



-----Sept., 1990-----

2 pages-----

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News of a Local Nature - The Ottawa-Hull Timex-Sinclair User Group continues to get together, this last September, 5 members meeting at a members home down by the River (in what was at one time, cottage country). As one member remarked, whether we continue to use Sinclair computers or not, we still get together to enjoy talking to each other. Some members have acquired IBM compatibles, but there is still quite a bit of use of the TS computers among group members, (including those with other makes like the IBM compatible). The club librarian, Dave Solly, 1545 Alta Vista Drive, Apt. 1402, Ottawa, Ont., Canada K1G 3P4 reported that many, even from out of town are using the club BBS (613) 745-8838 (8/n/1, 300 and 1200 baud). Activity in programming in Pascal both on the TS2068 and the IBM PC (using Turbo Pascal) is also a club activity that Dave participates in and the BBS has had on it a Pascal compiler for the TS2068 that has been released into the public domain for non-commercial purposes. Coffee and goodies rounded out the meeting which included discussion of proposals to raise rates on phones using modems, (in the USA), copyright notices/mentions on run-time modules and Mickey Spillane!

Larken Electronics, original designers and makers of the ZX-81/TS1000 LDOS disk controller/DOS and the LKDOS TS2068/Spectrum ROM compatible disk controller, and DOS seem to be turning their attention to the sales of their modestly priced computer controlled shaper/router/plotter that allows the working of plastic and light metal by robot control using an ordinary IBM PC compatible running a program originally written in Pascal on the TS2068. Continued support of the disk systems, at least in terms of being able to buy new boards for new users is now being considered, dependent on demand, as probably anyone who knows about the Larken system and has a TS2068 has got one if they are going to now. No matter what the outcome, conversion of the Aerco, Zebra and Oliger controllers to run the LKDOS operating system and thereby read and write to LKDOS format diskettes (which is now in progress all over the US judging from newsletters that are coming from those user groups there), will guarantee a longer market and opportunity for those who wish to convert to the LKDOS system over time. The software support of the LKDOS system will be handled ably by the Toronto user group, as it is now, and possible further contributions from Larken Electronics. The long-in-preparation book on the LDOS system for the ZX-81/TS1000 is being releases in pre-publication form in chapters or sections by the author instead of going the formal, publishing route (at TS Bulletin amateur publications address above). This unofficial manual for the ZX-81/TS1000 single-density controller board that Larken produced by modifying the software for the original TS2068 LDOS controller has been in preparation for more than a year and has about 110 pages or more. Plans to publish it were abandoned due to the cost of more than \$40, but chapters or full copies have been circulating anyway even though it is not finished.

Congratulations to the Toronto Timex-Sinclair people for producing another magnificent issue of their newsletter, which has been, the last couple of months, the size and heft of a magazine. The Club there is doing a fine job of supporting the TS2068 and LKDOS disk system especially... The Hacker from Las Vegas never fails to show up with a fine edition, and inspiration to other newsletters in both appearance and amount of good material.... In Canada a postal strike is rumoured, but then that is always the way as Christmas approaches so it is not to be taken seriously yet. More than a rumour is the new G.S.T., a federal retail sales tax in Canada which will be applied even to the postage of newsletters from here. The publisher of this newsletter is seriously considering switching the publications to text files on disk (MS DOS ver. 2.x, 360K, 5 1/4 in) and just posting them to a BBS in order to avoid attracting too much in the way of costs in the future when the G.S.T. comes in. (My TS1000 disk format is not compatible with any other and ill suited for text anyway: LDOS single-density. I have found a way to make a disk LDOS/ZX-81 one-side, MS DOS the other.)

(Further to p.2) Useful Sinclair Programmer Notes (On Telephone Nos.)

In the column "Amateur Programmers' Line" for this issue, mention was made of programming with primitives and simple building block algorithms made as the result of such work. Below is a short listing of one version of a ZX-81/TS1000 program to test a way of compressing the RAM storage space that a 7-digit telephone number requires in a database.

1 REM	Comments
	(Here is where we will POKE the telephone no. into, starting at 16514 in the ZX-81/TS1000, fixed position.)
5 REM Telephone numbers storage prog.*@	
10 POKE 16525,184	put last 3 digits in RAM
20 POKE 16524,227	put middle 3 digits in RAM
30 POKE 16523,8	put first digit of no. in RAM
40 REM This up to here will POKE the tel. no. into RAM	
50 PRINT "TEL.NO. ";	
60 FOR X=3 TO 0 STEP -1	This steps 3,2,1,0 -backwards
80 PRINT PEEK(16525-X);	Print on screen the TEL. No.
90 NEXT X	(from RAM)
99 STOP	STOP at end of demo.

*NOTE: THIS IS ONLY A FIRST TEST! (IS NOT USABLE IN A PROGRAM YET! SEE TEXT!)

This will store any seven digit telephone number in 3 bytes of RAM, except (can you see the exceptions...?...think!) The exceptions would be for example a byte with leading zeros, including 822-1000, 800-1001. The program also does not put in the "-" at the appropriate place. One way to solve the leading zero problem would be to assign certain reserved codes for double zeros, but the problems are not too easy to surmount without variable length fields (allowed RAM bytes) for the telephone number. Anyway, theoretically 3 bytes is better than 7 for using the standard alphanumeric code (similar to ASCII in the ZX-81) — one byte for each digit — even if you have to add another byte or two to get the case of leading zeros into your algorithm. Another number that would not fit in 3 bytes but would require only 4 bytes to finalize would be 826-6257 since it would normally be broken down into 8, 266 (too high a number for the 255 limit of one-byte), and 257 (also too high for the 255 limit of one byte). It would have to be broken up into 8, 26, 62, 57 and so require 4 bytes of RAM.

That leads to thought of other ways of handling it. The simplest way numerically and for your conversion routines would be to allow for variable length fields. This would normally create big problems with a database. It also might waste an extra byte or two. An end-of-field byte marker would of course have to be a different number (of the 0 to 255 that it is possible to store in one byte) than would ever occur as a code. If only one telephone number per record (for example, a person, member of a club in a club membership database), is used and there are other variable length fields, marked in ingenious ways for endings, or length, placing the telephone number at the end of the record would allow its end to be marked by the record end marker. So we may have to reserve two codes not one to never use for the tel.no. bytes, end-of-no. (253) and end-of-rec. (254).

This is starting more and more to look like a typical coding problem, that of inventing a new code that will streamline computer operations, reduce even the space required to store data in RAM, and of course cover all possibilities in a logically consistent manner. The zero case is one problem. Perhaps it could be handled by not being greedy to get that extra digit (under 255)*in and settling for 2 digits per byte, with 0 coded as one zero and 200 coded as two zeros, the 2 being wiped out by the translation or display algorithm. 100 could remain as three digits, 1-00.

What if there is no phone number given or available? How about a code other than 000-0000 for that? In other words, an error code, non-exist code or a mathematically conceived empty set (null set) member code? These possibilities for coding "nothing" are often overlooked in coding design. We could assign 252 as this code for this system, where legitimate codes beyond 200 (or 252 to push it to the maximum) would not print or be interpreted as phone numbers. Then there are long distance numbers....

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Newsletters & Clubs: The Vancouver TSUG (or rather VSUG) is having a little difficulty in getting material for the newsletter (hint for those who would like to send them something, including a program on cassette for listing). It will be prepared by a new editor as of the next issue. It has been a good source of hardware articles and machine code articles for the ZX-81 in particular for the last couple of years. Wilf Rigter, the originator of a system of high resolution graphics for the ZX-81 has written articles for it on how to fiddle with the operating system parameters to get specialized graphics and multi-tasking (the NOVA 1000 program) with the ZX-81. General news and material on the TS2068 have also graced its pages, as well as the schematics for many projects, especially those for the ZX-81 which most folk would have less trepidation in taking apart and hacking..... Larry Kenny of Larken Electronics has put out a call for all who wish to order LKDOS interfaces to speak now or hold their peace (forever?), so that he can judge by orders to RMG Enterprises or himself whether there is enough demand to get another, minimum order of at least 35 p.c. boards manufactured (by an outside company specializing in pc board etching) in order to make up more LKDOS controller boards for the TS2068/Spectrum ROM TS2068. Larken Electronics is at RR#2, Navan, Ont. Canada K4B 1H9 and R.M.G. is at 1419 1/2 7th St., Oregon City, OR, USA 97045 (tel. 503-655-7484).....A few of our readers may have heard of the excellent newsletter for the QL put out in French by Real Gagnon. He has written an article for the Toronto TSUG (or rather Club) that helps explain his suspension of publication (temporarily?) of that newsletter, QL_DOC, due to job problems in the winter when his employer went out of business. We can hope that time and finances will permit its re-establishment soon.....The Johnson City, NY (a high tech centre) TSUG, SINCUS has moved to embrace the IBM PC compatible world and also to discontinue publication of its newsletter as of this summer. If you are not getting any more newsletters from them, that is the reason.....Update Magazine, a T/S based quarterly supporting aftermarket disk systems, especially those for the TS2068 has changed hands. The previous publisher, Mr. Jones is taking a holiday and going cruising around in the Florida area ocean and Frank Davis of Indiana TSUG is taking it over. Expectations of further excellent issues coming forth have been expressed by people who know Frank. For subscriptions contact at tel. (317)473-8031 or via ISTUG, 513 E.Main., Peru, IN 46970.EMsoft, the QL software firm at P.O. Box 8763, Boston, MA, USA 02114-8763, tel 617-889-0830 is offering a free catalogue and also has some things other than QL software including a ZX-81/TS1000/TS1500/TS2068 expansion bus connector and housing (also works with PC8300 but with TS2068 connects only to a subset of the bus connections, like the TS printers) for US\$16 for 3 (or two for the same price) and a collection of documentation for the ZX/TS computers, Syntax, etc. for \$30. (from an advert in SMUG, Sept.1990).....If you are wondering about how old your addresses are for a number of groups etc., and whether they are any good, look at the following new addresses: Toronto TSUG (changed last year), c/o Geo. Chambers, 14 Richome Ct., Scarborough, Ont., Canada M1K 2Y1 (subscription to n/l \$12-m.o).... SINCUS, Johnson City-discontinued N/L, Harrisburg, PA gp. folded, Dallas & Ft. Worth Gps., discontinued n/l but last heard they were attempting to start one up again, QL_DOC, Montreal, suspended publ., contact Real Gagnon via Toronto TSUG, TS SIG of Boston Computer Soc. folded but reincarnated as New England QL Users' Gp. P.O. Box 8763, Boston, MA, USA 02114-8763 Sum.1990...CRAGIST n/l renamed and now published from new address of Donald Lambert, 1301 Kiblinger Pl., Auburn, IN, USA 46706 (Sept.1990 chg. of address), CATS (National Capital TSUG), new address, (fall 1990), CATS, POB 11017, Takoma Park, MD, USA 20913.....Quanta Library, c/o Paul Holmgren, 5231 Wilton Wood Ct., Indianapolis, IN, USA 46254 -program library/ source code.... TS Bulletin Amateur Publications still going strong (in 4th year of publication), with many back issues still available for postage 5-97 Ruskin St., Ottawa, Can. K1Y4B3

Suppliers: American Micro Systems, 2175 Aborn Rd., #262, San Jose, CA, USA 95121 -QL, ... John McMichael, 1710 Palmer Dr., Laramie, WY, USA 82070-TS2068 printer drivers-Oki, ... Canada, L1V 3G8.....Byte Power-TS2068-software & mag., 1748 Meadowview, Pickering, Ont., Canada, L1V 3G8.....Indiv. Users with a Spec. Interest-TS2068/MS DOS Pascal, D.Solly, 1545 Alta Vista #1402, Ottawa, K1G 3M4-TS2068 music, Joan Kealy, POB 1118, Brackettsville, TX USA 78832, hardware/ic tester w. TS2068, N. Pashtoon c/o CATS, & Bob Swoger, DOS/OS extensions for TS2068/LKDOS-CATS, 613 Parkside Circle, Streamwood, IL, USA 60107....