



hp calculators

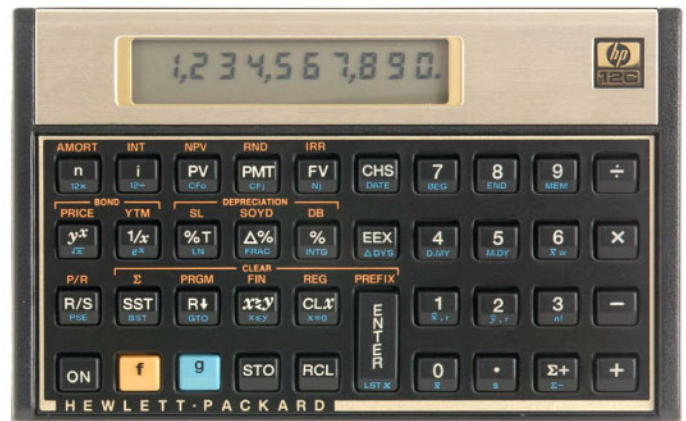
HP 12C Operating Modes and Clearing Procedures

Number representation

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Number representation

There are many different settings that allow the user to customize the HP12C according to personal needs.

One of the basic settings is related to number representation. Basic financial operations usually show two decimals of currency, requiring two digits after the radix mark (decimal point), and this is the default representation. The HP12C allows the number of decimal digits of the number in the display to be changed with the following keystroke sequence: $\boxed{f}[\text{number key}]$ where [number key] refers to any key from $\boxed{0}$ to $\boxed{9}$.

Example 1: Calculate $4/7$ and show the resulting value with four, six and seven digits after the radix mark.

Solution: The following keystroke sequence can be used:

$\boxed{4} \boxed{\text{ENTER}} \boxed{7} \boxed{\div} \boxed{f} \boxed{4}$



0.5714

Figure 1

$\boxed{f} \boxed{6}$



0.571429

Figure 2

$\boxed{f} \boxed{7}$



0.5714286

Figure 3

Note that an automatic rounding occurs with the representation of the number, but internally there is always a ten-digit mantissa and a two-digit exponent of ten for each number. If it is necessary to check the mantissa of the number in display:

$\boxed{f} \boxed{\text{PREFIX}}$ (hold for as long as needed)



5714285714

Figure 4

HP 12C Operating modes and clearing procedures

There is also a scientific notation mode that shows numbers with seven significant digits and the exponent of ten. This is useful if a number is too large to be displayed normally or if a number needs to be displayed in this manner to be consistent with other values.



Figure 5

If there is a need to change the radix mark from dot (default) to comma and conversely, the HP12C allows toggling from one to the other with the following sequence:

- with the calculator off, press and hold
- turn the calculator on;
- release .



Figure 6

Settings and annunciators

Figure 7 shows all annunciators that may become visible in an HP12C display when in normal operation:



Figure 7

Their meanings are:

- *** (flashing) the batteries are nearly exhausted and must be replaced
- f or g** the corresponding or key was pressed and its action is still active; press to override
- BEGIN** the keystroke sequence was performed to indicate that payments occur in the beginning of the composition periods; to change back to end mode and deactivate the annunciator, press .
- D.MY** the keystroke sequence was performed to indicate that dates are entered and shown in DD.MMYYYY format; to changes modes to M.DY and deactivate the annunciator, press .
- C** the keystroke sequence was performed to indicate that odd-periods are considered with compound interest rate when TVM operations are performed; press again to toggle the annunciator condition and use simple interest for odd-periods.
- PRGM** either program mode is active or a program is running. If program mode is active, press to return to normal operation and deactivate the annunciator; if is flashing in the display then a program is being executed and pressing will stop it.

Note that if is flashing in the display and the **PRGM** annunciator is not shown, then an internal function is being performed and pressing will not stop it.

Memory Organization

In the HP12C, memory is organized as a set of **registers** that can hold a valid number representation. All memory available in the HP12C to the user is represented in Figure 8 in terms of registers. Their contents in the figure are their default contents when memory is cleared or when the calculator is first turned on.

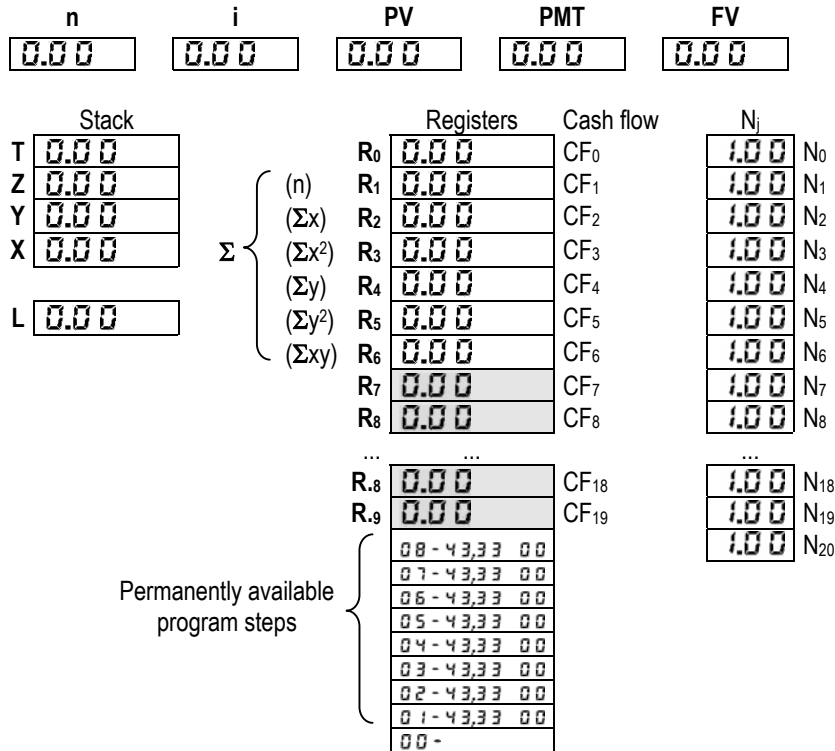


Figure 8

Registers R₀ to R₉ and R₀ to R₉ are "general purpose" registers, and they can be accessed either directly by the user or by some internal functions. The shaded area represents the registers that can be automatically converted into program steps. Although registers R₁ to R₆ are general purpose registers as any other, their contents are used by statistical functions. Financial registers **n**, **i**, **PV**, **PMT** and **FV** are used by TVM, Bond, Depreciation and Cash-Flow functions, but can also be used to hold any valid number.

How to selectively clear memory contents

The "master clear" of the HP12C is accomplished when the following sequence is executed:

- with the calculator off, press and hold **[-]**;
- turn the calculator on;
- release **[-]**.

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If the operation is successful, the display shows:



Figure 9

The HP12C memory contents now match the ones shown in Figure 8.

It is possible to clear specific parts of the HP12C memory with the use of the clearing functions under ^{-CLEAR-}, on the keyboard. The different functions included are:

- f** **Σ** clears the contents of registers R₁ to R₆ and the stack registers X, Y, Z and T to 0.00 without changing any other register contents. This allows new statistic summations to be collected.
- f** **PRGM** If the calculator is in program mode (**PRGM** annunciator on), **f** **PRGM** clears the first eight program steps to **43,33 00** (**g** **GTO** **0** **0**) and frees all registers used by programs for data storage, if any. If the calculator is in normal (run) mode, **f** **PRGM** only positions the program memory to step # 00.
- f** **FIN** clears the five financial registers **n**, **i**, **PV**, **PMT** and **FV** to zero.
- f** **REG** clears all registers containing valid numbers to their default contents, as shown in Figure 8. **f** **REG** does not clear any program instruction, even if they are stored in registers converted to program steps.
- f** **PREFIX** clears **f** annunciator and any partial keystroke sequence (**RCL**, **STO**, **STO** **+**, **g** **GTO**, **RCL** **g**, etc)