Excel 3.0

Comments by Dorman Bullard

In the beginning there was Microsoft MultiPlan, which was released for the Macintosh at the same time as was the Mac in 1984. Those of us familiar with command-line spreadsheets were pretty impressed with a spreadsheet using the Macintosh interface. Then Microsoft Excel was released and it blew everyone away. It was considered the perfect blend of power and ease of use. One experienced computer professional called it perhaps the best computer program ever written for any computer (and he didn't qualify computer by adding micro in front of it). Certainly nothing came close to it for the Macintosh.

But, Excel was released in 1985. Although there were a couple of upgrades to the current version 2.2, Excel has been considered to be a bit long in the tooth. And it started getting some competition. Ashton-Tate's "Full Impact" started slow but showed promise, and is now a highly regarded competitor. Informix's "WIngz" also got and deserved a lot of hoopla at its introduction. Although Excel was able to hold its own in comparative reviews, and in the marketplace, it was definitely beginning to show its age, particularly due to an unexceptional charting module, and a lack of graphic and page layout capabilities. Microsoft now wants to take a leap ahead with Excel 3.0 due for release second quarter of 1991. Based on the Evaluation copy furnished, they just may do so. I should note before continuing that this article consists of comments on Excel 3.0, not a review. There is so much to Excel 3.0 that there wouldn't have been time for a critical review in time to get this information to our readers as early as we wished to. Also because of time I am commenting only on the new features of Excel.

One thing I noticed about Excel 3.0 right away was its size. The installer program told me I would need over 4 MEGs of disk space to install all of the files that are provided. However this includes a HyperCard tutorial stack that is 750K, a help file over 500K, and assorted other auxiliary files. The Excel 3.0 program itself is about 1 and 1/4 MEGs on the disk. Despite the large size, the documentation says it will work on any Mac from the Plus on up. In the documentation one MEG of RAM and a hard disk are cited as necessary. However another flyer suggests that one 800K and one 1.4 Meg disk would be sufficient. As to RAM requirements, a "Get Info" indicates a 1536K as the suggested memory size.

The Tool Bar

On startup the first thing that hits your eyes is the new "Tool Bar," the row of buttons just above the Command bar. Figure 1 shows what it looks like.

Chart 11

Corporate

	A	B	C	D	E	F	G
1			1991	1992	1993	Total	
3		Net Revenues	$100,000	$110,000	$121,000		
4		Cost of Goods	$73,000	$53,900	$47,000		
5							
6		Gross Profit	$27,000	$56,100	$74,000		
11							
12		Total Expenses	$60,000	$65,100	$70,755		
13							
14		Operating Income	($33,000)	($38,100)	($14,655)		
15		Provision for Taxes	($2,300)	($3,473)	($3,371)		
16							
17		Net Income	($30,700)	($34,627)	($11,284)		

Net Income

$0
($10,000)
($20,000)
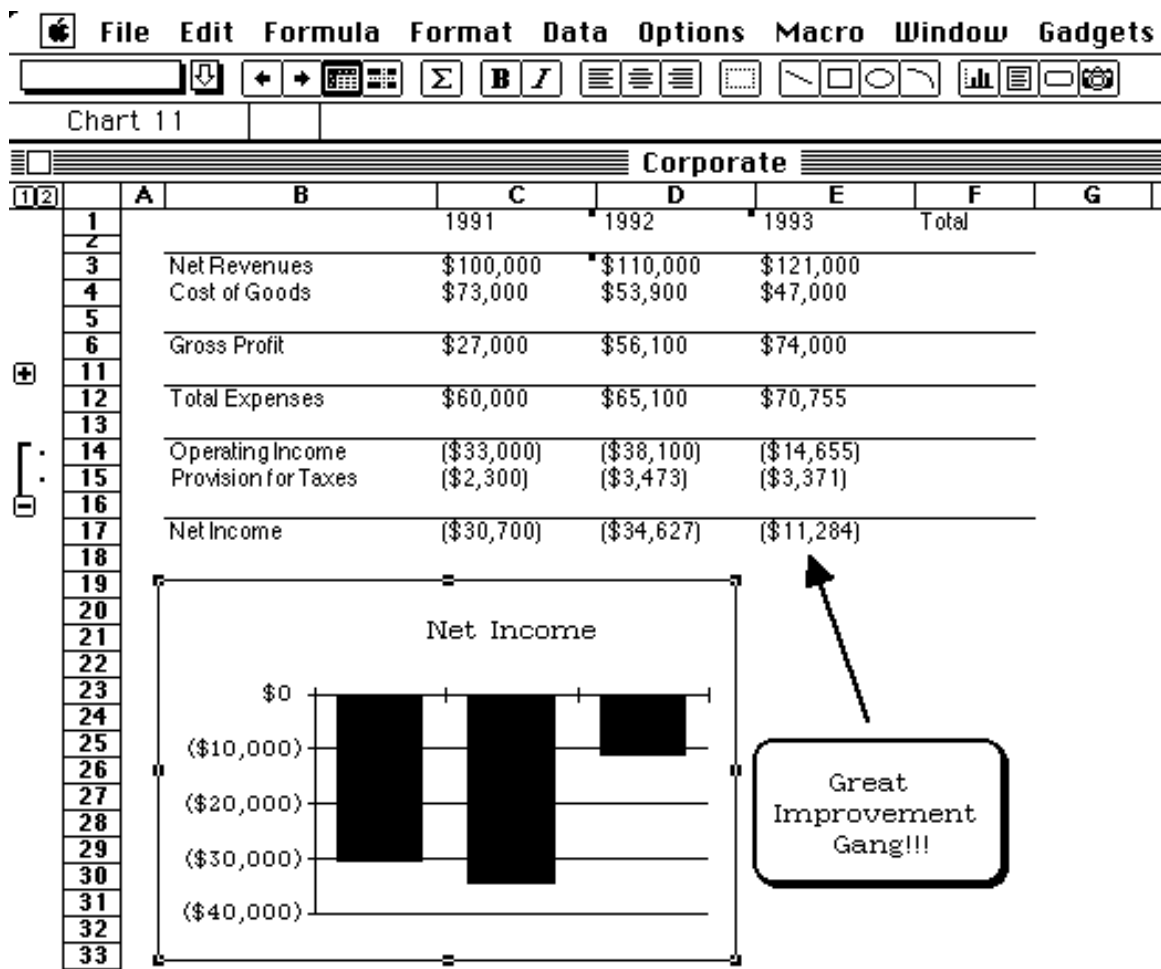($30,000)
($40,000)

Great Improvement Gang!!!

figure 1

The first box will be familiar to Microsoft Word users. It is much the same as the "Style Box" in Microsoft Word, and it works much the same way too. You can format numbers or text much the same as you did in the previous version. Then you can define the formatting as a style. The style, to which you give a name, will then appear in the list in the Style box. and can be applied to other cells just by selecting the style from the pull-down menu indicated by the arrow. In a similar vein, Excel 3.0 also supports Templates. You can save a Worksheet as a template. When you open this template you get an untitled, "fresh" copy of the template with its styles and graphics as they were. The template remains unchanged.

The next four buttons deal with a new feature of Excel: "Outlining." Outlining provides a means of hiding some of the detailed information of a worksheet, leaving only a summary. For example, note row 12 of figure 1, above, labeled "Total Expenses." As you can see from the row numbers, rows 7 through 11 are missing. These rows contain a breakdown of expenses by category. Those rows have been "demoted" by outlining to leave only Total Expenses Shown. At the far left margin the outline levels are indicated. You can click on the "plus" button to expand the chart to show all expenses. The "plus" would change to a minus which you could then press to demote the rows containing the breakdown of expenses. Outlining allows much more of the important data of a worksheet to be visible at one time. By the way, if you are unsure as to how to outline a worksheet, you can ask Excel 3.0 to do it for you to see if you like the result.

The next button is the "Sum" tool. A click of that button will enter a formula in the active cell that totals the data above or to the right of that cell. Thus Excel 3.0 guesses at what you want to total and gives you the formula ready for editing if it guessed wrong. If it did guess wrong, the range being totaled is highlighted in the formula in the command line. So, you can

just move the cursor and select the range you did intend to total and hit return. Since totaling rows or columns is a very common task, this tool feature will save the average user a lot of time.

The next two buttons allow you apply the Bold and Italics styles to numbers or text. The following three allow you to center, right or left justify the contents of a cell or a text box. Again, the Tool Bar allows you to accomplish some frequently performed tasks with efficiency.

The next button is a selection rectangle. It allows you to group objects together for moving, sizing, deleting, formatting etc. The four following buttons are tools that allow you to draw lines, rectangles, ovals and arcs, respectively. By the way, you can assign a macro to any of these objects so that when the object is clicked the macro runs. You can use the Format Patterns command to add colors and styles to any of these (or other) objects. You can also use the Format Object Placement command to control the size and appearance of the object. For example you can format the object so that it will move with the cells and change size as the cells do, or remain stationary or remain the same size. The objects are in a layer on top of the worksheet. Objects can be sized and moved anywhere on the worksheet, or moved from front to back of the layers as desired. One thing that Microsoft stresses is their greater use of the double-click technique to do things, a technique that Mac users are used to, and which is very efficient. The use of the drawing tools is an example. Double-click any graphic created with the tools, and a formatting window appears. This allows setting such things as border line width and the pattern (dotted lines are supported), foreground and background colors, etc. By the way, one of the choice for the line tool is for various types of arrowheads for the line. Another ease of use feature shown by the tools buttons is that the formatting window has a Sample box so you can preview how your chosen formatting will appear. Another example of double-clicking is in setting the width of a column. As with Excel 2.2, if a number is too long to be displayed in a column, pound signs are displayed to so indicate. You would then need to set the column width by trial and error. And then what if there was another number out of sight that was still too long? You would have to repeat the process. Now you can just double-click the column heading and the width will be automatically set the proper width to display all numbers in the column. You can also select multiple columns and choose the Format Column Width... command. The ensuing dialog box has a button for "Best Fit," which will then set the size of all selected columns so that all numbers fit. This dialog box also has "Hide" and "Unhide" buttons too. This is easier to use than the previous method to hide/unhide columns.

The next button is used to create a chart from the selected range of cells. Before getting into the new chart features, let me finish the description of the Tool Bar.

Following the chart button is a text box tool. With it you can create a text box that gives you word wrap, font, style, and text justification choices. The text box can be resized and moved anywhere on the worksheet, or onto charts. Text can be aligned both horizontally and vertically within the box. The text can also be rotated (ninety degree increments only). You can format the text box border (including adding shadows or border fills), and add fill patterns and colors to the interior of the box As suggested earlier, you can use the line tool to draw an arrow from the text box to a cell to highlight important data. With these and other capabilities, Excel is now catching up or surpassing some of its rivals who were pitching their page layout capabilities as a reason to buy their spreadsheet rather than Excel's.

Since we are talking of text descriptions, this may be a good place to mention another improved feature. Excel 2.2 allowed notes to be attached to a cell. However, there was no easy way for someone to know there was an attached note. In Excel 3.0 you can have a small dot appear in cells with attached notes so you (or a reader can identify such cells. You can turn this on or off, but only globally (i.e. you either have all note markers shown, or all not shown, you can't pick and choose). To view a note, you just double-click the cell containing a note.

Another new text feature is the capability of formatting a cell or group of cells as "Word Wrap" cells. When you do this, as you may gather, any text typed into the cell will wrap when the right edge of the cell is reached. When it does, the cell height increases to make way for a new line of text.

The next icon is the button tool. When this is clicked you can move to the worksheet and draw a button of any size. When you do, a dialog box opens which will allow you to select a

macro to be run when the button is pressed.

The final button is the Picture Tool. This interesting device allows you to create a "picture" of a selected area of the worksheet (or Macro sheet). This becomes a movable box which displays the selected area. The contents of this "picture box" change whenever the contents referred to change. For example you could select a portion of a row that showed the results of various calculations. Its "picture" could be moved to another area of the chart where the picture area would ordinarily be off-screen.. If you make a change in the area you are currently working in that would change the chart area selected for the "picture," then the contents of the picture box would change. Thus you can keep an eye on the selected cells wherever in the worksheet you may be located.

New Charting Capabilities

That completes an overview of the Tool Box, so lets look into other areas now, starting with charting. Earlier we mentioned that you could use the Chart tool from the Tool Bar to create a chart. When you do so, instead of opening a new window for the chart, your cursor turns into a tool for creating a rectangle in which the chart will appear directly on the worksheet. Thus you can now create reports with the chart on the same page as the data. The chart window may be resized and moved. Figure 1 shows such a chart. As noted, you can use drawing tools to spiff-up your report, and can even import graphic objects. Creating a chart in this manner creates what is called an embedded chart. It will be saved with the worksheet, not separately. If you prefer to have the chart in a separate window, and save it as a separate file as Excel 2.x did, you may do so by using the "File New" command then choosing "Chart" as the file type (this works the same as with Excel 2.x).

The charting features of Excel 3.0 are improved in many other ways too. The most obvious is the addition of 3-dimensional charts. Each major chart type (column, bar, pie, and area) has a 3-D equivalent. The 3-D charts can be rotated left or right, and up and down. You can change the perspective as well. A sample view is provided while you play with chart orientation, and there is also the undo view command to allow you to keep from producing a distorted view with no retreat.

Adding text and modifying charts has been greatly simplified. For example a legend can now be moved with the mouse to wherever you wish. A really great new feature is the ability to modify chart data using cut and paste. For example, suppose you have a 3-series worksheet and you originally chart only two of the series data. If you want to add the third series, just select and copy the data on the worksheet, then paste it into the chart. Excel 3.0 well do the rest!! If Excel gets the layout wrong, you can just undo the paste, then choose Paste Special to get a dialog box that will allow you to give Excel some clues as to how to handle the new data. In a similar way you can extend the x-axis range. For example, suppose you have columns headed with the months of the year, and you chart the January through March data. You can select the April and May columns and paste them in. This is great stuff. I used to spend almost as much time updating a chart as I did creating it in the first place.

Excel now allows the creation of picture charts. For example you can paste a picture of a coin into a chart, then use stacks of the coin to indicate the chart values. Or objects can be stretched in a column chart.

A new feature is that of creating smart scatter charts. If the current selection can be plotted as either data values or x-axis values, a dialog box is displayed. Excel asks whether the selection should be x-axis or data values.

You can also now select a single point in a data series. This allows you to apply styles such as colors and patterns to each point in a series rather than having to apply the formatting to all points in the series. Once you select a single point you can drag it to a new position. The numbers on the supporting worksheet change automatically to reflect the data point's new position. If the data point refers to a formula, Excel uses goal Seeking to find the result (see below for more on goal seeking). In other words, you can do reverse "what ifs." In prior versions one use of Excel was to change data and then see what effect that had on a chart (say a column chart). Now you can grab a column of a chart and change it and watch what data has to change to support the new position.

Consolidating & Linking Worksheets

Even with Microsoft Plan, Microsoft has had the capability linking worksheets. Excel 3.0 makes working with groups of worksheets more powerful and easier. One new concept is that of the Workgroup. A workgroup is a group of worksheets you designate to be worked upon as a group. When you do, all such worksheets are opened automatically when you open the lead worksheet, and they are saved together as well.

Worksheets are grouped because they have at least some common data. Excel makes entering this data easy. When you enter data in cells in the active worksheet, it is duplicated in each worksheet of the group. Indeed, many of the Excel editing and formatting commands will apply to the entire group of worksheets. You can even print them all with one print command.

Excel has improved and expanded its capability for linking worksheets. As in the past, you can link between Excel worksheets or macro sheets or between a worksheet and a chart. Most major changes revolve around linking to documents created by other applications. In Excel 2.2 you could link to Microsoft Word documents. Now you can link to Lotus 1-2-3 worksheets. Excel now supports linking to documents created by other applications. These capabilities will only be possible when both applications are running under System 7.0, and when the other application supports Dynamic Data Exchange. The result of the linking is that changes in the source data will cause an automatic update to the other document to which it is linked. Similarly objects may be "embedded" into excel. An embedded object is any data or graphic you copy from another application that supports embedding and then paste into Excel. While in Excel 3.0, you can double-click the embedded object and the application creating it will be opened and you can edit the object. Similarly, Excel data and objects may be embedded in documents created by other applications supporting embedding.

Other New Functions

Listed below are various functions of Excel that are new or improved in version 3.0. Most of these descriptions are taken directly from the draft documentation provided by Microsoft with occasional editing.

Pasting Graphics onto Worksheets and Macro Sheets

You can now paste graphics created in other programs directly onto your worksheets and macro sheets and then size, move or format them.

Reopening Recently Opened Files

Excel 3.0 displays a list of the four most recently opened files at the bottom of the File menu. You can choose any of them to open.

Inserting Pasted Cells into a Worksheet

When you paste cells into a worksheet, you can now insert a range of cells the same size as the paste range instead of having to paste over existing data. You can shift cells down or to the right to accommodate the data you're pasting.

Using Invisible Passwords

The characters in a password are no longer displayed when you type them into a dialog box.

Editing in Unprotected Cells on Protected Sheets

You now do not have to unprotect the entire worksheet to edit unprotected cells of a protected worksheet or macro sheet.

New Number Formatting Features

You now have two new fractional number formats for cells. You can enter a fractional number such as 38 1/4 and excel then displays it properly. You do not have to format cells specially to display fractions. You can use one of Excel's two built-in fractional formats or you can create your own customized format.

You can use the underscore character to create a space the size of the character that follows. This can help align column of numbers precisely.

You can use a question mark as a valid digit placeholder. The question mark works exactly

like the "zero" placeholder does, except that no zero is displayed if the number format includes no value for that position. Thus you can substitute spaces for zeros in custom number formats.

You can use conditional operators in Number Formats. This allows Boolean tests to specify various number formats. For example, you can create a number format that displays a special error message if a number is outside a certain range.

New Cell Border Types

Six new cell border styles, including dashed, dotted and shaded borders, have been added. You can also apply one of 16 colors to each side of a border

Use up to 16 Colors for Formatting

You can use the Excel default set of colors, or choose your own. You can use them in cell, number, object and chart series formatting. Custom color pallets can be imported from other worksheets or charts.

Use up to 17 Patterns for Formatting

The Format Patterns dialog box contains 16 patterns and allows a variety of methods for specifying foreground and background colors. A sample of what you've created is shown in the dialog box.

New File Print Preview Command

The command itself is new, and you no longer have to go through the File Print command. The preview window includes a scroll bar you can use to scroll to any page. There are two new buttons, the Margins button and the Setup button. The margins button displays the document's margins which you can change by dragging with the mouse. In addition, column widths are displayed, and you can change them while still in print preview.

The Setup button displays the File Page Setup dialog box which allows you to make changes in the header, footer ,margins and gridline display in the print preview window. You can see the effects of your changes immediately. You can also center the document horizontally and vertically.

Defining Several Names at One Time

You can now define several names without leaving the Define Name dialog box. In addition, cells that contain dates can now be used to create names.

Recognizing Matched Parentheses

When you type a parenthesis in the formula bar, the matching parenthesis appears momentarily in boldface to help you recognize matching sets of parentheses. This should really help when entering complex formulas.

Improved File Directory Support

You can designate a startup folder to contain files you want opened every time you start Excel. If you change directories manually, and then save a Workspace, it will be saved in the original directory.

Using Goal Seeking

The Goal Seek command finds a value that returns a desired result. For example, you might use goal seeking to find out how many units of a particular product you have to sell to push your total sales of all products above 10,000 units.

Using Solver for "What-if" Questions

Solver is a separate utility program that can be installed in Excel. It allows more complex solving, that is, for solving when multiple variables are involved.

Extracting Records Using Data Set Extract

You can now extract records from a database without having to select the field names in the extract range. Using Set Extract you can define a range that includes the field names as an extract range No matter where the active cell is, Excel extracts the data form the database

into the current extract range after you choose Data Extract.

Finding a Specific Data base Record

You can now find a single record that matches the current criteria by using the DGET function.

Working with External Databases

You can use the Q&E utility to edit, query, and report form external database files. This involves use of Apple's "Data Access Language." With it and Excel you can access external database such as those found on mainframe computers.

Improved Macro Debugging

The Macro Run dialog box now includes a Step button. Instead of running an entire macro you can step through it it one function at a time. There is also an Evaluate button. This evaluates the current macro formula and displays the results. In addition, the Macro Error dialog box now includes a Goto button. This stops the current macro and goes to the macro function that caused the error. Excel activates the macro sheet if it is not currently active. This is useful for quickly moving to problem cells in macros so that you can edit them.

Version File Support

Excel 3.0 allows you to open files created by previous version of Excel. Excel will convert them and then save them in the 3.0 format unless you specify otherwise. Previous versions cannot read the new file format of Excel. However, you can save Excel files for use with Excel version 2.x. When a worksheet function is not supported by version 2.x, Excel calculates the version 3.0 function, and the resulting value replaces the formula. There is a chart conversion feature, but chart types and formats not supported will be shown in a format supported by version 2.x Macro functions will appear normally, but might not function as designed.

Well, there sure are a lot of changes. A great program has been made even more powerful, and certainly its ease of use has been improved. So, when can you get it? The announcement was for the "second quarter." I would not be surprised to see it announced by the time you are reading this.. The upgrade price has been quoted as $129.00. That is certainly no mere pittance. However, you must admit there are a lot of changes.

Checked by Jeff Gross   835-6430