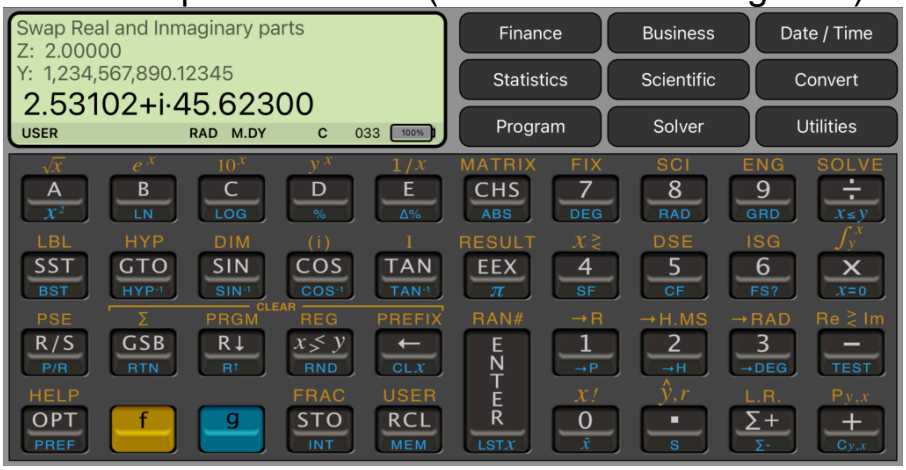
General Overview

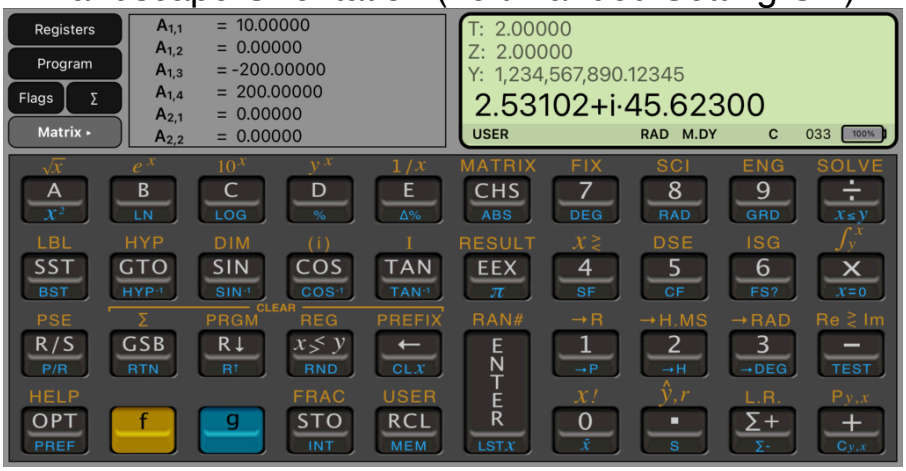
The **RLM-15CX** calculator application is an extensive set of tools and enhancements inspired in the real HP-15C calculator. It works in the same way, but expanded with 15 digits precision, 100 general purpose storage registers, 1000 program lines, matrices up 20x20 elements and a complete set of menus to handle almost any scientific, financial or business calculation (the **[OPT]** key shows or hides the menus). Also, the Display was modified to show the all the Stack registers and, if you enable the “Show Registers” settings, shows the content of the storage registers, control flags, matrices, statistics and program memory.

Landscape Orientation (Left Handed Setting OFF)



Portrait Orientation

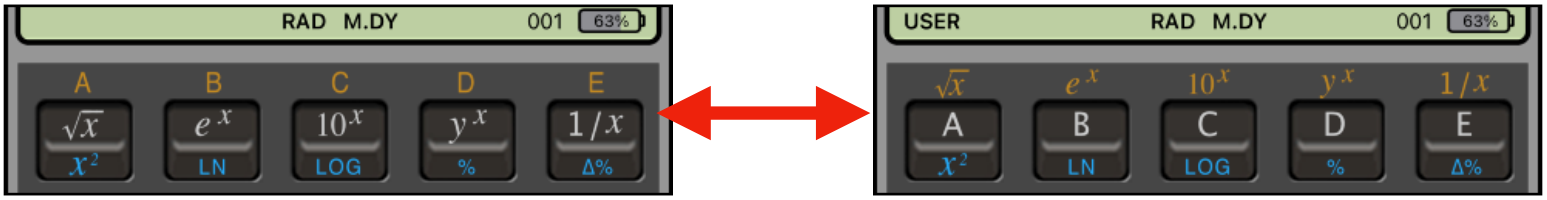
Landscape Orientation (Left Handed Setting ON)



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.

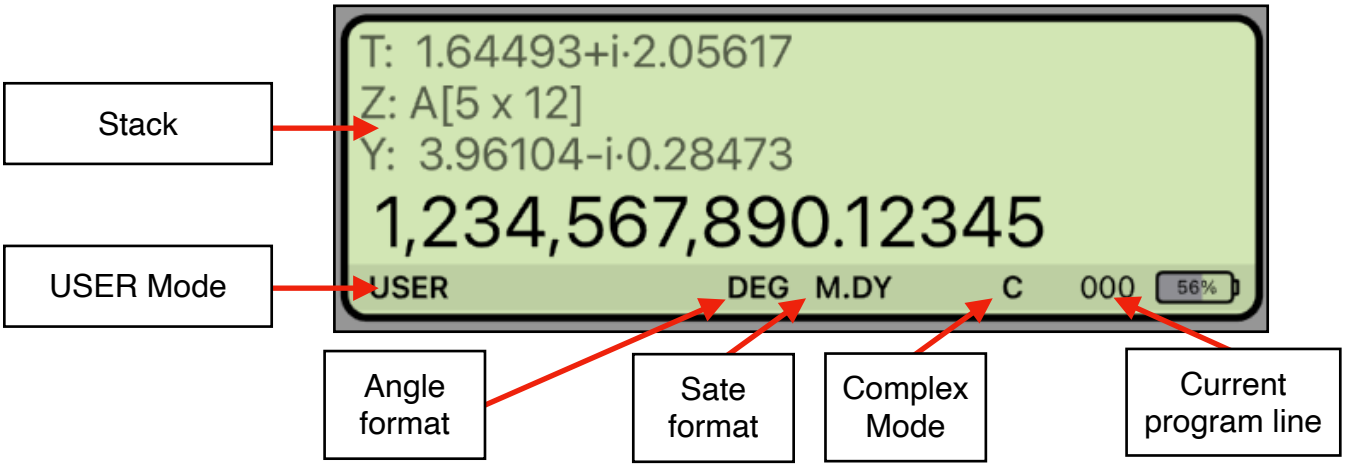
The **RLM-15CX** has the same capabilities, but expanded with 999 program lines, 100 storage register (0 to .9 of direct addressing and R_{20} to R_{99} with Indirect addressing), the same 5 matrices but with a maximum of 20x20 elements each and unlimited nested subroutines.

The HP-15C included a limited user definable keyboard. When the user mode was in effect (and the USER annunciator if shown 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.

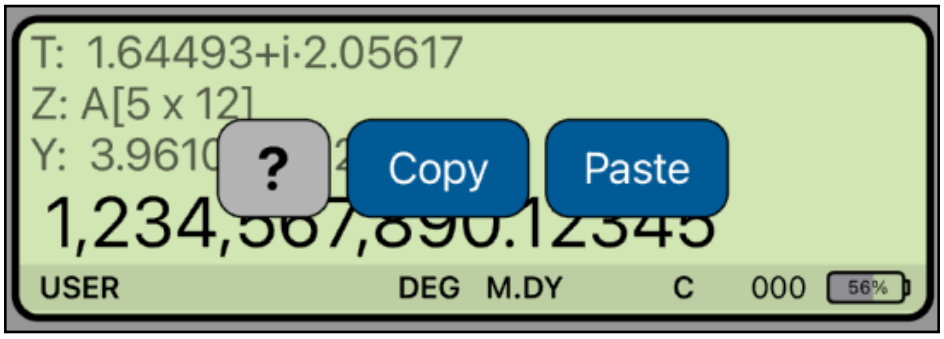


The normal ON key present in the real calculator was changed by the **OPT** key to show or hide the **Main Menu** described below.

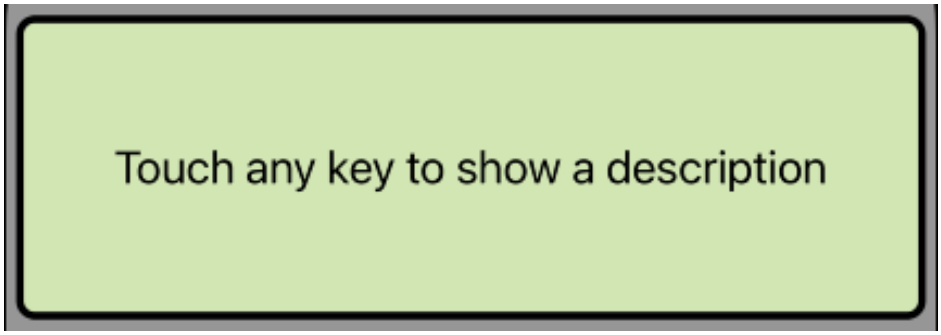
Normal Calculator Display



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.



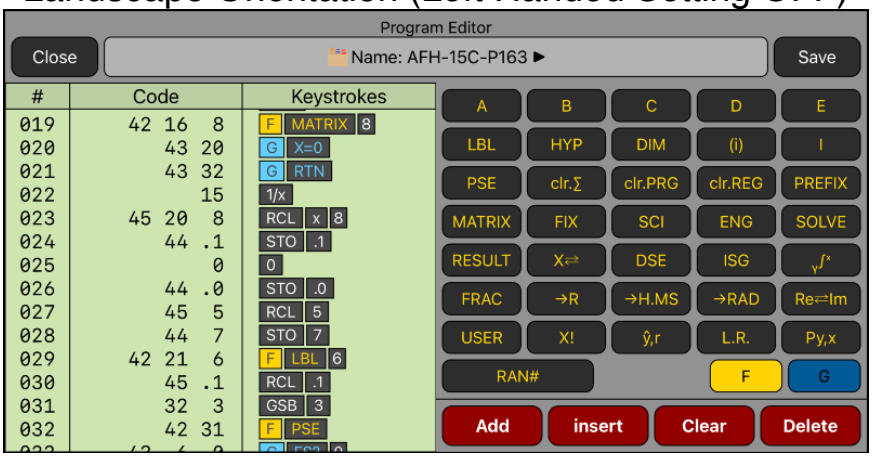
The **[?]** button turn on the quick help for a short description of any keyboard or menu button.



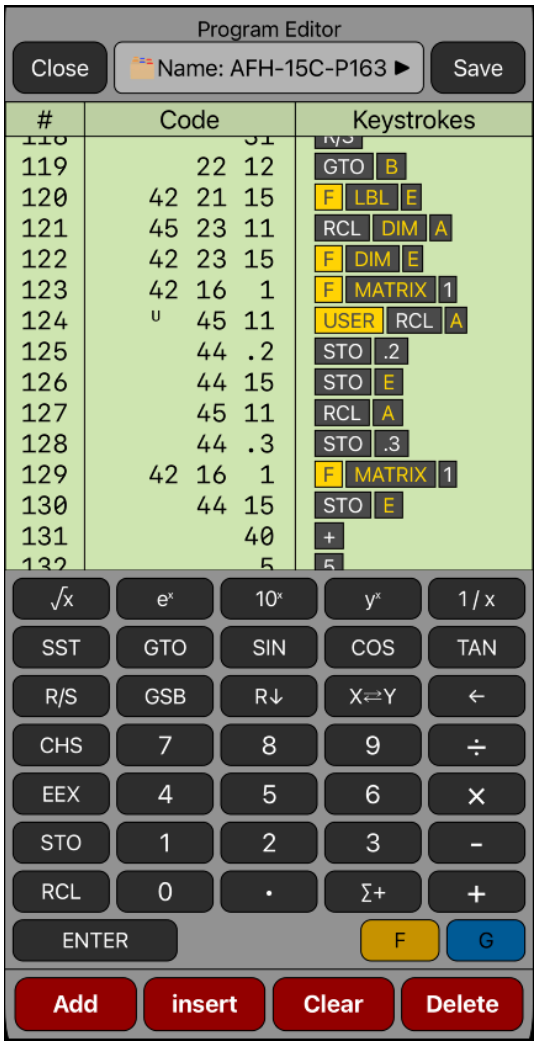
Program Mode Display

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):

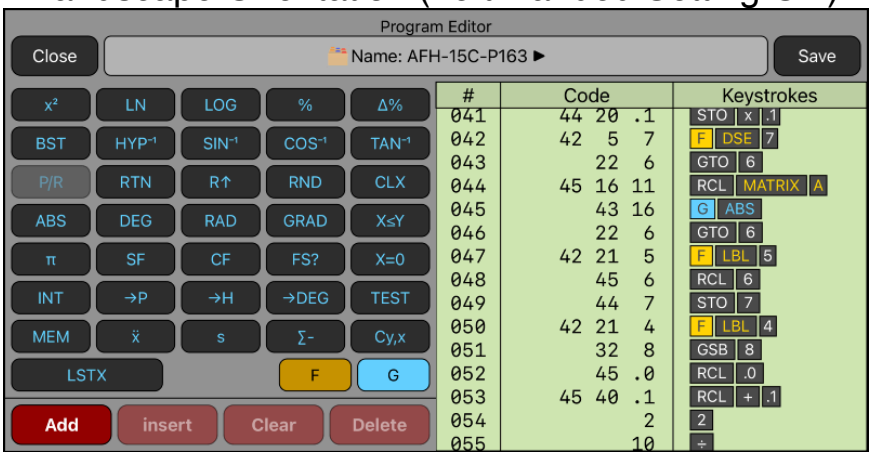
Landscape Orientation (Left Handed Setting OFF)



Portrait Orientation



Landscape Orientation (Left Handed Setting ON)



You can swipe over the display to scroll the program listing to the desire 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]**).

Main Menu (OPT key)

Finance Menu	
Account Balance	Calculates the balance of a credit line type account at any date based on cash transactions and interest rates applied.
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 calendar or 360 days year in an easy way with all at sight.
Black-Scholes Options	Calculates the prices of a CALL option, PUT option and the Greeks values using the Black-Scholes European option valuation model.
> Cash Flows	
Equal Periods	Calculations for different cash flows occurring at regular periods.
Unequal Periods	Calculations for different cash flows occurring at different dates.
Depreciation	Calculates the Depreciation Schedule of an asset with all the values at sight, using SL, SOYD, DB, DBX and MACRS 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 tip, total, and amount per person over a bill.
Break-Even	Analyze the equation: Profit = (Price - Var.Cost) • Units - Fix.Cost
Currency Exchange	Calculates a currency exchange what online rates.
Percents & Margins	Calculates percent change, percent total and business margins.

Date / Time Menu	
Perform Date and Time calculations with all values at sight.	
Statistics Menu	
> Load (X, Y) List	Load a previously created "**(X,Y) List**" to the calculator.
> (X,N) List Statistics	Statistics calculations over one **(X,N) List** of data samples.
One List Statistics	Statistics calculations over one **(X,N) List** of data samples.
Two Lists Statistics	Statistics calculations over two **(X,N) Lists** of data samples.
Curve Fitting	Applies a regression model to fit a curve from two **(X,N) Lists**.
(X,N) List Editor	Opens an editor to create or edit a **(X,N) List**.
> (X,Y) List Statistics	Statistics calculations over one **(X,Y) List** of data samples.
Statistics	Statistic calculations over an **(X,Y) List** of data samples.
Curve Fitting	Applies a regression model to fit a curve from an **(X,Y) List**.
(X,Y) List Editor	Opens an editor to create or edit a **(X,Y) List**.
Probability	Calculates combinations, permutations and probability densities and lower-tail cumulative probability of selected distribution.
Scientific Menu	
Complex Numbers	Special menus to perform operations and functions over complex numbers in cartesian or polar (phasor) form.
Matrix	Matrix “A” to “E” editor and calculations.
> Triangle Solution	Shows a submenu to select 2D or 3D triangle.
Plane Triangle	Solves a two dimensional triangle.
Spherical Triangle	Solves a triangle in the surface of a sphere of radius ‘R’.
Universal Constants	Inputs universal constant values from the NIST-CODATA.
Vectors 3D	Special menus to perform operations and functions over 3D vectors in cartesian, spherical or cylindrical coordinates.
Convert Menu	
Angles & Polar	Convert Angle units and Polar-Rectangular coordinates.
Currencies	Exchange between two world currencies with on-line rates.
Interest Rates	Nominal and effective rates conversion.
Units	Calculates physical units conversions.

Program Menu	
> Load Program	Load a previously saved program in the calculator.
New…	Shows the Program Editor to start creating a program.
Program Editor	Opens the Program Editor view to create or edit programs.
Solver Menu	
Solve arbitrary algebraic equations entered and saved in the equation editor and creates a menu with all the equation variables to solve any of them.	
Utilities Menu	
General Settings	Shows a view to customize the calculator to your preference.
Storage Registers	Storage Registers content and operations.
Memory Content	Shows a view to see all memory content and backup or restore it.
Help Documents	Shows the help view to learn by example about all the calculator's menus.
> Editors	Shows a submenu to select one of the different data editors.
(Date, Trx) List	Opens an editor to create a list in the form "Date, Transaction".
(Date, CF) List	Opens an editor to create a list in the form "Date, Value".
(X,N) List	Opens an editor to create a list in the form "Value, Frequency".
(X,Y) List	Opens an editor to create a list in the form "X-value, Y-value".
Program	Opens the program editor to create or edit a program.
Solver Equation	Opens an editor to create or edit equations used by the Solver.
Units Conversion	Opens an editor for the physical units database.

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