

HP-65 Quick Reference

© A. Thimet

Registers

STO/RCL 1..9	Store and recall data
Register 8	Used by the DSZ instruction
Register 9	Is set to 0 by R→P, P→R, all trig functions and all comparison tests
STO +, -, x, ÷ 1..9	Register arithmetic into register (register changes)
RCL +, -, x, ÷ 1..9	Register arithmetic from register (X changes)

Programming

Memory	100 partially merged steps
W/PRGM – RUN	This switch selects program entry or program execution mode
A..E keys	Upon power-up top row function keys are associated with small programs that execute the indicated functions: 1/x \sqrt{x} y^x R↓ $x\leftrightarrow y$
00 00	Top of program memory marker
Clear program memory	Press f CLEAR PRGM in W/PRGM mode. This is important to clear out the default power-on programs! CLEAR PRGM in RUN mode jumps to the top of the current program.
Command insertion	Commands will be inserted after the currently displayed instruction
Command deletion	Press DEL. Note that the prefix-g will first be added to the program before the DEL deletes both the prefix and the selected instruction. After the deletion the previous program step will be displayed.
Forward stepping	Press SST. In RUN mode this executes the next program instruction but does not display it. In W/PRGM mode this steps thru the program instructions
Backstepping	Not possible!! Switch to run mode and press RTN to go to the top of program memory or press GTO A..E, 0..9 to go to a label or use DEL to back up
LBL A..E	If a program with this label exists it will be executed when the top row key with this name is pressed
LBL 0..9	Other labels
A..E	In a program this will execute the selected program as a subroutine. Routines that start with a LBL 0..9 cannot be called as a subroutine. If the label doesn't exist the program continues operation and ignores the next RTN. Only one level of subroutines is possible
GTO A..E, 0..9	Jump to label. If the label doesn't exist the program executes from the top of memory
RTN	Return from subroutine or stop top level program
$x\neq y$ $x\leq y$ $x=y$ $x>y$	Comparison operators: Jump two program steps if condition is not met. Note that a GTO needs two steps!
DSZ	Decrement and skip if zero: Subtract 1 from R8 and skip two program steps if R8=0.

HP-65

	Note that a GTO needs two steps!
SF1, SF2	Set flag 1 or 2
f^{-1} SF1, f^{-1} SF2	Clear flag 1 or 2
TF1, TF2	Test if flag 1 or 2 is set: Jump 2 steps if flag is not clear. Note that a GTO needs two steps!
f^{-1} TF1, f^{-1} TF2	Test if flag 1 or 2 is clear: Jump 2 steps if flag is set. Note that a GTO needs two steps!
NOP	This is sometimes useful to fill up program steps after branch instructions
Write program to card	Put switch in W/PRGM position and insert card. All 100 program steps will be written to the card
Read program from card	Put switch in RUN position and insert card. If the read operation fails the program memory will be cleared! All 100 program steps will be read from the card even if they do not contain any instructions.
R/S	Stop/continue program execution. If the program is halted in a subroutine the next RTN will be ignored.

Miscellaneous

No permanent memory	All registers, variables and programs are lost on power-down
AC adapter	Do never operate the unit with the AC adapter and no battery pack installed!! This may damage the device. Furthermore, the AC adapter doesn't supply enough current for the card reader to work properly
Low battery	All decimal places are lit
SCI format	Enter DSP 0..9
FIX format	Enter DSP . 0..9
Inverse functions	All yellow functions on the lower half of the keyboard have inverse meanings: f f^{-1} SF1 CF1 TF1 TF1C – check if flag 1 is clear SF2 TF2 TF2 TF2C – check if flag 2 is clear LN e^x LOG 10^x \sqrt{x} x^2 SIN ASIN COS ACOS TAN ATAN R→P P→R D.MS+ D.MS- →D.MS →D →OCT →DEC INT FRACT
P↔R	Angle in Y register, length in X register ↔ x in X, y in Y
Precision	10 BCD Digits