Calc Help Index

Introduction

Calc95 is a pocket calculator simulator program for the Microsoft Windows operating system. It is a replacement for the calculator program that is included with the operating system, with many additional features. Many users of Windows have never really made use of the calculator. And in recent years there have been a number of developments in real hand-held calculators, so that we now expect a lot more from these invaluable devices.

Calc95 originally came into existence as a component of the user interface of ObjectiF, our scientific and engineering applications development system. Many of the ObjectiF beta testers found the calculator tool so useful that we were encouraged to release it as a stand-alone product. And in order to make it as widely available as possible, we have released a shareware version with many of the features of the full product.

Given the current features of real pocket calculators, what advantages can a calculator implemented in software offer over its hardware counterpart? The professional version of Calc95 allows you to do the following:

1) Cut and paste data between the calculator and other applications.
2) Use the many features of Object Linking and Embedding (OLE) and launch applications.
3) Access a comprehensive and extensible range of physical data constants and conversions.
4) Customize the appearance, functions and features of the calculator.
5) Store non-volatile copies of settings and data.
6) Program the calculator (in a high-level Fortran90-like language).
7) Operate on large n-dimensional sets of data.
8) Use powerful graphics at high resolution.
9) Use your PC's peripherals such as the printer.

Finally, you are unlikely to misplace a software calculator! For the many people who now use laptop computers, it makes sense to have the functions of a calculator on the laptop, rather than carry around a separate box. Calc95 is very compact in terms of screen space, so you can keep it maximized while working within another application and make use of the *always on top* option.

The shareware version of Calc95 is equivalent to a top-of-the-range scientific calculator with the addition of a very wide range of physical constants and conversions, and a subset of the features included in the fully licensed professional version. Programs written for Calc95 can of course be used in ObjectiF to develop full Windows applications. Because of ObjectiF's compatibility with Fortran90, code can ultimately be compiled using a proprietary Fortran compiler if necessary. This means you have a path to grow from a simple function behind a calculator button, right up to compiled Fortran, without ever having to throw away code.

Installation

See the file INSTALL.DOC which comes with the Calc95 installation files for information about installation of the software.

Troubleshooting

The button legends do not match those given in the helpfile: The calculator function buttons show a number of scientific symbols that require a special font from a file called BUTTONS.FNT. This file is in the same directory as the Calc95 program. If, for some reason, this file can not be loaded, Calc95 will use whatever font is available to represent the functions textually. In this case the appearance of the buttons will not exactly match those illustrated in the help file.

When I start Calc95 I get a message Unable to open properties database: For some reason Calc95 could not load the properties and constants data. These are stored in files in your Calc95 directory with the extension .PRP. Calc95 looks for a file called DEFAULT.PRP in this directory, which is where you would store customized properties and constants data for automatic loading. If this file is not found, the file FACTORY.PRP is loaded from the same directory. If both files are missing or inaccessible for some reason, Calc95 fails to load the data and the properties and constants will not be available. Check if these files have been deleted or moved. If no properties files can be found, they can be replaced from your backup copies of the distribution files, or you can re-run the Calc95 setup.

After upgrading Calc95, it looks and behaves like the old version: You may have had Calc95 running when you ran the installation wizard. As a result, the wizard may be unable to update the taskbar and registry properly. You need to make sure that Calc95 is not running, and then run the installation wizard again. It is a good idea to make sure that you dont have any applications running when installing any software.

Calculator Basics

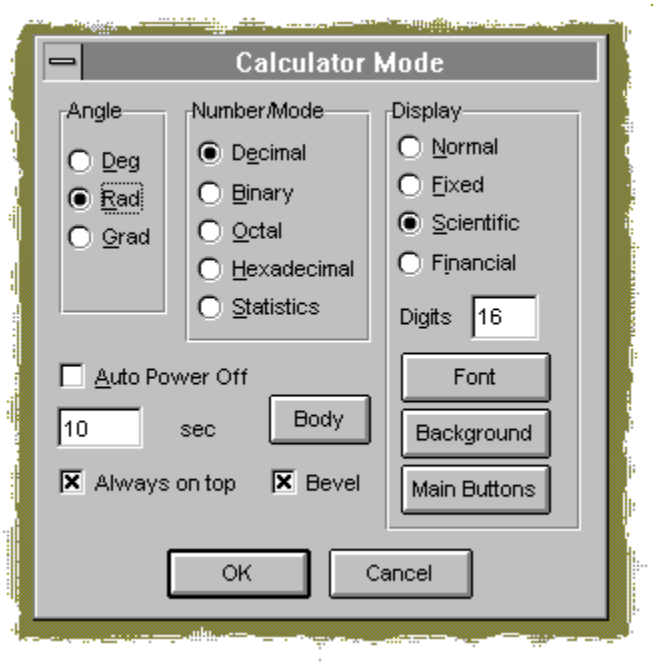
As you would expect, you use the calculator just as you would a real pocket calculator. Like a physical calculator space is at a premium, and so many of the calculator buttons have to double up the functions they provide. The layout of the calculator in its normal state has the functions you would expect to see on a fairly standard scientific calculator, which means that it is probably fairly self-explanatory. Notice the SHIFT button in the top left-hand corner.

Enter numbers either by clicking on the buttons or using the keyboard (note: to use a numeric keypad make sure Num Lock is on). To enter a number in exponential format, enter the mantissa, followed by the EXP key, then +/- if required, then the exponent. To use the arithmetic functions, click their buttons (or use the appropriate keyboard shortcut). If the function is unary (acts on one number, e.g. 1/x) the display is updated to the result. If the function is binary (e.g. +, -, X etc.) enter the second number and click = or another arithmetic key.

The functions of the buttons in their shifted state are not marked on the calculator body, but the buttons change when you press the SHIFT button. If you press the SHIFT button again, the buttons revert to their un-shifted state. Remember, we are talking about the SHIFT button on the calculator, not the Shift key on your keyboard. The latter does not alter the state of the calculator (although pressing the Caps Lock key does).

Mode

Clicking the *mode* button allows you to change the number base of the calculator or select special features, and to customize the appearance and behavior of the calculator.



Selecting the *Angle* mode determines how values of angles are interpreted when using the trigonometric functions.

The *Number/Mode* selection changes the number base between decimal, hexadecimal, octal or binary. In the non-decimal modes a number of the calculator functions are disabled and as a result some of the buttons will have no caption in these modes. The remaining functions will be mainly for bit-wise logical operations.

Changing number mode changes the calculator display, but any data stored in the calculator is retained. Therefore you can convert between different number systems by entering data and then selecting the new number base. However, only the decimal system has a point; the other number bases work for integers only. Also note that a number in one system will require a larger number of digits in a lower number base, which may cause an overflow. This is especially likely when converting to binary.

Selecting *statistics* puts the calculator into statistics mode. This is the same as *decimal* mode except that the *M+* key changes to *Data* for entering data values into the statistics memory. On pressing the SHIFT button the *AC* (All Clear) and some of the number buttons change to show the statistical functions.

Selecting financial mode enables the financial functions of the calculator. In addition to selecting this mode, you might wish to select the financial display type to show numbers to two decimal places.

The *auto power off* feature means that after a specified number of seconds of inactivity, the calculator Minimizes itself.

The *always on top* option keeps the calculator as the top-most window at all times. It can still be minimized. In Windows 3.x this means the icon stays on top also.

The body of the calculator can be customized by choosing the colour and whether or not the edge of the calculator is beveled. Windows95 automatically bevels the edge of windows and so you would probably not want to use this option if you are running Windows95.

You can select the type of display - *normal, scientific*, *fixed-point* or *financial* (two decimal places*)*. You can also choose the number of digits, which for *scientific* means the number of significant figures, and in *fixed-point* means the number of digits after the decimal point. Note that if you compute a number in *fixed-point* display the value is rounded at each step (i.e. there are no hidden digits). This avoids the problem of anomalous computations, particularly in financial calculations. Be careful if changing to a higher precision *during* a calculation as the preceding steps will have been carried out to the original lower precision. Also be careful not to increase the number of digits too far if the display font is large, otherwise there is a danger that digits may be overlooked, particularly in scientific or exponent display mode.

Other customizable features of the display are the font and background colour. Again, care is needed when changing font, as too large a font at higher precision may result in digits falling outside the boundaries of the display. They can be made visible by using the cursor or arrow keys, but there is the danger that digits may be accidentally overlooked, especially in exponent display.

You can also change the font of most the large buttons (the small buttons and arithmetic keys use a special font).

Calculator Display

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To change the display, use the 

button.

AC - All Clear

Clears the calculator, and resets any functions. The contents of the memory are not affected by AC. The memory can be cleared after pressing AC by pressing Min.

 Clear

The clear button erases the last number or operation entered.

+ Plus

The AC button performs addition.

 Minus

The  button performs subtraction.

÷ Divide

The AC button performs division.

 Multiply

The  button performs multiplication.

= Equals

The AC button displays the result of an arithmetic operation. It can be used during a calculation to ensure that an intermediate result has been evaluated. Unless the AC button is pressed, it is possible that an operation is incomplete - pressing AC ensures that no arithmetic operations are pending.

Certain functions make use of the AC button to signify the end of input, in order to evaluate a result.

M+ Memory Plus

Pressing the AC button adds the number displayed to the contents of the memory. Additional memories can be accessed by pressing the shift key before pressing this button, which will change to Mn+.

AC Memory n Plus

Access one of ten memories (labelled 0-9) using the AC button, which is obtained by pressing the AC button. After pressing AC press the number button corresponding to the desired memory. Memory number zero is the default memory (i.e. the memory referred to by the unshifted memory buttons).

AC Memory Input

Press the AC button to enter the currently displayed number into the memory.

If you first press AC before
AC you can select one of the ten memories (0-9). Memory zero is the default memory, i.e. the memory available without pressing the
AC button.

Mnin Memory n Input

Access one of ten memories (labelled 0-9) using the AC button, which is obtained by pressing the AC button. After pressing AC press the number button corresponding to the desired memory. Memory number zero is the default memory (i.e. the memory referred to by the unshifted memory buttons).

MR Memory Recall

Use AC to put the contents of the memory onto the display. The default memory is number zero. To display other memories, first press the
AC button and then the
AC button and select the required memory.

MnR Memory n Recall

Access one of ten memories (labelled 0-9) using the AC button, which is obtained by pressing the AC button. After pressing AC press the number button corresponding to the desired memory. Memory number zero is the default memory (i.e. the memory referred to by the unshifted memory buttons).

 Decimal Point

Use the  button to enter the decimal part of a number. The decimal point is disabled in non-decimal number systems.

EXP (Exponent)

Use the AC button to enter a number in exponential form.

Example: to enter the number 1.234 x 10^6 (1.234E6) press the following buttons:

1
AC
2
3
4
AC
6

Number buttons (0-9)

Number buttons are used in all modes. In Hexadecimal mode they are augmented by the letters A to F. In Octal mode the 8 and 9 buttons are disabled. In Binary mode only the numbers 0 and 1 are enabled.

In statistics mode the number buttons are used with the 

button to obtain the statistical functions.

AC Shift

Use the AC to access additional functions. The functions available depend on the calculator mode, and are indicated by changes to the legends on the calculator buttons.

Statistical Functions

To access the statistical functions, make sure you are in *Statistics* mode; the title bar should end with *[stats].* If not, click 

and select *Statistics* from the Number/Mode group. In statistics mode, the bottom right-hand button on the calculator is 

. To input values for analysis, enter numbers and click 

after each number is input. Repeat this process until you have entered all the data values. If you press the 

button on the calculator, some of the number keys change to the statistics functions. For example, to get the number of points entered, press 

; to get the mean of the data, press the button labeled 

(or *avg.*). Similarly 

(or *sdv*) is the standard deviation, etc.

To clear the statistics memory, press 

and then press 

(Statistics All Clear) button (which was labeled AC before pressing 

).

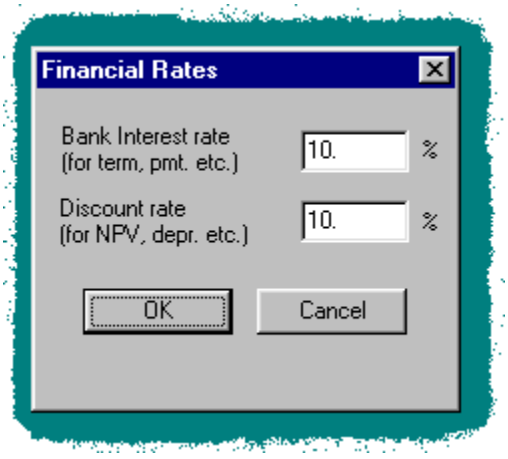
Financial Functions

To select the financial functions, press AC and select Financial mode. The title bar ends with *[fin]* when you are in financial mode. You can also select the Financial display mode which will show a fixed point notation with two decimal places.

In financial mode, some of the scientific functions are replaced by the financial functions. These fall into two groups: those concerned with calculating compound interest on loans, and those used for budgeting. A further button is Rate used to specify the interest and discount rates.

For more information and examples, click on the button on the graphic above.

Rate - Set Interest and Discount Rates



The bank interest rate is applied to the loan calculations (Term , Ann , Mrtg & Inv) and the discount rate to the Net Present Value calculations (NPV & V:I). Typically these will be assigned different values which prevail at the time and in the field of commerce in question.

It is assumed that the period in these calculations is one year. If a different period is required (monthly for example), then the rates should be adjusted to their equivalent monthly rates.

Term - Calculate term of investment

To compute the term required for an investment to increase to a given value, enter the principal, followed by AC followed by the desired compounded sum at the term. The result is the number of periods (generally years) required for the investment to reach this value. If you wish to use a different period (monthly for example) you need to change the value of the interest rate accordingly, by pressing AC.

Example: How many years of compound interest are required for an initial investment of $100 to reach the value of $200 (assuming 10% bank interest rate)?

AC
0
0
AC
AC
AC
AC
AC Result: 7.27 (i.e. 8 years to exceed $200).

Ann - Calculate Value of Annuity

To calculate the value of an annuity at maturity, enter the amount of the annual payment, then AC, followed by the number of years.

Despite the literal meaning of the word annuity, it is possible to use a period other than annual in the calculation, in which case you need to change the value of the interest rate accordingly, by pressing AC .

Example: What is the value at maturity of a 30 year annuity with an annual payment of $200 (assuming an interest rate of 10%)?

AC
AC
AC
AC
AC
AC
AC Result: 32898.80

Mrtg - Calculate Mortgage payment

To compute the required periodic payments to repay a given loan, enter the amount of the loan, click the AC button, then enter the duration (number of payments). Press AC to get the amount of each payment. Usually the number of periods is the number of years. If you wish to use a different period (monthly for example) you need to change the value of the interest rate accordingly, by pressing AC.

Example: What is the monthly payment to pay off a loan of $30,000 dollars over 25 years, assuming annual compound interest?

First check that the interest rate is set to correct value (10% for example)

AC
AC
AC
AC
AC
AC

AC
5
AC Result: 3305.04 (the annual payment)

AC
AC
AC
AC Result: 275.42 (the monthly payment)

Inv - Calculate Value of an Investment

To compute the value of an investment after a given number of years at the current interest rate, enter the principal, click AC and the number of investment periods. Usually the number of periods is the number of years. If you wish to use a different period (monthly for example) you need to change the value of the interest rate accordingly, by pressing AC.

Example: What is the value of $100 invested for five years at compound interest (assuming a 10% annual interest rate)?

AC
AC
AC
AC
AC
AC Result: 161.05

NPV - Calculate Net Present Value of a Future Cash Flow

To calculate the present value of an amount to be paid at some time in the future, enter the value of the amount, followed by AC and then the number of periods before the payment will be made. Usually the number of periods is the number of years. If you wish to use a different period (monthly for example) you need to change the value of the discount rate accordingly, by pressing AC.

You can enter a negative number of periods, in which case you get the present value of a payment which was paid at some time in the past. If you require the net present value of a series of periodic cash flows, use AC.

Example: What is the net present value of $100 to be paid in five years time (assuming 5% discount rate).

AC
AC
AC
AC
AC
AC Result: 78.35

V:n - Net Present Value of Cash Flows

To calculate the net present value of a series of cash flows, enter the cashflow for each period followed by the AC button. Each time this button is pressed, the button legend is incremented indicating the next periodic cashflow to be input, e.g. after the first period is input the button shows V:2. At any time you can display the cumulative net present value of the cashflows input so far by pressing AC. To reset the period back to 1 and erase the accumulated values press the AC button.

Typically the period is annual. If you wish to use a different period (monthly for example) you need to change the value of the discount rate accordingly, by pressing AC. It is also permitted to alter the discount rate during the calculation (i.e. rate differs for different periods). If you require the net present value of a single cashflow at some point in the future, use the AC button instead.

Example: A project requires an initial capital expenditure of $1,000,000. After five years the capital equipment is to be written off. The expected annual revenue stream, less running costs, is: year 1 - $100,000; year 2 - $200,000, year 3 - $300,000, year 4 - $300,000, year 5 - $300,000. The net revenues exceed the initial capital cost, but is the investment a good one, assuming a discounting rate of 5% per annum?

AC
AC
AC
AC
AC
AC
AC
AC

AC
AC
AC
AC
AC
AC
AC

AC
AC

AC
AC
AC
AC
V:3

AC Result: 535795.27 (optionally check NPV of years 1,2 & 3)

AC
AC
AC
AC
AC
AC
V:4

V:5(300,000 still in display from previous input - no need to re-enter same amount)

AC Result: 1017663.86

The result shows that, taking into account the time value of money, the revenue flows have a net present value of $1017663.86, so that the project is just profitable (but probably not worth the risk!).

SLD - Straight Line Depreciation

To calculate the fraction of the value of an asset which is depreciated after a given time using straight-line depreciation, enter the initial cost less any salvage value, then AC, followed by the useful asset life, then
SLD, followed by the number of periods after which the depreciation is to be calculated, followed by AC. The result is the total (cumulative) depreciation charge.

Usually the number of periods is the number of years. If you wish to use a different period (monthly for example) you need to change the value of the discount rate accordingly, by pressing AC.

Example: What is the depreciation after five years on a capital asset costing $10,000 with a ten year life and a salvage value of $1000 at the end of its life?

AC
AC
AC
AC
AC
AC
AC
AC
AC
AC
AC Result: 9000.00

AC
(--16
AC
AC
AC
AC
1--)
AC Result: 4500.00

The depreciation is $4500, therefore the value of the asset after 5 years is $10000 - $4500 = $5500.00

DDB - Double-declining Balance Depreciation

To calculate the fraction of the value of an asset which is depreciated after a given time using the double-declining balance method of depreciation, enter the initial cost less any salvage value, then AC, followed by the useful asset life, then DDB, followed by the number of periods after which the depreciation is to be calculated, followed by AC. The result is the total (cumulative) depreciation charge.

Usually the number of periods is the number of years. If you wish to use a different period (monthly for example) you need to change the value of the discount rate accordingly, by pressing AC.

Example: What is the depreciation after five years on a capital asset costing $10,000 with a ten year life and a salvage value of $1000 at the end of its life?

AC
AC
AC
AC
AC
AC
AC
AC
AC
AC
AC Result: 9000.00

AC
AC
AC
AC
AC
AC
AC
AC Result: 6030.00

The depreciation is $6030, therefore the value of the asset after 5 years is $10000 - $6030 = $3970.00

SYD - Sum-of-Years-Digits Depreciation

To calculate the fraction of the value of an asset which is depreciated after a given time using the sum-of-years-digits method of depreciation, enter the initial cost less any salvage value, then AC, followed by the useful asset life, then
SYD, followed by the number of periods after which the depreciation is to be calculated, followed by AC. The result is the total (cumulative) depreciation charge.

Usually the number of periods is the number of years. If you wish to use a different period (monthly for example) you need to change the value of the discount rate accordingly, by pressing AC.

Example: What is the depreciation after five years on a capital asset costing $10,000 with a ten year life and a salvage value of $1000 at the end of its life?

AC
AC
AC
AC
AC
AC
AC
AC
AC
AC
AC Result: 9000.00

AC
AC
AC
AC
AC
AC
AC
AC Result: 6570.00

The depreciation is $6570, therefore the value of the asset after 5 years is $10000 - $6570 = $3430.00

 Reciprocal

The  button computes the reciprocal of the number currently displayed.

 Square Root

The  button computes the square root of the number currently displayed.

 Square

The  button computes the square of the number currently displayed.

log Logarithm to base 10

The AC button computes the logarithm to base 10 of the number currently displayed.

 Natural Logarithm

The  button computes the natural logarithm (logarithm to base e) of the number currently displayed.

 X to the Power of Y

The  button computes X to the power of Y.

Example: Calculate 5 raised to the power of 6.





Result: 15625.000000

 Yth Root of X

The  button computes the Yth root of X (i.e. X to the power of the reciprocal of Y).

Example: Calculate the cube root of two:




 Result: 1.259921004989

x° Convert from Degrees, Minutes, Seconds

The AC button is used to enter an angle in degrees, minutes and seconds. The angle is then represented as a decimal angle in degrees. First enter the number of whole degrees, and press AC. The legend changes to x' to indicate that the next number input is the number of minutes. Enter the number of minutes and press x'. The legend changes again, this time to x". Enter the number of seconds. Press the x" button to obtain the angle as a decimal number of degrees.

The function is not affected by the choice of angle used for the trigonometric functions, as specified in the mode dialog box. Nor will an angle be automatically converted by changing angle mode during a calculation. If you wish to convert an angle from one set of units to another you need to use the units conversion function.

The AC function can also be used to convert from to hours, minutes and seconds to a decimal number of hours.

Example: What is the sin of 17 degrees, 14 minutes and 30 seconds?

First ensure that the *degree* angle mode is selected in the mode dialog box.

AC
7
AC
AC
AC
AC
AC
AC
AC Result: 17.2416666666667
sin Result: 0.2964026699

hyp Hyperbolic

The AC button is used to select hyperbolic functions and inverse hyperbolic functions. Clicking the AC button causes the legends of the AC, cos and tan to change to sinh, cosh and tanh.

Pressing AC either before or after the AC causes the inverse hyperbolic functions to be displayed: $\sinh^{-1}$, $\cosh^{-1}$ and $\tanh^{-1}$.

Example: Compute the hyperbolic sin of 1.0

AC
AC
AC Result: 1.175201193643801

AC Sine

The AC button computes the sine of an angle.

sin⁻¹ Inverse Sine

The AC button computes the angle for which the sine is the value entered.

AC Cosine

The AC button computes the cosine of an angle.

cos⁻¹ Inverse Cosine

The AC button computes the angle for which the cosine is the value entered.

AC Tangent

The AC button computes the tangent of an angle.

tan⁻¹ Inverse Tangent

The AC button computes the angle for which the tangent is the value entered.

x! Factorial

The AC button computes the factorial of the current number. If the current number displayed is not an integer, the result is the factorial of the integer value of the current number.

 **Pi**

Enters the value of pi in the display.

 Ten to the power of x

The  computes 10 raised to the power of the current number.

 e to the power of x

The  button computes the value of e raised to the power of the current number (exponential function).

 Convert to degrees

The  button converts the displayed number from a decimal to degrees, minutes and seconds. For example, a decimal number of 2.345 degrees would be converted to 2 degrees, 20 minutes and 42 seconds.

Once the value is displayed the  button must be pressed to clear the display, as further calculation is not allowed after displaying the result in degrees.

This function can also be used to convert a decimal number of hours to hours, minutes and seconds.

 Sign

The  button changes the sign of the number currently displayed.

 Backspace

Use the  button to remove the most recently entered numbers, digit by digit.

To remove the whole of an entry, use  .

AC Parentheses

The AC button is used to change the order of evaluation of an expression. For example, the expression 1 + 2 X 3 would be evaluated as 9 because the operator precedence is determined by the order of entry. This is a different answer to the expression 1 + 2 * 3 in a programming language such as C or FORTRAN, which gives multiplication and division precedence over addition and subtraction. The reason for this difference in the order of evaluation is that in a programming language the expression is *parsed* (the whole expression is analysed and translated into machine code) whereas a calculator simply stores the result of each step of the calculator in order.

To make the calculator evaluate the multiplication first, use parentheses (brackets). Evaluating 1 + (2 X 3) gives the result 7.

See (--) .

 Right Parenthesis

Closes a level of parentheses. The level of the current parentheses is reflected in the button legend.

See  .

AC Units and conv Conversions

The calculator has in-built units conversions and constants. Using conventional calculators and reference books it is often difficult to find a conversion factor between the pair of units you are dealing with and you are forced to convert in several error-prone steps. This problem is eliminated with the units conversion facility in Calc95 which is probably the most comprehensive you will find anywhere. The conversion function also eliminates the risk of confusion about which way to use a factor that arises when converting between different units systems of dimensionally complex quantities.

Suppose you have a value for a property, dynamic viscosity say, quoted in non-SI units, and the formula you are computing is in SI. First, enter the value into the calculator display. Next, click the AC button and select the property *dynamic viscosity* from the Properties box. Then in the From box select the set of units in which the value has been entered (e.g. slug/ft-sec), by clicking on the down-arrow to the right of the box. Now select the desired units in the To box. If the desired units are SI, you can just click the SI button, rather than searching for them in the drop-down edit box. Finally click the OK button (or return on the keyboard) and the converted value will be shown in the calculator display. To use the same conversion on another value, enter the new value and select AC again. Click OK or press return to use the same conversion on the new value. Use the Find button to search for a property or units from the properties database.

To modify the properties database press AC followed by what used to be the conv button, which is now labelled AC. A dialog appears which allows you to update the factor or offset of given units (for example if you have access to more accurate data). After updating the factor or offset, you will be asked to confirm that you wish to change them, in order to prevent accidental modification of conversions.

The property and units boxes each have an adjacent button labeled *New*. Clicking on this allows you to define a new property or unit. Obviously if you want to create a new property and unit, you need to create the property first. You can save your new properties and units by clicking the Save button and giving a file name. You can subsequently load a set of properties, units and constants using the Load button. If you save the file with the name DEFAULT.PRP in the default directory, your file will be loaded automatically in future. The file FACTORY.PRP is the properties file which is supplied with the software and should not be overwritten. If you want to revert to the properties as supplied, simply delete or rename your DEFAULT.PRP file; FACTORY.PRP is automatically loaded if DEFAULT.PRP is absent.

If you have saved a lot of data in this way, you might want to make sure you have a backup copy of your DEFAULT.PRP file. In fact you should make sure that this file is saved along with the rest of your data when you do backups.

const Constants

To get the value of a constant, click the const button to get the constants dialog box. This is similar to that for the units conversion, except that you will see a box to select the constant you require. The property and units are whatever you last used in the units function, which you can of course change. Note that for some properties the constants box will be empty because we have not been able to think of any useful constants! When you have selected a constant its value is displayed. If you want to put the value into the calculator display, click OK. To quit without changing the display, click cancel.

The constants box has an adjacent button labeled *New*. Clicking on this allows you to define a new property, constant or unit. Obviously if you want to create a new property and unit, you need to create the property first. You can save your new properties by clicking the Save button and giving a file name. You can subsequently load a set of properties, units and constants using the Load button. If you save the file with the name DEFAULT.PRP in the default directory, your file will be loaded automatically in future. The file FACTORY.PRP is the properties file which is supplied with the software and should not be overwritten. If you want to revert to the properties as supplied, simply delete or rename your DEFAULT.PRP file; FACTORY.PRP is automatically loaded if DEFAULT.PRP is absent.

If you have saved a lot of data in this way, you might want to make sure you have a backup copy of your DEFAULT.PRP file. In fact you should make sure that this file is saved along with the rest of your data when you do backups.

Errors

If you get an error, e.g. an overflow or attempt to divide by zero, the calculator display will contain the word Error, and possibly some further descriptive information. In the error state, the calculator functions are disabled and you need to press the 

button to clear the error.

System menu commands

The System menu offers the following commands, which provide you assistance with this application:

Restore	Restore an iconized calculator to full size
Move	Move calculator
Size	Not used
Minimize	Minimize calculator (make into an icon)
Maximize	Not used
Mode	Change calculator mode
Copy	Copy contents of display to clipboard
Paste	Paste contents of clipboard onto display
Help	Offers you an index to topics on which you can get help.
About	Displays the version number of this application.
Close	Close the calculator (and end task)
Switch To	Switch to another task

Restore

Restores an iconized or minimized calculator to full size.

Move

Moves the calculator to a new position. The more common way of achieving this is to click on the title bar and drag the window to the desired position.

Size

There is no re-size option function because the calculator window is of fixed size (other than by customization).

Minimize

Minimizes the calculator. The effect depends on the version of the software and the operating system.

Calc95: On Windows95 the calculator disappears and is reactivated by clicking on its taskbar entry. On other Windows 3.x and WindowsNT (running the old shell) the calculator becomes an icon.

ObjectiF: The calculator disappears and is reactivated by clicking the calculator button on the ObjectiF toolbar, or selecting *Calculator* from the View item on the menu.

Title Bar

The title bar contains the name of the software and additional information about the mode the calculator is operating in.

Click and drag on the title bar to move the calculator. In Windows95 you can click the right mouse button on the title bar in order to bring up the System menu.

Maximize

There is no maximize function because the calculator window is of fixed size (other than by customization).

 Copy

The  button or Copy system menu command copies the contents of the display onto the clipboard. The displayed value can then be pasted into documents or other applications.

 Paste

The  button or Paste system menu command copies the contents of the clipboard onto the display. This can be used to import values from other documents and applications into the calculator.

Help

Use this command to display the opening screen of Help. From the opening screen, you can jump to step-by-step instructions for using Calc and various types of reference information.

Once you open Help, you can click the Contents button whenever you want to return to the opening screen.

About

Use this command to display the copyright notice and version number of your copy of the software. When you have finished, click the OK button to dismiss the About box.

Four further buttons are provided to give more details:

FSI gives more details about Flow Simulation, the developers of the software

Ordering presents details of upgrades that were known at the time your distribution disks were built. For more up-to-date information, use the contact details given behind the FSI button, described above.

Authors gives the credits for the program developers.

System Info gives details about your system and your software serial number.

Close

Ends the calculator application if run stand-alone (Calc95).

Closing the calculator object in ObjectiF has the same effect as Minimize. The calculator disappears and is reactivated by clicking the calculator button on the ObjectiF toolbar, or selecting *Calculator* from the View item on the menu.

Switch To

Allows you to switch to another task on your Windows desktop.

Program Structure

The ability to program the calculator is not included in the shareware version of Calc95.

The structure of a program resembles FORTRAN90, the latter being an extension of the FORTRAN77 standard. It consists of the program directives, followed by one or more program segments.

Program Directives

The ability to program the calculator is not included in the shareware version of Calc95.

Program Segments

The ability to program the calculator is not included in the shareware version of Calc95.