

Appendix A

Quick Reference

When you start up EquationBuilder for the first time, you will see three windows: the equation window, with a flashing cursor, the Element Creator palette, and the Equation Inspector.

Equation Window

Window_1.tiff ↗

There are three controls in the lower right-hand corner of the window that need to be explained:

- **Keyword Input**

The keyword text field is used to input TeX equivalents directly from the keyboard. If

you are familiar with TeX, using equivalents can help you build equations more efficiently. (See Appendix B for an explanation of what TeX equivalents are and also Appendix C for an exhaustive list of supported equivalents).

To use a TeX equivalent, you type either Esc or \backslash to activate the keyword text field. When you activate the text field, the insertion point will automatically move to the field for you to continue typing in the keyword equivalent. When you are done typing the TeX equivalent, press return. Pressing return signifies that you are done typing, and EqB will then interpret the text and insert the corresponding equivalent into your equation.

Note that if you make a mistake and type an equivalent that EquationBuilder does not recognize, the text you have entered will simply be inserted as a literal string. You will need to delete the string and re-activate the keyword text field to try again.

Because of this feature, you can also use the keyword text field to type in the literal string for any mathematical function, such as \max or \lim .

- **Zoom Controls**

This pop-up list allows you to pick a particular zoom level at which to view your equation. You can set the default zoom for new windows using the Preferences panel (see Chapter 11).

- **Composition Toggle**

This button toggles the equation between composition mode (where all elements are spread out and surrounded by a box) and regular mode (WYSIWYG). If you are having trouble selecting particular elements or positioning the cursor, we recommend that you work in composition mode. Equivalently, **Command-C** can be used to toggle between

composition mode and regular mode.

Palettes

A variety of palettes are available to aid you in building equations. (See Chapter 15 for a more complete description.)

- **Greek Symbols**

Uppercase and lowercase greek symbols.

- **Misc. Symbols**

Other symbols common in mathematical expressions.

- **Binary Operators & Relations**

Standard symbols for binary operations like +, -, etc., and standard symbolic relations such as =, <, and >. (All Relations can be negated via the Relation Inspector. See Chapter 17.)

- **Accents, Braces, & Bars**

A variety of accents, as well as over/underlines and over/underbraces.

- **Operators & Calculus**

Large operators such as integrals and summations, as well as some common calculus operations, are placed here for convenience. (The size of an operator and the position of its limits can be set via the Operator Inspector. See Chapter 17.)

- **Multilines & Matrices**

Allows creation of Multiline and Matrix elements. (The number of lines in a Multiline and the number of rows and columns in a Matrix can both be set via their Attributes inspectors. See Chapter 17.)

- **Functions**

Standard mathematical functions. (The text of a Function is customizable via the String Inspector.) Note that you can also use the keyword text field to enter mathematical functions from the keyboard.

Inspectors

For those who wish to get going right away, the most important thing to realize about EquationBuilder is that most of its functionality is hidden in its various levels of inspectors. EquationBuilder's inspectors are quite powerful and they are indispensable for typesetting many complex equations. (See Chapters 16±17 for more complete descriptions of the various inspectors.)

EquationBuilder uses three levels of inspectors:

Equation Inspector (1)

The Equation Inspector is used to set parameters that affect an equation as a whole. Such options as setting the default fonts and font sizes for a particular equation are found here.

EquationInspector.tiff ↵

- **Default Font Types**

Allows the selection of the font families that used as the default Italic, Roman, and Bold fonts for the inspected equation. The font that is currently being used for the selected default font type is shown in the large preview field below the pop-up list (*Times-Italic* above).

In order to change one of the default fonts for the inspected equation, select the default font type via the pop-up list (Italic above) and press Change.... The inspector will then switch to show you a list of the fonts available on your system and allow you to set a new font for the particular default font you are changing.

- **Equation Size**

Sets whether the equation is a Display equation (somewhat larger, meant to stand alone), or an In-line equation (somewhat more compact, for use in a line of regular text).

- **Default Style**

The Italicize Aa..Zz button sets the default font style for all ordinary alphabetic symbols in the current equation.

- **Default Font Sizes**

Allows you to change the default font sizes for Large, Medium, and Small elements in the equation.

- **Fine Positioning**

This field sets the distance that the element will move on each step when using the fine positioning controls on the Element Inspector.

Element Inspector (2)

The Element Inspector, EqB's second level of inspectors, allows you to change parameters that are common to all elements in general.

ElementInspector.tiff →

- **Element Font Type**

Sets the font type for the selected element or group of elements to be Default, Roman, Italic, Bold, or Custom. The font for the current selection is shown in the large preview field below the pop-up list. If Custom is selected, the inspector will switch to show you a browser of available font families and typefaces from which you can set a Custom font.

- **Fine Positioning**

Allows manual fine positioning of selected element or group of elements. Center button returns the selection to its default position.

- **Element Font Size**

Allows you to select whether the default or a custom font size should be used for the selected element or group of elements.

ElementInspector.Matrix_2.tiff ↗

- **Matrix Element Alignment** (when appropriate)

When the selected element is part of a Matrix, additional controls will appear at the bottom of the Element Inspector that allow you to set the alignment of the selected element to be either left justified, right justified, or centered in the column of the Matrix. (Alignment is centered by default.)

ElementInspector.Multiline.tiff ↵

- **Multiline Element Alignment** (when appropriate)

When the selected element or group of elements forms part of a Multiline, a switch appears at the bottom of the Element Inspector, allowing you to set the vertical alignment for the Multiline on the selection.

For example, if you wanted to align the different lines of a Multiline element to an $a=b$ in a particular line, you would select the $a=b$ in that line and then check the Align Vertically on Selection switch in the Element Inspector. (See Chapter 8 for an example of how to use Multiline elements.)

Attributes Inspector (3)

EquationBuilder's third, and most specific, level of inspectors is the Attributes Inspector. The Attributes inspector changes to reflect the options available for the particular element type of the selection. For example, when a Delimiter element is selected, the Delimiter Inspector becomes visible.

(Each of the various element specific Attribute inspectors are detailed in Chapter 17.)

