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"small" TeX

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Send submissions to:
 Lance Carnes
 163 Linden Lane
 Mill Valley, CA 94941
 (415) 388-8853

In the 16-bit and supermicro arena there are now three implementations available, and a fourth on the horizon with the advent of TeX82. There is a new entry in the TeX family, an implementation on the Apollo from OCLC. Bob McClure and Kent Harris' ONYX/C version is now marketed by TYX in Reston, Virginia and has a few new wrinkles. The HP3000 implementation gained a new output device, the HP2680A — HP's entry in the Laser printer marketplace. (This column was printed on the HP2680A.) And, good news for would-be UNIX TeX users, a possible C version of TeX82!

Tom Hickey and his associates at OCLC have TeX-in-Pascal running on their Apollo supermicro. (Tom has METAFONT running on this machine, also.) At the recent TUG conference we saw a document on Chel, a METAFONT-designed alphabet, printed using the Apollo TeX with Versatec output. If you want more information on this implementation, contact Tom Hickey at OCLC (617) 486-3661.

TYX in Reston, VA is marketing McClure and Harris' TeX in C on the ONYX (16-bit micro which runs UNIX). In addition to their rewrite of the SAIL TeX they offer a forms design package, and a user-friendly front end. Their implementation is also offered on the PLEXUS or PDP-11/44 (or any of the 11's with separate IND space), and TYX has an interface to the Canon LBP. For more information contact: Dick Gauthier, TYX, 11250 Roger Bacon Drive, Suite 16, Reston, VA 22090, (703) 471-0233.

My famous Hewlett-Packard HP3000 implementation now includes a driver for the HP2680A, HP's entry in the page printer market. Barbara Beeton kindly consented to having the TeX column printed on the HP2680A, to give readers an idea of its quality. The fonts used are those available on the Stanford tape (nnnnnn.1300PXL). The 2680A allows 32 fonts to be downloaded into its memory, and the driver software need only address the font and character desired thereafter. Since it has a resolution of 180 dots/inch, the already magnified Versatec fonts are further magnified, giving characters 1.4444 times larger than real life. This page was TeX-ed with magnification 1444 (i.e. 1.4444 times larger) and photo-reduced to the publication size. At the end of the column are some samples

of mathematics output and various font sizes. For more information contact me at the above address.

And now for all those who have been waiting for TeX on a personal computer, or at least on PDP-11's, here is good news. With the advent of TeX82, written in WEB, there is a good chance a C version of TeX82 may become available, given a C-TANGLE. (For details on WEB, see TUGboat Vol. 3 No. 1. For details on TeX82, refer to articles in this issue.) Please note that TeX82 is not yet ready for general distribution and will probably not hit the streets till later this year. The version of TANGLE which will produce C source is only a gleam in its creator's eye at this point. (Note: the C version of TeX from TYX is proprietary.)

The basic idea is that if WEB can be TANGLED into Pascal, why not into C? or the language of your choice? Presumably, a diligent hacker could adapt TANGLE to emit almost anything, and then bring up TeX on his or her favorite system. There are many powerful microcomputers, and even some personal computers (e.g. the DEC350), which could run such an implementation. Let us know what you would like to see — use this column as a forum.

The following are samples of HP2680A output.

Bigg Big

Boldface *Italic Slant*

Teletype *S*YMBOL ∞∈∅√∇∫∃-N&/

f ∫ ⊙ ⊕ ⊗ ⊘

Σ Π ∫ ∫

$$1 + \frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_3 + \frac{1}{a_4}}}}$$

$$\frac{1}{2\pi} \int_{-\infty}^{\infty} \left(\sum_{k=1}^n \sin^2 x_k(t) \right) (f(t) + g(t)) dt.$$

$$\sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + x}}}}}}}$$