

PowerCalc Help

Thank you for trying **PowerCalc**, the calculator for Windows that is designed with the serious calculator user in mind. PowerCalc is designed to replace the calculator that comes with Windows with a more powerful and customizable calculator that can be tailored to your needs.

The goal of PowerCalc is to meet the calculating needs of the user. We have designed this calculator to be used by engineers, surveyors, architects, technicians, students in advanced mathematical classes, and any others who have the need for a powerful and usable calculator. If you have any comments or suggestions, please contact [Technical Support](#) and we will do our best to put your ideas to work.

PowerCalc is a shareware product. You may use PowerCalc for up to sixty days on a trial basis, but after this you should register your copy. **There are benefits to registration.** You will receive free technical support, a printed manual, and all notices of product upgrades upon registration of your copy. Choose "Registration" from the list below for more details. Please feel free to copy and distribute PowerCalc to anybody you feel may be interested.

For help on a specific topic, pick one of the items from the list below.

[Introduction to and Features of PowerCalc](#)

[Calculator Operation & Functions](#)

[How to Register Your Copy](#)

[About Shareware](#)

Display area

This area shows the output of your entry and calculations. It represents the value currently in the X register of the stack.

Arithmetic

The arithmetic operators Add (+), Subtract (-), Multiply (*), and Divide (/) operate as you would expect. Keep in mind that PowerCalc works with a stack, so you will want to hit these keys after the numbers are entered.

Backspace

The Backspace button will delete the last character you entered.

chs

Changes the algebraic sign of the number currently in the display.

Clear

The Clear button clears the statistics register, allowing you to begin a new set of statistical observations.

Clx

The Clx button clears the display to 0, and puts 0 in the X value of the stack.

Converting Degrees to Radians and vice versa

The \rightarrow rad button converts an angle expressed in degrees to one expressed in radians. If the Shift key is on, the \rightarrow deg function will be performed, which converts an angle expressed in radians to one expressed in degrees.

eex

Raises the number in the display by 10 to the power you specify.

Enter

The Enter button allows you to enter numbers into the stack. Typically you will enter one or more numbers and then do operations on them. For example, to solve the equation:

$$2 / (3 \times 2)$$

you would do the following:

2 <Enter> 3 <Enter> 2 X /

You first enter 2, then enter 3, then multiply 2 by 3, then divide the result into 2, to obtain the answer of 0.3333....

For more information, see the help screens on [RPN](#) and [The Stack](#).

x! , the Factorial function

This button computes the factorial of a number you specify. The number must be a positive integer.

The factorial function is defined as follows:

$$x! = (x)(x-1)(x-2)\dots(3)(2)(1)$$

Register

Opens Windows' Notepad and displays information about becoming a registered user of PowerCalc. Registration entitles you to several advantages; please consider registering your copy if you find PowerCalc useful. You can print this file and send in the coupon to become a registered user.

Converting Decimal Angles to Hours, Minutes and Seconds

The →hr button converts an angle expressed in Hours, Minutes and Seconds to one expressed in decimal degrees, or Hours. If the Shift key is on, the →hms function will be performed, which converts an angle expressed in Hours to one expressed in Hours, Minutes and Seconds.

Note: Angles expressed in Hours, Minutes and Seconds will be represented in the display as follows:

HHH.MMSS where H=Hours, M=Minutes, S=Seconds.

Hyperbolic Trig Functions

Clicking the hyp button prior to one of the trigonometric functions will allow you to compute the hyperbolic sine, cosine or tangent.

Base 'e' Logarithm and 'e' to the Xth power functions

This button will give you the base 'e' logarithm, or "**ln**", of the number in the display. If Shift is on, it will raise 'e' to the power of the number in the display.

Base 10 Logarithm and 10 to the Xth power functions

This button will give you the base 10 logarithm, or "log", of the number in the display. If Shift is on, it will raise 10 to the power of the number in the display.

Macros

Allows you to load and run macros that you have created. For more information on using macros, see the help screen for Macros.

Menu area

This area allows you to access the Data sharing, Statistics output, User, and Help areas of PowerCalc. See the help screens for these individual items for more information.

Modes

This area informs you of the modes that PowerCalc is currently operating under. The information reported is the display type (fixed or scientific), the angle type (degree, radians or hours, minutes, seconds), whether Shift is on, and whether hyp (hyperbolic trig functions) is on.

Numeric Keypad

This is the Numeric Keypad area of PowerCalc. You may enter numbers either from the 10-key area of your keyboard or from the typewriter area.

1/X

Computes the inverse of X, or 1 divided by X.

Percent

This button computes X percent of Y. For example, if you want to find the 12 percent of 127, enter this sequence of characters:

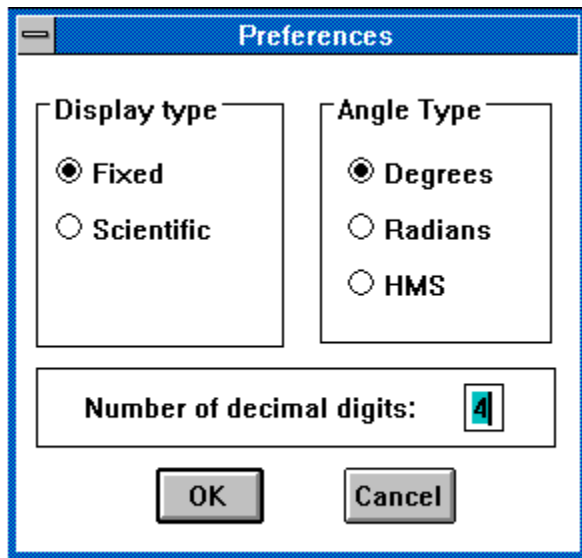
127 <Enter> 12 <%>

Pi

Gives you the value of pi for use in your calculations.

Preferences

Calls up the Preferences dialog box. This will allow you to set preferences for several items for use during the current session. This dialog box is divided into three sections:



The Preferences dialog box has a blue title bar with the text "Preferences". It contains three sections: "Display type" with radio buttons for "Fixed" (selected) and "Scientific"; "Angle Type" with radio buttons for "Degrees" (selected), "Radians", and "HMS"; and a "Number of decimal digits:" label next to a text box containing the number "4". At the bottom are "OK" and "Cancel" buttons.

Section	Option	Selected
Display type	Fixed	Yes
	Scientific	No
Angle Type	Degrees	Yes
	Radians	No
	HMS	No
Number of decimal digits:	4	

Storage Registers

The Sto button stores the number in the display into the storage register you specify. You have 20 different registers you can store numbers into. When you are ready to use the number you have stored again, choose the Rcl button. This will recall the number from the register you specify.

Roll Down

This button rolls the stack down, allowing you to cycle through and view the contents of the X, Y, Z and T registers.

Shift

The Shift Key allows you to access the functions in white that appear above buttons. Click on the function you want for more information.

Sigma Minus

The Sigma Minus button subtracts an entry previously made to the statistics register. For more information see the help screen for [Statistics](#).

Sigma Plus

The Sigma Plus button adds an entry to the statistics register. For more information see the help screen for Statistics.

Square Root and Square functions

The Square Root button computes the square root of the number in the display. If Shift is on, the square of the number will be computed.

Trigonometric Functions

PowerCalc supports the basic trigonometric functions, their inverses, and additionally the hyperbolic trig functions. Pressing the sin, cos, or tan buttons will give you the sine, cosine, or tangent, respectively, of the number in the display. If the Shift button is hit first, these buttons will compute the inverse sine, cosine and tangent. If the hyp (hyperbolic) button is hit first, the hyperbolic sine, hyperbolic cosine or hyperbolic tangent will be computed. The trig functions will work in any angle mode. For more information, click on the Modes area of this help screen.

X<>Y

Clicking on the X<>Y button exchanges the information in the X and Y Registers of the stack.

Y to the Xth power

Raises the number in the Y register of the stack by the number in the X register (the display) and places the value in the X register.

About Shareware

Shareware distribution gives users a chance to try software before buying it. If you try a Shareware program and continue using it, you are expected to register. Individual programs differ on details. Some request registration; others require it. Some specify a maximum trial period. With registration, you get anything from the simple right to continue using the software to an updated program with printed manual.

Copyright laws apply to both Shareware and commercial software, and the copyright holder retains all rights, with a few specific exceptions as stated below. Shareware authors are accomplished programmers, just like commercial authors, and the programs are of comparable quality. The main difference is in the method of distribution. The author specifically grants the right to copy and distribute the software, either to all or to a specific group. For example, some authors require written permission before a commercial disk vendor may copy their Shareware.

Shareware is a distribution method, not a type of software. You should find software that suits your needs and pocketbook, whether its commercial or Shareware. The Shareware system makes fitting your needs easier, because you can try before you buy. And because the overhead is low, prices are low also. Shareware has the ultimate moneyback guarantee: if you don't use the product, you don't pay for it.

PowerCalc is a "shareware program" and is provided at no charge to the user for evaluation. Feel free to share it with your friends, but please do not give it away altered or as part of another system. The essence of user supported software is to provide personal computer users with quality software without high prices, and yet to provide incentive for programmers to continue to develop new products.

If you register your copy of a Shareware program, then you should treat the software just like a book. That is, the software may be used by any number of people and may be freely moved from one computer location to another, so long as there is no possibility of it being used at one location while it's being used at another, just as a book cannot be read by two different persons at the same time.

Commercial users of PowerCalc must register and pay for their copies of PowerCalc within 30 days of first use or their license is withdrawn. SiteLicense arrangements may be made by contacting Donahue Enterprises.

Anyone distributing PowerCalc for any kind of remuneration must first contact Donahue Enterprises at the address given in the [Registration](#) for authorization. This authorization will be automatically granted to distributors recognized by the (ASP) as adhering to its guidelines for shareware distributors, and such distributors may begin offering PowerCalc immediately (However Donahue Enterprises must still be advised so that the distributor can be kept up to date with the latest version of PowerCalc.).

You are encouraged to pass a copy of PowerCalc along to your friends for evaluation. Please encourage them to register their copy if they find that they can use it. All registered users will receive a copy of the latest version of the PowerCalc system, along with supporting materials described in the Registration section of this help file.

Angle type

Prompts you whether to display and process angles as decimal degrees, radians or hours, minutes and seconds.

Number of decimal digits

Prompts you to enter the number of places you want displayed after the decimal point. The maximum number of places is 9.

Display type

Prompts you to Enter whether to display number in fixed (decimal) or scientific notation.

Introduction to PowerCalc

PowerCalc offers you many features that you will not find on your default Windows calculator. Designed with the "Power User" in mind, PowerCalc's goal is to meet the needs and desires of those who need a serious calculator on a regular basis. If you've ever found yourself using your hand-held calculator to do calculations that you then enter into your PC, give PowerCalc a try!

Listed below are some of PowerCalc's major features. Click on any of the topic headings for more in-depth information.

RPN Logic

PowerCalc is based on RPN logic, which is the same type used in HP calculators. In fact, if you know how to use any HP calculator, you know how to use PowerCalc. RPN logic is extremely powerful way to perform long algebraic operations.

Macros

Long, repetitive series of keystrokes can be eliminated through the use of macros. You may record your keystrokes and play them back with the touch of a single key. New for version 2.0 is a Macro Recorder, allowing you to punch your Macro in on the calculator.

Keyboard / Mouse Integration

PowerCalc has been designed to function completely from the keyboard, and support mouse operations if desired.

Data Sharing

PowerCalc allows you to copy the results of your calculations to the Clipboard and paste the contents of the Clipboard for your use.

Tape Recorder

You can record your keystrokes into a file, providing a permanent record of your calculations.

New for Version 2.0

PowerCalc features several new features and enhancements. Click above for a summary.

New for Version 2.0

For those of you familiar with previous versions of PowerCalc, here is a list of features that are new or improved for this release:

Stack Viewer

You can now look at the entire contents of the stack at any or all times by choosing the "Stack Viewer" item on the PowerCalc menu. The X, Y, Z, T and Last X elements of the stack will be displayed in a separate small window.

Statistics Viewer

A Statistics Viewer is now included with PowerCalc that allows you to view the results of your statistics. The Statistics Viewer window is dynamically updated as you enter your statistics.

Macro Recorder

You can record your macros instead of entering them in with a text editor. You will find this much easier than entering in the Macro commands manually. Of course, if you prefer, you may still manually create and edit your macros.

Macro Viewer

You no longer have to leave PowerCalc to open up the Notepad to look at your Macros. PowerCalc will now do this for you.

Tape Recorder and Tape Viewer

Now you can keep a log of your keystrokes with the new Tape Recorder. By turning the Tape Recorder on, you get a "Tape" (in text file format) that keeps a record of every keystroke you make. You may view your Tape at any time using the Tape Viewer.

Improved Interface

Defaults picks have been added to many of the selections available on the calculator. Also, in response to user requests, the button action has been streamlined, and some unnecessary messages have been eliminated.

Registration

PowerCalc is a shareware product. You may use PowerCalc on a trial basis for a sixty day period. If you find it useful, you are encouraged to register your copy. The cost of registration is \$24.95. Registration offers you the following benefits:

- Free support

Registered users will receive free technical support.

- Bound Manual

You will receive a bound reference guide to help you use PowerCalc more effectively.

- Product Announcements

You will receive upgrade notices for PowerCalc and other products, along with substantial discounts on upgrades.

-To Register by Mail (Check or Money Order)

To register, choose the "**Register**" item on the PowerCalc calculator face. Print out the contents of this file and send in the coupon that you will find there, or just click here for an [Order Form](#).

- To Register by Credit Card:

You can order with MC, Visa, Amex, or Discover from Public (software) Library (PsL) by calling (800) 2424 PsL or (713) 524 6394 or by FAX to (713) 524 6398 or by CIS Email to 71355,470. You can also mail credit card orders to PsL at P.O.Box 35705, Houston, TX 77235 5705. **Ask for product #11154.**

THE ABOVE NUMBERS ARE FOR ORDERS ONLY.

Any questions about the status of the shipment of the order, refunds, registration options, product details, technical support, volume discounts, dealer pricing, site licenses, etc., must be directed to Donahue Enterprises at the address below.

To insure that you get the latest version, PsL will notify us the day of your order and we will ship the product directly to you.

-To register on-line using Compuserve:

Registration is now available online on Compuserve. If you wish to register on Compuserve, type "GO SWREG" to enter the shareware registration forum. PowerCalc's registration ID is 1454.

-For Site Licensing Information:

For site licensing information, please contact Donahue Enterprises at (909) 797 1960 or write us at the address below, or leave a message for Pat Donahue on Compuserve, 70714,2334.

-Contact Information:

**PowerCalc Registration
Donahue Enterprises
10693 Blue Crest Drive
Yucaipa, CA 92399**

(909) 797 1960

RPN Logic

RPN stands for "Reverse Polish Notation." RPN is a very powerful logic used in some types of calculators, notably HP calculators. Those of you who are familiar with the operating logic of HP calculators can skip this introduction to RPN and begin using PowerCalc right away.

The key to RPN is the "Enter" key on the calculator. You probably have noticed that PowerCalc does not have an '=' button. The '**Enter**' key takes care of the operations that you would normally associate with the '=' key. To make this clearer, let's look at an example.

Using the calculator that is supplied with Windows, you would add two numbers by pressing these keys in sequence:

2 + 2 =

and the answer of '4' would appear in the display area. Using PowerCalc, you would add two numbers together like this:

2 <Enter> 2 +

PowerCalc performs arithmetic and other mathematical functions by storing numbers onto a storage device known as **The Stack**. The stack is a four-number storage register. You may enter several numbers onto the stack to be used during your calculations. As you will see, this will allow you to do series of computations quickly and easily without the need for the cumbersome parentheses you may be used to using. Let's look at another example to make this a little clearer. Suppose you wanted to find the solution to the following equation:

$5 \times (17 - 12) / (10 - 5)$

Using a 'normal' calculator, you may enter the above equation exactly as shown. Note that you have to enter parentheses several times, slowing down your operation significantly, before you finally arrive at the correct answer of 5. Now, look at the series of keystrokes that you would use to find the answer on PowerCalc (note that the **Enter** button has been abbreviated to **E**):

5 E 17 E 12 - X 10 E 5 - /

you have accomplished the task with the same number of keystrokes **but your hand has never left the 10-key area of the keyboard**, speeding your operation up substantially. You can now see the power this program offers you for long, complicated series of calculations. RPN, coupled with The Stack, allows you to enter several numbers to be used for intermediate results during your calculations.

Let's take a step by step look at how PowerCalc interprets the equation in the last example.

- | | |
|------|---|
| 5 E | - Enter 5 into the stack. Display shows 5. |
| 17 E | - Enter 17 into the stack. 5 moves up the stack. Display shows 17. |
| 12 - | - Subtract 12 from 17. 5 moves down the stack. Display shows 5. |
| X | - Multiply the result of the last operation (17 - 12) by 5. Display shows 25. |
| 10 E | - Enter 10 into the stack. Display shows 10. 25 moves up stack. |
| 5 - | - Subtract 5 from 10. Display shows 5. |
| / | - Divide 5 into 25. Display shows 5, the correct answer. |

For additional information on how the stack operates, see [The Stack.](#)

The Stack

The Stack is the data storage device that PowerCalc uses to store the numbers you enter and the intermediate results of your calculations. It is a four number storage register with some unique properties. The stack is arranged this way:

4.0000	<-----	Last X	Last value in the X register prior to the current operation
4.0000	<-----	T	The top of the stack
3.0000	<-----	Z	
2.0000	<-----	Y	
1.0000	<-----	X	The bottom of the stack; this member is always displayed.

You can view the stack at any (or all) times using the **Stack Viewer** included with PowerCalc. Choose the **Stack Viewer** item under the **User** menu to see the stack.

The entries of the stack are referred to as X, Y, Z, T and Last X. X is represented in the display. When you enter a number into PowerCalc, the stack is bumped up. The number you entered becomes the new X value, the previous X becomes Y, the previous Y becomes Z, and the previous Z becomes T. The previous T is lost. Last X stores the prior value of the X register that may or may not be used depending on your next operation. Thus PowerCalc maintains a four-number database upon which you can nest calculations for complex algebraic formulas.

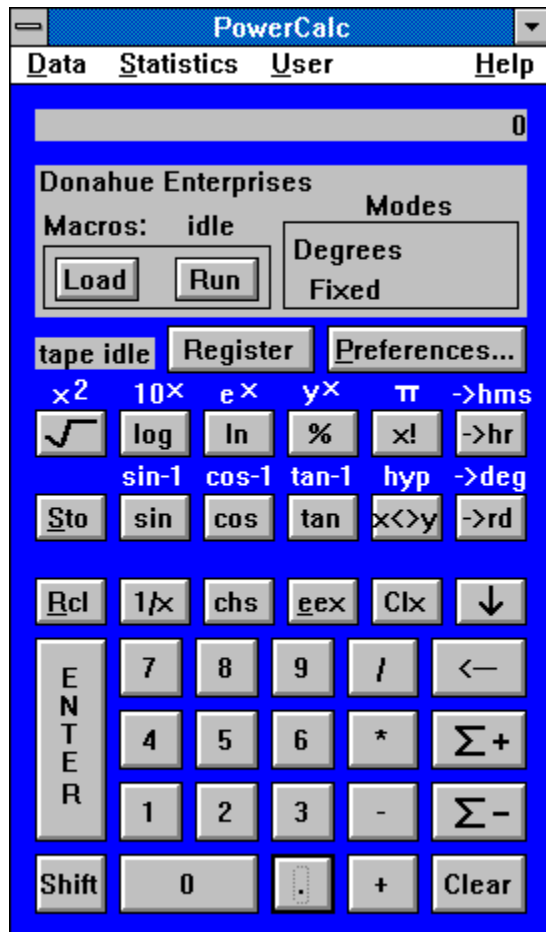
When you operate on a number in PowerCalc, for example, if you add two numbers together, the opposite occurs to the stack: the stack is bumped down. If you were to add two numbers, the operator '+' would combine the X and Y values, place the X value in the display, place the previous Z value in the Y register, and place the previous T value in the Z register. The previous T value would be preserved.

Numbers are first entered into the stack, then operated on. This is different from the way a 'normal' calculator works. With an average calculator, you would enter a number, choose an operator such as +, -, *, or /, then enter another number and press =. With PowerCalc, you would enter both numbers, then hit +.

The best way to get a feel for how the Stack works is to use the **Stack Viewer** included with PowerCalc. Choose the **Stack Viewer** item under the **User** menu to see the stack, and do a few operations with PowerCalc. You will see how the Stack stores and uses numbers for your calculations.

Operation and Numeric Functions

PowerCalc offers you a full complement of scientific calculator functions, as well as functions you may not be able to find elsewhere. Click on any of the calculator buttons below to receive help on specific functions, menu items or other choices.



Keyboard / Mouse Integration

PowerCalc offers you full use of the mouse for all your calculations. However, there will be times when you will find it to your advantage to use the keyboard exclusively. This will be useful, for example, when you want to perform complicated operations quickly, so that you are not forced to skip between the mouse and the keyboard. For this reason, all of PowerCalc's functions may be accessed through the keyboard. Once you have learned the keyboard keys for the functions you use most, you will be surprised at the speed at which you can calculate.

For a summary of keys used to substitute for mouse operation, see [Keyboard Shortcuts](#)

Keyboard Shortcuts

Summarized below are the keyboard shortcuts for all of PowerCalc's functions. You can use the keyboard instead of the mouse at any time using the key(s) from the table below.

<u>Calculator Button</u>	Keyboard Shortcut
Preferences:	P
square root	Insert
log	Home
ln	Pg Up
%	<Ctrl>P
x!	<Ctrl>X
->Hr	H
Sto	S
Rcl	R
sin	Delete
cos	End
tan	Pg Dn
x <> y	X
->rd	D
1/x	(left arrow)
chs	(right arrow)
eex	(up arrow)
roll down	(down arrow)
Clx	<Ctrl>L
Load Macro	F7
Run Macro	F8
Sigma +	F12
Sigma -	F11
Clear Sigma	G

In addition to the buttons being accessible by Keyboard shortcuts, the 'Shift' functions are also available. These appear as white text above the buttons, and are accessed by first pressing the **Shift** key on the keyboard, and then pressing the keyboard shortcut key that corresponds to the button directly below the text. These functions are summarized as follows:

<u>Calculator Button</u>	Keyboard Shortcut
x squared	Shift, Insert
10 to the x power	Shift, Home
e to the x power	Shift, Pg Up
y to the x power	Shift, <Ctrl>P
pi	Shift, <Ctrl>X
->hms	Shift, H
sin-1	Shift, Delete
cos-1	Shift, End
tan-1	Shift, Pg Dn
hyp	Shift, X
->deg	Shift, D

Macros

PowerCalc includes a macro language. This will allow you to program the calculator to do sequences of commands that you would otherwise have to plug in manually. This will be useful to you whenever you want to perform the same series of mathematical operations on several different numbers.

Macros are recorded using these three steps:

1. Tell PowerCalc to enter Macro recording mode. This is done by choosing the **User** menu, then choosing the **Macro** item, then choosing **New Macro** from the sub-menu. You are then prompted to give your Macro a name. You can choose any valid name you want, but it is suggested that you use the extension ".PWR" for your macros because PowerCalc will default to this extension whenever you use the Macro menu. Note that in the "Macro" area on the calculator, you now see the word "logging" next to the word Macro. This tells you that PowerCalc is currently recording a Macro.
2. Punch the series of keystrokes that you want PowerCalc to remember. It is OK to use the Backspace key if you make a mistake.
3. Tell PowerCalc to save your new Macro. This is done by choosing the **User** menu, then choosing the **Macro** item, then choosing **Save Macro** from the sub-menu. Note that in the "Macro" area on the calculator, you now see the word "idle" next to the word Macro. This tells you that PowerCalc is currently **not** recording a Macro.

Once you have created your macro file, you need to load it into PowerCalc. To load a file, choose the **Load** button in the Macro area of the calculator, or the F7 key. Once it is loaded, you may run it at any time by choosing the **Run** button or the F8 key.

If you want to make a change once your Macro has been recorded, you may manually edit it. See...
[Manually Editing Macros](#)

Data Exchange

PowerCalc includes the ability to use the Windows Clipboard. You can use this to exchange information between applications. You can export the display number from PowerCalc, and you may import into the display a number from any other application that supports the Clipboard.

Statistics

PowerCalc Supports most basic statistical functions. Statistics are entered using the **Sigma +** and the **Sigma -** buttons found toward the lower right corner of the calculator. When you want to enter an observation, enter the number(s) (both the X and Y registers may be used) and hit Sigma +. If you entered a number incorrectly or wish to delete a particular observation, enter the number(s) you wish to delete by pressing Sigma -. You may view your results from the **Statistics** menu at the top of PowerCalc.

A **Statistics Viewer** is included with PowerCalc that allows you to view the results of your statistics. The Statistics Viewer window is dynamically updated as you enter your statistics. To access the Statistics Viewer, choose the Statistics Viewer item at the top of the statistics menu.

Technical Support

Registered users will receive free lifetime technical support upon registration of their copy. If you are an unregistered user of PowerCalc, you may contact Technical Support with any questions you may have regarding the working of PowerCalc.

For questions regarding PowerCalc, you may reach the author at the address below or leave a message for Pat Donahue on CompuServe, 70714,2334. Internet users: e-mail may be addressed to 70714.2334@compuserve.com.

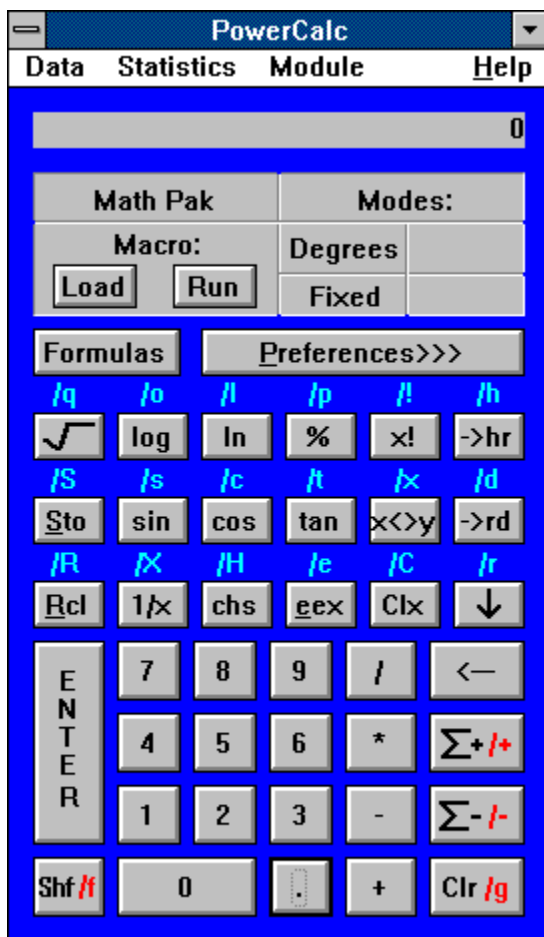
**PowerCalc
Donahue Enterprises
10693 Blue Crest Drive
Yucaipa, CA 92399
(909) 797-1960**

Manual Editing of Macros

PowerCalc's Macro's may be edited manually once they have been entered. This will be useful to you whenever you want to make a slight change to a Macro you have entered but do not wish to re-enter the entire Macro.

To start editing a Macro, from PowerCalc's User menu item, choose **Macro**, and from the sub-menu, choose **View/Edit Macro...** Then choose or type the name of the Macro that you have previously saved. The Macro you choose will be opened for editing in the Windows Notepad program. You may now edit the Macro following the guidelines outlined below.

Summarized below are the macro commands that PowerCalc supports. Note that these commands generally take the form \X, where X represents the letter of the command you want to use.



For example, if you wanted to find the square root of 2 times Pi divided by 3 times a given number, you could enter this sequence into the calculator :

2 <Ent> <Shift> <x!> * 3 / <Sqrt>

However, if you wanted to perform this same operation on several numbers, you would have a lot of keystrokes to enter. You could create a macro for this using the macro commands shown above. In this

case the commands would be:

2

\f \! * 3 / \q

Note the new line between '2' and '\f'. This is how you specify an <Enter> command. Whenever you want to insert and <Enter> in your macro, just start a new line.

Order Form

To order your copy of PowerCalc, use the print item above to print out the form below.

***** **PowerCalc Registration** *****

Please register my copy of PowerCalc. Enclosed \$24.95 as payment.
(California residents please add 7.75% sales tax for a total of \$26.88)

Name

Company Name

_____ 3.5" disk

Address

_____ 5.25" disk

City,State,Zip

Send the above coupon, along with \$24.95 as payment (California residents please add 7.75% sales tax for a total of \$26.88), to:

PowerCalc
Donahue Enterprises
10693 Blue Crest Drive
Yucaipa, CA 92399
(909) 797-1960

Make check or money order payable in U.S. dollars to Donahue Enterprises.

For site licensing information, please contact Donahue Enterprises at the address above. For any questions regarding PowerCalc, you may reach the author at the above address or leave a message for Pat Donahue on Compuserve, 70714,2334.

Recording Tapes

PowerCalc includes a Tape Recorder. This will allow you to keep a record of your keystrokes to aid you in analyzing your calculations.

Tapes are recorded using these three steps:

1. Tell PowerCalc to enter Tape recording mode. This is done by choosing the **User** menu, then choosing the **Tape** item, then choosing **New Tape** from the sub-menu. You are then prompted to give your Tape a name. You can choose any valid name you want, but it is suggested that you use the extension ".TAP" for your Tapes because PowerCalc will default to this extension whenever you use the Tape menu. Note that next to the **Register** button on the calculator, you now see the word "taping". This tells you that PowerCalc is currently recording a Tape.
2. Punch the series of keystrokes that you want PowerCalc to record.
3. Tell PowerCalc to save your new Tape. This is done by choosing the **User** menu, then choosing the **Tape** item, then choosing **Save Tape** from the sub-menu. Note that next to the **Register** button on the calculator, you now see the words "tape idle". This tells you that PowerCalc is currently **not** recording a Tape.

You may view a Tape you have recorded by choosing the **User** menu, then choosing the **Tape** item, then choosing **View Tape** from the sub-menu. This will open Windows Notepad with your tape as the file.

User Menu

The **User** menu at the top of PowerCalc contains the following items:

Stack Viewer: allows you to view the stack at any time. For more information, see [The Stack](#).

Macro: allows you to check which macro you are currently using, or create / view macros. For more information, see [Macros](#).

Tape: allows you to create or view tapes. For more information, see [Recording Tapes](#).

