



# TS Bulletin

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First BEFORE You order,  
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BILL HARMER  
97 Ruskin Avenue  
Ottawa, Ontario  
CANADA K1Y4B3

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This last month or so has seen the writer experiment with word processing using an MS DOS wordprocessor from Radio Shack at about \$20 in price. A Brother M-1109 dot matrix printer, sold locally at C\$169, provides hard copy. The only problem has been that you need a little BASIC program to get control codes to the printer to change the mode of printing, to small type for example, and eventually a program was written to write a file to disk with just the control codes required and then the DOS commands alone can be used to append text to the control code file. This solves the problem of having the printer connected to a non-standard port no. and may help when used with other operating systems and disk systems than MS DOS, which is why it is mentioned here. Other work includes the preliminary evaluation of a fast and short m/c algorithm for compressing text/files. It seems to compress to about 82% of original size, and better figures are being sought by modifying it. The problems of text compression in a 16K-32K orphan computer require such novel approaches (a short m/c subroutine) since the standard algorithms like Huffman & Zempel-Lev require at least 3 or 4 K of text to make any saving and if the whole thing is locked in with a 2+3K BASIC routine to compress or expand the code, it is hard to make any saving in the little orphan, BASIC operating system computers like the ZX-81/TS1000, TS2068 or Commodore 64. CP/M computers don't suffer from this limitation however, and it is not to these more sophisticated computers (like the QL, and 16-bit computers) that this approach is addressed. It is hoped that the sub-routine code will fit within about 400 bytes! Anyone wishing to exchange tips and tricks and ideas on data compression for orphans (and bigger computers in some cases) may wish to write the publisher at the address above. Utilities like ARC, PAK and SQ use Zempel-Lev and Huffman codes. Some comparative figures:- (based on straight, dense text files in ASCII; 8½K) PKZIP, LHARC 44%, PKPAK, ARC 50%, SQ 57%. In some cases, files perhaps with a lot of spaces in them, ZIP will bring the file to as little as 19% or original size and ARC around 30%, SQ around 35%. LHARC by the way is the first program that the writer has seen from Japan.

The last Ottawa-Hull TSUG meeting included a long exchange of experiences in Pascal programming with Dave Solly doing some programming in HighSoft Pascal on the TS2068. A Pascal compiler for the TS2068 has been placed in the public domain for non-commercial exchange and is up on the club BBS at (613)745-8838, 300 baud, and maybe faster soon, (8/n/1), after normal business hours. Another way to get at Pascal on the TS2068 is to use a CP/M version if you have CP/M (with the Aerco DOS), and of course the QL can also use this with a CP/M software emulator.

The BOSTUG, TSUG has mutated, closing down as a general TS SIG within the Boston Computer Society and being reborn with many of the old members as the New England QL User Group, with a planned quarterly n/1 & membership at US\$10/yr., contact: Richard Taylor, 309 Holly Cir., Tiverton, RI, USA 02878 to join or Joyce Blaho, 971 Fellowship, Medford, MA, USA 02155 about n/1 exchanges. The final n/1 of BostUG, mentions that Update Magazine (by Bill Jones, on TS Disk Systems, esp. Oliger), has been turned over to Frank Davis of ISTUG as Bill Jones is going to spend time sailing the Caribbean with his wife and take a break from the computer publishing hobby. At US\$18 for four issues around 50pp each, UPDATE has been a real buy for subscribers.

Donald Lambert of CRAGIST (Iowa n/1) reports that he has his ZX-81 LDOS disk system up and running with a Tandon disk drive and he has the fix for mating the two if you wish to contact him. He also is working with a sort of short board ZX-81 to use m/c programs developed on the ZX-81/TS1000 in a shortened controller board with Z-80 and SRAM/CMOS RAM; Mike LeDuc has developed the board design. Mr. Lambert may be contacted at 3310 Clover Dr. S.W., Cedar Rapids, IA, USA 52404.

Mark Yost, P.O.B. 187, Canton, CT, USA 06019 sent us a notification that he may get info on the TS1000/TS2068 program tape stock of an out-of-business store. The tapes, if available will go for about US\$5.50 and include M-SCRIPT, Vu-Cal, Vu-File Timachine (BASIC compiler), Vu-3D, Aerco Print Master, Chess, 32/64 col, M-Term, Xadom, Pinball, Stock Market, Game Designer, EasySpeak, Frogger, 80 col Vu-Cal, TasWord II, Lotto, Candy Factory, Blackjack, Star Trex, Art Works (some Spectrum) Ask before you order- this is an iffy deal until specifics are tied down it seems!!



## Amateur Programmer's Line

By Bill Harmer

Amateur programming with home computers has swept through its first phase, that of mass popularity, and is entering a more mature and perhaps level stage of its unfolding. Will it end up as a niche market like the hobby of radio building, which was done by the mass market when a radio was too expensive for anyone less than the quite rich to afford and dwindled off to a niche hobby of radio amateurs and experimenters, by the 1950's? Something the kids and students of a wide variety would still tackle then (like the old crystal sets) but which held the interests of only a few adults, after passing its peak of popularity in the 1920's. Has amateur programming become a niche in the market, a passing stage of school children but a hobby of only a few adult enthusiasts?

The home computer has become a reality for perhaps 12% of the homes in America, and perhaps (a guess) two thirds of the homes have an adult using the computer. But probably it is safe to say that other than word-processing for personal use and for running work brought home from the office, only a small fraction of 1% of the home users that are adults do any programming with them and probably only 5% of the students that have a home computer use it for hobby programming as opposed to school assignment programming. So we amateur programmers are rare birds indeed.

Now that we know who we are, let's look around and see who are our allies in the battle of the consumer to see the programming hobby supported. The schools and the school children/students are natural allies and indeed we profit considerably from the programming efforts of students, particularly at the university level, whose programs go on to become public domain. A crucial early BASIC compiler was done at a US Naval Academy, placed in the public domain and probably became the starting point for the development of MS BASIC compiler for MS DOS. (It's separate runtime module looks like the inspiration to say the least for the BASRUN module with early versions of MS BASIC for MS DOS). Many utilities, emulators/simulators were developed in the schools as assignments or for teaching. The Utah and Nevada compilers, Pascal, FORTRAN, COBOL, came from universities and offer a way to get into those languages at prices between \$50 and \$100 (compare MS FORTRAN and COBOL at \$400-500 plus). The first microcomputer Pascal, UCSD Pascal using a unique speed code (p-code) which is interpreted during execution, to shrink the memory requirements of a complex language like Pascal to the capacities of the early micro-computers, is another case of university support. Now even the source code for such a Pascal compiler is available for anyone who wishes to port it to a home computer (assuming they have an IBM compatible and C compiler to develop it on). It appears that the Japanese data/disk file compression utility LHARC was done by a student, with the help of his professors. The examples could be paraded on and on.

The professional programmers or technical people who wish to work on a program on their own on their home computer and perhaps even sell it someday out of a post office box address are other allies. They may have seen some new program or idea in the course of their technical work and want to adapt it, redo it or simplify it for the home computer market. Their ads can be found in the classified ad sections of computer (and electronics) magazines. By the way, dBase III was born that way by a programmer from NASA, Wayne Routliff moonlighting to make a database for his early kit computer, and the various versions and improvements led via dBase II to Ashton-Tate's current cash cow. Wayne has left Ashton-Tate and has introduced his own database, by Emerald Bay, when he found work stultifying.

Last but not least in support of the amateur programmer are the user groups and the bulletin board systems (BBS) that allow the amateur to network and swap tips and techniques, sources and source code, and a lot of technical data in the form of disk files, that would be uneconomical to publish and distribute in most other forms. In fact, amateur programmers have submitted a whole realm of hard won technical knowledge, in the field called loosely 'reverse engineering' done in finding out how a commercial program or operating system works.

So if we can draw any conclusions they would probably include the point that even if amateur programming is a niche for enthusiasts, it has an outward looking appeal in that the amateur programmer's work is made to share. Whether the work was started to meet a course requirement, to help others or make some money on the side, good amateur programs are typically labours of love.