

# HP-55 Quick Reference

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## Miscellaneous

Memory	20 storage registers, 49 program steps
Clear prefix	Pressing BST can be used to clear any of the following prefix keys: f, g, STO, RCL, STO., RCL., FIX, SCI, GTO
FIX n	Choose fix point format with n decimal digits
SCI n	Choose scientific (exponential) format with n decimal digits
STO 0-9, .0-.9	Save X in one of the 20 storage registers
STO +-x÷ 0-9	Register storage arithmetic: Register OP X → Register Not available for registers .0-.9
RCL 0-9, .0-.9	Recall value from storage register into X Recall register arithmetic is not available
f CL R	Clear stack and storage registers 0-9
g CL.R	Clear stack and storage registers .0-.9
H→H.MS	Convert fractional hours to hours/minutes/seconds in h.mmss format
H←H.MS	Convert hours/minutes/seconds in h.mmss format to fractional hours
H.MS+	Add numbers in hours/minutes/seconds format
H.MS-	Subtract numbers in hours/minutes/seconds format
DEG	Use trigonometric mode degrees (360, default)
RAD	Use trigonometric mode radians ( $2\pi$ )
GRD	Use trigonometric mode grad (400)
D→R	Convert degrees (360) to radians ( $2\pi$ )
D←R	Convert radians ( $2\pi$ ) to degrees (360)
R→P	Convert rectangular coordinates (X,Y) to polar coordinates (r,θ)
R←P	Convert polar coordinates (r,θ) to rectangular coordinates (X,Y)
n!	Factorial of X. X must be integer and $\geq 0$
$y^x$	Y to the power of X. Y must be $\geq 0$

## Summation And Linear Regression

Memory	Summation registers are mapped to the following storage registers: $n=R.0$ , $\Sigma x=R.1$ , $\Sigma x^2=R.2$ , $\Sigma y=R.3$ , $\Sigma y^2=R.4$ , $\Sigma xy=R.5$ To clear summation register contents press "g CL.R"
$\Sigma+$	Add X & Y to the summation registers, increment n and display n
$\Sigma-$	Subtract X & Y from the summation registers, decrement n and display n
RCL $\Sigma+$	Recall contents of $\Sigma x$ and $\Sigma y$ to the X & Y stack registers
STO $\Sigma+$	Same as $\Sigma+$
$\bar{x}$	Calculate mean of X & Y values and place result in X & Y
s	Calculate standard deviation $s_x$ & $s_y$ and place result in X & Y where: $s_x = \text{SQRT} [ \{n\Sigma x^2 - (\Sigma x)^2\} / \{n(n-1)\} ]$ and similar for $s_y$
L.R.	Linear regression. Fits a straight line into the data points entered with $\Sigma+$ and displays the y-offset of the fitted line in X and its inclination in Y
$\bar{y}$	For a given X calculates an estimate for y according to the fitted line

**Timer Operation**

TIMER/PRGM/RUN switch	To activate the timer set the switch to TIMER. When the switch is changed to PRGM or RUN while the timer is running the display doesn't change! Only after R/S is pressed the mode of operation is changed. When switching to RUN mode the display format is automatically changed to FIX 6 for easier reading of the time measured value
Display	The timer display format is "hh.mm.ss ff" h: 0-99 hours, mm: 0-59 minutes, ss: 0-59 seconds, ff: 0-99 hundredths of a second
Fractional second display	The display of the fractional seconds can be turned on/off by pressing the EEX key
Preset timer	To start the timer at a given time switch to RUN mode and enter a number in the X register in the form "h.mmssff" then switch to TIMER mode
Start & stop	Press R/S to start and stop the timer
Clear timer	Press CLx to set the time count to 0. When CLx is pressed while the timer is running the timer restarts at a time count of 0
Split time measurement	While the timer is running press any of the keys 0..9. This will store the current time in one of the storage registers R0-R9
Time calculations	In RUN mode use H↔H.MS to convert to and from fractional seconds. Use H.MS± to add or subtract times in h.mm.ss format

**Programming**

Memory	49 program steps, unmerged key codes
Program editing	None except overwrite. In PRGM mode the display shows the line number and the key code. Jump instructions (GTO, XY and X=Y) have special codes, see below. To move around in memory temporarily switch to RUN mode and use GTO
Labels	Not supported!
Subroutine calls	Not supported!
Ending a program	You can use R/S but GTO 00 is better because this will not only halt the program but also reset the program counter
SST	PRGM mode: Step forward thru program code RUN mode: Execute next program execution
	PRGM mode: Step backward thru program code RUN mode: <i>Set program counter 0</i>
	PRGM mode: Insert jump instruction to program step nn. The key code is "-nn" RUN mode: Set program counter given program step
	Comparison: <ul style="list-style-type: none"> <li>• If the relation is true the execution continues at the specified destination address nn</li> <li>• If the relation is false the execution continues with the next instruction</li> </ul> The key code is "31 -nn" where the prefix distinguishes from GTO & X=Y
X=Y nn	Comparison, see above. The key code is "32 -nn"

