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## The gmeometric Package<sup>\*</sup>

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for the details of that license.

LPPL status: "author-maintained".

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{gmeometric}
3 [2008/08/06_vo.72_to_allow_the_`geometry'_macro_in_the_
   document_(GM)]
```

### Introduction, usage

This package allows you to use the `\geometry` macro, provided by the `geometry v3.2` by Hideo Umeki, anywhere in a document: originally it's claused `\@onlypreamble` and the main work of `gmeometric` is to change that.

Note it's rather queer to change the page layout *inside* a document and it should be considered as drugs or alcohol: it's O.K. only if you *really* know what you're doing.

In order to work properly, the macro should launch the `\clearpage` or the `\cleardoublepage` to 'commit' the changes. So, the unstarred version triggers the first while the starred the latter. If that doesn't work quite as expected, try to precede or succede it with `\onecolumn` or `\twocolumn`.

It's important that `\clear(double)page` launched by `\geometry` not to be a no-op, i.e., `\clear(double)page` immediately preceding `\geometry` (nothing is printed in between) discards the 'commitment'.

You may use `gmeometric` just like `geometry` i.e., to specify the layout as the package options: they shall be passed to `geometry`.

This package also checks if the engine is X<sub>Y</sub>T<sub>E</sub>X and sets the proper driver if so. Probably it's redundant since decent X<sub>Y</sub>T<sub>E</sub>X packages provide their `geometry.cfg` file that does that.

### Installation

Unpack the `gmeometric.tds.zip` archive in a `texmf` directory or put the `gmeometric.sty` somewhere in the `texmf/tex/latex` branch on your own. Creating a `texmf/tex/latex/gm` directory may be advisable if you consider using other packages written by me.

Then you should refresh your T<sub>E</sub>X distribution's files' database most probably.

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<sup>\*</sup> This file has version number `vo.72` dated `2008/08/06`.

## Contents of the gmeometric.zip archive

The distribution of the gmeometric package consists of the following four files.

```
gmeometric.sty
README
gmeometric.pdf
gmeometric.tds.zip
```

## Compiling of the Documentation

The last of the above files (the .pdf, i.e., *this file*) is a documentation compiled from the .sty file by running L<sup>A</sup>T<sub>E</sub>X (twice) on the gmeometric.sty file (xelatex gmeometric.sty in the directory you wish the documentation to be in, you don't have copy the .sty file there, T<sub>E</sub>X will find it). Compiling of the documentation requires the packages: gmdoc (gmdoc.sty and gmdocc.cls), gmverb.sty, gmutils.sty, gmiflink.sty and also some standard packages: hyperref.sty, color.sty, geometry.sty, multicol.sty, lmodern.sty, fontenc.sty that should be installed on your computer by default.

If you have not installed the mwart.cls class (available on CTAN in mwcls package), the result of your compilation may differ a bit from the .pdf provided in this .zip archive in formatings: If you have not installed mwart.cls, the standard article.cls class will be used.

## Usage

The main use of this package is to allow the \geometry command also inside the document (originally it's \@onlypreamble). To make \geometry work properly is quite a different business. It may be advisable to 'commit' the layout changes with \newpage, \clearpage, or \cleardoublepage and maybe \one/twocolumn.

Some layout commands should be put before \one/twocolumn and other after it. An example:

```
\thispagestyle{empty}
\advance\textheight 3.4cm\relax
\onecolumn
\newpage
\advance\footskip-1.7cm
\geometry{hmargin=1.2cm,vmargin=1cm}
\clearpage
```

And another:

```
\newpage
\geometry{bottom=3.6cm}
```

In some cases it doesn't work perfectly anyway. Well, the (LPPL) license warns about it.

## The Code

```
4 \RequirePackage{gmutils}[2007/04/23]% this package defines the storing and
   restoring commands.
```

redefine \@onlypreamble, add storing to BeginDocument.

```
\gme@tobestored 5 \newcommand*\gme@tobestored{%
```

```

6 \Gm@cnth\Gm@cntv\c@Gm@tempcnt\Gm@bindingoffset\Gm@wd@mp
7 \Gm@odd@mp\Gm@even@mp\Gm@orgw\Gm@orgh\Gm@dimlist}}
8 \@xa\AtBeginDocument\@xa{\@xa\StoreMacros\gme@tobestored}
9 \StoreMacro\@onlypreamble
10 \let\@onlypreamble\@gobble

```

To make it work properly in XeTeX:

```

11 \@ifXeTeX{%
12 \ifundefined{pdfoutput}{\newcount\pdfoutput}{}%
13 \PassOptionsToPackage{dvipdfm}{geometry}%
14 }{}

```

```

15 \RequirePackageWithOptions{geometry}

```

Restore \@onlypreamble:

```

16 \RestoreMacro\@onlypreamble

```

Hypothesis: \ifx...\@undefined fails in the document because something made \csname Gm@lines\endcsname. So we change the test to decent. And i think I've found the guilty: \@ifundefined in \Gm@showparams. So I change it to the more elegant \ifx\@undefined.

```

\Gm@showparams 17 \def\Gm@showparams{%
18 -----\Geometry\parameters^^J%
19 \ifGm@pass
20 'pass' is specified!! (disables the geometry layout)^^J%
21 \else
22 paper:\ifx\Gm@paper\@undefined\class\default\else\Gm@paper%
23 \fi^^J%
24 \Gm@checkbool{landscape}%
25 twocolumn:\if@twocolumn\Gm@true\else--\fi^^J%
26 twoside:\if@twoside\Gm@true\else--\fi^^J%
27 asymmetric:\if@mparswitch--\else\if@twoside\Gm@true\else--%
28 \fi\fi^^J%
29 h-parts:\Gm@lmargin,\Gm@width,\Gm@rmargin%
30 \ifnum\Gm@cnth=z@\space(default)\fi^^J%
31 v-parts:\Gm@tmargin,\Gm@height,\Gm@bmargin%
32 \ifnum\Gm@cntv=z@\space(default)\fi^^J%
33 hmarginratio:\ifnum\Gm@cnth<5\ifnum\Gm@cnth=3--\else%
34 \Gm@hmarginratio\fi\else--\fi^^J%
35 vmarginratio:\ifnum\Gm@cntv<5\ifnum\Gm@cntv=3--\else%
36 \Gm@vmarginratio\fi\else--\fi^^J%
37 lines:\ifx\Gm@lines\@undefined--\else\Gm@lines\fi^^J% here I (na-
38 tror) fix the bug: it was \@ifundefined that of course was assigning
39 % \relax to \Gm@lines and that resulted in an error when \geometry was
40 used inside document.
41 \Gm@checkbool{heightrounded}%
42 bindingoffset:\the\Gm@bindingoffset^^J%
43 truedimen:\ifx\Gm@truedimen\@empty--\else\Gm@true\fi^^J%
44 \Gm@checkbool{includehead}%
45 \Gm@checkbool{includefoot}%
46 \Gm@checkbool{includemp}%
47 driver:\Gm@driver^^J%
48 \fi

```

```

44 -----_Page_layout_dimensions_and_switches^^J%
45 \string\paperwidth\space\space\the\paperwidth^^J%
46 \string\paperheight\space\the\paperheight^^J%
47 \string\textwidth\space\space\the\textwidth^^J%
48 \string\textheight\space\the\textheight^^J%
49 \string\oddsidemargin\space\space\the\oddsidemargin^^J%
50 \string\evensidemargin\space\the\evensidemargin^^J%
51 \string\topmargin\space\space\the\topmargin^^J%
52 \string\headheight\space\the\headheight^^J%
53 \string\headsep\@spaces\the\headsep^^J%
54 \string\footskip\space\space\space\the\footskip^^J%
55 \string\marginparwidth\space\the\marginparwidth^^J%
56 \string\marginparsep\space\space\space\the\marginparsep^^J%
57 \string\columnsep\space\space\the\columnsep^^J%
58 \string\skip\string\footins\space\space\the\skip\footins^^J%
59 \string\hoffset\space\the\hoffset^^J%
60 \string\voffset\space\the\voffset^^J%
61 \string\mag\space\the\mag^^J%
62 \if@twocolumn\string\@twocolumntrue\space\fi%
63 \if@twoside\string\@twosidetrue\space\fi%
64 \if@mparswitch\string\@mparswitchtrue\space\fi%
65 \if@reversemargin\string\@reversemargintrue\space\fi^^J%
66 (1in=72.27pt, 1cm=28.45pt)^^J%
67 -----}

```

Add restore to BeginDocument:

```

68 \@xa\AtBeginDocument\@xa{\@xa\RestoreMacros\gme@tobestored}
69 \endinput

```

## Change History

vo.69

General:

Checksum 40, 0

vo.70

General:

Back to the vo.68 settings because  
\@not@onlypreamble was far too  
little. Well, in this version the  
redefinition of \geometry is given up  
since the 'committing' commands  
depend on the particular situation so  
defining only two options doesn't  
seem advisable, 69

Checksum 36, 0

vo.71

General:

a tds-compliant zip archive made, 69

Checksum 41, 0

vo.72

General:

2008/08/06 only the way of  
documenting changes so I don't  
increase the version number, 69

Checksum 239, 0

\Gm@showparams:

a bug fix:

\@ifundefined{Gm@lines} raised  
an error when \geometry used  
inside the document, I change it to  
\ifx\@undefined, 17