CUSTOMIZATION AND INSTALLATION OF TEXsis

(TEXsis version 3.1415926, as of 17 September 1994)

This appendix contains information about how to install TEXsis on several types of computer systems, and how to customize TEXsis for a particular installation. The discussion below on "Local Modifications" may be of interest to any user, but the rest of this Appendix is probably only of interest to someone who is responsible for installing or maintaining TEXsis.

CUSTOMIZATION

There are three different mechanisms for making modifications to the basic TEXsis macro package. It is better to use one of these mechanisms rather than modifying the original code.

Local Modifications

TEXsis will read the file `TXSmods.tex`, if it exists, from the current directory or search path every time you run TEXsis. This lets you make your own custom modifications or additions to TEXsis. For example, say you have a directory specifically for a particular project you are working on and you are writing several different papers or other documents related to this project. You could add a file called `TXSmods.tex` to this directory to contain extra macro definitions that are used in all of these documents, and these will be loaded automatically whenever you run TEXsis in this directory. If you run TEXsis from another directory these macros will not be loaded.

Site Modifications

If a file called `TXSsite.tex` exits in the current directory at the time the TEXsis format file is created (see below) then it is automatically read in at this time. The purpose of this file is to allow you to add definitions and macros that are local to your computer installation. For example, in this file you would define the control word `ORGANIZATION` to give the name of your organization or institution. `ORGANIZATION` is used at the top of memos and at the top of the title page of a `preprint`. You might also put a customized `letterhead` macro in this file, and you may well want to change the definition of `LandscapeSpecial`, which controls how your laser printer is put into landscape mode. Note that the file `TXSsite.tex` is only read *once*, when the TEXsis format file is created, not every time TEXsis is run. A prototype site file, called `TXSsite.000`, is included in the standard distribution of TEXsis.

Patches

TEXsis will also automatically read in a file called `TXSpatch.tex` from the standard input path, if it exists, every time TEXsis is run. This file should contain additions or corrections ("patches") to TEXsis. This patch file lets you correct minor problems or make minor changes to TEXsis without having to rebuild the format file.

Whenever we find a problem with TEXsis we try to correct it as soon as possible. To make the correction available to users before the next version of TEXsis is released we issue patch files containing the corrections. The most current patch file should always be available at `ftp://ftp.texsis.org/texsis`, or in `macros/texsis` on any CTAN server.

INSTALLATION OF TEXsis

To use TEXsis or any large macro package effectively you should run the `initex` program to create a pre-compiled format. The general method of doing this is machine independent, but the specific commands depend on the operating system on your computer. This appendix gives the appropriate commands for running `initex` and installing TEXsis on a computer running UNIX, a VAX or Alpha running VMS, and for an IBM PC running PCTEX under MS-DOS. We assume that you are familiar with the operating system and that TEX and the Plain format have already been installed. Notes on how to install TEXsis on other kinds of machines (such as Atari or Apple computers, or on Linux) are available on the TEXsis ftp server (`ftp://ftp.texsis.org/texsis`).

VMS users should note that TEXsis is also available with the latest release of DECUS TEX, and much of the installation work has already been done or can be done almost automatically. You may want to get this version from CTAN rather than the "raw" distribution from the TeXsis ftp site. If you are installing from the DECUS distribution you should read the file `INSTALL.VMS` with that distribution.

Quick Install for Unix and TEX 3.x

The current version for TEX as of 1997 is 3.14159. If you have anything earlier than version 3.x then it is strongly recommended that you first upgrade your TEX installation. Assuming that you have a current TEX installation on a Unix computer, you can build and install TEXsis by simply doing the following:

- ☐ 1. Edit the file `Makefile` and change parameters and paths as appropriate, following the directions given in the comments. The TEXDIR variable should point to the top-level TEX directory on your system. The default directories under TEXDIR are those recommended by the TeX Directory Structure (TDS) working group of the TEX Users Group.
- ☐ 2. (Optional) Copy the file `TXSsite.000` to `TXSsite.tex` and edit this file to contain appropriate site dependent information, such as definitions for the name of your `\ORGANIZATION`, or your `letterhead`, or change `LandscapeSpecial`. If you already have a `TXSsite.tex` file then copy it to the current directory so that it will be included when building the format file.
- ☐ 3. Give the command '`make`' to build the format file and the manual.
- ☐ 4. Give the command '`make install`' to install the files on the system.

Detailed Installation

To install TEXsis follow the steps below or their equivalents for your computer and operating system. If you are installing a system-wide version of TEXsis then you may want to review the appropriate documentation on how TEX itself is installed on your system.

- ☐ 1. Create a separate directory to hold the TEXsis files. This is not strictly necessary, but it is strongly recommended, since there are more than 70 files for the source code and documentation. On a Unix machine we recommend using `/usr/local/share/texmf/tex/texsis` or `/usr/local/lib/tex/texsis`, depending on where your other TEX files are kept. For a VMS system, you should use a subdirectory of the main TEX directory, whatever that happens to be. On an IBM PC it is best to use a top-level directory `C:\TEXSIS` on your hard disk, rather than a subdirectory of `C:\PCTEX`, to simplify backing up your files.
- ☐ 2. Copy all of the TEXsis files into this directory. The TEXsis source files all have names of the form TXS*xxx*.tex, and most of the documentation files have names TXS*xxx*.doc. TEXsis style files end with the extension `.txs`. There will also be several other files in your distribution of

TEXsis, such as `texsis.tex` and `Manual.tex`. A complete list of the files can be found in a file called `MANIFEST`.

☐ 3. Make any necessary changes in the source code. You will probably want to copy the file `TXSsite.000` to `TXSsite.tex` and edit this file, changing the definition of `ORGANIZATION`, `LandscapeSpecial`, and the letterhead macros.

On VMS systems you may (or may not) want to define `\TeXsisLib` to be the TEXsis directory and `\TXSpatches` to be the patch file in that directory.

If you have problems with missing fonts, look at the documentation in the file `TXSfonts.tex`.

☐ 4. Create the format file `texsis.fmt` by running `initex`. On a Unix machine the command is:

```
% initex \&plain texsis '\dump'
```

You must remember the "\" to escape the "&."

On a VMS system replace the `initex` command with `TEX/INIT`. You must also tell TEX where to find the input files for both TEXsis and Plain TEX. The commands are:

```
$ DEFINE/USER  TEXIN   ⟨texsis⟩ ⟨plain⟩
$ TEX/INIT/NOFORMAT/TEXINPUTS=TEXIN: "&plain texsis \dump"
```

where ⟨texsis⟩ is the specification for the device, directory, and subdirectories of TEXsis, and ⟨plain⟩ is the specifiation for the standard files like `PLAIN.TEX`.

For an IBM PC with PCTEX give the command,

```
TEX TEXSIS /I
```

and reply to the * prompt with "`dump`." (In some versions of PCTEX the `TEX` command is replaced with `TEX386` or `TEX386b`. Check your manual to be sure.) TEXsis will also work with `emtex` or any other version of "big" TEX for the PC, but you will have to check the documentation for that particular implementation of TEX for specific instructions for creating a preloaded format.

In any case `initex` will load the Plain TEX format and then the various pieces of TEXsis, displaying a message for each piece. Finally it will spew out a list of fonts used and other information. This should contain near the end the statement "No pages of output produced." (If it does not, something may be wrong with your distribution, although it is probably a minor problem. Check your editing of the `TXSsite.tex` file.) The preloaded format will be written to the file `texsis.fmt`.

☐ 5. Copy or move various files to where they need to be:

5.1. Copy the format file to the place where your version of TEX looks for pre-loaded formats. On Unix systems this is usually

`/usr/local/share/texmf/tex/formats`.

or some variation of this. For VMS machines make sure the file is in the directory named by `$TEX_FORMATS`. With PC-TEX the file goes into `\PCTEX\TEXFMTS`.

5.2. Copy the TEXsis style files (which end with the extension `.txs`) to the place your version of TEX usually looks for input. Under Unix this should be

`/usr/local/lib/tex/inputs`
(or sometimes `/usr/local/lib/tex/macros`).

For VMS machines make sure these files are in the directory included in the path defined by the `TEX_INPUTS` logical. For PC-TEX the proper place is `\PCTEX\TEXINPUT`.

5.3. If you have any run-time patches to add to TEXsis copy the file `TXSpatch.tex` to the same TEX inputs directory. If there is a `TXSpatch.tex` from a previous release of TEXsis you should be sure to remove the old file if it is not being replaced.

☐ 6. Having created the format file, you need to make a command `texsis` to run TEX using it. The way to do this is very dependent on the operating system.

6.1. On a Unix system running TEX 3.0 or higher you need only to make a link to the executable `virtex` with the same name as the format you want to load. `Virtex` probably lives in `/usr/local/bin` or some similar place. The command to make the link is something like:

```
ln /usr/local/bin/virtex /usr/local/bin/texsis
```

For TEX versions 2.9x you can build an "undumped" version of TEXsis. You will have to see the TEX distribution notes for a description of `undump`. However, this is now a very old version of TEX (as of this writing TEX is up to version 3.1415), so you should seriously consider upgrading to a newer version of TEX.

If you are going to create a "private" version of TEXsis rather than installing it for the whole system then you need to add your TEXsis directory to the environment variables `TEXFORMATS` and `TEXINPUTS` and define the command `texsis` as follows. For the C-shell, put in your `.cshrc` file:

```
alias texsis virtex \\\&texsis
setenv TEXSIS_LIB $HOME/texsis/
setenv TEXFORMATS ".:$TEXSIS_LIB:$TEXFORMATS"
setenv TEXINPUTS  ".:$TEXSIS_LIB:$TEXINPUTS"
```

(This assumes that `TEXFORMATS` and `TEXINPUTS` are already properly defined. If not, insert the proper directories.)

6.2. Under VMS, place in your `login.com` file the commands

```
$ DEFINE TEXSIS_LIB ⟨disk⟩:[⟨directory⟩]
$ TEXSIS :== $TEX$:TEX.EXE &TEXSIS_LIB:TEXSIS
```

where `TEX$` is the logical name for the main TEX directory. You can also put these commands in a TEX initialization `.COM` file.

6.3. For PCTEX you should find in the distribution a file `TEXSIS.BAT`. If you don't, you can create it. The file should contain:

```
ECHO OFF
\PCTEX\TEX  &TEXSIS %1 /F 25000
```

(Replace the `TEX` command with `TEX386` or `TEX386b` if appropriate for your machine. For PC-TEX versions 3.14 and greater the `/F 25000` is no longer needed.) Either put this file in a directory in your command path or add the directory it is in to your `PATH` statement. If you want to be able to load a patch file then you should also include a line such as

```
\def\TXSpatches{C:/TEXSIS/TXSpatch}
```

in the `TXSsite.tex` file. Because TEX and MS-DOS both use backslashes for their own purposes the path is specified with *forward* slashes; DOS understands them to be the same as a backslash.

After these steps have been carried out, TEXsis should be installed and available to you, and to other users if installed system-wide. The command `texsis` *name*

should run TEXsis on the file *name*`.tex` and produce the file *name*`.dvi`, which can be printed like any `.dvi` file. A good test is to go to the TEXsis source directory (or the documentation directory, if the documentation files `TXS`xxx`.doc` have been put in a separate directory) and say

`texsis Manual`

On the first try this will produce several warning messages coming from undefined tags for forward references. These will be defined later in the document and saved in the file `Manual.aux`; Running TEXsis a second time should produce the TEXsis manual with no errors.