The **vmargin** Package*

Volker Kuhlmann†

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Abstract

LaTeX package which introduces paper sizes and provides macros for setting
document margins. It still works with E\TeX\ 2.09. This package supersedes pack-
age vpage.

This package file can be made part of a format by typing `\input vmargin.sty`
before dumping the format.

Contents

1 License 1

2 History 1

3 User manual 2

  3.1 Page Size ........................................... 2
  3.2 Margins ............................................. 2
  3.3 Dealing with \TeX\'s Margin Offset ................ 3
  3.4 \TeX\ 2\_\_ ........................................ 4
  3.5 Inclusion in \TeX\ formats ........................... 4
  3.6 Hints for using pageframe.sty ..................... 4
  3.7 Bugs and To Do .................................... 5
  3.8 Summary ............................................ 5

4 Implementation 5

1 License

This package is copyright © 1993, 1994, 1995, 1996, 1999, 2000 by:

Volker Kuhlmann, c/o University of Canterbury, ELEC Dept, Creyke Road,
Christchurch, New Zealand
E-Mail: v.kuhlmann@elec.canterbury.ac.nz

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either version 1 of the License, or (at your option) any later version.

2 History

This is the first package I ever wrote, to save a lot of typing when dealing with \TeX\'s
1in/1in margin offset, proper margin alignment for doublesided printing, and page layout
parameters I always used. As there wasn’t anything similar on CTAN I submitted the

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*This file has version number V2.3, last modified 2000/08/01.
†Email: v.kuhlmann@elec.canterbury.ac.nz. For a postal address refer to the license section.
package, then called \Vpage. I never heard back, and wasn’t looking for it in the right place, so I thought it hadn’t been accepted and never thought any more of it.

In the meantime I realised its general-purpose potential and took the page layout code out, renaming it to \Vmargin. First time I heard it was on CTAN was when I read the list of 3rd-party packages in the \LaTeX\ Companion and it had \vpage in it (CTAN doesn’t deal in uppercase letters). So sorry for any confusion the name change caused...

Further development essentially ceased because I didn’t see much scope for improvements. \Vmargin was doing its job. I could have gone overboard with package options, but didn’t because I was more interested in a short efficient tool which doesn’t load half of the tools and/or graphics bundle. It still works under both \LaTeX\ 2.09 and \LaTeX\ 2ε.

## 3 User manual

### 3.1 Page Size

These macros make it easy to set page margins for a chosen paper size. Actual dimensions of the most common paper sizes are stored and need not be remembered.

Two sided printing is supported, meaning that if on odd pages the left margin is, say, 30mm and the right margin is 20mm, it will be vice versa on even pages. This gives equal margins on the outer and equal margins on the inner edge of the paper, as expected e.g. for a book.

\Vmargin is designed to be reasonably restricted in both memory usage and processing time, so that the common task of setting margins is not too distracting. If you are looking for something fancier try the \geometry package.

The basic procedure of using \Vmargin is to first set a paper size, and then to set the margins. The margin setting functions depend on the paper size. Setting the paper size and margins are two independent operations, i.e. setting the paper size does not directly affect the margins but will affect the following margin setting command.

\setpapersize The size of the paper can be set with

\setpapersize\{\textit{size}\}\}

\textit{size} can be A0, A1, ..., A9, B0, B1, ..., B9, C0, ..., C9, USletter, USlegal, and USexecutive. The metric paper sizes are not stored but calculated. \setpapersize by default sets the orientation to portrait.

Landscape format is selected by using the optional argument

\setpapersize[landscape]\{\textit{size}\}

which swaps the width and height dimensions of the paper.

\setpapersize[portrait]\{\textit{size}\}

is allowed but is the default.

If you have a size which is not pre-defined use

\setpapersize[custom]\{\textit{width}\}\{\textit{height}\}

For \textit{width} and \textit{height} insert the respective dimensions of your paper.

\setpapersize stores the actual dimensions of the paper in the length variables

\PaperWidth
\PaperHeight

\ifLandscape which can be used further, if desired.

\ifLandscape yields true if a landscape format is selected. Do not write to \PaperWidth, \PaperHeight, or call \Landscapetrue or \Landscapefalse, it will not work!!

\Vmargin detects when it runs under pdflatex, and in that case also sets the pdf page size (variables \pdfpagewidth and \pdfpageheight).

Default for the paper size is A4 portrait.

### 3.2 Margins

\setmargins Once the paper size is selected, margins can be set with
or with
\setmarginsrb{(leftmargin)}{(topmargin)}{(rightmargin)}{(bottommargin)}%
{(headheight)}{(headsep)}{(footheight)}{(footskip)}%

In the latter case \textwidth and \textheight are calculated using the width
and height of the selected paper such as to effectively result in \( \text{rightmargin} \) and
\( \text{bottommargin} \). The first four parameters of the above two commands are used to
set \textwidth, \textheight, \topmargin, and \textheight.

\setmarginsrb provide a page with no header and footer. They
work the same as \setmargins, \setmarginsrb except that they only need the first 4
parameters. The last 4 parameters are set to 0pt. These 2 commands set the pagestyle
to empty \( \text{pagestyle{empty}} \) as there is no space for headers or footers.

\setmarginsrb{(leftmargin)}{(topmargin)}{(rightmargin)}{(bottommargin)}%
{(headheight)}{(headsep)}{(footheight)}{(footskip)}%

\setmarginsrb are the same as \setmargins, \setmarginsrb except that
\( \text{headheight} \), \( \text{headsep} \), \( \text{footheight} \), and \( \text{footskip} \) are unchanged instead of being set
to 0pt.

\setmarginsrb{(leftmargin)}{(topmargin)}{(rightmargin)}{(bottommargin)}%

Example:
A4 paper, left margin 30mm, top, right, and bottom margin 20mm each, no headers
or footers:
\setpapersize{A4}
\setmarginsrb{30mm}{20mm}{20mm}{20mm}{0pt}{0mm}{0pt}{0mm}
\pagestyle{empty}
The same settings would result with:
\setpapersize{A4}
\setmargnohrb{30mm}{20mm}{20mm}{20mm}

Defaults are
\setmarginsrb{35mm}{20mm}{25mm}{15mm}{12pt}{11mm}{0pt}{11mm}
or with package option nohf
\setmargnohrb{35mm}{20mm}{25mm}{15mm}

\setmargnohrb{(leftmargin)}{(topmargin)}{(rightmargin)}{(bottommargin)}%
{(headheight)}{(headsep)}{(footheight)}{(footskip)}%
\setmargnohrb{(leftmargin)}{(topmargin)}{(rightmargin)}{(bottommargin)}%
\setmargnohrb{(leftmargin)}{(topmargin)}{(rightmargin)}{(bottommargin)}%

3.3 Dealing with \TeX{}'s Margin Offset

The default top and left margins of \TeX{} are +1in. \setmargXXX call \margin@offset
which initialises \hoffset, \voffset to -1in and \oddsidemargin, \evensidemargin,
\topmargin to 0in. \setmargXXX then add the given dimensions to \topmargin,
\oddsidemargin, \evensidemargin. In some cases it might be desired to use
\XXXmargin instead of \voffset for compensation. This can be achieved by telling
\margin@offset to initialise \voffset to 0in and \XXXmargin to -1in. This is what
\shiftmargins does.

If \margin@offset is already defined at the time \vmargin is loaded it is NOT re-
de ned! Therefore if \margin@offset is defined before \vmargin is loaded the above
mentioned compensation can be replaced by a different mechanism. In any case
\setmargXXX call \margin@offset and then expect that \XXXmargin are set to use-
ful values. \voffset are not touched by \setmargXXX. \margin@offset should be
defined in a separate file which is included \textit{before} \vmargin, i.e. appears in the list of
document-substyles of the \documentstyle command before \vmargin. Any better way
doing this? (grumble)

Example:
\documentclass[...]{...}
\usepackage{...,margins,vmargin,...}
3.4 \LaTeX\ 2e

This package now uses some of the new \LaTeX2e features for package programming. It will still work with \LaTeX\ 2.09 (in which case the new features are not used).

\LaTeX2e (unless in compatibility mode) does not know \texttt{\footnotesize{footheight}} any more. \texttt{vmargin} does not set this variable if it does not exist, and sets it if it does. As \texttt{\footnotesize{footheight}} was not used by \LaTeX\ 2.09 all this has little significance.

\LaTeX2e now has the dimensions \texttt{\footnotesize{paperwidth}}, \texttt{\footnotesize{paperheight}} which hold the size of the paper. \texttt{\footnotesize{\PaperWidth}}, \texttt{\footnotesize{\PaperHeight}} are copied into \texttt{\footnotesize{\paperwidth}}, \texttt{\footnotesize{\paperheight}} if the latter exist. This makes \texttt{vmargin} work correctly with anything that expects \texttt{\footnotesize{\paperwidth}}, \texttt{\footnotesize{\paperheight}} to be set properly. The names \texttt{\footnotesize{\PaperWidth}}, \texttt{\footnotesize{\PaperHeight}} had been chosen in the first place to avoid clashes with style files that also use these names (namely \texttt{\footnotesize{pageframe.sty}}).

The following package options are available with \LaTeX\ 2e:

- \texttt{\footnotesize{shiftmargins}}
  - \texttt{\footnotesize{shiftmargins}} Same as \texttt{\footnotesize{\shiftmargins}}.
- \texttt{\footnotesize{portrait}}
  - \texttt{\footnotesize{portrait}} Keep the default of a portrait page layout.
- \texttt{\footnotesize{landscape}}
  - \texttt{\footnotesize{landscape}} Change the default page orientation to landscape. Note: using \texttt{\footnotesize{\setpapersize}} after \texttt{\footnotesize{\usepackage}} causes package option landscape to be ignored.
- \texttt{\footnotesize{\footnotesize{A4}}}
  - \texttt{\footnotesize{A4}}, etc Same as using \texttt{\footnotesize{\setpapersize[...]{...}}}.
- \texttt{\footnotesize{nohf}}
  - \texttt{\footnotesize{nohf}} Do not make space for header and footer lines; this also sets the pagestyle to \texttt{empty}.

All unknown options are treated as a paper size, if necessary generating an error that the requested paper size is not defined.

3.5 Inclusion in \TeX\ formats

This file may be loaded in \texttt{\footnotesize{initex}} before dumping the format, by typing

\begin{verbatim}
\makeatletter
\input vmargin.sty\makeatother
\end{verbatim}

Be aware that this generates a non-standard format. It is really only useful for slow computers. This feature has not been tested with \LaTeX\ 2e.

3.6 Hints for using pageframe.sty

\texttt{\footnotesize{vmargin.sty}} and \texttt{\footnotesize{pageframe.sty}} can be used together if the following points are considered:

\texttt{\footnotesize{vmargin}} uses \texttt{\footnotesize{\hoffset}} and \texttt{\footnotesize{\voffset}} and writes negative values into it, \texttt{\footnotesize{pageframe}} expects them to be zero to give a 1in space on the left and the top where it prints additional information. Initially, set both to 0mm (in the preamble of your text) and adjust them later on.

\texttt{\footnotesize{pageframe}} needs to know the trimmed height of the paper (= the height of the “page frame”). Unless the trimmed(!) size of the paper is equivalent to one of the standard paper sizes (unlikely...) the size should be specified with

\begin{verbatim}
\setpapersize{custom}{\footnotesize{\width}}{\footnotesize{\height}}
\end{verbatim}

The correct height of the trimmed page can then be given to \texttt{\footnotesize{pageframe}} using

\begin{verbatim}
\paperheight{\footnotesize{\PaperHeight}}
\end{verbatim}
and the margins of the final product (inside the page frame) can be specified using \setmargXXX.

Warning: if \setmargXXXrb is used the 3rd parameter (right margin) is ignored. Instead, the dimension of the right margin has to be assigned to \evensidemargin. This is because pageframe re-defines the meaning of \evensidemargin to be the right margin of your text, on all pages.

Remember: all these assignments and macro calls have to be in the preamble of the document.

3.7 Bugs and To Do

I have not tested this with older versions of \LaTeX{} because I don’t have any. If there are any problems please let me know and I’ll do something about it. The way the metric paper sizes are stored takes up a lot of space. A metric size could be computed by \setpapersize.

If you have any comments (positive or negative) please let me know!

3.8 Summary

new lengths:
\PaperWidth (read-only)
\PaperHeight (read-only)

new ifs:
\ifLandscape (read-only)

new macros:
\setpapersize[<orientation>]{<size>},
\setpapersize[<orientation>]{custom}{<width>}{<height>}
<orientation> (optional) = landscape or portrait (default)
<size> = A4, B5, ...
<width>, <height> = actual dimensions of the paper
\setmargins{leftmargin}{topmargin}{textwidth}{textheight}%%%%%%%%%%%%%%%%%%%
{headheight}{headsep}{footheight}{footskip}
\setmarginsrb{leftmargin}{topmargin}{rightmargin}{bottommargin}%%%%%%%%%%%%%%%%%%%
{headheight}{headsep}{footheight}{footskip}
\setmargnohf{leftmargin}{topmargin}{textwidth}{textheight}%%%%%%%%%%%%%%%%%%%
{headheight}{headsep}{footheight}{footskip}
\setmargnohfrb{leftmargin}{topmargin}{rightmargin}{bottommargin}
\setmarg{leftmargin}{topmargin}{textwidth}{textheight}%%%%%%%%%%%%%%%%%%%
{headheight}{headsep}{footheight}{footskip}
\setmargrb{leftmargin}{topmargin}{rightmargin}{bottommargin}

\margin@offset
\shiftmargins

\LaTeX{} package options:
\shiftmargins
portrait
landscape
nohf
all other options are treated as paper sizes

4 Implementation

1 (*package)

We use macros for the version info here.
2 \%\def\filename{Vmargin}
3 \def\filename{vmargin}
4 \def\fileversion{V2.3}
5 \def\filedate{2000/08/01}
Allow \texttt{vmargin} to be input more than once. Important for embedding in formats.

\texttt{\textbackslash{if}undefined{Vmargin}\{\endinput}

Make use of \LaTeX{} commands, but only if we are actually running with it.

\texttt{\textbackslash{if}defined{documentclass}\{
\edef{Vmargin}{Style \texttt{\filename}, \texttt{\fileversion}, \texttt{\filedate}}
\expandafter\everyjob\expandafter{\the\everyjob\typeout{\Vmargin}}
\typeout{\Vmargin}
\}
\NeedsTeXFormat{LaTeX2e}[1994/06/01]
\ProvidesPackage{\filename}[\filedate]
\edef{Vmargin}{Package: \filename\space\filedate\space\fileversion\space(VK) set document margins}
\expandafter\everyjob\expandafter{\the\everyjob\typeout{\Vmargin}}
\typeout{\Vmargin}

New lengths for paper width and height, and a new if, as flag for using landscape orientation.

\texttt{\newdimen{PaperWidth}}
\texttt{\newdimen{PaperHeight}}
\texttt{\newif{ifLandscape}}
\texttt{\setpapersize}

Setting a paper size. Kind of a data base lookup. Well, it looks up whether the control sequence is defined...

When running \texttt{pdflatex} we also set the pdf page size (\texttt{\pdfpagewidth} and \texttt{\pdfpageheight}).

\texttt{\def{setpapersize}{\textbackslash{ifnextchar}[[\@setps]{\@setps[portrait]}}}
\def\t{"the\count0}\catcode\t=11 % letter\expandafter\xdef\csname paper@#1\the\count0\endcsname{\PaperWidth\the\w\PaperHeight\the\h\noexpand@po@}\endgroup\s\w\w.5\h\h\s\ifnum\the\count0<9\advance\count0 by 1\repeat\endgroup}

Pre-defined paper/envelope sizes:
A0, A1, A2, ..., A9, B0, B1, ..., B9, C0, C1, ..., C9
\edefmetricpaper{A}{840.9mm}{1189.2mm}\edefmetricpaper{B}{1000mm}{1414mm}\edefmetricpaper{C}{917mm}{1297mm}
delete definition to save memory\let\edefmetricpaper=\relaxUSletter, USlegal, USExecutive
\def\paper@USletter{\PaperWidth 8.5in \PaperHeight 11in \@po@}\def\paper@USlegal{\PaperWidth 8.5in \PaperHeight 14in \@po@}\def\paper@USexecutive{\PaperWidth 7.25in \PaperHeight 10.5in \@po@}
custom
\def\paper@custom#1#2{\PaperWidth#1\PaperHeight#2\@po@}\margin@offset Compensates for the +1in/+1in top/left corner by either reducing the margins or \hoffset, \voffset by 1in. This macro is only defined here if it is not already defined!
\ifundefined{margin@offset}{\def\margin@offset{\if@shiftmargins\oddsidemargin -1in \evensidemargin \oddsidemargin \topmargin \oddsidemargin \hoffset \z@ \voffset \z@ \else \oddsidemargin \z@ \evensidemargin \z@ \topmargin \z@ \ otherwise \hoffset -1in \voffset \noexpand@o\set\\}}\else\fi\shiftmargins A new if, as flag for when to use margins instead of \hoffset/\voffset to compensate, and a user-command to set the flag.
\newif\ifshiftmargins\ifshiftmarginsfalse % this MUST be default (pageframe.sty)\def\shiftmargins{\ifshiftmarginstrue}
Setting margins\setmargins[8]{topmargin}{textwidth}{textheight}%
{headheight}{headsep}{footheight}{footskip}
\setmarginsrb  \setmarginsrb{leftmargin}{topmargin}{rightmargin}{bottommargin}\
    \headheight\headsep\footeight\footskip
{headheight}\{headsep\}{footheight}\{footskip\}

\newcommand\setmarginsrb[8]{% 
  \margin@offset 
  \textwidth \PaperWidth % = paperwidth 
  \advance\textwidth -#1 % - left - right 
  \advance\textwidth -#3 
  \textheight \PaperHeight % = paperheight - top 
  \advance\textheight -#2 % - headheight 
  \advance\textheight -#5 % - headsep 
  \advance\textheight -#6 % - footskip - bottom 
  \advance\textheight -#8 
  \advance\oddsidemargin #1 
  \advance\evensidemargin \PaperWidth % = paperwidth 
  \advance\evensidemargin -#1 % - left - width 
  \advance\evensidemargin -\textwidth 
  \advance\topmargin #2 
  \headheight #5 
  \headsep #6 
  \ifundefined{footheight}\{}\{\footheight=#7\}% 
  \footskip #8 
  \chk@dimen{#1}{#2}{#3}{#4}\
} %

\setmargnohf \setmargnohf{leftmargin}{topmargin}{textwidth}{textheight} 
  headheight, headsep, footskip set to 0pt 
\newcommand\setmargnohf[4]{% 
  \setmargins{#1}{#2}{#3}{#4}\z@\z@\z@\z@ 
  \pagestyle{empty}}

\setmargnohfrb \setmargnohfrb{leftmargin}{topmargin}{rightmargin}{bottommargin} 
  headheight, headsep, footskip set to 0pt 
\newcommand\setmargnohfrb[4]{% 
  \setmarginsrb{#1}{#2}{#3}{#4}\z@\z@\z@\z@ 
  \pagestyle{empty}}

\setmarg \setmarg{leftmargin}{topmargin}{textwidth}{textheight} 
  headheight, headsep, footskip unchanged 
\newcommand\setmarg[4]{% 
  \setmargins{#1}{#2}{#3}{#4}% 
  \headheight\headsep\footeight\footskip}

\setmargrb \setmargrb{leftmargin}{topmargin}{rightmargin}{bottommargin} 
  headheight, headsep, footskip unchanged 
\newcommand\setmargrb[4]{% 
  \setmarginsrb{#1}{#2}{#3}{#4}% 
  \headheight\headsep\footeight\footskip}

\chk@dimen A brief plausibility check. 
  h-warning: 
    if \textwidth + leftmarg > \textwidth resp. 
    if \textwidth + rightmarg > \textwidth. 
  v-warning: 
    if \textheight + topmarg > \textheight resp. 
    if \textheight + bottommarg > \textheight.
\def\chk@dimen#1#2#3#4{\dimen0= #1 \advance\dimen0 by#3 \advance\dimen1 by\PaperWidth \dimen1= #2 \advance\dimen1 by#4 \advance\dimen1 \headheight \advance\dimen1 \headsep \advance\dimen1 \footskip \advance\dimen1 -\PaperHeight \chk@dimen@err}

\chk@dimen@err Make this work with both \LaTeX{}2.09 and \LaTeX{}2e.
\@ifundefined{PackageError}{\def\chk@dimen@err{%\ifnum\dimen0>\z@\typeout{vmargin Warning: Horizontal dimensions exceed paper width by \the\dimen0}\fi\ifnum\dimen1>\z@\typeout{vmargin Warning: Vertical dimensions exceed paper height by \the\dimen1}\fi}\}}{\def\chk@dimen@err{%\ifnum\dimen0>\z@\PackageError{\filename}{Horizontal dimensions exceed paper width by \the\dimen0}\fi\ifnum\dimen1>\z@\PackageError{\filename}{Vertical dimensions exceed paper height by \the\dimen1}\fi\}}

Defaults, and \LaTeX{}2e package options (ignored for 2.09).
\setpapersize{A4}
\def\@hf@dflt{}
\@ifundefined{DeclareOption}{\DeclareOption{shiftmargins}{\shiftmargins}\DeclareOption{portrait}{\Landscapefalse}\DeclareOption{landscape}{\Landscapetrue}\DeclareOption{nohf}{\def\@hf@dflt{y}}\DeclareOption*[\@@@setps{\CurrentOption}]\ProcessOptions\relax % process options in order of declaration!\}}{\if y\@hf@dflt\.boundsnohfrb{35mm}{20mm}{25mm}{15mm}\else\setmarginsrb{35mm}{20mm}{25mm}{15mm}{12pt}{11mm}{0pt}{11mm}\fi
//package)

Change History

V1.8  General: Commented \chk@dimen; reduced load on \TeX{}'s parameter stack (changed \chk@dimen); put a conditional around references to \footheight.

V1.7  General: Changed file header.

V1.62  General: Fixed bug in \setpapersize{custom}.

V1.0  General: Created out of Vpage.sty V2.2, 18 June 1993
V2.0
General: Added support for \LaTeX2e \paperwidth, \paperheight 1

V2.12
General: Fixed documentation for \setmargb 1

V2.13
General: Fixed comment for \setmarginsrb 1

V2.2
General: Released under LPPL.

Changed references to Vmargin to vmargin. \LaTeX2e package options introduced. 1

v2.2b
General: Changed into docstrip format. Improved documentation. 1

v2.3
General: Now setting page size for pdflatex. 1

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

Symbols
\@@@setps ... 25, 26, 172
\@@setps ...... 22, 23
@@defmetricpaper ..

............ 48, 67–70
\@hf@dflt .. 165, 171, 175
\@name@err . 24, 27, 42, 45
\@po@ ....... 33, 59, 71–74
\@shiftmarginsfalse .. 86
\@shiftmarginstrue ... 87

C
\chk@dimen . 101, 123, 137
\chk@dime@err . 147, 149

F
\filename ... 5, 8, 13, 14
\filesize ...... 2, 3,
8, 13, 14, 45, 158, 160
\fileversion .... 4, 8, 14

H
\h ...... 51, 52, 59, 61
\hoffset ...... 3, 79, 82

I
\if@shiftmargins . 77, 85
\ifLandscape ... 2, 19, 33
\ifportrait ...... 32

L
\l ............ 53
\Landscapenottrue . 32, 170
\Landscapenofalse . 31, 169

M
\margin@offset ...... 3, 75, 89, 104

P
\paper@custom .... 74
\paper@USexecutive ... 73
\paper@USlegal ...... 72
\paper@USletter ...... 71
\PaperHeight .... 2, 10, 34, 37,
39, 59, 71–74, 108, 146
\paperheight .... 37
\PaperWidth ..... 2, 10,
34, 36, 38, 59, 71–
74, 91, 105, 115, 140
\paperwidth ...... 36
\pdfpageheight ..... 39
\pdfpagewidth ...... 38
\w ...... 51, 52, 59, 61

S
\s ........... 51, 61
\setmarg .... 2, 131
\setmargins 2, 88, 126, 132
\setmarginsrb 2, 103, 129, 135, 178
\setmargnolandscape ... 2, 125
\setmargnolandscape .. 2, 128, 176
\setmargnolandscape .. 2, 131
\setpapersize . 2, 22, 164
\shiftmargins ... 85, 168

T
\t ............ 56, 57

V
\Vmargin ... 8–10, 14, 16, 17
\voffset ...... 3, 79, 82

W