

# xappendix --- An extensible appendix package<sup>\*</sup>

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## Abstract

For a long time the appendix package was the de facto standard to configure appendices, including insertion of a part heading before the first appendix, and inclusion in the table of contents.

However, though interaction with the hyperref package is supported, to add multiple sets of appendices one needs to take special care to prevent duplicate page anchors.

This package aims to overcome these issues by adding built in support for multiple appendix sets. Furthermore, configuration has been rewritten to use pgfkeys as a frontend to redefining internal strings, as well as the use of  $\LaTeX$ 3.

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## 1 Introduction

Describe what `\appendix` does by default, how `appendix` changes this, and why this rewrite was started. `\memoir` detection, automatically disables emulation of original `appendix`

## 2 Usage

`xappendix` separates the typesetting of appendices into three stages: package loading, configuration, and execution.

### 2.1 Package options

Since `xappendix` aims to provide full backward compatibility with `appendix` (at least for the time being) some package options are available.

First of all, to enable the backward compatibility the package option `compat` must be specified. This provides the necessary commands and sets these as the values in the `\default` appendix configuration. **Note:** backward compatibility relies on the `\default` configuration, altering this with `\appendixset` might break it. See section 3 for more information on backward compatibility.

### 2.2 Configuration

`\appendixset` The main configuration of the package is through the `\appendixset[\langle name \rangle]{\langle conf \rangle}` command.

### 2.3 Execution

`\appendix` Starting the appendices still works through the default `\appendix` command. However, this has been modified to take an optional argument `[\langle name \rangle]`, which corresponds to the optional argument given to `\appendixset`. If no argument is given it defaults to `\default`, for ease of use as well as backward compatibility.

`appendices` Similar to the original `appendix` package these environments are provided to group a set of appendices, either as a new chapter/section (in case of `appendices`), or as a section/sub-section under the current chapter/section (in case of `subappendices`).

## 3 Backward compatibility

Backward compatibility is implemented by setting the configuration of the `\default` appendices. Since this implementation of the backward compatibility is inherently fragile it is recommended to use the new syntax wherever possible. Therefore tables 1 and 2 merely provide an overview of what new command the old commands are mapped to. Documentation of those commands can be found in the original `appendix` manual.

Table 1: Mapping of old commands to new key

Command	Key
<code>\appendixpage</code>	<code>/xappendix/&lt;name&gt;/add page</code>
<code>\addappheadtotoc</code>	<code>/xappendix/&lt;name&gt;/add to toc</code>
<code>\noappendicestocpagenum</code>	<code>/xappendix/&lt;name&gt;/page num to toc=false</code>
<code>\appendicestocpagenum</code>	<code>/xappendix/&lt;name&gt;/page num to toc=true</code>

Table 2: Mapping of old package options to new key

Option	Key
<code>toc</code>	<code>/xappendix/&lt;name&gt;/add to toc</code>
<code>title</code>	<code>/xappendix/&lt;name&gt;/add title</code>
<code>titletoc</code>	<code>/xappendix/&lt;name&gt;/add title in toc</code>
<code>header</code>	<code>/xappendix/&lt;name&gt;/add title in header</code>
<code>page</code>	<code>/xappendix/&lt;name&gt;/add page</code>

## 4 Implementation

1 `<*package>`

Declare module name for internal macros

2 `<@@=xappendix>`

First of all announce the package signature, and enable expl

3 `\ProvidesExplPackage {xappendix} {2014/04/01} {0.0}`

4 `{An extensible appendix package}`

Declare a number of switches for later reference.

5 `\bool_new:N \g__xappendix_chapter_mode_bool`

6 `\bool_new:N \g__xappendix_hyperref_bool`

7 `\bool_new:N \g__xappendix_backward_compat_bool`

8 `\bool_new:N \g__xappendix_add_to_toc_bool`

9 `\bool_new:N \g__xappendix_add_title_bool`

10 `\bool_new:N \g__xappendix_add_title_to_toc_bool`

11 `\bool_new:N \g__xappendix_add_title_to_header_bool`

12 `\bool_new:N \g__xappendix_add_page_bool`

13

14 `\int_new:N \g__xappendix_appendix_number_int`

Check if the chapter command is defined, and if not whether the section command is defined. If neither are available throw a warning and end input.

15 `\cs_new_nopar:Nn \__xappendix_endinput: {`

16 `\prg_do_nothing:`

17 `}`

18 `\cs_if_exist:NTF \chapter {`

19 `\bool_gset_true:N \g__xappendix_chapter_mode_bool`

20 `} {`

```

21 \cs_if_exist:NF \section {
22   \msg_new:nnn {xappendix} {class-incompatible} {
23     Current~class~incompatible~with~xappendix:~no~section-
24     ing~commands~available.
25   }
26   \msg_warning:nn {xappendix} {class-incompatible}
27   \cs_gset:Nn \__xappendix_endinput: {\endinput}
28 }
29 }
30 \__xappendix_endinput:
31 \ProvideDocumentCommand\phantomsection{}{}
32 \cs_new:Nn \__xappendix_the_appendix_number: {
33   \int_to_alph:n {\g__xappendix_appendix_number_int}
34 }
35 \AtBeginDocument {%
36   \@ifpackageloaded{hyperref}{%
37     \bool_gset_true:N \g__xappendix_hyperref_bool%
38   }{}%
39 }

```

If package option compat is not set the other options make no sense, setup a warning to be issued if it is set without compat.

```

40 \msg_new:nnnn { xappendix } { deprecated-options }
41 { Old~style~package~option~#1~deprecated }
42 { Enable~option~compat~to~activate~old~options,~option~ignored.
43   \msg_see_documentation_text:n { xappendix } }

```

Declare option compat first so the rest can check for it.

```

44 \DeclareOption{compat}{ \bool_gset_true:N \g__xappendix_backward_com-
45 pat_bool }
46 \DeclareOption{toc}{
47   \bool_if:nTF { \g__xappendix_backward_compat_bool }
48   { \bool_gset_true:N \g__xappendix_add_to_toc_bool }
49   { \msg_warning:nxx { xappendix } { deprecated-options } { toc } }
50 }
51 \DeclareOption{title}{
52   \bool_if:nTF { \g__xappendix_backward_compat_bool }
53   { \bool_gset_true:N \g__xappendix_add_title_bool }
54   { \msg_warning:nxx { xappendix } { deprecated-options } { ti-
55     tle } }
56 }
57 \DeclareOption{titletoc}{
58   \bool_if:nTF { \g__xappendix_backward_compat_bool }
59   { \bool_gset_true:N \g__xappendix_add_title_to_toc_bool }
60   { \msg_warning:nxx { xappendix } { deprecated-options } { ti-
61     tletoc } }
62 }
63 \DeclareOption{header}{
64   \bool_if:nTF { \g__xappendix_backward_compat_bool }
65   { \bool_gset_true:N \g__xappendix_add_title_to_header_bool }

```

```

63 { \msg_warning:nxx { xappendix } { deprecated-options } { header } }
64 }
65 \DeclareOption{page}{
66   \bool_if:nTF { \g__xappendix_backward_compat_bool }
67     { \bool_gset_true:N \g__xappendix_add_page_bool }
68     { \msg_warning:nxx { xappendix } { deprecated-options } { page } }
69   }
70 \ProcessOptions\relax
71
72   If package option compat is not set the other options make no sense, so issue a warning.
73 \NewDocumentCommand\testhyperref{}{
74   \bool_if:nTF { \g__xappendix_hyperref_bool }
75     {Hyperref detected}
76     {Hyperref not detected}
77 }
78
\appendixset
77 \NewDocumentCommand\appendixset{O{default}}{
78   \pgfqkeys{/xappendix/#1}
79 }
80
\appendix
80 \cs_new:Nn \__xappendix_old_appendix: { \prg_do_nothing: }
81 \cs_set_eq:NN \__xappendix_old_appendix: \appendix
82 \cs_new:Nn \__xappendix_apply_settings:n { #1 }
83 \RenewDocumentCommand \appendix { O{default} } {
84   \__xappendix_apply_settings:n { #1 }
85   \__xappendix_old_appendix:
86 }
87 \end{package}

```

## Change History

v0.0

General: First development release . . . . . 1

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The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

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