## **General Overview**

The RLM-17BX calculator application is an extensive set of tools and enhancements inspired in the real HP-17BII calculator series made by Hewlett Packard Corp.

The first "HP-17BII" calculator was designed and introduced by Hewlett Packard in 1988 and it was a pocket business calculator with algebraic and RPN logic. It was one of the first calculators width menus that contains most of its functions.



Since the calculator is inspired in the real **HP-17BII**, 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 button in the **HELP** view.

## <u>Main Menu</u>



Finance Menu		
Account Balance	Calculates the balance of a credit line type account at any date based on a (Date,Trx) List of cash flows or interest rates that can	
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.	
Depreciation	Calculates the Depreciation Schedule of an asset using SL, SOYD, DB, DBX, MACRS-SL and MCRS-DB 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: Profit = (Price - Var.Cost) • Units - Fix.Cost	
Currency Exchange	Calculates a currency exchange between two selected world currencies and common crypto currencies.	
Percents & Margins	Calculates percent change, percent total and business margins in a single worksheet with all values at sight.	

Cash Flows Menu			
Equal Periods	Calculations with Cash Flows occurring at regular time intervals using a <b>(X,N) List</b> .		
Unequal Periods	Calculations with Cash Flows occurring at different dates using a <b>(Date,CF) List</b> .		
Statistics Menu			
> (X,N) List Statistics	Shows a submenu to select one of the different data editors.		
One List Statistics	Statistics calculations over one (X,N) List of data samples.		
Two Lists Statistics	Statistic calculations over two <b>(X,N)</b> List of data samples assigning one to the 'X' and the other 'Y' variables.		
Curve Fitting	Applies a regression model to fit a curve from two (X,N) List of data samples.		
> (X,Y) List Statistics	Shows a submenu to select one of the different data editors.		
Statistics	Statistics calculations over one (X,Y) List of data samples.		
Curve Fitting	Applies a regression model to fit a curve from an <b>(X,Y) List</b> of data samples.		
Probability	Calculates combinations, permutations and probability of selected distribution.		
	Scientific Menu		
Angles & Polar	Calculates conversions of polar-rectangular coordinates and values of angles between different units.		
Complex Numbers	Special menus to perform operations and functions over complex numbers in cartesian or polar (phasor) form.		
Logarithm	Applies Logarithmic functions to the displayed number.		
Number Alteration	Applies common number alteration functions.		
> 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'.		
Trigonometry & Hyperbolic	Applies trigonometric and hyperbolic functions to the displayed number.		
Universal Constants	Inputs the value of a selected universal constant from the NIST-CODATA database.		
Vectors 3D	Special menus to perform operations and functions over 3D vectors in cartesian, spherical or cylindrical coordinates.		

Conversion Menu		
Angles & Polar	Calculates conversions of polar-rectangular coordinates and values of angles between different 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.	
Units	Calculates physical units conversion within a selected units category.	

Date / Time Menu

Calculates Date and Time calculations with all values at sight.

## Solver Menu

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.	
Storage Registers	Shows a worksheet to manage the storage registers.	
Memory Content	Shows a view to see all memory content with backup and restore all of it.	
Help Documents	Shows the help view to learn by example about all the calculator's worksheets.	
> Editors	Shows a submenu to select one of the different data editors.	
(Date,Trx) List	Opens the "Date-Transaction" list editor to create or edit the data used by the Account Balance worksheet.	
(Date,CF) List	Opens the "Date-Cash Flow" list editor to create or edit the data used by the Unequal Cash Flows worksheet.	
(X,N) List	Opens the "Value-Frequency" list editor to create or edit the data used by the Equal Periods Cash Flows & Statistics.	
(X,Y) List	Opens the "Value-Value" list editor to create or edit the data used by the (X,Y List Statistics worksheets.	
Solver Equation	Opens the "Solver Equation" editor to create or edit the equation used by the Solver menu	
Units Database	Opens the "Units" editor to create or edit units and categories used by the Units Conversion menu	

## **Calculator Display**

Annunciators	ALG M.DY DEG	
	T: 0.0000	
History Stack	Z: 0.0000	
	Y: 0.0000	
	17.8110+_	Main calculation display line

The RLM-17BX calculator's display has three areas: the annunciators area, the history stack area and the main calculation.

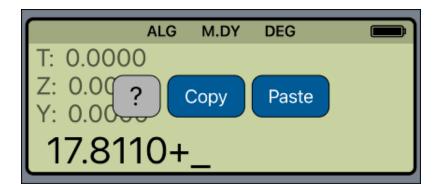
Display Annunciators		
4	When shown, the shift functions are active in the keyboard.	
ALG	Algebraic operation logic $(1 + 2x3 = 7)$ .	
CHN	Chain operation logic $(1+2x3 = 9)$ .	
RPN	Reverse-Polish-Notation operation logic.	
M.DY	Date format set to Month-Day-Year (MM.DDYYYY).	
D.MY	Date format set to Day-Month-Year (DD.MMYYYY).	
Y.MD	Date format set to Year-Month-Day (YYYY.MMDD).	
DEG	Current angles unit set to Decimal Degrees.	
RAD	Current angles unit set to Radians.	
GRD	Current angles unit set to Gradians.	
DMS	Current angles unit set to Degrees-Minutes-Seconds.	
⊿%	Current angles unit set to Slope Percent.	

**Annunciators**: Show the current status of the calculators:

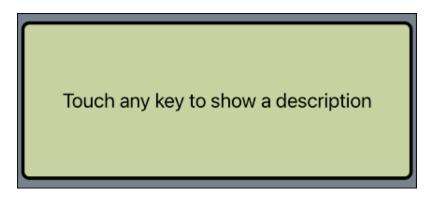
**History Stack** area: At the left shows the value in the stack register or a relevant message depending of the calculation performed. At the right shows the "Virtual Battery" status indicating your auto renewable subscription (full "battery" last for 30 days of usage).

Main Calculation line: Shows the current entered number, a calculation in progress or a calculation result.

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 hint for a short description of any keyboard or menu button.



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

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