

PB-700

COMMAND LIST

CASIO®

The elements enclosed by [] can be omitted.

One of the elements enclosed by { } is specified.

The elements with the * mark at the upper right corner can be used repeatedly.

Manual Commands

CONT

Function: Resumes the program which is in STOP status.

Format: CONT

Example: CONT

DELETE

Function: Deletes a part of the program with a line unit.

Format: DELETE [starting line number] [—] [ending line number]

Examples: DELETE 50
DELETE 100—
DELETE —80
DELETE 70—120

EDIT

Function: Displays the specified line and specifies the edit mode.

Format: EDIT [line number]

Examples: EDIT
EDIT 30

LIST

Function: Lists the specified program.

Formats: LIST ALL
LIST [starting line number] [—] [ending line number]
LIST V

Examples: LIST ALL
LIST 20—50
LIST V

LLIST

Function: Prints out the specified program.

Formats: LLIST ALL
LLIST [starting line number] [—] [ending line number]
LLIST V

Examples: LLIST ALL
LLIST 100—
LLIST V

LOAD

Function: Loads the program on a cassette tape.

Formats: LOAD ALL ["file name"]
LOAD ["file name"] [, { ^A_M }]

Examples: LOAD ALL
LOAD "ABC", A

NEW

Function: Erases a program.

Format: NEW [ALL]

Examples: NEW
NEW ALL

PASS

Function: Assigns a password to protect programs.

Format: PASS "password"

Example: PASS "ABC"

PROG

Function: Specifies a program area.

Format: PROG numerical expression

Example: PROG 1

RUN

Function: Executes a program.

Format: RUN [line number]

Examples: RUN
RUN 1000

SAVE

Function: Stores a program on a cassette tape.

Formats: SAVE ALL ["file name"]
SAVE ["file name"] [,A]

Examples: SAVE
SAVE "MAY", A

SYSTEM

Function: Displays the program area status, number of remaining bytes and specified angle unit.

Format: SYSTEM

Example: SYSTEM

VERIFY

Function: Verifies the program stored on the cassette.

Format: VERIFY ["file name"]

Examples: VERIFY
VERIFY "CASIO"

Program Commands

ANGLE

Function: Sets the unit for angle.

Format: ANGLE numerical expression
($0 \leq \text{numerical expression} < 3$)

Examples: ANGLE 0 (DEGREE)
ANGLE 1 (RADIAN)
ANGLE 2 (GRADIENT)

BEEP

Function: Generates beep sound.

Format: BEEP [{ 0 }
 { 1 }]

Examples: BEEP
 BEEP 0
 BEEP 1

CHAIN

Function: Loads a specified program and executes it from the beginning.

Format: CHAIN ["file name"]

Example: CHAIN "TEST"

CLEAR

Function: Clears all variables.

Format: CLEAR

Example: CLEAR

CLS

Function: Clears the screen, and returns the cursor to the home position.

Format: CLS

Example: CLS

DATA

Function: Stores data to be referenced by READ statement.

Format: DATA data [, data] [, "character data"]*..

Example: DATA 5, 6, 8, 2

DIM

Function: Declares an array.

Formats: DIM array name [!\$] (numerical expression [, numerical expression])

DIM array name\$ (numerical expression
[, numerical expression]) * numerical
expression

Examples: DIM A\$ (10)
DIM L\$ (5, 2)*3

DRAW/DRAWC

Function: 1. Draws (erases) a point.
2. Draws (erases) a straight line.

Formats: DRAW (X-coordinate, Y-coordinate) [—
(X-coordinate, Y-coordinate)]*
DRAWC (X-coordinate, Y-coordinate)
[—(X-coordinate, Y-coordinate)]*.

Example: DRAW (10, 5)—(20, 8)

END

Function: Terminates program execution.

Format: END

Example: END

ERASE

Function: Releases registered variables and ar-
ray variables with a variable name
unit.

Format: ERASE variable name [, variable
name]

Example: ERASE A1 [, B1]

FOR-TO-STEP/NEXT

Function: Repeats execution of the statements
between the FOR statement and the
NEXT statement a specified number
of times.

Format: FOR variable name = numerical ex-
pression TO numerical expression
[STEP numerical expression] NEXT
variable name

Example: FOR I=0 TO 9: NEXT I

GET

Function: Reads variable data on the cassette.

Format: GET ["file name"] variable name
[,variable name]*.

Example: GET A, B

GOSUB/RETURN

Function: Causes a jump to a subroutine and a return from the subroutine, respectively.

Formats: GOSUB line number
GOSUB PROG program area number
RETURN

Examples: GOSUB 200
GOSUB PROG 3
RETURN

GOTO

Function: Causes a branch to the specified destination.

Formats: GOTO line number
GOTO PROG program area number

Examples: GOTO 210
GOTO PROG 4

IF-THEN-ELSE

Function: Performs a conditional branch, depending on the branch condition.

Format: IF conditional expression THEN

$$\left. \begin{array}{l} \text{(line number)} \\ \text{(numerical} \\ \text{expression)} \\ \text{command} \end{array} \right\} \text{ELSE} \left\{ \begin{array}{l} \text{(line number)} \\ \text{(numerical} \\ \text{expression)} \\ \text{command} \end{array} \right\}$$

Example: IF A>B THEN 10 ELSE 20

INPUT

Function: Requests numerical value or character data entry from the keyboard.

Format: INPUT ["prompt statement"] { ; }
variable name*..

Example: INPUT "DATA"; D

LET

Function: Assigns data to a variable.

Format: LET variable name = numerical
expression

Example: LET X = Y * 2

LOCATE

Function: Specifies the cursor position.

Format: LOCATE X-coordinate, Y-coordinate

Example: LOCATE 10, 2

PRINT/LPRINT

Function: Causes an output to the display or printer, respectively.

Formats: PRINT
PRINT expression [, expression]*..
PRINT "character string" [, "character
string"]*..
LPRINT expression [, expression]*....
LPRINT "character string"
[, "character string"]*....

Examples: PRINT "CASIO"
LPRINT A, B

PUT

Function: Stores variable data on the cassette tape.

Format: PUT ["file name"] variable name
[, variable name]*....

Example: PUT "SALES" A, B

READ

Function: Reads data that was stored by the DATA statement.

Format: READ variable name [, variable name]*.

Example: READ S, T

REM

Function: Gives a comment within the program.

Format: REM comment

Example: REM SUBROUTINE

RESTORE

Function: Changes the execution order of the DATA statement.

Format: RESTORE [line number]

Example: RESTORE 1000

STOP

Function: Temporarily stops program execution.

Format: STOP

Example: STOP

TRON/TROFF

Function: Traces the program execution.

Formats: TRON
TROFF

Examples: TRON
TROFF

Numerical Functions

SIN

Function: Trigonometric sine function (sin X)

Format: SIN (numerical expression)

Example: SIN (A/B)

COS

Function: Trigonometric cosine function ($\cos X$)

Format: COS (numerical expression)

Example: COS (A*10)

TAN

Function: Trigonometric tangent function ($\tan X$)

Format: TAN (numerical expression)

Example: TAN (PI/6)

ASN

Function: Inverse trigonometric sine function
(\arcsin or \sin^{-1})

Format: ASN (numerical expression)

Example: ASN (X*X)

ACS

Function: Inverse trigonometric cosine function
(\arccos or \cos^{-1})

Format: ACS (numerical expression)

Example: ACS (A + 12)

ATN

Function: Inverse trigonometric tangent function
(\arctan or \tan^{-1})

Format: ATN (numerical expression)

Example: ATN (A/100)

EXP

Function: Exponential function

Format: EXP (numerical expression)

Example: EXP (1)

SQR

Function: Square root

Format: SQR (numerical expression)

Example: SQR (30)

LOG

- Function:** Natural logarithm function
Format: LOG (numerical expression)
Example: LOG (2.71828)

LGT

- Function:** Common logarithm function
Format: LGT (numerical expression)
Example: LGT (100)

ABS

- Function:** Gives the absolute value of the numerical expression.
Format: ABS (numerical expression)
Example: ABS (-10.5)

INT

- Function:** Gives the largest integer which is less than or equal to the specified numerical expression.
Format: INT (numerical expression)
Example: INT (3.14)

FRAC

- Function:** Gives the value of the fractional part of the numerical expression.
Format: FRAC (numerical expression)
Example: FRAC (2.64)

SGN

- Function:** Gives the sign of the numerical expression.
Format: SGN (numerical expression)
Example: SGN (-1)

ROUND

Function: Gives the value obtained by rounding the specified digit.

Format: ROUND (numerical expression, digit position)

Example: ROUND (1.414, 2)

PI

Function: Gives the approximate value for circle ratio.

Format: PI

Example: PI

RND

Function: Gives a random number.

Format: RND

Example: R = RND

Character Functions

ASC

Function: Gives the character code of the character.

Format: ASC (Character expression)

Example: ASC ("A")

CHR\$

Function: Gives the character represented by the specified code.

Format: CHR\$ (numerical expression)

Example: PRINT CHR\$ (62)

VAL

Function: Converts a character string into the corresponding numerical value.

Format: VAL (character string)

Example: VAL ("123")

STR\$

Function: Converts a numerical value into the corresponding character string.

Format: STR\$ (numerical expression)

Example: STR\$ (123)

LEFT\$

Function: Gives the specified number of characters from the left end of the character string.

Format: LEFT\$ (character string, number of characters)

Example: LEFT\$ ("ZYXWV", 3)

RIGHT\$

Function: Gives the specified number of characters from the right end of the character string.

Format: RIGHT\$ (character string, number of characters)

Example: RIGHT\$ (A\$, 2)

MID\$

Function: Fetches a specified character string from a character string.

Format: MID\$ (character string, position [, number of characters])

Example: MID\$ (A\$, X, Y)

LEN

Function: Gives the length of a character string.

Format: LEN (character string)

Example: LEN (B\$)

INKEY\$

Function: Requests a single character entry from the keyboard.

Format: INKEY\$

Example: K\$ = INKEY\$

Other Functions

TAB

Function: Moves the cursor up to the specified number of character positions.

Format: TAB (numerical expression)

Example: PRINT TAB (10); 123

USING

Function: Specifies the display format.

Format: USING "format character string";

Example: PRINT USING "# #.# # #"; A

POINT

Function: Checks whether a specified point on the display has been turned on or off.

Format: POINT (X-coordinate, Y-coordinate)

Example: T = POINT (1, 3)

Error Message List

Error message	Error description
BS error (Bad Subscript)	<ol style="list-style-type: none"> 1. A subscript of an array variable is a negative value, or there are more than 256 subscripts. 2. A specified subscript is outside the allowable range.
BV error (Buffer oVerflow)	<ol style="list-style-type: none"> 1. Input buffer overflow.
DA error (DAta error)	<ol style="list-style-type: none"> 1. A READ or GET statement attempted to read non-existent data.
DD error (Dupricate Defini- tion)	<ol style="list-style-type: none"> 1. The same array name with different subscripts was defined doubly.
FC error (illegal Function Call)	<ol style="list-style-type: none"> 1. An attempt was made to execute a manual command as a program command. 2. An attempt was made to execute a program command as a manual command.
FO error (NEXT without FOr)	<ol style="list-style-type: none"> 1. There is no FOR statement corresponding to the NEXT statement.
GS error (RETURN without GoSub)	<ol style="list-style-type: none"> 1. There is a RETURN statement that is not corresponding to any GOSUB statement.
MA error (MAthematical error)	<ol style="list-style-type: none"> 1. A mathematical operation or mathematical function operation is undefined or illegal.
No error (Nesting Over error)	<ol style="list-style-type: none"> 1. The nesting level is outside the allowable range.
NR error (device Not Ready)	<ol style="list-style-type: none"> 1. An I/O device is not properly connected.
OM error (Out of Memory)	<ol style="list-style-type: none"> 1. The RAM memory capacity is insufficient.
OV error (OVerflow error)	<ol style="list-style-type: none"> 1. A result of an operation or input value is greater than 10^{100}.
PR error (PRotected error)	<ol style="list-style-type: none"> 1. An attempt was made to execute a command which can not be used in a program protected by a password. 2. An attempt was made to add or delete a line to/from a program protected by a password. 3. The input password is incorrect. 4. An attempt was made to LOAD a program whose password is different from the main.
RW error (Read Write error)	<ol style="list-style-type: none"> 1. A parity error occurred during execution of the LOAD or VERIFY command.
SN error (SyNtax error)	<ol style="list-style-type: none"> 1. There is an error in a command format. 2. A fraction is included in a line number. 3. More than 3 dimensional array was declared.

Error message	Error description
SO error (Stack Over error)	1. More than 8 levels of numerical value stack. The numerical value stacks exceed 8 levels. 2. More than 20 levels of operator stack. The operator stack exceeds 20 levels. 3. More than 10 levels of character stack. The character stacks exceed 10 levels.
ST error (STring error)	1. An attempt was made to assign a character string whose length is outside the allowable range to a character variable.
TM error (Type Mismatch)	1. The variable types of the left side and right side in an assignment expression do not match. 2. The types of the assigned arguments do not match.
UL error (Undefined Line number)	1. The specified line number does not exist. 2. There is no program in the program area specified by the GOTO or GOSUB statement.
UV error (Undefined Variable)	1. A variable which was not defined was used. 2. An array variable was used without the declaration by the DIM statement. 3. A subscript of an array variable exceeds the range specified by DIM.
VA error (VARIABLE error)	1. An attempt was made to register more than 41 variables.

■ Operations

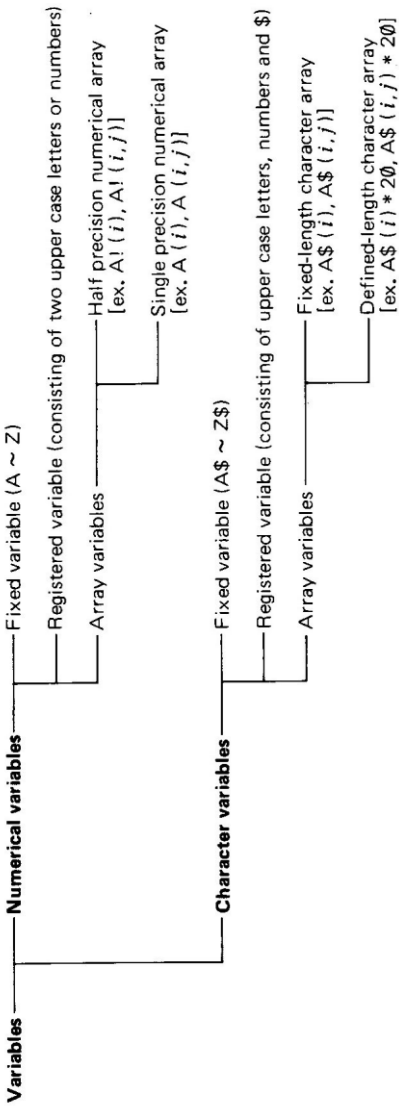
Arithmetic operators	Addition	+
	Substraction	-
	Multiplication	*
	Division	/
	Exponential calculation	^
	Surplus	MOD
Relational operators	Equal	=
	Not equal	< >, > <
	Less than	<
	More than	>
	More than or equal to	= >, > =
	Less than or equal to	= <, < =
Priority of operations	1. Inside ()	5. *, ÷
	2. Functions	6. MOD (surplus)
	3. Exponentiation (^)	7. +, -
	4. Signs (+, -)	8. Relational operators
Computation and display	Internal computation	Performed with 12-digit mantissa and 2-digit exponent
	Computation result display	Displayed with 10-digit mantissa and 2-digit exponent (rounded at the 11th digit of mantissa).

■ Statement

Statement	Maximum number of characters per line	79
	Maximum line number	9999
FOR-NEXT nesting		6
GOSUB nesting		12
Multistatement		Possible
Outputs with specified format		USING statement

PB-700 BASIC SPECIFICATIONS

Character processed		Upper case and lower case letters, Katakana, and Special symbols		
Constants	Numeral	Single precision	No. of significant digits 12	
		Half precision	No. of significant digits 5	
		Range of exponent	Maximum +99 Minimum -99	
Variables	Character	Maximum character string length	79	
	Variable name	Legal variable name characters	Alphanumeric and symbols	
	Numerical variables	Fixed numerical variable	No. of storable digits	12-digit mantissa and 2-digit exponent
		Registered numerical variable		
		Single-precision numerical array		
	Character variable	Half-precision numerical array	No. of storable characters	5-digit mantissa and 2-digit exponent 7 characters 16 characters 16 characters 0 ~ 79 characters
		Fixed character variable		
		Registered character variable		
		Fixed-length character array		
		Defined-length character array		
	Necessary No. of bytes for an array variable	Single precision numerical array	8 bytes	
		Half precision numerical array	4 bytes	
		Fixed-length character array	17 bytes	
Defined-length character array		(number of stored characters +1) bytes		



Character Code Table

0		32	(SPC)	64	@	96	'	128	
1		33	!	65	A	97	a	129	
2		34	"	66	B	98	b	130	
3		35	#	67	C	99	c	131	
4		36	\$	68	D	100	d	132	
5		37	%	69	E	101	e	133	
6		38	&	70	F	102	f	134	
7		39	'	71	G	103	g	135	
8		40	(	72	H	104	h	136	
9		41	)	73	I	105	i	137	
10		42	*	74	J	106	j	138	
11	* (HOME)	43	+	75	K	107	k	139	
12	* (CLS)	44	,	76	L	108	l	140	
13	* (RET)	45	-	77	M	109	m	141	
14		46	.	78	N	110	n	142	
15		47	/	79	O	111	o	143	+
16		48	0	80	P	112	p	144	⊥
17	* (DEL)	49	1	81	Q	113	q	145	⊥
18	* (INS)	50	2	82	R	114	r	146	⊥
19		51	3	83	S	115	s	147	⊥
20		52	4	84	T	116	t	148	—
21		53	5	85	U	117	u	149	—
22	* (ANS)	54	6	86	V	118	v	150	|
23	* (ENT)	55	7	87	W	119	w	151	|
24	* (▲)	56	8	88	X	120	x	152	┘
25		57	9	89	Y	121	y	153	┘
26		58	:	90	Z	122	z	154	┘
27		59	;	91	[	123	{	155	┘
28	* (CSR>)	60	<	92	¥	124	|	156	┘
29	* (CSR<)	61	=	93	]	125	}	157	┘
30	* (CSR^)	62	>	94	^	126	~	158	┘
31	* (CSR~)	63	?	95	-	127		159	┘

* (RET) functions as the function code for a line change.

160	(SPC)	192	タ	224	二
161	。	193	チ	225	ト
162	「	194	ツ	226	キ
163	」	195	テ	227	コ
164	、	196	ト	228	▲
165	・	197	ナ	229	▼
166	ヲ	198	ニ	230	◆
167	ア	199	ヌ	231	▽
168	イ	200	ネ	232	♠
169	ウ	201	ノ	233	♥
170	エ	202	ハ	234	♦
171	オ	203	ヒ	235	♣
172	ヤ	204	フ	236	●
173	ユ	205	ヘ	237	○
174	ヨ	206	ホ	238	/
175	ッ	207	マ	239	\
176	ー	208	ミ	240	×
177	ア	209	ム	241	円
178	イ	210	メ	242	年
179	ウ	211	モ	243	月
180	エ	212	ヤ	244	日
181	オ	213	ユ	245	時
182	カ	214	ヨ	246	分
183	キ	215	ラ	247	秒
184	ク	216	リ	248	千
185	ケ	217	ル	249	市
186	コ	218	レ	250	区
187	サ	219	ロ	251	町
188	シ	220	ワ	252	村
189	ス	221	ン	253	人
190	セ	222	〃	254	☒
191	ソ	223	。	255	

Plotter Commands

	Command	Name	Function
Drawing commands	O	ORIGIN	Defines an origin of ORG coordinate.
	D	DRAW	Draws straight lines connecting the points specified by ORG coordinates.
	I	RELATIVE DRAW	Draws straight lines connecting the points defined by the specified displacements in X and Y directions from the current pen position.
	M	MOVE	Moves the pen holder assembly with the pen up to the point defined by the specified ORG coordinates.
	R	RELATIVE MOVE	Moves the pen holder assembly with the pen up from the current pen position to the point defined by the specified X and Y displacements.
	A	QUAD-RANGE	Draws a quadrangle whose two diagonal points are defined by the two specified ORG coordinates and whose sides are parallel to the X and Y axes.
	C	CIRCLE	Draws a circle or circular arc around the center defined by the specified ORG coordinates. It draws an arc when the angle parameters are specified.
	X	AXIS	Draws a coordinate axis in the +Y, +X, -Y, or -X direction from the origin of ORG coordinate.
	G	GRID	Draws horizontal or vertical stripes from the current pen position within the specified range.
	L	LINE TYPE	Specifies a line type which is solid line, broken line, one-dot chained line or two-dot chained line.
	B	LINE SCALE	Specifies the pitch of broken line, one-dot chained line or two-dot chained line.
Character and symbol printing commands	S	ALPHA SCALE	Specifies the size of characters and symbols to be printed.
	Q	ALPHA ROTATE	Specifies the rotational angle (orientation) of characters and symbols to be printed.
	Z	SPACE	Specifies the spacing between the current and next characters and/or the spacing between the current and next lines.
	Y	HORIZONTAL/VERTICAL PRINT	Specifies whether subsequent character strings are to be printed horizontally or vertically.
	P	PRINT	Allows the specified character strings or data to be printed while in graphic mode.
	N	MARK	Draws the specified mark centered at the current pen position.

	Command	Name	Function
Control commands	J	NEW PEN	Specifies the color of pen; black, blue, green or red.
	F	LINE FEED	Feeds the paper by the specified number of lines.
	H	HOME	Redefines the absolute coordinate system, or moves the pen holder assembly for inspection of the drawing.
	@	TEST	Allows trial drawing or a check for proper inking.
Character control commands	T	TAB	Specifies a tab position.
	?	FORMAT	Specifies a formatted program listing.

- Graphic mode specification: LPRINT CHR\$ (28); CHR\$ (37)
- Character mode specification: LPRINT CHR\$ (28); CHR\$ (46)
- List format specification: LPRINT CHR\$ (27); "?1"

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