The postage package*

Jan Heinrich Reimer†
heinrich@heinrichreimer.com

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1 Introduction

The postage package is used for franking letters with »Deutsche Post«’s online postage service »Internetmarke«.

2 Usage

2.1 Requirements

Note that in order to print valid stamps the \{⟨file⟩\} argument of any of this package’s commands must point to a valid PDF of »Deutsche Post«’s »Ausdruck 4-spaltig (DIN A4)« format.[1]

2.2 Commands

\includestamp The \includestamp[⟨options⟩]{⟨file⟩} command loads a single stamp from the
file specified in its mandatory \{(file)\} argument and draws it on the page. The additional \{(options)\} can be used to specify the stamps position in the \{(file)\} and the stamp's appearance.

**Options \{(options)\}**

| style=(normal|compact) | The stamp's appearance; may either be normal or compact. |
|-----------------------|---------------------------------------------------------|
| normal                | Set the stamp's appearance to normal. Same as style=normal. |
| compact               | Set the stamp's appearance to compact. Same as style=compact. |
| page=(1...)           | The stamp's page from which to copy the stamp from the stamps PDF file. Pages count from 1. |
| row=(1...8)           | The stamp's row on the page. Rows count from 1 to 8. |
| column=(1...4)        | The stamp's column on the page. Rows count from 1 to 4. |

**Example**

The following code generates figure 1:

```latex
\includestamp{sample-stamps}
```

or

```latex
\includestamp[page=1,row=1,column=1,normal]{sample-stamps}
```

![Figure 1: A normal-sized stamp (taken from »Deutsche Post«'s sample PDF).](image)

The following code generates figure 2:

```latex
\includestamp[compact]{sample-stamps}
```

or

```latex
\includestamp[row=1,column=1,style=normal]{sample-stamps}
```

![Figure 2: The same stamp in its compact representation.](image)

### 3 Implementation

#### 3.1 Initialization

#### 3.1.1 Options

Define the stamp's display styles, the default display style and the according command options style, compact and normal.

```latex
1: \def\postage@stamp@stylenormal{normal}
2: \def\postage@stamp@stylecompact{compact}
```
Define the stamp's page, row and column on the »Internetmarke« PDF, their defaults and the according command options page, row and column.

Create the lengths describing the stamp's position, height and width on the PDF page as well as each stamp's parts relative to the stamp's position.

Save the lengths describing »Deutsche Post«'s »Internetmarke« in its »Auszdruck 4spaltig (DIN A4)« format. All measurements below have been taken from »Deutsche Post«'s official sample PDF using the Inkscape vector editor with a precision of ±0.0005mm.
3.2 Calculating position

Calculate the current stamp's position on the page based on its row and column options.

```latex
\newcommand{\postage@calculate@current@stamp@position}{
  \setlength{\postage@current@stamp@x}{\postage@grid@x + \postage@grid@width * (\postage@current@stamp@column - 1)}
  \setlength{\postage@current@stamp@y}{\postage@grid@y + \postage@grid@height * (\postage@current@stamp@row - 1)}
}
```

3.3 Drawing

Draw a part of the current stamp whose trim offsets were previously calculated using \postage@calculate@current@stamp@position.

```latex
\newcommand{\postage@draw@current@stamp@part}{`
\includegraphics[page=\postage@current@stamp@page, trim={ \postage@current@stamp@trim@left } { \postage@current@stamp@trim@bottom } { \postage@current@stamp@trim@right } { \postage@current@stamp@trim@top } , clip, #1]{\postage@current@stamp@file}"
```

Draw the current stamp's whole content trimming whitespace around it.

```latex
\newcommand{\postage@draw@current@stamp@content}{`
\setlength{\postage@current@stamp@trim@top}{\postage@current@stamp@y + \postage@stamp@content@y}
\setlength{\postage@current@stamp@trim@left}{\postage@current@stamp@x + \postage@current@stamp@trim@left}
```

4
\newcommand{\postage@draw@current@stamp@barcode}{%
\setlength{\postage@current@stamp@trim@top}{\postage@page@height - \postage@current@stamp@trim@top - \postage@stamp@content@height}
\setlength{\postage@current@stamp@trim@right}{\postage@page@width - \postage@current@stamp@trim@left - \postage@stamp@content@width}
\setlength{\postage@current@stamp@trim@bottom}{\postage@page@height - \postage@current@stamp@trim@top - \postage@current@stamp@trim@bottom - \postage@stamp@content@height}
\setlength{\postage@current@stamp@trim@left}{\postage@page@width - \postage@current@stamp@trim@top - \postage@current@stamp@trim@bottom - \postage@stamp@content@width}
\postage@draw@current@stamp@part%
}

\newcommand{\postage@draw@current@stamp@logo}{%
\setlength{\postage@current@stamp@trim@top}{\postage@page@height - \postage@current@stamp@trim@top - \postage@stamp@logo@height}
\setlength{\postage@current@stamp@trim@right}{\postage@page@width - \postage@current@stamp@trim@left - \postage@stamp@logo@width}
\setlength{\postage@current@stamp@trim@bottom}{\postage@page@height - \postage@current@stamp@trim@top - \postage@current@stamp@trim@bottom - \postage@stamp@logo@height}
\setlength{\postage@current@stamp@trim@left}{\postage@page@width - \postage@current@stamp@trim@top - \postage@current@stamp@trim@bottom - \postage@stamp@logo@height}
\postage@draw@current@stamp@part[\width=1\postage@stamp@barcode@text@width]
}

Draw only the current stamp's barcode (and the included number code).

Draw only the current stamp's »Deutsche Post« logo.
Draw the current stamp's compact representation. This will print a scaled-down version of the »Deutsche Post« logo in the upper-right corner of the barcode and trim the big logo and »Internetmarke« URL instead.

\newcommand{\postage@draw@current@stamp@style@compact}{%
  \begin{tikzpicture}
  \node[anchor=north east, inner sep=0] at (0,0) {
    \postage@draw@current@stamp@barcode};
  \node[anchor=north east, inner sep=0] at (0,0) {
    \postage@draw@current@stamp@logo};
  \end{tikzpicture}%
}

Draw the current stamp's whole content including the big »Deutsche Post« logo and »Internetmarke« URL, yet trimming whitespace around it.

\newcommand{\postage@draw@current@stamp@style@normal}{%
  \postage@draw@current@stamp@content%
}

\includestamp
See the usage documentation

\newcommand{\includestamp}[2][]{%
  \setkeys{postage}{#1}%
  \def\postage@current@stamp@file{#2}%
  \postage@calculate@current@stamp@position%
  \ifx\postage@current@stamp@style\postage@stamp@style@compact%
    \postage@draw@current@stamp@style@compact%
  \else%
    \postage@draw@current@stamp@style@normal%
  \fi%
}

4 Outlook

In future this library may be extended to other postage service (potentially outside Germany). Then a service option could be set up to decide which format to use. Speaking of formats one could also think about implementing »Deutsche Post«’s »Ausdruck 3-spaltig (DIN A4)« format to support more stamp types such as enrolls and/or mail tracking, which at the time of writing this package aren't supported in the »Deutsche Post«’s »Internetmarke« in »Ausdruck 4-spaltig (DIN A4)« format.