

# Change Your Environment

BY KEN SCHIFF

*Pixel pushers will rejoice about the changes to VB4's Integrated Design Environment and added Win95 features.*

Visual Basic 4.0's user interface has undergone substantial changes as a result of the new capabilities of Windows 95. Although the general top-level design of the integrated design environment has changed little, powerful new components and tools have been added to aid user interface design.

Here's a short tour around the VB4 IDE to point out and explain many of the useful new features.

The ever-so-helpful ToolTips (the yellow help boxes that pop up when you hold the cursor over a control or icon) allow you to discover the meaning of the various graphics on the buttons in both the main window's toolbar and the controls Toolbox. Additionally, generous right-mouse popup menu support lets you reach sophisticated features of VB4 more quickly than going to a menu at the top of the screen. When you explore VB4,

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travel the menus and click the right mouse button over the various parts of the application's windows and the various objects in them.

One of the more noticeable changes is the look of the Toolbox. Gone are the flat two-dimensional controls typical of older versions of Windows and Visual Basic. The three-dimensional controls that used to require the add-in control set THREED.VBX are included in the standard toolbox. Several Toolbox buttons sport pleasingly soft colors that do not violently commandeer your attention (a GUI design tip to emulate in your own programs).

ToolTips tell you the function of the button under the mouse pointer. A right mouse click on the Toolbox displays a context-sensitive popup menu whose first item is *Custom Controls...*, which calls a dialog with a multiple selection list box of all the available controls and insertable objects registered with the system. OLE Automated applications such as Word, Excel, Acrobat, Visio, or even your own app, can be added to the tool box. Multiple controls and objects can be added and deleted from the Toolbox in the same instance of the dialog—a much more convenient way than the old, multi-click add file/delete file process.

To enhance speed, use the down-arrow keys to select the control or object that you want and press the space bar to toggle the control on or off. Windows 95 and VB4 support the keyboard in nearly every dialog, so you only need to figure out the hidden keyboard shortcuts (see the sidebar, "Speedy Shortcuts," which accompanies this article for a list of selected shortcuts, and refer to the VB4 help file for more information).

## IMPROVED PROPERTIES

At first glance, the Properties window does not appear to have changed much,

but its major improvements come to light as soon as you select the first property. The awkward edit cell near the top, complete with its Excel-like Cancel and buttons, is gone. Now in-cell editing and dialog boxes make setting and changing property values much easier.

Another change that is evident with many, but not all controls, is a new property called (*Custom*). The word in parentheses indicates that a secondary window must be opened to see the property's contents. (*Custom*) is a collection of properties in a tabbed property sheet that is different from the usual long white one. Open the OCX property sheet by clicking on the button with the ellipsis, or by clicking the right mouse button on an object and choosing Properties from the context menu. Designed by the OCX vendor/developer, it may not include all of the properties available to the VB4 programmer. The OCX property sheet is available only from OCXs and not from VB4's native controls or VBXs.

The Color Palette is an enhancement to the Properties window color selector in previous versions of Visual Basic. A floating palette with the ability to keep on top, the Color Palette displays the foreground and background colors of the selected form or control and displays the foreground and background colors of any text on that form or control. The Color Palette is especially useful if you use a lot of color combinations (please don't!) in your application and you want to see what a particular color combination looks like.

The restructuring of the menus is another change in VB4's user interface. Gone are the Debug, Options, and Window menus, replaced by the Insert, Tools, and Add-Ins menus. Note that these are not just renamed menus.

In fact, a great number of the menu

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# Speedy Shortcuts



Windows 95 and VB4 support the keyboard in nearly every dialog. Here's a partial yet substantial list of shortcuts and the actions they perform. Refer to VB4 help for more information about keyboard shortcuts.

## Coax (nudge) controls

Press	To
CTRL+UP ARROW	Nudge control up.
CTRL+RIGHT ARROW	Nudge control right.
CTRL+LEFT ARROW	Nudge control left.
CTRL+DOWN ARROW	Nudge control left.

## Size controls

Press	To
SHIFT+UP ARROW	Make control taller.
SHIFT+RIGHT ARROW	Make control wider.
SHIFT+LEFT ARROW	Make control narrower.
SHIFT+DOWN ARROW	Make control shorter.

## Overall visual basic operations

Press	To
F5	Run an application.
F8	Execute code one line at a time.
SHIFT+F8	Execute statements one line at a time without stepping into procedure calls.
CTRL+BREAK	Stop running a Visual Basic application.
CTRL+G	Show the Debug window (break mode only).
SHIFT+F5	Restart an application from the beginning after an interruption.

## Global Windows-based commands

Press	To
F1	Open Help.
ALT+F6	Toggle between the last two active windows.
ALT+HYPHEN	Open the current window's Control menu.
ALT+SPACEBAR	Open the application's Control menu.
ALT or F10	Select the Control-menu box.
ALT+F4	(Visual Basic) Close the active window; if all windows are closed, close Visual Basic.

CTRL+C	Copy the selection to the Clip board.
CTRL+X	Cut the selection to the Clipboard.
CTRL+V	Paste the Clipboard selection.
CTRL+Z	Undo the last edit.

## Toolbox key commands

Press	To
ENTER	Place the selected control on the active form.
DOWN ARROW	Select the next tool down.
UP ARROW	Select the next tool up.
LEFT ARROW	Select the tool to the left.
RIGHT ARROW	Select the tool to the right.
TAB	Move down through the Toolbox.
SHIFT+TAB	Move up through the Toolbox.
END	Select the last tool in the Toolbox.
HOME	Select the pointer tool.

*Tip: Hold down Control key while selecting controls to make tool selection "stick" so that you can "draw" one control many times without reselecting it.*

## Code-window key commands

Description	Shortcut Keys
View Code window.	F7
Display Objects list box.	CTRL+F2
View Object Browser.	F2
Find.	CTRL+F
Replace.	CTRL+H
Find Next.	F3
Find Previous.	SHIFT+F3
Next procedure.	CTRL+DOWN ARROW
Previous procedure.	CTRL+UP ARROW
Go to procedure.	SHIFT+F2
Shift one screen down.	CTRL+PAGE DOWN
Shift one screen up.	CTRL+PAGE UP
Go to last position.	CTRL+SHIFT+F2
Beginning of module.	CTRL+HOME
End of module.	CTRL+END
Move one word to right.	CTRL+RIGHT ARROW
Move one word to left.	CTRL+LEFT ARROW
Move to end of line.	END
Move to beginning of line.	HOME
Insert new line.	CTRL+N
Redo.	CTRL+BACKSPACE
Undo.	CTRL+Z
Delete current line.	CTRL+Y
Delete to end of word.	CTRL+DEL
Indent.	TAB
Outdent.	SHIFT+TAB
Clear all breakpoints.	CTRL+SHIFT+F9

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items have been moved around, so familiarize yourself with the new menu structures and shortcut keys. Brush up on your shortcut key familiarity in particular, because many aspects of shortcut use are different. For example, Visual Basic 4.0 lacks a shortcut key to bring up the Toolbox, as well as a command as-

ignment for the Ctrl+N key combination. Bring to Front, formerly activated by Ctrl+, now uses the shortcut Ctrl+J and Send to Back, formerly Ctrl-, uses Ctrl+H. The Ctrl+R shortcut key now opens the Project window.

Some changes affecting user interface design are not embodied in proper-

ties of controls. Command button captions now automatically wrap. The developer must adjust the height and width of the button to accommodate the caption's text. There is no explicit property for word-wrap, so this capability cannot be disabled.

The CheckBox control mark for

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## Speedy Shortcuts (continued)



Press	To
F1	Get context-sensitive Help on functions, statements, methods, properties, or events.
F2	Display the Object Browser.
F9	Set or remove a breakpoint.
CTRL+SHIFT+F9	Clear all breakpoints.
F5	Run an application (or continue running, if in break mode).
F8	Execute code one line at a time (single step).
SHIFT+F8	Execute code one procedure at a time (procedure step).
CTRL+BREAK	Stop running a Visual Basic application.
SHIFT+F5	Restart an application from the beginning.

### Navigation Commands in Code Window

Press	To
CTRL+F2	Move the insertion point into the Object box.
SHIFT+F2	Go to the definition of the selected procedure.
CTRL+DOWN ARROW	Display the next procedure.
CTRL+UP ARROW	Display the previous procedure.
PAGE DOWN	Page down through the procedures in your code.
PAGE UP	Page up through the procedures in your code.
CTRL+SHIFT+F2	Go back to the last position in your code.
CTRL+HOME	Go to the beginning of the module.
CTRL+END	Go to the end of the module.
CTRL+RIGHT	Go one word to the right.
CTRL+LEFT	Go one word to the left.
END	Go to the end of the line.
HOME	Go to the beginning of the line.
CTRL+PAGE DOWN	Go to the bottom of the current procedure.
CTRL+PAGE UP	Go to the top of the current procedure.

Press	To
F6	Switch between Code window panes (when the window is split).

### Code Editing Key commands

Press	To
CTRL+C	Copy the selected text to the Clipboard.
CTRL+X	Cut the selected text to the Clipboard.
DEL	Delete the selected text without placing it on the Clipboard.
CTRL+V	Paste the Clipboard contents at the insertion point.
CTRL+Z	Undo the last editing action in the current line.
CTRL+N	Insert a blank line above the current line.
CTRL+Y	Cut the current line to the Clipboard.
CTRL+DEL	Delete to the end of the word.
CTRL+BACKSPACE	Delete to the beginning of the word.
F3	Find Next: repeat text search down through your code. If no text search has been done, the Find dialog box is displayed.
SHIFT+F3	Find Previous: repeat text search up through your code. If no text search has been done, the Find dialog box is displayed.
SHIFT+TAB	Remove indent.

### Menu shortcut keys

Press	To
CTRL+D	Add File.
CTRL+S	Save File.
CTRL+A	Save File As.
CTRL+P	Print.
CTRL+F	Find.
F3	Find Next.
SHIFT+F3	Find Previous.
CTRL+H	Replace.
SHIFT+F9	Instant Watch (break mode only).
CTRL+W	Edit Watch.

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“checked” or *value=true* is now a check mark in a box instead of an *x* in a box. This change was made for Windows 95 compatibility and is more in keeping with the model used in Excel editing.

Also in keeping with the design standards for Windows 95, the default font, still MS San Serif, is now regular rather

than bold.

Visual Basic echoes Windows 95’s removal of an obvious visual distinction between the drop-down list box that displayed the drop-down arrow adjacent to the text box, and the combo box that displayed a space between the drop-down arrow and the text box. The posi-

tion of the drop-down arrow is now consistent between the list box and combo box, but when the user places the mouse pointer over the control, the pointer becomes an I-beam if the control is a list box or an arrow if it is a combo box. Of course, a click inside the drop-down list box drops the list down, and a click

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*Speedy Shortcuts (continued)*



**CTRL+L** Calls Window (break mode only).  
**CTRL+G** Debug Window (break mode only).

**CTRL+UP** Previous procedure.  
**SHIFT+F2** Procedure definition.  
**RIGHT ARROW** Shift viewing of the watch expression to the right.  
**LEFT ARROW** Shift viewing of the watch expression to the left.

**Debugging key commands**

*Use these key combinations in the immediate pane of the debug window:*

Press	To
ENTER	Run a line of code.
CTRL+Z	Undo the last edit action in the current line.
CTRL+C	Copy the selected text to the Clipboard.
CTRL+V	Paste the Clipboard contents at the insertion point.
CTRL+X	Cut the selected text to the Clipboard.
CTRL+L	Display Calls dialog box (break mode only).
F5	Continue running an application.
SHIFT+F5	Restart an application.
F8	Execute code one line at a time (single step).
SHIFT+F8	Execute code one procedure at a time (procedure step).
DEL	Delete the selected text without placing it on the Clipboard.
F2	Display the Object Browser.
CTRL+ENTER	Insert carriage return.
F6	Switch between the Immediate pane and the Watch pane (if visible) in the Debug window.

*Use these key combinations in the Watch pane of the debug window:*

Press	To
ENTER	Display Edit Watch dialog box for selected watch expression.
F2	Display the Object Browser.
F6	Switch between the Watch pane and the Immediate pane in the Debug window.
CTRL+DOWN	Next procedure.

*Use these key combinations in the Form window:*

Press	To
SHIFT+CTRL+alpha	Select a property in the Property list of the Properties window.
alpha	Enter a value in the Properties window for the selected property.
F7	Open the Code window for the selected object.
CTRL+C	Copy the selected controls to the Clipboard.
CTRL+X	Cut the selected controls to the Clipboard.
DEL	Delete the selected controls without placing them on the Clipboard.
CTRL+V	Paste the Clipboard contents on the form.
CTRL+Z	Undo a deletion of controls.
TAB	Cycle forward through controls in tab order.
SHIFT+TAB	Cycle backward through controls in tab order.
CTRL+CLICK	Add or remove a control from the selection.
CLICK+Drag	Select multiple controls.
CTRL+CLICK+DRAG	Add or remove controls from the current selection.
CTRL+E	Display the Menu Editor (design time only).
F4	Display the Properties window (design time only).
CTRL+J	Bring to front (affects overlapping controls at design time only).
CTRL+K	Send to back (affects overlapping controls at design time only).

To deselect all controls, click the form. To select controls in a container, first deselect the container and then CTRL+CLICK+DRAG around the desired controls.

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## *Speedy Shortcuts (cont.)*



### Menu Editor key commands

*Use these key combinations in the Menu Editor:*

Press	To
TAB	Cycle forward through the boxes and buttons.
SHIFT+TAB	Cycle backward through the boxes and buttons.
ENTER	Cycle forward through menu items.
ALT+R a	Move an item to a lower level in a hierarchical menu.
ALT+L	Move an item to a higher level in a hierarchical menu.
ALT+U	Move an item one line up.
ALT+B	Move an item one line down.

*Use these key combinations when the Shortcut list box has the focus in the Menu Editor:*

Press	To
F4	Open or close the list.
ALT+DOWN ARROW	Open or close the list.
ALT+UP ARROW	Open or close the list.
END	Move to the last item in the list.
HOME	Move to the first item in the list.

### Project Window key commands

*Use these key combinations in the Project window*

Press	To
ENTER	Open the selected file from the list.
SHIFT+ENTER	Open the Code window for the selected file.
F7	Open the Code window for the selected file.
HOME	Select the first file in the list.
END	Select the last file in the list.
TAB	Cycle between the list, the View Form, and the View Code buttons.

### Property Window key commands

*Use these key combinations when the Property list has the focus in the Properties window:*

Press	To
SHIFT+TAB	Switch focus to the Object box.

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inside the drop-down combo box selects the text. The functionality of these controls has not changed.

**NEW LAYOUT FEATURES**

Layout of the form is a critical step in user interface design. Using the mouse to move or resize a control in small, fine-tuning increments frustrates many programmers. Visual Basic 4.0 offers two enhancements: the ability to use arrow keys to position and size controls, and the Lock Controls command.

Coaxing—Microsoft calls it “nudging”—can change the size and position of a control in increments of one column

or row of the Form Design Grid. The grid is defined by the distance (in TWIPS) between columns and rows. The lower the number in the grid settings, the finer the grid.

Although the ability to coax controls stands on its own as a significant improvement, its usefulness is significantly enhanced by the Lock Controls command on the Edit menu. The Lock Controls command disables the dragging capabilities of the mouse.

Although you can still select a control with Lock Controls engaged, it effectively locks the control in place. You cannot drag either the resizing handles or the

control itself. The control handles of objects on a locked form look hollow instead of solid. You can still move and resize the controls on a locked form by changing the appropriate settings in the Properties Window, or by using the arrow keys. The Lock Controls command works on a form level. It allows you to apply it to a form you have completed and still permits you to use the mouse to manipulate controls on a different form.

While many of these features aren't as technically cool as classes or OLE DLLs, you might find that you use them frequently—more frequently than you build OLE DLLs. ☒

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*Speedy Shortcuts (continued)*



**Property Window key commands (continued)**

PAGE DOWN	Move down through the Property list.
PAGE UP	Move up through the Property list.
DOWN ARROW	Move down through each property.
UP ARROW	Move up through each property.
RIGHT ARROW	Move down through each property.
LEFT ARROW	Move up through each property.
END	Move to the last property in the list.
HOME	Move to the first property in the list.
ALT+F6	Switch from the Properties window to the form.
alpha	Enter setting for the selected property.
TAB	Move the insertion point to the property's settings box.
CTRL+SHIFT+alpha	Move to the next property in the list that begins with the alpha character.
Double-Click	Cycle through settings of enumerated properties or to switch focus to the settings box for other property types.

*Use these key combinations when the settings box for a property has the focus in the Properties window:*

Press	To
CTRL+Z	Undo the last editing action in the current line.
CTRL+C	Copy the selected text to the Clipboard.
CTRL+X	Cut the selected text to the Clipboard.
DEL	Delete the selected text without placing it on the Clipboard.

Press	To
CTRL+V	Paste the Clipboard contents at the insertion point.
ENTER	Move the insertion point into the Property list and commit the property change.
SHIFT+TAB	Switch focus to the Object box.
TAB	Move the focus to the Property list.
ESC	Cancel the property change.

*Use these key combinations when a property has enumerated values and its settings box has the focus in the Properties window:*

Press	To
F4	Open or close the settings box list.
ALT+DOWN ARROW	Open or close the settings box list.
ALT+UP ARROW	Open or close the settings box list.

*Use these key combinations when you set the BackColor, ForeColor, FillColor, or BorderColor properties, and the settings box has the focus in the Properties window:*

Press	To
ALT+DOWN ARROW	Display the Color palette.
ALT+UP ARROW	Display the Color palette.
DEL	Reset to (None).

*Use these key combinations when you set the Icon or Picture properties, and the settings box has the focus in the Properties window:*

Press	To
ALT+DOWN ARROW	Display the Load Icon or Load Picture dialog box.
ALT+UP ARROW	Display the Load Icon or Load Picture dialog box.
DEL	Reset to (None).