

The `aliascnt` package

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Abstract

Package `aliascnt` introduces *alias counters* that share the same counter register and clear list.

Starting with L^AT_EX 2026-06-01 this package is obsolete as L^AT_EX provides a similar functionality directly through the `\newcounteralias` command. This command is used automatically if theorem environments are defined that share a counter.

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*Please report any issues at <https://github.com/ho-tex/aliascnt/issues>

1 User interface

1.1 Introduction

There are features that rely on the name of counters. For example, `hyperref`'s `\autoref` indirectly uses the counter name to determine which label text it puts in front of the reference number ([3]). In some circumstances this fail: several theorem environments are defined by `\newtheorem` that share the same counter.

1.2 Syntax

Macro names in user land contain the package name `aliascnt` in order to prevent name clashes.

```
\newaliascnt{<ALIASCNT>}{<BASECNT>}
```

An alias counter `ALIASCNT` is created that does not allocate a new `TeX` counter register. It shares the count register and the clear list with counter `BASECNT`. If the value of either the two registers is changed, the changes affects both.

In `LaTeX 2026-06-01` a similar alias counter can be created with `\newcounteralias{<aliasctr>}{<rootctr>}`

```
\aliascntresetthe{<ALIASCNT>}
```

This fixes a problem with `\newtheorem` if it is fooled by an alias counter with the same name:

```
\newtheorem{foo}{Foo}% counter "foo"
\newaliascnt{baz}{foo}% alias counter "baz"
\newtheorem{baz}[baz]{Baz}
\aliascntresetthe{baz}
```

In `LaTeX 2026-06-01` this is no longer needed and the standard definitions will work:

```
\newtheorem{foo}{Foo}% counter "foo"
\newtheorem{baz}[foo]{Baz} %creates alias counter "baz"
```

2 Implementation

2.1 Identification

```
1 (*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{aliascnt}%
4 [2026-03-08 v1.7 Alias counters (HO)]%
```

Warning and fallback for `LaTeX 2026-06-01`, see issue <https://github.com/hotex/oberdiek/issues/104>.

```
5 \IfFormatAtLeastT{2026-06-01}{%
6   \PackageWarning{aliascnt}
7   {The package is obsolete. Check the documentation.}
8   \renewcommand*{\newcounteralias}[2]{%
9     \@ifundefined{c@#2}{%
10      \nocounterr{#2}%
11    }{
12      \@ifundefined{c@#1}
13      {%
14        \global\expandafter\let
15        \csname c@#1\expandafter\endcsname\csname c@#2\endcsname
16        \expandafter\edef\csname the#1\endcsname{\expandafter\noexpand\csname the#2\endcsname}
17        \expandafter\edef\csname theH#1\endcsname{\expandafter\noexpand\csname theH#2\endcsname}
18        \expandafter\edef\csname p@#1\endcsname{\expandafter\noexpand\csname p@#2\endcsname}%
19        \expandafter\edef\csname cl@#1\endcsname{\expandafter\noexpand\csname cl@#2\endcsname}
```

```

20     \expandafter\def\csname alias@ctr@#1\endcsname{#2}%
21   }%
22   {\@ifundefined{AC@cnt@#1}
23     {\def\reserved@a{c@#1}\@notdefinable}%
24     {\expandafter\edef\csname alias@ctr@#1\endcsname{\csname AC@cnt@#1\endcsname}}}%
25   }%
26 }}

```

2.2 Create new alias counter

`\newaliascnt` A new alias counter is set up by `\newaliascnt`. The following properties are added for the new counter *CNT*:

`\theH<CNT>`: Compatibility for hyperref

`\AC@cnt@<CNT>`: Name of the referenced counter in the definition.

```

27 \newcommand*{\newaliascnt}[2]{%
28   \begingroup
29   \def\AC@glet##1{%
30     \global\expandafter\let\csname##1#1\expandafter\endcsname
31     \csname##1#2\endcsname
32   }%
33   \@ifundefined{c@#2}{%
34     \@nocounterr{#2}%
35   }{%
36     \expandafter\@ifdefinable\csname c@#1\endcsname{%
37       \AC@glet{c@}%
38       \AC@glet{the}%
39       \AC@glet{theH}%
40       \AC@glet{p@}%
41     \expandafter\gdef\csname AC@cnt@#1\endcsname{#2}%
42     \expandafter\gdef\csname cl@#1\expandafter\endcsname
43     \expandafter{\csname cl@#2\endcsname}%
44   }%
45   }%
46 \endgroup
47 }

```

`\aliascntresetthe` The `\the<CNT>` macro is restored using the main counter.

```

48 \newcommand*{\aliascntresetthe}[1]{%
49   \@ifundefined{AC@cnt@#1}{%
50     \PackageError{aliascnt}{%
51       '#1' is not an alias counter%
52     }\@ehc
53   }{%
54     \expandafter\let\csname the#1\expandafter\endcsname
55     \csname the\csname AC@cnt@#1\endcsname\endcsname
56   }%
57 }

```

2.3 Counter clear list

The alias counters share the same register and clear list. Therefore we must ensure that manipulations to the clear list are done with the clear list macro of a real counter.

`\AC@findrootcnt` `\AC@findrootcnt` walks through the aliasing relations to find the base counter.

```

58 \newcommand*{\AC@findrootcnt}[1]{%
59   \@ifundefined{AC@cnt@#1}{%
60     #1%
61   }{%
62     \expandafter\AC@findrootcnt\csname AC@cnt@#1\endcsname
63   }%
64 }

```

Clear lists are manipulated by `\@addtoreset` and `\@removefromreset`. The latter one is provided by the `remreset` package ([2] for old latex formats).

`\AC@patch` The same patch principle is applicable to both `\@addtoreset` and `\@removefromreset`.

```
65 \def\AC@patch#1{%
66   \expandafter\let\csname AC@org@#1reset\expandafter\endcsname
67   \csname @#1reset\endcsname
68   \expandafter\def\csname @#1reset\endcsname##1##2{%
69     \csname AC@org@#1reset\endcsname{##1}{\AC@findrootcnt{##2}}%
70   }%
71 }
```

If `remreset` is not loaded we cannot delay the patch to `\AtBeginDocument`, because `\@removefromreset` can be called in between. Therefore we force the loading of the package.

```
72 \ifx\@removefromreset\undefined
73   \RequirePackage{remreset}
74 \fi
75 \AC@patch{addto}
76 \AC@patch{removefrom}
77 \</package>
```

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

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

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

3.2 Package installation

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

```
tex aliascnt.dtx
```

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

```
aliascnt.sty → tex/latex/aliascnt/aliascnt.sty
aliascnt.pdf → doc/latex/aliascnt/aliascnt.pdf
aliascnt.dtx → source/latex/aliascnt/aliascnt.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`.

3.3 Refresh file name databases

If your \TeX distribution (\TeX Live, MiK \TeX , ...) relies on file name databases, you must refresh these. For example, \TeX Live users run `texhash` or `mktextlsr`.

¹[CTAN:pkg/aliascnt](#)

3.4 Some details for the interested

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{aliascnt.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 aliascnt.dtx
makeindex -s gind.ist aliascnt.idx
pdflatex aliascnt.dtx
makeindex -s gind.ist aliascnt.idx
pdflatex aliascnt.dtx
```

4 Acknowledgement

Ulrich Schwarz: The package is based on his draft for “Die T_EXnische Komödie”, see [1].

5 References

- [1] Ulrich Schwarz: *Was hinten herauskommt zählt: Counter Aliasing in L^AT_EX, Die T_EXnische Komödie*, 3/2006, pages 8–14, Juli 2006.
- [2] David Carlisle: *The remreset package*; 1997/09/28; [CTAN:pkg/remreset](#).
- [3] Sebastian Rahtz, Heiko Oberdiek: *The hyperref package*; 2006/08/16 v6.75c; [CTAN:pkg/hyperref](#).

6 History

[2006/02/20 v1.0]

- First version.

[2006/08/16 v1.1]

- Update of bibliography.

[2006/09/25 v1.2]

- Bug fix (`\aliascntresetthe`).

[2009/09/08 v1.3]

- Bug fix of `\@ifdefinable`’s use (thanks to Uwe Lück).

[2016/05/16 v1.4]

- Documentation updates.

[2018/09/07 v1.5]

- Avoid loading obsolete remreset package..

[2026-03-06 v1.6]

- Extracted from the oberdiek bundle and moved into its own repository.
Added fallback definition for L^AT_EX 2026-06-01
(<https://github.com/ho-tex/oberdiek/issues/104>).

[2026-03-08 v1.7]

- Bug fix, corrected example in documentation.

7 Index

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