

# The `everyshi` package\*

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## Abstract

This packages provides hooks into `\sshypout` called `\EveryShipout` and `\AtNextShipout` analogous to `\AtBeginDocument`.

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## 1 Introduction

This package provides the hooks `\EveryShipout` and `\AtNextShipout` whose arguments are executed after the output routine has constructed `\box255`, and before `\shipout` is called.

An example application for this package would be a package for adding text to the bottom of each page. Such a package does exist: `prelim2e[2]`.

Another application is a package for adding pictures to every page: `esopic[1]`.

## 2 Usage

`\EveryShipout{<code>}` declares `<code>` that is saved internally and executed before each `\shipout`.

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\*The version umber of this file is v3.00, last revised 2001/05/15.

The name `everyshi` is a tribute to the 8 + 3 file-naming convention of certain “operating systems”; strictly speaking it should be `everyshipout`.

*Warning:* The  $\langle code \rangle$  is saved globally; there is currently no way to remove it.

New feature  
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$\backslash\text{AtNextShipout}$   $\backslash\text{AtNextShipout}\{\langle code \rangle\}$  declares  $\langle code \rangle$  that is saved internally and executed just before *only the next*  $\backslash\text{shipout}$ .

The  $\langle code \rangle$  is executed after  $\backslash\text{box255}$  has been constructed by the output routine and can change  $\backslash\text{box255}$ .  $\backslash\text{shipout}$  is called *after*  $\langle code \rangle$ .

Repeated use of the commands is permitted: the code in the argument is stored (and executed) in the order of their declarations.

The argument of  $\backslash\text{AtNextShipout}$  is executed *after* the argument of  $\backslash\text{EveryShipout}$ .

### 3 Options

The package has no options.

### 4 Required packages

The package does not require any further packages.

### 5 The implementation

<sup>1</sup>  $\langle *package \rangle$

#### 5.1 Allocations

First we allocate the hooks

$\backslash\text{@EveryShipout@Hook}$  The code to be executed before  $\backslash\text{shipout}$  is stored in  $\backslash\text{@EveryShipout@Hook}$ .

$2 \backslash\text{newcommand}\{\backslash\text{@EveryShipout@Hook}\}\{\}$

$\backslash\text{@EveryShipout@AtNextHook}$  The code to be executed just before the normal  $\backslash\text{shipout}$  and  $\backslash\text{@EveryShipout@EveryHook}$ .

$3 \backslash\text{newcommand}\{\backslash\text{@EveryShipout@AtNextHook}\}\{\}$

#### 5.2 The user-visible commands

$\backslash\text{EveryShipout}$  The commands are modeled after  $\backslash\text{AtBeginDocument}$ .

$\backslash\text{AtNextShipout}$   $4 \backslash\text{newcommand*}\{\backslash\text{EveryShipout}\}[1]$   
 $5 \quad \{\backslash\text{g@addto@macro}\backslash\text{@EveryShipout@Hook}\{\#1\}\}$   
 $6 \backslash\text{newcommand*}\{\backslash\text{AtNextShipout}\}[1]$   
 $7 \quad \{\backslash\text{g@addto@macro}\backslash\text{@EveryShipout@AtNextHook}\{\#1\}\}$

#### 5.3 Inserting the hooks

We want to redefine  $\backslash\text{shipout}$  so that first  $\backslash\text{box255}$  is constructed and after that we can do something and at last shipout the (possible modified)  $\backslash\text{box255}$ . Alas, this does not work in the usual way, since  $\backslash\text{shipout}$  is a  $\text{\TeX}$  primitive whose argument is a  $\langle box \rangle$ . This means that simply redefining  $\backslash\text{shipout}$  via  $\backslash\text{newcommand}[1]$  is impossible since  $\langle box \rangle$  can be

something like `\box255` or something like `\vbox{...}`. In the first case #1 would be `\box` (without `\255`); in the second case it would be `\vbox` (without `{...}`).

The solution we use here is borrowed from `quire.tex` by Marcel R. van der Goot. It is based upon `\afterassignment` and `\aftergroup`.

```
\@EveryShipout@Shipout \@EveryShipout@Shipout is our replacement for \shipout.
8 \newcommand{\@EveryShipout@Shipout}{%
9   \afterassignment\@EveryShipout@Test
10  \global\setbox\@cclv= %
11  }
\box255 is set to whatever comes after \shipout; but after that
assignment \@EveryShipout@Test is called.

\@EveryShipout@Test \@EveryShipout@Test determines if \shipout is called with an argument
like \box255 or something like \vbox{...}. In the later case we delay the
call of \@EveryShipout@Output (where the original \shipout is called)
via \aftergroup.
12 \newcommand{\@EveryShipout@Test}{%
13   \ifvoid\@cclv\relax
14     \aftergroup\@EveryShipout@Output
15   \else
16     \@EveryShipout@Output
17   \fi%
18  }

\@EveryShipout@Output \@EveryShipout@Output does the actual work. First the \code
accumulated via \@EveryShipout and \@AtNextShipout is called and then
the original \shipout stored in \@EveryShipout@Org@Shipout is called to
finally ship out \box255.
19 \newcommand{\@EveryShipout@Output}{%
20   \@EveryShipout@Hook%
21   \@EveryShipout@AtNextHook%
We have to reset \@EveryShipout@AtNextHook after each use.
22   \gdef\@EveryShipout@AtNextHook{}%
23   \@EveryShipout@Org@Shipout\box\@cclv%
24  }

\@EveryShipout@Org@Shipout The original \shipout is stored in \@EveryShipout@Org@Shipout by
\@EveryShipout@Init. Here we allocate it.
25 \newcommand{\@EveryShipout@Org@Shipout}{}

\@EveryShipout@Init \@EveryShipout@Init stores the original \shipout in
\@EveryShipout@Org@Shipout and sets \shipout to
\@EveryShipout@Shipout. This is done at \begin{document} via
\AtBeginDocument.
26 \newcommand*{\@EveryShipout@Init}{%
27   \message{ABD: EveryShipout initializing macros}%
28   \let\@EveryShipout@Org@Shipout\shipout
29   \let\shipout\@EveryShipout@Shipout
30  }
31 \AtBeginDocument{\@EveryShipout@Init}
```

32 `\package`

## 6 Acknowledgements

Version 2.0 of `everyshi` borrows heavily from `quire.tex` of the Midnight Macros by Marcel R. van der Goot ([marcel@cs.caltech.edu](mailto:marcel@cs.caltech.edu)). The pointer to `quire` was provided by Lothar Meyer-Lerbs ([TeXSatz@zfn.uni-bremen.de](mailto:TeXSatz@zfn.uni-bremen.de)). As usual Rebecca Stiels improved the quality of this documentation.

## References

- [1] Rolf Niepraschk. The `eso-pic` package. CTAN:[tex-archive/macros/latex/contrib/supported/ms/contrib/eso-pic.dtx](http://tex-archive/macros/latex/contrib/supported/ms/contrib/eso-pic.dtx). L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> package.
- [2] Martin Schröder. The `prelim2e` package. CTAN:[tex-archive/macros/latex/contrib/supported/ms/prelim2e.dtx](http://tex-archive/macros/latex/contrib/supported/ms/prelim2e.dtx). L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> package.

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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.

<b>Symbols</b>	<b>F</b>
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## Change History

v1.00	General: New	1	General: Redesign	1
v1.01	\AtNextShipout: \newcommand instead of \def	2	v2.01	General: Fixed use of \newline in title.
v1.02	General: Name changed from at- shipou to everyshi	1	v2.02	General: Documentation im- proved
v1.03	General: Documentation im- proved	1	v2.03	General: Moved to LPPL
v2.00	\@EveryShipout@Hook: Name changed from \@shipouthook to \@EveryShipout@Hook	2	v3.00	\@EveryShipout@AtNextHook: new
	\@EveryShipout@Init: new	3		\@EveryShipout@Hook: \newcommand
	\@EveryShipout@Org@Shipout: new	3		\@EveryShipout@Init: output message
	\@EveryShipout@Output: new	3		\@EveryShipout@Output: added call to \@EveryShipout@AtNextHook
	\@EveryShipout@Shipout: new	3		General: \@NextShipout added
	\@EveryShipout@Test: new	3		Reference to eso-pic added
				\AtNextShipout: \AtNextShipout added