Chikrii Softlab

User Manual

August 3, 2010

Contents

Chapter 1

Introduction

1.1 About Word2TEX

Word2TEX is a converter designed in order to use with Microsoft Word[1] and enables Microsoft Word to save documents in LATEX [2, 3, 4] format. This gives the opportunity to convert existing Microsoft Word documents to LATEX and to create new LATEX documents right in your mainstream word processor rather than requiring a completely separate editing environment. Using Word2TEX 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 LATEX. It doesn't, in fact, require that one even learn LATEX in order to publish LATEX papers, and so can save students and other newcomers to scientific publishing the long climb up the LATEX learning curve and also can help LATEX experts to save their time. Instead of inputting LATEX commands, you can simply use Equation Editor (or MathType[2]) 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 LATEX format with the help of Word2TEX. Thus, Word2TEX leverages your investment in Microsoft Word.

1.2 What For?

Why you may need your documents to be in LATEX format? LATEX is a de-facto standard in scientific publishing and most scientific publishers accept papers only in LATEX format. LATEX documents can be published not only on the paper, but on the Web using, for instance, PDFTEX[3] which compiles TEX/LATEX documents directly to PDF (Portable Document Format

[1] http://www.microsoft.com
[2] http://www.mathtype.com
[3] http://www.tug.org/applications/pdftex/

by Adobe[4]). Read more about Web publishing with PDF in Thomas Merz book [5]. To see samples of PDF documents created with Word2TEX please visit Word2TEX Samples[5].

[4]http://www.adobe.com
[5]http://www.chikrii.com

Chapter 2

Getting Started

2.1 Overview

This chapter describes the steps you need to go through to get Word2TEX up and running.

Word2TEX system requirements and installation instructions are listed below. Although installing Word2TEX 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 Word2TEX and its components.

2.2 System Requirements

In order to install and run Word2TEX, your computer must have:

- Microsoft Windows 95 or later (Windows 98, Me, NT, 2000, XP, 2003/2008/R2, Vista, Windows 7);
- The Word2TEX 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, 2003, 2007, 2010);
- A hard disk drive with at least 10 megabytes of free space.

2.3 Installing Word2TEX

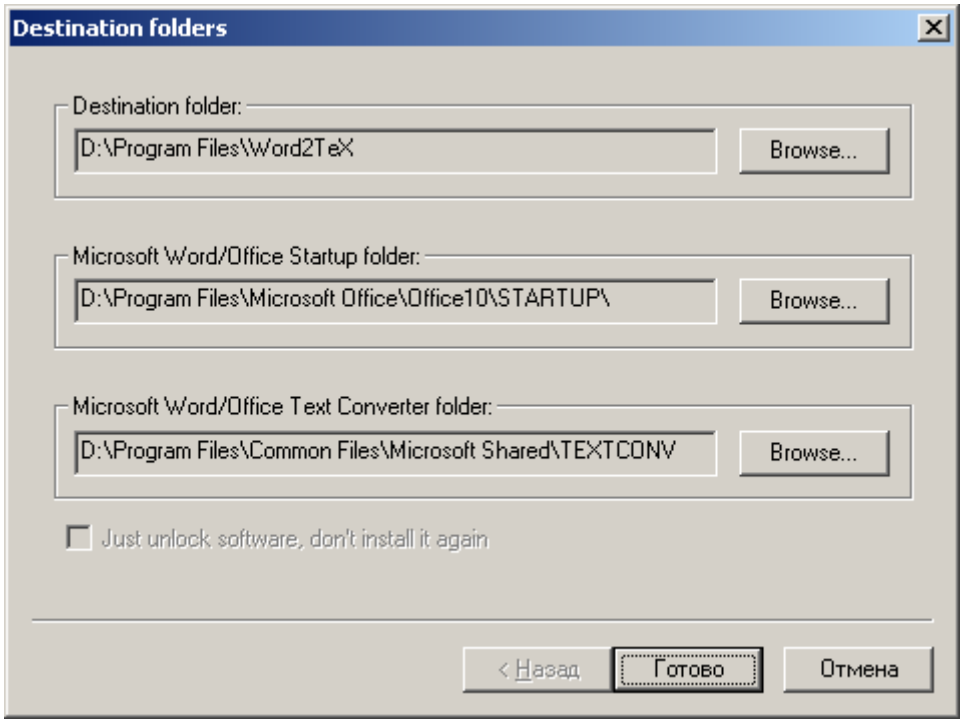
Installing Word2TEX is very simple – just run Word2TEX Setup program (file: word2tex.exe) and follow its instructions.

2.3.1 Word2TEX Setup

Once you have started Word2TEX Setup, just follow the instructions presented to you. Following components will be installed:

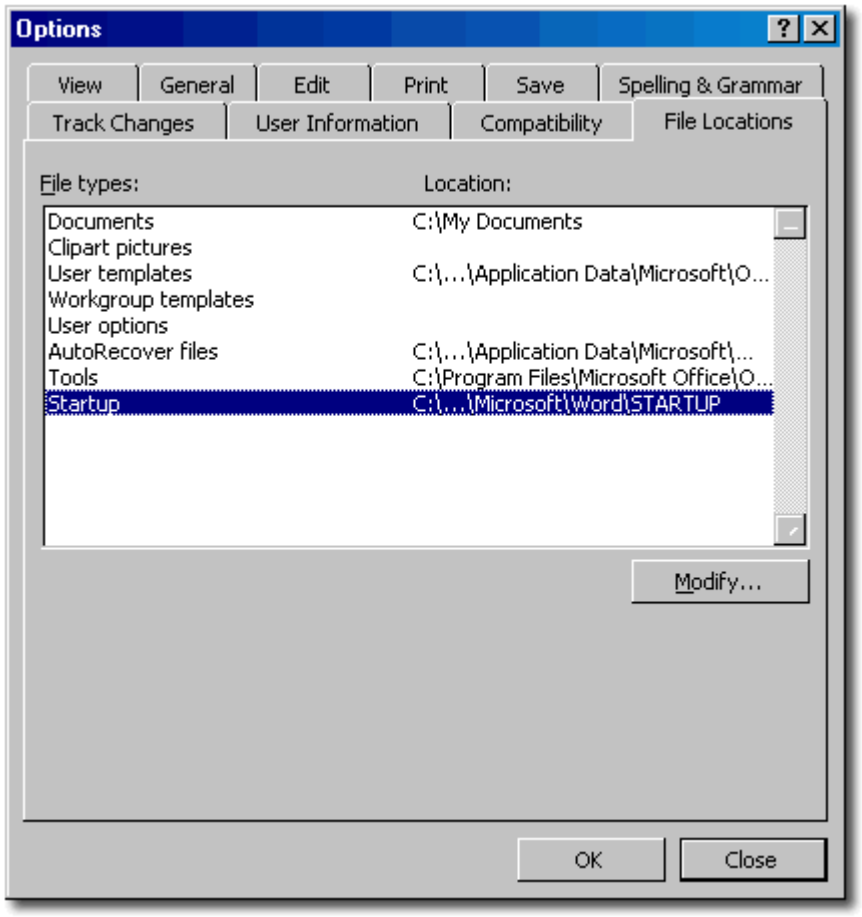
- The Word2TEX converter for Microsoft Word (file: word2tex.cnv);
- "Word2TEX" submenu add-in for Microsoft Word (file: word2tex.wll);
- Word2TEX User Manual (file: word2tex.pdf);
- Word2TEX Profile Manager which provides you with opportunity to import/export Word2TEX settings to/from files (file: profman.exe);
- Word2TEX license agreement (file: license.txt);
- Word2TEX command-line processing utility (file: w2tcmdline.exe);
- Windows "Add/Remove Programs" uninstallation support (file: uninstall.exe).

You can find all these files in Word2TEX Destination folder when Word2TEX is installed.



If, for some reason, Microsoft Office/Word Startup folder wasn't correctly detected by Word2TEX 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 Word2TEX 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 [TEX] 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 [TEX] option will appear.

2.3.2 Uninstalling Word2TEX

Word2TEX 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 Word2TEX when upgrading to newer version, since Word2TEX settings will be lost after uninstalling. Just install Word2TEX as usual and all updates will be made automatically.

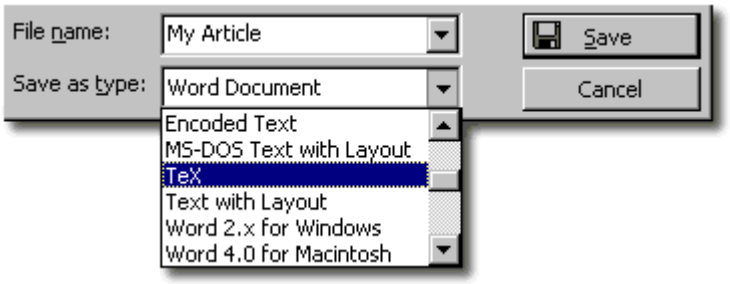
Chapter 3

Basic Concepts

3.1 How do I use it?

Once Word2TEX installed, its operation is seamless, below is shown a three-step procedure of converting Microsoft Word document to LATEX:

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 LATEX document and click Save button.

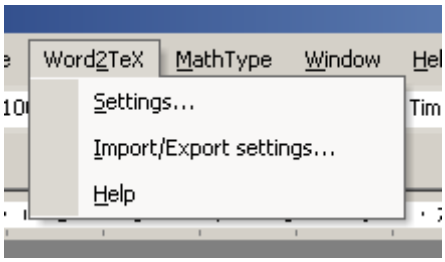


That's all! I told you it's easy. You'll say: *"OK, what if I need some specific type of LATEX format, for instance, REVTEX (Physical Society LATEX)?"* – Word2TEX can be customized to create any type of LATEX-based format!

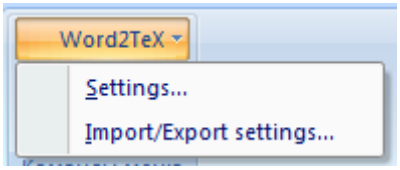
Other Word2TEX features can be accessed from pull-down menu Word2TEX in Microsoft Word.

3.2 Word2TEX menu

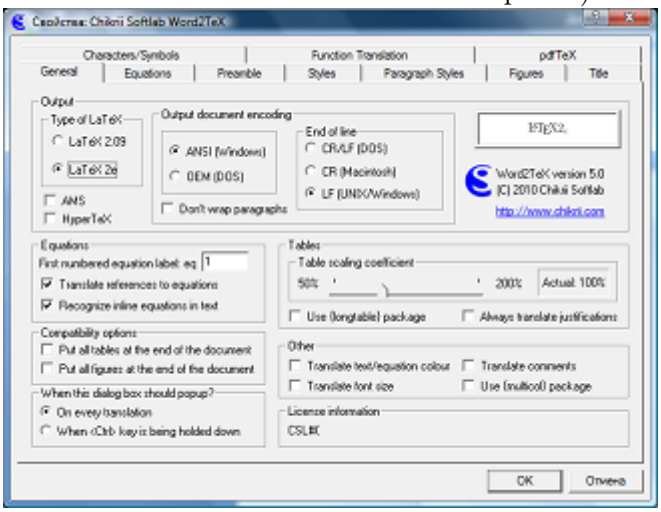
In Microsoft Word versions older than 2007:



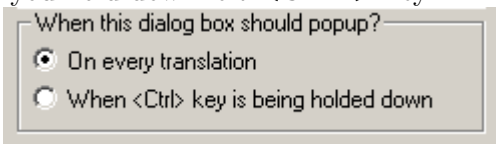
In Microsoft Word 2007/2010:



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 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 Word2TEX 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.

Chapter 4

How to Format Your Document

4.1 Overview

Word2TEX will do its best to generate well–structured 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 LATEX will generate the TOC automatically. Word2TEX replaces TOC with placeholder command which tells LATEX where to place TOC.

Headers Please use appropriate paragraph styles (i.e. Heading 1, Heading 2,...) for headers. Word2TEX will automatically translate your first four levels of headers, and it is very easy to customize Word2TEX settings so that Word2TEX will translate any number of header levels. Please never hardcode (manually, by hand) header numbers, instead use Word's auto–numbering/bulleting features. Word2TEX will remove all the header numbers, since LATEX will number them automatically. Word2TEX 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 <SHIFT>–<ENTER> for this (it is not recommended at all, since 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. TEX will handle the appropriate indentation for any situation.

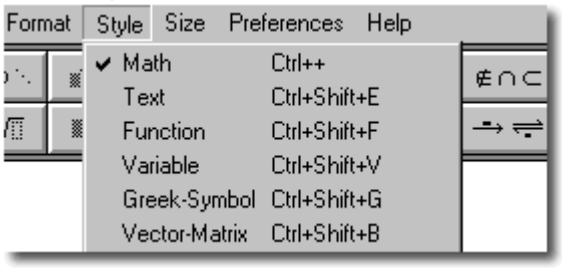
Page/Section Breaks Word2TEX will translate page & section breaks with no problems, but it is very rarely needed (if ever) to include such breaks in document. Remember that LATEX will do all formatting automatically.

Running Heads Please do not include any running heads or headers/footers – they will be ignored by Word2TEX, since LATEX will generate these automatically.

Footnotes Word2TEX will translate footnotes, automatically numbered and formatted by Word's Insert|Footnote... .

Bibliographic Citations Word2TEX will translate numbered bibliographic citations into a LATEX bibliography if they were created as endnotes.

Mathematical Expressions Word2TEX will translate Equation Editor and MathType[1] 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). Word2TEX 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 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

[1] Word2TEX can handle equations created by any version of Equation Editor or MathType, including Word 2007/2010 Equations

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 Word2TEX to recognize it and convert it to an electronic reference.

Tables Word2TEX converts tables of any structure, including nested tables (Word 2000 or later).

Figures Word2TEX will convert all pictures and embedded objects (Excel charts, for example) to LATEX figures. The only one type of pictures Word2TEX 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 Word2TEX 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, Word2TEX will automatically label and reference numbered items and bibliographic cites in LATEX.

Hyperlinks Word2TEX will translate your hyperlinks (including relative hyperlinks). To insert hyperlinks please use Word's Insert|Hyperlink. LATEX package {`hyperref`}, by Sebastian Rahtz, will be used.

Index Word2TEX will automatically generate correct index in LaTeX if index entries were marked via Word's Mark Entry... in menu Insert|Index and Tables... .

Columns Word2TEX translates multicolumn formatting created by Word's Format|Columns... . LATEX package {`multicol`}, by Frank Mittelbach, will be used to represent multicolumn formatting, it allows to create up to 10 columns.

Annotations/Comments Word2TEX will translate annotations/comments inserted with Word's Insert|Comment if appropriate option is turned on in Word2TEX settings (see Chapter 5 for details).

Character attributes Word2TEX will translate following character/font attributes[2]: 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 Word2TEX (can be used for partial translation of document).

Colours Word2TEX can handle both coloured text (ABC) and equations ($n = m\lfloor \frac{n}{m} \rfloor + n \bmod m$)[3]. LATEX package {`color`}, by David Carlisle, is used.

[2] {`ulem`} package, by Donald Arseneau, is required for some attributes (Double–underline, Waved–underline, Strikethrough, Double strikethrough) if default Word2TEX settings are used

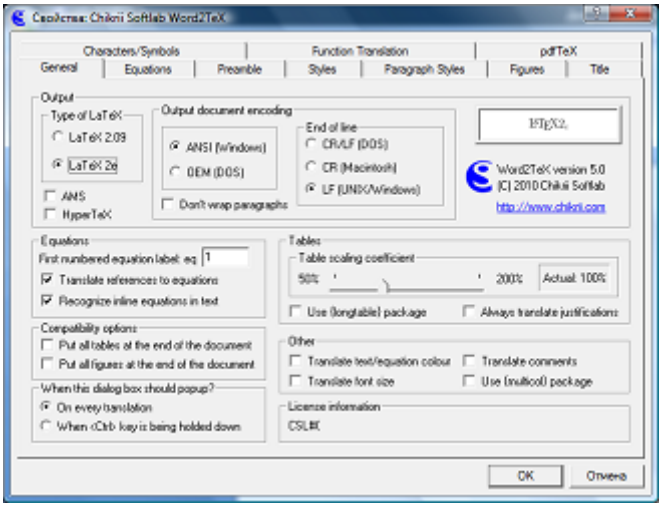
[3] Applicable only to version 4.0 or later of Equation Editor and MathType

Chapter 5

Customizing Word2TEX 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 Word2TEX dialog.

5.1.2 Details

Type of LATEX Just specify type of LATEX that is closer to the format you need (of course, LATEX 2_ε is used by default). This option affects on the following Word2TEX dialogs: **Preamble**, **Equations**, **Styles**.

Output document encoding Options in this group are dedicated to resulting LaTeX document encoding details.

End of line How you would prefer Word2TeX to break lines of LaTeX document.

Don't wrap paragraphs Usually, Word2TeX breaks paragraphs into lines. When this option is enabled, paragraphs in LaTeX document are written as one continuous line of text. This is very specific feature and it is disabled by default.

AMS Enable this option if you need American Mathematical Society extensions. This option affects on the following Word2TeX dialogs: **Preamble**, **Equations**, **Characters/Symbols**, **Styles**.

HyperTeX If this option is enabled Word2TeX translates hyperlinks to LaTeX using {`hyperref`} package, otherwise, hyperlinks are translated as regular text.

Equations Word2TeX detects numbered displayed equations automatically whether they were created with MathType Commands macros or as regular text. Moreover, Word2TeX can translate references automatically in both cases.

First numbered equation label Numbered displayed equations must be labeled for futher 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. Word2TeX 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 Word2TeX 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 LATEX 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:

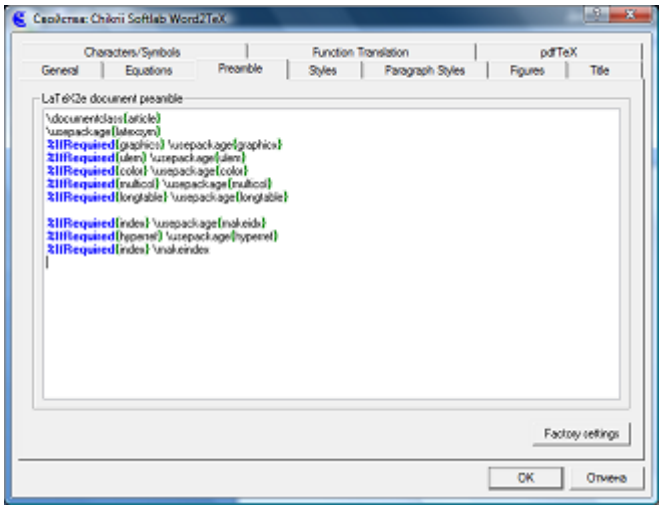
Font size in Word (points)	**LATEX attribute**
≤ 4	\tiny
> 4 and ≤ 6	\scriptsize
> 6 and ≤ 7	\footnotesize
> 7 and ≤ 9	\small
≥ 14 and < 16	\large
≥ 16 and < 18	\Large
≥ 18 and < 24	\LARGE
≥ 24 and < 36	\huge
≥ 36	\Huge

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).

Word2TeX 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–sensetive. 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.

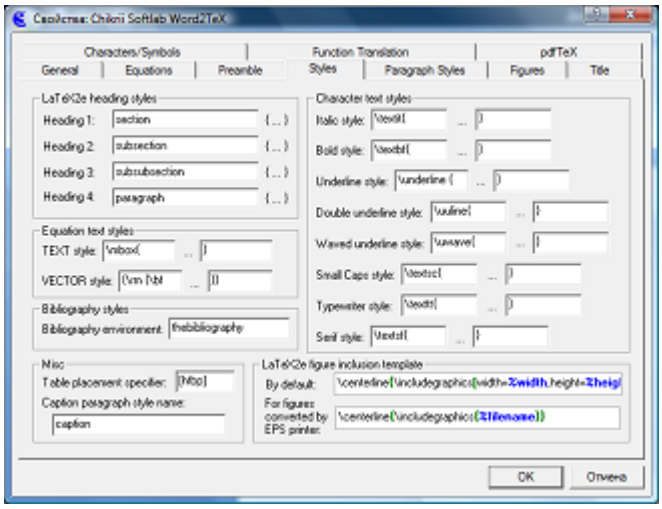
%IfNotRequired In the case when a hypothesis associated with `<parameter>` is false, `<text>` will be emitted for this preamble line. If hypothesis is true, this preamble line will be omitted.

Possible parameter values and their associated hypothesis (term "document" below means resulting LaTeX document) are:

Parameter	**Associated hypothesis**
`bib`	Document has bibliography.
`color`	Document requires {`color`} package.
`graphicx`	Document has figure inclusions.
`graphics`	Document has figure inclusions[1].
`ulem`	Document uses non–standard text attributes (one of the following: Double–underline, Waved–underline, Strikethrough, Double strikethrough).
`multicol`	Document requires {`multicol`} package.
`tab`	Document has \`tab` commands.
`index`	Document has index entries.
`hyperref`	Document requires {`hyperref`} package.
`longtable`	Document requires {`longtable`} package.

[1] 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[2] 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]):

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

[2] See **ExStyles** dialog description for details on what is that.

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[3].

Character text styles LaTeX translations (opening and closing strings) for all character attributes that Word2TeX can handle.

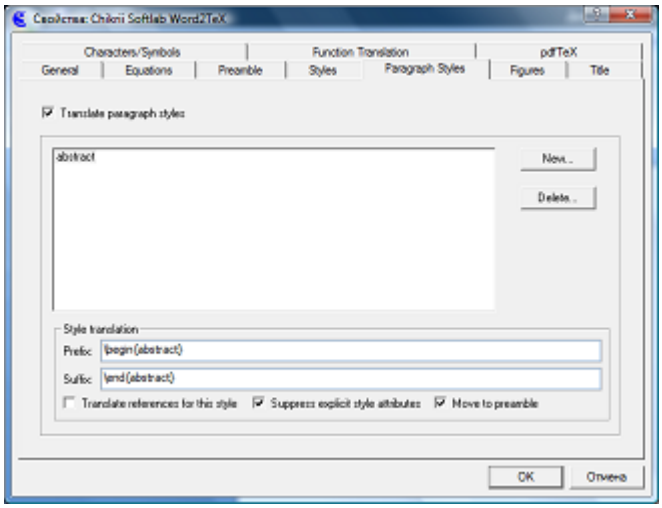
LaTeX figure inclusion template You'll need to read about **Figures** dialog to understand what this group of options is really about. If you already read it, here it is. This group contains two figure inclusion templates – strings that will be emitted on a place of figure while substitution for Word2TeX 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)

[3]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 LaTeX 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.

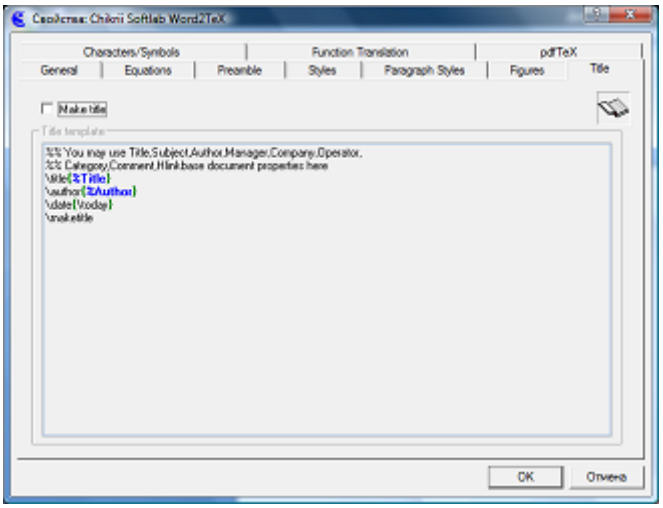
Translate references for this style If this option is enabled Word2TeX translates references for this paragraph style automatically.

Suppress explicit style attributes If this option is enabled Word2TEX suppresses all explicit font attributes for this style. This helps to avoid cases like:

```
\paragraph{\textit{...}}
```

Move to preamble If this option is enabled Word2TEX emits translation for this paragraph not on the place where it appears in Word document, but after document preamble and before `\begin{document}`.

5.5 Title



Title is what will be emitted right after `\begin{document}` if Make title option is enabled. You may place here any LATEX code that you want to be at the beginning of your document body[4]. Title is generated on the base of Title template and values from Word's File|Properties dialog.

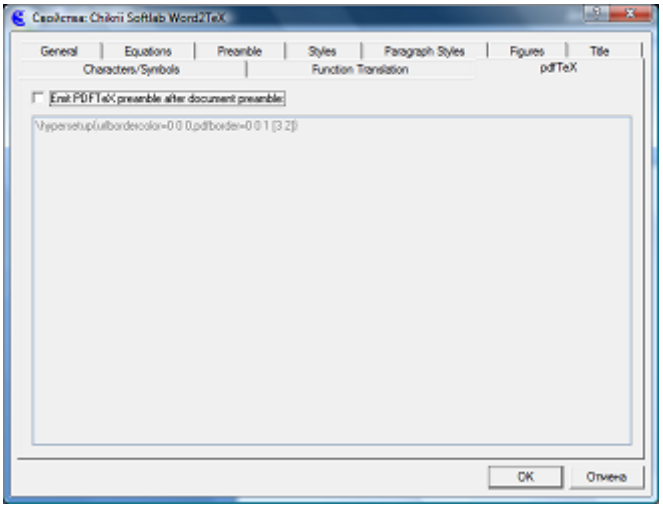
[4]Title page automatic creation is just a simple example of what you can do with the help of this dialog.

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

Macro	Value
%Title	"Title" text.
%Subject	"Subject" text.
%Author	"Author" text.
%Manager	"Manager" text.
%Company	"Company" text.
%Operator	This value isn't presented in Word's dialog, that's actual user name.
%Category	"Category" text.
%Comment	"Comment" text.
%Hlinkbase	"Hlinkbase" text.

The important point is that text that Word2TEX 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 LATEX document will be compiled: "LATEXbook").

5.6 pdfTEX



When preparing a document for PDFTEX it might be useful to include some PDFTEX–specific commands into document preamble. This dialog is intended just right for this case. If Emit PDFTEX preamble after document preamble option is enabled Word2TEX emits this text AS IS (without any processing) after document preamble.

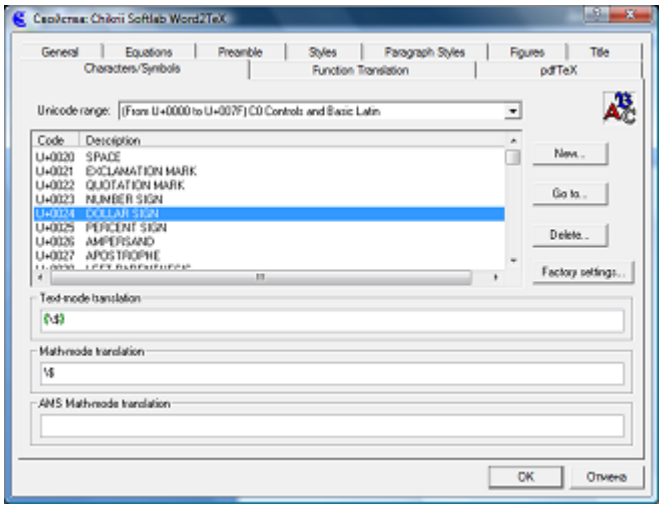
For example, this document[5] has following PDFTEX preamble:

```
\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
{/OpenAction␣[␣5␣0␣R␣/XYZ␣null␣846␣1.0␣]}
```

[5] Word2TEX User Manual

5.7 Characters/Symbols

5.7.1 Overview



This dialog defines how Word2TEX will translate characters[6]. 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, Word2TEX uses current codepage encoding[7] of this character for translation.

Word2TEX identifies characters by their MTCode[8] 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.

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 fullfill this field with some surrogate translation, if character is assumed to appear in math (for example, never use `$\alpha$` here, Word2TEX will build something similar if there is no

[6] 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.

[7] For MBCS (Japanese Word, etc.) Shift–JIS representation is used.

[8] 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].

better choice). The reason (actually one of reasons) is that Word2TEX 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** Word2TEX 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** Word2TEX dialog is enabled.

New... Word2TEX 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, Word2TEX will just select it (this is the same as option below).

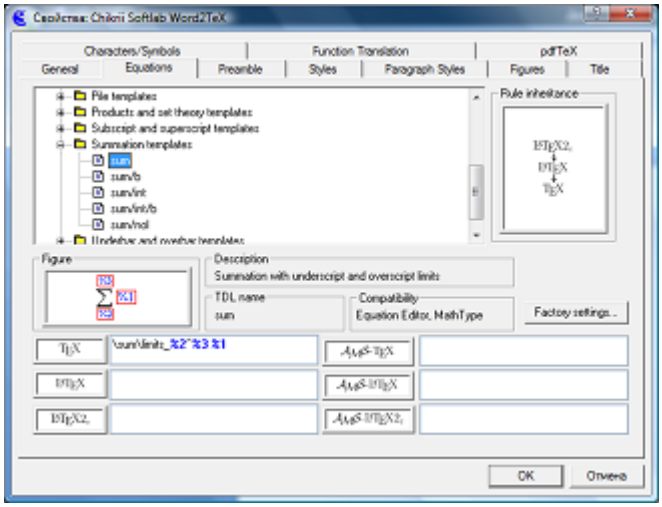
Go to... Word2TEX will ask you for character code and will select it (if there's such character in database). Unicode range will change too, if this character code corresponds to range other than current.

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.

TEX Plain-TEX translation of current template/embellishment.

AMS-TEX AMS-TEX translation of current template/embellishment.

LATEX LATEX translation of current template/embellishment.

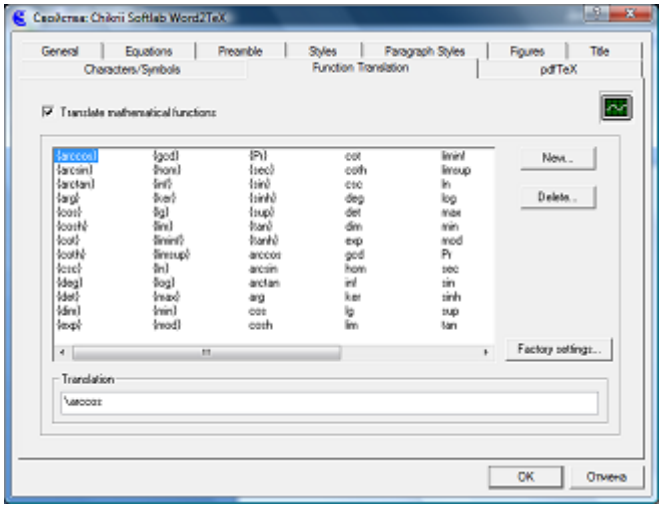
AMS-LATEX AMS-LATEX translation of current template/embellishment.

LATEX 2ε LATEX 2ε translation of current template/embellishment.

AMS-LATEX 2ε AMS-LATEX 2ε translation of current template/embellishment.

5.9 Function Translation

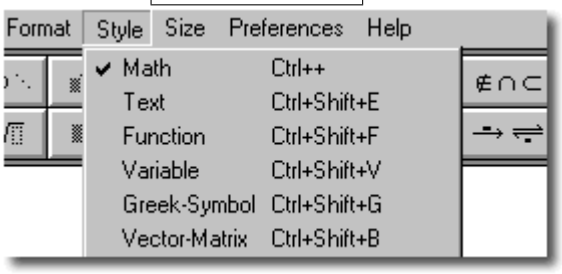
5.9.1 Overview



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[9] 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.

[9] MathType does this job automatically!

New... Creates new function.

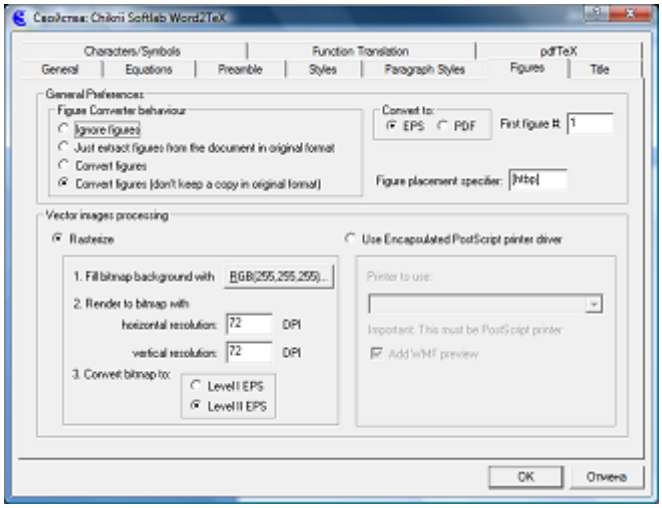
Delete... Removes function name from translation table.

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

Translation You can enter/edit translation string here.

5.10 Figures

5.10.1 Overview



Word2TEX 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 Word2TEX 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 LATEX figures is EPS (Encapsulated PostScript), but available PDFTEX versions do not accept EPS figures, nevertheless, they accept Encapsulated PDF. For your

convenience 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 LATEX documents in different folders. Names for these files are generated automatically: ***fig*N**.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 LATEX where to place the figure. Placing specifier syntax is explained in **Styles** 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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[5] Thomas Merz, *Web Publishing with Acrobat/PDF*, Springer-Verlag, 1997, ISBN 3-540-63762-1.

[6] *The Unicode Standard*, Addison-Wesley, ISBN 0-201-48345-9.

Appendix B

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Appendix C

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