

# The `pst-xkey` package \*

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## Abstract

This package implements a specialized version of the options system of `xkeyval` [1] designed for `PSTricks` [2, 3]. This system gives additional freedom to `PSTricks` package authors since they won't have to worry anymore about potentially redefining keys of one of the many other `PSTricks` packages. The command `\psset` is redefined to set keys in multiple families. Reading the documentation of the `xkeyval` package (specifically, the 'Known issues' section) first is recommended.

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## 1 Defining `PSTricks` keys

Keys defined in the original distribution of `PSTricks` have the form `\psset@somekey`. These can be (re)defined by

```
\define@key[psset]{somekey}{function}
```

Notice especially that these keys are located in the so-called 'empty family'. For more information about `\define@key`, see the `xkeyval` [1] documentation.

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\*This package can be downloaded from the CTAN mirrors: `/macros/latex/contrib/xkeyval`. See `pst-xkey.dtx` for information on installing `pst-xkey` into your `TEX` or `LATEX` distribution and for the license of this package. `TEX` users do `\input pst-xkey`, `LATEX` users do `\RequirePackage{pst-xkey}` or `\usepackage{pst-xkey}`.

When writing a PSTricks package, let's say `pst-new`, you should locate keys in a family which contains the name of your package. If you only need one family, you should define keys using

```
\define@key[psset]{pst-new}{somekey}{function}
```

If you want to use multiple families in your package, you can do

```
\define@key[psset]{pst-new-a}{somekey}{function}
\define@key[psset]{pst-new-b}{anotherkey}{function}
```

It is important that you add all of the families that you use in your package to the list in `\pst@famlist`. This list of families will be used by `\psset` (see section 2) to scan for keys to set user input. You can add your families to the list using

```
\pst@addfams{<families>}
```

For instance

```
\pst@addfams{pst-new}
```

or

```
\pst@addfams{pst-new-a,pst-new-b}
```

## 2 Setting PSTricks keys

Only one command is needed to set PSTricks keys.

```
\psset [<families>]{<keys>}
```

This command will set `<keys>` in `<families>` using `\setkeys+`. When `<families>` is not specified, it will set `<keys>` in all families in `\pst@famlist` (which includes the empty family for original PSTricks keys).

```
\psset{somekey=red,anotherkey}
\psset[pst-new-b]{anotherkey=green}
```

## 3 Implementation

### 3.1 T<sub>E</sub>X program

Avoid loading `pst-xkey.tex` twice.

```
1 %<*tex>
2 \csname PSTXKeyLoaded\endcsname
3 \let\PSTXKeyLoaded\endinput
4 \edef\PSTXKEYcatcodes{%
5 \catcode'\noexpand\@the\catcode'\@relax
```

```

6 \let\noexpand\PSTXKEYcatcodes\relax
7 }
8 \catcode'\@=11\relax
Load xkeyval when not already done by pst-xkey.sty and provide information.
9 \ifx\ProvidesFile\@undefined
10 \message{2005/01/16 v1.3 PSTricks specialization of xkeyval (HA)}
11 \input xkeyval
12 \else
13 \ProvidesFile{pst-xkey.tex}[2005/01/16 v1.3 PSTricks specialization of xkeyval (HA)]
14 \@addtofilelist{pst-xkey.tex}
15 \RequirePackage{xkeyval}
16 \fi

\pst@famlist Initialize the list of families.
17 \def\pst@famlist{}

\pst@addfams Adds the family to \pst@famlist if it was not in yet.
18 \def\pst@addfams#1{%
19 \for\XKV@tempa:=#1\do{%
20 \expandtwoargs\in@{,\XKV@tempa,}{,\pst@famlist,}%
21 \ifin@else\edef\pst@famlist{\pst@famlist,\XKV@tempa}\fi
22 }%
23 }

\psset Set keys. Uses xkeyval's \setkeys+.
\pss@t 24 \def\psset{%
25 \expandafter\@testopt\expandafter\pss@t\expandafter{\pst@famlist}%
26 }
27 \def\pss@t[#1]{\setkeys+[psset]{#1}}

\@psset This macro defined by pstricks.tex is internally used as a shortcut. We have to
redefine this as well to avoid problems.
28 \def\@psset#1,\@nil{%
29 \edef\XKV@tempa{\noexpand\setkeys+[psset]{\pst@famlist}}%
30 \XKV@tempa{#1}%
31 }

Finalize.
32 \PSTXKEYcatcodes
33 </tex>

```

### 3.2 L<sup>A</sup>T<sub>E</sub>X wrapper

Initialize the package.

```

34 %<*latex>
35 \NeedsTeXFormat{LaTeX2e}[1995/12/01]
36 \ProvidesPackage{pst-xkey}[2005/01/16 v1.3 package wrapper for pst-xkey.tex (HA)]

```

Load required package.

```
37 \ifx\PSTXKeyLoaded\endinput\else\input pst-xkey \fi
```

Ignore options.

```
38 \DeclareOptionX*{\PackageWarning{pst-xkey}{option ‘\CurrentOption’ ignored}}
```

```
39 \ProcessOptionsX
```

```
40 \latex
```

## References

- [1] Hendri Adriaens. xkeyval package, v2.0, 2005/01/30. CTAN:/macros/latex/contrib/xkeyval.
- [2] Herbert Voß. PSTricks website. <http://www.pstricks.de>.
- [3] Timothy Van Zandt et al. PSTricks package, v1.04, 2004/06/22. CTAN:/graphics/pstricks.

## Version history

<b>v1.0</b>	<i>(2004/09/27)</i>	Updated license information . . .	1
General: Initial release . . . . .	1	<b>v1.2a</b>	<i>(2004/12/21)</i>
<b>v1.1</b>	<i>(2004/10/05)</i>	\pssset: Properly expand	
General: Changed loading preven-		\pst@famlist . . . . .	3
tions . . . . .	1	<b>v1.3</b>	<i>(2005/01/16)</i>
<b>v1.2</b>	<i>(2004/11/25)</i>	General: Updated license informa-	
General: Updated docs and code to		tion . . . . .	1
xkeyval v1.7 . . . . .	1		

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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.

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	\pssset . . . . . <u>2</u> , <u>24</u>	
<b>D</b>	\pst@addfams . . . . . <u>2</u> , <u>18</u>	<b>S</b>
\define@key . . . . . <u>1</u>	\pst@famlist . . . . . <u>2</u> ,	\setkeys . . . . . 27, 29