HP-42S

Quick Reference Guide

Contents

Using Menus

A menu redefines the top row of keys by displaying a menu label above each key. If the current menu has more than six labels, ▼▲ is displayed indicating that the [▼] and [▲] keys can be used to display the additional rows of the menu.

Application Menus

[BASE] [MATRIX] [SOLVER] [STAT] [∫f(x)]

When you select an application menu, all other menus are automatically exited. Within an application, you can select and use any function menu (below).

Function Menus

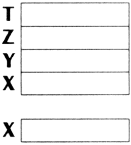
[CATALOG] [CLEAR] [CONVERT] [CUSTOM]
[DISP] [FLAGS] [MODES] [PGM.FCN]
[PRINT] [PROB] [TOP.FCN]

Function menus (except for CUSTOM) automatically exit as soon as you press a menu key. To prevent automatic exiting, select the menu twice.

Memory

The Stack

The stack is a workspace for calculations. Each stack register may contain any type of data.



The Alpha Register

Up to 44 characters

Flags (00-99)

Listed on the back cover

Available Memory

The HP-42S has 8,192 bytes of RAM. After initializing the items in system memory (such as the stack, the Alpha register, and the flags), there's about 7,200 bytes available for your programs and variables. The storage register matrix (*REGS*) occupies part of this user memory.

■ CATALOG MEM displays the amount of unused memory. To increase available memory, use the CLP (*clear program*) and CLV (*clear variable*) functions to clear items that are no longer needed.

Variables

A variable is a named storage location that may contain any type of data. For example, to store a copy of the X-register into a new variable named *ABC*, press:

STO ENTER ABC ENTER

Variable names can be up to seven characters long.

Note: the variable name *REGS* is reserved for the storage register matrix (shown on the next page).

When you execute a function that accesses a variable, the calculator automatically displays a menu of existing variable names for you to choose from. For example, to recall the contents of *ABC*, press:

RCL ABC

Storage Registers (REGS)

Each storage register is an element in the matrix *REGS*.

STO *nn* stores a copy of the X-register into register *nn*.

RCL *nn* recalls the contents of a storage register into X.

Initially, there are 25 storage registers; numbered 00 through 24. Use the SIZE function (in the MODES menu) to change the number of storage registers.

To access registers numbered greater than 99, you must use indirect addressing (see page 7).

Before storing a complex number into a storage register, the entire *REGS* matrix must be complex.

R00	
R01	
R02	
R03	
R04	
R05	
R06	
R07	
R08	
R09	
R10	
R11	Σx
R12	Σx^2
R13	Σy
R14	Σy^2
R15	Σxy
R16	n
R17	$\Sigma \ln x$
R18	$\Sigma (\ln x)^2$
R19	$\Sigma \ln y$
R20	$\Sigma (\ln y)^2$
R21	$\Sigma \ln x \ln y$
R22	$\Sigma x \ln y$
R23	$\Sigma y \ln x$
R24	

To make *REGS* complex, press:

0 ENTER ■ COMPLEX STO + REGS

To convert *REGS* back to a real matrix, press:

RCL REGS ■ COMPLEX $x{\rightleftarrows}y$ STO REGS

Data Types

Real Numbers

Real numbers are the simplest type of data. For example, any number you key into the calculator is a real number.

Complex Numbers

A complex number consists of two real numbers combined to represent a real and imaginary part:

`3.16 -i4.12` (*Rectangular* coordinate mode)

Or, a magnitude and angle:

`5.19 ∡-52.51` (*Polar* coordinate mode)

In Polar mode, complex numbers are automatically normalized so that magnitudes are positive and angles are not larger than 180 degrees.

Complex numbers are entered left-to-right:

left-hand-part ENTER *right-hand-part* ■ COMPLEX

That is, the COMPLEX function converts two real numbers (or matrices) in the X- and Y-registers into a complex number (or matrix). If the X-register contains a complex number (or matrix), the COMPLEX function separates it into its two real components.

Alpha Strings

The Alpha register can hold up to 44 characters. Alpha strings outside the Alpha register are limited to six characters, and can be stored any place a real number can be stored.

Matrices

A matrix can be any size, limited only by the amount of available memory. Each element in a matrix holds a complete number. (See page 12.)

Modes

Angles and Coordinates (■[MODES]):

DEG	*Degrees.*
RAD	*Radians.*
GRAD	*Grads.*
RECT	*Rectangular coordinates.*
POLAR	*Polar coordinates.*

Other (■[MODES] [▼]):

SIZE	Sets the number of storage registers.
QUIET	Disables the beeper.
CPXRES	*Complex-result enable.*
REALRES	*Real results only.*
KEYASN	*Key Assignments*; for the CUSTOM menu.
LCLBL	*Local Labels*; for the CUSTOM menu.

Display Formats (■[DISP]):

FIX	*Fixed-Decimal.*
SCI	*Scientific notation.*
ENG	*Engineering notation.*
RDX.	*Radix Period.*
RDX,	*Radix Comma.*

Printing (■[PRINT] [▲]):

PRON	*Printing On* (sets flags 21 and 55).
PROFF	*Printing Off* (clears flags 21 and 55).
MAN	*Manual* (for printing results).
NORM	*Normal* (for printing inputs and results).
TRACE	*Trace* (for printing all operations).

Additional modes are described under "Matrix Operations" and "Statistics."

Display Contrast

To darken the display: Press [+] while holding [EXIT].

To lighten the display: Press [−] while holding [EXIT].

Executing Functions & Programs

Any function or program can be executed with:

[XEQ] [ENTER] *name* [ENTER]

where *name* is a function name or program label. If *name* is not unique, the global label closest to the permanent end (.END.) has precedence.

If *name* is a local Alpha label, the calculator searches only the current program. (Local numeric labels in the current program are executed with [XEQ] *nn*.)

Short Cuts

The CUSTOM menu. CUSTOM has room for 18 assignments. Pressing a menu key in the CUSTOM menu is equivalent to using the XEQ function as described above where the characters assigned to the CUSTOM menu key take the place of *name*.

Smart Program Catalog. The XEQ function automatically displays the program catalog. Specify *name* by pressing the corresponding menu key.

Single Stepping. To execute the next single program instruction (at the current program line), press ■[SST] (or [▼] if no menu is displayed).

The Run/Stop Key. Pressing [R/S] runs the current program (beginning at the current line) or stops a program after the current instruction is complete.

The Function Catalog. To display a menu containing all HP-42S functions, press ■[CATALOG] FCN .

Specifying Function Parameters

Numeric Parameters. Functions that accept numeric parameters prompt you with a cursor for each digit expected. For example, the STO function prompts with STO __ and accepts a two-digit register number.

To key in a numeric parameter, simply key in the digits. If you provide a digit for each cursor, the function executes. You can also provide fewer digits and complete the entry with [ENTER].

Alpha Parameters. Many functions that accept numeric parameters also accept Alpha parameters. Often, the parameter you want is an object that already exists, so the calculator displays a menu for quick entry. If the item does not exist, use the ALPHA menu to type it. For example, to create a variable:

[STO] [ENTER] SONJA [ENTER]

Stack Parameters. Any function that accepts a storage register as a parameter also accepts a stack register. To specify a stack register, press the decimal key and then a menu key for the stack register. For example, to recall a copy of the Z-register:

[RCL] [·] ST Z

Indirect Addressing. Rather than providing an actual parameter, you can specify the variable or register that contains the parameter. To do this, use the same menu as for stack parameters. For example, to display the contents of the variable or register named in R12:

■ [PGM.FCN] VIEW [·] IND 12

You can also use stack registers with indirect addressing. For example, to clear the variable whose name is in the Y-register:

■ [CLEAR] CLV [·] [·] ST Y

Notice that IND is not needed because the CLV function takes only Alpha parameters (variable names).

Programming

Program-Entry

■ [PRGM] toggles in or out of Program-entry mode.

■ [GTO] [.] [.] moves to a new program space.

■ [GTO] [.] *nnnn* moves to line number *nnnn*.

[◀] deletes the current program line.

■ [SST] moves to the next program line.*

■ [BST] moves to the previous program line.*

(* Use [▼] or [▲] if no menu is displayed.)

Labels

A program label is simply a marker used to identify a program or a routine within a program.

Global labels can be accessed from anywhere in memory (and therefore should be unique). Global labels are distinguished from local labels with quotation marks (such as `LBL "SAMPLE"`).

Local labels can be accessed only within the current program (and should be unique within the current program). There are two types of local labels:

- Numeric (`LBL 00` – `LBL 99`)
- Alpha (`LBL A` – `LBL J` and `LBL a` – `LBL e`)

The Do-If-True Rule

The do-if-true rule determines how program lines are executed when a conditional function is encountered. If the condition is "true," the line immediately following the conditional is *executed*. If the condition is "false," the line following the conditional is *skipped*.

Looping

The ISG and DSE functions control looping. Each accesses a variable or register containing a control number in the form *ccccccc.fffii*; where *ccccccc* is the current counter value, *fff* is the final counter value, and *ii* is the increment size (default is 1). Both ISG and DSE follow a variation of the do-if-true rule: if the count is not complete, the line following the instruction is executed (usually a branch to the top of the loop). For example, this program segment counts from 1 to 52 by threes (executing the loop 18 times) and then beeps.

```
17 1.05203
18 STO "COUNT"
19 LBL 01
 ⋮
23 ISG "COUNT"
24 GTO 01
25 BEEP
```

Using a Variable Menu

A variable menu may be displayed by the Solver or Integration applications, or by the VARMENU function within a program. Each label in the menu represents a variable. While the menu is displayed, you can:

Store a value into a variable:

Key in the value and then press the menu key.

Recall the contents of a variable:

Press RCL and then the menu key.

View the contents of a variable without recalling it:

Press 🟥 (*shift*) and then hold the menu key down.

Select a variable:

Press the menu key without keying in a number first. This action places the variable name in the Alpha register and continues execution.

(For the Solver, this is how you select the unknown variable. For Integration, this is how you select the variable of integration.)

You can select and use any function menu without exiting from the variable menu.

The Solver

The Solver is a root finder that allows you to solve for an unknown variable in an expression, given values for all the other variables. Expressions are written as programs. There are three parts to a Solver program:

- The program must begin with **a global label**.
- Immediately following the global label, **menu variables** are declared with MVAR instructions.
- Finally, the body of the program should **evaluate the expression**. Recall the variables as they are needed and calculate *f(x)* (where *f(x)* = 0 for your expression of one or many variables).

After entering the program, these are the steps for using the Solver:

1. Press ■ SOLVER.
2. Select a Solver program from the menu.
3. Use the variable menu to store a value into each of the known variables. Optional: store one or two guesses into the unknown variable to direct the Solver to a solution.
4. Solve for the unknown variable by pressing the corresponding menu key.

A Simple Example: For the expression $A + B = C$, rewrite the expression as $A + B - C = 0$. The Solver program looks like this:

```
01 LBL "SIMPLE"    05 RCL "A"
02 MVAR "A"        06 RCL+ "B"
03 MVAR "B"        07 RCL- "C"
04 MVAR "C"        08 END
```

Hint: create the variables before entering the program.

After entering the program, you can use it to solve for any variable, given a value for each of the others. For example, find A when $B = 12$ and $C = \log(B)$.

Select the program: ■ SOLVER SIMPL
Store B: 12 B
Store C: ■ TOP.FCN LOG C
Solve for A: A

The TOP.FCN menu is used to execute LOG (one of the top-row functions) without exiting from the Solver.

Numeric Integration

The Numeric Integration application allows you to calculate an approximation of a definite integral. The integrand, *f(x)*, is written as a program similar to a Solver program (see the previous page). That is, the program must use a global label, declare the menu variables, and evaluate *f(x)*.

After entering the integrand program, here are the steps for using the Integration application:

1. Press ■ ∫f(x).
2. Select an integrand program from the menu.
3. Use the variable menu to store a value into each of the variables that should remain constant.
4. Select the variable of integration by pressing the corresponding menu key.
5. Store the lower limit (*LLIM*), the upper limit (*ULIM*), and the accuracy factor (*ACC*).
6. Press ∫ to calculate the integral. The approximation for the integral is returned to the X-register and the uncertainty of computation is returned to the Y-register.

Matrix Operations

To create a new *m* x *n* matrix, enter the dimensions:

m [ENTER] *n* (for *m* rows and *n* columns)

and then press:

■[MATRIX] NEW for a matrix in the X-register,

or ■[MATRIX] [▼] DIM [ENTER] *name* [ENTER] for a matrix in a variable. If the matrix already exists, the DIM function redimensions it.

To edit the matrix in the X-register:

■[MATRIX] EDIT

To edit a named matrix:

■[MATRIX] [▼] EDITN name

When a matrix is being edited it is said to be *indexed*. (To index a named matrix without editing it, use the INDEX function.) Whenever there's an indexed matrix, two pointers are used to indicate the row and column of the current element: *I* and *J*, respectively.

Wrap and Grow Modes. If the index pointers are positioned to the last (lower-right) element in a matrix and you move to the right one position:

- The pointers wrap around to the first element of the matrix (Wrap mode).
- *Or*, the matrix grows by one complete row and the pointers move to the new row (Grow mode).

Wrap mode is automatically selected whenever you enter or exit the Matrix Editor. (The WRAP and GROW functions are in the second row of the Editor menu.)

Matrix Arithmetic. Most arithmetic and other operations work for matrices just as for individual numbers. Anytime a matrix is used in a mathematical operation with a complex number, the result is a complex matrix.

Therefore, you can make any matrix complex by adding 0 + *i*0 to it:

0 [ENTER] ■[COMPLEX] [+]

or 0 [ENTER] ■[COMPLEX] [STO] [+] name

To solve a system of simultaneous linear equations represented by the matrix equation AX = B:

1. Press ■[MATRIX] SIMQ .
2. Key in the number of unknowns. The calculator automatically creates or redimensions the matrix variables *MATA*, *MATB*, and *MATX*.
3. Optional: If your equations involve complex numbers, make *MATA* and/or *MATB* complex (as shown at the top of this page).
4. Press MATA ; fill the matrix; press [EXIT].
5. Press MATB ; fill the matrix; press [EXIT].
6. Press MATX to calculate the solution matrix. Use the Matrix Editor keys to view the results.

Statistics

Statistical data is accumulated into 6 or 13 sequential storage registers (see page 3). Initially, the first summation register is R11. Use the ΣREG function to change the location of the first summation register. ΣREG does not move the data in the registers.

First, set the appropriate summation mode:

■[STAT] [▼] ALLΣ to use all 13 coefficients.

or ■[STAT] [▼] LINΣ to use only the first six coefficients (which allows only linear curve fitting).

Next, clear the summation registers:

■[CLEAR] CLΣ

Then, accumulate the data:

For each *x-y* data pair: *y-value* [ENTER] *x-value* [Σ+]

or For each single-point data value: *x-value* [Σ+]

or For *x-y* data pairs stored in a two-column matrix (*x-values* in column 1; *y-values* in column 2): Place the matrix in the X-register and then press [Σ+].

To undo mistakes:

Put the incorrect data in the stack (try 🟥[LAST*x*]).

Press 🟥[Σ-].

Continue accumulating data.

To select a curve model for forecasting:

Press 🟥[STAT] CFIT MODL

and then one of the following:

LINF	*linear model*: $y = mx + b$
LOGF	*logarithmic model*: $y = m \ln(x) + b$
EXPF	*exponential model*: $\ln(y) = mx + \ln(b)$
PWRF	*power model*: $\ln(y) = m \ln(x) + \ln(b)$
BEST	selects the model that returns the best correlation coefficient.

Base Conversions

Real numbers are displayed according to the current base mode (Hexadecimal, Decimal, Octal, or Binary). You can change the base mode using the BASE menu or by manually executing HEXM, DECM, OCTM, or BINM. Decimal mode is automatically selected when you exit from the BASE menu.

Press and hold 🟥[SHOW] to display:

- A hexadecimal, decimal, or octal number in full-precision *decimal* form.
- *Or*, all 36 bits of a binary number.

When the BASE menu is displayed, the following keys are temporarily redefined with these integer functions:

+/−	**BASE+/−**	36-bit 2's complement.
÷	**BASE÷**	36-bit integer divide.
×	**BASE×**	36-bit integer multiply.
−	**BASE−**	36-bit integer subtract.
+	**BASE+**	36-bit integer add.

Bits are numbered from right to left beginning with 0. Bit 35 (the most significant bit) is the sign bit. Negative numbers are represented in 2's complement form. Nondecimal numbers longer than 36 bits are displayed as <Too Big>.

HP-42S Functions

ABS *Absolute value.*

ACOS *Arc cosine.*

ACOSH *Arc hyperbolic cosine.*

ADV *Advance paper.*

AGRAPH *Alpha graphics.*

AIP *Alpha integer part.*

ALENG *Alpha length.*

ALL *All display format.*

ALLΣ *AllΣ mode (13 summation registers).*

AND *Logical AND.*

AOFF *Alpha off.*

AON *Alpha on.*

ARCL *Alpha recall.*

AROT *Alpha rotate.*

ASHF *Alpha shift.*

ASIN *Arc sine.*

ASINH *Arc hyperbolic sine.*

ASSIGN *Assign CUSTOM menu key.*

ASTO *Alpha store.*

ATAN *Arc tangent.*

ATANH *Arc hyperbolic tangent.*

ATOX *Alpha to X.*

AVIEW *Alpha view.*

BASE+ *Base add.*

BASE− *Base subtract.*

BASE× *Base multiply.*

BASE÷ *Base divide.*

BASE+/− *Base change sign (2's complement).*

BEEP *Beep.*

BEST *Best fit model.*

BINM *Binary mode.*

BIT? *Bit test (x^{th} bit of y).*

BST *Back step.*

CF *Clear flag.*

CLA *Clear Alpha register.*

CLALL *Clear all memory.*

CLD *Clear display.*

CLKEYS *Clear CUSTOM menu keys.*

CLLCD *Clear LCD.*

CLMENU *Clear the programmable MENU.*
CLP *Clear program.*
CLRG *Clear registers.*
CLST *Clear stack.*
CLV *Clear variable.*
CLX *Clear X-register.*
CLΣ *Clear summation registers.*
COMB *Combinations.*
COMPLEX *Complex.*
CORR *Correlation.*
COS *Cosine.*
COSH *Hyperbolic cosine.*
CPXRES *Complex-result enable.*
CPX? *Complex test.*
CROSS *Cross product.*
CUSTOM *CUSTOM menu.*
DECM *Decimal mode.*
DEG *Degrees mode.*
DEL *Delete program lines.*
DELAY *Printer delay time.*
DELR *Delete matrix row.*
DET *Determinant.*
DIM *Dimension matrix.*
DIM? *Dimensions of matrix in X-register.*
DOT *Dot product.*
DSE *Decrement, skip if less than or equal to zero.*
EDIT *Edit matrix in X-register.*
EDITN *Edit named matrix.*
END *End of a program.*
ENG *Engineering display format.*
ENTER *Enter.*
EXITALL *Exit all menus.*
EXPF *Exponential fit model.*
E↑X e^x.
E↑X-1 e^x*-1.*
FC? *Flag clear test.*
FC?C *Flag clear test, clear.*
FCSTX *Forecast x-value.*
FCSTY *Forecast y-value.*
FIX *Fixed-decimal display format.*
FNRM *Frobenius norm.*
FP *Fractional part.*
FS? *Flag set test.*
FS?C *Flag set test, clear.*
GAMMA *Gamma.*
GETKEY *Get key code.*
GETM *Get matrix.*
GRAD *Grads mode.*
GROW *Grow mode.*
GTO *Go to.*
HEXM *Hexadecimal mode.*
HMS+ *Hours-minutes-second add.*
HMS- *Hours-minutes-seconds subtract.*
I+ *I increment (next row).*
I- *I decrement (prev row).*
INDEX *Index matrix.*
INPUT *Input.*
INSR *Insert row.*
INTEG *Integrate.*
INVRT *Invert matrix.*
IP *Integer part.*
ISG *Increment, skip if greater.*
J+ *J increment (next column).*
J- *J decrement (previous column).*

KEYASN *Key-assignments mode.*

KEYG *On key, go to.*

KEYX *On key, execute.*

LASTX *Last x.*

LBL *Label.*

LCLBL *Local label mode.*

LINF *Linear fit model.*

LINΣ *Linear mode (six summation registers).*

LIST *List program lines.*

LN *Natural logarithm.*

LN1+X *Natural logarithm for values close to zero.*

LOG *Common logarithm.*

LOGF *Logarithmic fit.*

MAN *Manual printing.*

MAT? *Matrix test.*

MEAN *Mean (average).*

MENU *Programmable MENU.*

MOD *Modulo.*

MVAR *Menu variable.*

N! *Factorial.*

NEWMAT *New matrix.*

NORM *Normal printing.*

NOT *Logical NOT.*

OCTM *Octal mode.*

OFF *Off.*

OLD *Old element value.*

ON *Continuous on.*

OR *Logical OR.*

PERM *Permutations.*

PGMINT *Program to integrate.*

PGMSLV *Program to solve.*

PI *pi.*

PIXEL *Pixel on.*

POLAR *Polar mode.*

POSA *Position in Alpha.*

PRA *Print Alpha.*

PRLCD *Print LCD.*

PROFF *Printing off.*

PROMPT *Prompt.*

PRON *Printing on.*

PRP *Print program.*

PRSTK *Print stack.*

PRUSR *Print user (variables and labels).*

PRV *Print variable.*

PRX *Print X-register.*

PRΣ *Print summation registers.*

PSE *Pause.*

PUTM *Put matrix.*

PWRF *Power fit.*

QUIET *Quiet mode.*

RAD *Radians mode.*

RAN *Random number.*

RCL *Recall.*

RCL+ *Recall add.*

RCL- *Recall subtract.*

RCL× *Recall multiply.*

RCL÷ *Recall divide.*

RCLEL *Recall element.*

RCLIJ *Recall IJ pointers.*

RDX, *Radix comma.*

RDX. *Radix period.*

REALRES *Real-results only.*

REAL? *Real test.*

RECT *Rectangular mode.*

RND *Round.*

RNRM *Row norm.*

ROTXY *Rotate y by x bits.*

RSUM *Row sum.*

RTN *Return.*

R<>R *Row swap row.*

R↑ *Roll up.*

R↓ *Roll down.*

SCI *Scientific notation.*

SDEV *Standard deviation.*

SEED *Seed (for RAN).*

SF *Set flag.*

SIGN *Sign.*

SIN *Sine.*

SINH *Hyperbolic sine.*

SIZE *Size of REGS.*

SLOPE *Slope.*

SOLVE *Solve for variable.*

SQRT *Square root.*

SST *Single step.*

STO *Store.*

STO+ *Store add.*

STO- *Store subtract.*

STO× *Store multiply.*

STO÷ *Store divide.*

STOEL *Store element.*

STOIJ *Store IJ pointers.*

STOP *Stop program.*

STR? *String test.*

SUM *Σx and Σy.*

TAN *Tangent.*

TANH *Hyperbolic tangent.*

TONE *Tone (0-9).*

TRACE *Trace printing.*

TRANS *Transpose.*

UVEC *Unit vector.*

VARMENU *Variable menu.*

VIEW *View.*

WMEAN *Weighted mean.*

WRAP *Wrap mode.*

X< > *x exchange.*

X< >Y *x exchange y.*

Test functions:

X<0?	**X<Y?**
X≤0?	**X≤Y?**
X=0?	**X=Y?**
X≠0?	**X≠Y?**
X≥0?	**X≥Y?**
X>0?	**X>Y?**

XEQ *Execute.*

XOR *Exclusive OR.*

XTOA *X to Alpha.*

X↑2 *Square, x^2*

YINT *Y-intercept.*

Y↑X *Power, y^x.*

1/X *Reciprocal.*

10↑X *Common exponential, 10^x.*

+ *Add.*

- *Subtract.*

× *Multiply.*

÷ *Divide.*

+/- *Change sign.*

Σ+ *Summation plus.*

Σ- *Summation minus.*

ΣREG *Set location of first summation register.*

ΣREG? *Recall location of first summation register.*

→DEC *To decimal.*

→DEG *To degrees.*

→HMS *To hours-minutes-seconds.*

→HR *To decimal hours.*

→OCT *To octal.*

→POL *To polar.*

→RAD *To radians.*

→REC *To rectangular.*

← *Index pointers left.*

↑ *Index pointers up.*

↓ *Index pointers down.*

→ *Index pointers right.*

% *Percent.*

%CH *Percent change.*

Note: If you execute an HP-41 function, it is automatically converted into the corresponding HP-42S function.

Using the ALPHA Menu

To type an Alpha string into the Alpha register:

1. Press ■ [ALPHA] to select the ALPHA menu.
2. Optional: press [ENTER] to turn on the cursor (in Program-entry mode, inserts the ⊢ symbol).
3. Type the string using the characters shown below. Use ■ (*shift*) to type lowercase letters.
4. Press [EXIT] or [ENTER].

Also see "Alpha Parameters" on page 7.

Characters in the ALPHA Menu

ABCDE	A	B	C	D	E	
	Ä	Å	Æ			
FGHI	F	G	H	I		
JKLM	J	K	L	M		
NOPQ	N	O	P	Q		
	Ñ	Ö				
RSTUV	R	S	T	U	V	
				Ü		
WXYZ	W	X	Y	Z		
[▼] [▲]						
([{	(	)	[	]	{	}
← ↑ ↓	←	↑	↓	→		
< = >	=	≠	<	>	≤	≥
MATH	Σ+	∫	√	∡	°	µ
PUNC	,	;	:	!	?	"
	…	_	`	'	¿	LF
MISC	$	*	#	/	■	
	£	&	@	\	~	|

You can also use the following keys to type characters:

■ [%], ■ [π], [E], [+], [−], [×], [÷], [·], and [0] - [9]

Flags

00-10	User Flags
11	Auto Execute
12	Print Double-wide
13	Print Lowercase
15-16	Print Mode
19-20	General Use
21	Printer Enable
22	Numeric Input
23	Alpha Input
24	Ignore Range Errors
25	Ignore Next Error
26	Beeper Enable
27	CUSTOM Menu
28	Radix Mark Period
29	Digit Separators
30	Stack Lift Disable
34-35	AGRAPH Control
36-39	Number of Digits
40-41	Display Format
42	Grads Mode
43	Radians Mode
44	Continuous On
45	Solving
46	Integrating
47	Variable Menu
48	Alpha Mode
49	Low Battery Power
50	Message
51	Two-Line Message
52	Program-Entry Mode
53	INPUT
55	Printer Existence
56	Linear Model
57	Logarithmic Model
58	Exponential Model
59	Power Model
60	AllΣ Mode
61	Log Model Invalid
62	Exp Model Invalid
63	Pwr Model Invalid
65	Matrix Editor In Use
66	Grow Mode
68-71	Base Mode
72	Local-Label Mode
73	Polar Mode
74	Real-Result Only
75	MENU
76	Edge Wrap
77	End Wrap
81-99	User Flags

Flags 36-80 cannot be altered with SF, CF, FS?C, *or* FC?C.

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by

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