

Specifications

CE-158

(Outline)



Sharp Corporation

RS232C Interface Specifications

Transmission method	: Asynchronous
Applicable standards	: EIA RS-232C compliance
Baud rate	: 50, 100, 110, 200, 300, 600, 1200, 2400 buad, programmable
Character size	: 5, 6, 7, 8 bits, programmable
Parity bit	: Even, odd, no parity, programmable
Stop bit	: 1.5 for the character size of 5. 2.0 for the character sizes of 6 to 8.
Connectors used	: 60-pin connector (male) for connection with PC-1500. 25-pin connector, DB-25(W) for connection with an external device. Adaptor jack
Power supply source	: NiCd batteries (AA x 4)
AC adaptor used	: EA-21A
Battery capacity	: For two hours of operation
Output signal level	: High level: +5V to +10V (load 3 to 7K ohms) Low level: -5 to -10V (load 3 to 7K ohms)
Interfacing signals	: Inputs: RD, DSR, DCD, CTS Outputs: TD, RTS, DTR Others: SG (,FG)
Switch	: 1 (POWER switch)
Dimensions	: 86 x 115 x 50mm

Instruction set

[BASIC program mode]

° Statements

SETCOM, SETDEV, OUTSTAT
INPUT, INPUT\$, INPUT%, INPUT#
PRINT, PRINT#
LPRINT, LLIST
CLOAD, CLOADa, CLOADr
MERGE, MERGEa
CSAVE, CSAVEa, CSAVER
FEED, ZONE, CONSOLE, TRANSMIT
PRINT#-8,, INPUT#-8,

° Functions

COM\$, DEV\$, INSTAT
RINKEY\$
SPACE\$
ERN, ERL

[Terminal program mode entry commands]

TERMINAL
DTE

	Command	Manual execution			Program	Function
	Example	RUN	PRO	RESERVE	execution	
{Statement}						
SETCOM	SETCOM 300,7,E,1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sets communication parameters.
	SETCOM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Initializes communication parameters
SETDEV	SETDEV KI,PO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Assigns communication device.
	SETDEV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Releases communication device.
OUTSTAT	OUTSTAT 0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sets status to the RS-232C port output signal.
INPUT	INPUT "A=";A	X	X	X	<input type="radio"/>	Substitutes the variable with the input data thru the RS-232C port.
INPUT\$	INPUT\$ "A=";A	X	X	X	<input type="radio"/>	Same as above.
INPUT%	INPUT% AS(*)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Same as above.
INPUT#	INPUT# A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Same as above.
PRINT	PRINT 123	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sends data thru the RS-232C port.
PRINT#	PRINT# A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Same as above.
LPRINT	LPRINT 123	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Same as above.
LLIST	LLIST 10,100	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sends program thru the RS-232C port.
CLOAD	CLOAD "FILE"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	Loads program or reserve program thru the RS-232C port.
CLOADa	CLOADa	<input type="radio"/>	<input type="radio"/>	X	X	Loads program thru the RS-232C port in ASCII code.
CLOADr	CLOADr	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	X	Loads reserve program thru the RS-232C port.
CSAVE	CSAVE "FILE"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Saves program or reserve program thru the RS-232C port.
CSAVEa	CSAVEa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Saves program thru the RS-232C port in ASCII code.
CSAVEr	CSAVEr	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Saves reserve program thru the RS-232C port.

Command	Example	Manual execution			Program	Function
		RUN	PRO	RESERVE	execution	
FEED	FEED 5	○	○	○	○	Sends the END code.
ZONE	ZONE 20	○	○	○	○	Specifies block length during data output by LPRINT statement.
CONSOLE	CONSOLE 80,0	○	○	○	○	Specifies the number of data before send of END code and the kind of END code.
TRANSMIT	TRANSMIT BREAK,0	○	○	○	○	Sends long spaces.
MERGE	MERGE	○	○	X	X	Links program with the program sent thru the RS-232C port.
MERGEa	MERGEa	○	○	X	X	Links program with the program sent thru the RS-232C port in ASCII code.
PRINT#-8,	PRINT#-8, 123	○	○	○	○	Sends data out thru the RS-232C port.
INPUT#-8,	INPUT#-8, A	○	○	○	○	Substitutes the variable with the data sent thru the RS-232C port.

[Function]

COM\$	COM\$					Character string with which communication parameters are set.
DEV\$	DEV\$					Character string with which communication device is set.
RINKEY\$	RINKEY\$					Character string with which last one byte code input thru the RS-232C port immediately before execution of command is set.
SPACE\$	SPACE\$ (10)					Character string consisting specified number of spaces.
ERN	ERN					Designates error code.
ERL	ERL					Designates error number.

Command	Manual execution	Program	Function
Example	RUN PRO RESERVE	execution	
[Terminal program entry commands]			
TERMINAL	TERMINAL		<u>Default</u> Protocol: XON/XOFF ON ECHO OFF
DTE	DTE		<u>Default</u> Protocol: XON/XOFF OFF ECHO ON Parameter: 300 baud 7-bit data even parity 1 stop bit



Connector signal configuration

The DB-25(W) is furnished to interface with the RS-232C.

Connector pin configuration

Nine pins are used out of these connector pins.

NOTE: Different connection may be required depending on signals used by the device connected.

Pin assignment

Pin No.	item	Sym- bol	In/ Out	Function
1	Frame ground	FG		Ground
2	Transmit data	TD	Out	DC signal of transmit data $\pm(7 - 10)V$.
3	Receive data	RD	In	DC signal of receive data $\pm(5 - 15)V$.
4	Request to send	RTS	Out	Modem carrier control. ON (V+): Sends carrier. OFF (V-): Stops carrier.
5	Clear to send	CTS	In	Data transmission control. ON: Data transmission enabled. OFF: Data transmission disabled.
6	Data set ready	DSR	In	Modem status indication. ON: Modem ready to send/ receive. OFF: Modem not ready to send/receive.

Pin No.	item	Sym- bol	In/ Out	Function
7	Signal ground	SG		Provides the reference voltage with respect to all interface signals, except FG.
8	Data carrier detect	DCD	In	Carrier detection. ON: Carrier signal receiving. OFF: Carrier signal not receiving.
20	Data terminal ready	DTR	Out	Indicates status on terminal side (CE-158). ON: Terminal ready. OFF: Terminal not ready.

NOTE: To represent ON state, input signal will be $+(5 - 15)V$ and output signal will be $+(5 - 10)V$. To represents OFF state, input signal will be $-(5 - 15)V$ and output signal will be $-(5 - 10)V$.

About terminal program mode

It changes from the BASIC program mode to the terminal program mode by executing the TERMINAL statement or the DTE statement.

The following applications are possible in the terminal program mode.

- (1) Output of keyboard data on the RS-232C port.
- (2) Also, indication of that data on the display.
- (3) Input data from the RS-232C port can be put on the display or sent out through the parallel port.
- (4) Checking of the input data through the RS-232C port in unit of word or line.
- (5) Among input data from the RS-232C port, a specific part of data can be put on the CE-150 printer selectively or sent through the parallel port.

In addition to it, choice of function can be attained in the menu select mode.

- (1) Choice of ECHO (whether the keyboarded data be put on the display or not)
- (2) Choice of automatic sending of XON/OFF code.
- (3) Auto sign start
- (4) Defining the auto sign code
- (5) Defining function keys (5 keys)
- (6) Defining the password
- (7) Defining communication parameters (baud rate, word length, parity selection, stop bit length)
- (8) Choice of normal or auto paging (communication halts at every 512 bytes) or auto line (communication halts at every line)
- (9) Specifying where the receive data be outputted (CE-150 or parallel port).
- (10) Choice of whether the received data be put on the display or sent out through the parallel port.
- (11) Sending of ETX and long spaces.

Parallel Interface Specifications

Output form : Parallel (8 bits) output
Centronics compliance

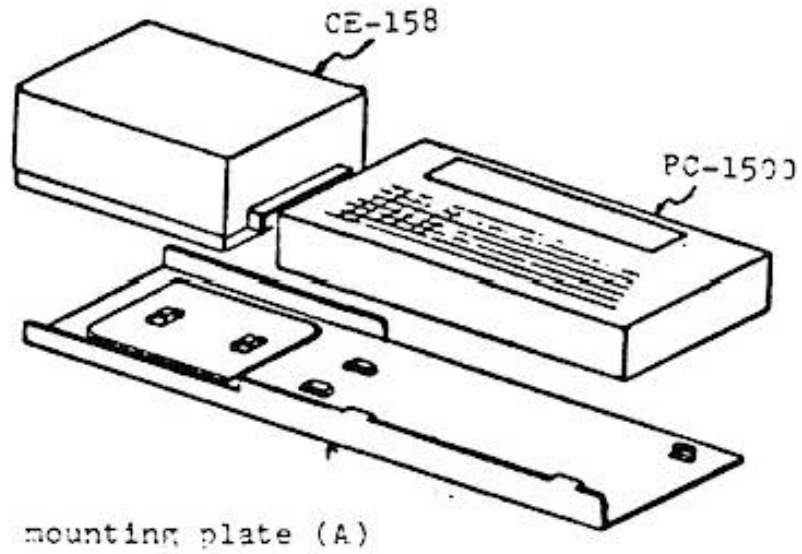
Transfer method : Hand shake method
(connected with BUSY signal)

Application code : JIS 8 bits code/JIS 7 bits code

Command : LPRINT, LLIST, FEED, ZONE,
CONSOLE, PRINT#-9,

NOTE: When the printer CE-332P of PC-3200 series is connected to CE-158, Model EA-158C as optional cable between CE-332P and CE-158 is available from Sharp.

Connection of PC-1500 with CE-158



Connection of PC-1500 with CE-150 and CE-158

