

 Chikrii Softlab



User Manual

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# Chapter 1

## Introduction

### 1.1 About Word2 $\text{T}_{\text{E}}\text{X}$

Word2 $\text{T}_{\text{E}}\text{X}$  is a converter designed in order to use with Microsoft Word<sup>1</sup> and enables Microsoft Word to save documents in  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  [2, 3, 4] format. This gives the opportunity to convert existing Microsoft Word documents to  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  and to create new  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  documents right in your mainstream word processor rather than requiring a completely separate editing environment. Using Word2 $\text{T}_{\text{E}}\text{X}$  in conjunction with Microsoft Word, you can easily create articles, technical reports, research papers, dissertations and even entire books for such hard and not always comfortable markup-based system as  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ . It doesn't, in fact, require that one even learn  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  in order to publish  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  papers, and so can save students and other newcomers to scientific publishing the long climb up the  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  learning curve and also can help  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  experts to save their time. Instead of inputting  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  commands, you can simply use Equation Editor (or MathType<sup>2</sup>) in Microsoft Word to create equations and you easily click and point to insert a picture or to make a table. Then you can convert your document into  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  format with the help of Word2 $\text{T}_{\text{E}}\text{X}$ . Thus, Word2 $\text{T}_{\text{E}}\text{X}$  leverages your investment in Microsoft Word.

### 1.2 What For?

Why you may need your documents to be in  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  format?  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  is a de-facto standard in scientific publishing and most scientific publishers accept papers only in  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  format.  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  documents can be published not only on the paper, but on the Web using, for instance,  $\text{P}_{\text{D}}\text{F}_{\text{T}}\text{E}_{\text{X}}$ <sup>3</sup> which compiles  $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  documents directly to PDF (Portable Document Format

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<sup>1</sup><http://www.microsoft.com>

<sup>2</sup><http://www.mathtype.com>

<sup>3</sup><http://www.tug.org/applications/pdftex/>

by Adobe<sup>4</sup>). Read more about Web publishing with PDF in Thomas Merz book [5], also it is highly recommended to visit BinaryThing.com<sup>5</sup> which runs The ePublishing Network – network of interrelated sites dedicated to electronic publishing (ePublishing). To see samples of PDF documents created with Word2T<sub>E</sub>X please visit Word2T<sub>E</sub>X Samples<sup>6</sup>.

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<sup>4</sup><http://www.adobe.com>

<sup>5</sup><http://www.binarything.com/>

<sup>6</sup><http://www.chikrii.com>

## Chapter 2

# Getting Started

### 2.1 Overview

This chapter describes the steps you need to go through to get Word2 $\text{T}_{\text{E}}\text{X}$  up and running.

Word2 $\text{T}_{\text{E}}\text{X}$  system requirements and installation instructions are listed below. Although installing Word2 $\text{T}_{\text{E}}\text{X}$  is simply a matter of running its Setup program and following a few simple instructions, you may want to read this chapter first so you have a better understanding of Word2 $\text{T}_{\text{E}}\text{X}$  and its components.

### 2.2 System Requirements

In order to install and run Word2 $\text{T}_{\text{E}}\text{X}$ , your computer must have:

- Microsoft Windows 95 or later (Windows 98, Me, NT, 2000, XP);
- The Word2 $\text{T}_{\text{E}}\text{X}$  converter is not independent application, but the add-in to Microsoft Word and it requires Microsoft Word 95 or later version (Microsoft Word 97, Word 2000, Word XP);
- A hard disk drive with at least 2 megabytes of free space.

### 2.3 Installing Word2 $\text{T}_{\text{E}}\text{X}$

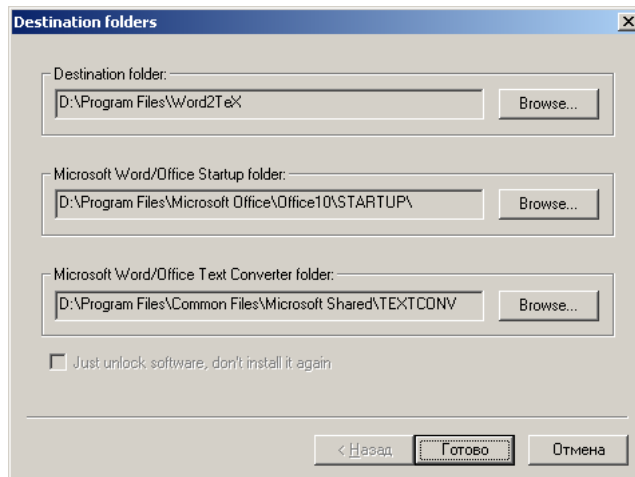
Installing Word2 $\text{T}_{\text{E}}\text{X}$  is very simple – just run Word2 $\text{T}_{\text{E}}\text{X}$  Setup program (file: word2tex.exe) and follow its instructions.

#### 2.3.1 Word2 $\text{T}_{\text{E}}\text{X}$ Setup

Once you have started Word2 $\text{T}_{\text{E}}\text{X}$  Setup, just follow the instructions presented to you. Following components will be installed:

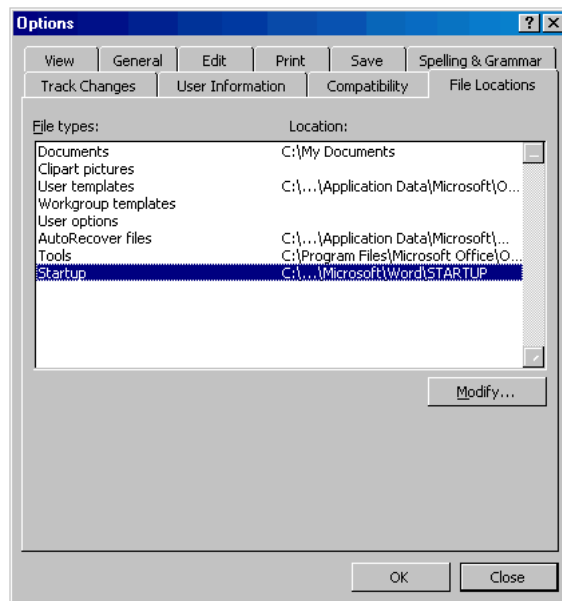
- The Word2T<sub>E</sub>X converter for Microsoft Word (file: word2tex.cnv);
- “Word2T<sub>E</sub>X” submenu add-in for Microsoft Word (file: word2tex.wll);
- Word2T<sub>E</sub>X Help (file: word2tex.hlp);
- Word2T<sub>E</sub>X User Manual (file: word2tex.pdf);
- Word2T<sub>E</sub>X Profile Manager which provides you with opportunity to import/export Word2T<sub>E</sub>X settings to/from files (file: profman.exe);
- Word2T<sub>E</sub>X license agreement (file: license.txt);
- Windows “Add/Remove Programs” uninstallation support (file: uninstall.exe).

You can find all these files in Word2T<sub>E</sub>X Destination folder when Word2T<sub>E</sub>X is installed.



If, for some reason, Microsoft Office/Word Startup folder wasn't correctly detected by Word2T<sub>E</sub>X Setup, please enter right one with **Browse...** button.

To find the correct location for the Startup folder, choose **Options** on Word's **Tools** menu and select the **File Locations** tab. Alternatively, you can copy the file word2tex.wll manually to the Startup folder.



If Word2 $\text{T}_{\text{E}}\text{X}$  Setup has problems installing file `word2tex.wll` to the Startup folder, it might be because the Startup folder is marked read-only. Please contact your system administrator if this is the case.

If  $\text{T}_{\text{E}}\text{X}$  option doesn't appear in Word's `File|Save As...` dialog, it might be because Microsoft Office/Word Text Converter folder is marked read-only. You may copy the file `word2tex.cnv` manually to Text converter folder (usually `Program Files\Common Files\Microsoft Shared\TEXTCONV`). After doing this you'll have to open any text file (it is important that this should be non-native Word doc) in Word and  $\text{T}_{\text{E}}\text{X}$  option will appear.

### 2.3.2 Uninstalling Word2 $\text{T}_{\text{E}}\text{X}$

Word2 $\text{T}_{\text{E}}\text{X}$  Setup supports Windows "Add/Remove Programs" feature:

- Click the `Start` button, point to `Settings`, and then click `Control Panel`;
- Double-click `Add/Remove Programs`;
- Follow the instructions on your screen.

## 2.4 Upgrading from previous version

There's no need to uninstall Word2 $\text{T}_{\text{E}}\text{X}$  when upgrading to newer version, since Word2 $\text{T}_{\text{E}}\text{X}$  settings will be lost after uninstalling. Just install Word2 $\text{T}_{\text{E}}\text{X}$  as usual and all updates will be made automatically.

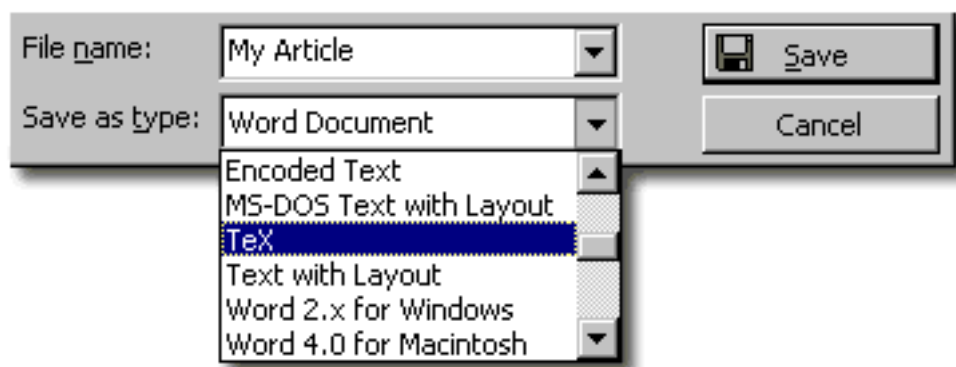
## Chapter 3

# Basic Concepts

### 3.1 How do I use it?

Once Word2 $\text{T}_{\text{E}}\text{X}$  installed, its operation is seamless, below is shown a three-step procedure of converting Microsoft Word document to  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ :

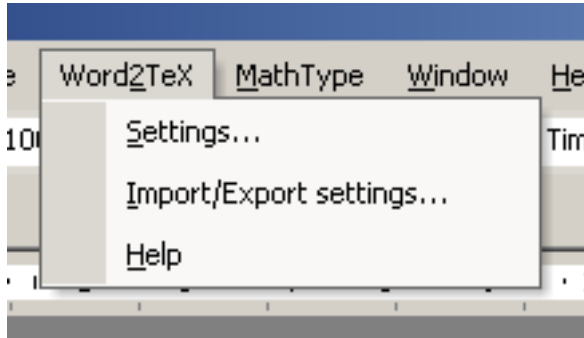
1. Start Microsoft Word (if it's not already running), open the document you want to convert by `File|Open...`;
2. Invoke `File|Save As...` dialog box and choose `TeX` format for saving;
3. Enter a file name for output  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  document and click `Save` button.



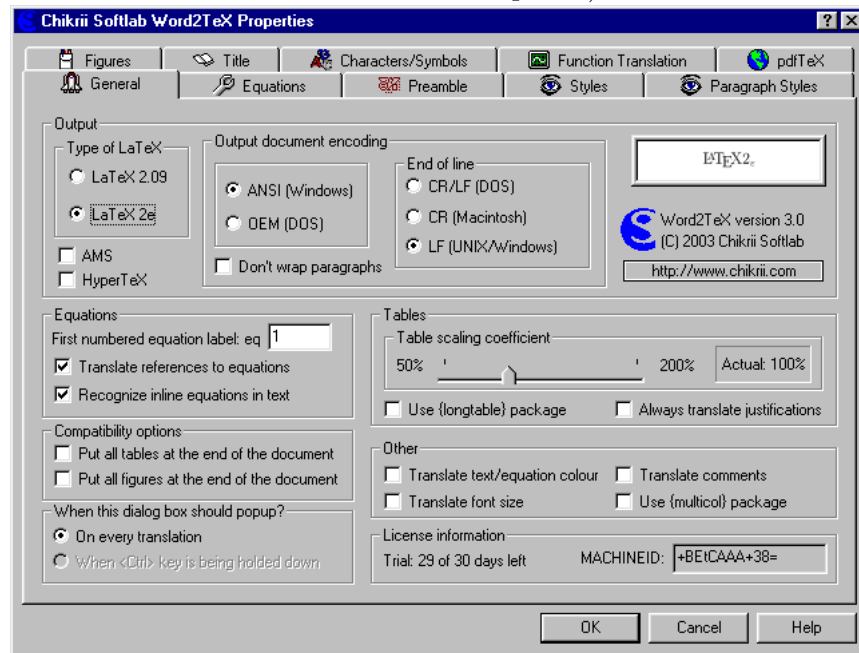
That's all! I told you it's easy. You'll say: "OK, what if I need some specific type of  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  format, for instance,  $\text{R}^{\text{E}}\text{V}\text{T}_{\text{E}}\text{X}$  (Physical Society  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ )?" – Word2 $\text{T}_{\text{E}}\text{X}$  can be customized to create any type of  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ -based format!

Other Word2 $\text{T}_{\text{E}}\text{X}$  features can be accessed from pull-down menu `Word2 $\text{T}_{\text{E}}\text{X}$`  in Microsoft Word.

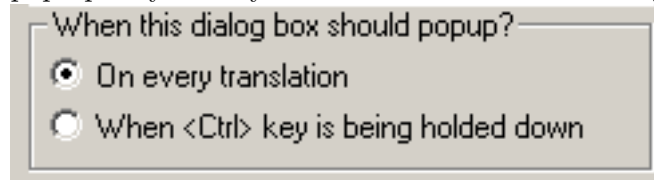
### 3.2 Word2TeX menu



**Settings...** Access Word2TeX current settings dialog (Word2TeX customization details are described in Chapter 5)

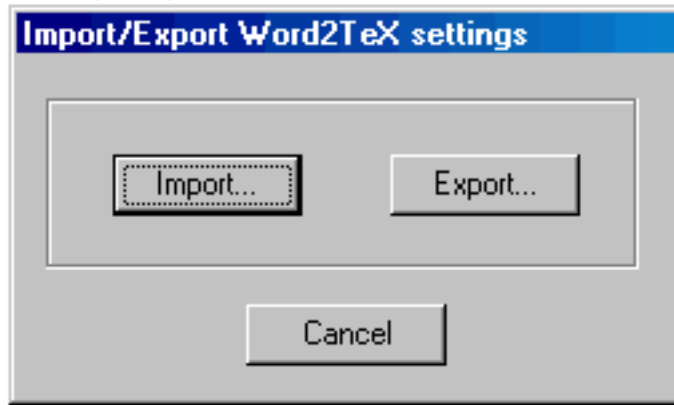


By default, this dialog will pop-up everytime you will convert document to  $\text{\LaTeX}$  via **File|Save As...**, but you can choose this dialog to pop-up only when you hold down left **<CTRL>**-key:



**Import/Export Settings...** You can import Word2TeX settings from

file (\*.wtp) using **Import** function or save current Word2T<sub>E</sub>X settings to file (\*.wtp) using **Export** function.



Alternatively you might want to import settings from file (\*.wtp) right in Explorer or from e-mail message attachment simply by double-clicking on file.

**Help** Word2T<sub>E</sub>X Help

## Chapter 4

# How to Format Your Document

### 4.1 Overview

Word2 $\text{\TeX}$  will do its best to generate well-structured  $\text{\LaTeX}$  document, but you should know that properly structured & formatted Word source document is essential to a smooth conversion. Therefore, if you please follow the guidelines below in preparing your Word documents, it will result in a much higher-quality finished product.

### 4.2 Guidelines

**Table of Contents (TOC)** There's no need to include TOC in your document, since  $\text{\LaTeX}$  will generate the TOC automatically. Word2 $\text{\TeX}$  replaces TOC with placeholder command which tells  $\text{\LaTeX}$  where to place TOC.

**Headers** Please use appropriate paragraph styles (i.e. Heading 1, Heading 2, ...) for headers. Word2 $\text{\TeX}$  will automatically translate your first four levels of headers, and it is very easy to customize Word2 $\text{\TeX}$  settings so that Word2 $\text{\TeX}$  will translate any number of header levels. Please never hardcode (manually, by hand) header numbers, instead use Word's auto-numbering/bulleting features. Word2 $\text{\TeX}$  will remove all the header numbers, since  $\text{\LaTeX}$  will number them automatically. Word2 $\text{\TeX}$  will properly translate references to headers only if references were created by Word's Insert|Cross-reference..., not by hardcoding reference number. Please do not break headers with carriage return to create multiline headers, use  $\langle\text{SHIFT}\rangle-\langle\text{ENTER}\rangle$  for this (it is not recommended at all, since  $\text{\TeX}$  will do all hyphenations automatically). (This holds for all other headers as well.)

**Indentation** There is no need to indent either regular text or headers.  $\text{T}_{\text{E}}\text{X}$  will handle the appropriate indentation for any situation.

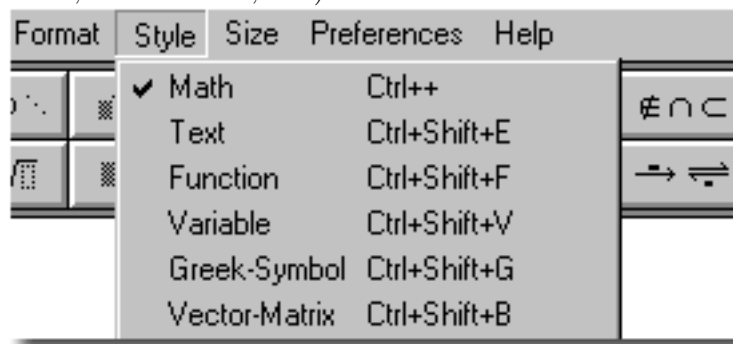
**Page/Section Breaks** Word2 $\text{T}_{\text{E}}\text{X}$  will translate page & section breaks with no problems, but it is very rarely needed (if ever) to include such breaks in document. Remember that  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  will do all formatting automatically.

**Running Heads** Please do not include any running heads or headers/footers – they will be ignored by Word2 $\text{T}_{\text{E}}\text{X}$ , since  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  will generate these automatically.

**Footnotes** Word2 $\text{T}_{\text{E}}\text{X}$  will translate footnotes, automatically numbered and formatted by Word’s Insert|Footnote....

**Bibliographic Citations** Word2 $\text{T}_{\text{E}}\text{X}$  will translate numbered bibliographic citations into a  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  bibliography if they were created as endnotes.

**Mathematical Expressions** Word2 $\text{T}_{\text{E}}\text{X}$  will translate Equation Editor and MathType<sup>1</sup> equations, moreover, it will try to recognize simple mathematical expressions in regular text if they were *italicized*. It is highly recommended to use Equation Editor or MathType to create all mathematical expressions, both in-text (that is, nondisplayed: simple numerals, single variables, short expressions, etc.) and displayed equations (and numbered display equations too). Word2 $\text{T}_{\text{E}}\text{X}$  will detect type of equation (nondisplayed, displayed, numbered displayed) automatically. When creating equation in Equation Editor or MathType, please use Styles menu to mark text styles in equation (TEXT, VECTOR, FUNCTION, etc.):



**Equation Numbers** Equation numbers may be generated in one of two ways: as regular Word text or automatically via MathType. In both cases equation number must be at the right side of equation with no

<sup>1</sup>Word2 $\text{T}_{\text{E}}\text{X}$  can handle equations created by any version of Equation Editor or MathType

text in between (there can be only spaces and tabulations). Please always use parentheses and periods (not dashes) when creating equation numbers; e.g., use “(1.1)” instead of “1–1”. Finally, when citing an equation in the text, please be sure to type (if you create equation numbers as regular text) the equation number exactly the way it appears in the actual equation. This will allow Word2T<sub>E</sub>X to recognize it and convert it to an electronic reference.

**Tables** Word2T<sub>E</sub>X converts tables of any structure, including nested tables (Word 2000 or later).

**Figures** Word2T<sub>E</sub>X will convert all pictures and embedded objects (Excel charts, for example) to L<sup>A</sup>T<sub>E</sub>X figures. The only one type of pictures Word2T<sub>E</sub>X can't handle is Word Drawings elements, but that's not the big problem to convert Word Drawings to regular picture: using the Select Objects arrow on the Drawing toolbar, please select all of the elements of the Word Drawing figure (including all text boxes), select Copy, open a new WordPad document (WordPad application is located in `Start|Programs|Accessories`), select Copy, return to Word, delete the old figure, and select Paste to place the converted figure.

**Captions** Word2T<sub>E</sub>X will translate figure and table captions if they were created via Word's `Insert|Caption...` menu.

The easiest way to add consistent and correctly numbered captions is to use the `Auto-Caption...` option.

**Electronic Citations** Please include in-text citations to numbered items (header numbers, figure/table numbers), bibliographic citations using Word's `Insert|Cross-reference...`. This way, Word2T<sub>E</sub>X will automatically label and reference numbered items and bibliographic cites in L<sup>A</sup>T<sub>E</sub>X.

**Hyperlinks** Word2T<sub>E</sub>X will translate your hyperlinks (including relative hyperlinks). To insert hyperlinks please use Word's `Insert|Hyperlink`. L<sup>A</sup>T<sub>E</sub>X package `{hyperref}`, by Sebastian Rahtz, will be used.

**Index** Word2T<sub>E</sub>X will automatically generate correct index in LaTeX if index entries were marked via Word's `Mark Entry...` in menu `Insert|Index and Tables...`.

**Columns** Word2T<sub>E</sub>X translates multicolumn formatting created by Word's `Format|Columns...`. L<sup>A</sup>T<sub>E</sub>X package `{multicol}`, by Frank Mittelbach, will be used to represent multicolumn formatting, it allows to create up to 10 columns.

**Annotations/Comments** Word2T<sub>E</sub>X will translate annotations/comments inserted with Word's Insert|Comment if appropriate option is turned on in Word2T<sub>E</sub>X settings (see Chapter 5 for details).

**Character attributes** Word2T<sub>E</sub>X will translate following character/font attributes<sup>2</sup>: SMALL CAPS, **Bold**, *Italic*, Underline (Double-underline, Waved-underline), Strikethrough (~~example~~), Double strikethrough (~~~~example~~~~), font size (tiny, scriptsize, footnotesize, small, large, **Large**, **LARGE**, **huge**, **Huge**), text marked as Hidden will be omitted by Word2T<sub>E</sub>X (can be used for partial translation of document).

**Colours** Word2T<sub>E</sub>X can handle both coloured text (ABC) and equations ( $n = m \lfloor \frac{n}{m} \rfloor + n \bmod m$ )<sup>3</sup>. L<sup>A</sup>T<sub>E</sub>X package {color}, by David Carlisle, is used.

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<sup>2</sup>{ulem} package, by Donald Arseneau, is required for some attributes (Double-underline, Waved-underline, Strikethrough, Double strikethrough) if default Word2T<sub>E</sub>X settings are used

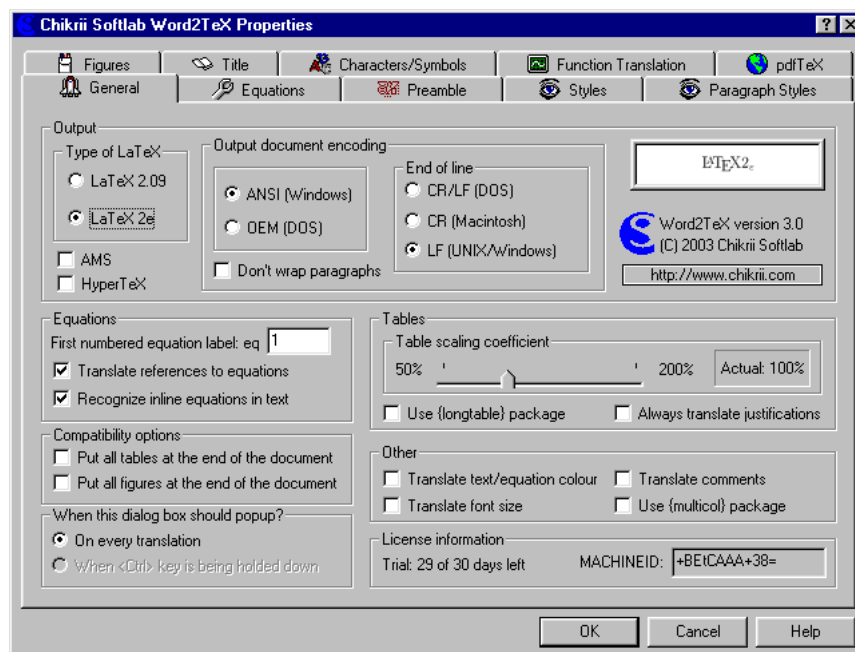
<sup>3</sup>Applicable only to version 4.0 or later of Equation Editor and MathType

## Chapter 5

# Customizing Word2 $\TeX$ settings

### 5.1 General

#### 5.1.1 Overview



This dialog contains a number of various options that either didn't fit into appropriate dialog or they aren't specific to some big enough group of options that can fill in another Word2 $\TeX$  dialog.

### 5.1.2 Details

**Type of L<sup>A</sup>T<sub>E</sub>X** Just specify type of L<sup>A</sup>T<sub>E</sub>X that is closer to the format you need (of course, L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> is used by default). This option affects on the following Word2T<sub>E</sub>X dialogs: **Preamble**, **Equations**, **Styles**.

**Output document encoding** Options in this group are dedicated to resulting L<sup>A</sup>T<sub>E</sub>X document encoding details.

**End of line** How you would prefer Word2T<sub>E</sub>X to break lines of L<sup>A</sup>T<sub>E</sub>X document.

**Don't wrap paragraphs** Usually, Word2T<sub>E</sub>X breaks paragraphs into lines. When this option is enabled, paragraphs in L<sup>A</sup>T<sub>E</sub>X document are written as one continuous line of text. This is very specific feature and it is disabled by default.

**A<sub>M</sub>S** Enable this option if you need American Mathematical Society extensions. This option affects on the following Word2T<sub>E</sub>X dialogs: **Preamble**, **Equations**, **Characters/Symbols**, **Styles**.

**HyperT<sub>E</sub>X** If this option is enabled Word2T<sub>E</sub>X translates hyperlinks to L<sup>A</sup>T<sub>E</sub>X using `{hyperref}` package, otherwise, hyperlinks are translated as regular text.

**Equations** Word2T<sub>E</sub>X detects numbered displayed equations automatically whether they were created with MathType Commands macros or as regular text. Moreover, Word2T<sub>E</sub>X can translate references automatically in both cases.

**First numbered equation label** Numbered displayed equations must be labeled for further referencing. This option defines a starting number for automatically generated label names. It's especially convenient when translating huge documents part by part.

**Translate references to equations** This option turns on/off automatic translation of equation referencing.

**Recognize inline equations in text** Typing variable names as regular *italicized* text (like  $x$ ) instead of creating memory-wasting Equation Editor or MathType equation is common thing. Word2T<sub>E</sub>X will do its best to recognize such cases if this option is enabled.

#### Compatibility options

**Put all tables at the end of the document** If this option is enabled Word2T<sub>E</sub>X emits all tables at the end of the document.

**Put all figures at the end of the document** If this option is enabled Word2TEX emits all figures at the end of the document.

### Tables

**Table scaling coefficient** Since Word internally represents all table dimensions (like column widths, for example) in fixed values which were applicable for font dimensions you used in your table it is sometimes just impossible to translate table dimensions automatically. A little help from you is required in this case, please use this ruler to control proportional scaling of all table dimensions.

**Use `{longtable}` package** If you have multipage tables in your document it might be helpful to enable this option, Word2TEX will use `{longtable}` package for representing tables in L<sup>A</sup>T<sub>E</sub>X then.

**Always translate justifications** Word2TEX translates paragraph (this option is applicable only to paragraphs inside table) alignment only if this option is enabled.

### Other

**Translate text/equation colour** Word2TEX translates colours in text and in mathematical expressions if this option is enabled. By default it is disabled.

**Translate font size** If this option is enabled, Word2TEX translates font size according to the following simple rules:

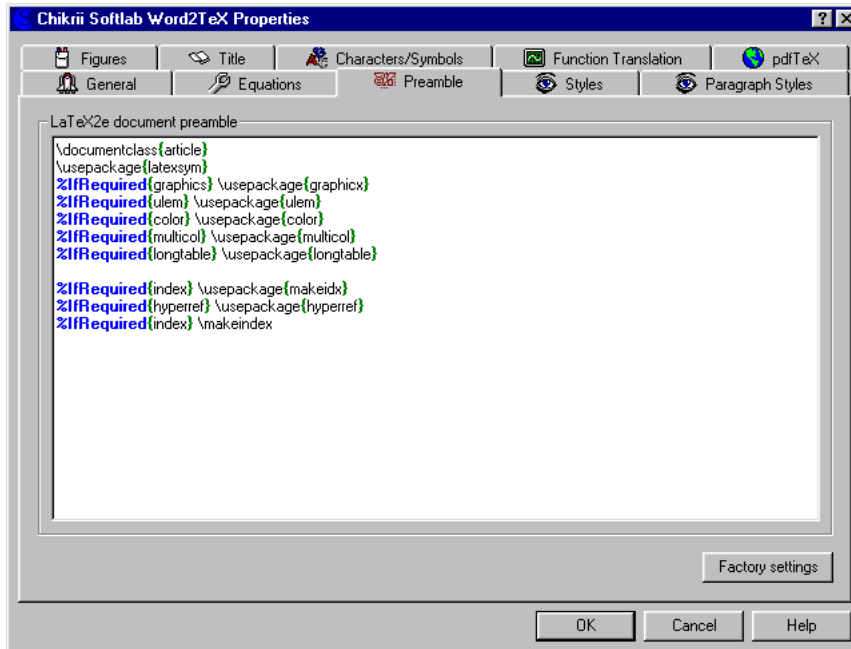
Font size in Word (points)	L <sup>A</sup> T <sub>E</sub> X attribute
$\leq 4$	<code>\tiny</code>
$> 4$ and $\leq 6$	<code>\scriptsize</code>
$> 6$ and $\leq 7$	<code>\footnotesize</code>
$> 7$ and $\leq 9$	<code>\small</code>
$\geq 14$ and $< 16$	<code>\large</code>
$\geq 16$ and $< 18$	<code>\Large</code>
$\geq 18$ and $< 24$	<code>\LARGE</code>
$\geq 24$ and $< 36$	<code>\huge</code>
$\geq 36$	<code>\Huge</code>

**Translate comments** If this option is enabled, Word2TEX translates annotations/comments inserted with Word's `Insert|Comment` to footnotes.

**Use `{multicol}` package** If this option is enabled, Word2TEX translates multicolumn formatting using `{multicol}` package.

**When this dialog box should popup?** Please see Chapter 3 for details on options in this group.

## 5.2 Preamble



In simple words, document preamble is a set of commands before `\begin{document}` instruction:

```
<document preamble>
\begin{document}
<document body>
\end{document}
```

Required  $\LaTeX$  packages are included here and also everything that have to be applied to a whole document (paper size, for example).

Word2 $\TeX$  will emit document preamble exactly as you'll define it in dialog shown above with only one helpful exception – conditional processing.

Conditional processing is implemented by two macros: `%IfRequired` and `%IfNotRequired`. These macros have one mandatory parameter, both macro name and parameter name are case-sensitive. Macro must start at the beginning of the line and must have the following syntax:

```
<macro>{<parameter>}_<text>
```

Symantic meaning of `%IfRequired` and `%IfNotRequired` macros are absolutely opposite:

**`%IfRequired`** In the case when a hypothesis associated with `<parameter>` is true, `<text>` will be emitted for this preamble line. If hypothesis is false, this preamble line will be omitted.

**%IfNotRequired** In the case when a hypothesis associated with `<parameter>` is false, `<text>` will be emitted for this preamble line. If hypothesis is true, this preamble line will be omitted.

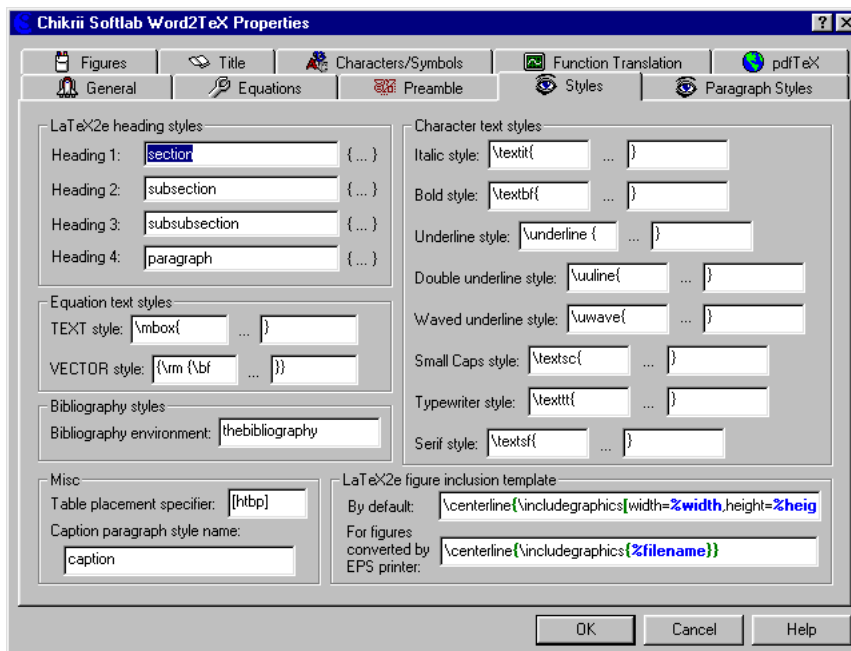
Possible parameter values and their associated hypothesis (term “document” below means resulting L<sup>A</sup>T<sub>E</sub>X document) are:

<b>Parameter</b>	<b>Associated hypothesis</b>
<code>bib</code>	Document has bibliography.
<code>color</code>	Document requires <code>{color}</code> package.
<code>graphicx</code>	Document has figure inclusions.
<code>graphics</code>	Document has figure inclusions <sup>1</sup> .
<code>ulem</code>	Document uses non-standard text attributes (one of the following: Double-underline, Waved-underline, Strikethrough, Double strikethrough).
<code>multicol</code>	Document requires <code>{multicol}</code> package.
<code>tab</code>	Document has <code>\tab</code> commands.
<code>index</code>	Document has index entries.
<code>hyperref</code>	Document requires <code>{hyperref}</code> package.
<code>longtable</code>	Document requires <code>{longtable}</code> package.

---

<sup>1</sup>That’s it, just exactly the same as for `graphicx`

## 5.3 Styles



**LaTeX paragraph styles** Word2TeX maps Word’s “Heading 1”, “Heading 2”, “Heading 3” and “Heading 4” paragraph styles to LaTeX header styles defined in this group. Referencing and suppression of explicit font attributes<sup>2</sup> is applied automatically. Word2TeX can easily process unlimited number of heading levels, see **Paragraph Styles** dialog description.

**Equation text styles** Translations for equation text styles “Text” and “Vector”.

**Bibliography environment** Endnotes are translated to bibliography items and references to endnotes are translated to `\cite` LaTeX commands. This option defines the name of LaTeX environment where bibliography items should be enclosed.

**Table placement specifier** The placement specifier tells LaTeX where to place the table. If no placement specifier is given, standard classes assume `[tbp]`. Below is a short description of common specifier components (for more information please refer to [2, 3, 4]):

<sup>2</sup>See **ExStyles** dialog description for details on what is that.

Specifier	Meaning
h	here
t	at the top of a page
b	at the bottom of a page
p	on a special page containing only floats

**Caption style name** Captions of figures & tables are represented in Word document as paragraphs with “Caption” style. Actual name of this paragraph style differs in localized Word versions and because of that you should enter real name of this style in this option for proper translation of captions and also for referencing to figures & tables<sup>3</sup>.

**Character text styles** L<sup>A</sup>T<sub>E</sub>X translations (opening and closing strings) for all character attributes that Word2T<sub>E</sub>X can handle.

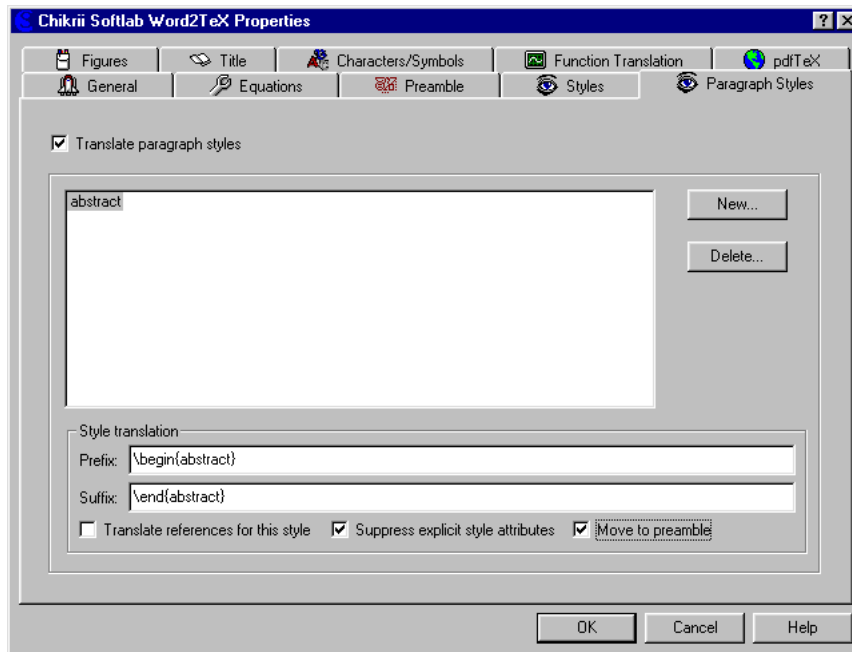
**L<sup>A</sup>T<sub>E</sub>X figure inclusion template** You’ll need to read about **Figures** dialog to understand what this group of options is really about. If you already read it, here it is. This group contains two figure inclusion templates – strings that will be emitted on a place of figure while substitution for Word2T<sub>E</sub>X figure inclusion macros will be doing on the fly. First template is used for figures converted by built-in figure converter and the second will be used for figures generated by PostScript printer driver. Below is a description of all possible figure inclusion macros:

Macro	Description
%x1	bounding box left
%y1	bounding box top
%x2	bounding box right
%y2	bounding box bottom
%width	image width
%height	image height
%xscale	horizontal scaling factor (already in PS metrics)
%yscale	vertical scaling factor (already in PS metrics)
%filename	converted file name (i.e., sample1.eps, sample1.pdf)
%sourcefilename	original file name (i.e., sample1.wmf, sample1.png)

<sup>3</sup>Word inserts references to captions, not to figures/tables.

## 5.4 Paragraph Styles

### 5.4.1 Overview



This dialog provides you with opportunity to map Word document paragraph styles to  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  environments, heading styles, commands, whatever you need.

It is important that paragraph style names should be entered here exactly as they appear in `Format|Style...`. Nevertheless, mismatches (e.g., `nOrmal`) will be understood by `Word2TeX` correctly.

### 5.4.2 Details

**Translate paragraph styles** If this option is disabled no style translation will be provided at all.

**New...** Add new paragraph style.

**Delete...** Remove paragraph style from translation table.

**Style translation** Actual translation rules for current paragraph style are defined and can be modified in this group of options.

**Prefix** This is what will be emitted before paragraph body. If this string ends with `'{'`, `Word2TeX` doesn't break the line before and after paragraph body.

**Suffix** This is what will be emitted after paragraph body.

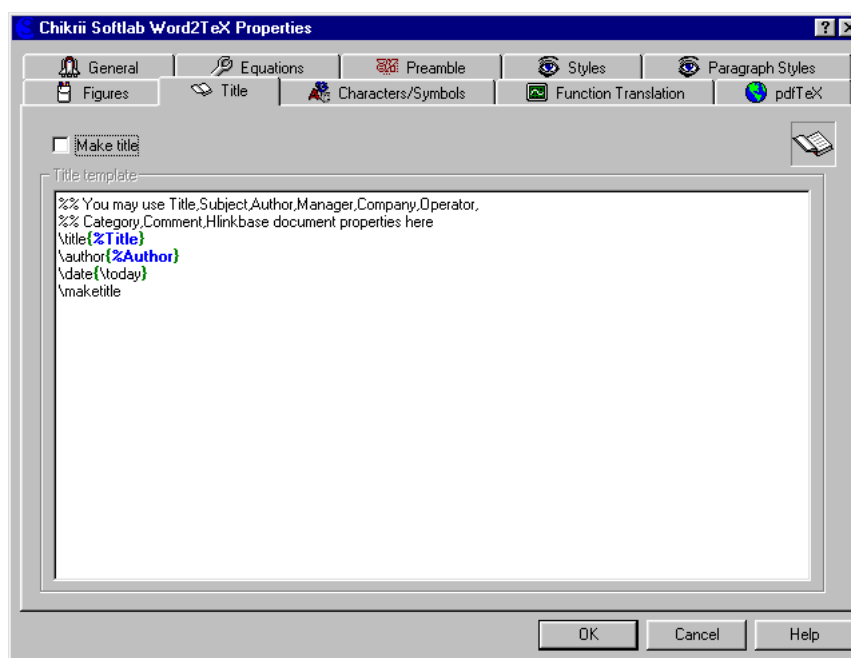
**Translate references for this style** If this option is enabled Word2 $\text{T}_\text{E}_\text{X}$  translates references for this paragraph style automatically.

**Suppress explicit style attributes** If this option is enabled Word2 $\text{T}_\text{E}_\text{X}$  suppresses all explicit font attributes for this style. This helps to avoid cases like:

$$\backslash\text{paragraph}\{\backslash\text{textit}\{\dots\}\}$$

**Move to preamble** If this option is enabled Word2 $\text{T}_\text{E}_\text{X}$  emits translation for this paragraph not on the place where it appears in Word document, but after document preamble and before  $\backslash\text{begin}\{\text{document}\}$ .

## 5.5 Title



Title is what will be emitted right after  $\backslash\text{begin}\{\text{document}\}$  if **Make title** option is enabled. You may place here any  $\text{L}^{\text{A}}\text{T}_\text{E}_\text{X}$  code that you want to be at the beginning of your document body<sup>4</sup>. Title is generated on the base of **Title template** and values from Word's **File|Properties** dialog.

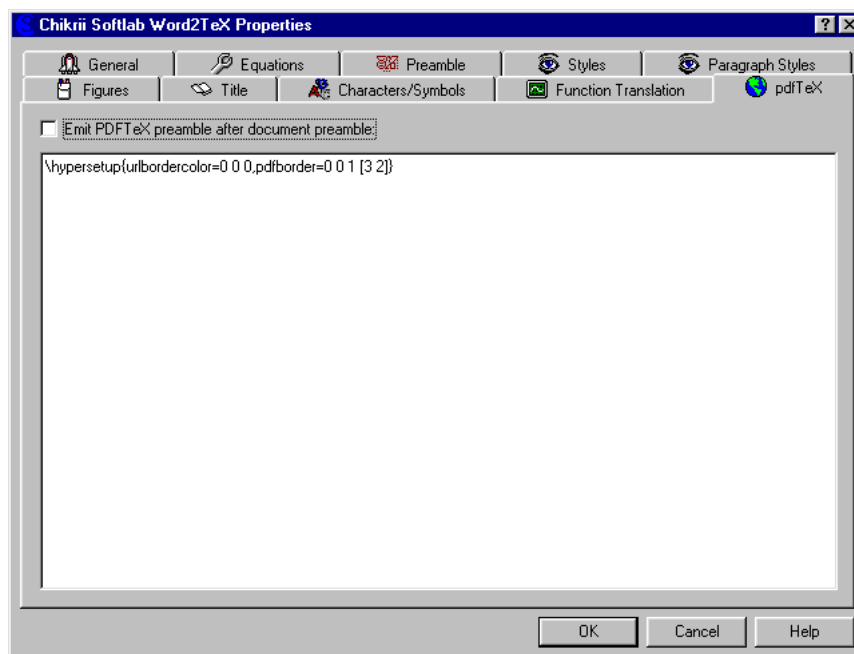
<sup>4</sup>Title page automatic creation is just a simple example of what you can do with the help of this dialog.

To place these values into title use the following title macros in Title template:

Macro	Value
<code>%Title</code>	“Title” text.
<code>%Subject</code>	“Subject” text.
<code>%Author</code>	“Author” text.
<code>%Manager</code>	“Manager” text.
<code>%Company</code>	“Company” text.
<code>%Operator</code>	This value isn’t presented in Word’s dialog, that’s actual user name.
<code>%Category</code>	“Category” text.
<code>%Comment</code>	“Comment” text.
<code>%Hlinkbase</code>	“Hlinkbase” text.

The important point is that text that Word2T<sub>E</sub>X gets for title macro will be emitted AS IS, without any translation (if “\LaTeX book” in “Title”, you’ll have exactly the same code in title which will look nice when L<sup>A</sup>T<sub>E</sub>X document will be compiled: “L<sup>A</sup>T<sub>E</sub>Xbook”).

## 5.6 pdf $\TeX$



When preparing a document for PDF $\TeX$  it might be useful to include some PDF $\TeX$ -specific commands into document preamble. This dialog is intended just right for this case. If Emit PDF $\TeX$  preamble after document preamble option is enabled Word2 $\TeX$  emits this text AS IS (without any processing) after document preamble.

For example, this document<sup>5</sup> has following PDF $\TeX$  preamble:

```
\pdfcompresslevel9
\hypersetup{pdfborder=0_0_0}
\pdfinfo
{
/Title_(word2tex.pdf)
/Creator_(Chikrii_Softlab)
/Producer_(Chikrii_Softlab)
/Author_(Kirill_A._Chikrii)
/Subject_(Word2TeX_User_Manual)
/Keywords_(word2tex,microsoft,word,tex,latex,equation,
editor,mathtype)
}
%_Adobe_Acrobat_Reader|View_-"Actual_Size"
\pdfcatalog
```

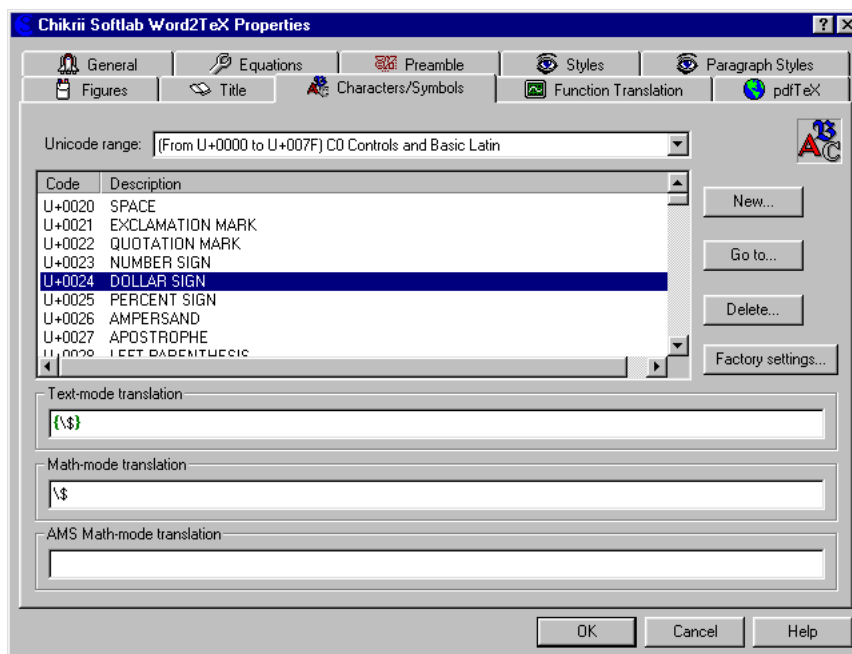
---

<sup>5</sup>Word2 $\TeX$  User Manual

```
{/OpenAction [/_5_0_0_R_/XYZ_null_846_1.0_]}
```

## 5.7 Characters/Symbols

### 5.7.1 Overview



This dialog defines how Word2T<sub>E</sub>X will translate characters<sup>6</sup>. If, for some reason, character translation database (which can be accessed/modified via this dialog) doesn't have some character that you use in your document, Word2T<sub>E</sub>X uses current codepage encoding<sup>7</sup> of this character for translation.

Word2T<sub>E</sub>X identifies characters by their MTCODE<sup>8</sup> encoding (16-bit hexadecimal number), which corresponds to `code` field in this dialog.

### 5.7.2 Details

**Unicode range** All characters (there are  $2^{16}$  possible codes) are splitted to ranges (subsets) and this option lets you easily navigate in character translation database. Just click it and choose range you need.

<sup>6</sup>Term "character" means here not only regular text characters, but also all mathematical symbols in equations created by Equation Editor or MathType, all other symbols inserted with `Insert|Symbol...` or in any other way.

<sup>7</sup>For MBCS (Japanese Word, etc.) Shift-JIS representation is used.

<sup>8</sup>MathType's superset of Unicode. For more information on MTCODE please refer to <http://www.mathtype.com>. For more information on Unicode please refer to <http://www.unicode.org> or to [6].

**Text-mode translation** Translation for selected character that is used if it appears in regular text (or, to be precise, not in mathematical expression). Do not fulfill this field with some surrogate translation, if character is assumed to appear in math (for example, never use  $\text{\alpha}$  here, Word2 $\text{\TeX}$  will build something similar if there is no better choice). The reason (actually one of reasons) is that Word2 $\text{\TeX}$  can recognize mathematical expressions (of all types: in-text, displayed equation and numbered displayed equation) if you do not use Equation Editor nor MathType and knowledge that character is some part of mathematical expression is very important.

**Math-mode translation** Translation for selected character that is used if it appears in mathematical expression. In then case when  $\mathcal{AMS}$  option in **General** Word2 $\text{\TeX}$  dialog is enabled this translation is used only if there's no  $\mathcal{AMS}$  translation (see below).

$\mathcal{AMS}$  **Math-mode translation** Translation for selected character that is used if it appears in mathematical expression and  $\mathcal{AMS}$  option in **General** Word2 $\text{\TeX}$  dialog is enabled.

**New...** Word2 $\text{\TeX}$  will ask you for character code and then will add this character to character translation database with empty translations for all modes and then will make this character selected so that you can define translations. In the case this character was already defined in character translation database, Word2 $\text{\TeX}$  will just select it (this is the same as option below).

**Go to...** Word2 $\text{\TeX}$  will ask you for character code and will select it (if there's such character in database). Unicode range will change too, if this character code corresponds to range other than current.

**Delete...** Removes selected character from database. You can only remove characters defined by you.

**Factory settings...** Resets whole character translation database to initial state – all character translations defined by you will be lost!

## 5.8 Equations

### 5.8.1 Overview



This dialog is dedicated to translation aspects of mathematical expressions created by Equation Editor or MathType.

Equations (mathematical expressions) are built from symbols (this case is covered in dialog **Characters/Symbols**), templates (for example, fraction, integral) and embellishments (for example, prime). Details of MathType equation structure aren't explained here. Visit <http://www.mathtype.com> for detailed description of TDL (Design Science Translator Definition Language) and equation structure.

### 5.8.2 Details

**Translation definitions** Structured tree of all possible equation construction elements.

**Rule inheritance** Word2TeX shows on this picture the sequence in which it will try to find appropriate translation rule.

**Figure** Word2TeX shows on this picture how current template/embellishment looks in Equation Editor/MathType. Symbol '%' shows where parameter(s) appear.

**Description** Text description of current template/embellishment.

**TDL name** Translator Definition Language keyword for current template or embellishment.

**Compatibility** Shows in which equation creation tool (Equation Editor, MathType) current template or embellishment is implemented.

**Factory settings** Returns all translation definitions to defaults.

**$\text{T}_\text{E}\text{X}$**  Plain- $\text{T}_\text{E}\text{X}$  translation of current template/embellishment.

**$\mathcal{A}\mathcal{M}\mathcal{S}\text{-T}_\text{E}\text{X}$**   $\mathcal{A}\mathcal{M}\mathcal{S}\text{-T}_\text{E}\text{X}$  translation of current template/embellishment.

**$\text{L}^{\text{A}}\text{T}_\text{E}\text{X}$**   $\text{L}^{\text{A}}\text{T}_\text{E}\text{X}$  translation of current template/embellishment.

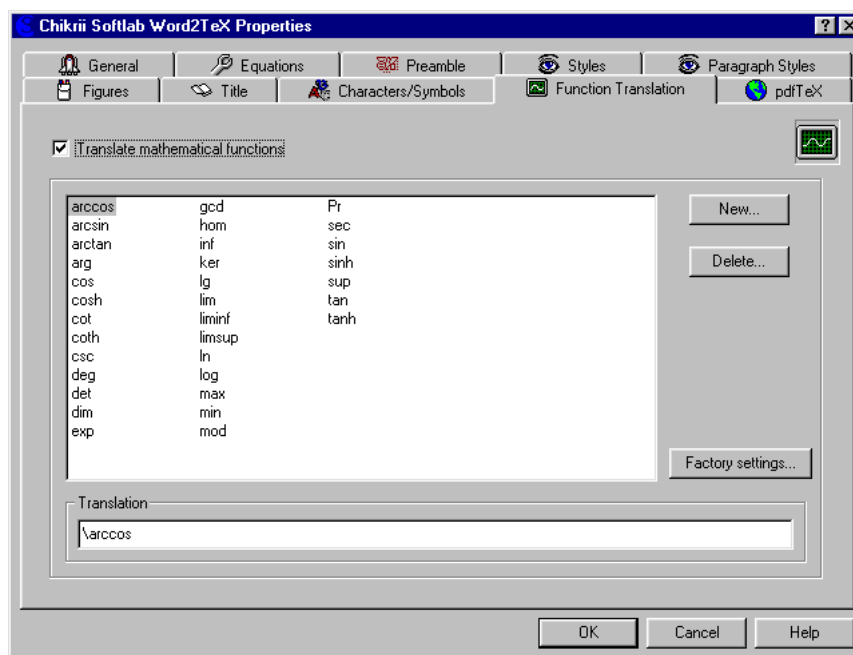
**$\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_\text{E}\text{X}$**   $\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_\text{E}\text{X}$  translation of current template/embellishment.

**$\text{L}^{\text{A}}\text{T}_\text{E}\text{X } 2_\epsilon$**   $\text{L}^{\text{A}}\text{T}_\text{E}\text{X } 2_\epsilon$  translation of current template/embellishment.

**$\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_\text{E}\text{X } 2_\epsilon$**   $\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_\text{E}\text{X } 2_\epsilon$  translation of current template/embellishment.

## 5.9 Function Translation

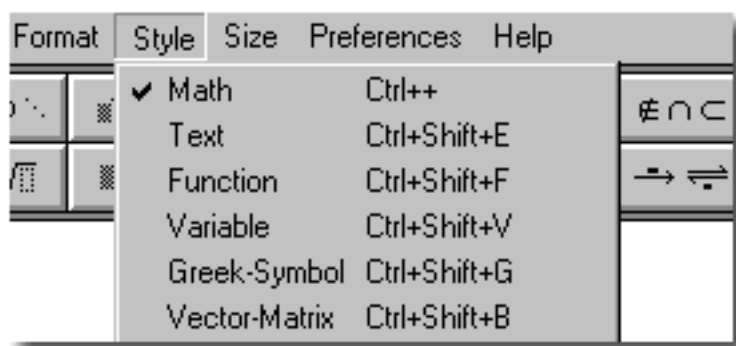
### 5.9.1 Overview



Properly formatted mathematical expression looks better if special commands is used for names of mathematical functions and operators instead of representing them as regular text. Consider the following example:

Right	Wrong
$\sin \alpha$	$\sin \alpha$
$\sin \alpha$	$\sin \alpha$

Both Equation Editor and MathType<sup>9</sup> provide you with opportunity to format function names via **Styles|Function** menu:



Word2TeX translates function names to translations defined in this dialog even if they weren't marked with **Function** style.

### 5.9.2 Details

**Translate mathematical functions** If this option is disabled Word2TeX does not translate function names.

**New...** Creates new function.

**Delete...** Removes function name from translation table.

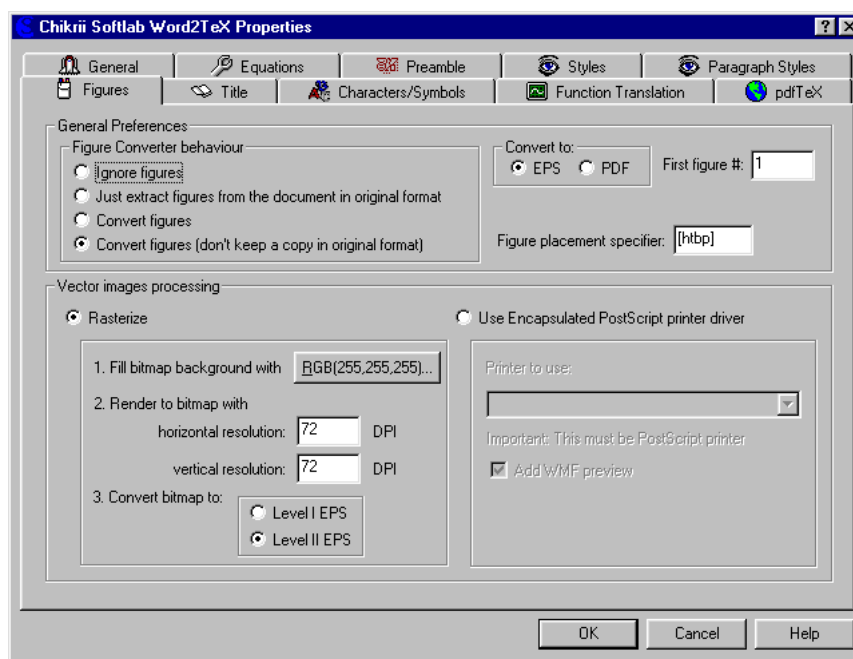
**Factory settings...** Restores translation table to initial state.

**Translation** You can enter/edit translation string here.

<sup>9</sup>MathType does this job automatically!

## 5.10 Figures

### 5.10.1 Overview



Word2 $\text{T}_\text{E}\text{X}$  provides two ways to convert figures: by rendering them to bitmap using built-in converter (raster image, limited quality) and by rendering them via PostScript printer driver (perfect quality, no hardware like PostScript printer is actually required, only driver of some high-quality PostScript printer should be installed).

### 5.10.2 Details

**Figure Converter behaviour** This tells Word2 $\text{T}_\text{E}\text{X}$  what to do with figures.

**Ignore figures** Omit all figures.

**Just extract figures from the document in original format**

Extract figures from Word document and save them in the same format as they were stored (WMF, EMF, BMP, GIF, JPEG, PNG).

**Convert figures** The same as previous, but also convert all figures.

**Convert figures (don't keep a copy in original format)**

The same as previous, but also remove original (unconverted) figures after they get converted.

**Convert to** Most common graphical format for  $\text{\LaTeX}$  figures is EPS (Encapsulated PostScript), but available  $\text{\PDF\TeX}$  versions do not accept EPS figures, nevertheless, they accept Encapsulated PDF. For your convenience  $\text{\Word2TeX}$  provides you with both formats, just choose one that you need.

**First figure #** Since each figure is placed in separate file it is highly recommended to store output  $\text{\LaTeX}$  documents in different folders. Names for these files are generated automatically: *figN*.eps (extension can be .pdf when converting figures to Encapsulated PDF), where 'fig' component is generated on the base of your document filename and **N** is a number of that figure in the document, but to avoid overwriting of files just mentioned, by figures of other document, it is wise to number figures in each document within some unique range. This parameter defines first figure number.

**Figure placement specifier** The placement specifier tells  $\text{\LaTeX}$  where to place the figure. Placing specifier syntax is explained in **Styles**  $\text{\Word2TeX}$  dialog.

**Vector images processing** This group of options is applicable only to non-raster images (WMF, EMF).

**Rasterize** Figures are converted by built-in converter if this option is enabled.

**Fill bitmap background with** Windows metafiles (WMF, EMF) might not have any background, choose background color in this option.

**horizontal resolution** Horizontal resolution, dots-per-inch.

**vertical resolution** Vertical resolution, dots-per-inch.

**Convert bitmap to** Level of PostScript language. Some printers might not understand Level 2.

**Use Encapsulated PostScript Printer** Figures are converted via PostScript printer if this option is enabled. To convert figures via PostScript printer you should have some PostScript printer installed (only driver is actually required) and should choose this printer in **Printer to use** option.

# Appendix A

## Bibliography

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## Appendix B

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