

# The L<sup>A</sup>T<sub>E</sub>X symbol fonts for use with L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>.\*

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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 `latex`) at  
<https://latex-project.org/bugs.html>.

## 1 Introduction

This file defines the package `latexsym` which makes the few additional characters available that come from the `lasy` fonts (L<sup>A</sup>T<sub>E</sub>X's symbol fonts). These fonts are not automatically included in the NFSS2/L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> since they take up important space and aren't necessary if one makes use of the packages `amsfonts` or `amssymb`.

The commands defined by the `latexsym` package are:

```
\mho ∪ \Join ⋈ \Box □ \Diamond ◇ \leadsto ∼  
\sqsubset ⊏ \sqsupset ⊐ \lhd ◁ \unlhd ⊑ \rhd ▷  
\unrhd ⊒
```

## 2 The DOCSTRIP modules

The following modules are used in the implementation to direct DOCSTRIP in generating the external files:

|                      |                                     |
|----------------------|-------------------------------------|
| <code>driver</code>  | produce a documentation driver file |
| <code>package</code> | produce a package file              |
| <code>fd</code>      | produce a font definition file      |

## 3 The Implementation

The individual files generated from this code are identified at the very top of this file by a couple of lines looking like this:

```
%<fd>\ProvidesFile{Ulasy.fd}  
%<-driver> [????/??/?? v2.2?  
%<package> Standard LaTeX package (lasy symbols)]  
%<fd> LaTeX symbol font definitions]
```

```
1 (*package)
```

---

\*This file has version number v2.2e, dated 1998/08/17.

`\symlasy` It is possible to detect whether or not the  $\LaTeX$  symbols are already defined by checking for the math group number with the name `\symlasy`.

In that case we exit but write a message to the transcript file.

```
2 \ifx\symlasy\undefined \else
3   \wlog{Package latexsym: nothing to set up^^J}%
4   \endinput \fi
```

Otherwise we define the new symbol font.

```
5   \DeclareSymbolFont{lasy}{U}{lasy}{m}{n}
6   \SetSymbolFont{lasy}{bold}{U}{lasy}{b}{n}
```

Because the lasy symbols are made an error in the format we have to undefine them before we can set them anew with `\DeclareMathSymbol`.

```
7   \let\mho\undefined           \let\sqsupset\undefined
8   \let\Join\undefined         \let\lhd\undefined
9   \let\Box\undefined          \let\unlhd\undefined
10  \let\Diamond\undefined       \let\rhd\undefined
11  \let\leadsto\undefined       \let\unrhd\undefined
12  \let\sqssubset\undefined

13  \DeclareMathSymbol\mho      {\mathord}{lasy}{"30}
14  \DeclareMathSymbol\Join    {\mathrel}{lasy}{"31}
15  \DeclareMathSymbol\Box     {\mathord}{lasy}{"32}
16  \DeclareMathSymbol\Diamond {\mathord}{lasy}{"33}
17  \DeclareMathSymbol\leadsto {\mathrel}{lasy}{"3B}
18  \DeclareMathSymbol\sqssubset{\mathrel}{lasy}{"3C}
19  \DeclareMathSymbol\sqsupset{\mathrel}{lasy}{"3D}
20  \DeclareMathSymbol\lhd     {\mathbin}{lasy}{"01}
21  \DeclareMathSymbol\unlhd   {\mathbin}{lasy}{"02}
22  \DeclareMathSymbol\rhd     {\mathbin}{lasy}{"03}
23  \DeclareMathSymbol\unrhd   {\mathbin}{lasy}{"04}
```

To save some space we can remove the definition of `\not@base` since it isn't any longer needed. (We use `\@undefined` so that gives an error and not a recursive definition if it is still used somewhere.)

```
24   \let\not@base\@undefined
25 \endpackage
```

### 3.1 $\LaTeX$ symbols fonts

The rest of this file defines the font shape declarations that have to go into the corresponding `.fd` file.

```
26 \*fd
27 \DeclareFontFamily{U}{lasy}{}
28 \DeclareFontShape{U}{lasy}{m}{n}{ <5> <6> <7> <8> <9> gen * lasy
29   <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> lasy10 }{}
```

Since there are no bold lasy symbols below 10pt we silently substitute them by the medium ones to avoid terminal warnings if `\boldmath` is selected.

```
30 \DeclareFontShape{U}{lasy}{b}{n}{ <-10> ssb * lasy/m/n
31   <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> lasyb10 }{}
```

```
32 \endfd
```

The next line goes into all files and in addition prevents DOCSTRIP from adding any further code from the main source file (such as a character table).

```
33 \endinput
```