

# The `amsxtra` package

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This file is maintained by the L<sup>A</sup>T<sub>E</sub>X Project team.  
Bug reports can be opened (category `amslatex`) at  
<https://latex-project.org/bugs/>.

## 1 Introduction

The `amsxtra` package contains a few rarely used commands that were present in version 1.1 of the `amstex` package: `\fracwithdelims`, `accentedsymbol`, `\sphat`, `\spcheck`, `\sptilde`, `\spdot`, `\spddot`, `\spdddot`, `\spbreve`. If any of these commands were used in existing documents, the `amsxtra` package provides a way to get them. But for 99% of documents using the `amstex` package these commands are just wasted overhead.

```
\ProvidesPackage{amsxtra}[1999/11/15 v1.2c AMS extra commands]
```

We need to ensure that either the `amstex` package or the `amsmath` package is loaded. This means we need something a little more complicated than `\RequirePackage`.

```
\@ifpackageloaded{amstex}{}{%
  \RequirePackage{amsmath}[1996/10/01 v1.2]}

Superscripted accent characters.

\def\sphat{~\mathchoice{}{}%
  {\,\,\,\smash[b]{\hbox{\lower4\ex@\hbox{$\m@th\widehat{\null}$}}}}%
  {\,\,\,\smash[b]{\hbox{\lower3\ex@\hbox{$\m@th\hat{\null}$}}}}}%
\def\spcheck{~\vee}
\def\sptilde{~\sim}
\def\spdot{~{\hbox{\raise\ex@\hbox{\normalfont .}}}}
\def\spddot{~{\hbox{\raise\ex@\hbox{\normalfont ..}}}}
\def\spdddot{~{\hbox{\raise\ex@\hbox{\normalfont ...}}}}
\def\spbreve{~{\!\smash[b]{\hbox{\lower4\ex@\hbox{\u{}}}}}}%
```

The `\fracwithdelims` command is skipped if the base package is `amsmath`; it is only needed if the base package is `amstex`.

```
\@ifpackageloaded{amstex}{}%
\def\fracwithdelims#1#2{\new@ifnextchar[{\fracwithdelims@#1#2}%
  {\fracwithdelims@#1#2[\@empty]}}
```

```

\def\fracwithdelims@#1#2[#3]#4#5{\relax
  \ifx\@empty#3{#4\overwithdelims#1#2#5}\else
    {#4\abovewithdelims#1#2#3\relax#5}\fi}
}{}

```

Perhaps `\accentedsymbol` should use `\newsavebox`, but I don't know of any compelling reason at the moment. [mjd,5-Sep-1994] `\accentedsymbol` can only produce a single size of the given symbol, so you'd need two different versions for main size and subscript size.

```

\def\accentedsymbol#1#2{%
  \expandafter\newbox
    \csname\expandafter@gobble\string#1@box\endcsname
  \expandafter\setbox
    \csname\expandafter@gobble\string#1@box\endcsname
    \hbox{$\m@th#2$}%
  \newcommand{#1}{%
    \expandafter\copy
      \csname\expandafter@gobble\string#1@box\endcsname{}}%
}

```

Change the definition of `~` to automatically remove a preceding space as well as a following space, if present.

```

\def~{\nobreakspace}
\DeclareRobustCommand{\nobreakspace}{\unskip\nobreak\ \ignorespaces}

```

The usual `\endinput` to ensure that random garbage at the end of the file doesn't get copied by `docstrip`.

```

\endinput

```