

MathMagic™ User Guide



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www.mathmagic.com

n'PINE, Inc. & InfoLogic, Inc.



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MathMagic User Guide

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1. MathMagic Guide

Thank you for purchasing MathMagic.

MathMagic is an XTension software for editing professional mathematical expressions within QuarkXPress.

MathMagic provides you with powerful, intuitive and easy-to-use user interface. You can easily create any combinations of mathematical expressions for various usages such as mathematical textbooks, physics, electronics, or accountings.

Without MathMagic, you had to create equations in external editors and then import them to QuarkXPress, which required multi-steps even for a small modification. You had to spend more time and had a pain for modification of the equations with previous ways.

Since MathMagic is an XTension, providing easy and simple-steps for your work, you can create, correct and modify any equations right within the QuarkXPress windows. Especially, when you need to publish materials or books for mathematics that require repetitive works, you can get great productivity with MathMagic.

Please enjoy powerful and easy-to-use features of MathMagic and its quality fonts for your publishing needs.



1.1 Key Features of MathMagic

Easy-to-use User Interface

MathMagic helps you to create and edit complex mathematical equations via point-and-click user interface. Users can easily create any mathematical equations using intuitive Equation Palettes of MathMagic.

Intelligent WYSIWYG editor

The MathMagic Editor based on WYSIWYG interface, offers several additional features for easy editing of equations. MathMagic automatically completes field creations, arrangements and type size controls for you expressions, so you don't need to consider each size, locations and intervals of the expressions.

Capability to build every imaginable kind of equations

MathMagic can create all kinds of currently existing mathematical expressions ranging from elementary school to graduate school.

Additional fonts for high quality output

MathMagic offers specially designed TrueType symbol fonts for high quality editing on screen. Also it comes with high-resolution PostScript fonts for the professional desktop publishing. InfoLogic keeps working on designing new equation symbol font sets that will be offered to our registered customers continuously.

If you need more details on the PostScript fonts, please contact our sales team.

Email: sales@mathmagic.com
TEL: +82-2-3676-4883
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Save As EPS Format

MathMagic can save your work as EPS format, giving you chances to be used with other graphic, presentation or DTP applications.

Save As PICT Format

MathMagic can also save your work as PICT format, so you can use it with other Macintosh applications such as wordprocessors or graphic applications.

TeX Support

MathMagic supports TeX - the professional scientific publishing format, so you can publish high-class scientific articles, books, journals and coursewares more easily. MathMagic can easily convert between equations and TeX, offering convenient additional features for editing.

Color Trapping

MathMagic supports color trapping, which will allow you to work with high-end color printing job.

Customizable User Palette

MathMagic provides a useful feature that lets you create your own palette. With this feature, you can set up your own custom palette containing frequently used expressions and symbols to save time with your repeated works.

Multilingual Environment

MathMagic fully supports 2-byte language environments. It can be used with Korean, Japanese and Chinese versions of QuarkXPress as well as English version, giving you complete multilingual publishing environments in equation editing. Each locale version is available separately from MathMagic web site.

Macro Support

MathMagic lets you create macros for commonly used expressions. You can easily choose any macro in the MathMagic Macro palette.

Compatibility with QuarkXPress v4.x & v3.3

MathMagic is fully compatible with QuarkXPress v4.x as well as v3.3.

Free MathMagic Viewer XTension with TrueType fonts

MathMagic Viewer is to display and print documents which have equations created with MathMagic XTension. It is provided freely for you to send with your documents to any service bureau or other people who do not have MathMagic XTension.

Hotkey Support for User palette and Macro palette.

MathMagic lets you define hotkeys for user palette items and macros.

1.2 The contents of MathMagic package

MathMagic XTension is provided by ESD(Electronic Software Distribution), which is “Online” downloadable installer CD image without physical package.

MathMagic installer CD image contains

- MathMagic XTension Installer
- MathMagic Viewer Installer
- User Manual in PDF format
- MathMagic fonts sampler in PDF format
- MathMagic Fonts Installer - TrueType and PostScript fonts

MathMagic Fonts can also be installed by either MathMagic XTension installer or MathMagic Viewer installer.

Contents are subject to vary without notice.

1.3 System Requirements

PowerMacintosh or Compatibles.

Mac OS 8.1 or higher is recommended.

(may work with Mac OS 7.1.2 or above.)

QuarkXPress 3.3 or 4.x. (QuarkXPress 5.0 is not supported yet)

3MB of available memory

10MB of available disk space

Internet connection to download MathMagic installer

(downloadable from any computer around the office, and transfer the installer to the target Macintosh)

Notes

This product runs on Mac OS 7.1.2 or above. If you are using earlier versions of Mac OS, you should upgrade to the latest system software before you install MathMagic. Mac OS 8.1 or higher is recommended. This is an XTension software that runs within QuarkXPress, requiring QuarkXPress software to run. You cannot run this software alone.



1.4 Notes before Installation

Please read this user guide carefully before you install. If the software is not installed properly, you may not use it.

If you encounter any problem, please contact our customer support team.

The authority to use MathMagic can be obtained via **Online** or **Key Diskette**. If you received the **SERIAL NUMBER** and **CUSTOMER NUMBER** by email or fax, please save them carefully for use in the future and for customer support. You should not format the key diskette if you have a key diskette. This diskette has been created using special method. When you format or copy it, you can't use it anymore. Please use the key diskette only when you install/remove the authority for MathMagic. Also, be sure to keep the key diskette safely. You may not install MathMagic with corrupted key diskette. Contact our support team when you encounter those situations. You can only repair/exchange it when it was not corrupted by user's intent or by hacking.

1.5 Customer Registration

Please, fill out Customer Registration card or web page and send it to us. When you are registered, you will be offered various advantages such as product support and latest product news. Also, You can take benefits from our additional services such as notification and discount for new products, and invitation to our events.

You can register via online or fax.

Fax : +82-2-3676-4882

Web: <http://www.mathmagic.com/register/>



2. Installation

This chapter describes how to install MathMagic and how to authorize your computer to use MathMagic.

Please read this chapter carefully and follow the descriptions. And be sure to check this chapter if you want to re-install MathMagic on other Macintosh.

MathMagic package includes MathMagic XTension, MathMagic Viewer and MathMagic Fonts.

MathMagic is a Quark XTension for editing equations. MathMagic Viewer also is a XTension software which only displays and prints QuarkXPress documents containing equations created using MathMagic. MathMagic Fonts are TrueType fonts used by MathMagic or MathMagic Viewer. In case you don't need to edit equations, you can just install MathMagic Viewer and MathMagic Fonts to display and print. For high resolution printing on PostScript devices including typesetters, you may want to install or download MathMagic PostScript fonts additionally. PS fonts can also be installed by MathMagic Installer in Custom Install mode.

Notes

You should not use both MathMagic and MathMagic Viewer at the same time on the same QuarkXPress folder. You should install only one of them.

2.1 Installing MathMagic

To install MathMagic on your Macintosh, please follow this:

1. Download the latest MathMagic Installer or MathMagic Installer CD Image from MathMagic web site.

When you buy the product, the vendor or InfoLogic should give you the right URL for downloading.

Or, if you just want to try install a demo version, you can find the latest demo version from MathMagic download web site at

www.mathmagic.com/download/



MathMagic Demo Installer



MathMagic XTension Installer

2. Decide which computer and which hard disk you want to install.

MathMagic XTension is copy protected.

It can be installed once on a certain computer on its hard disk. If you installed the demo version, it runs 15 times from the first installation. (This limitation may vary without prior notice. Please refer to the Readme file that comes with the installer for the details).

Once the demo is expired or you want to run the full version, you need to authorize your copy of MathMagic with a **Registration code** that was issued by InfoLogic, Inc.

For the authorization process, please read the following pages.

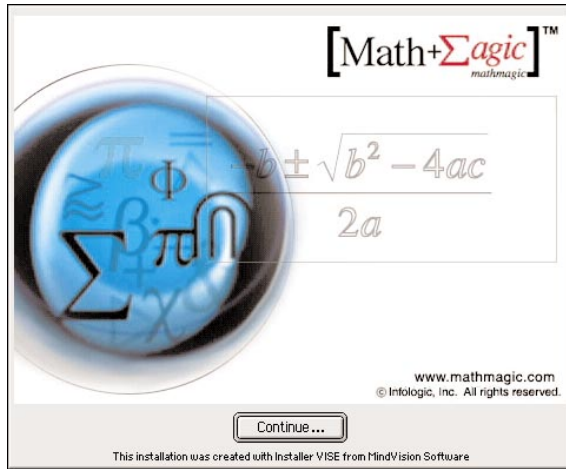
Notes

If you are using older version of MathMagic prior to 2.1, it may have a different authorization process than this and you may need to refer to the old manual that came with your copy of XTension.

To authorize your hard disk, do this:

1. Launch the installer.

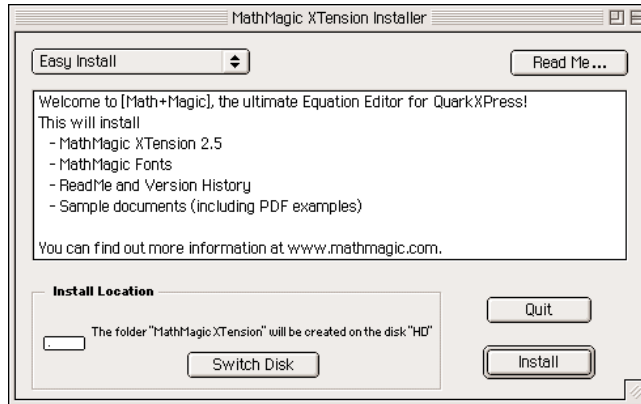
The following splash window appears.



And then, End user license agreement and ReadMe will also follow.. Please read carefully these contents before you proceed.

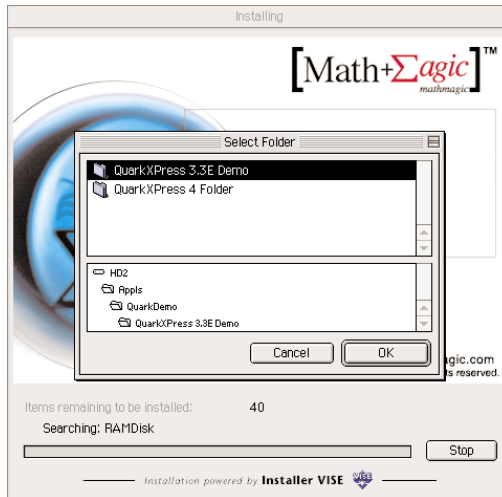
2. Choose the target disk and click Install button.

You can use Easy Install in general. But if you need to install any specific items, you can use Custom Install mode..

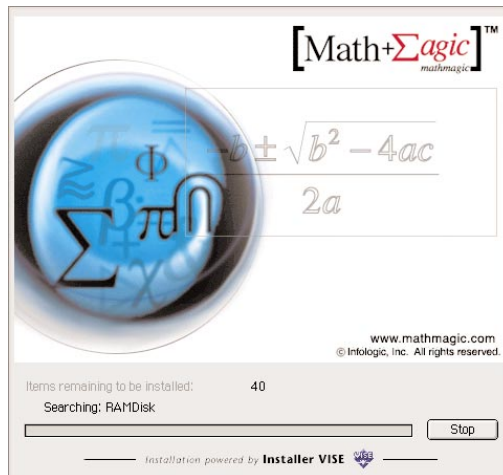


3. Choose a destination QuarkXPress folder if you have more than one copy.

If you have more than one copy of QuarkXPress in your hard disk, the installer you ask you to choose the right destination to install MathMagic XTension.

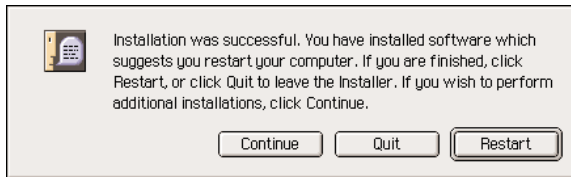


If you choose one or there is only one copy of QuarkXPress application, the installer will start installation as follows.

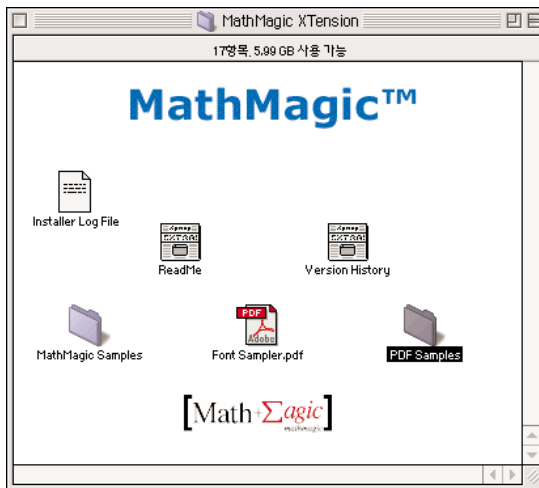


4. Restart your Macintosh after the installation.

After the installation, you will be asked to Restart the computer so that the installed fonts and other information work fine.

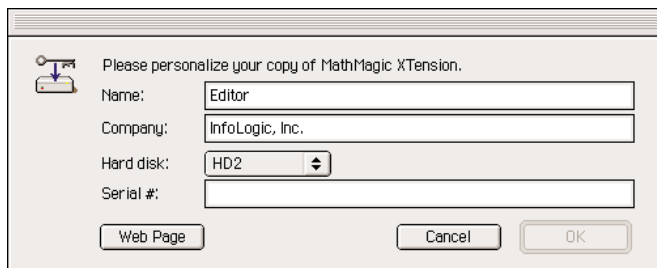


After Restart, you will see the following window on the desktop, which shows you what you just installed. The MathMagic XTension **will not be in this folder** because it has been installed in the QuarkXPress folder or its XTension folder properly. Also, please read those installed documents carefully before you use MathMagic.



5. Launch QuarkXPress. to authorize your copy of MathMagic.

Please find the QuarkXPress application and launch it so that you can activate your copy of MathMagic. If your computer does not have the authorization already, MathMagic XTension will alert you to enter the right **Serial Number**, which is a **registration code**. Please note that this is different from your Customer No.



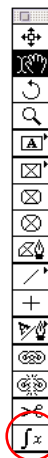
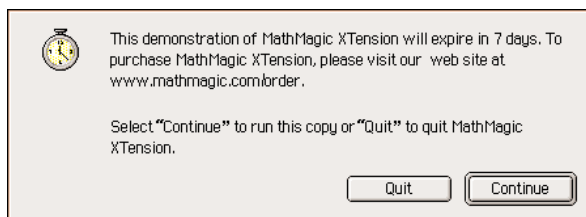
If you did not receive the correct Serial #, please contact MathMagic Customer Support Team with your Customer Number right away so that you can get your own Serial number.

Email: support@mathmagic.com
 Fax: +82-2-3676-4882

Once you receive the serial #, launch QuarkXPress again and enter it.

6. Install MathMagic Demo version if you need to use it right away.

If you do not want to wait until you get the Serial #, you may reinstall MathMagic Demo version. You can use the demo version without authorization for a limited period.



7. Use MathMagic XTension now.

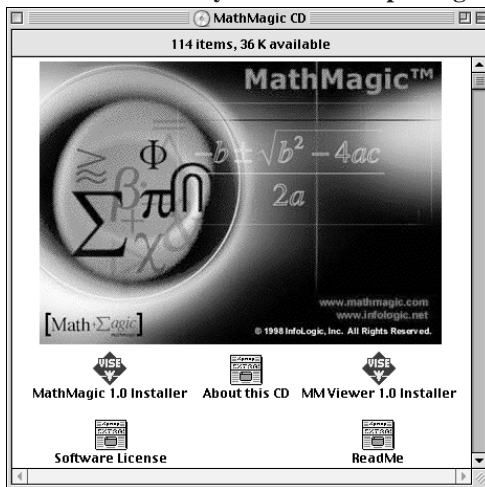
Once you successfully installed MathMagic XTension or its demo version, you can see the following menu or toolbar button.



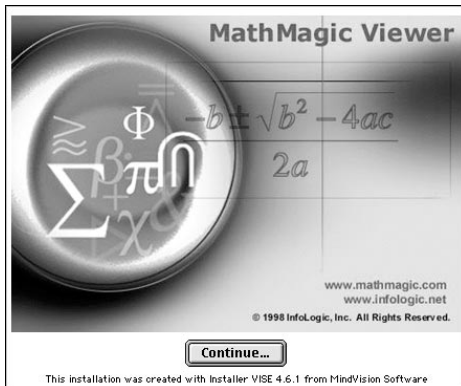
2.2 Installing MathMagic Viewer

To install MathMagic Viewer on your hard disk, do this:

1. Download the MathMagic Viewer Installer. Or insert MathMagic CD in your CD-ROM drive if you have a CD package.



2. Double-click MathMagic Viewer Installer icon.
The MathMagic Viewer splash window appears.



3. Click Continue.

Then the main installer window appears.



4. Click Install to begin installation.

Restart your Macintosh when the installation is completed.

And move the MathMagic Viewer icon into XTension folder of your QuarkXPress folder.

Notes

You can use MathMagic Viewer and MathMagic Fonts without any authorization on any computers including printer service bureau's Mac. You can freely download and install MathMagic Viewer when you want to view or print a document that contains MathMagic equations. But you are not allowed to bundle any of them to your product or modify them without any written permission from InfoLogic, Inc.

2.3 Installing MathMagic Fonts

All necessary MathMagic fonts for equation editing will be installed when you install MathMagic XTension.

TrueType format fonts will be installed by default.

But in some cases, you may want to install MathMagic fonts additionally.

- when you want to print on a Postscript printer or typesetter, you may want to install MathMagic PostScript fonts.
- when you want use other optional mathematical fonts that are provided by linfoLogic
- when your MathMagic fonts are corrupted for some reasons like virus or system crash.

In this case, you can install MathMagic fonts by using **MathMagic Fonts Installer**, which is available separately from MathMagic web site for downloading.

You may also install MathMagic fonts by using any of MathMagic XTension Installer, MathMagic Demo Installer, or MathMagic Viewer Installer.

You can find more fonts selections in the **C**ustom Install**O**mode of the installer.

After you install MathMagic fonts again, you may need to restart your computer before you use MathMagic XTension or MathMagic fonts.

2.4 How to upgrade to the latest version

Once you become a MathMagic user, you will be served with updated versions of MathMagic continuously either by free update/upgrade or by commercial upgrade.

If you are a registered user of any previous version of MathMagic XTension, you will be informed via email whenever a newer version is release. The information will include the details on how to upgrade and the pricing if it is a commercial upgrade.

The update or upgrade version will also automatically recognize your previous authorization in the system so that you do not need to reauthorize. But when we need to improve the authorization process, we may ask you to get the authorization again with your Customer Number.

1. Free upgrade.

All the minor updates will be offered free of charge. Sometimes major upgrades might be offered freely to serve our registered customers as much as possible.

2. Commercial upgrade.

When we have a major upgrade version with reasonable amount of improved features, it might be released as a commercial upgrade.

In general, if you recently purchased a MathMagic package, you will be offered a free upgrade even though it is commercial.

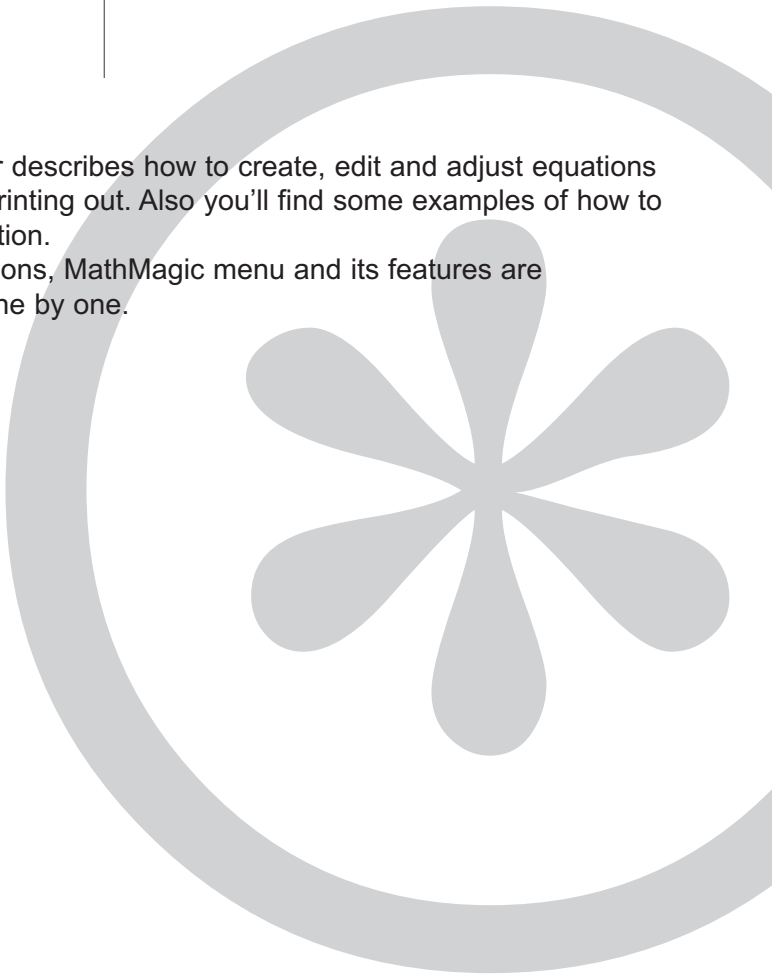
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3. Using MathMagic

This chapter describes how to create, edit and adjust equations as well as printing out. Also you'll find some examples of how to create equation.

In later sections, MathMagic menu and its features are navigated one by one.



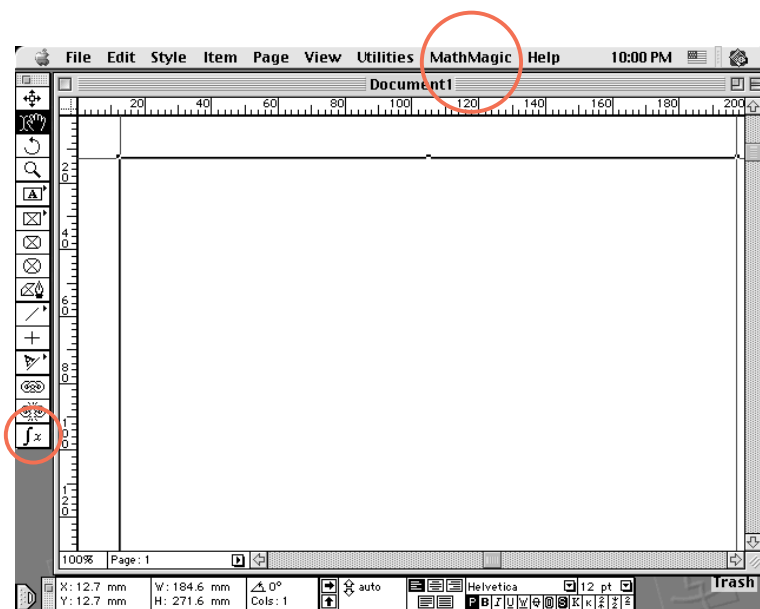
3.1 Overview

MathMagic XTension handles equations in two ways.

Using Equation Box : Create or edit equation in a similar way as text box or picture box.

Using Baselined Equation : Based on baseline, equations can be inserted smoothly into any text just like an anchor box.

When you run QuarkXPress with MathMagic installed, you can see equation tool icon at the end of tool bar as well as MathMagic menu in Menu bar.

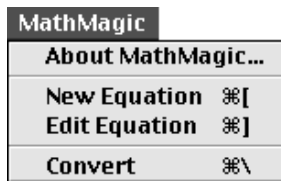


Equation Tool icon

You can create an equation box and open equation editor window by clicking **Equation Tool** icon in the tool bar.



MathMagic menu



About MathMagic... - displays version and credit info.

New Equation - opens MathMagic editor window to create equations at the cursor position in the text box of the document.

Edit Equation - opens MathMagic editor window to edit selected equation

Convert to Equation - converts selected TeX codes into equation box. See 3.4 TeX for more details.

3.2 Create/Edit Equation

Users can create or edit equations in MathMagic Editor window. Symbols in the Equation window are reorganized to be accessible more easily. MathMagic Editor offers easy-to-use interface for accurate adjustment of equation components.

Creating Equation box

To make an equation box, click Equation Tool icon in Tool Bar and drag an area for equations. After the equation box is created, the MathMagic Editor window appears immediately. Refer to **3.3 Using MathMagic Editor** to learn how to build the equations with MathMagic Editor.

Creating Baselined Equation

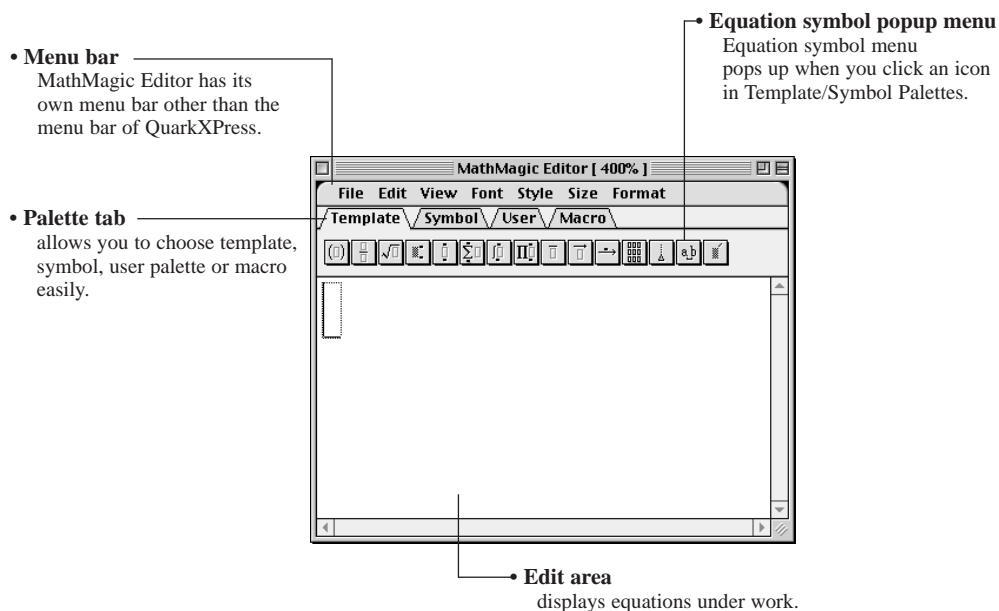
Select **Create Equation** in MathMagic menu or press Command-[key on keyboard. Then you will see MathMagic Editor window immediately. Refer to **3.3 Using MathMagic Editor** to learn how to write equations with MathMagic Editor.

Editing Equation

To edit equation in the MathMagic Editor window:
double-click on the equation area or select it and press Command-] key.

3.3 Using MathMagic Editor

MathMagic Editor is the core part of MathMagic, in which equation is handled. MathMagic Editor window includes its own menu bar, menu, equation symbol palette, palette tab, equation symbol popup menu and edit area.



• Palettes

Template - containing various templates of mathematical equations.

Symbol - containing various symbols including operators and greeks.

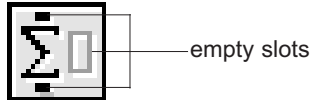
User - customizable palette for commonly used templates or symbols. Users can add frequently used templates and symbols for easy access.

Macro - provides shortcut to commonly used expressions. You can easily create frequently used equations with macros.

Templates

Templates are a series of collections of mathematical symbols and empty slots such as $\sqrt{\quad}$, $\int \square dx$, $\int \square dx$. By simply selecting templates and entering appropriate characters in each slot, you build equations.

You can create expressions by filling symbols or characters into the space given by the mathematical symbols. Below is an example of summation template.

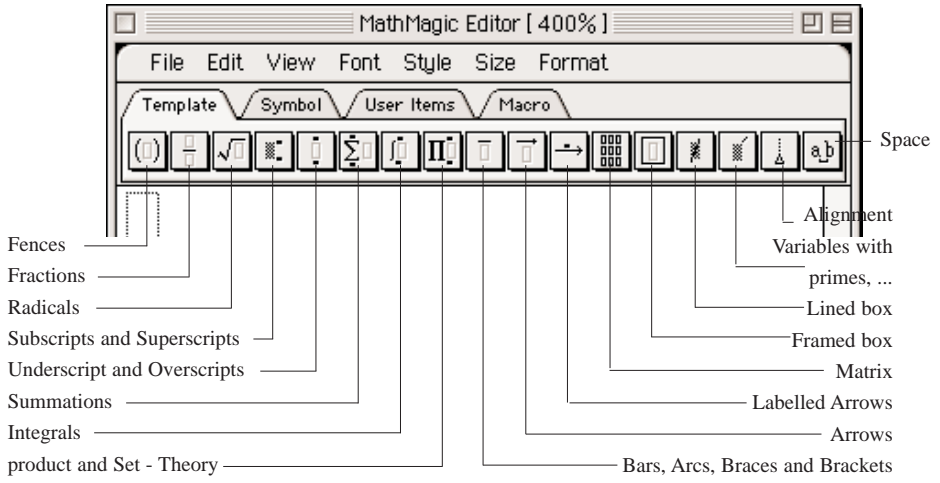


Inserting Templates

To insert a template:

1. Open MathMagic Editor and move your cursor to any insertion point.
2. Choose corresponding icon from the Template palette.
3. Select the empty slot and insert characters, symbols or templates. You can also move the cursor into the slots of other templates by pressing Tab, shift-Tab or arrow keys.

Here are all template popup menus and you will learn them one by one.



Fences



These templates provide you with various ways of enclosing expressions between matching pair of symbol, which are called fences or delimiters in typesetting jargon.



Though you can type (), { } or [] on your keyboard, these can be adjusted along with their size. The differences between equations created using fence templates and one using bracket characters on keyboard are as follows.

$\left[\frac{3}{x^2 - 1} \right]$: This was written via keyboard
$\left[\frac{3}{x^2 - 1} \right]$: This was written using Fence template

Fractions



This palette provides templates for creating fraction layouts including diagonal fraction, slash fraction as well as vertical fraction.

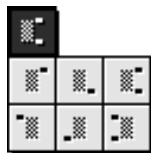
 icon and  icon are used for creating full-size fraction and reduced-size fraction respectively. In a reduced-size fraction the numerator and denominator are normally in subscript size and are placed closer to the fraction bar. You can customize the spacing for fractions from **Define Spacing** command in the Format menu. Refer to page 50 to learn the Define Spacing options.

Radicals



This palette provides templates for creating radicals and long division layouts. The amount of space between radicals and their contents can be controlled using **Define Spacing** command in the Format menu. You can also align a series of radicals using **Root Alignment** command in the Format menu. This command is activated when a radical sign has been created. See page 49 to see more about this command.

Subscripts and Superscripts



This palette provides templates for creating subscripts and superscripts. Note that these templates don't create slots for the expression to which the subscript or superscript is being attached.

Underscript and Overscripts



This palette provides templates for creating subscripts and superscripts. Note that these templates do create slot to which the subscript or superscript is being attached.

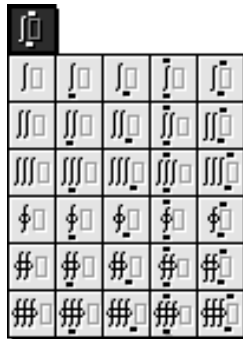
Summations



You can create various types of sums with these templates. You can also create repeated sums by repeated usage of single summation template.

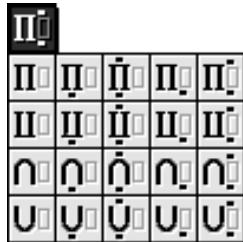
$$\sum_i \sum_j \sum_k a_{ij} b_{jk} c_{ki} , \sum_{\substack{1 \leq r \leq m \\ 1 \leq s \leq n}} a_{rs}$$

Integrals



There are thirty integral templates in all, including single integrals, line integrals, double integrals and triple integrals, all with various combinations of integrals.

Products and Set - Theory



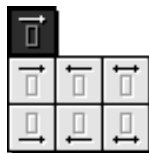
These templates are used to create products, coproducts, and set-theoretic intersections and unions.

Bars, Arcs, Braces and Brackets



These templates are used to create expressions that have bars, arcs, braces or brackets either under them or over them.

Arrows



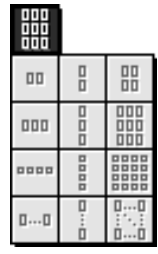
These templates are used for creating expressions that have arrows either under them or over them.

Labelled Arrows

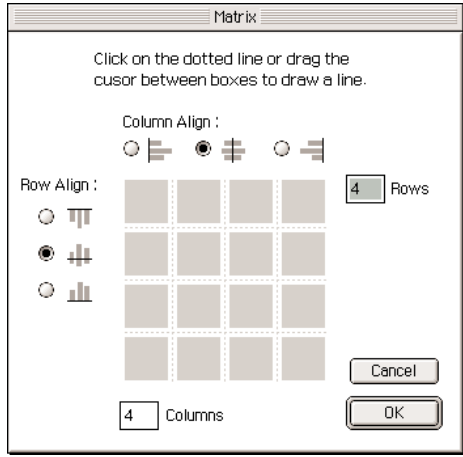


These templates can be used to describe convergence to a limit or some property of a function.

Matrix



You can build column vectors, determinants, matrices and other tabular layouts using these matrix templates. The bottom-end templates represent variable-size matrix or tables, that bring up a dialog box for matrix configuration. The dialog box allows you to specify the number of rows and columns in your matrix, and how they are aligned. See below.



Matrix setting dialog also lets you specify lines between rows or columns. You can just click the mouse and drag where you want to set lines.

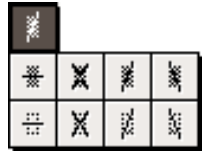
The spacing of entries in a row and the spacing between rows can be controlled using the **Define Spacing** command on Format menu. See page 50 to learn more about the **Define Spacing** options.

Framed Box



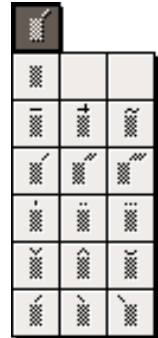
You can frame a box in a few different styles including fully framed square. The thickness of the frame and the gap between frame and slots can be adjusted in the **Define Spacing** dialog. You can also create an empty frame box by typing in space characters.

Lined Box




When you need to put a horizontal line, X line, slash, back slash on a character or on a whole box, you can use these templates. The upper line is for a character and the lower line is for a box.

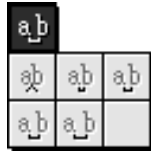
Variables with Primes, Hats and Bars



Mathematical variables often have primes, hats, bars, and dots attached to them. These are known as diacriticals or accents. These templates will be attached to the character to the left of the insertion point. It is possible to attach them several times. The order in which these templates are applied may affect their positioning.

Selecting  icon will remove all the applied templates from the character.



Spaces



This palette contains spacing templates that don't have any slots. Each template adds one-point space, thin space (one sixth of an em), thick space (one third of an em) and Em space (quad).

Alignment



 and  templates are used to align a set of equations easily. See below to learn what these templates can do in your expressions.

You can align these two equations by adding **Alignment** template before each equality.

$\sqrt{x^2 - 1} = y$ $x^3 + 3x^2 - 5x = \sqrt{y^2 - 1}$

See another example for the latter template.

$$y = \sqrt{x^2 - 1}$$

$$\sqrt{y^2 - 1} = x^3 + 3x^2 - 5x$$

You can align these two equations by adding $\left[\begin{smallmatrix} a & b \end{smallmatrix} \right]$ template before each equal sign.

$$y \quad \quad = \sqrt{x^2 - 1}$$

$$\sqrt{y^2 - 1} = x^3 + 3x^2 - 5x$$

And then, add $\left[\begin{smallmatrix} a & b \end{smallmatrix} \right]$ template before \ominus of the first equation.

$$y = \sqrt{x^2 - 1}$$

$$\sqrt{y^2 - 1} = x^3 + 3x^2 - 5x$$

MathMagic automatically determines the necessary spacing value before \ominus .
The last equations clearly look better.

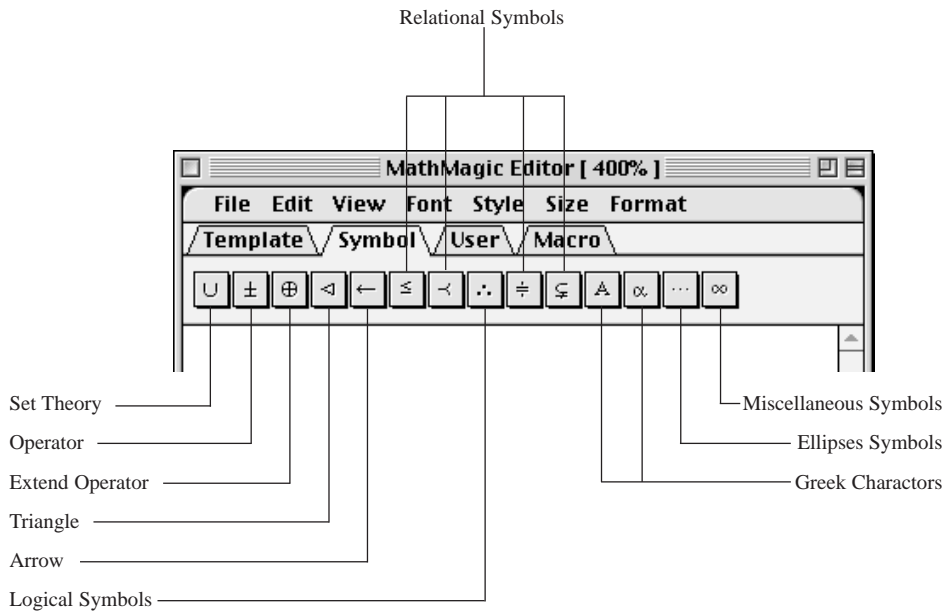
$$\sqrt{x^2 - 1} \quad \quad = y$$

$$x^3 + 3x^2 - 5x = \sqrt{y^2 - 1}$$

Symbols

Choosing a symbol icon will insert that symbol into your equations in the same way that pressing a key will insert a character.

Here are all the symbols that MathMagic supports brief reviews of the each symbols follows.



Set Theory

\cup			
\cup	\cap	\subset	\supset
\sqsubset	\sqsupset	\sqcap	\sqcup
\subseteq	\supseteq	\subseteqq	\supseteqq
\in	\ni	$\in\!\!\!\in$	$\ni\!\!\!\ni$
$\in\!\!\!\in$	$\ni\!\!\!\ni$	$\ni\!\!\!\ni$	$\in\!\!\!\in$

In this palette, there are 20 symbols related to set theory.

Operator

\pm	
\pm	\mp
\times	\div
$*$	$*$
\circ	\bullet
\ltimes	\rtimes
\succ	\prec
\langle	\rangle
\dagger	\cdot

This palette contains symbols representing mathematical operators of various types.

Extended Operator

\oplus	\ominus
\otimes	\oslash
$\opl�$	$\opl�$
$\opl�$	\circledast
\boxplus	\boxminus
\boxtimes	\boxdiv

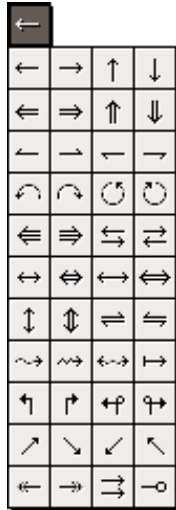
This palette contains additional symbols for representing mathematical operators of various types.

Triangle



This palette provides triangle symbols for representing normal subgroup relationships.

Arrow



This palette contains icon for 44 arrow symbols.

Relational Symbols

\approx			
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx

This palette contains symbols that express various relationships between two quantities, most of which involve some notions of equality, inequality, or equivalence.

\approx			
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx

\approx	
\approx	\approx
\approx	\approx
\approx	\approx
\approx	\approx
\approx	\approx
\approx	\approx
\approx	\approx

\approx			
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx
\approx	\approx	\approx	\approx

Logical Symbols

\therefore	
$\ddot{\therefore}$	$\ddot{\therefore}$
\exists	\exists
\forall	\neg
\wedge	\vee

This palette provides eight common logical symbols.

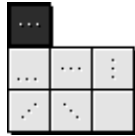
Greek Characters

\AA			
\AA	\AA	\AA	\AA
\AA	\AA	\AA	\AA
\AA	\AA	\AA	\AA
\AA	\AA	\AA	\AA
\AA	\AA	\AA	\AA
\AA	\AA	\AA	\AA

These two palettes contain icons for the entire Greek alphabets, both upper-cases and lower-cases.

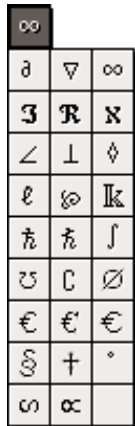
α	β	χ	δ
ϵ	ψ	ϕ	γ
η	ι	κ	λ
μ	ν	\omicron	π
ω	θ	ϑ	ρ
σ	ζ	τ	υ
ω	ξ	ψ	ζ

Ellipses Symbols



Normally, an ellipsis is a row of three dots indicating that items have been left out, usually because they are obvious from the context. There are horizontal, vertical and diagonal rows or dots in this palette.

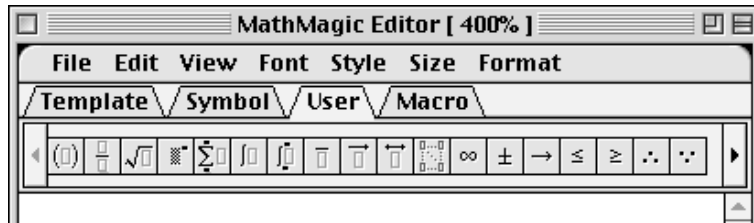
Miscellaneous Symbols



This palette contains various symbols that are either somewhat obscure or do not seem to fit in elsewhere.

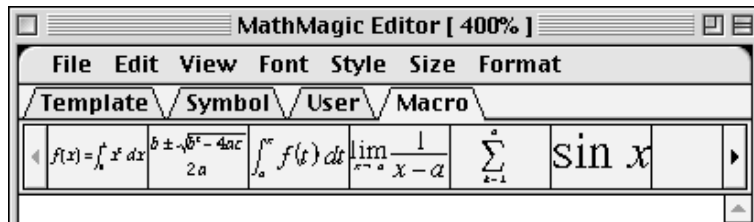
User Palette

Users can store commonly used templates or symbols in the User Palette. Refer to Chapter 3.6 **User Palette** to learn how to use User Palette.



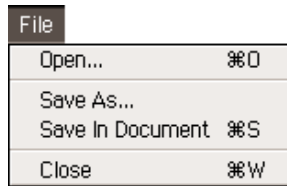
Macro Palette

Users can store frequently used macros in the Macro Palette. Refer to Chapter 3.5 **Macro** to learn how to use Macro palette.



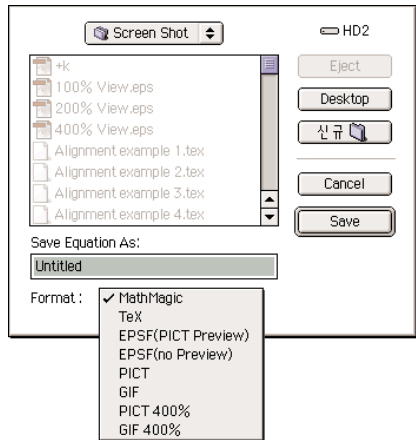
Menu

File menu



Open... - opens MathMagic file or TeX file.

Save As - saves the current equation as EPS, PICT or TeX format. When you choose this menu item, the following dialog box appears and let you select a format..



When you choose EPS, equations are saved as EPS format. EPS files are used widely in graphic applications such as Adobe Illustrator[™], Macromedia FreeHand[™].

When you select PICT, equations are saved as PICT format. PICT files can be read in many other applications including wordprocessors.

When you select TeX, equations are saved as TeX document. With this

option you can use MathMagic equations in various external TeX editors. For more information about TeX documents, refer to Chapter **3.4 TeX**.

Save In Document - saves the contents of the current equatin windows into the QuarkXPress document.

Close - saves the current equation into the QuarkXPress document and closes MathMagic Editor window.



Edit menu

Edit	
Undo Typing	⌘Z
Cut	⌘X
Copy	⌘C
Paste	⌘V
Clear	
Select All	⌘A
Add Macro	⌘M
User Items Hotkey...	
Macro Items Hotkey...	
Template follows...	⌘T
Symbol follows...	⌘K
Set Environment...	⌘E
Preference...	

Undo / Redo - undo or redo the previous action

Cut - copies selection to clipboard and removes it from the editor window.

Copy - copies selection to clipboard.

Paste - inserts equations or texts from clipboard to cursor position.

Clear - removes selection without copying on the clipboard.

Select All - selects all contents in the MathMagic Editor window.

Add Macro - adds selection to Macro Palette as a macro. You can add a macro by choosing this command from Edit menu or by pressing Command-M.

User Items Hotkey - See page 65

Macro Items Hotkey - See page 62

Template follows - when you press command-T, MathMagic waits for the next key to insert a template that is assigned to that shortcut key.

Symbol follows - when you press command-K, MathMagic waits for the next key to insert a symbol that is assigned to that shortcut key.

For the details on the shortcut keys, refer to Appendix C.

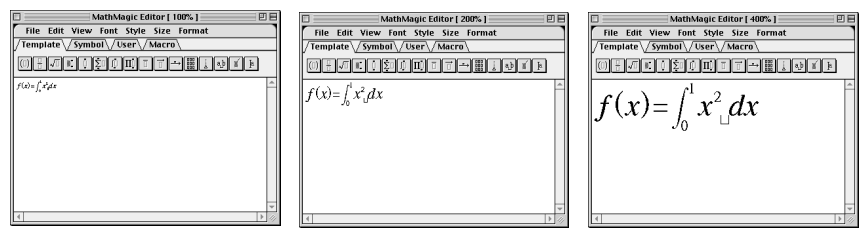
Notes

MathMagic has its own keyboard shortcuts by default. Refer to Appendix C for details about MathMagic keyboard shortcuts.

View menu

View	
100%	⌘1
200%	⌘2
✓ 400%	⌘4
Refresh	⌘D
✓ Show Controls	⌘Y

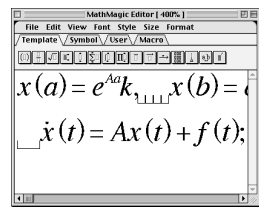
You can change the viewing scale from this menu by choosing values among 100%, 200% and 400%.



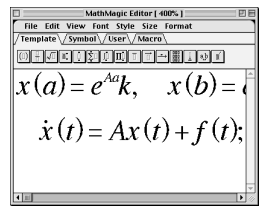
The view size in MathMagic Editor window somewhat differs from the actual size of your QuarkXPress documents.

You use **Refresh** command to redisplay the equation in the current window at the current scale. This is useful for cleaning up the display.

And you use **Show Controls** command to turn on and off the display of certain special symbols in the equations. These symbols include various types of spaces.

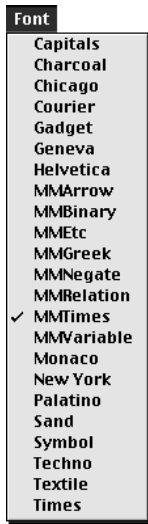


Show control on



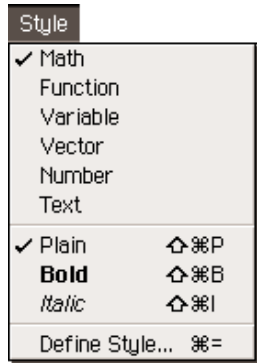
Show control off

Font menu



The selected fonts are only applied to texts in the MathMagic Editor window.
The font doesn't apply to equation templates or symbols.

Style menu



Math - changes selection to MathMagic default style.

Function - changes selection to function style.
 MathMagic basically recognizes the following as functions.

sin	cos	tan	sec	csc	cosec	cot
arcsin	arccos	arctan				
sinh	cosh	tanh	coth			
exp	ln	log				
min	max	inf	sup	glb	lub	
lim	hom	ker	dim			
arg	deg	det	mod	gcd	int	
Im	Re	Pr	var	cov		

These functions are automatically changed to function styles. Functions other than the aboves can be manually set to function style from this menu.

Variable - changes selection to Variable style.

Plain - changes selection to Plain style.

Bold - changes selection to Bold style.

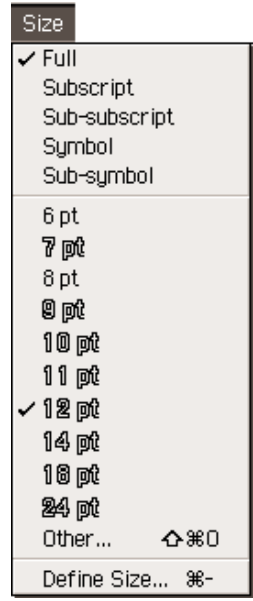
Italic - changes selection to Italic style.

Define Style - This command allow you to change the assignment of font and character style. Choosing this command brings up the following dialog box.

Define Style				
Style	Font	Character Style		
		Bold	Italic	
Math:	MMTimes	<input type="checkbox"/>	<input type="checkbox"/>	Save As Default
Functions:	MMTimes	<input type="checkbox"/>	<input type="checkbox"/>	Use Default
Variables:	MMTimes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Apply
Numbers:	MMTimes	<input type="checkbox"/>	<input type="checkbox"/>	Cancel
Text:	Times	<input type="checkbox"/>	<input type="checkbox"/>	OK

Each row in the table gives the current definition of one of the styles. In a given row, there are entries showing the font and character style currently assigned to the style. Pressing on the font name activates a pop-up menu from which you can choose a different font.

Size menu



Full - changes the font size of functions, variables, numbers and texts to 12pt or defined size.

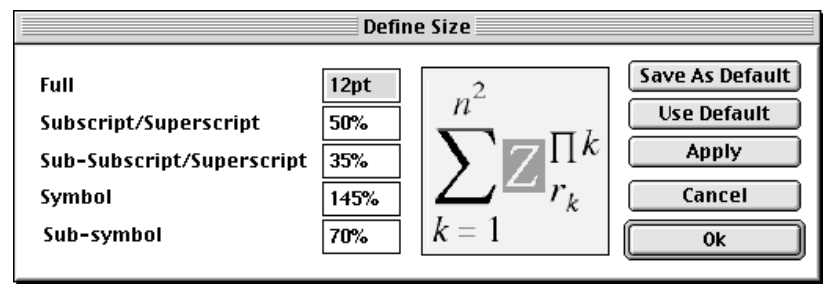
Subscript - changes the font size of super/subscripts to defined size.

Sub-Superscript - changes the font size of sub-superscripts to defined size.

Symbol - changes the font size of mathematical symbols to defined size.

Sub-symbol - changes the font size of sub-mathematical symbols to defined size.

Define Size - You can change the definition of any type size using the **Define Size** command. Choosing this command brings up the following dialog box.



The pictures in the dialog box show the meanings and uses of each of the type sizes.

The default unit of measurement for type sizes is points. If you simply type a number, MathMagic will assume that you want to use points unit. You can specify a type size as a percentage of your Full typesize, because then you won't need to change it in the event that you change your Full typesize. You can do this simply by typing a number followed by a % sign.

For example, suppose your Full typesize is defined as 12pt. If you set your Subscript typesize to 75%, then your subscripts will be in 9pt size, but if you later change your Full type size to 10 points, your subscripts will automatically change to 7.5pt. Note that the Full typesize can't be followed by % sign.

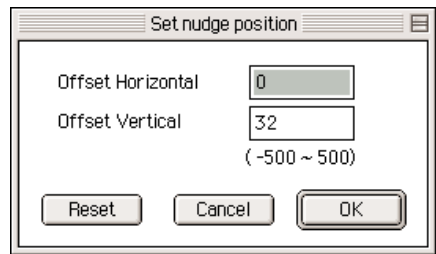
Format menu

Format	
Align Left	
✓ Align Center	
Align Right	
Align Top	
✓ Align Base	
Align Bottom	
Nudge Left	↶←
Nudge Right	↷→
Nudge Up	↶↑
Nudge Down	↷↓
Set Nudge Position...	⌘5
Fence Alignment...	⌘6
Root Alignment...	⌘7
Define Spacing...	⌘8

The format menu is used to control the positioning of portions of equations. The first three commands control horizontal alignment, and the next three control vertical alignment. The horizontal alignment commands are applied to piles of equations.

Nudge means point by point movement for an accurate adjustment for a selection.

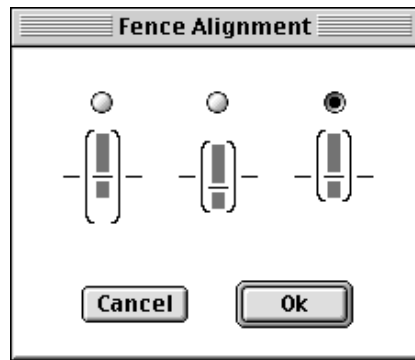
- Align Left** - moves lines horizontally so that their left-hand ends are aligned.
- Align Center** - moves lines horizontally so that their centers are aligned.
- Align Right** - moves lines horizontally so that their right-hand ends are aligned.
- Align Top** - moves lines or **matrix** containing the insertion point so that its top line aligns with the line containing it.
- Align Base** - moves lines or **matrix** containing the insertion point so that its baseline aligns with the line containing it.
- Align Bottom** - moves lines or **matrix** containing the insertion point so that its bottom line aligns with the line containing it.
- Nudge Left / Right / Up / Down** - moves the selection to the specified direction with 2304 (32 * 72) dpi accuracy, which means you can move a selection by 1/2304 inch.
- Set Nudge Position** - selecting this menu item or pressing command-5, will show up a dialog as well as let you set the Nudge value accurately.



Fence Alignment - This feature allows you to easily adjust the alignment of items within fences (brackets, parentheses, braces, etc.). Fences are normally centered with respect to the height where the horizontal strokes of minus signs and addition signs are located. This doesn't always look exactly the way you want it. For example, see below.

$$\sqrt{y^3 - 1} = x + \left\{ \frac{y + \frac{2 \sin x}{4}}{\sin y} \right\}$$

The numerator in the above expression is much taller than the denominator, resulting in a large white gap at the bottom of the expression. Choosing this command brings up the following dialog box. (Place your cursor next to the bracket or select the entire template to activate this command.)

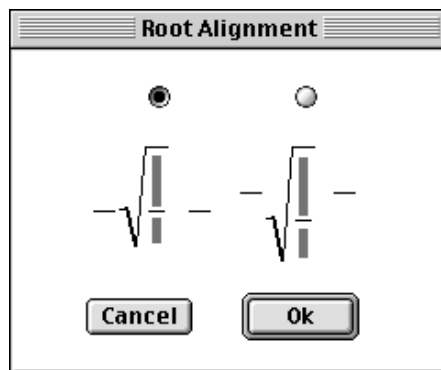


Simply select the preferred option from the three choices, and click OK. The results are as follows.

$$\sqrt{y^3-1}=x+\left\{\frac{y+\frac{2\sin x}{4}}{\sin y}\right\} \quad \sqrt{y^3-1}=x+\left\{\frac{y+\frac{2\sin x}{4}}{\sin y}\right\} \quad \sqrt{y^3-1}=x+\left\{\frac{y+\frac{2\sin x}{4}}{\sin y}\right\}$$

Each choice has its own advantages, and the correct selection will depend on the expression itself case by case.

Root Alignment - brings up a dialog box that let you choose one of the two alignment for equations in which a series of radicals are used.

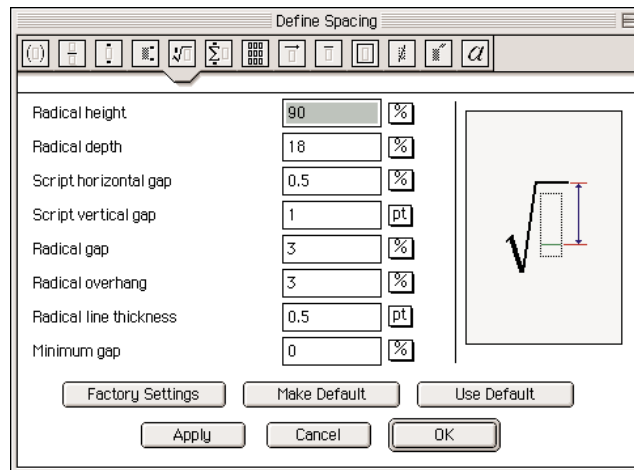


The first option represents alignment with respect to the character baseline.

In the second option, the radical signs are extended vertically for alignment.

Define Spacing - You can adjust the values of subscript depth, numerator height in fractions, fraction bar overhang, line thickness, and so forth by using this command.

When you choose this command, the following dialog box appears.



As you can see, you can switch to each tab to set its dependant values. The illustration on the right side shows you the meaning of each item that affects to the result visually. The blue arrow normally tells the gap or thickness that is affected by the value of the current selected value box. The green line shows you the base line or base point.

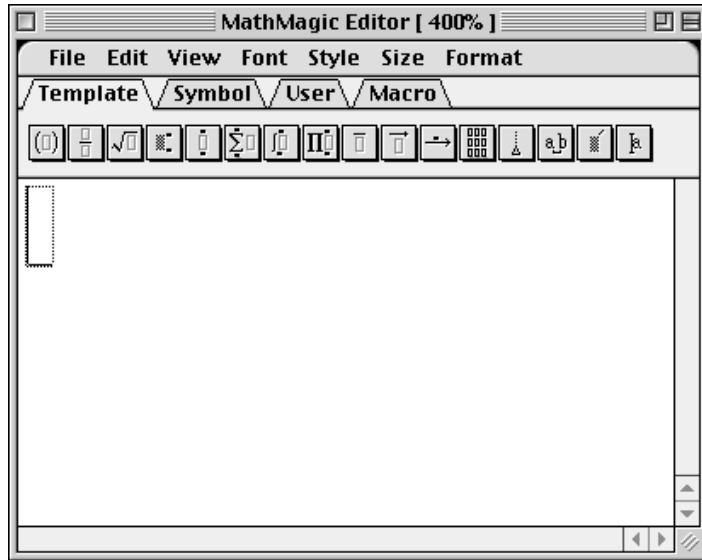
The default unit of measurement for typesizes is points. If you simply type a number, MathMagic will assume that you want to use points unit. You can specify a typesize as a percentage of your Full typesize, because then you won't need to change it in the event that you change your Full typesize. You can do this simply by typing a number followed by a % sign.

You can save your settings as a default value set for future use in the document by clicking **Make Default**. The value set can be refilled by **Use Default** button next time.

Factory Settings button will reset all the current values to the MathMagic recommended ones. **Apply** will show you the applied result in the document without leaving this dialog.

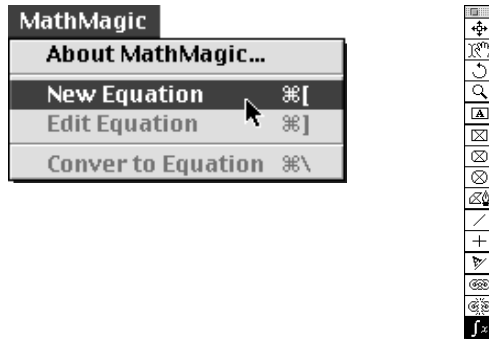
Locating Insertion Point

When you edit or create equations in MathMagic Editor, it is important to check where the cursor is. Blinking cursor indicates current insertion point. And you should move the cursor to correct insertion point. Below is an example showing the current cursor location in MathMagic Editor.

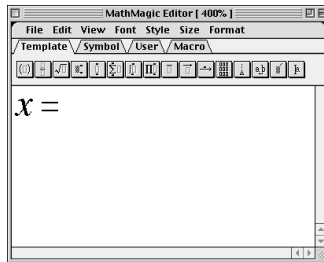


You can move the insertion point using mouse or keyboard arrows. Also, you can move your cursor into the next slot of a template pressing Tab or shift-Tab key. Now, let's create a simple equation to see how to insert templates and symbols as well as how to move the cursor.

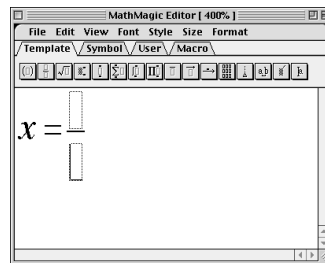
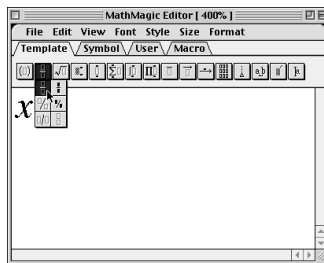
1. Open MathMagic Editor window by selecting New Equation from MathMagic menu in the menu bar or by clicking equation tool icon in the tool bar and draw an equation box.



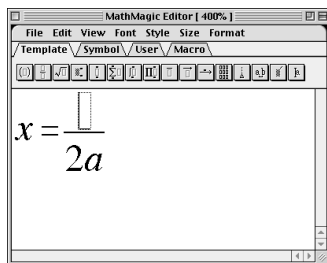
2. Type $\mathcal{O}=\mathcal{O}$ on your keyboard.



3. Click the fraction icon  in Template Palette and select icon. The cursor is automatically located at the denominator by default.

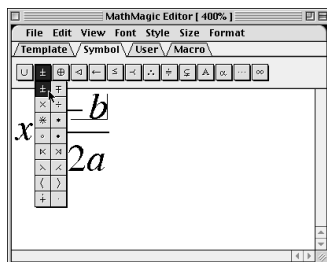


4. Type $\frac{\square}{2a}$ and $\frac{\square}{2a}$ on your keyboard and press Tab key to move the cursor into the numerator slot.

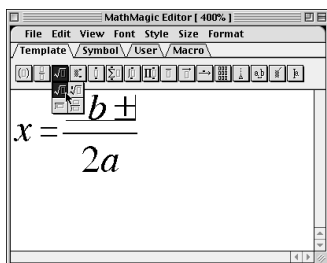


5. Type $\frac{\square}{2a}$ and $\frac{\square}{2a}$ on your keyboard.

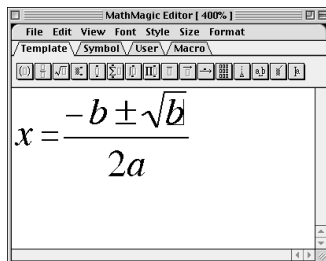
6. Switch to Symbol Palette and click the operator icon and select icon \pm .



7. Click the radical icon in the Template Palette and select icon $\sqrt{\square}$.

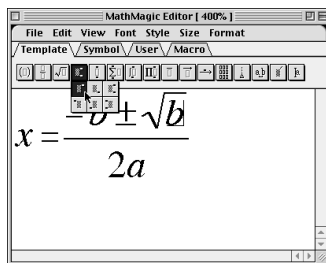


8. Type O° on your keyboard.



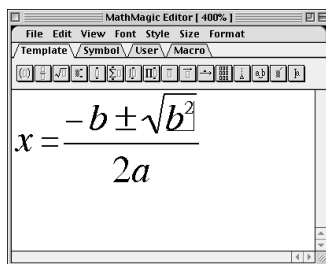
The screenshot shows the MathMagic Editor window with the quadratic formula $x = \frac{-b \pm \sqrt{b}}{2a}$. The letter 'b' in the numerator is highlighted with a mouse cursor, and a small menu is open showing the 'O' with a degree symbol icon selected.

9. Click subscripts icon in the Template Palette and select icon b_1 .



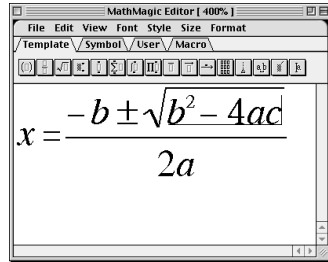
The screenshot shows the MathMagic Editor window with the quadratic formula $x = \frac{-b \pm \sqrt{b}}{2a}$. The letter 'b' in the numerator is highlighted with a mouse cursor, and a small menu is open showing the 'b' with a subscript '1' icon selected.

10. Type O° on your keyboard.



The screenshot shows the MathMagic Editor window with the quadratic formula $x = \frac{-b \pm \sqrt{b^{\circ}}}{2a}$. The letter 'b' in the numerator is highlighted with a mouse cursor, and a small menu is open showing the 'O' with a degree symbol icon selected.

11. Press Tab key or the right arrow key to move the insertion point into next slot.
12. Type $\frac{\text{O}^{\text{O}}\text{O}^{\text{O}}\text{O}^{\text{O}}}{\text{O}^{\text{O}}}$ and O^{O} on your keyboard.



The result should be shown as below in the final printout.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

3.4 TeX

There is another way to write mathematical equations. TeX - the professional mathematics markup language - is widely used in fields such as science and advanced mathematics, and is used to write technical papers especially in science or engineering colleges and research institutes.

MathMagic provides capability of converting TeX-to-equation and equation-to-TeX. The following is an equation and its TeX strings.

$\int_3^1 (x^2 - 4x + 3) dx$	<code>\$\$\int_{3}^{1}{(x^2-4x+3)\ dx}\$\$</code>
------------------------------	---

In case you need to use TeX-based equations or to convert MathMagic equations into TeX, read this chapter carefully.

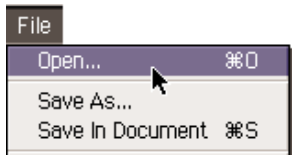
Notes

MathMagic does not support full features of TeX. MathMagic can read equations from TeX codes, and does not support the TeX-based typography or page attributes. For more info about features of TeX codes supported by MathMagic, refer to the Appendix B. TeX codes supported by MathMagic.

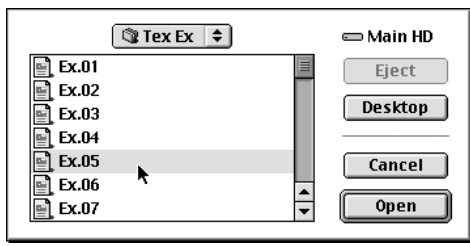
Converting TeX into Equations

To convert TeX codes into equation forms, do this:

- ¥ Importing TeX document to MathMagic
 1. Open MathMagic Editor window.
 2. Choose Open... item in the File menu.



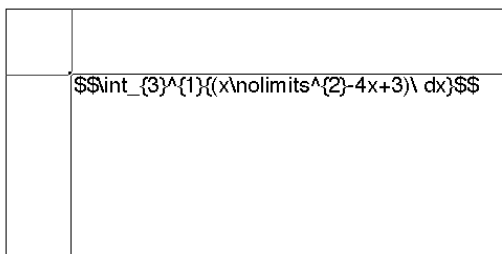
3. Locate your TeX document in the standard Open dialog box.



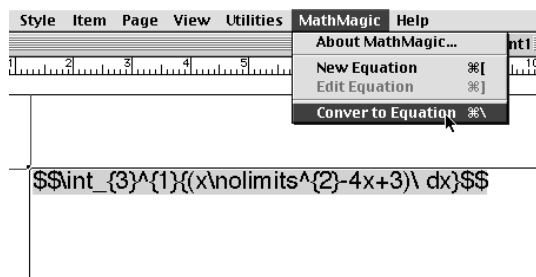
Converted equations appear in the MathMagic Editor window.

¥ Converting TeX sentences into equations

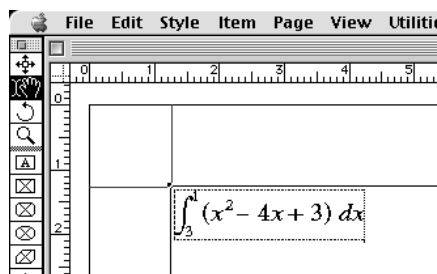
1. Type TeX code in Text box of QuarkXPress or choose Get Text command in File menu to open a TeX document.



2. Select TeX sentences to convert, and then choose Convert to Equation in MathMagic menu.



The selected TeX codes are converted into an equation form.



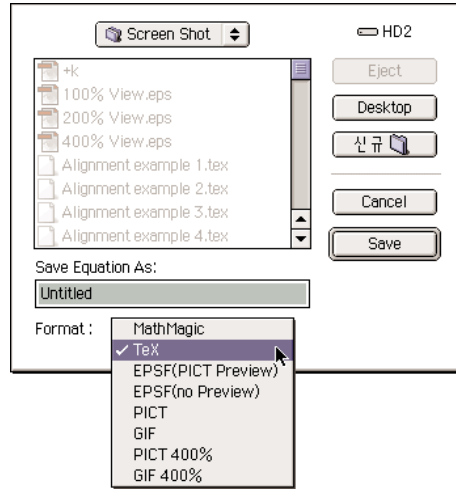
Notes

When you try to convert TeX codes that MathMagic doesn't support, a warning message is displayed. In this case, the TeX document won't be converted completely. In this case, we recommend you to remove those unsupported TeX codes and then try again.

Converting Equations into TeX

In order to convert equation forms into TeX codes, do this:

1. Choose Save in File menu of MathMagic Editor.
You can see a standard save dialog box.

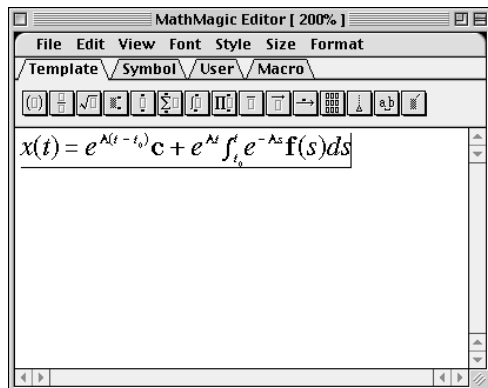


2. Select TeX from Format popup menu.
3. Type appropriate file name and click Save.
The saved file is plain text format containing TeX codes.

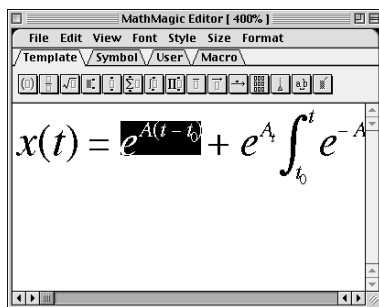
3.5 Macro Palette

To add new macro in Macro Palette, do this:

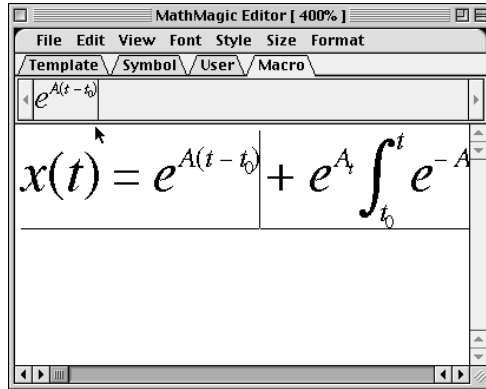
1. Type equations or strings for a new macro.



2. Select them and choose **Add Macro** in Edit menu. Then you can see newly generated macro button.

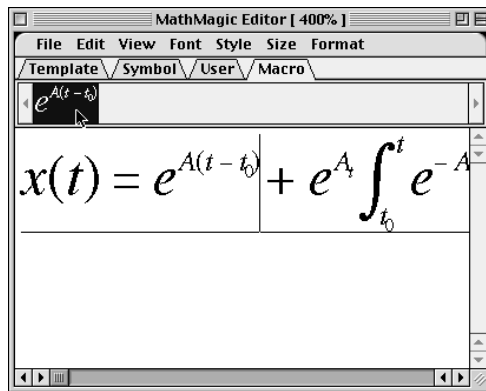


The macro button contains thumbnail snapshot based on its contents. You can also add macro by pressing keyboard shortcut (Command-M).



To remove a macro in Macro Palette, do this:

1. Switch to the Macro Palette.
2. Command-click the macro button to remove. By doing this, the macro button is removed immediately.

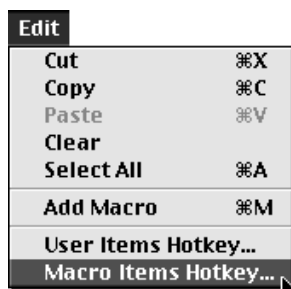


Define hotkeys for macros

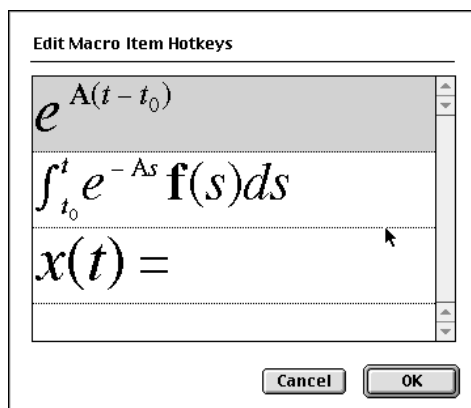
When you have created some macros in the Macro Palette, you can define a keyboard shortcut for each macro button.

To define a shortcut for a macro, do this:

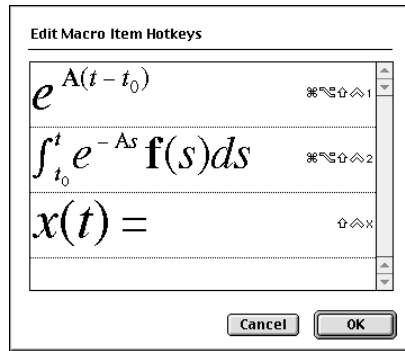
1. Choose **Macro Items Hotkey...** in the Edit menu.



Then you should see a list window.



2. Select an item from the list and define a shortcut by pressing a character with Shift, Control, Option or Command key combination. Shift, Control, Option or Command key would be included in the shortcut.

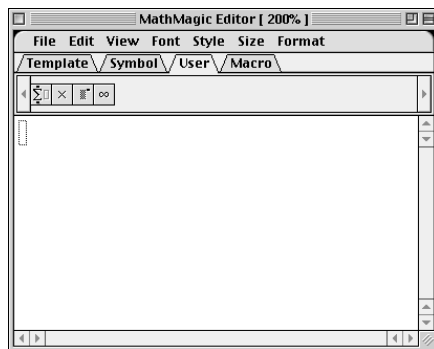


3. Click OK to apply the changes.

3.6 User Palette

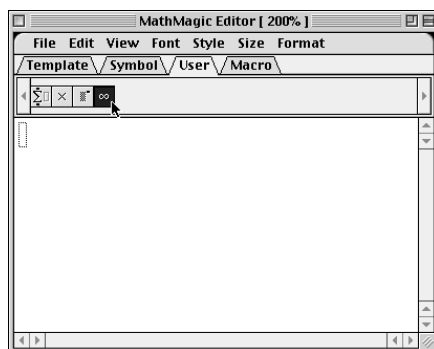
To add new user items in User Palette, do this:

1. Switch to Template Palette or Symbol Palette.
2. Command-click your preferred templates as many as you wish. If you want to check the generated user items, switch to User Palette.



To remove user items in User Palette, do this:

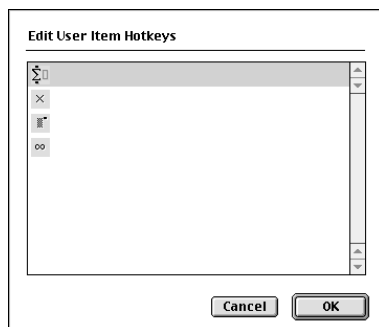
1. Switch to the User Palette.
2. Command-click the user items to remove. By doing this, the user items are removed immediately.



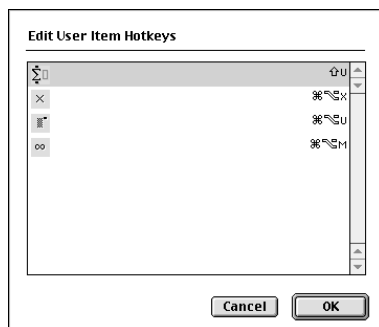
When you have created some user items in the User Palette, you can define a keyboard shortcut for each user item.

To define a shortcut for an item, do this:

1. Choose **User Items HotkeyÉ** in the Edit menu. Then you should see a list window.



2. Select an item from the list and define a shortcut by pressing a character with Shift, Control, Option and/or Command key combination. Shift, Control, Option or Command key will be included in the shortcut.



3. Click OK to apply the changes.



3.7 Printing

When you contact your printing service bureau to print your documents created with MathMagic XTension, you need to bring MathMagic Viewer and MathMagic Fonts. Anyone can use MathMagic Viewer and MathMagic Fonts without authorization, and those can be freely distributed as freeware.

But you should keep in mind that you are not allowed to modify them without prior notification to InfoLogic, Inc.

Printing service bureau can offer better quality printouts with MathMgic PostScript fonts installed. MathMagic Postscript fonts can also be installed in your Fonts folder in the System folder together with TrueType fonts. In this case, the Postscript printer driver will use PS fonts prior to TT fonts after it determines if PS fonts are available.

Notes

Do not install both MathMagic XTension and MathMagic Viewer in the same QuarkXPress folder. Only one of the two XTensions should be installed.

Color Trapping Support

MathMagic supports color trapping for professional desktop publishing.

But, please note that only the default trap values of each color can be applied.

You can use customized values in the Trap Information palette. If you do need to apply other color trapping value, create a separate color, and then edit the trap value.

■ Appendix A. Support

About Customer Support

If you would like to take full advantage of our Customer Services, please send us the Customer Registration Card via email or fax. You can also register on our website at <http://www.mathmagic.com/register/>

If you encounter any problems in using MathMagic, please contact us at the following address.

MathMagic Customer Support Team

Email: support@mathmagic.com

TEL: +82-2-3676-4883

FAX: +82-2-3676-4882

<http://www.mathmagic.com/support/>

Trouble shooting and FAQ

You can get the latest information for trouble shooting and FAQ of MathMagic at our homepage, <http://www.mathmagic.com/support/>.

■ Appendix B. TeX Codes supported by MathMagic

<code>\above</code>	<code>\abovewithdelims</code>
<code>\acute</code>	<code>\acute</code>
<code>\aleph</code>	<code>\Alpha</code>
<code>\alpha</code>	<code>\amalg</code>
<code>\And</code>	<code>\angle</code>
<code>\approx</code>	<code>\approxeq</code>
<code>\arrowhorizex</code>	<code>\arrowvertex</code>
<code>\ast</code>	<code>\asymp</code>
<code>\atop</code>	<code>\atopwithdelims</code>
<code>\backepsilon</code>	<code>\backsim</code>
<code>\backsimeq</code>	<code>\backslash</code>
<code>\backtriangle</code>	<code>\bar</code>
<code>\bar</code>	<code>\barwedge</code>
<code>\Bbbk</code>	<code>\because</code>
<code>\Beta</code>	<code>\beta</code>
<code>\beth</code>	<code>\between</code>
<code>\bf</code>	<code>\big</code>
<code>\bigcap</code>	<code>\bigcap</code>
<code>\bigcirc</code>	<code>\bigcup</code>
<code>\bigcup</code>	<code>\Big</code>
<code>\bigg</code>	<code>\Bigg</code>
<code>\biggl</code>	<code>\Biggm</code>
<code>\biggm</code>	<code>\Biggr</code>
<code>\biggr</code>	<code>\Bigl</code>
<code>\bigl</code>	<code>\Bigm</code>

Appendix B. TeX Codes supported by MathMagic

<code>\bigm</code>	<code>\bigodot</code>
<code>\bigodot</code>	<code>\bigoplus</code>
<code>\bigoplus</code>	<code>\bigotimes</code>
<code>\bigotimes</code>	<code>\Bigr</code>
<code>\bigl</code>	<code>\bigsqcup</code>
<code>\bigsqcup</code>	<code>\bigstar</code>
<code>\bigtriangledown</code>	<code>\bigtriangleup</code>
<code>\biguplus</code>	<code>\biguplus</code>
<code>\bigvee</code>	<code>\bigvee</code>
<code>\bigwedge</code>	<code>\bigwedge</code>
<code>\binom</code>	<code>\blacklozenge</code>
<code>\blacksquare</code>	<code>\blacktriangle</code>
<code>\blacktriangledown</code>	<code>\blacktriangleleft</code>
<code>\blacktriangleright</code>	<code>\bordermatrix</code>
<code>\bot</code>	<code>\bowtie</code>
<code>\Box</code>	<code>\boxdot</code>
<code>\boxminus</code>	<code>\boxplus</code>
<code>\boxtimes</code>	<code>\bprime</code>
<code>\bprime</code>	<code>\brace</code>
<code>\braceleftbt</code>	<code>\braceleftex</code>
<code>\braceleftmid</code>	<code>\bracelefttp</code>
<code>\bracerightbt</code>	<code>\bracerightex</code>
<code>\bracerightmid</code>	<code>\bracerighttp</code>
<code>\brack</code>	<code>\bracketleftbt</code>
<code>\bracketleftex</code>	<code>\bracketlefttp</code>
<code>\bracketrightbt</code>	<code>\bracketrightex</code>
<code>\bracketrighttp</code>	<code>\breve</code>
<code>\breve</code>	<code>\buildrel</code>
<code>\bullet</code>	<code>\Bumpeq</code>
<code>\bumpeq</code>	<code>\Cap</code>
<code>\cap</code>	<code>\cases</code>
<code>\cdot</code>	<code>\centerdot</code>
<code>\check</code>	<code>\check</code>
<code>\Chi</code>	<code>\chi</code>
<code>\choose</code>	<code>\circ</code>

Appendix B. TeX Codes supported by MathMagic

<code>\circeq</code>	<code>\circlearrowleft</code>
<code>\circlearrowright</code>	<code>\circledast</code>
<code>\circledcirc</code>	<code>\circleddash</code>
<code>\circledS</code>	<code>\clubsuit</code>
<code>\complement</code>	<code>\cong</code>
<code>\coprod</code>	<code>\coprod</code>
<code>\cr</code>	<code>\Cup</code>
<code>\cup</code>	<code>\curlyeqprec</code>
<code>\curlyeqsucc</code>	<code>\curlyvee</code>
<code>\curlywedge</code>	<code>\curvearrowleft</code>
<code>\curvearrowright</code>	<code>\dag</code>
<code>\dagger</code>	<code>\daleth</code>
<code>\dashv</code>	<code>\dbinom</code>
<code>\ddag</code>	<code>\ddagger</code>
<code>\ddot</code>	<code>\ddot</code>
<code>\dot</code>	<code>\dot</code>
<code>\def</code>	<code>\Delta</code>
<code>\delta</code>	<code>\dfrac</code>
<code>\diag</code>	<code>\diagdown</code>
<code>\diagup</code>	<code>\Diamond</code>
<code>\diamond</code>	<code>\diamondsuit</code>
<code>\digamma</code>	<code>\displaylines</code>
<code>\displaystyle</code>	<code>\div</code>
<code>\divideontimes</code>	<code>\dot</code>
<code>\dot</code>	<code>\doteq</code>
<code>\doteqdot</code>	<code>\dotplus</code>
<code>\doublebarwedge</code>	<code>\doubleprime</code>
<code>\dover</code>	<code>\Downarrow</code>
<code>\downarrow</code>	<code>\downarrowhead</code>

Appendix B. TeX Codes supported by MathMagic

<code>\dowdownarrows</code>	<code>\downharpoonleft</code>
<code>\downharpoonright</code>	<code>\dvert</code>
<code>\ell</code>	<code>\emptyset</code>
<code>\Epsilon</code>	<code>\epsilon</code>
<code>\eqalign</code>	<code>\eqalignno</code>
<code>\eqbase</code>	<code>\eqbottom</code>
<code>\eqcenter</code>	<code>\eqcirc</code>
<code>\eqleft</code>	<code>\eqright</code>
<code>\eqslantgtr</code>	<code>\eqslantless</code>
<code>\eqtop</code>	<code>\equiv</code>
<code>\Eta</code>	<code>\eta</code>
<code>\eth</code>	<code>\exists</code>
<code>\fallingdotseq</code>	<code>\Finv</code>
<code>\flat</code>	<code>\font</code>
<code>\forall</code>	<code>\frac</code>
<code>\from</code>	<code>\frown</code>
<code>\fullstyle</code>	<code>\Game</code>
<code>\Gamma</code>	<code>\gamma</code>
<code>\gather</code>	<code>\gdef</code>
<code>\geq</code>	<code>\geqq</code>
<code>\geqslant</code>	<code>\gg</code>
<code>\ggg</code>	<code>\gimel</code>
<code>\gnapprox</code>	<code>\gneq</code>
<code>\gneqq</code>	<code>\gnsim</code>
<code>\grave</code>	<code>\grave</code>
<code>\gtrapprox</code>	<code>\gtrdot</code>
<code>\gtreqless</code>	<code>\gtreqqlless</code>
<code>\gtrless</code>	<code>\gtrsim</code>
<code>\gvertneqq</code>	<code>\halign</code>

Appendix B. TeX Codes supported by MathMagic

<code>\hat</code>	<code>\hat</code>
<code>\hbar</code>	<code>\heartsuit</code>
<code>\hfill</code>	<code>\hookleftarrow</code>
<code>\hookrightarrow</code>	<code>\hslash</code>
<code>\iiint</code>	<code>\iiint</code>
<code>\iint</code>	<code>\iint</code>
<code>\Im</code>	<code>\imath</code>
<code>\in</code>	<code>\infty</code>
<code>\int</code>	<code>\int</code>
<code>\integralbt</code>	<code>\integralex</code>
<code>\integraltp</code>	<code>\intercal</code>
<code>\Iota</code>	<code>\iota</code>
<code>\it</code>	<code>\jmath</code>
<code>\Join</code>	<code>\Kappa</code>
<code>\kappa</code>	<code>\Lambda</code>
<code>\lamda</code>	<code>\langle</code>
<code>\langle</code>	<code>\lbrace</code>
<code>\lbrace</code>	<code>\lbracket</code>
<code>\lbracket</code>	<code>\lceil</code>
<code>\lceil</code>	<code>\leadsto</code>
<code>\left</code>	<code>\Leftarrow</code>
<code>\leftarrow</code>	<code>\leftarrowhead</code>
<code>\leftarrowtail</code>	<code>\leftharpoondown</code>
<code>\leftharpoonup</code>	<code>\leftleftarrows</code>
<code>\Leftrightarrow</code>	<code>\leftrightarrows</code>
<code>\leftrightharrows</code>	<code>\leftrightharpoons</code>
<code>\leftrightsquigarrow</code>	<code>\leftthreetimes</code>
<code>\leq</code>	<code>\leqalignno</code>
<code>\leqq</code>	<code>\leqslant</code>

Appendix B. TeX Codes supported by MathMagic

<code>\lessapprox</code>	<code>\lessdot</code>
<code>\lesseqgtr</code>	<code>\lesseqqgtr</code>
<code>\lessgtr</code>	<code>\lesssim</code>
<code>\lfloor</code>	<code>\lfloor</code>
<code>\lhd</code>	<code>\limits</code>
<code>\ll</code>	<code>\Lleftarrow</code>
<code>\lll</code>	<code>\lnapprox</code>
<code>\lneq</code>	<code>\lneqq</code>
<code>\lnsim</code>	<code>\longleftarrow</code>
<code>\longleftarrow</code>	<code>\longrightarrow</code>
<code>\looparrowleft</code>	<code>\looparrowright</code>
<code>\lozenge</code>	<code>\lparen</code>
<code>\lparen</code>	<code>\Lsh</code>
<code>\ltimes</code>	<code>\lvertneqq</code>
<code>\mapsto</code>	<code>\mathbin</code>
<code>\mathclose</code>	<code>\mathop</code>
<code>\mathopen</code>	<code>\mathord</code>
<code>\mathpunct</code>	<code>\mathrel</code>
<code>\matrix</code>	<code>\measuredangle</code>
<code>\medspace</code>	<code>\mho</code>
<code>\mid</code>	<code>\mid</code>
<code>\midbar</code>	<code>\models</code>
<code>\mp</code>	<code>\Mu</code>
<code>\mu</code>	<code>\multimap</code>
<code>\natural</code>	<code>\ncong</code>
<code>\nearrow</code>	<code>\neg</code>
<code>\neq</code>	<code>\nexists</code>
<code>\ngeq</code>	<code>\ngeqq</code>
<code>\ngeqslant</code>	<code>\ngtr</code>

Appendix B. TeX Codes supported by MathMagic

<code>\ni</code>	<code>\nLeftarrow</code>
<code>\nLeftrightarrow</code>	<code>\nleftrightarrow</code>
<code>\nleq</code>	<code>\nleqq</code>
<code>\nleqslant</code>	<code>\nless</code>
<code>\nmid</code>	<code>\noalign</code>
<code>\nolimits</code>	<code>\not</code>
<code>\notin</code>	<code>\nparallel</code>
<code>\nprec</code>	<code>\npreceq</code>
<code>\nRightarrow</code>	<code>\nrightarrow</code>
<code>\nshortmid</code>	<code>\nshortparallel</code>
<code>\nsim</code>	<code>\nsubseteq</code>
<code>\nsubseteqq</code>	<code>\nsucc</code>
<code>\nsucceq</code>	<code>\nsupseteq</code>
<code>\nsupseteqq</code>	<code>\ntriangleleft</code>
<code>\ntrianglelefteq</code>	<code>\ntriangleright</code>
<code>\ntrianglerighteq</code>	<code>\Nu</code>
<code>\nu</code>	<code>\nVDash</code>
<code>\nVdash</code>	<code>\nvDash</code>
<code>\nvdash</code>	<code>\nwarrow</code>
<code>\odot</code>	<code>\of</code>
<code>\oiiint</code>	<code>\oiiint</code>
<code>\oiint</code>	<code>\oiint</code>
<code>\oint</code>	<code>\oint</code>
<code>\Omega</code>	<code>\omega</code>
<code>\Omicron</code>	<code>\omicron</code>
<code>\ominus</code>	<code>\operatorname</code>
<code>\operatornamewithlimits</code>	<code>\oplus</code>
<code>\oslash</code>	<code>\otimes</code>
<code>\over</code>	<code>\overbrace</code>

Appendix B. TeX Codes supported by MathMagic

<code>\overbrace</code>	<code>\overbracebt</code>
<code>\overbraceex</code>	<code>\overbracemid</code>
<code>\overbracetp</code>	<code>\overbracket</code>
<code>\overbracket</code>	<code>\overbracketbt</code>
<code>\overbracketex</code>	<code>\overbrackettp</code>
<code>\overeq</code>	<code>\overleftarrow</code>
<code>\overleftrightharrow</code>	<code>\overline</code>
<code>\overparen</code>	<code>\overparen</code>
<code>\overparenbt</code>	<code>\overparenex</code>
<code>\overparentp</code>	<code>\overrightarrow</code>
<code>\oversetbrace</code>	<code>\overwithdelims</code>
<code>\P</code>	<code>\parallel</code>
<code>\parallel</code>	<code>\parenleftbt</code>
<code>\parenleftex</code>	<code>\parenlefttp</code>
<code>\parenrightbt</code>	<code>\parenrightex</code>
<code>\parenrighttp</code>	<code>\partial</code>
<code>\perp</code>	<code>\Phi</code>
<code>\phi</code>	<code>\Pi</code>
<code>\pi</code>	<code>\pitchfork</code>
<code>\pm</code>	<code>\pmatrix</code>
<code>\prec</code>	<code>\precapprox</code>
<code>\preccurlyeq</code>	<code>\preceq</code>
<code>\precnapprox</code>	<code>\precneqq</code>
<code>\precnsim</code>	<code>\precsim</code>
<code>\prime</code>	<code>\prime</code>
<code>\prod</code>	<code>\prod</code>
<code>\propto</code>	<code>\Psi</code>
<code>\psi</code>	<code>\qquad</code>
<code>\quad</code>	<code>\rangle</code>

Appendix B. TeX Codes supported by MathMagic

<code>\rangle</code>	<code>\rbrace</code>
<code>\rbrace</code>	<code>\rbracket</code>
<code>\rbracket</code>	<code>\rceil</code>
<code>\rceil</code>	<code>\Re</code>
<code>\rfloor</code>	<code>\rfloor</code>
<code>\rhd</code>	<code>\Rho</code>
<code>\rho</code>	<code>\right</code>
<code>\Rightarrow</code>	<code>\rightarrow</code>
<code>\rightarrowhead</code>	<code>\rightarrowtail</code>
<code>\rightharpoondown</code>	<code>\rightharpoonup</code>
<code>\rightleftarrows</code>	<code>\rightleftharpoons</code>
<code>\rightrightarrows</code>	<code>\rightsquigarrow</code>
<code>\righthreetimes</code>	<code>\risingdotseq</code>
<code>\rm</code>	<code>\root</code>
<code>\rparen</code>	<code>\rparen</code>
<code>\Rrightarrow</code>	<code>\Rsh</code>
<code>\rtimes</code>	<code>\S</code>
<code>\sb</code>	<code>\scriptarrowhorizex</code>
<code>\scriptarrowvertex</code>	<code>\scriptdownarrowhead</code>
<code>\scriptleftarrowhead</code>	<code>\scriptrightarrowhead</code>
<code>\scriptscriptstyle</code>	<code>\scriptstyle</code>
<code>\scriptsymbolstyle</code>	<code>\scriptuparrowhead</code>
<code>\shortparallel</code>	<code>\Sigma</code>
<code>\sigma</code>	<code>\sim</code>
<code>\simeq</code>	<code>\size</code>
<code>\skew</code>	<code>\slash</code>
<code>\smallfrown</code>	<code>\smallint</code>
<code>\smallsetminus</code>	<code>\smallsmile</code>
<code>\smile</code>	<code>\sp</code>

Appendix B. TeX Codes supported by MathMagic

<code>\space</code>	<code>\spadesuit</code>
<code>\sphericalangle</code>	<code>\sqcap</code>
<code>\sqcup</code>	<code>\sqrt</code>
<code>\sqsubset</code>	<code>\sqsubseteq</code>
<code>\sqsupset</code>	<code>\sqsupseteq</code>
<code>\square</code>	<code>\star</code>
<code>\struct</code>	<code>\Subset</code>
<code>\subset</code>	<code>\subseteq</code>
<code>\subseteqq</code>	<code>\subsetneq</code>
<code>\subsetneqq</code>	<code>\succ</code>
<code>\succapprox</code>	<code>\succcurlyeq</code>
<code>\succeq</code>	<code>\succnapprox</code>
<code>\succneqq</code>	<code>\succnsim</code>
<code>\succsim</code>	<code>\sum</code>
<code>\sum</code>	<code>\Supset</code>
<code>\supset</code>	<code>\supseteq</code>
<code>\supseteqq</code>	<code>\supsetneq</code>
<code>\supsetneqq</code>	<code>\surd</code>
<code>\swarrow</code>	<code>\symbolstyle</code>
<code>\Tau</code>	<code>\tau</code>
<code>\tbinom</code>	<code>\tdiag</code>
<code>\text</code>	<code>\textstyle</code>
<code>\tfrac</code>	<code>\therefore</code>
<code>\Theta</code>	<code>\theta</code>
<code>\thickapprox</code>	<code>\thickfrac</code>
<code>\thicksim</code>	<code>\thickspace</code>
<code>\thinspace</code>	<code>\tilde</code>
<code>\tilde</code>	<code>\times</code>
<code>\to</code>	<code>\top</code>

Appendix B. TeX Codes supported by MathMagic

<code>\tover</code>	<code>\triangle</code>
<code>\triangledown</code>	<code>\triangleleft</code>
<code>\trianglelefteq</code>	<code>\triangleq</code>
<code>\triangleright</code>	<code>\trianglerighteq</code>
<code>\triangleup</code>	<code>\tripleprime</code>
<code>\twoheadleftarrow</code>	<code>\twoheadrightarrow</code>
<code>\underbrace</code>	<code>\underbrace</code>
<code>\underbracebt</code>	<code>\underbraceex</code>
<code>\underbracemid</code>	<code>\underbracetp</code>
<code>\underbracket</code>	<code>\underbracket</code>
<code>\underbracketbt</code>	<code>\underbracketex</code>
<code>\underbrackettp</code>	<code>\undereq</code>
<code>\underleftarrow</code>	<code>\underleftrightharrow</code>
<code>\underline</code>	<code>\underparen</code>
<code>\underparen</code>	<code>\underparenbt</code>
<code>\underparenex</code>	<code>\underparentp</code>
<code>\underrightarrow</code>	<code>\undersetbrace</code>
<code>\unlhd</code>	<code>\unrhd</code>
<code>\Uparrow</code>	<code>\uparrow</code>
<code>\uparrowhead</code>	<code>\Updownarrow</code>
<code>\updownarrow</code>	<code>\upharpoonleft</code>
<code>\upharpoonright</code>	<code>\uplus</code>
<code>\Upsilon</code>	<code>\upsilon</code>
<code>\upuparrows</code>	<code>\varepsilon</code>
<code>\varkappa</code>	<code>\varnothing</code>
<code>\varphi</code>	<code>\varpi</code>
<code>\varpropto</code>	<code>\varrho</code>
<code>\varsigma</code>	<code>\varsubsetneq</code>
<code>\varsubsetneqq</code>	<code>\varsupsetneq</code>

Appendix B. TeX Codes supported by MathMagic

<code>\varsupsetneqq</code>	<code>\vartheta</code>
<code>\vartriangle</code>	<code>\vartriangleleft</code>
<code>\vartriangleright</code>	<code>\Vdash</code>
<code>\vDash</code>	<code>\vdash</code>
<code>\vec</code>	<code>\vec</code>
<code>\vee</code>	<code>\veebar</code>
<code>\Vert</code>	<code>\vert</code>
<code>\Vvdash</code>	<code>\wedge</code>
<code>\xint</code>	<code>\xoiint</code>
<code>\xoiint</code>	<code>\xoint</code>
<code>\Zeta</code>	<code>\zeta</code>























Appendix C. Keyboard Shortcuts

Many templates and symbols are assigned default keyboard shortcuts. These include templates for parentheses, brackets, fraction, etc.












































See below table for the list of default shortcuts.

User also can define a set of shortcut keys for **User items** and **Macros**.

Symbol Shortcuts

	command-K, I		command-K, =
	command-K, C		command-K, shift-=
	command-K, shift-C		command-K, -
	command-K, E		command-K, shift- -
	command-K, shift-E		command-K, T
	command-K, U		command-K, shift-T
	command-K, shift-U		command-K, S
	command-K, <		command-K, shift-S
	command-K, >		command-K, A
	command-K, shift-<		command-K, shift-A
	command-K, shift->		command-K, D

Template Shortcuts


	command-shift-9 or cmd-shift-0 command-T, 9 or 0		command-I command-T, I
	command-[or command-] command-T, [or]		command-I, shift-I
	command-shift-{ or cmd-shift-} command-T, shift-{ or shift-}		command-T, control-I
	command-T, \		command-T, P
	command-T, shift-I		command-T, shift-P
	command-T, shift-[or shift-]		command-T, control-P
	command-F command-T, F		command-T, N
	command-T, shift-F		command-T, shift-N
	command-/ command-T, /		command-T, control-N
	command-T, shift-/ command-T, shift-/		command-T, M
	command-T, D		command-T, shift-M
	command-T, shift-D		command-T, B
	command-R command-T, R		command-shift-HYPHEN
	command-T, shift-R		command-option-HYPHEN
	command-H command-T, H		command-shift-~
	command-T, H		command-option-'
	command-L command-T, L		command-shift- "
	command-T, L		command-control- "
	command-T, J		command-option-PERIOD(.)
	command-T, S		command-shift-PERIOD(.)
	command-T, shift-S		command-control-PERIOD(.)
	command-T, control-S		

Editing Keys

MathMagic supports commonly used editing keys in the equation editor window. Some keys are as followings.

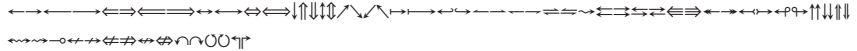
<u>Keyboard</u>	<u>Behavior</u>
right arrow	Move cursor to the right At the end of a template box, move to the beginning of the next box
left arrow	Move cursor to the left At the beginning of a box, move to the end of previous box
down arrow	Move to the same point of the next line
up arrow	Move to the same point of the previous line
cmd-right arrow	Move to the end fo the line
cmd-left arrow	Move to the beginning of the line
cmd-down arrow	Move to the end of the document
cmd-up arrow	Move to the beginning of the document
shift-right arrow	Move cursor to the right, and select in-between contents
shift-left arrow	Move cursor to the left, and select in-between contents
shift-down arrow	Move to the same point of the next line, and select in-between contents
shift-up arrow	Move to the same point of the previous line, and select in-between contents
shift-cmd-right arrow	Move to the end fo the line, and select in-between contents
shift-cmd-left arrow	Move to the beginning of the line, and select in-between contents
shift-cmd-down arrow	Move to the end of the document, and select in-between contents
shift-cmd-up arrow	Move to the beginning of the document, and select in-between contents
tab	Move cursor to the end of current box At the end of a box, move to the beginning of the next box
shift-tab	Move cursor to the beginning of current box At the beginning of a box, move to the end of the previous box
return, enter	Add a new line as a same level of current line In the middle of a box, breaks the line and move the right part to the next line
delete (backward)	Delete the left character of the cursor If it is a template, select the box first and then delete it by another delete key
del (forward delete)	Delete the right-side character of the cursor If it is a template box, just select the box

Menu Shortcuts

File	
Open...	cmd-0
Save in Document	cmd-S
Close	cmd-W
Edit	
Undo / Redo	cmd-Z
Cut	cmd-X
Copy	cmd-C
Paste	cmd-V
Select All	cmd-A
Add Macro	cmd-M
Template follows	cmd-T
Symbol follows	cmd-K
Set Environment	cmd-E
View	
100 %	cmd-1
200 %	cmd-2
400 %	cmd-4
Refresh	cmd-D
Show Controls	cmd-Y
Style	
Plain	cmd-shift-T
Bold	cmd-shift-B
Italic	cmd-shift-I
Define Style...	cmd-=
Size	
Other...	cmd-shift-0
Define Size...	cmd- -
Format	
Nudge	option- arrow keys
Set Nudge Position	cmd-5
Fense Alignment	cmd-6
Root Alignment	cmd-7
Define Spacing...	cmd-8

Appendix D. MathMagic Fonts list

MMArrow



MMBinary

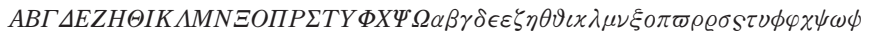


MMCenturyOld, MMCenturyOldE

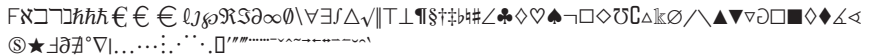
MMCenturyOldK, MMCenturyOldO, MMCenturyOldS



MMCenturyOldGreek

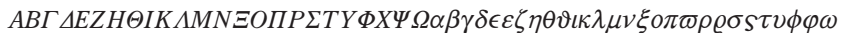


MMEtc



MMExtra

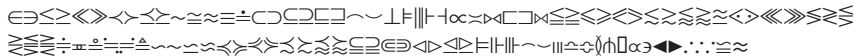
MMGreek



MMNegate



MMRelation



MMTextbook



MMTimes



MMVariable,

MMVariableA, MMVariableB, MMVariableC, MMVariableD

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