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## Excel 2007 Tables

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## Working with Tables in Excel 2007

### Introduction

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With the release of Excel 2007, Microsoft has introduced a new concept of working with tables of data. This new functionality is (not surprisingly) called "Tables". In fact, Tables in Excel 2007 are the successor of Excel 2003's "List" feature, with added functionality.

This article introduces you into the concepts of working with Tables in Excel 2007 and shows you how they may help you in your everyday Excel use.

### Creating Your Table

Creating a table in Excel is easy. Of course you already have some data available somewhere on your sheet. Select the cells that contain the data:

	A	B	C	D	E
1	OrderID	ProductID	UnitPrice	Quantity	Discount
2	10248	11	14	12	0
3	10248	42	9.8	10	0
4	10248	72	34.8	5	0
5	10249	14	18.6	9	0
6	10249	51	42.4	40	0
7	10250	41	7.7	10	0
8	10250	51	42.4	35	0.150000006
9	10250	65	16.8	15	0.150000006
10	10251	22	16.8	6	0.050000001
11	10251	57	15.6	15	0.050000001
12	10251	65	16.8	20	0
13	10252	20	64.8	40	0.050000001
14	10252	33	2	25	0.050000001
15	10252	60	27.2	40	0
16	10253	31	10	20	0
17	10253	39	14.4	42	0
18	10253	49	16	40	0
19	10254	24	3.6	15	0.150000006
20	10254	55	19.2	21	0.150000006
21					

Figure 1: Select the table area

Next, on the Home tab of the ribbon, find the group called "Styles". Click on the button that says "Format as Table" (see figure 2):



Figure 2: "Format as Table" button on the Styles group of the Home tab.

After clicking this button, Excel shows a new user interface element called a gallery, with a number of formatting choices for your table, see figure 3:

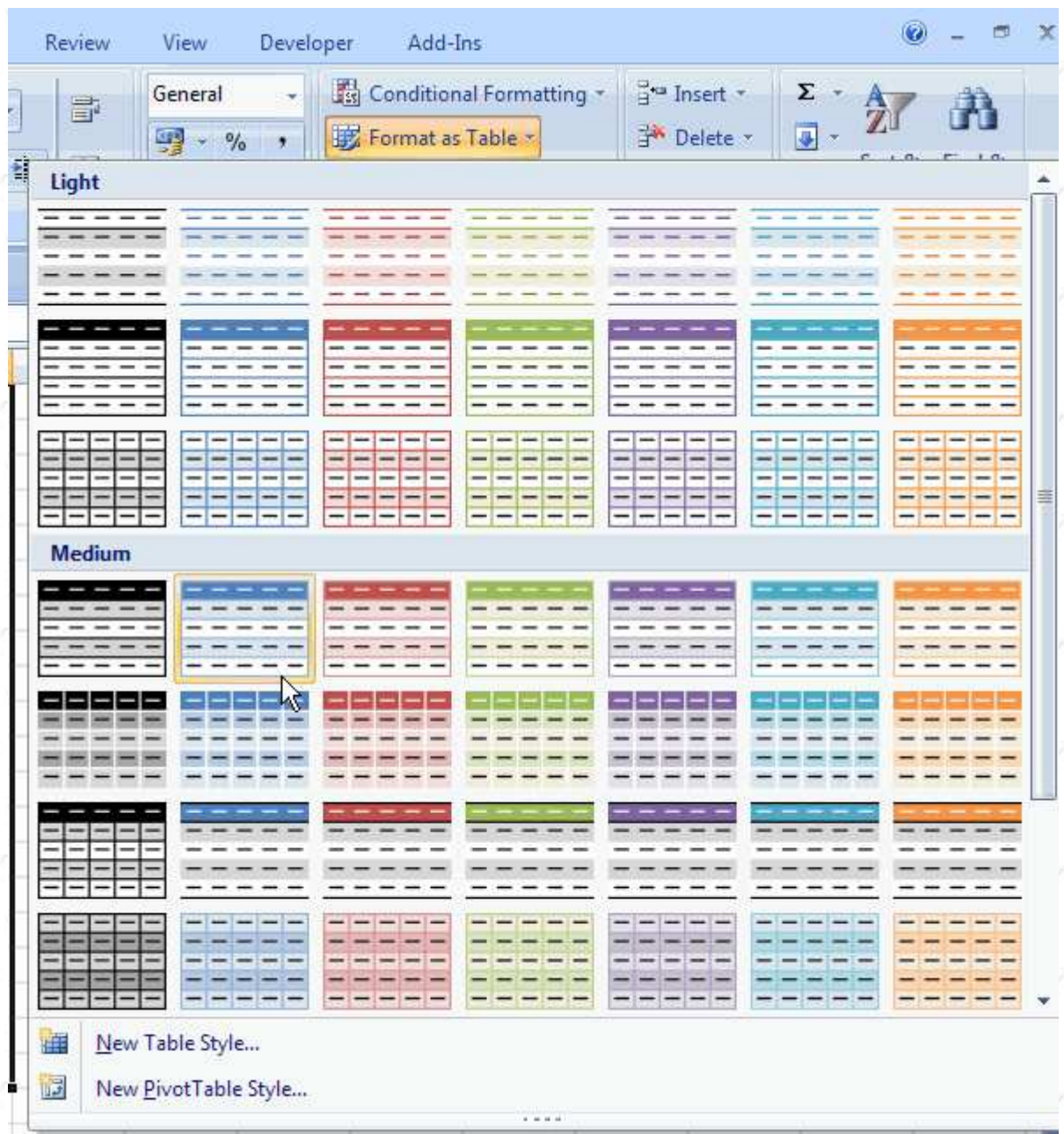


Figure 3: Table format gallery.

Select one of the predetermined formats. After clicking one of the formats, Excel will ask you what range of cells you want to convert to a table (see figure 4). If your table contains a heading row, make sure the checkbox is checked. Click OK to convert the range to a table.



Figure 4: Dialog asking what range of cells has to be converted to a table.

After you've finished these steps, your table will look like figure 5.

	A	B	C	D	E
1	OrderID	ProductID	UnitPrice	Quantity	Discount
2	10248	11	14	12	0
3	10248	42	9.8	10	0
4	10248	72	34.8	5	0
5	10249	14	18.6	9	0
6	10249	51	42.4	40	0
7	10250	41	7.7	10	0
8	10250	51	42.4	35	0.150000006
9	10250	65	16.8	15	0.150000006
10	10251	22	16.8	6	0.050000001
11	10251	57	15.6	15	0.050000001
12	10251	65	16.8	20	0
13	10252	20	64.8	40	0.050000001
14	10252	33	2	25	0.050000001
15	10252	60	27.2	40	0
16	10253	31	10	20	0
17	10253	39	14.4	42	0
18	10253	49	16	40	0
19	10254	24	3.6	15	0.150000006
20	10254	55	19.2	21	0.150000006
21					

Figure 5: Range of cells, after converting to table

## Special functionality of a Table

After defining a table, the area gains special functionalities:

### ***1. Integrated autofilter and sort functionality***

If your Table has a header row, it will always have filter and sorting dropdowns in place on the header row. See figure 6:

	A	B	C	D	E
2		1			
3	OrderID	ProductID	UnitPrice	Quantity	Discount
4	10				0.00
5	10				0.00
6	10				0.00
7	10				0.00
8	10				0.00
9	10				0.00
10	10				0.15
11	10				0.15
12	10				0.05
13	10				0.05
14	10				0.00
15	10				0.05
16	10				0.05
17	10				0.00
18	10				0.00
19	10				0.00
20	10				0.00
21	10				0.15
22	10				0.15

Figure 6: sorting and filtering dropdowns

## 2. Easy selecting

Selecting an entire column or row is simple: move your mouse to the top of the table until the pointer changes to a down pointing arrow (figure 7) and click. The data area of that column is selected. Click again to include the header and total rows in the selection.

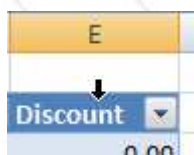


Figure 7: selecting an entire column of data within your table

You can also select the entire data area or the entire table by clicking near the table's top-left corner (the mousepointer changes to a south-east pointing arrow, see figure 8).

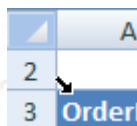


Figure 8: selecting all data within your table or the whole table is just one or two clicks away.

## 3. Header row remains visible whilst scrolling

If your table is larger than fits on a screen and you scroll down, Excel 2007 has a nice new feature: the column letters are temporarily replaced with the table's column names (but only whilst you're inside the table!). See figure 9.

	OrderID	ProductID	UnitPrice	Quantity	Discount
11	10250	65	16.8	15	0.15
12	10251	22	16.8	6	0.05
13	10251	57	15.6	15	0.05
14	10251	65	16.8	20	0.00
15	10252	20	64.8	40	0.05
16	10252	33	2	25	0.05

Figure 9: Table header names on Excel's column header when scrolling

#### 4. Automatic expansion of table

If you type anything next to a table, Excel assumes you want to expand the table and automatically increases the table size to include your new entry. Of course you can undo this expansion too, or switch off this behavior entirely.

#### 5. Automatic reformatting

When you insert or remove a row (or column) in your table, Excel will automatically adjust the formatting: alternate shading is kept nicely in place.

#### 6. Automatic adjustment of charts and other objects source range

If you add rows to your table, any object that uses your table's data will automatically include the new data.

## Table Options on the Ribbon

Once you have selected any of the cells within the table, you will see a new tab appear on the ribbon, called Table Tools, Design. Figure 10 shows you what the ribbon will look like after you click this tab.



Figure 10: Ribbon after clicking the Table Tools tab.

Each group on this tab is discussed in the following paragraphs.

### Properties group

The properties group (see figure 11 below) enables you to do two things:

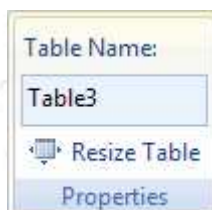


Figure 11: properties group on Table Tools tab

#### 1. change the Name of the table

The name of a table is used when you refer to cells within the table in a formula.

To see how this works, click in a cell to the immediate right of the table, hit the = sign, type SUM( and then click on any cell with data within the table. You'll get a formula like this one:

```
=SUM(Table3[ [#This Row];[Discount]])
```

Note that Excel has a new naming convention to refer to the cells in your table:

Table3: The name of your table

[# This Row] : Denotes the data comes from the same row your formula cell is in

[Discount] : The column inside the table

Because of this naming convention, you are not allowed to have more than one column inside a table with a specific heading. As soon as you try to type a new heading that duplicates an existing one, Excel will automatically correct the duplication by appending a number to the new column name.

A nice feature of tables is immediately shown as soon as you hit enter: your table is automatically resized to include your formula (Excel has also made up a column heading for you) and the formula is automatically copied down to fill the entire column alongside your data! Both actions may be undone by using the smart tag that appears.

## ***2. Change the size of the table***

Click this control to change the size of your table.

### **Tools group**

This group (see figure 12) has three controls:

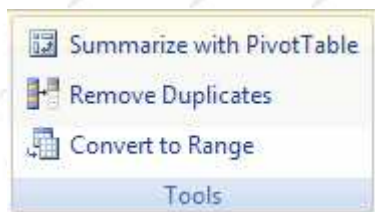


Figure 12: Tools group on Table Tools tab

### ***1. Summarize with PivotTable***

It is obvious what this control does. After you have created the pivot table, you don't need to worry about updating the sourcerange of the pivot table anymore. If you add data to your table, Excel automatically expands the source range of the Pivot table to reflect your changes. Of course you still have to refresh the Pivot table to see the results.

### ***2. Remove Duplicates***

Another new feature which has been added to Excel 2007. After clicking this control, you are presented with a dialog with which you can select the columns that you want to use to determine whether a row in the table is unique. (see figure 13)

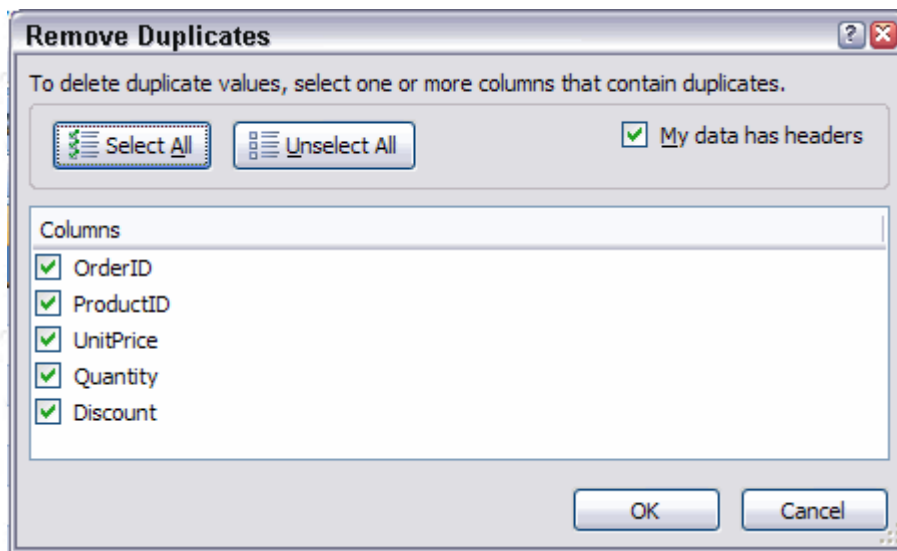


Figure 13: Remove Duplicates dialog

### 3. Convert to Range

By pressing this button you demote the table back to a normal range. Beware if you do this when you've based e.g. a pivot table on the range, the Pivot table's source range will not be updated and the pivot table cannot be refreshed anymore.

## The External Table Data Group

This group (shown in figure 14) is all about the source data of a table and only applies if the data in the table has been imported into Excel using a database- or webquery or a sharepoint list.



Figure 14: External Table Data group on the Table Tools tab of the ribbon

This group has 5 buttons:

#### 1. Export Data

This is in fact a combobutton. If you press it you're offered two options,

"Export Table to SharePoint List" and "Export Table to Visio PivotDiagram". What these are exactly is beyond the scope of this article.

#### 2. Refresh

Use this combobutton to refresh the external data in your table. If you click the arrow beneath the button, you're offered a menu which amongst others also includes "Refresh All", with which you can refresh all external data ranges in your file.

#### 3. Data Range Properties

This button can be used to change the properties of the external data you have based your table on.



#### **4. Open in Browser**

If your table is a sharepoint list, this button enables you to open a browser window with that list.

#### **5. Unlink**

If your table is a sharepoint list, this button disconnects the table from the list.

### **Table Style Options Group**

This group houses the controls which determine how table styles are applied to your table (see figure 15).

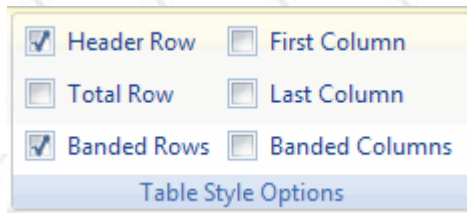


Figure 15: Table Style Options group on the Table Tools tab of the ribbon

#### **1. Header Row**

When this box is unchecked, Excel removes the header row from your table. The cells of the header row are cleared, but Excel does remember the header. If you type anything into any cell in that now empty row, Excel will not overwrite that information when you check the box again. Instead, Excel will insert a new row to show the header. Cells below the table are then moved down.

#### **2. Total Row**

Check this box if you want a total row below your table. Excel will automatically add a sum function below the last column in your table.

#### **3. Banded Rows**

Check this box to get alternating shading for the rows in your table.

#### **4. First Column**

If you check this box, the first column of your table will be formatted differently from the other columns.

#### **5. Last Column**

Formats the last column of your table differently from the other columns.

#### **6. Banded Columns**

Check this box to get alternating shading for the columns in your table

### **Table Styles Group**

The last group on the Table Tools tab enables you to quickly change the style of your table (see figure 16).

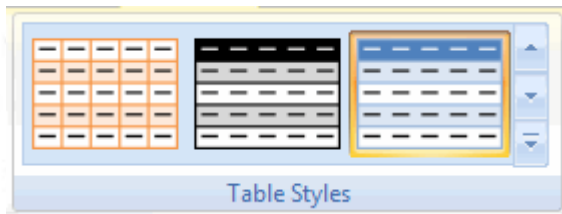


Figure 16: Table Styles group on the Table Tools tab of the ribbon

Click the dropdown button to the right of the gallery to see all choices available to you. Hover over a particular style to see what your table would look like when you click it. At the bottom of the gallery there are two extra choices:

### 1. *New Table Style*

This option enables you to create your own table style.

### 2. *Clear*

Use this to remove the table style from your table entirely. Number formats are retained.

## Referring to a table from another workbook

Even though I mentioned that a table is also stored as a range name there is a peculiarity. The range name points only to the data rows of the table. The header row is NOT included. This means that if you want to create a pivot table on data that is in a table in another workbook you need to use a syntax that differs from the old days.

Normally you would refer to a range name "TableName" in workbook "WorkbookName.xls" using: [WorkbookName.xls]!TableName  
But although a table is represented by a range name, you should not use the range name syntax as the source. Rather you must use this:

WorkbookName!TableName

This will convince Excel that you are pointing to a table and then includes the header rows.

## Conclusion

As you have seen, Tables are a great addition to Excel's features. Most of these features were already part of Excel 2003's List feature. But Excel 2007's Tables build upon that feature, significantly improving it. The most important benefits are:

- Integrated autofilter and sort functionality (filtering and sorting was improved in 2007)
- Easy selecting
- Header row remains visible whilst scrolling (New in 2007)
- Automatic expansion of table
- Automatic reformatting (New in 2007)
- Automatic adjustment of charts and other objects source range

If you're interested in VBA, [read about Excel 2007 Tables and VBA here](#).