LaTeX News

Issue 7, June 1997

T1 encoded Computer Modern fonts

As in the last release the base LaTeX distribution
contains three different sets of 'fd' files for T1 encoded
fonts.

In this release the default installation uses `ec.ins`
and so installs files suitable for the current 'EC fonts'
distribution. If you have still not updated to the EC
fonts and are using the earlier test versions, known as
DC then you should unpack `newdc.ins` (for DC release
1.2 or later) or `olddc.ins` (for the original releases of
the DC fonts). This should be done after unpacking
`unpack.ins` but before making the format by running
iniTeX on `latex.ltx`. There are further details in
`install.txt`.

T1 encoded Concrete fonts

The Metafont sources for T1 encoded 'Concrete' fonts
have been removed from the `mfnss` distribution as they
were based on the now obsolete DC fonts release 1.1.
Similarly the `cmextra.ins` install file in the `base`
distribution no longer generates fd files for the
'Concrete' fonts. To use these fonts in either T1 or OT1
encoding it is recommended that you obtain Walter
Schmidt's `ccfonts` package and fonts from CTAN
`macros/latex/contrib/supported/ccfonts`.

Further input encodings

Two more `inputenc` packages have been added: for
latin5, thanks to H. Turgut Uyar; and for latin3, thanks
to Jörg Knappen.

Normalising spacing after punctuation

The command `\normalsfcodes` was introduced at the
last patch release. This is normally given the correct
definition automatically and so need not be explicitly
set. It is used to correct a problem, reported by Donald
Arseneau, that punctuation in page headers has always
(in all known TeX formats) been potentially incorrect if
the page break happens while a local setting of the
space codes (for instance by the command
`\frenchspacing`) is in effect. A common example of
this happening in LaTeX is in the `verbatim` environment.

Accessing Bold Math Symbols

The tools distribution contains a new package, `bm`,
which defines a command `\bm` that allows individual
bold symbols to be accessed within a math expression
(in contrast to `\boldmath` which makes whole math
expressions default to bold fonts). It is more general
than the existing `amsbsy` package; however, to ease the
translation of documents between these two packages,
bm makes `\boldsymbol` an alias for `\bm`.

This package was previously made available from the
'contrib' area of the CTAN archives, and as part of
Y&Y's LaTeX support for the MathTime fonts.

Policy on standard classes

Many of the problem reports we receive concerning the
standard classes are not concerned with bugs but are
suggesting, more or less politely, that the design
decisions embodied in them are 'not optimal' and
asking us to modify them.

There are several reasons why we have decided not
to make such changes to these files.

- However misguided, the current behaviour is
  clearly what was intended when these classes were
  designed.

- It is not good practice to change such aspects of
  'standard classes' because many people will be
  relying on them.

We have therefore decided not to even consider
making such modifications, nor to spend time justifying
that decision. This does not mean that we do not agree
that there are many deficiencies in the design of these
classes, but we have many tasks with higher priority
than continually explaining why the standard classes for
LaTeX cannot be changed.

We would, of course, welcome the production of
better classes, or of packages that can be used to
enhance these classes.

New addresses for TUG

For information about joining the TeX Users Group,
and about lots of other LaTeX-related matters, please
contact them at their new address:

LATEX News

Issue 6, December 1996

Welcome to LATEX News 6

This issue of *LATEX News* accompanies the sixth release of the new standard LATEX, LATEX 2$_\varepsilon$.

Mono-case file names

Previously LATEX has used some files with 'mixed-case' file names such as `T1cmr.fd` and `T1enc.def`.

These file names cause problems on some systems (in particular they are illegal on the ISO 9660 CDROM format) and so in this release all file names have been made lowercase (for example `t1cmr.fd` and `t1enc.def`).

This change should *not* affect any document. Within LATEX, encodings still have the usual uppercase names in uses such as `\usepackage[T1]{fontenc}` and `\fontencoding{T1}`. LATEX will automatically convert to the lowercase form while constructing the file name. LATEX will input the 'fd' file under the old name if it fails to find the file with the new name, so existing collections of fd files should still work with this new release.

The change *does* affect the configuration files that may be used to make the LATEX format with initex. For example, the file `fonttext.ltx` previously specified `\input{T1cmr.fd}`. It now has `\input{t1cmr.fd}`. If you use a local file `fonttext.cfg` you will need to make similar changes, as `\input{T1cmr.fd}` will not work as `T1cmr.fd` is no longer in the distribution.

The files affected by this change all have names of the form `*.fd` or `*enc.def`.

Another input encoding

Thanks to work by Søren Sandmann, the inputenc package now supports the IBM codepage 865 used in Scandinavia.

Better user-defined math display environments

Suppose that you want to define an environment for displaying text that is numbered as an equation. A straightforward way to do this is as follows:

```
\newenvironment{texteqn}
  {\begin{equation}
     \begin{minipage}{0.9\linewidth}}
    {\end{minipage}
   \end{equation}}
```

However, if you have tried this then you will probably have noticed that it does not work perfectly when used in the middle of a paragraph because an inter-word space appears at the beginning of the first line after the environment.

There is now an extra command (with a very long name) available that you can use to avoid this problem; it should be inserted as shown here:

```
\newenvironment{texteqn}
  {\begin{equation}
     \begin{minipage}{0.9\linewidth}}
    {\end{minipage}
   \end{equation}
   \ignorespacesafterend}
```

Docstrip improvements

The docstrip program that is used to unpack the LATEX sources has undergone further development. The new version should be able to process all old 'batchfiles' but it allows a simpler syntax in new 'batchfiles' (no need to define `\def\batchfile{...}`).

It also allows 'target' directories to be specified when writing files. This directory support is disabled by default unless activated in a local `docstrip.cfg` configuration file. See `docstrip.dtx` for details.

AMS LATEX update

Since the last LATEX release in June, the American Mathematical Society have re-issued the 'AMSLATEX' classes and packages, fixing several reported problems.

Graphics package update

The LATEX color and graphics packages have been updated slightly, principally to support more dvi drivers, see the readme file in the graphics distribution.

EC Fonts released

The first release of the Extended Computer Modern fonts has just been made. (In January 1997.)

This release of LATEX does *not* default to these 'ec' fonts as its T1 encoded fonts. By default it will use the 'dc' fonts if the T1 encoding is requested.

As noted in `install.txt` you may run TEX on the install file `ec.ins` *after* unpacking the base distribution but *before* making the LATEX format. This will produce suitable 'fd' files making LATEX (including, for the first time, the slides class) use the 'ec' fonts as the default T1 encoded font set.

LaTeX News

Issue 5, June 1996

Welcome to LaTeX News 5

This issue of *LaTeX News* accompanies the fifth release of the new standard LaTeX, LaTeX 2_ε.

Extra possibilities for section headings

Most LaTeX sectioning commands are defined using `\@startsection`. For example, the article class defines:

```
\newcommand\section{\@startsection
 {section}{1}{0pt}{-3.5ex plus-1ex minus-.2ex}%
 {2.3ex plus.2ex}{\normalfont\Large\bfseries}}
```

The last argument specifies the style in which the section heading is to be typeset.

The new feature added at this release is that at the *end* of this argument you may specify a command that *takes an argument*. This command will be applied to the section number and heading. For example, one could use the `\MakeUppercase` command to produce uppercase headings. A package or class file could contain:

```
\renewcommand\section{\@startsection
 {section}{1}{0pt}{-3.5ex plus-1ex minus-.2ex}%
 {2.3ex plus.2ex}{\normalfont\Large\MakeUppercase}}
```

to produce section headings using uppercase medium weight text, rather than the bold text used by article. Note that, like the font choice, the uppercasing applies only to the actual heading (including any automatically generated section number), not to the text as it may appear in the running head or table of contents.

The 'openany' option in the 'book' class

The openany option allows chapter and similar openings to occur on left hand pages. Previously this option only affected `\chapter` and `\backmatter`. It now also affects `\part`, `\frontmatter` and `\mainmatter`.

More font (output) encodings

The font encoding name T3 has been allocated to the encoding used in the new 256-character IPA fonts (for the phonetic alphabet) produced by Rei Fukui. His package, tipa, gives access to these fonts and should soon be available. (The encoding named OT3 is the 128-character encoding used in the IPA fonts produced by Washington State University.)

More input encodings supported

The inputenc package now supports the IBM codepage 852 used in Eastern Europe, with the option [cp852] contributed by Petr Sojka.

Also, the inputenc package now activates most 'control codes' with ASCII values below 32. Currently none of the encodings in the standard distribution makes use of these positions.

Fixes and improvements

The LaTeX kernel has only had minor changes, apart from `\@startsection` mentioned above. However, some small fixes have been incorporated removing the following problems:

- In tabular and array, previous versions of LaTeX 'lost' the inter-column space from an 'l'-column, when that column was completely empty.
- Previously, the use of the `\nofiles` command could change the *vertical spacing* in a document. A side effect of fixing this is that when `\nofiles` is used, `\label` puts a blank line in the log file.
- LaTeX often loads fonts 'on demand'. Previously, this could happen inside the argument of an accent command and this would cause the accent to appear in the wrong place.

Changes to the 'tools' packages

- The longtable package now uses a modified algorithm, contributed by David Kastrup, to align the 'chunks' of a table. It is now unnecessary to edit the document to add `\setlongtables` before the final run of LaTeX. In certain cases of overlapping `\multicolumn` entries, the new algorithm will produce better column widths than the old (at the price of extra passes through LaTeX).
- The dcolumn package now has the extra possibility of specifying the number of digits both *before* and after the 'decimal point'. This makes it easy to centre the column of numbers under a wide heading.

New copy of the LaTeX bug database

`http://www.tex.ac.uk/ctan/latex/bugs.html` will soon have links to a copy of the searchable LaTeX bugs database at Mainz (Germany) as well as the original copy at Sussex (England).

LaTeX News

Issue 4, December 1995

Welcome to LaTeX News 4

An issue of *LaTeX News* will accompany every future release of LaTeX. It will tell you about important events, such as major bug fixes, newly available packages, or any other LaTeX news. This issue accompanies the fourth release of LaTeX 2_ε.

LaTeX getting smaller

The last release in June started a trend of LaTeX becoming smaller, we are pleased to announce that this has continued with this release. In particular the experimental 'autoload' version described in `autoload.txt` is much smaller as more parts of LaTeX are autoloaded.

New 'concurrent' docstrip

The time taken to 'unpack' this release from the documented sources should be much reduced (roughly half the time, depending on installation conditions). This is due to an improved version of the docstrip program that has been contributed by Marcin Woliński. This can write up to 16 files at once. The previous version could only write one file at a time which meant that it was very slow when producing many small files from the same source file as the source needed to be re-read for each file written.

New T1 encoded fonts

This year Jörg Knappen has completed a new release of the 'Cork' (T1) encoded Computer Modern fonts: the dc fonts release 1.2.

This release of the dc fonts fixes many bugs (including the missing ?' (¿) and !' (¡) ligatures) and improves the fonts in many other ways. It is strongly recommended that you upgrade as soon as possible if currently you are using the old dc fonts, release 1.1 or earlier. The new fonts are available from the CTAN archives, in `tex-archive/fonts/dc`.

The names of the font files are *different*. This does not affect LaTeX documents but *does* affect the installation procedure as it assumes that you have the *new* fonts, and will write suitable 'fd' files for those fonts. If you have not yet upgraded your dc fonts then, after unpacking the distribution, you *must* `latex olddc.ins` to produce 'fd' files for the old dc fonts. This must be done *before* the format is made. Running the test document at `ltxcheck.tex` the end of

the installation will inform you if the wrong set of 'fd' files has been installed.

Note that this change does not affect the standard 'OT1' Computer Modern fonts that LaTeX uses by default.

More robust commands

The commands `\cite` and `\sqrt` are now robust.

Although most commands with optional arguments are fragile, as documented, such commands defined using the second optional argument of `\newcommand` and its derivatives are now *robust*.

New Interface to building 'extension' classes

The mechanism provided by `\DeclareOption`, `\ProcessOptions` and `\LoadClass` has proved to be a powerful and expressive means of defining one class in terms of another 'base' class. However there have been some requests to simplify the declaration of the common case where you want the 'base' class to be called with *all* the options that were specified to the extension class. This is now provided by the new command `\LoadClassWithOptions`. A similar command `\RequirePackageWithOptions` is provided for package use. More details of this feature are provided in `clsguide.tex` and `ltclass.dtx`.

More Input Encodings

The experimental `inputenc` package allows a more natural style of input of accented and other characters.

Three new input encodings are now supported.

- `ansinew` the Windows ansi encoding, as used in Microsoft Windows 3.x.

- `cp437de` a variant of `cp437`, which uses ß rather than β in the appropriate slot.

- `next` the encoding used on Next computers.

Further information

For more information on TeX and LaTeX, get in touch with your local TeX Users Group, or the international TeX Users Group, 1850 Union Street, #1637, San Francisco, CA 94123, USA, Fax: +1 415 982 8559, EMail: tug@tug.org. The LaTeX home page is `http://www.tex.ac.uk/ctan/latex/` and contains links to other WWW resources for LaTeX.

LaTeX News

Issue 3, June 1995

Welcome to LaTeX News 3

An issue of *LaTeX News* will accompany every future release of LaTeX. It will tell you about important events, such as major bug fixes, newly available packages, or any other LaTeX news.

June 1995 release of LaTeX

June 1995 sees the third release of LaTeX 2_ε. We are on schedule to deliver a release of LaTeX every six months, in December and June.

In the last *LaTeX News*, we said "we don't expect so much activity in the next six months," which has turned out not to be true!

Additional input encodings

In the last release of LaTeX we distributed a test version of the inputenc package which allows the use of input characters other than just a–z and A–Z. The package has proved to be robust, so we are now distributing an expanded version. The new release comes with a number of input encodings:

- ascii the standard encoding,
- latin1 the ISO Western European alphabet,
- latin2 the ISO Eastern European alphabet,
- cp437 the IBM codepage 437,
- cp850 the IBM codepage 850, and
- applemac the Apple Macintosh encoding.

These can be used by specifying an option to the inputenc package, for example:

```
\usepackage[latin1]{inputenc}
```

The new input encodings are currently being tested, but we don't expect any major changes.

LaTeX getting smaller

In the past releases of LaTeX 2_ε, the amount of memory LaTeX requires has increased, but we are pleased to say that this trend has been reversed. We hope that future releases of LaTeX will continue to get smaller.

For example, on this document, the December 1994 release used 52,622 words of memory, and the June 1995 release uses 51,216 words of memory, which is a 2.7% reduction.

We are currently experimenting with other ways of reducing the size of LaTeX. For example, we are experimenting with an option to remove the picture and tabbing environments from the LaTeX kernel, and to load them from a file the first time they are used. This should help LaTeX to run on machines with limited memory. See autoload.txt for details.

Distribution and modification

One topic of discussion that has kept us busy is the distribution and modification conditions of LaTeX. We are committed to keeping LaTeX as free reliable software, and ensuring that (as far as possible) LaTeX documents will produce the same results on all systems.

The modification conditions are currently under discussion, and we would like to hear from anyone interested. Please read modguide.tex for more information.

AMS-LaTeX full release

The AMS-LaTeX packages were still in beta test in the December 1994 release of LaTeX, and the full release came out in January 1995.

AMS-LaTeX is described in the *User's Guide* (amsldoc.tex) and in *The LaTeX Companion*.

PostScript fonts

There is a new test release of the PSNFSS packages for accessing PostScript fonts in LaTeX 2_ε. This includes an update to all of the fonts, to remove many of the underfull and overfull \hbox warnings, and improve the setting of non-English languages.

The new release of LaTeX removes all of the 'hidden' uses of Computer Modern mathematics. For example, the footnote markers used to use math mode, so always used Computer Modern digits rather than ones from the current text font. This has now been fixed.

Further information

For more information on TeX and LaTeX, get in touch with your local TeX Users Group, or the international TeX Users Group, P. O. Box 869, Santa Barbara, CA 93102-0869, USA, Fax: +1 805 963 8358, EMail: tug@tug.org.

The LaTeX home page is http://www.tex.ac.uk/ctan/latex/ and contains links to other WWW resources for LaTeX.

LaTeX News

Issue 2, December 1994

Welcome to LaTeX News 2

An issue of *LaTeX News* will accompany every future
release of LaTeX. It will tell you about important
events, such as major bug fixes, newly available
packages, or any other LaTeX news.

December 1994 release of LaTeX

December 1994 sees the second release of LaTeX 2_ε. We
are on schedule to deliver a release of LaTeX every six
months, in December and June.

This release has seen quite a lot of activity, which is
not too surprising as it's only been a year since the first
test release of LaTeX 2_ε. We don't expect so much
activity in the next six months.

Many of the changes are minor improvements and
bug-fixes—see *LaTeX 2_ε for authors* (usrguide.tex),
LaTeX 2_ε font selection (fntguide.tex) and our change
log (changes.txt) for more details.

However, there are two important new packages
available for LaTeX: inputenc and AMS-LaTeX.

Accented input

One of the problems with writing non-English
documents in LaTeX is the accent commands. Reading
documents containing text like na\"\i ve is frustrating,
especially if your keyboard allows you to type naïve.

In the past, LaTeX has not supported input
containing accented characters such as ï, because
Windows, Macintosh and Unix all have different ways of
dealing with accented input, called *input encodings*.

However, the inputenc package allows you to specify
which input encoding your document is written with,
for example to use the ISO Latin-1 encoding, you type:

```
\usepackage[latin1]{inputenc}
```

At the moment, inputenc supports the ascii and
latin1 input encodings, but more will be added with
future releases.

The inputenc package is currently a test release. The
user interface for the full release will be upwardly
compatible with the test version.

AMS-LaTeX

AMS-LaTeX is a set of miscellaneous extensions for
LaTeX distributed by the American Mathematical
Society. They provide superior information structure
and superior printed output for mathematical
documents.

There are far too many features of AMS-LaTeX to list
here. AMS-LaTeX is described in the accompanying
documentation, and in *The LaTeX Companion*.

Version 1.2beta of AMS-LaTeX was released for testing
by intrepid users in October 1994. The full release of
AMS-LaTeX 1.2 is expected in early January 1995.

It will be divided into two bundles:

- the amsfonts packages, which give access to
  hundreds of new mathematical symbols, and new
  math fonts such as blackboard bold and fraktur.

- the amsmath packages, which provide finer control
  over mathematical typesetting, such as multi-line
  subscripts, enhanced theorem and proof
  environments, and improved displayed equations,

For compatibility with older documents, an amstex
package will be provided.

LaTeX on the internet

LaTeX has its own home page on the World Wide Web,
with the URL:

```
http://www.tex.ac.uk/CTAN/latex/
```

This page describes LaTeX and the LaTeX3 project, and
contains pointers to other LaTeX resources, such as the
user guides, the TeX Frequently Asked Questions, and
the LaTeX bugs database.

The electronic home of anything TeX-related is the
Comprehensive TeX Archive Network (CTAN). This is
a network of cooperating ftp sites, with over a gigabyte
of TeX material:

```
ftp://ftp.tex.ac.uk/tex-archive/
ftp://ftp.shsu.edu/tex-archive/
ftp://ftp.dante.de/tex-archive/
```

For more information, see the LaTeX home page.

Further information

For more information on TeX and LaTeX, get in touch
with your local TeX Users Group, or the international
TeX Users Group, P. O. Box 869, Santa Barbara,
CA 93102-0869, USA, Fax: +1 805 963 8358,
EMail: tug@tug.org.

LATEX News

Issue 1, June 1994

Welcome to LATEX News

An issue of *LATEX News* will accompany every future release of LATEX. It will tell you about important events, such as major bug fixes, newly available packages, or any other LATEX news.

LATEX 2ε—the new LATEX release

The most important news is the release of LATEX 2ε, the new version of the LATEX software. This version has better support for fonts, graphics and colour, and will be actively maintained by the LATEX3 project team. Upgrades will be issued every six months, in June and December.

Why a new LATEX?

Over the years many extensions have been developed for LATEX. This is, of course, a sure sign of its continuing popularity but it has had one unfortunate result: incompatible LATEX formats came into use at different sites. Thus, to process documents from various places, a site maintainer was forced to keep LATEX (with and without NFSS), SLITEX, AMS-LATEX, and so on. In addition, when looking at a source file it was not always clear for which format the document was written.

To put an end to this unsatisfactory situation a new release of LATEX was produced. It brings all such extensions back under a single format and thus prevents the proliferation of mutually incompatible dialects of LATEX 2.09. The new release was available for several months as a test version, and the final release of 1 June officially replaces the old version.

Processing documents with LATEX 2ε

Documents written for LATEX 2.09 will still be read by LATEX 2ε. Any such document is run in *LATEX 2.09 compatibility mode.*

Unfortunately, compatibility mode comes with a price: it can run up to 50% slower than LATEX 2.09 did. If you want to run your document in the faster *native mode*, you should try replacing the line:

```
\documentstyle[options,packages]{class}
```

with:

```
\documentclass[options]{class}
\usepackage{latexsym,packages}
```

Unfortunately, this will not always work, because some LATEX 2.09 packages will only work in LATEX 2ε compatibility mode. You should find out if there is a LATEX 2ε version of the package available.

LATEX 2ε native mode also gives access to the new features of LATEX 2ε, described in *LATEX 2ε for authors*.

New packages

LATEX 2ε has much better support for graphics, colour, fonts, and multi-lingual typesetting. The following software should be available from the distributor who brought you LATEX 2ε:

babel, for typesetting in many languages.

color, for colour support.

graphics, for including images.

mfnfss, for using bitmap fonts.

psnfss, for using Type 1 fonts.

tools, other packages by the LATEX3 team.

The packages come with full documentation, and are also described in *LATEX: A Document Processing System* or *The LATEX Companion*.

Further information

More information about LATEX 2ε is to be found in:

LATEX: A Document Preparation System, Leslie Lamport, Addison Wesley, 2nd ed, 1994.

The LATEX Companion, Goossens, Mittelbach and Samarin, Addison Wesley, 1994.

The LATEX distribution comes with documentation on the new features of LATEX:

LATEX 2ε for authors, describes the new features of LATEX documents, in the file usrguide.tex.

LATEX 2ε for class and package writers, describes the new features of LATEX classes and packages, in the file clsguide.tex.

LATEX 2ε font selection, describes the new features of LATEX fonts for class and package writers, in the file fntguide.tex.

For more information on TEX and LATEX, get in touch with your local TEX Users Group, or the international TEX Users Group, P. O. Box 869, Santa Barbara, CA 93102-0869, USA, Fax: +1 805 963 8358, EMail: tug@tug.org.