

The `pagesel` package

Heiko Oberdiek
<oberdiek@uni-freiburg.de>

2006/03/07 v1.5

Abstract

Single pages or page areas can be selected for output.

Contents

1	Usage	1
1.1	Page selecting	2
1.1.1	Options for selecting pages	2
1.1.2	Examples	2
1.2	Auxiliary files	2
1.2.1	Options for handling auxiliary files	2
1.2.2	Package <code>hyperref</code>	2
2	Implementation	3
2.1	Package	3
2.2	AtBeginDvi hook support	6
3	Installation	7
3.1	Some details for the interested	7
4	History	8
	[1999/03/01 v0.9]	8
	[1999/04/05 v1.0]	8
	[1999/04/13 v1.1]	8
	[2003/06/05 v1.2]	8
	[2006/02/20 v1.3]	9
	[2006/03/02 v1.4]	9
	[2006/03/07 v1.5]	9
5	Index	9

1 Usage

The package `pagesel` is a $\text{\LaTeX} 2_{\epsilon}$ package:

```
\usepackage[\langle options \rangle]{pagesel}
```

(For plain \TeX and \LaTeX 2.09 the similar package `selectp`¹ from Donald Arsenau² can be used.)

Depending on the options the package works in two modes:

1. If no page selecting option is present, so the package ignores the other options and finishes itself. So no page will be suppressed by the package and auxiliary files will be written.

¹Url: <ftp://ftp.ctan.org/tex-archive/macros/latex209/contrib/misc/selectp.sty>

²Donald Arsenau's email address: asnd@triumf.ca

2. With at least one page selecting option the specified pages are selected and the other are suppressed. The default for this mode is that auxiliary will not be overwritten. (This can be changed by an option.)

1.1 Page selecting

The package `pagesel` sets up a new counter that is incremented by each `\shipout`. In this way the package counts the output pages regardless the value of the page counter. So each page can individually be addressed, even if there are several pages with the same page number.

1.1.1 Options for selecting pages

odd: The output pages must have an odd number. All even output pages are suppressed. If there are no page areas specified so all odd pages are print. With page areas only the odd pages in this areas are selected.

even: The opposite of option `odd`.

Page area: A page area consists of three elements: the starting output page number, an “area” hyphen, and the output page number of the last page in this area. Each component is optional, so there are four kinds to specify a page area:

`<m>-<n>`: All pages between `<m>` and `<n>` inclusive.

`-<n>`: All pages until `<n>` inclusive.

`<m>-:` The page area starts with `<m>` and all pages to the end of document are selected.

`-:` All pages (not very useful).

`<s>`: The single page `<s>`.

1.1.2 Examples

Options	Output pages
<code>[1, 4, 9]</code>	1, 4, and 9
<code>[7-10, 3]</code>	3, 7, 8, 9, and 10
<code>[odd, 3-6]</code>	3, and 5
<code>[-4, 3, even, 7-8]</code>	2, 4, and 8

1.2 Auxiliary files

If a page is suppressed, the `\write` commands are not performed. Labels, index entries, or entries for the table of contents aren’t written. So it is likely that the table of contents, registers, and lists are incomplete.

1.2.1 Options for handling auxiliary files

nofiles: This is the default. Auxiliary files are read but not written or changed. Also the job is aborted after the last selected page for saving time.

nonofiles/files: Auxiliary files are written.

1.2.2 Package hyperref

In old versions of `hyperref` [1999/04/12 v6.55] (and below) there is a bug with `\nofiles`:

- Some “garbage” appears on terminal and in the log file. This is harmless and can be ignored.

- The outline auxiliary file `\jobname.out`, however, is opened and truncated to zero bytes. Version 1.0 of this package had loaded a patch file `hypnofil.tex`, if it detects `hyperref` to get `\nofiles` work.

With the new version of `hyperref` [1999/04/13 v6.56] `\nofiles` works now. Therefore the workaround code is no longer needed and removed.

2 Implementation

2.1 Package

```

1 (*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pagesel}
4 [2006/03/07 v1.5 Selecting shipout output pages (H0)]

```

If the package is loaded twice, the package code does not work. So stop loading the package, if it is already loaded.

```

5 \@ifundefined{ps@makevoid}{}{%
6   \PackageWarningNoLine{pagesel}{Package already loaded.}%
7   \endinput
8 }

```

`\ps@makevoid` Macro `\ps@makevoid` clears the output box. Because nothing is shipped out and this is intended, we reduce the counter `\deadcycles` in order to avoid problems, if more than `\maxdeadcycles` pages are omitted.

```

9 \newcommand*{\ps@makevoid}{%
10  \global\setbox\@cclv\copy\voidb@x
11  \begingroup
12    \count@=\deadcycles
13    \advance\count@ by -1\relax
14    \deadcycles=\count@
15  \endgroup
16 }

```

`\ps@oddpages`

```

17 \newcommand*\ps@oddpages{0}
18 \DeclareOption{odd}{\renewcommand*\ps@oddpages{1}}
19 \DeclareOption{even}{\renewcommand*\ps@oddpages{2}}

20 \DeclareOption{nofiles}{\let\ps@nofiles\nofiles}
21 \DeclareOption{nonofiles}{\let\ps@nofiles\@empty}
22 \DeclareOption{files}{\let\ps@nofiles\@empty}
23 \ExecuteOptions{nofiles}

24 \DeclareOption*{%
25   \begingroup
26     \expandafter\ps@checkoption\CurrentOption-\END
27     \edef\x{\endgroup\noexpand\ps@store{\ps@first}{\ps@last}}}%
28   \x
29 }

```

`\ps@checkoption`

```

30 \newcommand\ps@checkoption{}
31 \def\ps@checkoption#1-#2\END{%
32   \ifx\#2\%
33     \ifx\#1\%
34       % empty option
35       \def\ps@first{\maxdimen}%
36       \def\ps@last{\maxdimen}%
37     \else
38       \edef\ps@first{#1}%
39       \edef\ps@last{#1}%

```

```

40     \fi
41   \else
42     \ifx\#1\%
43       \def\ps@first{-\maxdimen}%
44     \else
45       \edef\ps@first{#1}%
46     \fi
47     \ps@checklast#2%
48   \fi
49 }

\ps@checklast

50 \newcommand\ps@checklast{}
51 \def\ps@checklast#1-{%
52   \ifx\#1\%
53     \def\ps@last{\maxdimen}%
54   \else
55     \edef\ps@last{#1}%
56   \fi
57 }

\ps@store

58 \newcommand*\ps@store}[2]{%
59   \expandafter\def\expandafter\ps@testlist\expandafter{%
60     \ps@testlist\ps@pagetest{#1}{#2}%
61   }%
62 }

\ps@testlist

63 \newcommand*\ps@testlist{}

64 \ProcessOptions

65 \begingroup
66   \edef\x{%
67     \ifnum\ps@oddpages>0 \relax\fi
68     \ifx\ps@testlist\@empty\else\relax\fi
69   }%
70   \ifx\x\@empty
71     \endgroup
72     \PackageInfo{pagesel}{Nothing to do}
73     \expandafter\endinput
74   \fi
75 \endgroup

76 \RequirePackage{everyshi}

77 \ps@nofiles

\c@ps@count

78 \newcounter{ps@count}
79 \setcounter{ps@count}{0}

\ps@ReturnAfterElseFi

\ps@ReturnAfterFi
80 \long\def\ps@ReturnAfterElseFi#1\else#2\fi{\fi#1}
81 \long\def\ps@ReturnAfterFi#1\fi{\fi#1}

82 \newcommand{\ps@lastpage}{\maxdimen}
83 \ifx\ps@nofiles\nofiles
84   \ifx\ps@testlist\@empty
85     \else
86       \def\ps@lastpage{0}%
87     \newcommand*\ps@pagetest}[2]{%

```

```

88      \ifnum#2>\ps@lastpage\relax
89      \def\ps@lastpage{#2}%
90      \fi
91      }%
92      \ps@testlist
93      \let\ps@pagetest\relax
94      \fi
95      \fi

\ps@ifinset
96 \newcommand*\ps@ifinset}[4]{%
97   \ifnum#1>\value{ps@count}%
98     \ps@ReturnAfterElseFi{#4}%
99   \else
100    \ps@ReturnAfterFi{%
101      \ifnum#2<\value{ps@count}%
102        \ps@ReturnAfterElseFi{#4}%
103      \else
104        \ps@ReturnAfterFi{#3}%
105      \fi
106    }%
107  \fi
108 }

\ps@pagetest
109 \newcommand*\ps@pagetest}[2]{%
110   \ps@ifinset{#1}{#2}{\let\ps@next\@empty}{%
111 }

112 \EveryShipout{%
113   \stepcounter{ps@count}%
114   \ifnum\value{ps@count}>\ps@lastpage\relax
115     \global\output{%
116       \ps@cleanup@if
117       \ps@group@message
118       \typeout{%
119         Package pagesel Notice: Aborting LaTeX job %
120         after last selected page (\ps@lastpage).%
121       }%
122       \ps@message@ignore
123       \global\setbox255\box\voidb@x
124       \deadcycles0\relax

First leave the output group before ending the job.

125       \aftergroup\@end
126     }%
127   \fi
128   \let\ps@next\@empty
129   \ifx\ps@testlist\@empty
130   \else
131     \let\ps@next\ps@makevoid
132     \ps@testlist
133   \fi
134   \ifnum\ps@oddpages=1
135     \ifodd\value{ps@count}%
136     \else
137       \let\ps@next\ps@makevoid
138     \fi
139   \fi
140   \ifnum\ps@oddpages=2
141     \ifodd\value{ps@count}%
142     \let\ps@next\ps@makevoid
143   \else

```

```

144 \fi
145 \fi
146 \ps@begindvi
147 \ps@next
148 }

149 \begingroup\expandafter\expandafter\expandafter\endgroup
150 \expandafter\ifx\csname currentiflevel\endcsname\relax
151 \let\ps@cleanup@if\@empty
152 \else
153 \def\ps@cleanup@if{%
154 \ifnum\currentiflevel>\@ne
155 \csname fi\endcsname
156 \expandafter\ps@cleanup@if
157 \fi
158 }%
159 \fi

```

Because of `\aftergroup` it is too dangerous to perform a similar cleanup for groups.

```

160 \begingroup\expandafter\expandafter\expandafter\endgroup
161 \expandafter\ifx\csname currentgrouplevel\endcsname\relax
162 \let\ps@group@message\@empty
163 \def\ps@message@ignore{%
164 \typeout{%
165 (pagesel) \space\space\@spaces\@spaces\@spaces
166 Messages (\string\end\space occurred ...) can be ignored.%
167 }%
168 }%
169 \else
170 \def\ps@group@message{%
171 \ifnum\currentgrouplevel>\@ne
172 \def\ps@message@ignore{%
173 \typeout{%
174 (pagesel) \space\space\@spaces\@spaces\@spaces
175 Message (\string\end\space occurred ...) %
176 can be ignored.%
177 }%
178 }%
179 \else
180 \let\ps@message@ignore\@empty
181 \fi
182 }%
183 \fi

```

2.2 AtBeginDvi hook support

The material of box `\@begindvibox` is recorded in parallel in box `\ps@begindvibox`.

```

184 \newbox\ps@begindvibox
185 \ifvoid\@begindvibox
186 \else
187 \global\setbox\ps@begindvibox\ vbox{%
188 \unvbox\@begindvibox
189 }%
190 \fi
191 \let\ps@org@AtBeginDvi\AtBeginDvi
192 \def\AtBeginDvi#1{%
193 \global\setbox\ps@begindvibox\ vbox{%
194 \unvbox\ps@begindvibox
195 #1%
196 }%
197 \ps@org@AtBeginDvi{#1}%
198 }

```

`\ps@beginndvi` Macro `\ps@beginndvi` is called the similar way as `\@beginndvi`. If the first page is printed, then `\AtBeginDvi` should work as usual. Otherwise the contents of box `\ps@beginndvibox` is set on the first selected page.

```

199 \def\ps@beginndvi{%
200   \ifx\ps@next\@empty
201     \global\let\ps@beginndvi\@empty
202   \else
203     \global\let\ps@beginndvi\ps@beginndvi@do
204   \fi
205 }
206 \def\ps@beginndvi@do{%
207   \ifx\ps@next\@empty
208     \setbox\@cclv\vbox{%
209       \unvbox\ps@beginndvibox
210       \box\@cclv
211     }%
212     \global\let\ps@beginndvi\@empty
213   \fi
214 }

215 \end{package}

```

3 Installation

CTAN. This package is available on CTAN³:

[CTAN:macros/latex/contrib/oberdiek/pagesel.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/pagesel.pdf](#) Documentation.

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain- \TeX :

```
tex pagesel.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```

pagesel.sty → tex/latex/oberdiek/pagesel.sty
pagesel.pdf → doc/latex/oberdiek/pagesel.pdf
pagesel.dtx → source/latex/oberdiek/pagesel.dtx

```

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

Refresh file databases. If your \TeX distribution (`te \TeX` , `mik \TeX` , ...) rely on file databases, you must refresh these. For example, `te \TeX` users run `texhash` or `mktextlsr`.

3.1 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk pagesel.pdf unpack_files output .
```

³<http://ftp.ctan.org/tex-archive/>

Unpacking with L^AT_EX. The .dtx chooses its action depending on the format:

plain-T_EX: Run docstrip and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for docstrip (really, docstrip does not need L^AT_EX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{pagesel.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the .dtx or the .drv to generate the documentation. The process can be configured by the configuration file ltxdoc.cfg. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL^AT_EX:

```
pdflatex pagesel.dtx
makeindex -s gind.ist pagesel.idx
pdflatex pagesel.dtx
makeindex -s gind.ist pagesel.idx
pdflatex pagesel.dtx
```

4 History

[1999/03/01 v0.9]

- The first version was built as a response to a question of Dirk Kuypers⁴, published in the newsgroup de.comp.text.tex:
“Re: pdflatex nur fuer bestimmte Seiten?!?”⁵

[1999/04/05 v1.0]

- Documentation added in dtx format.
- Copyright: LPPL ([CTAN:macros/latex/base/lppl.txt](http://www.ctan.org/ctan/latex/base/lppl.txt))
- Options odd, even added.
- \nofiles added, bug fix for hyperref.
- Abort loading of package, if nothing to do.

[1999/04/13 v1.1]

- \nofiles bug fix removed because of hyperref 6.55.
- First CTAN release.

[2003/06/05 v1.2]

- \deadcycles is decremented for omitted pages.
- LPPL 1.2.

⁴Dirk Kuypers’s email address: dk@comnets.rwth-aachen.de

⁵Url: [http://www.dejanews.com/\[ST_rn=ps\]/getdoc.xp?AN=450111880](http://www.dejanews.com/[ST_rn=ps]/getdoc.xp?AN=450111880)

[2006/02/20 v1.3]

- Code is not changed.
- New DTX framework.
- LPPL 1.3

[2006/03/02 v1.4]

- Support for `\AtBeginDvi` added.

[2006/03/07 v1.5]

- Job is aborted after last selected page.

5 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	I
<code>\@@end</code> 125	<code>\ifnum</code> 67,
<code>\@begindvibox</code> 185, 188	88, 97, 101, 114, 134, 140, 154, 171
<code>\@cclv</code> 10, 208, 210	<code>\ifodd</code> 135, 141
<code>\@empty</code> 21,	<code>\ifvoid</code> 185
22, 68, 70, 84, 110, 128, 129,	<code>\ifx</code> 32, 33, 42, 52, 68,
151, 162, 180, 200, 201, 207, 212	70, 83, 84, 129, 150, 161, 200, 207
<code>\@ifundefined</code> 5	
<code>\@ne</code> 154, 171	
<code>\@spaces</code> 165, 174	
<code>\@</code> 32, 33, 42, 52	
A	M
<code>\advance</code> 13	<code>\maxdimen</code> 35, 36, 43, 53, 82
<code>\aftergroup</code> 125	
<code>\AtBeginDvi</code> 191, 192	
B	N
<code>\box</code> 123, 210	<code>\NeedsTeXFormat</code> 2
	<code>\newbox</code> 184
	<code>\newcommand</code> 9,
	17, 30, 50, 58, 63, 82, 87, 96, 109
	<code>\newcounter</code> 78
	<code>\nofiles</code> 20, 83
C	O
<code>\c@ps@count</code> 78	<code>\output</code> 115
<code>\copy</code> 10	
<code>\count@</code> 12, 13, 14	
<code>\csname</code> 150, 155, 161	
<code>\currentgrouplevel</code> 171	
<code>\currentiflevel</code> 154	
<code>\CurrentOption</code> 26	
D	P
<code>\deadcycles</code> 12, 14, 124	<code>\PackageInfo</code> 72
<code>\DeclareOption</code> .. 18, 19, 20, 21, 22, 24	<code>\PackageWarningNoLine</code> 6
	<code>\ProcessOptions</code> 64
	<code>\ProvidesPackage</code> 3
	<code>\ps@begindvi</code> 146, 199
	<code>\ps@begindvi@do</code> 203, 206
	<code>\ps@begindvibox</code> 184, 187, 193, 194, 209
	<code>\ps@checklast</code> 47, 50
	<code>\ps@checkoption</code> 26, 30
	<code>\ps@cleanup@if</code> 116, 151, 153, 156
	<code>\ps@first</code> 27, 35, 38, 43, 45
	<code>\ps@group@message</code> 117, 162, 170
	<code>\ps@ifinset</code> 96, 110
	<code>\ps@last</code> 27, 36, 39, 53, 55
	<code>\ps@lastpage</code> .. 82, 86, 88, 89, 114, 120
	<code>\ps@makevoid</code> 9, 131, 137, 142
	<code>\ps@message@ignore</code> . 122, 163, 172, 180
E	
<code>\END</code> 26, 31	
<code>\end</code> 166, 175	
<code>\endcsname</code> 150, 155, 161	
<code>\endinput</code> 7, 73	
<code>\EveryShipout</code> 112	
<code>\ExecuteOptions</code> 23	

\ps@next	110,	\setcounter	79
	128, 131, 137, 142, 147, 200, 207	\space	165, 166, 174, 175
\ps@nofiles	20, 21, 22, 77, 83	\stepcounter	113
\ps@oddpages	17, 67, 134, 140		
\ps@org@AtBeginDvi	191, 197	T	
\ps@pagetest	60, 87, 93, 109	\typeout	118, 164, 173
\ps@ReturnAfterElseFi ...	80, 98, 102		
\ps@ReturnAfterFi	80, 100, 104	U	
\ps@store	27, 58	\unvbox	188, 194, 209
\ps@testlist			
..	59, 60, 63, 68, 84, 92, 129, 132	V	
		\value	97, 101, 114, 135, 141
R		\vbox	187, 193, 208
\renewcommand	18, 19	\voidb@x	10, 123
\RequirePackage	76		
		X	
S		\x	27, 28, 66, 70
\setbox	10, 123, 187, 193, 208		