

The `xwatermark` Package[©]

Version 1.0

Ahmed Musa

University of Central Lancashire
Preston PR1 2HE, United Kingdom

`a.musa@rocketmail.com`

May 15, 2009

CONTENTS

1 Introduction	1	3.3 The coordinates of the watermark	6
2 User interface	2	3.3.1 Wrong location of the watermark . .	7
2.1 Graphic watermarks . . .	3	3.4 Choice of <code>grayness</code> . . .	7
2.2 The <code>xwatermarksetup</code> macro	4	3.5 Breaking the watermark into lines	7
2.3 Keys/options without values	5	3.5.1 The alignment of the watermark . .	8
2.4 Emptying the watermarks of some pages . . .	5	3.6 Locating the page center .	8
2.5 The usefulness of the <code>white</code> color	5	3.7 Active characters	8
3 Other aspects of package architecture and use	6	4 The <code>colorparbox</code> command	9
3.1 <code>documentclass</code> options .	6	5 Further examples of use of <code>xwatermark</code> package	9
3.2 The size of the watermark	6	6 Epilogue	9
		A Package options	9

1 INTRODUCTION

THIS PACKAGE PUTS user-specified watermarks, pictures and/or arbitrary texts on select pages of documents. It has more functionality and dynamism than, for example, the packages `draftcopy` [5], `draftwatermark` [1], `watermark` [4], and `draftmark` [2]. The advantages of `xwatermark` package over these earlier packages include: both text and graphic watermarks are admissible; the user can specify his/her own watermark and color, the wa-

termark position, orientation, the page(s) (all pages, odd pages, even pages, a particular page, and a range of pages) on which the watermark should appear; and all the options are passed directly to the package instead of being defined in the source file by several macros. Moreover, all these options can be customized for individual pages and segments of the document. This is achieved by the provision of the `\xwatermarksetup` macro, by which the user can dynamically set the watermark properties for each page or range of pages. This is the only user macro of this package: hence the user is relieved of the need to remember and deploy several macros.

With the `xcolor` package (loaded by this package), all colors (including `white`, shades like `-red!75!green!50`, and those defined within the user document) can be passed to this package. And, as mentioned above, both texts and pictures can be submitted as watermarks to the package.

This package uses Heiko Oberdiek's shipout hooks from the `atbegshi` package [3].

2 USER INTERFACE

In the case of text watermarks, the package may be loaded with full options such as in

```
\usepackage[printwatermark=true,allpages=true,fontfamily=pag,
  color=gray,grayness=0.8,mark=I am happy,angle=45,fontsize=5cm,
  markwidth=\paperwidth,fontseries=b,scale=0.8,
  xcoord=0,ycoord=0]{xwatermark}

\usepackage[printwatermark,pages=1-4,fontfamily=phv,
  markwidth=\paperheight,color=red!55!yellow!50,mark=CONFIDENTIAL,
  angle=55,scale=0.8,xcoord=20,ycoord=10]{xwatermark}.
```

When boolean keys/options (e.g., `printwatermark` and `allpages`) are passed without values, they are assumed implicitly `true` by the package.

The `mark` key applies to text watermarks, for which all the font properties can be selected. It does not apply to graphic watermarks. For graphic watermarks you need the keys: `picfile` (the graphic/picture filename, with its full path but without its extension), and `picfileex` (the file extension). Admissible file extensions are `eps`, `pdf`, `png`, and `jpeg`; they should be submitted without the dot. Additional information is needed (see section 2.1).

The following points should be noted about the values of the `mark` key:

- The value of the `mark` may be any arbitrary multiline text, such as

```
mark={Hello world,\[.25\baselineskip] We're here},
```

- The value of `mark` may be arbitrary (blocks of) texts or even kernel or package commands, but not filenames on their own (except when submitted within, e.g., `\includegraphics`).
- If the `mark`'s value contains one or more commas, then it has to be enclosed in braces (as above), otherwise (L)A_TE_X will report an error. In any case, it is always safer to enclose long mark texts in braces. However, *active characters* need further special treatment (see section 3.7).
- The `markwidth` should be properly selected to match user's taste and the length of the `mark`. It may be set to `\paperwidth` or `\paperheight`, or any arbitrary length. Its default value is `\paperheight`. Sometimes it might also be necessary to suitably select the `markheight`, whose default value is `\paperwidth`.
- If the longest line of a `mark` is longer than the parameters `\paperwidth` and/or `\paperheight` (depending on the orientation of the `mark`), then the `fontsize` and `scale` options may have to be suitably chosen.

2.1 Graphic watermarks

For graphic/picture watermarks, the user can use, e.g.,

```
\usepackage[printwatermark,pageno=2,picfile={.../graphicsdir/pic-file},  
picfilex=eps,picbb=116 619 242 751,picscale=3,align=center,angle=0,  
xcoord=0,ycoord=0]{xwatermark}.
```

For graphic and picture watermarks you need the `picfile` (the graphic filename, with its full path but without its extension), `picfilex` (the picture filename extension without the dot), `picbb` (the picture bounding box), and `picscale` (the picture scale). Admissible file extensions are `eps`, `pdf`, `png` and `jpeg`; the latter three, but not the first, may be used in the case of pdf_TE_X. The file extension should be passed without the dot. If the file extension is not passed to package, the package selects it automatically based on whether pdf_TE_X mode is running or not (normal extensions are `eps` for dvi mode and `pdf` for pdf_TE_X mode). If you have the graphic file in both `eps` and `pdf` formats, then you don't have to bother about submitting the file extension to the package: it will automatically select the appropriate file extension, depending on the mode (pdf_TE_X or dvi) in which it is running.

2.2 The `xwatermarksetup` macro

The option `printwatermark=true` (or `printwatermark=false`) and the one that specifies the pages on which the watermark should appear (`allpages`, `oddpages`, `evenpages`, etc.) should be set when loading the package, e.g.,

```
\usepackage[printwatermark,evenpages]{xwatermark}.
```

The remaining options can be set dynamically using the `\xwatermarksetup` macro. These other options can be set for each page, as on the pages of the accompanying file of examples (`xwatermark-examples.tex`). The `\xwatermarksetup` macro can be used as in

```
\xwatermarksetup{fontfamily=bch,color=gray,grayness=0.9,  
mark=DRAFT,angle=45,scale=0.8,xcoord=0,ycoord=0}.
```

The option `printwatermark` should not appear in `\xwatermarksetup` but in `\usepackage{xwatermark}` or in the `\documentclass` options list. However, the page-specifying options (e.g., `allpages`) can appear in `\xwatermarksetup`. This implies that the page-specifying instructions may be issued and superseded dynamically (page by page or chapter by chapter). For small documents, this feature may be unnecessary, but will be useful in large documents (such as a report or book), in which the watermark may change from chapter to chapter.

The package option `allpages` in

```
\usepackage[printwatermark,allpages]{xwatermark},
```

which specifies the pages that should receive watermarks, may be replaced by any of the following options:

```
firstpage, oddpages, evenpages, pageno=x, pages=x-x,
```

where `x` means any page number. If you enter, for example, `pages=0-10`, all pages from 1 to 10 will have watermark. On the other hand, an entry like `pages=10-0` will print watermark on no page. If no page option is given, watermark will appear only on the first page and a warning message will be entered in the transcript file. When entering `pageno=x` or `pages=x-x` as option to package, don't forget to include the equality sign (`=`), otherwise the option will be ignored by the package and a warning message will be logged in the transcript file.

2.3 Keys/options without values

If you follow an option key with an equality sign but without a value, as in, e.g.,

```
\xwatermarksetup{fontfamily=,color=gray,grayness=.8,mark=,
angle=45,scale=0.8,xcoord=0,ycoord=0},
```

then there will be no problem but the outcome may be unpredictable, depending on the key that has no value. In the above example, no watermark will be printed (not even the default mark, which is `DRAFT`) because the entry `mark=` is valid and implies that no watermark should be printed. The absence of `fontfamily` in `fontfamily=` will compel (L^A)T_EX to use an arbitrary `fontfamily` that isn't the default (the default `fontfamily` is `phv` if the key `fontfamily` is not passed, and `cmr` otherwise).

2.4 Emptying the watermarks of some pages

If you set `allpages=true` or `evenpages=true` or `oddpages=true` or indeed `pages=x-x` together with `printwatermark=true` but you don't want the mark on any particular page, you can simply set `\xwatermarksetup{mark=}` or, in the case of picture watermarks, `\xwatermarksetup{picfile=}` on that page. These both imply that the watermark for that page is empty. This can be useful when transiting from text watermarks to picture watermarks or vice versa. See the example file (`xwatermark-examples.tex`) for an example.

2.5 The usefulness of the `white` color

If you set `allpages=true` or `evenpages=true` or `oddpages=true` together with `printwatermark=true` but you don't want the mark on any particular page, you can simply enter `color=white` in the `\xwatermarksetup` on that page. This applies only to text watermarks, as such a declaration has no effect on picture watermarks. This may be convenient in circumstances where you may change your mind as to whether to place a watermark on a particular page or not. In this way you don't have to set `\xwatermarksetup{mark=}` or remove (or comment out) the `\xwatermarksetup` command for that (or indeed any) page.

3 OTHER ASPECTS OF PACKAGE ARCHITECTURE AND USE

3.1 `documentclass` options

The package is set to inherit the `\documentclass` options, if the options apply to the package (thanks to the `xkeyval` package). Therefore, some of the package options can be passed to the package via the `\documentclass` options list. This is perhaps most appropriate in the case of the options `printwatermark`. However, package options supersede those passed via the `\documentclass`. For example, the option `printwatermark=true` in the `\documentclass` options list can normally be superseded by the option `printwatermark=false` in loading the `xwatermark` package, e.g., as in

```
\usepackage[printwatermark=false]{xwatermark},
```

and vice versa.

If you don't need the watermark on any page of your document, simply replace the `printwatermark=true` option in `\usepackage` or `\documentclass` with `printwatermark=false` or remove `printwatermark` from the options list. If you have specified `printwatermark=true` in the `\documentclass` options list but you still don't need the watermark on any page of your document, then you would have to specify `printwatermark=false` when loading the package.

3.2 The size of the watermark

In the case of text watermarks, the size of the watermark is controlled by three parameters, namely, `fontsize`, `fontseries` and `scale`. All can be set dynamically. Their default values are `5cm`, `b` and `1`, respectively. For picture watermarks, the size is determined by `picscale`.

3.3 The coordinates of the watermark

The watermark coordinates (specified by `xcoord` and `ycoord`) have their origin at the center of the page and are with respect to the geometric center of the watermark. The default unit is `millimeter`, but this can be changed on any page by issuing

```
\xwatermarksetup{coordunit=unit of length}.
```

Acceptable units of length are `mm` (millimeter), `cm` (centimeter), `in` (inch), `pt` (point), `bp` (big point), `dd` (didot), `ex` (height of small `x`), `pc` (pica), `cc` (cicero), `em` (width of capital `M`). The unit of coordinates can also be

changed by simply submitting the unit to the package with other options at each call, as in

```
\xwatermarksetup{coordunit=pc,fontfamily=cmss,angle=90,  
  scale=1.0,mark=-Official-,color=red!75!green!50,xcoord=-10,  
  ycoord=10}.
```

3.3.1 *Wrong location of the watermark*

If you discover that the watermark is wrongly positioned on the page(s) of your document, the chances are that you have submitted wrong coordinates (values of `xcoord` and `ycoord`) to the package. The package does not take responsibility for this and will normally not warn you in this respect. Since the output file provides direct and simple indication of the occurrence of this error, no attempt has been made in the package to warn users in this regard. If you do not specify the keys `xcoord` and/or `ycoord` at all in the call to the package, their immediate past values will be used by the package. On the other hand, if you list these keys without their values in the call to the package, their default values (`xcoord=0` and `ycoord=0`, which yield the center of paper) will be assumed by the package.

3.4 Choice of grayness

The `grayness` applies to only text watermarks. If the chosen color is not `gray`, the option `grayness` factor (which may vary from 0.1 to 0.9) is, of course, ignored (i.e., not used) and no warning or information is written into the document log file.

3.5 Breaking the watermark into lines

It is possible to break text watermarks into lines, as in the following examples:

```
\xwatermarksetup{fontfamily=ptm,angle=45,scale=.7,  
  mark={Directorate\\[.25ex]Only},align=center,color=green,  
  xcoord=0,ycoord=0}.  
\xwatermarksetup{fontfamily=ptm,angle=45,scale=.8,  
  mark={Control\\[.25ex]Version},align=left,  
  color=green,xcoord=0,ycoord=0}.
```

More complex examples are given in the file `xwatermark-examples.tex`.

3.5.1 *The alignment of the watermark*

The alignment of the watermark is controlled by the key `align`, which may be set to `center`, `left` or `right`. The default is `center`. This is particularly useful for putting arbitrary texts (that are not necessarily watermarks) on pages of documents. An example is given on page 1; the code of the example on page 1 is given in section 4.

3.6 Locating the page center

In case you need to locate the paper/page center for placing the watermark or some other material at any position on the page, a two-line grid can be placed on the page background with the key `showcenter`, which may be issued (dynamically for each page) with the `\xwatermarksetup` macro as follows:

```
\xwatermarksetup{showcenter} or
\xwatermarksetup{showcenter=true} or
\xwatermarksetup{showcenter,fontfamily=ptm,angle=60,scale=.7,
  mark=Confidential!,color=brown!25!yellow!75,coordunit=cc,
  xcoord=0,ycoord=0}.
```

An example is given in the example file (`xwatermark-examples.tex`). If after issuing this command to get a centered grid on a page, you no longer require the grid on the following pages, you simply issue another

```
\xwatermarksetup{showcenter=false} or
\xwatermarksetup{showcenter=false,fontfamily=panr,angle=60,
  scale=.7,mark=Confidential!,color=brown!25!yellow!75,
  coordunit=cc,xcoord=0,ycoord=0}.
```

3.7 Active characters

Active characters (i.e., those of category 13) cannot normally be used as values of the `mark` key. If you get strange errors when using the `xwatermark` package, one possible cause might be that you have passed active characters as values to the `mark` key.

In plain \TeX the only active character is the tie character `~` (also known as `\nobreakspace`, or `\tilde` in `amstext`). However, some packages do make some other characters active. For example, after issuing the command `\MakeShortVerb{\x}`, the packages `doc` and `shortvrb` make the character `x` active. If you want to use such active characters in values of the `mark` key, you will have to locally change their catcode to 11 (i.e., letters). In the case

of `\MakeShortVerb{\x}`, you can issue `\DeleteShortVerb{\x}` to revert to normal use of character `x`.

4 THE `colorparbox` COMMAND

To make it easier for users to color boxes of texts and/or watermarks, the `xwatermark` package provides the `\colorparbox` command. It takes one optional argument (the `\parbox` color—default `yellow!55`) and one mandatory argument (the text or watermark), as follows:

```
\colorparbox[box color]{text or watermark}.
```

The watermark on page 1 was produced with the following settings:

```
\xwatermarksetup{fontfamily=phv,color=magenta,fontsize=11pt,
  fontseries=m,align=center,markheight=\paperheight,
  markwidth=\paperwidth,mark={\framebox[27cm][c]{\colorparbox{%
\centering\color{green}\framebox[1cm][t]{\phantom{Hello}}}%
\hspace{1cm}\color{black}The marks on these pages were placed%
effortlessly by using the \textcolor{blue}{xwatermark} package.
\hspace{1cm}\color{green}\framebox[1cm][t]{\phantom{Hello}}}}
\\[17cm]\color{magenta}\framebox[27cm][c]{\phantom{%
\colorparbox{Hello}}}},angle=90,scale=1,xcoord=-1.2,ycoord=-30}.
```

5 FURTHER EXAMPLES OF USE OF `xwatermark` PACKAGE

A SOURCE FILE of examples of use of the `xwatermark` package, entitled `xwatermark-examples.tex`, and its `pdf` version are provided with this guide in the `xwatermark` bundle.

6 EPILOGUE

BUG REPORTS and suggestions for further improvement and extension of the package are very much welcome. The \LaTeX -style documentation to this package will be produced in the near future (by way of the `doc` and `docstrip` utilities).

A PACKAGE OPTIONS

The package options are listed and described in Table 1 on the following page.

Table 1: The `xwatermark` package options

Option	Default	Meaning
<code>printwatermark</code>		Global boolean key that determines whether watermark should be printed or not. This option must be passed to package as either <code>true</code> or <code>false</code> and can appear in the <code>\documentclass</code> or <code>\usepackage</code> .
<code>allpages</code> , <code>evenpages</code> , <code>oddpages</code> , <code>pages</code> , <code>pageno</code>		These determine the pages on which the watermarks are required to be printed. The options <code>allpages</code> , <code>evenpages</code> , <code>oddpages</code> are boolean keys, while <code>pages</code> and <code>pageno</code> require values, e.g., <code>pages=x-x</code> and <code>pageno=x</code> .
<code>mark</code>	DRAFT	The text watermark.
<code>angle</code>	45°	The orientation of the watermark (text and/or picture).
<code>scale</code>	1	The scale of the text watermark.
<code>grayness</code>	0.8	The grayness of the text watermark.
<code>color</code>	gray	The color of the text watermark.
<code>fontfamily</code>	cmr	The fontfamily of the text watermark.
<code>fontsize</code>	5cm	The fontsize of the text watermark. If you need other fontsizes (e.g., 10pt, 11pt or 12pt for printing text watermarks in <code>\normalfont</code>), you will need to submit them as values of <code>fontsize</code> .
<code>fontseries</code>	b	The fontseries of the text watermark.
<code>xcoord</code>	0	x-coordinate of watermark (coinciding with center of paper).
<code>ycoord</code>	0	y-coordinate of watermark (coinciding with center of paper). Both <code>xcoord</code> and <code>ycoord</code> should be submitted without units, since the unit is set separately by <code>coordunit</code> .
<code>coordunit</code>	mm	The unit for x- and y-coordinates.
<code>align</code>	center	Alignment of watermark (<code>center</code> , <code>left</code> , or <code>right</code>).
<i>Continued on next page</i>		

<i>Continued from last page</i>		
Option	Default	Meaning
<code>markwidth</code>	<code>\paperheight</code>	Width of text watermark. There is a design reason for setting <code>\paperheight</code> as the default value of <code>markwidth</code> instead of <code>markheight</code> .
<code>markheight</code>	<code>\paperwidth</code>	Height of text watermark.
<code>picscale</code>	1	Scale of picture watermark.
<code>picbb</code>	0 0 100 100	The bounding box or viewport of the picture watermark.
<code>picfile</code>		The filename of picture watermark. This, with its full path, must be submitted when including picture watermark.
<code>picfilex</code>	eps/pdf	The filename extension of the picture watermark. Admissible extensions are <code>eps</code> , <code>pdf</code> , <code>png</code> and <code>jpeg</code> ; the latter three may be used in the case of pdf \TeX . The file extension should be passed without the dot. If not passed to package, <code>xwatermark</code> selects <code>eps</code> (in dvi mode) or <code>pdf</code> (in pdf \TeX mode).
<code>showcenter</code>		Boolean that indicates if the center of the paper should be shown with a cross (and circle).

REFERENCES

- [1] S. Callegari. The `draftwatermark` package. TUG-CTAN (<http://tug.ctan.org/cgi-bin/ctanPackageInformation.py?id=draftwatermark>), 2006.
- [2] A. Musa. The `draftmark` package. TUG-CTAN (<http://tug.ctan.org/cgi-bin/ctanPackageInformation.py?id=draftmark>), 2009.
- [3] H. Oberdiek. The `atbegshi` package. TUG-CTAN (<http://tug.ctan.org/cgi-bin/ctanPackageInformation.py?id=atbegshi>), 2008.
- [4] A. I. Rozhenko. The `watermark` package. TUG-CTAN (<http://tug.ctan.org/cgi-bin/ctanPackageInformation.py?id=watermark>), 2004.
- [5] J. Vollmer. The `draftcopy` package. TUG-CTAN (<http://tug.ctan.org/cgi-bin/ctanPackageInformation.py?id=draftcopy>), 2002.