is not entered in this manual, or if the wording has been rewritten.

(c) Malfunction or damage due to improper use or improper repair or modification.

(2) Failure or damage caused by dropping the product after purchase.

(Thursday) Failure or damage due to external factors such as fire, pollution, earthquake, wind and flood damage, or other natural disasters.

(^) Failure or damage due to battery leakage.

(g) When consumables (dry batteries) wear out and need to be replaced.

3. This document is valid only in Japan.

(THIS WARRANTY CARD IS ONLY VALID FOR SERVICE IN JAPAN.)

★This warranty promises free repairs under the terms and conditions specified in this document. Therefore, this warranty does not limit the customer's legal rights, so if you have any questions regarding repairs after the warranty period has expired, please contact the store where you purchased the product or the Sharp Customer Service Center.

Please contact us.

Repair memo

Sharp Corporation

Book 社 ☎545 22-22 Nagaike-cho, Abeno-ku, Osaka
Tel: (06) 621-1221 (main switchboard)

Industrial Equipment Business Headquarters, 492 Minoshocho, Yamatokoriyama City, Nara Prefecture 639-11
Telephone (07435) 3-5521 (main switchboard)

Domestic Industrial Machinery Sales Headquarters 162 8 Ichigaya Hachiman-cho, Shinjuku-ku, Tokyo
Telephone (03) 260-1161 (Main Main Board)

For inquiries about programs, products, and functions, please contact: ……

Sharp Business Co., Ltd.

☎ 545 22-22 Nagaike-cho, Abeno-ku, Osaka Tel: 06-621-1221

Sapporo Branch 063 Nijuyonken 1-7-3-17, Nishi-ku, Sapporo Telephone (011) 641-3631

Sendai Branch 4-2-41 Fudo-mae, Utsunomiya-shi, 6-chome, 1 Phone (0222)83-9151

Utsunomiya Branch 320 Honshindenhigashi, 983, Sendai-shi Telephone (0286)37-3576

Tokyo Branch 130 2-12-3 Ishihara, Sumida-ku, Tokyo Telephone (03) 625-5111

Chiba Branch ▼ 280 1-5-20 Minamimachi, Chiba City Telephone (0472) 63-4043

Yokohama Branch 235 1-2-23 Nakahara, Isogo-ku, Yokohama Telephone (045) 751-3215

Saitama Branch 330 2-107-2 Miyahara-cho, Omiya City, Saitama Prefecture Telephone (0486) 63-5159

Niigata Branch 950 1-7-21 Kamishonaka, Niigata City Telephone (0252) 83-1795

Nagano Branch 380 2-11-3 Nakagoshō, Nagano City Telephone (0262) 23-4618

Nagoya Branch 454 3-5-5 Sanno, Nakagawa-ku, Nagoya Tel: (052) 332-2631

Kanazawa Branch 921 1096-1 Okyozuka-cho, Nonoichi-machi, Ishikawa-gun, Ishikawa Prefecture Telephone (0762) 49-1240

Osaka Branch 556 1-2-9 Ebisunishi, Naniwa-ku, Osaka Telephone (06) 643-3021

Kyoto Branch 501 48 Kandencho, Kamitoba, Minami-ku, Kyoto-shi Telephone (075) 661-7335

Kobe Branch 558 1-6-18 Uozaki Kitamachi, Higashinada-ku, Kobe City Telephone (078) 452-8531

Hiroshima Branch 731 01 2249-1 Nishihara, Gion-cho, Asaminami-ku, Hiroshima City Telephone (082) 874-4925

Takamatsu Branch 760 1861-3 Kita-cho, Takamatsu City, Kagawa Prefecture Telephone (0878) 33-4255

Fukuoka Branch 816 2-12-1 Iaida, Hakata-ku, Fukuoka City Telephone (092) 572-2611

Okinawa Branch 900 2-10-1 Akebono, Naha City, Okinawa Prefecture Telephone (0988) 61-7360

For inquiries about after-sales service such as repair, please contact the following.

Sharp Customer Service Desk (Technical Center)

Sapporo Technology Center (063) 3-17, 1-jo 7-chome, Nijuyonken, Nishi-ku, Sapporo	Telephone (011) 641-0751
Sendai Technology Center (983) 6-chome Sendai-shi Honshindenhigashi 21	Telephone (0222) 88-9161
Utsunomiya Technical Center (320) 4-2-41 Fudo-mae, Utsunomiya City	Telephone (0286)34-0256
Niigata Technology Center (950) 1-7-21 Kamishonaka, Niigata City	Telephone (0252)84-6023
Tokyo Technology Center 1 ☎ (130) 2-12-3 Ishihara, Sumida-ku, Tokyo	Phone (03)624-7475
Tokyo 2nd Technology Center (164) 3-45-13 Minamidai, Nakano-ku, Tokyo	Telephone (03)382-9161
Tokyo 3rd Technology Center (143) 1-5-15 Minamimagome, Ota-ku, Tokyo	Phone (03)777-8851
Omiya Technology Center ☎(330) 2-107-2 Miyahara-cho, Omiya-shi	Telephone (0486) 66-7220
Yokohama Technology Center (235) 1-2-23 Nakahara, Isogo-ku, Yokohama	Telephone (045) 753-9583
Nagoya Technical Center (454) 3-5-5 Sanno, Nakagawa-ku, Nagoya	Telephone (052) 332-2671
Kanazawa Technical Center (921) 1096-1 Okyozuka-cho, Nonoichi-cho, Ishikawa-gun, Ishikawa	Telephone (0762) 49-9033
Prefecture Osaka First Technical Center (556) 1-2-9 Ebisunishi, Naniwa-ku, Osaka-shi	Telephone (06) 644-1191
Osaka 2nd Technology Center (567) 5-15-3 Ayukawa, Ibaraki City Kobe	Telephone (0726) 34-4683
Technology Center (658) 1-6-18 Uozaki Kitamachi, Higashinada-ku, Kobe City	Telephone (078) 452-1762
Kyoto Technology Center (601) 48 Kanta-cho, Kamitoba, Minami-ku, Kyoto-shi	Telephone (075) 681-9551
Takamatsu Technology Center (761-01) 3009-4 Takamatsucho, Takamatsu City	Telephone (0878) 43-3711
Okayama Technical Center (700) 66-2 Higashinomachi, Yonekura, Okayama City	Telephone (0862) 43-5660
Hiroshima Technical Center (731-01) 2249-1 Nishihara, Gion-cho, Asaminami-ku, Hiroshima-shi	Phone (082) 874-6100
Fukuoka Technical Center (816) 2-12-1 Iaida, Hakata-ku, Fukuoka City	Phone (092) 572-2617
Kagoshima Technology Center (890) 12-1 Kamoike Shinmachi, Kagoshima City	Telephone (0992) 59-0628


SHARP INTERFACE

WARRANTY CARD

product | given name interface

shape | given name CE-162E

Warranty period (VALIDITY) One year from the date of
purchase (FULL 1 YEAR AFTER PURCHASE)

Purchase date (PURCHASE) Showa Year Month 

oh customer	Your name	kind
	Address	〒
	telephone number()	-
Dealer name, address, phone number		
EDs		

Sharp Corporation

Industrial Equipment Business Headquarters

〒639-11 492 Minoshocho, Yamatokoriyama City, Nara Prefecture

Telephone (07435) 3-5521

