

# The iftex package

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## 1 Introduction

This original iftex was written as part of the bidi collection (by the Persian TeX Group / Vafa Khalighi) and provided checks for whether a document was being processed with PDF<sub>T</sub><sub>E</sub>X, or Xe<sub>T</sub><sub>E</sub>X, or Lua<sub>T</sub><sub>E</sub>X. This version recodes the package and incorporates similar tests from the ifetex package by Martin Scharrer, the ifxetex package by Will Robertson, the ifluatex and ifvtex packages from Heiko Oberdiek and parts of ifptex by Takayuki Yato.

For each T<sub>E</sub>X variant engine supported two commands are provided:

- a conditional, `\iffotex` that is true if the (footex) engine (or a compatible extension) is being used.

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\*<https://github.com/latex3/iftex>

For compatibility with earlier packages which did not all use the same naming convention all these conditionals are provided in two forms, a lowercase name `\iffootex` and a mixed case name `\iffooTeX`.

- a command `RequireFooTeX` which checks that `footex` is being used, and stops the run with an error message if a different engine is detected.

## 2 Loading the package

The package can be loaded in the usual way in both Plain `TeX` and `LATeX`.

### 2.1 Loading the package in plain `TeX`

```
\input iftex.sty
```

### 2.2 Loading the package in `LATeX`

```
\usepackage{iftex}
```

### 2.3 Loading the package in `iniTeX`

The package assumes no existing macros and may be loaded during format setup in a format without the plain `TeX` or `LATeX` format being loaded. From an initial `iniTeX` setup the package may be loaded as for plain `TeX`.

## 3 Engine test conditionals

All the conditionals defined here are used in the same way:

```
\ifluatex
  luatex specific code
\else
  code for other engines
\fi
```

```
\ifetex, \ifeTeX
  True if an eTeX enabled format is in use. (This is necessarily true in all
  LATeX variants.)
```

```
\ifpdfetex, \ifPDFTeX
  True if PDFTeX is in use (whether writing PDF or DVI), so this is true
  for documents processed with both the latex and pdflatex commands.
```

```
\ifxetex, \ifXeTeX
  True if XeTeX is in use.
```

`\ifluatex`, `\ifLuaTeX`  
 True if Lua $\TeX$  and extensions such as LuaHB $\TeX$  or LuaMeta $\TeX$  are in use.

`\ifluahbtex`, `\ifLuaHBTeX`  
 True if the `luaharftex` Lua module is available. This will be true in `luahbtex` and may be true in `luatex` if a binary Lua `luaharftex` module has been compiled and is available in Lua's search path.

`\ifluametateX`, `\ifLuaMetaTeX`  
 True if LuaMeta $\TeX$  is in use.

`\ifptex`, `\ifpTeX`  
 True if any of the p $\TeX$  variants are in use. (Note that the `ptex` command uses the `uptex` engine in current releases.)

`\ifuptex`, `\ifupTeX`  
 True if any of the up $\TeX$  variants are in use. (`\ifetex` could be used in addition to distinguish `uptex` and `euptex`.)

`\ifptexng`, `\ifpTeXng`  
 True if p $\TeX$ -ng (Asiatic p $\TeX$ ) is in use.

`\ifvtex`, `\ifVTeX`  
 True if V $\TeX$  is in use.

`\ifalephtex`, `\ifAlephTeX`  
 True if Aleph is in use. (The aleph-based L $\TeX$  command is `lamed`.)

`\iftutex`, `\ifTUTeX`  
 This is not strictly an engine variant, but it is true if `\Umathchardef` is available, which essentially means that it is true for Lua $\TeX$  and Xe $\TeX$ , allowing constructs such as

```

\iftutex
  \usepackage{fontspec}
  \setmainfont{TeX Gyre Termes}
  \usepackage{unicode-math}
  \setmathfont{Stix Two Math}
\else
  \usepackage{newtxtext,newtxmath}
\fi

```

`\iftexpadtext`, `\ifTexpadTeX`  
 True if `Texpad $\TeX$`  is in use. Please note that `Texpad $\TeX$`  can run in two modes, one which uses Unicode and native fonts internally (similar to Xe $\TeX$  and Lua $\TeX$ ), and one which uses 8-bit codepages internally (similar to PDF $\TeX$ ). This can be determined using `\iftutex`.

`\ifhint, \ifHINT`  
True if HiTeX (HINT output format) is in use.

`\ifprote, \ifProte`  
True if a Prote engine is in use. (This means it has TeX primitives, eTeX primitives, and the additional primitives required by L<sup>A</sup>TeX.)

## 4 Requiring specific engines

For each supported engine, the package provides a command `\Require...` which checks that the document is being processed with a suitable engine, and stops with an error message if not.

`\RequireeTeX`

`\RequirePDFTeX`

`\RequireXeTeX`

`\RequireLuaTeX`

`\RequireLuaHBTeX`

`\RequireLuaMetaTeX`

`\RequirepTeX`

`\RequireupTeX`

`\RequirepTeXng`

`\RequireVTeX`

`\RequireAlephTeX`

`\RequireTUTeX`

`\RequireTexpadTeX`

`\RequireHINT`

`\RequireProte`

## 5 Output mode conditional

This package also provides an `\ifpdf` conditional that is true if the format is set up to output in PDF mode rather than DVI. This is equivalent to the test in the existing `ifpdf` package.

Unlike the engine tests above this is defined as if by `\newif` with user-documented commands `\pdftrue` and `\pdffalse` that can change the boolean

value. These would be needed to reset the boolean if the output mode is reset (for example by setting `\pdfoutput=0` in PDFL<sup>A</sup>TeX).

Unlike the original `ifpdf` package, the version here also detects PDF output mode if running in VTeX.

## 6 Additional packages

This extended `iftex` is designed to replace the original `iftex` and also the packages `ifetex`, `ifluatex`, `ifvtex`, `ifxetex`, `ifpdf`.

This collection includes small packages with these names that include the main `iftex` package, and in some cases define additional commands for increased compatibility. These packages should mean that authors do not need to change existing documents, although it is recommended that new documents use the `iftex` package directly.

Note that while this package provides basic support for detecting pTeX (Japanese TeX) variants and is broadly compatible with the `ifptex` package, the `ifptex` package has many more detailed tests for pTeX variants and this package does *not* replace the `ifptex` (or `ifxptex`) packages, which are maintained by their original authors and recommended for Japanese documents that need fine control over the Japanese TeX system in use.

## 7 Compatibility with `scrbase`

The `scrbase` package (which is automatically included in the popular KOMA-Script classes) by default defines `\ifpdftex` and `\ifVTeX` with a different syntax. If you use the `scrbase` option `internalonly` then `scrbase` will not define these and the definitions as described here will take effect. This is recommended and will not affect any `scrbase` package code as internally `scrbase` uses private versions of those commands prefixed with `\scr@`. However this package detects if the `scrbase` definitions are in effect and if so does not redefine them, for compatibility with existing documents. The `iftex` versions will still be available under the names `\ifPDFTeX` and `\ifvtex`.