

Abacus, by IDELIX Software Inc.


Abacus is an equation-entry and editing tool specially designed for use with *Microsoft Excel*. It provides a highly customizable calculator-like interface that helps you get the most out of Excel – *fast!* A large library of built-in and programmable function keys put the mathematical, scientific, and conversion functions you need at your fingertips. Advanced timesaving features like ‘smart-parentheses,’



keyboard shortcuts, ToolTips and ‘Drag-and-Drop’ technology provide the convenience you expect from an efficient user-interface.

Click here  to learn more!

Basic Operations

Abacus has been fully integrated with Microsoft Excel to provide seamless access to the Excel function library, and much more. Click on the **Abacus** button  on the **Toolbar** or press **Ctrl-k** while Excel is running to bring up the function entry-tool and edit-box, and away you go. The layout of the main window is similar to that of a handheld calculator. Near the top is a rectangular window called the 'edit-box' in which your function will appear. Beneath this lies a extensive range of keys (the tabbed-keypads) that you can use to access the Excel function library, conversion functions, and numerous mathematical and physical constants. Place the mouse cursor over one of the keys and note that a ToolTip describing that key appears a moment later. Try clicking on a function that you recognize. Presto – the text required by Excel to describe that function appears in the edit box! Click on some more functions and note the manner in which they are linked together to form a function string. Make a mistake? Try clicking on the **Undo** button



Complicated function strings can be compiled in mere seconds using **Abacus**. And when you've finished creating whatever it is that you want, click on the 'Enter' or 'OK' button and the contents of the edit-box are written to your Excel spreadsheet.

Don't feel as if you are constrained by the functions you see on the keypads. Any time you want to change a detail or add your own text, simply go ahead and type it in. Nothing could be simpler. In fact, **Abacus** even lets you set up the arrangement of keys on the keypads in whatever manner best suits you. Advanced users can even define their own functions.

Edit-Box

The edit-box is the rectangular window near the top of the function entry-tool:



It displays the current state of the function string as it is composed. Clicking the Enter button (or the OK button) near the lower right-hand side of the function entry-tool causes the contents of the edit-box to be written in the Target Cell.


Tabbed-Keypads

The tabbed-keypads are located in the middle of the function entry-tool. Each keypad has twenty-seven keys that give you quick access to a wide range of mathematical functions, conversions, and constants with a single click of the mouse. Choose between keypads by clicking on the color-coded tabs that appear on the top of each keypad. Note that the layout of keys on each keypad reflects the layout of keys on your keyboard. This enables advanced users of **Abacus** to enter functions rapidly using keyboard shortcuts.

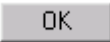
ToolTips

ToolTips are quick reference notes that describe the function of various keys. They can be accessed by placing the mouse cursor above the key of interest.

Enter

The `Enter` key  is located near the bottom right-hand corner of the function entry-tool. Click on `Enter` to place the contents of the edit-box into the current cell of the Excel spreadsheet. Note that the function entry-tool remains available after clicking `Enter.` Use the `OK` button to place the contents of the edit-box into the current cell and close **Abacus** at the same time.

OK


The `OK' key  is located near the bottom right-hand corner of the function entry-tool. Click `OK' to place the contents of the edit-box into the current cell of the Excel spreadsheet and close **Abacus** at the same time. Use the `Enter' button instead if you want to keep **Abacus** running.

Simple Mathematical Operations


The mathematical operations of addition, subtraction, multiplication, and division are performed by clicking on the appropriate keys located along the bottom edge of the function entry-tool. Alternately, these functions can be inserted into your function string by simply entering them directly from your keyboard.

- . For addition use the '+' key on your keyboard
- . For subtraction use the '-' key on your keyboard
- . For multiplication use the '*' key on your keyboard
- . For division use the '/' key on your keyboard


Addition

The addition key looks like this: 


Subtraction

The subtraction key looks like this: 

Multiplication


The multiplication key looks like this: 

Division

The division key looks like this: 

`Undo' and `Redo'

The `Undo'  and `Redo'


 buttons are located on the right-hand side of the function entry-tool, below the edit-box and just above the tabbed-keypads.

Clicking the Undo button once clears the last entry made in the edit-box. Clicking this button a second time clears the next-to-last entry and so on. Up to nine entries can be cleared from the function string in this manner.

Clicking the Redo button has just the opposite effect. That is, it undoes the last `Undo' command. Clicking the Redo button a second time undoes the next-to-last Undo command and so on. Once again, the action of up to nine `Undo' commands can be cancelled using the Redo button.

Note that **Abacus** keeps a history of the last ten entries in the edit box. This record remains in effect even if **Abacus** is closed down and later restarted. Use the `All Clear' button to erase everything in the edit box.

All Clear

The `All Clear' button  is located on the right hand side of the Abacus function entry-tool, just below the edit-box. Clicking this button causes the contents of the edit-box to be erased, just like the All Clear key on a calculator. Note that you can use the Undo button to retrieve the contents of the edit box after erasing them with the All Clear button.

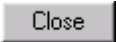
Entering the Function String

Click on the Enter button or the OK button when you are satisfied with the contents of the edit-box and want to insert them into your Excel worksheet. Note that the insertion will take place at the cell address specified as the Target Cell.

Aborting Changes

Click on the Close' button to close the function entry-tool and return to Excel. Any changes to the edit box since the last time the Enter button was pressed are ignored.

Close


The 'Close'  button is located in the lower right-hand corner of the function entry-tool.

Target Cell

The 'Target Cell' is the cell on the active Excel worksheet for which the function string in the edit-box is intended. The address of this cell is indicated in the Target Cell window located along the lower left-hand side of the function entry-tool. By default the target cell is the active cell (see MS Excel definition of active cell) when Abacus is first started.

Note that you do not have to shut down **Abacus** to change the target cell. If you wish to select another cell, simply click on that cell to make it the current cell and then click on the **Abacus** target cell 'Set' button. Pressing the Enter button will put the equation in the Edit box into the new target cell, as well as making it the current active cell.

Set Button

The 'Set' button  is located just below the Target Cell window along the lower left-hand side of the function entry-tool. Use this button to make the current cell on the Excel worksheet the Target Cell into which **Abacus** will place the contents of the edit-box.


Smart Parentheses

Abacus makes use of 'Smart parentheses.' When you insert a function that requires an argument into the edit-box using a key from the tabbed keypads, Abacus automatically supplies the parentheses in the correct location.


If a function is selected while the edit-box cursor is located between an empty set of parentheses `()`, the new function will become the argument of the existing function. If on the other hand you select part of the contents of the edit-box by highlighting it and then enter a new function from the keypad, Abacus will make the highlighted text the argument of the new function.

You can use Smart Parentheses in the definition of your own functions using the [Smart Parentheses Function](#) on the function entry-tool. Look at the section on [Programmable Function Keys](#) for information on how to define your own function keys.


Smart Parentheses Function

Smart parentheses can be inserted into your own functions by clicking on the smart parentheses key  located near the middle of the function entry-tool, below the programmable function keys and above the tabbed-keypads.


Hyperbolic

The Hyperbolic button  is located below the Programmable Function Keys and above the Tabbed Keypads. Clicking this button prior to any of the trigonometric functions generates the hyperbolic version of that function; i.e. clicking `HYP` followed by `SIN` generates `SINH.` Note that pressing the Hyperbolic Key causes an indicator light above the edit-box to light up as a reminder that the Hyperbolic Function has been selected.



Exponentiation

The Exponentiation button  is located below the Programmable Function Keys and above the Tabbed Keypads. Pressing this button supplies the letter 'E' used by Excel to indicate exponential notation. (For example, 1.5 million is equivalent to 1.5E06)

Inverse

There are two `Inverse' keys  on each Tabbed Keypad. They are located near the lower left- and right-hand corners of the keypads. Clicking either one prior to selecting another function will choose the inverse of the selected function. These buttons have no effect if the inverse of the selected function is not defined. Note that pressing either Inverse Key causes an indicator light above the edit-box to light up as a reminder that the Inverse Function has been selected.

Get Cell Address

Often you will want to enter one or more cell addresses into your function string. You can always enter the address directly by typing it into the edit-box, however Abacus also provides a means for doing this using the pointing device. Click on the cell you are interested in to make it the current cell. To the right of the Target Cell window lies the 'Get Cell Address' window. Clicking the 'Get' button  causes the current cell address to appear in the Get Cell Address window. Clicking the 'Paste' button  causes the address in the Get Cell Address window to be written into the edit-box. Note that you can also select between absolute and relative addressing by choosing the appropriate options.

Programmable Buttons

Abacus comes with ten user-programmable function keys labeled A through J:



They are grouped together near the top of the equation entry-tool, just below the edit-box. To assign an arbitrary text string to any of these keys, click on the `Define' button located just to the right of the programmable function keys, and then click on the button you want to define. This action brings up the Function Definition Window. Enter whatever text you want to assign to the key in the window. If your text is an Excel function that requires parentheses you can choose to add Smart Parentheses on either the right-hand or left-hand side of your text string by selecting the appropriate option. When you are satisfied with your definition click `OK' to assign it to the selected button. Note that the ToolTip for the programmed button now displays your definition.

Library

Clicking the 'Library' button will bring up **Abacus'** tab-indexed Library of Function Palettes: Math Functions, Conversions, and Constants. On each palette you will find a extensive range of functions and constants which you can access using **Abacus**. To make use of these functions and constants, place a copy of the button you want to use on one of the Tabbed-Keypads. by dragging it over from the Library Palette.

`Drag-and-Drop`

Abacus supports `Drag-and-Drop` technology from the Function, Conversion, and Constant Libraries to the Tabbed Keypads. In this way you can customize the appearance and choice of functions and constants that appear on the Tabbed Keypads. Simply place the mouse cursor over the function or constant that you want to move, depress the left mouse button, drag the function or constant over to a button of your choice, and release the mouse button. To change the placement of a button on one of the Tabbed Keypads, simply drag the button from one location to another. To remove or `clear` a button on one of the Tabbed Keypads, place the mouse cursor over the key, depress the left mouse button, drag the key off the function entry-tool, and then release the mouse button. Note that you cannot `remove` keys from the function library.

Options

Clicking on the `Options` button located along the lower right-hand side of the function entry-tool brings up the `Options` dialog box. From this box you can turn ToolTips and the Keyboard Accelerator Overlay functions on or off. The default configuration of Abacus has both functions turned on.

Help

Clicking on the `Help` button brings up this help facility.

Keyboard Accelerators

Rather than using the mouse to select keys on the tabbed keypads, you can use your computer keyboard. The layout of each keypad is identical to the layout of the letter-keys on your keyboard. Pressing the `Alt` key at the same time as one of the letter-keys on your keyboard will insert the corresponding function or constant into the edit-box. In its default configuration Abacus supplies a Keyboard Shortcut overlay on each keypad that shows you which key on the keypad is mapped to which letter-key on your keyboard. This overlay can be turned on-or-off by clicking the `Options` key and selecting the appropriate option.

Keyboard Shortcuts

For convenience **Abacus** uses several of the standard windows editing keyboard shortcuts accessed via the Ctrl key on your keyboard. You can use:

- Ctrl-a : select all of the contents of the edit box
- Ctrl-c : copy the highlighted text to the clipboard
- Ctrl-x : cut the highlighted text and place it on the clipboard
- Ctrl-v : paste the contents of the clipboard into the edit-box
- Ctrl-z : undo the last operation

In addition, the `Home,' `End,' `Arrow,' `Delete' and `Backspace' keys perform their usual functions. Note that pressing the `Escape' key on your keyboard clears the edit-box just as if you had pressed the All Clear key.

