

Calculator Memory Description

The HP-12C calculator has different memory areas dedicated to different functionality. The memory areas are:

Memory Area	Description
Stack Registers	X, Y, Z, T and Last-X registers to track calculations. The Last-X is a special register to keep the previous content of the stack-X after an operation or function (RPN mode only).
Financial Registers	n,i,PV,PMT and FV registers for financial calculations.
Storage Registers	20 General purpose register numbered from 0 to 19.
Cash Flows Memory	100 registers for store the cash flow values and repetitions. The first 20 registers are the Storage Registers.
Program Memory	Stores keystrokes sequences in a program for a total up to 999 program steps or complete commands.
Statistic Data List	Additional memory area added in this implementation (not present in the real HP-12C calculator) to kept track of the statistical data entered with $\Sigma+$ or corrected with $g \Sigma-$. To review or edit it use the " Statistic Editor " in the Options topic.

Stack Registers X, Y, Z ,T and Last-X

During calculations the automatic Stack retain and returns intermediate results. The number that appears in the display is always the number in the Stack-X Register.

The **Last-X** is special case of different behavior depending on the calculator's entry logic selected, **RPN** or **ALG** (Platinum model only):

<p>RPN Entry logic</p>	<p>When a numeric function or operation is executed, a copy of the value that was in the X register is stored in the Last X register. Pressing g LSTx retrieve the Last X register to the Stack X register.</p>
<p>ALG Entry logic</p>	<p>The displayed number is copied into the Last X register when a new calculation commences either with digit entry (i.e., when one of the digits 0-9, the decimal point, or EEX is pressed) or with g LSTx itself. When g LSTx is actually executed in ALG mode, it simply swaps the value in the X-register with the value in Last X. Therefore, in ALG mode, it never lifts the stack and in general, it changes the value in Last X.</p>

Financial Registers:

The calculator has five special registers to perform financial calculations. These registers are: number of compounding periods (**n**), interest rate per compounding period (**i**), present value (**PV**), periodic payment value (**PMT**) and future value (**FV**). For more detail see the [Compound Int.](#) topic.

Storage Registers:

The calculator has 20 general purpose memory registers for storing (**STO**) or recalling (**RCL**) numbers involving the displayed stack-X register.

Cash Flows Register:

To store cash flows amounts 'CFj', and repetitions 'Nj', the calculator uses the 20 general purpose registers plus 80 additional registers and 100 special registers to store the number of repetitions (see the [Cash Flows](#) topic).








Program Memory:

Up to 999 program steps can be recorded independently from the other memory registers (see the [Programs](#) topic).



Statistic Data List:













This is an added feature of the calculator and stores all the data pairs entered through the **Σ+** or **g** **Σ-** keys (see the [Statistics](#) topic).

Clearing Data:

Command	Description
	Deletes the last digit during number entry or the entire stack-X. In program mode deletes the current program line.
	In running mode, Clear to zero the stack-X. In program mode record the CLX function.
	Clear the summation Storage Registers 1 to 6, the Statistic Data List and the stack.
	In RUN mode, sets the program counter to '000'. In PRGM mode, clears the program memory.
	Clears all 5 Financial Registers.
	Clears all 20 general purpose Storage Registers, the additional 80 for Cash Flow registers (CFj), the 80 Cash Flow repetitions (Nj) and the stack registers.
	Clears the current key sequence and display the 10 digits mantissa of the number in the stack-X register.

Storage Registers Operations:

(k : represent a digit from key  to key  , SR_k stands for Storage Register “ k ”)

Store	Result	Recall	Result
 k	$SR_k = \text{stack-X}$	 k	$\text{stack-X} = SR_k$
 k	$SR_{10+k} = \text{stack-X}$	 k	$\text{Stack-X} = SR_{10+k}$
 k	$SR_k = SR_k + \text{stack-X}$	 k	$\text{stack-X} = \text{stack-X} + SR_k$
 k	$SR_k = SR_k - \text{stack-X}$	 k	$\text{stack-X} = \text{stack-X} - SR_k$
 k	$SR_k = SR_k \cdot \text{stack-X}$.	 k	$\text{stack-X} = \text{stack-X} \cdot SR_k$
 k	$SR_k = SR_k \div \text{stack-X}$	 k	$\text{stack-X} = \text{stack-X} \div SR_k$

Note: The Storage Registers operations described above, can be used in the same way with most of the variables of the Options Selection tools.

Financial Registers Operations:

Touching **n**, **i**, **PV**, **PMT** and **FV** keys stores or calculates the corresponding value depending of the previous key pressed:

Previous Key	n , i , PV , PMT or FV pressed
STO	Stores the stack-X in pressed variable register.
RCL	Recall the pressed variable register to the stack-X.
n , i , PV , PMT or FV	Calculates the pressed variable and display it.
Any Other	Stores the stack-X in pressed variable register.

As a special feature, the RLM-12 Finance Center includes three views to show the stack, financial and storage registers. To show it, expand the calculator pressing the **OPT key.**