# General Overview

The **RLM-Flight** application is a general aviation "Flight Computer" specifically designed for flight planning and in-flight calculations that pilots must perform in a regular basis. With features and functionalities grouped in a convenient set of menus and functions to calculate everything, from Pressure Altitude, True Air Speed , Mach Number, Fuel burn, Holding Pattern, Flight Plan to Heading, Wind Correction, Wind Components, Weight Balance, and many more.

It allows you to carry in your iOS device (iPhone or iPad) the power of the latest handheld flight computers like the Sporty's E6B or the ASA CX-3 devices with additional functions for pilot's convenience (currency exchange, scientific functions, storage registers, unit conversions, etc).
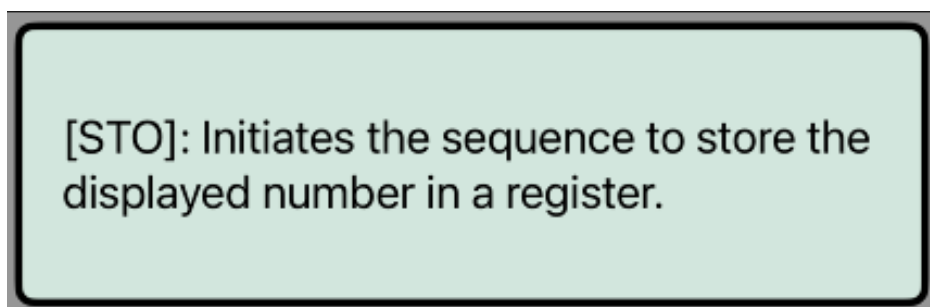
Calculator Display

Message line

Main calculation display line
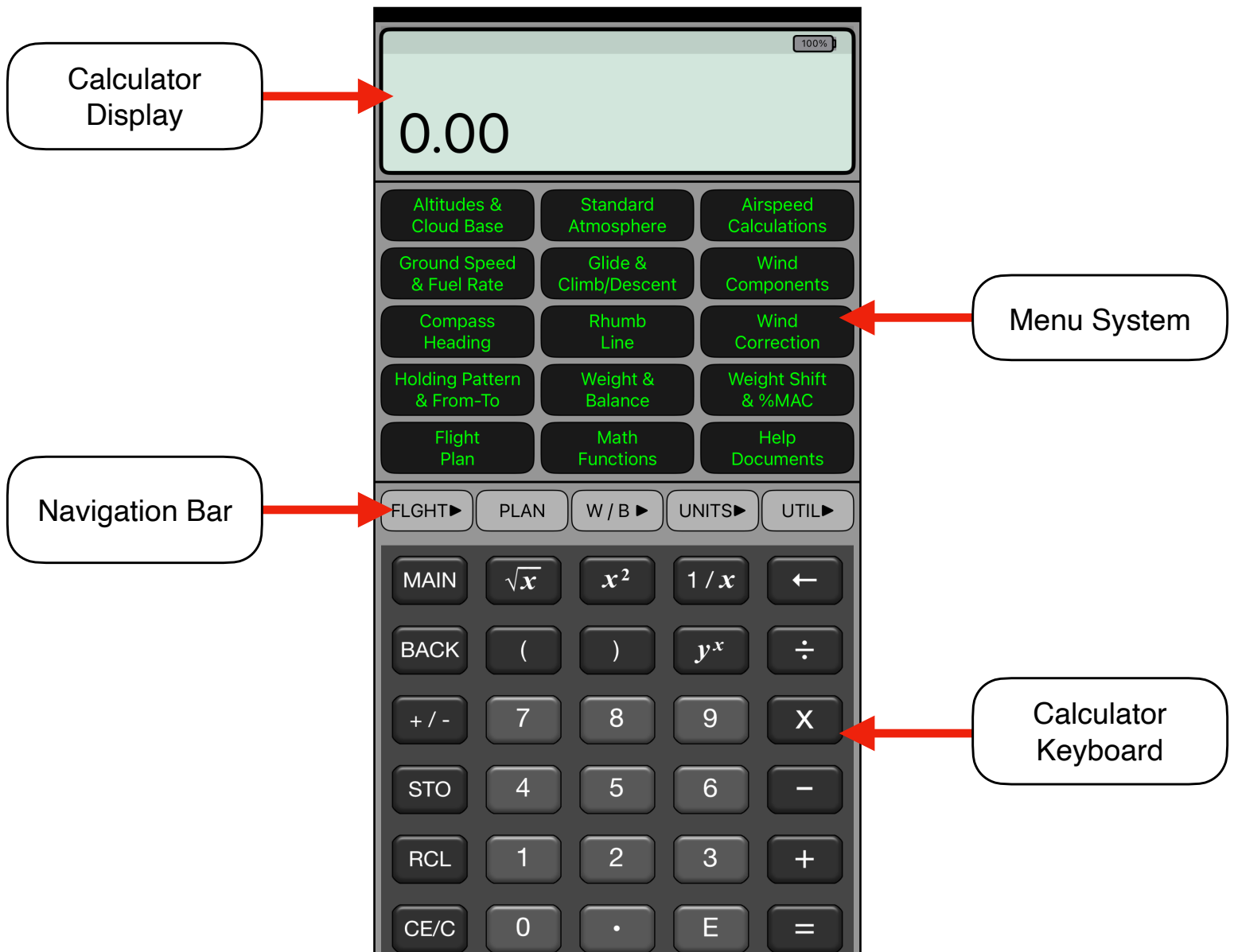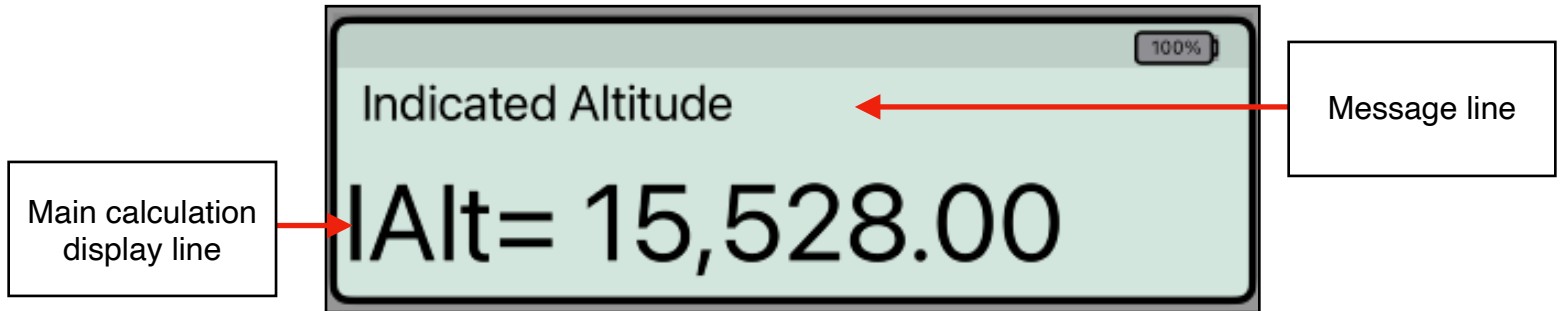
The **RLM-Flight** calculator's display can show up to 15 digits and touching it, at any time, brings up the Help-Copy-Paste buttons to the front. There you can "**Copy**" the displayed number or "**Paste**" previously copied one.
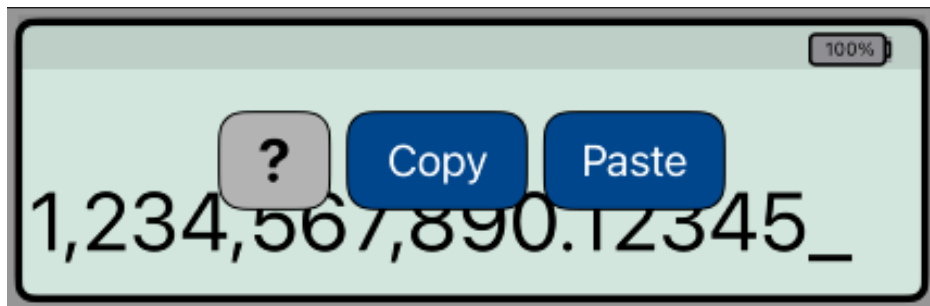
The "**?**" button turn on the quick help hint for a short description of any keyboard or worksheet button. As an example, in the following picture, the quick help for the "**STO**" key is shown. To get back to the normal display, simply touch the display again.

[STO]: Initiates the sequence to store the displayed number in a register.

Menu System

Altitudes & Cloud Base	Standard Atmosphere	Airspeed Calculations
Ground Speed & Fuel Rate	Glide & Climb/Descent	Wind Components
Compass Heading	Rhumb Line	Wind Correction
Holding Pattern & From-To	Weight & Balance	Weight Shift & %MAC
Flight Plan	Math Functions	Help Documents

Touching any of the buttons of the Main Menu shows the corresponding worksheet to perform calculations to answer the most of general aviation's problems. in the following table is a brief description of the worksheets:

Main Menu Buttons	
Altitude & Cloud Base	Calculate Pressure Altitude, Density Altitude, Barometric Pressure or Outside Temperature with or without humidity. Also calculates the Cloud Base above ground and Clouds Temperature knowing the Outside Temperature and Dew Point.
Standard Atmosphere	Calculate the Altitude, Temperature or Pressure and the Air Density and Speed of Sound in the International Standard Atmosphere (ISA).
Airspeed Calculations	Calculate the True Air Speed, Calibrated Air Speed, Outside Temperature, Mach number, Total Air Temperature or Pressure Altitude.
Ground Speed & Fuel Rate	Calculate the Ground Speed, Distance, Duration or Fuel consumption.
Glide & Climb / Descent	Calculate Horizontal Distance, Glide Ratio, Descent or Climb Altitude, Angle and Ratio.

Main Menu Buttons	
Wind Components	Calculate Cross Wind, Head Wind, Run Way, Wind Speed or Wind Direction.
Compass Heading	Calculate True Heading, Magnetic Heading, Compass Heading, Variation or Deviation.
Rhumb Line	Calculate the True Course, Rhumb Line Distance and the Great Circle Distance for flight paths specified by latitude and longitude.
Wind Correction	Calculates the Ground Speed, True Course, True Air Speed, True Heading, Wind Speed or Wind Direction and the Wind Correction Angle.
Holding Pattern & From-To	Calculate the type of entry necessary and the inbound heading to enter in a holding pattern given by the airplane Heading, the Holding Radial and the standard turn (left or right). Also, convert the course from a location into the course to the same location.
Weight & Balance	Calculates the total weight and the resulting center of gravity of an airplane base on the loads arms, weights and/or moments of different items including the empty aircraft weight and center of gravity, pilots, passengers, fuel and cargo areas.
Weight Shift & %MAC	Calculate the change in Center of Gravity, change in Weight, change in Arm or total Weight given the others. Also calculate the %MAC, Center of Gravity, Mean Aerodynamic Chord or Leading Edge of MAC given the others.
Flight Plan	Calculate the Total Distance, Estimated Time in Route, Estimated Time of Arrival and Fuel Burned in a cross country flight composed of an arbitrary number of legs.
Math Functions	Apply scientific functions to the displayed number including angles conversion, trigonometric functions, logarithmic function, decimal hour to hour:minute:seconds, etc.
Help Documents	Shows a view to review all aspect of the app with descriptions and examples about the worksheets.

(To see a detail description jus click the green **links** in the table above)

When a worksheet is displayed, you will see different buttons indicating the variable name, symbol, physical unit and the current value. Also, they are colored indicating if the value is invalid, calculated or entered.

Black button: Not-valid value. Key a number to enter a new value or tap the button to validate the current value.

Blue button: Valid value. Every time a value is valid the computer calculates the other if possible .

Red button: Calculated value. Depending on the valid values, the variable was calculated.

Additionally, some worksheet variables are input only, like "Fuel" type in the "Ground Speed & Fuel Rate" worksheet, some are output only, like the "Cloud Base" in the "Altitude Calculations" worksheet, but most of them are inputs or outputs depending on the calculation you want to do.

As soon as all the variables required for a calculation are validated, the calculation is automatically performed and shows the output in a Red button.

Other important aspect of the variables buttons is the "Unit" label. Touching it will pop-up a menu of the units available for the variable. If you select a different unit than the current one, the value will be converted to the new unit.

Please review all the worksheets help documents and examples to learn in detail how each works.

Navigation Bar

This bar allows to directly access all the worksheets available in the RLM-Flight application.

Main Menu Buttons	
FLIGHT ▶	Displays a Menu to select most of the worksheets explained in the Main Menu above: - "**Altitude**" - "**Airspeed**" - "**Compass Heading**" - "**Glide & Climb/Descent**" - "**Ground Speed & Fuel Rate**" - "**Holding Pattern & From-To**" - "**Rhumb Line**" - "**Standard Atmosphere**" - "**Wind Components**" - "**Wind Correction**"
PLAN	Alternative way to Open the "**Flight Plan**" worksheet of the Main Menu.
W / B ▶	Alternative way to open the corresponding worksheet of the Main Menu: - "**Weight & Balance**" - "**Weight Shift & %MAC**"
UNITS ▶	Displays a menu to select:
- Set US Units	Set the current worksheet units to US standards.
- Set Metric Units	Set the current worksheet units to Metric standards.
- **Unit Conversion**	Opens a worksheet to calculate physical units conversions within a selected category of units.
UTIL ▶	Displays a menu to select:
- **Currency Exchange**	Opens a worksheet to calculate currency exchanges between two selected world currencies and common crypto currencies.
- **Math Functions**	Opens worksheet to apply scientific functions to the displayed number.
- **Storage Registers**	Opens a worksheet to manage and perform operation in the 10 general purpose storage register.
- **Weather->windy.com**	Opens the windy.com website to get updated weather information for the flight
- **Memory Content**	Shows a view to see all memory content where you can backup, restore or reset all of it.
- **General Settings**	Shows a view to customize the calculator to your preference.

Keyboard Pad
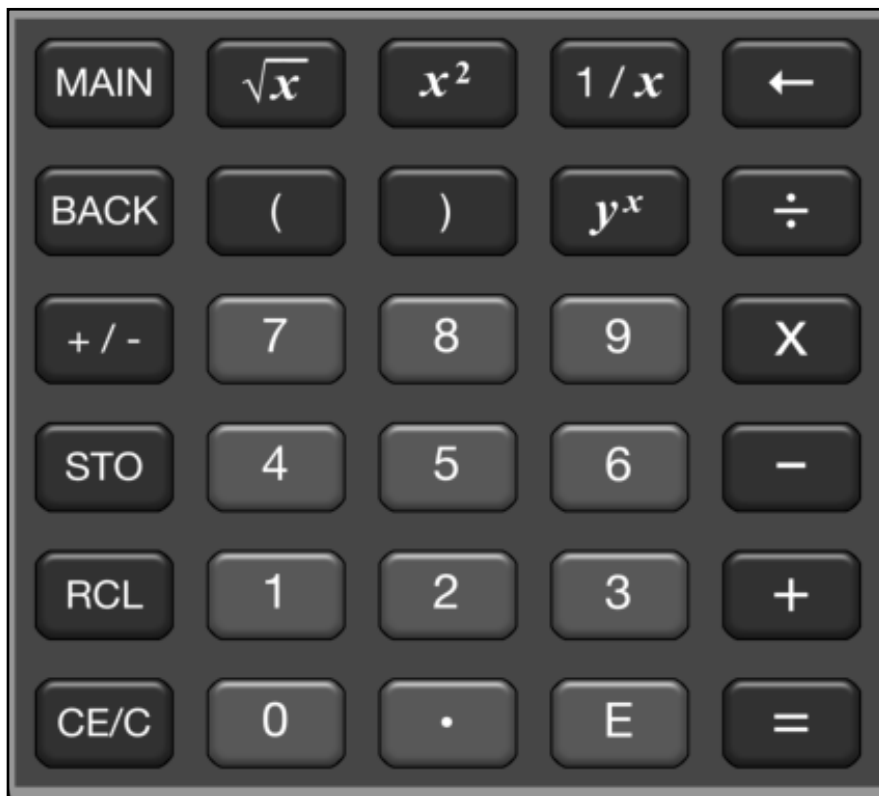
Basically the keyboard works in the same way of a normal calculator for calculating arithmetics, but it has some special keys to manage the worksheet menus. Following is a brief description of all the keys:

Main Menu Buttons	
[0] ... [9], [·], [E]	Number keys to enter values in the display.
[y^x], [÷], [x], [-], [+]	Standard arithmetic operations.
[MAIN]	Shows the Main Menu.
[BACK]	Go back to the previous worksheet or menu.
[+ / -]	Change the sign of the number in de display.
[STO]	Following by a digit key, stores the displayed number in that register or following by worksheet variable, stores the displayed number in the corresponding variable.

Main Menu Buttons	
[RCL]	Following by a digit key, recalls the designated register value to the display or following by a worksheet variable, recalls the corresponding value to the display.
[CE/C]	Clears the display
[√x]	Calculates the square root of the number in the display
[x²]	Calculates the square of the number in the display
[1 / x]	Calculates the reciprocal of the number in the display
[( ], [ )]	Parenthesis to separate intermediate calculations.
[←]	In number entry deletes the last key, otherwise clears the display.
[=]	Finish all pending calculations or number in edition.

For further information and support go to...
"**www.rlmtools.com**"

or send an email to...
"**support@rlmtools.com**"

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