

Microsoft®

Excel® 2010



IN DEPTH

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Bill Jelen



MICROSOFT® EXCEL® 2010 IN DEPTH

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INTRODUCTION

I was amazed when Excel 2007 upped the row limit from 65,536 rows to 1.1 million rows. (Excel 2010, when combined with the PowerPivot add-in, can now sort, filter, and pivot 100 million rows!) Combine the 1 million rows with new charting, data visualizations, intelligent business diagrams, the SUMIFS function, Remove Duplicates, Page Layout view, table functionality, and Excel 2007 should have been the best-selling version of all time.

But IT departments everywhere delayed rolling out Office 2007 because the familiar menus and toolbars had been replaced by the ribbon. Suddenly, all the commands that people knew where to locate were shuffled around. This was fine for people new to Excel, but it meant some time to get up the learning curve for the 500 million people already using Excel.

It was fun to complain about why Microsoft would remove the familiar menus and toolbars from Excel 2007. We could mock them for replacing the all-important File menu with an icon so that no one could figure out how to print a document. But the Excel versions march on, and the ribbon is here to stay. When you get right down to it, there are really two things to learn about the ribbon: (1) Pivot Tables are on the Insert tab instead of the Data tab. (2) Most of the stuff that you think would be on the Insert tab is under the Insert drop-down on the Home tab. Master those two facts and the rest of the stuff is in a logical place. Besides, Microsoft replaced the mysterious wordless symbol on the File menu with the word “File” and dramatically improved that File menu into a full-screen Backstage view (see Chapter 1). You can now customize the ribbon so that you can move the PivotTable drop-down back to the Data tab where it belongs (for customizing the ribbon, see Chapter 3). And Microsoft added even more new features to Excel 2010.

New in Excel 2010

Every new Office version has a set of themes, and the new features are grouped around those themes. For Excel 2010, the themes were to improve Excel's reputation in the scientific community and to make Excel the premier tool for Business Intelligence. As a former data analyst, I love the new features for analyzing data. I also remember that while I loved wrangling large data sets into meaningful analyses, I never wanted to spend the time to make those meaningful analyses look "pretty." Excel 2010 offers new graphics improvements that make it easy to add some visual interest to your numbers.

Improvements in Business Intelligence

- **PowerPivot Add-In**—You can now sort, filter, and pivot data sets that are beyond 1 million rows. The PowerPivot tool allows you to mash up 100 million rows of data from Excel, text files, RSS Feeds, SQL Server, Oracle, and more. A new DAX expression language offers time intelligence functions that enable you to compare fiscal year-to-date sales with the parallel period from a year ago. See Chapter 24 for more about PowerPivot.
- **Pivot Table Slicers**—Filtering data in pivot tables becomes visual with graphical filters known as Slicers. In previous versions of Excel, the filter drop-downs offered the capability to choose Multiple Items, but no one reading the report could tell what was included or not included. These new graphical filters show what is in the summary report and invite people to do ad-hoc analyses by choosing new options from the slicers. See Chapter 25 for details on slicers.
- **Asymmetric Pivot Tables**—Do you need to show last year's actuals versus this year's budget? That was hard to do in previous versions of Excel, but the Named Sets command for pivot tables created from OLAP data make it easy in Excel 2010. Don't have OLAP? Run your Excel data through PowerPivot to enable Named Sets. See Chapter 24.
- **Percentage of Parent Item in Pivot Tables**—New calculations in the Show Values As drop-down allow for calculations such as Percentage of Parent row, Rank, and more.
- **AGGREGATE function**—Whereas Excel 2007 added the plural SUMIFS function, the killer function in Excel 2010 is AGGREGATE. This function is like the SUBTOTAL function on steroids. You have 19 calculation options instead of the 11 in SUBTOTAL, plus the capability to ignore hidden rows, filtered rows, or error cells. Read about Aggregate in Chapter 11.

Presentation Improvements

- **Tiny Charting with Sparklines**—Edward Tufte published his first descriptions of the intense, tiny, word-sized charts in a book in 2006. Microsoft incorporated three types of sparklines in Excel 2010. Chapter 33 will describe how to leverage sparklines. Sparklines join the Excel 2007 data visualizations. In that area, the old Data Bars feature gets a makeover with new options. See Chapter 31.

- **New SmartArt Layouts**—Fifty new business diagram layouts bring the total to more than 130 types of business diagrams that you can create with the SmartArt tools. Learn about SmartArt in Chapter 34.
- **Better Picture Tools and Background Removal**—If you need to dress up a report with a photograph, improved picture tools help to correct the picture. A fairly cool background removal tool will have you creating odd-shaped picture elements. See Chapter 35. Also in this chapter, learn about a new screen clipping tool that allows you to paste a picture of a section of any screenshot into your worksheet.

Excel Interface Improvements

- **Paste Options Flyout**—If you study the Undo command, can you guess which operation immediately precedes Undo most often? It is Paste or one of the Paste variants. The new Paste Options flyout will help you paste data with/without borders, formulas, links, column widths, and so on. Ctrl+C, Ctrl+V, Ctrl, V is becoming my favorite key sequence. See Chapter 4.
- **File Menu Becomes Backstage View**—Most ribbon tabs contain commands that you use while working in your document. The File menu contains commands that you do to the entire document when you are done with your document. The team at Microsoft figured that these commands don't require you to see the document, so all the screen real estate is taken up with a new full-screen File menu. Read about Backstage view in Chapter 1.
- **Ribbon Customizations**—This should not even be noted in the book because it has been possible to customize ribbons and toolbars for more than a decade. However, Excel 2007 offered no way in the Excel interface to customize the ribbon. Chapter 3 shows you how to customize the ribbon in Excel 2010.

Improvements for the Science Community

- **Improved Function Accuracy**—Various academic papers had attacked the accuracy of some of Excel's statistical, financial, and math functions. Microsoft hired two outside math consultancy firms to rewrite the algorithms for a number of functions and then hired a third firm to validate which algorithm was the best for each function. See Chapter 10 for a discussion of these improvements.
- **Consistency in Function Names**—The statistical function set had been a confusing jumble of functions. For every distribution, you always had to check Help to see whether the particular function was a cumulative function, left-tailed, right-tailed, and so on. You will begin to see many new functions that include the dot in their name. Those dots will lead to an easier-to-understand description of the function. For statistical distribution functions, a name like *<distribution>.DIST* will be the left-tailed cumulative distribution when the cumulative parameter is TRUE and the probability density function when the cumulative parameter is FALSE. If you need a right-tailed

distribution, look for `<distribution>.DIST.RT`. For two-tailed, `<distribution>.DIST.2T`. The inverse functions will be `<distribution>.INV`. Functions based on a sample will be `<function>.S` and functions based on a population will be `<function>.P`. Excel still supports the old names, but new formulas can be created with `VAR.S` and `VAR.P` instead of the old `VAR` and `VARS`. See Chapters 10 and 14 for a description of these new function names.

- **Equation Editor**—You can now insert a variety of equations into a text box in Excel. The Equation tools support Radicals, Integrals, Matrices, brackets, functions, and symbols. You can convert the equation into a linear view for editing and then press a button to turn it back into a 2D equation.

Upgrading from Excel 2003 or Earlier

A large percentage of the people upgrading to Excel 2010 are people who skipped over Excel 2007. This book assumes that things that were new in Excel 2007 are still new to over half of the readers. If you are upgrading from Excel 2003, watch for these new features:

- **Massive Grid**—1.1 million rows and 16,000 columns. That's 17 billion cells, just on Sheet 1. Read about the big grid in Chapter 7.
- **Data Visualizations**—Icon sets, color scales, and in-cell bar charts are found on the Conditional Formatting drop-down of the Home tab. See Chapter 31 for more on these tools.
- **Better Looking Charts**—The Excel 2007 charting engine is new. The charts look better. The charting interface has improvements, but it is harder to do some things than in Excel 2003. Read about charts in Chapter 32.
- **Remove Duplicates**—You can remove duplicates with a couple of clicks using the new command on the Data tab.
- **Page Layout View**—Edit headers and footers in place using the new Page Layout view.

How This Book Is Organized

The book is organized into the following parts:

- **Part I, “Mastering the New User Interface”**—This first part of the book shows you the ribbon, Backstage View, Mini Toolbar, Quick Access Toolbar, and more.
- **Part II, “Calculating with Excel”**—This part covers what Excel does best, from formulas to functions to linking.
- **Part III, “Business Intelligence”**—Sorting, Filtering, Subtotals, Pivot Tables. These are the tools of the Excel data analyst. Learn about these tools and the new PowerPivot add-in in Part III. The chapter on VBA macros is also in this part.
- **Part IV, “Visual Presentation”**—This part covers charting, SmartArt, data visualizations, and picture tools. After you get done analyzing the data, a few features from this part will make your reports look good.

- **Part V, “Sharing Information”**—This part discusses printing and sharing your Excel workbooks by creating PDFs, or publishing to the Web.

Conventions Used in This Book

The special conventions used throughout this book are designed to help you get the most from the book as well as from Excel 2010.

Text Conventions

Different typefaces are used to convey various things throughout the book. They include those shown in Table I.1.

Table I.1 Typeface Conventions

Typeface	Description
Monospace	Screen messages appear in monospace.
<i>Italic</i>	New terminology appears in <i>italic</i> .
Bold	References to text you should type appear in bold .

Ribbon names, dialog box names, and dialog box elements are capitalized in this book (for example, Add Formatting Rule dialog, Home tab).

In this book, key combinations are represented with a plus sign. If the action you need to take is to press the Ctrl key and the T key simultaneously, the text tells you to press Ctrl+T.

There were not many changes from Excel 97 to Excel 2000 to Excel 2002 to Excel 2003. Most people upgrading to Excel 2010 will be coming from one of these versions of Excel. I will collectively refer to these versions as “legacy versions of Excel.”

Special Elements

Throughout this book, you’ll find tips, notes, cautions, cross-references, case studies, Excel in Practice boxes, sidebars, and Troubleshooting Tip boxes. These elements provide a variety of information, ranging from warnings you shouldn’t miss to ancillary information that will enrich your Excel experience but isn’t required reading.

Cross References

➔ See Chapter 99 for more information.



note

Notes contain extra information or alternative techniques for performing tasks.



tip

Tips point out special features, quirks, or software tricks that will help you increase your productivity with Excel 2007.



The author has more than 1,200 Excel podcast episodes available. Certain topics in the book will refer you to a video demo in the Excel In Depth channel at YouTube.



caution

Cautions call out potential gotchas.

Case Study: Other Elements

Sections such as Case Study, Excel in Practice, and Troubleshooting Tips are set off in boxes such as this one:

- Case studies walk you through the steps to complete a task.
- Excel in Practice boxes walk through real-life problems in Excel.
- Troubleshooting Tips boxes walk through steps to avoid certain problems or how to react when certain problems occur.

Sidebars

Historical glimpses and other information that is not critical to your understanding appear as sidebars. I imagine that if the Cliff Claven character from *Cheers* knew a lot about Excel, these would be the kinds of things he would write.

KEYBOARD SHORTCUTS

If you do a lot of typing, being able to access commands from the keyboard is faster than moving your hand to the mouse. Excel 2010 introduces new keyboard accelerators accessed using the Alt key. In addition, many of the old Alt keyboard shortcuts still work and all the old Ctrl shortcut keys are still functional. For instance, Ctrl+C still copies a selection, Ctrl+X cuts a selection, and Ctrl+V pastes a selection.

This chapter points out which of the old keyboard shortcuts still work, shows you some new shortcuts, and introduces you to the new keyboard accelerators.

Using New Keyboard Accelerators

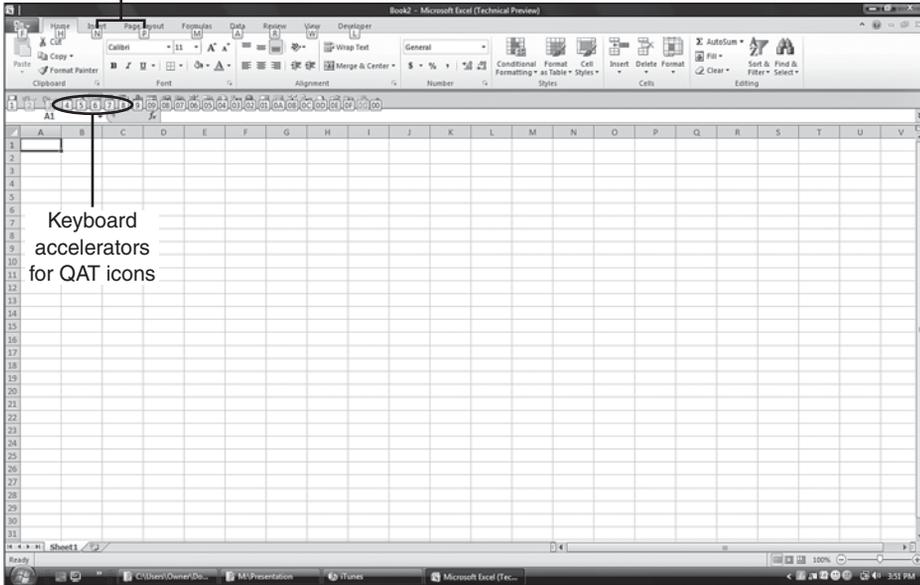
The goal of the new Excel 2010 keyboard accelerators is to allow you to access every command by using only the keyboard. In legacy versions of Excel, many popular commands had keyboard accelerators, but other commands did not. Excel 2010 tries to ensure that every command can be invoked from the keyboard.

To access the new accelerators, press and release the Alt key. Notice that Excel places a ToolTip above each command, with an associated accelerator key.

Note that an arcane command exists in the Excel Options dialog that can cause the new keyboard accelerators not to work for you. It is possible that you turned on this setting in Excel 1995 and each successive upgrade of Excel has inherited the setting. You should check the setting before proceeding. To do so, select the Office icon and then select Excel Options. In the Advanced category, scroll to near the bottom for Lotus Compatibility. If Transition Navigation Keys is selected, then the slash character shown in the Microsoft Office Menu Key will be used instead of Alt to invoke shortcuts. If you prefer using the Alt key, you should clear the Transition Navigation Keys check box. Keep in mind that if you prefer using the slash key, you must use / in place of Alt with new keyboard accelerators.

Tiny letter ToolTips appear over each tab of the ribbon. In addition, number ToolTips appear over each icon in the Quick Access toolbar. Figure 5.1 shows the ToolTips.

Keyboard accelerators
for Ribbon tabs



Keyboard
accelerators
for QAT icons

Figure 5.1

Type the letters in the ToolTips along the top to open various tabs. Type the numbers in the numeric keytips to access the Quick Access Toolbar.

It is possible to memorize the keytips for the ribbon tabs.

Pressing Alt+F always accesses the File menu in all Office 2010 applications.

Alt+H always accesses the Home tab in all Office 2010 applications. The accelerator definitions for each tab remain constant even if new ribbon tabs are displayed. When you activate a pivot table, the original keytip letters (F, H, N, P, M, A, R, W, L, and X) remain, and two new keytips appear for the two new tabs: JT for PivotTable Tools Options and JY for PivotTable Tools Design (see Figure 5.2).

Contextual Tab Shortcuts

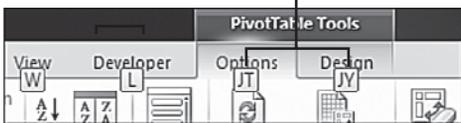


Figure 5.2

New ribbon tabs get new letters, making sure the old letters remain constant.

Unfortunately, the keytips for the Quick Access toolbar change every time you add new buttons or rearrange buttons on the Quick Access toolbar. If you want to memorize those keytips, you need to make sure you do not add a new Quick Access toolbar icon at the beginning of the list.

Selecting Icons on the Ribbon

After you press the Alt key, you can press one of the keytip letters to bring up the appropriate tab. You now see that every icon on the ribbon has a keytip.

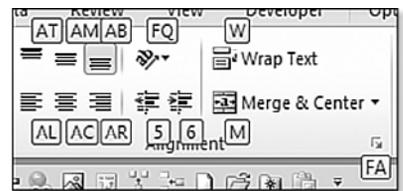
When you choose a ribbon tab, the keytips on the Quick Access toolbar disappear, so Microsoft is free to use the letters A through Z and the numbers 0 through 9.

On very busy Ribbon tabs, some commands require two keystrokes: for example, A+C for Align Center in the Alignments Group of the Home tab, as shown in Figure 5.3. Note that after you press Alt to display the accelerators in the ToolTips, you do not have to continue holding down the Alt key.

Some shortcut keys seem to make sense: AT for Align Top, AM for Align Middle, AB for Align Bottom, AL for Align Left, W for Wrap Text, and M for Merge. Other shortcut keys seem to be assigned at random. Some take a little pondering: FA for the dialog launcher in Figure 5.3 makes sense in that it opens the legacy Format dialog and moves to the Alignment tab. Others have a historical precedent. In Excel 2003, F was used for File so O was used for Format. Similarly, in the Home tab, O now opens the Format drop-down, although since Microsoft no longer underlines the accelerator key in the menu name, O will never make sense to someone new to Excel. There might be some arcane, logical reason why 5 and 6 are used for increase and decrease indent, but it is unknown by most people.

Figure 5.3

After pressing the letter to switch to the ribbon, type the letter or letters to invoke a particular command.



Selecting Options from a Gallery

Figure 5.4 shows the results of pressing Alt+H+T, which is the equivalent of selecting Home, Format Table. This opens the gallery of possible table styles. As you can see in Figure 5.4, you can invoke the New Table Style and New Pivot Style commands at the bottom of the gallery by pressing N and P, respectively. However, there are no letters on the table style choices in the gallery.

To select a table style using the keyboard, use the arrow keys to move through the gallery. Because this gallery is two-dimensional, you can use the up arrow, down arrow, right arrow, left arrow, Page Down, Page Up, Home, and End keys to navigate through the gallery. When you have the desired table style highlighted, press the Enter key to select it.

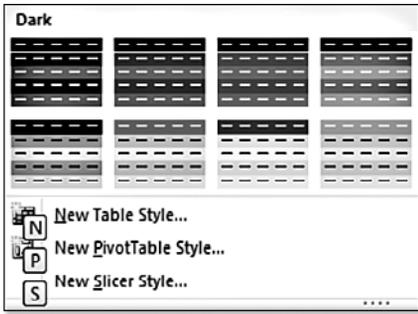


Figure 5.4

After opening a gallery, you use the arrow keys to navigate through the gallery and press Enter to select a style.

Navigating Within Drop-Down Lists

If you press Alt+H+F+S, which is the equivalent of selecting Home, Font Size, the font size in the drop-down is selected. You can either type a font size and press Enter or press the down-arrow key to open the drop-down list. You can then use the down arrow, up arrow, Page Down, Page Up, Home, and End keys to navigate to a choice in the list. When you have the desired item highlighted, press Enter to select that item.

Backing Up One Level Through a Menu

Suppose that you press Alt+H to access the Home tab and then realize you are in the wrong tab. You can press the Esc key to move back to display the ToolTips for the main menu choices.

If you want to clear the ToolTips completely, press Alt again.

Dealing with Keyboard Accelerator Confusion

If you want to select something on the Home tab in Figure 5.2, you may be frustrated because you can see the menu choices, but there are no ToolTips for most commands. For icons in the top of the ribbon, it appears that the main keytips apply to the menu items. For example, you may think that the H keytip applies to Cut. Even though you are already on the Home tab, you need to press the H key to force Excel to show the ToolTips for the individual menu items on the Home tab.

Selecting from Legacy Dialog Boxes

Some commands lead to legacy dialog boxes like the ones in previous editions of Excel. These dialog boxes do not display the Excel 2010 keytips. However, most of the dialog boxes do use the convention of having one letter of each command underlined, which is called a *hotkey* in Microsoft parlance. In this case, you can press the underlined letter to select the command.

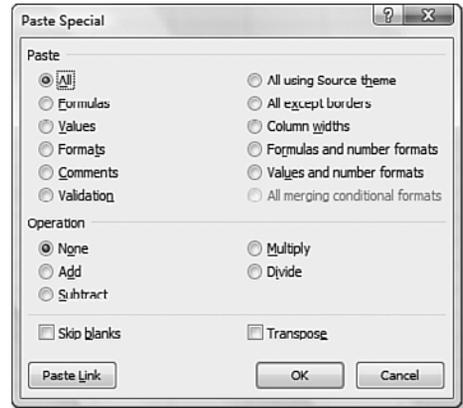
note

If you find the accelerator ToolTips to be confusing and unwieldy, you need to attack them one at a time. Find a task that you use regularly, such as sorting the current data set ascending by the selected column. Press the Alt key. Press A for the Data tab. Notice that A sorts ascending and D sorts descending. These should be easy enough to remember; Alt+A+A for sort ascending, and Alt+A+D for sort descending.

For example, press Alt+H+V+S instead of selecting Home, Paste, Paste Special. You are then presented with the Paste Special dialog box, as shown in Figure 5.5. To select Values and Transpose in this dialog, press V for Values and E for Transpose, because those are the letters underlined in the dialog. You can then press Enter instead of clicking the default OK button.

Figure 5.5

In a legacy dialog box, type the underlined letters to select options.



To watch a video of Legacy Dialog boxes, search for Excel In Depth 5 at YouTube.

Using the Shortcut Keys

Excel 2010 automatically recognizes all the Ctrl shortcut keys that were used in legacy versions of Excel. In fact, many of these keys are consistent across all Windows applications. Table 5.1 lists the common Windows Ctrl shortcut keys.

Table 5.1 Windows Shortcut Keys

Key Combination	Action
Ctrl+C	Copy.
Ctrl+X	Cut.
Ctrl+V	Paste.
Ctrl+Z	Undo.
Ctrl+Y	Redo.
Ctrl+A	Select all.
Ctrl+S	Save.
Ctrl+O	Open.

Key Combination	Action
Ctrl+W or Ctrl+F4	Close workbook.
Ctrl+N	New workbook.
Ctrl+P	Print.
Ctrl+B	Bold.
Ctrl+U	Underline.
Ctrl+I	Italic.
Ctrl+F	Find.

Table 5.2 illustrates the shortcut keys that you use to navigate.

Table 5.2 Shortcut Keys for Navigation

Shortcut Key	Action
Ctrl+Home	Move to Cell A1.
Ctrl+End	Move to last cell in the used range of the worksheet.
Ctrl+Page Up	Move to previous worksheet.
Ctrl+Page Down	Move to next worksheet.
Shift+F11	New Worksheet.
Alt+Tab	Switch to next program.
Alt+Shift+Tab	Switch to previous program.
Ctrl+Esc	Display Windows Start menu.
Ctrl+F5	Restore window size of current workbook.
F6	Switch to next pane in a window that has been split.
Ctrl+F6	When more than one workbook is open, switch to the next open workbook window.
Ctrl+Shift+F6	Switch to the previous workbook window.
Ctrl+F9	Minimize the window.
Ctrl+F10	Maximize the window.
Ctrl+arrow key	Move to edge of current region.
Home	Move to beginning of row.

Shortcut Key	Action
Ctrl+Backspace	Scroll to display the active cell.
F5	Display the GoTo dialog.
Shift+F5	Display the Find dialog.
Shift+F4	Find next.
Ctrl+. (period)	Move to next corner of selected range.

Table 5.3 shows the shortcut keys you use to select data and cells.

Table 5.3 Shortcut Keys for Selecting Data and Cells

Shortcut Key	Action
Ctrl+spacebar	If used outside a table, select entire column. If used inside a table, toggle between selecting the data, data and headers, and the entire column.
Shift+spacebar	Select entire row. If inside a table, toggle between selecting the table row and the entire row.
Shift+backspace	With multiple cells selected, revert selection to only the active cell.
Ctrl+Shift+*	Select the current region.
Ctrl+/	Select the array containing the active cell.
Ctrl+Shift+O (letter O)	Select all cells that contain comments.
Ctrl+\	In a selected row, select the cells that do not match the value in the active cell.
Ctrl+Shift+l	In a selected column, select the cells that do not match the value in the active cell.
Ctrl+[(opening square bracket)	Select all cells directly referenced by formulas in the selection.
Ctrl+Shift+[(opening brace)	Select all cells directly or indirectly referenced by formulas in the selection.
Ctrl+] (closing square bracket)	Select cells that contain formulas that directly reference the active cell.
Ctrl+Shift+] (closing brace)	Select cells that contain formulas that directly or indirectly reference the active cell.
Alt+; (semicolon)	Select the visible cells in the current selection.

Table 5.4 shows the shortcut keys you use to extend a selection.

Table 5.4 Shortcut Keys for Extending Selections

Shortcut Key	Action
F8	Turn Extend mode on or off. In Extend mode, EXT appears in the status line and the arrow keys extend the selection.
Shift+F8	Add another range of cells to the selection or use the arrow keys to move to the start of the range you want to add. Then press F8 and the arrow keys to select the next range.
Shift+arrow key	Extend the selection by one cell.
Ctrl+Shift+arrow key	Extend the selection to the last nonblank cell in the same column or row as the active cell.
Shift+Home	Extend the selection to the beginning of the row.
Ctrl+Shift+Home	Extend the selection to the beginning of the worksheet.
Ctrl+Shift+End	Extend the selection to the last used cell on the worksheet in the lower-right corner.
Shift+Page Down	Extend the selection down one screen.
Shift+Page Up	Extend the selection up one screen.
End+Shift+arrow key	Extend the selection to the last nonblank cell in the same column or row as the active cell.
End+Shift+Home	Extend the selection to the last used cell on the worksheet in the lower-right corner.
End+Shift+Enter	Extend the selection to the last cell in the current row.
Scroll Lock+Shift+Home	Extend the selection to the cell in the upper-left corner of the window.
Scroll Lock+Shift+End	Extend the selection to the cell in the lower-right corner of the window.

Table 5.5 shows the shortcut keys you use for entering, editing, formatting, and calculating data.

Table 5.5 Shortcut Keys for Data Entry, Formatting, and Calculating Data

Shortcut Key	Action
Enter	Complete a cell entry and select the next cell below.
Alt+Enter	Start a new line in the same cell.

Shortcut Key	Action
Ctrl+Enter	Fill the selected cell range with the current entry.
Shift+Enter	Complete a cell entry and select the next cell above.
Tab	Complete a cell entry and select the next cell to the right.
Shift+Tab	Complete a cell entry and select the previous cell to the left.
Esc	Cancel a cell entry.
Arrow keys	Move one character up, down, left, or right.
Home	Move to the beginning of the line.
F4 or Ctrl+Y	Repeat the last action.
Ctrl+Shift+F3	Create names from row and column labels.
Ctrl+D	Fill down.
Ctrl+R	Fill to the right.
Ctrl+F3	Define a name.
Ctrl+K	Insert a hyperlink.
Ctrl+; (semicolon)	Enter the date.
Ctrl+Shift+: (colon)	Enter the time.
Alt+down arrow	Display a drop-down list of the values in the current column of a range.
Ctrl+Z	Undo the last action.
= (equal sign)	Start a formula.
Backspace	In the formula bar, delete one character to the left.
Enter	Complete a cell entry from the cell or formula bar.
Ctrl+Shift+Enter	Enter a formula as an array formula.
Esc	Cancel an entry in the cell or formula bar.
Shift+F3	In a formula, display the Insert Function dialog box.
Ctrl+A	When the insertion point is to the right of a function name in a formula, display the Function Arguments dialog box.
Ctrl+Shift+A	When the insertion point is to the right of a function name in a formula, insert the argument names and parentheses.
F3	Paste a defined name into a formula.

Shortcut Key	Action
Alt+= (equal sign)	Insert an AutoSum formula with the SUM function.
Ctrl+Shift+” (quotation mark)	Copy the value from the cell above the active cell into the cell or the formula bar.
Ctrl+’ (apostrophe)	Copy a formula from the cell above the active cell into the cell or the formula bar.
Ctrl+` (backtick)	Alternate between displaying cell values and displaying formulas.
F9	Calculate all worksheets in all open workbooks. When a portion of a formula is selected, calculate the selected portion and then press Enter or Ctrl+Shift+Enter (for array formulas) to replace the selected portion with the calculated value.
Shift+F9	Calculate the active worksheet.
Ctrl+Alt+F9	Calculate all worksheets in all open workbooks, regardless of whether they have changed since the last calculation.
Ctrl+Alt+Shift+F9	Recheck dependent formulas and then calculate all cells in all open workbooks, including cells not marked as needing to be calculated.
F2	Edit the active cell and position the insertion point at the end of the cell contents. If in-cell editing is turned off, moves the insertion point to the formula bar.
Alt+Enter	Start a new line in the same cell.
Backspace	Edit the active cell and then clear it or delete the preceding character in the active cell as you edit cell contents.
Delete	Delete the character to the right of the insertion point or delete the selection.
Ctrl+Delete	Delete text to the end of the line.
F7	Display the Spelling dialog box.
Shift+F2	Edit a cell comment.
Enter	Complete a cell entry and select the next cell below.
Ctrl+Z	Undo the last action.
Ctrl+Shift+Z	When the AutoCorrect smart tag is displayed, undo or redo the last automatic correction.
Delete	Clear the contents of the selected cells.
Ctrl+- (hyphen)	Delete the selected cells.

Shortcut Key	Action
Ctrl+Shift++ (plus sign)	Insert blank cells.
Alt+' (apostrophe)	Display the Style dialog box.
Ctrl+1	Display the Format Cells dialog box.
Ctrl+Shift+~	Apply the General number format.
Ctrl+Shift+\$	Apply the Currency format with two decimal places (negative numbers in parentheses).
Ctrl+Shift+%	Apply the Percentage format with no decimal places.
Ctrl+Shift+^	Apply the Exponential number format with two decimal places.
Ctrl+Shift+#	Apply the Date format with the day, month, and year.
Ctrl+Shift+@	Apply the Time format with the hour and minute, and AM or PM.
Ctrl+Shift+!	Apply the Number format with two decimal places, thousands separator, and minus sign (-) for negative values.
Ctrl+B	Apply or remove bold formatting.
Ctrl+I	Apply or remove italic formatting.
Ctrl+U	Apply or remove underline.
Ctrl+5	Apply or remove strikethrough.
Ctrl+9	Hide the selected rows.
Ctrl+Shift+((opening parenthesis)	Unhide any hidden rows within the selection.
Ctrl+0 (zero)	Hide the selected columns.
Ctrl+Shift+) (closing parenthesis)	Unhide any hidden columns within the selection.
Ctrl+Shift+&	Apply the outline border to the selected cells.
Ctrl+Shift+_ (underscore)	Remove the outline border from the selected cells.

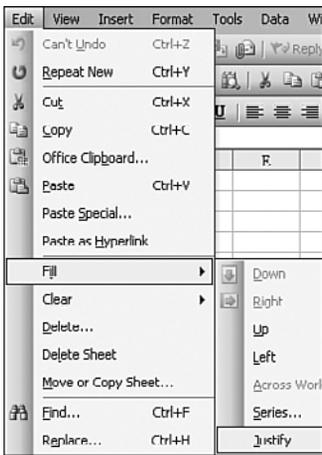
There are shortcut keys specifically for using the Border tab in the Format Cells dialog. Press Ctrl+1 to display the Format Cells dialog. Press Ctrl+PgDn until you arrive at the Border tab. Then you can use the shortcut keys shown in Table 5.6.

Table 5.6 Shortcut Keys for Borders

Shortcut Key	Action
Alt+T	Apply or remove the top border.
Alt+B	Apply or remove the bottom border.
Alt+L	Apply or remove the left border.
Alt+R	Apply or remove the right border.
Alt+H	If cells in multiple rows are selected, apply or remove the horizontal divider.
Alt+V	If cells in multiple columns are selected, apply or remove the vertical divider.
Alt+D	Apply or remove the downward diagonal border.
Alt+U	Apply or remove the upward diagonal border.

Using Excel 2003 Keyboard Accelerators

In legacy versions of Excel, most menu items included one underlined letter. In those versions, you could hold down the Alt key while pressing the underlined letter to invoke the menu item. In the Excel 2003 screen shown in Figure 5.6, you can display the Edit menu by pressing Alt+E, and you can select Edit, Fill, Justify by pressing Alt+E+I+J.

**Figure 5.6**

Pressing Alt+E+I+J performs Edit, Fill, Justify.

Instead of pressing Alt+E+I+J all at once, when the Edit menu is displayed, you can display the Fill flyout menu by pressing I. Then you can perform the Justify command by pressing J.

If you are a power Excel user, you probably have a few of these commands memorized, such as Alt+E+I+J for Edit, Fill, Justify; Alt+E+S+V for Edit, Paste Special, Values; and Alt+D+L for Data Validation. If you have some of these commands memorized, when you hear that the menu in Excel 2010 is completely gone, you might be worried that you have to relearn all the shortcut keys. However, there is good news for the power Excel gurus who have favorite Alt shortcut keys burned into their minds—most of them will continue to work as they did in Excel 2003.

If you were an intermediate Excel user who regularly used the Excel 2003 keyboard accelerators but had to look at the screen to use them, you should start using the new keyboard accelerators discussed at the beginning of this chapter.

Invoking an Excel 2003 Alt Shortcut

In Excel 2003, the main menus were File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The keyboard accelerator commands in Excel 2003 were Alt+F, Alt+E, Alt+V, Alt+I, Alt+O, Alt+T, Alt+D, Alt+W, and Alt+H.

If you are moving from Excel 2003 to Excel 2010, you will have the best success when trying to access commands on the Edit, View, Insert, Format, Tools, and Data menus. None of the keyboard accelerators associated with Window or Help work in Excel 2010. Alt+H takes you to the Home tab instead of the few commands on the Help menu, and Alt+W takes you to the View tab.

Some of the keyboard shortcuts associated with the File menu in Excel 2003 continue to work in Excel 2010. Pressing Alt+F opens the File menu. In Excel 2003, pressing Alt+F+O performs File, Open. It happens that O is the shortcut on the File menu for Open, so pressing Alt+F+O in Excel 2010 also performs File, Open.

For the shortcut keys Alt+E, Alt+V, Alt+I, Alt+O, Alt+T, and Alt+D, Excel switches into Office 2003 Access Key mode. In this mode, a ToolTip appears over the ribbon, indicating which letters you have typed so far (see Figure 5.7). When you have entered enough letters, the command is invoked. If you have forgotten the sequence, you can press Esc to exit the Excel 2003 Access Key mode.



tip

In Excel 2007, you had to pause briefly after typing the first letter in the legacy shortcut key sequence. For example, you pressed Alt+E, paused, then pressed S,V to Edit, Paste Special, Values. If you did not pause, the second letter was lost because Excel displayed the pop-up Office Key Sequence window. This problem has been solved in Excel 2010. You no longer have to pause between the first and second letters

Office key sequence: ALT, E,

Continue typing the key sequence from an older version of Office, or press escape to cancel.

Figure 5.7

The Office 2003 access key ToolTip shows which keys you have used so far while entering a legacy shortcut.

Determining Which Commands Work in Legacy Mode

If you try a command that no longer works in Excel 2010, nothing happens. Several commands don't make sense in the framework of Excel 2010, so they have been deprecated.

Table 5.7 lists the legacy keyboard commands and shows which of them continue to work in Excel 2010.

Table 5.7 Excel Legacy Keyboard Commands

Works in Shortcut	Excel 2010?	Command
Alt+F+N	Yes	File, New
Alt+F+O	Yes	File, Open
Alt+F+C	Yes	File, Close
Alt+F+S	Yes	File, Save
Alt+F+A	Yes	File, Save As
Alt+F+G	No	File, Save as Web Page
Alt+F+W	No	File, Save Workspace
Alt+F+H	No	File, File Search
Alt+F+M	No	File, Permission
Alt+F+E	No	File, Check Out
Alt+F+E	No	File, Check In
Alt+F+R	No	File, Version History
Alt+F+B	No	File, Web Page Preview
Alt+F+U	No	File, Page Setup
Alt+F+T+S	No	File, Print Area, Set Print Area
Alt+F+T+C	No	File, Print Area, Clear Print Area
Alt+F+V	No	File, Print Preview
Alt+F+P	Yes as Alt+F+P+P	File, Print
Alt+F+D+M	No	File, Send To, Mail Recipient
Alt+F+D+S	No	File, Send To, Original Sender
Alt+F+D+C	No	File, Send To, Mail Recipient (for Review)
Alt+F+D+A	No	File, Send To, Mail Recipient (as Attachment)

Works in Shortcut	Excel 2010?	Command
Alt+F+D+R	No	File, Send To, Routing Recipient
Alt+F+D+E	No	File, Send To, Exchange Folder
Alt+F+D+O	No	File, Send To, Online Meeting Participant
Alt+F+D+X	No	File, Send To, Recipient Using Internet Fax Service
Alt+F+I	No	File, Properties
Alt+F+1	Yes	File, 1
Alt+F+2	Yes	File, 2
Alt+F+3	Yes	File, 3
Alt+F+4	Yes	File, 4
Alt+F+5	Yes	File, 5
Alt+F+6	Yes	File, 6
Alt+F+7	Yes	File, 7
Alt+F+8	Yes	File, 8
Alt+F+9	Yes	File, 9
Alt+F+T	No	File, Sign Out
Alt+F+X	Yes	File, Exit
Alt+E+U	Yes	Edit, Undo
Alt+E+R	Yes	Edit, Repeat
Alt+E+T	Yes	Edit, Cut
Alt+E+C	Yes	Edit, Copy
Alt+E+B	Yes	Edit, Office Clipboard
Alt+E+P	Yes	Edit, Paste
Alt+E+S	Yes	Edit, Paste Special
Alt+E+H	No	Edit, Paste as Hyperlink
Alt+E+I+D	Yes	Edit, Fill, Down
Alt+E+I+R	Yes	Edit, Fill, Right
Alt+E+I+U	Yes	Edit, Fill, Up

Works in Shortcut	Excel 2010?	Command
Alt+E+I+L	Yes	Edit, Fill, Left
Alt+E+I+A	Yes	Edit, Fill, Across Worksheets
Alt+E+I+S	Yes	Edit, Fill, Series
Alt+E+I+J	Yes	Edit, Fill, Justify
Alt+E+A+A	Yes	Edit, Clear, All
Alt+E+A+F	Yes	Edit, Clear, Formats
Alt+E+A+C	Yes	Edit, Clear, Contents
Alt+E+A+M	Yes	Edit, Clear, Comments
Alt+E+D	Yes	Edit, Delete
Alt+E+L	Yes	Edit, Delete Sheet
Alt+E+M	Yes	Edit, Move or Copy Sheet
Alt+E+F	Yes	Edit, Find
Alt+E+E	Yes	Edit, Replace
Alt+E+G	Yes	Edit, Go To
Alt+E+K	Yes	Edit, Links
Alt+E+O	No	Edit, Object
Alt+E+O+V	No	Edit, Object, Convert
Alt+V+N	Yes	View, Normal
Alt+V+P	Yes	View, Page Break Preview
Alt+V+K	No	View, Task Pane
Alt+V+T+C	No	View, Toolbars, Customize
Alt+V+F	Yes	View, Formula Bar
Alt+V+S	No	View, Status Bar
Alt+V+H	Yes	View, Header and Footer
Alt+V+C	Yes	View, Comments
Alt+V+V	Yes	View, Custom Views
Alt+V+U	Yes	View, Full Screen (Caution: Use the Maximize button to return.)

Works in Shortcut	Excel 2010?	Command
Alt+V+Z	Yes	View, Zoom
Alt+I+E	Yes	Insert, Cells
Alt+I+R	Yes	Insert, Rows
Alt+I+C	Yes	Insert, Columns
Alt+I+W	Yes	Insert, Worksheet
Alt+I+H	Yes	Insert, Chart
Alt+I+S	Yes	Insert, Symbol
Alt+I+B	Yes	Insert, Page Break
Alt+I+A	Yes	Insert, Reset All Page Breaks
Alt+I+F	Yes	Insert, Function
Alt+I+N+D	Yes	Insert, Name, Define
Alt+I+N+P	Yes	Insert, Name, Paste
Alt+I+N+C	Yes	Insert, Name, Create
Alt+I+N+A	Yes	Insert, Name, Apply
Alt+I+N+L	Yes	Insert, Name, Label
Alt+I+M	Yes	Insert, Comment
Alt+I+A	Yes	Insert, Ink Annotations
Alt+I+P+C	Yes	Insert, Picture, Clip Art
Alt+I+P+F	Yes	Insert, Picture, From File
Alt+I+P+S	Yes	Insert, Picture, From Scanner or Camera
Alt+I+P+D	Yes	Insert, Picture, Ink Drawing and Writing
Alt+I+P+A	No	Insert, Picture, AutoShapes
Alt+I+P+W	No	Insert, Picture, WordArt
Alt+I+P+O	No	Insert, Picture, Organization Chart
Alt+I+G	No	Insert, Diagram
Alt+I+O	Yes	Insert, Object
Alt+I+I	Yes	Insert, Hyperlink
Alt+O+E	Yes	Format, Cells

Works in Shortcut	Excel 2010?	Command
Alt+O+R+E	Yes	Format, Row, Height
Alt+O+R+A	Yes	Format, Row, AutoFit
Alt+O+R+H	Yes	Format, Row, Hide
Alt+O+R+U	Yes	Format, Row, Unhide
Alt+O+C+W	Yes	Format, Column, Width
Alt+O+C+A	Yes	Format, Column, AutoFit Selection
Alt+O+C+H	Yes	Format, Column, Hide
Alt+O+C+U	Yes	Format, Column, Unhide
Alt+O+C+S	Yes	Format, Column, Standard Width
Alt+O+H+R	Yes	Format, Sheet, Rename
Alt+O+H+H	Yes	Format, Sheet, Hide
Alt+O+H+U	Yes	Format, Sheet, Unhide
Alt+O+H+B	Yes	Format, Sheet, Background
Alt+O+H+T	Yes	Format, Sheet, Tab Color
Alt+O+A	No	Format, AutoFormat
Alt+O+D	Yes	Format, Conditional Formatting
Alt+O+S	Yes	Format, Style
Alt+T+S	Yes	Tools, Spelling
Alt+T+R	Yes	Tools, Research
Alt+T+K	Yes	Tools, Error Checking
Alt+T+H+H	No	Tools, Speech, Speech Recognition
Alt+T+H+T	No	Tools, Speech, Show Text to Speech Toolbar
Alt+T+D	Yes	Tools, Shared Workspace
Alt+T+B	Yes	Tools, Share Workbook
Alt+T+T+H	Yes	Tools, Track Changes, Highlight Changes
Alt+T+T+A	Yes	Tools, Track Changes, Accept or Reject Changes
Alt+T+W	Yes	Tools, Compare and Merge Workbooks

Works in Shortcut	Excel 2010?	Command
Alt+T+P+P	Yes	Tools, Protection, Protect Sheet
Alt+T+P+A	Yes	Tools, Protection, Allow Users to Edit Ranges
Alt+T+P+W	Yes	Tools, Protection, Protect Workbook
Alt+T+P+S	Yes	Tools, Protection, Protect and Share Workbook
Alt+T+N+M	Yes	Tools, Online Collaboration, Meet Now
Alt+T+N+S	Yes	Tools, Online Collaboration, Schedule Meeting
Alt+T+N+W	Yes	Tools, Online Collaboration, Web Discussions
Alt+T+N+N	Yes	Tools, Online Collaboration, End Review
Alt+T+G	Yes	Tools, Goal Seek
Alt+T+E	Yes	Tools, Scenarios
Alt+T+U+T	Yes	Tools, Formula Auditing, Trace Precedents
Alt+T+U+D	Yes	Tools, Formula Auditing, Trace Dependents
Alt+T+U+E	Yes	Tools, Formula Auditing, Trace Error
Alt+T+U+A	Yes	Tools, Formula Auditing, Remove All Arrows
Alt+T+U+F	Yes	Tools, Formula Auditing, Evaluate Formula
Alt+T+U+W	Yes	Tools, Formula Auditing, Show Watch Window
Alt+T+U+M	Yes	Tools, Formula Auditing, Formula Auditing Mode
Alt+T+U+S	No	Tools, Formula Auditing, Show Formula Auditing Toolbar
Alt+T+V	Yes	Tools, Solver
Alt+T+M+M	Yes	Tools, Macro, Macros
Alt+T+M+R	Yes	Tools, Macro, Record New Macro
Alt+T+M+S	Yes	Tools, Macro, Security
Alt+T+M+V	Yes	Tools, Macro, Visual Basic Editor
Alt+T+M+E	No	Tools, Macro, Microsoft Script Editor
Alt+T+I	Yes	Tools, Add-ins

Works in Shortcut	Excel 2010?	Command
Alt+T+C	No	Tools, COM Add-ins
Alt+T+A	Yes	Tools, AutoCorrect Options
Alt+T+C	No	Tools, Customize
Alt+T+O	No	Tools, Options
Alt+T+D	No	Tools, Data Analysis
Alt+D+S	Yes	Data, Sort
Alt+D+F+F	Yes	Data, Filter, AutoFilter
Alt+D+F+S	Yes	Data, Filter, Show All
Alt+D+F+A	Yes	Data, Filter, Advanced Filter
Alt+D+O	Yes	Data, Form
Alt+D+B	Yes	Data, Subtotals
Alt+D+L	Yes	Data, Validation
Alt+D+T	Yes	Data, Table
Alt+D+E	Yes	Data, Text to Columns
Alt+D+N	Yes	Data, Consolidate
Alt+D+G+H	Yes	Data, Group and Outline, Hide Detail
Alt+D+G+S	Yes	Data, Group and Outline, Show Detail
Alt+D+G+G	Yes	Data, Group and Outline, Group
Alt+D+G+U	Yes	Data, Group and Outline, Ungroup
Alt+D+G+A	Yes	Data, Group and Outline, Auto Outline
Alt+D+G+C	Yes	Data, Group and Outline, Clear Outline
Alt+D+G+E	Yes	Data, Group and Outline, Settings
Alt+D+P	Yes	Data, PivotTable and PivotChart Report
Alt+D+D+D	Yes	Data, Import External Data, Import Data
Alt+D+D+W	Yes	Data, Import External Data, New Web Query
Alt+D+D+N	Yes	Data, Import External Data, New Database Query
Alt+D+D+E	Yes	Data, Import External Data,List

Works in Shortcut	Excel 2010?	Command
Alt+D+I+D	No	Data, List, Discard Changes and Refresh
Alt+D+I+B	No	Data, List, Hide Border of Inactive Lists
Alt+D+X+I	Yes	Data, XML, Import
Alt+D+X+E	Yes	Data, XML, Export
Alt+D+X+R	Yes	Data, XML, Refresh XML Data
Alt+D+X+X	Yes	Data, XML, XML Source
Alt+D+X+P	Yes	Data, XML, XML Map Properties
Alt+D+X+Q	Yes	Data, XML, Edit Query
Alt+D+X+A	Yes	Data, XML, XML Expansion Packs Edit Query
Alt+D+D+A	Yes	Data, Import External Data, Data Range Properties
Alt+D+D+M	Yes	Data, Import External Data, Parameters
Alt+D+I+C	Yes	Data, List, Create List
Alt+D+I+R	Yes	Data, List, Resize List
Alt+D+I+T	Yes	Data, List, Total Row
Alt+D+I+V	Yes	Data, List, Convert to Range
Alt+D+I+P	Yes	Data, List, Publish List
Alt+D+I+L	No	Data, List, View List on Server
Alt+D+I+U	No	Data, List, Unlink List
Alt+D+I+Y	No	Data, List, Synchronize
Alt+D+R	Yes	Data, Refresh Data
Alt+W+N	No	Window, New Window
Alt+W+A	No	Window, Arrange
Alt+W+B	No	Window, Compare Side by Side with filename
Alt+W+H	No	Window, Hide
Alt+W+U	No	Window, Unhide
Alt+W+S	No	Window, Split

Works in Shortcut	Excel 2010?	Command
Alt+W+F	No	Window, Freeze Panes
Alt+W+1	No	Window, 1
Alt+W+2	No	Window, 2
Alt+W+3	No	Window, 3
Alt+W+4	No	Window, 4
Alt+W+5	No	Window, 5
Alt+W+6	No	Window, 6
Alt+W+7	No	Window, 7
Alt+W+8	No	Window, 8
Alt+W+9	No	Window, 9
Alt+W+M	No	Window, More Windows
Alt+H+H	No	Help, Microsoft Excel Help
Alt+H+O	No	Help, Show the Office Assistant
Alt+H+M	No	Help, Microsoft Office Online
Alt+H+C	No	Help, Contact Us
Alt+H+L	No	Help, Lotus 1-2-3 Help
Alt+H+K	No	Help, Check for Updates
Alt+H+R	No	Help, Detect and Repair
Alt+H+V	No	Help, Activate Product
Alt+H+F	No	Help, Customer Feedback Options
Alt+H+A	No	Help, About Microsoft Office Excel

Some people liked using Alt+F+T+S in Excel 2003 for File, Print Area, Set Print Area. If you are one of those people, you will be unhappy to hear that your favorite shortcut key is not supported in Excel 2010. However, most of the powerful and common shortcut keys are still available, so there is a good chance that your knowledge of past shortcut keys will help when you upgrade to Excel 2010.

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