
The Toronto Timex/Sinclair Users Club Newsletter Vol. 1, No.2

P.O. Box 7274, Stn. A Toronto M5W 1X9

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From the President:

Dear Members:

Late in 1982, 5 ZX-81 owners met in a bar at Yonge & Eglinton in Toronto to talk about their computers. These Gentlemen are now the Executive of the Toronto Timex-Sinclair users Club. We are now a National Club with members as far away as B.C. We now have 72 members. The Club meets the first and third Wednesday of every Month at the North York Community Hall at Yonge & Sheppard in Willowdale. Our last meeting before summer break will be Wednesday, June 22. Regular meetings will resume Wednesday, September 21. The Club's financial status is OK for the time being, so there will not be an admission charge per meeting, as has been suggested. I would like to remind everyone, if you have any comments, questions or suggestions of any kind, please feel free to let me know. I hope you enjoy this long awaited Newsletter.

Yours sincerely,

Pete Harvey
 Pete Harvey

EXECUTIVE

- Librarian - John Castillos
- Asst. Librarian - Martin Mauk
- New Members - George Chambers
- Membership Secretary and Education - Greg Lloyd
- Correspondence - Chris Hart

HARDWARE REVIEW
- by J.J. Castillos

MULTIFORTH BY THREE SYSTEMS OF FOR THE
EPROM CHIP GRAND RAPIDS ZX81

FORTH is a high-level computer language developed by Charles H. Moore in the last sixties. It was interpretive in the beginning but compiler versions are currently available among which is listed the one we are reviewing now. The basic unit in FORTH is the word, the language is usually provided with a certain number of words, each one of which defines a given function or routine and the user can add to this vocabulary with other words which he designs. Because of the compiler nature of these versions of the language, it runs very fast as compared to BASIC. Speed is not the only advantage to the user since long BASIC programs involving complicated subroutines have to be defined only once and then a short string of FORTH words can replace what would be many lines of BASIC Program.

Last year I bought the IPS version of compiler FORTH which is supplied as software in a cassette and takes about 7K of memory. When the Tree Systems version which is supplied as an 8K EPROM chip to replace the BASIC ROM became available, I decided to buy it in order to compare them.

One of the first conclusions I drew is that although both versions are roughly comparable in memory size, capabilities, speed and number of basic words provided, the Tree Systems chip has some advantages such as the extra memory available to the user. If you have a 16K RAM pack attached to your ZX81, the IPS FORTH leaves you about 9K of free RAM while the Tree Systems chip takes less than 2K for its internal use and leaves you over 14K for your programs. Other advantages are that the Tree Systems chip has a built-in editor with split screen, it has auto-repeat on all keys, it is capable of multi-tasking (ie. up to ten programs can be scheduled to run at some time in the future, for example, take temperature readings every 20 minutes, etc.), it has standard ASCII characters which are displayed on the screen and last but not least, the convenience of the chip itself which requires no loading and provides instant availability on power-up. The 2764 EPROM chip containing FORTH comes soldered to a small board to which the BASIC ROM can also be attached so as to enable the user to switch at will between BASIC and FORTH.

One serious drawback common to both versions currently available for the ZX81 is the inability to obtain printouts, the results are just displayed on the screen. Also the claims by Tree Systems that their version of FORTH runs up to 130 times faster than BASIC is wildly exaggerated and misleading. I tried the following standard test in both BASIC and FORTH:

<u>BASIC</u>	<u>FORTH</u>
10 For A = 1 to 3000	
20 Scroll	3000 1 DO CR 1 . LOOP
30 Print A	
40 Next A	

In both FAST and SLOW modes FORTH was between 5 and 7 times faster than BASIC which is a significant advantage but nothing even close to the above claim.

The FORTH chip plus board comes with a 110 page manual which although full of irritating spelling errors, is well written and to the best of our knowledge, quite error-free, a refreshing change from IPS's notoriously defective manual.

I must warn potential users that the Tree Systems version of FORTH requires at least 2K of RAM and also that the power supply used will have to provide more than 500 mA. The BASIC computer plus 16K RAM which we used for the test worked well with such a power supply but with the FORTH chip plugged in the same system was useless due to screen instability. A 650 mA power supply solved the problem. Finally, you must remember to turn off the computer before attempting to switch from one ROM to the other.

Summing up, if you want to do serious programming in FORTH, the Tree Systems version is good value for your money unless you wish to wait to see if a chip becomes available in the future to provide access to the ZX Printer and perhaps more fig-FORTH commands. On the other hand, if you only want to see what FORTH is like and just try it out, then the IPS software version (ZX FORTH) should suffice.

The FORTH EPROM chip plus board and manual is available from Tree Systems of Grand Rapids, Michigan, USA for US\$ 49.95.

