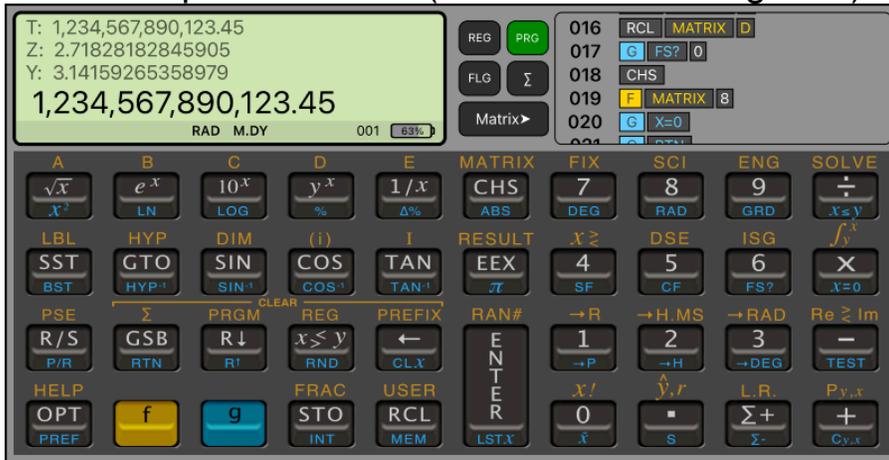


General Overview

The **RLM-15CX** calculator application is an extensive set of tools and enhancements inspired in the real HP-15C calculator. It works in the same way, but with expanded memory, precision (15 digits) and a complete set of menus to handle almost any scientific, financial or business calculation (toggle tapping the **[OPT]** key). Also, the Display was expanded to show the entire Stack and, in landscape orientation, the content of the storage registers, control flags, matrices, statistics and program memory.

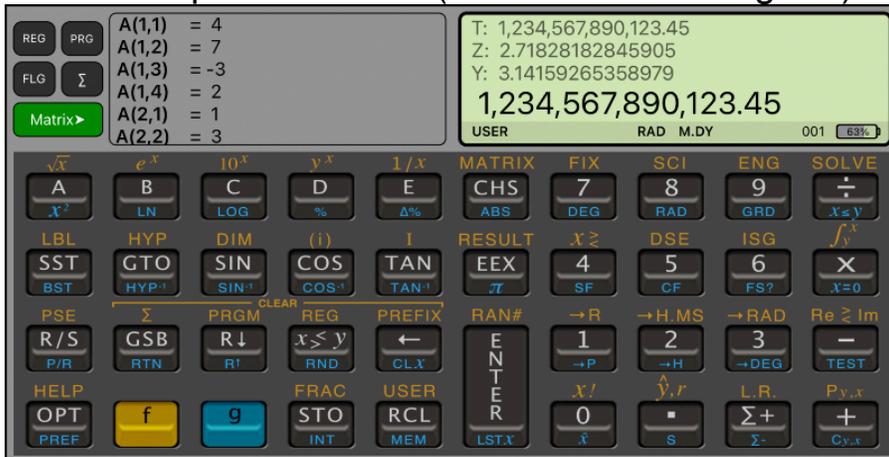
Landscape Orientation (Left Handed Setting OFF)



Portrait Orientation



Landscape Orientation (Left Handed Setting ON)

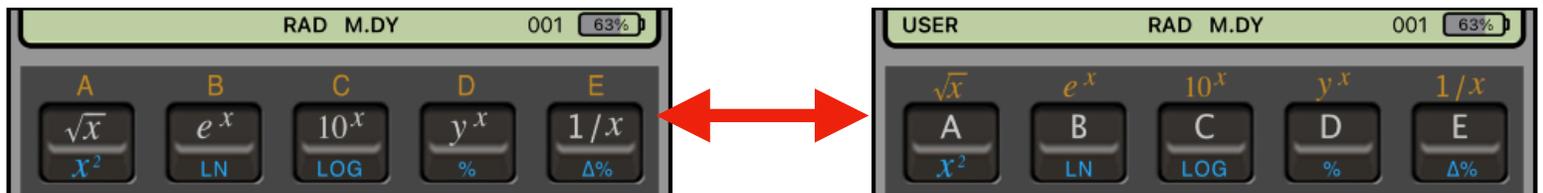


The HP-15C was designed and introduced by Hewlett-Packard in 1982 and discontinued in 1989. Nevertheless, it is still one of the most wanted scientific calculators. Its design, functionality and easy of use remains valuable for science and engineering professionals around the world. It is an advanced scientific programmable calculator with complex numbers, matrices, solver and integral calculations. It has up to 63 general purpose storage registers, 203 program lines (with all the general purpose storage registers converted to program space), an

Index register, 25 labels for addressing (0-9, .0-.9 and A to E), 4 levels subroutines, 8 conditional tests, increment & decrement loops, 10 control flags, five matrices (A,B,C,D and E) with up to a total of 64 elements.

The **RLM-15CX** has the same capabilities, but expanded with 999 program lines, 100 storage register (0 to .9 of direct addressing and R20 to R99 with Indirect addressing), the same 5 matrices but with a maximum of 100 elements each and unlimited nested subroutines.

The HP-15C included a limited user definable keyboard. When the user mode was in effect (and the USER annunciator showed in the display) the gold shifted labels “A” to “E” were swapped with the unshifted math functions on the same keys. This allowed 5 user programs to be invoked with single keystrokes. The **RLM-15CX** does the same thing, but in a dynamic interface for you to visualize the change immediately in the keyboard.



The normal ON key present in the real calculator was changed by the **OPT** key to show or hide the **Main Menu** described next.

Main Menu (OPT key)



Finance Menu

Account Balance	Calculates the balance of a credit line type account at any date based on a (Date, Transaction) List of cash flows or interest rates that can occur at any date.
Amortization	Calculates a loan Amortization Schedule from a single loan payment or from several payments at once.
Bond Price & Yield	Calculates annual or semi-annual coupons bonds with actual or 360 days/year calendar with all options and values at sight.
Black-Scholes Options	Calculates the prices of a CALL and PUT options and the Greeks using the Black-Scholes European option valuation model.
> Cash Flows:	Shows a submenu to select the type of cash flow.
Equal Periods	Calculations with Cash Flows occurring at regular time intervals using a (Value,Frequency) List .
Unequal Periods	Calculations with Cash Flows occurring at different dates using a (Date, Value) List .
Depreciation	Calculates the Depreciation Schedule of an asset using SL, SOYD, DB or ACRS methods.
Interest Conversion	Calculates nominal and effective interest rates using either periodic or continuous compounding.
TVM: Time Value of Money	Calculates compound Interest problems involving money earning interest over a period of time.

Business Menu

Bill-Tip-Split	Calculates the total and the amount to pay per person based on a bill amount, a number of persons and a tip percent or amount.
Break-Even	Calculates break-even based on the following equation: $\text{Profit} = (\text{Price} - \text{Var.Cost}) \cdot \text{Units} - \text{Fix.Cost}$
Currency Exchange	Calculates a currency exchange between two selected world currencies and common crypto currencies.
Margins	Calculates the business margin, mark-up, price or cost with all values at sight.
Percents	Calculates percent change and percent total in a single menu with all values at sight.

Date / Time Menu

Perform Date and Time calculations with all values at sight.

Statistics Menu

> (X,N) Data List:	Statistics calculations over one (Value,Frequency) List of data samples.
One List Statistics	Statistics calculations over one (Value,Frequency) List of data samples.
Two Lists Statistics	Statistics calculations over two (Value,Frequency) Lists of data samples.
Curve Fitting	Applies a regression model to fit a curve from two (Value,Frequency) List of data samples.
Data Editor	Opens an editor to create a “(Value, Frequency) List”.
> (X,Y) Data List:	Statistic calculations over two (X-value, Y-value) List of data samples.
Load (X,Y) Data	Load the statistics summary (R ₂ to R ₇) calculated from a previously created “(X,Y) List” of data samples.
Statistics	Shows the Statistic Calculation view to perform calculations over a previously created “(X,Y) List” of data samples.
Curve Fitting	Shows the Curve Fitting view to apply different regression models to an “(X,Y) List” data samples.
Data Editor	Opens an editor to create a “(X,Y) List”.
Probability	Calculates combinations, permutations and probability densities and lower-tail cumulative probability of selected distribution.

Scientific Menu

Vectors 3D	Special menus to perform operations and functions over 3D vectors in cartesian, spherical or cylindrical coordinates.
Number Alteration	Applies common number alteration functions.
Plane Triangle	Solves a two dimensional triangle with known values according to AAS, ASA, SAS,SSA or SSS models.
Spherical Triangle	Solves a triangle in the surface of a sphere of radius ‘R’ and known values according to AAA, AAS, ASA, SAS, SSA or SSS models.
Universal Constants	Inputs the value of a selected universal constant from the NIST-CODATA database.

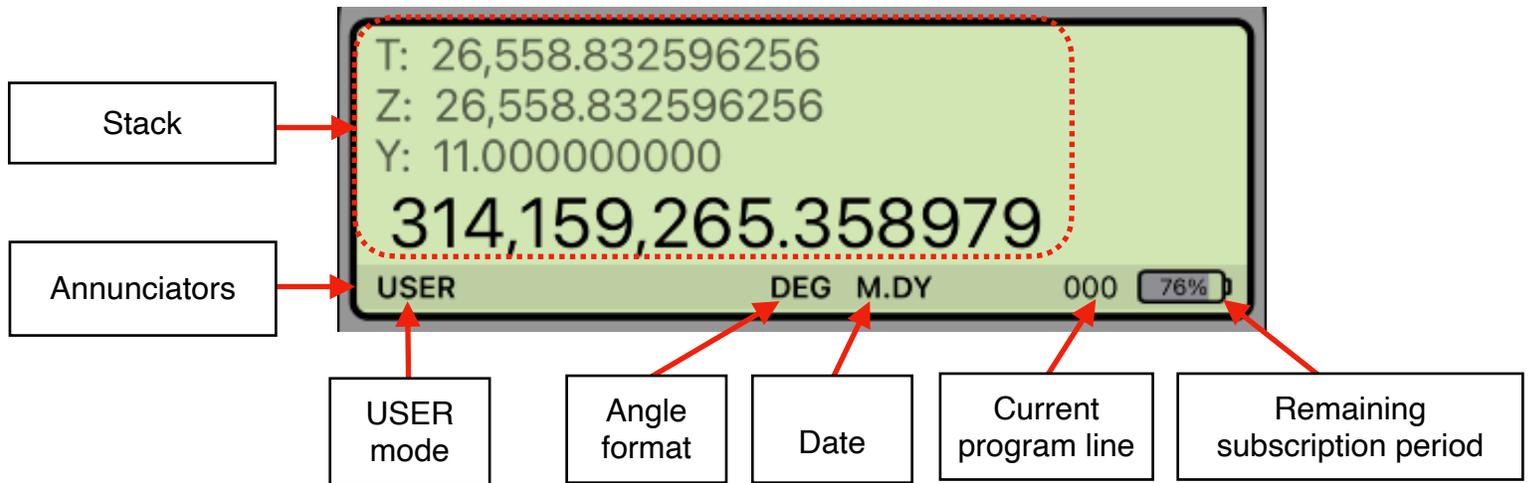
Conversion Menu	
Angles	Calculates angle conversion between decimal degrees, radians, gradians, degree-minute-second and slope percent units.
Currencies	Calculates a currency exchange between two selected world currencies and common crypto currencies.
Interest Rates	Calculates nominal and effective interest rates using either periodic or continuous compounding.
Polar-Rectangular	Performs conversion between rectangular (X,Y) coordinates and polar (R,Ø) coordinates.
Units	Calculates physical units conversion within a selected units category.

Program Menu	
New	Clears the program memory and shows the Program Editor.
> Load Program	Load a previously saved program in the Program Editor.
Editor	Opens the Program Editor view to create or edit programs.

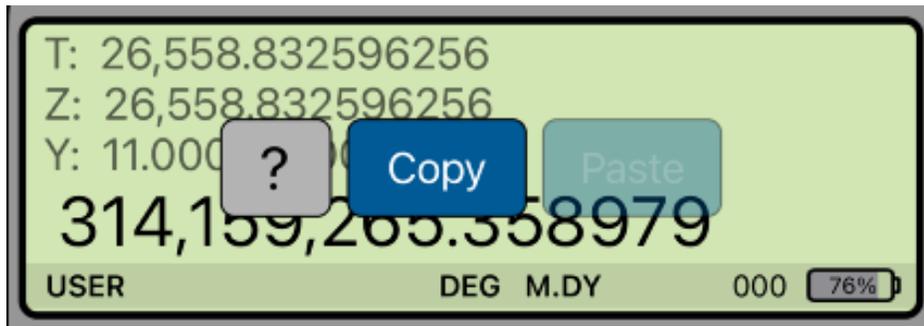
Solver Menu	
Solver	Solve arbitrary algebraic equations entered and saved in the equation editor and creates a menu with all the equation variables to solve for any of them.

Utilities Menu	
General Settings	Shows a view to customize the calculator to your preference.
Memory Content	Shows all the memory content for backup or restore.
Help Documents	Shows the help view to learn by example about all the menus.
> Editors	Shows a submenu to select one of the different data editors.
(Date,Transaction) List	Opens an editor to create a “(Date, Transaction) List”.
(Date,Value) List	Opens an editor to create a “(Date, Value) List”.
(Value,Frequency) List	Opens an editor to create a “(Value, Frequency) List”.
(X,Y) List	Opens an editor to create a “(X,Y) List”.
Program	Opens the program editor to create or edit a program.
Solver Equation	Opens an editor to create or edit equation used by the Solver.
Units Conversion	Opens an editor to create or edit physical units.

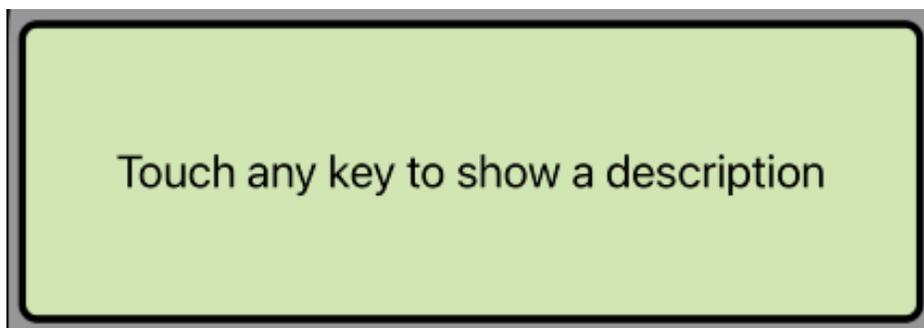
Normal Calculator Display



Touching the display at any time brings up the Help-Copy-Paste buttons to the front. There you can “Copy” the displayed number or “Paste” previously copied one.



The “?” button turn on the quick help for a short description of any keyboard or menu button.



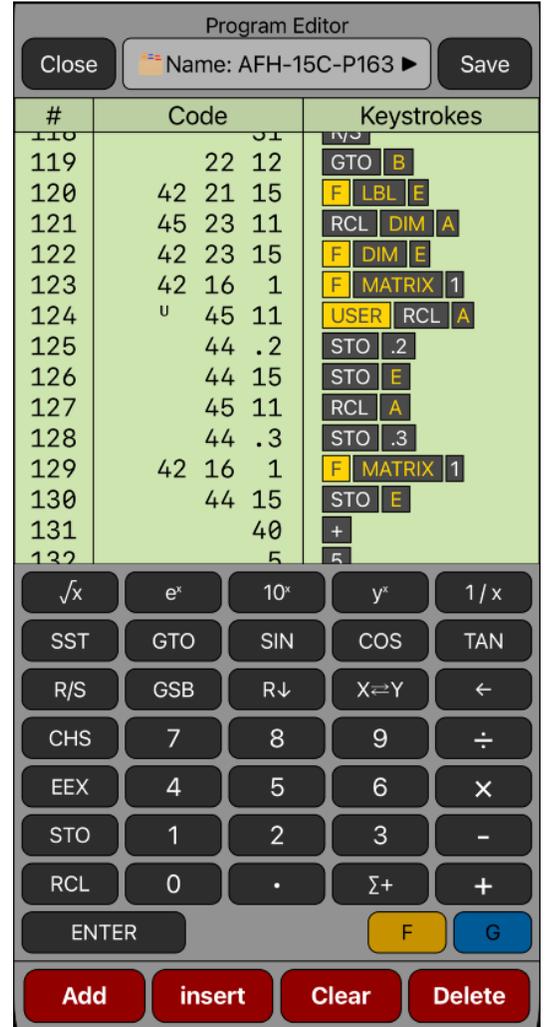
Program Mode Display

When the Program Mode is set (**G P/R**) the display changes to show the Program Editor view (see the Program item of the Utilities / Editors menu):

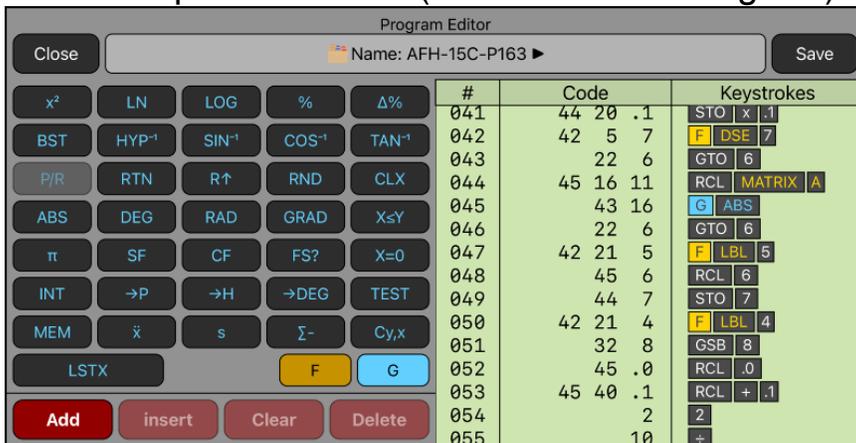
Landscape Orientation (Left Handed Setting OFF)



Portrait Orientation



Landscape Orientation (Left Handed Setting ON)



You can swipe over the display to scroll the program listing to the desired location, and tap in any line to select it and edit as necessary.

Since the calculator is inspired in the real **HP-15C**, we strongly recommend that you obtain the real calculator [Owner's Manual](#) available in internet and review all the help topics selecting them from the top buttons in the **HELP** view (tap [f] [HELP]).

For further information and support go to www.rlmtools.com or send an email to support@rlmtools.com

DISCLAIMER: THIS IS NOT A HEWLETT-PACKARD CALCULATOR, AND IS NOT SPONSORED, SUPPORTED OR UNDERWRITTEN IN ANYWAY BY HEWLETT-PACKARD OR ANY OF ITS SUBSIDIARIES.