

EasyCalc OnLine Help System

COLLABORATORS

	<i>TITLE :</i> EasyCalc OnLine Help System		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		November 11, 2024	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

1	EasyCalc OnLine Help System	1
1.1	MAIN MENU	1
1.2	PULLDOWN MENUS	1
1.3	PROJECT MENU	1
1.4	NEW WORKSHEET	2
1.5	OPEN WORKSHEET	2
1.6	OPEN VIEW	2
1.7	SAVE WORKSHEET	2
1.8	PRINT	2
1.9	ABOUT EASYCALC	3
1.10	INFORMATION	3
1.11	QUIT	4
1.12	EDIT MENU	4
1.13	UNDO LAST CELL	4
1.14	FORMAT	4
1.15	CUT	5
1.16	COPY	5
1.17	PASTE OPTIONS	5
1.18	DELETE	6
1.19	FILL	6
1.20	COLUMN OPTIONS	6
1.21	ROW OPTIONS	6
1.22	PRECISION	6
1.23	COLOUR OPTIONS	7
1.24	JUSTIFY OPTIONS	7
1.25	STYLE OPTIONS	7
1.26	LOCK/UNLOCK OPTION	7
1.27	EXPORT OPTIONS	7
1.28	IMPORT OPTIONS	8
1.29	FREEZE OPTIONS	8

1.30 UNFREEZE	8
1.31 WORKSHEET OPTIONS MENU	8
1.32 GLOBAL OPTIONS MENU	9
1.33 SORT RANGE	9
1.34 SEARCH FOR TEXT	10
1.35 SHOW FORMULAS	10
1.36 CONVERT CELLS	11
1.37 EXACT SIZE COPIES	11
1.38 AUTOSAVE	11
1.39 AUTOMOVE OPTIONS	11
1.40 RECALC ORDER OPTIONS	12
1.41 AUTORECALC	12
1.42 RECALC NOW	12
1.43 ITERATIONS	12
1.44 GRID	12
1.45 BOOKMARK OPTIONS	13
1.46 CELL NOTES OPTIONS	13
1.47 CELL NAMES OPTIONS	13
1.48 MACROS OPTIONS	14
1.49 SAVE OPTIONS	14
1.50 ENVIRONMENT MENU	15
1.51 OPTIMISE	15
1.52 WINDOWS OPTIONS	15
1.53 SCREEN MODE OPTIONS	16
1.54 PALETTE OPTIONS	16
1.55 SAVE SCREEN/PALETTE	16
1.56 GRAPHS MENU	17
1.57 MAKE GRAPH	17
1.58 VIEW GRAPH	17
1.59 DELETE GRAPH	18
1.60 DRAWING GRAPHS	18
1.61 EASYCALC AREXX INTERFACE	19
1.62 SUPPORTED TOOLTYPES	19
1.63 CELL FUNCTIONS	20
1.64 abs	21
1.65 acos	22
1.66 asin	22
1.67 avg	22
1.68 average	22

1.69 compare	23
1.70 atan	23
1.71 cint	23
1.72 cos	23
1.73 cosh	24
1.74 count	24
1.75 date	24
1.76 deg	24
1.77 exp	25
1.78 false	25
1.79 true	25
1.80 instr	25
1.81 leng	26
1.82 ord	26
1.83 val	26
1.84 fix	26
1.85 if	26
1.86 int	27
1.87 isnum	27
1.88 isstr	27
1.89 xlink	28
1.90 log	28
1.91 log10	28
1.92 max	28
1.93 min	29
1.94 mod	29
1.95 not	29
1.96 now	29
1.97 pi	29
1.98 rad	30
1.99 rnd	30
1.100rand	30
1.101sign	30
1.102sin	31
1.103sinh	31
1.104sqr	31
1.105sqrt	31
1.106sum	32
1.107tan	32

1.108tanh	32
1.109time	32
1.110today	33
1.111vat	33
1.112str	33
1.113right	33
1.114proper	34
1.115mid	34
1.116left	34
1.117find	34
1.118index	35
1.119repeat	35
1.120newvat	35
1.121lower	36
1.122upper	36
1.123chr	36
1.124divide	36
1.125cols	36
1.126rows	37
1.127ENTERING DATA	37
1.128ONLINE HELP	39
1.129GENERAL FORMAT	39
1.130FIXED FORMAT	39
1.131DATE FORMAT	39
1.132TIME FORMAT	40
1.133CURRENCY FORMAT	40
1.134PERCENT FORMAT	40
1.135TEXT FORMAT	40
1.136HIDE FORMAT	40
1.137COMMAS FORMAT	40
1.138SCIENTIFIC FORMAT	40
1.139HEX FORMAT	41
1.140OCTAL FORMAT	41
1.141THE ICON BAR	41
1.142FUNCTION LIST	42
1.143CELL FORMATS	42
1.144OPERATORS	42
1.145UNMATCHED BRACKETS	43
1.146DIVISION BY ZERO	43

1.147INVALID PARAMETER	43
1.148INVALID NUMBER ENTERED	44
1.149RANGE EXPECTED	44
1.150STRING EXPECTED	44
1.151NUMBER EXPECTED	44
1.152ADDRESS EXPECTED	44
1.153INVALID RANGE	45
1.154UNEXPECTED CHARACTER	45
1.155TUTORIAL	45
1.156tindex	47
1.157STRING ERROR	49
1.158RESIZING COLUMNS	49
1.159ONLINE CALCULATOR	50
1.160TOOLBAR EDITOR	50
1.161CLEAR WORKSHEET	51
1.162PREFERENCE FILES	51
1.163cel2faren	51
1.164cent2inch	51
1.165faren2cel	52
1.166foot2metre	52
1.167gal2litre	52
1.168inch2cent	52
1.169kilo2pound	52
1.170km2mile	52
1.171litre2gal	52
1.172metre2foot	53
1.173mile2km	53
1.174pound2kilo	53

Chapter 1

EasyCalc OnLine Help System

1.1 MAIN MENU

Welcome to the EasyCalc Version 2.0 Online Help System!

Please pick a topic to get some help on:

Tutorial	- Create your first worksheet
Entering data	- Creating cells
Pulldown Menus	- Those menus in full
Maths Operators	- Available maths operators
Cell Functions	- Complete list of all cell functions
Icon Bar Functions	- The icon bar
Drawing Graphs	- Creating pretty pictures
Resizing Columns	- Different column sizes
AREXX Interface	- Some Arexx information
Tooltypes	- EasyCalc 2.0 Tooltypes
Preference Files	- Where are the preferences stored?
INDEX TO HELP	- Complete index to this guide

1.2 PULLDOWN MENUS

Project Menu	- File and Printing functions
Edit Menu	- Blocks and Import/Export functions
Global Options Menu	- Program options
Worksheet Options Menu	- Per-Worksheet options
Environment Menu	- Screen mode and palette
Graphs Menu	- Graphing options

1.3 PROJECT MENU

New Worksheet	- Open new project
Open Worksheet	- Read in saved worksheet
Open View	- Open a new window on a worksheet

Save Worksheet	- Store a worksheet to disk
Print	- Print out a worksheet
About EasyCalc	- Copyright information
Information	- Project information
Quit	- Quit EasyCalc

1.4 NEW WORKSHEET

Opens a new worksheet window. This worksheet is totally independent from the previous one and allows you to work with more than one worksheet at a time.

1.5 OPEN WORKSHEET

Brings up the file requester for you to choose a worksheet to load in. The worksheet will replace the one you are already working on if no changes have been made to it, otherwise a new window will open and the existing worksheet will be left unharmed.

1.6 OPEN VIEW

Opens a new window on the current worksheet so you can view more than one part of it at the same time.

1.7 SAVE WORKSHEET

If you have never saved the current worksheet before then this option brings up a file requester for you to choose the filename to save the worksheet as.

If you have saved it before then the worksheet is automatically saved with the same name as before without bothering with the file requester.

1.8 PRINT

A window will appear with the following gadgets:

· PRINT AREA - A cycle gadget that controls what part of the current worksheet is sent to the printer. The options are:

Entire Worksheet	- Print EVERYTHING.
Current Block	- Print currently marked block.
Last Block	- Print the last block printed.
Screen Area	- Print everything visible in the window.

· NLQ MODE - If ticked, then the output will be in your printers best

quality. Please note, I have had some problems with this being ignored by the Amiga, you may have to set this from the printer preferences section of your Workbench prefs.

- PRINT SIZE - Controls how big the printer font is. There are three sizes:

Normal - Standard 80 columns mode.

Smaller - Your printers next smallest font.

Smallest - Your printers smallest font.

- PRINT TITLE - If checked, this option causes the worksheet title to be printed as well.

- PRINT REVISION - If checked, this options causes the revision number of the worksheet to be printed.

- PRINT GRID - Causes a grid with the cell references to be printed.

- PRINT COMMENTS - Causes the comments field of the information requester to be printed with the worksheet.

- ~PRINT - Starts the printing process. (A gadget will appear allowing printing to be aborted at any time).

- SAVE SETTINGS - Stores to current printer settings to a file called Printer.prefs. These will be read in next time the printer window is opened.

- CANCEL - Closes the window without printing anything.

Printer Help

1) If blank lines start appearing in your printout then change the right margin to a much bigger number in the WB Printer Preferences or change the Print Size to SMALLER or SMALLEST. Also make sure the Preferences are set to continuous paper, otherwise page feeds will appear.

2) £-signs not appearing properly could be because you are using the wrong printer driver. If you are booted from the EasyCalc 2.0 disk, then the GENERIC driver will be used which will cause £ to appear as #. Simply switch to the correct printer driver.

1.9 ABOUT EASYCALC

Displays some copyright information and tells you the name of the program in case you have forgotten. Also the version number is displayed (the V2.0f part), which you should quote in all your correspondence.

1.10 INFORMATION

Displays the Information requester, which allows you to view (and edit) several important attributes of your worksheet:

Worksheet Name - What the worksheet is currently saved as
Author - Who created the worksheet
Comments - Any important comments
Revision - How many times the worksheet has been saved
Password - The password that needs to be entered when the worksheet is reloaded (but only if Use Password is checked).
Use Password - Controls whether the password is required on loading

1.11 QUIT

Asks if you are sure you want to quit, and if you answer YES then EasyCalc 2.0 will go away. If you have any unsaved work, EasyCalc 2.0 will tell you about this before quitting.

1.12 EDIT MENU

Cut - Cut a block out of the worksheet
Copy - Copy a block (leaving the original untouched)
Paste - Paste a stored block into the worksheet
Delete - Delete a range
Undo Last Cell - Undo any mistakes
Fill - Fill a range
Column - Insert/Delete columns
Row - Insert/Delete rows
Precision - Set the precision of a range
Colour - Set the colours of a range
Justify - Justify a range
Style - Set the style of a range
Lock/Unlock - Lock/Unlock a range
Format - Format a range
Convert Cells - Text <-> Numbers
Export - Export a range of cells
Import - Import some data

1.13 UNDO LAST CELL

If you make a mistake when entering a cell, this option will automatically revert to the previous cell contents. The undo buffer only maintains the last cell entered on the last worksheet so this option is not going to help if you make a catastrophic error.

1.14 FORMAT

This submenu has all twelve different cell formats in it. Choose one and the current range of cells is formatted.

The following cell formats are available:

General	- Unaltered display
Fixed	- Rounded value
Date	- DD-MM-YY or MM-DD-YY format
Time	- HH:MM:SS format
Currency	- £XXXX.xxx
Commas	- XXX,XXX,XXX
Percent	- XXX.xx%
Text	- Cell formulas not results
Hide	- Invisible cells
Scientific	- Scientific notation
Hex	- Base 16 numbers
Octal	- Base 8 numbers

1.15 CUT

The currently marked range of cells is cut from the worksheet into a separate memory buffer.

You can mark a range by dragging the mouse. Or for large amounts of cells, click once at the first cell to mark, then hold SHIFT down and click again to mark the last cell in the range.

1.16 COPY

The currently marked range of cells is copied into a memory buffer leaving the original range unharmed.

You can mark a range by dragging the mouse. Or for large amounts of cells, click once at the first cell to mark, then hold SHIFT down and click again to mark the last cell in the range.

1.17 PASTE OPTIONS

Any block stored in memory is pasted back into the worksheet (overwriting any cells that may already be there).

There are two types of paste:

RELATIVE - Any formulae with cell references are recalculated so that they remain valid and point to the correct cell after pasting. Any cell references that are prefixed with a '\$' symbol will not be changed.

ABSOLUTE - All cell references are left unchanged.

1.18 DELETE

Deletes all the cells in the currently marked range of cells.

1.19 FILL

Brings up the Fill requester. This is used for quickly filling a range with identical, or sequential numerical data. This request contains the following gadgets:

Start Number - controls the initial value for the first cell to be filled.
Operation - gives you a choice of Add, Subtract, Multiply and Divide.
Operand - the value that is applied to Start Number using Operation.

Examples

Start Number = 1, Operation = Add, Operand = 1

Fills the range with a simple ascending sequence starting at one, and adding one every cell that is filled.

Start Number = 1, Operation = Multiply, Operand = 2

Fills the range with the powers of two eg. 1, 2, 4, 8, 16, 32, 64 etc

1.20 COLUMN OPTIONS

INSERT - Inserts a column at the current cursor position.
DELETE - Deletes the column at the current cursor position.

All cell references are updated to keep any formulae valid.

1.21 ROW OPTIONS

INSERT - Inserts a row at the current cursor position.
DELETE - Deletes the row at the current cursor position.

All cell references are updated to keep any formulae valid.

1.22 PRECISION

A requester appears asking you how many decimal places you want to display in the current range. EasyCalc 2.0 supports anything from 2 to 14 places.

1.23 COLOUR OPTIONS

Controls the colour of cells in the marked range. There are two options:

SET TEXT - The colour of any text in the range.
SET BACKGROUND - The background colour of each cell in the range.

1.24 JUSTIFY OPTIONS

Controls whether cells are justified or not. There are three available options:

LEFT - Cell contents are aligned with the left side of the cell.
RIGHT - Cell contents are aligned with the right side of the cell.
CENTRE - Cell contents are centred within the cell.

1.25 STYLE OPTIONS

Controls the text style for each cell in the range. There are four options:

BOLD - Whether text is in bold or not.
ITALIC - Whether text is in italics or not.
UNDERLINE - Whether text is underlined or not.
PLAIN - Cancels all of the above.

1.26 LOCK/UNLOCK OPTION

This option allows to you lock a range a cells to prevent them from being edited or overwritten. The lock does NOT protect them from being overwritten by a block being pasted, or by Arexx changing them.

If you chose this option for a range that is already locked, then they will be unlocked so you can edit them again.

1.27 EXPORT OPTIONS

This submenu allows you to export data to other programs in one of four formats:

CELL CONTENTS - The contents of the cells are exported in CSV (comma separated values) using quotes and commas as delimiters.

FORMULAS - The formulas in cells are exported in CSV format.

LISTING - A listing (one cell per line) is generated containing enough information to recreate the worksheet in any other spreadsheet (if all else

fails).

CLIPBOARD - The block is copied to the clipboard in IFF FTEXT format for importing into any other Amiga clipboard-aware software.

1.28 IMPORT OPTIONS

This submenu allows you to import data from other sources. Currently, there are four options available:

PARSING - Text is intelligently read in and split up into components.

An example. "There are 45 donkeys here" would become:

```
.....A.....B.....C.....D.....E
There are          45 donkeys here
```

TEXT - Text is read in one line at a time and each line becomes one cell.

LOTUS WKS - Allows partial importing of Lotus WKS files. I've tried my best to figure out the WKS format without much success. At present only cells with text can be read into EasyCalc 2.0, the rest are ignored. In Lotus you could convert all cells into text, import, then convert them back again in EasyCalc 2.0. If anyone out there has the file format, please get in touch so I can finish this one off.

CLIPBOARD - Imports IFF FTEXT data from the clipboard. Basically, any data that any other Amiga clipboard-aware program can send.

dBASEIII - Imports a dBase .DBF file. Memo fields are not imported.

1.29 FREEZE OPTIONS

These options allow you to lock the current ROW or COLUMN onto the screen at all times regardless of where on the worksheet you are.

Simply choose the row or column you want to have permanently on screen then choose the correct option from this submenu.

1.30 UNFREEZE

This removes any frozen rows or columns you may have.

1.31 WORKSHEET OPTIONS MENU

Recalc Now - Recalculate right now!
Iterations - How many times to recalculate
Bookmarks - Remember/Retrieve position

- Cell Notes - Give cells handy help texts
- Cell Names - Give cells handy mnemonics
- Freeze - Freeze row or column on screen
- UnFreeze - Release a frozen row/column
- Macros - View/Execute Arexx scripts

1.32 GLOBAL OPTIONS MENU

- Exact Size Copies - Controls how blocks are pasted
- Show Formulas - Display all your formulas
- Grid - Pretty grid
- Search For Text - Find text in a big worksheet
- Sort Range - Sort rows into nice order
- Calculator - Simple sums using an onscreen calculator
- AutoSave - Timed reminder to save
- AutoMove - Move the cursor after each cell is entered
- Recalc Order - The order cells are calculated in
- AutoRecalc - When to recalculate the worksheet
- Edit ToolBar - Configure your toolbar
- Save Options - Store global settings

1.33 SORT RANGE

This option allows you to sort a range of cells you have marked. Each row marked is treated liked a record in a simple database program, and each column is a field in the same database example.

The Sort Window has the following gadgets:

- Marked Range - Displays the start of the marked range of cells.
 - To - Displays the end of the marked range.
 - Case Sensitive - If checked this means that all comparisons are case sensitive. This means that FRED and fred would be different.
 - Descending Sort- If checked, then the rows are sorted from highest to lowest (reverse alpha-numeric).
 - Primary Key - This is a list of all the columns in the range. The primary key is the column that each row will be sorted on. If you primary key was a column of names then the rows would be sorted in name order.
 - Secondary Key - This list is used to choose a tie-break column. If two rows have the same primary key (ie. the same name using the above example then the secondary key comes into play and is used to sort the rows.
 - Sort - Sorts the range using the current settings.
-

- Help - Brings up this help text.
- Cancel - Close the sort window and leaves all cells unchanged.

Example:

```
= A.....B.....C.....  
1: Name      Age      Sex  
2: Fred      34       M  
3: Bill      56       M  
4: Jane      23       F  
5: Bill      36       M
```

This example assumes the range A2:C5 was marked and Sort Range has been chosen. If the primary key was column A, and the secondary key was column B, then the rows would be sorted in Name order, using the Age to sort rows with the same name. If the range was sorted in ascending order, the rows would appear as follows after sorting:

```
= A.....B.....C.....  
1: Name      Age      Sex  
2: Bill      36       M  
3: Bill      56       M  
4: Fred      34       M  
5: Jane      23       F
```

Important Note: Please don't include column headings in any range to sort otherwise they will get sorted with the rest of the rows.

1.34 SEARCH FOR TEXT

This option allows you to find an occurrence of any text you provide. Simply choose this menu option and enter the text you want to search for.

The search is not case sensitive, so FRED is the same as Fred. Also you don't have to enter a complete word. If you just enter E for example, the first cell that contains a letter E somewhere in it will be found.

When EasyCalc 2.0 finds your text it moves the cell that contains the text to the top left of the current worksheet for you to view the result. If the text could not be found, then a simple error message is produced.

1.35 SHOW FORMULAS

This is a toggle item. When selected, all your formulas will be displayed in their cells, rather than the results they generate. Everything will still evaluate correctly, but you will not be able to see it.

When unselected (the default), the results of formulas will be displayed. This behavior is exactly the same as using the TEXT format.

1.36 CONVERT CELLS

Introduction

This options allows you to convert numeric cells into formula cells and vice versa. The two options here are:

- Text to Numbers. Converts any text cells in the current range to numbers. This will only work if the text string contains no letters. ie. Your string can only contain 0..9, +, - and '.'
- Numbers to Text. Will convert any numeric cells in the current range to text cells. All numeric cells will be converted.

1.37 EXACT SIZE COPIES

If this option is checked then when you paste a block, it is copied back to the worksheet, EXACTLY the same size as it was when it was cut. Even if you mark only one cell, if the block was sixty cells, then all sixty cells will be filled. This option makes EasyCalc 2.0 more consistent with other spreadsheets.

If the option is unchecked, then the block is shrunk, or enlarged to fill the marked area -- regardless of how big the original block was. This is generally much more useful than having exact size copies. However, this option allows you to control this behavior to get the best of both worlds.

1.38 AUTOSAVE

If checked then EasyCalc 2.0 will display a message reminding you to save periodically. The exact time interval (in seconds) is set with the AUTOSAVETIME tooltype. By default it is set to eight minutes.

The message will only appear if you are using EasyCalc 2.0. If you leave the program running for ten hours without touching the keyboard then no message will appear.

Please note that the autosave message can appear in the middle of running of arexx scripts.

1.39 AUTOMOVE OPTIONS

You have a choice of UP, DOWN, LEFT, RIGHT or NONE. Depending on which direction is checked, the cursor will automatically move one cell in your chosen direction when data is entered. Obviously, if NONE is checked, then EasyCalc 2.0 will not move anything for you.

In addition to AUTOMOVE, if you press the UP or DOWN arrow while entering data in a cell then the cell will automatically be added to the worksheet

(as if you had pressed RETURN), but also the cursor will move UP or DOWN depending on which arrow key you pressed.

1.40 RECALC ORDER OPTIONS

When a recalculation of the entire worksheet is done, all the cells are processed one at a time in a certain order. If you have forward references or similar you can run into problems unless this is set correctly.

AS ENTERED - The fastest option (and the default) calculates cells in the order they were entered into the worksheet.

ROWS - Each row is evaluated in turn.

COLUMNS - Each column is evaluated in turn.

1.41 AUTORECALC

If this option is checked, then the entire worksheet is recalculated after every cell is entered or changed. On a large complicated worksheet, this could take some time (especially on slower machines of course) so it is useful to switch this option off when entering large numbers of cells, then evaluate them all at the end.

1.42 RECALC NOW

Completely re-evaluates the entire worksheet, updating all the cell values.

1.43 ITERATIONS

Controls how many times a worksheet needs to be evaluated during a recalc operation. Normally, one is enough, but if you use lots of forward references, then this will have to be increased. The exact number depends on the individual worksheet.

Obviously, if you set this to a large number, recalc operations will take a long time.

1.44 GRID

If this option is checked, then a pretty grid will be drawn over the worksheet area.

1.45 BOOKMARK OPTIONS

EasyCalc supports five bookmarks. A bookmark is a handy way to remember the position of the cursor until a later date, then at a later date jump back to the position at the press of a key.

Set X - Stores the current cursor position in bookmark X.

Goto X - Jumps to the stored bookmark position X.

1.46 CELL NOTES OPTIONS

Introduction

Cell notes are handy messages you can attach to any cell on the worksheet. If you press HELP while the cursor is over a cell which contains a note, the help text is displayed.

There are three options:

DEFINE - Allows you to enter a cell note for the current cell.

EDIT - Allows you to edit an existing cell note.

REMOVE - Removes a note attached to a cell.

1.47 CELL NAMES OPTIONS

Introduction

EasyCalc allows you to give individual cells a logical name, which can be referenced by cell formula. Cell names are highly recommended, because unlike a cell address it doesn't matter if the cell needs to be moved.

There are three options:

DEFINE - Allows you to enter a name for the current cell.

EDIT - Allows you to edit the name of the current cell.

REMOVE - Removes a cell name.

EasyCalc 2.0 has two cell names built in which are available all the time, without defining anything. These are:

#ITERATIONS - Returns the number of iterations being used.

#CUR_ITERATION - Returns the current iteration, (from 1 to x) where x is the number of iterations set.

Notes

Other built in names may be added in the future, please note that if you have a cell with one of the names above, your cell will be ignored, and the built in name will be used.

If you reference a cell name that does not exist then the evaluator will use 0 as the result (ie. no error message will appear).

1.48 MACROS OPTIONS

Introduction

EasyCalc 2.0 has over 80 Arexx commands available, this submenu allows you to first view an Arexx script and then execute it, or alternatively record your own macro. To take advantage of EasyCalc 2.0's Arexx capabilities you must make sure that RexxMast is running (this program comes on the standard WB2+ system disks).

The four macro options are:

HOTLIST - Displays the hotlist window. This contains a list of ten macros. Each one is connected to a function key. When you are using EasyCalc 2.0, if you press one of the F-keys, the corresponding macro file will be executed. The full-path of each macro is required. In addition, the "Execute F1 at Startup" checkbox allows you to have a macro automatically start running when you first run EasyCalc 2.0. If this option is checked, and there is a valid macro defined for Function Key 1, then it will be run.

VIEW - Allows you to select a file and view it's contents. This can be any text file (although it is designed for Arexx files). The files is displayed in a scrolling list, but can't be edited. If part of it is missing, then you are short of memory.

EXECUTE - Allows you to choose an EasyCalc Arexx file and start it executing. When it is finished a requester will appear telling you if the file was executed successfully.

RECORD - This is a check mark item. Choose this option and you will be asked to supply a filename to record your Arexx script into. If the file already exists you will be offered the chance to append to the end of it, or overwrite it. Once you have chosen a file, it will be opened, and everything you do in EasyCalc 2.0 from that point on will be recorded as a series of AREXX commands. When you want to finish recording, choose the option again to close the file. You can now execute the file, and everything that was recorded will be repeated at high speed.

Much more information on Arexx can be found in ArexxCommands.guide

New for EasyCalc 2.0c(3) and above is cell macros. Basically, you enter some text in a cell as follows:

```
RUNMACRO="filename"
```

Notice the RUNMACRO part is in capitals, and the filename is in "quotes". You cannot supply a path, instead the file is found in the AREXXDRAWER tooltype.

To execute the cell, just double click on it and the script will be executed as if you had chosen it with the EXECUTE menu option.

1.49 SAVE OPTIONS

This option stores the following attributes to disk so that they are set every time EasyCalc 2.0 is invoked:

EXACT SIZE COPIES
AUTOSAVE
AUTOMOVE
RECALC ORDER
AUTORECALC
GRID

The following are stored for each worksheet and can be set independently:

BOOKMARKS
ITERATIONS

1.50 ENVIRONMENT MENU

Windows	- Control window position
Screen Mode	- Change screen mode
Palette	- Edit the palette
Optimise	- Optimise worksheet
Save Screen/Palette	- Save the above for next time

1.51 OPTIMISE

This option will cause EasyCalc 2.0 to sort its internal list of cells. This can give a (slight) speed increase with some operations on large worksheets after the optimisation.

You can safely use this option as often as you like as it will not damage your data. Also you can safely ignore this option, as the speedup is pretty small (and unproven).

However, if you are finding that the you are having to Recalculate worksheets a few times to get some stable answers then this option may fix that and allow you to reduce your iteration count -- causing a quite a good speed increase.

1.52 WINDOWS OPTIONS

This submenu contains three options to make dealing with multiple windows easier:

CASCADE - Each window is positioned underneath each other allowing access to all the window title bars to bring any window to the front easily.

MINIMISE - Each window is reduced to its smallest size, and then cascaded as above.

ACTIVATE NEXT - The next window opened is activated. Repeated selecting of this option will allow you to cycle through all the windows without touching your mouse. The window is also brought to the front (if it isn't already).

1.53 SCREEN MODE OPTIONS

This brings up a screen mode requester so you can change what screen mode and how many colours you want on the EasyCalc 2.0 screen. Upon confirming the changes, EasyCalc 2.0 will close everything, then reopen everything in the new screen mode.

Notes:

It is advisable to keep the number of colours as low as possible (certainly no more than 8) otherwise EasyCalc 2.0 will slow down considerably. Also SuperHires screen modes will also slow things down a hell of a lot.

EasyCalc 2.0 has not been tested with fancy graphics cards but it should work correctly as I use the OS for all graphic operations.

1.54 PALETTE OPTIONS

This submenu hides two options:

EDIT - Allows you to change the colour scheme of EasyCalc 2.0 to anything you want.

RESET - If you mess up the colours, you can use this to copy the WB colour scheme.

Notes:

Every worksheet saves the current palette settings. When you reload a worksheet with a different palette, EasyCalc 2.0 will ask you if you want to change to the new colour scheme.

EasyCalc 2.0 makes certain assumptions about the available colour scheme:

Colour 0 is always used as a background colour for lots of things.

Colour 1 is the default Text Colour for cells. Also it is used for very nearly all other text in EasyCalc 2.0.

Colour 2 is used as the default background colour for cells.

Colour 3 is used to denote Frozen rows or columns.

1.55 SAVE SCREEN/PALETTE

Stores the current screen information (size, resolution and depth) and the current palette settings so that when EasyCalc 2.0 is run again in the future the saved settings will be used instead of the internal defaults.

1.56 GRAPHS MENU

Make Graph
View Graph
Delete Graph

1.57 MAKE GRAPH

Choose the menu option "Graphs/Make Graph" and the currently marked block will be made into a graph. A graph MUST have atleast two cells marked, any less and you will get an error message.

Your new graph will appear on screen to allow you to play with the options. EasyCalc 2.0 graphs are very simple to use provided you understand how the program generates a graph from your data.

Basically, there are four types of blocks you can mark:

Type 1:

34.....23.....12 This is a block that just contains numbers so no labels
453....67.....3 will be generated for your graph.
4.....3....234

Type 2:

Jan...Feb....Mar This will generate labels for each column of graph data.
453....67.....3
4.....3....234

Type 3:

Fred...23.....12 This will generate labels for row of graph data.
Bill...67.....3
John....3....234

Type 4:

.....Feb....Mar This will generate labels for rows and columns of graph
Bill...67.....3 data. However notice the top left cell is empty (and
John....3....234 unused by the graph).

1.58 VIEW GRAPH

On the icon bar is an icon that hopefully looks a bit like a graph. (If my artistic ability has failed me then you can find the icon right from the "DEL" icon). Also the "Graphs/View Graph" options has the same affect. Choose this and you will be given a list of all graphs which you have created for this worksheet. Click on any of them and a new screen will be opened for you to play with the graph.

All graphs get saved off with the worksheet.

1.59 DELETE GRAPH

Choosing this option brings up a list of all the graphs for this worksheet. Simply choose the one you want to remove, or CANCEL to leave everything unharmed.

1.60 DRAWING GRAPHS

Introduction

EasyCalc 2.0 has the ability to output your worksheets in a variety of visual formats. Each worksheet you create may have an unlimited number of graphs attached to it. You can only view one at a time, but you can easily change which one you want to view.

Also see:

MAKE GRAPH
VIEW GRAPH
DELETE GRAPH

Graph Menus (on the Graph Screen, not the EasyCalc 2.0 screen)

When a graph is drawn it is on its own screen so its resolution and depth is totally independent from the EasyCalc 2.0 screen. However the default is just to clone the EasyCalc 2.0 screen EXACTLY. Also note that EasyCalc 2.0 is frozen until the graph screen is closed again.

The Project Menu

"Save as IFF..."

Brings up a file requester for you to save the current graph as an IFF ILBM file you can load into any Amiga art package.

"Print Graph"

Displays a requester allowing you to setup your printer then the graph is printed using your current printer preferences.

"Close"

Shuts the screen, and returns you to EasyCalc 2.0 proper.

The GraphType Menu

Allows you to choose one of ten different graph types to display your data. Currently the following are supported:

Bar2DVERT - Simple, flat vertical bar chart.
Bar2DHORI - Simple, flat histogram.
Bar3DVert - A prettier version of Bar2DVert.
BarStacked - A simple, flat stacked bar chart.
Pie2D - A simple, flat pie chart. *

Pie2DEXP - A simple, flat, exploded pie chart. *
Pie3D - A prettier version of Pie2D. *
Pie3DExp - A prettier version of Pie2DExp. *
Line - A line chart. **
Area - An area chart. **

* = Pie charts need row and column labels in the marked block.

** = Line and Area charts need atleast two columns of data.

The Options Menu

Patterns

A check mark denotes whether the graph is rendered with dither patterns or not.

Colours

A check mark denotes whether the graph is rendered in colour or mono.

Grid

This hides a sub menu with two options, X and Y. A check mark on each option denotes whether a grid is drawn in that direction. For any pie chart, these are ignored.

Set Title

Allows you to change the default title of this graph into something more meaningful.

Edit Palette

Allows you to control the colours used in the graph. Please note these are not remembered.

Screen Modes

Allows you to control the number of colours and resolution that your graphs are displayed in. The pie charts look best in a screen mode with square pixels. ie. Hires (unlaced) and SuperHires (laced).

1.61 EASYCALC AREXX INTERFACE

Introduction

The EasyCalc 2.0 Arexx interface has been greatly enhanced from the EasyCalc Plus version. There are now over sixty commands available. These are described in a separate document called ArexxCommands.guide

1.62 SUPPORTED TOOLTYPES

Currently, EasyCalc 2.0 supports the following tooltypes:

CURRENCY - This expects a one or two character currency symbol which will be used to display currency format cells correctly. The default is the sign. Example. To get French francs you would have CURRENCY=Fr.

EURODATE - Expects either TRUE or FALSE. If TRUE (the default) all date format cells are displayed as DD-MM-YY, otherwise MM-DD-YY is used.

SAVEICONS - Expects either TRUE or FALSE. If TRUE then icons are saved with each worksheet, otherwise no icons are saved.

AUTOSAVETIME - Expects a number of seconds between autosave notifications. The default (480) is equivalent to 8 minutes.

VAT1 - The first VAT rate to use in the NEWVAT function.

VAT2 - The second VAT rate to use in the NEWVAT function.

WORKSHEETDRAWER - Contains the default directory to find worksheets.

AREXXDRAWER - Contains the directory that arexx scripts are located.

1.63 CELL FUNCTIONS

The following cell functions are available in EasyCalc:

@ABS	- Absolute value
@ACOS	- Arc-cosine
@ASIN	- Arc-sine
@ATAN	- Arc-tangent
@AVG	- Average of range
@AVERAGE	- Average of range
@CEL2FAREN	- Celsius to Farenheit
@CENT2INCH	- Centimetres to Inches
@CHR	- Convert ASCII value into character
@CINT	- Round value up or down
@COLS	- Return number of columns in a range
@COMPARE	- Compare two strings
@COS	- Cosine
@COSH	- Hyperbolic cosine
@COUNT	- Count the number of cells in a range
@DATE	- Convert a date into numbers
@DEG	- Convert radians to degrees
@DIVIDE	- Protected divide function
@EXP	- Exponent
@FALSE	- Always 0
@FAREN2CEL	- Farenheit to Celsius
@FIND	- Return position of some text
@FIX	- Truncate a number
@FOOT2METRE	- Feet to Metres
@GAL2LITRE	- Gallons to Litres
@IF	- Conditional function
@INCH2CENT	- Inches to Centimetres

@INDEX	- Extract value from a range
@INSTR	- Find text in a string
@INT	- Round a number
@ISNUM	- Check for number cells
@ISSTR	- Check for string cells
@KILO2POUND	- Kgs to Pounds
@KM2MILE	- KMS to Miles
@LEFT	- Extract characters from left of string
@LENGTH	- Get the length of a string
@LINK	- Get a value from another worksheet
@LITRE2GAL	- Litres to Gallons
@LOG10	- Base 10 log function
@LOG	- Base e log function
@LOWER	- Make a string lowercase.
@MAX	- Maximum value in a range
@METRE2FOOT	- Metres to Feet
@MID	- Extract characters from middle of string
@MILE2KM	- Miles to KMs
@MIN	- Minimum value in a range
@MOD	- Remainder of a division
@NEWVAT	- Improved VAT function
@NOT	- Logic inverter
@NOW	- Current time
@ORD	- ASCII value of character
@PI	- 3.14159... etc
@POUND2KILO	- Pounds to Kilos
@PROPER	- Make a string look nice
@RAD	- Convert degrees to radians
@RAND	- Random number between 0 and 1
@REPEAT	- Repeat a string x times
@RIGHT	- Extract rightmost characters
@RND	- Random number between 0 and x
@ROWS	- Return number of rows in a range
@SIGN	- Get the sign of a number
@SIN	- Sine
@SINH	- Hyperbolic sine
@SQR	- Square root
@SQRT	- Square root
@STR	- Convert number into a string
@SUM	- Total of a range
@TAN	- Tangent
@TANH	- Hyperbolic tangent
@TIME	- Convert time into a value
@TODAY	- Return todays date
@TRUE	- Logical 1
@UPPER	- Make a string UPPERCASE.
@VAL	- Convert string into a number
@VAT	- Get 17.5% of value

1.64 abs

ABS (expression)

This function returns the ABSolute value of the expression. ie. The sign of the number is ignored so that all numbers become positive.

Examples:

VAT(-123.4) would give, 123.4.

VAT(10+1) would give, 11.

1.65 acos

ACOS(expression)

This function returns the arc-cosine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

1.66 asin

ASIN(expression)

This function returns the arc-sine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

1.67 avg

AVG(cell range)

This function returns the average of all values given in the cell range.

Examples:

AVG(A1:BB56) could give, 1.52084.

AVG(B6:A4) could give, -1.3734.

1.68 average

AVERAGE(cell range)

This function returns the average of all values given in the cell range.

Examples:

AVERAGE(A1:BB56) could give, 1.52084.

AVERAGE(B6:A4) could give, -1.3734.

1.69 compare

COMPARE("string2", "string2")

Compares the two supplied strings. The comparison is not case sensitive (ie. A=a etc); If the strings are the same "1" is returned otherwise a "0" is returned.

Examples:

COMPARE("fred", "ginger") = 0
COMPARE(d45, "reorder") could give 1

1.70 atan

ATN(expression) or ATAN(expression)

This function returns the arctangent of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

Examples:

ATN(20) would give, 1.52084.
ATN(-5) would give, -1.3734.

1.71 cint

CINT(expression)

This converts an expression into an integer by rounding the fractional part.

Examples:

CINT(1.5) would give 2.
CINT(-1.5) would give -2.

1.72 cos

COS(expression)

This function returns the cosine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

Examples:

COS(0) would give 1.
COS(1) would give 0.5403023.

1.73 cosh

COSH(expression)

This function returns the hyperbolic cosine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

1.74 count

COUNT(range)

This function returns the number of used cells in a range.

Examples:

COUNT(A1:A5) could give 3

1.75 date

DATE(YY,MM,DD)

Converts the supplied date into a number of days since 1-Jan-1978. This will appear as a date if the celltype is a date.

Examples:

DATE(78,1,1) = 0

1.76 deg

DEG(expression)

This function converts an expression in radians into degrees.

Examples:

DEG(1) would give 90.

1.77 exp

EXP(expression)

This function returns the exponential function of the given expression.

Examples:

EXP(1) would give 2.718...

1.78 false

FALSE

Returns the value 0. This is useful for making logical operations more readable.

Examples:

FALSE would return 0

1.79 true

TRUE

Returns the value 1. This is useful for making logical operations more readable.

Examples:

TRUE would return 0

1.80 instr

INSTR("string1", "string2")

This function searches for string2 in string1. The search is case insensitive. (ie. A=a); If the string is found then a 1 is returned otherwise a 0 is returned.

Examples:

INSTR("hello", "hell") = 1

INSTR("hello", "bye") = 0

1.81 leng

LENGTH("string")

Returns the length of the string.

Examples:

LENGTH("hello") = 5

LENGTH(b56) could give 23

1.82 ord

ORD("string")

Returns the ASCII value of the first character in the string.

Examples:

ORD("A") = 65

ORD("0") = 48

1.83 val

VAL("string")

Converts the supplied string into a number.

Examples:

VAL("45.6") = 45.6

1.84 fix

FIX(expression)

This returns the truncated expression. See the examples for how it differs from INT.

Examples:

FIX(1.5) would give 1.

FIX(-1.5) would give -1.

1.85 if

IF(expression,true action,false action)

This function examines the expression. If the expression is true (in a boolean sense), then the true action is evaluated, else the false action is evaluated.

Notes:

IF must be in a cell on its own. You can not have 10+IF(5<6,1,0) or similar. However you can use other functions inside IF as normal.

Examples:

IF(A1<5,1,A1)

If the contents of A1 were less than 5 then this would display in the cell, "1", else the contents of A1 would appear.

1.86 int

INT(expression)

This removes the fractional part of the expression by always rounding down.

Examples:

INT(1.5) would give 1.

INT(-1.5) would give -2.

1.87 isnum

ISNUM(cell ref)

Returns 1 if the cell reference is pointing to a cell that contains a value. Otherwise a 0 is returned.

Examples:

ISNUM(A5) could give 1.

1.88 isstr

ISSTR(cell ref)

Returns 1 if the cell reference is pointing to a cell that contains a string. Otherwise 0 is returned.

Examples:

ISSTR(A5) could give 1.

1.89 xlink

LINK("worksheet>cell")

This function returns the cell value in the specified worksheet. The worksheet must be already in memory (ie. loaded into another window of EasyCalc 2.0). If the worksheet is not loaded, then 0 is returned.

Notice the > symbol, this divides the worksheet name from the cell address.

Examples:

LINK("worksheet1>A5") - would return the contents of cell A5 in worksheet1.

LINK("income87>G67") - would return the contents of cell G67 in income87.

1.90 log

LOG(expression)

This returns the natural logarithm (base e) of the expression. The expression must be greater than 0.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

If you want the base-10 log then use LOG10.

Examples:

LOG(2) would give 0.30103.

1.91 log10

LOG10(expression)

This returns the logarithm (base 10) of the expression. The expression must be greater than 0.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

1.92 max

MAX(range)

This returns the maximum value in the specified cell range.

Examples:

MAX(A1:A12) could give 56.7.

1.93 min

MIN(range)

This returns the minimum value in the specified cell range.

Examples:

MIN(A1:A12) could give 56.7.

1.94 mod

MOD(x,y)

Returns the remainder (the modulus) of x divided by y.

Examples:

MOD(10,3) would give 1 (10/3 = 3 remainder 1)

1.95 not

NOT(expression)

Performs a binary invert on the expression. Imagine the expression changed into binary (1s and 0s). Every 0 is turned into a 1 and vice versa.

Examples:

NOT(1) would give 0.

1.96 now

NOW

This function returns the number of seconds since last midnight (anything up 86400). If the cell has a type of time then it will appear as a time in the HH:MM:SS format. This function allows access to the Amigas built in system clock.

Examples:

NOW could give 45743

1.97 pi

PI

Returns the value 3.14159... (The ratio of a circles diameter to its circumference)

Examples:

PI would give 3.14159

1.98 rad

RAD(expression)

This function converts an expression in degrees into radians.

Examples:

RAD(90) would give 1.

1.99 rnd

RND(expression)

This function returns a number between 0 and expression. Every time the worksheet is calculated this value will change.

Examples:

RND(10) could give 5.

1.100 rand

RAND

This function returns a number between 0 and 1 (but never 1). Every time the worksheet is calculated this value will change. This function is provided for compatibility with Lotus, AsEasyAs etc.

Examples:

RAND could give 0.4545452.

1.101 sign

SIGN(expression)

This function returns -1 if the expression is negative, 0 if the expression is 0, and +1 if the expression is positive.

Examples:

SIGN(-5) would give -1.
SIGN(2) would give 1.

1.102 sin

SIN(expression)

This function returns the sine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

Examples:

SIN(1) would give, 0.8414709.

1.103 sinh

SINH(expression)

This function returns the hyperbolic-sine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

1.104 sqr

SQR(expression) or SQRT(expression)

This function returns the square root of the expression. The expression must not be negative.

Examples:

SQR(49) would give, 7.

1.105 sqrt

SQR(expression) or SQRT(expression)

This function returns the square root of the expression. The expression must not be negative.

Examples:

SQRT(49) would give, 7.

1.106 sum

SUM(range)

Returns the total of all cells in the specified range added together.

Examples:

SUM(A1:B12) - Returns the total of all the cells in the range, A1->B12.

VAT(SUM(A1:B12)) - Returns 17.5% of the total of all the cells in the range, A1-B12. (follow that?)

1.107 tan

TAN(expression)

This function returns the tangent of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

Examples:

TAN(0) would give 0.

TAN(1) would give 1.5574077.

1.108 tanh

TANH(expression)

This function returns the hyperbolic-tangent of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions, RAD and DEG will help.

1.109 time

TIME (HH, MM, SS)

Returns the number of seconds since midnight for displaying in a time format cell.

Examples:

TIME (23, 59, 59) = 86400

1.110 today

TODAY

Returns the number of days since 1-Jan-1978 for displaying in a date format cell. This function allows access to the Amigas built in system clock.

Examples

TODAY could give 98345.

1.111 vat

VAT(expression)

This function returns 17.5% (current UK sales tax) of the expression given.

Examples:

VAT(100) would give, 17.5.

VAT(10+1) would give, 1.925.

1.112 str

STR(expression)

This function converts the given numeric expression into a string.

Examples:

STR(56.7) would give, "56.7"

STR(-2345.789) would give, "-2345.789"

1.113 right

RIGHT(string, number of chars)

Returns a string that contains the specified number of chars (counting from the right side of the string).

Examples:

RIGHT("fred",2) would give "ed"
RIGHT("john",1) would give "n"

1.114 proper

PROPER(string)

Makes a string look nicer by converting the first letter of each word into UPPERCASE and making the rest lowercase.

Examples:

PROPER("mr fred jones") would become "Mr Fred Jones"

1.115 mid

MID(string, startpos, length)

Returns <length> characters from the middle of the string, starting at the <startpos>.

Examples:

MID("freddie",2,3) = "red"
MID("freddie",4,4) = "ddie"

1.116 left

LEFT(string, length)

Returns the specified number of characters from the left side of the string.

Examples:

LEFT("fred",2) = "fr"
LEFT("fred",4) = "fred"

1.117 find

FIND(string to search, string to search for, startpos)

Searches (case sensitively) for the specified string, starting at the specified character in the string. If the string cannot be found, 0 is returned, otherwise the position in the string where the text was found is returned.

Examples:

```
FIND("freddie","red",1) = 2  
FIND("freddie","red",4) = 0
```

1.118 index

INDEX(range, x offset, y offset)

Returns the cell contents stored at range + x + y. If the cell is empty, 0 is return, otherwise a string or a number will be returned.

Examples:

```
INDEX(A1:B5,0,0) would return the contents of A1.  
INDEX(A1:B5,1,0) would return the contents of B1.  
INDEX(A1:B5,0,1) would return the contents of A2.
```

1.119 repeat

REPEAT(string, count)

Repeats the specified string, <count> number of times.

Examples:

```
REPEAT("fred",4) = "fredfredfredfred"
```

1.120 newvat

NEWVAT(amount, vat rate)

Applies the specified VAT rate to <amount>. The VAT rate is either a 1 or a 2 at the moment. By default 1 applies 17.5% to <amount>, and 2 applies 8% to <amount>. You can change these as VAT rates change using the tooltypes VAT1 and VAT2.

Examples:

```
NEWVAT(100,1) = 17.5  
NEWVAT(100,2) = 8
```

1.121 lower

LOWER(string)

Converts all characters in the string into lowercase.

Example:

```
LOWER("FrEd") = "fred"
```

1.122 upper

UPPER(string)

Converts all characters in the string into uppercase.

Example:

```
UPPER("fred") = "FRED"
```

1.123 chr

CHR(value)

Returns a string of one character which is represented by the ASCII <value>.

Examples:

```
CHR(65) = "A"
```

```
CHR(32) = " "
```

1.124 divide

DIVIDE(expression,divider)

Divides the given expression with the supplied divider. This is the same as using the / operator, but protection from divide by zero is added. If divider is 0 then DIVIDE will return 0 otherwise the division is performed.

Examples

```
DIVIDE(100,10) = 10
```

```
DIVIDE(N2,0) = 0
```

1.125 cols

COLS (range)

Returns the number of columns in a specified range.

Example:

COLS (A1:C5) = 3

1.126 rows

ROWS (range)

Returns the number of columns in a specified range.

Example:

ROWS (A1:C5) = 3

1.127 ENTERING DATA

The moment you enter an alpha-numeric character, the spreadsheet enters COMMAND MODE. That is, all the menus are ghosted and everything you type appears at the top of the screen.

Keys available in command mode:

Left + Right cursor keys	- moves left and right.
Escape	- aborts input and leaves everything unchanged.
Return	- enters the data.
Amiga + X	- clears the input.
Amiga + Q	- undos a string change.
HELP	- see ONLINE HELP.
SHIFT + HELP	- brings up an online calculator

In EasyCalc there are three types of cell:

- Formula
- String Constant
- Numeric Constant

To denote the type of data you are entering, EasyCalc has the following rules for the first character of the input:

Start string with	Means
'	String (left justified)
^	String (centered)
"	String (right justified)
=	Formula
A..z	String Left justified (' will be added)
0..9	Numeric cell

\ String (repeats second character to width of column)
- Negative numeric cell

In a string, the first character is not displayed.

Examples:

'hello - left justified string
\- - displays a line of '-' (to fill the whole column)
-3 - a numeric cell with -3 is created
Go away - left justified string (a ' is added to the start of string)
=10+2 - formula is displayed

Every cell in EasyCalc has a unique reference which is described by taking the letter from the column at the top of the screen and the row number from the left hand side of the screen. Using the system, the very first cell (in the top left corner) is called A1. The next cell across is B1 and so on. The cell below B1 is called B2 etc. In a formula you could have something like =10+B6. This would get the value in cell B6 and add 10 to it. Then the result would be displayed in this cell. This ability allows you to have a global VAT rate (for example) and have all cells use the same VAT rate. If the VAT rate changes, then it would be easy to change this one cell and all the other cells would change to reflect the new rate.

In addition to cell references, there is something else called a cell range. Some functions (like SUM) take a range of cells and display an answer. A cell range is a rectangle of cells, everything in the rectangle becomes part of the range. Normally you describe a range by the cells that make up the top left corner and bottom right corner of the range. In a formula a cell range that was to include A5 to G8 would be written A5:G8. Simple really?

EasyCalc 2.0 also has a few tricks to speed up the entry of dates and times into the program. If you enter a string in the format:

'DD-MM-YY

then EasyCalc 2.0 will automatically convert that into a =@DATE formula for you.

Also, if you enter a string:

'HH:MM:SS

then EasyCalc 2.0 will convert it into a =@TIME formula for you.

A new feature in EasyCalc 2.0 is the ability to reference a cell address with a symbolic name. For example you could give cell A6 the name "TOTAL", and then use the formula =10+#TOTAL instead of =10+A6. Notice the use of the # symbol, this is used to denote when a cell name is being used.

See CELL NAMES for more information

Also in EasyCalc 2.0, if you press either the UP or DOWN arrow keys instead of RETURN, you will automatically enter the data into the current cell, and the cursor will move in the specified direction -- saving a whole keystroke!

Finally, while entering a cell, if you click on a cell in the worksheet, the

chosen cell reference (A6 for example) will be copied into the string gadget.

In addition, if you drag a range (like marking a block), then the range (A5:B7 for example) will appear in the string gadget.

1.128 ONLINE HELP

When the HELP key is pressed this help window will pop up. However what help you get depends on what you were doing at the time, and where you were doing it:

Entering Data

Cursor over a @ symbol in a function - The relevant help of that function is displayed.

Cursor over anything else - The general entering data help message.

Not entering data - The main menu of the help system is displayed.

1.129 GENERAL FORMAT

A number is displayed with as many decimal places as is needed. This can be very messy as decimal points will not be vertically aligned.

eg.

```
123.456
   4.4
  -2.12
```

1.130 FIXED FORMAT

This uses the precision value to set the number of decimal places displayed. Even if a number has less than specified it will be padded out with zeros. The effect is similar to below:

```
123.456
   4.400
  -2.120
```

1.131 DATE FORMAT

The number in the cell is taken to represent the number of days since 1-Jan-1978. The cell is displayed in a DD-MM-YY or MM-DD-YY format.

1.132 TIME FORMAT

The number in the cell is taken to represent the number of seconds since midnight (00:00). The cell is displayed as HH:MM:SS.

1.133 CURRENCY FORMAT

The number is displayed as a whole number followed by two decimal places. A currency symbol is placed at the beginning of the number. This leads to an effect like the following:

£123.45 (assuming the currency was set to £)
£67.23
£0.45

1.134 PERCENT FORMAT

A percent symbol (%) is added to the end of the number.

eg.
145.6%

1.135 TEXT FORMAT

The cell formula is displayed instead of the result.

1.136 HIDE FORMAT

The contents of the cell are not displayed. The cell is maintained but becomes invisible.

1.137 COMMAS FORMAT

Every group of three zeros is padded out with a comma.

eg.

1,000,456,003.456

1.138 SCIENTIFIC FORMAT

The cell contents are displayed in scientific notation and also using the precision value to limit the number of decimal places.

1.139 HEX FORMAT

The cell contents are converted into hex (base 16) notation.

1.140 OCTAL FORMAT

The cell contents are converted into octal (base 8) notation.

1.141 THE ICON BAR

As of EasyCalc 2.0c, the icon bar has changed. The default icon bar looks like this (going from left to right):

Load Worksheet	- Retrieve worksheet from disk
Save Worksheet	- Store worksheet to disk
Print Worksheet	- Print worksheet
B, I, U, P Style	- Change the text style
L, C, R Justify	- Justify range
Function List	- Function paster
Cut	- Cut block
Copy	- Copy block
Paste	- Paste block
Delete	- Delete block
Graphs	- View graphs
Colour	- Change colour of block
Precision	- Change precision of block
Lock/Unlock	- Lock/Unlock a block
Format	- Change the cell format

However it is now possible to edit the icon bar, just to confuse things it is also known as the tool bar. The TOOLBAR EDITOR controls which icons appear, and in which order.

The other available icons apart from those above are:

Text to Numbers	_____ Convert cell formats
Numbers to Text	/
Rexx script	- Launch Arexx scripts
Iterations	- Number of iterations
Insert Row	- Insert a new row
Delete Row	- Delete current row
Insert Column	- Insert a new column
Delete Column	- Delete current column
Fill Block	- Fill a block with cells
Clear Worksheet	- Clear all data
Define Cellnote	- Add help messages
Define Cellname	- Define symbolic names
Set Back Colour	- Control background text colour

1.142 FUNCTION LIST

This option brings up a list of all the cell functions available in EasyCalc 2.0. When you choose one, it is automatically pasted into the input area at the top of the window.

See FUNCTIONS for a complete list of them all.

1.143 CELL FORMATS

This option brings up a requester allowing to format all the marked cells with the specified format. Currently there are:

General	- Unaltered display
Fixed	- Rounded value
Date	- DD-MM-YY or MM-DD-YY format
Time	- HH:MM:SS format
Currency	- £XXXX.xxx
Commas	- XXX,XXX,XXX
Percent	- XXX.xx%
Text	- Cell formulas not results
Hide	- Invisible cells
Scientific	- Scientific notation
Hex	- Base 16 numbers
Octal	- Base 8 numbers

1.144 OPERATORS

An operator is something that performs an action on an expression. Basically that means +, -, *, / etc. Below is a list of available operators, and a description of the priority system:

(,)
 ^, >, <, >=, <=, <>, =
 *, /
 +, -

They have been listed in order of priority (also called precedence). If O Level maths theory has long since escaped you then let me explain. For example if you had $10+2*3$, the laws of precedence would give an answer of 16 ($2*3$ then $+10$), this is because multiplication has a higher precedence than +. The highest precedence of all goes to brackets. Using brackets you can force the order something is calculated in. The previous example would be $(10+2)*3$ to give 36. By knowing about precedence you can order calculations to minimise brackets and speed up the calculation.

Some of the above operators may look unfamiliar to you. Here is a description of each:

(,) - See precedence above.
 ^ - Raise to the power of. eg. 2^2 would be "2 raised to power of two" or would be written as $2\$^2\$$.

The next few are called comparisons, they are normally used in the IF command to compare numbers however you may need them for logical functions sometimes. Basically they show if something is "true":

> - Greater than. Equals 1 if the value on the left of the > is greater than the value on the right. Otherwise it returns 0.
< - Less than. The opposite of above.
>= - Greater than or equal to.
<= - Less than or equal to.
<> - Not equal to.
= - Equal to.

*,/,-,+ - Do I need to explain these?

Examples:

=10>5 would give 1. (10 IS greater than 5)
=5<>5 would give 0. (5 DOES equal 5)
=5<=5 would give 1. (5 IS less than or equal to 5)

Note the equal sign at the start of the examples. This tells EasyCalc that what follows is a formula and not a string or something.

1.145 UNMATCHED BRACKETS

This error can have two meanings:

- Left and right brackets do not match. eg. $10+((2*3)$ would give this error. You should ALWAYS have a matching right bracket for every left bracket used.

- Or too many right brackets were encountered before the matching left brackets. eg. $2+(5*2))$ would give this error.

It should be noted that the above examples are artificially simple, often these errors occur in complex expressions.

1.146 DIVISION BY ZERO

Since a division by 0 is impossible if you have an expression that tries to divide by zero then it will fail. This error is not always trapped, so if you suddenly get strange numbers in some cells then check for 0.

1.147 INVALID PARAMETER

You have given a negative value to a function that cannot cope with one. Functions like $SQR()$ can only have positive (none zero) numbers. This is because the square root of a negative number is mathematically impossible when using real (not complex) numbers.

Functions affected:

- SQR
- SQRT
- LOG
- LOG10

1.148 INVALID NUMBER ENTERED

You have entered an invalid number. Invalid means that the number contains a character that is not part of a number and the EasyCalc evaluator cannot cope with it.

Alternatively, you have entered a formula, but forgotten to start the formula with a '=' sign. An example is 2+4. EasyCalc sees that the cell starts with a number so it tries to process the cell as a number, but then it comes across the +. Just add a '=' to the start of the formula and all should be alright.

1.149 RANGE EXPECTED

A function was expecting a range as a parameter, but did not find one.

1.150 STRING EXPECTED

A function was expecting a string (eg. "Bill" or "Cat"), but did not find one.

Functions like LENGTH only make sense if given a string.

1.151 NUMBER EXPECTED

A function was expecting a number as a parameter, but did not find one.

1.152 ADDRESS EXPECTED

A function was expecting an address (such as A5 or Z7 etc) but did not find one.

1.153 INVALID RANGE

A spreadsheet range (eg. A1:Z34) is invalid. This could be because you have exceeded the area of the worksheet or you have made a typing mistake (eg. AAZ) and caused the evaluator to be confused.

The maximum range possible in EasyCalc 2.0 is A1:IV8192. This is 256 columns by 8192 rows.

1.154 UNEXPECTED CHARACTER

During the course of evaluating a formula, EasyCalc has discovered a character it wasn't expecting. This has probably been caused by mistyping something.

1.155 TUTORIAL

Introduction

This simple tutorial is not an exhaustive lesson in spreadsheets, just a simple way for you to get a worksheet up and running quickly. You may find it helpful to print out this page right now.

Done that? Okay, here is some background information all about spreadsheets.

Think of a spreadsheet as a piece of blank paper -- the page from an accounting ledger for example. On this "paper" you can write numbers and titles for sections of the accounts. On paper you have to add up columns manually, with a spreadsheet you can write a formula, the word SUM for example, makes the spreadsheet add up a range of numbers (called cells). The power of spreadsheets lies in the fact that once a formula has been written, even if you change the column of numbers, the formula will automatically add them up again. A program like EasyCalc has many different formulae, so it is capable of much more than just adding columns.

Let's create a worksheet!

Firstly, make sure you have EasyCalc 2.0 up and running and you are looking at a blank worksheet. If not then quit the program, and then reload it.

Now follow the next few steps exactly, don't worry I'll explain everything as we go:

- 1) Move the cursor down to cell B2 (that's down one, and across one from the top left hand cell. Now type 56 and press RETURN. The number 56 should appear in that cell.

- 2) Now move down one cell (to B3) and enter 23 (followed by RETURN of course). Now enter 78 in cell B4, then 67 in cell B5.

3) You should now have four cells (B2:B5) containing the numbers, 56, 23, 78, 67 respectively. If not start again.

4) Now lets get EasyCalc 2.0 to add up these numbers for us. Move to cell B7 and type in the following EXACTLY:

```
=@sum(b2:b5) (then press RETURN)
```

Quick as a flash, EasyCalc 2.0 puts 224 in the cell. If you don't trust the program, then check it yourself. Now lets break down exactly what EasyCalc 2.0 did:

EasyCalc 2.0 saw the '=' sign and attempted to evaluate the rest of the line. Then EasyCalc 2.0 came across the @, which meant a function was next. The SUM function was recognised, and EasyCalc 2.0 knew that it must add up all the cells in the range that followed. Upon finding no other functions, EasyCalc 2.0 displayed the result in the cell.

Lets have a closer look:

```
= @ sum( b2:b5 )
```

----- This is the range for SUM to work on.

----- This is a FUNCTION called SUM which adds up any range of cells you give it (such as b2:b5).

----- This tells EasyCalc 2.0 to expect a FUNCTION, in our case SUM, but EasyCalc 2.0 has another 61 functions available.

----- Tells EasyCalc 2.0 that you want the rest of this line evaluated (as opposed to just sticking the text into the cell).

So to summarise: All formulae starts with an '=' sign.
All functions are prefixed with an '@' symbol.

Now go to cell B9 and enter the following exactly:

```
=@IF(b7 < 300, "I'm Skint!", "Loads of money")
```

When you press RETURN, the answer, "I'm Skint" should appear in the cell. IF is another EasyCalc 2.0 function, but it is very special because it can make decisions. In this case, IF is used to decide if cell B7 contains a value less than 300, if it does then it returns "I'm Skint", otherwise "Loads of money" should appear.

To test this second condition, try changing cell B2 to 150. Instantly, B9 should now read, "Loads of money".

Things to do:

1) In cell B7, change the SUM (nothing else) to MIN so it would now read:

```
=@min(b2:b5)
```

then try:

```
=@max(b2:b5)
```

```
=@avg(b2:b5)
```

What happens in each case?

2) Try changing the 300 in B9 to other values just to prove to yourself that it is not cheating.

The complete tutorial file, TUTORIAL.calc is in the examples drawer.

1.156 tindex

A

- About EasyCalc
- AREXX Interface
- AutoMove
- AutoRecalc
- AutoSave

B

- B, I, U, P Style
- Bookmarks

C

- Cell Functions
- Cell Names
- Cell Notes
- Colour
- Column
- Commas
- Copy
- Currency
- Cut

D

- Date
- Delete Graph
- Delete
- Drawing Graphs

E

- EasyCalc User Support
- Edit Menu
- Entering data
- Environment Menu
- Exact Size Copies
- Export

F

Fill
Fixed
Format
Function List
FUNCTIONS

G

General
Graphs Menu
Graphs
Grid

H

Hex
Hide

I

Icon Bar Functions
Import
Information
Iterations

J

Justify

L

L, C, R Justify
Load Worksheet
Lock/Unlock

M

Macros
Make Graph
Maths Operators

N

New Worksheet

O

ONLINE CALCULATOR
ONLINE HELP
Open View
Open Worksheet
Options Menu

P

Palette
Paste
Percent
Precision
Print Size
Print Worksheet
Print
Project Menu
Pulldown Menus

Q

Quit

R

Recalc Now
Recalc Order
Row

S

Save Options
Save Screen/Palette
Save Worksheet
Screen Mode
Style

T

Text
Time
Tooltypes
Tutorial

V

View Graph

W

Windows

1.157 STRING ERROR

A string was not properly delimited. Each string should start and end with a ''' symbol, eg. "fred", "bill" etc. If you miss out a ''' then this error will occur. Simply fix the string and all will be well.

1.158 RESIZING COLUMNS

Simply move the mouse to the gap between two column labels and hold the left mouse button down. You should find you are able to move the mouse left and right and the column width changes as you do it.

Example:

```
-----
A   | |   B
-----
```

\
\Click the mouse between here and hold

1.159 ONLINE CALCULATOR

While entering any data, you can press SHIFT+HELP to bring up the online calculator. This functions exactly the same as a standard desktop calculator. It is very simple, having only six functions but is handy for working out numbers to put in formulas.

You can use the calculator with the mouse, or by pressing the corresponding keys on the keyboard (ie. press 7 to get a number 7 on the calculator). However, there are several exceptions to this:

- \ensuremath{\pm} (SIGN) - Press I to invert the sign.
- X² (SQUARE) - Press S to square the number.

When you have finished, press RETURN or click on the big icon to paste the result into the current formula you are working on. If you change your mind, just press ESCAPE or close the window with the mouse. Easy really.

1.160 TOOLBAR EDITOR

This window allows you to specify which icons (called tools here) will be visible in your icon bar. This is governed by how much space you have and also by how pretty the result looks.

The window is dominated by two scrolling lists, one called Available Tools, the called Selected Tools. The Available Tools contains all the tools EasyCalc 2.0 supports which you haven't already used in your tool bar. The Selected Tools contains all the tools which are currently in your tool bar.

To add a tool to your bar, choose a tool in the Available Tools list, then click on Add Tool. The tool will be added to your Selected Tools list. If you use insert you can control where to add the tool. When you choose insert the tool will be added straight after the currently selected tool, instead of at the end.

To remove a tool from the Selected Tools list choose a tool then click on Remove Selected Tool and it will disappear back into the Available Tools list.

There is one special tool which you can have multiple copies of, it is called Icon Gap. This simply causes a space to appear in your icon bar and serves no other purpose.

Finally, click on Use to save the changes to the icon bar and cause all windows to use them. Or select Cancel to leave everything untouched.

1.161 CLEAR WORKSHEET

This function allows you to clear the current worksheet. All cells are erased, and all columns are reset to the default size.

1.162 PREFERENCE FILES

Currently, EasyCalc 2.0 has the following preference information files:

ToolBar.prefs - Describes the appearance of the toolbar.
EasyCalc.prefs - Contains global spreadsheet options.
Palette.prefs - Contains the colour scheme used by EasyCalc 2.0.
Screen.prefs - Describes the screen mode and size.
Printer.prefs - Describes the current printer setup.
Macro.setup - Describes the F-key macros setup.

All preference files are stored in the same directory as the EasyCalc 2.0 program. If any are missing then default values will be used.

Also note, that some per-worksheet information is embedded in the each worksheet file. This includes the palette and bookmark information.

The ToolBar.prefs file gets copied into RAM: when EasyCalc 2.0 starts to speed up program operation. The file is deleted when you quit the program.

1.163 cel2faren

CEL2FAREN(temp)

Converts the given Celsius temperature into Fahrenheit.

1.164 cent2inch

CENT2INCH(cent)

Converts the given centimetres into inches.

1.165 faren2cel

FAREN2CEL(fahrenheit)

Converts the given temperature in Farenheit into Celsius.

1.166 foot2metre

FOOT2METRE(feet)

Converts feet into metres.

1.167 gal2litre

GAL2LITRE(gallons)

Converts imperial UK gallons into litres.

1.168 inch2cent

INCH2CENT(inches)

Converts inches into feet.

1.169 kilo2pound

KILO2POUND(kilos)

Converts kilos into imperial pounds.

1.170 km2mile

KM2MILE(kms)

Converts kilometres into miles.

1.171 litre2gal

LITRE2GAL(litres)

Converts litres into imperial UK gallons.

1.172 metre2foot

METRE2FOOT (metres)

Converts metres into feet.

1.173 mile2km

MILE2KM (miles)

Converts miles into kilometres.

1.174 pound2kilo

POUND2KILO (pounds)

Converts pounds into kilos.
