

How to Use the AutoComparator

The AutoComparator is used to compare two or more sources of data. It will adjust each source so that equivalent values match up, and missing values are clearly visible.

Setting Up AutoComparator

(Currently, there is no established place to get a copy of AutoComparator. Email Ryan Fox or Rene Allard to ask for it.)

1. Copy AutoComparator.xls from (somewhere).
2. Open a new Excel workbook.
3. Open the AutoComparator.xls file.
 - This will create a new button in your toolbar.

Setting Up Your Sources

- Each source's data lives on a separate sheet within Excel.
- Do not include headings for the columns.
- Remove any blank columns mixed into the data.
- Example:

Sheet 1

	A	B	C
1	1	C1	D1
2	2	C2	D4
3	3	C3	D9
4	4	C4	D16
5	5	C5	D25
6	6	C6	D36
7	7	C7	D49
8	8	C8	D64
9	9	C9	D81
10	10	C10	D100
11	11	C11	D121
12	12	C12	D144
13	13	C13	D169
14	14	C14	D196
15	15	C15	D225
16	16	C16	D256
17	17	C17	D289
18	18	C18	D324
19	19	C19	D361
20	20	C20	D400
21	21	C21	D441
22	22	C22	D484
23	23	C23	D529
24	24	C24	D576
25	25	C25	D625

Sheet1 Sheet2 COMPARE

Sheet 2

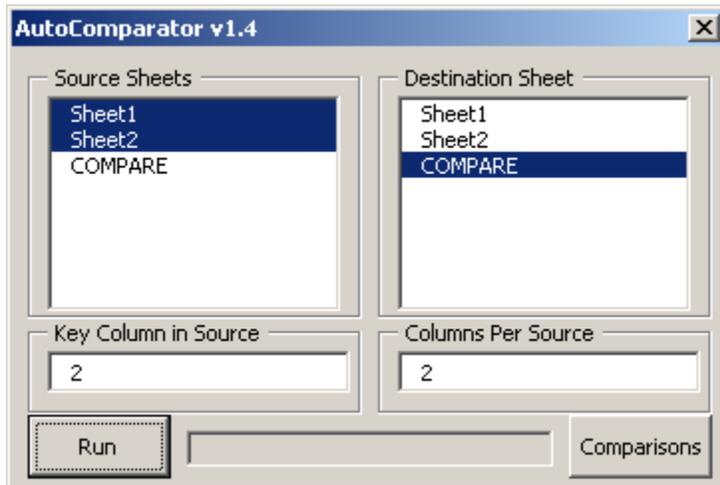
	A	B	C
1	11	C11	D121
2	12	C12	D144
3	13	C13	D169
4	14	C14	D196
5	15	C15	D225
6	16	C16	D256
7	17	C17	D289
8	18	C18	D324
9	19	C19	D361
10	20	C20	D400
11	21	C21	D441
12	22	C22	D484
13	23	C23	D529
14	24	C24	D576
15	25	C25	D625
16	26	C26	D676
17	27	C27	D729
18	28	C28	D784
19	29	C29	D841
20	30	C30	D900
21	31	C31	D961
22	32	C32	D1024
23	33	C33	D1089
24	34	C34	D1156
25	35	C35	D1225

Sheet1 Sheet2 COMPARE

This example shows two sources of data, each with three columns. The meaning of the data is unimportant, except that the columns should be in the same order. (ie: the 'C' data is in the second column in both sources, etc.)

Running AutoComparator

Click the  button, and you will be greeted by this screen:



The settings here can be a confusing. Here's what each field means:

- Source Sheets
 - These are the Excel worksheets where, in the last step, you put your data.
- Destination Sheet
 - This is the Excel worksheet where the AutoComparator's results will be shown.
 - Make sure that you don't have anything important on this sheet because it will be overwritten.
- Key Column in Source
 - This tells the AutoComparator which column should be used as the index. The number corresponds to the position in the source.
 - 1 corresponds to column A in the source sheets,
 - 2 corresponds to column B in the source sheets,
 - And so on...
 - When the AutoComparator is looking to see if the two sources are the same, it is this column that it will look at.
 - See the "Choosing a Key Column" section for examples of how this will affect the results of the AutoComparator.
- Columns Per Source
 - The number of columns of data there are in the source sheets.
 - If one source has more columns than the other, use the bigger number.
 - If you have extra data that is unimportant to the comparisons, you can choose a smaller number.

- Comparisons
 - See the “Choosing Your Comparisons” section.

The Results of AutoComparator

The AutoComparator has two tasks:

1. Sort and re-align the data so that equal values in the key column match up.
2. Compare each row from the results of task 1, and tell you whether the cells match.

In the end, the results look something like this:

	A	B	C	D	E	F	G	H	I	J
1	Sheet1			Sheet2				A/D	B/E	C/F
2										
3	1	C1	D1					BAD	BAD	BAD
4	10	C10	D100					BAD	BAD	BAD
5				32	C32	D1024		BAD	BAD	BAD
6				33	C33	D1089		BAD	BAD	BAD
7				34	C34	D1156		BAD	BAD	BAD
8	11	C11	D121	11	C11	D121		GOOD	GOOD	GOOD
9				35	C35	D1225		BAD	BAD	BAD
10	12	C12	D144	12	C12	D144		GOOD	GOOD	GOOD
11	4	C4	D16					BAD	BAD	BAD
12	13	C13	D169	13	C13	D169		GOOD	GOOD	GOOD
13	14	C14	D196	14	C14	D196		GOOD	GOOD	GOOD
14	15	C15	D225	15	C15	D225		GOOD	GOOD	GOOD
15	5	C5	D25					BAD	BAD	BAD
16	16	C16	D256	16	C16	D256		GOOD	GOOD	GOOD

Sheet1 Sheet2 COMPARE

As you can see, the data has been shifted so that the values in the third column match up, and there are three columns that say GOOD or BAD. GOOD means that the cells in question match, BAD means that they don't match. The heading at the top of the column will tell you which columns are being compared.

The first comparison column's heading says "A/D." This means that it is comparing column A to column D. "B/E" is comparing column B to column E, and so on.

If you click on a cell in a comparison column, it will also highlight the two cells that are being compared. This can be useful when you have a lot of data that looks very similar and you are trying to figure out why something does or doesn't match.

Choosing a Key Column

The “Key Column in Source” option is one of the more confusing options. Here I’ll show some examples of how choosing different keys will affect the results.

For these examples, we will use the same data as shown above, but for the sake of simplicity, only the first two columns will be involved.

Key Column in Source = 1

	A	B	C	D	E	F	G
1	Sheet1		Sheet2			A/C	B/D
2							
3	1	C1				BAD	BAD
4	2	C2				BAD	BAD
5	3	C3				BAD	BAD
6	4	C4				BAD	BAD
7	5	C5				BAD	BAD
8	6	C6				BAD	BAD
9	7	C7				BAD	BAD
10	8	C8				BAD	BAD
11	9	C9				BAD	BAD
12	10	C10				BAD	BAD
13	11	C11	11	C11		GOOD	GOOD
14	12	C12	12	C12		GOOD	GOOD
15	13	C13	13	C13		GOOD	GOOD
16	14	C14	14	C14		GOOD	GOOD
17	15	C15	15	C15		GOOD	GOOD
18	16	C16	16	C16		GOOD	GOOD
19	17	C17	17	C17		GOOD	GOOD
20	18	C18	18	C18		GOOD	GOOD
21	19	C19	19	C19		GOOD	GOOD
22	20	C20	20	C20		GOOD	GOOD
23	21	C21	21	C21		GOOD	GOOD
24	22	C22	22	C22		GOOD	GOOD
25	23	C23	23	C23		GOOD	GOOD
26	24	C24	24	C24		GOOD	GOOD
27	25	C25	25	C25		GOOD	GOOD
28			26	C26		BAD	BAD
29			27	C27		BAD	BAD
30			28	C28		BAD	BAD
31			29	C29		BAD	BAD
32			30	C30		BAD	BAD
33			31	C31		BAD	BAD
34			32	C32		BAD	BAD
35			33	C33		BAD	BAD
36			34	C34		BAD	BAD
37			35	C35		BAD	BAD

Key Column in Source = 2

	A	B	C	D	E	F	G
1	Sheet1		Sheet2			A/C	B/D
2							
3	1	C1				BAD	BAD
4	10	C10				BAD	BAD
5	11	C11	11	C11		GOOD	GOOD
6	12	C12	12	C12		GOOD	GOOD
7	13	C13	13	C13		GOOD	GOOD
8	14	C14	14	C14		GOOD	GOOD
9	15	C15	15	C15		GOOD	GOOD
10	16	C16	16	C16		GOOD	GOOD
11	17	C17	17	C17		GOOD	GOOD
12	18	C18	18	C18		GOOD	GOOD
13	19	C19	19	C19		GOOD	GOOD
14	2	C2				BAD	BAD
15	20	C20	20	C20		GOOD	GOOD
16	21	C21	21	C21		GOOD	GOOD
17	22	C22	22	C22		GOOD	GOOD
18	23	C23	23	C23		GOOD	GOOD
19	24	C24	24	C24		GOOD	GOOD
20	25	C25	25	C25		GOOD	GOOD
21			26	C26		BAD	BAD
22			27	C27		BAD	BAD
23			28	C28		BAD	BAD
24			29	C29		BAD	BAD
25	3	C3				BAD	BAD
26			30	C30		BAD	BAD
27			31	C31		BAD	BAD
28			32	C32		BAD	BAD
29			33	C33		BAD	BAD
30			34	C34		BAD	BAD
31			35	C35		BAD	BAD
32	4	C4				BAD	BAD
33	5	C5				BAD	BAD
34	6	C6				BAD	BAD
35	7	C7				BAD	BAD
36	8	C8				BAD	BAD
37	9	C9				BAD	BAD

As you can see, the results are quite different.

In the first example, the values are sorted according to the first column, which consists of only numbers, so Excel sorts numerically. (ie: 2 > 11) Then the values are shifted so that equivalent values are put beside each other.

In the second example, the values are sorted according to the second column. In this column, there are letters and numbers, so Excel decides to sort alphabetically. (ie: C11 > C2) Again, the values are then shifted so that they match up.

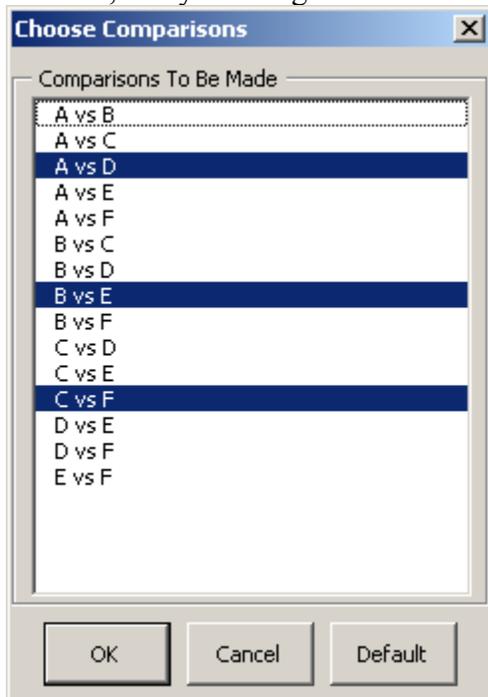
Normally, the columns won't be so strongly related. They may be a part number and a reference designator from a schematic, or a name and employee number. Use whichever column is more important as your key.

Choosing Your Comparisons

AutoComparator will generate extra columns to compare the results after having re-aligned your data to match up. By default, it will compare:

- column 1, source 1 to column 1, source 2
- column 2, source 1 to column 2, source 2
- etc.

If this isn't sufficient, click the  button from the main AutoComparator window, and you will get a screen like this:



From here you can choose which columns should be compared. Click a line to enable or disable it. (It is enabled when it is blue.)

You can also go back to the default settings by clicking "Default."

Here are some examples to explain what this does:

Example 1:

Columns Per Source = 3

Key Column in Source = 3

Default Comparisons Set

	A	B	C	D	E	F	G	H	I	J
1	Sheet1			Sheet2				A/D	B/E	C/F
2										
3	1	C1	D1					BAD	BAD	BAD
4	10	C10	D100					BAD	BAD	BAD
5				32	C32	D1024		BAD	BAD	BAD
6				33	C33	D1089		BAD	BAD	BAD
7				34	C34	D1156		BAD	BAD	BAD
8	11	C11	D121	11	C11	D121		GOOD	GOOD	GOOD
9				35	C35	D1225		BAD	BAD	BAD
10	12	C12	D144	12	C12	D144		GOOD	GOOD	GOOD
11	4	C4	D16					BAD	BAD	BAD
12	13	C13	D169	13	C13	D169		GOOD	GOOD	GOOD
13	14	C14	D196	14	C14	D196		GOOD	GOOD	GOOD

Example 2:

Columns Per Source = 3

Key Column in Source = 3

Default Comparison Set + A vs. F, E vs. F

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Sheet1			Sheet2				A/D	A/F	B/C	B/E	C/F	E/F
2													
3	1	C1	D1					BAD	BAD	BAD	BAD	BAD	BAD
4	10	C10	D100					BAD	BAD	BAD	BAD	BAD	BAD
5				32	C32	D1024		BAD	BAD	BAD	BAD	BAD	BAD
6				33	C33	D1089		BAD	BAD	BAD	BAD	BAD	BAD
7				34	C34	D1156		BAD	BAD	BAD	BAD	BAD	BAD
8	11	C11	D121	11	C11	D121		GOOD	BAD	BAD	GOOD	GOOD	BAD
9				35	C35	D1225		BAD	BAD	BAD	BAD	BAD	BAD
10	12	C12	D144	12	C12	D144		GOOD	BAD	BAD	GOOD	GOOD	BAD
11	4	C4	D16					BAD	BAD	BAD	BAD	BAD	BAD