

FastExcel Manager Pro

USER GUIDE



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FastExcel Manager Pro: Workbook Management Tools

- Supports Windows Excel 2007 through Office 365 Excel and Mac Excel Office 365 Version 16
- **Formula Explorer Pro:**
View, Debug and Edit complex formulas from cells, Names, Conditional Formats and Data Validation using a variety of visualization and debug methods.
- **Name Manager Pro:**
Name Manager Pro greatly simplifies management and maintenance of Excel Defined Names.
- **Sheet Manager:**
Sheet Manager provides an easy way of managing a large number of sheets in a workbook.
- **Clean Workbook:**
Clean workbook gives you a comprehensive set of tools for eliminating wasted space and maintaining your workbooks.
- **Check Workbook:**
Produces a report with workbook statistics showing suggested cleaning actions.
- **Check DA:**
Checks formulas in Dynamic array Excel 365 for compatibility with previous Excel versions.
Check DA is only available with the Windows version of FastExcel Manager Pro.
- **Map Styles & Names:**
Produces where-used maps of Styles and Defined Names.
- **Memory Used:**
Shows virtual memory used and available, and Windows and Excel versions and builds.
- **Calculation Manager:**
Addition calculation modes (Active Workbook Only etc.), calculation timers and full control of Excel's calculation process.
Calculation Manager is only available with the Mac version of FastExcel Manager Pro or the Windows version of FastExcel SpeedTools.

Installing FastExcel Manager Pro for Macintosh

FastExcel Manager Pro for Macintosh requires the Office 365 version of Microsoft Excel version 16 for Macintosh.

Download the fxLMgrProMac.zip file from the Decision Models website.

<http://www.DecisionModels.com/Downloads/fxLMgrProMac.zip>

The zip file contains:

- fxLMgrProMac.xlam
- FXLV4_Manager.pdf
- FastExcel_ExplorerPro_Demotest.xlsm
- Known Issues FastExcel Mac Manager Pro.docx
- License_FXLMgrPro.txt

Copy the zip file to a folder of your choice.

There are 2 ways of loading the FXL Manager Pro addin.

1. To make FXL Manager Pro load every time you start Excel
 - Start Excel
 - ->Tools->Excel Addins->Browse
 - Locate the fxLMgrProMac.xlam file in your folder and click Open
 - The FXL Manager Pro tab should now appear on the Ribbon each time you start Excel
2. To load FXL Manager Pro just for this Excel session
 - Start Excel
 - File->Open the fxLMgrProMac.xlam file
 - The FXL Manager Pro tab should now appear on the Ribbon but will not appear next time you start Excel

Installing FastExcel Manager Pro for Windows

FastExcel V4 Manager Pro for Windows requires:

- One of Excel 2007, Excel 2010, Excel 2013, Excel 2016, Excel 2019 or Office 365 Excel
- Either 32 or 64 bit Excel
- A Microsoft supported version of either 32 or 64 bit Windows
- .NET Version 4 or later

Two install methods are available:

- Automatic Installer: requires Administrative level privileges.
- Manual Installer: requires more manual steps than the automatic controller, but does NOT require Administrative level privileges.

Automatic Installer (requires Admin level privileges)

Download the Automatic Install Beta zip file from the Decision Models website

<http://www.DecisionModels.com/Downloads/InstallV4Manager.zip>

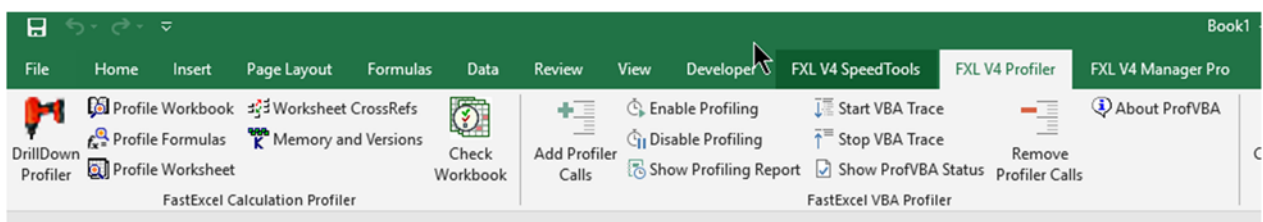
Automatic Installation requires administrative privileges.

1. Extract the installer .exe file from the downloaded zip

2. **Double-click the extracted installer .exe file** and follow the instructions to create a FastExcel V4 folder containing subfolders for each FastExcel V4 product. The default directory is called FastExcel V4 and is located in your Program Files (x86) directory.

Help files (.CHM) and a PDF version of the User guide will also be installed in these folders.

After successful installation FastExcel V4 will automatically be started when you start Excel, and you will find FastExcel V4 tabs for each installed product on the main ribbon.



If the ribbon does not show any FastExcel V4 tabs, or the installation was done for you by another user with administrative privileges, you may have to use the Manual Install instructions below:

Manual Installer (does NOT require Administrator privileges)

Download the manual install zip file from the Decision Models website.

<http://www.DecisionModels.com/Downloads/fxlManagerProWin.zip>

1. Create the FastExcelV4 folder

Extract the FastExcelV4 folder from the downloaded zip file to your chosen location

The FastExcelV4 folder contains up to 3 sub-folders, depending on which Manual Installer you chose:

- FastExcel V4 Profiler
- FastExcel V4 Manager Pro
- FastExcel V4 SpeedTools

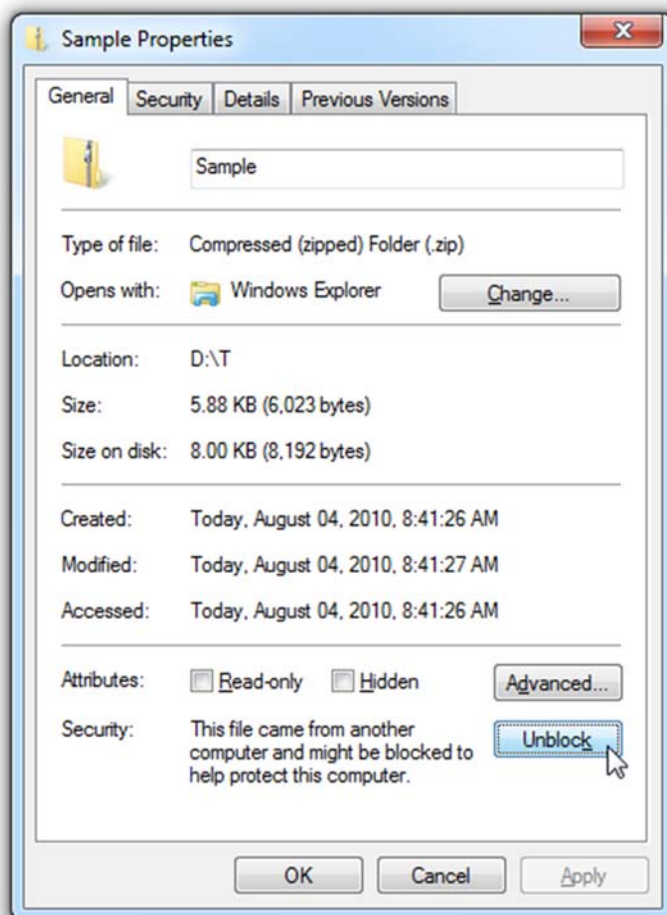
Each of these sub-folders contains an .XLAM file you need to load into Excel using Excel's Addin Manager.

2. Unblock all the XLAM, XLL and DLL files

Windows often blocks downloaded files.

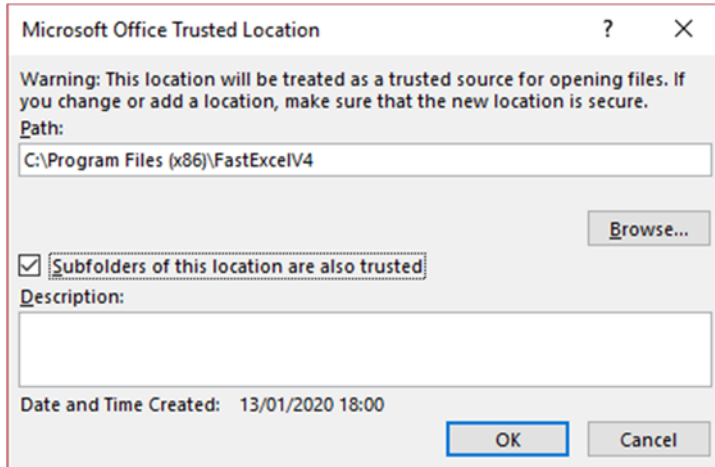
To unblock a file:

- The files you may need to unblock are:
 - FastExcelV4/FastExcel V4 Manager Pro/FxIMgrPro.xlam
 - FastExcelV4/FastExcel V4 Manager/QImCLRHost_x64.dll
 - FastExcelV4/FastExcel V4 Manager/QImCLRHost_x86.dll
 - FastExcelV4/FastExcel V4 Manager/QImLicenseLib.dll
- Browse to each file, Select and Right-click it then select Properties
- Click the Unblock button



3. Make the FastExcelV4 folder a Trusted Location

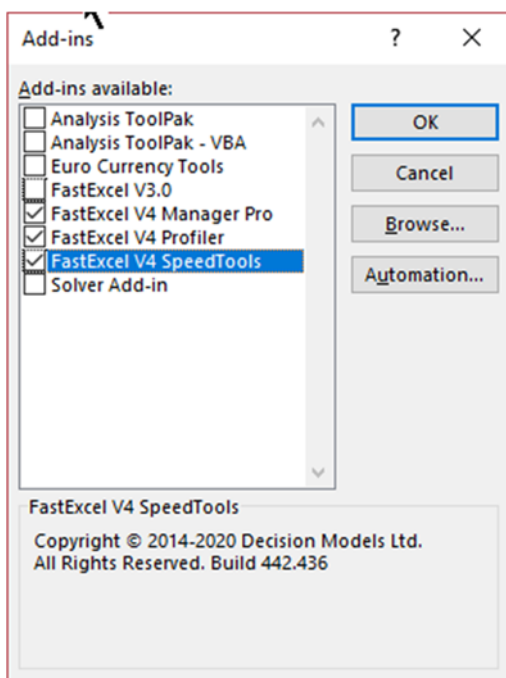
Start Excel and use File->Options->Trust Center->Trust Center Settings->Trusted Locations->Add new location->Browse to your FastExcelV4 folder->Check Subfolders of this Location are also trusted->OK



4. Use Excel's Addin Manager to install each FastExcel V4 addin

For Excel 2007 Click Office Button->Excel Options->Addins->Excel Addins->Go...
For Excel 2010, 2013, 2016, 2019 and Excel 365 Click File->Excel Options->Addins->Manage Excel Addins->Go...

- Press Browse and locate the FastExcelV4 folder.
- In the FastExcel V4 Manager Pro sub-folder select the **fxIManagerProWin.xlam** file
- If asked "Do you want to copy this Addin to the Addins folder?" reply NO.
- The Excel Addins form should now show the FastExcel V4 addins with a checkmark.
- Click OK to finish.



5. Recommended Trust Center Settings

The recommended settings for addins and macros are:

Trust Center

Trusted Publishers
Trusted Locations
Trusted Documents
Trusted Add-in Catalogs
Add-ins
ActiveX Settings

Add-ins (COM, VSTO and Other)

- Require Application Add-ins to be signed by Trusted Publisher
- Disable notification for unsigned add-ins (code will remain disabled)
- Disable all Application Add-ins (may impair functionality)

Trust Center

Trusted Publishers
Trusted Locations
Trusted Documents
Trusted Add-in Catalogs
Add-ins
ActiveX Settings
Macro Settings
Protected View

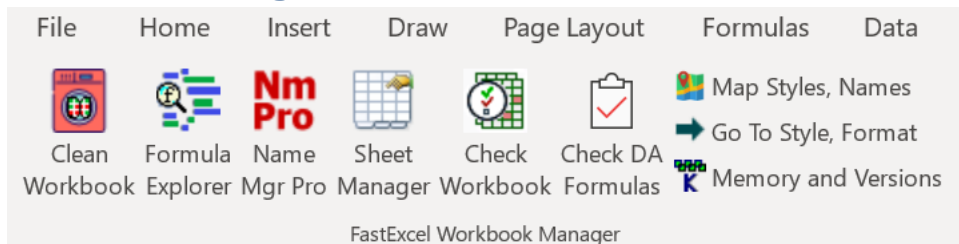
Macro Settings

- Disable all macros without notification
- Disable all macros with notification
- Disable all macros except digitally signed macros
- Enable all macros (not recommended; potentially dangerous code can run)

Developer Macro Settings

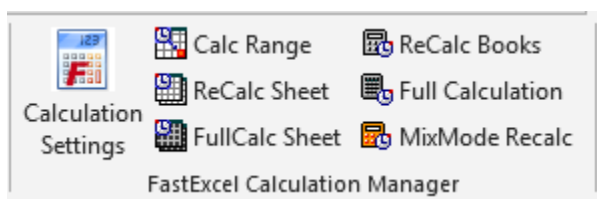
- Trust access to the VBA project object model

FastExcel Manager Commands



FastExcel Manager for Windows includes Name Manager Pro, Formula Explorer Pro, Sheet Manager, Clean Workbook, Check DA Formulas, Where Used mapping for Styles and Names, GoTo Style & Format, Reset FastExcel Forms, Check Workbook and Memory Used commands.

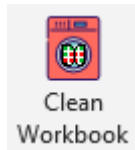
FastExcel Manager Pro for Mac also includes FastExcel Calculation Manager.



Both the Windows and Mac versions include Help, About and License management commands.

Clean Workbook

Clean Workbook helps you minimise the size and memory footprint of your workbooks.



The Clean Workbook button shows you the Clean workbook options form. Some options are not available with Mac Excel:

- Delete temporary files
- Close VBE Windows
- Remove unused Number Formats & Map Number Formats

FastExcel Mgr - Clean Workbook



Check Workbook

Select Workbook Cleanup Options

Backup workbook before Clean

Active Worksheet Only All Worksheets

Clean used ranges

Reset Delete excess Do not clean

Max Number of Cells per Clean Step (Millions)

Buffer Rows and Columns beyond last cell with data

Rows Columns

<input checked="" type="checkbox"/> Delete temporary files	<input type="checkbox"/> Close VBE windows
<input type="checkbox"/> Remove invalid names	<input type="checkbox"/> Delete empty worksheets
<input type="checkbox"/> Remove zero height/width shapes	<input type="checkbox"/> Remove zero size shapes
<input type="checkbox"/> Remove unused styles	<input type="checkbox"/> Clean pivot tables
<input type="checkbox"/> Remove ALL styles	<input type="checkbox"/> Map styles
<input type="checkbox"/> Remove unused number formats	<input type="checkbox"/> Map number formats
<input checked="" type="checkbox"/> Clear undo memory	<input checked="" type="checkbox"/> Clear clipboard memory

OK Reset Options Cancel Help

Check Workbook

This command produces a report showing statistics for the active workbook.

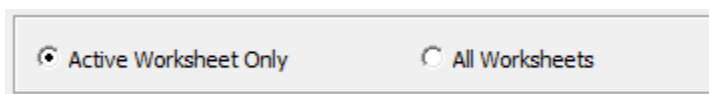
Potential problem areas are highlighted in Orange.

See the Clean Workbook command for details.

Backup Workbook before Clean

Because you cannot “UNDO” the changes made by clean workbook, we strongly recommend that you let FastExcel backup your workbook before cleaning. A copy of the workbook will be saved in the same directory with a .BAC file extension.

Active or All Worksheets



Choose to clean either only the active worksheet or all worksheets.

Clean Used Ranges

Excel's Used Range and Last Cell:

Check the Last Cell using Ctrl-End.

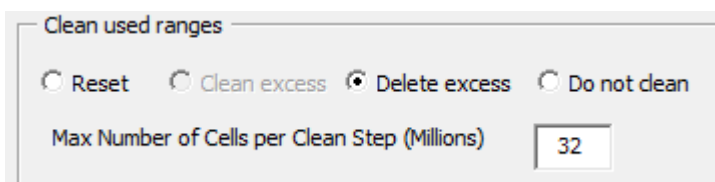
Too large a Used Range can slow down calculation and increase memory usage and file size

Excel only tracks information for the range of cells on a worksheet that it considers as used. This is known as the “Used Range” and is the rectangular area of cells with the “last cell” at the bottom right.

You can select the last visible used cell on a worksheet by using Ctrl-End, or Edit→Goto→Special→Last cell. Excel considers a cell used if it has been formatted in any way, or contains a constant or a formula or a blank.

When you delete cells Excel does not immediately reset the Last Cell or shrink the Used Range.

FastExcel gives you three different methods of cleaning the used range:



Reset Used Range

This method resets the used range for all worksheets. No information is removed from the workbook, so this is the safest available method.

Clean Excess Used Range

Clean Excess used Range is the recommended method.

This method removes excess formatting beyond the last cell containing data or a formula. The method used does not cause alterations to formula which reference cells that are cleaned, so this is a safe method to use. The method will handle a large number of special, “difficult-to-clean” problem used ranges. Cleaning complex used ranges with hidden rows and columns can be slow.

Unfortunately this method does not work effectively with Excel 2007 and later versions, and is disabled for these versions.

Delete Excess Used range

This method deletes all rows and columns beyond the last cell containing data or a formula.

Be careful if you use Delete Excess

This action will adjust all formulas that refer to these cells and if the entire range referenced has been deleted the formula is replaced with #N/A:

For Example:

Formulas before delete excess used range:

=SUM(Z1 : Z1000)

=SUM(A500 : A600)

Rows 500 to 1000 are deleted by Delete Excess Used range

Formulas after Delete Excess Used range:

=SUM(Z1 : Z499)

=#N/A

Do Not Clean

Allows you to use the other Clean Workbook options without cleaning the used range.

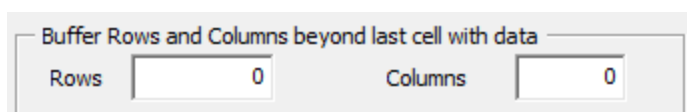
Max Number of Cells per Clean Step

Because deleting rows and columns can be a very memory and resource intensive operation FastExcel does it in small steps. This option allows you to control the how many million cells will be cleaned in each step.

The default is 32 (million cells). The maximum allowable is 64 (million cells) and the minimum allowable is 1 (million cells).

If Excel experiences memory or resource problems during a used-range clean you should retry using a smaller number.

Buffer Rows and Columns



Buffer Rows and Columns beyond last cell with data

Rows Columns

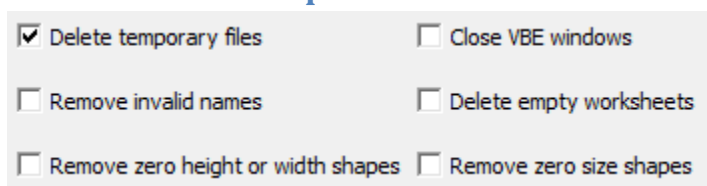
You can set the number of buffer rows and columns to reserve some rows and/or columns beyond the last cell containing data or a formula.

Use this when you want to:

Keep some additional formatted rows or columns

Prevent references in formulas from being shrunk too much

Clean Workbook Options



Delete temporary files Close VBE windows

Remove invalid names Delete empty worksheets

Remove zero height or width shapes Remove zero size shapes

Delete Temporary Files (not available with Mac Excel)

Temporary files may accumulate in your \Windows\Temp directory (Win95/98/ME), or your \Documents and Settings\\local settings\temp directory (Win2K/WinXP/Win 7/Win 8/Win 10).

Excel creates Temporary files for the workbook, and in particular for controls being used by open workbooks. If Excel crashes for any reason these files may not be deleted.

Software installation programs may also create temporary files.

Make sure you have completed any pending software install, including a reboot if required, before deleting the Temp Files

Too many temporary files can cause problems, so delete them from time to time

Be careful not to delete temp files if you have done a software install that requires you to reboot your PC, but have not yet done so.

In this case you should reboot before deleting the temp files.

Note: a very large number of temp files may cause FastExcel to hang with the status bar showing "Checking Temp Files". If this happens close Excel, reboot your PC and then delete all files in your temp folder. You can locate your temp folder using Start→Run, entering %temp% in the run box and pressing enter.

Close VBE Windows (not Available with Mac Excel)

Each open Visual Basic Environment (VBE) window consumes resources, and the number that are open can build up very rapidly.

This option closes all VBE windows except for windows like Project Explorer.

Remove Invalid Names

This option deletes all names containing errors.

Delete Empty Worksheets

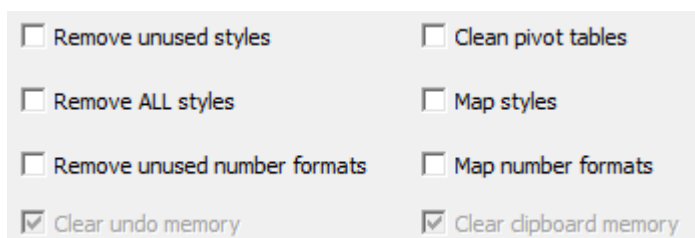
This option deletes any worksheets that do not contain any cell content (formatting, data, formulas) or shapes.

Remove zero height or width shapes

In some conditions a large number of shapes with either zero height or width can be created on a sheet. It can be very difficult to see, select or delete these shapes, so this option deletes them for you.

Remove Zero-sized Shapes

In some conditions a large number of shapes with both zero height and width can be created on a sheet. It can be very difficult to see, select or delete these shapes, so this option deletes them for you.



Clean Pivot Tables

If you change the data for a pivot table and refresh it old items which are no longer in the data may still be held in the Pivot Cache Clean Pivot Tables removes these leftover items from each of the pivot tables in the workbook. Calculated Items and Fields are preserved.

Remove Unused Styles

Selecting this option will delete any styles which are not currently in use, excluding the built-in styles. For very large numbers of styles this option can take a long time.

Remove ALL styles

This option will remove ALL the non-built-in styles from the workbook:
Make sure you have backed up the workbook first.

Map Styles

Styles Counts by Worksheet								
Format	Book Total	0dates	0inpts	1stress	2Funding	3trust	4output	log
Bullet	28	0	0	0	28	0	0	0
Calculation	0	0	0	0	0	0	0	0
Check Cell	0	0	0	0	0	0	0	0
Comma	460	0	89	0	371	0	0	0
Comma [0]	0	0	0	0	0	0	0	0
Currency	0	0	0	0	0	0	0	0
Currency [0]	0	0	0	0	0	0	0	0
Date	1123	0	0	481	642	0	0	0
Euro	169634	0	6	0	169628	0	0	0
Multiple	1	0	1	0	0	0	0	0
Neutral	0	0	0	0	0	0	0	0
Normal	239568	7275	1934	3463	226595	39	55	207
Note	0	0	0	0	0	0	0	0
Output	0	0	0	0	0	0	0	0
Percent	31859	0	112	5775	25969	0	0	3
Title	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
TrueFalse	169	0	0	0	169	0	0	0
Warning Text	0	0	0	0	0	0	0	0
YesNo	2	0	0	1	0	0	1	0

The Map Styles option produces a report sheet showing the count of each style used by each worksheet. You can use this map to identify where and how often the styles are being used.

 Go To Style, Format

Selecting one of the count cells in the map (for instance the 169 TrueFalse on sheet 2Funding) and clicking the FastExcel GoTo button will show you that sheet with all the cells using that style selected. This makes it easy to change or remove styles.

Remove Unused Number Formats (not available with Mac Excel)

The Screen Flicker you see is expected!

The technique used to find the number formats in the workbook is based on a method developed by Leo Heuser, and is used in FastExcel with his kind permission.

Selecting this option will delete any custom number formats which are not currently in use, excluding the built-in number formats. The screen will flicker for several seconds as FastExcel scans the available number formats.

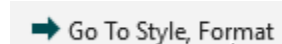
Because the Excel object model does not provide any standard method of accessing the number formats in a workbook, FastExcel uses a method developed by Leo Heuser of accessing Excel's number Formats Listbox using Sendkeys.

Map Number Formats

41	Custom Number Format Counts by Worksheet						
42	Format	Book Total	Volumes	OTO	M & E	Summary	NDS
43	"\$#,##0	659	0	0	0	0	0
44	"\$#,##0.00	256	0	0	0	0	0
45	"\$#,##0.00_);("\$	26	8	0	0	0	18
46	"\$#,##0.00_);[Red	0	0	0	0	0	0
47	"\$#,##0.000_);("\$	0	0	0	0	0	0
48	"\$#,##0_);("\$"#,##	20	5	0	0	0	15
49	"\$#,##0_);[Red]("	0	0	0	0	0	0
50	# ??/?	0	0	0	0	0	0
51	# ??/??	0	0	0	0	0	0
52	##0.0E+0	0	0	0	0	0	0
53	#,###.#0 [\$USD]	0	0	0	0	0	0
54	#,##0	3328	1188	3	19	144	678
55	#,##0 "months"	471	36	36	331	36	32
56	#,##0 [\$€-1]	0	0	0	0	0	0
57	#,##0 [\$BF-813]	542	0	6	0	0	535
58	#,##0 [\$DM-407]	0	0	0	0	0	0
59	#,##0 [\$EURO]	4105	17	14	2547	899	628

The Map Formats option produces a report sheet showing the count of each number format used by each worksheet.

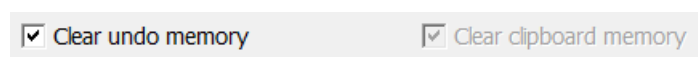
You can use this map to identify where and how often the number formats are being used.



Selecting one of the count cells in the Map Formats sheet and clicking the FastExcel GoTo button will show you the sheet with all the cells on the sheet that use this Number Format selected.

This makes it easy to change or remove Number Formats.

Clear Undo Memory



Excel uses memory to store the information required to be able to undo recent actions. This option allows you to clear this memory.

Many of the Clean Workbook options will automatically clear the Undo Memory. For these cases the option will be ticked but disabled (greyed out).

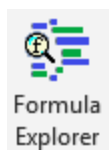
Clear Clipboard Memory

Many of the Clean Workbook options will also automatically clear the Excel Windows clipboard Memory. For these cases the option will be ticked but disabled (greyed out).

Formula Explorer Pro Overview

Explorer Pro combines and extends Excel's Evaluate Formula and Trace Precedents tools to give you improved ways of viewing, validating, editing and debugging formulas:

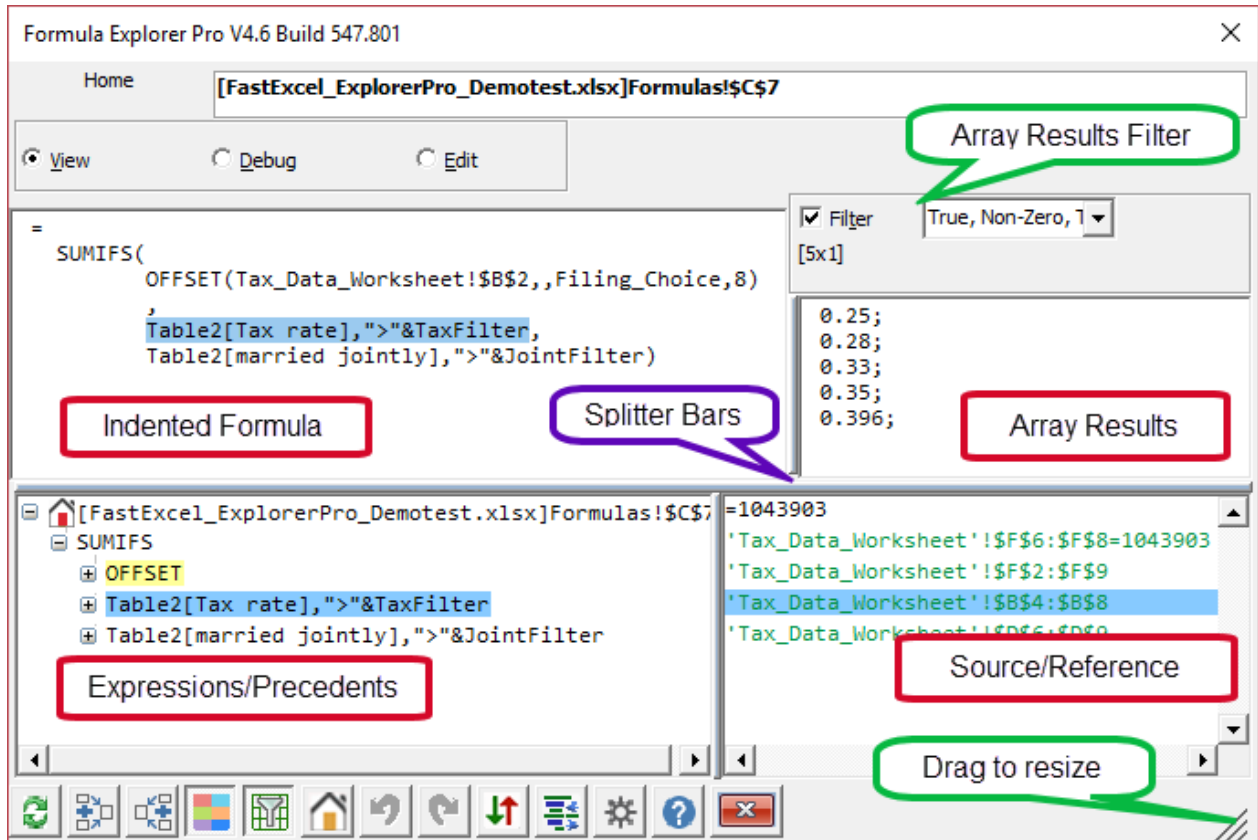
- Modeless and resizable Form – select and modify cells whilst Explorer Pro is showing
- Explore Cell formulas, Conditional Format Formulas, Data Validation Formulas and Named Formulas
- Forwards and Backwards debug using your arrow keys
- View, filter and select the results of array expressions and ranges in both Normal and Debug modes.
- Toggle between Expressions, Precedents and Dependents view
 - Precedents include INDIRECT, OFFSET, INDEX and source cells
 - Click a reference or function to select its precedents both within and across worksheets.
 - See which precedents are formulas.
 - Dependents view shows the formulas in the dependent cells
 - Drilldown from references to their formulas using right-click (Windows) or Shift-Click (Mac)
- Show the source cells that functions like VLOOKUP, SUMIFS, MAX etc. are pulling from
- See the results of individual criteria's in SUMIFS, COUNTIFS etc.
- Show the result of IF, CHOOSE, IFS, SWITCH functions
- Show filtered results from the arguments of functions like SUMPRODUCT
- Indented formula view shows how the parts of your formula fit together, simplifies bracket forests
- Auto-scroll to show selected cells
- Show formulas and functions in English or local language.
- Contract/expand the Treeview of sub-expressions and results
- Extensive keyboard shortcuts
- Highly customisable user interface
- Handles Dynamic Arrays, Linked Data Types, Structured References, 3D references, Named Ranges, Dynamic Ranges, Intersect, Union, Complex References, Whole Column ranges, Used-Range intersection, Constant Arrays and more.
- Use the Tooltips, Online help and PDF User guide for a fast understanding of Explorer Pro



Clicking this button on the FastExcel Manager Ribbon, or using **Control-Shift-M** will launch Explorer Pro for the formula in the active cell.

The Explorer Pro Userform

The explorer form is **modeless** and **resizable**. Because the form is **modeless** you can interact with the workbook in all the usual ways with the mouse and keyboard whilst keeping the form visible, and switch the focus between the worksheet and the form by clicking with the mouse.



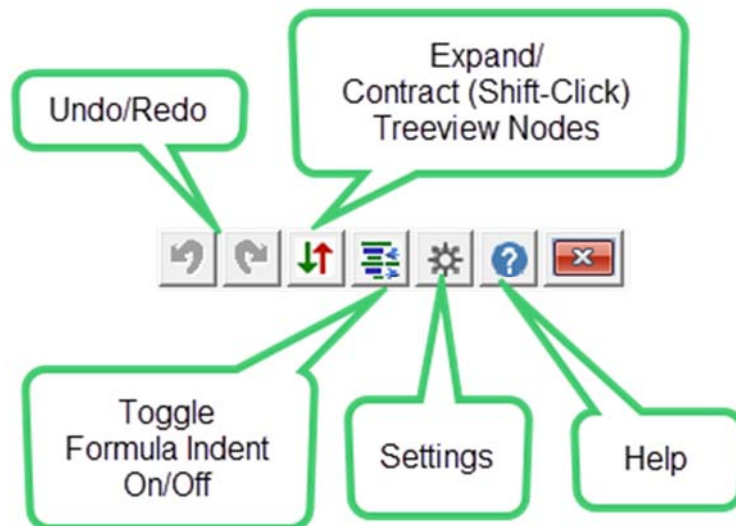
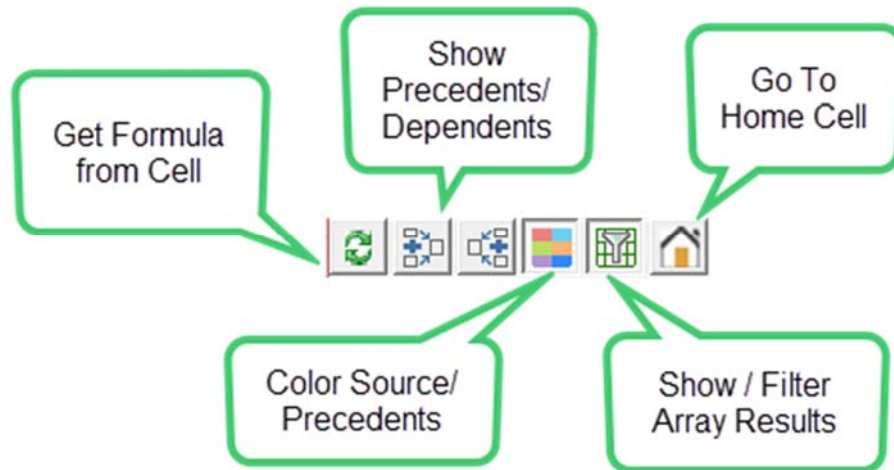
The **Indented Formula**, **Array Results**, **Expressions /Precedents** and **Source/Reference** Boxes show views of the formula and its results.

The **Array Results** Box and the **Array Results Filter** only show when the **Filter** button is toggled on and the selected expression results in an array of values.

Drag a **splitter bar** to change the amount of space used by the 4 display boxes within the overall form, or drag the **resize button** to change the size of the form

Explorer Pro Command Buttons

The command buttons give easy access to common tasks. Formula Explorer also has a large number of keyboard shortcuts.



Working with Explorer Pro

Getting a Formula using the Refresh Button

The screenshot shows an Excel spreadsheet with a 'Demo Formulas' section. The 'If' formula in cell C4 is selected. The Formula Explorer Pro window is open, showing the formula for the selected cell: `AVERAGE(Table2[Tax rate])`. An arrow points to the 'Home' button in the Formula Explorer Pro toolbar, with the text '1. Select a Worksheet Cell'. Another arrow points to the 'Refresh' button (a circular arrow icon) in the toolbar, with the text '2. Click Refresh button'.

When you select a different cell on a worksheet and click the **Refresh button (Alt-F)** then Explorer Pro changes the home cell to the selected cell and shows the formula from that cell.

The screenshot shows the same Excel spreadsheet, but now cell C4 is highlighted. The Formula Explorer Pro window shows the 'Home' cell changed to `[FastExcel_ExplorerPro_Demotest.xlsx]Formulas!C4`. The formula displayed is `IF(Log_WorkSheet1!C4=Log_WorkSheet2!B4, 1E+25, Log_WorkSheet3!L13)`. An arrow points to the 'Home' cell address bar with the text 'New Home Cell'. Another arrow points to the formula text with the text 'Formula from Home Cell'.

Resizing and Moving Explorer Pro

You can move and resize Explorer Pro using either the mouse or the keyboard.

When Explorer Pro has the focus use these keyboard shortcuts to move and resize the form:

- **F8 or Ctrl End** - positions Explorer Pro bottom right
- **Ctrl-Shift-End** – positions Explorer Pro bottom left
- **F5 or Ctrl Up Arrow** or **Control +** (numeric keypad) – increases size of Explorer Pro
- **F6 or Ctrl Down Arrow** or **Control -** (numeric keypad) – decreases size of Explorer Pro
- **F7 or Ctrl Home** – resets Explorer Pro size and centres it on the screen
- **Ctrl Alt Home** – resets all Explorer Pro settings and size and centres it on the screen

Using the Mouse and the Arrow keys

The 4 boxes on the form are all linked so that clicking in the Formula Box, the Expression Treeview box or the Source Reference box will select the corresponding items in the other boxes.

Clicking the **Down Arrow key** will select the next expression down in the Expression Treeview.

Clicking on Table2[Tax rate], "<"& C17 in the Expressions Treeview box

- The Source cells on the worksheet are selected and colored,
- The criteria expression is selected in the Indented Formula and the Expression Treeview
- Source Reference shows the cells the SUMIFS criteria expression is pulling from

The screenshot shows the FastExcel Formula Explorer Pro window overlaid on an Excel spreadsheet. The spreadsheet has columns A through G. Column A contains years (2014, 0). Column B contains tax rates (0.1, 0.15, 0.25, 0.28, 0.33, 0.35, 0.396, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0). Column C contains filing choices (single filers, married jointly, married separately, head of household). The FastExcel Formula Explorer Pro window is open, showing the formula `SUMIFS(OFFSET(Tax_Data_Worksheet!B2,,Filing_Choice,8),Table2[Tax rate],">"&TaxFilter,Table2[married jointly],">"&JointFilter)`. The formula bar shows the formula with a red arrow pointing to the source range `Table2[Tax rate]`. The expression tree shows the formula structure with a red arrow pointing to the criteria expression `Table2[Tax rate], ">"&TaxFilter`. The source reference box shows the source cells `'Tax_Data_Worksheet'!B6:B8`, `'Tax_Data_Worksheet'!F2:F9`, `'Tax_Data_Worksheet'!B4:B8`, and `'Tax_Data_Worksheet'!D6:D9`. A red arrow points to the source reference box with the label 'Sumifs Criteria Expression'.

The **green text** indicates that the references are **source references** for the function or expression.

The **yellow coloring** indicates that OFFSET is Volatile.

Coloring Precedent and Source Cells

The Color Cells button is on by default.

Precedent references from the selected **left-hand expression** are colored in a **light color with black text**.

Source cells from the **right-hand source-result** box are colored in a **dark color with white text**.

You can change the color using **Shift-Click on the Color button**, and change the shading using **Alt-Click on the color button**.

In this example the reference K10:K17 in the left-hand box is reduced by Excel's Implicit Intersection rules to K14 because the formula is in row 14 (\$X\$14 on the Formulas sheet).

The right-hand source result text is colored red to indicate implicit intersection.

The screenshot displays an Excel spreadsheet and the Formula Explorer Pro window. The spreadsheet shows a table with columns 'Flower', 'Month', and 'Volume'. The 'Month' column has values 'March', 'February', and 'December'. The 'Volume' column has values '2000', '467', and '12345'. The Formula Explorer Pro window is open, showing the formula '=Log_WorkSheet3!K10:K17' and its source result '=February'. The source result is highlighted in red, indicating implicit intersection. Dotted orange arrows point from the source result in the Formula Explorer to the 'February' cell in the spreadsheet and from the formula in the Formula Explorer to the 'Month' column in the spreadsheet.

Flower	Month	Volume
Daffodil	March	2000
Crocus	February	467
Rose	December	12345

Formula Explorer Pro V4.6 Build 547.801

Home [FastExcel_ExplorerPro_Demotest.xlsx]Formulas!\$C\$14

View Debug Edit

=Log_WorkSheet3!K10:K17

[FastExcel_ExplorerPro_Demotest.xlsx] Log_WorkSheet3!K10:K17

=February

Log_WorkSheet3!K14="February"

IF statements in array expressions can return arrays of results for both the True result and the False result.

True result cells are colored Green and False result cells are colored purple.

C	D	E	F	G	H	I
Fruit	Quantity	Flag	Price	Discount		
Apples	50	0	10	0.05		4
Oranges	0	0	12	0.01		5
Bananas	60	1	15	0.03		6
Lemons	40	1	8	0.04		7

Formula Explorer Pro V4.5 Build 539.801

Home [ArrayIf.xlsx]Array!\$D\$8

View Debug Edit

```
{
=SUM(IF(F2:F5>10,(D2:D5)*(G2:G5),I2:I5))
}
```

[ArrayIf.xlsx]Array!\$D\$8 =12.8

- SUM
 - =12.8
 - \$D\$3:\$D\$4,\$G\$3:\$G\$4,\$I\$2,\$I\$5
 - \$F\$3:\$F\$4
 - (D2:D5)*(G2:G5) \$D\$3:\$D\$4,\$G\$3:\$G\$4
 - I2:I5 Array!I2,I5

In this example the IF expression is selected so both the True results and the False results are colored.

Rows 3 and 4 in the Price Column (F2:F5) are > 10 and so rows 3 and 4 are true but rows 2 and 5 are false.

The TRUE expression (D2:D5)*(G2:G5) gives D3:D4 and G3:G4 as source references so they are colored Green.

The FALSE expression I2:I5 has both a left-hand reference (I2:I5) and a right-hand source expression I2, I5, so the left-hand reference is colored light purple and the right-hand source reference is colored dark purple.

The text in the right-hand source result box is colored green to indicate that this is a Source reference.

Filtering Result Cells

Clicking the Filter button (or shortcut Key Alt-J) toggles on/off showing the Filtered Results box.

The screenshot displays an Excel spreadsheet with the following data:

Year	Tax rate	single filers	married jointly	married separately	head of household	Tax Year	Filing
2014	0.1						
0	0.15						
0	0.25						
0	0.28						
0	0.33						
0	0.35						
0	0.396						
0	0						

The Formula Explorer Pro interface shows the following formula in cell C7:

```
=SUMIFS(OFFSET(Tax_Data_Worksheet!$B$2,,Filing_Choice,8),Table2[Tax rate],">"&TaxFilter,Table2[married jointly],">"&JointFilter)
```

The Filtered Results box displays the following values:

- 0.25;
- 0.28;
- 0.33;
- 0.35;
- 0.396;

The Formula Explorer interface also shows the Filter button (Alt-J) and the Filtered Results box.

Filtering Array Results

When an expression returns an error value it is shown in red.

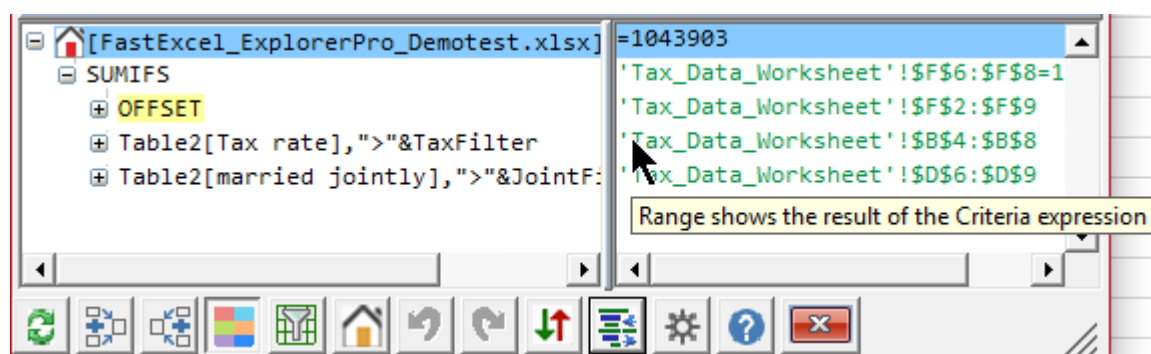
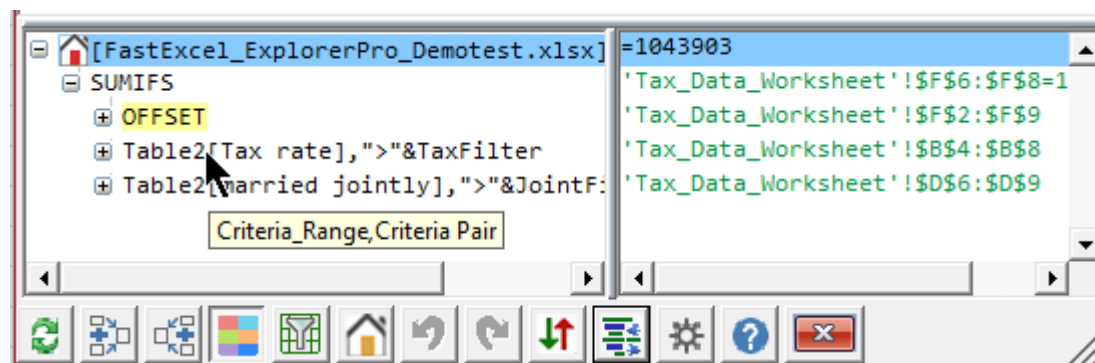
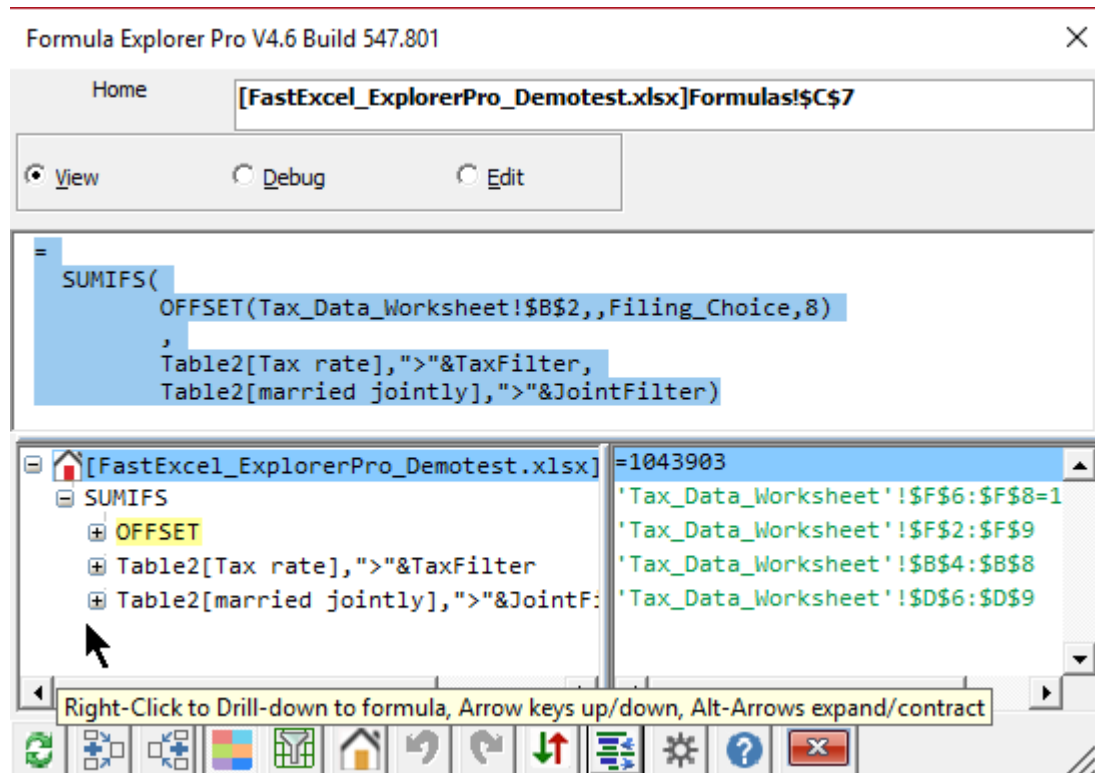
The screenshot shows the Formula Explorer Pro V4.6 interface. The spreadsheet on the left displays a column of values in column E, with rows 15 and 16 containing the error value '#DIV/0!'. The Formula Explorer window is open, showing the formula 'AVERAGE(Log_WorkSheet3!\$E\$1:\$E\$1000/10)'. The 'Filter' button is highlighted with an arrow labeled '1. Click Filter'. The 'Errors' filter is selected in the dropdown, with an arrow labeled '2. Use Errors Filter'. The 'Results' box shows the filtered rows: 'R15: #Div/0!;', 'R16: #Div/0!;', and 'R211: #Div/0!;', with an arrow labeled '3. Results box shows rows with errors'.

To find out which cells in a large range are causing the error you can:

1. Click the Filter button to show the results box.
2. Choose the Errors filter from the filter drop-down
3. The Results box shows the rows with errors, colors them and selects them

Getting more Information with Tooltips

When you hover over an item an explanatory tooltip will appear.



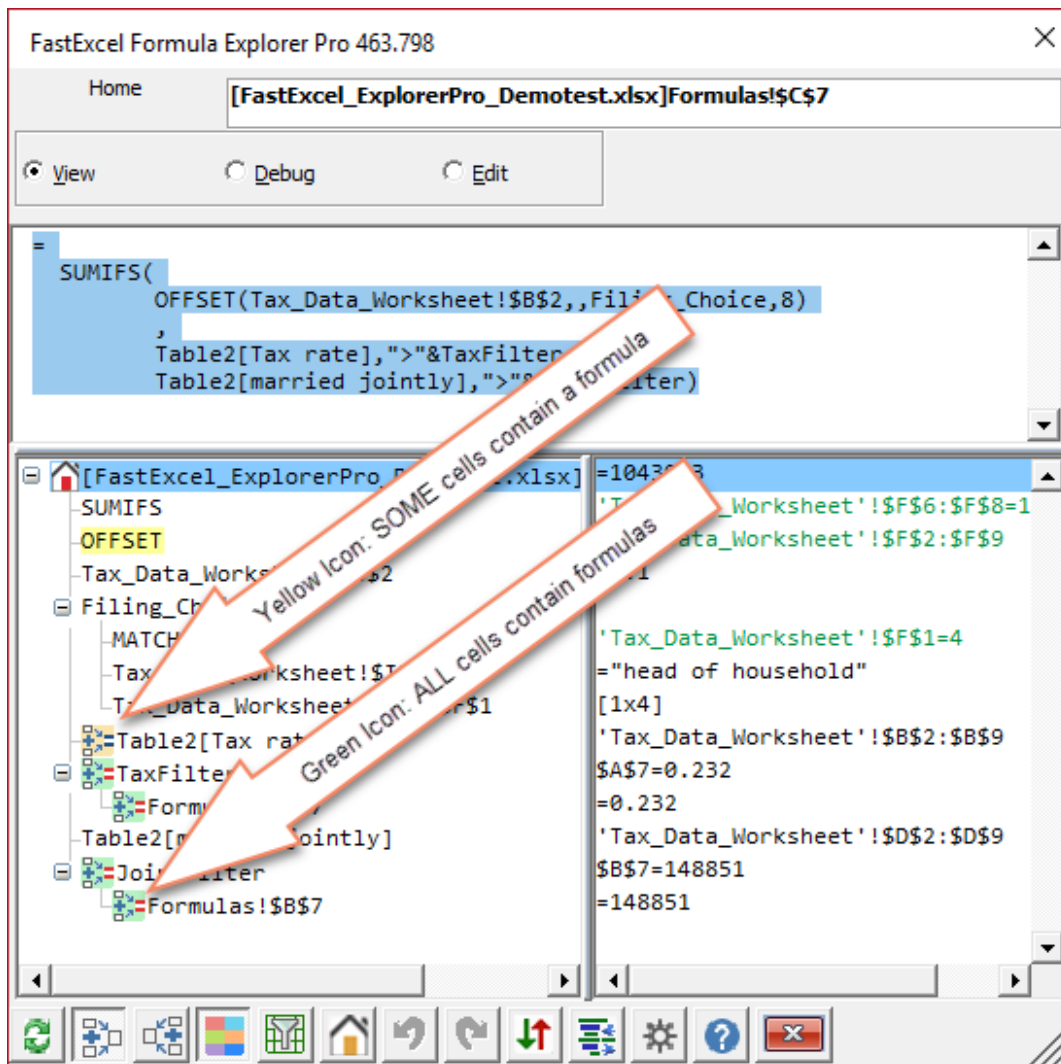
Or you can change an Explorer Pro setting so that all the tooltips appear as additional TreeView Nodes.

Explorer Pro Precedents

Working with Precedents

Explorer Pro shows 3 different kinds of precedents:

- Direct References showing in the formula.
- Source References showing the cells that an expression or function (INDIRECT, SUMIFS, VLOOKUP ...) is actually pulling from. Source References are shown in **Green** in the Source Result Box
- Restricted References resulting from Intersections are shown in **Orange**



Click the Precedents button (Alt-R) to toggle between showing Precedents and showing Expressions in the Expression TreeView and Source/result boxes. The default precedents setting is to only show unique precedents.

A precedent will be shown when either the left-hand Expression Box or the right-hand Source Box show a reference.

Left-click a precedent range to select that range on its worksheet.

Right-click (or shift-click on the Mac) drills down to the formula in the precedent range and makes it the home cell.



When **all the cells** in a precedent range contain formulas a green icon is shown.



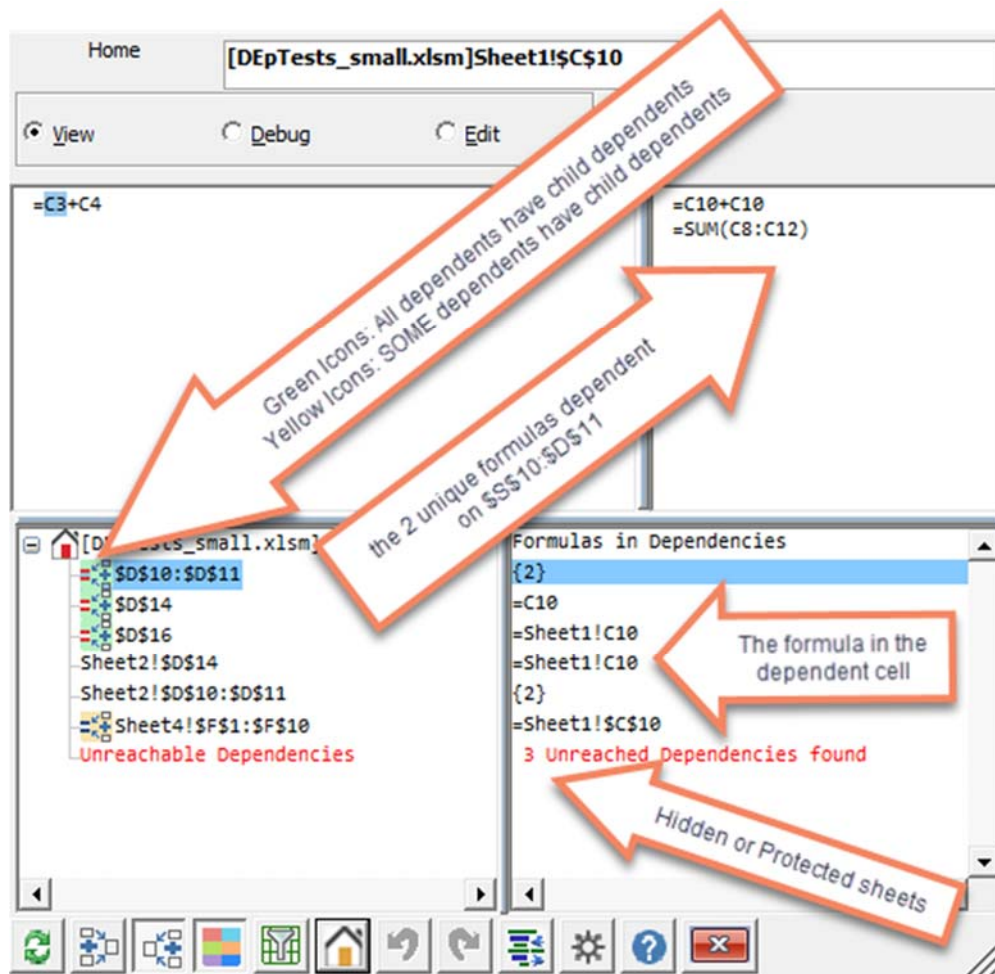
When **some of the cells** in a precedent range contain formulas and some of the cells contain constant data a yellow icon is shown.

You can use the Filter button to find which cells have or do not have formulas

Explorer Pro Dependents

Working with Dependents

Clicking the Dependents button (Alt-Q) shows the cell ranges that are dependent on the home cell.




The left-hand expression box shows the ranges that contain dependencies on the home cell.


The right-hand expression box shows the formula that contains the dependency (refers to the home cell). When the dependency range contains more than one unique dependency formula the number of unique formulas is shown enclosed in {}.

Selecting a dependency with more than one unique formula shows each of the unique formulas in the results box above.

Left-click a dependency range to select that range on its worksheet.

Right-click (or shift-click on the Mac) **drills down** to the dependency range and loads its formula.

 When **all the cells** in a dependency range have dependencies of their own a green icon is shown.

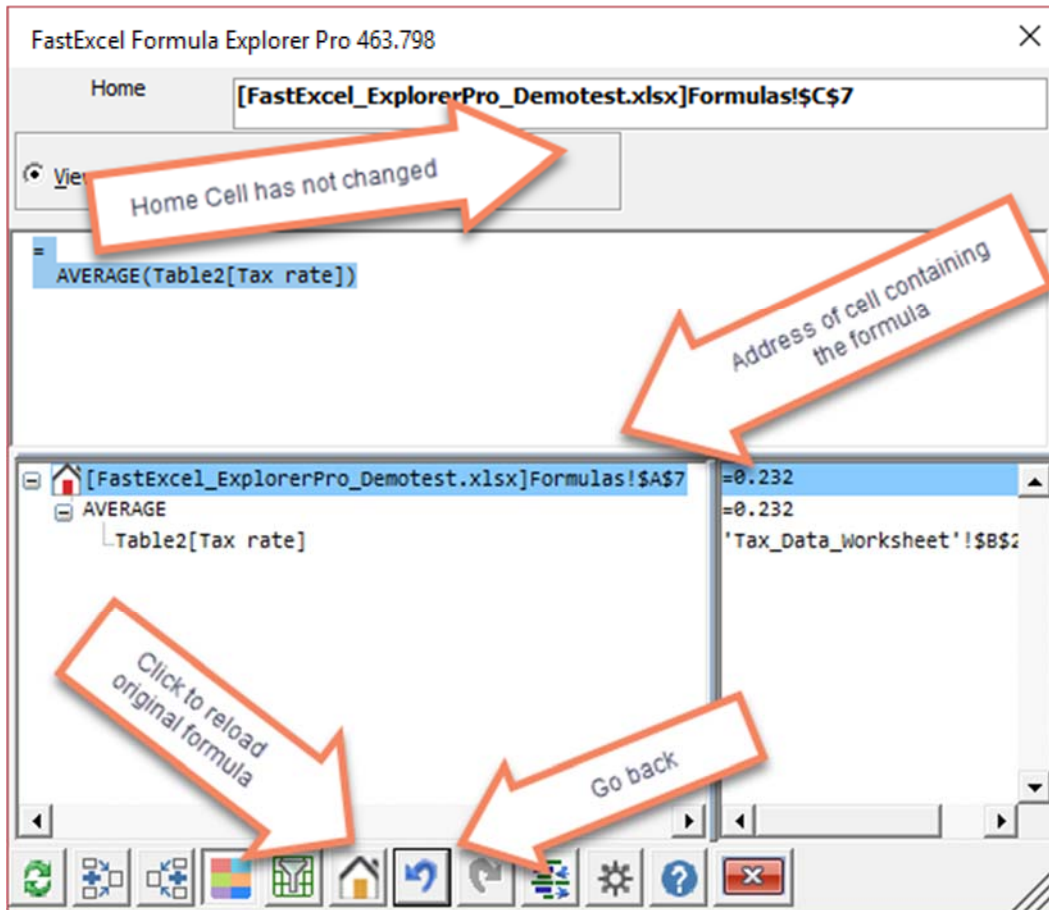
 When **only some of the cells** in a dependency range contain dependencies of their own a yellow icon is shown.

Notes: *Dependencies on Hidden or Protected sheets can be detected but not shown: a message and count is shown. Dependencies of functions like INDIRECT and OFFSET cannot be detected.*

Tracing Precedent and Dependent Trees with Drill-down

Right-Click (on Windows) or Shift-Click (on Mac) on an expression that is a range reference or source reference loads the contents of that reference into Explorer Pro.

For example, right-clicking the TaxFilter reference drills down to A17 and loads its formula into Explorer Pro.



You can drill-down using right click/shift click in both Precedent and Expression modes.

Right-click/Shift-Click does not change the Home cell and you can always go back to the home cell using the Home button (Alt-H).

When drilling down a chain of precedents you can move forwards and backwards in the chain using the Back and Forward buttons on the Explorer Pro form.

Expression Icons

Showing Explanatory Icons for the Expressions

Other settings show icons for either or both the left-hand Expressions box and the right-hand Source/Results box.

The screenshot displays the Formula Explorer Pro interface. At the top, the title bar reads "Formula Explorer Pro V4.6 Build 547.801". Below it, the "Home" tab is active, and the address bar shows the formula location: "[FastExcel_ExplorerPro_Demotest.xlsx]Formulas!\$C\$7".

The main formula bar contains the following formula:
`=SUMIFS(OFFSET(Tax_Data_Worksheet!B2,,Filing_Choice,8),Table2[Tax rate],">"&TaxFilter,Table2[married jointly],">"&JointFilter)`






























The interface is divided into three main sections:

- Treeview (Left):** A hierarchical tree structure showing the formula's components. The "Filing_Choice" named formula is expanded, revealing its definition: `=MATCH(Tax_Data_Worksheet!I2, Tax_Data_Worksheet!C1:F1, 0)`. Other components like "TaxFilter" and "JointFilter" are also expanded to show their respective formulas.
- Source/Results (Right):** A pane showing the evaluation of the formula's components. It displays the results of various sub-expressions, such as `'Tax_Data_Worksheet'!F6:F8=1043903`, `'Tax_Data_Worksheet'!F2:F9=0.1`, and `'Tax_Data_Worksheet'!B4:B8=>0.232`.
- Bottom Panel:** A toolbar with various icons for navigation and editing, including a refresh icon, a home icon, and a close icon.

In this example both left and right icons are showing.

Note: Filing_Choice is a Named Formula and its Refers-To formula is shown expanded in the Treeview boxes.

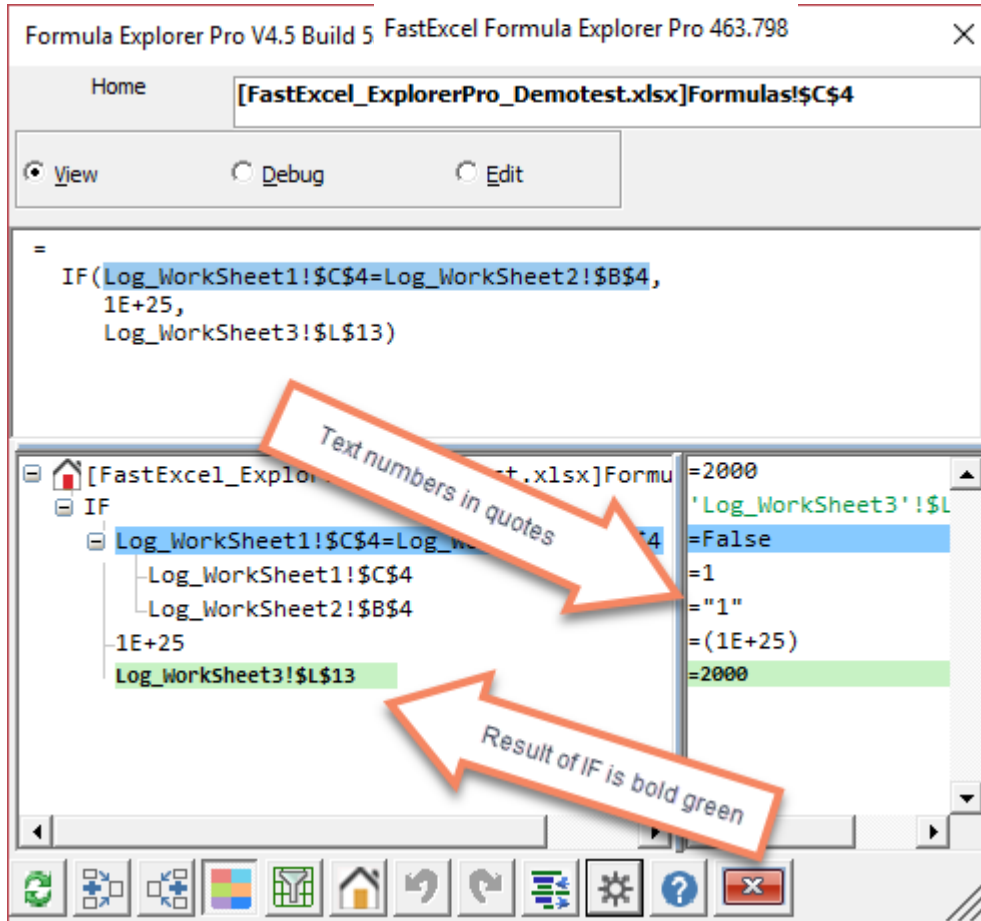
Expression icons show the type of the expression:

-  The Home Cell
-  Range reference: Sheet1!\$A\$1
-  Reference is an empty Cell
-  External reference: 'D:\Users\Charles Williams\Documents\[Book5.xlsx]Sheet1!\$A\$1
-  Structured reference: Table2[[#All],[married jointly]]
-  3-Dimensional reference: Sheet1:Tax!B10:C16
-  Individual Sheet reference from a 3-D Reference: Tax!B10:C16
-  Named Range or Dynamic Named Range reference
-  Named Formula (not returning reference): for example PISquared =PI()^2
-  Named Variable within a LET function: for example X in LET(X,45,X+\$A\$1)
-  Source reference, for example the source cell of a VLOOKUP result
-  Reference result from Implicit Intersection with a row or column: Excel returns the value from the intersection of a named range or a range reference with the row or column of the formula. For example the formula =B:B in cell C5 will return B5.
-  Reference result from Implicit Intersection when there is no intersecting row or column: returns #Null or #Value
-  Reference result from Explicit Intersection of 2 references: K19:K30 H24:M24: returns #Null if there is no intersection.
-  Reference result from intersection with used range. Most Excel functions will reduce large and whole-column references to the subset of the range that lies within the used range.
-  Function expression that does not directly return a reference: SUM
-  Function returning a reference: OFFSET, INDIRECT, INDEX
-  Expression that does not return a reference: A5*B5
-  Expression returning a reference: INDEX(\$F\$4:\$F\$7,2,1):INDEX(\$H\$4:\$H\$7,4,1)
-  Criteria expression in a SUMIFS, COUNTIFS, ...IFS function, for example Table2[married jointly], ">" & D5
-  A constant, for example 4.5, "FastExcel", True, #N/A
-  An array of constants, for example {1,2,3;4,5,6}
-  A Tooltip shown as an expression node in the TreeView
-  A precedent range where every cell in the range contains a formula
-  A precedent range where only some of the cells in the range contain a formula
-  A dependent range where every cell in the range has child dependents
-  A dependent range where only some of the cells in the range have child dependents
-  The Root Cell for a Dynamic Array
-  A Rich Data cell

Special Function Handling - IF, IFS, CHOOSE, SWITCH

Conditional Functions – IF, IFS, CHOOSE, SWITCH

Explorer Pro will indicate the correct result expression of conditional functions by using **bold text** on a **green background** in both the Expression and Source/Result boxes.

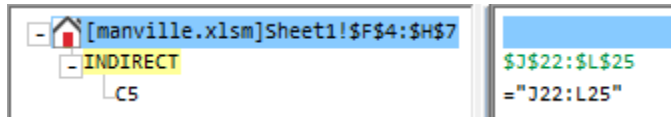


- To distinguish number that are Text from real numbers, text numbers are shown in quotes.
- E format number results are shown enclosed in () to distinguish them from expressions.

Volatile Functions

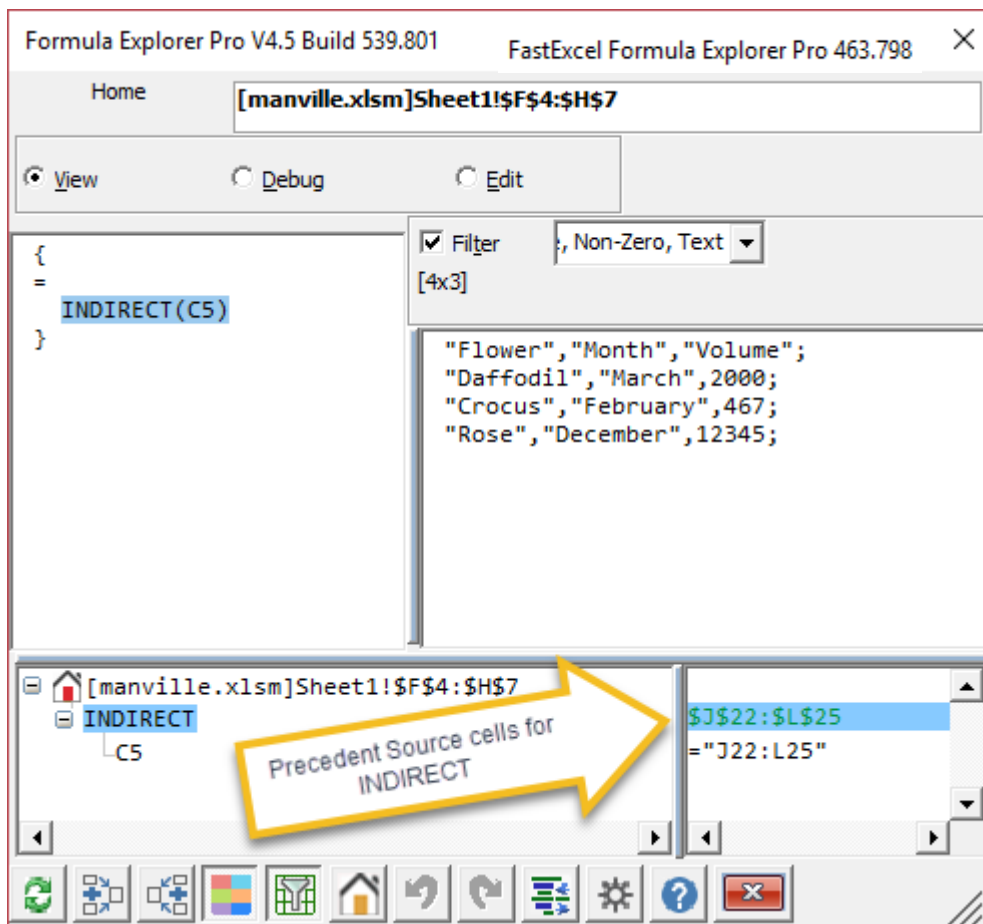
Volatile functions will be shown in yellow.

The Source/Reference box show the source that the INDIRECT is pulling from a 4 row by 3 column range J22:L25, and for the C5 reference shows the content of the cell C5.



Indirect Array Formula Example

This example shows INDIRECT being used in an array formula.



The indented formula box shows the formula enclosed in { } because it is an array formula.

The precedents of INDIRECT are shown in the Source/Results box.

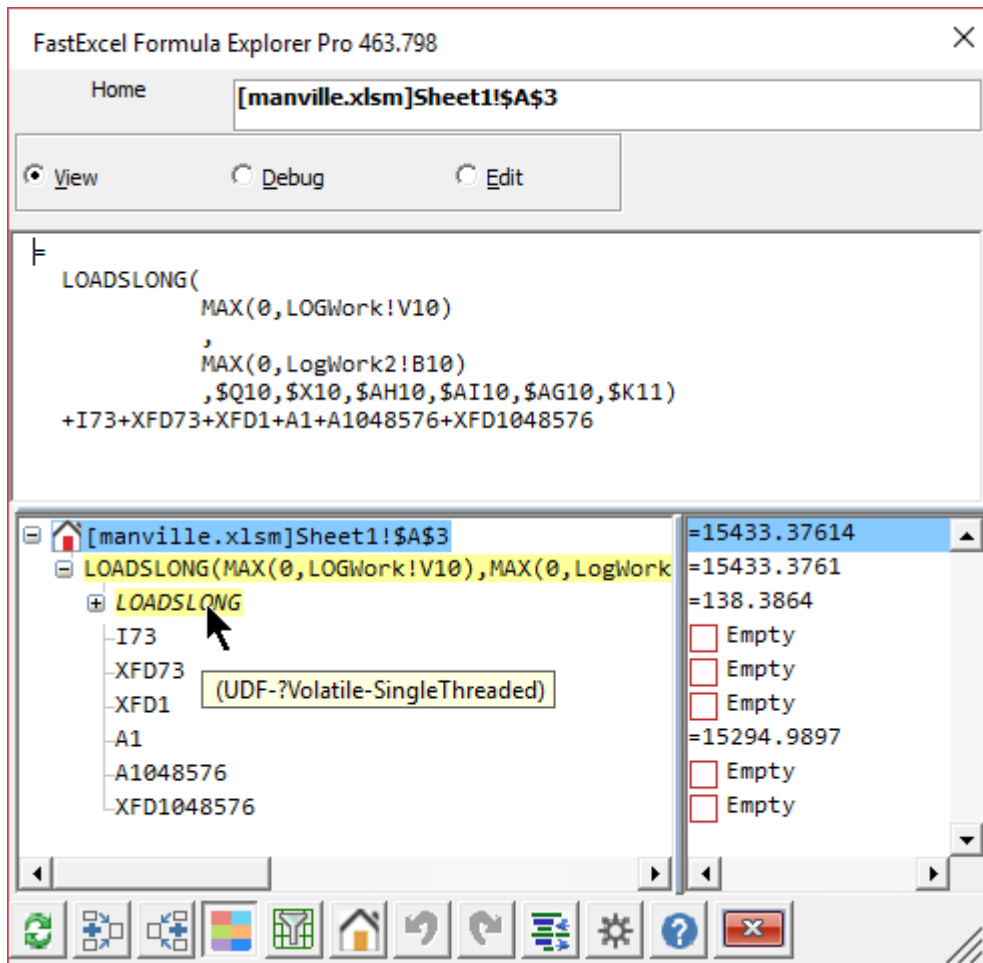
The Color/Results button has been toggled ON, so

The results of the INDIRECT are shown in the results box and could be filtered.

The Source precedents of the INDIRECT are selected and colored on the worksheet.

User-Defined Functions

UDFs are shown in *Italics* and colored yellow when Explorer Pro cannot determine if they are volatile.



For VBA UDFs the tooltip indicates that the UDF may be Volatile and is single-threaded

Exploring Formulas from Cells, Defined Names, Conditional Formats and Data Validations

Exploring Cell Formulas

Click Control-M or press the Explorer Pro button to launch Explorer Pro for the formula in the active cell (Home)

Exploring Named Formulas

From Name Manager Pro select the named formula you want to explore and click the **Analyse** button

FastExcel Manager Pro 4.5 - FastExcel ExplorerPro_Demo35.xlsx

FastExcel Formula Explorer Pro 463.798

FastExcel Formula Explorer Pro 414.796

Name: **Flowers** [FastExcel_ExplorerPro_Demo35.xlsx]Tax!\$E\$17

View Debug Edit

```
=Log_WorkSheet3!$J$22:  
INDEX(Log_WorkSheet3!$J:$XFD,  
COUNTA(Log_WorkSheet3!$J$22:$J$1048576)  
+  
ROW(Log_WorkSheet3!$J$22)  
-1,  
COUNTA(Log_WorkSheet3!$J$22:$XFD$22)  
)
```

[FastExcel_ExplorerPro_Demo35.xlsx]Tax!\$E\$17

- Log_WorkSheet3!\$J\$22
 - INDEX
 - Log_WorkSheet3!\$J:\$XFD
 - + COUNTA(Log_WorkSheet3!\$J\$22:\$J\$1048576)+ROW
 - + COUNTA

```
= "Flower"  
INDEX('Log_WorkSheet3'!$J$1:$AS  
Log_WorkSheet3!$J1:AS615  
=25  
=3
```

Showing 29 of 29 names

Edit the 'refers to' formula for F

```
=Log_WorkSheet3!$J$22:INDEX(Log_WorkSheet3!$J:  
$XFD,COUNTA(Log_WorkSheet3!$J$22:$J  
$1048576)+ROW(Log_WorkSheet3!$J$22) - 1,COUNTA(Log_WorkSheet3!  
$J$22:$XFD$22))
```

- Confirm changes
- Show Excel System names
- Show Refersto
- R1C1 notation
- Icons

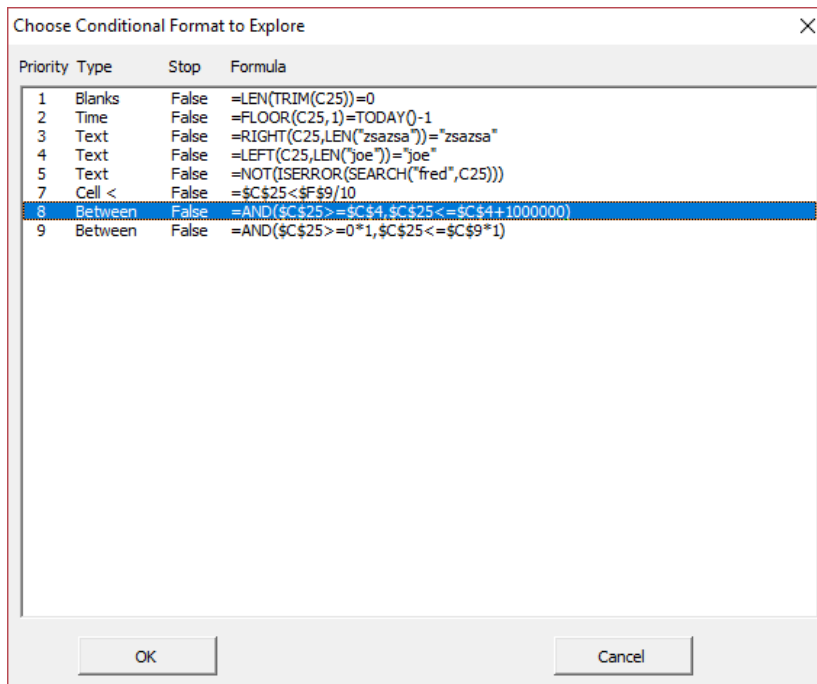
English Close

The name of the Named Formula is shown at the top left, and the background of the Home address box is **light blue**.

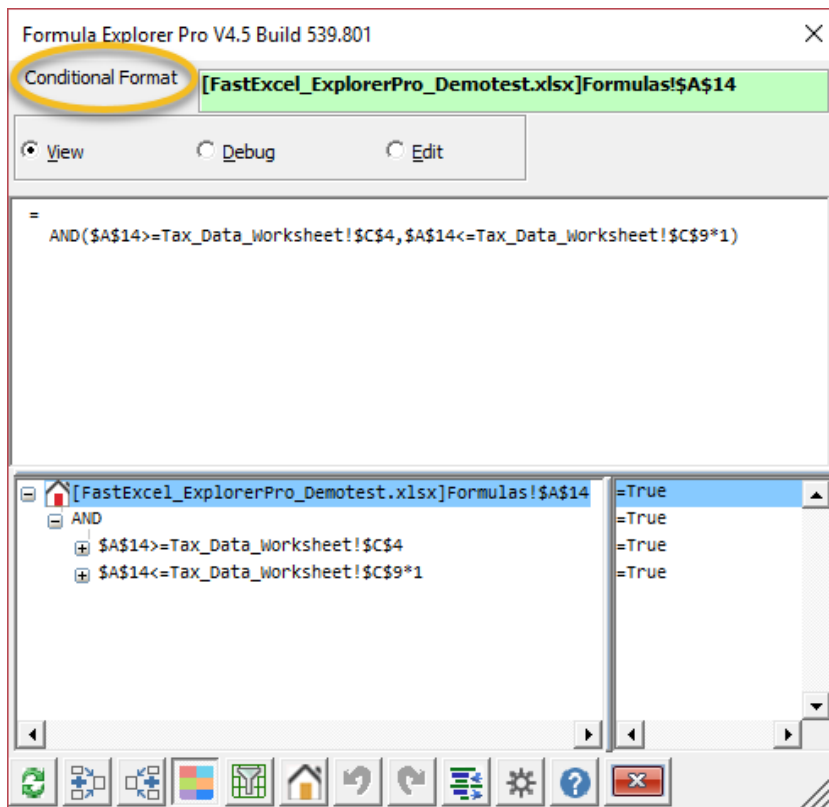
You can use all Explorer Pro features on Named Formulas except Edit mode.

Exploring Conditional Format Formulas

Select a cell using one or more conditional format formulas and click **Ctrl-Alt-M** (or Ctrl-Alt-F if Explorer Pro has the Focus). Explorer Pro will show a form for you to choose the conditional format formula.



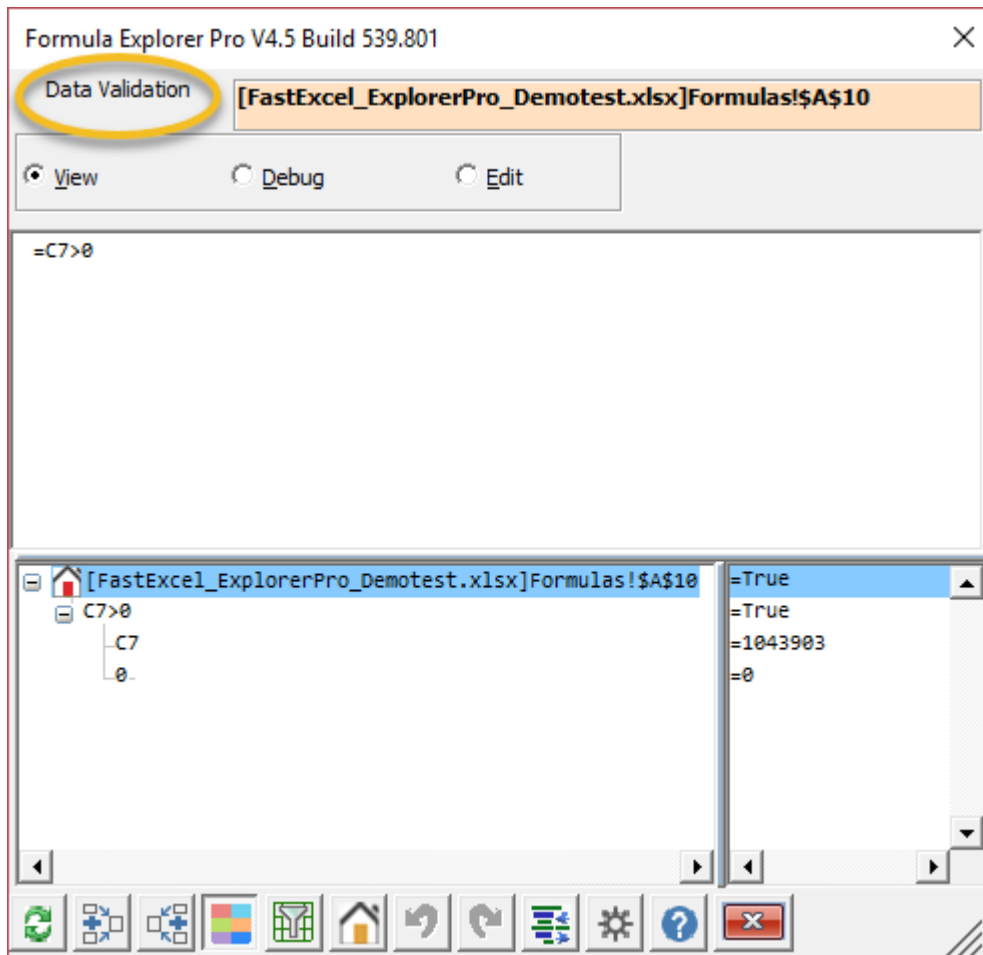
Select one of the Conditional format formulas and click OK.



“**Conditional Format**” is shown at the top left, and the background of the Home address box is **light green**. You can use all Explorer Pro features on Conditional Formats except Edit mode.

Exploring Data Validation Formulas

Select a cell using a Data Validation formula and click **Shift-Ctrl-Alt-M** (or Shift-Ctrl-Alt-F if Explorer Pro has the focus).



“**Data Validation**” is shown at the top left, and the background of the Home address box is **light orange**. You can use all Explorer Pro features on Data Validation formulas except Edit mode.

Using Explorer Pro Formula Debug

Using Debug (Alt-D) you can use the **right and left arrow keys** on the keyboard to see the effect of replacing parts of the formula with their values.

The right arrow key steps forward through the debug sequence.

The left arrow key steps backwards through the debug sequence.

With Explorer Pro Debug you get two views of the formula:

- An indented view that optimises for viewing the overall formula as it is debugged.
- An Expression view that allows you to explore any of the expressions in detail, including expressions that have already been replaced in the Indented Formula view.

Step 1

The screenshot displays the FastExcel Formula Explorer Pro interface. The window title is "FastExcel Formula Explorer Pro 463.798". The address bar shows the formula location: "[FastExcel_ExplorerPro_Demotest.xlsx]Formulas!\$C\$7". The interface has three tabs: "View", "Debug" (selected), and "Edit".

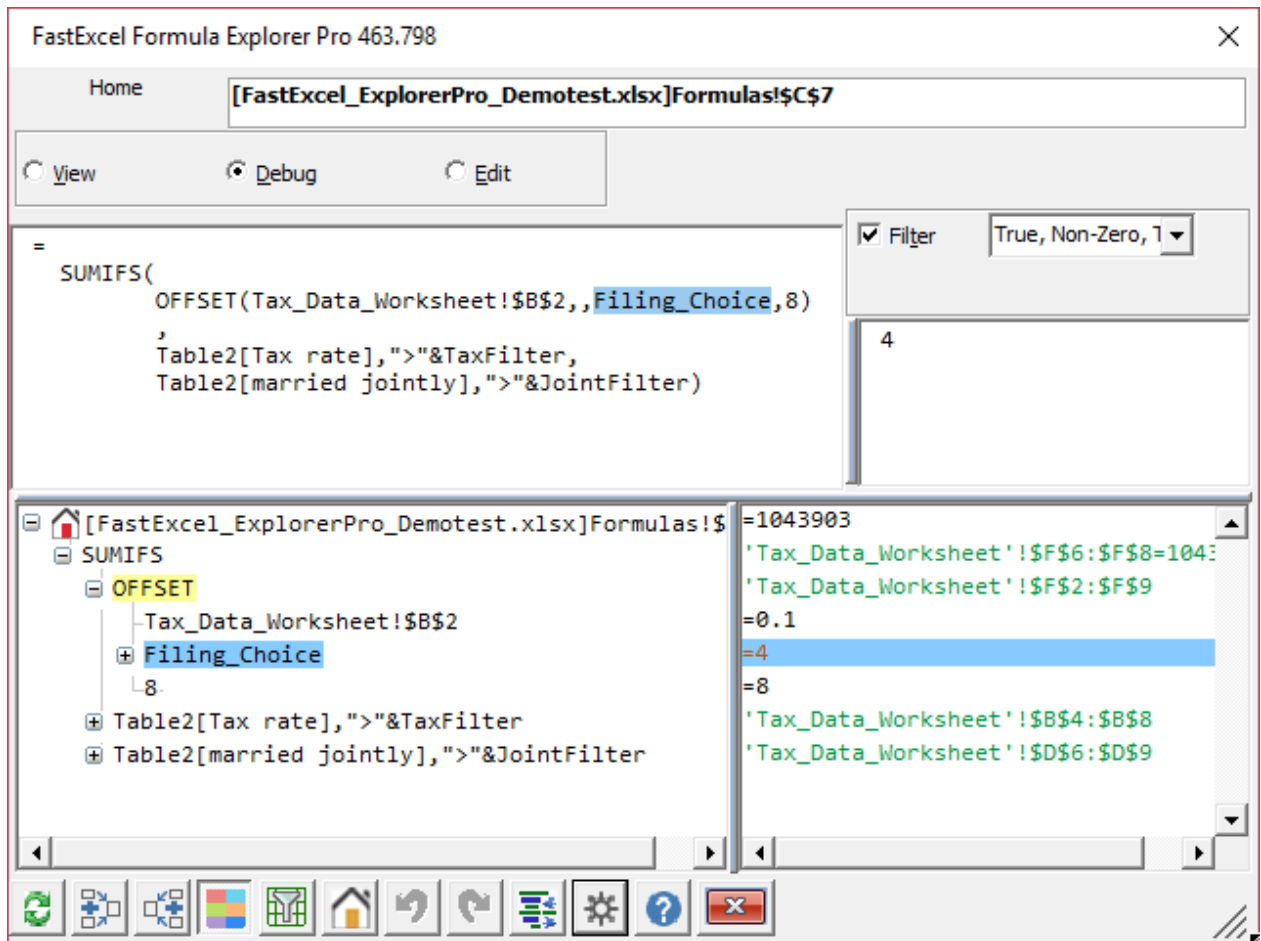
The main area shows the formula: `=SUMIFS(OFFSET(Tax_Data_Worksheet!B2,,Filing_Choice,8),Table2[Tax rate],">"&TaxFilter,Table2[married jointly],">"&JointFilter)`. A "Filter" dropdown is set to "True, Non-Zero, 1", and the result "0.1" is displayed.

The bottom section shows a tree view of the formula components. The "OFFSET" component is expanded, showing "Tax_Data_Worksheet!\$B\$2" selected. The right pane shows the evaluation results for the selected component, including the value "=0.1" and the range "'Tax_Data_Worksheet'!\$B\$4:\$B\$8".

The bottom toolbar contains icons for Home, Back, Forward, Refresh, and other navigation functions.

->Click the right arrow key on the keyboard ->Step 2:

Because \$B\$2 is a position argument for OFFSET it makes no sense to replace its address with a value. So Debug selects the next expression to resolve (Filing_Choice):

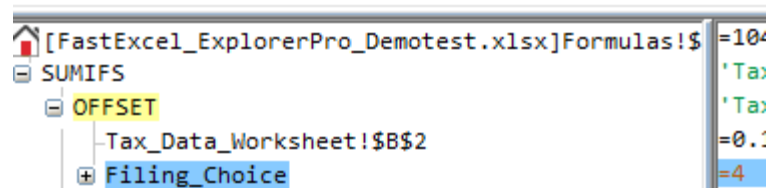


->Click the right arrow key on the keyboard ->Step 3.

Filing_Choice is replaced with its value in the indented formula, but the expression box still shows the full formula.

```
SUMIFS(
  OFFSET(Tax_Data_Worksheet!$B$2,,4,8)
,
  Table2[Tax rate],">"&TaxFilter,
  Table2[married jointly],">"&JointFilter)
```

An orange arrow points to the value "4" in the OFFSET function's second argument.



->Step 4:

All the arguments for OFFSET have been resolved so OFFSET is the next expression to be resolved:

SUMIFS(
 OFFSET(Tax_Data_Worksheet!\$B\$2,,4,8)
 ,
 Table2[Tax rate], ">"&TaxFilter,
 Table2[married jointly], ">"&JointFilter)

[8x1] => [7x1]

R3: 12951;
 R4: 49401;
 R5: 127551;
 R6: 206601;
 R7: 405101;
 R8: 432201.

[FastExcel_ExplorerPro_Demotest.xlsx]Formulas!\$ =1043903
 SUMIFS
 OFFSET 'Tax_Data_Worksheet'!\$F\$6:\$F\$8=1043
 'Tax_Data_Worksheet'!\$F\$2:\$F\$9

->Step 5:

Because **OFFSET resolves to an array** it gets replaced by its **expression number {~2}** and the filtered result array values are shown in the results box to the right. **This avoids cluttering the formula with large numbers of array values.**

The results box shows the row number for each result, and the results can be filtered to avoid showing large numbers of empty, zero cells etc.

SUMIFS(
 {~2}
 ,
 Table2[Tax rate], ">"&TaxFilter,
 Table2[married jointly], ">"&JointFilter)

{~2} [8x1] => [7x1]

R3: 12951;
 R4: 49401;
 R5: 127551;
 R6: 206601;
 R7: 405101;
 R8: 432201.

[FastExcel_ExplorerPro_Demotest.xlsx]Formulas!\$ =1043903
 SUMIFS
 OFFSET 'Tax_Data_Worksheet'!\$F\$
 {~2}'Tax_Data_Worksheet'

->Step 6:

Now two expressions have been replaced by their expression numbers:

SUMIFS(
 {~2}
 {~6}, ">"&TaxFilter,
 Table2[married jointly], ">"&JointFilter)

{~6} [8x1] => [7x1]

R2: 0.1;
 R3: 0.15;
 R4: 0.25;
 R5: 0.28;
 R6: 0.33;
 R7: 0.35.

[FastExcel_ExplorerPro_Demotest.xlsx]Formulas!\$ =1043903
 SUMIFS
 OFFSET 'Tax_Data_Worksheet'!\$F\$6:\$F\$8=1043
 {~2}'Tax_Data_Worksheet'!\$F\$2:\$F\$9
 'Tax_Data_Worksheet'!\$B\$4:\$B\$8
 {~6}'Tax_Data_Worksheet'!\$B\$2:\$B\$9

You can click-select any expression or expression number during Debug to see its Values in the Results Box.

This is the result of clicking the {~2}

The screenshot shows the FastExcel Formula Explorer Pro interface. The main formula editor displays a SUMIFS function with several arguments, including an expression labeled {~2}. A yellow circle highlights this expression. A red dashed arrow points from the {~2} in the formula to the Results Box. The Results Box shows a list of values: R3: 12951; R4: 49401; R5: 127551; R6: 206601; R7: 405101; R8: 437701. Below the formula editor, the Formula Explorer tree shows the formula structure, with the OFFSET function selected. The Results Box also displays the formula result =1043903 and the formula text: 'Tax_Data_Worksheet'!\$F\$6:\$F\$8=104; {~2}'Tax_Data_Worksheet'!\$F\$2:\$F\$9; 'Tax_Data_Worksheet'!\$B\$4:\$B\$8; {~6}'Tax_Data_Worksheet'!\$B\$2:\$B\$9.

Note:

Both Expression number 2 (OFFSET) and expression number 6 (Table2[Tax Rate]) are still substituted in the indented formula, but are shown in the expression boxes with their expression number label.

When you use the forward or back arrow keys the Debug process resumes at the next or previous debug step.

Explorer Pro Terminology

Expression/Subexpression

A valid fragment of a formula that Excel recognises and can convert or resolve to one or more values is called an Expression or Subexpression.

Formula:

- =IF(F3=1,Z9*56,SUM(B10:B88))

Expression Fragments (these are all Child expressions of the Parent IF expression) :

- F3=1
 - F3
 - 1
- Z9*56
 - Z9
 - 56
- SUM(B10:B88)
 - B10:B88

Expression References, Source References and Restricted Source References

Explorer Pro recognises two different kinds of references, both of which are considered **Precedents**.

Expression References are visible references that can be seen in a formula:

- F3 or B10:B88 or Sheet1:Tax!B10:C16
- Defined Range Names : singlerow
- Structured References to Tables: Table2[[#All],[married jointly]]

Expression References appear in the bottom left-hand Expression TreeView box.

Source/Result References and **Restricted Source/Result References** are references that are not visible in the formula but are produced as the result of evaluating Expressions or functions, or are the source of the results of an Expression:

- INDIRECT, OFFSET and INDEX produce references when they are evaluated (the references may then resolve to values)
- VLOOKUP(A1,B1:B10,1,False) contains 2 expression references (A1 and B1:B10), but has a Source Reference which is the actual cell in B1:B10 that the result is pulled from. Explorer Pro will show the Source range the results came from for INDEX, MATCH, VLOOKUP, MAX, MIN, OFFSET, INDIRECT, CHOOSE etc., and also for Criteria expressions in SUMIFS type functions.
- Full column references are often resolved to Restricted Source References because they are limited by the Used Range.
- Range operations such as Implicit Intersection of named ranges resulting in a single source cell from the named range, explicit intersection of 2 ranges and the rarely used intersect operation also produce Restricted Source references.

Source References appear in the bottom right-hand Source/Reference box coloured **Green**

Restricted Source References appear in the bottom right-hand Source/Reference box coloured **Orange**

Explorer Pro Form Components

Formula Box

The formula box shows you the indented view of the formula.

When you click into the formula the sub-expression you clicked is selected in the Expression Treeview and Source/Results boxes and shows a blue background. If the expression can be resolved to a reference it is selected.

The screenshot displays the Explorer Pro Formula Box interface. On the left is a data table with a dropdown menu set to 'Volume'. The table contains the following data:

Volume
2000
467
12345

The main area shows the indented formula:

```
SUM(  
  INDEX(Flowers,  
        0,  
        3)  
)  
+  
MEMLOOKUP(F6,Sheet1!$J$22:$L$25,"Volume")
```

Three callout boxes highlight key components:

- Indented Formula:** Points to the 'INDEX' function in the formula.
- Expression Treeview:** Points to the tree structure showing 'SUM' containing 'INDEX' and 'MEMLOOKUP'. The 'INDEX' node is expanded to show 'Flowers', '0', and '3'. The 'MEMLOOKUP' node is expanded to show 'F6', 'Sheet1!\$J\$22:\$L\$25', and '"Volume"'. The right side of the treeview shows resolved values: '=14812', '[10x1] \$L\$22:\$L\$31', '[10x8] \$J\$22:\$Q\$31', and '=0'.
- Source/Results:** Points to the resolved values on the right side of the treeview.

Clicking anywhere in any of these three boxes selects the expression in all 3 boxes.

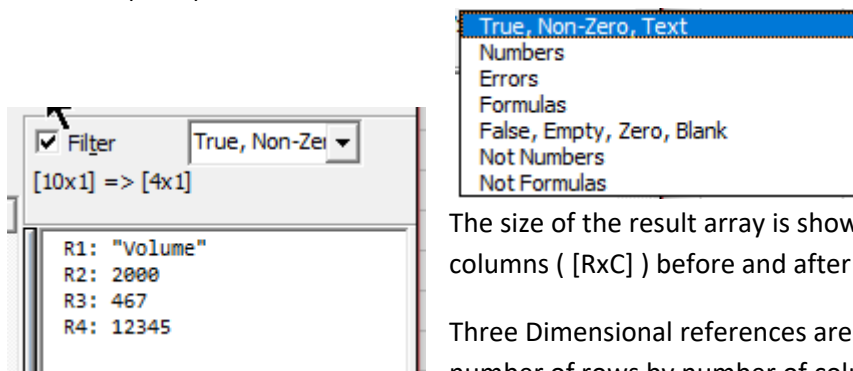
Results Box: Shown when the Color and Filter button is clicked



Clicking the Filter button shows the results box if the selected reference resolves to more than one cell.

The results box shows the results of evaluating the sub-expression. For sub-expressions returning arrays of results by default only the first 200 rows or columns are shown.

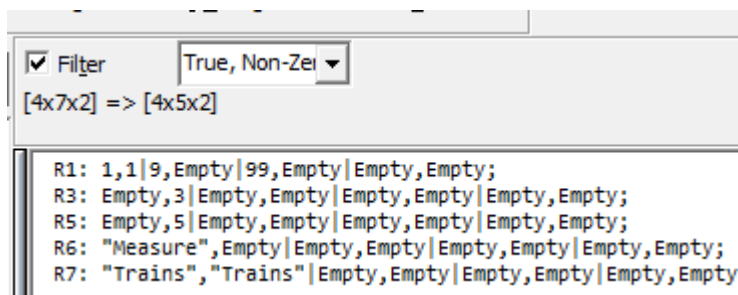
The results can be filtered by type using the filter drop-down. Toggle the filter on or off using the Filter checkbox (Alt-T).



The size of the result array is shown as the number of rows and columns ([RxC]) before and after filtering.

Three Dimensional references are shown as number of sheets by number of rows by number of columns ([S x R x C]).

When showing filtered results the row and column numbers of the results are shown as Rn and Cn.



Three-dimensional references show results with a vertical bar | between adjacent sheets.

Clicking in the results box selected the rows on the worksheet that are shown in the results box.

Expression TreeView/Precedents Box

This box shows a treeview of subexpression components of the formula.

In Precedents mode it shows a list of all the precedents of the formula.

Result/Source/Reference Box

This box shows the result of the expression if it is a single value, or the range reference that is the result of the expression.

Splitter Bars

Drag the splitter bars to expand or contract the amount of space given to the Formula Box, Results Box, Expression TreeView box and the Source/Reference Box

Resizing the Form

To resize or move the Explorer Pro form using the keyboard use:

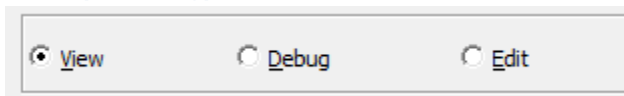
- F5 or Control + on the numeric keypad increases the size of the form
- F6 or Control - on the numeric keypad decreases the size of the form
- F7 or Ctrl Home moves the form to the centre of the screen and resizes it to the default size.
- F8 or Ctrl End moves the form to the bottom right



You can drag the drag button in the bottom right corner of the form to resize it horizontally or vertically.

The information in the formula box and result box reflow as the boxes resize.

View/Debug/Edit Modes



View Mode (Alt-V)

When this option is selected the Home cell and its formula in the Formula Box does not change, but you can **change the active selected cell and hence the formula in Excel's formula bar** by selecting a worksheet cell using the mouse or the keyboard.

This method allows you to see at the same time both the indented formula from one cell and the formula in another cell that is referenced by the indented formula.

Right-clicking (Windows) or Shift-clicking (Mac) a reference or source expression in the Expression TreeView box will drill down to that reference or source and load its formula into Explorer Pro, **but will not change the Home Cell.**

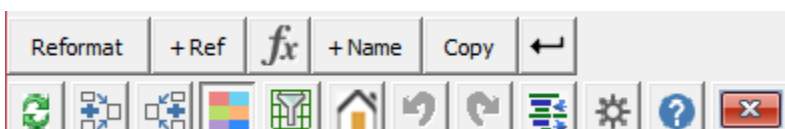
You can return to the home cell by clicking the home button, or use the left or right arrow keys, or the Back and Forward buttons on Explorer Pro to navigate up and down the drill-down path.

Debug Mode (Alt-D)

When this option is selected you can use the right and left arrow keys to debug the indented formula step-by-step.

Edit Mode (Alt-E)

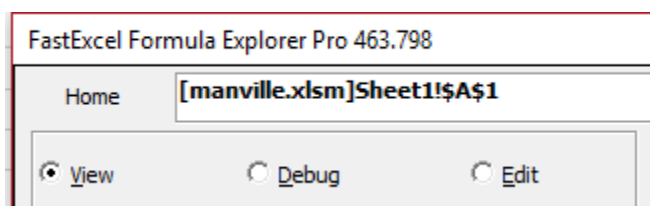
This option is designed to allow you to change the formula in the Formula Box. When selected additional editing options appear at the bottom of the form.



And at the top of the form the Origin Box becomes a Destination Box showing where the changed formula will be entered.

(You can dynamically change the destination to make it easy to pick up a formula from one place, change it and then insert it in a different place).

Origin Destination and Home Cell



In the View and Debug Modes this shows you the home cell that the formula came from. Clicking the Explorer Pro Home button selects the address shown.

In Edit Mode this shows you the destination address where the formula will be entered.

Refresh



Refresh (Alt-F)

The Refresh button causes Explorer Pro to replace the current formula with the formula from the currently active cell. The currently active cell becomes the Home cell.

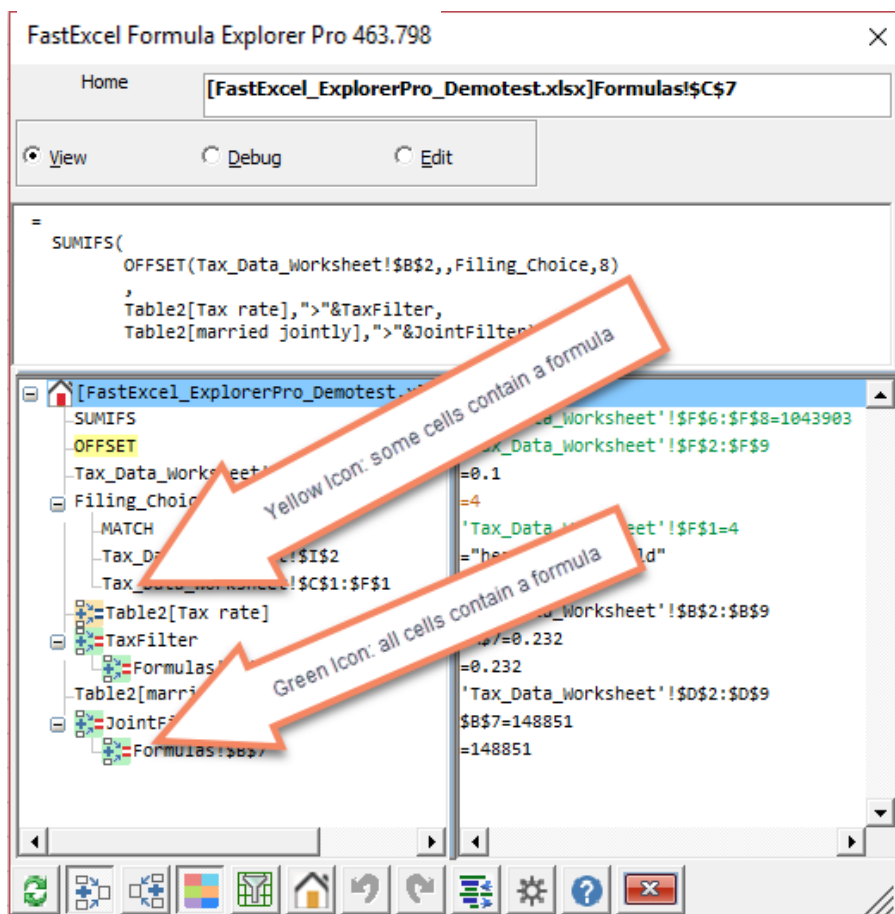
A Formula containing indentation in the Home cell get re-indented in the formula box using the current indent style.


Show Precedents (Alt-R)


Clicking this button toggles between showing Expressions and showing Precedents. The default setting is to only show unique precedents: this can be changed in Settings.

A Precedent will be shown when either the Expression TreeView or the Source/reference box are a reference.

Clicking a Precedent selects and colors the precedent cells on the worksheet.

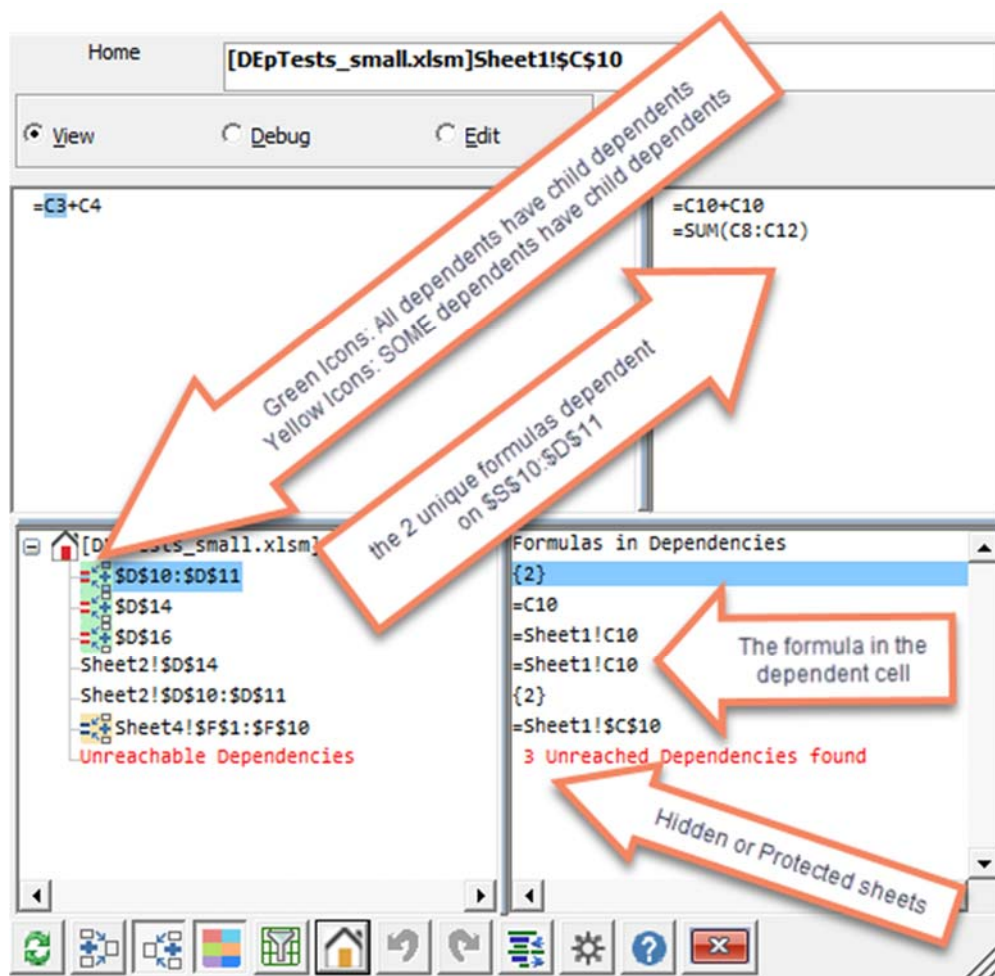


 When all the cells in a precedent range contain formulas a green icon is shown.

 When some of the cells in a precedent range contain formulas and some of the cells contain constant data a yellow icon is shown.

Show Dependents (Alt-Q)

Clicking the Dependents button (Alt-Q) shows the cell ranges that are dependent on the home cell.




The left-hand expression box shows the ranges that contain dependencies on the home cell.


The right-hand expression box shows the formula that contains the dependency (refers to the home cell). When the dependency range contains more than one unique dependency formula the number of unique formulas is shown enclosed in {}.

Selecting a dependency with more than one unique formula shows each of the unique formulas in the results box above.

Left-click a dependency range to select it on the worksheet.

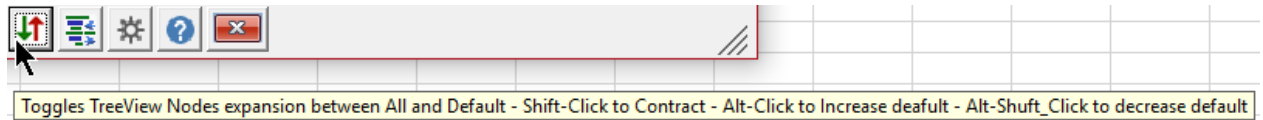
Right-click (or shift-click on the Mac) **drills down** to the dependency range and makes it the home cell.

 When **all the cells** in a dependency range have dependencies of their own a green icon is shown.

 When **only some of the cells** in a dependency range contain dependencies of their own a yellow icon is shown.

Notes: *Dependencies on Hidden or Protected sheets can be detected but not shown: a message and count are shown. Dependencies of functions like INDIRECT and OFFSET cannot be detected.*

Expand/Contract Treeview Nodes



Clicking the Expand/Contract button will **toggle expansion** between all nodes expanded and the default level of expansion.

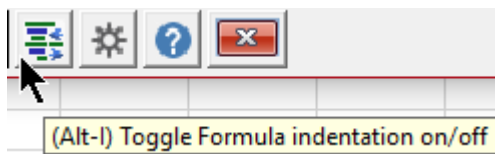
Shift-Click resets expansion to the **default expansion level**.

You can change the default expansion level either using Settings or by:

Alt-Click **increases** the default expansion level by 1

Shift-Alt-Click **reduces** the default expansion level by 1

Indent style



Clicking the Indent button (Alt-I) toggles the Indented Formula box between no indentation and the default indentation. You can change the Indent style in use from Settings.

Putting the indented formula back in the Home cell

Use Alt-Enter to replace the formula in the Home cell with its indented version. Note that the length of indented array formulas cannot exceed approximately 240 characters.

Controlling Explorer Pro using the Keyboard & Mouse

Shortcut keys when a worksheet has the Focus:

- Ctrl-m or Ctrl-Shift M launches or refreshes Explorer Pro for the **active cell formula**.
 - You can change this hotkey in Explorer Pro Settings
- Ctrl-Alt-M launches or refreshes Explorer Pro for any **Conditional Format formulas** in the active cell.
- Ctrl-Alt-Shift-M launches or refreshes Explorer Pro for any **Data Validation formula** in the active cell.
- Ctrl-Shift-N launches Name Manager Pro
 - The Analyse button in Name Manager Pro launches Formula Explorer for the selected **Named Formula**
- Ctrl-Alt-Shift-F6 resets all the FastExcel Manager modeless forms

Shortcut keys when Explorer Pro has the Focus

Left and Right Mouse Click

- **Left-click** selects an expression or clicks a command button
- **Shift-Click (Mac) or Right-Click** (only on Windows) on an expression drills down to that expression. Drill-down selects that expression and refreshes Explorer Pro using the contents of the selected reference, but does not change the Home cell.


Ctrl key combinations for moving and resizing Explorer Pro:

- F7 or Ctrl-Home Recentres Explorer Pro and resets size
- F8 or Ctrl-End Moves Explorer Pro to bottom right
- F5 or Ctrl Up arrow or Ctrl numeric keypad + Increases size
- F6 or Ctrl Down arrow or Ctrl numeric keypad - Decreases size
- Ctrl Alt Home Resets the form and all its settings

Navigating the Treeview with the Arrow keys

- Up Arrow – move selection up an expression
- Down Arrow – move selection down an expression

Expanding/Contracting the Treeview

-  Toggles Expansion on/off
- + Icon Expand this Node in the Tree
- - Icon Contract this Node in the Tree
- Alt Up Collapse TreeView to Home node
- Alt Down Expand all Expression nodes
- Alt Right Expand the TreeView one level
- Alt Left Contract the TreeView one level
- Shift any Arrow key Expand/Contract the active expression node

Accelerator Alt Keys (Cmd Key on Mac) for the Command Buttons

- Alt-B Back/Undo
- Alt-C Color references
- Alt-D Debug Mode

- Alt-E Edit Mode
- Alt-F Refresh Explorer Pro Formula from the current active cell
- Alt-Ctrl-F Refresh Explorer Pro with Conditional Format from active cell
- Alt-Ctrl-Shift-F Refresh Explorer Pro with Data Validation from active cell
- Alt-H Goto Home cell and refresh
- Alt-I Toggles Indent on off/on
- Alt-J Toggles show array results on/off
- Alt-N Next or Redo
- Alt-P Prints an A4 snapshot of the form
- Alt-R Toggle Expressions/Precedents
- Alt-Q Toggle Expressions/Dependents
- Alt-S Settings
- Alt-T Filter On/Off
- Alt-V View Mode

Function Keys

- F1 Help
- F3 Manage Names or Insert Name in Edit Mode
- F4 Toggles relative and absolute (Edit mode)

Undo/Redo/Forward/Back

- Right Arrow
 - View Mode: Next drill-down step
 - Debug Mode: Next Debug Step
 - Edit Mode: Redo last Edit
- Left Arrow
 - View Mode: Previous drill-down step
 - Debug Mode: Previous Debug Step
 - Edit Mode: Undo last Edit
- Alt Delete Clears the Drill-Down, GoTo and Undo stacks

Store the Indented Formula in the Home cell(s)

- Alt-Enter The indented version of the formula from the formula box will replace the formula in the Home cells.

Explorer Pro Edit Mode Buttons

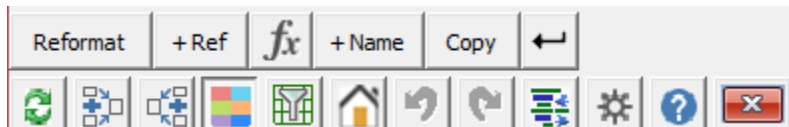
When you select Edit Mode additional buttons appear at the bottom of the form.

Origin/destination box changes to Destination Formula Address

The destination formula address shows the range where the Enter Formula button will place the formula. You can change this destination using the Home button.

Note that the destination can be a single cell or a range of cells.

Double-clicking the destination address will select the range identified by its address.

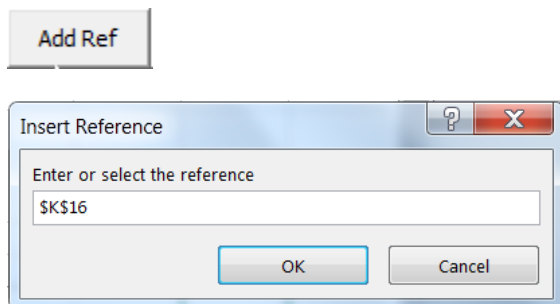


Unformat/Reformat

Clicking **Reformat** will re-indent the formula text according to the current settings. You can use this after you have manually edited the text.

Adding or changing Functions, References and Defined Names.

Add Reference



Insert Reference will bring up an input box to allow you to select a range reference using the mouse or type the reference directly.

The reference will be placed in the formula text either at the insertion point or by overwriting any selected text.

Function Wizard



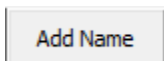
You can use the function wizard (not available on Mac) to:

- Modify an existing function
- OR Add a new function at the insertion point.

If one or more characters are selected in the Formula Box the Formula Editor will try to find the nearest function and launch the formula wizard for that function. You can also use the Function Select buttons to select the function you want to modify before launching the formula wizard.

If there are no characters selected in the formula box the Formula Editor will insert a function using the formula wizard at the current insertion point. This can simplify creating formulas with functions embedded inside other functions.

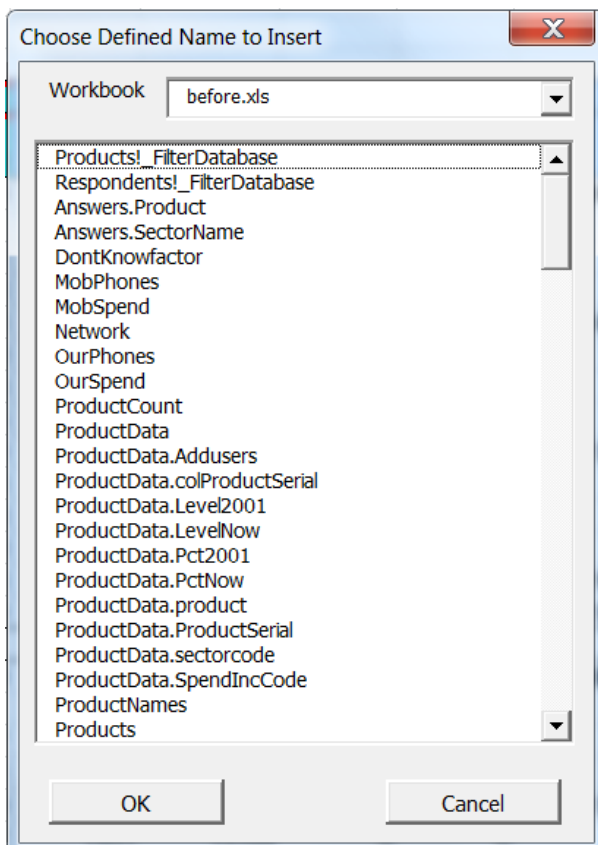
Add Name



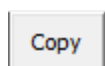
This button brings up a dialog box allowing you to choose which of the open workbooks you want to insert a defined name from.

When you choose a workbook you get a list of all the Defined Names in that workbook.

You can select a name to be inserted into the formula box at the insertion point or by overwriting any selected text.



Copy From



Use the Copy From button to choose a cell and copy its formula into the Formula Box at the insertion point. If you want to replace all or part of the existing formula in the Formula Box you can select the text you want to replace or clear the formula box before using Copy From.

Changing a reference from relative to absolute

Using F4 adjusts a single reference at or adjacent to the insertion point from relative to absolute etc. The sequence is:

- Row and column Relative
- Row and column Absolute
- Relative column and Absolute Row
- Absolute Column and Relative Row

Structured References are also adjusted from relative to absolute, using techniques borrowed from Jon Acampora <http://www.excelcampus.com/>

Enter Formula



This button attempts to enter the formula from the Formula Box into the destination range. If the destination range covers more than one cell the formula will be entered into all the cells. If the Array Formula checkbox is ticked the formula will be array entered.

Show Hints when Explorer starts

The first time Explorer Pro is shown in an Excel session the most useful keyboard shortcuts and hints are shown.

Using Explorer Pro - Hints

Ctrl-Shift-M to start
Control-Shift-M to get the formula from the active cell

Navigate with Arrow Keys
Up and Down Arrow Keys: Move up or down the Expression trees
Alt-Up and Alt-Down Arrow Keys: Collapse or Expand the Expression trees

Right-Click or Shift-Click to Drill-down
Right-click (Windows) or Shift-Click (Mac) to drill-down to a reference
The Precedents button (Alt-R) shows all unique Precedents
The Home button (Alt-H) goes back to the Home Cell

Ctrl Up/Down to Resize
Ctrl Up/Down Arrows: Increase/Decrease size
Ctrl Home: Recenter. Ctrl End: Move to bottom right

Step-by-Step Debug with the Arrow keys
In Debug mode use the Right and Left Arrow keys for step-by-step formula debug.

Do not show these hints again

Continue Cancel Help Print

Check “Do not show these hints again” to turn off showing this start up form.

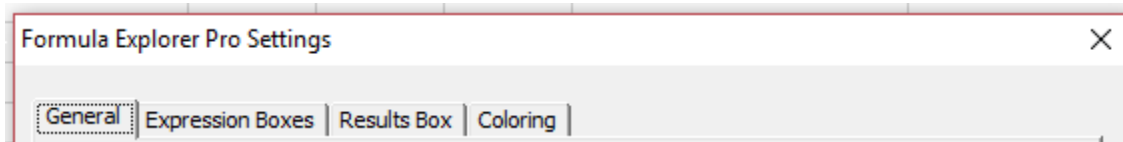
Click **Continue** to close this form and show Explorer Pro.

Explorer Pro Settings

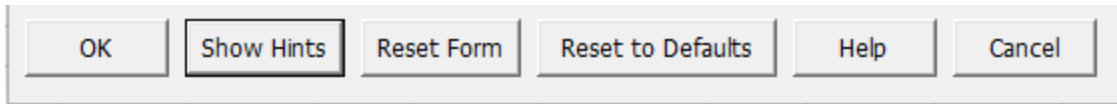


The **settings button** allows you to change your default settings.

There are 4 tabs for different collections of settings.



At the bottom of the Settings form:



OK

Any changed settings will be stored and used.

Show Hints

The Hints Form will be shown.

Reset Form

The Explorer Pro form will be reset to its default size and centred in the Excel Window.

Reset to Defaults

Clicking this button will **reset all** the Explorer Pro settings, form size and position **to the default settings**.

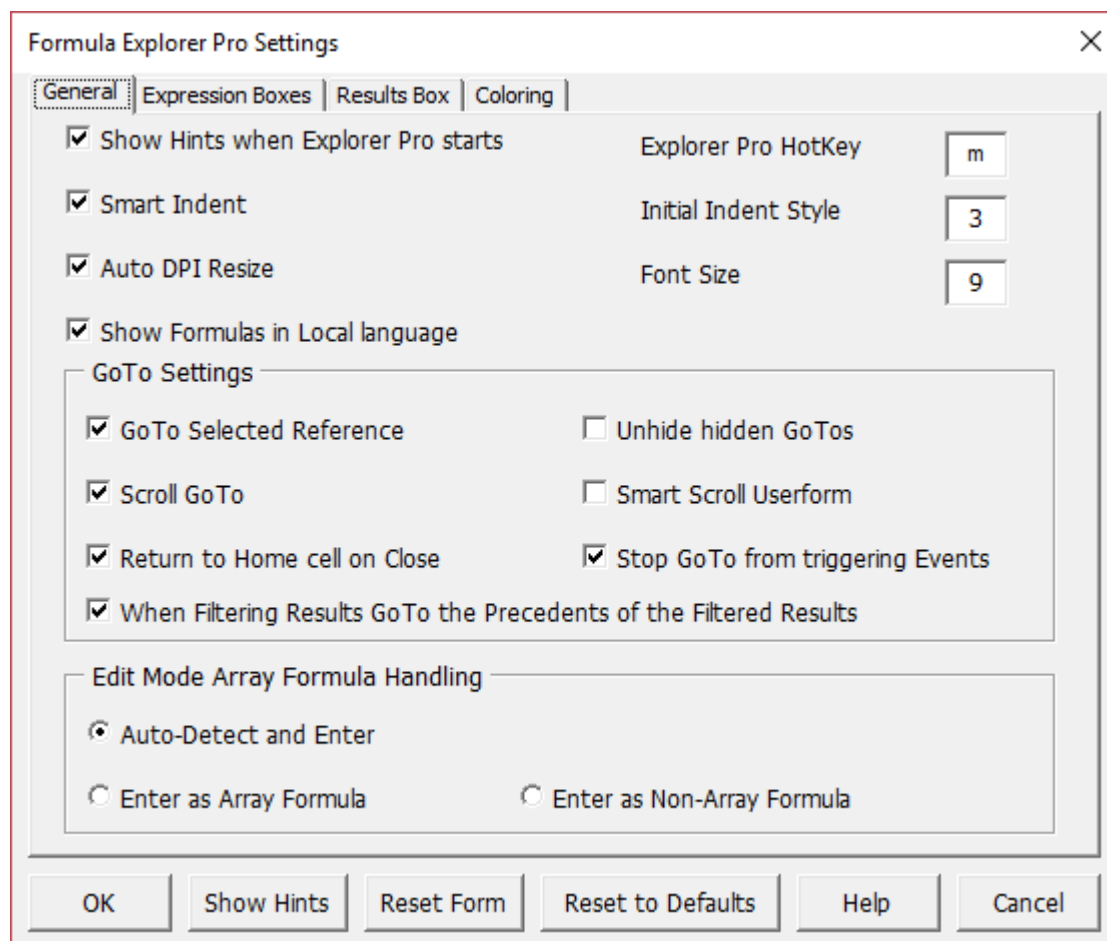
Help

Help opens a browser window showing help for Explorer Pro Settings

Cancel

Any changed settings will be discarded

General Settings



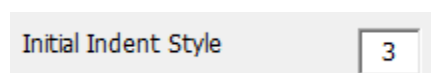
Explorer Pro HotKey

Use Ctrl HotKey or Ctrl-Shift Hotkey to start or refresh Explorer Pro. The default is M, so Ctrl-m or Ctrl-Shift-M will start or refresh Explorer Pro. If you change the hotkey it must be a single character.

Smart Indent

Smart Indent recognises the function being used and adjusts the indentation accordingly the next time you refresh or reformat the formula.

Initial Indent Style



This is a number from 1 (no indents or new lines) to 7 (maximum indentation and new lines) that controls the Indent style to be used the next time you start Explorer Pro.

The initial default setting is 3. When Explorer Pro has the focus you can use **F5** to increase the indentation style and **F6** to decrease the indentation style.

Indent Styles

- 1 – No Indentation
- 2 – New line for each Function or smart indent
- 3 – New line on change of parenthesis level or before Function or smart indent
- 4 – New line on change of parenthesis level or before Function or after first function parameter or smart indent
- 5 – New line on change of parenthesis level or before Function(and after Function(
- 6 - New line on change of parenthesis level or before Function(and after Function(and after each separator
- 7 - New line on change of parenthesis level or before Function(and after Function(and after each operator or separator

Auto DPI Resize

When this is checked the size of the Formula Explorer Form and the Font size will be increased if the main screen uses a high DPI setting.

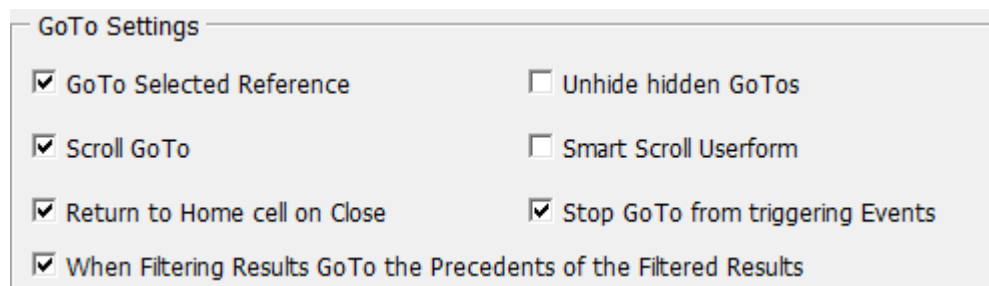
Font Size

You can change the font size used in the 4 display boxes. The default is 9 for Windows and 10 for Mac.

Show Formulas in Local Language

If you uncheck this option Explorer Pro will show formulas using English function names and separators. 91 languages are supported for localised function names.

GoTo Settings



<input checked="" type="checkbox"/> GoTo Selected Reference	<input type="checkbox"/> Unhide hidden GoTos
<input checked="" type="checkbox"/> Scroll GoTo	<input type="checkbox"/> Smart Scroll Userform
<input checked="" type="checkbox"/> Return to Home cell on Close	<input checked="" type="checkbox"/> Stop GoTo from triggering Events
<input checked="" type="checkbox"/> When Filtering Results GoTo the Precedents of the Filtered Results	

Go To Selected Reference

If checked then when a reference is clicked in Explorer Pro its cell(s) will be selected. See also Precedent Coloring.

Unhide Hidden GoTos

If checked and the GoTo range is hidden it will be unhidden.

Scroll GoTo

If checked all GoTo actions will scroll to the selected range.

Smart Scroll Userform

If the GoTo range is hidden by Explorer Pro an attempt will be made to move Explorer Pro to unhide the GoTo reference.

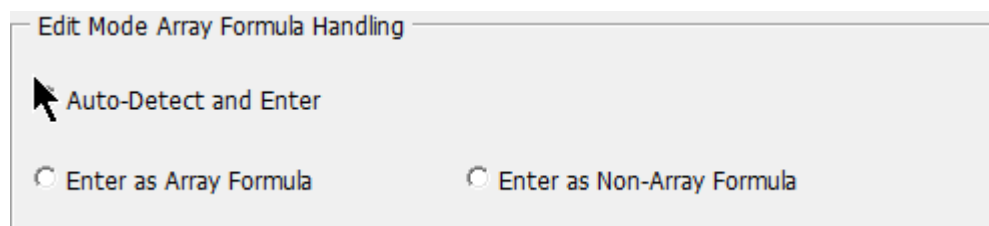
Return to Home Cell on Close

When Explorer Pro is closed the Excel Window will scroll to the Home cell.

Stop Go To from triggering Events

When checked, Events such as Selection Change will not be triggered by a GoTo initiated by clicking on an expression, Precedent or Dependent in Formula Explorer.

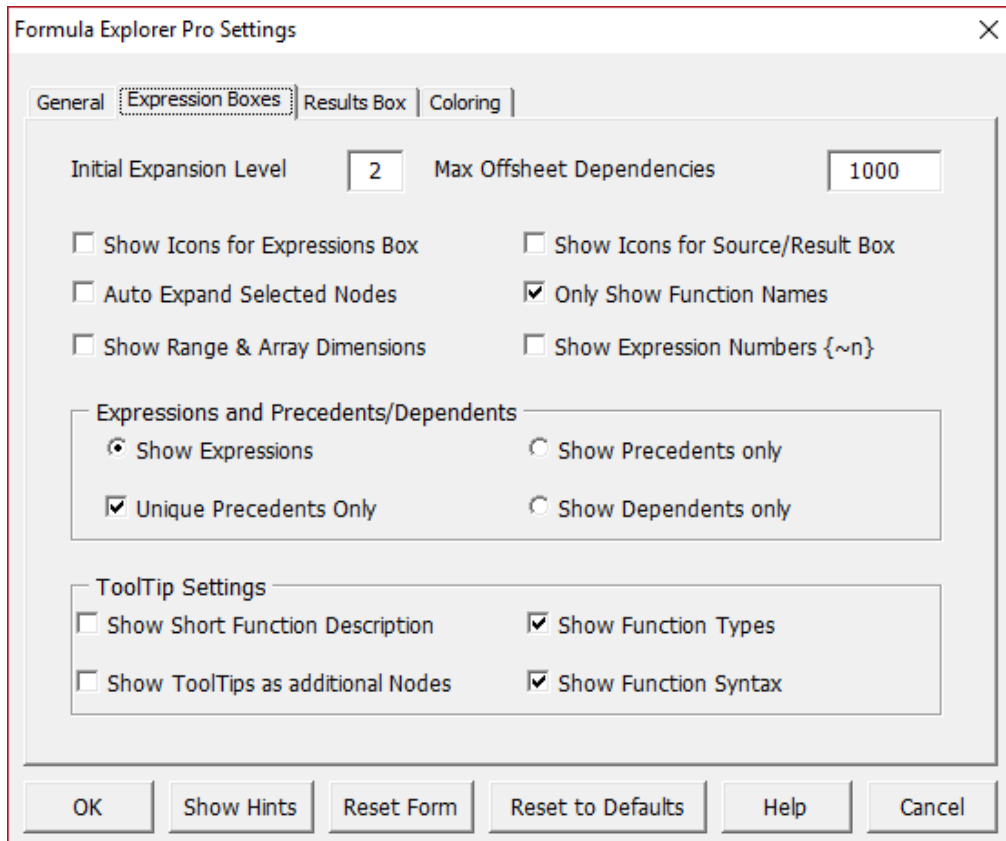
Edit Mode Array Formula Handling:



These settings control whether or not the formula is entered back into the destination cell as an array formula.

The default is that if the formula was originally an array formula then it will be entered as an array formula. The other options allow you to convert an array formula to a non-array formula and vice versa.

Expression Box Settings



Initial Expansion Level

This setting controls the initial expansion level of the TreeViews. The home or root node in the tree is considered level 0. Its direct children are level 1 and their children are level 2 and so on.

Show Icons for Expressions Box

This option controls whether the expression type icons are shown in the left-hand Expressions box.

Show Icons for Source/Result Box

This option controls whether the expression type icons are shown in the right-hand Source/Result box.

Auto Expand Selected Nodes

If checked selecting a node will automatically show all its children.

Only Show Function Names

When checked the expression for a Function will only show the name of the function rather than the function with all its parameters (the parameters are shown as children of the function anyway).

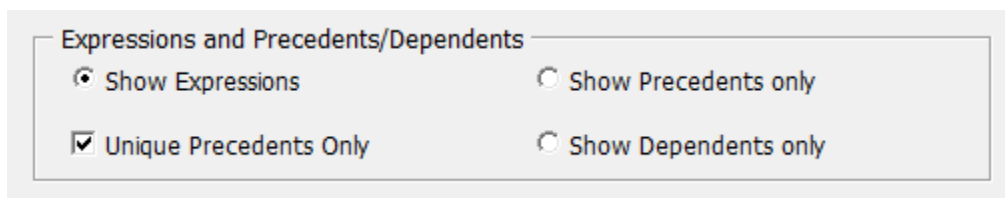
Show Range and Array Dimensions

When checked the size of the range or array is shown in the right-hand Source/result box.

Show Expression Numbers

Expression numbers of the form {~6} are always shown in Formula Debug mode but are not shown in other view modes unless this option is checked.

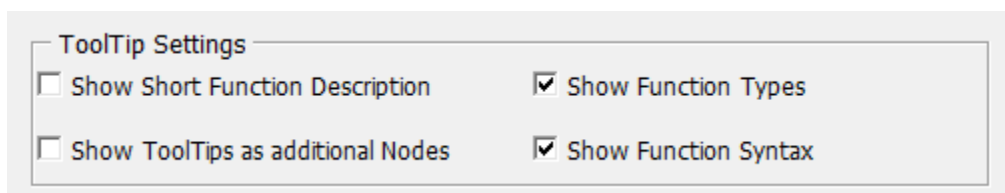
Expressions and Precedents Settings



Unique Precedents Only

When showing Precedents rather than Expressions this option avoids showing the same precedent twice. This test is applied independently for the Expression treeview and the Source/Result box.

ToolTip Settings



When you mouse hovers over an expression in the Expression Treeview a descriptive tooltip appears.

Show Short Function Description

A short description in English of the selected function will be shown.

Show Function Types

Information about the function will be shown:

- Source: Native or XLL or VBA/Automation
- Volatile or Non-Volatile or Not Known (?)
- Single-Threaded or Multi-Threaded

Show ToolTips as additional Nodes

Checking this option adds extra nodes to show all the ToolTips.

Show Function Syntax

Each function will show (in English) the name of the function and its parameters.

Results Box Settings

Formula Explorer Pro Settings

General | Expression Boxes | **Results Box** | Coloring

Max number of Rows & Columns to Evaluate or Select

Max Rows: 5000 Max Columns: 100

Show the Results Box for Ranges and Arrays

Max Evaluated Rows/Cols to show in Results Box: 200

Number of Decimal Places Shown in Results Box: 4

Evaluation Results Filter Default - Only Show Rows with

True, Non-zero, Text False, Empty, Zero, Blank

Numbers Not Numbers

Errors

OK Show Hints Reset Form Reset to Defaults Help Cancel

Max Number of Rows to Evaluate/Select/Color

For performance reasons you may want to restrict the maximum number of rows and columns that are evaluated, selected and colored.

Show the Results Box for Ranges and Arrays

This sets the default start up behaviour for showing the Results box for arrays and multi-cell Ranges. You can also toggle this behaviour on or off during a Manager Pro session by clicking the Filter button. For performance and simplicity it is usually better to set this default setting to Off, and just use the Filter button when you want to examine a result more closely.

Max Evaluated Rows/Cols to show in Results Box

When a sub-expression results in a large number of rows or columns this setting controls the maximum number shown in the Results Box.

Number of Decimal Places to Show in Results Box

For array or range results this setting controls the number of decimal places shown.

Evaluation Results Filter Default

This option prevents unnecessary results being shown for array or range results.

Choose the initial default for the results filter.

Coloring Settings

Formula Explorer Pro Settings

General | Expression Boxes | Results Box | **Coloring**

Color Home Cell

Color Precedent Cells

Color Right-Hand Nodes: Source References Green and Reduced References Orange

Choose Color for Precedent Cells

Blue Red Green Purple

Aqua Orange Tan

Precedents from Left-Hand Expressions Box - Text and Background Coloring

Black Text - Light Background Black Text - Medium Background

White Text - Dark Background White Text - Darker Background

Precedents from Right-Hand Source Box - Text and Background Coloring

Black Text - Light Background Black Text - Medium Background

White Text - Dark Background White Text - Darker Background

OK Show Hints Reset Form Reset to Defaults Help Cancel

Color Home Cell

The Home cell will be colored.

Color Right-Hand Nodes: Source References Green and Reduced References Orange

When checked the text in the right-hand Source/Result box is colored:

- Restricted References resulting from Intersections are colored Orange
- Source References resulting from Functions and expressions are colored Green

All other text is colored black.

Color Precedent Cells

By default this button is ON.

Choose Color for Precedent Cells

Choose the color to be used when coloring precedent cells. The default color is Red.

Shift-Click on the Color button on the Explorer Pro form will cycle through the colors.

Alt-Click on the Color button on the Explorer Pro form will cycle through the Text and Background coloring options.

Choose Color for Precedent Cells

Blue Red Green Purple

Aqua Orange Tan

Precedents from Left-Hand Expressions Box - Text and Background Coloring

Black Text - Light Background Black Text - Medium Background

White Text - Dark Background White Text - Darker Background

Precedents from Right-Hand Source Box - Text and Background Coloring

Black Text - Light Background Black Text - Medium Background

White Text - Dark Background White Text - Darker Background

Left-Hand Cell References- Text and Background Coloring

Choose black text with light or medium colored background, or white text with dark or darker colored background. This choice will be applied to the references from the left-hand expression box.

Right-Hand Cell Reference - Text and Background Coloring

Choose black text with light or medium colored background, or white text with dark or darker colored background. This choice will be applied to the references in the right-hand Source/Result box.

The image below shows the colors and shading for light background, medium background, dark and darker backgrounds.

	Dark Blue	Red	Olive Green	Purple	Aqua	Orange	Tan
Light	\$A\$56	\$C\$54	\$E\$54	\$G\$54	\$I\$54	\$K\$54	\$M\$54
Medium	\$A\$57	\$C\$55	\$E\$55	\$G\$55	\$I\$55	\$K\$55	\$M\$55
Dark	\$A\$55	\$A\$57	\$A\$59	\$A\$61	\$A\$63	\$A\$65	\$A\$67
Darker	\$A\$56	\$A\$58	\$A\$60	\$A\$62	\$A\$64	\$A\$66	\$A\$68

Name Manager Professional

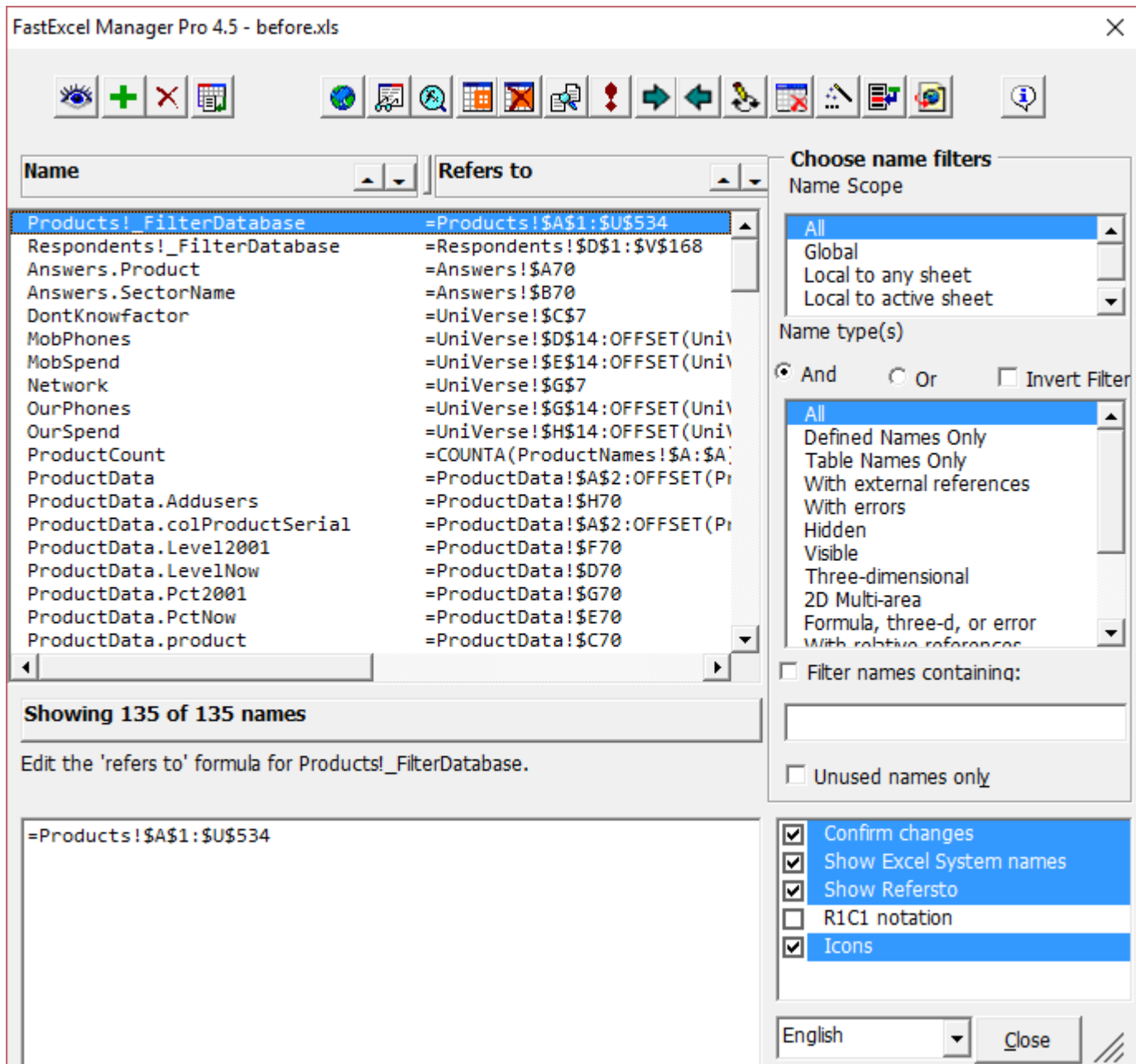
The best available tool for managing Excel Defined Names.

Name Manager Credits

Decision Models developed the Name Manager Pro component of FastExcel in collaboration with Jan Karel Pieterse, [jkpieterse@jkp-ads.com](mailto:jkipieterse@jkp-ads.com).

Working with Name Manager



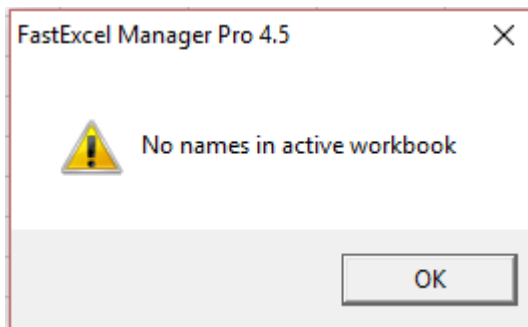


Note that you can also have buttons with descriptive text instead of icons for the commands:

Hide	Add	List	Localise	Evaluate	Highlight	Is Used?	GoTo	Rename	Wizard	Map	Help
Unhide	Delete	PickUp	Globalise	Analyse	Clear	Refresh	Go Back		Replace		About

(Last option in the options list).

If your active workbook does not contain any names, you will get a warning message.



Name Manager is Modeless

The Name Manager's dialog screen is in Modeless state for Windows Excel 2003 and Mac Excel 2016 and up.

You can use name manager with many workbooks open at the same time. When you select a different workbook and then click on the Name Manager Window, it will update with the names in the current workbook.

Modeless means you can have the dialog open and work in Excel at the same time. Not all changes made in excel will be automatically reflected in the names list though. For example: names deleted or added from the normal Excel interface ("Insert", "Name" menu choices) or from VBA whilst the name manager is showing will not be immediately reflected in the dialog. Clicking inside the names list will update the list when Name manager detects that it has changed. Clicking the **Refresh** button will rebuild the list.

If you want to change names using Excel's normal methods or through VBA we recommend:

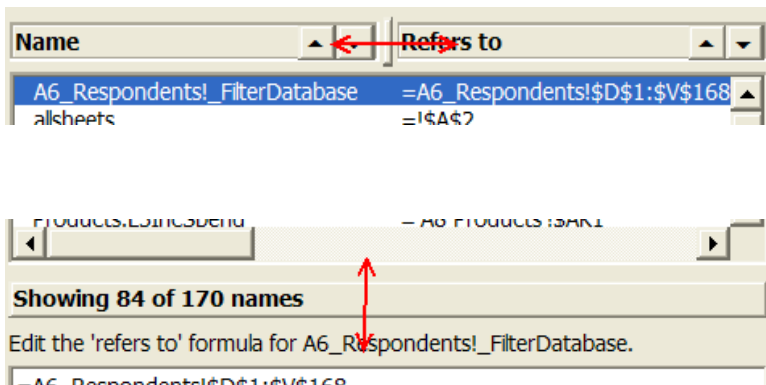
- Either close the name manager before making the changes.
- Or click the Refresh button after making the changes.

Name Manager is Resizable

The Name Manager form is dynamically resizable: just drag the resize button in the bottom right-hand corner to make the form the size you want.

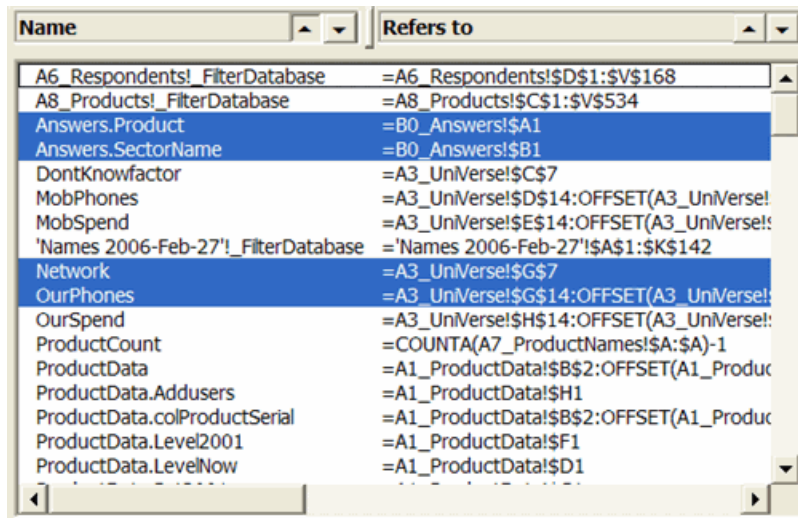
Name Manager Splitter Bars

There are two splitter bars on the Name Manager form, which allow you to control the way the space is divided horizontally between the Names and their Refers-to formulas, and vertically between the Names ListBox and the Refers-To Edit box.



Just drag the splitter bars to the position you want.

The Names Listbox



The names Listbox shows the names that are currently selected by the filters.

Sorting the Names Listbox

You can sort the names ascending or descending by the names or their refers-to formulas by clicking the arrow buttons next to the Name or Refers to headings.

Dividing the Space between Name and Refersto

You can control the way the space in the Names Listbox is divided between the Names and their Refersto by dragging sideways the small splitter bar located just to the left of the Refersto Label.

Selecting one or more Names

*Select multiple names
using control+click*

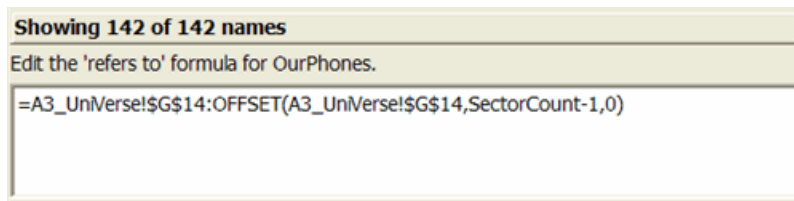
You can click on any name to perform actions on that name. You can select more than one name and perform actions on all selected names in one go.

Note that certain controls will be enabled or disabled, depending on whether or not one name is selected.

You can select multiple specific names by control+click on the names; you can select a sequence of names by clicking the first and shift+click on the last or by dragging the mouse over the names you want to select.

Control-A will select all the names currently shown.

Refers-to edit box



Showing 142 of 142 names

Edit the 'refers to' formula for OurPhones.

=A3_Universe!\$G\$14:OFFSET(A3_Universe!\$G\$14,SectorCount-1,0)

Below the Name Listbox is the Refers To Edit box. Use that to edit a name's refers to property. When more than one name is selected, the Refers To Edit box is not available.

If a name contains a relative reference, the result of changing the refers-to property is influenced by which cell is the active cell during the update.

Therefore, the Name Manager will prompt you for the active cell when you enter the edit box whilst a name with a relative reference is highlighted, and will warn you if you change a name from absolute to relative.

Important: Due to an internal limitation of Excel, it is not possible to have a name with a refersto string longer than approximately 240 characters. When you edit a name's refersto in this box, it will be truncated at 240 characters automatically.

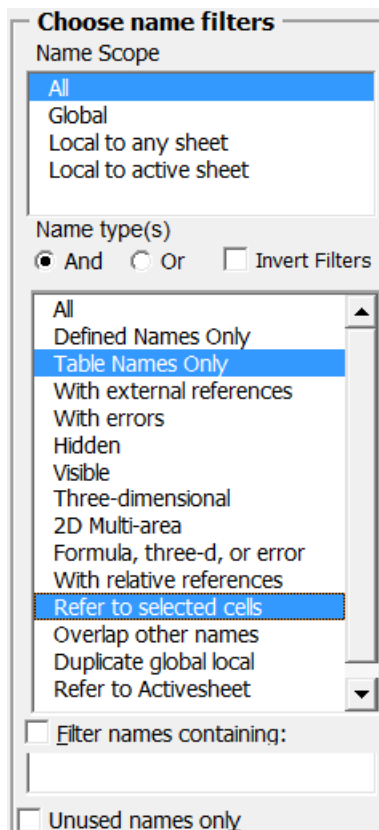
As from FastExcel 2.1 there is an exception: as long as the name refers to areas of cells directly (does not contain a formula), names can be edited up to 224 areas of cells.

Refers-to Splitter Bar

The raised bar that tells you how many names are showing is also a splitter bar that you can drag up and down to divide the space on the Name Manager form between the Names List box and the Refers to Edit box

Name Manager Filters

Name manager has four filters you can use to control the names that are shown in the Names Listbox. The filters act in combination: names shown must meet all four of the filter criteria.



Name Scope filter

Select one of the items (All, Global, Local to any sheet, Local to Active Sheet) in this listbox to restrict the names shown.

And/Or option buttons

If And is selected (default) only names are shown to which all chosen criteria in the “Type filter” apply. With “Or” selected, names are shown to which any of the selected Type filter criteria apply.

Invert Filters

If the Invert Filters checkbox is ticked the filters are inverted so that, in this example, visible cells that Refer to selected cells are excluded rather than included.

NameType(s) filter

Select the type(s) of names you want shown. You can select more than one type of filter by holding the control or shift key while clicking in this listbox. When you select more than one type Name Manager will filter either names that match ALL the types selected (And) or names that match ANY of the types selected (Or).

Filter names containing Checkbox

Check this checkbox to only show names that contain the string you entered in the search edit box below. This box is checked automatically once you enter anything in the edit box. Of course the other filters will also apply.

Search Editbox

Enter any combination of characters you want the shown names to match to (including the usual wildcards).

The search string is matched against both the names and their refers-to properties.

When your workbook contains less than 100 names, the listing will be updated as you type. Because filtering the names can take a lot of time, when there are more than 100 names the listing will be updated when you leave the "Match filter" edit box by pressing the Tab key or enter or by clicking on another control, such as the Refresh button.

Unused names checkbox

Check this box to have the Name Manager only show names that are not used in any **formula** or any other **name** in the workbook, or as string constants in VBA.

Name Manager does **NOT** check some areas that can contain names:

- VBA code that uses string concatenation to create names.
- Names constructed using INDIRECT
- ...

Make sure before you delete unused names that the names are not used in a way that this filter cannot detect: it is advisable to make a backup save before deleting.

Due to the heavy searching needed this option may take quite some time on large workbooks.

The other criteria will also apply!

This checkbox is cleared whenever one changes other filter criteria or when one changes the refers-to property.

Name Manager Action Buttons



Hide, Unhide Buttons



Hides or un-hides the selected name(s). With one name selected, only the button that applies is enabled, with more than one name selected, both buttons are enabled. Tables cannot be hidden.

Add Button



Opens the Add Name form: see below.

Delete Button



Deletes the selected names. Tables cannot be deleted by Name Manager.

List Button



Creates a new worksheet in the workbook with a listing of names in the workbook with all of their properties. You will be asked whether or not to use the filters set up in the dialog to filter the names to be listed. Tables are not included.

Pickup Button



This button is only enabled when the Name Manager finds a worksheet named according to this scheme: "Names yyyy-mmm-dd". A sheet by that name will be created automatically by clicking the "List" button.

The button picks up **the selected names** from the names listing that has been created by the List Button. You can edit the names list (not the names themselves, but their refersto property and their visible property), you can even add new names to this listing (be sure to include the refersto and visible property, the other properties can be omitted). All **selected** rows of this listing will be picked up.

Note that the values of the cells will be used to create the names, NOT the formulas in the cells!

Existing names are changed to reflect the listing, new names are added.

You can use the List and Pickup buttons to transfer names between workbooks by copying the Names worksheet into a new workbook and then using the Pickup button.

You can also do multiple edits on the Refersto formulas on the Names sheet and then reload the changed definitions back into the workbook using the Pickup button.

Localize Button



Makes the selected names local to a worksheet.

This Button is enabled when either a global name is selected or multiple names are selected.

Three cases are possible here:

- A name refers to one sheet: The name is localized to that sheet automatically
- A name refers to more than just one sheet: You are prompted to choose **one** sheet to localize that name to.
- A name refers to no sheet: The name will be localized to the active worksheet.

Please note, that only the name itself will be changed, not the formulas in your worksheets.

If you have the confirmation checkbox checked, you will be prompted whether or not to delete the global name(s). If confirmation is switched off, the global name(s) will NOT be deleted.

Tables cannot be local to a worksheet and are ignored by this command

Globalize Button



The Button is enabled when either a local name is selected or one is in multi-mode. Local names will be made global by removing the sheet name prefix.

If you have the confirmation checkbox checked, you will be prompted whether or not to delete the local name(s). If confirmation is switched off, the local name(s) will NOT be deleted.

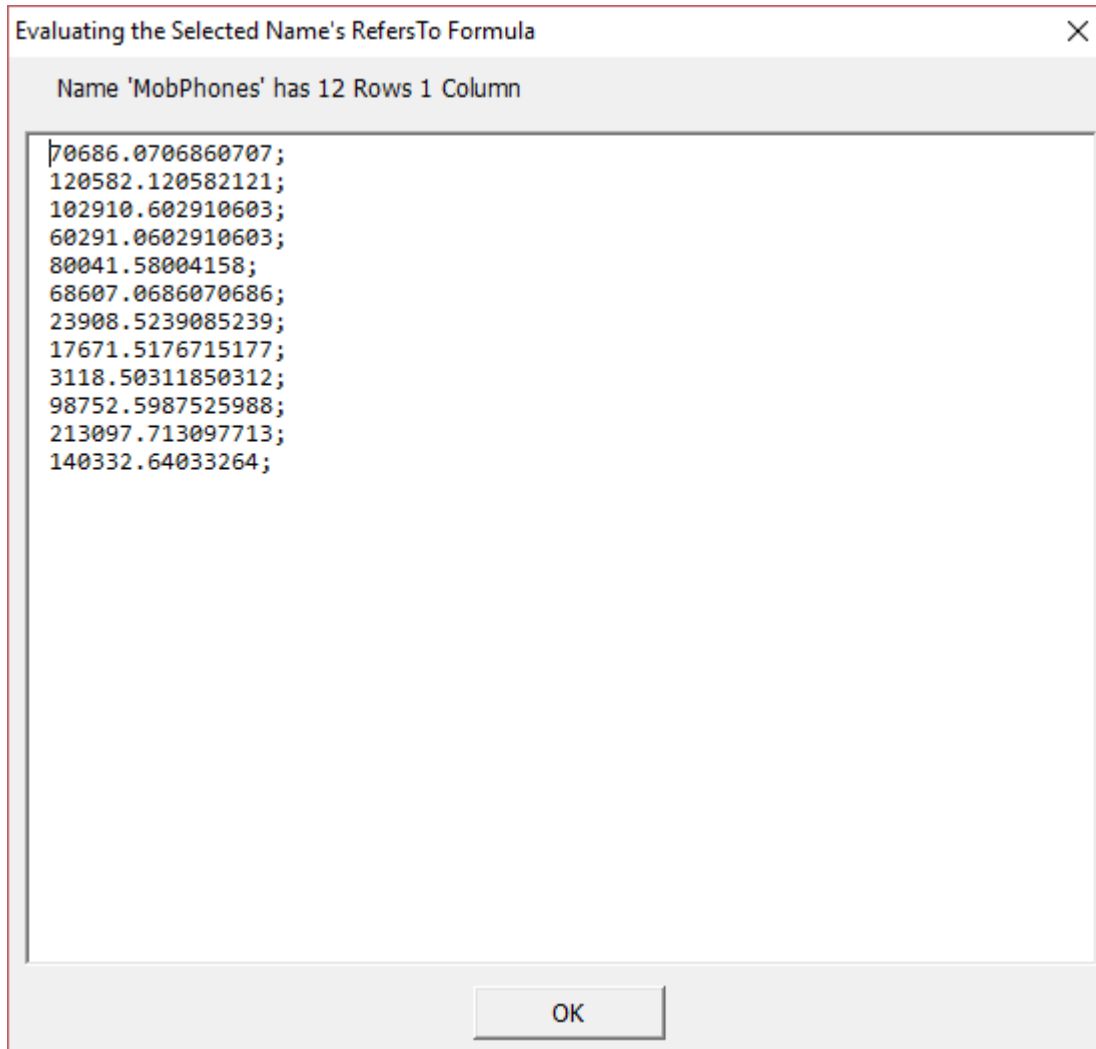
Note: only the name itself will be changed, not the formulas in your worksheets.

Tables cannot be local to a worksheet and are ignored by this command

Evaluate Button



Click this Button to get a scrollable textbox with the value(s) the first selected name/table evaluates to.



Analyze Name Button



When one name is highlighted in the main window, you can press the Analyze button to show Formula Explorer Pro for the selected Name.

The screenshot displays the FastExcel Manager Pro 4.5 interface. The main window shows a list of names on the left, with 'Flowers' selected. The Formula Explorer Pro window is open, showing the formula for 'Flowers' in a light blue highlighted cell: `=Log_WorkSheet3!J12:INDEX(Log_WorkSheet3!$J:$XFD,COUNTA(Log_WorkSheet3!J12:J1048576)+ROW(Log_WorkSheet3!J12)-1,COUNTA(Log_WorkSheet3!J12:XFD12))`. The Formula Explorer Pro window also shows a tree view of the formula structure, with 'INDEX' and 'COUNTA' functions expanded. The 'Flowers' name is highlighted in the main window, and the Formula Explorer Pro window is titled 'FastExcel Formula Explorer Pro 441.797'. The main window shows 'Showing 24 of 24 names' and 'Edit the 'refers to' formula for Flowers.'

All Explorer Pro functions are available except for Edit Mode.

In the Explorer Pro form the name of the Name being explored is shown at the top left, and the home cell textbox is shown with a light blue background to indicate you are exploring a Named Formula.

Highlight Button



Use this button to highlight the ranges referred to by all names as they are currently shown in the Name Manager's main screen (names not shown due to filtering will not be highlighted).

After clicking this button you will first be prompted whether you wish to remove any existing highlights. The Name Manager will show a message stating all names it had trouble highlighting. Especially names referring to a 3D range and names that have a formula may be impossible to highlight.

Clear Button

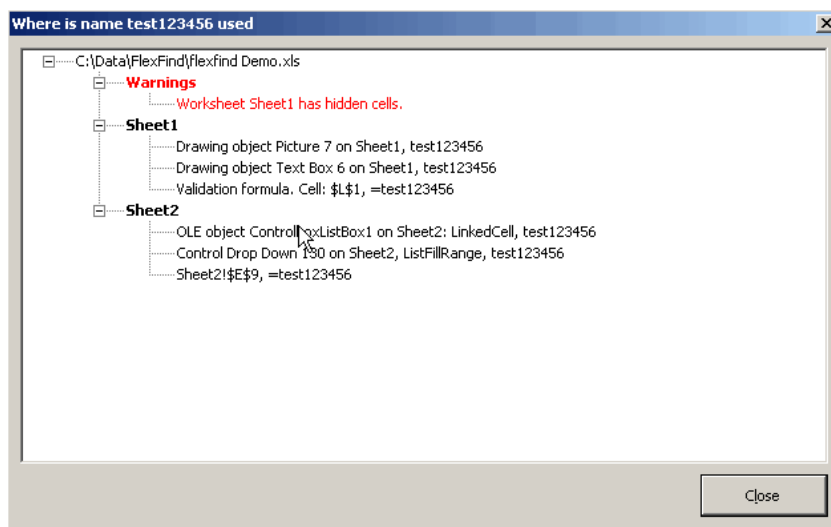


Clears all highlights produced with the Highlight button.

Is Used ? Button



Press this button to let Name Manager search for uses of the first selected name. A screen will be shown indicated all objects and cells where the name is in use. Click on one of the items to have the object selected. Tables are ignored by Is Used.



Refresh Button



In XL 2003 and up, the Name manager's form is shown Modeless and you can switch to Excel without closing the name manager's window. To make sure the name manager is up to date, press this button after doing edits in your workbook while the name manager is showing.

GoTo button



Clicking this button with a Name selected (or double-clicking a Name in the Names Listbox) will cause Excel to switch to the workbook and worksheet and referred-to range of the Name.

GoTo will have no effect for Names such as Names containing Formulas, or referring to ranges in closed workbooks.

GoBack button

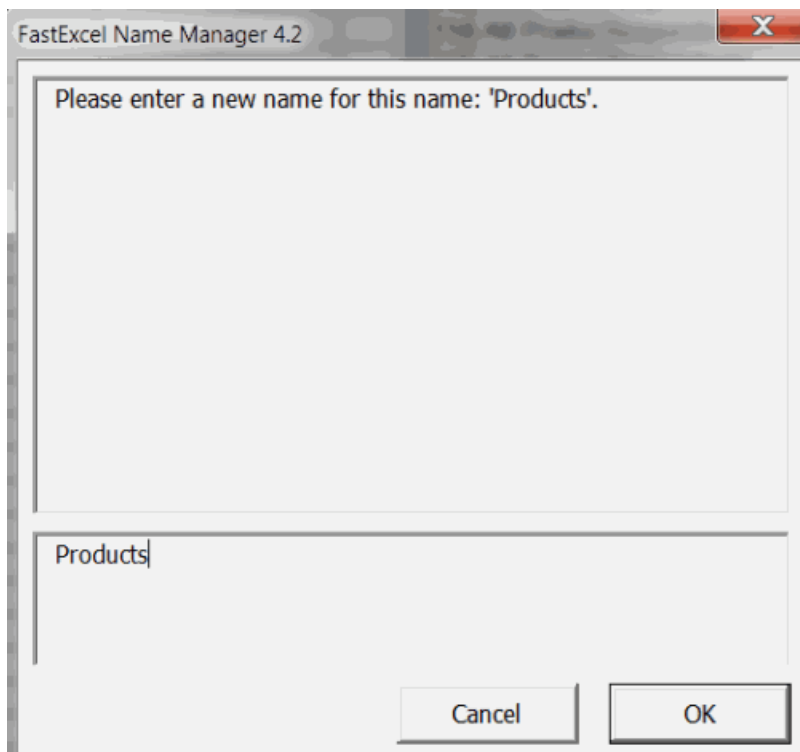


Clicking this button will GoTo the Name that was last Gone To.

Renaming a Name



You can change the name of a name or table by clicking the Rename Button or hitting F2, to bring up this dialog box.



UnName

This button converts selected Tables and Names back to ranges.

About Button



The About button shows the current version and build number of the component and the developers of Name Manager.

Dynamic Range Wizard Button

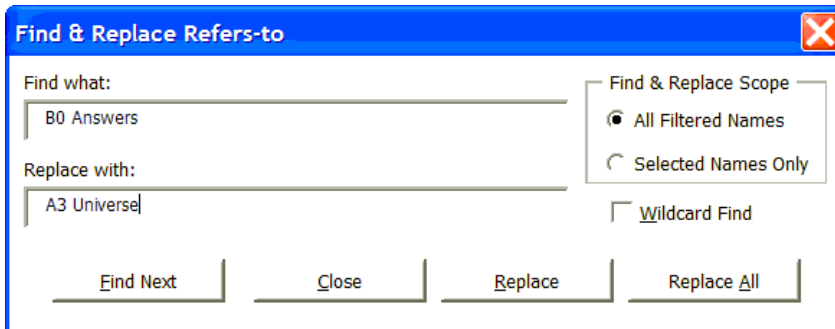


This button launches the Dynamic Range Wizard. See the Dynamic Range Wizard section of this guide for details.

Find and Replace button



The Find and Replace button launches the find and replace dialog:



Find what:

Enter the text (Find text) you want to be found or replaced in the Refers-To in this box. If you want to use the wildcard characters * and ? then you must also check the Wildcard Find checkbox.

Replace With:

Enter the text (Replace Text) you want to replace the text found in the Refers-To.

Find & Replace Scope

Choose to apply the find and replace operation either to all the names that have been filtered in the names listbox, or just to all the names that are currently selected in the names listbox.

Find Next Button

Finds and selects the next occurrence of the Find Text within the Filtered or Selected names Refers-To.

Close Button

Closes the Find and replace dialog.

Replace Button

Finds **the first** Refers-To that contains the Find Text within the Find & Replace Scope and replaces it with the Replace text. If the first Refers-To found contains multiple copies of the find text then they are all replaced. If the Find text cannot be found an error message will be shown.

If Confirm Changes is checked then you will be asked to confirm the replace operation.

Replace All Button

Finds **every** Refers-To that contains the Find Text within the Find & Replace Scope and replaces them with the Replace Text.

Name Map Button



The Name Map button analyzes all the formulas on the worksheets in the workbook and in other names to produce a Name Map worksheet showing counts of the usage of the Names by worksheet and by other Name.

Names created by INDIRECT formulas are also found.

Name Counts by Worksheet - Use GoTo Arrow to Show Where Name is Used												
Name	Total	Explanation	UniVerse	Answers	Products	Respondents	RespondentData	ProductData	Sectors	SegmentNames	ProductNames	Counts
Answers.Product	120	0	0	120	0	0	0	0	0	0	0	0
Answers.SectorName	72	0	0	72	0	0	0	0	0	0	0	0
DontKnowfactor	533	0	0	0	533	0	0	0	0	0	0	0
MobPhones	37	0	37	0	0	0	0	0	0	0	0	0
MobSpend	37	0	37	0	0	0	0	0	0	0	0	0
Network	24	0	24	0	0	0	0	0	0	0	0	0
OurPhones	37	0	37	0	0	0	0	0	0	0	0	0
OurSpend	37	0	37	0	0	0	0	0	0	0	0	0
ProductCount	1	0	0	0	0	0	0	0	0	0	0	1
ProductData	0	0	0	0	0	0	0	0	0	0	0	0
ProductData.Addusers	533	0	0	0	533	0	0	0	0	0	0	0
ProductData.colProductSerial	0	0	0	0	0	0	0	0	0	0	0	0
ProductData.Level2001	3198	0	0	0	3198	0	0	0	0	0	0	0
ProductData.LevelNow	3198	0	0	0	3198	0	0	0	0	0	0	0
ProductData.Pct2001	3731	0	0	0	3731	0	0	0	0	0	0	0
ProductData.PctNow	4797	0	0	0	4797	0	0	0	0	0	0	0
ProductData.product	533	0	0	0	533	0	0	0	0	0	0	0
ProductData.ProductSerial	5863	0	0	0	5863	0	0	0	0	0	0	0
ProductData.sectorcode	1066	0	0	0	1066	0	0	0	0	0	0	0
ProductData.SpendIncCode	1066	0	0	0	1066	0	0	0	0	0	0	0
ProductNames	533	0	0	0	533	0	0	0	0	0	0	0

Name Manager Help Button



The Name Manager Help button provides on-line help about Name Manager

Name Manager Options Listbox

- Confirm changes
- Show Excel System names
- Show Refersto
- R1C1 notation
- Icons

Confirm Changes

 Confirm changes.

Check the Confirm Changes box to get prompts to confirm any changes you make with the action buttons.

Show Excel System Names

Check this box to show Excel's system names (like Print_Area, Print_Titles, _FilterDatabase). **In general it is recommended not to modify these names or to delete them.**

Show refersto

Check this box to have the name manager show the refersto properties next to the names listing.

R1C1 Notation

Repair corrupt names by clicking the R1C1 names checkbox twice!

Toggles between R1C1 and A1 worksheet reference style (Same as in Tools, Options, General tab). Please note that this is a “permanent” change, it stays in effect after closing the name manager

This checkbox may also be used to repair corrupt names in any workbook. Simply click it twice and you will be prompted to rename any corrupt name!

Icons

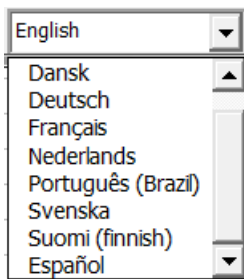
Check this box to show Icons for the Name manager Action buttons:



Uncheck this box to show Buttons:

Hide	Add	List	Localise	Evaluate	Highlight	Is Used?	GoTo	Rename	Wizard	Map	Help
Unhide	Delete	PickUp	Globalise	Analyse	Clear	Refresh	Go Back	UnName	Replace		About

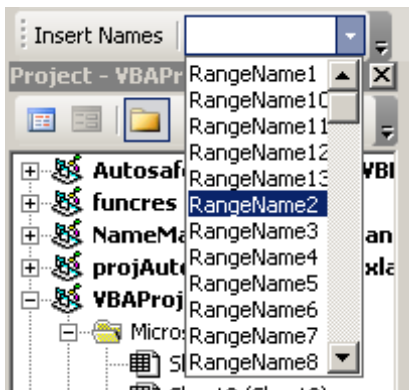
Language dropdown



Choose one of the available languages. After pressing OK, this language will be used in all messages and on all user forms.

Name Manager and the VBE (Windows Only)

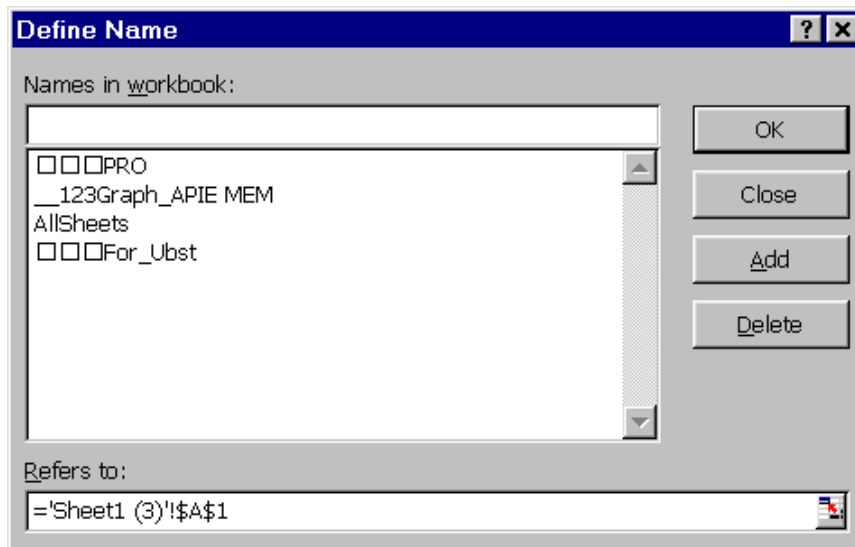
With version 4.1 we've introduced a new nifty tool: a toolbar with a dropdown with range names to pick from in the Visual Basic Editor:



Selecting a name inserts that name at the current insertion point in your code.

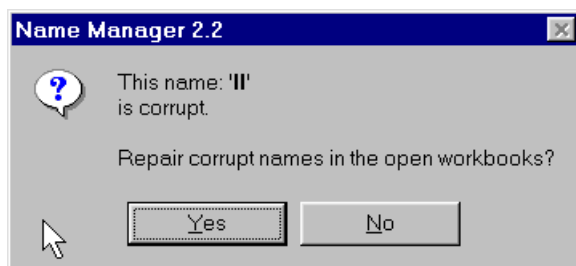
Corrupt names

Sometimes a workbook may contain corrupted names, like these:



Names like these cannot be deleted or edited at all using the normal methods.

The name manager will detect this when you try to edit or delete such a name and offer you the opportunity to rename them to a valid name. After changing the invalid names they can be edited and/or deleted.



Problems discovered during the development of this utility

There are some bugs in Excel's Names collection and Name Object:

Non US List separators

The RefersToLocal property of a name will not accept other list separators than the US default comma. For instance, this code line:

```
Names("Test").RefersToLocal="=SUM($A$1;$B$1)"
```

Gives a runtime error, even if the semicolon is set as the list separator in Control panel and XL accepts this formula in its cells. In the name manager a workaround has been used to overcome this problem.

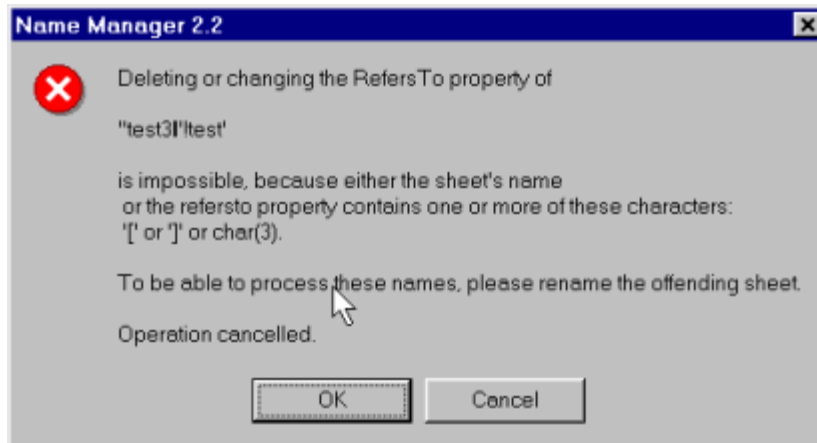
Unusual Characters in Names

When one defines a local name on a Sheet named "Test":

Name: Test!test Refersto: "1"

and renames this sheet to e.g. "Hi! There!" (without the quotes), this name becomes inaccessible for editing and deleting, yielding an invalid name error message.

Other strange characters in sheet names (especially "[", "]" and char(3)) may even cause a crash of Excel when trying to access these local sheet names. A check has been included in the name manager to overcome this problem, yielding this message:



Press cancel if you have multiple names selected and wish to abort the process you have chosen.

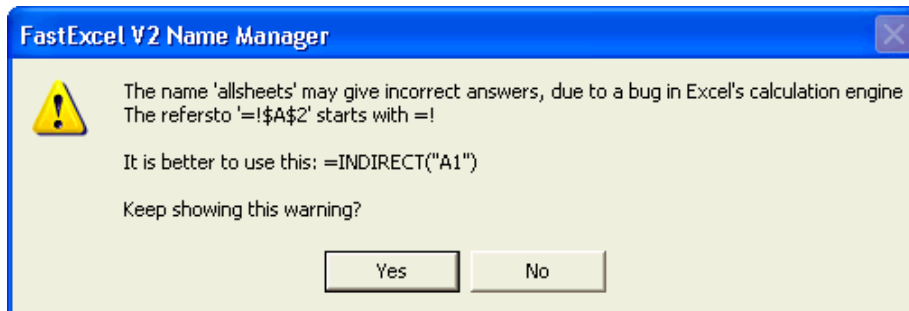
Duplicate Global Local Names

Accessing a global name whilst the active sheet has an identically named name local to that sheet, will change the properties of the local name and NOT the global name, even if the name is fully qualified with the workbook name. Name Manager bypasses this problem.

Names with refers-to starting with =!

Names with refers-to starting with =! may give incorrect results when calculation is called from VBA. They are calculated as though they always refer to the active worksheet rather than the sheet that they are being used on.

Name manager will show a warning message whenever it finds a name of this type.



Dynamic Range Wizard

A wizard for creating Defined Names that expand and contract automatically.

Creating Dynamic Range Names

Use the Dynamic Range Wizard when you need to refer to tables of data that can change in size. The Dynamic Range Wizard gives you an easy way to create range names that dynamically expand and contract as the amount of data changes.

The ranges can dynamically expand and contract by rows or by columns or by both rows and columns.

There are a variety of methods available to handle embedded blanks and multiple tables on a worksheet.

Starting the Dynamic Range Wizard

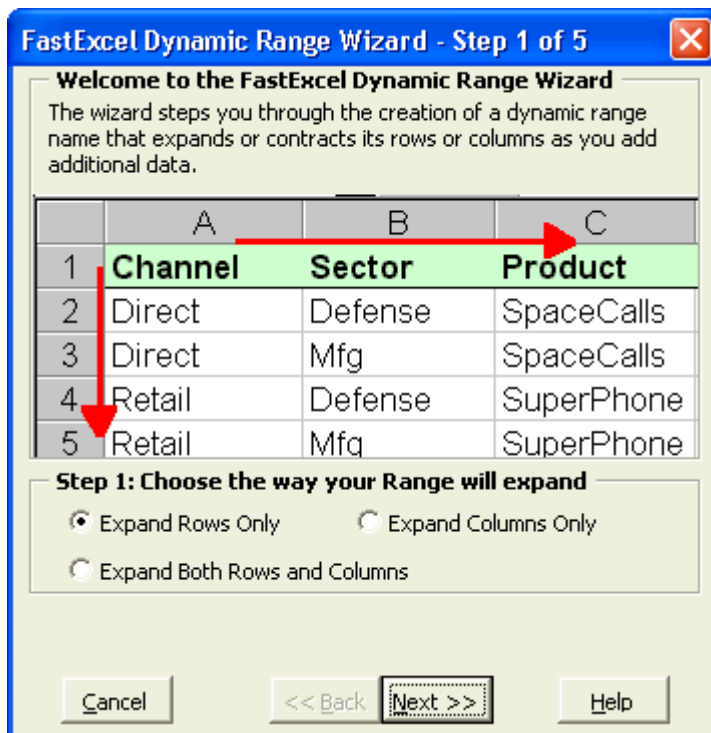
You start the Dynamic Range Wizard from the Wizard button on the Name Manager form.



The wizard will then guide you through the 5 steps to create your dynamic range name.

Dynamic Range Wizard Step 1

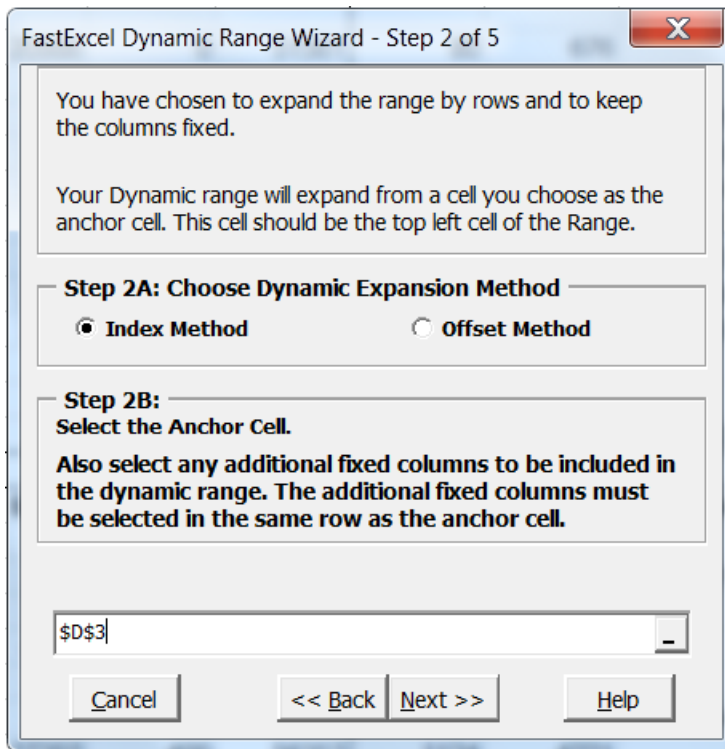
In this step you choose whether your dynamic range will expand by rows, by columns or by both rows and columns.



Select one of the three options and then press the Next button.

Dynamic Range Wizard Step 2

In this step you select the anchor cell, the expansion method, and any additional fixed rows or columns you want to include in the Dynamic Range.



The screenshot shows a dialog box titled "FastExcel Dynamic Range Wizard - Step 2 of 5". The main text reads: "You have chosen to expand the range by rows and to keep the columns fixed. Your Dynamic range will expand from a cell you choose as the anchor cell. This cell should be the top left cell of the Range." Below this, there are two sections: "Step 2A: Choose Dynamic Expansion Method" with radio buttons for "Index Method" (selected) and "Offset Method"; and "Step 2B: Select the Anchor Cell." with instructions: "Also select any additional fixed columns to be included in the dynamic range. The additional fixed columns must be selected in the same row as the anchor cell." An input box contains the text "\$D\$3". At the bottom are buttons for "Cancel", "<< Back", "Next >>", and "Help".

This is the form you will see if you chose to expand by rows only in Step 1. The words will change appropriately if you select a different option in Step 1.

Step 2A: Choose Dynamic Expansion Method

The Dynamic Range Wizard creates formulas stored in Excel Defined Names that return automatically resizing ranges. These formulas can use either of the Excel INDEX or OFFSET functions.

- INDEX is not a volatile function but consumes more memory and slows down opening the workbook.
- OFFSET is a volatile function, and so will be recalculated at every calculation, which slows down the recalculation, but uses less memory than INDEX.

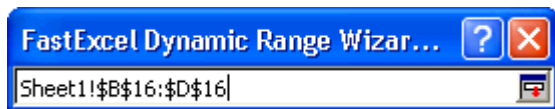
Step2B: Select the Anchor Cell

When expanding by rows you identify the anchor cell and fixed columns by clicking on the anchor cell and selecting any additional columns by dragging the mouse across the cells in the same row as the anchor cell.

When expanding by columns you identify the anchor cell and fixed rows by clicking on the anchor cell and selecting any additional rows by dragging the mouse **down** the cells in the same column as the anchor cell.

When expanding by both rows and columns you must only select a single cell for the anchor cell.

If you click on the grey button showing ... on the right of the input box the form will disappear and you will see:



In this example I have chosen to build a dynamic range that:

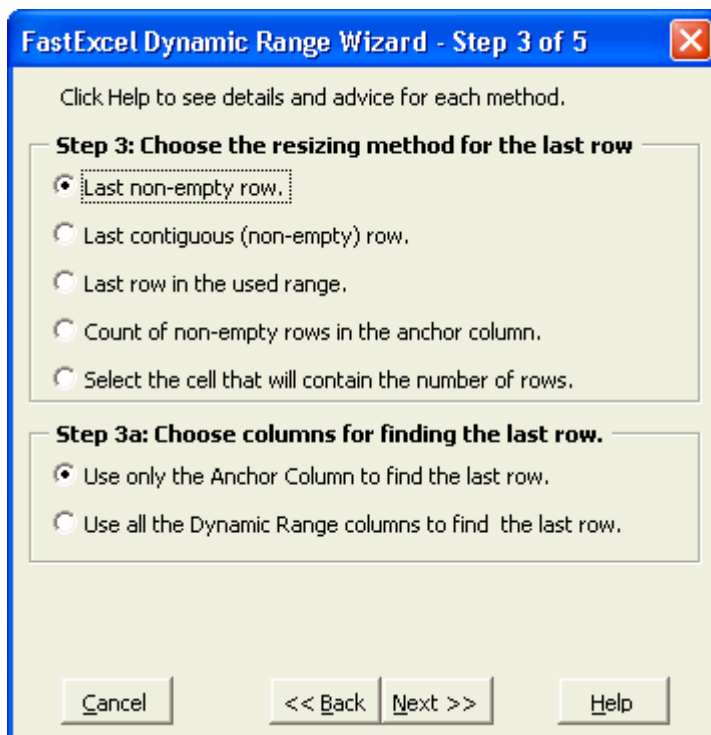
- Starts in row 16.
- Expands dynamically downwards by rows.
- Includes three columns: B, C and D.

When you have selected the Anchor Range press Next to go to Step 3, or press Back to return to Step 1.

Dynamic Range Wizard Step 3

In Step 3 you choose the expansion method to use for the rows of your dynamic range, or confirm the anchor selection and fixed rows if you are expanding only by columns.

Choosing the expansion method for the last row.



Last non-empty row.

Because this method finds the last visible cell it should be used with care on ranges that are filtered, contain hidden rows, or contain rows with zero height.

This method looks up from the last row to find the last **visible** non-empty cell in a column. This is the default re-sizing method.

You can use this method even if your data contains blanks. The last cell in a column is the last **visible** cell that contains any character (including '), number or formula. Empty cells that have been formatted are ignored. See **COUNTROWS2** for more details.

Last contiguous (non-empty) row.

This method is not recommended for ranges that are filtered, contain hidden rows, or contain rows with zero height

This method looks down from the anchor row to find the first **visible** empty cell, and re-sizes to include all the rows from the anchor row to the row before the empty cell. This results in a range of all the contiguous (adjacent) non-empty cells in the column.

Use this method if you want your dynamic range to be delimited by a blank/empty cell. This is useful when you have multiple tables stacked vertically on the same worksheet.

See **COUNTCONTIGROWS2** for more details.

Last row in the used range.

This method looks down from the anchor row to the last row in Excel's used range.

This will include all cells on the worksheet with any formatting even if they are empty, and will include all the columns, not just the columns you have selected for the dynamic range.

See **COUNTUSEDROWS2** for more details.

Count of non-empty cells in the anchor column.

This method uses Excel's **COUNTA** function to count non-empty cells from the anchor cell down to the last row.

If your data includes any empty cells this method will not include all the cells including data.

Use this method only if you require compatibility with users who do not have FastExcel installed.

Select the cell that will contain the number of rows.

Choosing this option will show a reference box for you to select the cell that contains a formula giving the number of rows in the dynamic range.

Use this option when:

- You have a large number of dynamic ranges that all have the same number of rows, so that it is more efficient to only find the number of rows once.
- You are using a special calculation to determine the number of rows.

Step3A: Choose columns for finding the last row

These two additional options are only available if you have selected either "Last non-empty row" or "Last contiguous non-empty row", and you have chosen to expand only by rows.

Use only the Anchor Column to find the last row.

This option finds the last row only in the Anchor Column of your dynamic range. Use this option if all the columns in your dynamic range will always have the same last row, or if you want the last row to always be determined by the Anchor column.

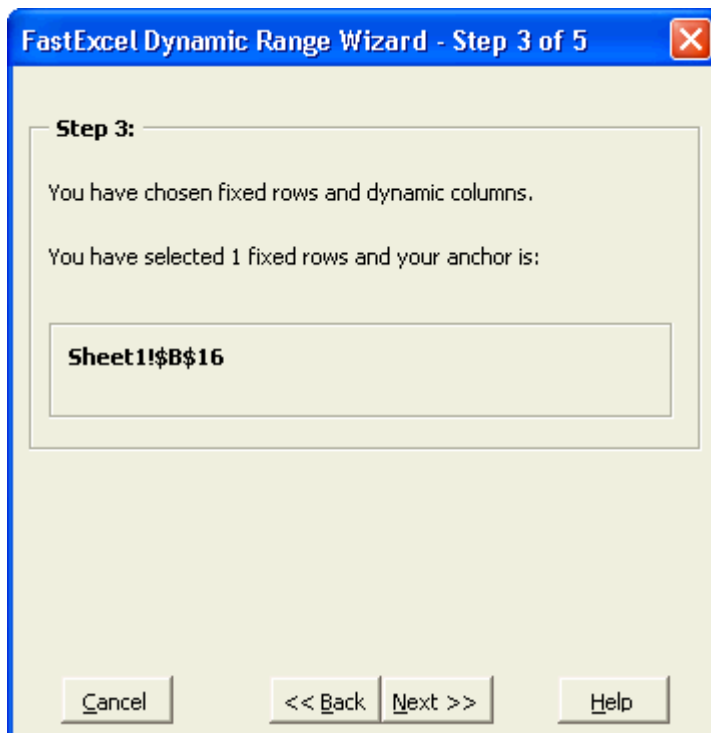
Use all the dynamic range columns to find the last row.

This option looks in all the columns of your dynamic range and uses the largest last row found. Use this option if some of the cells in the last row of your dynamic range may be empty.

The calculation time for this option increases with the number of columns in your dynamic range.

Confirm the Anchor Cell and fixed columns

If you selected fixed rows and dynamic columns in Step 2 you are asked to confirm your selection in Step 3.

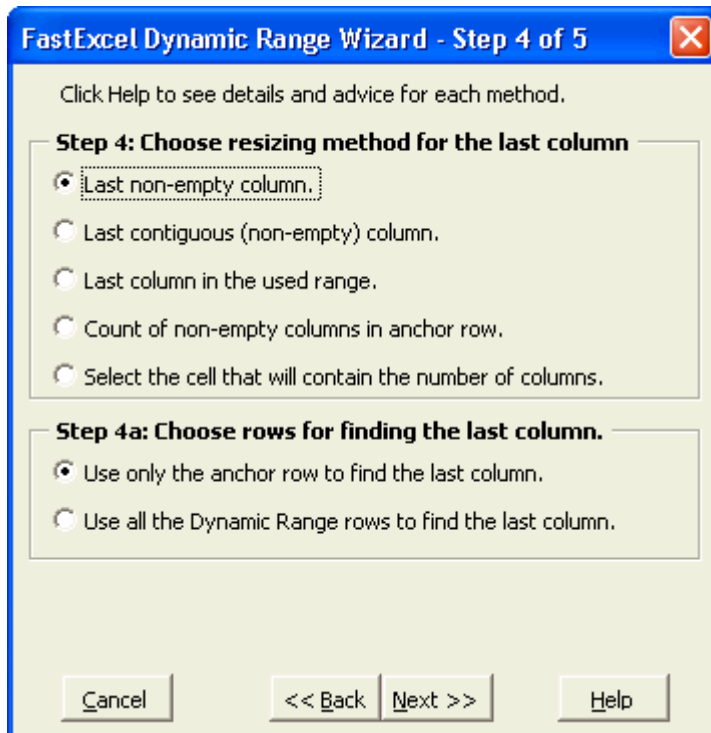


If you are happy with your selection press **Next** to go to Step 4.

Dynamic Range Wizard Step 4

In Step 4 you choose the expansion method to use for the columns of your dynamic range, or confirm the anchor selection and fixed columns if you are expanding only by row.

Choosing the expansion method for the last column.



Last non-empty column.

Because this method finds the last visible cell it should be used with care on ranges that contain hidden columns, or contain columns with zero width.

This method looks left from the last column to find the last **visible** non-empty cell in a row. This is the default re-sizing method.

You can use this method even if your data contains blanks. The last cell in a row is the last cell that contains any character (including '), number or formula. Empty cells that have been formatted are ignored. See **COUNTCOLS2** for more details.

Last contiguous (non-empty) column.

This method is not recommended for ranges containing hidden columns or columns with zero width.

This method looks to the right from the anchor column to find the first **visible** empty cell, and re-sizes to include all the columns from the anchor column to the column before the empty cell. This results in a range of all the contiguous (adjacent) non-empty cells in the row.

Use this method if you want your dynamic range to be delimited by a blank/empty cell. This is useful when you have multiple tables stacked adjacent to one another on the same worksheet.

Do not use this method on ranges containing hidden columns or columns with zero width.

See **COUNTCONTIGCOLS2** for more details.

Last column in the used range.

This method looks to the right from the anchor column to the last column in Excel's used range.

This will include all cells on the worksheet with any formatting even if they are empty, and will include all the columns and rows, not just the rows you have selected for the dynamic range.

See **COUNTUSEDCOLS2** for more details.

Count of non-empty cells in the anchor row.

This method uses Excel's **COUNTA** function to count non-empty cells from the anchor cell across to the last column.

If your data includes any empty cells this method will not include all the cells including data.

Use this method only if you require compatibility with users who do not have FastExcel installed.

Select the cell that will contain the number of columns.

Choosing this option will show a reference box for you to select the cell that contains a formula giving the number of columns in the dynamic range.

Use this option when:

- You have a large number of dynamic ranges that all have the same number of columns, so that it is more efficient to only find the number of columns once.
- You are using a special calculation to determine the number of columns.

Step4A: Choose rows for finding the last column

These two additional options are only available if you have selected either “Last non-empty column” or “Last contiguous non-empty column”, and you have chosen to expand only by columns.

Use only the Anchor Row to find the last column.

This option finds the last column only in the Anchor Row of your dynamic range. Use this option if all the rows in your dynamic range will always have the same last column, or if you want the last column to always be determined by the Anchor row.

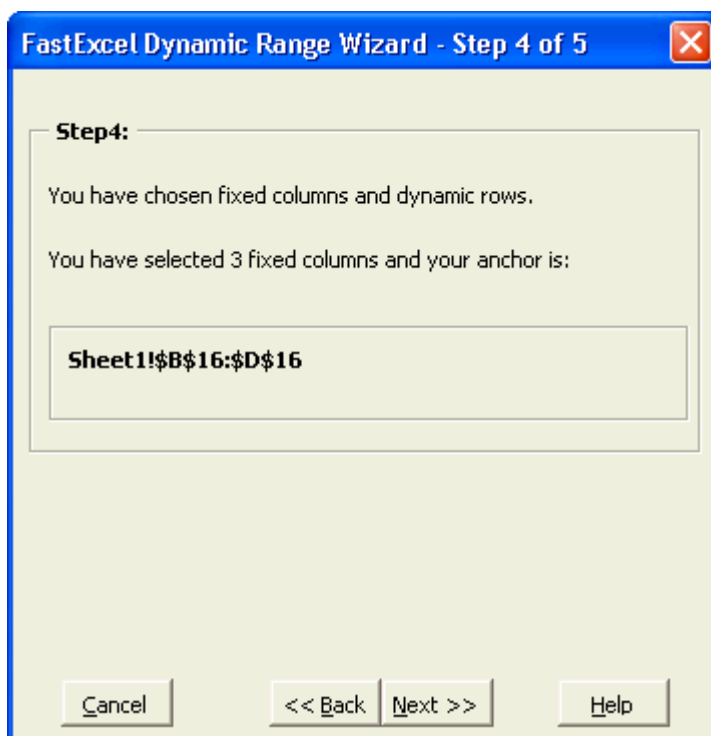
Use all the dynamic range rows to find the last column.

This option looks in all the rows of your dynamic range and uses the largest last column found. Use this option if some of the cells in the last column of your dynamic range may be empty.

The calculation time for this option increases with the number of rows in your dynamic range.

Confirm the Anchor Cell and fixed rows

If you selected fixed columns and dynamic rows in Step 2 you are asked to confirm your selection in Step 4.

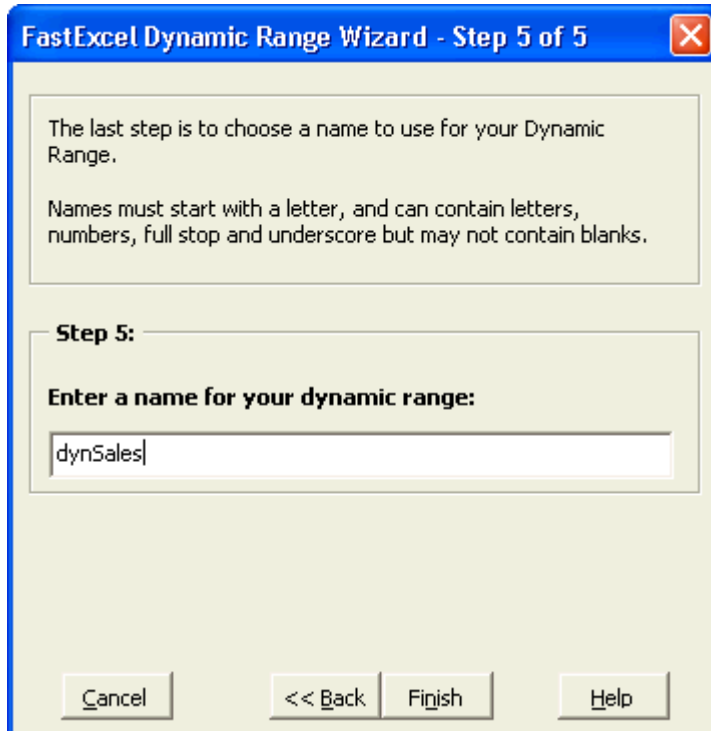


If you are happy with your selection press **Next** to go to Step 5.

Dynamic Range Wizard Step 5

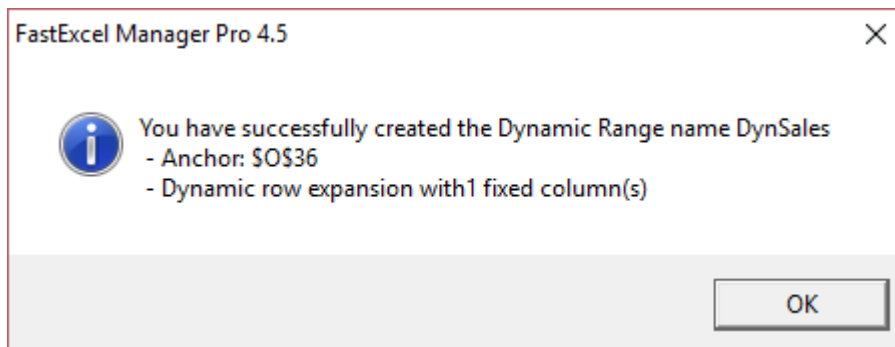
The last step in the Dynamic Range Wizard is to give a name to your dynamic range.

The name will be checked for validity: names must start with a letter and can contain only letters, numbers, full stops and underscores. Blanks are not allowed.

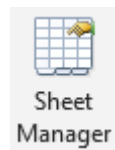


If the name you enter already exists you will be asked if you want to change the definition of the name.

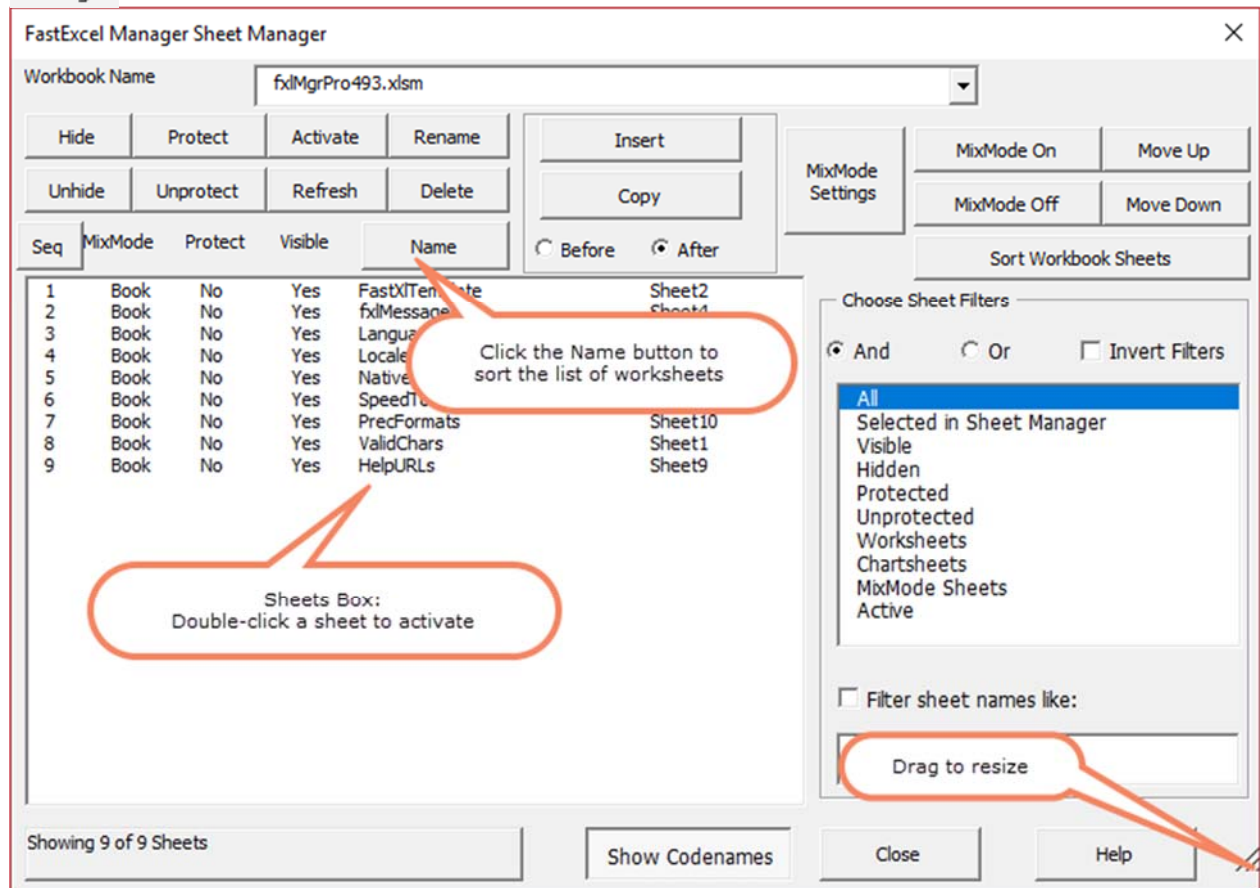
Press Finish to create the Dynamic Range name: you will get a confirmation message similar to this:



Sheet Manager



Sheet manager provides a convenient way of managing workbooks containing a large number of sheets by allowing you to change properties and sort multiple sheets with one command.



The Sheet Manager form is a modeless and sizeable form.

- You can keep showing the Sheet Manager form whilst working on the active workbook.
- Drag the bottom right corner of the Sheet Manager form to resize it.
- Click the Name button to sort the filtered list of worksheets by name, or the Seq button to sort the list by sequence number.
- Double-click a sheet in the Sheets Box to activate it in the workbook.

Workbook Name



This dropdown allows you to choose the workbook to operate on from the list of open workbooks. The initial workbook selected will be the active workbook.

Sheets Box

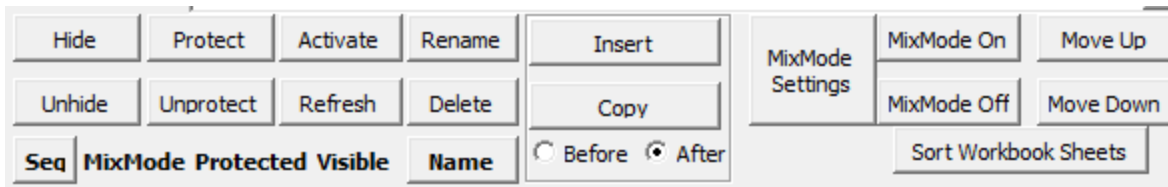
The sheets box contains 5 columns of information for each sheet (worksheet or chart sheet) that matches the sheet filters.

Double-clicking a sheet in the Sheets Box activates that sheet in the workbook.

- **Seq** – shows the sequence number of the worksheet within the workbook
- **MixMode** – shows when the sheet will be calculated:
 - o **Book or Chart** – the sheet will be calculated each time its parent workbook is calculated
 - o **F** – the sheet will be calculated at each Full calculation
 - o **S** – the sheet will be calculated at a Sheet calculation when selected
 - o **M** – the sheet will be calculated at each Manual calculation
- **Protected** – shows whether the sheet is protected or not
- **Visible** – shows yes for Visible, No for Hidden and VH for Very Hidden
- **Name** – shows the name of the sheet

You can sort the filtered list of sheets in the sheetbox by clicking Name or Seq. This does not change the sequence of the sheets in the workbook.

Sheet Manager Action Buttons



These buttons act directly on the sheets in the chosen workbook.

Hide Unhide

Hide or unhide the selected sheets. The Visible column in the Sheets box will show Yes or No or VH for very hidden sheets. You cannot hide or unhide Very Hidden sheets.

Protect Unprotect

Protect or unprotect the selected sheets. The Protected column in the Sheets box will show Yes or No.

Activate

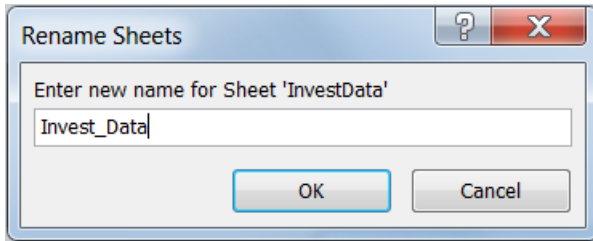
All selected sheets will be grouped and selected in the workbook. This allows you to make edits simultaneously across a range of worksheets.

Refresh

The Sheets box will be refreshed from the workbook using the filtering settings.

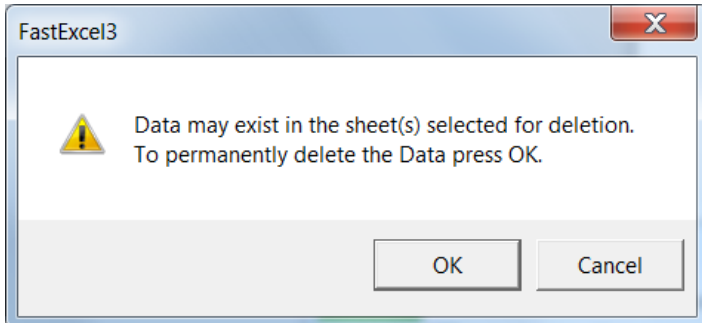
Rename

Rename will prompt you for a new name for each selected sheet.

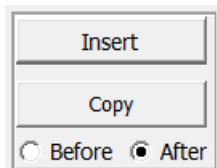


Delete

Delete will request confirmation once before deleting all the selected sheets.



Insert or Copy Before or After



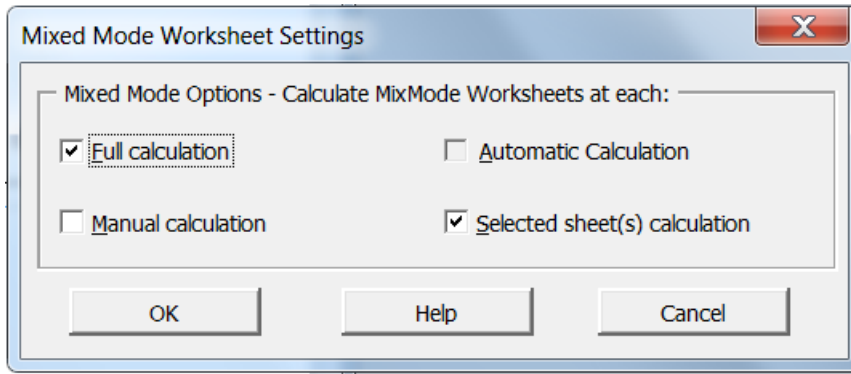
Insert will add a worksheet before or after (depending on the Before/After option setting) every selected sheet.

Copy will copy every selected sheet before or after itself.

Mix Mode Settings

Use this button to control when the Mixed Mode sheets are calculated. These settings are saved with the workbook. The default settings are:

- Do NOT calculate Mixed Mode sheets at a Manual (F9) or Automatic recalculation
- Calculate Mixed Mode Sheets at each Full Calculation (Ctrl/Alt/F9) and, when selected, at a Sheet Calculate (Shift/F9 and Alt/Shift/F9)



- **Full Calculation:** when this option is checked all formulas including those on MixMode sheets in the active workbook will be calculated when you press Ctrl-Alt-F9 or the FastExcel Full Calculate button. The default is checked.
- **Manual Calculation:** when this option is checked pressing F9 or FastExcel's Recalculate button will recalculate formulas that are flagged as uncalculated, including those on MixMode sheets in the active workbook. The default is not checked.
- **Selected Sheet(s) Calculation:** when this option is checked pressing Shift-F9 or FastExcel's Calculate Sheets button will recalculate formulas that are flagged as uncalculated on all selected sheets, MixMode or enabled. The default is checked.
- **Automatic Calculation:** this option is permanently disabled: Excel's automatic calculations do not recalculate MixMode sheets.

Mixed Mode On or OFF

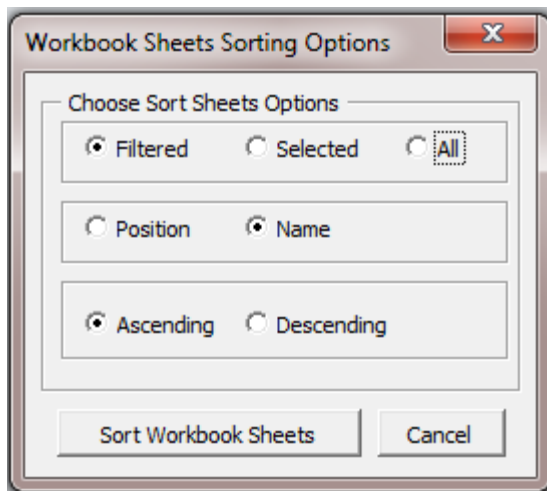
A subset of the sheets in a workbook can be assigned Mixed Mode calculation. Mixed Mode sheets can have a different calculation mode to that of the workbook: for example, F9 could calculate all the sheets except the Mixed Mode sheets, and Mixed Mode sheets would only be calculated at a Full Calculation or Sheet Calculation of a Mixed Mode sheet. Use the Mix Mode buttons to control which sheets are to be treated as Mix Mode sheets. Mixed Mode settings are saved with the workbook.

Move Up Move Down

These buttons will move all the selected sheets either one position up or one position down.

Sort Workbook Sheets

This button shows the Workbook Sheets Sorting Options



You can use a variety of options to sort and group the sheets in the workbook.

- Filtered – All the sheets that satisfy the filters will be sorted
- Selected – Only the sheets that are actually selected within the Sheets box will be sorted
- All – All the sheets in the workbook will be sorted

- Position – the relative position of the chosen sheets will be maintained but the chosen sheets will be sorted next to one another into a group. The position of the first chosen sheet will be unchanged.
- Name – the chosen sheets will be sorted by name.

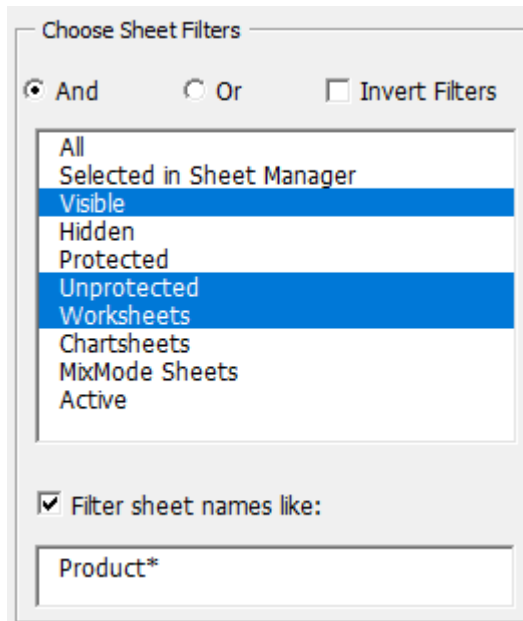
- Ascending – the chosen sheets will be sorted ascending
- Descending – the chosen sheets will be sorted descending

When you click the Sort Workbook Sheets button the sheets will be sorted within the workbook.

Note: Sorting sheets can take a long time with large workbooks.

Choose Sheet Filters

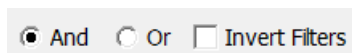
You can use a combination of filters to show only a subset of sheets in the sheets box.



This combination of filters shows only sheets that are visible **and** unprotected **and** worksheets **and** whose name contains 'Product'.

Seq	MixMode	Protect	Visible	Name
4	Book	No	Yes	Products
7	Book	No	Yes	ProductData
10	Book	No	Yes	ProductNames

And Or Invert Filters

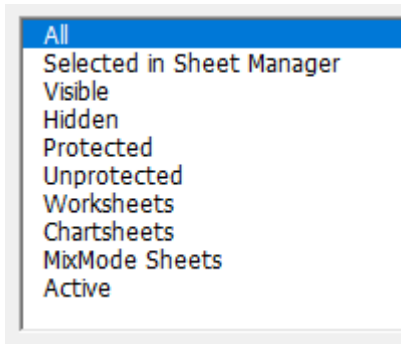


The default (**And**) is that **all** the filters must be satisfied for a sheet to be shown in the sheets box.

You can also choose **OR** so that a sheet that satisfies **any** of the filters will be shown.

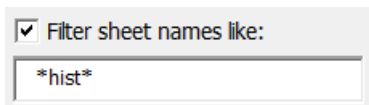
Checking **Invert Filters** reverses the filters action so that only the sheets that satisfy **none** of the filters are shown.

Available Sheet Filters



The sheet filters are:

- All – all sheets are shown
- Selected in Sheet Manager – Only sheets that have been selected within the Sheet Manager Sheets box are shown
- Visible – Only sheets that are visible in the workbook are shown
- Hidden – Only sheets that are hidden in the workbook are shown
- Protected – Only sheets that are protected are shown
- Unprotected – Only sheets that are un-protected are shown
- Worksheets – Only sheets that are worksheets are shown
- Chart Sheets – Only sheets that are chart sheets are shown
- MixMode Sheets – Only sheets that have been flagged as Mixed Mode are shown
- Active – Only the sheet(s) within the current workbook that are active are shown.



You can also filter sheets by name using wildcards: * means any combination of characters or none, and ? means a single character. You can use any combination of the wildcard characters that are useable by the VBA Like function.

Show Codenames

toggling **Show Codenames** on or off causes the codename of the worksheets to be shown after the sheet name.

Check Active Workbook

This command produces a report showing statistics for the active workbook.

Potential problem areas are highlighted in Orange.

<i>FastExcel Workbook Check</i>										
<i>Physical Environment</i>			<i>Profile:</i>		15/02/2019 16:01		D:\Users\Charles Williams\DC			
RAM(MB)	8,462	32,716	<i>Workbook Settings</i>							
Swap File(MB)	14,147	65,484	Shared			Decimal Places		Protecti		
Excel Memory(MB)	1,365	4,096	Shared	FALSE	Fixed	FALSE	Structure			
FileSize(K)	64		Changes	TRUE	Places	2	Worksheets			
Operating System	Win 10.17134 x64		Saved	TRUE	Backup	FALSE	Password			
MHZ x Cores	4008 x 8		Format	XMLWorkbookMacro	Styles	49	Views			
Excel Version	XL 2013.5111 x32		<i>Environment Counts</i>			XLB/Qat (K)	112	Com Addins		
XL Calc Engine	152511		Temp	754	VBE	7	Excel Addins			
<i>Worksheet Statistics</i>										
Sheetname	Cell Counts			Distinct Formulas	Error Results	CSE Formulas	Data Validation	C	C	
	Used	Const	Formulas							
Log_WorkSheet2	48	9	0	0	0	0	0	0	0	
DataTables_Ex02	169	17	31	2	0	1	0	0	0	
Tax_Data_Worksheet	4,928	64	3	3	0	0	1	0	1	
Log_WorkSheet1	48	2	10	1	0	0	0	0	0	
Formulas	42	13	8	8	1	1	1	1	1	
Log_WorkSheet3	27,675	517	503	3	7	0	0	0	0	
BetaTest	7	5	0	0	0	0	0	0	0	
Totals	32,917	627	555	17	8	2	2	2	2	
<i>Workbook Summary</i>										
Sheets Count	Cell Counts			Distinct Formulas	Error Results	CSE Formulas	Data Validation	C	C	
7	Used	Const	Formulas							
	32,917	627	555	17	8	2	2	2	2	

Common problem areas that need clean-up are:

- Large number of styles.
- Large number of Temp Files
- Large amount of wastage: used range problem
- Large number of Defined Names.

Most of the statistics have cell comments indicated by a red triangle marker in the top left of the cell explaining what the numbers represent. When you hover your mouse over the cell with the red marker the comment pops up.

Sheetname	Distinct Formulas	Error	CSE	Data
Log_WorkSheet2	0			
DataTables_Ex02	2			
Tax_Data_Worksheet	3			
Log_WorkSheet1	1			
Formulas	8			
Log_WorkSheet3	3			
BetaTest	0	0	0	0
Totals	17	8	2	2

SheetName:
The name of the worksheet.
Colored Orange if very hidden
Colored Gold if hidden
Bold Italic if Protected

Unique Formula:
Count of the unique formulas on this sheet.

Colored orange if one or more formula contains an explicit full-column reference.

Some statistics are not available for Mac Excel.

Check DA: Compatibility of Office 365 Dynamic Array Formulas

Note:

Check DA is not available in fastExcel V4 Manager Pro for Mac.

The introduction of Dynamic Array formulas in Office 365 Excel 2016 has made a fundamental change to formula behaviour and syntax:

- In previous versions such as Excel 2013, Excel automatically used implicit intersection to select a single value from a range in many circumstances.
- In Office 365 Dynamic Array Excel 2016 (Excel DA), Excel treats all formulas as array formulas unless the implicit intersection operator @ is used, and single-cell dynamic array formulas will spill their arrays to surrounding cells.

Forward compatibility for workbooks authored in previous versions of Excel is good: implicit intersections will be silently converted to the new @ syntax.

In most cases workbooks authored in Dynamic Array Excel (Excel DA) will also be silently converted to the old syntax (@ will be removed where possible, and spilling dynamic arrays converted to array (CSE) formulas) when opened in previous versions.

But it is possible to create formulas in Excel DA which cause difficulties when opened in previous versions.

CheckDA is a tool to scan Excel DA formulas, highlight potential backward compatibility problems and optionally convert problem formulas to more compatible versions.

Backward Compatibility Problem Areas

Unexpected @ in a formula producing =_xlfn.SINGLE()

Excel will only remove @ from a formula where previous Excel versions would have used Implicit Intersection to return a single value from a Range or Named Range or function parameter.

You will be warned by Excel if you try to enter a formula with @ in an unexpected place, but it is still possible to create such a formula. An unexpected @ will create a _xlfn.SINGLE() in previous versions and will result in #Name when calculated.

For example =@A1 will be converted to =_xlfn.SINGLE(A1) because Excel cannot do Implicit Intersection on a single cell.

CheckDA will flag such formulas as type @

Formula containing a Spill Reference producing _xlfn_ANCHORARRAY()

A formula reference to a dynamic array can use the spill reference suffix #. For example =SUM(\$B\$3#) will SUM the entire dynamic array that starts in \$B\$3. Spill references get converted to _xlfn_ANCHORARRAY(Reference) in previous versions and will result in #Name when calculated.

CheckDA will flag such formulas as type {#}

Unwanted Array Formulas (CSE) in previous versions

Any formula that Excel DA thinks could return an array (even if it is actually only returning a single value) is converted to a CSE array formula in previous versions.

This may or may not produce a backward compatibility problem – you have to inspect these formulas carefully.

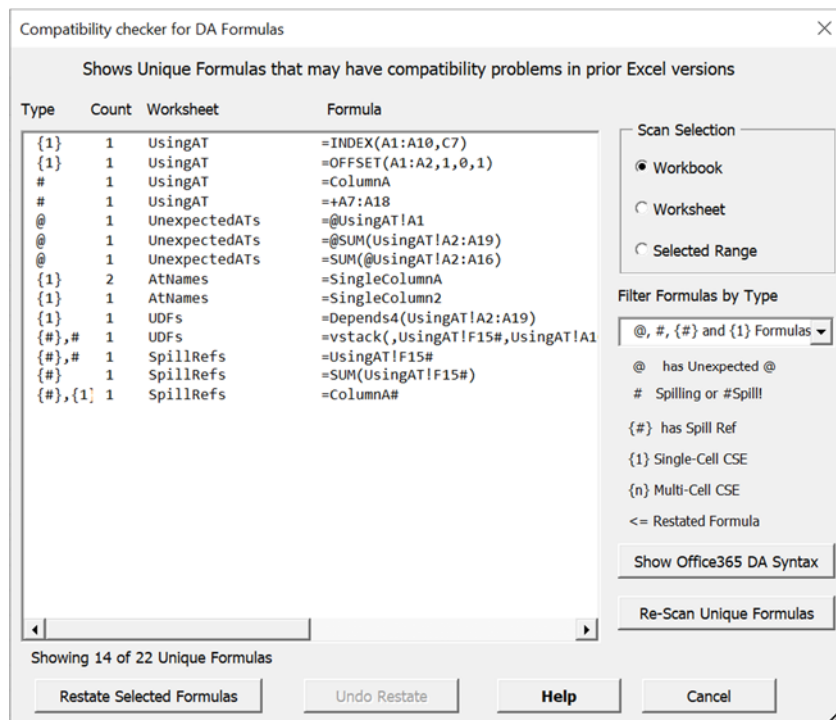
CheckDA flags these formulas as types:

- **{1}** a single-cell non-spilling formula
- **#** An Excel DA Dynamic Array formula that is spilling or blocked (**#Spill!**) and will be converted to a fixed CSE formula in Excel 2013
- **{n}** a formula entered in Excel DA as a multi-cell CSE formula

Using CheckDA

CheckDA requires Windows Office 365 Dynamic Array Excel 2016.

Clicking the Check DA Formulas button shows the Check DA form.



The form:

- Shows formulas in Non-DA Syntax
- Is Modeless (you can edit formulas while still showing the form)
- Is Resizeable
- At start-up scans **the active worksheet** for unique formulas
- At start-up filters out formulas with unexpected @ or Spill Ref or Spill or single-cell Array formulas

Restate Selected Formulas

Any @ or {1} formulas selected in the form will be changed in the workbook.

@ formulas will have their unexpected @s removed.

{1} formulas will be re-entered as non-array formulas.

Spill formulas and {#} Spill Ref formulas cannot be automatically restated.

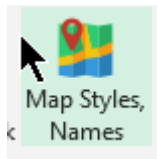
Undo Restate

Any formulas restated in this session of CheckDA will have their restatement undone.

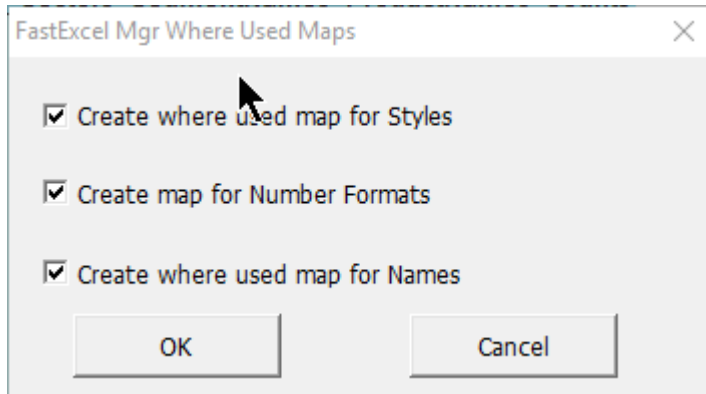
Show Office 365 DA Syntax

This button toggles between showing the formulas in Non-DA syntax and Office 365 Dynamic Array syntax.

Map Styles and Names



This command allows you to choose which of the three available where-used maps you want to create.

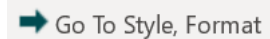


Map Styles

Styles Counts by Worksheet								
Format	Book Total	0dates	0inpts	1stress	2Funding	3trust	4output	log
Bullet	28	0	0	0	28	0	0	0
Calculation	0	0	0	0	0	0	0	0
Check Cell	0	0	0	0	0	0	0	0
Comma	460	0	89	0	371	0	0	0
Comma [0]	0	0	0	0	0	0	0	0
Currency	0	0	0	0	0	0	0	0
Currency [0]	0	0	0	0	0	0	0	0
Date	1123	0	0	481	642	0	0	0
Euro	169634	0	6	0	169628	0	0	0
Multiple	1	0	1	0	0	0	0	0
Neutral	0	0	0	0	0	0	0	0
Normal	239568	7275	1934	3463	226595	39	55	207
Note	0	0	0	0	0	0	0	0
Output	0	0	0	0	0	0	0	0
Percent	31859	0	112	5775	25969	0	0	3
Title	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
TrueFalse	169	0	0	0	169	0	0	0
Warning Text	0	0	0	0	0	0	0	0
YesNo	2	0	0	1	0	0	1	0

The Map Styles option produces a report sheet showing the count of each style used by each worksheet.

You can use this map to identify where and how often the styles are being used.



Selecting one of the count cells in the Map Styles sheet and clicking the FastExcel GoTo button will show you the sheet with all the cells on the sheet that use this Style selected.

Map Number Formats

41	Custom Number Format Counts by Worksheet						
42	Format	Book Total	Volumes	OTO	M & E	Summary	NDS
43	"\$#,##0	659	0	0	0	0	0
44	"\$#,##0.00	256	0	0	0	0	0
45	"\$#,##0.00_);("\$	26	8	0	0	0	18
46	"\$#,##0.00_);[Red	0	0	0	0	0	0
47	"\$#,##0.000_);("\$	0	0	0	0	0	0
48	"\$#,##0_);("\$#,##	20	5	0	0	0	15
49	"\$#,##0_);[Red]("	0	0	0	0	0	0
50	# ??/?	0	0	0	0	0	0
51	# ??/??	0	0	0	0	0	0
52	##0.0E+0	0	0	0	0	0	0
53	#,###.#0 [\$USD]	0	0	0	0	0	0
54	#,##0	3328	1188	3	19	144	678
55	#,##0 "months"	471	36	36	331	36	32
56	#,##0 [\$€-1]	0	0	0	0	0	0
57	#,##0 [\$BF-813]	542	0	6	0	0	535
58	#,##0 [\$DM-407]	0	0	0	0	0	0
59	#,##0 [\$EURO]	4105	17	14	2547	899	628

The Map Formats option produces a report sheet showing the count of each number format used by each worksheet.

You can use this map to identify where and how often the number formats are being used.

 Go To Style, Format

Selecting one of the count cells in the Map Formats sheet and clicking the FastExcel GoTo button will show you the sheet with all the cells on the sheet that use this Number Format selected.

This makes it easy to change or remove Number Formats.

Map Defined Names

Name Map analyzes all the formulas on the worksheets in the workbook and in other names to produce a Name Map worksheet showing counts of the usage of the Names by worksheet and by other Name.

Names created by INDIRECT formulas are also found.

		+ <i>Name Counts by Worksheet - Use GoT</i>						
Name	Total	Explanation	UniVerse	Answers	Products	Respondents	RespondentData	Pr
Answers.Product	120	0	0	120	0	0	0	0
Answers.SectorName	72	0	0	72	0	0	0	0
DontKnowfactor	533	0	0	0	533	0	0	0
MobPhones	37	0	37	0	0	0	0	0
MobSpend	37	0	37	0	0	0	0	0
Network	24	0	24	0	0	0	0	0
OurPhones	37	0	37	0	0	0	0	0
OurSpend	37	0	37	0	0	0	0	0
ProductCount	1	0	0	0	0	0	0	0
ProductData	0	0	0	0	0	0	0	0
ProductData.Addusers	533	0	0	0	533	0	0	0
ProductData.colProductSerial	0	0	0	0	0	0	0	0
ProductData.Level2001	3198	0	0	0	3198	0	0	0
ProductData.LevelNow	3198	0	0	0	3198	0	0	0
ProductData.Pct2001	3731	0	0	0	3731	0	0	0
ProductData.PctNow	4797	0	0	0	4797	0	0	0
ProductData.product	533	0	0	0	533	0	0	0
ProductData.ProductSerial	5863	0	0	0	5863	0	0	0
ProductData.sectorcode	1066	0	0	0	1066	0	0	0
ProductData.SpendIncCode	1066	0	0	0	1066	0	0	0
ProductNames	533	0	0	0	533	0	0	0

Go To Style, Format

➔ Go To Style, Format

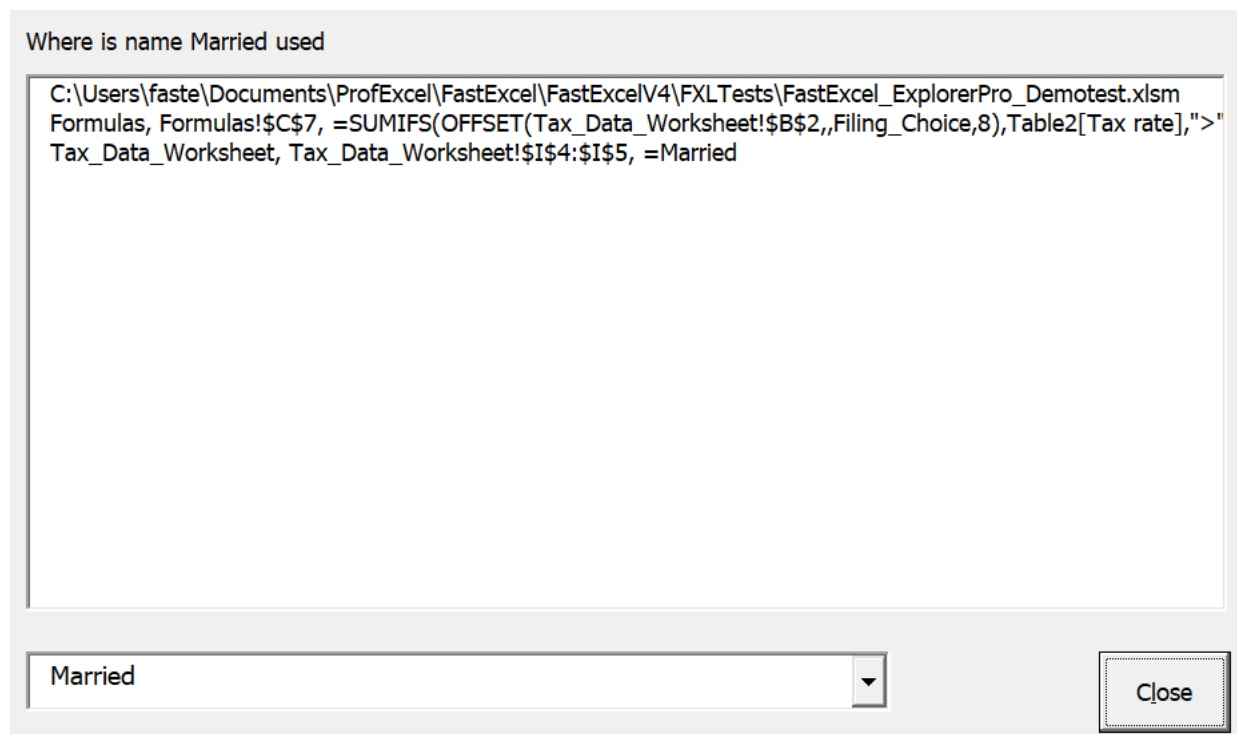
The result from clicking the Go To button depends on the location of the active cell.

Active cell is within a Style or Number Format Map

Go To will attempt to select the cells on the sheet that are using that style or number format.

Active Cell is within a Name Map

Go To will attempt to show all the places where that Name is being used.

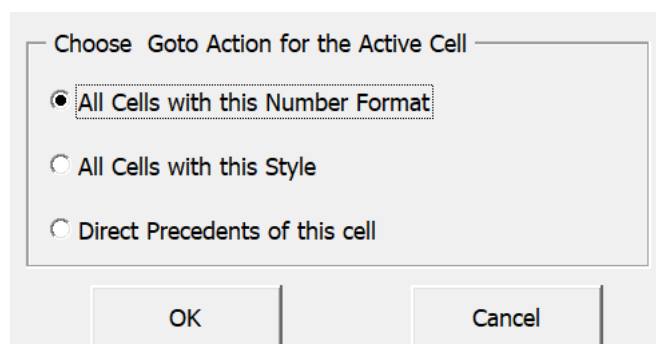


Active Cell is in an ordinary Worksheet

You can choose which GoTo action to use for the active cell.

Clicking OK will result in selecting all the cells on the sheet that:

- Have the same number format as the active cell
- Use the same Style as the active cell
- Are direct precedents of the active cell

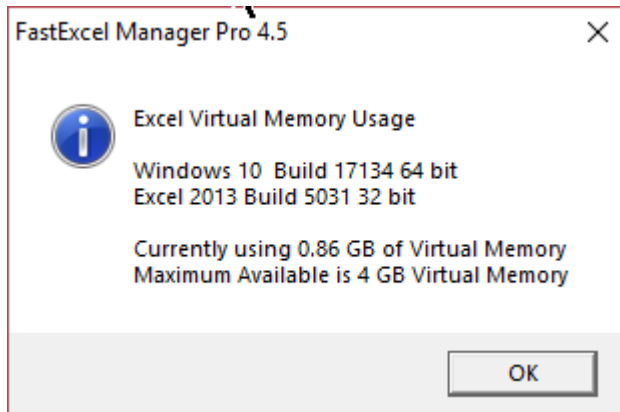


Memory and Versions



This button shows the amount of virtual memory used and available in Gigabytes.

The memory shown supports all combinations of 32 and 64 bit versions of both Windows and Excel, and the Excel Large Address Aware (LAA) memory extensions.



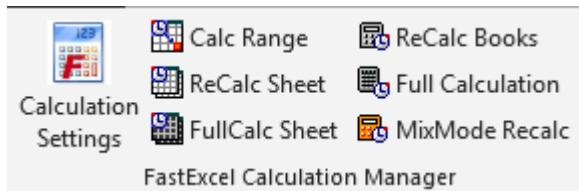
This command is not supported on Mac Excel

Calculation Manager

Note:

Calculation Manager is not available with Windows FastExcel Manager Pro.

The Extended Calculation Modes are only available with SpeedTools and Manager Pro for Mac

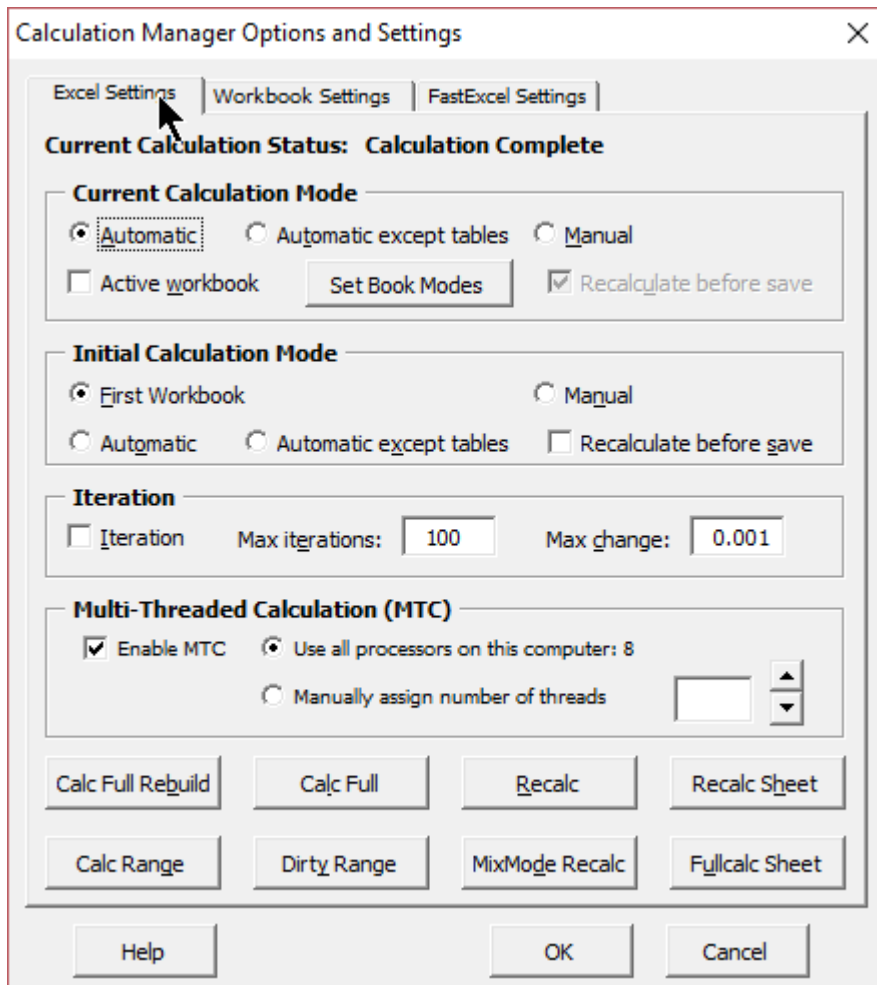


Calculation Manager gives you:

- Extended Calculation Modes only available with FastExcel
 - Active workbook mode – only calculate the active workbook
 - Control which worksheets get calculated (MixMode worksheets)
 - Control Initial calculation mode at startup
 - Restore calculation mode after open
 - Calculate MixMode sheets on open
- Full Control of all Excel's calculation settings
- Call the Calculation methods from buttons or keystrokes
 - Calculate Full Rebuild Dependencies
 - Calculate Full all open workbooks
 - Recalculate all open workbooks
 - Recalculate Worksheet
 - Full Calculate Worksheet
 - Calculate Range
 - Mixed Mode Recalculation
- Accurate timing for each calculation method
 - On Windows timing accuracy is at the Microsecond level, although in practice other factors such as Windows multi-tasking prevent timing tasks reaching this level of accuracy.
 - On Mac timing is accurate at best to around 4 milliseconds.

Calculation Manager Options and Settings

The settings are in three groups: Excel Settings, Workbook Settings and FastExcel Settings.



Excel Calculation Settings

Excel's default methods for Determining Calculation Mode.

By default Excel uses the same calculation mode for all open workbooks.

The Calculation mode is initially set from the first workbook opened and is not changed when other workbooks are opened.

Use the extended FastExcel calculation methods to override Excel's standard calculation methods

These extended calculation methods only work when you have either FastExcel SpeedTools or FastExcel Manager Pro for Mac loaded.

Excel uses the same calculation mode for all open workbooks.

Excel sets the initial calculation mode from the first (previously saved) workbook opened. This initial calculation mode will not change when additional workbooks are opened, and will only change when either the user or a VBA program changes it. If you start Excel with a brand new empty workbook and make changes to that workbook then the calculation mode is Automatic.

If a manual mode workbook is opened in automatic mode the workbook will be calculated.

FastExcel gives you many extended calculation methods which you can use to change and control the default Excel calculation settings.

The extended Calculation methods only available with FastExcel include:

- Active workbook mode
- Initial calculation modes
- MixMode worksheets selection and options
- Restore calculation mode after open
- Calculate MixMode sheets on open

FastExcel Profiler and FastExcel Manager Pro for Mac also have the additional calculation buttons.

- 5 additional calculate buttons & 2 new calculate keys
- Optional calculation timer for buttons and keys

Excel Current Calculation Mode

You can use this form to view and change Excel's current calculation status and settings.

Current Calculation Status: Calculation Complete

Current Calculation Mode

Automatic Automatic except tables Manual

Active workbook Recalculate before save

Set Book Modes

By default the current Excel calculation mode applies to all the open workbooks. Also all the open workbooks are recalculated, not just one

Excel's default calculation mode is at the Excel session level. This means that Excel will use the same calculation mode for all open workbooks, regardless of the calculation mode that was saved with an individual workbook.

Whenever Excel calculates the default behavior is to calculate all the open workbooks, rather than just the active workbook

Automatic

Formulas are recalculated automatically whenever anything changes so that the workbook(s) are always calculated.

Automatic except Tables

Similar to automatic except that Excel Tables are not automatically calculated. This can be useful with large workbooks because Excel Tables cause multiple calculations of the workbook.

Manual

The status bar will also show “Calculate” if there are circular references or ForceFullCalculation has been turned on.

Formulas are only recalculated when the user requests it by pressing F9 or the FastExcel recalculate button. When the workbook is not completely calculated the status bar shows “calculate”.

Recalculate before save.

If in Manual mode checking this option will cause Excel to recalculate uncalculated formulas in the workbook each time it is saved.

FastExcel Active Workbook Mode

Open multiple workbooks but only calculate the active one.

*Set different calculation modes for each open workbook with **Set Book Modes**.*

Whilst this option is active you cannot copy and paste between workbooks.

Note: Active workbook mode is only available with FastExcel SpeedTools and FastExcel Manager Pro for Mac

Excel normally calculates **all** the workbooks you have open at each calculation. This can cause inconvenience and slow calculation when you have multiple workbooks open.

FastExcel allows you to set Active Workbook Mode so that Excel will only calculate the active workbook.

When you set Active Workbook Mode the default is that each open workbook is in Manual calculation mode, so that you have to press F9 to calculate the Active Workbook.

For more complicated situations FastExcel allows you to set different calculation modes for each workbook.

For example suppose one workbook is set to Automatic and another to Manual:

- If the Automatic workbook is active then it will be automatically calculated at any change to the workbook, but the inactive manual workbook would not be calculated.
- If the Manual workbook is active then it will only be calculated when you press F9, and the inactive Automatic workbook will not be calculated.

You can set the calculation mode for each of the open workbooks (and the default mode) using the **Set Book Modes** button. This book calculation mode is saved with each workbook.

If you use active workbook mode with a workbook in Automatic mode then it will be recalculated whenever you make it active.

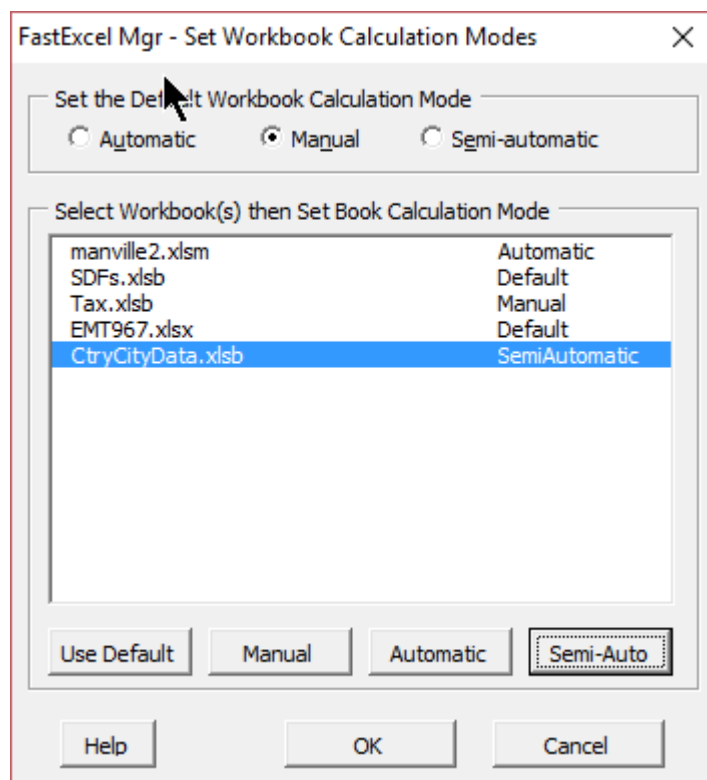
Once you set this option it will still be active the next time you open Excel.

Whilst this option is active you cannot copy and paste between workbooks.

You can use Active Workbook Mode for the workbooks at the same time as Mixed Mode for the worksheets, but Mixed Mode is not dependent on Active Workbook Mode.

Excel Set Book Modes

Note Set Book Modes is only available with FastExcel SpeedTools and FastExcel Manager Pro for Mac



Default Active Workbook Calculation Mode

The Default Workbook calculation Mode only applies when you have selected Active Workbook Mode.

You can change the FastExcel default workbook calculation mode whenever you want. The FastExcel default will apply to all workbooks in Active Workbook Mode until changed, and will be recalled when you next open Excel.

The default workbook calculation mode is used in active workbook mode to calculate a workbook with no assigned workbook calculation mode, or one assigned a mode of default.

The initial default mode is Manual.

Set Book Calculation Modes

The workbook calculation mode for each workbook can be:

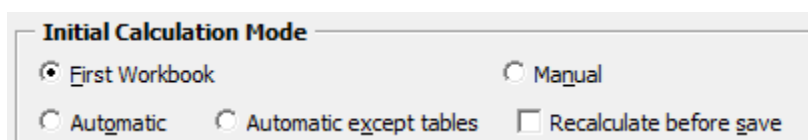
- Manual
- Automatic
- Semi-automatic (Automatic except Tables)
- Default: The workbook will use the current default workbook calculation mode.

To change the workbook calculation mode for one or more workbooks, select the workbooks and press one of the calculation mode buttons.

Excel Calculation Settings: Initial Calculation Mode

Note: Set Initial Calculation Mode is only available with FastExcel SpeedTools and FastExcel Manager Pro for Mac

You can use these settings to control which calculation mode Excel will use when opened.



By default the first workbook opened sets the mode until it is changed by the user

Force Excel to open in Manual mode to prevent your workbook being accidentally recalculated when you open it

By default Excel sets the initial calculation mode from the first workbook opened, and does not automatically change it when another workbook with a different setting is opened.

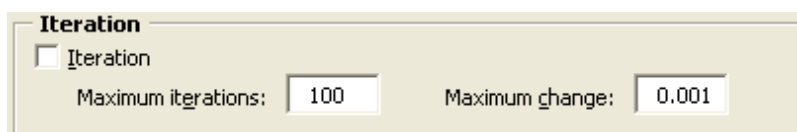
FastExcel allows you to control the mode to be used when Excel first opens. This initial mode can be:

- **First Workbook (Excel default)**
- **Manual**
- **Manual with recalculate before save**
- **Automatic**
- **Automatic except tables**

Limitation: When you use FastExcel initial calculation mode the empty workbook (Book1) that Excel creates when it is started will prompt you to save it when you close Excel.

Excel Iteration

These settings control how Excel handles circular references.



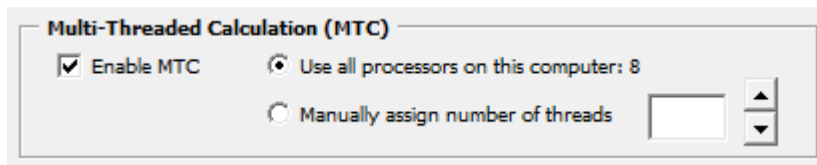
Iteration

When checked Excel will attempt to resolve formulas that are linked by circular references by repeatedly calculating them.

Maximum iterations and Maximum change

Excel will stop the repeated calculation of the circular references as soon as either the maximum number of iterations has been reached or the maximum change in the values of all of the formulas is less than the specified maximum change.

Multi-threaded calculation Settings



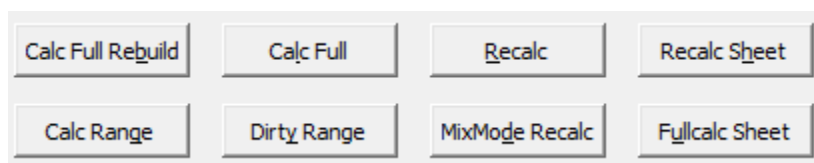
Enable MTC

When Checked Excel (Windows Excel 2007 and Mac Excel version 16 and later) will split the calculation process over multiple threads. This will improve calculation speed on many problems, particularly with large workbooks and multiple recalculations.

Use all Processors/Manually Assign threads

You can control the maximum number of threads to be used by Multi-Threaded calculation

Excel Calculation Buttons



The calculation timer for these buttons is controlled by your FastExcel settings

The Excel Calculation Settings Tab also contains buttons to request various types of calculation. **FastExcel** will show the time taken by the calculation if the calculation timer for buttons is switched on.

Using FastExcel defaults Excel will calculate all enabled worksheets in all open workbooks, and will calculate all MixMode sheets with a Full calculate, and selected MixMode sheets with a Sheet calculate.

Calc Full Rebuild (Shift-Ctrl-Alt-F9)

By default MixMode sheets are calculated if Mixed Mode Full Calculate is on

Calculate Full Rebuild rebuilds the dependency trees and then fully calculates all formulas in all open workbooks. This option is only available from Excel 2002 onwards.

Calc Full (Ctrl-Alt-F9)

By default MixMode sheets are calculated if Mixed Mode Full Calculate is on

Calculate Full fully calculates all formulas in all open workbooks.

Recalc (F9)

Recalculation is the default Excel calculation process. Only changed cells and formulas dependent on changed cells are calculated

Recalculate recalculates all formulas in all open workbooks that have been changed or are volatile, or are dependent on a cell that has been changed or recalculated.

By default MixMode sheets are calculated if calculation mode is Manual and Mixed Mode Manual is on.

Recalc Sheet (Shift-F9)

Sheet Calculate re calculates the selected Sheets assuming that all precedent worksheets and linked workbooks have been correctly calculated.

Recalculate Sheet recalculates all formulas on each selected sheet that have been changed or are volatile or are dependent on a cell on the selected sheet that has been changed or recalculated. By default MixMode sheets are calculated if Mixed Mode Selected Sheets is on.

Fullcalc Sheet (Alt-Shift-F9)

Full Calculate Sheet calculates every formula on the selected Sheets assuming that all precedent worksheets and linked workbooks have been correctly calculated.

Full Calculate Sheet calculates all formulas on each selected sheet. By default MixMode sheets are calculated if Mixed Mode Selected Sheets is on.

Calc Range (Alt-F9)

Use FastExcel Calculation Control->FastExcel Settings to choose between the 2 available Range Calculate methods (with or without dependencies internal to the selected range) and the number of Range Calculate trials (default 3). Range Calculate then shows the median time of all the trials

Range Calculate calculates the currently selected range of cells. If more than one Area is selected; each Area is calculated left-to-right and top-to-bottom, in the sequence that the areas were selected.

If more than one worksheet is selected then only the selected range on the active worksheet is calculated.

If one or more of the selected cells is part of a multi-cell array formula then all the cells in the array formula will be included in the calculation.

If Calculation is set to Automatic both the time taken to calculate the range in Manual mode and the workbook recalculation time are shown.

Dirty Range

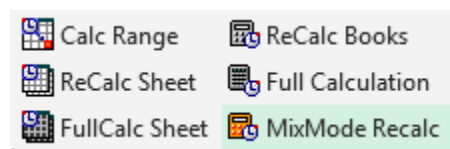
Flags the selected cells as uncalculated. This option is only available in Excel 2002 or later. In automatic mode this will trigger a recalculation.

MixMode Recalc (Ctrl-Shift-F9)

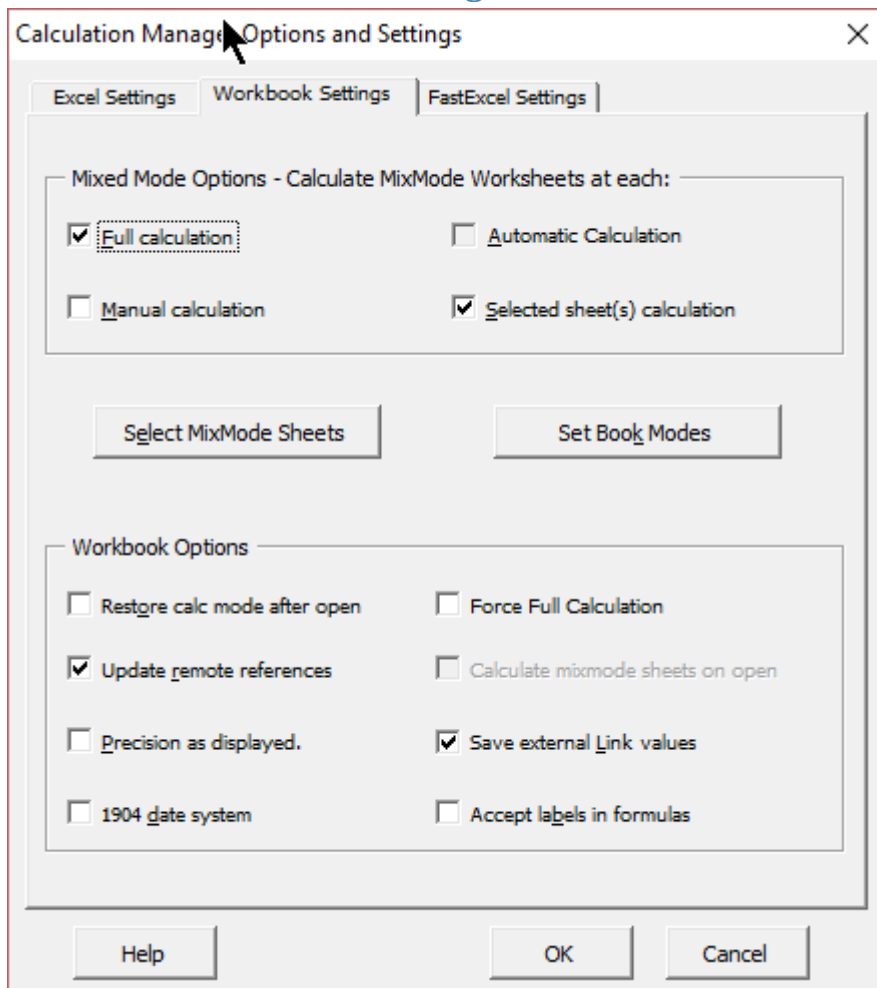
Recalculates both MixMode and ordinary sheets.

MixMode Recalc is similar to Recalc (F9), except that the recalculation also includes all Mixed Mode sheets.

These calculation buttons are also available on the FastExcel Profiler and FastExcel Manager Pro for Mac ribbons.



Workbook Calculation Settings



Workbook Calculation Settings: Mixed Mode

Note: FastExcel Mixed Mode is only available with FastExcel SpeedTools and FastExcel Manager Pro for Mac

Options for calculating MixMode Worksheets

Make some sheets calculate automatically and others only when you request calculation

FastExcel allows you to mix calculation modes for different worksheets within a workbook. **The default settings are designed to allow you to use either automatic or manual calculation for normal sheets, but only calculate specified MixMode sheets when you need to.** You can use mixed mode at the same time as Active Workbook mode.

- You can choose which worksheets to designate as MixMode sheets.
- MixMode worksheet settings are stored with the workbook and persist between Excel sessions.
- You can use default settings or customize the settings.
- MixMode worksheets can be combined with the new calculate active workbook only mode and the ability to set calculation mode by workbook.

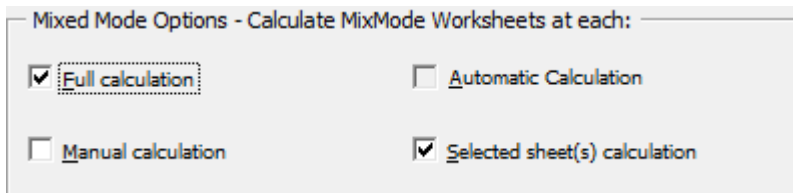
Mixed Mode default settings

If Active Workbook Mode is ON then only the active workbook is calculated: if Active Workbook Mode is OFF then all open workbooks are calculated

When you use FastExcel's default MixMode settings Excel calculates as follows:

- In automatic calculation mode MixMode sheets are **not** recalculated automatically.
- F9 or the Calculate button will **not** recalculate MixMode worksheets.
- Ctrl/Shift/F9 or the **Calculate MixMode Sheets button** will recalculate the workbook(s) **including MixMode** sheets.
- Shift/F9 or the Calculate Sheet(s) button will calculate **all the selected sheets including any selected MixMode sheets**. If in automatic mode the workbook(s) will then also be recalculated.
- Ctrl/Alt/F9 or the Full Calculate Button will calculate all formulas on all sheets in all workbooks, **including MixMode sheets**.

Controlling Mixed Mode Settings



Mixed Mode calculation of MixMode sheets occurs for all open workbooks unless you have selected Active Workbook Mode.

You can control MixMode sheets will be calculated using these options:

- **Full Calculation:** when this option is checked all formulas including those on MixMode sheets in the active workbook will be calculated when you press Ctrl-Alt-F9 or the FastExcel Full Calculate button. The default is checked.
- **Manual Calculation:** when this option is checked pressing F9 or FastExcel's Recalculate button will recalculate formulas that are flagged as uncalculated, including those on MixMode sheets in the active workbook. The default is not checked.
- **Selected Sheet(s) Calculation:** when this option is checked pressing Shift-F9 or FastExcel's Calculate Sheets button will recalculate formulas that are flagged as uncalculated on all selected sheets, MixMode or enabled. The default is checked.
- **Automatic Calculation:** this option is permanently disabled: Excel's automatic calculations do not recalculate MixMode sheets (except when you enable them of course).

You can select which sheets will be MixMode sheets using the Select MixMode Sheets button.

When a workbook is opened

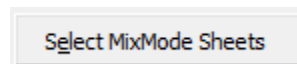
If Excel is in automatic mode all MixMode sheets are recalculated.

If Excel is in manual mode any MixMode sheets are not recalculated unless the “Calculate MixMode sheets on open” option (Workbook Calculation Settings tab) was selected when the workbook was saved.

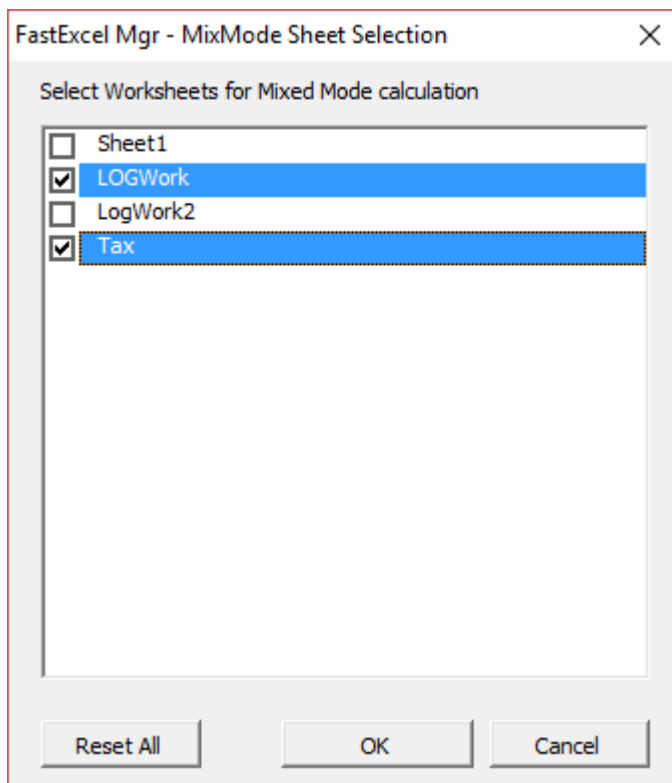
Using Range Calculate in Mixed Mode

Range calculate or Alt-F9 always calculates the selected range even on a MixMode sheet.

Workbook Calculation settings: Choosing the MixMode Sheets



You can choose which sheets to process in Mixed mode using the **Select Mixmode Sheets** button on the Active Workbook Calculation settings tab. FastExcel stores these settings for each worksheet in the workbook, and restores the last saved settings when the workbook is opened.



Use this command to select the sheets you want to be handled as MixMode sheets. These sheets will be calculated according to the options set for Mixed Mode calculations.

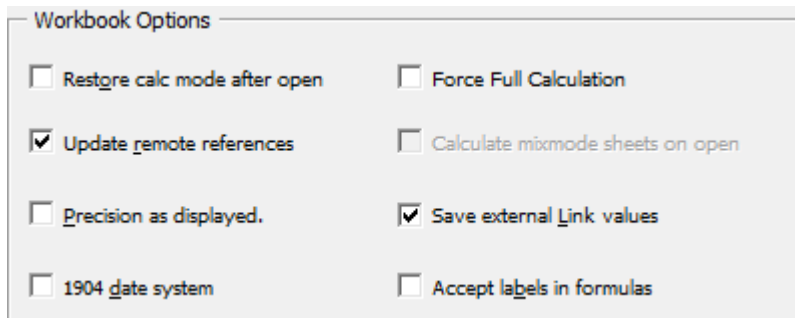
You can also use this tool to explore the possible effect of combining sheets.

In cases where there is a significant workbook calculation overhead you may be able to simulate the effect of combining the sheets causing the **bottleneck** by setting suspect worksheets to MixMode and monitoring the effect on workbook recalculation time.

NOTE: When using FastExcel SpeedTools or FastExcel Manager Pro for Mac these settings are saved when you save a workbook and restored when you open a workbook. These settings use Excel's Worksheet Enable Calculation property.

This behavior is different to the standard Excel behavior.

Workbook Calculation Settings: Workbook Options



Restore Workbook Calculation Mode after open

This option only functions when:

-the workbook has been saved

-and the workbook is subsequently opened.

When Restore calculation mode after open is checked FastExcel will automatically reset the calculation mode **after the workbook has been opened** to the workbook calculation mode. You can set the workbook calculation mode using Set Book Modes, or let it default to the default workbook calculation mode, which you can also set in Set Book Modes.

Note that using this option does NOT prevent Excel calculating a workbook when it is opened and Excel is in Automatic mode.

Use "Restore calculation mode after open" instead of Active Workbook Mode if you want to force Excel into the calculation mode of this workbook whenever it is opened, but do not want to switch calculation mode whenever a workbook is activated.

Force Full Calculation

This option is only available in Excel 2007 or later and , Mac Excel 365.

If checked every calculation on this workbook will be a full calculation rather than a recalculation, and the time taken to rebuild the dependency trees will not be needed at workbook open time or when the workbook is edited.

Switch on Force Full Calculation if adding a row at the top of a worksheet is very slow and Full Calculate time is close to Recalculate time.

Calculate MixMode sheets on open

Only works if FastExcel was active when the workbook was saved

Calculate all worksheets including MixMode when the workbook is opened in manual mode. In Automatic mode MixMode sheets are always recalculated on open, so you cannot select this option when calculation mode is automatic.

Update Remote References

If TRUE automatically update any remote references (DDE Links to other programs) whenever Excel recalculates.

Save External Link Values

If TRUE Excel will save values for the links to external workbooks. I recommend keeping this option as TRUE

Precision as Displayed

Checking this box will force Excel to calculate to the number of decimal places that appear as a result of your formatting, ***and will permanently change any numbers stored in cells.***

You need to be sure you have thought through the full implications of this before using it.

Precision as Displayed slows down calculation.

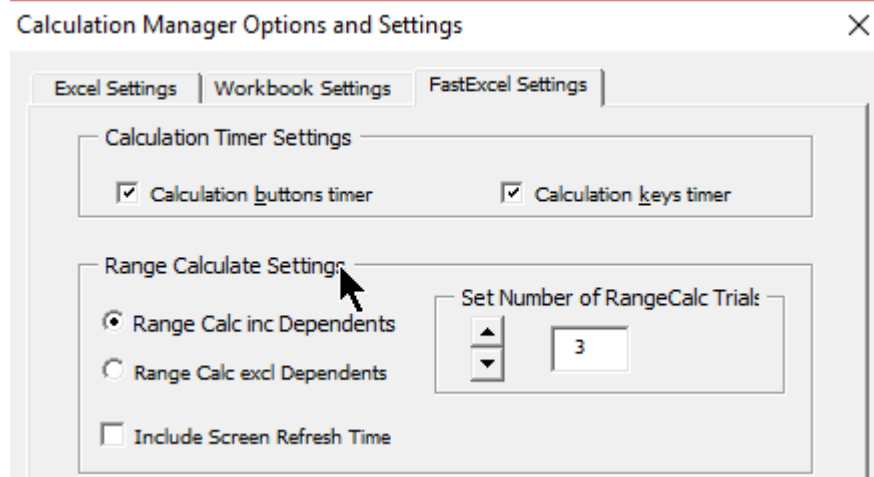
1904 Date System

If TRUE changes the starting date from which all dates are calculated from January 1 1900 to January 2 1904.

Accept Labels in Formulas

This allows Excel to use natural language labels in formulas. Because there are circumstances when this will give you unexpected or ambiguous results, ***I recommend you do NOT use this feature.***

FastExcel Settings

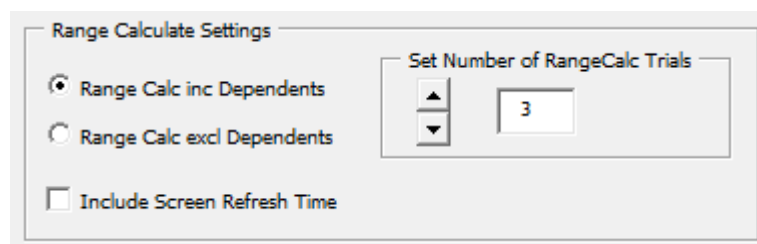


Calculation Timers for buttons and keys

You can control the FastExcel calculation time display separately for the calculate buttons and the calculate keys.

When checked you will see a message box after the calculation showing the time taken by the calculation.

Range Calculate Settings



Range Calc including or excluding Dependents

In Excel 2007 and later there are 2 different Range calculate methods. One includes within-range dependency calculations and the other ignores within-range dependencies and calculates row by row strictly left-to-right and top-to-bottom. Range Calculate always ignores dependencies outside the selected range, although the selected range will be expanded to include all the cells in multi-cell array formulas.

Set Number of RangeCalc Trials

Because RangeCalc timing can be sensitive to Windows multi-tasking it is better to allow a number of trials. The Median (middle-most) calculation time will automatically be used, thus discarding incorrectly high and low values.

You can set the number of trials: the default number is 3.

Include Screen Refresh Time

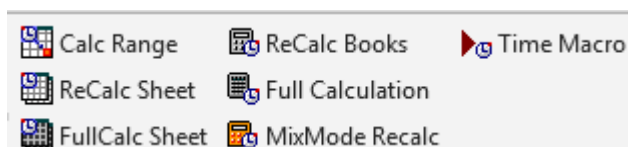
If checked timings for Range Calculate will include the time used by Excel to refresh the visible window.

Calculation Timing Buttons

There are seven FastExcel calculation timing buttons.

These buttons are only available in FastExcel V4 Profiler and FastExcel Manager Pro for Mac

These buttons calculate the selected items and optionally show you the elapsed time taken by the calculation.



Use FastExcel Calculation Control->FastExcel Settings to choose between the 2 available Range Calculate methods (with or without dependencies internal to the selected range) and the number of Range Calculate trials (default 3). Range Calculate then shows the median time of all the trials.

Sheet Calculate re calculates the selected Sheets assuming that all precedent worksheets and linked workbooks have been correctly calculated.

Full Calculate Sheet calculates every formula on the selected Sheets assuming that all precedent worksheets and linked workbooks have been correctly calculated.

Recalculation is the default Excel calculation process. Only changed cells and formulas dependent on changed cells are calculated



The currently selected cells, using **Range Calculate**. Alt-F9
If more than one Area is selected; each Area is calculated left-to-right and top-to-bottom, in the sequence that the areas were selected.
If more than one worksheet is selected then only the selected range on the active worksheet is calculated.
If one or more of the selected cells is part of a multi-cell array formula then all the cells in the array formula will be included in the calculation.
If Calculation is set to Automatic both the time taken to calculate the range in Manual mode and the workbook recalculation time are shown.



The currently selected sheet(s), using **Sheet Recalculate**. Shift-F9.
If more than one worksheet is selected all the selected worksheets are recalculated. If Calculation is set to Automatic both the time taken to recalculate the sheet(s) in Manual mode and the subsequent workbook recalculation time are shown. If MixMode sheets are selected by default they will be calculated



The currently selected sheet(s), using **Sheet Full Calculate**. Alt-Shift-F9.
If more than one worksheet is selected all the selected worksheets are recalculated. If Calculation is set to Automatic both the time taken to recalculate the sheet(s) in Manual mode and the subsequent workbook recalculation time are shown. If MixMode sheets are selected by default they will be calculated

Full calculation calculates all formulas in all open workbooks



All enabled sheets in open workbooks. **Recalculate**. F9.
MixMode sheets are not calculated unless Manual Calculation has been checked in MixMode options.

Recalc MixMode Sheets recalculates all sheets including MixMode sheets.



Calculate all open workbooks. **Full Calculation**. Ctrl-Alt-F9



Recalculate MixMode Sheets: All enabled sheets and any MixMode sheets in all open workbooks are recalculated. Ctrl-Shift-F9.



Select, run and time a macro.

To control the display of the calculation time see FastExcel Calculation Control -> FastExcel Settings.

There are keyboard shortcuts for these calculation commands.

Getting Consistent Results from FastExcel V4 Timing

Sometimes you will find that your **FastExcel** timing results are not repeatable, even though **FastExcel** measures elapsed time using a high-resolution timer with microsecond accuracy.

Power Saving and Multi- Core processors:

Power saving features, particularly on dual-core processors, may dynamically vary the speed of your processor. This can create problems for consistent timings using the high-resolution timer. If timing consistency is important try switching off the power-saving features of your processor.

Excel minimizes the number of calculations:

When Excel calculates it remembers:

- Which cells have been calculated.
- The optimum calculation path used for the final answer.

The second calculate is often much faster than the first

So the next time Excel calculates it can save time by:

- Only calculating the cells that have changed (or depend on cells that have changed)
- Re-using the last calculation path

Why FastExcel Timing results may vary from run to run:

Both Excel and Windows cache information to speed up subsequent operations

Both Excel and Windows try to optimize performance by storing recent information in memory. This includes the calculation path used by the most recent calculation.

Windows is a multitasking system so Excel does not get the whole system to itself

So Excel's second calculate is often significantly faster than the first.

Excel also saves some of this information, including the most recent calculation path, with the workbook.

Excel's background calculation process can easily be interrupted

Windows is a multitasking, paged virtual memory operating system so other system tasks are always running at the same time as Excel. Try and make sure there are no other user tasks active whilst you are using **FastExcel**.

Excel's background calculation process can be interrupted if you press any key or click the mouse whilst **FastExcel** is active. This may give you inaccurate timings.

FastExcel V4 can help you quickly find out how much memory Excel is using.

Using FastExcel calculation methods from VBA

If you are using any of FastExcel's additional calculation modes and options and your VBA program is requesting Excel calculations you should use FastExcel's enhanced calculation methods.

If you use Excel's standard calculation methods either FastExcel's additional calculation modes and options will not operate or you may get unexpected results.

You can access FastExcel's calculation methods from VBA either by using Application.Run or by setting a reference in your VBA project to FastExcelV4: Alt-F11 to go to the VBE, then Tools → References and check the box beside FastExcelV4.

The available calculation methods are:

FxlRangeCalc

FxlRangeCalc calculates the selected range on the active sheet in the same way as the FastExcel Calculate Range button.

FxlSheetCalc

FxlSheetCalc recalculates the selected worksheet(s) in the same way as the FastExcel Recalculate Sheets button.

FxlFullSheetCalc

FxlFullSheetCalc full calculates the selected worksheet(s) in the same way as the FastExcel Full Calculate Sheets button.

FxlBookCalc

FxlBookCalc recalculates workbooks in the same way as the FastExcel Calculate Book button.

FxlFullbookCalc

FxlFullBookTime does a full workbook calculation in the same way as the FastExcel Full Calculate button.

FxlDisabledSheetsCalc

FxlDisabledSheetsCalc recalculates workbooks including Mixed mode worksheets.

FxlFullDependCalc

The workbooks will have their dependency trees rebuilt and a full calculation will be done.

MICROTIMER function

The MICROTIMER function is a wrapper function for the Windows high-resolution timer API.

The function returns a double containing seconds. The resolution of the timer is dependent on the clock speed of your PC, but is about 1 microsecond on a 1200MHZ AMD. The function itself takes about 5 microseconds to execute when called from VBA on the same machine.

The function is not volatile, and is primarily designed to be called from VBA Subs/Functions rather than from a worksheet.

MICROTIMER Syntax

MICROTIMER()

MICROTIMER Remarks

To call the function from VBA you must first make a reference from the VBE to FastExcelV4:

- Open the VBE (Alt F11)
- Open a module within your VBA project
- Tools->References and check FastExcelV4.

It is also possible to evaluate the function from VBA as a worksheet function using Evaluate, but this incurs significant extra overhead.

MILLITIMER function

The MILLITIMER function is a wrapper function for the Windows medium-resolution timer API.

The function returns a long containing milliseconds. The resolution of the timer is about 5 milliseconds. The function itself takes about 1 millisecond to execute when called from VBA on the same machine.

The function is not volatile, and is primarily designed to be called from VBA Subs/Functions rather than from a worksheet.

MILLITIMER Syntax

MILLITIMER()

MILLITIMER Remarks

To call the function from VBA you must first make a reference from the VBE to FastExcelV4:

- Open the VBE
- Open a module within your VBA project
- Tools->References and check FastExcelV4.

It is also possible to evaluate the function from VBA as a worksheet function using Evaluate, but this incurs significant extra overhead.

STRCOLID function

The STRCOLID function returns an alphabetic column name (A to XFD) given a column number.

STRCOLID Syntax

STRCOLID(jColNo)

JColNo

jColNo is the number of the column you want to convert to a column name.

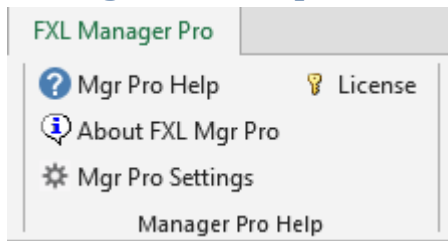
STRCOLID Remarks

If the column number is greater than 16384 STRCOLID returns #N/A

STRCOLID can be used either as a worksheet function or from VBA.

The main use of STRCOLID as a worksheet function is to calculate a cell address as a string for use with INDIRECT.

Manager Pro Help



Mgr Pro Help

Help links to the web-based help pages which are the equivalent of this guide.

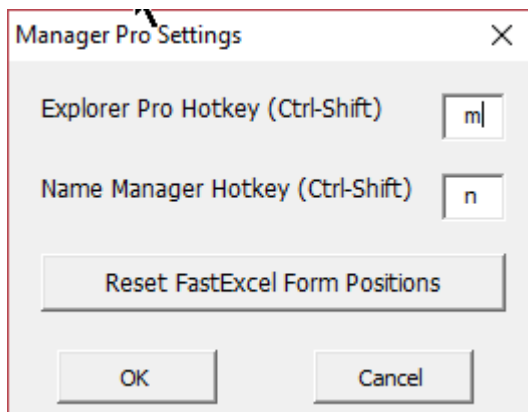
About FXL Mgr Pro

Shows the installed and latest Manager Pro build numbers.

You can download and install the latest build from the website link at the bottom of the form.

Mgr Pro Settings

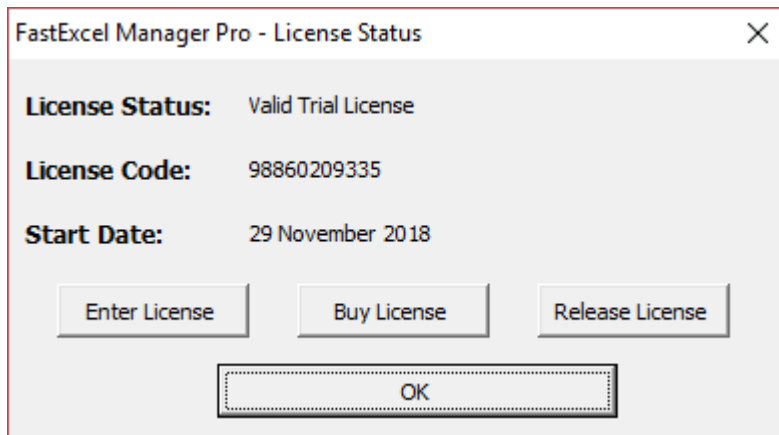
Shows a userform to change Explorer Pro and Name Manager hotkeys.



If one of the FastExcel Manager forms disappears from view or becomes hidden, the Reset FastExcel Form Positions button will reset all FastExcel forms to their default position.

License (Excel for Mac)

License shows you the current state of your FastExcel Manager Pro Mac License, and allows you to:



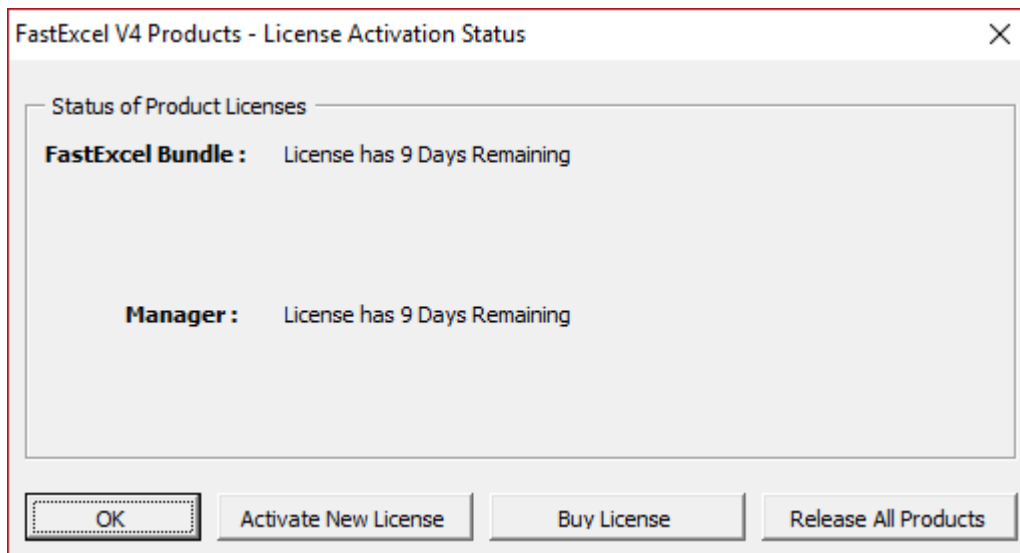
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