
VAX/VMS Site Report

David Kellerman
Northlake Software

We have been shipping a new distribution of \TeX for VAX/VMS since September. It contains all the changes and bug fixes that had accumulated in the Stanford distribution at that time, and corrections and improvements to our VAX/VMS-specific modifications. The \LaTeX macros gained many bug fixes since our previous release, and we cleaned up loose ends in the arrangement of $\text{SL}\TeX$. The font sets are considerably enlarged, and there is also a new conversion program called XXtoXX . It converts between any combination of GF, PK, and PXL formats, can process all RMS record formats as input or output, and makes quick work of converting large numbers of font files.

Much work went into making the new distribution easier to install and use. Martin Havlicek did most of the work of dividing it into pieces, then organizing each as a VMSINSTAL kit. Beginning users can install two or three kits for a basic system, and reliably end up with working software; later, if need arises, they can install additional kits. We organized and rewrote the VMS-specific documentation, too, and the result is both an improvement for the naive user and a source of more useful reference material (it looks better, too).

Of course we ran out of space on the tape again. And it is probably just as well, because the space limitation keeps us focused on providing a reliable core \TeX system. For the broad range of publicly available \TeX -related packages, we still find it better to forward inquiries to their actual developers. They are better at providing up-to-date versions, and they do a better job of answering questions about their own software.

Which leaves me to look forward to updating to \TeX 2.96, and wondering what version comes after 2.99.

Typesetting on Personal Computers

The Land of the Free and the Near Free

Alan Hoenig

I've received a surprising number of requests—from as far away as Cameroon—for information about low cost implementations of \TeX . It's now possible to put together several such systems. For this article, a " \TeX system" includes in addition to \TeX , a text editor (to create the input into \TeX), a previewer (to preview on the screen the output of \TeX before you send it to your printer), and a driver (the program which you need to translate from the language \TeX uses to the language your printer understands), and (for the first time!) METAFONT. Because this column has talked too much about the IBM-compatible family of computers, we will begin with a *non-IBM* system. But IBMers should read on—among other things, we describe below an impressive integrated \TeX environment for PCompatibles at a bargain price.

Before we begin, please note that you cannot make indiscriminate copies of the software *unless it is very clearly marked as being in the public domain*. Low cost is not synonymous with public domain! What follows is a summary of low-cost software components; please assume they are *not* public domain unless specifically so noted.

\TeX on the Amiga

The Amiga microcomputers, models 500 and 2000, are powerful home computers, with built-in high-resolution graphics, a large memory capacity, and the ability to multitask. If all things were equal, it would probably be the computer of choice for most microcomputer users. Unfortunately, things are not at all equal—vastly more software is available for IBM and compatibles and for Macintoshes.

Nevertheless, a fine implementation of \TeX for the Amiga is available from Radical Eye Software (Box 2081, Stanford, CA 94309; (415) 32-AMIGA). The \TeX part of this system consists of \TeX and a previewer and costs \$200. If you provide a blank Amiga floppy and a SASE, you can get the `mg` editor free, which is their local version of a micrognuemacs-type editor. Printer drivers are \$100 apiece, and support the HP LaserJet series, PostScript, QMS KISS and SmartWriter, HP DeskJet, Epson LQ series, NEC Pinwriter series, Epson MX and FX

series, and ImageWriter II printers. (Some of the dot matrix drivers are capable of 360 dpi resolution!) A version of METAFONT with interactive screen support is only \$75. The software includes a very well-written manual; you'll have no trouble getting started with it. A tantalizing description of AmigaTeX appeared last year in *TUGboat* (9, 1, April 1988, 40-41), and a user report is in this issue starting on page 65.

The best news about AmigaTeX is the current street prices of Amiga computers. Rumors abound that Commodore (the Amiga's parent company) will be releasing new models, the 2500 and 3000, and are perhaps lowering the prices of the 500 and 2000 to clear the shelves. Whatever the reason, prices here in the New York City area are low. The 2000 sells for \$1495 complete, including 1 megabyte of memory, 1 floppy drive and the color monitor. The Amiga 500—with 512K memory, 1 floppy drive, and a color monitor—can be had for \$800 or less. To run AmigaTeX, you only need 512K of RAM and two floppy disk drives or one floppy drive and 1.5M of RAM. (Of course, the software really hums with a hard drive, but it is not necessary. AmigaMETAFONT definitely requires 1 megabyte of RAM, as will L^ATeX.) The extra memory or floppy adds only a few hundred dollars to these prices. These computers are more expensive than the plainest of 8088 IBM compatibles, but you get substantially more computer power, including multitasking and stunning graphics.

PCompatible-TeX

The components of a PCompatible TeX system have to be assembled in the same way as are most of these compatibles—component by component, each component of which comes from someplace else.

My choice for text editor remains PC-Write, now up to version 3.0. PC-Write is a shareware program, so you should look for one from a friend or bulletin board. Otherwise, contact QuickSoft for their current distribution policy (QuickSoft, 219 First North, #224, Seattle, WA 98109; (206) 282-0452). One irritation with PC-Write is its inclination to break lines right after an explicit hyphen. TeX turns this line break to an extra space, so if you're not careful, you get extra spaces after these hyphens in the typeset document. A public domain version of the Emacs editor JOVE (Joe's Own Version of Emacs) is also widely available.

TurboTeX is a low-cost TeX available from the Kinch Computer Company (501 South Meadow

Street, Ithaca, NY 14850; (607) 273-0222). TurboTeX is described extensively in *TUGboat*, 9, 1, 48-52, April, 1988. TurboTeX weighs in at \$100, and Kinch Computer also offers the C source listing for the TeX program for committed compile-it-yourselfers. (Contact them for details.) The big news though is that Kinch Computer now has a low-cost version of METAFONT available as well (see page 23)! The combination of TeX plus METAFONT executables will be \$150; the C source for the pair will be \$300. Monitor support for their METAFONT includes Hercules, CGA, and EGA.

A superb low-cost previewer called CDVI (because, I guess, you use it to see a DVI file) has crossed our desk recently. It's easy to install, and at \$35 it'd be a bargain even if it *didn't* work well. (That's \$35 for 360K disks; add \$10 for 3.5in disks. These prices include postage and handling, but please add sales tax for Texas orders.) When ordering, be sure to specify your monitor type—either EGA, Hercules mono, CGA, ATT 6300, MCGA/VGA, or Toshiba 3100. The program is offered by SullivanSFT, Box 292431, Lewisville, TX 75029.

Most previewers I've tried seem to take their time loading font information, so you have to wait a bit to do any previewing. CDVI is blazingly fast. On my AT compatible, it is essentially instantaneous in operation. I do not perceive any pause between the time I execute its command line and the appearance of the screen image. Viewing subsequent pages in your document is as rapid. Wayne Sullivan, a Dallas-born, Georgia- and Oxford-educated mathematician now at University College in Dublin and the author of CDVI, has designed a fine user interface as well.

CDVI will not be all things to all people, however. The secret to its speed lies in the fact that it has built-in information about all the fonts in PLAIN.TEX, but only at their unmagnified sizes. You will only see unmagnified images on your screen. Magnification is simulated by showing these images while using the letterspacing appropriate for the magnified font. Thus, you can check layout and page breaks, which is all most of us use previewers for anyway. If you use non-CM Roman fonts, you must use an included utility which will let CDVI substitute the plain TeX font of your choice (although it will use your .TFM file to position the letters properly). (SullivanSFT cautions that the use of too many nonstandard fonts will slow down CDVI's operation.) If you work with non-Roman fonts, or are doing extensive METAFONTing, CDVI may not be for you.

Nelson Beebe has previously reported on the public domain printer drivers he has prepared. (See *TUGboat*, 8, 1, April 1987, 41–42.) The demand for this software has greatly exceeded their author's expectations; Nelson estimates that they are now in use at over 1000 sites in 28 countries. Because of this extraordinary demand, Nelson has had to modify his distribution policy. IBM PC floppy distributions are available from him for \$100, which includes documentation, media, and shipping. (Nelson H.F. Beebe, PhD, Center for Scientific Computing, Department of Physics, University of Utah, Salt Lake City, UT 84112.) However IBM PC floppies of this software are also available from the following sources: Personal T_EX, Inc. (12 Madrona Ave., Mill Valley, CA 94941); Kinch Computer Co. (501 S Meadow St., Ithaca, NY 14850); and Jon Radel (Rt 2 110 Sydnor Dr., Leesburg, VA 22075). Prices from these suppliers may be cheaper than Nelson's; the current Personal T_EX catalog, for example, lists this material for \$35. One caveat: these sources may not be distributing the latest versions of these drivers. (I do not have pricing from the other suppliers.)

Nelson's software is actually a series of C modules intended for those wishing to prepare a variety of drivers for a variety of devices on a variety of printers. The drivers support the HP LaserJet and PostScript (Apple LaserWriter) laser printers, as well as a generous selection of dot matrix machines (Epsons, Okidatas, Toshibas, and Apple ImageWriters among others).

The original *TUGboat* announcement was for version 2.07 of this software; Nelson is now up to version 2.10. Major changes of 2.10 include substantial improvements to the HP LaserJet Plus and Apple LaserWriter drivers. (Printer memory management is much better than before.) Version 3.0 of the software is due out in January. This new version will add support for 2 or 3 new operating systems, over a dozen new drivers, and will have support for font paths with multiple directories, run-time specifications of the format for font file names, and better control over the magnification search when substitutions are required. There will also be support for a startup file for common options, and much more powerful control over paper sizes.

Nelson asks us to conclude with a plea. In the past, several people had promised that they would merge in support for PostScript resident fonts from the *dvi2ps* program of Stephan von Bechtolsheim; this program runs only on UNIX. So far, no one has been forthcoming! Nelson himself won't have

time for this task for several more months at least. Volunteers wishing to get cracking on this should get in touch with him first (to make sure no one else has already begun).

A savvy user—that is, one who reads this column regularly—can put together an AT-class compatible for about \$1600 or so. Such a machine won't be fancy, but it will run T_EX (actually, it will *walk* T_EX. Hmm—this makes the Amiga look better and better.)

Late-Breaking News: The Deal of the Century?

Always wanted to try T_EX but afraid to take the plunge? *1-800-USA-BOOKS*, a mail order outfit and that's their toll-free number as well, makes an incredible offer. They have assembled true public domain versions of all the software you might need to run T_EX on a PC, and will offer their T_EX-Kit for \$38.50 (no misprint!). Here's what you get:

- A version of PC-Write with a utility to patch this program so it *won't* break at hyphens.
- A true, public domain version of T_EX.
- A stripped-down, public-domain version of the CDVI screen previewer.
- Nelson Beebe's public domain laser printer drivers. The fonts that come with this T_EX are only those 300dpi fonts that work with the previewer.
- A shell program to take command of these separate components.

It's this last item that makes the T_EX-Kit such an extraordinary bargain, because for the first time, users of PCompatible T_EX can work within an integrated T_EX environment, a workspace long available to users of Macintosh or Amiga versions. A flick of your finger on a function key brings up your document for editing. Close the file, and T_EX it with a tap on another key. Oops—a T_EX error on line 134? Invoke the “e” option from within T_EX, and the shell automatically opens your file for editing on line 134. Previewing and printing are similarly controlled with single function keystrokes.

This same company reports plans for similar T_EX kits at different levels. Watch this space for details!

P.S. *Writer's Tools II* will appear Real Soon Now. Gathering the remainder of the information has been more time-consuming than we initially imagined!