

ECE 304: Using WORD

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ECE 304: Using WORD

Introduction

This document familiarizes you with the use of Microsoft WORD '97 and 2000. In ECE 304, you will write numerous reports and assignments in the form of WORD documents containing PSPICE figures and EXCEL plots.

Preliminaries

If you are using your own computer, make a backup copy of your template NORMAL.dot to allow you to recover from inadvertent changes to this template. In Windows NT, the templates are located as shown below in Figure 1.

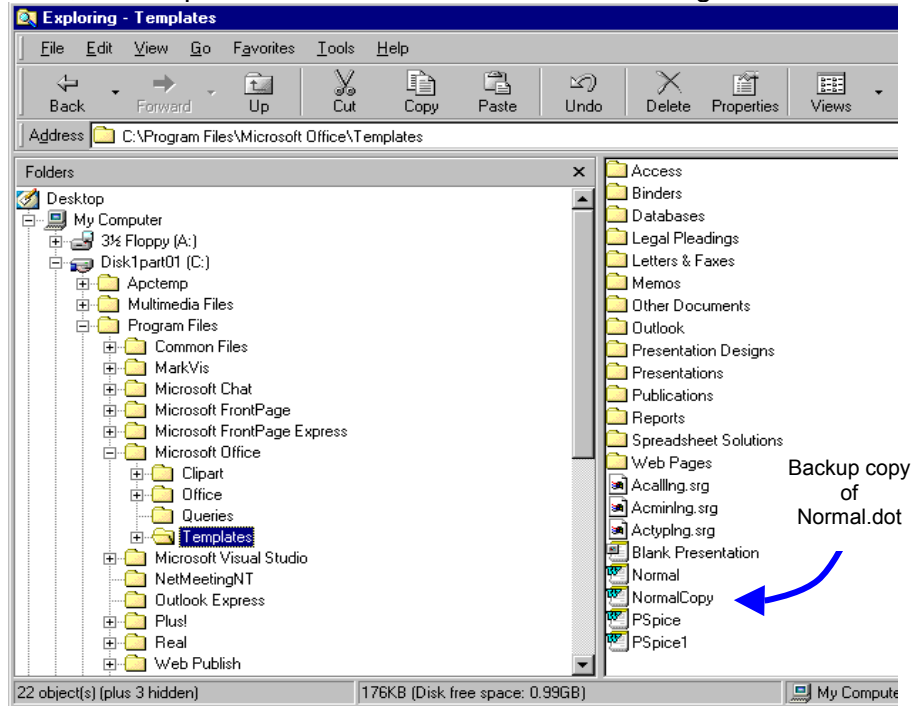


FIGURE 1:

Location of the WORD templates in Windows NT 4.0 under PROGRAM FILES/MICROSOFT OFFICE/TEMPLATES

The PSPICE.dot Template

WORD allows the use of templates (file extension •dot) that store various conveniences for formatting particular types of document. These conveniences include [Styles](#), which allow convenient formatting of the document, and [Macros](#), mini-programs that can be executed from the keyboard to automate tasks like pasting figures, inserting captions, and so forth.

The template PSPICE.dot is provided on the department computers. If you wish, you can copy the PSPICE.dot template to make it available on your computer. Before running through the following examples on your own computer, make a backup copy of the template NORMAL.dot to enable recovery from inadvertent alteration of the default NORMAL.dot template provided with WORD.

To create a document that uses the PSPICE.dot template, two approaches work. One is to double-click on the template itself (you can put a shortcut to the template

on your desktop to make this easy to do). Or, open a new WORD file with FILE/NEW and select the template named PSPICE.dot.

When you use the template, a warning menu should appear asking whether you want to enable these macros. Answer yes. If the warning doesn't occur either

- The template already is open in another document, or
- Your copy of PSPICE.dot doesn't have the macros (try downloading the template from the Web page directly without opening it first, using the right mouse button and the SAVE TO DISK option), or
- You have previously disabled the warning menu (not a good idea because it exposes you to viruses without your knowing it)¹, or
- You have set your security level too high in your computer. It should be set at MEDIUM. (This option is for WORD 2000.)

Advantages of Styles

In any document some formatting is required. This formatting can be done by hand, for example, using the mouse or keyboard to change fonts from regular to bold or to change font size. Why bother with styles?

- A major advantage of styles is that you can use keyboard shortcuts (See [Keyboard Short Cuts](#)) to implement the style as mentioned above.
- An additional advantage of the headings provided (labeled 0,1, 2,..., 9), is that an automatic table of contents can be generated like that provided with this document by using INSERT/INDEX AND TABLES (See [TOC](#)).
- Clicking on page numbers in this table allows you to move around the document without scrolling. Or, you can use the DOCUMENT MAP (See [DocMap](#)) feature to cruise your document.

Styles in PSPICE.dot

This template includes some format styles and some [macros](#) for copy and paste that will make life easier for you. (Back to [Template](#), or [DocMap](#), or [Levels](#))

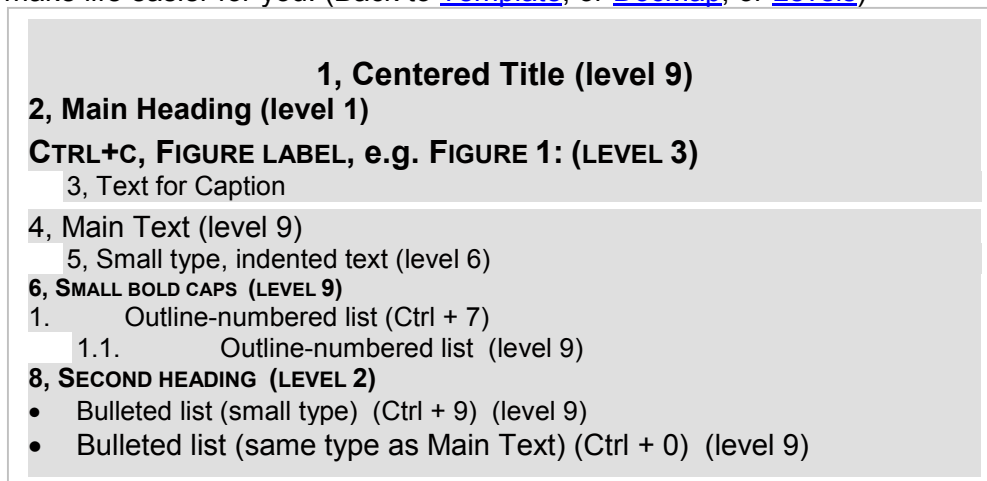


FIGURE 2:

The custom styles contained in the template PSPICE.dot. Style 'n' can be introduced from the keyboard with keys Ctrl+n.

¹ Reinststate the protection menu using TOOLS/OPTIONS, select the GENERAL tab and check the MACRO VIRUS PROTECTION box.

The custom styles in PSPICE.dot are shown in Figure 2 as accessed using the menu FORMAT/STYLE shown in Figure 3. Details on making your own styles are in [Appendix 1](#).

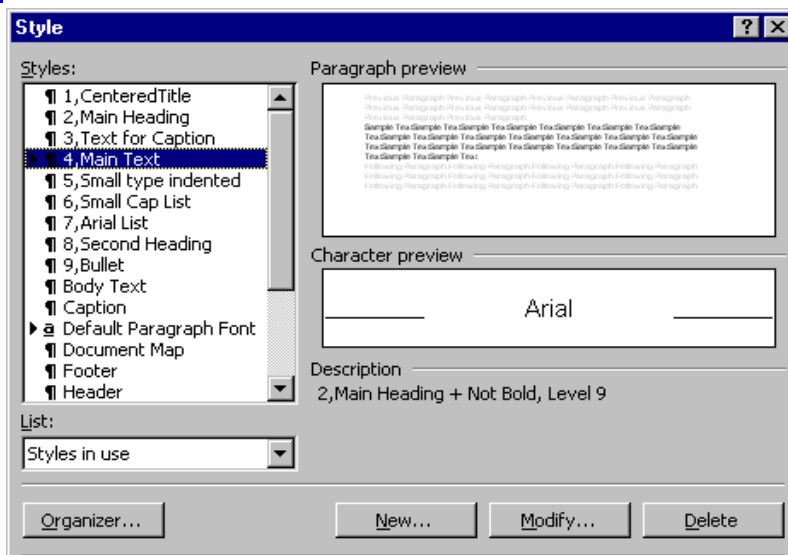


FIGURE 3:
The STYLE menu found using the menu FORMAT/STYLES

Keyboard Shortcuts

(Back to [Advantages](#))

To obtain a STYLE, one approach is to use Ctrl+Shift+S (Control key held down along with the shift key and S). The STYLE BOX menu is highlighted. Scroll to your choice of style and click. Alternatively, use the keyboard shortcut assigned to each Style. For example, in PSPICE.dot the keyboard shortcut for STYLE 2: MAIN HEADING is Ctrl+2. In PSPICE.dot the keyboard assignment Ctrl + n for Style 'n' has been adopted. With the shortcut key, once you type in the shortcut, for example Ctrl+2, the text you type afterward is in the selected format (Main Heading in this example) until you hit ENTER. Then the STYLE switches to the style (Main Text in this example) specified in the FORMAT/STYLE/MODIFY STYLE menu in the box named STYLE FOR FOLLOWING PARAGRAPH. (See [Appendix 1](#) for details.) Details on setting up keyboard shortcuts are found in [Appendix 1](#).

Macros Available in PSPICE.dot

(Back to [Template](#) or to [Styles](#))

WORD also has the ability to automate repetitive actions by recording them in a macro. A Keyboard Shortcut can be assigned to the macro to execute this mini-program effortlessly. In the template PSPICE.dot there are several macros. One macro automates the creation of figure captions (Ctrl+c). Others automate the pasting of figures into the document. Use of these features in conjunction with EXCEL and PSPICE is discussed in the document *Using PSPICE with WORD and EXCEL*. A listing of the Visual Basic code for the macros is found in [Appendix 3](#).

Ctrl+c	Inserts label: FIGURE n
Ctrl+p	Pastes a figure after it is copied
Ctrl+d	Pastes a device-independent bitmap
Ctrl+e	Pastes an EXCEL plot or table
Ctrl+Shift+e	Pastes an EXCEL plot in Word 2000

FIGURE 4:
Macros available in PSPICE.dot. Further discussion is in the document *Using PSPICE*

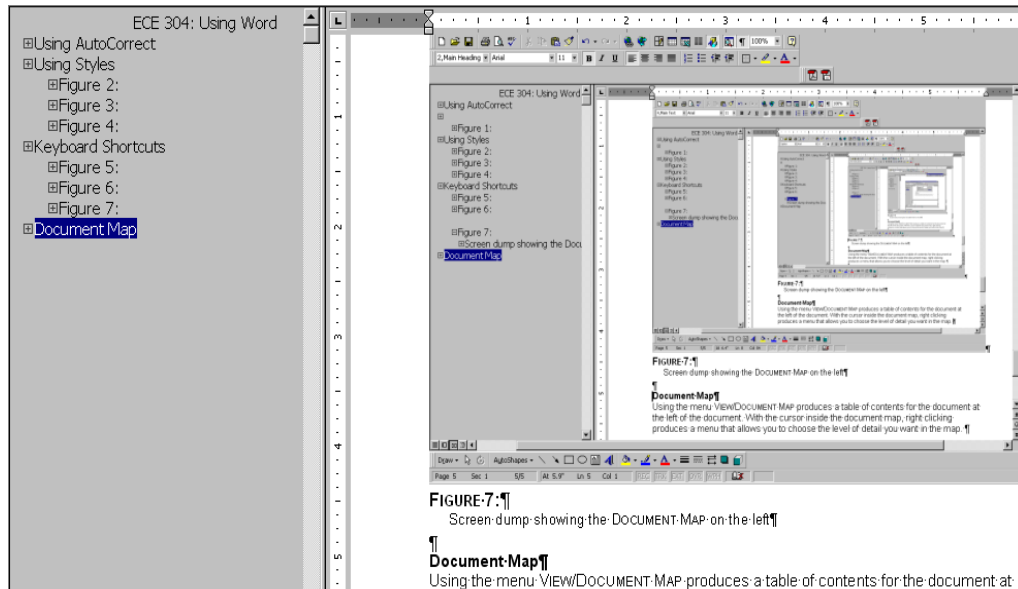


FIGURE 5:
Screen dump showing the DOCUMENT MAP on the left

Document Map

(Back to [Advantages](#) or [Modify Styles](#))

Using the toolbar selection VIEW/DOCUMENT MAP produces a table of contents for the document at the left of the document. This table is based upon various headings you have identified using the [styles](#) in the PSPICE.dot template. See Figure 5. With the cursor inside the document map, right clicking produces a menu that allows you to choose the level of detail you want in the map. This feature is buggy and shows items that are not selected, but clicking on the map entries allows you to jump around in the document without scrolling.

Table of Contents

(Back to [Advantages](#) or [Modify Styles](#))

To place a table of contents, first update the document using EDIT/SELECT ALL/ and function key F9. Then go to the beginning of the document and place the cursor before the main title. Then, select INSERT/BREAK. The menu of Figure 6 appears, and PAGE BREAK is selected.

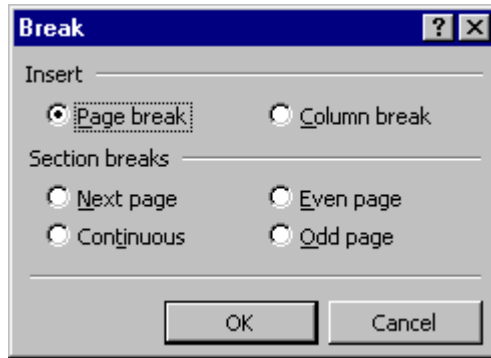


FIGURE 6:
The BREAK menu

With the cursor placed before the break², select INSERT/ INDEX AND TABLES.

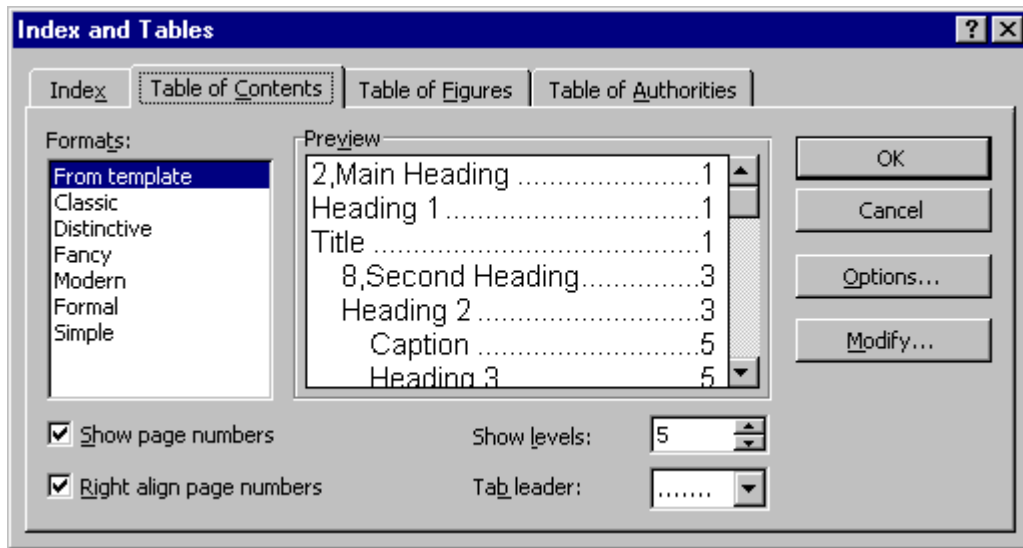


FIGURE 7:
The menu produced from the toolbar selection INSERT/INDEX AND TABLES with the TABLE OF CONTENTS tab selected.

The menu selection INSERT/INDEX AND TABLES allows a table of contents to be placed in the document based upon the headings you have selected inside the document, as shown in Figure 7. The entry you place in the SHOW LEVELS box determines the level of detail shown. The LEVELS are determined by the STYLE you have selected for each heading. (See [Styles](#) or [Appendix 1.](#))

In the PSPICE.dot template, the centered title is made level 9 (lowest level) so it doesn't show up in the Table of Contents. This approach avoids having a page number appear for the title. However, the main title now must be placed manually at the top of the Table of Contents.

² To see the break on-screen, go to TOOLS/OPTIONS, select the VIEW tab, and click ALL in the NONPRINTING CHARACTERS section.

Headers and Footers

The menu VIEW/HEADERS AND FOOTERS allows the author etc. to be placed at the bottom of each page. This feature is already set up in PSPICE.dot. Details on how to set up your own footer are in [Appendix 2](#).

The entry under AUTHOR is the author specified on the document's PROPERTIES menu. This menu is found from the toolbar under FILE/PROPERTIES, as shown in Figure 8.

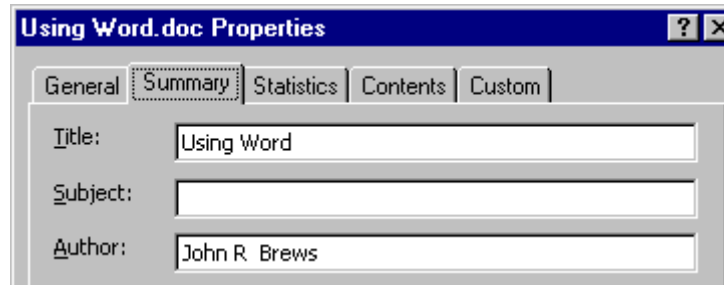


FIGURE 8:

The PROPERTIES menu

If you fill your name under AUTHOR in this menu, it will show up in the footer. To update the footer after changing the author, highlight the author entry in the footer and hit function key F9. Or, select FILE/PRINT PREVIEW and then CLOSE to update all the changes in the document.

Using AutoCorrect

Under the TOOLS menu in WORD is AUTOCORRECT. By inserting aliases for commonly used specially formatted words and for symbols, you can avoid specially formatting certain entries and avoid using the INSERT/SYMBOL menu option in WORD.

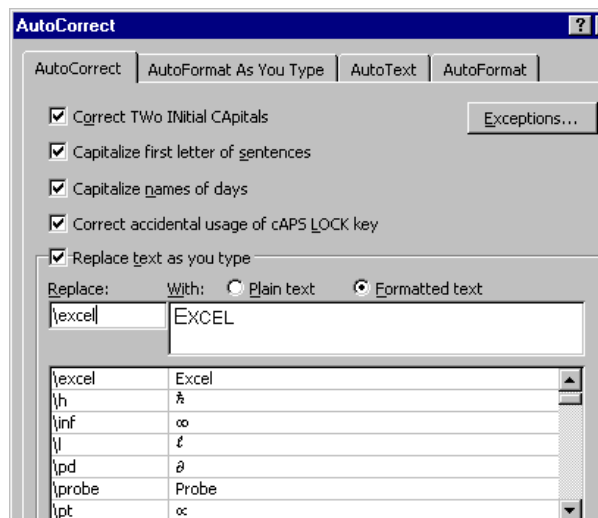


FIGURE 9:

Here is an AUTOCORRECT entry for EXCEL. The backslash in the entry \excel makes sure that EXCEL does not replace ordinary usage of the word 'excel'. The FORMATTED TEXT box is checked to get small caps in the replacement.

To insert an AUTOCORRECT entry, first insert into your text the symbol or text that you wish to alias. Then highlight this insertion and select TOOLS/AUTOCORRECT. Fill in the REPLACE box with your alias. An example AUTOCORRECT entry is shown in Figure 9. The use of a backslash \ is useful to distinguish AUTOCORRECT entries from everyday items in normal text that you don't want to auto correct.

I find the following list of symbols and formatted words occur often enough to warrant such AUTOCORRECT entries.

PSPICE EXCEL PROBE WORD •∂∞×≠≈…≥±°→←∇√∞≤+−\$ℓh

These symbols come from the SYMBOL menu found from the toolbar using INSERT SYMBOL, as shown in Figure 10.

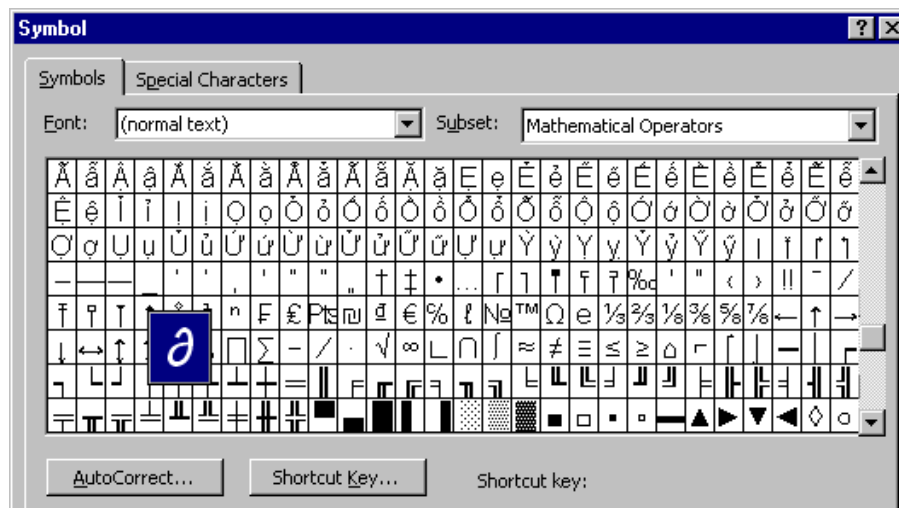


FIGURE 10:
The SYMBOL menu found using INSERT/SYMBOL when the FONT box is (normal text). The symbol for a partial derivative ∂ is selected.

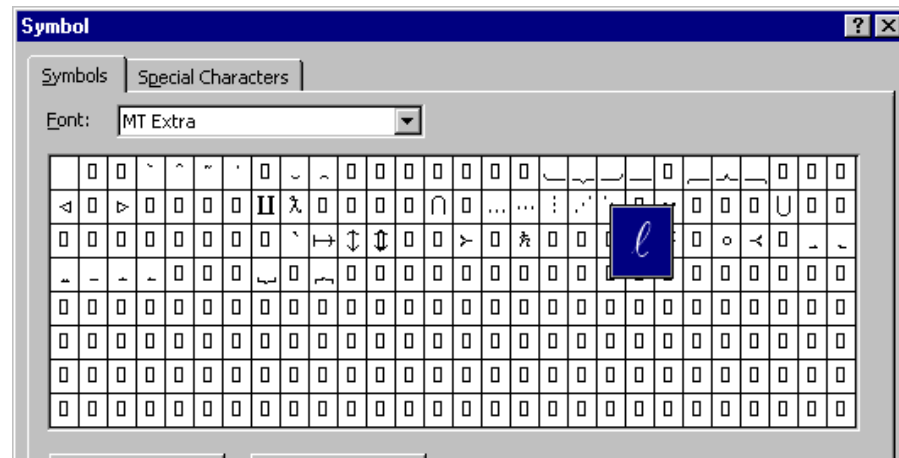


FIGURE 11:
The SYMBOL menu found using INSERT/SYMBOL when the FONT box is MT Extra. The symbol for a script letter ℓ is selected.

AutoCorrect also can be used to insert boilerplate, so long as it is all one line, by providing an alias for a boiler-plate string of words.
(Back to [Table of Contents](#))

Appendix 1

MODIFYING STYLES

This section provides a little background for making your own custom styles. (Back to [Text](#), or [DocMap](#), or [TOC](#))

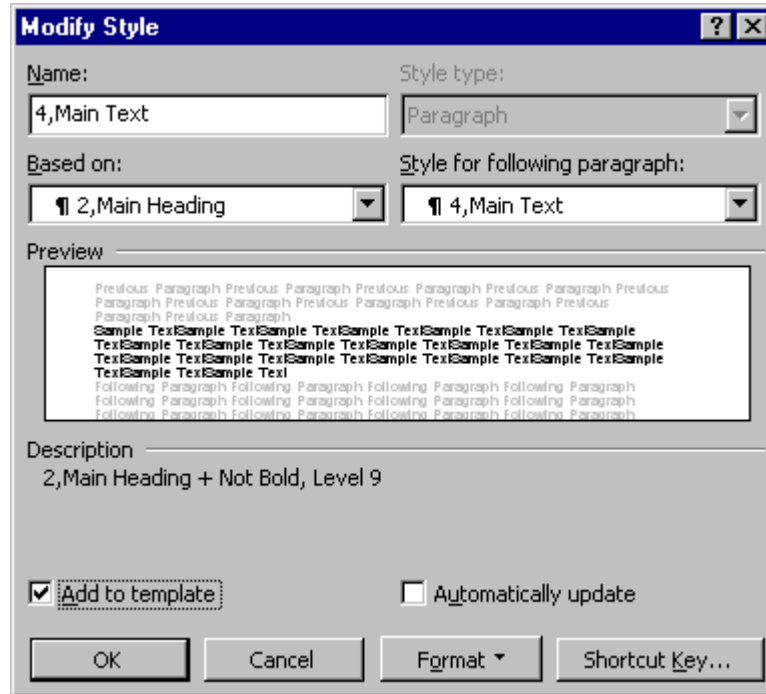


FIGURE 12:

The MODIFY STYLE menu found by clicking on the MODIFY tab of the STYLE menu.

The MODIFY STYLE menu allows the saving of the changes to the template using ADD TO TEMPLATE. Note the STYLE FOR FOLLOWING PARAGRAPH box. The STYLE menu of Figure 3 is obtained by selecting the FORMAT/STYLE option from the toolbar. Figure 12 shows the MODIFY STYLE menu obtained by clicking on the MODIFY button of the STYLE menu. The MODIFY STYLE menu allows storing your changes in the template by checking the ADD TO TEMPLATE box.

The MODIFY STYLE menu also allows you to set the style that will follow a selected Style upon hitting the return key (STYLE FOR FOLLOWING PARAGRAPH box). Setting this entry can save you time, for example, by switching from a main heading to the font for the main text when you hit the ENTER key. (Back to [Keyboard Shortcuts](#))

Clicking on the FORMAT button of the MODIFY STYLE menu in Figure 12, the drop-down menu obtained allows access to the choice of FONT for the style.

Figure 13 shows the menu obtained by clicking the FORMAT tab on the MODIFY STYLE menu, and then selecting the PARAGRAPH option. The menu of Figure 13 allows setting the OUTLINE LEVEL of a STYLE. The OUTLINE LEVEL is important for two reasons: it decides how the automatically generated TABLE OF CONTENTS will look ([TOC](#)), and it also decides how the DOCUMENT MAP will look ([DocMap](#)), as discussed in the text. (Back to [Levels](#))

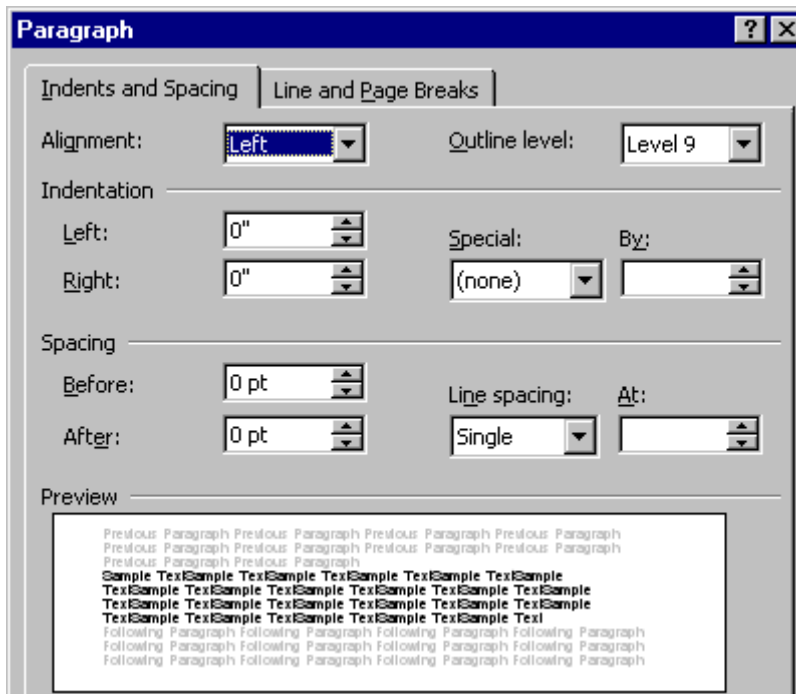


FIGURE 13:

The PARAGRAPH menu for setting the OUTLINE LEVEL of a STYLE. This menu is found by clicking on the FORMAT button of the MODIFY menu and selecting PARAGRAPH from the drop-down menu.

The PARAGRAPH menu also allows the selecting of indentation and spacing for the style.

INSERTING KEYBOARD SHORTCUTS

(Back to [Advantages](#) or [Styles](#) or [Keyboard Shortcuts](#))

The use of STYLES is far more convenient if keyboard shortcuts are used to implement a style from the keyboard rather than using the mouse. The assignment of keyboard shortcuts is arranged using the CUSTOMIZE menu obtained from TOOLS/CUSTOMIZE as shown in Figure 14. Clicking on the KEYBOARD button we obtain the CUSTOMIZE KEYBOARD menu of Figure 15. We scroll down the Categories window until Styles is revealed. Then we carefully select the template in the lower right SAVE CHANGES IN box. Failure to select the PSPICE.dot template will result in the changes being saved to the default template NORMAL.dot. Because mistakes do happen, it is advisable to make a copy of NORMAL.dot so inadvertent changes can be corrected.

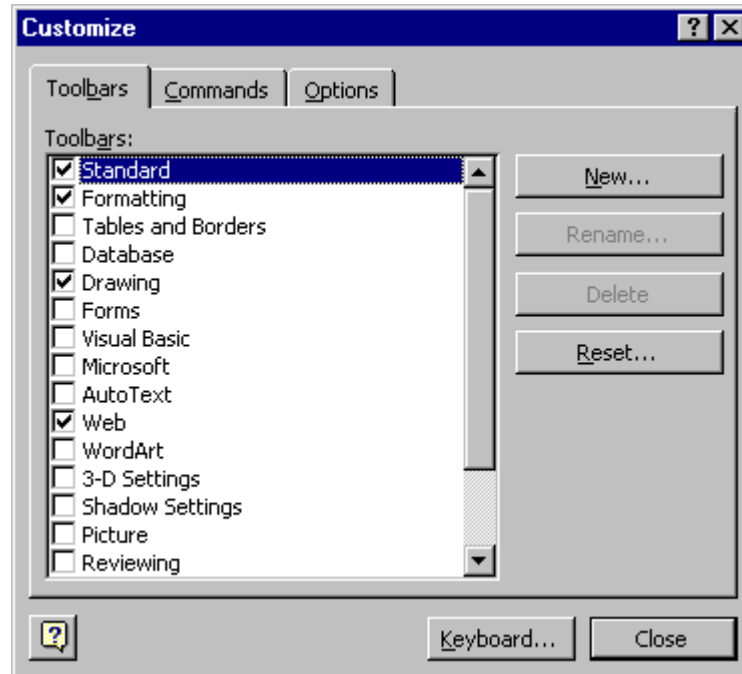


FIGURE 14: The CUSTOMIZE menu used to set up keyboard shortcuts by selecting the KEYBOARD button. This menu is found using TOOLS/CUSTOMIZE from the toolbar.

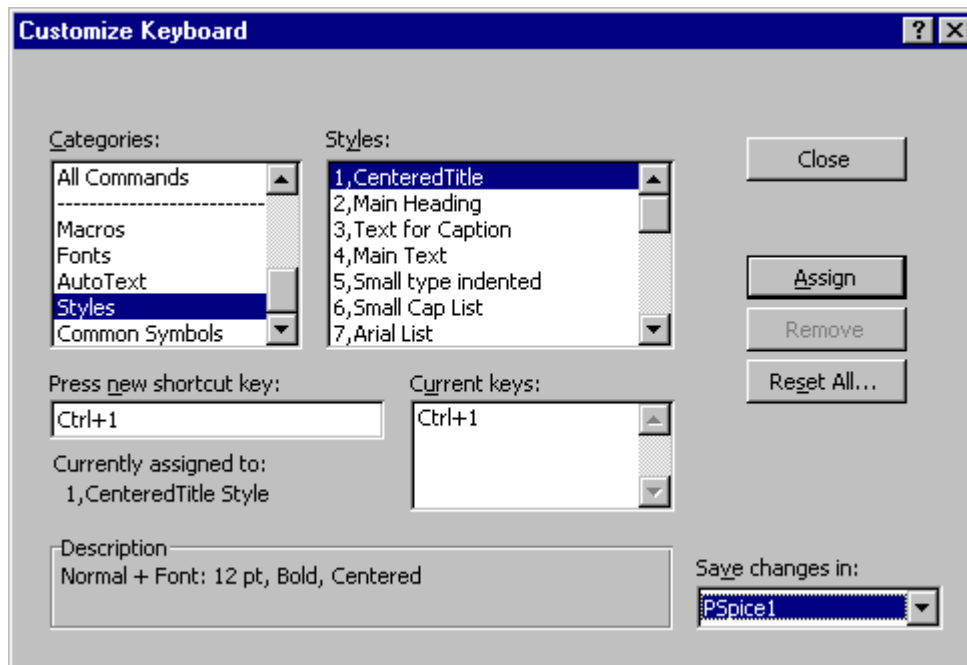


FIGURE 15: The CUSTOMIZE KEYBOARD menu accessed from the KEYBOARD button of the CUSTOMIZE menu.

The steps to assign a shortcut key are as follows: On the TOOLS menu click CUSTOMIZE. Press the KEYBOARD bar. In the SAVE CHANGES box enter the template name in use (probably PSPACE.dot). Otherwise, the changes go into the default

template NORMAL.dot. In the CATEGORIES box find STYLES. In the styles box to the right, click on the style you want. In the PRESS NEW SHORTCUT KEY box, enter the shortcut. Click ASSIGN.

In PSPICE.dot the keyboard assignment Ctrl + n for Style 'n' has been adopted. For example, Ctrl+4 produces the STYLE called Main Text.

Appendix 2 SETTING UP A FOOTER

(Back to [Footer](#))

Using the toolbar, select VIEW/HEADER AND FOOTER. The menu in Figure 16 appears. Select the SWITCH BETWEEN HEADER AND FOOTER icon and switch to the footer.

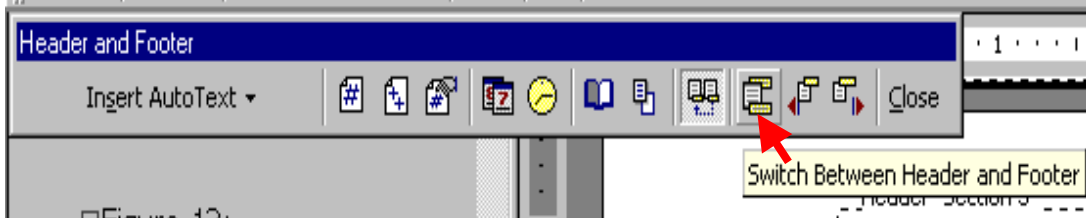


FIGURE 16:

Menu to switch between header and footer

Figure 17 shows the insertion of a footer with author/page number/date using INSERT AUTOTEXT.

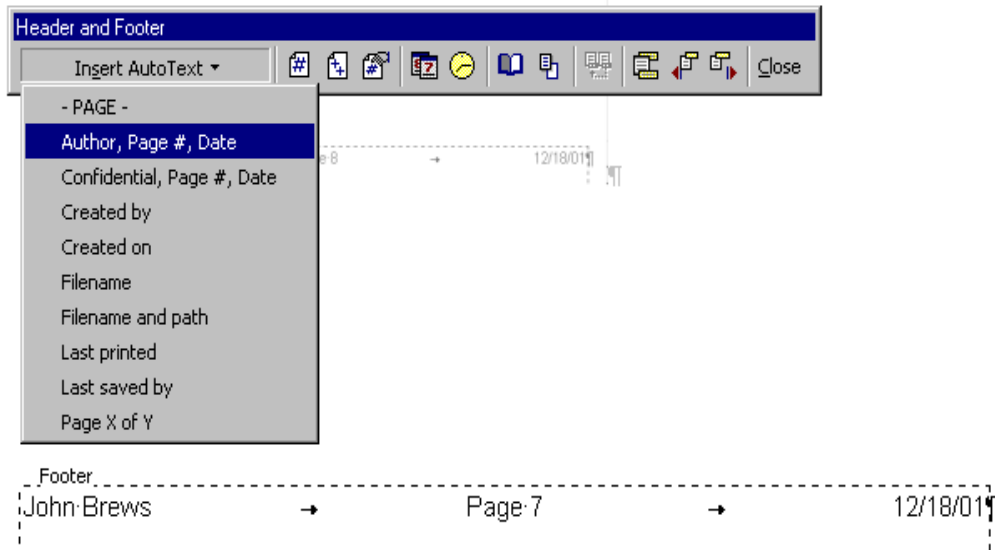


FIGURE 17:

Inserting a footer using the INSERT AUTOTEXT menu

I prefer to keep the date the file was made, rather than today's date. To change the DATE FIELD to the DATE OF CREATION, first insert the AUTOTEXT. Second, delete the date field and with the cursor in the same position, select from the toolbar INSERT/FIELD. Use the menus referred to in Figure 18.

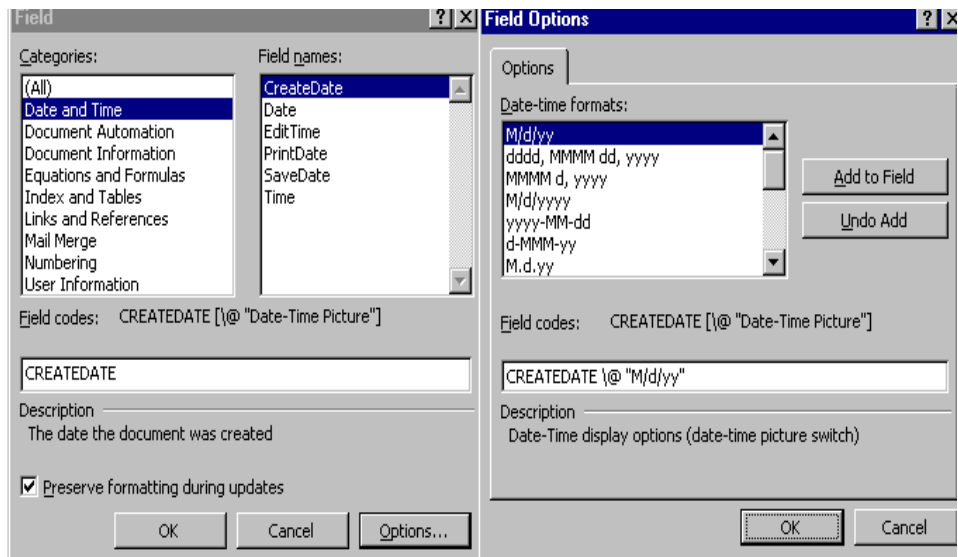


FIGURE 18:

The menu produced by INSERT/FIELD with CREATE DATE selected. Using the OPTIONS button on the FIELD menu, M/d/yy is selected to ADD TO FIELD

With CREATE DATE selected, the OPTIONS button is clicked to obtain the FIELD OPTIONS menu at the right of Figure 18. Then M/d/yy is selected and ADD TO FIELD is clicked, OK, OK.

Appendix 3: VARIOUS WORD MACROS

(back to [Macros](#))

PASTING FIGURES INTO Word DOCUMENTS

Figures can be inserted in Microsoft WORD in several ways. The procedure described below is a little complicated, but it insures that the figures will stay in the text just where we want them. Other methods allow the figures to "float" over the text. In this annoying mode of insertion, the figures move around arbitrarily, requiring continual readjustment, dragging and dropping with the mouse to put them back where they are wanted. Sometimes they disappear altogether, or move to a different page of the document on top of other figures.

With the "float over text" feature turned off, the figure will move with the text and any insertions or corrections in the text just move the figure along at the same position you chose as the insertion point.

In WORD 2000 the "float over text box" feature has been removed. Instead, after pasting the picture you click on it to highlight it (little dots appear) and then select FORMAT/PICTURE, choose the LAYOUT tab, and select the option IN LINE WITH TEXT. You can write a macro for this procedure to replace the macro described below for WORD '97. In the VBA scripts below, the only change is **Placement:=wdInLine** is changed to **Placement:=inlinewithtext**.

Four handy WORD macros follow. For each macro, the way to generate the Visual Basic code using the macro recorder is described, and the code is listed.

PASTING A SCHEMATIC

The first is for pasting a schematic into WORD '97. In PSPICE outline your schematic and use EDIT/COPY. This copies your SCHEMATIC. Then we use WORD's menus TOOLS/MACRO/RECORD NEW MACRO. In the drop-down menu we input a name PASTEPICTURE and enter under ASSIGN TO KEYBOARD the key combination Ctrl+P (control key held down and capital P also held down), ASSIGN/CLOSE³. Then go to EDIT/PASTE SPECIAL and in the drop-down menu select PICTURE and uncheck the box FLOAT OVER TEXT. Then move the cursor to the bottom right-hand corner of the pasted figure and hit the ENTER key to move the insertion point below the figure to its bottom left-hand corner. Then go to the RECORD button and hit the square to STOP RECORDING.

If now you look up TOOLS/MACRO/MACROS in the drop-down menu you will see listed the MACRO PASTEPICTURE. If you highlight this entry and select EDIT, you will see the following VBA script:

```
Sub PastePicture()  
  ' Keyboard shortcut Key Ctrl+P  
  ' PastePicture Macro  
  ' Macro recorded 05/08/01 by John
```

³ If you forget to assign a shortcut key, or want to change it, on the TOOLS menu click CUSTOMIZE. Press the KEYBOARD bar. In the SAVE CHANGES box put in the template name you are using (probably PSPICE.dot). In the CATEGORIES box find MACROS. In the macros box to the right, click on the macro you want. In the PRESS NEW SHORTCUT KEY box, enter the shortcut. Click ASSIGN.

```

Selection.PasteSpecial Link:=False, DataType:=wdPasteMetafilePicture, _
    Placement:=wdInLine, DisplayAsIcon:=False
Selection.TypeParagraph
End Sub

```

I added the comment line 'Keyboard shortcut key Ctrl+P as a reminder to recall what shortcut key was used.

INSERTING A CAPTION

The next step is to record a macro to insert a caption. Proceeding as before, we record a macro called CAPTION and assign the keyboard shortcut keys Ctrl + C. Then we record these steps: INSERT/CAPTION, then in the drop down menu select FIGURE and OK. Then after the insertion of the text **Figure 1** insert a colon: and then switch the font from BOLD to REGULAR. Insert a space. Hit ENTER. Hit Ctrl+3 (assuming the keyboard shortcut for Style 3 has been implemented). Then stop the recording. The resulting VBA script is as follows:

```

Sub Caption()
' Keyboard Ctrl+C
' Caption Macro
' Macro recorded 05/08/01 by John
' Selection.InsertCaption Label:="Figure", TitleAutoText:="InsertCaption2", _
    Title:="", Position:=wdCaptionPositionBelow
Selection.Font.Bold = wdToggle
Selection.TypeText Text:=" "
Selection.TypeParagraph
Selection.Style = ActiveDocument.Styles("3,Text for Caption")
End Sub

```

PASTING A BITMAP

The macro to get the bitmap version can be recorded in the same way as the Ctrl+P macro. I called it PasteBitmap, and assigned Ctrl+D (for Device independent bitmap) to get the VBA script below.

```

Sub PasteBitmap()
' Keyboard shortcut Ctrl+D
' PasteBitmap Macro
' Macro recorded 10/08/00 by John
Selection.PasteSpecial Link:=False, DataType:= _
    wdPasteDeviceIndependentBitmap, Placement:=wdInLine, DisplayAsIcon:=False
Selection.TypeParagraph
End Sub

```

PASTING EXCEL CHARTS AND TABLES

To paste an EXCEL chart or table into WORD '97 we need yet another paste macro because EXCEL charts are a different type of file (an OLE object). In the PSPICE.dot template this paste macro has the shortcut Ctrl+E. It is formed using PASTE SPECIAL/MICROSOFT EXCEL CHART OBJECT, then CUT, and then again PASTE SPECIAL/PICTURE carefully unchecking the FLOAT OVER TEXT box. The macro VBA script is shown below.

```

Sub PasteEXCEL()

```

```

' Keyboard Ctrl+E
' PasteEXCEL Macro
' Macro recorded 05/08/01 by John
' Selection.PasteSpecial Link:=False, DataType:=wdPasteOLEObject, Placement _
  :=wdFloatOverText, DisplayAsIcon:=False
Selection.Cut
Selection.PasteSpecial Link:=False, DataType:=wdPasteMetafilePicture, _
  Placement:=wdInLine, DisplayAsIcon:=False
Selection.TypeParagraph
End Sub

```

In WORD 2000, charts in EXCEL are copied to the clipboard. The macro PASTECLIP is assigned to Ctrl+Shift+E in PSPICE.dot.

```

Option Explicit
Sub PasteClip()
' Keyboard Ctrl+Shift+E
' PasteClip Macro
' Macro recorded 5/23/01 by Electrical and Computer Engineering
  CommandBars("Clipboard").Visible = True
  Selection.Paste
End Sub

```

If you click on the clipboard command bar to empty the clipboard after the paste, you will avoid some confusion with multiple clipboard entries.