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1. Summary

The SIS Utilities Add-In for Excel provides a number of functions:

- Find the cell corresponding to the selected point in a graph
- Add the full path and filename to the footer of a graph or spreadsheet.
- List all the sheets in a workbook
- Show the full path to the current file, and easily copy that to the clipboard
- Graph network analyzer files stored in S2P format
- Change graph data to either lines or points
- Provide a standard format for graph data lines
- Convert a graph to jpg, GIF, or bmp format

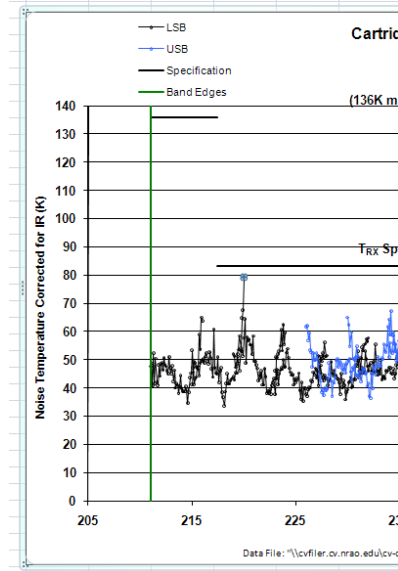


2. Charting Functions

2.1 Find the Cell Corresponding to a Point on a Graph

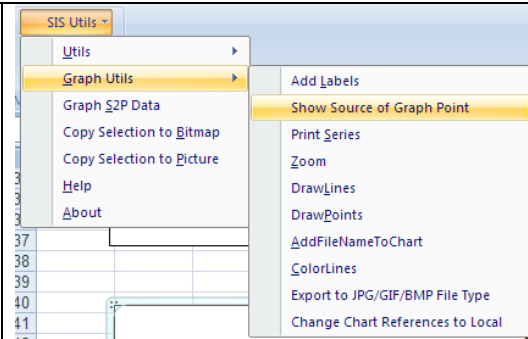
This function finds the cell containing the value that generated the selected point in a graph, which is useful for graphs containing large numbers of points.

Select the graph, and then the point of interest on the graph, as shown to the right. The selected point will be highlighted in Excel.



Select the menu item show in the figure.

Note that the “Graph Utils” menu won’t appear until a graph is selected.



The cell corresponding to the selected point will be shown.

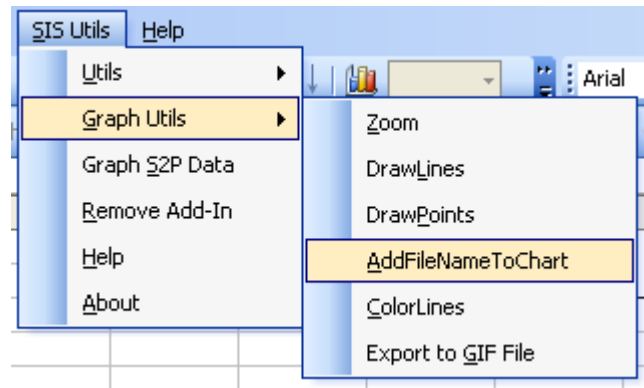
49.0	49.5	49.1	42.6	42.1	
48.8	49.6	49.0	47.2	50.4	
48.4	49.1	48.6	46.3	41.5	
48.5	49.0	48.7	48.0	52.2	
48.5	49.5	48.7	51.1	40.7	
48.2	49.7	48.4	54.7	48.7	
48.2	49.7	48.5	50.8	47.7	
47.7	48.0	48.0	64.9	79.3	
48.2	48.4	48.5	62.3	67.7	
48.2	48.2	48.5	54.8	64.8	
48.4	48.5	48.7	57.8	54.1	
48.4	48.8	48.7	59.8	58.3	
48.1	48.6	48.4	50.4	53.5	
47.8	48.4	48.1	50.2	52.0	
48.1	48.5	48.4	49.9	45.3	
48.1	48.4	48.3	44.8	45.3	

2.2 Add File Name To Chart

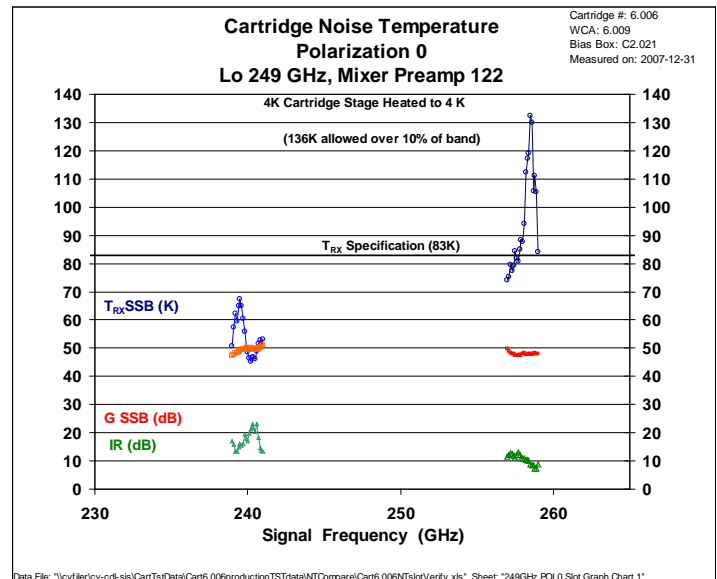
When (and only when) a graph is selected, an additional menu is available called *Graph Utils*.

Select *AddFileNameToChart* to add to the bottom of the graph the complete path of the spreadsheet file where the graph is stored.

Caution: Using any worksheet magnification other than 100% sometimes confuses the text scaling.



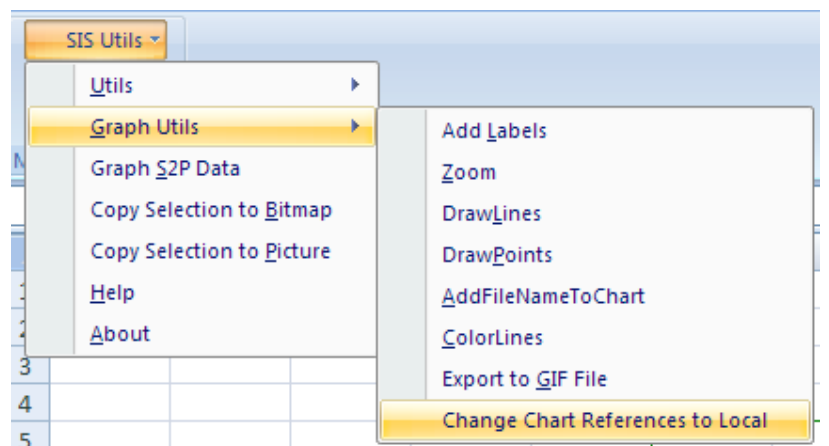
An example graph with the complete path is shown here.



2.3 Update Chart References to the Active Workbook

Graphs with useful formats are often copied from one workbook (Excel file) to another, but the graph data must then be updated to reference the data in the second workbook. If both workbooks have the same data format (*i.e.* sheet name and cell references), then the function *Change Chart References to Local* does this automatically:

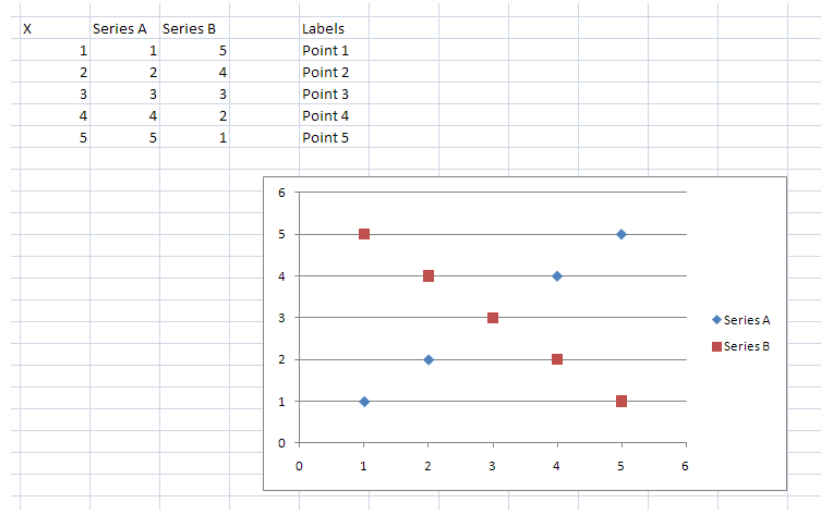
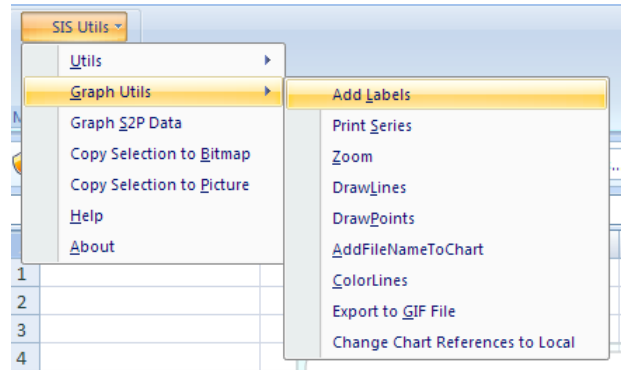
1. Copy the graph from workbook 1 to workbook 2.
2. Select any graph in workbook 2 on the worksheet to be updated
3. Select *Change Chart References to Local*



to update the references of all graphs on the sheet to workbook 2.

2.4 Add Labels to Graphs

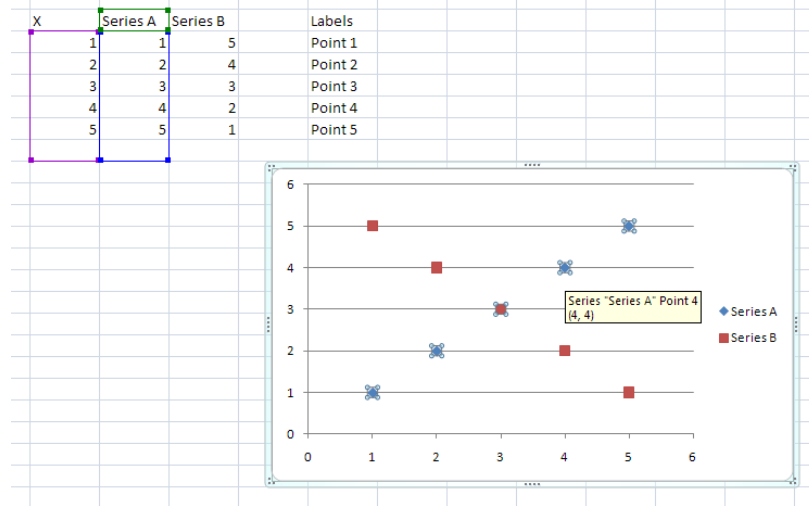
Labels can be added to points on a graph using this routine. Create a column of labels such that each label is on the same row as the corresponding x value and all labels are in the same column.



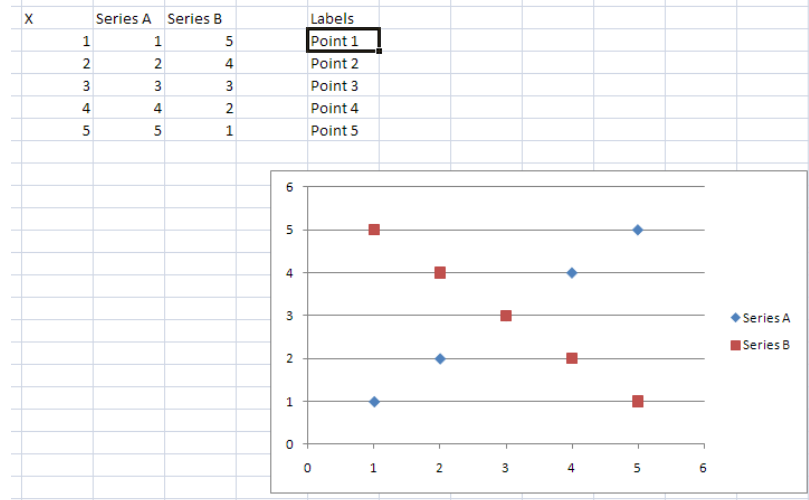
1. Select the graph that you want to label.
2. Select the menu element *Add Labels* from the *Graph Utils* menu.



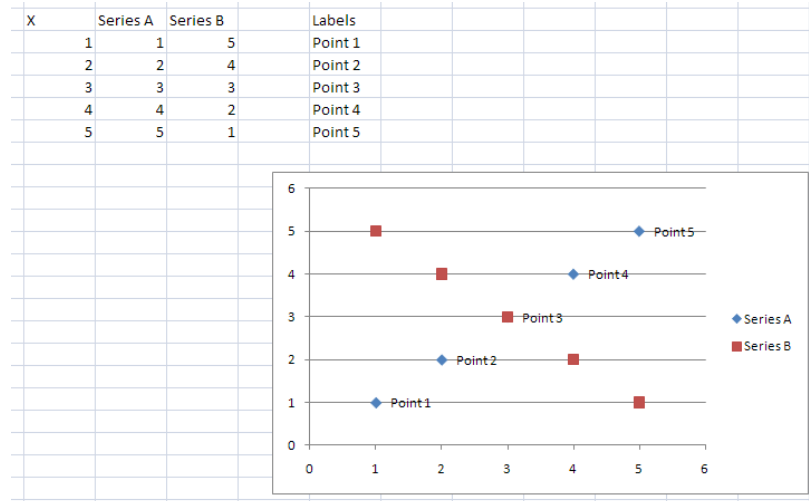
3. Select the series on the graph where you want the labels by selecting a point or line



4. Select any cell in the column containing the labels



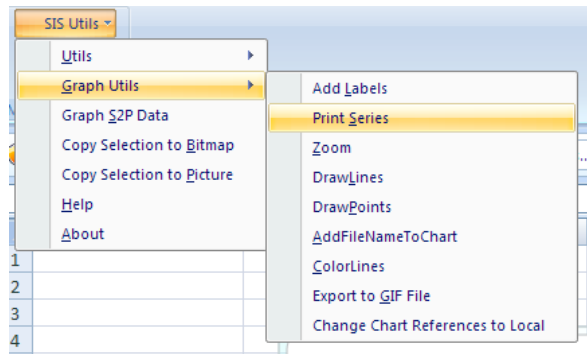
5. The graph will be labeled as shown. Note that the labels are not dynamically linked to the cells, so after changing a label on the worksheet, rerun this function



2.5 Print Series for Graphs

X-Y data organized as series in Excel can be printed to the same spreadsheet as the graph using the *Print Series* command:

1. Select the graph of interest
2. Select the menu element *Print Series* from *Graph Utils* under the *SIS Utils* menu on the *Add-Ins* tab.

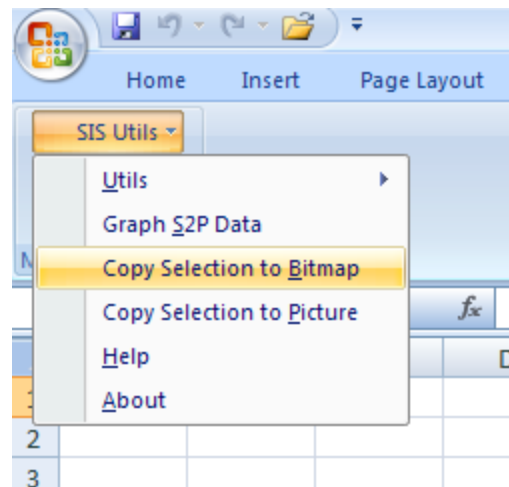


3. The series information will be printed out starting on line 100 of the same worksheet containing the graph.
4. Note: The program overwrites without warning any data stored on or below row 100.

99				
100	Series Name:		Axes	
101	Series Formula:		=SERIES('C:\Documents and Settings\hl9b\Desktop\NF	
102	X		Y	
103		-10	0	
104		10	0	
105				
106		0	-10	
107		0	10	
108				
109	Series Name:		Series1	
110	Series Formula:		=SERIES('C:\Documents and Settings\jeffland\Local Se	
111	X		Y	
112		8.22343E-06	0.000607	
113		0.000127993	-1E-05	
114		0.000182383	0.000899	
115		9.45719E-05	0.000485	
116		0.000132947	0.000836	
117		-0.000116322	-0.00014	
118		1.27997E-05	-0.00058	

3. Copy Selection to Bitmap/Picture

To copy either a range of cells or a graph to the clipboard either as a bitmap or picture format, select the following from the menu:



Picture format generally provides more detail when

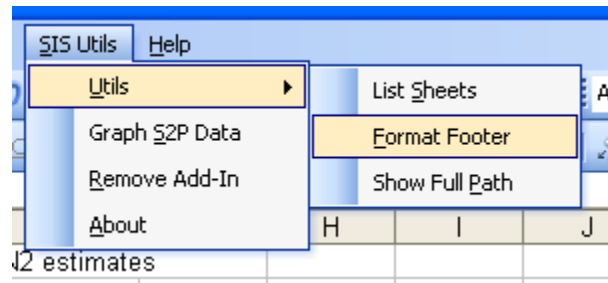
pasted into Word. Bitmaps are useful when pasting graphs with many points, because the picture format for those graphs tend to redraw very slowly, even after conversion to pdf files.

4. Format Footer

This function adds the file name and full path to either the currently displayed spreadsheet or the currently selected graph.

If multiple worksheets are selected (Hold down CNTL while clicking each sheet tab) then each selected sheet is formatted and page numbers are provided, too.

Also included is the date that the spreadsheet was printed. This is actually the date that this routine was run.



Sample Output:

```

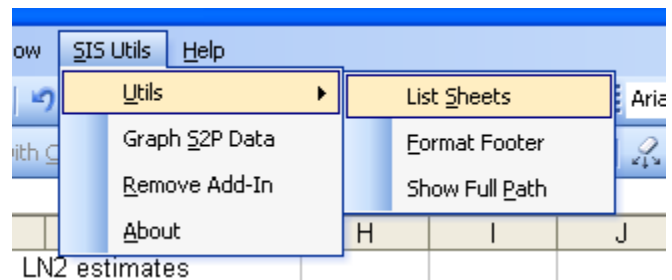
Removed the cost of number blocks from carriage sheets
Rev 12 2005-09-07
Added parts to cost sheet 2
Rev 13 2005-09-08
Added IF and LO Retrofits, and time for testing these components.
From \\cvfiler.cv.nrao.edu\cv-cdl-sis\Cartridge\Costing\CarFab-Rev16-09-20-2005.xls
2005-09-28 jee updated format, consolidated 1326 with this
2005-09-29 jee Updated using Neil's/Mike's changes for preamp testing

```

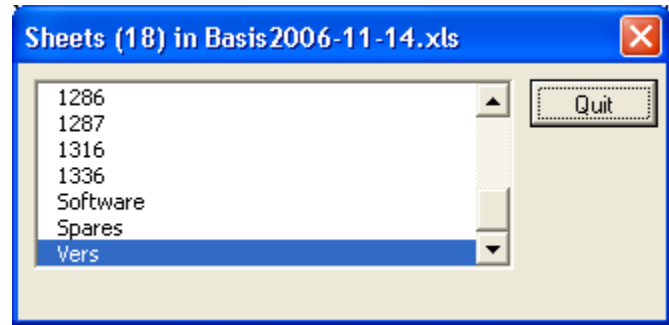
SHEET: 1006-1326 Page: 1 of 1
 SIS Util Ver. V2.1 (2006-11-16)
 Printed: 2006-11-17 10:22:23
 File: \\cvfiler.cv.nrao.edu\cv-cdl-sis\Cartridge\Costing\2006-10-25\Bar#2006-11-14.xls

5. List Sheets

To obtain a listing of all the sheets in the workbook, select the following from the menu:



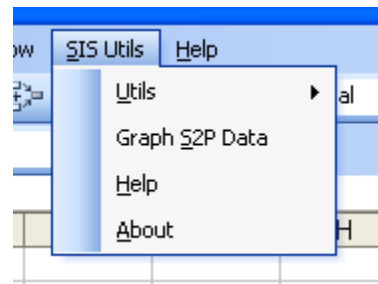
This brings up the following dialog box, where each sheet is displayed when selected using this box. Hidden sheets are also visible using this dialog box:



6. Show Full Path

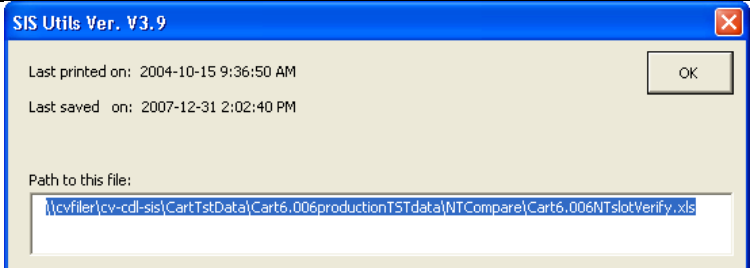
Shows the full path and filename. Maps drive letters to “UNC” paths. Useful for copying to the clipboard.

(UNC - Unified Naming Convention)



Copy the full path of the Excel file to another document:

1. Press CNTL-C to copy it to the clipboard (the text in the white box is “selected” be the program), then
2. Paste it into the other document with CNTL-V when in that document.

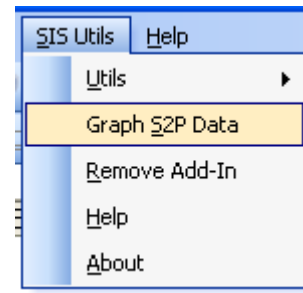


7. Graph S2P Data

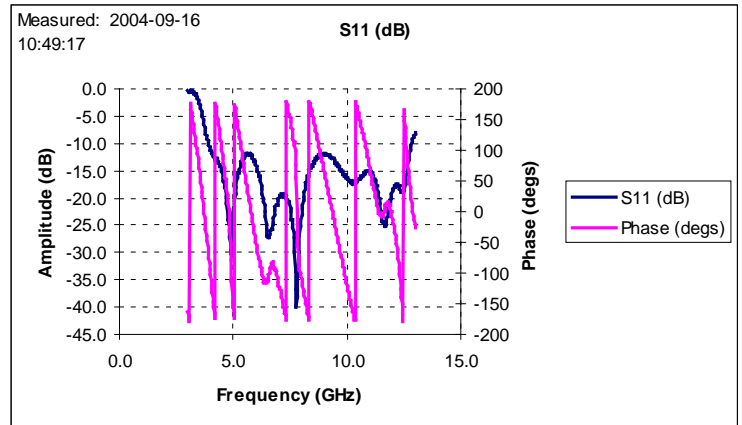
This routine loads and graphs s-parameter files in S2P format. There are a variety of S2P formats and only *some* are supported at this time.

Separate graphs are created for each s-parameter.

Select this function to display an input file dialog box. Then select the appropriate S2P file and the routine will load the file into a spreadsheet and create the graphs.

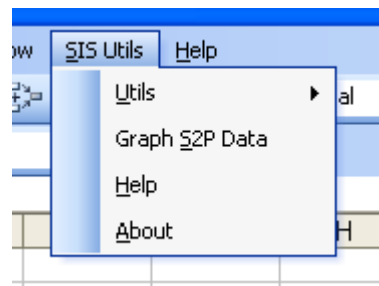


The graphs are stored on the Excel spreadsheet that contains the S2P data. An example graph is shown here.

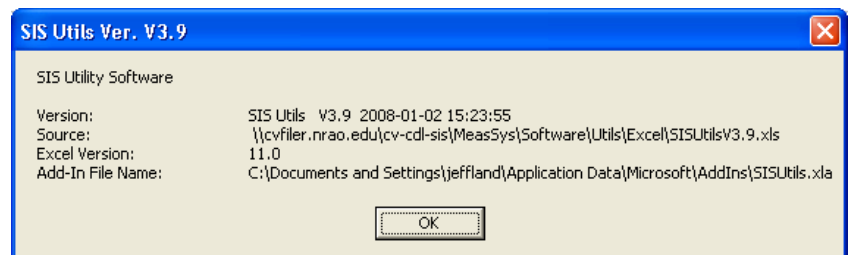


8. Show the About Box

To obtain the version information about the add-in, select *About* from the menu:



Here's a sample *About* box.



9. Software Installation

The add-in is actually just a spreadsheet that's hidden by Excel. The routines stored in the add-in can be seen by running the Visual Basic for Applications (VBA) interpreter (*via* the Developer/Visual Basic ribbon in Excel 2007 or Tools/Macro menu in Excel 2003 or ALT-F11 from Excel). Be aware that any changes to the VBA code in the add-in are not saved when Excel is closed, but it might be useful to cut and paste some of those routines into your own software modules.

Versions of the add-in source code are stored here:

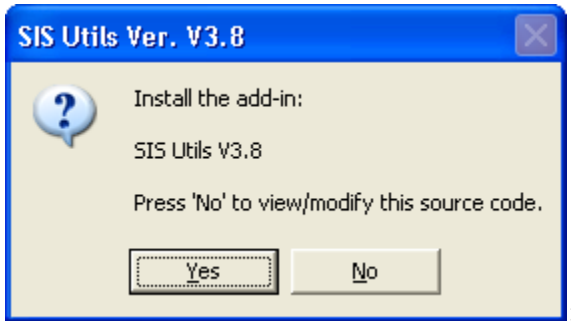
[\\cvfiler.cv.nrao.edu\cv-cdl-sis\MeasSys\Software\Utils\Excel](http://cvfiler.cv.nrao.edu/cv-cdl-sis/MeasSys/Software/Utils/Excel)

To get the add-in to run, you'll need to set security options from the following path:

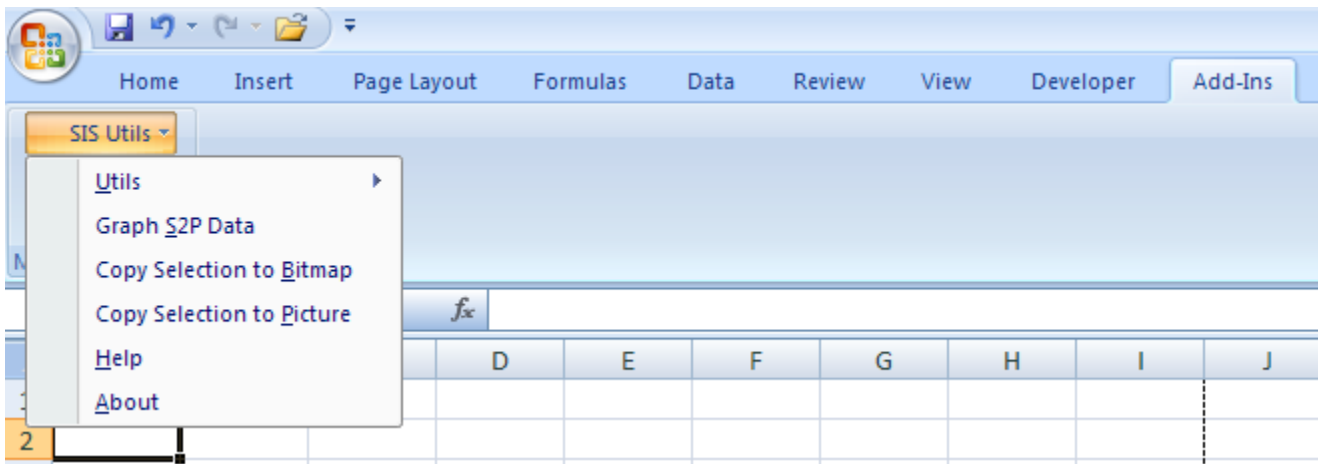


1. Press Excel's *Office* round button in the upper left hand side of the screen,
2. Select "Excel Options" at the bottom, then
3. "Trust Center", then
4. "Trust Center Settings...".
5. The safest choice is to include the directory above as a "Trusted Location".

Next, open the most-recent Excel file from the directory above and press "Yes" when the opening dialog box appears:



In Excel 2007, the add-in menu is available from the "Add-Ins" tab on the ribbon bar:



10. Version Information for this document

Current help file version:

Revision Information (Most recent is top row)				
Help Version	Software Version	Date	Who	Notes
08	4.8	<2010-06-02 >	jee	Added
07	4.6	<2010-04-13 >	jee	Added PrintSeries
06	4.3	2009-10-29	jee	Updated format to pdf, added Change Chart References to Local
05	4.0	2009-02-23	jee	Updated for Excel 2007
04	3.9	2008-01-02	jee	Added sample graph.
03	3.8	2007-12-31	jee	Minor editorial changes.
02	3.2	2006-11-24	jee	Added more sections



Revision Information (Most recent is top row)

Help Version	Software Version	Date	Who	Notes
01	3.1	2006-11-22	jee	Added Show Full Path and About Box Sections
00	2.2	2006-11-17	jee	Initial