Version 1.3, September 1990

Andrew Trevorrow

1-3-37 5th St., Habsiguda

Hyderabad 500007, India

 is a public domain version of $\TeX$ for the Macintosh. This document assumes you know how to use a Macintosh. It also assumes you are familiar with $\TeX$, the typesetting system developed by Donald Knuth at Stanford University. An understanding of PostScript, the page description language developed by Adobe Systems, is not essential but would be useful, especially if you want to include graphics in your documents.

 aims to provide a standard $\TeX$ environment for the Macintosh that can be easily extended or customized. If you already have access to $\TeX$ on some other computer, particularly a VAX/VMS or UNIX mainframe, then the way works shouldnjt be too surprising.

 Your comments, bug reports and suggestions are all welcome. I am still interested in doing further development of and would like to hear from people willing to sponsor such work.

Contents

1 Installing

 should work on any Macintosh Plus, SE, II or newer model. It will not work on a 128K or 512K Mac. Because of the large amount of memory required to run and the large amount of disk space needed to store all the font information, the minimum hardware configuration is probably a Mac Plus with 1MB of RAM and a 20MB hard disk

   can only print on a PostScript-compatible printer. If you plan to use an Apple LaserWriter (any model) then installation should be straightforward. (People with some other type of printer, like an ImageWriter, should try James Walkerjs `DVIM72-Mac` program. Note that youjll need a set of PK files to match your printerjs resolution.)

1.1 What you should have

 is distributed on ten 800K disks. Here is a brief description of what each disk should contain:

1. The `OzTeX` disk has a StuffIt archive which contains the application and the following folders:

> `Configs`, containing various configuration files.
>
> `TeX-fonts`, containing TFM files.
>
> `Help-files`, containing a few short text files.
>
> `PS-files`, containing various PostScript files.
>
> `TeX-docs`, containing examples of TEX input files.
>
> `LaTeX-docs`, containing LATEX input files (including this User Guide).
>
> `?Edit`, containing the *Edit desk accessory and its documentation.
>
> `DVIM72-Mac`, containing the `DVIM72-Mac` program and its documentation.
>
> `PK-files`, empty and waiting to receive the folders stored in disks `PK-1` to `PK-5`.

    This disk also contains a `Read-Me` file and UnStuffIt for unpacking StuffIt archives.

2. The `Formats` disk has a StuffIt archive which contains the `TeX-formats` folder. This is the default location for TEXjs `fmt` files and the `TeX.pool` file read by `INITEX`.

3. The `Inputs` disk has a StuffIt archive which contains the `TeX-inputs` folder. TEX looks for input files in this folder if it canjt find them in your current folder.

4. `PK-1` contains the folders `300` and `746`.

5. `PK-2` contains the folders `329` and `more-746`.

6. `PK-3` contains the folders `360` and `622`.

7. `PK-4` contains the folders `432` and `more-622`.

8. `PK-5` contains the `518` folder. The name of each folder in these last five disks indicates the ksizel of the PK files kept within the folder. See section ? for how this size is calculated and for more information about PK files.

9. The `Sources` disk has a StuffIt archive which contains the Modula-2 and MPW source files for . (SPECIAL BONUS OFFER n this disk also contains LifeLab.)

10. The `WEBtoMOD` disk has a StuffIt archive which contains the MPW tools and scripts used to translate `tex.web` into Modula-2.

None of the files on the last two disks are actually needed to run , so forget them if youjre not interested. See the System Guide if you are interested.

1.2 Where to put things

Assuming you have enough disk space, carry out the following steps:

1. Create an empty folder somewhere on your hard disk and call it anything you like.

2. Copy the contents of disks `OzTeX`, `Formats` and `Inputs` into this folder. Use UnStuffIt to unpack the `sit` files.

3. Copy the contents of disks `PK-1` to `PK-5` into the `PK-files` folder.

4. Open the `PK-files` folder and move the files inside `more-746` into `746`, and the files inside `more-622` into `622`, and then delete the emptied folders.

Your screen should now look something like this:

to 5infolders.ps

You may not have enough disk space to store everything, so letjs consider the bare essentials needed for a working system:

Youjll need the application of course, and the `Configs` folder.

Most of the files in `TeX-fonts`, `Help-files` and `PS-files` are quite small so you wonjt save much disk space by pruning these folders.

`TeX-docs` and `LaTeX-docs` contain js documentation and sample input files, none of them critical. Remove both these folders if it makes you happier. Note however that `nasty.tex` is used in the quick tour below.

The `?Edit` folder can be deleted after youjve used the Font/DA Mover to install *Edit (assuming you want to use it).

The `DVIM72-Mac` folder can be deleted if you donjt need this program.

If you only ever use one format then remove the other format files in `TeX-formats`. Donjt delete `TeX.pool` though n itjs needed by `INITEX`.

If you donjt use LATEX then remove all the `*.sty` and `*.doc` files in `TeX-inputs`.

The best way to save disk space is to forget about installing any PK files until you discover which ones you actually need. When viewing a DVI file, the kPage Infol item displays a list of all the fonts used in that document. Any font marked kDOES NOT EXISTl should be copied into the indicated folder in `PK-files`. Note however that the required PK file may not be supplied with , especially if it has a large size (or if you asked for an unusual magnification).

1.3 Installing the editor

does not contain an integrated text editor. Instead, a desk accessory editor called *Edit is supplied. The `?Edit` folder contains documentation (written by Leonard Rosenthol, the author of *Edit) and a DA file that can be used by the Font/DA Mover to install *Edit into your System file. You may of course prefer to use another editor. If so, you might as well throw away the `?Edit` folder.

1.4 Changing the default configuration file

reads a configuration file called `Default` when starting up. This file is kept in the `Configs` folder along with other configuration files. (The name and location of the default configuration file are stored as STR resources in the application file, so you can easily change them using a resource editor like ResEdit.)

A configuration file is a simple text file which you can edit and change various parameters that control js behaviour. Some of the more important parameters are:

A list of the configuration files that will appear at the bottom of the Config menu. This list should only appear in the `Default` file; it is ignored in every other configuration file.

A list of the formats that will appear at the bottom of the TEX menu. Place your preferred format first.

A list of the help files that will make up the Help menu. Feel free to add your own help files or remove them entirely (the Help menu wonjt appear if the list is empty).

The printer resolution and viewing resolution. The former is used when printing a DVI file and the latter when previewing. If you have a set of 72 dpi PK files then you could set the viewing resolution to 72; this value matches the resolution of the standard Mac screen, resulting in a more readable display (itjs also faster and uses much less memory).

The paper dimensions used to detect page-off-paper errors when printing or viewing a DVI file. If the paper width is greater than the height then will switch to landscape mode. The `Default` values specify A4 paper in portrait mode.

The names of certain special folders: `Help-files`, `TeX-formats`, `TeX-inputs`, `TeX-fonts`, `PK-files` and `PS-files`. The supplied strings are partial path names relative to the location of the application, but you might prefer to store certain files elsewhere. For example, you could tell to look for PK files on a different volume by changing the path name of the PK folder to kMyDisk:PK-files:l.

The names and locations of special files: `TEXtoPS.ps`, `DVItoPS.ps`, `TeX.pool`, etc.

The colours of various elements (paper edges, `\special` markers and missing fonts) seen when viewing a DVI file. The allowed colours are black, red, green, blue, cyan, magenta, yellow and white (white is allowed in case you want to do something like make `\special` markers invisible).

The values of important TEX parameters that determine how much memory will be allocated for certain arrays. The `Default` values are suitable for a Mac with 1MB of memory. If you have more memory then you may want to increase many of the parameters. If you do then youjll need to increase js application memory size for use with MultiFinder (see the kGet Infol item in the Finderjs File menu). Note also that a change to some parameters will require the format file(s) you use to be rebuilt; see section ?.

A list of all PostScript TFM file names and their corresponding printer-resident font names and screen font names. Each screen font has an encoding scheme (Adobe or Macintosh) and an optional style.

The `Default` configuration file contains many comments describing the purpose of each parameter and how to go about changing them. Before doing so it might be a good idea to save a copy first. In your new `Default` file you can then remove all the comments so that starts up a little faster.

1.5 Creating other configuration files

js Config menu lets you switch rapidly from one configuration file to another. This is especially useful if you have access to more than one PostScript printer, since each printer might require a separate configuration file (they might have different resolutions or support a different set of resident fonts).

There are other uses for multiple configuration files. See the examples supplied in the Configs folder. It is a simple matter to create your own and add them to the list in the `Default` file. To help keep configuration files short and simple, a couple of special characters can be used:

1.   If k?l is the first character of a parameterjs value then the parameter is not changed and the rest of the line is ignored.

2.   k!l has the same effect as k?l but in addition all remaining parameters are left unchanged (the rest of the file is ignored).

Note that these characters are not recognized as special in the `Default` file since every parameter must be given a starting value.

If you are an experienced TEX user and think you know enough to try out then skip the next few pages and start the quick tour on page tour.

1.6 Fonts

There are three different sources of font information used by in the process of typesetting, previewing and printing a document: TFM files (usually stored in `TeX-fonts`), PK files (usually stored in various folders nested within `PK-files`), and Macintosh screen fonts (normally found in the System file).

1.6.1 TFM files

A TEX Font Metric file contains the crucial typesetting information about a font, such as each characterjs height, depth, and width. The actual character images are not stored in a TFM file (that information is kept in PK files in the case of a non-PostScript font). TFM files are the only source of font information used when running TEX, since it doesnjt need to know anything about character images to be able to create a DVI file. See *The* TEX*book* by Donald Knuth if you want to know more about how TEX uses fonts, especially Chapter 4 and Appendix F.

TEX looks for a TFM file in the current folder before looking in `TeX-fonts`. When you print or view a DVI file containing a PostScript font, uses the same method to find the corresponding TFM file.

Most of the TFM file names in `TeX-fonts` begin with `kcml`. These letters stand for Computer Modern, a family of fonts created by Donald Knuth using METAFONT. All the PostScript TFM files supplied with have names beginning with `kps-l`; this is not required but does make them easy to recognize. If you want to change their names then remember to update your configuration file(s).

1.6.2 PK files

PK (packed pixel) files store the character images needed to print or view a DVI file containing non-PostScript fonts (those *not* appearing in the list at the end of the current configuration file). For each such font there is usually a number of PK files, each one representing the same font but at a different size. This size, which has no relation to the fontjs design size, is calculated as follows: