

# cjhebrew\*

Christian Justen

christian@justen-mack.de

February 18<sup>th</sup>, 2003 – Version 0.1

## 1 Overview

cjhebrew is a package which allows the typesetting of Hebrew text in  $\LaTeX$  documents. Hebrew text can be vocalised, also a few accents are available. cjhebrew makes it easy to insert Hebrew words, sentences or paragraphs into non-Hebrew text; so cjhebrew is quite appropriate e. g. for theological papers.

Since cjhebrew uses the extensions of  $\epsilon\text{-}\TeX$  in order to typeset Hebrew text from right to left, it is recommended that you use  $\epsilon\text{-}\LaTeX$ .

cjhebrew contains Hebrew type1 fonts. So, to use cjhebrew you will need a  $\TeX$  distribution that supports this font format (as most modern distributions do).

## 2 What is new in this version?

1. You can use cjhebrew now, even if  $\epsilon\text{-}\LaTeX$  is not available (but the Hebrew text will be typeset in the “wrong” direction, i. e. from left to right).<sup>1</sup>
2. The documentation was rewritten. Instead of a German and an English documentation there is now only this English manual.
3. Some bugs in `cjhebrew.sty` are fixed.<sup>2</sup>
4. A problem with the letter “qof” is fixed (ׁׁׁ does not look *that* good ... ׁׁׁ is much better).
5. There are also some changes regarding the font names and the encoding. If you use an older version of cjhebrew make sure that all old files are removed before you install the new version!
6. Probably, some new bugs have crept into this new version. Please do report them as you discover them!

---

\*cjhebrew is subject to the  $\LaTeX$  Project Public License. The most recent version of this license can be found at [www.latex-project.org/lppl.txt](http://www.latex-project.org/lppl.txt).

<sup>1</sup>This feature was suggested by Malte Rosenau.

<sup>2</sup>Thanks to Walter Schmidt.

File	Directory
*.pfb	[texmf]/fonts/type1/public/cjhebrew
*.afm	[texmf]/fonts/afm/public/cjhebrew
*.tfm	[texmf]/fonts/tfm/public/cjhebrew
*.vf	[texmf]/fonts/vf/public/cjhebrew
cjhebltx.enc	[texmf]/dvips/cjhebrew
cjhebrew.map	[texmf]/dvips/config [texmf]/pdftex/config
cjhebrew.sty	[texmf]/tex/latex/cjhebrew
manual.pdf cjhebtst.tex	[texmf]/doc/latex/cjhebrew

Note: [texmf] symbolises the root directory of the  $\TeX$  system.

Table 1: Where to put the cjhebrew files

### 3 Installation<sup>3</sup>

First of all you should copy all files to the appropriate directories. Table 1 shows the directories that might be used with a TDS compatible  $\TeX$  system.

After adding of new files, many TeX systems require manual updating of a “filename database”. Please, consult the documentation of your particular TeX system!

For instance, with  $\text{te}\TeX$  you will have to execute the following command:

```
texhash
```

With  $\text{MiK}\TeX$  you should execute the command:

```
initexmf -u
```

Finally, the font map file for the Hebrew fonts (cjhebrew.map) must be made known to the application programs. Again, the required action(s) depend on the particular TeX system, so consult its documentation.

For instance with  $\text{te}\TeX$  from version 2.0 on, you will have to execute the following command:

```
updmap --enable Map cjhebrew.map
```

For  $\text{MiK}\TeX$  you have to add the line

```
Map cjhebrew.map
```

to the file `\texmf\web2c\updmap.cfg` and to execute the command

```
initexmf --mkmaps
```

<sup>3</sup>Parts of this section were supplied by Walter Schmidt.

א	ב	ג	ד	ה	ו	ז	ח	ט	י	כ	ך	ל	מ	ם
'	b	g	d	h	w	z	.h	.t	y	k	K	l	m	M
נ	ן	ס	ע	פ	ף	צ	ץ	ק	ר	ש	ש	ש	ת	
n	N	s	'	p	P	.s	.S	q	r	/s	,s	+s	t	

Table 2: Coding of the consonants

◌ִ	◌ֵ	◌ֶ	◌ֹ	◌ֻ	◌ֹ	◌ֻ	◌ֹ	◌ֻ	◌ֹ	◌ֻ	◌ֹ	◌ֻ	◌ֹ	◌ֻ
i	e	E	E:	a	/a	a:	A	A:	o	u	*	:	O / wo	U / w*
:	-	◌												
;	--	\dottedcircle												

Table 3: Coding of the vowels, accents and symbols

## 4 Usage

To use cjhebrew simply put `\usepackage{cjhebrew}` in the preamble of your document.

cjhebrew provides the text font command `\textcjheb` which switches to the hebrew font, but does not change the direction of typesetting. The input `\textcjheb{'bgd}` results in דגבא, which is in most cases not what you want. Instead you will normally use the command `\cjRL`, that also switches to the right direction of typesetting. The input `\cjRL{'bgd}` will have as result the output דגבא. There is also an even shorter form: `\<>`; thus, you can type `\<'bgd>` instead of `\cjRL{'bgd}`.

If you want to typeset a complete passage of Hebrew text, you ought to use the `cjhebrew` environment.

Finally, cjhebrew provides also the `\cjLR` command, which switches (inside a Hebrew piece of text) back to the “normal” direction of typesetting. Be careful: this command does not switch to a non-Hebrew font!

### 4.1 The consonants

How the Hebrew consonants are coded in your input file, is shown in table 2. Normally the final letters are used automatically; `\<mlk>` will become מלך. Sometimes it is necessary to use final letters in places where they will not be set automatically, e.g. in the middle of a word. To do this you either use the coding according to table 2 or you put an exclamation mark (!) after the consonant; alternatively you can use the `\endofword` command. For example, a *final mem* could be achieved by typing `\<M>`, `\<m!>` or `\<m\endofword>`.

On the other hand, sometimes you will not want this automatic replacement. In these cases you put | after the consonant or use the `\zeronojoin` command. Both `\<m|>` and `\<m\zeronojoin>` will give you a normal *mem*.

## 4.2 The vowels

How to code the vowels in your input file is shown in table 3. The vowels have to be typed *after* the consonant they belong to (for example אֱלֹהִים is coded as \<'E:lohiym>). The only exception is the *pataḥ furtivum* as in רִוּחַ (\<rU/a.h>). Always use \* for *dageš*; cjhebrew does not distinguish between *dageš lene* and *dageš forte*. The *dageš* has to follow its consonant *immediately* (\<b\*:> becomes בּ ), otherwise you will get a wrong result (\<b:\*> becomes בְּ).

## 4.3 More accents and symbols available

There are some more accents and symbols available, as shown in table 3. I hope to add some more in the future.

## 5 An example

Here is the beginning of the Bible:

בְּרֵאשִׁית בָּרָא אֱלֹהִים אֶת הַשָּׁמַיִם וְאֶת הָאָרֶץ: וְהָאָרֶץ הָיְתָה תֹהוּ וָבֹהוּ וְחֹשֶׁךְ עַל־פְּנֵי תְהוֹם וְרוּחַ אֱלֹהִים מְרַחֶפֶת עַל־פְּנֵי הַמַּיִם:

```
\begin{cjhebrew}
b*:re'+siyt b*ArA' 'E:lohiym 'et ha+s*Amayim w:'et hA'ArE.s; w:hA'ArE.s
hAy:tAh tohU wAbohU w:.ho+sEk: 'al--p*:ney t:hOm w:rU/a.h 'E:lohiym
m:ra.hEpEt 'al--p*:ney ham*Ayim;
\end{cjhebrew}
```

## 6 Finally

The version number of cjhebrew is 0.1, it is far from being finished. Especially the fonts still need a lot of work; many letters look rather imperfect. If you have any ideas how to improve cjhebrew, please do send me an email.