The eso-pic package*

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1 Introduction

This package makes it easy to add some picture commands to every page at absolute positions.

$\mathbf{2}$ Usage

See also the example LATEX documents (eso-*.tex).

2.1Basic commands for adding LATEX stuff to the page background

\AddToShipoutPictureBG

All the picture commands which are parameters of an \AddToShipoutPictureBG command will be added to the internal macro \ESO@HookIBG. This macro is part of a zero-length picture environment with basepoint at the lower left corner of the page (default) or at the upper left corner (package option "texcoord"). The picture environment will be shipped out at every new page.

\AddToShipoutPictureBG*

\AddToShipoutPictureBG* works like \AddToShipoutPictureBG but only for the current page. It used the internal macro \ESO@HookIIBG which contents will be removed automatically.

\AddToShipoutPictureFG top oft the normal document content.

are aliases for \AddToShipoutPictureBG and \AddToShipoutPictureBG*. Works like \AddToShipoutPictureBG but the picture commands are on the

For compatibility the macros \AddToShipoutPicture and \AddToShipoutPicture*

\AddToShipoutPictureFG* \ClearShipoutPictureBG

A call of \ClearShipoutPictureBG clears the contents of \ESO@HookIBG.

For compatibility the macro \ClearShipoutPicture is an alias for \ClearShipoutPictureBG.

\ClearShipoutPictureFG \LenToUnit A call of \ClearShipoutPictureFG clears the contents of \ESO@HookIFG.

Allows a length as parameter to a picture command. Note that this macro is no more necessary when using \usepackage{picture}.

\gridSetup

 $\gridSetup[\langle gridunitname \rangle] \{\langle gridunit \rangle\} \{\langle labelfactor \rangle\} \{\langle griddelta \rangle\}$ $\{\langle gridDelta \rangle\}\{\langle gap \rangle\}$. For details see the implementation section.

^{*}This document corresponds to eso-pic v2.0e, dated 2015/04/20.

\AtPageUpperLeft \AtPageLowerLeft \AtPageCenter \AtTextUpperLeft \AtTextLowerLeft \AtTextCenter \AtStockUpperLeft \AtStockLowerLeft \AtStockCenter

Helper macros for easier positioning on the page.

Package options

Option	Value	Comments
pscoord	empty or true, false	The zero point of the coordinate system
		is the lower left corner of the page (the
		default).
texcoord	empty or true, false	The zero point of the coordinate system
		is the upper left corner of the page.
grid	empty or true, false	A grid is drawing; default: false.
gridunit	$mm,\ in,\ bp,\ pt$	Distance between gridlines are multiples
		of gridunit. default: mm.
gridcolor	a valid color name	Color of the main gridlines; default:
		black
subgridcolor	a valid color name	Color of the subgridlines; default: black.
subgridstyle	solid or dotted	'dotted' is very slow! default: solid.
colorgrid	empty or true, false	Shortcut for 'grid=true', 'gridcolor=red'
		and 'subgridcolor=green'; default: false.
dvips	empty or true, false	Is also true if the package option dvips is
		used by color or graphics. If true package
		eepic is loaded for better performance of
		dotted lines.

Implementation 3

The main functionality

1 \RequirePackage{atbegshi}

\LenToUnit

 ${\tt 2 \providecommand*\LenToUnit[1]{\#1\@gobble}}$

\ESO@isMEMOIR Support for the memoir class.

- 3 \newcommand\ESO@isMEMOIR[2]{#2}
- ${\tt 4 \command\ESO@isMEMOIR[2]{\#1}}{\tt 4 \command\ESO@isMEMOIR[2]{\#1}}{\tt 4}}$

\AtPageUpperLeft

- 5 \newcommand\AtPageUpperLeft[1]{%
- 6 \put(0,\LenToUnit{-\ESO@yoffsetI}){#1}%

7 }

\AtPageLowerLeft

- 8 \newcommand\AtPageLowerLeft[1]{\AtPageUpperLeft{%
- 9 \put(0,\LenToUnit{-\paperheight}){#1}}}

\AtPageCenter

- 10 \newcommand\AtPageCenter[1] {\AtPageUpperLeft{\%}
- $\t (\LenToUnit{.5}\paperwidth}, \LenToUnit{-.5}\paperheight}){\#1}}{\%}$ 12 }

```
\AtStockLowerLeft
                   13 \newcommand\AtStockLowerLeft{}
                   14 \ESO@isMEMOIR{%
                       \renewcommand\AtStockLowerLeft[1]{%
                   16
                          \begingroup
                   17
                            \@tempdima=-\stockwidth
                   18
                            \advance\@tempdima\trimedge
                   19
                            \advance\@tempdima\paperwidth
                            \if@twoside\ifodd\c@page\else
                   20
                              \@tempdima=-\trimedge
                   21
                            \fi\fi
                   22
                            \@tempdimb=-\stockheight
                   23
                   24
                            \advance\@tempdimb\paperheight
                            \advance\@tempdimb\trimtop
                   25
                            \AtPageLowerLeft{%
                   26
                   27
                              \put(\LenToUnit{\@tempdima},\LenToUnit{\@tempdimb}){#1}%
                   28
                            }%
                   29
                          \endgroup
                   30
                       }
                   31 }{%
                       \let\AtStockLowerLeft=\AtPageLowerLeft
                   32
                   33 }
\AtStockUpperLeft
                   34 \newcommand\AtStockUpperLeft{}
                   35 \ESO@isMEMOIR{%
                       \renewcommand\AtStockUpperLeft[1]{%
                   36
                   37
                          \AtStockLowerLeft{%
                            \put(0,\LenToUnit{\stockheight}){#1}%
                   38
                         }%
                   39
                   40 }%
                   41 }{%
                   42 \let\AtStockUpperLeft=\AtPageUpperLeft
                   43 }
   \AtStockCenter
                   44 \newcommand\AtStockCenter{}
                   45 \ESO@isMEMOIR{%
                   46
                       \renewcommand\AtStockCenter[1]{%
                   47
                          \AtStockLowerLeft{%
                            \put(\LenToUnit{.5\stockwidth},\LenToUnit{.5\stockheight}){#1}%
                   48
                   49
                         }%
                   50 }%
                   51 }{%
                   52 \let\AtStockCenter=\AtPageCenter
                   53 }
\AtTextUpperLeft
                   54 \ESO@isMEMOIR{%
                   55 \newcommand\AtTextUpperLeft[1]{%
                   56
                        \begingroup
                            \ifodd\c@page
                   57
                   58
                              \@tempdima=\spinemargin
                   59
                            \else
```

```
\@tempdima=\paperwidth
                   60
                              \advance\@tempdima-\textwidth
                   61
                              \advance\@tempdima-\spinemargin
                   62
                           \fi
                   63
                            \@tempdimb=-\uppermargin
                   64
                            \AtPageUpperLeft{%
                   65
                              \put(\LenToUnit{\@tempdima},\LenToUnit{\@tempdimb}){#1}%
                   66
                           }%
                   67
                   68
                         \endgroup
                       }
                   69
                   70 }{%
                       \newcommand\AtTextUpperLeft[1]{%
                   71
                   72
                         \begingroup
                            \@tempdima=1in\relax
                   73
                            \if@twoside
                   74
                              \ifodd\c@page
                   75
                                \advance\@tempdima\oddsidemargin
                   76
                   77
                                \advance\@tempdima\evensidemargin
                   78
                              \fi
                   79
                            \else
                   80
                              \advance\@tempdima\oddsidemargin
                   81
                   82
                            \@tempdimb=-1in\relax
                   83
                            \advance\@tempdimb-\topmargin
                   84
                            \advance\@tempdimb-\headheight
                   85
                            \advance\@tempdimb-\headsep
                   86
                            \AtPageUpperLeft{%
                   87
                              \put(\LenToUnit{\@tempdima},\LenToUnit{\@tempdimb}){#1}%
                   88
                           }%
                   89
                   90
                         \endgroup
                       }
                   91
                   92 }
\AtTextLowerLeft
                   93 \newcommand\AtTextLowerLeft[1]{\AtTextUpperLeft{%
                      \put(0,\LenToUnit{-\textheight}){#1}}}
   \AtTextCenter
                   95 \newcommand\AtTextCenter[1] {\AtTextUpperLeft{\%}
                       \put(\LenToUnit{.5\textwidth},\LenToUnit{-.5\textheight}){#1}}
    \ESO@HookIBG
   \ESO@HookIIBG
                  97 \newcommand{\ESO@HookIBG}{}
 \ESO@HookIIIBG
                  98 \newcommand{\ESO@HookIIBG}{}
   \ESO@HookIFG 99 \newcommand{\ESO@HookIIIBG}{}
  \verb|\ESO@HookIIFG| 100 \verb|\newcommand{\ESO@HookIFG}{}|
                  101 \newcommand{\ESO@HookIIFG}{}
                  102 \newcommand{\ESO@HookI}{}
                  103 \newcommand{\ESO@HookII}{}
                  104 \newcommand{\ESO@HookIII}{}
                  105 \let\ESO@HookI=\ESO@HookIBG
                  106 \let\ESO@HookII=\ESO@HookIIBG
                  107 \let\ESO@HookIII=\ESO@HookIIIBG
```

```
\AddToShipoutPictureBG
              \AddToShipoutPictureFG
                                                                   108 \newcommand{\AddToShipoutPictureBG}{%
                                                                             \@ifstar{\g@addto@macro\ESO@HookIIBG}{\g@addto@macro\ESO@HookIBG}}
                                                                   110 \newcommand{\AddToShipoutPicture}{}
                                                                   111 \let\AddToShipoutPicture=\AddToShipoutPictureBG
              \AddToShipoutPictureFG
                                                                   112 \newcommand{\AddToShipoutPictureFG}{%
                                                                             \@ifstar{\g@addto@macro\ESO@HookIIFG}{\g@addto@macro\ESO@HookIFG}}
              \ClearShipoutPictureBG
                   \verb|\ClearShipoutPictureFG||_{115} \verb|\newcommand{\ClearShipoutPicture}{} |
                                                                   116 \let\ClearShipoutPicture=\ClearShipoutPictureBG
                                                                   {\tt 117 \ \ let} \\ {\tt ClearShipoutPictureFG} \\ {\tt ClearSh
                              \AtBeginShipout (see package atbegshi)
          \AtBeginShipoutUpperLeft 118 \ESO@isMEMOIR{%
{	t ginShipoutUpperLeftForeground} \ \ 119
                                                                              \AtBeginShipout{%
                                                                                   \@tempdima=-\trimedge
                                                                   120
                                                                                   \advance\@tempdima-\paperwidth
                                                                   121
                                                                   122
                                                                                    \advance\@tempdima\stockwidth
                                                                   123
                                                                                   \if@twoside\ifodd\c@page\else
                                                                                        \advance\@tempdima2\trimedge
                                                                   124
                                                                                        \advance\@tempdima\paperwidth
                                                                   125
                                                                   126
                                                                                        \advance\@tempdima-\stockwidth
                                                                   127
                                                                                    \fi\fi
                                                                   128
                                                                                   \@tempdimb=\ESO@yoffsetI
                                                                   129
                                                                                   \advance\@tempdimb-\trimtop
                                                                   130
                                                                                   \nointerlineskip
                                                                                    \AtBeginShipoutUpperLeft{%
                                                                   131
                                                                                         \put(\LenToUnit{\@tempdima},\LenToUnit{\@tempdimb}){%
                                                                   132
                                                                                             \ESO@HookIIIBG\ESO@HookIBG\ESO@HookIIBG
                                                                   133
                                                                   134
                                                                                             \global\let\ESO@HookIIBG\@empty
                                                                                       }%
                                                                   135
                                                                   136
                                                                   137
                                                                                    \AtBeginShipoutUpperLeftForeground{%
                                                                                        \put(\LenToUnit{\@tempdima},\LenToUnit{\@tempdimb}){%
                                                                   138
                                                                                             \ESO@HookIFG\ESO@HookIIFG
                                                                   139
                                                                                             \global\let\ESO@HookIIFG\@empty
                                                                   140
                                                                                       }%
                                                                   141
                                                                                   }%
                                                                   142
                                                                   143
                                                                   144 }{%
                                                                               \AtBeginShipout{%
                                                                   145
                                                                                   \nointerlineskip
                                                                   146
                                                                   147
                                                                                    \AtBeginShipoutUpperLeft{%
                                                                   148
                                                                                        \put(0,\LenToUnit{\ESO@yoffsetI}){%
                                                                                             \ESO@HookIIIBG\ESO@HookIBG\ESO@HookIIBG
                                                                   149
                                                                                             \global\let\ESO@HookIIBG\@empty
                                                                   150
                                                                                       }%
                                                                   151
                                                                                   ጉ%
                                                                   152
                                                                                   \AtBeginShipoutUpperLeftForeground{%
                                                                   153
                                                                                        \put(0,\LenToUnit{\ESO@yoffsetI}){%
                                                                   154
```

```
155 \ESO@HookIFG\ESO@HookIIFG
156 \global\let\ESO@HookIIFG\@empty
157 }%
158 }%
159 }
160 }
```

3.2 The background grid

```
161 \RequirePackage{keyval}
                         Initialising some macros
                       162 \newif\ifESO@dvips\ESO@dvipsfalse \newif\ifESO@grid\ESO@gridfalse
                       163 \newif\ifESO@texcoord\ESO@texcoordfalse
                       164 \newcommand*\ESO@gridunitname{}
                       165 \newcommand*\ESO@gridunit{}
                       166 \newcommand*\ESO@labelfactor{}
                       167 \end{*} ESO@griddelta{} \end{*} ESO@griddelta{} \end{*} end{*} ESO@griddelta{} \end{*} end{*} 
                       168 \newcommand*\ESO@gridDelta{}\newcommand*\ESO@gridDeltaY{}
                       169 \newcommand*\ESO@gridcolor{}
                       170 \newcommand*\ESO@subgridcolor{}
                       171 \newcommand*\ESO@subgridstyle{dotted}% ???
                       172 \newcommand*\ESO@gap{}
                       173 \newcommand*\ESO@yoffsetI{}\newcommand*\ESO@yoffsetII{}
                       174 \newcommand*\ESO@gridlines{\thinlines}
                       175 \newcommand*\ESO@subgridlines{\thinlines}
                       176 \newcommand*\ESO@hline[1]{\ESO@subgridlines\line(1,0){#1}}
                       177 \newcommand*\ESO@vline[1] {\ESO@subgridlines\line(0,1){#1}}
                       178 \newcommand*\ESO@Hline[1] {\ESO@gridlines\line(1,0){#1}}
                       179 \newcommand*\ESO@Vline[1] {\ESO@gridlines\line(0,1){#1}}
                       180 \newcommand\ESO@fcolorbox[3]{\fbox{#3}}
                       181 \newcommand\ESO@color[1]{}
                       182 \newcommand\ESO@colorbox[2]{%
                                  \begingroup
                                      \fboxrule=\z@\fbox{#2}%
                       184
                       185
                                  \endgroup
                       186 }
\gridSetup
                       187 \newcommand\gridSetup[6][]{%
                                  \edef\ESO@gridunitname{#1}\edef\ESO@gridunit{#2}
                                  \edef\ESO@labelfactor{#3}\edef\ESO@griddelta{#4}
                                 \edef\ESO@gridDelta{#5}\edef\ESO@gap{#6}}
                         All the key-value options
                       191 \define@key{ES0}{texcoord}[true]{\csname ES0@texcoord#1\endcsname}
                       192 \define@key{ESO}{pscoord}[true]{\csname @tempswa#1\endcsname
                                  \if@tempswa\ESO@texcoordfalse\else\ESO@texcoordtrue\fi}
                       194 \define@key{ESO}{dvips}[true]{\csname ESO@dvips#1\endcsname}
                       195 \define@key{ESO}{grid}[true]{\csname ESO@grid#1\endcsname
                                  \setkeys{ESO}{gridcolor=black,subgridcolor=black}}
                       197 \define@key{ESO}{colorgrid}[true]{\csname ESO@grid#1\endcsname
                                  \setkeys{ESO}{gridcolor=red,subgridcolor=green}}
                       199 \define@key{ESO}{gridcolor}{\def\ESO@gridcolor{#1}}
                       200 \define@key{ESO}{subgridcolor}{\def\ESO@subgridcolor{#1}}
```

```
202 \define@key{ESO}{gridunit}{%
                                                                                                                                        \def\@tempa{#1}
                                                                                                                 204
                                                                                                                                           \def\@tempb{bp}
                                                                                                                                          \ifx\@tempa\@tempb
                                                                                                                 205
                                                                                                                                                     \gridSetup[\0tempa]{1bp}{1}{10}{50}{2}
                                                                                                                 206
                                                                                                                 207
                                                                                                                 208
                                                                                                                                                      \def\@tempb{pt}
                                                                                                                                                      \ifx\@tempa\@tempb
                                                                                                                 209
                                                                                                                                                                 \gridSetup[\@tempa]{\p@}{1}{10}{50}{2}
                                                                                                                 210
                                                                                                                 211
                                                                                                                                                      \else
                                                                                                                                                                 \def\@tempb{in}
                                                                                                                 212
                                                                                                                                                                \ifx\@tempa\@tempb
                                                                                                                 213
                                                                                                                                                                          \gridSetup[\@tempa]{.1in}{.1}{2}{10}{.5}
                                                                                                                 214
                                                                                                                 215
                                                                                                                                                                          \gridSetup[mm]{1mm}{1}{5}{20}{1}
                                                                                                                 216
                                                                                                                                                                \fi
                                                                                                                 217
                                                                                                                 218
                                                                                                                                                     \fi
                                                                                                                                           \fi
                                                                                                                 219
                                                                                                                 220 }
                                                                                                                 221 \setkeys{ESO}{subgridstyle=solid,pscoord=true,gridunit=mm}
\ProcessOptionsWithKV
                                                                                                                 This macro can process package options using 'key=value' syntax.
                                                                                                                  222 \def\ProcessOptionsWithKV#1{%
                                                                                                                                         \let\@tempc\@empty
                                                                                                                                            \@for\CurrentOption:=\@classoptionslist\do{%
                                                                                                                 224
                                                                                                                                                      \@ifundefined{KV@#1@\CurrentOption}%
                                                                                                                 225
                                                                                                                                                      {}{\edef\@tempc{\@tempc,\CurrentOption,}}}%
                                                                                                                 226
                                                                                                                 227
                                                                                                                                           \edef\@tempc{%
                                                                                                                                                     \label{lem:limit} $$\operatorname{\def}(\operatorname{\def})}% $$\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\operatorname{\def}}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\def}(\operatorname{\def}(\operatorname{\operatorname{\def}}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}(\operatorname{\def}(\operatorname{\def}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{\operatorname{\def}}(\operatorname{
                                                                                                                 228
                                                                                                                 229
                                                                                                                                           \@tempc
                                                                                                                                           \AtEndOfPackage{\let\@unprocessedoptions\relax}}%
                                                                                                                 231 \ProcessOptionsWithKV{ESO}%
                                                                   \ESO@div Divides length #1 by #2 × \ESO@gridunit and adds one. Result is in \@tempcnta.
                                                                                                                 232 \newcommand\ESO@div[2]{%
                                                                                                                                           \@tempdima=#1\relax\@tempdimb=\ESO@gridunit\relax
                                                                                                                                           \@tempdimb=#2\@tempdimb\divide\@tempdima by \@tempdimb
                                                                                                                 234
                                                                                                                                           \@tempcnta\@tempdima\advance\@tempcnta\@ne}
                                                                                                                 235
                                                                                                                 236 \@ifundefined{colorbox}{%
                                                                                                                                         \IfFileExists{xcolor.sty}{\RequirePackage{xcolor}}%
                                                                                                                 237
                                                                                                                 238
                                                                                                                                                      {\RequirePackage{color}}%
                                                                                                                 240 \det\ESO@color=\color
                                                                                                                 241 \renewcommand\ESO@colorbox[2]{%
                                                                                                                 242 \begingroup
                                                                                                                                                     \fboxsep=.4ex %
                                                                                                                 243
                                                                                                                                                    \colorbox{#1}{#2}%
                                                                                                                 244
                                                                                                                 245
                                                                                                                                         \endgroup
                                                                                                                 246 }
                                                                                                                 247 \renewcommand\ESO@fcolorbox[3]{%
                                                                                                                                     \begingroup
```

201 \define@key{ESO}{subgridstyle}{\def\ESO@subgridstyle{#1}}%

```
\fcolorbox{#1}{#2}{#3}%
                  250
                       \endgroup
                  251
                  252 }
                  253 \AtBeginDocument{%
                       \ES0@dvipsfalse
                       \@ifundefined{Gin@driver}{}%
                  255
                  256
                         \ifx\Gin@driver\@empty\else%
                  257
                           \filename@parse{\Gin@driver}\def\reserved@a{dvips}%
                  258
                           \ifx\filename@base\reserved@a\ESO@dvipstrue\fi
                  259
                         \fi
                  260
                       }%
                  261
                       \ifESO@dvips\def\@tempb{eepic}\else\def\@tempb{epic}\fi
                  262
                       \def\@tempa{dotted}%\def\ESO@gap{\LenToUnit{6\@wholewidth}}%
                  263
                       \ifx\@tempa\ESO@subgridstyle
                  264
                         \IfFileExists{\@tempb.sty}%
                  265
                  266
                           \RequirePackage{\@tempb}
                  267
                           \renewcommand*\ESO@hline[1]{\ESO@subgridlines\dottedline{\ESO@gap}%
                  268
                              (0,0)(##1,0)
                  269
                           \renewcommand*\ESO@vline[1]{\ESO@subgridlines\dottedline{\ESO@gap}%
                 270
                              (0,0)(0,##1)}
                 271
                         }{}
                 272
                 273
                       \else
                         \ifx\ESO@gridcolor\ESO@subgridcolor
                  274
                           \renewcommand*\ESO@gridlines{\thicklines}
                  275
                         \fi
                  276
                  277
                       \fi
                  278 }
                  279 \ifESO@texcoord
                       \def\ESO@yoffsetI{\z@}\def\ESO@yoffsetII{-\paperheight}
                  280
                       \edef\ESO@griddeltaY{-\ESO@griddelta}\edef\ESO@gridDeltaY{-\ESO@gridDelta}
                  281
                  282 \else
                       \def\ESO@yoffsetI{-\paperheight}\def\ESO@yoffsetII{\z@}
                  283
                  284
                       \edef\ESO@griddeltaY{\ESO@griddelta}\edef\ESO@gridDeltaY{\ESO@gridDelta}
                  285 \fi
\ESO@gridpicture
                  286 \newcommand\ESO@gridpicture{\%}
                  287
                       \begingroup
                  288
                         \setlength\unitlength{\ESO@gridunit}%
                         \ESO@color{\ESO@subgridcolor}%
                  289
                   — horizontal subgrid lines —
                         \ESO@div{\paperheight}{\ESO@griddelta}%
                  290
                         \multiput(0,0)(0,\ESO@griddeltaY){\@tempcnta}%
                  291
                           {\ESO@hline{\LenToUnit{\paperwidth}}}%
                  292
                     vertical subgrid lines -
                         \ESO@div{\paperwidth}{\ESO@griddelta}%
                  293
                         \multiput(0,\LenToUnit{\ESO@yoffsetII})(\ESO@griddelta,0){\@tempcnta}%
                  294
                           {\ESO@vline{\LenToUnit{\paperheight}}}%
                  295
                  296
                         \ESO@color{\ESO@gridcolor}%
```

\fboxsep=.5ex %

249

```
horizontal grid lines —
       \ESO@div{\paperheight}{\ESO@gridDelta}%
297
       \multiput(0,0)(0,\ESO@gridDeltaY){\@tempcnta}%
298
         {\ESO@Hline{\LenToUnit{\paperwidth}}}%
299
— vertical grid lines —
       \ESO@div{\paperwidth}{\ESO@gridDelta}%
300
       \multiput(0,\LenToUnit{\ESO@yoffsetII})(\ESO@gridDelta,0){\@tempcnta}%
301
         {\ESO@Vline{\LenToUnit{\paperheight}}}%
302
   horizontal numbers
       \fontsize{10}{12}\normalfont%
303
       \ESO@div{\paperwidth}{\ESO@gridDelta}%
304
       \multiput(0,\ESO@gridDeltaY)(\ESO@gridDelta,0){\@tempcnta}{%
305
         \@tempcntb=\@tempcnta\advance\@tempcntb-\@multicnt
306
307
         \ifnum\@tempcntb>1\relax
           \multiply\@tempcntb by \ESO@gridDelta\relax
308
309
           \@tempdima=\@tempcntb sp\@tempdima=\ESO@labelfactor\@tempdima
310
           \@tempcntb=\@tempdima%
311
           \mbox(0,0)[c]{\ESO@colorbox{white}{\the\@tempcntb}}%
312
         fi}%
 — vertical numbers —
       \ifx\ESO@gridunitname\@empty\def\@tempa{0}\else\def\@tempa{1}\fi
313
       \ESO@div{\paperheight}{\ESO@gridDelta}%
314
       \multiput(\ESO@gridDelta,0)(0,\ESO@gridDeltaY){\@tempcnta}{%
315
316
         \@tempcntb=\@tempcnta\advance\@tempcntb-\@multicnt%
317
         \ifnum\@tempcntb>\@tempa\relax
           \multiply\@tempcntb by \ESO@gridDelta\relax%
318
           \@tempdima=\@tempcntb sp\@tempdima=\ESO@labelfactor\@tempdima
319
           \@tempcntb=\@tempdima
320
           321
         \fi
322
       }%
323
 — the unit label —
       \ifx\ESO@gridunitname\@empty\else
324
         \thicklines\fboxrule=\@wholewidth
325
         \put(\ESO@gridDelta,\ESO@gridDeltaY){\makebox(0,0)[c]{%
326
327
           \ESO@fcolorbox{\ESO@gridcolor}{white}{%
             \textbf{\ESO@gridunitname}}}}%
328
       \fi
329
       \normalcolor%
330
331
     \endgroup
332 }
```

Add the grid to the shipout picture (\ESO@HookIIIBG is independed from the user commands \AddToShipoutPictureBG and \AddToShipoutPictureBG*).

333 \ifESO@grid\g@addto@macro\ESO@HookIFG{\ESO@gridpicture}\fi

Change History

v0.4 General: Initial version 1	added 9
v0.5 General: Some bug corrections 1 v0.6 General: Some corrections for compatibility with the html package	v1.1b General: New command AtPageLowerLeft 1 New package options "texcoord" and "pscoord" 1 v1.1c
suggested by Ross Moore and a licence note	General: Remove the disadvantageous check of 'pdfTeX'. Now using with XeLATEX should be possible
v1.0 General: New commands \LenToUnit, \AtPageUpperLeft, \AtPageCenter, \AtTextUpperLeft, and \AtTextCenter 1 v1.0a \ClearShipoutPictureFG: Changed	General: Better test of color/xcolor 7
\left to \global\left (suggested by Alberto Lusiani) 5 v1.0c General: New command \AtTextLowerLeft and correc-	\AddToShipoutPictureFG: New command \AddToShipoutPictureFG
tions to \AtTextUpperLeft 1 v1.0d \LenToUnit: Using \providecommand instead of \newcommand for \LenToUnit	\AtBeginShipoutUpperLeftForeground: bugfix for memoir class (reported by YI Hoze) 5 v2.0d General: grid should be in fore-
v1.1 General: New commands and package options for background grids	ground
v1.1a \ESO@gridpicture: Font setting	zontal position in one-column mode

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